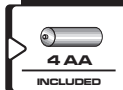
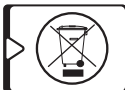
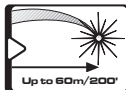




# Prolaser® 3D All-Lines

## Model No. 883

### User Manual

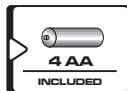
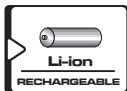
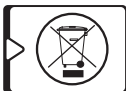
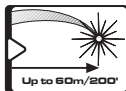


Thank you for purchasing Kapro's 883 Prolaser® 3D All- Lines. You now own one of the most advanced laser tools available. This manual will show you how to get the most out of your laser tool.

## APPLICATIONS

The 883 Prolaser® 3D All- Lines is a laser level with 3 red diodes, that emits 3 circular lines. The laser is innovatively designed for a very broad range of professional and DIY jobs, including:

- Hanging cabinets and shelves.
- Setting floor and wall tiles
- Drywall installation and hanging acoustic ceilings
- Framing and aligning windows and doors
- Leveling electrical outlets, plumbing and studs
- Accurately laying out right angles for flooring, fences, gates, decks, pergolas and gazebos.
- Leveling slopes for stairs, rails, roofs and more. (manual mode)



### NOTE

**Keep this user manual for future reference.**

# CONTENTS

• <b>Features</b>	<b>4</b>
• <b>Safety instructions</b>	<b>5-6</b>
• <b>Battery installation &amp; Safety</b>	<b>7-8</b>
• <b>Overview</b>	<b>9</b>
• <b>Operating instructions</b>	<b>10-12</b>
• <b>Maintenance</b>	<b>13</b>
• <b>Field calibration test</b>	<b>14-23</b>
• <b>Specifications</b>	<b>24</b>
• <b>Warranty</b>	<b>25</b>



## FEATURES

- This laser tool automatically determines the horizontal and vertical plans.
- This laser emits 1 horizontal 360° and 2 orthogonal 360° vertical red beams, that intersect on 4 walls, floor and ceiling.
- Self-leveling in automatic mode when the laser is positioned within its self-leveling range which is  $\pm 2.5^\circ$
- Visual warning when the laser level is out of leveling range.
- Pulse mode emits pulses that can be detected by a detector.
- Max. indoor working range - 30 m (100') with red goggles.
- The max. detectable range of the laser in pulse mode is 60m (200').
- Manual mode allows angular layout/marketing.
- IP65 Rated for water and dust protection.
- Locking mechanism to protect the pendulum during transportation.
- 1/4" and 5/8" tripod threads.
- Shock resistant rubber over molded casing.
- Multi-purpose magnetic mount.
- Battery compartment for optional use with 4 AA Alkaline batteries.
- Charger.

### NOTE

**This device contains precision components sensitive to external shock, impact or falls that may compromise its functionality. Handle with care to maintain its accuracy.**

# SAFETY INSTRUCTIONS



## WARNING

**This product emits radiation classified as Class II according to EN 60825 -1**

The laser radiation can cause serious eye injury



- Do not stare into the laser beam
- Do not position the laser beam so that it unintentionally blinds you or others.
- Do not operate the laser level near children or let children operate the laser level.
- Do not look into a laser beam using magnifying optical devices such as binoculars or a telescope, since it will increase the level of eye injury.



**WARNING:** This product contains lead in soldered joints and certain Electrical parts contain chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm.

(California Health & Safety Code Section 25249.6- Proposition 65)



## NOTE

**The red goggles are intended to enhance the visibility of the laser beam. They will not protect your eyes against laser radiation.**

- Do not remove or deface warning labels on the laser level.
- Do not disassemble the laser level, laser radiation can cause serious eye injury.
- Do not drop the unit.
- Do not use solvents to clean the laser unit.
- Do not use in temperatures below -10°C or above 50°C (14°F to 122°F)
- Do not operate the laser in explosive atmospheres such as flammable liquids, gases or dust. Sparks can cause ignition.
- When not in use remove the battery, engage the pendulum lock and place the laser in the carrying pouch.
- Make sure the pendulum lock mechanism is engaged before transporting the laser.

#### **NOTE**

**If the Pendulum lock mechanism is not engaged before transportation, internal mechanical damage may occur.**

# BATTERY INSTALLATION & SAFETY

The 883 Prolaser® 3D All- Lines offers 2 power supply options: a rechargeable Li-Ion battery pack or 4 AA Alkaline batteries (battery compartment included).

## Installation

1. Press down the latch of the battery cover.
2. Insert the Li-Ion battery pack or the battery compartment with the 4 AA Alkaline batteries, with the terminal contacts forward, according to the shape of the battery compartment.
3. Close the battery cover.



Alkaline batteries

Battery  
compartment

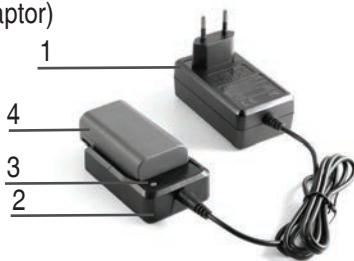


Li- Ion battery

Charge the Li- Ion battery or use new AA Alkaline batteries if the beam/ battery indicator (b) starts to flash instead of emitting a steady light.

**NOTE:** Connecting the charger with the charging adaptor to the power (without the battery) will show a steady green LED indicator with a small blinking dot. During the charging the LED indicator (on the charging adaptor) will be red and then green, once fully charged.

1. **Charger**
2. **Charging adaptor**
3. **LED indicator**
4. **Rechargeable battery**



**WARNING:** Battery can deteriorate, leak or explode and can cause injury or fire.

1. Do not shorten the battery terminals.
2. Do not dispose of battery into household waste.
3. Do not dispose of battery in fire.
4. Defective or dead batteries must be disposed according to local regulations.
5. Keep the batteries out of children's reach.



# OVERVIEW

## 1. On/Off Locking Switch

## 2. Keypad

- a. Beam Selector/Manual mode button
- b. Beam / Battery indicator
- c. Pulse Mode button
- d. Pulse Mode indicator

## 3. Horizontal laser beam window

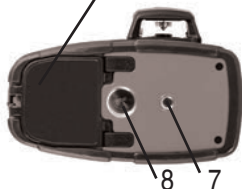
## 4. Forward vertical laser beam window

## 5. Side vertical laser beam window

## 6. Battery cover

## 7. 1/4" tripod mount

## 8. 5/8" tripod mount



## Working in Automatic mode (self-leveling):

In automatic mode the laser level will level itself in a  $\pm 2.5^\circ$  range and will project 1 horizontal  $360^\circ$  or/and 2 vertical  $360^\circ$  red beams.

1. Remove the laser level from the case and place it on a solid, flat, vibration free surface or on a tripod.
2. Push the locking switch #1 to the **ON** position. The laser level will project a  $360^\circ$  horizontal beam. The beam indicator (b) will turn on.
3. Press the beam selector button (a) - it will turn on a  $360^\circ$  vertical side beam instead of the horizontal beam.
4. An additional click on the beam selector button will turn on a  $360^\circ$  vertical front beam in addition to the side vertical beam.
5. One more click on the beam selector button (a) will switch on the horizontal beam in addition to the vertical beams.
6. An additional click on the beam selector button (a) will switch off the two vertical beams.
7. If the initial inclination of the laser level is beyond  $\pm 2.5^\circ$  and the automatic mode is activated, the laser beams will flash. In this case reposition the laser level on a more level surface.
8. Before moving the laser level turn the locking switch #1 to the **OFF** position, this will lock the pendulum and protect your laser level.

## Working in Manual mode:

In Manual mode the 883 self-leveling mechanism is disabled and the laser beams can be set at any slope required.

1. Verify that the locking switch #1 is on the **OFF** position.
2. Press and hold the Manual mode button (a) for 3 seconds, to activate the manual mode. The laser level will project a 360° horizontal beam that will flash every 3 sec. to let you know that the beam is not leveled. The beam indicator (b) will turn on.
3. To mark a slope, tilt the laser to the desired angle.
4. To choose another beam, briefly press the beam selector button (a) - it will turn on a 360° vertical side beam instead of the horizontal beam.
5. An additional click on the beam selector button (a) will add a 360° forward vertical flashing beam.
6. One more click on the beam selector button (a) will switch on the horizontal beam in addition to the vertical beams.
7. Next click on the beam selector button (a) will switch **OFF** all the beams and the beam indicator (b) will turn off.
8. While in Manual mode, turning the locking switch #1 from **OFF** to **ON** will turn off the Manual mode. The automatic self – leveling mode will be activated (if the laser level is within the self – leveling range).

## **Working in Pulse mode with a detector:**

For outdoor work under direct sunlight or bright conditions, and for extended indoor ranges up to 60 meters, use the pulse mode with a Detector. When the pulse mode is activated the laser beams will flash at a very high frequency (invisible to the human eye). This will allow the detector to detect the laser beams.

1. The pulse mode can be activated both in Automatic and in Manual mode.
2. Turn on the laser level (to the required mode).
3. Press the Pulse mode button (c) to activate it. The Pulse mode indicator (d) will turn on. Visually, the intensity of the beam will be a bit reduced.
4. Turn on the detector and search for laser beam.
5. You can choose a different beam, by pressing on the beam selector button (a), while you are in Pulse Mode.
6. To switch the Pulse Mode off, press the Pulse mode button (c) and the Pulse mode indicator (d) will turn off.

## MAINTENANCE

To maintain the accuracy of your project, check the accuracy of your laser level according to the field calibration tests procedures.

- Change the battery when the laser beams begins to dim.
- Wipe the aperture lens and the body of the laser level with a clean soft cloth. Do not use solvents.
- Although the laser level is dust and dirt resistant to a certain degree, don't store in dusty places as long term exposure may damage internal moving parts.
- If the laser level is exposed to water, dry the laser level before returning it to the carrying case to prevent corrosion damage.
- Remove the battery if the laser level is unused for a long period of time to prevent corrosion damage.



## FIELD CALIBRATION TEST

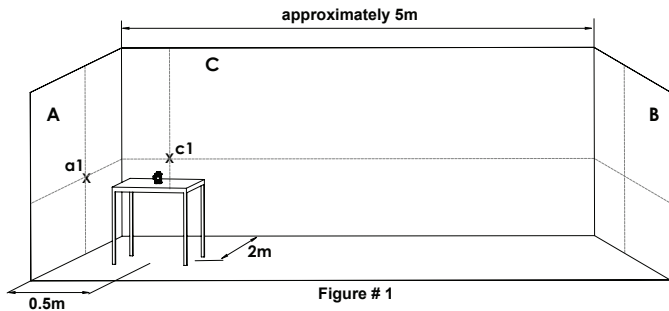
This laser level left the factory fully calibrated. Kapro recommends the user check the accuracy of the laser periodically, especially if the unit falls or is mishandled.

1. Check the height accuracy of the cross created by the lateral (#5) and the horizontal lines.
2. Check the height accuracy of the cross created by the longitudinal (#4) and the horizontal lines.
3. Check the accuracy of the forward vertical beam.
4. Check the accuracy of the side vertical beam.
5. Check the perpendicularity between the 2 vertical beams.

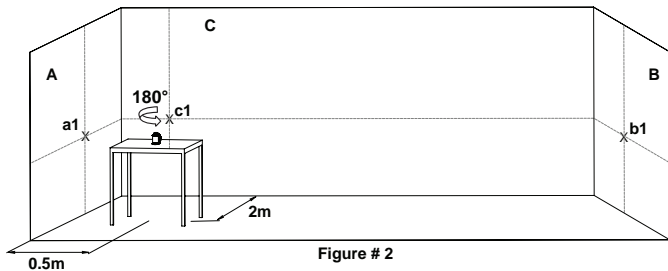
### **1. Checking the Height Accuracy of the cross created by the lateral (#5) Horizontal lines.**

#### **(Up and down deviation)**

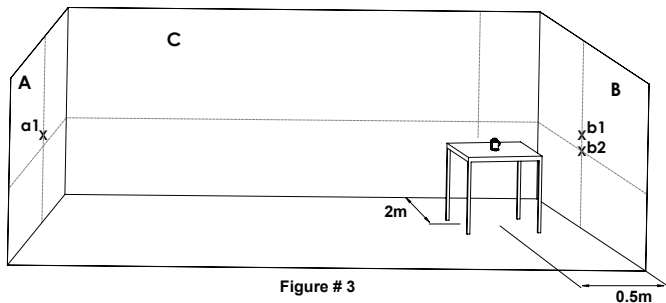
- 1) Set up the laser on a table or on the floor between 3 walls **A**, **B** and **C**. The distance between **A** and **B** should be approximately 5 meters.
- 2) Position the laser level approximately 0.5 meters from wall **A** and 2 meters from wall **C**.
- 3) Unlock the pendulum and press the Beam Selector (a), twice to project all 3 lasers beams.
- 4) Direct the cross lines of the horizontal beam and the side vertical beam (# 5) towards wall **A**.
- 5) Mark on wall **A** the center of the cross beams as **a1**, and on wall **C** mark the center of the cross beam as **c1** (see figure # 1).



- 6) Turn the laser  $180^\circ$  towards wall **B**. Reposition the laser and verify that the 2 vertical lines pass through **a1** and **c1**.
- 7) Mark on wall **B** the center of the cross beams as **b1** (see figure # 2).



- 8) Without turning the laser level, lock the pendulum and move the laser level towards wall **B** and position it approximately 0.5 meter from wall **B**.
- 9) Unlock the pendulum and press the Beam Selector (a) twice to project all 3 lasers beams.
- 10) Verify that the vertical line passes through **a1** and **b1**.
- 11) On wall **B**, mark the center of the cross beams as **b2** (see figure# 3).



- 12) Turn the laser 180°. Reposition the laser and verify that the 2 vertical lines pass through **b2** and **a1**.
- 13) On wall **A**, mark the center of the cross beams as **a2** (see figure # 4).



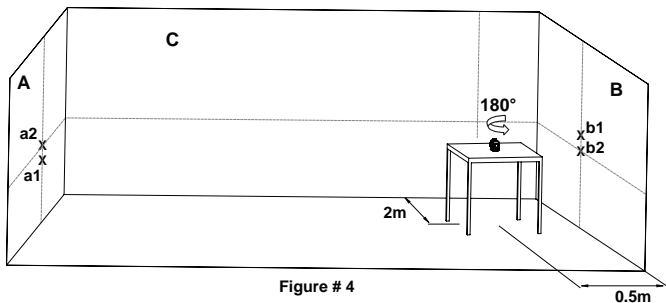


Figure # 4

14) Measure the distances:

$$\Delta a = |a2 - a1|$$

$$\Delta b = |b1 - b2|$$

15) The difference  $|\Delta a - \Delta b|$  should be no more than 3 mm, otherwise send the laser level to a qualified technician for repair.

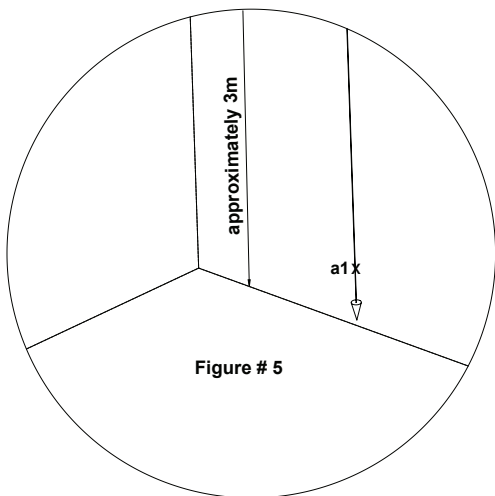
## **2. Checking the Height Accuracy of the cross created by the longitudinal (#4) and horizontal lines.**

### **(Up and down deviation)**

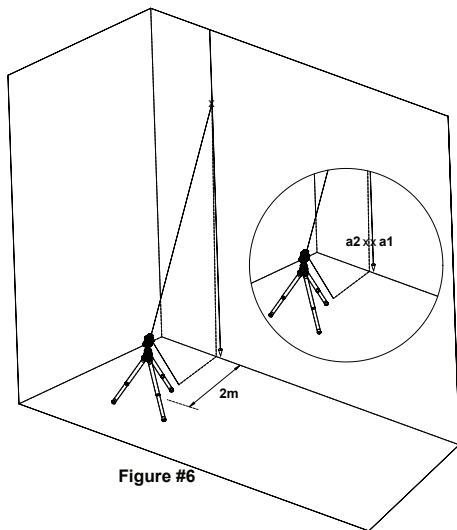
- 1) Set up the laser on a table or on the floor between 3 walls **A**, **B** and **C**. The distance between **A** and **B** should be approximately 5 meters.
- 2) Position the laser level approximately 0.5 meters from wall **A** and 2 meters from wall **C**.
- 3) Unlock the pendulum and press the Beam Selector (a) twice, to project all 3 lasers beams.
- 4) Direct the cross lines of the horizontal beam and the forward vertical beam (#4) towards wall **A**.
- 5) Repeat the previous marking procedures from paragraph 5 - 15

## **3. Checking the Accuracy of the forward Vertical beam (#4).**

- 1) Hang an approximately 3 meter long plumb line on a wall.
- 2) After the plumb line has settled, mark point **a1** on the wall behind the plumb line, near the plumb cone. (see figure # 5).



- 3) Set up the laser on a tripod or on a solid surface in front of the wall, at a distance of approximately 2 meters.
- 4) Unlock the pendulum and press the button to project the vertical forward beam (#4) towards the plumb line.
- 5) Turn the laser, so the vertical beam will merge with the plumb line below the hanging point.
- 6) Mark point **a2** on the wall, in the middle of the vertical beam at the same height as **a1**. (see figure # 6).



**Figure #6**

- 7) The distance between **a1** and **a2**, should be no more than 1mm, otherwise send the laser level to a qualified technician for repair.

#### **4. Checking the Accuracy of the side Vertical beam (#5).**

For the second vertical beam, repeat the previous marking procedures from paragraph 1 -7.

## 5. Checking 90° accuracy between the 2 Vertical beams.

This procedure requires a room of at least 5x5 meters with 3 walls.

- 1) Set up the laser on a table or on the floor in the middle of the room.
- 2) Unlock the pendulum and press the button Beam Selector (a) twice, to project the forward and the side vertical beams
- 3) Mark the center of the side vertical beam in 3 places;
  - Point **a1** on the left wall **A**, in the middle of the vertical line.
  - Point **b1** on the right wall **B**, in the middle of the vertical line.
  - Point **c1** on the table, in the middle of the cross lines of the 2 verticals.
- 4) Mark the point **c2** on the front wall **C**, in the middle of the vertical line (see figure # 7).

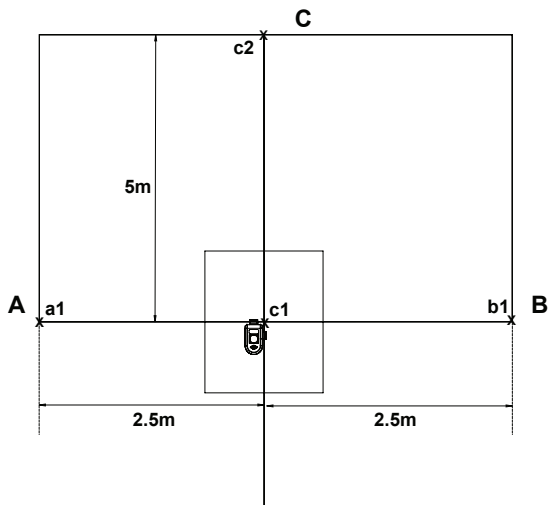


Figure # 7

- 5) Rotate the laser 90° counterclockwise so that the cross beams pass through **c1** on the table, and the forward laser beam passes through the marks **a1** and **b1** on the walls **A** and **B** respectively.
- 6) Mark as **c3** the center of the side vertical beam on wall **C**, at the same height as point **c2**. (see figure # 8 ).

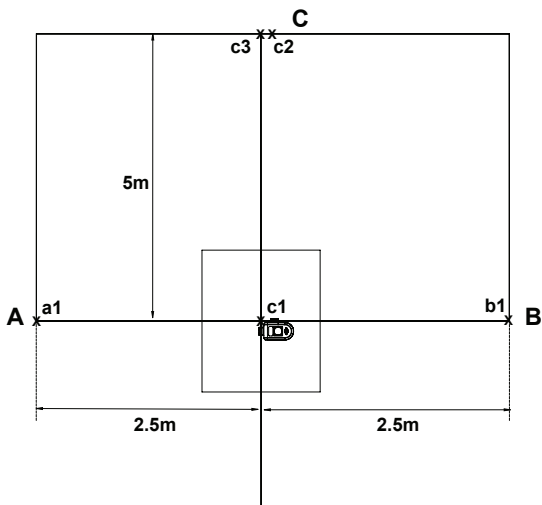


Figure # 8

- 7) The distance between **c2** and **c3**, should be no more than 1.5mm, otherwise send the laser level to a qualified technician for repair.



## SPECIFICATIONS

Laser beams output pattern	<ul style="list-style-type: none"><li>• Horizontal 360°</li><li>• Side vertical 360°</li><li>• Both verticals 360°</li><li>• Horizontal and verticals all 360°</li></ul>
Laser range	<ul style="list-style-type: none"><li>• Indoor - 30m (100ft) with red goggles</li><li>• With detector - 60m (200ft)</li></ul>
Accuracy	±0.2mm/m (±0.0002in/in)
Self-leveling Range	±2.5°
Laser line width	2 mm±0.5mm/5m (0.10" ±0.02" at 20' )
Wavelength	633-643nm - Laser Class II
Power supply	2600mAh Li-Ion battery 7.4V or 4 AA Alkaline batteries
Battery life	Up to 12 hours of continuous operation with Li-Ion battery
Operating temp.	-10° C + 50° C (14°F +122°F)
Storage temp.	-20° C +60° C ( -4°F +140°F)
Water & dust proof	IP65
Dimensions	150mm x 90mm x 130mm (5.9" x 3.6" x 5.1")
Weight including battery	750gr ± 10gr (26.5 oz ± 0.35 oz)



# WARRANTY

This product is covered by a three-year limited warranty against defects in materials and workmanship. The warranty does not cover products that are used improperly, altered or repaired without Kapro Tool's approval. In the event of a problem with the laser level, please return the product to the place of purchase with proof of purchase.

Model #883

The serial number sticker is positioned inside the battery compartment.

## CE CONFORMITY CERTIFICATE

This product meets the standards of the Electromagnetic Compatibility (EMC) established by the European Directive 2014/30/EU and the Low Voltage Directive (LVD) 2014/35/EU

## EC DECLARATION OF CONFORMITY

We declare under our responsibility that the product 883 is in accordance with the requirements of the Community Directives and Regulations:

2014/30/EU

2011/65/EU

EN60825-1: 2014

EN61326-1: 2013

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....