FISHER® RESEARCH LABS

FPID2200

OWNER'S MANUAL

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Power on/off:

Power On:

- Turn the knob clockwise
- Device will beep twice indicating power on and the starting mode.
- The device will always default to Polarity mode on power up which is identified by the 2 beeps (see Mode Selection p.8)

Power Off:

- Turn the knob counterclockwise until it can no longer turn.
- The knob will click, and the machine will no longer make noise.

Manual Gain Control:

Upon initial power up, the knob may be turned further clockwise. To control the gain:

- Turning the knob further clockwise will increase the gain of the device thus increasing the sensitivity.
- Note, increasing gain will proportionally increase the noise of the device. It is suggested to turn the knob to 80% of the max gain for the best balance between sensitivity and stability.

Target Audio Response:

1. **Polarity Mode (see Mode Selection p.8):**
    - **No Target:**
      The device will make a ticking sound that will not change tempo nor pitch.
    - **Positive Polarity:**
      When passing over a target with a positive polarity, the device will beep at a higher pitch. As the device gets closer to the target, the beep will rise in tempo but not change in pitch. The device will then turn to a solid tone that will increase in pitch until it can no longer do so. The maximum pitch will be significantly higher than that of the positive polarity.
    - **Negative Polarity**
      When passing over a target with a negative polarity, the device will beep at a low pitch. As the device gets closer to the target, the beep will rise in tempo but not change in pitch. The device will then turn to a solid tone that will increase in pitch until it can no longer do so. The

maximum pitch will be significantly lower than that of the positive polarity.

2. **High Sensitivity Mode (see Mode Selection p.8):**
    - **No Target:**
      The device will make a low-pitched buzzing noise that will not change in pitch.
    - **Target:**
      As a target is approached, the pitch of the device will rise. The pitch will continue to increase as you get closer to the target until it maxes out. High Sensitivity Mode does not discriminate between polarities. It will have the same response to positive and negative polarities.

Retune:

The Retune Function should be used in the event that the device is unstable in your environment. It is recommended to point the device in the direction one is looking for targets when retuning. Additionally, it is recommended to operate the device in the orientation in which it was retuned. To retune:

- Quickly Press and release the knob without holding it down.
- If done correctly, upon release the device will make a short beep.
- Upon turning off the device, it will default to its original calibration.

LED Identifiers:

1. **Battery LED:**
   - **Full Battery:**
     When the battery is full, upon turning on the magnetometer, the device will blink green. During use of the device, the battery LED will do nothing.
   - **Low Battery:**
     When the battery is low, upon turning on the magnetometer, the device will blink red. During use of the device, the battery LED will slowly blink red.
   - **Critically Low Battery:**
     When the battery is critically low, upon turning on the magnetometer, the device will blink red. During use of the device, the battery LED will rapidly blink red.

- **No Battery:**
  When the battery has run out and the device is unusable, the battery LED will turn a solid red without blinking and stay red. The device will cease to make noise at this point.

2. **Positive Polarity Indicator (North Pole):**
   In the presence of a target with a positive polarity, the top LED will turn green and increase in intensity as the device gets closer to the target. When operating along a fence line, this LED will turn on upon identifying a desired target.
3. **Negative Polarity Indicator (South Pole):**
   In the presence of a target with a Negative polarity, the bottom LED will turn red and increase in intensity as the device gets closer to the target. When operating along a fence line, this LED will stay on when **NOT** in the presence of the desired target.
4. **Device Not Connected:**
   When the top housing that is used to replace the batteries is not properly inserted into the tube, all LEDs will be blinking red.

Mode Selection:

1. **High Sensitivity Mode:**
   To switch to high sensitivity mode, one must press and hold the knob until a single beep is heard. Upon hearing the beep, the knob should be released immediately. If successful, the device will no longer tick when not in the presence of a target. Instead, it will make a low pitched buzzing sound when not detecting a target.
2. **Polarity Mode:**
   Upon Turning on the device, it will default to polarity mode. If operating on high sensitivity mode, to switch back to polarity mode simply press and hold the knob until two beeps are heard. Release upon hearing the two beeps. If successful, the device will begin to tick when not in the presence of a target.

Volume Control:

The device will be sold with the highest volume setting as the default. To change this, press and hold the knob without releasing. It will beep as if to change modes; **DO NOT** release upon this event. Continue to hold down the knob and it will begin to cycle between 4 different volume levels (high, medium, low and mute). Release the knob

at the desired volume level. The device will then default to the selected volume level upon power on. **NOTE:** If mute is selected, the default sound level will be low instead of mute.

Intended Use of Device:

The FPID2200 is intended to detect ferrous metals in the ground that sufficiently distort earth's magnetic field and will **NOT** detect valuable nonferrous metals comprised of but not limited to gold, platinum and silver. Common ferrous metals this device will detect are Steel and Iron, but it is not limited to them. This device is sensitive to all DC magnetic fields of sufficiently high field strength. Common items this device is used to detect are manhole covers, pipes, survey markers, property markers, pk nails and iron stakes.

Suggested Methods of Operation:

1. **How to Hold Device:**
   It is recommended that the device is held vertically from the ground so that the tip is always pointing straight down. The top housing is ergonomically shaped to be comfortable to hold in such a position. The instruction label will face the operator if used in this way, thus allowing for ease of reading in case instructions are needed.

2. **When to Retune or Reduce Gain:**
   If trying to decide when to retune or reduce gain, first listen to how the device is behaving when **NOT** in the presence of a target. If it is beeping but not a solid tone, typically reducing the gain until the beep turns to ticking will remedy the issue. However, if there is a solid tone as if detecting a strong target, lowering gain may be insufficient and thus retuning is necessary. **NOTE:** In extremely high or low temperatures, retuning may be necessary, though it is recommended to always try lowering gain before retuning.
3. **When to use Polarity or High Sensitivity Mode:**
   We always recommend using polarity mode as it is the most stable mode of operation and will have sufficient sensitivity for most targets. It is particularly excellent at detecting targets along fence lines, fire hydrants and other large metallic objects. In the case that a target is difficult to detect, using high sensitivity mode is the most suitable option. It is never recommended to use

high sensitivity mode along the fence line unless using the LEDs to detect.

4. **How to use Device Along Fence Line:** Along a fence line, the device will detect a negative polarity at all locations where the target is not present. Simultaneously it will have the negative polarity LED lit up red, positive polarity LED off, and make the lower frequency solid tone as if detecting a strong negative polarity target. When passing over a desired target, the sound will swap to the high pitch tone of a positive polarity target, the negative polarity LED will turn off, and the positive polarity LED will turn green.

Batteries:

The FPID2200 operates with 9V batteries. It should be used with two 9V batteries, but the device will still operate with only one battery. The device will have about 16 hours of battery life if left on when using standard alkaline 9V batteries. The capacity is half if only one battery is used.

To change the batteries:

1. Loosen the collet nut that holds the top housing to the tube.

2. Remove the top housing from the tube (this will expose a battery holder with two 9V batteries).
3. Remove the dead batteries and install the new batteries the same way the original batteries were installed.
4. Place the top housing back into the tube until it can no longer go further into the tube.
5. Tighten the collet nut to secure the top housing to the tube (**NOTE: DO NOT** lose the collet that is located between the collet nut and the top housing as that is necessary for holding the top housing to the tube).

FOR INDICATIONS ON BATTERY STATUS, REFER TO LED IDENTIFIERS p.6-7

Weatherproof Design:

The device is waterproof up to the base of the instruction label. Any part of the magnetometer from the base of the instruction label and up is weatherproof.

Specifications:

Device:	Differential Fluxgate Magnetic Locator	
Technology:	Fluxgate Sensors	
Classification:	Unintentional Radiator, Electronic Measuring Device, Magnetic Survey Equipment	
Frequency:	4901.96 Hz	
Response:	Audio and/or visual	
Length:	1066mm	
Weight:	.86 kg	
Temperature range:	$-17^{\circ}C \ to \ 44^{\circ}C$	
Volume SPL spec:	100 dB @ 25cm	
Electrical Rating:	9V ↔ 60mA	
Batteries:	(2) 9V	
Battery life:	Alkaline	16 hrs
	Lithium	40 hrs
	NiMH	10 hrs


OFF
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FPID2200

WARRANTY:

This product is warranted against defects in materials and workmanship under normal use for **two years** from the date of purchase by the original owner. Liability in all events is limited to the purchase price paid. Liability under this warranty is limited to replacement or repair, at our option, of the product returned, shipping cost prepaid, to Fisher Research Labs. Damage due to neglect, accidental damage, misuse of this product or normal wear and tear is not covered by the warranty.

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