Honeywell

THE POWER OF **CONNECTED**

EchoView Host

Mini-Controller for Closed-Loop MeshGuard™ Wireless Solutions

User's Guide

Rev. F
January 2019
P/N: F04-4006-000

EchoView Host User's Guide

Contents

⚠ WARNINGS ⚠

This Manual must be carefully read by all individuals who have or will have the responsibility of using, maintaining, or servicing this product. The product will perform as designed only if it is used, maintained, and serviced in accordance with the manufacturer's instructions. The user should understand how to set the correct parameters and interpret the obtained results.

For safety reasons, this equipment must be operated and serviced by qualified personnel only. Read and understand the user manual completely before operating or servicing.

AVERTISSEMENT

Pour des raisons de sécurité, cet équipment doit être utilisé, entretenu et réparé uniquement par un personnel qualifié. Étudier le manuel d'instructions en entier avant d'utiliser, d'entretenir ou de réparer l'équipement.

Read Before Operating

This manual must be carefully read by all individuals who have or will have the responsibility of using, maintaining, or servicing this product. The product will perform as designed only if it is used, maintained, and serviced in accordance with the manufacturer's instructions. The user should understand how to set the correct parameters and interpret the obtained results.

CAUTION!

To reduce the risk of electric shock, turn the power off before opening this instrument or performing service. Never operate the instrument when the instrument is open. Service this product only in an area known to be non-hazardous.

WARNING!

Use only the Lithium battery or external rechargeable battery provided by Honeywell RAE Systems. This instrument has not been tested in an explosive gas/air atmosphere having an oxygen concentration greater than 21%. Substitution of components may impair suitability for intrinsic safety. Replace batteries only in non-hazardous locations.

STATIC HAZARD: Clean only with a damp cloth.
For safety reasons this equipment must be operated and serviced by qualified personnel only. Read and understand instruction manual completely before operating or servicing. Any rapid up-scale reading followed by a declining or erratic reading may indicate a gas concentration beyond upper scale limit, which may be hazardous.

Intrinsically Safe Marking

C SP US Cl. I, Div. 1, Gr A, B, C, D T4
Ta = -40° C to +50° C
IECEx SIR 18.0066X
Sira 18ATEX2251X
Ex II Ex ia IIC T4 Ga
Ex IM1 Ex ia I Ma

CE 2460
Ui = 3.6V, Ci=78µF, Li/Ri=3.5µH/ohm

WARNING!

Substitution of components may impair suitability for intrinsic safety. Replace batteries only in non-hazardous locations.

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WARNING!

To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.

Proper Product Disposal At End Of Life

EU Directive 2012/19/EU: Waste Electrical and Electronic Equipment (WEEE)

This symbol indicates that the product must not be disposed of as general industrial or domestic waste. This product should be disposed of through suitable WEEE disposal facilities. For more information about disposal of this product, contact your local authority, distributor, or the manufacturer.

Wireless Security Warning

Wireless data transmission can extend beyond your walls and can be received by anyone with a compatible adapter. Without proper protection, data can be compromised. Use the security features of all wireless equipment in your network.

- Bluetooth communication should always be set to OFF unless the functionality is required.
- If possible, pair devices ONLY when in a physically secure area.

CAUTION!

This device complies with Part 15 of the FCC Rules / Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditionssuivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur del'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage estsusceptible d'en compromettre le fonctionnement.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peutfonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

EchoView Host User's Guide

1. Standard Contents

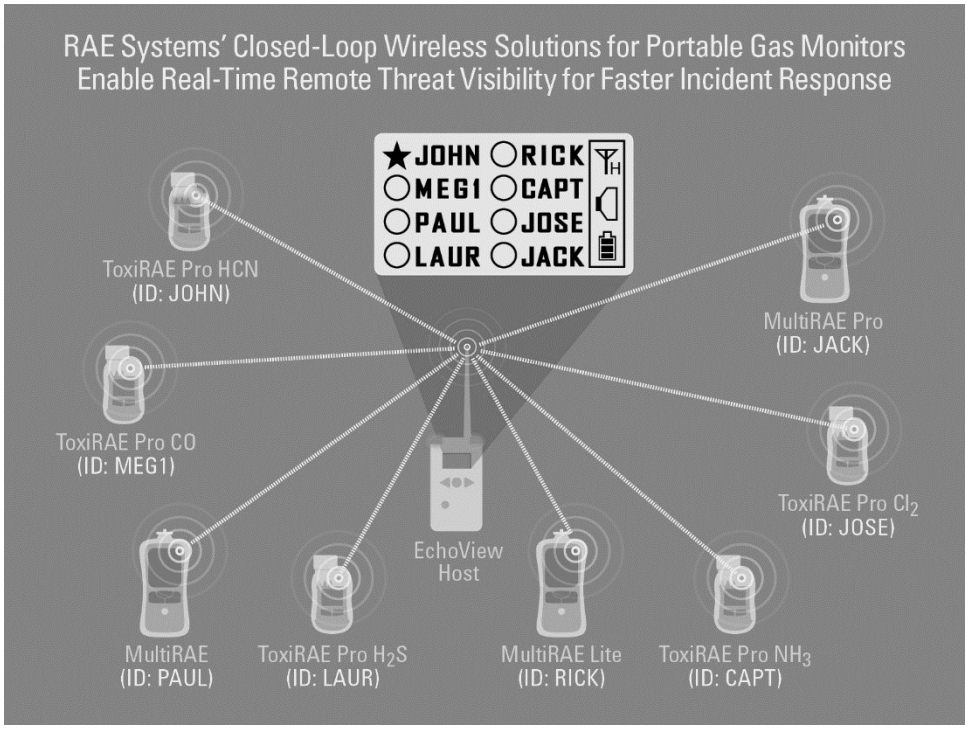
Standard Package includes:

- EchoView Host Mini Controller
- Antenna
- Swivel Belt Clip
- Maintenance/battery replacement tool
- User's Guide

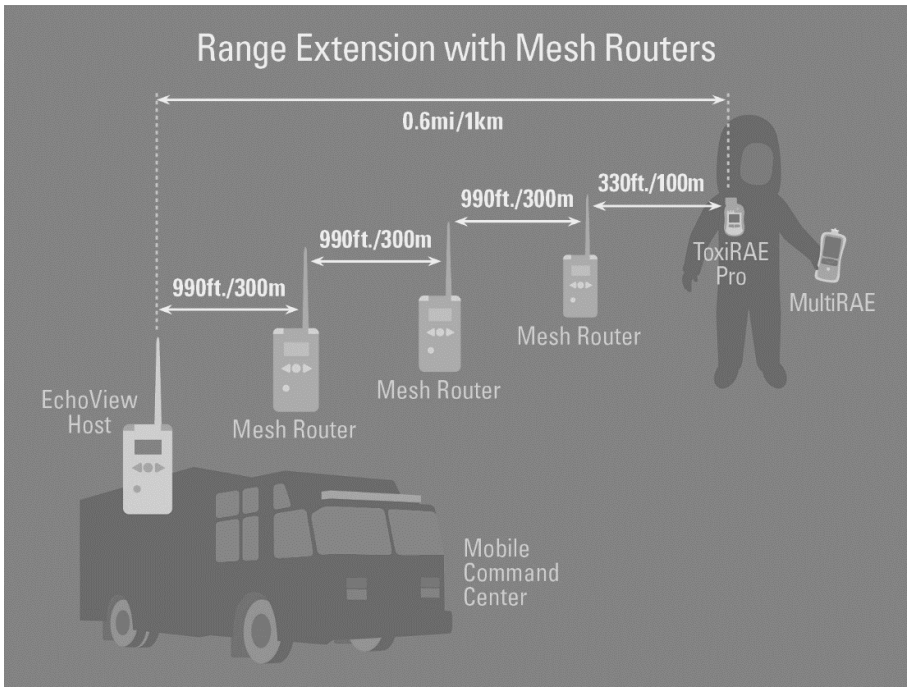
2. General Information

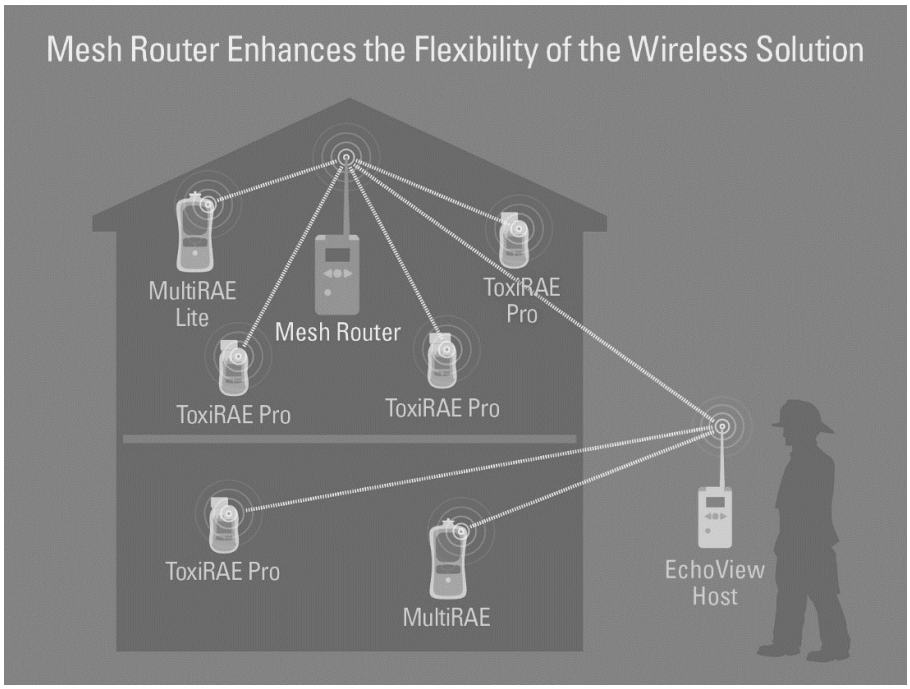
The EchoView Host Mini-Controller is the cornerstone of RAE Systems' Closed-Loop Wireless Solutions for portable gas monitors. This rugged handheld device can establish a self-sufficient network with up to 16 supported RAE Systems portable wireless monitors and display their readings and alarm status in real time on an easy-to-read screen, supplemented by audible and visible alerts.

One EchoView Host and up to 16 ToxiRAE Pro and/or MultiRAE monitors. The EchoView collects data from all eight monitors and displays it.



Extending the range between monitors and an EchoView Host. If a long distance is between the portable monitors and the EchoView Host, Mesh Routers can be employed to extend the range. Up to three Mesh Routers can be used in this configuration, and each can extend the range by up to 300 meters, typical.





2.1. Key Features

- Remote wireless access to real-time readings and alarm status of portable gas monitors for faster incident response
- Establishes a closed-loop wireless network with and displays real-time readings and alarm status of up to 16 portable gas monitors at the same time
- Communication range extendable to 1 km / 0.6 mi with Mesh Routers
- Field-replaceable battery with a 10-day runtime
- Bright-red high-visibility alarm lights
- Loud audio alarm, 90dB at 30cm
- Highly-resistant to electromagnetic and radio interference
- IP-65 water and dust ingress protection rating
- Intrinsically safe for Class I, Division 1 ATEX/IECEx hazardous locations

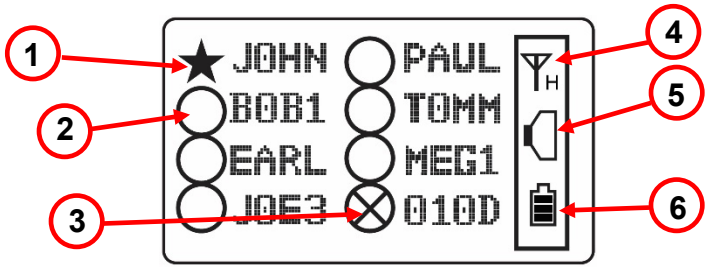
3. Physical Description

The EchoView Host is available in a metal enclosure or a plastic enclosure. Functionality is identical, regardless of the enclosure.

1	LED alarm
2	LCD (with backlighting)
3	Buzzer alarm
4	Battery cover (on bottom)
5	Y/+, MODE, and N/- keys
6	Antenna

Plastic Housing **Metal Housing**

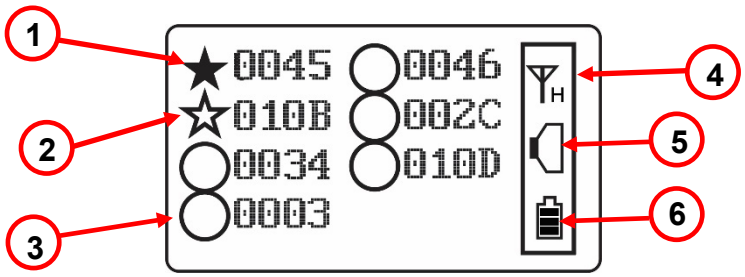
3.1. LCD Display (Monitoring)



1	Selected monitor (solid circle or star)*
2	Unselected monitor (open circle or star)
3	Offline monitor (open circle with "X")
4	Radio transmission indicator ("H" for "Host")
5	Audible alarm on/off indicator ("on" shown)
6	Battery indicator

Note: The Unit ID is typically the radio ID, depending on the portable monitor's setting.

3.2. LCD Display (In Alarm)



1	Monitor in alarm and selected (solid star)
2	Unselected monitor in alarm (open star)
3	Unselected monitor not in alarm (open circle)
4	Radio transmission indicator ("H" for "Host")
5	Audible alarm on/off indicator ("on" shown)
6	Battery indicator

4. Specifications

RF Certifications	FCC Part15 CE EN 300328 Wireless Approval For UAE In Middle East (**TRA REGISTERED No:** ER36063/14 **DEALER No:** HONEYWELL INTERNATIONAL MIDDLE EAST - LTD - DUBAI BR **TRA REGISTERED No:** ER36635/15 **DEALER No:** HONEYWELL INTERNATIONAL MIDDLE EAST - LTD - DUBAI BR) Wireless Approval for QATAR In Middle East ictQATAR Type Approval Reg. No.: R-4465 Type Approval Reg. No.: R-4635
Display	Graphical LCD (1 x 1.5″) with backlight
Audible alarm	90dB @ 30cm
Visual alarm	2 super-bright red LEDs
Calibration	None necessary
EM Immunity	No effect when exposed to 0.43mW/cm^2 RF interference (5-watt transmitter at 12")
Operating Range	Up to 300 meters/1,000 feet to Mesh Router, or up to 1km/0.6 miles
User Interface	Three keys (Y/+, MODE, N/-)
Power Supply	D-size Lithium replaceable battery, +3.6V
Operation Time	Internal Battery: Up to 10 days External Battery: Up to 45 days
Operating Temperature	-4° to 122° F (-20° to +50° C)
Humidity	0% to 95% relative humidity, non-condensing
Dimensions	Metal Enclosure: 15.7cm x 9.3cm x 5.1cm (6.2" x 3.7" x 2.0") Plastic Enclosure: 26.5cm x 9.5cm x 5.5cm (10.5″ x 3.7″ x 2.1″)
Weight	Metal Enclosure: 1.2 kg (2.65 lbs) Plastic Enclosure: 0.6 kg (1.3 lbs)
IP Rating	IP-65
Mounting	Optional stainless-steel bracket with pole mount or magnetic mount

FCC Part 15 Statement

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

5. Operation

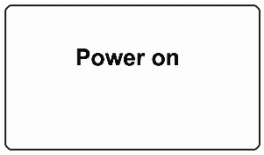
When turned on, the EchoView Host radio is always turned on and listening for remote units.

Whenever you start EchoView Host, it automatically tries to form a network with remote wireless devices configured to communicate on the same PAN ID and Channel.

Make sure the battery with sufficient charge is installed before operating the EchoView Host. Refer to page 32 for information on battery installation and replacement.

5.1. Turning The EchoView Host On

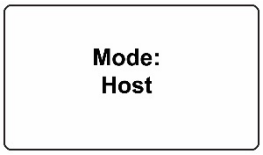
Hold down the [MODE] key and release it when the EchoView Host display and LED lights light up. The display indicates that the unit is now on:

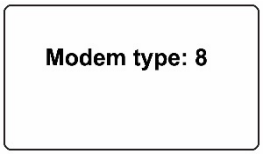


During startup, the display shows the firmware version:

Next, it shows the firmware's build date and time:

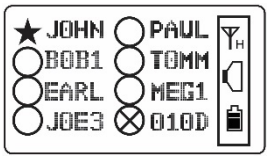
This is followed by the Unit Mode and Modem Type:





Note: Modem type relates to its permanently set operating frequency. For further information, refer to page 22.

Then the EchoView Host attempts to form a wireless network. When the network is created and communication with wireless monitors is established, the main screen is shown. It includes radio-on indicator, battery charge, buzzer on/off icon, and the identification numbers of all monitors on the network:



The monitor name shown on the EchoView Host screen is either the ID of the monitor's radio or the first four characters of the monitor's configurable USERID.

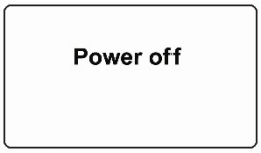
Important! Each name on a network must be unique. The automatically assigned radio ID is unique by default, but if a custom name is used for a monitor, it is a good idea to make sure the first four characters of the monitor's USERID (that form the custom monitor's name) are unique to each name. "JOSEPH1" and "JOSEPH2" programmed into remote instruments will both be interpreted and displayed by the EchoView Host as "JOSE."

Important! Each name on a network must be unique. The automatically assigned radio ID is unique by default.

Note: If no monitors are within the EchoView Host's range, its display will only show the radio-on indicator, battery charge, and buzzer on/off icon.

5.2. Turning The EchoView Host Off

Hold down the [MODE] key through the "5…4…3… 2… 1… Power Off" sequence. The EchoView Host is off when the display is blank. Release the [MODE] key.

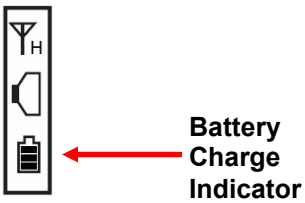


The EchoView Host is now off.

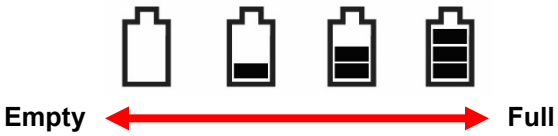
5.3. Battery Indicator

The EchoView Host's internal battery is designed to provide power for up to 10 days. When the battery gets low, the EchoView Host beeps once per minute and the battery icon is empty. See page 32 for the replacement procedure. It is recommended that the battery be changed immediately, to minimize potential downtime. When the battery is almost completely depleted, the LCD displays "Power off," and the LED and buzzer alarms activate once per second. The battery icon also blinks on and off. The low battery alarm continues until the battery runs out. Then the unit shuts down automatically.

Battery power is indicated with an icon in the lower right corner of the screen, below the wireless communication indicator and buzzer icon:



Battery charge is shown from empty to full:



Note: For a fixed-system application, an external power source, the RAE PowerPak, can be used as a substitute for the internal battery. Only remove the external battery adapter in non-hazardous locations.

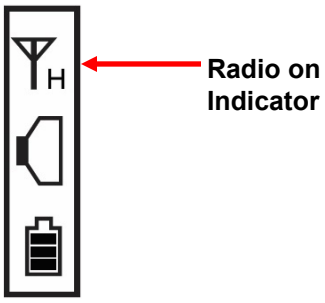
5.4. Buzzer (Audible Alarm) Off Indicator

The EchoView Host's buzzer (audible alarm) can be turned off, so the LED visible alarms flash but there is no sound when in alarm. The icon on the main screen indicates its state.

	Buzzer on
	Buzzer off

5.5. Wireless Communication Indicator

The display employs an antenna icon to show that the radio is on, and the letter "H" indicates that the Mini-Controller is operating in the Host mode. It is located in the upper right corner of the display:



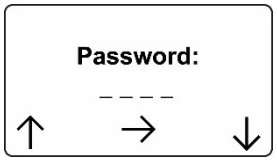
6. Deploying The EchoView Host

When deploying a wireless portable detector network that utilizes EchoView Hosts, make sure all units on the network have been set up with the same PAN ID and Channel number. The EchoView Host establishes a network automatically with up to eight instruments.

7. Programming The EchoView Host

Programming Mode is accessed by first providing the correct password.

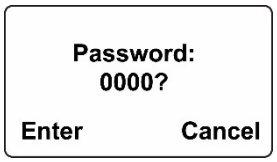
Press and hold [MODE] and [N/-] until you see this screen:



Input the 4-digit password:

- Increase the number from 0 through 9 by pressing [Y/+].
- Decrease the number from 9 through 0 by pressing [N/-].
- Step from digit to digit using [MODE].

Once all the four digits have been entered, press [MODE] again to see the following screen appear. Press [Y/+] to enter the password.

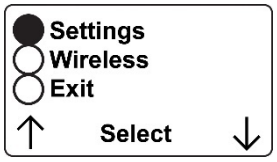


If you make a mistake, you can cycle through the digits by pressing [MODE] and then using [Y/+] and [N/-] to change the number in each position.

Note: The default password is 0000.
If your password is incorrect, you see this screen:

After a few seconds, the EchoView Host exits to its main screen.

When you have successfully entered Programming Mode, you see this screen:



Note: If you do not make a selection in 60 seconds, the EchoView Host automatically exits to the main screen.

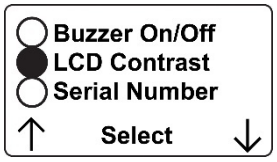
Press [Y/+] or [N/-] to scroll to "Settings," "Wireless," or "Exit." Then press [MODE] to select your choice.

Settings provides information about your instrument. Some screens are read-only (you cannot edit them), but other screens allow you to change settings.

Wireless consists of parameters you can set/change that affect wireless functionality, network configuration, etc.

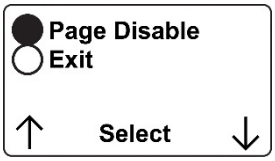
7.1. Settings

Settings include some read-only information (Serial Number and Firmware Version) and some settings that you can change.



Press [Y/+] to scroll up or [N/-] to scroll down.

Note: Two more screens contain additional options:



Note: The scrolling "wraps," so once you reach the first or last item, it starts scrolling through the items again.

Eight choices (including Exit) are available:

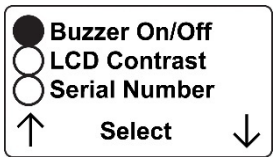
- Buzzer On/Off
- LCD Contrast
- Serial Number (read-only)
- Firmware Version (read-only)
- Factory Reset
- Edit Password
- Page Disable
- Exit

To make a selection, scroll until the circle to the left of your choice is black, and then press [MODE].

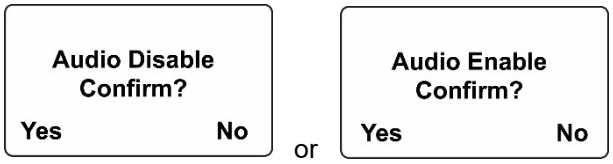
Note: If you do not make a selection in 60 seconds, it automatically exits to the main screen.

7.1.1. Buzzer On/Off

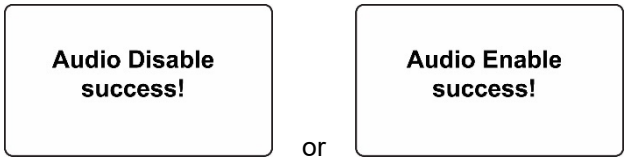
You can turn the buzzer (audible alarm) on or off. To access the parameter, press [MODE] when its name is highlighted (dark circle):



You are asked whether you want to disable (or enable, if it is already disabled) the audible alarm:

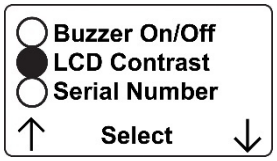


To toggle the audible alarm from on to off (or off to on), press [Y/+], and a confirmation message appears. To exit without performing the reset, press [N/-].

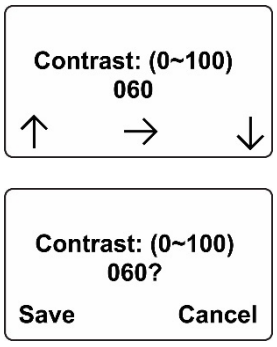


7.1.2. LCD Contrast

The display's contrast is adjustable via this menu. To access it, press [MODE] when its name is highlighted (dark circle):



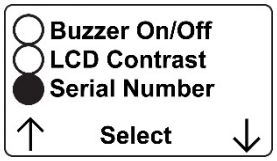
The contrast value is shown in the display. Step through the digits from left to right by pressing [MODE]. Change a digit's value by pressing [Y/+] to increase and [N/-] to decrease. After the third digit, you see a flashing "?"



- Save your changes by pressing [Y/+].
- Exit without saving changes by pressing [N/-].
- Step back to the first digit by pressing [MODE].

7.1.3. Serial Number

This shows the Serial Number of the EchoView Host. To view it, press [MODE] when "Serial Number" is highlighted (dark circle):



The serial number is shown in the display:

Press [MODE] to return to the Settings menu. If you do not make a selection in 60 seconds, the unit automatically exits to the menu.

7.1.4. Firmware Version

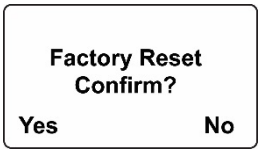
This shows the firmware version incorporated in the instrument. It is read-only. You cannot make changes to the information. To view it, press [MODE] when its name is highlighted (dark circle):

Press [MODE] to return to the Settings menu. If you do not make a selection in 60 seconds, it automatically exits to the menu.

7.1.5. Factory Reset

You can perform a factory reset to the instrument's original settings. To access it, press [MODE] when its name is highlighted (dark circle):

You are asked whether you want to perform the factory reset:



To perform the reset, press [Y/+]. To exit without performing the reset, press [N/-].

While the EchoView Host is being reset to its original factory settings, the screen shows that the activity is taking place:

When the reset is complete, this screen appears:

Then the unit returns to the Settings menu.

Note: Factory Reset changes all EchoView Host settings to factory-default values. These include:

- PAN ID: 999
- Channel:
  0 (for 868MHz)

IMPORTANT!

All custom-configured settings are removed and cannot be retrieved!

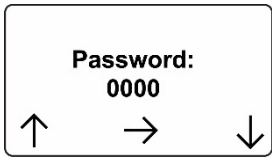
7.1.6. Edit Password

You can change the password by selecting "Edit Password."

At this screen, input your new password over the old one (or the default):

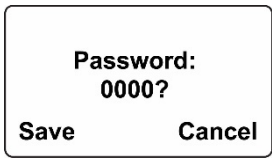
- Increase the number from 0 through 9 by pressing [Y/+].
- Decrease the number from 9 through 0 by pressing [N/-].
- Step from digit to digit using [MODE].

Note: If you make a mistake, you can cycle through the digits by pressing [MODE] and then using [Y/+] and [N/-] to change the number in each position.



Once all the four digits have been entered, press [MODE] again to see the following screen appear.

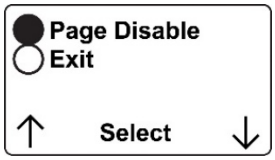
- Save your changes by pressing [Y/+].
- Exit without saving changes by pressing [N/-].
- Step back to the first digit by pressing [MODE].



Saving the password takes a moment, and a screen indicates that it has been successfully saved:

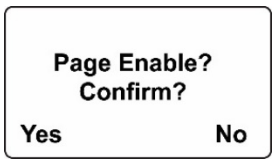
7.1.7. Page Disable

The Page feature can be enabled to allow up to four additional EchoView Host "mimic panels" to be used as part of a closed-loop system.

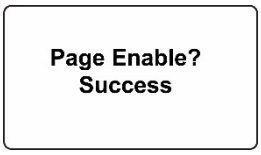


When the Page feature is enabled, the EchoView Host broadcasts instrument data. These data can be picked up by mimic panels. If no mimic panels are planned to be used, this feature should be disabled, in order to ensure data privacy. **Note:** The default value is "Disabled."

To enable (or later to disable) the feature, press [MODE] to reach this screen (if it is already enabled, it will say "Page Disable?):

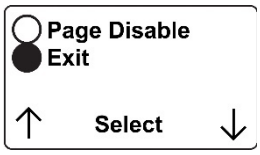


Press [Y/+] to change the setting. After the setting is accepted, this screen is shown (or one that says "Page Disabled"):



7.1.8. Exit

Scroll until "Exit" is selected.

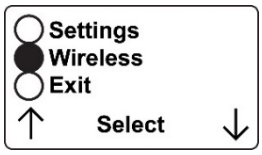


Press [MODE] to return to the Programming Menu.

Note: If you do not make a selection in 60 seconds, it automatically exits to the menu.

7.2. Wireless

Wireless consists of editable parameters and actions to configure, form, and test a closed-loop wireless network.



Under Programming Menu, select "Wireless."

Press [Y/+] to scroll up or [N/-] to scroll down through wireless sub-menus.

Note: When you reach the last item and continue scrolling, a second screen appears:

The scrolling "wraps," so once you reach the first or last item of either screen, it starts scrolling through the items in the other screen again.

Five choices (including Exit) are available:

- Ping Net
- PANID Setup
- Form Net
- Channel Setup
- Exit

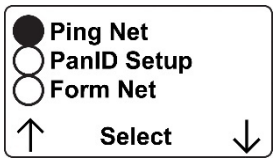
To make a selection, scroll until the circle to the left of your choice is black, and then press [MODE].

Note: If you do not make a selection in 60 seconds, it automatically exits to the main Programming Menu.

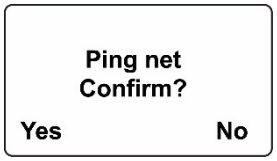
7.2.1. Ping Net

Pinging tests the radio connection between the EchoView Host and other units on its network. (A "ping" is a short signal sent to the network to prompt a reply; it contains no other data.)

Scroll until "Ping Net" is selected.



Press [MODE] to ping the network. This message appears:



Press [Y/+]. The Echoview Host broadcasts a ping signal to its network. All devices in the network that receive the ping signal respond with a beep if they are within the range. (The Echoview Host does not beep or flash its LED lights.) You can also ping from an instrument in the network. If it is within range, the EchoView Host responds with a beep and an LED light flash.

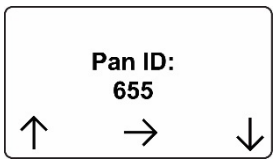
If a network ping is unsuccessful, check the following:

- Is the antenna attached?
- Does the PAN ID match the PAN ID of other instruments in the network?
- Does the Channel match the channel on which the other instruments are operating?
- Are the other instruments turned on and within range?

7.2.2. PAN ID Setup

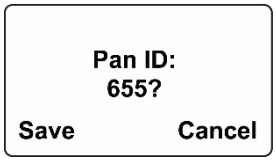
All units on a network must be programmed with the same PAN ID (Personal Network Identifier) to ensure communication compatibility.

When you see this screen, press [MODE] to view the current PAN ID or to change it:



Important! The allowed range for PAN ID numbers is 001 through 999.

The screen shows the PAN ID, with the cursor blinking on the first digit. Step through the digits from left to right by pressing [MODE]. Change a digit's value by pressing [Y/+] to increase and [N/-] to decrease. After the third digit, you see a flashing "?"

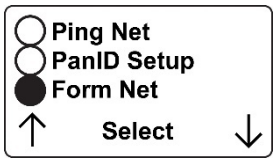


- Save your changes by pressing [Y/+].
- Exit without saving changes by pressing [N/-].
- Step back to the first digit by pressing [MODE].

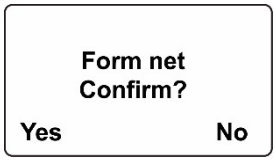
Note: If you do not press a key within 60 seconds, the screen reverts to the programming Menu screen showing Settings, Modem, and Exit.

7.2.3. Form Net

This screen is for forming a network. When you see this screen, press [MODE] to form a network. This function allows the radio to scan all available channels and choose the least-congested one:



The screen now displays a message asking if you want to confirm your choice to form a network:



- Press [Y/+] to form a network and automatically find the best channel to operate on.
- Press [N/-] to exit without creating a network.

While the instrument starts creating a network, this message appears:

Once the device has selected the least-congested channel and a network is formed, this message is displayed:

7.2.4. Channel Setup

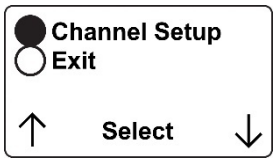
All units in a network must operate on a single channel. The available channels vary by the internal wireless modem's frequency, and channel ranges are set by RAE Systems to correspond with the wireless modem frequency.

These are the modem frequencies and channel ranges:

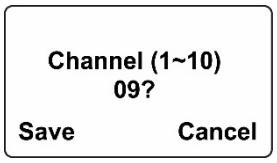
869 MHz: Channel 0 (channel cannot be changed)
900 MHz: Channels 1 through 10

Note: You can use "Form Net" to automatically have the EchoView Host select the least-congested channel.

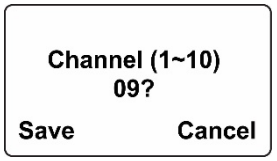
Scroll until "Channel Setup" is selected.



Press [MODE] to view or change the channel. The range of available channels is shown in parentheses. The screen also shows the channel number, with the cursor blinking on the first digit:

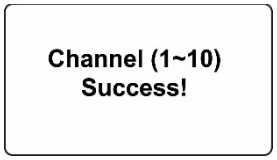


Step from digit to digit from left to right by pressing [MODE]. Change a digit's value by pressing [Y/+] to increase and [N/-] to decrease. When you press [MODE] you see a flashing "?" after the second digit:



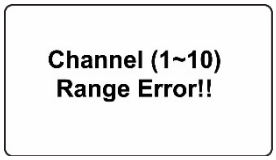
- Save your changes by pressing [Y/+].
- Exit without saving changes by pressing [N/-].
- Step back to the first digit by pressing [MODE].

If you have saved the channel number successfully, you see this screen:



Important! Remember that the range of allowed channels for instruments on a EchoView Host's network depends on the wireless modem frequency. Therefore, you may not be able to change the

channel to a number outside of its assigned set of numbers. If you select an incompatible channel number, you will see this screen, and then the EchoView Host returns to the Wireless menu.



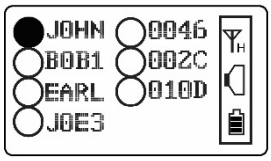
7.2.5. Exit

To exit Wireless and return to the main Programming Menu, scroll until "Exit" is shown:

With "Exit" selected, press [MODE]. The EchoView Host now returns to the Programming Menu screen.

8. Viewing Data From Connected Monitors

Whenever a monitor on the network goes into alarm the EchoView Host also receives it and displays it. When monitoring the network and when no alarms are present, the EchoView Host's display looks like this:



All monitors are represented with a unique identifier and a circle. (A filled—dark—circle indicates the monitor has been selected for viewing.)

To select a monitor: Press [Y/+] to scroll up or [N/-] to scroll down.

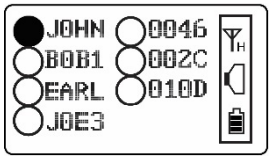
Note: The scrolling "wraps," so once you reach the top or bottom item, it starts scrolling through the items again. If there are more monitors than the display can show on one screen, it advances to the next screen. When the last monitor on that screen is reached, it "wraps" back to the first item on the initial screen.

To make a selection: Scroll until the circle to the left of your choice is black, and then press [MODE].

Note: Only one monitor can be selected for viewing at a time.

8.1. One Monitor In Alarm

Whenever a monitor on the network goes into alarm the EchoView Host also receives it and displays it. When monitoring the network and when no alarms are present, the EchoView Host's display looks like this:



All monitors are represented with a unique identifier and a circle. (A filled—dark—circle indicates the monitor has been selected for viewing.)

To select a monitor: Press [Y/+] to scroll up or [N/-] to scroll down.

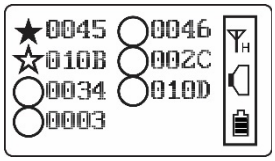
Note: The scrolling "wraps," so once you reach the top or bottom item, it starts scrolling through the items again. If there are more monitors than the display can show on one screen, it advances to the next screen. When the last monitor on that screen is reached, it "wraps" back to the first item on the initial screen.

To make a selection: Scroll until the circle to the left of your choice is black, and then press [MODE].

Note: Only one monitor can be selected for viewing at a time.

8.2. Multiple Monitors In Alarm

If any other monitors on the network go into alarm while one is already in alarm, the circle accompanying second monitor in alarm also changes to a star. However, if the monitor is not the one currently selected, the star is unfilled:



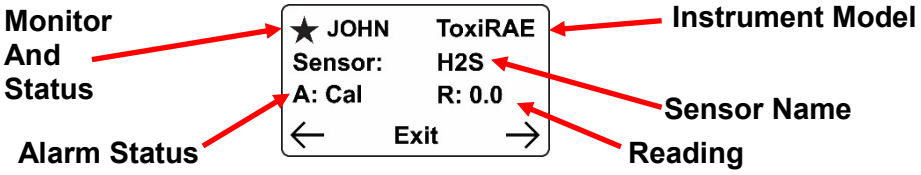
To view a monitor's data:

Scroll up or down through the list of monitors by pressing the [Y/+] or [N/-] key. As the selection advances down the list, each subsequent circle or star is filled (black).

Note: Only one monitor can be selected for viewing at a time.

When the icon of the monitor you want to view is highlighted, then you can make your selection.

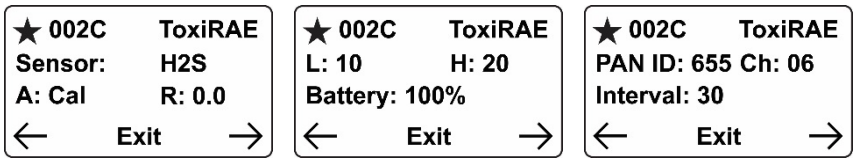
Press [MODE]. The screen changes to show the data. For example:



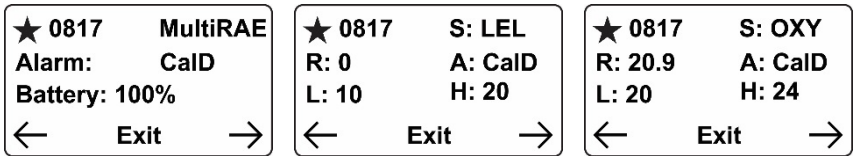
The arrows are soft keys for navigating to other screens for more data.

- Press [Y/+] to go back one screen.
- Press [MODE] to exit.
- Press [N/-] to advance one screen.

Here is an example of the sequence of screens for a ToxiRAE Pro:



Here is an example of the sequence of screens for a MultiRAE:



This provides you with an overview of the alarm state, and varies with the type and number of sensors.

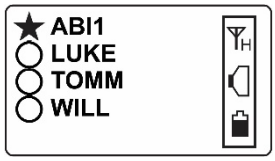
To exit from this screen back to the main reading screen, press [MODE].

8.3. Peak Value Reading For Online Or Offline Monitors

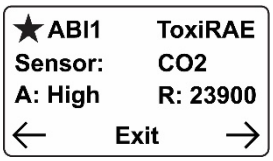
The peak value reading from monitors on the network can be viewed anytime. Scroll down to the instrument and select it. If the monitor is currently offline, its last received peak reading is shown. This value is retained until communication with the monitor is restored.

To view a monitor's peak reading:

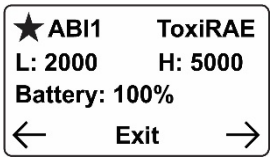
1. Press [Y/+] or [N/-] to scroll through the list of monitors. Then press [MODE] to select the highlighted monitor.



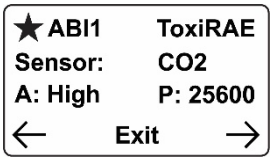
The monitor's type and status are shown (A = Alarm, R = Real-time Reading):



2. Press [N/-] to advance through the sensor's information (L = Low Alarm, H = High Alarm):



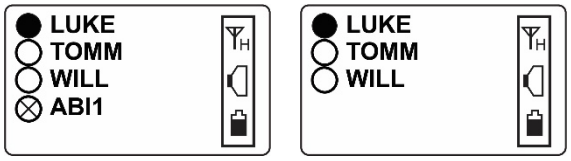
3. Hold the [Y/+] key for 3 seconds, and the peak value is shown (P = Peak, A = Alarm Status):



To continue with readings, press [Y/+] or [N/-]. To exit, press [MODE].

8.3.1. Clearing Offline Monitors

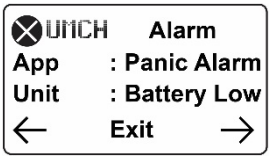
At the main screen, press the [Y/+] key for 3 seconds. This clears all offline monitors.



As soon as an offline monitor comes back online, or as readings come from an online monitor, the EchoView Host shows them.

8.4. Panic Alarm

A panic alarm is the highest-priority alarm from a monitor. When the EchoView Host receives a panic alarm from a monitor, the LED flashes and the audible alarm sounds 4 times per second. The display shows "Panic Alarm":



8.4.1. Alarm Abbreviations

Because some alarm type names are too long to display completely on the EchoView Host, abbreviations are used. In some cases, the message is not shortened. This chart explains the messages:

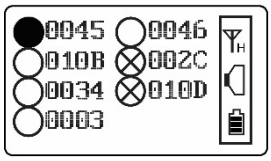
Alarm Type	Displayed On EchoView Host
Super Alarm	Super (or Super Alarm)
Man Down Alarm	MDA (or MDown Alarm)
Man Down Warning	MDW (or MDown Warn)
LEL Off/Over	Over
VOC Lamp	Lamp
Sensor Fail	Fail
Max	Max
Over Range	Over
High	High
Low	Low
Neg	Neg
STEL	STEL
TWA	TWA
Dose	Dose
Cal Fail	Cal
Bump Fail	Bump
Cal Due	CalD
Bump Due	BumpD
Unit Fail	UFail (or Unit Fail)
Pump Stall	Pump (or Pump Stall)
Datalog Full	DFull (or Mem Full)
Battery Low	Bat (or Battery Low)
None	None

8.4.2. Alarm Signal Summary

Alarm Mode	Buzzer & LED
EchoView Host low battery	1 beep per minute
Monitor fault (such as low battery, sensor error, etc.)	1 beep per second
Monitor low alarm	2 beeps per second
Monitor high alarm	3 beeps per second

8.5. Offline Monitor(s)

If any other monitors on the network go offline, the circle accompanying the monitor's name changes to a circle with an "X" through it. In addition, offline monitors are moved to the last position in the list. If the monitor comes back online, then the "X" disappears.

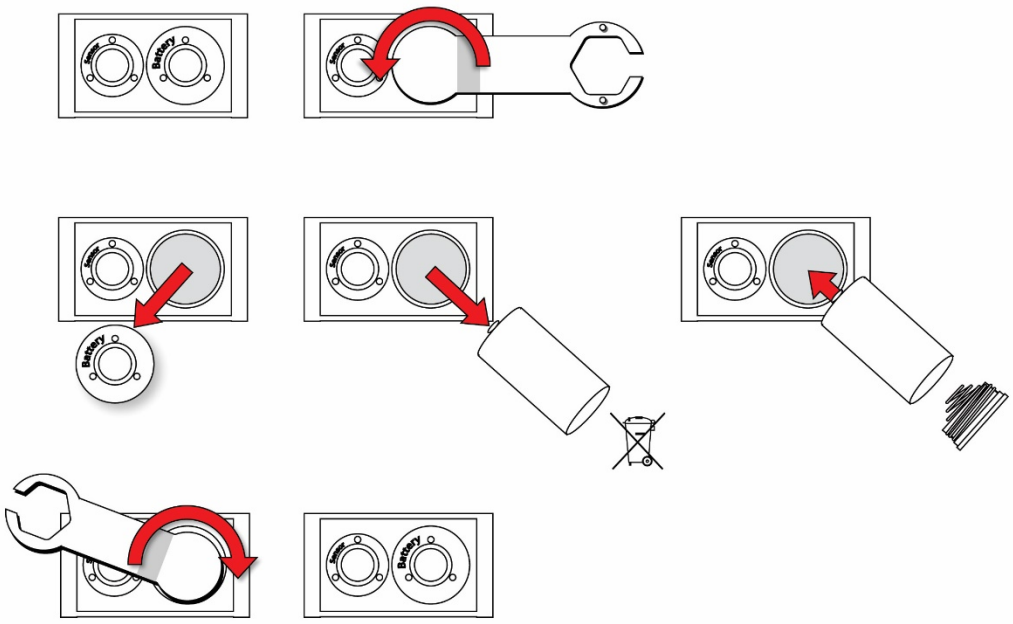


8.6. Backlight

Whenever you press any key while viewing the data, the backlight turns on for 15 seconds and then automatically shuts off.

9. Internal Battery Replacement

1. Use the 3-pin end of the tool to unscrew and open the battery cover (located on the bottom of the instrument) by turning it counterclockwise.
2. Remove the battery and dispose of it properly. Do not place it in general waste.
3. Insert the new battery with its positive ("+") pole towards the inside of the instrument.
4. Replace the battery cover by turning it clockwise with the 3-pin end of the tool.



Note: After changing the battery, wait at least 60 seconds before turning the EchoView Host on.

WARNING!

Only change the internal battery in non-hazardous locations and use the battery Honeywell RAE Systems provides (P/N: 500-0111-000, EVE ER34615 or XENO XL-205F).

10. Troubleshooting

Failure Symptom	Cause	Solution
Cannot turn on	Battery charge too low Battery has been changed	Replace battery Wait at least 60 seconds to turn on EchoView Host Check RAE Systems' web site for inform-ation on batteries
EchoView Host cannot receive a monitor's signal	Too much distance between the EchoView Host and monitors There is an obstruction between the EchoView Host and the monitor. Battery is low EchoView Host and monitor have different PAN ID and/or Channel numbers	The distance should be around 300m/1.000 ft, line of sight. Relocate EchoView Host(s) or deploy MeshRouters to extend the range Relocate the EchoView Host or deploy one or more MeshRouters to extend the range Replace battery Set all units to the same PAN ID and Channel number. Perform "Join Network" on the monitors.
Others		Turn EchoView Host off and on again. Consult RAE Systems Customer Service.

11. Year Of Manufacture

To identify the year of manufacture, refer to the serial number of the instrument.

The letter in the serial number indicates the year of manufacture. For example, "M" indicates the manufacturing year is 2010.

Letter	Year
V	2018
W	2019
A	2020
B	2021
C	2022
D	2023
E	2024
F	2025
G	2026
H	2027
I	2028
J	2029
K	2030

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F04-4006-000
Rev F January 2019

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EchoView Host

Mini-Controller for Closed-Loop MeshGuard™ Wireless Solutions

User's Guide

Rev. A
January 2019
P/N: F04-4018-000

EchoView Host User's Guide

Product Registration

Register your product online by visiting:

https://www.honeywellanalytics.com/en/support/product-registration

By registering your product, you can:

- Receive notification of product upgrades or enhancements
- Be alerted to training classes in your area
- Take advantage of special offers and promotions

EchoView Host User's Guide

Contents

⚠ WARNINGS ⚠

This Manual must be carefully read by all individuals who have or will have the responsibility of using, maintaining, or servicing this product. The product will perform as designed only if it is used, maintained, and serviced in accordance with the manufacturer's instructions. The user should understand how to set the correct parameters and interpret the obtained results.

For safety reasons, this equipment must be operated and serviced by qualified personnel only. Read and understand the user manual completely before operating or servicing.

AVERTISSEMENT

Pour des raisons de sécurité, cet équipment doit être utilisé, entretenu et réparé uniquement par un personnel qualifié. Étudier le manuel d'instructions en entier avant d'utiliser, d'entretenir ou de réparer l'équipement.

Read Before Operating

This manual must be carefully read by all individuals who have or will have the responsibility of using, maintaining, or servicing this product. The product will perform as designed only if it is used, maintained, and serviced in accordance with the manufacturer's instructions. The user should understand how to set the correct parameters and interpret the obtained results.

CAUTION!

To reduce the risk of electric shock, turn the power off before opening this instrument or performing service. Never operate the instrument when the instrument is open. Service this product only in an area known to be non-hazardous.

WARNING!

Use only the Lithium battery or external rechargeable battery provided by Honeywell RAE Systems. This instrument has not been tested in an explosive gas/air atmosphere having an oxygen concentration greater than 21%. Substitution of components may impair suitability for intrinsic safety. Replace batteries only in non-hazardous locations.

STATIC HAZARD: Clean only with a damp cloth.
For safety reasons this equipment must be operated and serviced by qualified personnel only. Read and understand instruction manual completely before operating or servicing. Any rapid up-scale reading followed by a declining or erratic reading may indicate a gas concentration beyond upper scale limit, which may be hazardous.

Intrinsically Safe Marking

C SP US Cl. I, Div. 1, Gr A, B, C, D T4
Ta = -40° C to +50° C
IECEx SIR 18.0066X
Sira 18ATEX2251X
Ex II Ex ia IIC T4 Ga
Ex IM1 Ex ia I Ma

CE 2460
Ui = 3.6V, Ci=78µF, Li/Ri=3.5µH/ohm

WARNING!

Substitution of components may impair suitability for intrinsic safety. Replace batteries only in non-hazardous locations.

EchoView Host User's Guide

WARNING!

To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.

Proper Product Disposal At End Of Life

EU Directive 2012/19/EU: Waste Electrical and Electronic Equipment (WEEE)

This symbol indicates that the product must not be disposed of as general industrial or domestic waste. This product should be disposed of through suitable WEEE disposal facilities. For more information about disposal of this product, contact your local authority, distributor, or the manufacturer.

Wireless Security Warning

Wireless data transmission can extend beyond your walls and can be received by anyone with a compatible adapter. Without proper protection, data can be compromised. Use the security features of all wireless equipment in your network.

- Bluetooth communication should always be set to OFF unless the functionality is required.
- If possible, pair devices ONLY when in a physically secure area.

CAUTION!

This device complies with Part 15 of the FCC Rules / Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditionssuivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur del'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage estsusceptible d'en compromettre le fonctionnement.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peutfonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

1. Standard Contents

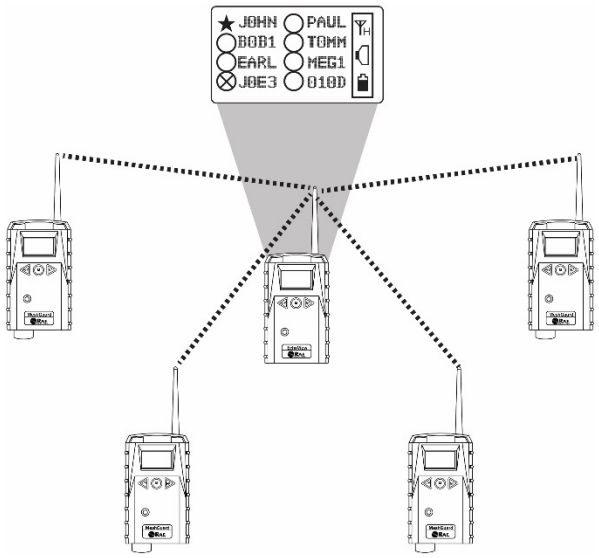
Standard Package includes:

- EchoView Host Mini Controller
- Antenna
- Swivel Belt Clip
- Maintenance/battery replacement tool
- User's Guide

2. General Information

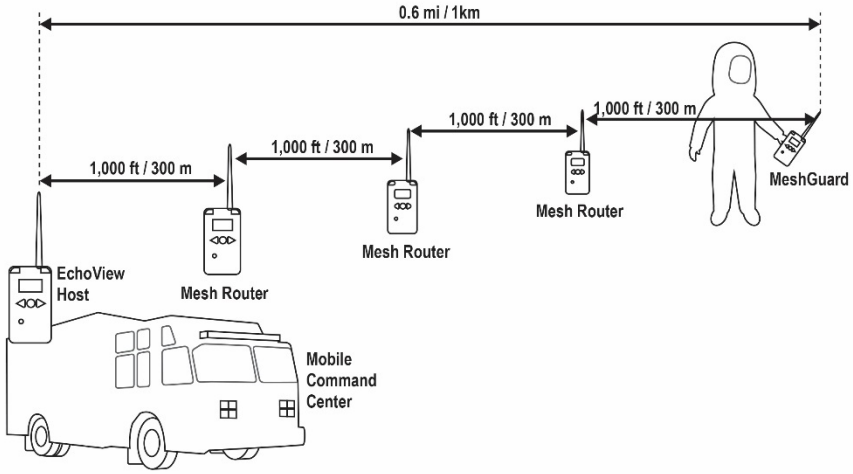
The EchoView Host Mini-Controller is the cornerstone of RAE Systems' Closed-Loop Wireless Solutions for portable gas monitors. This rugged handheld device can establish a self-sufficient network with up to 16 supported RAE Systems MeshGuard wireless monitors and display their readings and alarm status in real time on an easy-to-read screen, supplemented by audible and visible alerts.

One EchoView Host and up to 16 MeshGuard monitors. The EchoView collects data from all eight monitors and displays it.



RAE Systems' closed-loop solutions for portable gas monitors enable real-time remote treat visibility for faster incident response.

Extending the range between monitors and an EchoView Host. If a long distance is between the portable monitors and the EchoView Host, Mesh Routers can be employed to extend the range. Up to three Mesh Routers can be used in this configuration, and each can extend the range by up to 1,000 feet/300 meters, typical.



Range extension with Mesh Routers.

2.1. Key Features

- Remote wireless access to real-time readings and alarm status of portable gas monitors for faster incident response
- Establishes a closed-loop wireless network with and displays real-time readings and alarm status of up to 16 portable gas monitors at the same time
- Communication range extendable to 1,000 feet/300 meters with Mesh Routers
- Field-replaceable battery with a 10-day runtime
- Bright-red high-visibility alarm lights
- Loud audio alarm, 90dB at 30cm
- Highly-resistant to electromagnetic and radio interference
- IP-65 water and dust ingress protection rating
- Intrinsically safe for Class I, Division 1 ATEX/IECEx hazardous locations

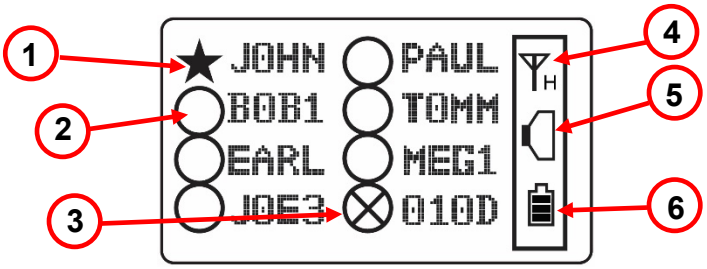
3. Physical Description

The EchoView Host is available in a metal enclosure or a plastic enclosure. Functionality is identical, regardless of the enclosure.

1	LED alarm
2	LCD (with backlighting)
3	Buzzer alarm
4	Battery cover (on bottom)
5	Y/+, MODE, and N/- keys
6	Antenna

Plastic Housing **Metal Housing**

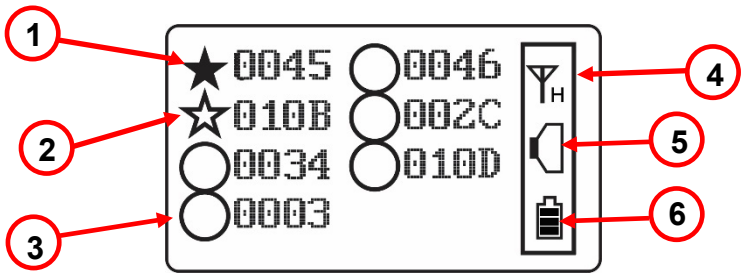
3.1. LCD Display (Monitoring)



1	Selected monitor (solid circle or star)*
2	Unselected monitor (open circle or star)
3	Offline monitor (open circle with "X")
4	Radio transmission indicator ("H" for "Host")
5	Audible alarm on/off indicator ("on" shown)
6	Battery indicator

Note: The Unit ID is typically the radio ID, depending on the portable monitor's setting.

3.2. LCD Display (In Alarm)



1	Monitor in alarm and selected (solid star)
2	Unselected monitor in alarm (open star)
3	Unselected monitor not in alarm (open circle)
4	Radio transmission indicator ("H" for "Host")
5	Audible alarm on/off indicator ("on" shown)
6	Battery indicator

4. Specifications

RF Certifications	FCC Part15 CE EN 300328 Wireless Approval For UAE In Middle East (**TRA REGISTERED No:** ER36063/14 **DEALER No:** HONEYWELL INTERNATIONAL MIDDLE EAST - LTD - DUBAI BR **TRA REGISTERED No:** ER36635/15 **DEALER No:** HONEYWELL INTERNATIONAL MIDDLE EAST - LTD - DUBAI BR) Wireless Approval for QATAR In Middle East ictQATAR Type Approval Reg. No.: R-4465 Type Approval Reg. No.: R-4635
Display	Graphical LCD (1 x 1.5″) with backlight
Audible alarm	90dB @ 30cm
Visual alarm	2 super-bright red LEDs
Calibration	None necessary
EM Immunity	No effect when exposed to 0.43mW/cm^2 RF interference (5-watt transmitter at 12")
Operating Range	Up to 300 meters/1,000 feet to Mesh Router, or up to 1km/0.6 miles
User Interface	Three keys (Y/+, MODE, N/-)
Power Supply	D-size Lithium replaceable battery, +3.6V
Operation Time	Internal Battery: Up to 10 days External Battery: Up to 45 days
Operating Temperature	-4° to 122° F (-20° to +50° C)
Humidity	0% to 95% relative humidity, non-condensing
Dimensions	Metal Enclosure: 15.7cm x 9.3cm x 5.1cm (6.2" x 3.7" x 2.0") Plastic Enclosure: 26.5cm x 9.5cm x 5.5cm (10.5″ x 3.7″ x 2.1″)
Weight	Metal Enclosure: 1.2 kg (2.65 lbs) Plastic Enclosure: 0.6 kg (1.3 lbs)
IP Rating	IP-65
Mounting	Optional stainless-steel bracket with pole mount or magnetic mount

FCC Part 15 Statement

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

5. Operation

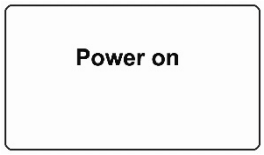
When turned on, the EchoView Host radio is always turned on and listening for remote units.

Whenever you start EchoView Host, it automatically tries to form a network with remote wireless devices configured to communicate on the same PAN ID and Channel.

Make sure the battery with sufficient charge is installed before operating the EchoView Host. Refer to page 30 for information on battery installation and replacement.

5.1. Turning The EchoView Host On

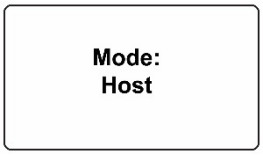
Hold down the [MODE] key and release it when the EchoView Host display and LED lights light up. The display indicates that the unit is now on:

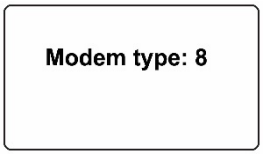


During startup, the display shows the firmware version:

Next, it shows the firmware's build date and time:

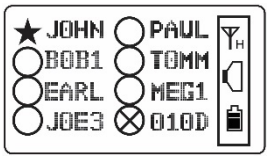
This is followed by the Unit Mode and Modem Type:





Note: Modem type relates to its permanently set operating frequency. For further information, refer to page 21.

Then the EchoView Host attempts to form a wireless network. When the network is created and communication with wireless monitors is established, the main screen is shown. It includes radio-on indicator, battery charge, buzzer on/off icon, and the identification numbers of all monitors on the network:



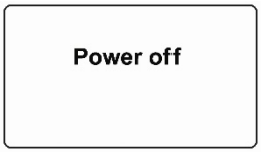
The monitor name shown on the EchoView Host screen is either the ID of the monitor's radio.

Important! Each name on a network must be unique. The automatically assigned radio ID is unique by default.

Note: If no monitors are within the EchoView Host's range, its display will only show the radio-on indicator, battery charge, and buzzer on/off icon.

5.2. Turning The EchoView Host Off

Hold down the [MODE] key through the "5…4…3… 2… 1… Power Off" sequence. The EchoView Host is off when the display is blank. Release the [MODE] key.

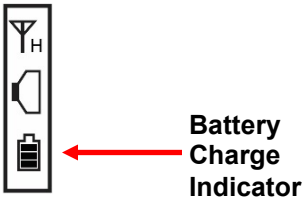


The EchoView Host is now off.

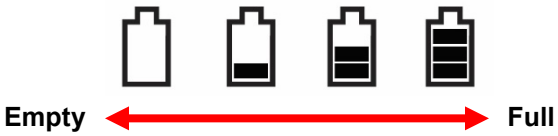
5.3. Battery Indicator

The EchoView Host's internal battery is designed to provide power for up to 10 days. When the battery gets low, the EchoView Host beeps once per minute and the battery icon is empty. See page 30 for the replacement procedure. It is recommended that the battery be changed immediately, to minimize potential downtime. When the battery is almost completely depleted, the LCD displays "Power off," and the LED and buzzer alarms activate once per second. The battery icon also blinks on and off. The low battery alarm continues until the battery runs out. Then the unit shuts down automatically.

Battery power is indicated with an icon in the lower right corner of the screen, below the wireless communication indicator and buzzer icon:



Battery charge is shown from empty to full:



Note: For a fixed-system application, an external power source, the RAE PowerPak, can be used as a substitute for the internal battery. Only remove the external battery adapter in non-hazardous locations.

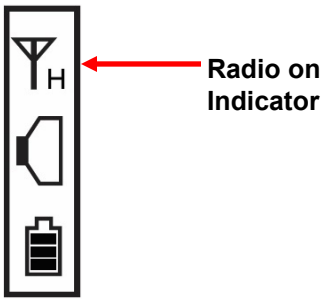
5.4. Buzzer (Audible Alarm) Off Indicator

The EchoView Host's buzzer (audible alarm) can be turned off, so the LED visible alarms flash but there is no sound when in alarm. The icon on the main screen indicates its state.

	Buzzer on
	Buzzer off

5.5. Wireless Communication Indicator

The display employs an antenna icon to show that the radio is on, and the letter "H" indicates that the Mini-Controller is operating in the Host mode. It is located in the upper right corner of the display:



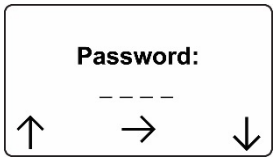
6. Deploying The EchoView Host

When deploying a wireless portable detector network that utilizes EchoView Hosts, make sure all units on the network have been set up with the same PAN ID and Channel number. The EchoView Host establishes a network automatically with up to eight instruments.

7. Programming The EchoView Host

Programming Mode is accessed by first providing the correct password.

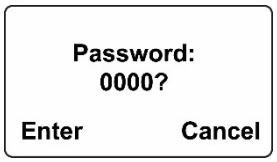
Press and hold [MODE] and [N/-] until you see this screen:



Input the 4-digit password:

- Increase the number from 0 through 9 by pressing [Y/+].
- Decrease the number from 9 through 0 by pressing [N/-].
- Step from digit to digit using [MODE].

Once all the four digits have been entered, press [MODE] again to see the following screen appear. Press [Y/+] to enter the password.

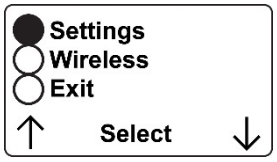


If you make a mistake, you can cycle through the digits by pressing [MODE] and then using [Y/+] and [N/-] to change the number in each position.

Note: The default password is 0000.
If your password is incorrect, you see this screen:

After a few seconds, the EchoView Host exits to its main screen.

When you have successfully entered Programming Mode, you see this screen:



Note: If you do not make a selection in 60 seconds, the EchoView Host automatically exits to the main screen.

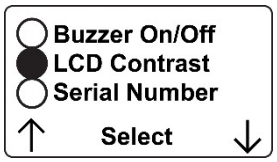
Press [Y/+] or [N/-] to scroll to "Settings," "Wireless," or "Exit." Then press [MODE] to select your choice.

Settings provides information about your instrument. Some screens are read-only (you cannot edit them), but other screens allow you to change settings.

Wireless consists of parameters you can set/change that affect wireless functionality, network configuration, etc.

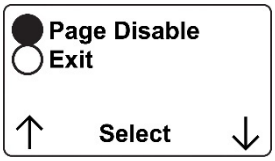
7.1. Settings

Settings include some read-only information (Serial Number and Firmware Version) and some settings that you can change.



Press [Y/+] to scroll up or [N/-] to scroll down.

Note: Two more screens contain additional options:



Note: The scrolling "wraps," so once you reach the first or last item, it starts scrolling through the items again.

Eight choices (including Exit) are available:

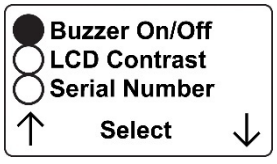
- Buzzer On/Off
- LCD Contrast
- Serial Number (read-only)
- Firmware Version (read-only)
- Factory Reset
- Edit Password
- Page Disable
- Exit

To make a selection, scroll until the circle to the left of your choice is black, and then press [MODE].

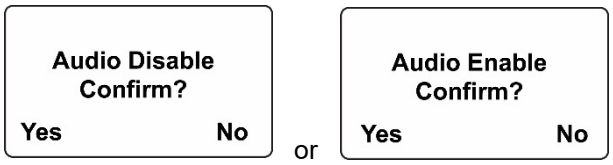
Note: If you do not make a selection in 60 seconds, it automatically exits to the main screen.

7.1.1. Buzzer On/Off

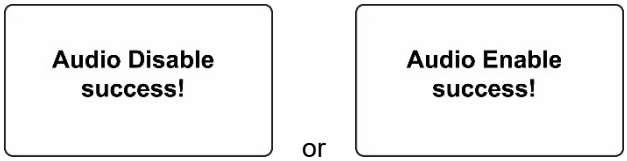
You can turn the buzzer (audible alarm) on or off. To access the parameter, press [MODE] when its name is highlighted (dark circle):



You are asked whether you want to disable (or enable, if it is already disabled) the audible alarm:

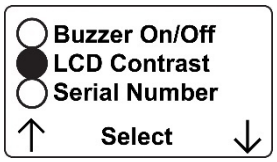


To toggle the audible alarm from on to off (or off to on), press [Y/+], and a confirmation message appears. To exit without performing the reset, press [N/-].

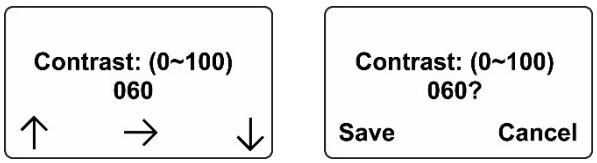


7.1.2. LCD Contrast

The display's contrast is adjustable via this menu. To access it, press [MODE] when its name is highlighted (dark circle):



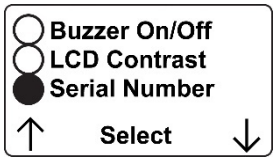
The contrast value is shown in the display. Step through the digits from left to right by pressing [MODE]. Change a digit's value by pressing [Y/+] to increase and [N/-] to decrease. After the third digit, you see a flashing "?"



- Save your changes by pressing [Y/+].
- Exit without saving changes by pressing [N/-].
- Step back to the first digit by pressing [MODE].

7.1.3. Serial Number

This shows the Serial Number of the EchoView Host. To view it, press [MODE] when "Serial Number" is highlighted (dark circle):



The serial number is shown in the display:

Press [MODE] to return to the Settings menu. If you do not make a selection in 60 seconds, the unit automatically exits to the menu.

7.1.4. Firmware Version

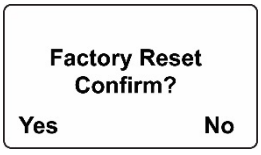
This shows the firmware version incorporated in the instrument. It is read-only. You cannot make changes to the information. To view it, press [MODE] when its name is highlighted (dark circle):

Press [MODE] to return to the Settings menu. If you do not make a selection in 60 seconds, it automatically exits to the menu.

7.1.5. Factory Reset

You can perform a factory reset to the instrument's original settings. To access it, press [MODE] when its name is highlighted (dark circle):

You are asked whether you want to perform the factory reset:



To perform the reset, press [Y/+]. To exit without performing the reset, press [N/-].

While the EchoView Host is being reset to its original factory settings, the screen shows that the activity is taking place:

When the reset is complete, this screen appears:

Then the unit returns to the Settings menu.

Note: Factory Reset changes all EchoView Host settings to factory-default values. These include:

- PAN ID: 999
- Channel:
  - 6 for 2.4GHz

IMPORTANT!

All custom-configured settings are removed and cannot be retrieved!

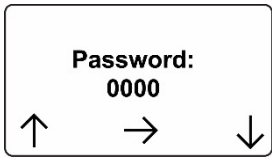
7.1.6. Edit Password

You can change the password by selecting "Edit Password."

At this screen, input your new password over the old one (or the default):

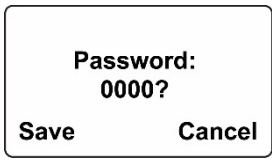
- Increase the number from 0 through 9 by pressing [Y/+].
- Decrease the number from 9 through 0 by pressing [N/-].
- Step from digit to digit using [MODE].

Note: If you make a mistake, you can cycle through the digits by pressing [MODE] and then using [Y/+] and [N/-] to change the number in each position.



Once all the four digits have been entered, press [MODE] again to see the following screen appear.

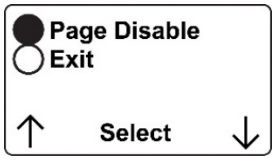
- Save your changes by pressing [Y/+].
- Exit without saving changes by pressing [N/-].
- Step back to the first digit by pressing [MODE].



Saving the password takes a moment, and a screen indicates that it has been successfully saved:

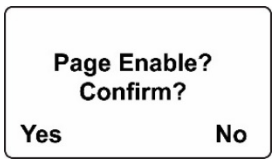
7.1.7. Page Disable

The Page feature can be enabled to allow up to four additional EchoView Host "mimic panels" to be used as part of a closed-loop system.



When the Page feature is enabled, the EchoView Host broadcasts instrument data. These data can be picked up by mimic panels. If no mimic panels are planned to be used, this feature should be disabled, in order to ensure data privacy. **Note:** The default value is "Disabled."

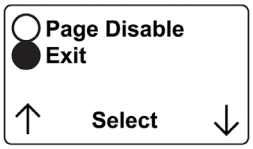
To enable (or later to disable) the feature, press [MODE] to reach this screen (if it is already enabled, it will say "Page Disable?):



Press [Y/+] to change the setting. After the setting is accepted, this screen is shown (or one that says "Page Disabled"):

7.1.8. Exit

Scroll until "Exit" is selected.

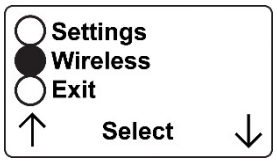


Press [MODE] to return to the Programming Menu.

Note: If you do not make a selection in 60 seconds, it automatically exits to the menu.

7.2. Wireless

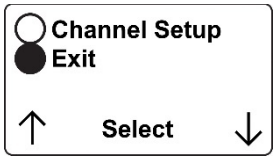
Wireless consists of editable parameters and actions to configure, form, and test a closed-loop wireless network.



Under Programming Menu, select "Wireless."

Press [Y/+] to scroll up or [N/-] to scroll down through wireless sub-menus.

Note: When you reach the last item and continue scrolling, a second screen appears:



The scrolling "wraps," so once you reach the first or last item of either screen, it starts scrolling through the items in the other screen again.

Five choices (including Exit) are available:

- Ping Net
- PANID Setup
- Form Net
- Channel Setup
- Exit

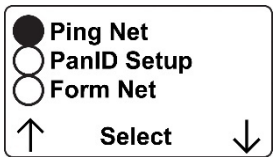
To make a selection, scroll until the circle to the left of your choice is black, and then press [MODE].

Note: If you do not make a selection in 60 seconds, it automatically exits to the main Programming Menu.

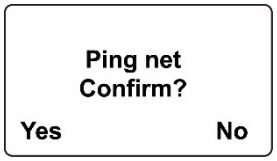
7.2.1. Ping Net

Pinging tests the radio connection between the EchoView Host and other units on its network. (A "ping" is a short signal sent to the network to prompt a reply; it contains no other data.)

Scroll until "Ping Net" is selected.



Press [MODE] to ping the network. This message appears:



Press [Y/+]. The Echoview Host broadcasts a ping signal to its network. All devices in the network that receive the ping signal respond with a beep if they are within the range. (The Echoview Host does not beep or flash its LED lights.) You can also ping from an instrument in the network. If it is within range, the EchoView Host responds with a beep and an LED light flash.

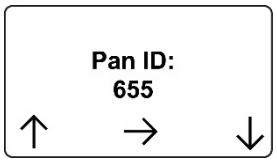
If a network ping is unsuccessful, check the following:

- Is the antenna attached?
- Does the PAN ID match the PAN ID of other instruments in the network?
- Does the Channel match the channel on which the other instruments are operating?
- Are the other instruments turned on and within range?

7.2.2. PAN ID Setup

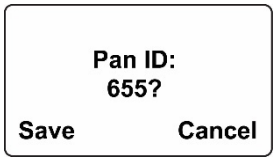
All units on a network must be programmed with the same PAN ID (Personal Network Identifier) to ensure communication compatibility.

When you see this screen, press [MODE] to view the current PAN ID or to change it:



Important! The allowed range for PAN ID numbers is 001 through 999.

The screen shows the PAN ID, with the cursor blinking on the first digit. Step through the digits from left to right by pressing [MODE]. Change a digit's value by pressing [Y/+] to increase and [N/-] to decrease. After the third digit, you see a flashing "?"

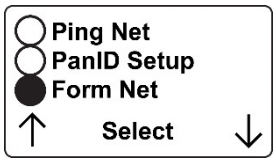


- Save your changes by pressing [Y/+].
- Exit without saving changes by pressing [N/-].
- Step back to the first digit by pressing [MODE].

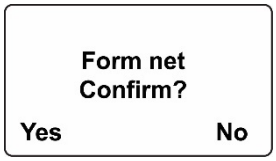
Note: If you do not press a key within 60 seconds, the screen reverts to the programming Menu screen showing Settings, Modem, and Exit.

7.2.3. Form Net

This screen is for forming a network. When you see this screen, press [MODE] to form a network. This function allows the radio to scan all available channels and choose the least-congested one:



The screen now displays a message asking if you want to confirm your choice to form a network:



- Press [Y/+] to form a network and automatically find the best channel to operate on.
- Press [N/-] to exit without creating a network.

While the instrument starts creating a network, this message appears:

Once the device has selected the least-congested channel and a network is formed, this message is displayed:

7.2.4. Channel Setup

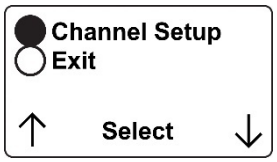
All units in a network must operate on a single channel. The available channels vary by the internal wireless modem's frequency, and channel ranges are set by RAE Systems to correspond with the wireless modem frequency.

These are the modem frequencies and channel ranges:

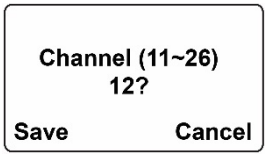
2.4 GHz: Channels 11 through 26

Note: You can use "Form Net" to automatically have the EchoView Host select the least-congested channel.

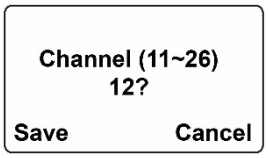
Scroll until "Channel Setup" is selected.



Press [MODE] to view or change the channel. The range of available channels is shown in parentheses. The screen also shows the channel number, with the cursor blinking on the first digit:

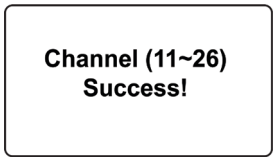


Step from digit to digit from left to right by pressing [MODE]. Change a digit's value by pressing [Y/+] to increase and [N/-] to decrease. When you press [MODE] you see a flashing "?" after the second digit:



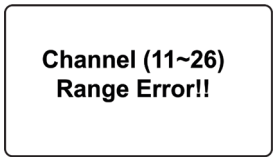
- Save your changes by pressing [Y/+].
- Exit without saving changes by pressing [N/-].
- Step back to the first digit by pressing [MODE].

If you have saved the channel number successfully, you see this screen:



Important! Remember that the range of allowed channels for instruments on a EchoView Host's network depends on the wireless modem frequency. Therefore, you may not be able to change the

channel to a number outside of its assigned set of numbers. If you select an incompatible channel number, you will see this screen, and then the EchoView Host returns to the Wireless menu.



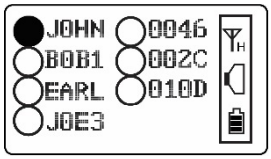
7.2.5. Exit

To exit Wireless and return to the main Programming Menu, scroll until "Exit" is shown:

With "Exit" selected, press [MODE]. The EchoView Host now returns to the Programming Menu screen.

8. Viewing Data From Connected Monitors

Whenever a monitor on the network goes into alarm the EchoView Host also receives it and displays it. When monitoring the network and when no alarms are present, the EchoView Host's display looks like this:



All monitors are represented with a unique identifier and a circle. (A filled—dark—circle indicates the monitor has been selected for viewing.)

To select a monitor: Press [Y/+] to scroll up or [N/-] to scroll down.

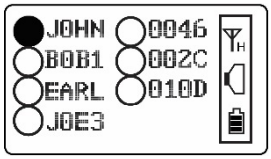
Note: The scrolling "wraps," so once you reach the top or bottom item, it starts scrolling through the items again. If there are more monitors than the display can show on one screen, it advances to the next screen. When the last monitor on that screen is reached, it "wraps" back to the first item on the initial screen.

To make a selection: Scroll until the circle to the left of your choice is black, and then press [MODE].

Note: Only one monitor can be selected for viewing at a time.

8.1. One Monitor In Alarm

Whenever a monitor on the network goes into alarm the EchoView Host also receives it and displays it. When monitoring the network and when no alarms are present, the EchoView Host's display looks like this:



All monitors are represented with a unique identifier and a circle. (A filled—dark—circle indicates the monitor has been selected for viewing.)

To select a monitor: Press [Y/+] to scroll up or [N/-] to scroll down.

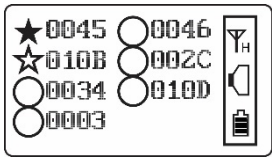
Note: The scrolling "wraps," so once you reach the top or bottom item, it starts scrolling through the items again. If there are more monitors than the display can show on one screen, it advances to the next screen. When the last monitor on that screen is reached, it "wraps" back to the first item on the initial screen.

To make a selection: Scroll until the circle to the left of your choice is black, and then press [MODE].

Note: Only one monitor can be selected for viewing at a time.

8.2. Multiple Monitors In Alarm

If any other monitors on the network go into alarm while one is already in alarm, the circle accompanying second monitor in alarm also changes to a star. However, if the monitor is not the one currently selected, the star is unfilled:



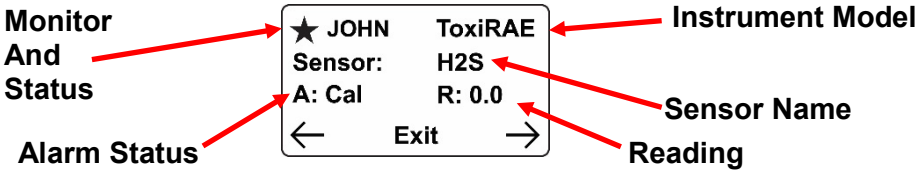
To view a monitor's data:

Scroll up or down through the list of monitors by pressing the [Y/+] or [N/-] key. As the selection advances down the list, each subsequent circle or star is filled (black).

Note: Only one monitor can be selected for viewing at a time.

When the icon of the monitor you want to view is highlighted, then you can make your selection.

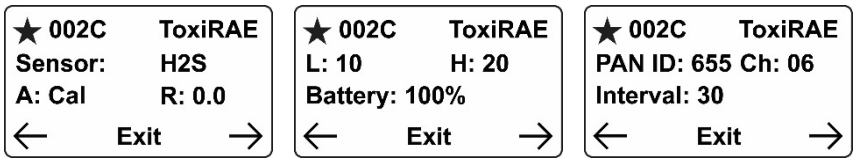
Press [MODE]. The screen changes to show the data. For example:



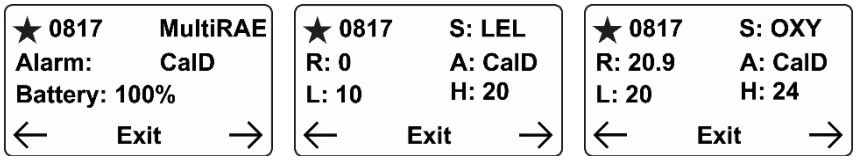
The arrows are soft keys for navigating to other screens for more data.

- Press [Y/+] to go back one screen.
- Press [MODE] to exit.
- Press [N/-] to advance one screen.

Here is an example of the sequence of screens for a ToxiRAE Pro:



Here is an example of the sequence of screens for a MultiRAE:



This provides you with an overview of the alarm state, and varies with the type and number of sensors.

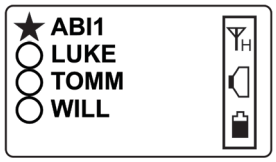
To exit from this screen back to the main reading screen, press [MODE].

8.3. Peak Value Reading For Online Or Offline Monitors

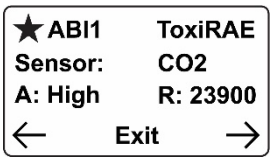
The peak value reading from monitors on the network can be viewed anytime. Scroll down to the instrument and select it. If the monitor is currently offline, its last received peak reading is shown. This value is retained until communication with the monitor is restored.

To view a monitor's peak reading:

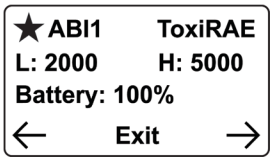
1. Press [Y/+] or [N/-] to scroll through the list of monitors. Then press [MODE] to select the highlighted monitor.



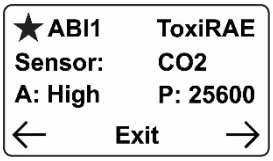
The monitor's type and status are shown (A = Alarm, R = Real-time Reading):



2. Press [N/-] to advance through the sensor's information (L = Low Alarm, H = High Alarm):



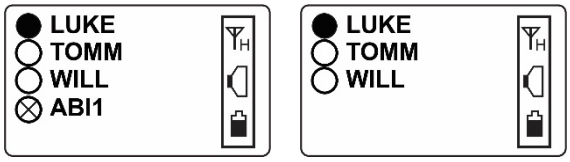
3. Hold the [Y/+] key for 3 seconds, and the peak value is shown (P = Peak, A = Alarm Status):



To continue with readings, press [Y/+] or [N/-]. To exit, press [MODE].

8.3.1. Clearing Offline Monitors

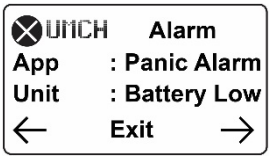
At the main screen, press the [Y/+] key for 3 seconds. This clears all offline monitors.



As soon as an offline monitor comes back online, or as readings come from an online monitor, the EchoView Host shows them.

8.4. Panic Alarm

A panic alarm is the highest-priority alarm from a monitor. When the EchoView Host receives a panic alarm from a monitor, the LED flashes and the audible alarm sounds 4 times per second. The display shows "Panic Alarm":



8.4.1. Alarm Abbreviations

Because some alarm type names are too long to display completely on the EchoView Host, abbreviations are used. In some cases, the message is not shortened. This chart explains the messages:

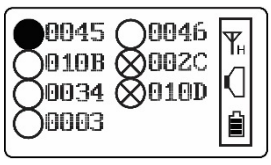
Alarm Type	Displayed On EchoView Host
Super Alarm	Super (or Super Alarm)
LEL Off/Over	Over
VOC Lamp	Lamp
Sensor Fail	Fail
Max	Max
Over Range	Over
High	High
Low	Low
Neg	Neg
STEL	STEL
TWA	TWA
Dose	Dose
Cal Fail	Cal
Bump Fail	Bump
Unit Fail	UFail (or Unit Fail)
Battery Low	Bat (or Battery Low)
None	None

8.4.2. Alarm Signal Summary

Alarm Mode	Buzzer & LED
EchoView Host low battery	1 beep per minute
Monitor fault (such as low battery, sensor error, etc.)	1 beep per second
Monitor low alarm	2 beeps per second
Monitor high alarm	3 beeps per second

8.5. Offline Monitor(s)

If any other monitors on the network go offline, the circle accompanying the monitor's name changes to a circle with an "X" through it. In addition, offline monitors are moved to the last position in the list. If the monitor comes back online, then the "X" disappears.

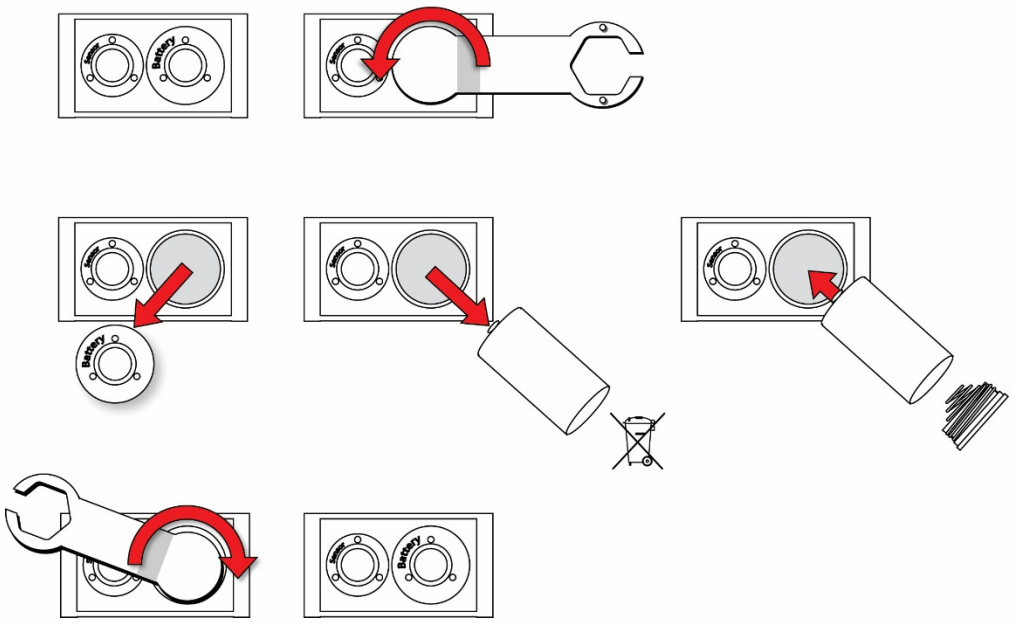


8.6. Backlight

Whenever you press any key while viewing the data, the backlight turns on for 15 seconds and then automatically shuts off.

9. Internal Battery Replacement

1. Use the 3-pin end of the tool to unscrew and open the battery cover (located on the bottom of the instrument) by turning it counterclockwise.
2. Remove the battery and dispose of it properly. Do not place it in general waste.
3. Insert the new battery with its positive ("+") pole towards the inside of the instrument.
4. Replace the battery cover by turning it clockwise with the 3-pin end of the tool.



Note: After changing the battery, wait at least 60 seconds before turning the EchoView Host on.

WARNING!

Only change the internal battery in non-hazardous locations and use the battery Honeywell RAE Systems provides (P/N: 500-0111-000, EVE ER34615 or XENO XL-205F).

10. Troubleshooting

Failure Symptom	Cause	Solution
Cannot turn on	Battery charge too low Battery has been changed	Replace battery Wait at least 60 seconds to turn on EchoView Host Check RAE Systems' web site for inform-ation on batteries
EchoView Host cannot receive a monitor's signal	Too much distance between the EchoView Host and monitors There is an obstruction between the EchoView Host and the monitor. Battery is low EchoView Host and monitor have different PAN ID and/or Channel numbers	The distance should be around 300m/1.000 ft, line of sight. Relocate EchoView Host(s) or deploy MeshRouters to extend the range Relocate the EchoView Host or deploy one or more MeshRouters to extend the range Replace battery Set all units to the same PAN ID and Channel number. Perform "Join Network" on the monitors.
Others		Turn EchoView Host off and on again. Consult RAE Systems Customer Service.

11. Year Of Manufacture

To identify the year of manufacture, refer to the serial number of the instrument.

The letter in the serial number indicates the year of manufacture. For example, "M" indicates the manufacturing year is 2010.

Letter	Year
V	2018
W	2019
A	2020
B	2021
C	2022
D	2023
E	2024
F	2025
G	2026
H	2027
I	2028
J	2029
K	2030

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