

# ANDRE™

Near-Field Detection Receiver

## User Manual



**Research Electronics International, LLC**

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1. **ANDRE<sup>ab</sup>** - unit, wall charger, int'l adapter, and USB
2. **Powered Connector Cable 60" (1.5 m) or Connector Cable 48" (1.2 m)**<sup>ab</sup>
3. **Concealed Antenna<sup>a</sup>**
4. **Down Converter Antenna or Log Periodic Antenna<sup>a</sup>**
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<sup>a</sup>Included in the ANDRE Advanced Kit, but case location may vary

<sup>b</sup>Included in the ANDRE Basic Kit, but case location may vary

# ANDRE™

## Advanced Near-field Detection Receiver



This document is intended to provide guidance and instruction on using the ANDRE Near-field Detection Receiver for finding hidden electronic devices.

This manual contains proprietary information intended solely for use with the ANDRE product.

The overall effectiveness of this product, and of any surveillance countermeasure, is dependent on the threat level and the user's ability to properly utilize the appropriate equipment.

REI offers the world's largest commercially available Technical Security training facility. Training courses include classroom instruction and hands-on exercises where students perform sweep exercises in "live" environments utilizing "target rich" project rooms. The progressive course curriculum is designed for the beginner or the seasoned Technical Security Technician.

Regularly scheduled courses are taught monthly; visit REI's website ([www.reiusa.net](http://www.reiusa.net)) or contact REI ([sales@reiusa.net](mailto:sales@reiusa.net)) for training dates.

## Revision 2.2

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REI products are designed and intended for legal commercial applications. However, because laws and regulations vary from state to state and country to country, it is the sole responsibility of the purchaser and user/operator to check and comply with all applicable laws and regulations for the possession and operation of this equipment before and after making a purchase.

Information contained in this manual including product operation and specifications is subject to change without notice.

Any product or brand names contained in this manual are used only for identification purposes and are trademarks or registered trademarks of their respective holders.

Warning: This is a CE class A product, pursuant to EN 55022. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Note: 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.

Patents Pending

### OWNER'S RECORD

The Serial Number of each ANDRE is located on the back of the unit. Please record this number and refer to it whenever you contact your dealer or Research Electronics International concerning this product. Note: Removal or alteration of the serial number automatically voids all warranties of this product.

SERIAL NUMBER: \_\_\_\_\_



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# PRECAUTIONS

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## PRECAUTIONS

### ANDRE

- CAUTION: Any changes or modifications not expressly approved by REI could void the user's authority to operate the equipment.
- The ANDRE is for professional use only.
- For your own safety do not use the ANDRE if:
  - The ANDRE cables or its plugs become frayed or otherwise damaged.
  - The ANDRE housing is cracked or otherwise damaged.
  - You suspect that the unit requires servicing.
-  Only use REI approved power sources, batteries, chargers, and accessories. The supplied power supply is REI #R-00013 (Group West #10FA3-05200U). The supplied battery is REI #R-00012 (Nitecore #NL189), a rechargeable Lithium Ion 18650 Cell, rated 3.7V, 3400mAh, 12.6Wh.
- The slots in the housing of the unit are vents and are part of the ventilation system. Do not block these vents during the operation of the unit.
- The fan that is visible from the battery compartment is part of the ventilation system. The fan does not operate constantly but only as needed to reduce the internal temperature of the unit. Do not forcibly stop or disrupt the operation of the fan.
- There are no serviceable parts inside. Contact your dealer or Research Electronics International, LLC for repairs. Opening the unit will void the warranty.
- For your own safety do not use the AC power adapter or the included USB cable if:
  - The cable becomes frayed or otherwise damaged.
  - The power adapter plugs are damaged.
  - The power adapter housing is cracked or otherwise damaged.
  - The power adapter is exposed to rain, liquid or excessive moisture.

### Lithium-Ion Batteries

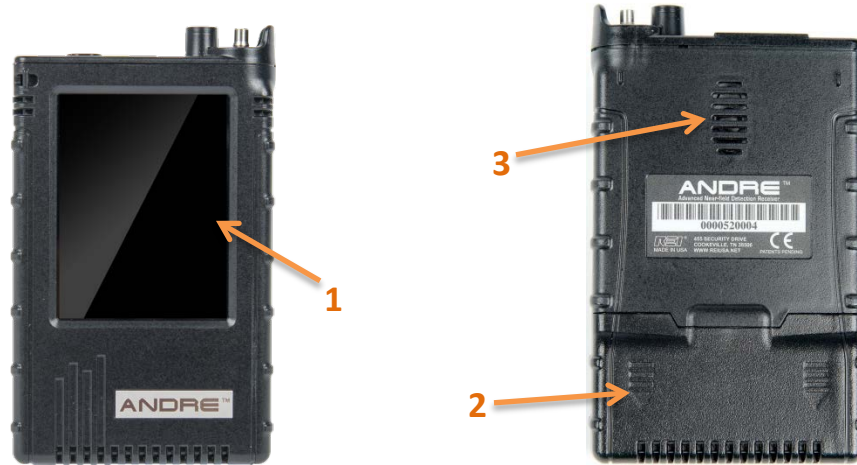
- CAUTION: RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.
- For your own safety do not use any ANDRE battery if:
  - The battery case is cracked or otherwise damaged.
  - The battery is excessively hot or warm for any reason.
- Avoid shorting the battery, immersing in water, or exposing to fire. Also, avoid excessive physical shock or vibration.
- Only use the specified REI battery chargers or products to charge REI batteries
- There are no serviceable parts inside the battery. Contact your dealer or Research Electronics International, LLC for repairs. Opening or puncturing the unit can be dangerous and may result in injury.
- Using the Lithium-Ion batteries in a manner not specified by this user's guide may override the equipment's built-in protection mechanisms.
- Keep out of the reach of children.
- Dispose of Lithium-Ion batteries in accordance with local regulations.



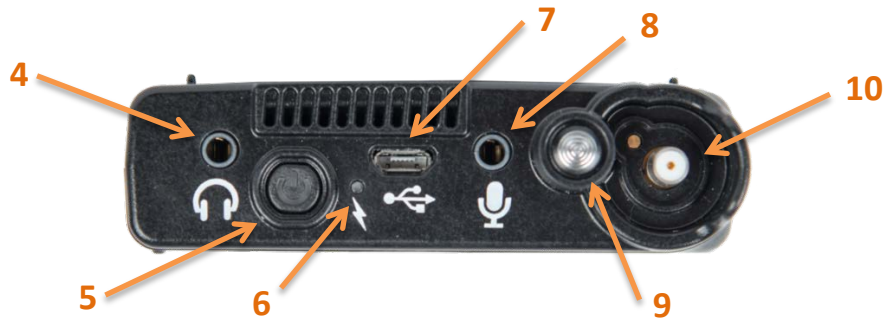
# EQUIPMENT DESCRIPTION

## EQUIPMENT DESCRIPTION

### ANDRE Unit



1. **TOUCH SCREEN DISPLAY** - user interface for ANDRE
2. **BATTERY DOOR** (on the back of the unit) - conceals battery compartment
3. **SPEAKER** (on the back of the unit) - used to monitor audio from the unit



4. **HEADPHONE JACK** - for connection of headphones to monitor audio from the unit
5. **POWER BUTTON** - To power on, press and hold until POWER LED flashes. To power off, press and hold until the Touch Screen Display indicates that the unit is powering off.
6. **POWER LED** - the power led uses different colors and patterns (e.g. solid vs flashing) to indicate the status of the ANDRE unit.

With the unit on:

Solid Green - Battery fully charged. Brightness is proportional to remaining charge.

Flashing Yellow - Battery below 30% remaining

Flashing Orange - Battery below 20% remaining

Flashing Red - Battery below 10% remaining

With the unit off or on and AC power connected:

Flashing Green - Battery is charging. Flash rate is proportional to charge level.

## EQUIPMENT DESCRIPTION

7. **USB PORT** - for connecting AC adapter for supplying power or for charging the batteries in the ANDRE. This is also used for connecting the ANDRE to a PC for software updates or for retrieving screenshots or signal list files saved on the ANDRE.
8. **AUDIO INPUT** - for connecting the Acoustic Leakage Detector or the Audio Transformer to test for the presence of audio. The Acoustic Leakage Detector and the Audio Transformer are included with the Advanced ANDRE package from REI.
9. **IR / VISIBLE LIGHT SENSOR** - for detecting the presence of IR or visible light. (See page 32)
10. **QMA CONNECTOR (RF Input)** - for connecting the included REI antennas or other RF antennas.

### ANDRE Packages

The ANDRE is available in three packages (Basic, Advanced, and Deluxe) with varying probes, antennas, and accessories. Below is a chart showing which probes, antennas, and accessories are included in each package (note that this is subject to change). Additional information can be found in the Probes, Antennas, and Accessories section on the following pages.

<b>ANDRE PACKAGES</b>				
		BSC	ADV	DLX
<b>PROBES / ACCESSORIES</b>	Whip Antenna (30 MHz – 6 GHz)	●	●	●
	VLF Antenna (10 kHz – 30 MHz)	●	●	●
	Carrier Current (100 kHz - 60 MHz)	●	●	●
	Built-in IR/Visible Light Sensor (1 kHz - 50 MHz)	●	●	●
	PC Data Viewer	●	●	●
	Log Periodic Antenna (500 MHz - 6 GHz)		●	
	Locator Probe (20 MHz – 6 GHz)		●	●
	Concealed Probe (750 MHz – 6 GHz)		●	●
	Audio Transformer (300 Hz - 20 kHz)		●	●
	Acoustic Leakage Detector (300 Hz - 20 kHz)		●	●
	Standalone Battery Charger		●	●
	Extra Batteries (2)		●	●
	Down Converter Antenna (500 MHz - 12 GHz)			●
	Ultrasonic Probe (15 kHz - 80 kHz)			●
	Directional Antenna (70 MHz - 500 MHz)			●
	Data Logging			●
Boom Extender, Probe Tripod, IR Filter, powered connector cable			●	

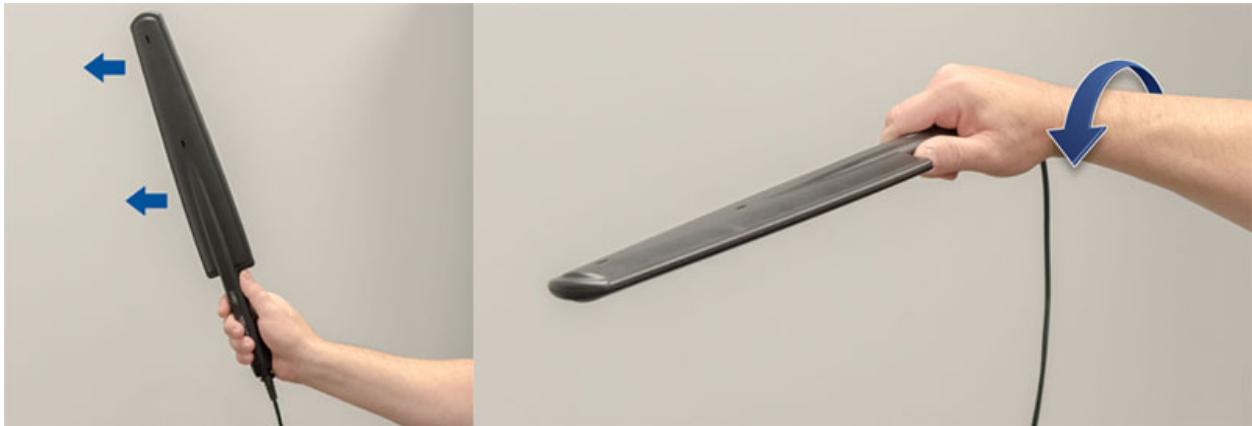
# EQUIPMENT DESCRIPTION

## Probes, Antennas, and Accessories



### Whip / Dipole Antenna (30MHz - 6 GHz)

The Whip / Dipole is a general purpose, omnidirectional, near-field probe used for locating RF transmitters up to 6 GHz.



### Concealed Antenna (750 MHz - 6 GHz)

The Concealed Antenna is omnidirectional and is used for covert detection of devices. When the concealed antenna is connected, the ANDRE will automatically switch to Covert Mode. This mode could be used to conduct a covert search by connecting the concealed antenna and then hiding the unit in, for example, a jacket pocket, walking around the room and relying on the haptic feedback for alerts. Covert mode automatically disables any alerting features. It turns the speaker off, enables haptic feedback mode, and shuts off the display and the power LED.



### Locator Probe (20 MHz - 6 GHz)

The Locator Probe is an omnidirectional probe and is attenuated for use in high RF environments and for locating an RF signal within a few inches.

## EQUIPMENT DESCRIPTION

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### VLF Loop Antenna (10 kHz - 30 MHz)

The VLF Loop Antenna is an omnidirectional antenna used for locating low frequency signals below 30 MHz.



### Acoustic Leakage Detector (ALD)

With the Acoustic Leakage Detector, the operator can determine the vulnerability of acoustic leakage by placing the probe against structural objects such as walls or windows. The Acoustic Leakage Detector connects to the Audio Input on the ANDRE.



### Audio Transformer (300 Hz - 20 kHz)

The Audio Transformer is a balanced audio coupler to provide electrical isolation for audio testing. A 3.5 mm Stereo to 3.5 mm Stereo cable is included with the ANDRE to connect the audio transformer to the ANDRE. Two push buttons provide positive and negative bias voltage to the two banana jacks on the audio transformer. The control knob on the audio transformer adjusts the level of the applied bias voltage from 0 to 22 volts. An included set of banana jack test leads with bed-of-nail alligator clips allow the audio transformer to be used on 66 blocks or other wires.

## EQUIPMENT DESCRIPTION

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### Carrier Current Probe (100 kHz to 60 MHz)



The Carrier Current Probe can be used to test for carrier current signals on any pair of conductors less than 250 volts. Before testing an unidentified pair of power conductors, a voltmeter should be used to measure the voltage across the conductors. If this voltage exceeds 250 volts, do not test with the Carrier Current Probe. Two power plugs are included for connection to US style or Euro style outlets. The included alligator clip cable assembly should only be used on 50V or less. Measurements can be made with three different pair configurations using the switch on the front of the carrier current probe: Hot/Neutral, Neutral/Ground, and Hot/Ground.

Due to power line noise and the broad frequency range that ANDRE searches, every outlet in an area should be inspected.

Note: the frequency counter is disabled when using the Carrier Current Probe and the operator should rely on the detected signal strength when using the carrier current probe. No frequency will be displayed while using the Carrier Current Probe, nor will any signals be added to the signal list.



### Log Periodic Antenna (500 MHz - 6 GHz)

The directional antenna is a log periodic antenna which can be used for improved detection in the 500 MHz to 6GHz range.

## EQUIPMENT DESCRIPTION

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### Directional Antenna (70 MHz - 500 MHz)

This flag-shaped antenna provides directional coverage for lower frequency signal detection. **It is a powered probe and must be used with one of the powered connector cables (see page 33).**



### Down Converter Directional Antenna (500 MHz - 12 GHz)

The Down Converter Antenna is a directional antenna that operates in two user selectable bands (see page 34):

Band 1: 500 MHz – 6 GHz

Band 2: 6 GHz – 12 GHz

When using Band 2, the Down Converter Antenna converts signals occurring above the standard 6 GHz threshold so they can be detected and displayed on the ANDRE. For details on operation, see page 34.

## EQUIPMENT DESCRIPTION

The down converter antenna is a powered probe and must be used with one of the powered connector cables (see page 34).



### Ultrasonic Probe (15 kHz - 80 kHz)

The ultrasonic probe detects sound waves operating above the upper limit of human hearing capabilities. The ultrasonic probe connects to the ANDRE with the provided audio patch cable. For details on Ultrasonic probe operation see page 34.



### Nitecore Dual Bay Battery Charger

The Dual Bay Battery Charger allows the user to externally charge two of the ANDRE Lithium Ion batteries.

Note: The Dual Bay Battery Charger is available with the ANDRE Advanced and Deluxe models. It can also be purchased separately by contacting REI or an Authorized REI reseller.

## OPERATION

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### OPERATION

The ANDRE has been designed for quick and easy deployment. Depending on your application some adjustments to the default setting may need to be made.

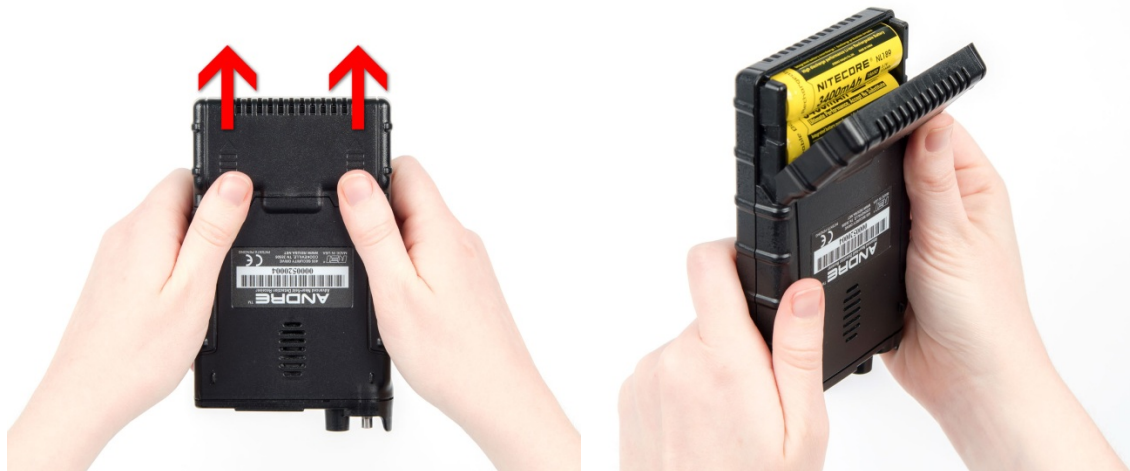
The ANDRE is a broadband RF detector and is used to locate transmitters by monitoring the RF signal strength. When searching for unknown transmitters, it is advised to remove or disable any known transmitters from the target sweep area (i.e. unplug, turn off, or remove any wireless transmitting devices including Wi-Fi and Bluetooth devices, laptops/PCs, mobile phones, wireless transmitting devices, etc.), as any transmitting devices can affect the RF noise floor and hinder detection of unknown transmitters.

Also, the process of connecting a probe or changing the settings on the ANDRE may cause inaccurate signal levels or other abnormal behavior and may result in the addition of unwanted, invalid signals to the signal list. REI recommends the following process for using the ANDRE in a sweep:

1. Configure the ANDRE for use (set attenuation/gain, adjust trigger level, set chart audio, set haptic style, etc...)
2. Connect a probe and confirm correct input source.
3. Clear the signal list (see page 25) and data log (if enabled) (see page 43).
4. Begin sweep.

### Battery Usage

Lithium-Ion rechargeable batteries have been included with your unit. The ANDRE will operate with just one charged battery inserted; however, use two batteries for the longest run time.



To insert or switch out a new battery:

1. Locate the battery door on the back of the unit.



## OPERATION

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2. Using both thumbs, slide the battery door open in the directions of the arrows engraved in the plastic. The battery door will slide open just a couple of millimeters, but can then be flipped up.
3. Labels inside the battery compartment indicate the correct polarity of the batteries.
4. After inserting the batteries, close the battery door by flipping it back down and sliding the battery door back in the opposite direction of the arrows.



The ANDRE has a built-in battery charger. To charge the battery in the unit:

1. Locate the included AC adapter and USB cable. Connect the USB cable to the AC adapter.
2. With the battery already inserted in the unit, connect the AC adapter to an AC source and the USB cable end to the USB Port on the ANDRE. The battery will begin charging. Charging is automatic; it will stop when the battery is fully charged. While the battery is charging, the power LED will flash green; the flash rate will be proportional to the charge level.



Note: To keep the batteries in good working condition, they should be removed from the ANDRE for long term storage of 90 days or more. Even when powered off, the operating system of the ANDRE continues to use a low stand-by current that in some cases could cause a deep discharge and possible damage to the battery, preventing a normal recharge. To extend battery life it is recommended that the batteries are charged every three months when unused for long periods.

## OPERATION

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Included with the ANDRE Advanced and Deluxe models is a Dual Bay Battery Charger. To use this external battery charger:

1. Unwind the connected USB cable from the charger base.
2. Flip the battery charger over and flip the base up. Remove the USB A connector from this port.
3. Connect the USB micro end of the cable into the port on the side of the charger. Connect the USB A end to the included AC power adapter, a PC, or other standard USB output port.
4. Insert the batteries to be charged being sure to observe the polarity markings on the charger.
5. After battery installation, the charger will run a quick battery test before charging. If a problem is detected (for example, the batteries are installed backwards), charging will stop and "EE" will be displayed on the LCD to notify the user.
6. When batteries are fully charged, 5 power level indicator bars and "100%" will illuminate steady on the LCD display.

Two or more external battery chargers can be serially-connected together to perform cascade charging; as one set of batteries finishes charging, the second set will automatically begin charging. To perform cascade charging:

1. Connect the first charger in the chain to a power source using the steps above.
2. Take a second USB A to USB micro cable and connect the USB A end to the charging port under the base of the first charger.
3. Connect the USB micro end of the 2<sup>nd</sup> cable to the USB micro port on the side of the 2<sup>nd</sup> battery charger.
4. The switch labeled "USB Battery" on the side of charger determines the charging priority. If the switch on the first charger is set to "Battery", the charger will first charge the inserted batteries. Once the inserted batteries are at full charge, the device will automatically begin charging the batteries inserted in the downstream charger. If the switch on the first charger is set to "USB", then the batteries in the downstream charger will charge first. Once these are at full charge, then charging will switch to the batteries inserted in the first charger.

## OPERATION

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### Audio Transformer Batteries

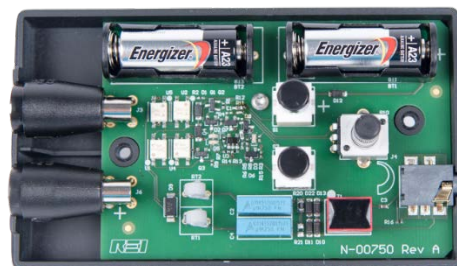
The audio transformer, which is an accessory probe included with the ANDRE Advanced and Deluxe models, requires two A23C batteries, which are customer replaceable.

To replace the audio transformer batteries:

1. Using a Phillips head screwdriver, remove the two screws from the back of the audio transformer.



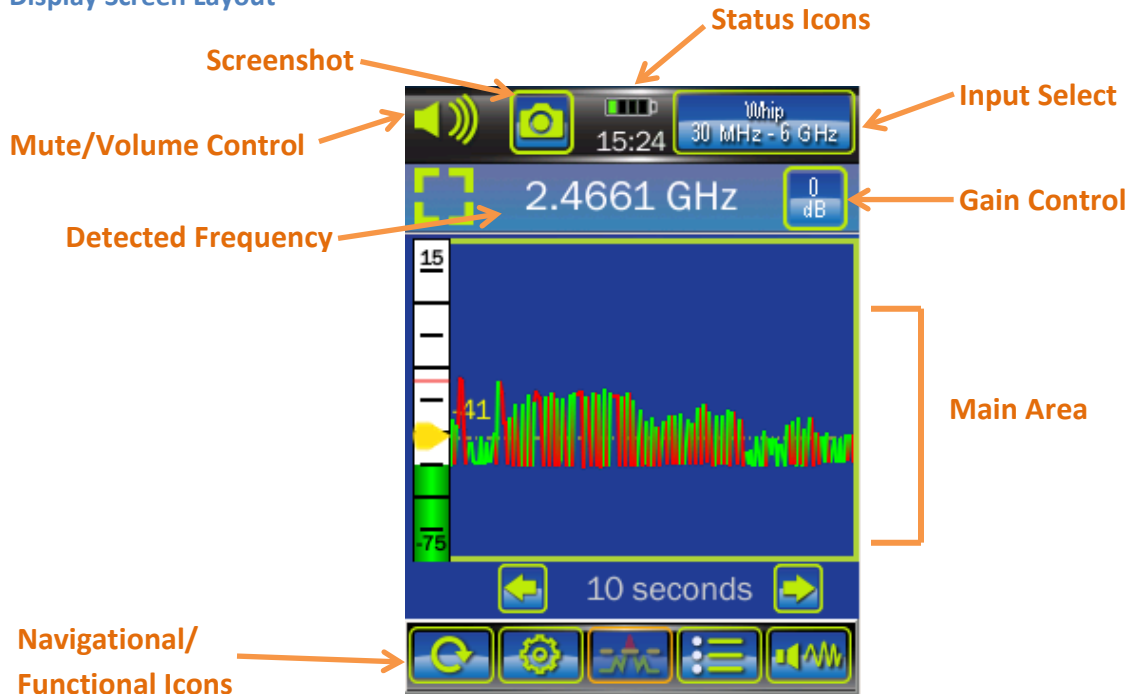
2. Locate the two A23C batteries and replace, being careful to observe the polarity marked on the unit.



# OPERATION

## Display Screens

### Display Screen Layout



Although several different screens are available for the ANDRE, they all utilize a common layout.

**Screenshot** - Tapping the camera icon in the status bar will take a screenshot and save it to the unit in .png format using an automatically generated file name based on a header specified by the user (see page 43). The captured screenshot can be viewed on the ANDRE using the Image Viewer (see page 44) or the file can be accessed directly by connecting the ANDRE to a PC (see page 30).

**Mute / Volume Control** - Tapping this icon will bring up the mute and volume controls. Tapping the mute control on the left will toggle the audio. Dragging the adjustment control on the right will increase or decrease the volume. The controls will disappear after a few seconds if there is no activity.

**Status Icons** - This area of each screen contains status icons indicating the current condition of the ANDRE unit. Battery status and current time are displayed here.

**Input Select** - The input select button allows the user to manually select the signal source - either RF Input (QMA connector), Audio Input, or IR/Visible Light Sensor. If an REI probe or antenna is connected to the currently selected input source, this button will also display the name of the probe and the frequency range.

**Detected Frequency** - The onboard frequency counter will try to detect the frequency of the strongest signal in an area. If an ambient signal is strong enough for the frequency counter to lock on it, the detected frequency will be displayed here. If no frequency is detected, dashes are shown. The frequency gate setting (see page 39) affects the operation of the frequency counter.

## OPERATION

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Note: The frequency counter is not as accurate or reliable at lower frequencies (below 100 MHz), and may give false frequencies unless the target signal is very strong. Also, because the ANDRE is a broadband receiver, all RF energy is mixed (up to 6 GHz depending on antenna/probe), which can impact the accuracy and stability of the frequency counter. For detection purposes, the operator should rely on the detected signal strength to locate the source of the RF energy, and use the frequency counter information to evaluate the energy.

**Gain Control** - This button allows the user to change the attenuation or gain level of the ANDRE. Four levels are available: +15 dB, 0 dB, -10 dB, -20 dB. Gain control is not available when the selected input source is the IR/Visible Light sensor because gain is forced to -20 dB in this mode.

**Main Area** - The content of this area will vary depending on which screen is currently selected.

**Navigational/Function Icons** - The icons in this area are for navigating to the various available screens, accessing setup controls, or performing a reset.



**RESET** - The operation that occurs when the RESET Button is pressed will vary depending on what screen the user is on when the reset button is pressed. The dialog screen that appears when the RESET button is pressed will provide information on what items will be reset.



**SETUP MENU** - The ANDRE unit can be configured for multiple situations and use cases. The majority of settings changes are handled through the SETUP MENU.



**CHART SCREEN** - The chart screen provides a time-based history of the ambient RF Level and is the main operating mode of the ANDRE, where the ANDRE is used as a near field detector with the user in motion walking around the target area.



**SIGNAL LIST SCREEN** - The signal list screen provides an automatically generated list of signals that have crossed the trigger level established by the user on the chart screen.




**AUDIO SCREEN** - The audio screen allows the user to listen to audio from the audio input, listen to live demodulated signals from RF sources, record live audio input or demodulated audio, or playback previously recorded audio files.

## OPERATION

### Chart Screen (Search)

By default, the Chart Screen is the initial screen shown after the ANDRE is powered on. The chart screen can also be selected, if it is not the currently displayed screen, by pressing the "Chart" icon that appears at the bottom of each screen. The chart screen provides a time-based history of the ambient RF Level and is the main operating mode of the ANDRE, where the ANDRE is used as a near field detector with the user in motion walking around the target area.



**Zoom** - The chart is normally displayed with a vertical range of 90 dB. Pressing Zoom  displays a 30 dB segment of this full range. The 30 dB range displayed will be automatically selected based on the ambient signal level at the time that the zoom button is pressed. The reduced scale will enable the user to more easily see small changes in signal level. Press the Zoom button again to return to the full vertical scale chart.

**Trigger Level** - If the RF level goes above the adjustable trigger level the ANDRE will alert the user in various ways depending on the current settings. The user is visually alerted when the color of the RF Level History graph changes from green to red. Haptic alerts are available (see page 40) as well as audio alerts (see page 39). The trigger level can be adjusted manually by pressing on the trigger level marker and dragging up or down. It can be adjusted by tapping within the top two-thirds of the chart area, as described below. It can also be adjusted automatically (see pg. 38).

**Decaying Peak Level** - The red line on the bargraph is a decaying peak level indicator for the ambient RF level.

**Ambient RF Level** - the bargraph on the chart screen displays the current instantaneous ambient RF level.

**Trigger Level Set** - Tapping anywhere within the top two-thirds of the chart area will adjust the trigger level to the current ambient RF level

**RF Level History** - This area provides a visual history of recent RF levels. The graph is normally in green, but changes to red anytime that the RF level crosses the set trigger level.

Note: The RF Level history is red if the RF level is above the trigger level or if it is increasing above the trigger level. It is green if the RF level is below the trigger level or decreasing below the trigger level. So there will be portions of the RF level history that are red, but shown below the trigger level and portions that are green, but shown above the trigger level. Also, if the trigger level is changed, the portions of the RF Level History that were already


## OPERATION

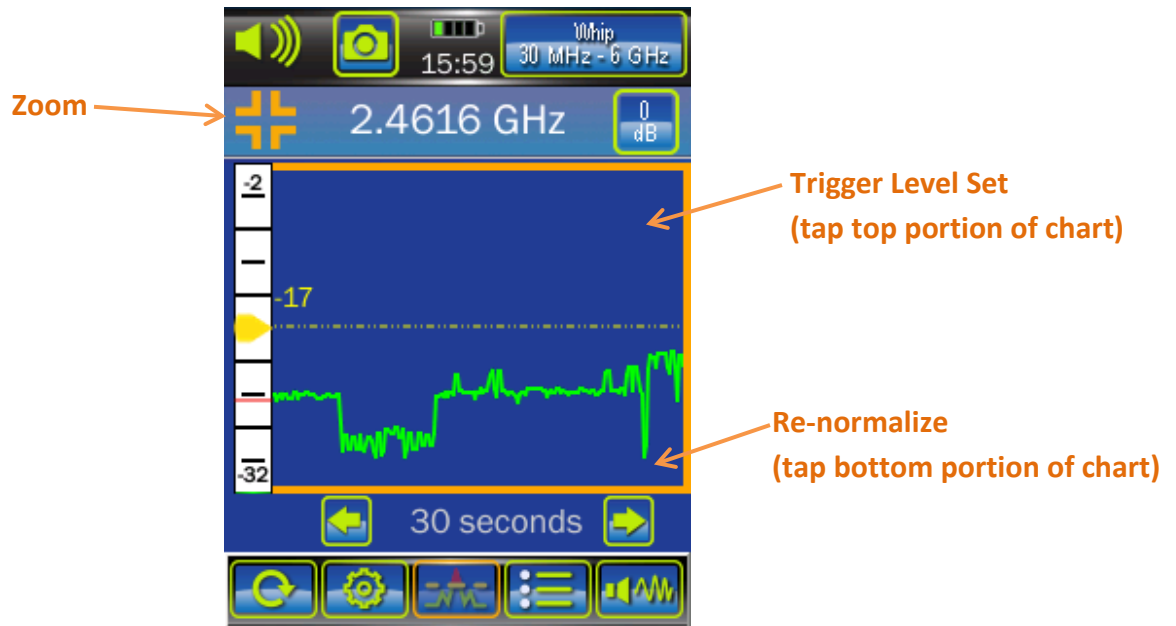
displayed on the screen before the trigger adjustment will remain the same color, they will not change to reflect their new relationship to the trigger level.

**Gain/Atten Change** - If the attenuation or the gain changes (see page 37), an indication showing the new value will appear on the chart.

**Time Interval** - The time interval is the amount of time represented by the horizontal span of the graph. To select a different time interval, tap on the left or right arrow on either side of the displayed time. Selecting a larger time increment will allow more data to be shown on the graph at one time. The range of available values for the time interval is 5 seconds, 10 seconds, 1 minute, 10 minutes, 1 hour, 12 hours, and 24 hours.

### Zoom Mode

Pressing Zoom on the chart screen puts the ANDRE in Zoom Mode. The zoom icon  changes to indicate that the ANDRE is operating in zoom mode and the frame around the chart changes color to orange. In zoom mode, only a 30 dB segment of the full vertical range is displayed. This reduced scale will enable the user to more easily see small changes in signal level. Press the Zoom button again to return to the full vertical scale chart.



**Zoom** - Pressing zoom  returns the ANDRE chart to the full 90 dB vertical scale.

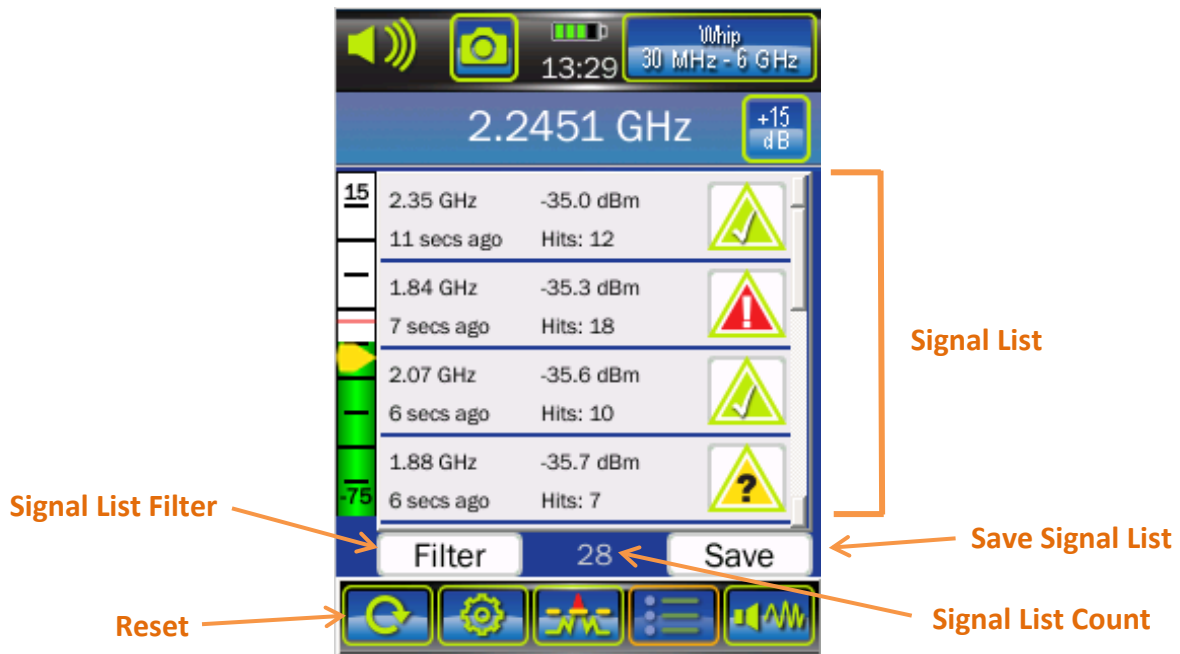
**Trigger Level Set** - Just as in Full Mode, tapping anywhere within the top two-thirds of the chart area will adjust the trigger level to the current ambient RF level

**Re-normalize** - In Zoom Mode, tapping anywhere within the bottom third of the chart area will re-normalize the zoom display. This will reconfigure the vertical scale. The scale will still show a 30 dB range, but new upper and lower limits will be determined based on the current signal level. While in zoom mode, if you change antennas or add gain or attenuation, you should re-normalize the zoom display.

## OPERATION

### Signal List Screen

The signal list screen provides an automatically generated list of signals that have crossed the trigger level established by the user on the chart screen. A user setting determines the max number of signals to log with the strongest signals rising on the list and the weaker signals falling off after the max number of signals is reached. The signal list continues saving signals even if the signal may no longer be shown on the chart screen (due to scrolling off the screen). The trigger level, decaying peak level, and ambient RF level bargraph all behave exactly as they do on the chart screen. In order for a signal to be added to the signal list, the detected RF level must cross the trigger level *and* the frequency counter must have locked on it.






**Signal List** - This signal list is displayed here. If there are more than four signals, it will be necessary to scroll up or down to view all of the signals. The scroll bar on the right will indicate what portion of the list is currently displayed.

**Reset** - To clear the signal list, while on the signal list screen, press the Reset button. A dialog box will appear asking if you want to reset the "Signal List". Press "OK".

**Save Signal List** - Select this button to save the signal list to a CSV (comma separated values) formatted file. The file is saved to the unit using an automatically generated file name from a header specified by the user (see page 43). The text "Save Complete" will be displayed briefly at the top of the screen to confirm that the file was saved. To retrieve the file, connect the ANDRE to a PC (see page 30).

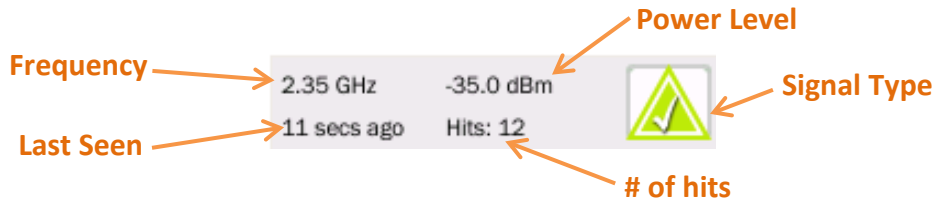
**Signal List Count** - This count indicates the number of signals in the signal list.

**Signal List Filter** - Use this to filter specific signals from the signal list view without deleting them.

Signals can be designated as "Friendly" , "Threat" , or "Unknown"  and any of these categories can be filtered from the signal list view.



# OPERATION






Each entry in the signal list contains several pieces of information.

**Frequency** - This value represents the frequency of the signal.

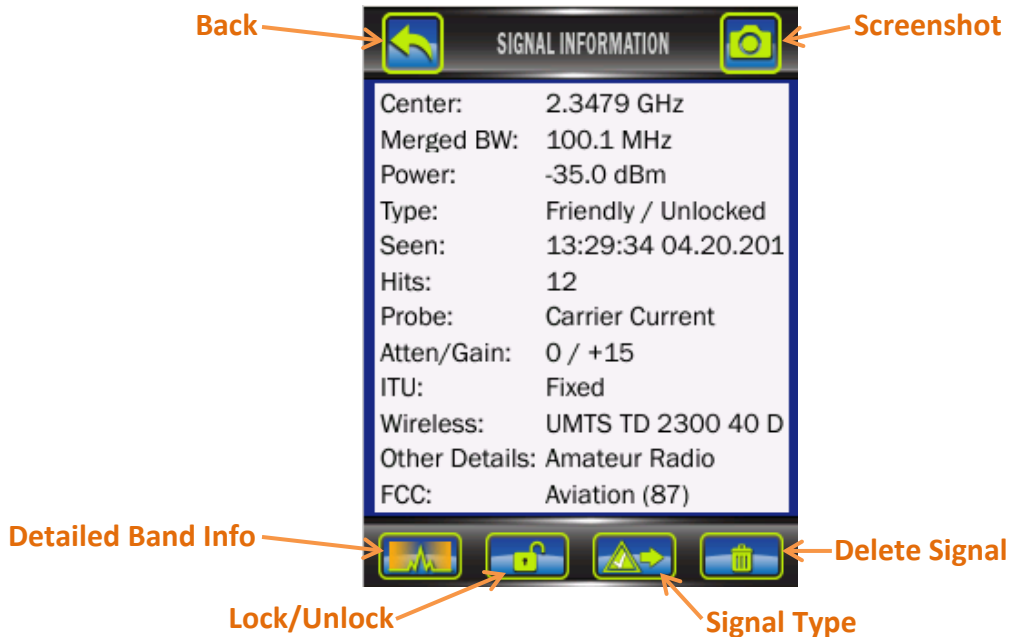
**Last Seen** - This value represents the elapsed time since the signal was last seen.

**Power Level** - This value represents the total ambient power at the time that the detected signal was last seen.

**Signal Type** – Signals can be tagged with 3 different designations: "Unknown" , "Friendly" , and "Threat" . Select the signal type to change the designation. With each tap, the designation will cycle through the three available types.

**# of hits** - This value represents the number of times the signal has been detected

Double tap any signal in the list to bring up more detailed signal information:







**Back** - Use this button to return to the Signal List Screen.




## OPERATION


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**Screenshot** - Use this button to save a screenshot of the Detailed Signal Information. Screenshots are saved to the unit in .png format using an automatically generated file name based on a header specified by the user (see page 43). The captured screenshot can be viewed on the ANDRE using the Image Viewer (see page 44) or the file can be accessed directly by connecting the ANDRE to a PC (see page 30).

**Detailed Band Info**  - The ANDRE is able to provide information about the frequency band that a signal might be a part of. This information contains known regulatory or other uses of given frequency bands. To ensure accuracy for your given location, be sure to set the ITU region (see page 41). This information also appears as part of the detailed signal information window (the lines "ITU", "Wireless", "Other Details", and "FCC"), but due to space constraints the complete description may fail to display. Hit the Detailed Band Info button, to open up an additional dialog with complete descriptions of the band information.

**Unlock / Lock**  - Use this button to lock the signal to the signal list or to unlock the signal. A user setting determines the max number of signals to track with only the strongest signals staying on the list and the weaker signals falling off after the max number of signals is reached. If a signal is locked, it will not drop off the signal list regardless of the signal level or the number of signals on the list. The text on this button indicates the current status of the signal, "locked"  or "unlocked" .

**Signal Type** - You can tag signals with 3 different designations: "Unknown" , "Friendly" , and "Threat" . Use this button to change the designation. With each tap, the designation will cycle through the three available types.

**Delete Signal**  - Use this button to delete the signal from the signal list.

The following information is provided in the Detailed Signal Information:

**Center** - The center frequency of the detected signal.

**Merged BW** - This value represents the assigned bandwidth of the signal for merging purposes. For additional detail see page 42.

**Power** - The total ambient power level at the time that the detected signal was last seen.

**Type** - This field contains the user designated signal type for the signal ("Unknown", "Friendly", or "Threat") and the lock status of the signal ("Locked" or "Unlocked").

**Seen** - The time and date that the signal was last detected.

**Hits** - The number of times the signal has been detected.

**Atten/Gain** - Attenuation and Gain settings for the last time this signal was detected.

## OPERATION

**ITU** - General Frequency Band Information for specific ITU regions. To ensure accuracy for your given location, be sure to set the ITU region (see page 41).

**Wireless** - Specific Band Information for known wireless protocols (GSM, CDMA, LTE, etc.) To ensure accuracy for your given location, be sure to set the ITU region (see page 41).

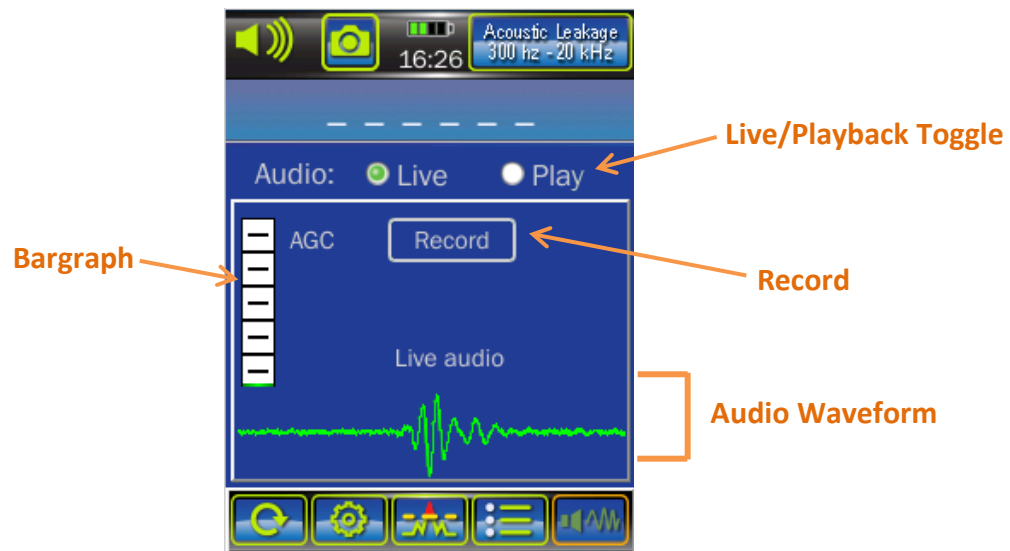
**Other Details** - More specific band information (e.g. Amateur Radio 60 meters, Instrument Landing System, VHF Television, etc.) This information is only available if the ANDRE is set to ITU region 2 (see page 41).

**FCC** - Contains information for the bands defined by the FCC rules. The FCC Rules Part Number is listed in the description (e.g. Maritime (80), Amateur Radio (97), etc.) This information is only available if the ANDRE is set to ITU region 2 (see page 41).

### Audio Screen

The audio screen allows the user to listen to audio from the audio input, listen to live demodulated signals from RF sources, record live audio input or demodulated audio, or playback previously recorded audio files. The demodulator on the ANDRE is an AM demodulator, but it will also demodulate some FM sources if they have an AM component to them.

### Live Audio



**Live / Playback Toggle** - To listen to Live Audio, select "Live" in the Live/Playback Toggle.

**Audio Waveform** - Displays a waveform of the live audio.

**Bargraph** - The source of the audio bargraph depends on the currently selected input source. If the selected input source is an audio probe connected to the audio input, the bargraph displays the AGC level for the audio probe. If an RF Probe or the built-in IR/VL sensor is the currently selected source, then the bargraph displays the RF power level.

## OPERATION

**Record** - Press this button to record the audio input or the demodulated audio.



The recording function allows the user to record 10 seconds of audio which is then saved to the ANDRE in .wav format using an automatically generated file name based on a header specified by the user (see page 43). The audio file can be listened to on the ANDRE by using the playback function on the Audio Screen. To retrieve the file, connect the ANDRE to a PC (see page 30). A countdown on the screen indicates the remaining time in the recording. The recording can be stopped at any time by pressing the STOP button.

### Audio Playback

The playback function allows the user to listen to audio files previously recorded and saved to the device.

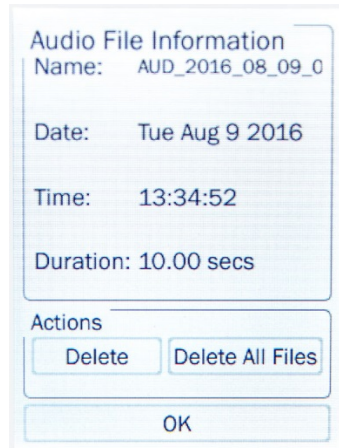


The playback function plays the audio files saved to the ANDRE in successive order. Use the **Prev Track**, **Next Track**, **First Track**, and **Last Track** buttons to navigate through the files. During playback, the scroll bar can be used to scrub through the audio file.

## OPERATION

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The information button brings up an additional dialog screen about the file currently playing:



Press the "Delete" button to delete the current audio file. You will be asked to confirm the deletion.

Press the "Delete All Files" button to delete all of the audio files on the unit. You will be asked to confirm the deletion. Once the files are deleted, there is no way to retrieve the files. Be sure that this is what you want to do before you confirm the deletion.

Press "OK" to return to the Audio Screen.

## ADDITIONAL FEATURES

### Connecting to a PC

To access data files that you have saved to the ANDRE (screenshots, signal lists, or audio files) off of the device, it will be necessary to connect the device to a PC. Also, in order to apply a software update (see page 44), it will be necessary to connect the device to a PC in order to transfer the software update file to the device.

To connect the ANDRE to a PC for file transfer:

1. Locate the included USB A to USB Micro B cable.
2. Connect the Micro B end of the cable to the ANDRE device and the A end of the cable to a PC.
3. The computer will recognize the ANDRE and the ANDRE will be represented as a drive on the computer, similar to how a connected USB thumb drive would be represented. The ANDRE screen will also indicate that the device is connected to a PC and will not allow any other operations while the unit is connected. To copy or move files off of the ANDRE, move them from the ANDRE drive on the PC to another location. To copy or move files to the ANDRE, move them to the ANDRE.
4. Eject the ANDRE drive, just as you would a USB thumb drive, before physically disconnecting the device.

## ADDITIONAL FEATURES

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Note: Some PCs have strict power consumption requirements for USB ports and these types of devices may not recognize the ANDRE when it is connected to them. Depending on the hardware version of your ANDRE, a Low Power Mode option may be available in the Setup Menu (see page 46) to assist in connecting to these types of devices.

### Covert Mode

Covert mode could be used to conduct a covert search by connecting the concealed antenna and then hiding the unit in, for example, a jacket pocket, walking around the room and relying on the haptic feedback for alerts.



To enable Covert Mode:

1. Connect the concealed antenna to the ANDRE.
2. The ANDRE will ask if you want to enter Covert Mode. Press Yes.

In Covert Mode, the following changes will occur automatically:

- Trigger Mode setting (see page 38) will be changed to Auto (if it is not already on Auto) with a slow decay
- Haptic feedback will be turned on
- The speaker will be turned off
- The screen will be dimmed
- Chart duration will be changed to 10 minutes

To exit Covert Mode:

1. Disconnect the concealed antenna from the ANDRE.
2. The screen will display a message indicating that it is exiting Covert Mode. Press "OK"

## ADDITIONAL FEATURES

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3. Once you have pressed "OK", all settings will be restored to their previous state, except for the chart duration. This is to give the user the opportunity to review the data recorded during Covert Mode.

*or*

4. While in Covert Mode, press and hold the power button. The screen will display a message indicating that it is exiting Covert Mode. Press "OK".
5. Once you have pressed "OK", all settings will be restored to their previous state, except for the chart duration. This is to give the user the opportunity to review the data recorded during Covert Mode.

Note: There is no menu item for Covert Mode. If the concealed antenna is already attached and the unit is not in Covert Mode (e.g. if you selected "No" when asked if you wanted to enter Covert Mode), then you will need to disconnect and reconnect the antenna to initiate the process for entering Covert Mode.

### IR/VL Sensor

The built-in IR/VL sensor (see page 11) can be used for detecting infrared signals and visible light transmissions that are 10 kHz to 50 MHz with a wavelength range of 400 - 1100 nm.

For best results in locating infrared signals or visible light transmissions, point the IR/VL sensor in all directions while sweeping a room. Because visible light sources may interfere with infrared signals, it may be useful after sweeping a room for visible light to repeat the sweep with any known visible light sources, such as overhead lighting, shut off.

To use the IR/VL Sensor

1. Disconnect any connected probe, antenna, antenna cable, and audio cable from the ANDRE. The ANDRE will automatically switch to the IR/VL input.  
*Or*
2. Select the IR/VL input from Input Source in the Setup Menu (see page 38)

Notes:

- The frequency counter is disabled when using the Infrared and Visible Light sensor. No frequency will be displayed while using the IR/VL sensor, nor will any signals be added to the signal list.
- The attenuation is forced to -20 dB whenever the input source is set to IR/VL. This is not changeable by the user.

### Connector Cable

The ANDRE Basic and Advanced includes a connector cable for connecting probes and antennas.

## ADDITIONAL FEATURES

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Note: When disconnecting the connector cable, pull from the connector collar to release (the collar will slide back slightly to release); do not pull from the cable. Doing so could damage or shorten the life of your cable. It is not necessary to power off the ANDRE when changing probes/antennas.

### Powered Connector Cable, only included with ANDRE Deluxe

If you have purchased an ANDRE Deluxe or an ANDRE Deluxe Upgrade, a powered connector cable will be included. The powered connector cable is required to operate the flag-shaped Directional Antenna (70 MHz - 500 MHz) and the Down Converter Antenna. The other, passive probes which are included with the ANDRE Deluxe or were included with the ANDRE Basic or ANDRE Advanced that you upgraded from will also work with the powered connector cable. If you upgraded an ANDRE Basic or ANDRE Advanced, you may want to keep the standard connector cable that came with those products as a back-up, but be aware that the flag-shaped Directional Antenna and the Down Converter Antenna will not work with the standard connector cable.



The powered connector cable has a pin on each end that transfers power to the powered probes. When connecting the powered connector cable to the ANDRE, it is important to align the power pin on the cable with the power contact pad on the ANDRE in order for the connector to snap to the ANDRE.

Note: When disconnecting the powered connector cable, pull from the cable release for leverage. Do not pull from the cable. Doing so could damage or shorten the life of your cable. It is not necessary to power off the ANDRE when changing probes/antennas.



## ADDITIONAL FEATURES

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### Down Converter Directional Antenna Operation

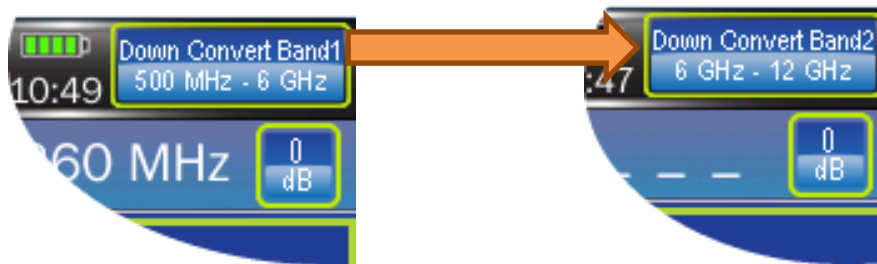
The Down Converter Antenna operates in two user selectable bands:

Band 1 (low): 500 MHz – 6 GHz

Band 2 (high): 6 GHz – 12 GHz

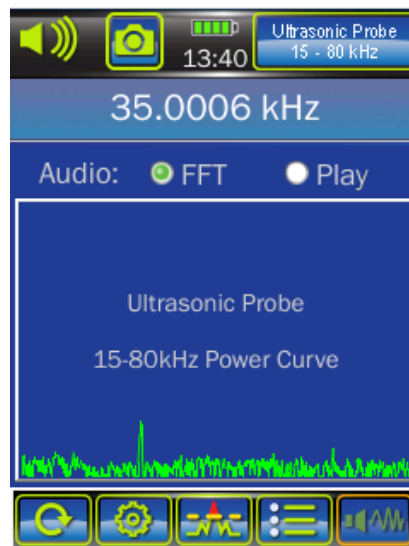
When using Band 2, the Down Converter Antenna converts signals occurring above the standard 6 GHz threshold so they can be detected and displayed on the ANDRE.

To switch between the high and low band, while the antenna is connected, press the input select button in the top right hand corner of the ANDRE display (see page 21). The input select button will change to indicate which band is currently displayed.



### Ultrasonic Probe Operation

The Ultrasonic Probe detects sound waves operating above the upper limit of human hearing capabilities. The ultrasonic probe connects to the ANDRE with the provided audio patch cable.



## ADDITIONAL FEATURES

When the ultrasonic probe is plugged in to the ANDRE, the ANDRE will automatically recognize it and switch to the audio screen. The waveform displayed is not a standard audio waveform but a frequency spectrum of the covered frequency range. Any sound waves operating in this frequency range will appear as spikes in the waveform. The ANDRE will lock on the strongest spike and will display the frequency on screen. The ANDRE also sounds a 1 kHz tone to indicate the presence of ultrasonic frequencies.

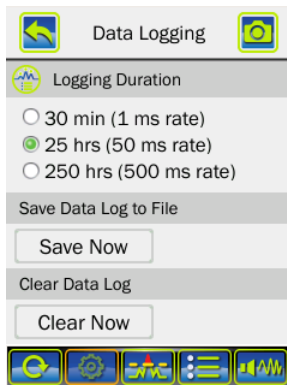
Note: It is recommended to use headphones while using the ultrasonic probe to reduce feedback.

### Data Logging

Note: Data Logging is a feature of the ANDRE Deluxe. To upgrade your ANDRE to an ANDRE Deluxe, e-mail [sales@reiusa.net](mailto:sales@reiusa.net).

When the ANDRE is turned on, it continuously logs RF level readings to internal volatile memory.

In the Data Logging function, this data can be exported to a .pwrlog file for review in the ANDRE Data Viewer PC application. At any time the user may save the current log data to a file by pressing the "Save Now" button or clear the log data in memory using the "Clear Now" button. When the ANDRE is turned off, any unsaved Data Logging information will be lost.



There are three different logging durations available. The duration describes the amount of time data will be kept. For example, if the 25 hours duration (default setting) is selected, the ANDRE will collect data for 25 hours and then write over the oldest data, keeping only the last 25 hours of data. The rate describes how often the RF level is recorded. For the 1ms rate, the RF level is recorded every millisecond, offering my better resolution of the RF level, but is limited to only 30 minutes of data.

Once a data log has been saved to a file, you can retrieve the .pwrlog file using a PC (see page 30). Use the ANDRE Data Viewer application, available for free download from [www.reiusa.net](http://www.reiusa.net) to evaluate the log data on a PC.

Pressing the Clear Now button, changing the logging duration, or turning off the unit will clear any unsaved Data logging information. Before doing any of these items, be sure to Save the Data Log to Storage, if you need to keep the current data. Data Logging will continue when probes are changed and the probe used will be recorded with each record in the data log.

The data logging feature only logs data from the RF input and the IR / Visible Light sensor - it does not log data from the audio input. If an antenna or probe is connected to the RF input while you are using the audio input, the ANDRE will log the data from the RF input. If nothing is connected to the RF input while you are using the audio input, the ANDRE will log the data from the IR / Visible Light sensor.

## ADDITIONAL FEATURES


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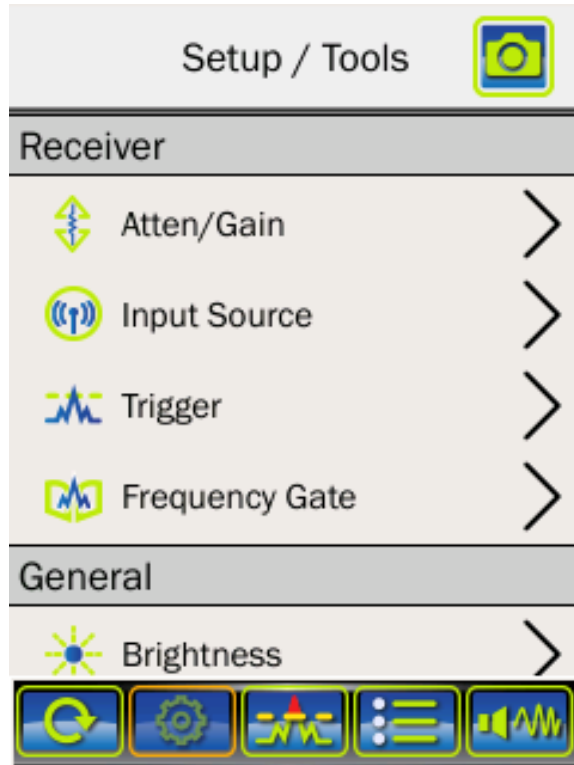
The following is a recommended work flow for using the Data Logging function to record a monitoring session with the ANDRE:

1. Before beginning monitoring session, determine desired log rate and configure in setup menu.
2. Use the ANDRE as you normally would,
3. Save Data Log to File (this step must be done before powering off the ANDRE.)

# SETUP

## SETUP

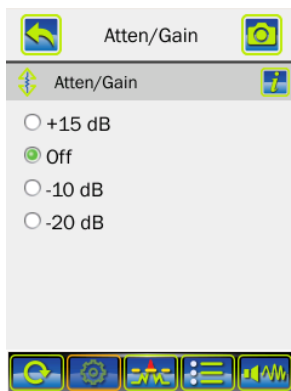
The ANDRE unit can be configured for multiple situations and use cases. The majority of settings changes are handled through the setup screen accessed by pressing "SETUP" button  at the bottom of the screen.



To scroll through all of the items in the setup menu, touch the bottom of the screen and drag your finger up or touch the top of the screen and drag your finger down.

To make adjustments to one of the setup items, tap on the name of the item.

## Atten/Gain

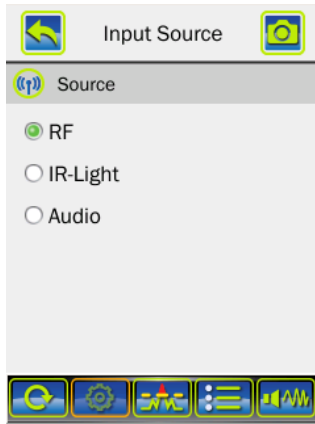


An Attenuation/Gain setting is provided to keep very strong signals from overloading the unit and to allow the user to control the sensitivity of the device. Four levels are available: +15 dB, Off, -10 dB, and -20 dB. The +15 dB gain setting will use more battery power.

Default Setting: Off

# SETUP

## Input Source



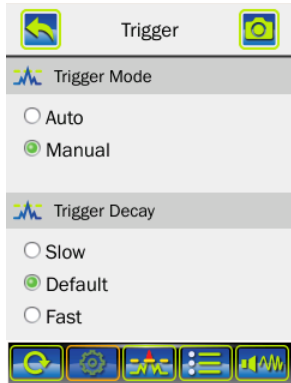
The input source setting allows the user to manually select the signal source - either the QMA Connector (RF Input), the Audio Input, or the IR/Visible Light Sensor.

For normal operation, it will not be necessary to manually select the source. If an antenna is connected to the QMA connector on the ANDRE, the unit will automatically switch to the RF Input Source. If an audio probe is plugged in to the audio input, the ANDRE will automatically switch to the Audio Input Source and will also automatically switch to the Audio Screen. If no audio probe or RF probe is connected, the ANDRE will automatically switch to the IR-Light Input Source.

Note: If selecting the audio input source, you will need to transition to the Audio Screen from the Setup Menu. If you proceed to either the Chart or Signal List screen, the unit will automatically switch to either the RF input (if an RF probe is plugged in) or the IR-Light Input Source, as the Chart screen does not display data from Audio Probes.

Default Setting: IR-Light

## Trigger



The trigger setting configures the trigger level seen on the Chart Screen and the Signal List Screen.

When the Trigger Mode is set to Auto, the trigger level will automatically increase if the ambient RF level increases. If the RF level then decreases, the trigger level will also eventually decrease, but with a little bit of a decay. The speed of this decay is determined by the Trigger Decay setting. There are three values: Slow, Default, and Fast.

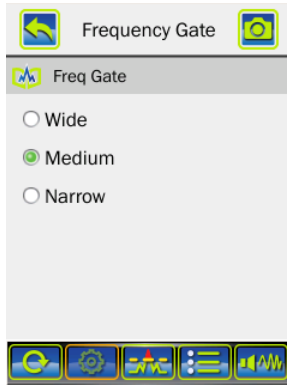
If the Trigger Mode is set to Manual, the trigger level will not automatically adjust, but will stay set until the user moves it. To change the trigger level manually, touch the trigger level control on the Chart Screen or the Signal Screen and drag it up or down.

Default Setting - Trigger Mode: Manual

Default Setting - Trigger Decay: Default

# SETUP

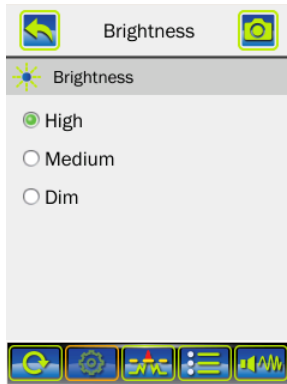
## Frequency Gate



The frequency gate setting configures the frequency counter on the ANDRE. There are three frequency gate settings: Wide, Medium, and Narrow. If the Frequency Gate is set to "Wide", the ANDRE will be able to detect frequencies using the onboard frequency counter at much lower signal strength levels, but the reported frequency value will have a wider tolerance for accuracy. With the "Narrow" setting, the frequency counter will be more accurate, but will require higher signal strength levels to establish the reported frequency value. The "Medium" setting is a compromise between the two extreme settings and is the default setting for the ANDRE.

Default Setting: Medium

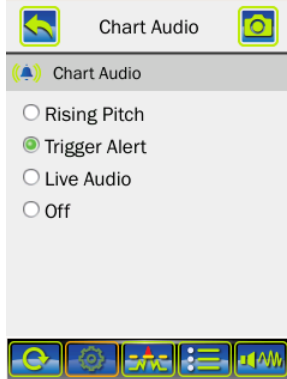
## Brightness



This setting adjusts the brightness of the Touch Screen Display. There are three available brightness settings: High, Medium, and Dim.

Default Setting: High

## Chart Audio

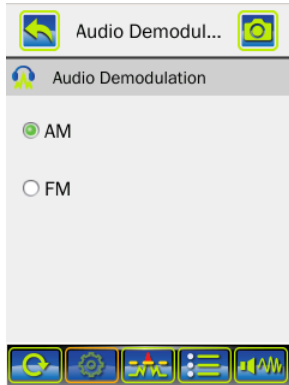


An audible alert is available whenever the ambient RF level crosses the set trigger level. Two alert types are available: Trigger Alert and Rising Pitch. When set to trigger alert, there will be a single solid tone whenever the ambient RF level is higher than the set trigger level. When set to Rising Pitch, the tone will also only be heard when the ambient RF level is higher than the set trigger level, but the pitch of the tone will increase as the ambient RF level increases. A third option, Live Audio, will change the audio to live demodulated signals from RF sources even when the ANDRE is on the Chart Screen or the Signal List Screen. The demodulator on the ANDRE is an AM demodulator, but it will also demodulate some FM sources if they have an AM component to them.

Default Setting: Trigger Alert

# SETUP

## Audio Demodulation



This setup option selects the demodulation type for the Live Audio on the Chart Screen (see 39).

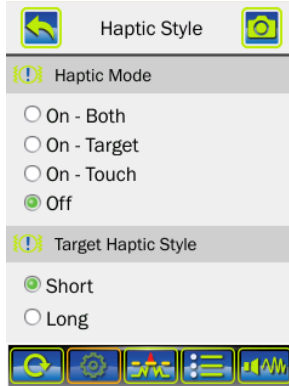
**AM** - demodulates signals that have been modulated using amplitude modulation. Even when set to AM the ANDRE will demodulate some FM sources if they have an AM component to them.

**FM** - demodulates signals that have been modulated using frequency modulation. When set to FM demodulation, the ANDRE demodulates at the frequency currently detected by the frequency counter. If the frequency counter is not locked on a frequency, the FM demodulator does not operate.

Because the ANDRE is a broadband receiver designed to evaluate RF amplitudes, frequency demodulation can be difficult, especially with weak signals and in high RF environments where there are many other signals.

Default Setting: AM

## Haptic Style



In addition to visual and audio cues, the ANDRE will also provide haptic (vibrator) cues whenever the ambient RF level exceeds the set trigger level.

### Haptic Mode

**On - Both** - with this setting, the unit will vibrate whenever the ambient RF level exceeds the set trigger level or whenever the user interacts with the touch screen.

**On - Target** - with this setting, the unit will only vibrate whenever the ambient RF Level exceeds the set trigger level.

**On - Touch** - with this setting, the unit will only vibrate whenever the user interacts with the touch screen.

**Off** - with this setting, the unit will not provide any haptic feedback.

### Target Haptic Style

**Short** - vibration feedback will be set to short pulses.

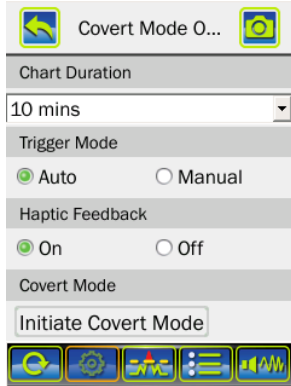
**Long** - vibration feedback will be set to longer pulses.

Default Setting - Haptic Mode: Off

Default Setting - Target Haptic Style: Short

# SETUP

## Covert Mode Options

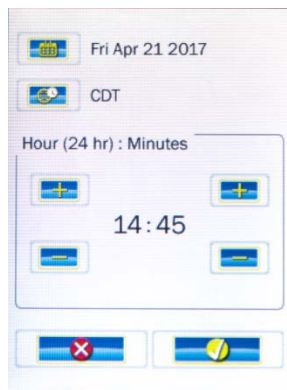


The Covert Mode options allow you to configure the operation of Covert Mode (see page 31).

The ANDRE will automatically switch to the values set on this screen for chart duration, trigger mode, and haptic feedback whenever Covert Mode is initiated.

Covert Mode can be initiated by connecting the Concealed Antenna (see page 12) or by pressing "Initiate Covert Mode" on the Covert Mode Options Setup Screen.

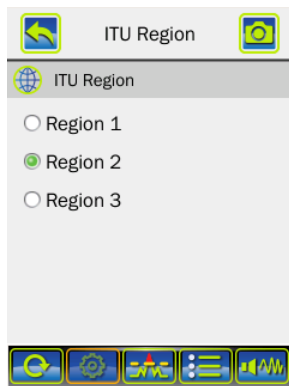
## Date/Time



To accurately record the time of last occurrence for signals in the signal list, you will need to set the Date, Time Zone, and Time on the ANDRE.

The date and time is also displayed on any screen captures that are saved with the ANDRE.

## ITU Region



To ensure accurate Band ID information you will need to confirm that the ITU Region is set correctly for your location.

ITU Region 1 comprises Europe, Africa, the Middle East west of the Persian Gulf including Iraq, the former Soviet Union and Mongolia.

ITU Region 2 covers the Americas, Greenland and some of the eastern Pacific Islands.

ITU Region 3 contains most of non-former-Soviet-Union Asia, east of and including Iran, and most of Oceania.

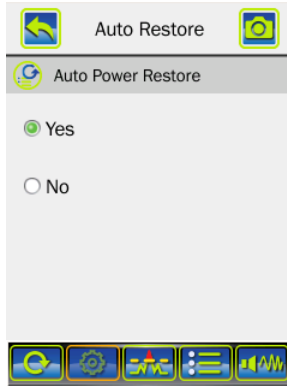
See [https://en.wikipedia.org/wiki/ITU\\_Region](https://en.wikipedia.org/wiki/ITU_Region) for more information.



# SETUP

Default Setting: Region 2

## Auto Restore

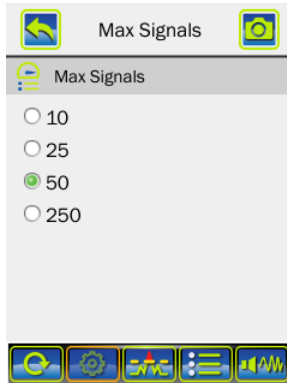


If Auto Restore is set to "Yes" in the Signal List settings, then any signals displayed in the signal list will be restored when the ANDRE is power cycled.

If Auto Restore is set to "No" in the Signal List settings, then any signals in the signal list will be discarded when the ANDRE is power cycled.

Default Setting: Yes

## Max Signals

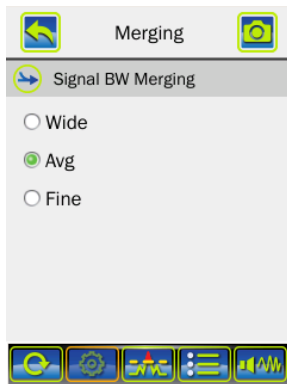


The Max Signals setting determines the maximum number of signals allowed in the signal list.

The signal list will keep track of the strongest signals with the weaker signals falling off the list after the max number of signals is reached.

Default Setting: 50

## Merging



The ANDRE will attempt to group closely spaced signals that may represent wide band signals (such as Wi-Fi) or frequency hoppers and identify them as a single, wide band signal. Each signal added to the signal list is assigned an initial bandwidth based on its frequency - the higher the frequency, the wider the bandwidth assigned. As signals are added to the signal list, if their bandwidths intersect or overlap, they are assumed to be the same signal and are merged. A new center frequency is determined based on the center frequencies of both merged signals and a new bandwidth is determined based on the union of the bandwidths of the merged signals.

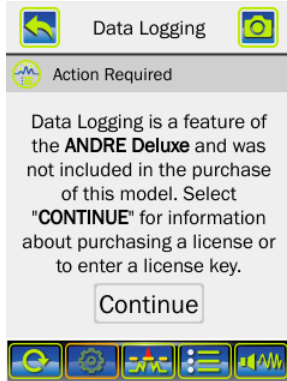
The Signal BW Merging setting affects the merging of signals. If Merging is set to "Wide", then signals will not need to be as close in order to be recognized as the same signal. If Merging is set to "Fine", the

## SETUP

signals will need to be closer together to be recognized as the same signal. The "Avg" setting represents a moderate required spacing for merging.

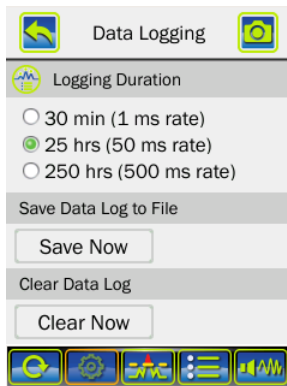
Default Setting: Avg

### Data Logging



The Data Logging feature is only available with ANDRE Deluxe; contact REI to upgrade your ANDRE to an ANDRE Deluxe.

If you purchased an ANDRE Deluxe Upgrade, you will need to enable Data Logging on your ANDRE by providing REI with a product ID that will be displayed in the Data Logging menu. Once this screen with the Product ID is accessed, a text file - "DataLoggingActivationCode.txt" - is saved to the device, with the Product ID written to it. This is an electronic copy of the Product ID that can be provided to REI if desired.



For ANDRE Deluxe units, when the ANDRE is turned on, it continuously logs RF level readings to internal volatile memory.

There are three different logging durations available. The duration describes how much data will be kept. For example, if the 25 hours duration (default setting) is selected, the ANDRE will collect data for 25 hours and then write over the oldest data, keeping only the last 25 hours of data. The rate describes how often the RF level is recorded. For the 1ms rate, the RF level is recorded every millisecond, offering better resolution of the RF level, but is limited to only 30 minutes of data.

The Save Now button saves any log data currently in internal volatile memory to a .pwrlog file which can be retrieved using a PC (see 30).

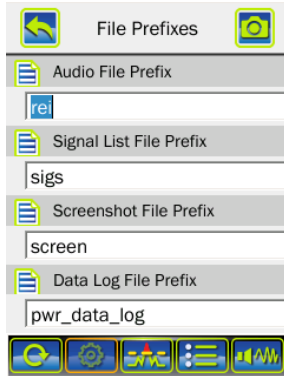
The Clear Now button clears any log data currently in internal volatile memory. After clearing the data log, the ANDRE immediately begins logging new data. When the ANDRE is turned off, any unsaved Data Logging information will be lost.

For additional details regarding the Data Logging feature see page 35.

Default Setting - 25 hrs (50 ms rate)

# SETUP

## File Prefixes



Automatic file naming is used for any of the files saved to internal storage (audio files, signal lists, and screenshots). The file name is based on a user configurable prefix followed by the date, then the time, then the time zone abbreviation.

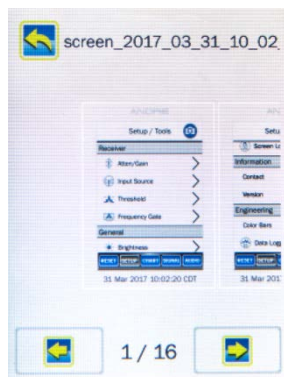
The file prefix menu setting configures the prefix for each of these file types.

Default Setting - Audio File Prefix: "rei"

Default Setting - Signal List File Prefix: "sigs"

Default Setting - Screenshot File Prefix: "screen"

## Image Viewer



The image viewer allows the user to view all of the saved screenshots on the device without the need to transfer them to a PC.

Use the left and right arrows at the bottom of the screen to scroll through the images (if there is more than one).

The file name for the currently selected image appears at the top of the screen.

Use the back arrow at the top of the screen to return to the Settings Menu.

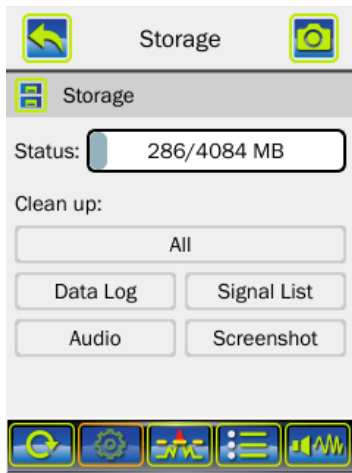
## Software Update

Software updates for the ANDRE will be available on the REI Website ([www.reiusa.net](http://www.reiusa.net)). Download the file, connect the ANDRE to a PC (see page 30), and transfer the update file to the root directory on the ANDRE. After transferring the update file to the ANDRE, disconnect the ANDRE from the computer. The ANDRE unit will recognize that there is a new update file and will ask the user if they want to update the device. Once the update is performed, the ANDRE will delete the update file.

If the user selects not to update the device, the update file will remain on the ANDRE. The user can perform the update at a later time, by accessing "Software Update" from the Tools Section of Setup.

# SETUP

## Storage



The storage option in Setup helps to manage the internal storage on the ANDRE.

Status shows the amount of used storage on the ANDRE. The first number ("286" in the example provided to the left) shows the amount of used storage on the ANDRE. The second number ("4084" in the example provided to the left) shows the total storage on the ANDRE.

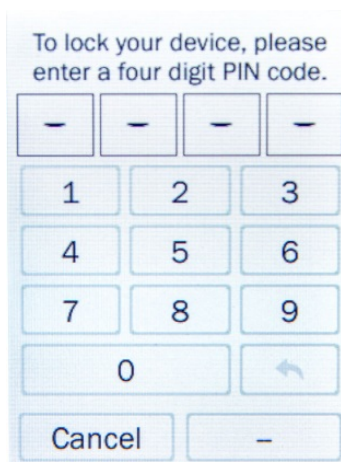
The storage option also has selections for deleting all of the data logs stored on the unit, all of the signal lists stored on the unit, all of the audio files stored on the unit and all of the screenshots stored on the unit. The "All" option will delete all four types of files on the unit.

Note: Once used storage reaches 90% of capacity, the user will be warned that storage is nearly full and the device will recommend that the user clean up. Once used storage reaches 99% of capacity, all operations that save data (such as screenshot, signal list, audio recording, etc.) will be disabled until some available storage is freed up, either through deleting files or moving to another storage medium (see 30).

## Factory Reset

Original factory user settings can be restored to the unit using the Factory Reset in Setup.

## Screen Lock



When using the ANDRE to monitor an area for a long period of time, it may be necessary to lock the screen to keep others from tampering with the device or settings. This can be accomplished with the Screen Lock feature in the Setup Menu.

Access the Screen Lock, input a 4 digit number, and press "OK". The screen will lock and after 10 seconds the screen will go blank.

To unlock the screen, tap the screen in the area mark "Tap Here to Unlock". After inputting the correct PIN code, the screen will unlock. After unlocking the screen, the PIN code is not stored on the device. To lock the screen again, it will be necessary to input the PIN code again. A different code can be used if desired.

# SETUP

## USB Low Power

When connecting the ANDRE to a PC, it is recommended that you use a desktop PC. Some computers (typically tablets and some laptops) have strict power consumption requirements for USB ports. These computers may not recognize the ANDRE when it is connected to them.

If you have a computer that does not recognize the ANDRE when connected via USB, you may try the USB Low Power Mode in the Setup Menu.

Note: Not all ANDRE units will have the USB Low Power option in the Setup Menu. It will depend on the hardware version.

Enabling USB low power mode on the ANDRE will reduce current draw on the devices USB port and should allow it to connect and recognize the ANDRE.

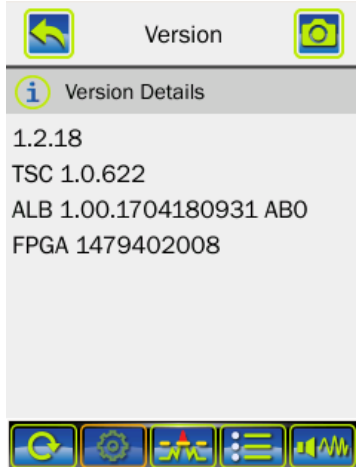
From the USB Low Power menu, select "START". The ANDRE will enter low power mode. This shuts down the RF receiver, battery charging, and other features, which may draw excessive current but aren't needed for connecting to a PC and transferring files. Connect the ANDRE to the PC. After transferring files to or from the ANDRE, disconnect the ANDRE from the PC, then select "Stop" to end low power mode. After the screen brightness returns to normal, select "Exit" to leave the Low Power Mode menu.

## Contact



Selecting "Contact" from the Setup Menu displays REI's contact information.

## Version



Selecting "Version" from the Setup Menu displays information about the software versions on the ANDRE.

# SPECIFICATIONS

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## SPECIFICATIONS

### RF DETECTOR

**Sensitivity:** -75 dBm for 3 GHz frequency (typical at RF input)

**Stepped attenuation/gain control:** -20 dB, -10 dB, Off, +15 dB

### AUDIO

**Built-in speaker with adjustable volume control**

**Tone style options:** rising pitch, steady tone, off

### DISPLAY

**3.5 in (4 cm) capacitive touch screen**

**Screen Brightness:** High, Med, Low

### INPUT/OUTPUT

**USB data port for software upgrades and file transfer**

### POWER

**Input:** USB internal charger

**Run Time:** >5 hours per battery (typical)

**Charge Time:** 1.5 hours per battery (typical, 80% charge), <3.5 hours per battery (typical, 95% charge)

**Batteries:** 3400 mAh lithium-ion rechargeable battery (2 included with ANDRE Basic, 4 included with ANDRE Advanced and Deluxe), External USB Charger included with ANDRE Advanced and Deluxe

The supplied battery: Nitecore 18650 Lithium Ion Rechargeable Battery Model #NL189, rated 3.7V, 3400mAh, 12.6Wh

### MECHANICAL

**Case Dimensions:** 6.25 in x 14.9 in x 18.5 in (15.9 cm x 37.8 cm x 47.0 cm)

**ANDRE Dim:** 3.4 in x 5.7 in x 1.0 in (8.7 cm x 14.4 cm x 2.5 cm)

**ANDRE Weight w/ 2 Batteries:** 0.65 lbs (0.3 kg)

**Case Weight with ANDRE & Accessories for ANDRE:** 9 lbs (4.1 kg)

**Case Weight with ANDRE & Accessories for ANDRE Advanced:** 11 lbs (5.0 kg)

**Case Weight with ANDRE & Accessories for ANDRE Deluxe:** 12.7 lbs (5.8 kg)

### THERMAL

**Operating Temperature:** -10°C to 50°C

**Battery Charging Temperature:** 0°C to 35°C

**Storage Temperature:** -20°C to 50°C

*Note: extended storage at temperatures above 40°C could degrade battery performance and life.*



*Product specifications and descriptions subject to change without notice*

### APPENDIX

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## APPENDIX

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## APPENDIX

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### END OF TERMS AND CONDITIONS

# CE DECLARATION OF CONFORMITY

Manufacturer's Name: **Research Electronics International (REI)**  
Manufacturer's Address: 455 Security Drive, Cookeville, TN 38506 USA  
Equipment Description: ANDRE Advanced Near-field Detection Receiver  
Equipment Model Designation: ANDRE and related receive antennas

The object of the declaration described above is in conformity with the relevant Union harmonization legislation:  
**LVD (Low Voltage) Directive 2014/35/EU**  
**EMC Directive 2014/30/EU**

Referenced Standards:  
**LVD Standards EN61010-1:2010**  
**EMC Standards EN55022:2010 Class A, EN61000-4-2:2009, EN61000-4-3:2006+A1:2010**

I, the undersigned, hereby declare that REI has reviewed the CE Mark directives and based on our understanding of these directives, product design and testing; the equipment specified above conforms to the above Directive(s). This declaration of conformity is issued under the sole responsibility of the manufacturer.

Signature: *Thomas H Jones*  
Printed Name: Thomas Jones  
Title: General Manager, Research Electronics International  
Date: April 3, 2017

