

# Codan HF Radio

## NGT ASR



- Internationally acclaimed
- Complies with industry standards for dependability and durability
- The ideal solution for disaster relief & homeland security
- JITC certified interoperability with other systems
- High performance, affordable communications
- Wide range of solutions including voice, data, telephone, remote control, GPS tracking & voice security (including VP116)
- Fixed & mobile installations with 9350 automatic tuning whip antenna & high performance base antennas



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## Robust fixed or mobile configurations



- The NGT ASR system is **specifically designed for fixed or mobile stations** with innovative mounting equipment and connectors for easy installation.
- All Codan transceivers undergo rigorous testing and comply with the highest **industry standards, including MIL-STD-810F, US FCC and NTIA requirements.**
- **Unique in-built protection** that makes it virtually impossible for the transceiver to sustain damage from unexpected antenna disconnection, overvoltage and reverse polarity, which can destroy other transceivers.
- **Excellent sensitivity** from the high dynamic range of the NGT receiver **ensures better reception in the most difficult conditions.** Frequency stability is better than 0.3 ppm.
- Exceptionally **high Mean Time Before Failure (MTBF)** of 200,000 hours (22 years) provides reliable and continuous communications in challenging conditions.
- A **three-year warranty** is available for all Codan manufactured products as a **guarantee of product quality.** This is backed by a worldwide service and support network, and **24x7 in-house customer service support.**



## Advanced Automatic Link Establishment (ALE)

- JITC certified interoperability with MIL-STD-188-141B and FED-STD-1045 ALE systems.

- Advanced capabilities such as maintenance of channel quality information (**LQA**) **on a 24 hour basis.** This enables the transceiver to **select a suitable channel at any time of the day**, from the moment it is switched on.
- **Faster performance** than conventional ALE systems and much greater reduction in sounding activity.
- **Virtual service addressing** that supports multiple services such as voice, data and email.
- **In-link and Automatic Message Display (AMD) messaging** from the handset or computer to enable a multi-station chat mode.
- **Automated response of AMD messaging**, including Phone calls, GPS polling and sending, Emergency calls, and Remote Diagnostics. The user requires no action as the transceiver automatically interprets the received AMD message and responds accordingly.
- **Listen-Before-Transmit capability** that detects voice and data traffic on the channel before initiating ALE. This prevents calling on channels that are engaged.
- **Selective ALL Call capability**, in addition to global ALL call, that allows users to call specific stations based on the address characteristics they wish to filter.
- **Multiple network scanning capability** enables multiple networks to be scanned at the same time.
- **Last heard stations log** displays a timestamped list of last heard stations.

## Advanced calling facilities

In addition to ALE selective calling, the NGT ASR provides fully automated Phone calls, Message calls, calls with GPS position information, and calls with remote capabilities. All incoming calls are time-stamped to identify precisely when each call arrived.

### Phone call

- Telephone calls can be made seamlessly via bases equipped with a telephone interconnect. This is done **without the need of the operator's involvement** to control the telephone interconnect.

### Message call

- Text messages of **up to 90 characters** can be sent or received without the need for an external computer or device. Messages can be entered or preset via a handset or computer terminal, and an encryption option is available.
- **AMD messages** can be included at link establishment or sent after a link is established.

### GPS call (with a GPS receiver)

- Displays a live GPS position on the handset by latitude and longitude, and **enables users to send their position to another transceiver or interrogate another transceiver for its position.**

### Get Status call

- Delivers remote capability where another station can test parameters such as signal strength, battery voltage levels and RF power output. This allows a technician to **remotely diagnose a station** and determine if servicing or support is needed.

## Over-The-Air (OTA) remote capabilities

- **Configure and manage an NGT ASR transceiver or network from a central location** by sending text messages from the control transceiver. The ability to configure other transceivers, such as adding new channels and changing the scan table, is convenient when distance is a factor.
- **Remotely disable an NGT ASR** by sending a command message from the base transceiver to the remote transceiver. In the event of theft, this prevents users from transmitting or receiving. Even after the transceiver is disabled, it remains on-air. This means the transceiver, if attached to a GPS receiver, can be interrogated for its position using a base transceiver.

## Clear communications with DSP noise reduction—*Easitalk*

- Uses Digital Signal Processing (DSP) to **minimize the effect of interference and reduce noise** when listening to a channel.
- **Operates at the press of a button** and the result is a loud and clear signal at all times.





## Innovative handset and user-friendly interface

- **Compact design**, modelled on a mobile phone.
- A **smart address book** stores up to 100 addresses, including names, call locations and even pre-programmed text messages. These can be easily retrieved via the user-friendly menu.
- **Menu driven access** enables efficient configuration and management of equipment and networks.
- **Configurable hot keys** provide easy access to one-touch calling and pre-programmed sequences.
- **Direct calling** at the press of a button, from simple voice operation to sophisticated ALE-reliant calling procedures.



## Smart monitoring and scanning

- When an operator is absent, the NGT ASR generates an **automatic log** containing the caller's identity, time and channel number that can be displayed upon their return.
- With **multiple net adaptive scanning**, the NGT ASR automatically adjusts scan times for multiple networks according to the channels' preset scan times. This feature provides the most efficient scanning time possible.
- With **voice mute**, the NGT ASR effectively detects voice patterns even in high noise environments. This ensures mute is only opened after it detects speech on any scanned or monitored channels.
- When selective calling is used, users are able to scan multiple channels or networks. The **Selcall mute** is only opened when the transceiver receives a selective call, and the operator is notified by a tone.



## Multiple control interfaces

- Up to three addressable handsets or desk consoles can be used with one NGT ASR RF unit. This enables mobile station operators to access a transceiver from the front and back of the vehicle, or allows base station operators to access the same transceiver from different locations in a workplace environment.

## Multilevel access and security

- **Lock and hide sensitive information** by configuring different access levels for users and administrators. This ensures information or radio configurations are protected and cannot be changed or displayed without permission.

## Computer control and programming

- The transceiver can be controlled from a basic ASCII terminal via an **RS232 port**. This capability can be used for messaging, GPS tracking and logging, and other automated applications.
- The transceiver can be configured using **Codan's NGT System Programmer (NSP)** – user-friendly PC based software designed specifically for the NGT ASR.

## Innovative design for easy installation and serviceability



- The handset can be mounted in any position for easy access and viewing; especially important in a vehicle where space is limited.
- The small RF unit can be mounted in a convenient location, like under a seat of a vehicle or in the trunk. The junction box can be placed at a distance from the RF unit and provides convenient access to connections such as a GPS receiver, handset and data modem.
- Extensive Built-In-Test Equipment (BITE) capability makes it easy for users or network administrators to test and report on their transceiver's performance.
- Easily replaceable modules ensure fast and cost-effective maintenance.
- The NGT ASR makes it easy to upgrade to future technology. Updated software can be downloaded from a computer via a programming port on the handset, without taking the transceiver out of service.



## Comprehensive communications solutions

Codan provides a range of communication solutions to cover all modern needs.

### Data, email and internet

- Designed for use with high-speed modems that comply with MIL-STD-188-110B to provide reliable data, email and internet access over HF.
- Provides seamless operation for POP3 email applications when used with optional Codan 3012 HF Data Modem and UUPlus Email for HF software.

### Remote control

- The system provides clear and reliable communication for users whose control location is affected by electrical interference or is limited by building constraints.
- Codan's optional remote control interfaces allow operation of the transceiver via a leased line or digital radio link.

### GPS location and tracking

- Codan's modern and cost-effective GPS solution can be used for managing OH&S, security, fleet management and field coordination.
- When used with a GPS receiver, emergency calls sent to other transceivers or base stations automatically include the current GPS positioning.
- When used with Codan tracking software, a computer equipped base station can track hundreds of mobile units on a single map. This provides affordable fleet management and coordination. Warning messages can be issued if a mobile enters a no-go area for added fleet security.
- For extra protection, GPS data can be encrypted so positions are only seen by authorized users.

### Telephone Interconnect

- With Codan's telephone interconnect solution, users have a seamless ability to make and receive telephone calls on an HF transceiver. When an unattended transceiver is called, the telephone caller can lodge their phone number in the transceiver's memory.
- With optional MS Windows® software, users can create and configure profiles such as pre-programmed numbers, access control rules and call logging.

## Specifications

<b>Frequency range</b>	Transmit: 1.6 to 30 MHz Receive: 250 kHz to 30 MHz
<b>Channel capacity</b>	600 channels
<b>Operating mode</b>	Single sideband (J3E, USB, LSB, AM, H3E)
<b>Frequency stability</b>	±0.3 ppm (−30 to +60°C)
<b>Power output</b>	Selectable 125 W PEP/12 W PEP
<b>Primary voltage</b>	12 V DC nominal, negative earth
<b>Primary power</b>	Receive: (no signal) 1 A Transmit: J3E voice: 6 A average J3E two-tone: 10 to 14 A
<b>Transceiver sensitivity</b>	−125 dBm (10 dB SINAD)
<b>Spurious and harmonic emissions</b>	Better than 65 dB below PEP
<b>Audio bandwidth</b>	Voice: 300 to 2700 kHz Data: 300 to 3300 kHz
<b>Temperature</b>	−30 to +60°C
<b>Size and weight</b>	2010 RF Unit: 8.3 inches W x 10.6 inches D x 2.6 inches H; 7.3 pounds 2020 Handset: 2.6 inches W x 1.4 inches D x 5.1 inches H; 0.7 pounds 2030 Junction Box: 5.3 inches W x 4.6 inches D x 1.5 inches H; 0.9 pounds
<b>Dust</b>	MIL-STD-810F method 510.4
<b>Shock</b>	MIL-STD-810F method 514.5
<b>Vibration</b>	MIL-STD-810F method 516.5
<b>ALE</b>	MIL-STD-188-141B, FED-STD-1045
<b>Computer interface</b>	RS232, 300 to 38400 baud
<b>GPS interface</b>	NMEA-0183 (4800 baud, RS232)
<b>Compliance</b>	CE, FCC, NTIA

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## Accessories

- GPS receiver
- Mains transceiver supply
- High power systems (500 W & 1 kW)
- Data modem
- Split-site & remote control
- Telephone interconnect
- Mobile automatic tuning whip antenna
- Fixed station antennas, antenna tuner and grounding unit
- Installation hardware, mobile mounting cradles and rack units
- Morse key

## Options

- Fan for data transmission
- GPS interface
- Additional handsets
- Internal *Voice Encryptor*
- Amateur mode
- VP116 interface

