CODAN

HF RADIO COMMUNICATIONS

HF Data Modem 3012

The 3012 HF Data Modem provides a fast, reliable and cost-effective computer text and data communication capability for organisations operating in areas with little or no telecommunications infrastructure.

KEY FEATURES

High speed

The 3012 signalling protocol, designed to maximise performance over typical long-range channels, combines with internal data compression to give an effective data transfer speed of up to 6,000 bps.

Easy to use

The 3012 modem interface is based on the AT industry standard. This enables use with many commercial software applications. It can be integrated into these systems to provide automatic operation and data transfer, email, data logging and remote control applications.

Robust signalling

Advanced error control technology provides error-free point-to-point transmission. The modulation and coding systems incorporate specific design features that minimise or eliminate the problems of:

- multi-path delay
- selective fading
- frequency offset error
- dynamic range limitations
- protocol cross-linking

Friendly software

All Codan data modems are supplied with 9102 controller software. This enables text and binary file transfer, multi-file transfer and a "chat mode" facility for interactive communication. Incoming messages can be viewed on screen as they arrive, logged to a printer and stored on disk.

Cost-effective

Because HF transmissions are free to air, data can be sent without any of the expensive call charges associated with satellite systems.

Reliable

All Codan equipment is built to survive in extreme conditions and comes with full product support. A three year warranty is available to every registered user.

ADDITIONAL FEATURES

Addressing modes

The 3012 can be used for selective, group or broadcast transmissions.

Selective mode is used for point-to-point communication with a single station.

Group mode can send data to up to 99 specified stations.

Broadcast mode can transmit to all stations listening on a selected channel.

Error-free transmission is guaranteed for selective mode, but not for group or broadcast mode in difficult transmission conditions.

CALM and ALE ready

When a Codan transceiver is equipped with Codan Automated Link Management (CALM) or Automatic Link Establishment (ALE), the 3012 will provide automatic channel selection prior to sending data.

Serial port protection

The 3012 has a built in opto-isolation on its serial port, eliminating direct electrical connection between the controlling PC and the transceiver system.

Indicators

A front panel LED indicator shows presence of power and modem link status.

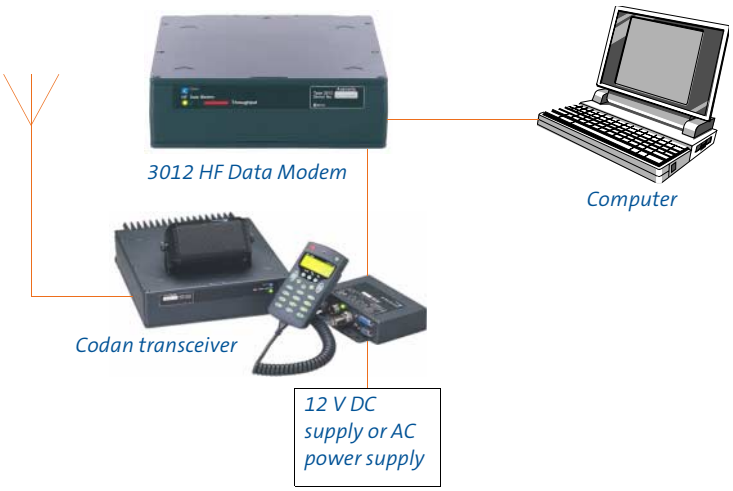
3012 HF Data Modem, NGT desk console, NGT RF Unit and computer

HOW IT WORKS

The 3012 interfaces directly with a data-capable HF SSB transceiver (see details under *Associated equipment*) and an IBM compatible computer, programmed with Codan 9102 software.

The 3012 emulates full-duplex operation so that once a link is established, the modem acts as a transparent RS232 link between the two stations.

3012 Interconnection diagram



WHO CAN USE IT

The 3012 is designed for any organisation that needs to transfer information over a wide operation area, especially in remote regions or in areas where the usual telecommunications infrastructure is unreliable.

Being mobile, the 3012 can be used to transfer data that has been collected in the field. It can be set up to provide remote control and monitoring functions.

SPECIFICATIONS

High-speed data mode	Selective repeat ARQ Protocol 2400 bps—16 channels QPSK modulation
Link establishment mode	Proprietary link establishment 80 baud CHIRP
Data compression	In-built data compression
Rate of data transfer	Up to 6000 bps (compressed) Up to 1475 bps (uncompressed)
Transceiver interface	9600 baud RS232 TR.29 based AT port
Primary power	13.5 V DC nominal (250 mA maximum current consumption) 10.5–15 V DC operating range
Temperature	0°C to +55°C operating (–40°C to +60°C storage)
Size and weight	210 mm W x 240 mm D x 65 mm H (including rear connectors); 1.8 kg

Associated equipment

HF SSB Transceiver	For fixed or mobile stations: Codan NGT *AR*/NGT *SR* with Option F
FED-STD-1045 ALE	Option CALM for NGT series transceiver
Remote Control	Codan NGT Remote Control System

Note: With the 3012 modem it is possible to upgrade existing systems which use:

- Codan 9323/9360/9390 transceivers (with option F)
- Codan 9600 ALE Controllers (for 9323/9360/9390 transceivers)

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