



# DiNi

## DIGITAL LEVEL

### QUICK REFERENCE GUIDE

Version 2.0

Revision B

February 2018

P/N 57344002



## NORTH AMERICA

Trimble Inc.  
10368 Westmoor Drive  
Westminster CO 80021  
USA

[www.trimble.com](http://www.trimble.com)

### EUROPE

Trimble Germany GmbH  
Am Prime Parc 11  
65479 Raunheim  
GERMANY

+49-6142-2100-0 Phone  
+49-6142-2100-140 Fax

[www.trimble.com](http://www.trimble.com)

## Copyright and Trademarks

© 2006-2018, Trimble Inc. All rights reserved. Trimble, the Globe & Triangle logo and DiNi are trademarks of Trimble Inc., registered in the United States Patent and Trademark Office and in other countries.

All other trademarks are the property of their respective owners.

## Release Notice

This is the February 2018 release of the DiNi Digital Level Quick Reference Guide, part number [57344002](#), version 2.0

## Product Warranty Information

For applicable product warranty information, please refer to the Warranty Card included with this Trimble product, or consult your Trimble dealer.

## Notices

### Europe

This product has been tested and found to comply with relevant requirements pursuant to European Council directives, thereby satisfying the requirements for CE marking and sale within the European Economic Area (EEA).



Applicable directives:

- EMC Directive 2014/30/EU
- RoHS Directive 2011/65/EU

### Australia and New Zealand

This product conforms with the regulatory requirements of the Australian Communications and Media Authority (ACMA) EMC framework, thus satisfying the requirements for RCM-Marking and sale within Australia and New Zealand.



## Taiwan – Battery Recycling Requirements

The product contains a removable Lithium-ion battery. Taiwanese regulations require that waste batteries are recycled.



## Notice to Our European Union Customers

For product recycling instructions and more information, please go to: [www.trimble.com/Corporate/Environmental\\_Compliance.aspx](http://www.trimble.com/Corporate/Environmental_Compliance.aspx).

Recycling in Europe: To recycle Trimble WEEE (Waste Electrical and Electronic Equipment, products that run on electrical power.), Call +31 497 53 24 30, and ask for the "WEEE Associate". Or, mail a request for recycling instructions to:

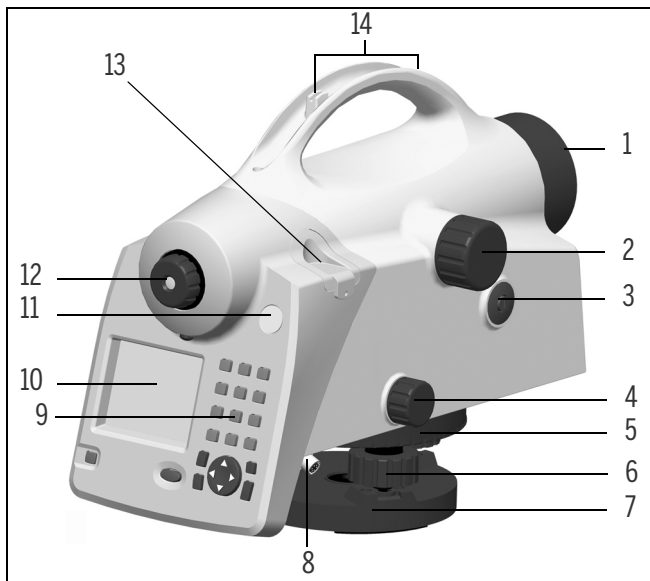


Trimble Europe BV  
c/o Menlo Worldwide Logistics  
Meerheide 45  
5521 DZ Eersel, NL

# Contents

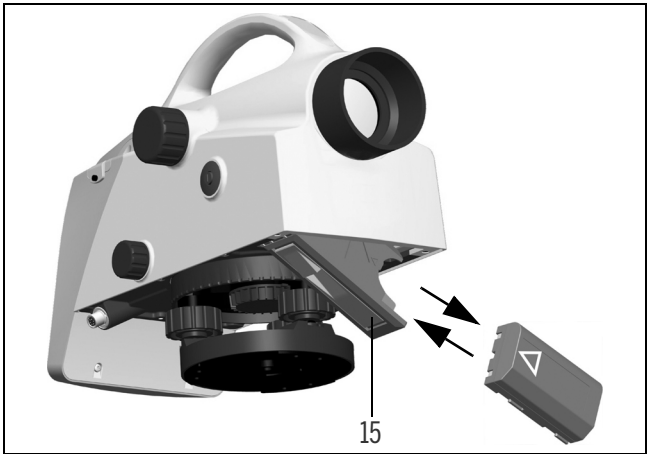
Hardware overview . . . . .	5
Software overview. . . . .	7
Setup . . . . .	10
Switching the Instrument On and Off . . . . .	10
The Control Panel . . . . .	11
Keyboard and Display Functions . . . . .	12
Trimble Functions . . . . .	18
Setting Recording . . . . .	19
Creating a Project . . . . .	21
Single Point Measurement . . . . .	22
Intermediate Sights. . . . .	23
Stake Out . . . . .	26
Line Leveling . . . . .	30
Ending a Leveling Line . . . . .	36
With known Height . . . . .	37
Data Transfer. . . . .	42
Instrument Adjustment . . . . .	44

## Hardware overview



#	Description	#	Description
1	Telescope objective with integrated sun-shield	2	Telescope focusing knob
3	Trigger key	4	Horizontal tangent screw (endless slow motion drive)
5	Graduated circle	6	Footscrews

#	Description	#	Description
7	Tribrach	8	Power/Communication connector
9	Keyboard	10	Display
11	Window for circular bubble	12	Reticle
13	Cap, to be removed for adjustment of circular bubble	14	Sight vane (notch and bead sight)



#	Description	#	Description
15	Battery compartment		

# Software overview

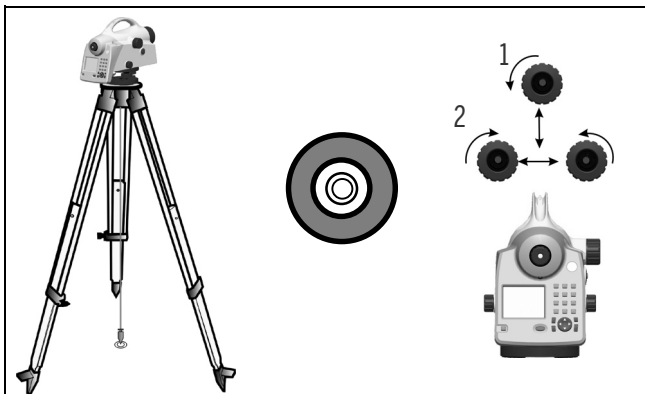
Main Menu	Sub Menu	Sub Menu	Description
1 Files	Project Menu	Select Project	Select from a list of stored projects
		New Project	Start a new project
		Rename Project	Change the name of a stored project
		Delete Project	Delete a stored project
		Copy Between Projects	Copy information between two projects
	Editor		Edit stored data, enter and view data and enter and change code lists
	Data Im/ Export	DiNi to USB	Transfer data from the DiNi to a USB memory device
		USB to DiNi	Transfer data from a USB memory device to the DiNi
	Memory		Internal memory. Total memory space, free memory space and format internal memory

Main Menu	Sub Menu	Sub Menu	Description	
2 Configuration	Input		Input of Refraction coeff., Addition const. (R), Date and Time	
	Limits/Tests		Input of Max. sighting dist., Min sighting height, Max. sighting height, Diff. and Max diff.	
	Adjustment	Förstner Method		Line of sight adjustment.
		Nähbauer Method		Line of sight adjustment.
		Kukkamäki Method		Line of sight adjustment.
		Japanese Method		Line of sight adjustment.
	Instrument Settings		Setting of Height unit, Input unit, Display (R), Shut off, Sound, Language, Date and Time syst.	
	Settings of recordings		Setting of Remote control, Recording, Recording data (RMC or R-M), PNo increment and Time	

Main Menu	Sub Menu	Sub Menu	Description
3 Survey	Single Point Measurement		Single Point Measurement
	Line leveling		Line leveling
	Intermediate Sights		Benchmark input
	Stake out		Stake out
	Continuous measurements		Continuous measurements
4 Calculation	Line Adjustment		Line Adjustment

## Setup

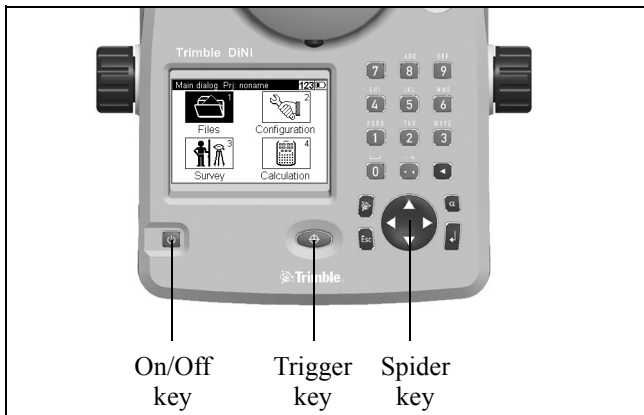
1. Set up the tripod securely.
2. Remove the instrument from container.
3. Place the instrument on the tripod and screw down tightly (tripod retaining screw).
4. Move the bubble into the center of the circular level (tripod foot screws).



## Switching the Instrument On and Off

To switch the instrument on or off press the  on/off key.

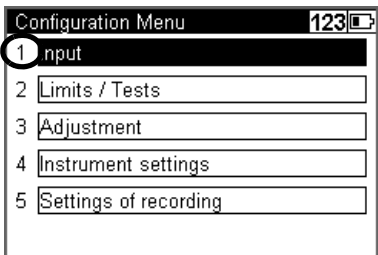
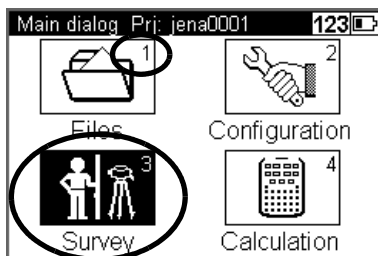
# The Control Panel






# Keyboard and Display Functions

## Display

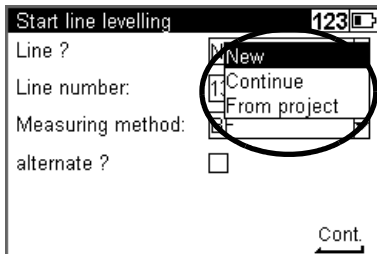
## Key function and description





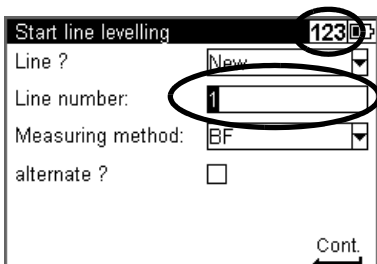
Navigate with the  spider key in the display menus to highlight the item you want to select. To confirm a selection press the  enter key or go directly by pressing the number of the selection e.g.  number 1 key


## Display

## Key function and description



Some input fields are marked with a drop down-arrow to indicate that input selections are made from a pre-defined list. Press the right arrow on the  spider key to select from a drop-down list. Press the left arrow on the  spider key to step through the possible selections






Some input fields are open for alpha and numeric inputs from the user. Type in the input of your choice with the instrument keyboard. Switch between numeric, capital letters or lowercase letters by pressing the  alpha key. The status is indicated at the top of the display.


## Display

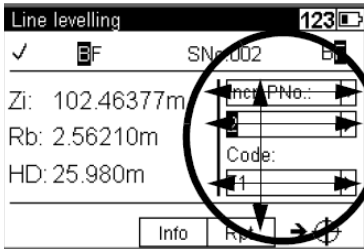
## Key function and description




Start line levelling		123
Line ?	New	▼
Line number:	1	
Measuring method:	aBF	▼
alternate ?	<input checked="" type="checkbox"/>	
		Cont.

Some inputs are made with a check box. Navigate with the  spider key in the display to highlight the check box. Press the left arrow on the  spider key to select or unselect.

Line levelling		123
<input checked="" type="checkbox"/>	BF	SN: 002
Zi: 102.46377m	Incl. PNo.:	▶
Rb: 2.56210m	Code:	▶
HD: 25.980m	1	▶
Info	Ref	

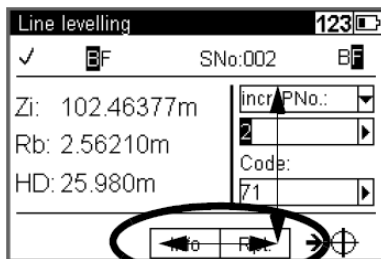
Navigate with the  spider key up, down, left or right.






In this part of the display you can navigate with the  spider key up or down through the different input fields and down to the softkeys at the bottom of the display. When an input field is highlighted you can press the right arrow on the  spider key to select from a drop-down list or press the left arrow on the  spider key to step through the possible selections.

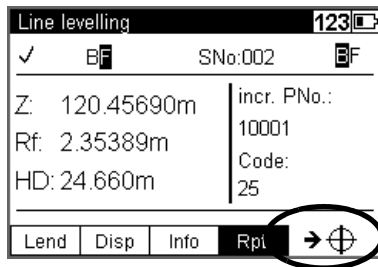
## Display

## Key function and description





In this part of the display you can navigate with the  spider key left or right to highlight different soft keys. Press  Enter to select the highlighted soft key function.

To be able to go back up to the input fields you must first highlight the Soft key located directly under the input fields, press up or down on the  spider key.



The symbols displayed in the bottom corner of the display indicates the next step.




Ready to measure press  /   
measurement key

Select  


Press  enter key to select a detail


Store  


Press  enter key to store measurement


Accept  


Press  enter key to accept


Cont.  


Press  enter key to continue


Copy  


Press  enter key to copy data


Page 2  


Press  enter key to continue to next screen


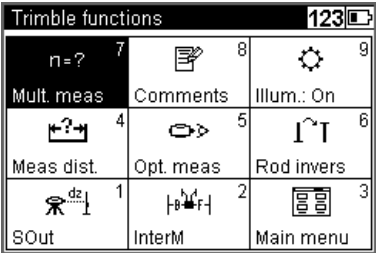


Press  spider key up or down arrow to show further lines

# Trimble Functions

The Trimble Functions menu can be reached at all stages by pressing the  Trimble icon key. The following functions are available.

**NOTE** – All functions are not available at all times, the available functions in the Functions Menu are related to the selected program.

Actions	Screen
Press the  Trimble icon key. Select the Trimble function of your choice.	

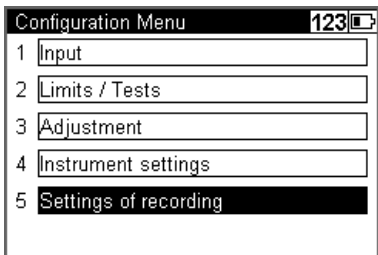
1. Stake out points (During Line Leveling only)
2. Intermediate sights (During Line Leveling only)
3. Main menu
4. Measure distance
5. Optical measurement
6. Inverted staff measurement
7. Multiple measurement
8. Input comments
9. Illumination

# Setting Recording

## Actions

Select **Settings of Recording** from the Configuration menu.

## Screen

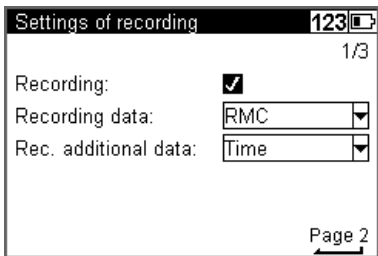


Select or clear the **Recording** check box to turn on or off the recording.

Select **Recording Data**. R-M=Only the measured values are saved

RMC=The measured and calculated values are saved.

Select **Rec. additional data**. Press enter to continue to **Page 2**.



**Actions****Screen**

Number system Line measurement:  
Enter PNo. Increment and Start number.  
Press **↵** enter to confirm and continue.

Settings of recording **123**

2/3

Line measurement

PNo. increment:

Start:

Page 3

Number system Single point measurement / Intermediated sights:  
Enter PNo. Increment and Start number.  
Press **↵** enter to confirm and continue.

Settings of recording **123**

3/3

Single point meas. / Intermediate sights

PNo. increment:

Start:

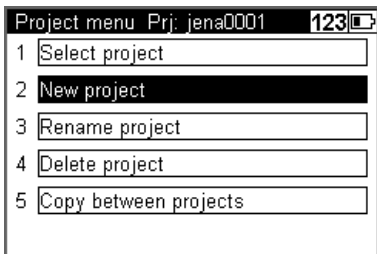
Store

# Creating a Project

## Actions

Select **New project (2)** from the Project menu.

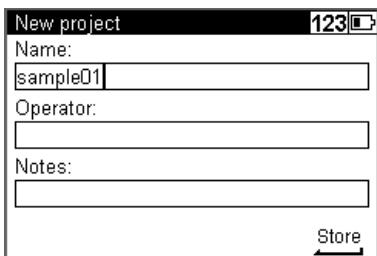
## Screen



Project menu Prj: jena0001 123

- 1 Select project
- 2 **New project**
- 3 Rename project
- 4 Delete project
- 5 Copy between projects

Key in the project **Name** of your choice. You can also key in the **Operator** name and **Notes**. Press **Enter** key to **Store** the project.



New project 123

Name:  
sample01

Operator:  
\_\_\_\_\_



Notes:  
\_\_\_\_\_

Store

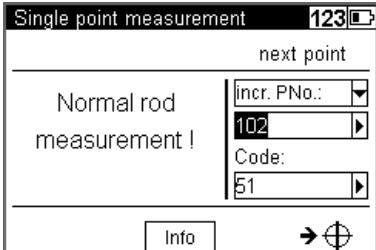
# Single Point Measurement


## Actions

Select **Survey** and 1 **Single Point measurement** Enter Point number and Point code.

Press the  /  trigger key to start the measurement.


## Screen





Single point measurement 123 


next point


Normal rod measurement !

incr. PNo.: 

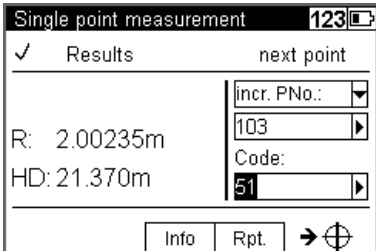
102 


Code: 

51 

Info 

Start measurement to next point.





Single point measurement 123 


✓ Results next point


R: 2.00235m


HD: 21.370m

incr. PNo.: 

103 

Code: 

51 

Info Rpt. 

# Intermediate Sights

## Actions

Select **Survey** and 3  
**Intermediate Sights**

## Screen

Intermediate sights benchmark 123

Input

Point number:

Code:

Benchmark height:

Select Point number  
from the drop-down  
list or key in the  
benchmark point with  
number, code and  
height of your choice.

Intermediate sights benchmark 123

Input


Point number:

Code:


Benchmark height:

Other project


## Actions


Press  enter key to continue.

## Screen


Intermediate sights benchmark **123** 

Input



Point number:  


Code:  

Benchmark height:

**Cont.** 

Aim and focus the instrument to the staff at the benchmark.


Start the measurement with the  /  trigger key.

Benchmark measurement **123** 


Backsight measurement

Z: 122.56489m Point number: 100

Code: 51

**Info** 


Accept the measurement to benchmark point or repeat the measurement.

Benchmark measurement **123** 



✓ Backsight measurement

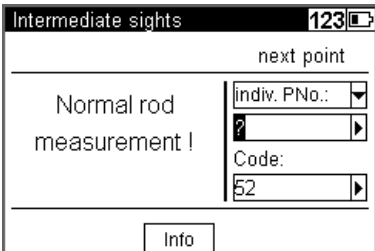
R: 2.23378m Point number: 100



HD: 21.235m Code: 51

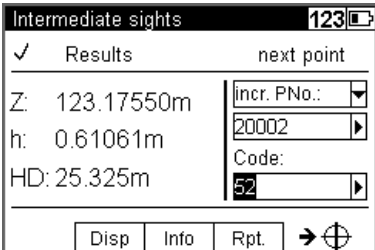


**Actions****Screen**

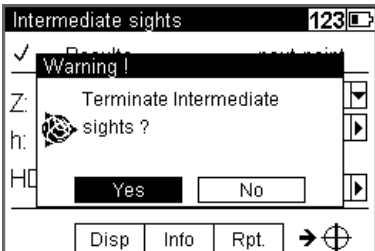
Key in the point number and code for new point.  
Start the measurement with the  /  trigger key.



Key in the point number and code for next new point.  
Start the measurement with the  /  trigger key.



Press **Esc** escape key  
Select Yes and press **Enter** key to end the program.



# Stake Out

## Actions

Select **Survey** and 4  
**Stake out**.

## Screen

Stake out benchmark 123

Input

Point number: ?

Code:

Benchmark height: ?

Select **Point number**  
from the drop-down  
list or key in the  
benchmark point with  
**Point number**, **Code**  
and **Benchmark height**  
of your choice.

Stake out benchmark 123

Input

Point number: ? Find

Code: From project

Benchmark height: ? Other project

Press **Enter** key to  
Continue.

Stake out benchmark 123

Input



Point number: 100

Code: 51




Benchmark height: 150.00000m

Cont.




## Actions

Aim and focus the instrument to the staff at the benchmark.  
Start the measurement with the  /  trigger key.




## Screen

Benchmark measurement		123	
B backsight measurement			
Z:	150.00000m	Point number:	100
		Code:	51
Info			 


Accept the measurement to benchmark point or repeat the measurement.

Benchmark measurement		123	
✓	B backsight measurement		
R:	2.23378m	Point number:	100
HD:	21.240m	Code:	51
Disp	Info	Accept	 




Select **Point number** from the drop-down list or key in the **Point number**, **Code** and **Benchmark height** for the Stake out point of your choice.



Call up stake out point		123	
Input			
Point number:	<input data-bbox="702 953 909 982" type="text" value="?"/>		
Code:	<input data-bbox="702 997 909 1026" type="text"/>		
Nominal elevation:	<input data-bbox="702 1041 909 1070" type="text" value="?"/>		


**Actions**


Press  enter key to Continue.



**Screen**

Call up stake out point		123
Input		
Point number:	5120	
Code:	63	
Nominal elevation:	152.21000m	
		<b>Cont.</b> 

Aim and focus instrument to staff at Stake out point.  
Start the measurement with the  /  trigger key.

Stake out		123
		SOut
Z: 152.21000m	Point number:	5120
Visual nominal elev.:	Code:	63
Rn: 0.02378m		
<b>Info</b>		

Select accept and press  enter key to confirm and save the result.

Stake out		123
	Results	SOut
Z: 152.21060m	Point number:	5120
dz: -0.00060m	Code:	63
HD: 24.238m		
<b>Disp</b>	<b>Info</b>	<b>Accept</b> 

## Actions

## Screen

Select **Down arrow** and press **Enter** key to call up the next Stake out point or press **Esc** escape key to key in the next Stake out point or use Search to define the next search criteria.

Data view Prj: jena0001		123
PNo.: 105	Adr.: 44	
Code: 62		
	LNo.: 2	
Z: 152.00000m		
<input type="button" value="Search"/>	<input type="button" value="Accept"/>	↑ ↓

# Line Leveling

## Actions

- Select **Survey**.
- Select 2 **Line leveling**.

## Screen

Survey menu 123

- 1 Single point measurement
- 2 **Line levelling**
- 3 Intermediate sights
- 4 Stake out
- 5 Continuous measurements

## Select Line ?

Start line levelling 123

Line ? **N** New

Line number: 1 Continue

Measuring method: BF From project

alternate ?

Cont.

**TIP** – To minimize potential problems in long lines, we recommend to insert now and then fixed change points where the line ends and is continued immediately with the “continue line” option. This operation (line end / continuation) does not affect further line computing, but enables you, in case of a problem, to link the possibly lost line to this point and to connect later the partial lines manually (to add them).

**Actions****Screen**

Key in the **Line number** of your choice.

Start line levelling 123

Line ? New

Line number: 1

Measuring method: BF

alternate ?

Cont.

Select the **Measuring method**.

Start line levelling 123

Line ? New

Line number: 1

Measuring method: BF

alternate ?

Cont.

Select or deselect **alternate**.

To confirm the inputs on this page and continue to the next page press enter **↵**, **Cont.**

Start line levelling 123

Line ? New

Line number: 1

Measuring method: aBF

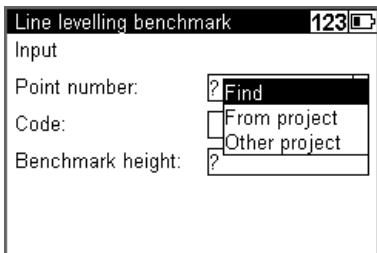
alternate ?

Cont.

## Actions

Select **Point number** from the drop-down list or key in the point number of your choice.

## Screen



Line levelling benchmark 123

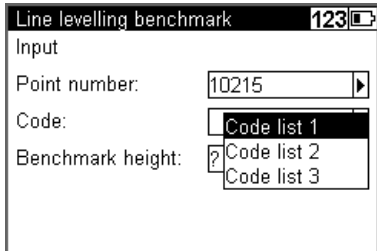
Input

Point number: ? Find

Code:  From project  
 Other project

Benchmark height: ?

Select **Code** from the drop-down list or key in the code of your choice.



Line levelling benchmark 123

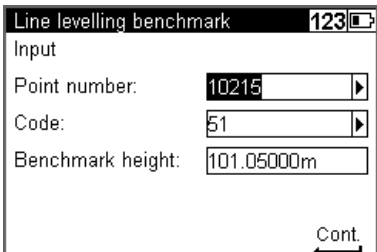
Input

Point number: 10215

Code: Code list 1  
Code list 2  
Code list 3

Benchmark height: ?

Key in the benchmark height.



Line levelling benchmark 123

Input



Point number: 10215

Code: 51

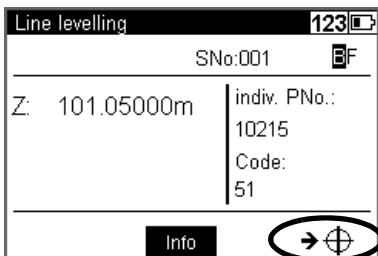
Benchmark height: 101.05000m

Cont.

## Actions

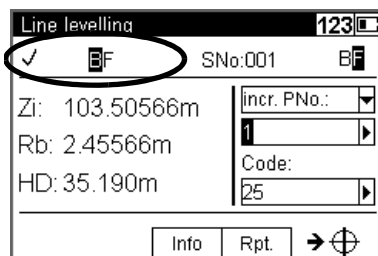
Aim and focus the instrument to the staff. Start a backsight measurement with the  /  trigger key.

## Screen



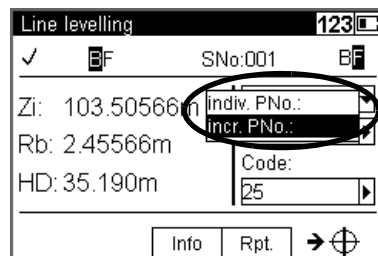
The screenshot shows the 'Line levelling' screen with a battery icon and '123' in the top right. Below the title bar, 'SNo:001' and a 'BF' icon are displayed. The main display area is split into two columns: the left column shows 'Z: 101.05000m' and the right column shows 'indiv. PNo.: 10215' and 'Code: 51'. At the bottom, there is an 'Info' button and a right-pointing arrow followed by a plus sign icon, which is circled in red.

When the backsight measurement is ready the result will be displayed



The screenshot shows the 'Line levelling' screen with a battery icon and '123' in the top right. A checkmark and 'BF' icon are circled in red. Below the title bar, 'SNo:001' and a 'BF' icon are displayed. The main display area is split into two columns: the left column shows 'Zi: 103.50566m', 'Rb: 2.45566m', and 'HD: 35.190m'; the right column shows 'incr. PNo.:', a dropdown menu with '1', and 'Code: 25'. At the bottom, there are 'Info' and 'Rpt.' buttons, and a right-pointing arrow followed by a plus sign icon.

Select incremented or individual point number.



The screenshot shows the 'Line levelling' screen with a battery icon and '123' in the top right. A checkmark and 'BF' icon are displayed. Below the title bar, 'SNo:001' and a 'BF' icon are displayed. The main display area is split into two columns: the left column shows 'Zi: 103.50566m', 'Rb: 2.45566m', and 'HD: 35.190m'; the right column shows 'indiv. PNo.:', a dropdown menu with 'incr. PNo.:', and 'Code: 25'. The dropdown menu is open, and the 'indiv. PNo.:', 'incr. PNo.:', and 'Code: 25' options are circled in red. At the bottom, there are 'Info' and 'Rpt.' buttons, and a right-pointing arrow followed by a plus sign icon.

**Actions**

Select **Point number** from the drop-down list or key in the point number of your choice.

**Screen**

The screenshot shows the 'Line levelling' screen with a battery icon and '123' in the top right. The screen displays a checkmark, a 'BF' icon, and 'SNo:001'. Below this, the following data is shown: Zi: 103.50566m, Rb: 2.45566m, and HD: 35.190m. A dropdown menu is open over the 'incr. PNo.:', showing options: 'Find', 'From project', and 'Other project'. At the bottom, there are buttons for 'Info', 'Rpt.', and a directional pad icon.

Select **Code** from the drop-down list or key in the point number of your choice.

The screenshot shows the 'Line levelling' screen with a battery icon and '123' in the top right. The screen displays a checkmark, a 'BF' icon, and 'SNo:001'. Below this, the following data is shown: Zi: 103.50566m, Rb: 2.45566m, and HD: 35.190m. A dropdown menu is open over the 'Code:' field, showing options: 'Code list 1', 'Code list 2', and 'Code list 3'. At the bottom, there is an 'Info' button.

Select **Info**.

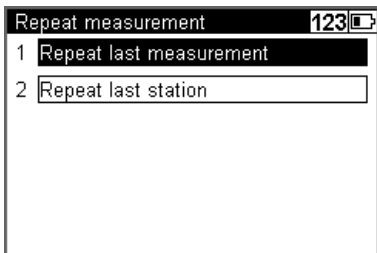
As total sighting distances are known, the next stations have to be selected in such a way that the total sighting distances Db and Df are almost identical at the end of the line.

The screenshot shows the 'Info instrument' screen with a battery icon and '123' in the top right. The screen displays 'Prj: jena0001'. Below this, the following information is shown: Memory status: 50% (1024 kB), Battery status: 45%, Date: 20.11.2006, Time: 15:34:39, Total sighting distances: Db: 208.50m, Df: 200.26m. At the bottom right, there is a 'Cont.' button.

## Actions

Select **Rpt.** if you wish to repeat the last measurement or the last station

## Screen



**TIP –** While measuring the Line Levelling Intermediate Sights and Stake out cane be done via Trimble menu!

## Ending a Leveling Line

### Actions

Select End

### Screen

The screenshot shows the 'Line levelling' screen with the following data:

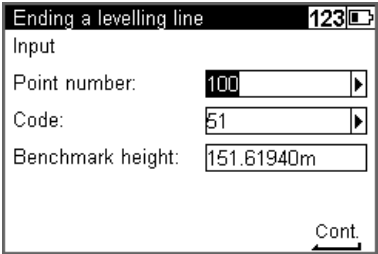
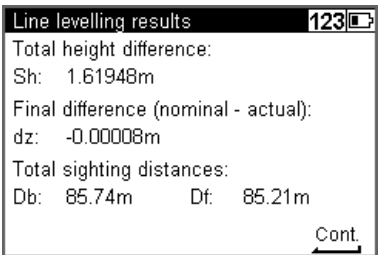
Line levelling		123
✓	FB	SNo:005
Z:	151.61948m	incr. PNo.: 20004
Rb:	1.98711m	Code: 52
HD:	25.237m	

At the bottom, there are buttons for 'Lend', 'Disp', 'Info', and 'Rpt.', followed by a right arrow and a crosshair icon.

Select Yes at a point with a known height.  
Select No at a point with a unknown height

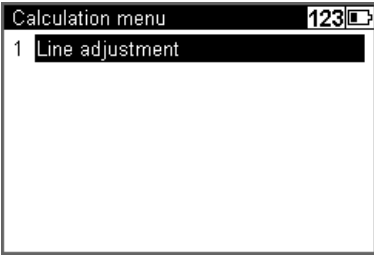
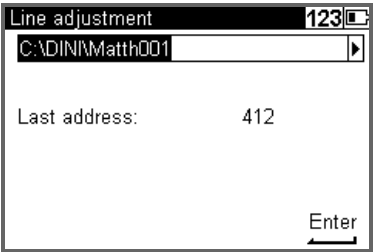
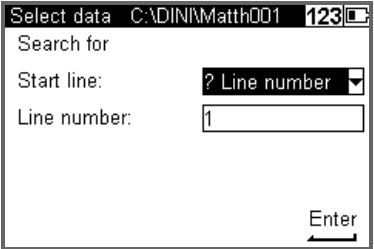
The screenshot shows the 'Line levelling' screen with a confirmation dialog box overlaid. The dialog box contains the text 'Please confirm ...' and 'End with closing benchmark?'. There are 'Yes' and 'No' buttons at the bottom of the dialog box. The background data from the previous screenshot is partially visible behind the dialog box.

## With known Height


Actions	Screen
<p>Select: A - without any change (Slope) B - Enter point number, code and height from your choice C - select from the memory a known point. Select Cont. to continue</p>	
<p>Select End to finish the line</p>	


**TIP** – Ending a leveling line with unknown height is similar.

## Line Adjustment

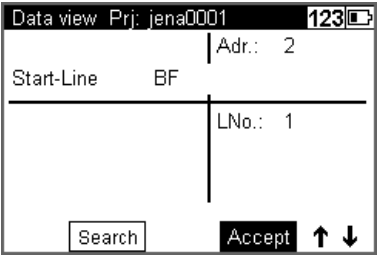
Actions	Screen
<p>In the Main dialog select <b>Calculation</b>. Select <b>1 Line Adjustment</b>.</p>	
<p>Select the project to be adjusted and press <b>↓</b> enter key to continue.</p>	
<p>Define the search criteria and enter the value of your choice. Press <b>↓</b> enter key to continue.</p>	


## Actions

Select **Accept** and press  enter key to accept the proposed line.



Press  spider key up or down arrow to search for lines with the same criteria.


## Screen

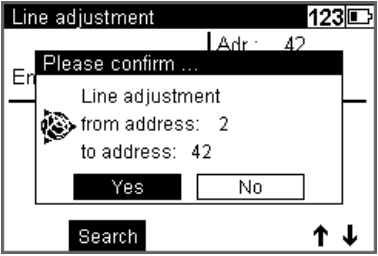



Data view Prj: jena0001 123 

Start-Line	BF	Adr.: 2
		LNo.: 1

Select **Ok** and press  enter key to continue.





Line adjustment 123 


Adr.: 42

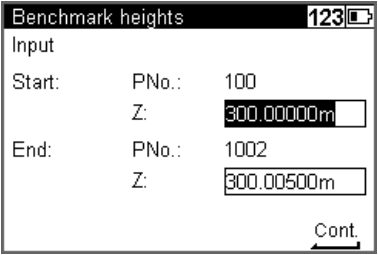
Please confirm ...


Line adjustment  
from address: 2  
to address: 42

Key in or confirm the proposed **Benchmark heights**

press  enter key to continue.




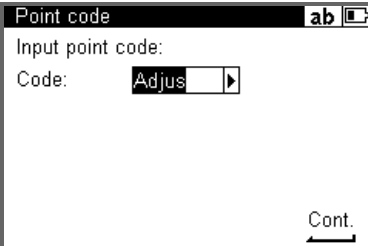
Benchmark heights 123 

Input

Start:	PNo.:	100
	Z:	<input type="text" value="300.00000m"/>
End:	PNo.:	1002
	Z:	<input type="text" value="300.00500m"/>

**Actions**

Key in or confirm the proposed **Code** for the changed Benchmark heights.  
press  enter key to **Continue**.


**Screen**

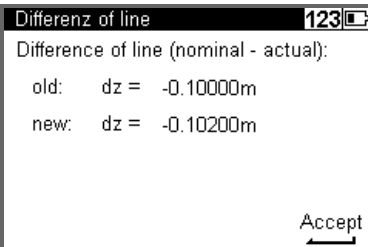
Point code 123

Input point code:

Code: Adjus

Accept

Press  enter key to **Accept**.




Differenz of line 123

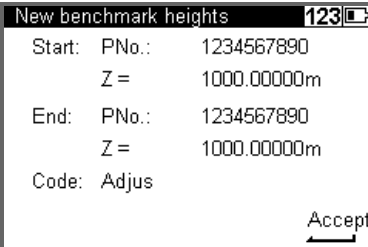
Difference of line (nominal - actual):

old: dz = -0.10000m

new: dz = -0.10200m

Accept

Press  enter key to **Accept**.



New benchmark heights 123

Start: PNo.: 1234567890

Z = 1000.00000m

End: PNo.: 1234567890

Z = 1000.00000m

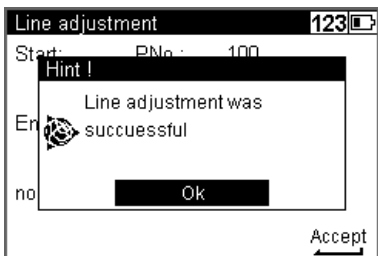
Code: Adjus

Accept

**Actions**

Press **Enter** key to continue  
Line adjustment in progress Please wait

Finalize the adjustment by pressing **Enter** key to **End**.

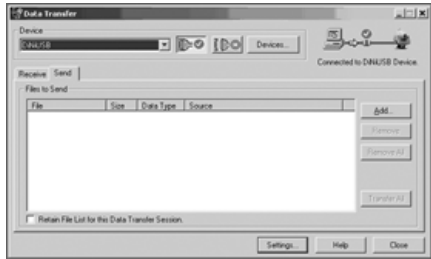
**Screen**

# Data Transfer

## DiNi to PC

Actions	Screen
---------	--------

- Connect PC via cable PN 73840019 to the Trimble DiNi.
- Start Trimble Data transfer at the PC.
- Use Device “DiNiUSB”.



- Use the “Receive” tab
- Select the files for transferring to PC.
- Define the folder at the PC and start the data transfer.

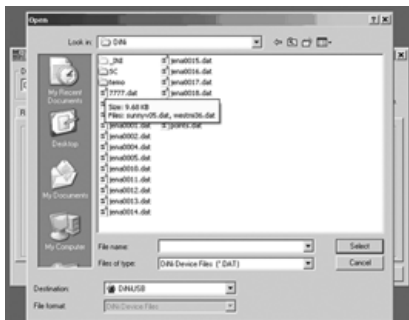


## PC to DiNi

### Actions

- Use the “Send” tab
- Select the files for transferring to DiNi
- Start the data transfer.

### Screen

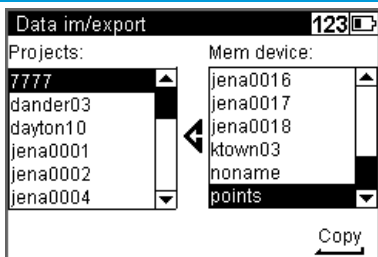


## DiNi to USB

### Actions

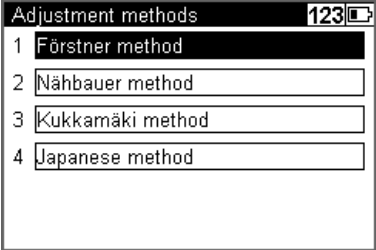

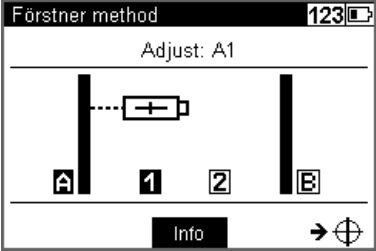

Connect the USB Memory Stick via cable PN 73841019 to the Trimble DiNi. The instrument offers the possibility to open the menu for Data import and export directly. The instrument allows copying files in both directions.

### Screen




# Instrument Adjustment


## Line of Sight Adjustment

Actions	Screen
<p>Select the method of your choice.</p> <p>In this example we will show the <b>Förstner method</b>.</p>	
<p>Aim and focus the DiNi at staff A from position 1, press  to measure.</p> <p>Display will change to Show adjust B1</p>	
<p>Aim and focus the DiNi at staff B from position 1, press  to measure.</p>	

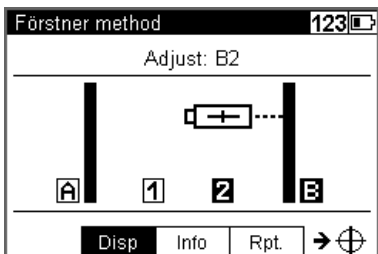
## Actions

Aim and focus the DiNi at staff B from position 2, press  to measure.


Display will change to Show adjust A2

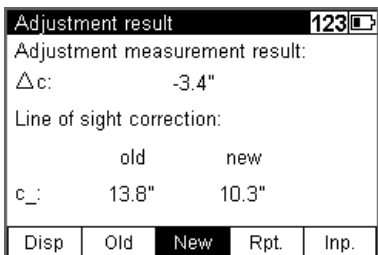
Aim and focus the DiNi at staff A from position 2, press  to measure.

## Screen



The result of the adjustment will be displayed.

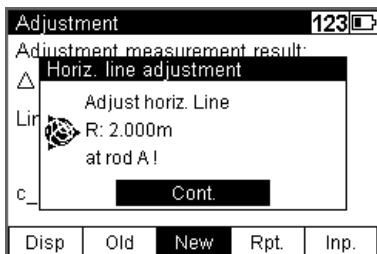
To accept the new value select **New** and confirm with  enter.



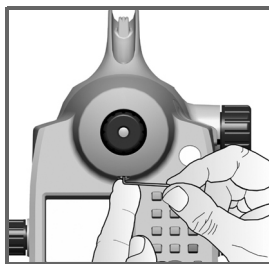
## Actions

Turn the staff A around or replace it with a metric graduated staff and compare the reading with the specified value **R**. If the difference exceeds 2 mm, the reticule position needs to be aligned.

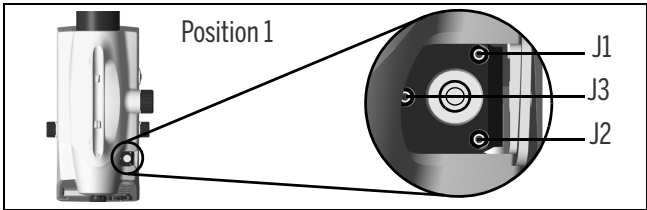
## Screen



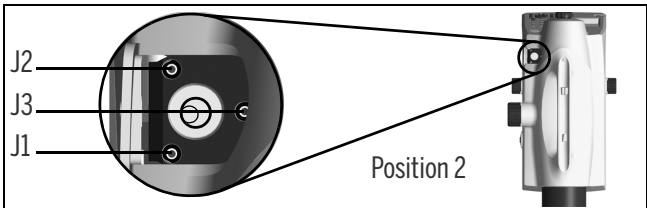
Remove cap and adjust the setting screw below the eyepiece until the actual and nominal readings are identical.



## Bubble Adjustment



1. Remove the screw (2) of the protection cap with the adjusting tool and detach the protection-cap
2. Level the instrument with the 3 tribrach screws, Position 1.
3. Turn the instrument 180° round the vertical axis into position 2.
4. Eliminate half the residual deviation of the circular bubble by means of the tribrach screw and half by adjusting the circular bubble with the adjustment screws J1, J2, J3.
5. Repeat this procedure and check the residual deviation.
6. Fix the protection cap again. Make sure that the rubber joint is placed in the groove.





TRANSFORMING THE WAY THE WORLD WORKS

