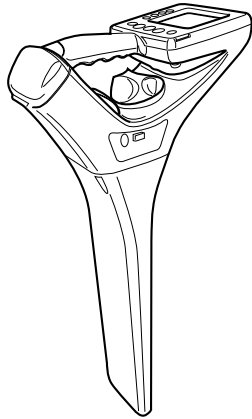# PDL-4 System User Guide

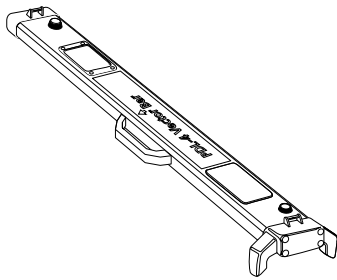## Introduction

PDL-4 Receiver

The PDL-4 is a portable receiver used for locating and identifying underground cables or pipes.

The PDL-4 and a VectorBar or SmartProbe-2 can be used to positively identify a cable that emits an Absolute Current Identification-M (A.C.ID-M) signal applied by an LMS-3 or PTx-3 transmitter. The A.C.ID-M signal is described in the LMS-3 Manual.
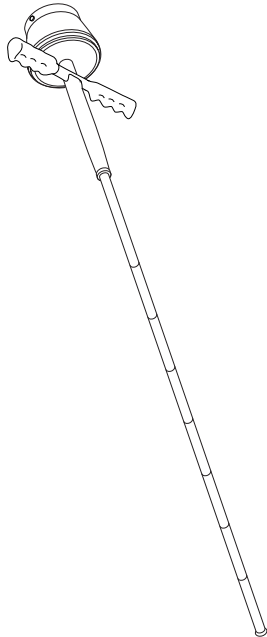
VectorBar

When placed on the ground over the target cable the VectorBar will receive the applied A.C.ID-M signal and relay A.C.ID-M status information to the PDL-4 via a short-wave radio link.
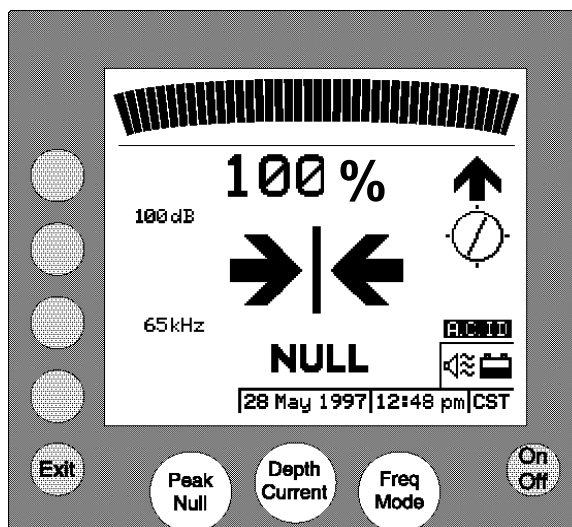
SmartProbe-2

When pushed into the ground in close proximity to the target cable the SmartProbe-2 will receive the applied A.C.ID-M signal and relay A.C.ID-M status information to the PDL-4 via a short-wave radio link.

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PDL-4 Receiver Operation

On/Off Key
Press and hold for one second to switch the PDL-4 receiver On or Off.

Display Contrast. With the PDL-4 switched off, press and hold the On/Off key. After a few seconds the contrast will automatically cycle through its range. Release the On/Off key when a satisfactory display contrast is achieved.

Menu Keys
These are the four keys situated to the left of the display screen. Press a key to select an adjacent menu item when shown on the display.

Exit Key
Press to exit from the current screen and display a higher level in the menu structure.

Direct Selection. Press and hold the Exit key for approximately three seconds to enter Direct Selection mode.

Peak/Null Key
Press to toggle between Peak and Null signal detection modes in Cable Locate mode.

Depth/Current Key
Press to display depth and current of the target cable for five seconds (or until any key or the gain control is operated) in Cable Locate mode.
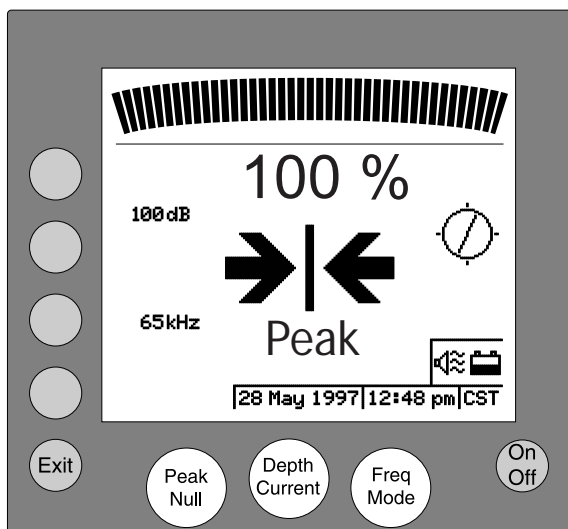
Freq./Mode Key
Press to cycle through the locate frequencies.

Gain Control
Situated under the receiver handle. Rotate clockwise/anti-clockwise to adjust the gain of the receiver.
Rotate the Gain Control to select the number, character or variable value to be placed at the cursor position during data entry.
In Direct Selection mode, and when using other screens requiring selection from a list, rotate the Gain Control to move the highlight bar up or down.
Rotate the Gain Control to adjust the contrast when the Contrast screen is displayed.

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Battery Replacement

When the LCD shows a low-battery warning it is necessary to replace the batteries.

The batteries (4 D-cells) are located in the housing at the rear of the carrying handle (see illustration). Before using the locator ensure that a set of charged batteries is installed and correctly fitted. *Note: Always replace batteries as a set.*
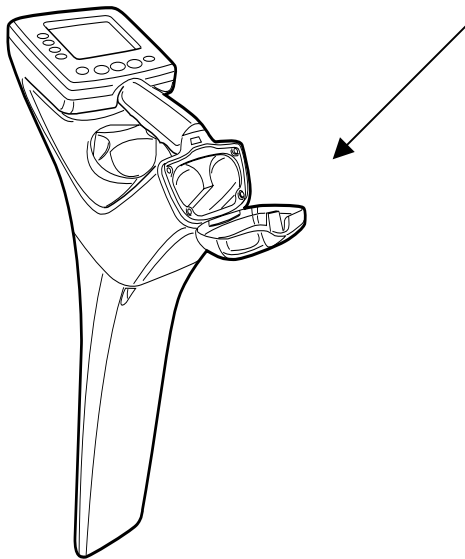To replace batteries proceed as follows:

- Release battery-housing cover by means of the release catch, situated under the carrying handle.
- Remove batteries.
- Insert new batteries, ensuring that they are installed correctly, as indicated on the label within the battery housing.
- Close battery-housing cover.

⚠ *Warning*
NEVER dispose of batteries by placing them in a fire.

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PDL-4

Software Version 2.01
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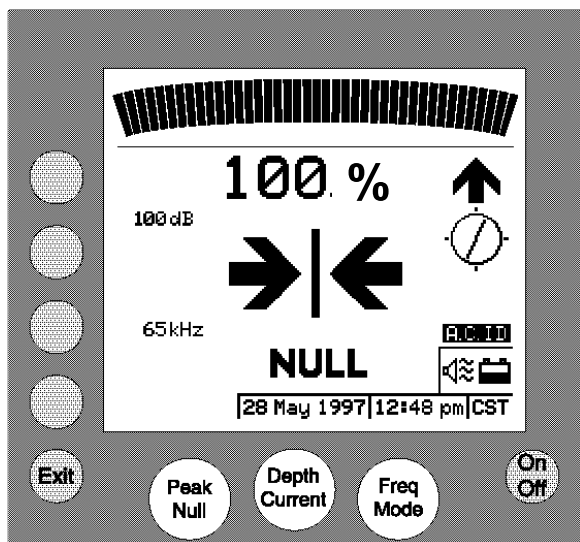
Power On and Display Contrast

On/Off
Press and hold the On/Off key for one second. The speaker will emit a tone and the software revision number will be displayed for two seconds. The PDL-4 will then enter Cable Locate mode.

Display Contrast
If the display is not clear on power up, adjust the contrast as detailed under **On/Off Key (Page 2)**.

Refer to the Contrast screen in the System Setup menu for routine adjustments.
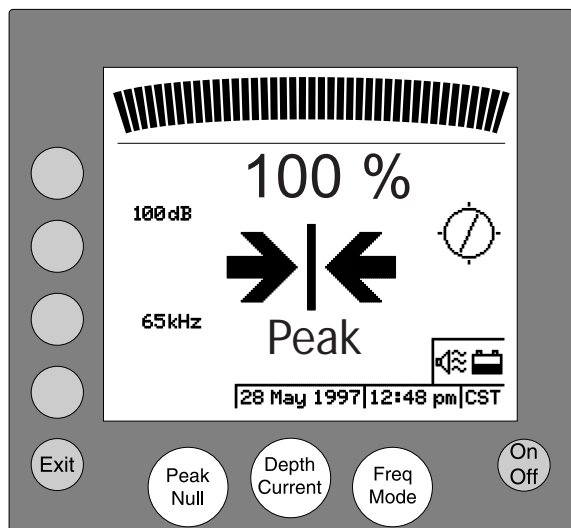
PDL-4 System User Guide

Cable Locate Mode

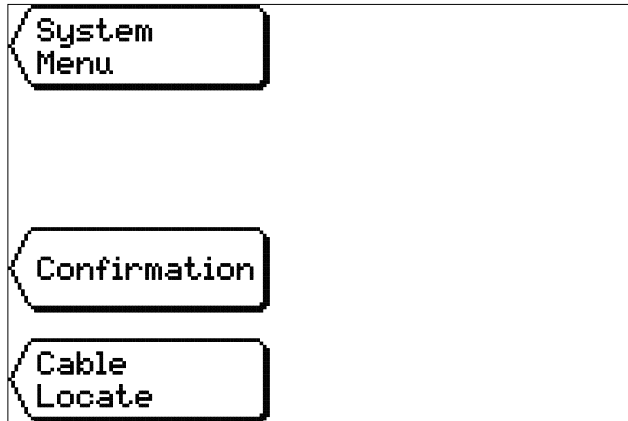The Cable Locate screen displays the following:

• Bar Graph - Received signal strength, Peak or Null.
• Percentage representation of Bar Graph indication.
• Selected gain.
• CD arrow - Forward or Reverse.
• Cable Orientation Indicator.
• Left/Right arrows - Null only.
• Selected frequency.
• Peak/Null indication.
• Battery level indication - five levels.
• Speaker Volume - four levels including Off.
• Date, Time and Time Zone.

The Cable Locate operating controls are as follows:

• Peak/Null key
   Toggles between Peak and Null modes, and indicates the selection on the LCD.

• Depth/Current key
   Simultaneously displays cable Depth and Current for five seconds. Depth/Current is not available in Power mode.

• Freq./Mode key
   Cycles through the receiver passive and active operating frequencies.

• Menu keys
   Pressing any Menu key accesses the Cable Locate Control menu (Perform CD Reset, Confirmation, Log Data options).

• Gain Control
   If the signal strength is at maximum or less than 10%, a momentary flick of the control in the appropriate direction will cause the gain to be adjusted to give an approximate bar graph indication of 50%. If the signal strength is below maximum and greater than 10% the control will adjust the gain in 1dB steps with each momentary flick or by rapid stepping if the control is held when rotated.

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```
/ System
\ Menu

/ Confirmation

/ Cable
\ Locate
```

Menus

The top-level menu screen displays the following options:
• System Menu.
• Confirmation Mode.
• Cable Locate.

To select an on-screen option press the adjacent
Menu key, situated to the left of the LCD display.
System menu options are displayed as follows:

• Volume, Contrast, Backlight, Clock (System Setup).
• Upload, Download, Defaults, Test (System Utilities).
• User Preferences.
• PDL-4 Information.

Options are:

• Volume -
      Off, Low, Med, High.
• Contrast -
      On screen slider adjusted by
      Lighter/Darker keys or Gain Control.
• Backlight -
      Off, On, Auto.
• Clock - Daylight Saving, Time Zone, Time
      Format, Time, Date.

• Upload Data Log -
      Start, Cancel.
• Download S/W Upgrade -
      Start, Cancel.
• Restore System Defaults -
      Confirm Restore, Cancel.
• Self-Test –
      Automated tests and results followed by
      further manual test options.

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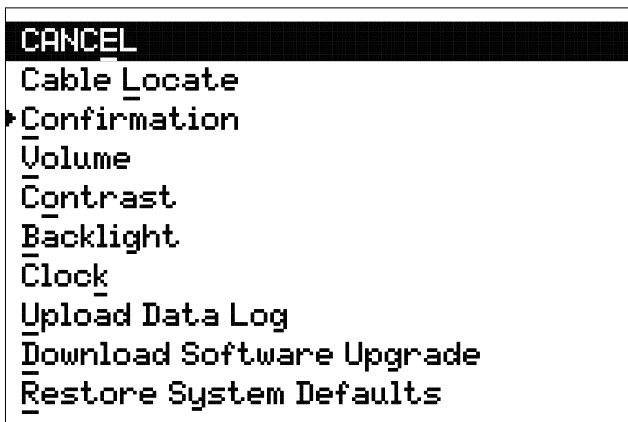
User Preferences Screen

The User Preferences screen displays the following options:
• Measurement Units -
    Depth, Current.
• Idle Timer Switch-Off -
    5, 10, 15, 30, 60 Minutes or Continuous.
▪ Auto gain-
    Enable-Disable
▪ Feature Configuration-
    (*Note: this feature is for Radiodetection use only*).

PDL-4 Information Screen

The PDL-4 Information screen displays the following options:
• Version Status.
• Statistics -
    Data Log used, Total Operating Time, Last Calibration, Date Shipped.
▪ Review A.C.ID Data.

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CANCEL
Cable Locate
▶Confirmation
Volume
Contrast
Backlight
Clock
Upload Data Log
Download Software Upgrade
Restore System Defaults
```

Confirmation Mode

The Confirmation mode screens display the following options:
• VectorBar -
    VectorBar screen prompts for the green button to be pressed.
• SmartProbe -
    SmartProbe screen prompts for the green button to be pressed.
• Non A.C.ID Confirmation -
    Pot Hole, Confirmation Other options.

Direct Selection

Direct Selection allows quick selection of any menu item from a list, without having to use the menu structure.

Press and hold the Exit key for one second to display the Direct Selection screen.

Select the function required by rotating the Gain Control to move the highlight bar down (clockwise) or up (anti-clockwise) then access that function by pressing the Exit key.