Vertex Standard

ARTS™ and ARTS II™

Auto-Range Transpond System

When Constant Communication Is Critical, ARTS Lets You Know Your Connection Status.

Designed with user safety in mind when you need to be in contact at all times. ARTS is exclusively available in Vertex Standard radios and informs users when a radio gets out of range from contact with another ARTS-equipped radio.
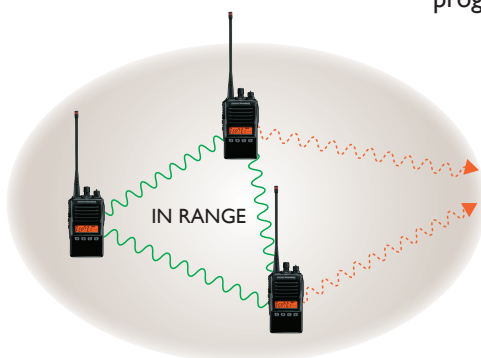
How ARTS Works

ARTS is a Dealer-activated feature that is programmable by channel, that permits radios operating on the same frequency to monitor each other's range in pre-programmed intervals. There is no limit to the number of radios that can operate together, and it also works through a repeater system.

ARTS uses automatic polling whereby the radio automatically transmits once every 55 seconds (or 25 seconds as set by the Dealer) in an attempt to "shake hands" with another ARTS-equipped radio. When a radio receives an incoming ARTS signal, a short beep will sound and a message will be briefly displayed on LCD radios ("IN" or "IN RANGE"). If a user is out of range for more than two minutes, a short triple-beep will sound and a message will appear on LCD radios ("OUT" or "OUT RANGE").

When back in range and a proper handshake is made during polling, the audible alert will sound and "IN" or "IN RANGE" message will appear again on LCD radios to notify the user.

Whether you talk or not, the polling every 55 seconds (or 25 seconds) will continue.

Operating Modes

- TX/RX* – radio transmits and receives polling signals.
- TX only – radio transmits polling signals only to connect with other radios.
- RX only – radio receives polling signals only to be notified when in range.

ARTS is most commonly used in TX/RX mode to fully monitor connection status. Radios will be alerted when out of communication range and vice versa.

Once you move back in range, as soon as the other radio transmits an ARTS signal, a short beep will sound and "IN" or "IN RANGE" will be displayed again for two seconds.

ARTS II™ for Easier Monitoring by Radio ID

ARTS II leverages MDC-1200® signaling to provide easier monitoring. A user can see exactly which radio is in range and the number of total radios in range. ARTS II is programmable by channel and the user can actively monitor connection status with a press of a button.

Note: ARTS II only works with other ARTS II programmed radios.

*VX-231 includes only TX/RX mode.

Uses for ARTS

Search and Rescue

Using ARTS-equipped radios, field response teams who are called out to complete remote search and rescue operations are equipped to maintain contact with base operations. With ARTS activated, field teams will be alerted when they are out of range from base. The radio will transmit a triple beep to indicate when a unit is out of range, and then beep when the team re-coordinates within range to help maintain contact with base operations at all times.

Remote Worker Safety

Individuals who are working remotely and need to remain in contact with base operations can activate ARTS on their radio to be notified when out of communication range making it easier and more efficient for remote workers to remain in contact hassle-free.

IN RANGE

OUT OF RANGE

TX/RX Mode Example

Radios with ARTS

Portables

VX-231
VX-350 Series
VX-450 Series
VX-820 Series
VX-920 Series

Mobiles

VX-2100
VX-2200
VX-4500
VX-4600
VX-5500
VX-6000
VX-7100
VX-7200

Repeaters

VXR-1000

Radios with ARTS II

Portables

VX-450 Series

Mobiles

VX-4500
VX-4600

Frequently Asked Questions

Can ARTS be programmed to work on a specific channel or all channels?

ARTS is programmable by channel and similar to managing talk groups. With ARTS activated, you can designate "coverage groups" to monitor users to stay in communication range.

If five users have ARTS activated, what determines when a radio is out of range? Is one radio designated as the 'base' to which all others are monitored?

The most common configuration for radios operating ARTS is TX/RX mode. This enables each radio to transmit and receive ARTS signaling to fully monitor the communication range. If a radio is out of range with any of the other four radios, the user is notified of their status and the need to re-coordinate connectivity.

If multiple radios have ARTS activated and one is out of range, will the user have to get back in range with all radios before ARTS recognizes the radio in range?

No. Once a radio re-establishes a "handshake" with another ARTS-equipped radio it will alert the user it is back in communication range.

If a radio is programmed for TX-only, does it notify the user if it does not make a connection with another ARTS-activated radio?

No. The TX-only radio just sends the transmit signal to allow radios in RX-mode to know if they are still in communication range.

How does ARTS affect battery life?

The default polling interval in the radio programming provides maximum battery conservation. This default value is different for each radio series. The polling frequency can be adjusted by the Dealer to increase or decrease as needed.

For LCD radios, does ARTS provide both an audible and visual alert?

Yes. Radios with a display will both beep and display a message briefly. This way you hear or see your status giving you flexibility depending on the operating environment.

For LCD radios, can the ARTS notification message be customized?

Depending on the radio series, the LCD message is pre-set and will either say "IN" or "IN RANGE". The Owners Manual provides more information about the radio's LCD messages.

Will a radio programmed to operate ARTS II work with a radio operating ARTS?

No. ARTS II leverages MDC-1200® signaling and can only monitor other ARTS II programmed radios. This is an enhanced capability offered to work with Vertex Standard's first embedded MDC-1200 radios: VX-450 portables and VX-4500/4600 mobiles.

How far is my radio communication range?

Your communication range is dependent on many factors: frequency band, buildings, topography, etc. This is where ARTS provides added value so you are not guessing if you are still able to communicate or if there is a problem with your radio. Instead, you know if you can communicate with ARTS activated.