# Proshot Dual

# Multi-shot surveying

## USER MANUAL

### CTPS200

This user manual explains how to use, configure and maintain the Proshot system. Please read and ensure you understand these guidelines before using the product.

# Disclaimer

While every effort has been made to ensure that the information contained in the guide is accurate and complete, no liability can be accepted for any errors or omissions. Camteq reserves the right to change the specifications of the hardware and software described herein at any time without prior notice.

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Camteq make no warranties for damages resulting from corrupted or lost data due to mistaken operation or malfunction of the Proshot system.


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# Introduction

Congratulations! You are using the latest in digital survey instrumentation for down-hole exploration.

This user guide provides all the information you will need to use and care for your product.

# Proshot System

The Proshot handset provides wireless connectivity to any Proshot camera probe. You can configure, start a down-hole survey and download survey data effortlessly.

## Handset

The Proshot handset layout and key button functions.


1. LCD screen
2. Handset On/Off button
3. Settings – Pairing information
4. Turn on LCD backlight
5. Cancel/Return
6. Navigation Keypad
7. Start a new survey
8. Take a survey (shot)
9. USB interface (back of handset)
10. Recover Data from the probe
11. View survey data stored on the handset

## Proshot probe

The Proshot probe is assembled as a single unit with two brass sleeves attached to a white centre piece (the communications window). The centre piece has the probe identification number engraved into it.

The communications window enables the probe to communicate to the handset using wireless technology.

*Please ensure the communications window is clearly visible when initiating a survey or downloading survey data (i.e. clearance around communication window).*


1. Wireless communication window

# Menu Options

## Pairing

The Proshot probe can be used with any Proshot handset by following the pairing process. To pair a handset to a probe, please follow these steps:

1. Press the <S> button
2. Select “Probe pairing” from the menu
3. Select “Manual entry”
4. Enter the probe serial number. The probe serial number can be found engraved into the white centre piece.
5. Press <OK>
6. On successful pairing the display will show “Connection to probe successful.”

The handset is now paired to the probe and can be used to conduct down-hole surveys. If you receive an error message while pairing, please go to the “No Response message” section at the back of this user manual.

## Survey Options

The Proshot system provides a number of options to customise your down-hole surveys. These options can be changed in the “Survey options” menu.

Survey options include:

- **Survey default name:** *Change the default name of each survey to enable easy identification and to save manual entry at the beginning of each new survey.*

- **Start depth:** *Set the default start depth for each survey.*
- **Depth Interval:** *Set the default depth interval for each survey shot.*
- **Direction** of survey**:** *Select direction of the survey, either into the hole or out of the hole.*
- **Multi shots at given depth:** Multiple shots at required depth
- **In/Out Survey option:** When finishing survey to depth, select New survey to survey out of hole.

## Zero Roll Adjust

The Proshot probe can be zeroed to any roll angle. To zero the Proshot probe, please follow these steps:

1. Press the <S> button
2. Select “Zero Roll Adjust” from the menu
3. Press <OK> to perform a zero roll adjustment. The probes ROLL will now read zero at the current position.

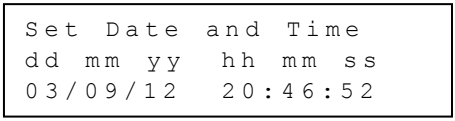
**Please note:** *The probe must be within communications distance from the handset to perform this function. Ensure the handset is no more than 10 cm from the probe.*

## Date and Time

To set the date and time of the Proshot system, please follow these steps:

1. Press the <S> button
2. Select “System” from the menu
3. Select “Date and Time” from the menu
4. Set the date and time using the <Arrow> keys
5. Press <OK> when you have finished

The following screen will be displayed:




## Erasing Data

The Proshot handset stores survey data in memory for viewing or downloading to a USB key. Even after downloading data to a USB key the survey data remains on the handset as a backup.

To erase stored survey data, please follow these steps:

1. Press the <S> button
2. Select “System” from the menu
2. Select “Erase data” from the menu
3. The handset will display the following warning message “Are you sure? All survey data will be erased.”
4. Press <OK> to erase the survey data

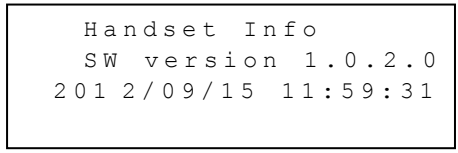
**Please note:** *Erasing data on the handset will not modify any of your custom survey settings*

## Info

To view the current software version of the handset or probe, please follow these steps:

1. Press the <S> button
2. Select “System” from the menu
3. Select “Information” from the menu
4. Select “Handset Info” or “Probe Info”

The following screen will be displayed:

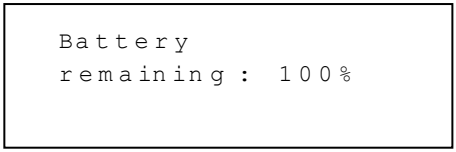


## Battery Level Handset

To check the battery level of the handset, please follow these steps:

1. Press the <S> button
2. Select “System” from the menu
3. Select “Battery Level Handset” from the menu
4. Battery level will be displayed

The following screen will be displayed:

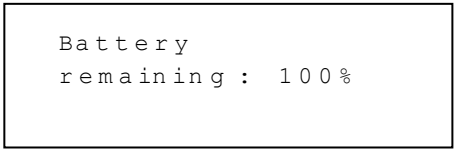



***If battery level low -50% , replace batteries**

## Battery Level Probe

To check the battery level of the probe, please follow these steps

3. Press the <S> button
4. Select “System” from the menu
5. Select “Battery Level Probe” from the menu
6. Battery level will be displayed




***If battery level low -50% , replace batteries**

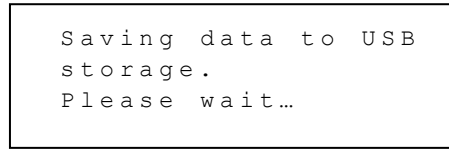
## Upload to USB

The Proshot system supports the uploading of survey to a USB device. Survey data is saved in standard CVS format allowing viewing in Microsoft® Excel® or any leading analysis package.

To save survey data to a USB key, please follow these steps:

1. Press the <S> button
2. Select “Upload to USB” from the menu
3. Insert USB device into USB port on front panel of the handset
4. Press <OK> to initiate
5. Survey data will now be saved to the USB device

The following screen will be displayed:




**Please note:** *Do not remove the USB device from the USB interface until the handset is finished uploading data.*

## Starting a new survey

To start a new survey simply press the <New Survey> button on the handset and follow the on-screen instructions.

After pressing <New Survey>, please follow these steps:

1. Type in Hole ID: Please type in the unique name of this survey
2. Press <OK> to initiate the survey
3. Press <Take Shot> each time you wish to take a shot. Do not move the probe while a shot is being taken. Moving the probe will reduce the reliability of the survey data.

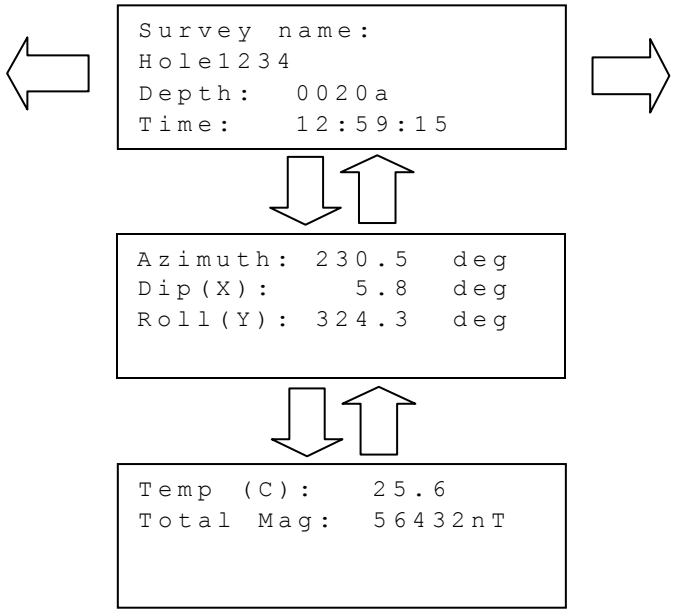
When the survey has been completed pull the probe out of the hole and press <Get Data>. The handset will now download survey data from the probe ready for viewing.

**Please note:** *The probe must be within communications distance from the handset to initiate a survey or to recover data, ensure the handset is no more than 10 cm from the probe. Once the survey has been initiated it is ready to be placed down the hole.*

## Viewing Survey data

To view survey data press the <View Data> key and scroll through the survey shots using the arrow keys.

The following screens will be displayed as you press the <Up> and <Down> keys to view survey data:




Press the <Left> and <Right> keys to scroll through the surveys stored on the handset.

# Data Analysis

Survey data can be downloaded to a USB device for further analysis.

The data is stored in CVS format and can be imported into any spreadsheet software for analysis. The below table is an example of the data layout when imported into a spreadsheet.

## Survey Data Analysis

| | A | B | C | D | E | F | G | H | I | J | K |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Camteq - Precision Instrumentation | | | | | | | | | | |
| 2 | Proshot Camera probe (CTPS200) | | | | | | | | | | |
| 3 | | | | | | | | | | | |
| 4 | Company Name: | | xy_____ | | | | | | | | |
| 5 | Operator Name: | | zzz_____ | | | | | | | | |
| 6 | | | | | | | | | | | |
| 7 | Probe SN | Name | Depth | Date | Time | DIntegrity | Azimuth | Dip | Roll | TotMag | Temperature |
| 8 | 7265 | Dhs001 | 0a | 12/11/2011 | 16:11:59 | ! | 88.2 | -38.1 | 102 | 59298.2 | 24.1 |
| 9 | 7265 | Dhs001 | 5a | 12/11/2011 | 16:12:42 | A* D* | 55.8 | -42.6 | 126.9 | 59225.7 | 24.3 |
| 10 | | | | | | | | | | | |
| 11 | DIntegrity Legend: | | | | | | | | | | |
| 12 | D* - Dip outside expected range | | | | | | | | | | |
| 13 | M* - Total Magnetic Field outside expected range | | | | | | | | | | |
| 14 | A* - Azimuth outside expected range | | | | | | | | | | |
| 15 | # - Probe outside operating temperature | | | | | | | | | | |
| 16 | ! - Probe moving during survey shot | | | | | | | | | | |
| 17 | | | | | | | | | | | |

An asterisk * next to the data indicates that the data point lies outside the expected survey range based on a large change in TotMag, Azimuth or DIP.

An exclamation mark ! next to the data indicates that the probe may have been moving during the survey shot.

A hash # indicates that the Proshot probe was not within its operating temperature when the survey shot was conducted.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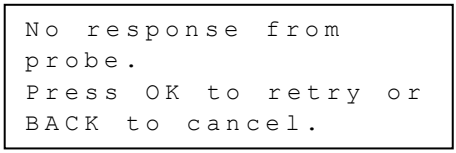
## No Response message

The Proshot system uses wireless technology between the handset and the probe. This enables communication without the need for wires or for the user to disassemble the probe to download survey data.

In some circumstances the handset may not be able to communicate to the probe, when this occurs the following screen is displayed.




This may be caused by a number of reasons. If you see this message please review the following checklist and press <OK> to retry:

- Ensure the distance between the handset and the probe in no more than 10 cm
- Ensure there are no obstacles between the handset and the probe
- Ensure the communications window is clearly visible (i.e. not covered or underground)
- After performing the above checks, if you're still unable to communicate to the probe please check the batteries

# Changing batteries

The Proshot has been designed to allow the user to change the handset and probe batteries.

**Please note:** *Probe batteries must be purchased from Camteq. The use of unapproved batteries will void the product warranty and may damage the Proshot Dual's internal circuitry.*
*Handset batteries can be purchased from outside supplier.*

## Handset

To change the handset batteries:

1. Unscrew the three screws on the back of handset
2. Open the battery cover, remove the old batteries and replace with the new batteries
3. Ensure batteries are the correct way round
4. Close battery cover, ensure gasket seal is in place and fasten the three screws

## Probe

To change the probe battery, please follow these steps:

1. Using 30mm spanners provided in Kit
2. Remove top brass sleeve from the camera
3. Disconnect the existing batteries and replace with the newly supplied batteries
4. Inspect and replace O-rings
5. Refit brass and nip up with 30mm spanners
5. Pair to the probe with the handset to ensure the system is working correctly after battery replacement

**3 x 9 v Lithium batteries**

## Calibration and Handling

The Proshot camera probe has been calibrated to a high level of precision – please see Specifications for more details.

The Proshot probe is a precision instrument and therefore should be treated with care. Extreme temperatures, heavy impacts, severe vibrations or general misuse will affect the accuracy of the probe and may damage the internal circuitry.

It is recommended that the probe be returned for maintenance and recalibration every 12 months to ensure the highest precision and reliability possible.

# Final Word

Thank-you for choosing the Camteq Proshot camera system.

The Proshot system has been designed for accuracy, ease of use, and low maintenance, ensuring you get the maximum return on your investment.

If you have any queries or comments about the Proshot system or wish to learn more about our range of mining instrumentation, please visit our website at www.camteq.com.au.

We hope you enjoy using the Proshot camera system.

The Camteq Team.

# Specifications

| Proshot Camera Probe | |
|---|---|
| Part Number | CTPS200 - Standard precision |
| Operational temperature | -10°C to +70°C (+14°F to +158°F) |
| Storage temperature | -10°C to +120°C (14°F to +248°F) |
| Operating time | 2 years (depending upon use) |
| Inclination accuracy | ± 0.2 RMS* |
| Azimuth accuracy | ± 0.5 RMS* |
| Survey Storage | 999 survey shots |
| Power source | 9 v Lithium batteries (Non-rechargeable) |
| Communication | Wireless ISM 2.4GHz |
| Communication distance | 10cm |
| Ingress Rating | IP67 |

**It is recommended that the Proshot Camera is calibrated every 12 months to ensure accuracy is maintained.*

| Proshot Handset | |
|---|---|
| Part Number | CTH200 |
| Operational temperature | 0°C to +60°C (+32°F to +140°F) |
| Storage temperature | -10°C to +120°C (14°F to +248°F) |
| Operating time | 2 years (depending upon use) |
| Power source | 6 x AA Alkaline batteries (Non-rechargeable) |
| Communication | Wireless ISM 2.4GHz |
| Ingress Rating | IP65 |

NOTE: Specifications subject to change without notice.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