

## HF High Speed Data Modem Codan 3112

### The right solution for you

Codan's 3112 High Speed HF Data Modem ensures you get connected anywhere by providing reliable, cost-effective, high speed data communications in remote areas where little or no telecommunications infrastructure exists.

We've based our 3112 on the latest modem technology with an error-free data rate of up to 9600 bps uncompressed, which is typically four times faster than comparable competitors' modems.

With HF Express error free data rate up to 38 kbps



### Built to last

Codan radios are famous for their ruggedness and reliability, and the 3112 High Speed HF Data Modem is no exception, it's built using a robust aluminium chassis proven to withstand the rigours of mobile, base station and manpack use, and within high power HF environments.

To ensure the 3112 operates optimally and reliably under all conditions, its data interfaces are optically isolated from the transceiver to protect computing equipment from HF signals, and the DC input features full reverse polarity and over-voltage protection.

### Military Standard Waveforms

The 3112 HF Data Modem operates using the most highly advanced Military Standard (M1L-5TD) Waveforms, according to STANAG 4539 and MIL-STD-188-110B, including serial and parallel tone waveforms. Alternative waveforms, including the ultra-robust STANAG 4415 and MIL-STD-188-110A Waveforms, enable interoperability with legacy equipment and operation during extremely poor channel conditions.

### Easy HF Chat and File Transfer with Codan's HF Express™

With Codan's HF Express™ software, powered by Codan's MIL-STD STANAG 5066 Stack, the 3112 provides an easy and reliable means for HF Chat and compressed file transfer without the need to set up more complex email systems.

HF Express™ is easy to use because it is similar to industry standard Windows® - based chat and file transfer programmes, but specifically designed for HF.

### Advanced Automatic Link Establishment (ALE)

When used with HF Express™, the 3112 HF Data Modem supports FED-5TD-1045 ALE and JIK certified MIL-STD-188-141B ALE. ALE makes establishing the best link quick and easy by automatically selecting the best channel to use and intelligently selecting the ideal data rate accordingly.

### Superior support

Codan's 3112 High Speed HF Data Modem is backed by a renowned worldwide support network and an industry leading three year warranty.

### Features

#### High Performance

- Up to 9600 bps uncompressed
- Up to 38000 bps with HF Express software

- **Forward Error Correction (FEC)**
- **Autobauding**
- **Military Standard Waveforms**
- **Adaptive equalisation for fastest data throughput**

### Flexible & Fully Featured

- 12 V DC for versatile deployment
  - Mobile
  - Bas station
  - Manpack/portable
- Multiple Data & Control Interfaces
  - Ethernet for simple installation or remote access
  - Asynchronous RS232 for use with conventional com ports
  - Synchronous RS212 for use with cryptographic equipment
- Multiple control options
  - Local front panel control for manual operation in fully secure systems
  - Remote control for use with HF Express™

### HF Express

- Large back-lit graphic LCD showing waveform settings, status and receive Signal-to-Noise Ratio (SNR)
- Low Cost of Ownership
  - Low initial outlay
  - No usage charges per kByte of data
  - Firmware upgradable for future waveform support

### No Risk!

- Codan's renowned reliability, worldwide support and three year warranty

### Technical specifications

#### Supported waveforms

Standard	Modulation	Data Rates (bps)
MIL-STD-188-110A	Coded PSK Uncoded PSK	75, 150, 300, 600, 1200, 2400 4800
MIL-STD-188-110B (Serial Tone)	Coded PSK/QAM Uncoded QAM	3200, 4800, 6400, 8000, 9600 12800
MIL-STD-188-110B (Parallel Tone)	QDPSK	75, 150, 300, 600, 1200, 2400
STANAG 4415	NATO Robust	75
STANAG 4539	Coded PSK/QAM	75, 150, 300, 600, 1200, 2400 3200, 4800, 6400, 8000, 9600

### General

Presets	1 factory, 20 user
Built-In-Test	Power-on self test, in-built PRS2047/PRS511 generators, selectable internal audio and digital loop-back
Data Interfaces	RS232 Synchronous or Asynchronous with selectable data rate,

	data bits, parity, stop bits, flow control, polarity and clock source Full opto-isolation of all signals Ethernet 10/100 Base-T, selectable IP address or DHCP, selectable port number
Modem Remote Control Interfaces	RS232 Asynchronous, 9600 baud, eight data bits, even parity, one stop bit Full opto-isolation Ethernet 10/100 Base-T
Transceiver Remote Control Interfaces	RS232 Asynchronous, 9600 baud, eight data bits, even parity, one stop bit Full opto-isolation Ethernet 10/100 Base-T
Receive Audio	600 $\Omega$ balanced, -30 to +3 dBm, Automatic Gain Control
Transmit Audio	600 $\Omega$ Balanced, -30 to +10 dBm selectable
Keyline (PTT)	Open Collector, active low
Power Source	13.5 V DC nominal (250 mA typical supply current) 10.5 to 15 V DC operational, reverse polarity and over-voltage protected to 50 V
Cooling	Passive convection
Temperature	0 to 55°C operating (-40 to 60°C storage)
Size	210 mm W x 240 mm D x 65 mm H (excluding rear connectors)
Weight	2 kg
Compliance	CE, FCC and C-Tick

### Options

- HF Express™ Chat & File Transfer Software
- Vehicle mounting cradle
- PCI Synchronous Serial Card
- Stand-alone data encryption unit

### Recommended transceivers

- Codan data capable NGT series transceivers fitted with the following options
  - Option High Speed Data
  - Option 2.7 kHz BW Filter
  - Option Fan
- Codan data capable 2110 series Transceivers fitted with
  - Option 2.7 kHz BW Filter

### HF Modem

[http://hf-ssb-transceiver.at-communication.com/en/codan/hf\\_ssb\\_data\\_modem\\_3112.html](http://hf-ssb-transceiver.at-communication.com/en/codan/hf_ssb_data_modem_3112.html)