With David White your sights are set on precision and accuracy.

Congratulations! You’ve purchased a David White builder/contractor instrument, known throughout the world for precision and accuracy. The purpose of this user’s guide is to acquaint you with the instrument, its components, safety, proper care and handling.

Our levels, level-transits and transits are constructed to withstand extremely rugged field use. Like all precision instruments, however, they should be treated with reasonable care to prolong life and accuracy.

All instruments are adjusted when they are shipped from the factory. It is the customer’s responsibility to check and to ensure instruments are adjusted prior to using.

David White is not responsible for errors caused by instruments that are out of adjustment.

Contact your distributor, dealer or David White for information on the nearest facility to check if your instrument is properly adjusted.

All specifications are subject to change without notice.
GENERAL SAFETY RULES

**WARNING** Read all instructions. Failure to follow all instructions listed below may result in hazardous radiation exposure, electric shock, fire and/or serious injury.

If glass light house breaks when dropped, contact customer service immediately. Broken glass can cause laceration hazard and unit to lose its IP rating.

DO NOT direct the laser beam at persons or animals and do not stare into the laser beam yourself. This tool produces laser class 2 laser radiation and complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007. This can lead to persons being blinded.

DO NOT remove or deface any warning or caution labels. Removing labels increases the risk of exposure to laser radiation.

Use of controls or adjustments or performance of procedures other than those specified in this manual, may result in hazardous radiation exposure.

ALWAYS make sure that any bystanders in the vicinity of use are made aware of the dangers of looking directly into the laser tool.

DO NOT place the laser tool in a position that may cause anyone to stare into the laser beam intentionally or unintentionally. Serious eye injury could result.

ALWAYS position the laser tool securely. Damage to the laser tool and/or serious injury to the user could result if the laser tool falls.

ALWAYS use only the accessories that are recommended by the manufacturer of your laser tool. Use of accessories that have been designed for use with other laser tools could result in serious injury or unsatisfactory performance.

DO NOT use this laser tool for any purpose other than those outlined in this manual. This could result in serious injury or unsatisfactory performance.

DO NOT leave the laser tool “ON” unattended in any operating mode.

DO NOT disassemble the laser tool. There are no user serviceable parts inside. Do not modify the product in any way. Modifying the laser tool may result in hazardous laser radiation exposure.
Work area safety

Keep work area clean and well lit. Cluttered or dark areas invite accidents.

DO NOT operate the laser tool around children or allow children to operate the laser tool. Serious eye injury could result.

DO NOT use instruments, attachments and accessories outdoors when lightening conditions are present.

Electrical safety

Batteries can explode or leak, cause injury or fire. To reduce this risk, always follow all instructions and warnings on the battery label and package.

Remove the batteries from the tool when not using it for extended periods. When storing for extended periods, the batteries can corrode and discharge themselves.

DO NOT short any battery terminals.

DO NOT charge alkaline batteries.

DO NOT mix old and new batteries.

Replace all old batteries at the same time with new batteries of the same brand and type.

DO NOT mix battery chemistries.

Dispose of or recycle batteries per local code.

DO NOT dispose of batteries in fire. Keep batteries out of reach of children.

Personal safety

Stay alert, watch what you are doing and use common sense when operating a tool. Do not use a tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating a tool may result in serious personal injury or incorrect measurement results.

Use safety equipment. Always wear eye protection. Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

DO NOT use the laser viewing glasses as safety goggles. The laser viewing glasses are used for improved visualization of the laser beam, but they do not protect against laser radiation.

DO NOT use the laser viewing glasses as sun glasses or in traffic. The laser viewing glasses do not afford complete UV protection and reduce color perception.

DO NOT use any optical tools such as, but not limited to, telescopes
or transits to view the laser beam. Serious eye injury could result.

**DO NOT** stare directly at the laser beam or project the laser beam directly into the eyes of others. Serious eye injury could result.

Use caution when using instruments in the vicinity of electrical hazards.

**Magnets**

Keep the tool and laser target away from cardiac pacemakers. The magnets of the tool and laser target plate generate a field that can impair the function of cardiac pacemakers.

Keep the tool and laser target away from magnetic data medium and magnetically-sensitive equipment.

The effect of the magnets of the tool and laser target plate can lead to irreversible data loss.

**Use and care**

Use the correct tool for your application. The correct tool will do the job better and safer.

Do not use the tool if the switch does not turn it on and off. Any tool that cannot be controlled with the switch is dangerous and must be repaired.

Store idle tool out of the reach of children and do not allow persons unfamiliar with the tool or these instructions to operate the tool. Tools are dangerous in the hands of untrained users.

Maintain tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the operation. If damaged, repair tool before use. Many accidents are caused by poorly maintained tools.

Use the tool, accessories, etc., in accordance with these instructions and in the manner intended for the particular type of tool, taking into account the working conditions and the work to be performed. Use of the tool for operations different from those intended could result in a hazardous situation.

SAVE THESE INSTRUCTIONS.

**INTENDED USE**

The instrument is intended for determining and checking precise horizontal and vertical (4200HV only) lines. The instrument is suitable for indoor and outdoor use.
FEATURES

The numbering of the product features shown refers to the illustration of the instrument on the graphic page.

1. Rotating Laser Beacon
2. Glass Lighthouse
3. Control Keypad
3a. On/Off button with Indicator
3b. Manual Mode Button with Indicator
3c. ADS button with Indicator
3d. Slope Adjustment Buttons
3e. Variable Rotation Speed Button
3f. Scanning Angle Button
3g. Counter-Clockwise Beam Positioning Button
3h. Clockwise Beam Positioning Button
4. Charger Port
5. 5/8-11 Tripod Mount, Down Plumb Beam (4200HV)
6. Carrying Handle
7. Reception Sensors for Remote Control
8. Window for Plumb Beam

TECHNICAL DATA

<table>
<thead>
<tr>
<th>Description</th>
<th>4200H</th>
<th>4200HV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy, Horizontal leveling</td>
<td>1/8-in at 100-ft (3mm at 30m)</td>
<td>1/8-in at 100-ft (3mm at 30m)</td>
</tr>
<tr>
<td>Accuracy, Vertical/Laydown</td>
<td>n/a</td>
<td>1/8-in at 100-ft (3mm at 30m)</td>
</tr>
<tr>
<td>Working Range (diameter)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- without Laser Detector, approx.</td>
<td>1600-ft (500m)</td>
<td>100-ft (30m)</td>
</tr>
<tr>
<td>- with Laser Detector, approx.</td>
<td></td>
<td>1600-ft (500m)</td>
</tr>
<tr>
<td>Rotational Speed</td>
<td>600 RPM</td>
<td>0, 60, 300, 600 RPM</td>
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<tr>
<td>Leveling Type (Degrees)</td>
<td>Electronic (±5°)</td>
<td>Electronic (±5°)</td>
</tr>
<tr>
<td>Beam Rating</td>
<td>Class 2M 650nm</td>
<td>Class 2M 650nm</td>
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</table>
## Description

<table>
<thead>
<tr>
<th>Description</th>
<th>4200H</th>
<th>4200HV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slope/Grade Capability</td>
<td>Dual (±10.00%)</td>
<td>Dual (±10.00%)</td>
</tr>
<tr>
<td>Power Supply</td>
<td>4-C Cell, NiMh</td>
<td>4-C Cell, NiMh</td>
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<td></td>
<td>Rechargeable Approx.</td>
<td>Rechargeable Approx.</td>
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<td></td>
<td>50hr. (Ni-MH); Approx.</td>
<td>50hr. (Ni-MH);</td>
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<tr>
<td></td>
<td>40hr (Alkaline)</td>
<td>Approx. 40hr (Alkaline)</td>
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<tr>
<td>Water/Dust Protection</td>
<td>IP55</td>
<td>IP55</td>
</tr>
<tr>
<td>Dimension</td>
<td>6.3 x 6.3 x 7.8-in</td>
<td>6.3 x 6.3 x 7.8-in</td>
</tr>
<tr>
<td></td>
<td>(160 x 160 x 198mm)</td>
<td>(160 x 160 x 198 mm)</td>
</tr>
<tr>
<td>Weight:</td>
<td>4.5 lb (2.0kg)</td>
<td>4.5 lb (2.0kg)</td>
</tr>
</tbody>
</table>

## PREPARATIONS

### Inserting/Replacing Battery

Rechargeable or alkaline battery packs are suitable for use to power your instrument.

**WARNING** Always replace all alkaline batteries at the same time. Only use batteries from one brand and with the identical capacity.

Remove the batteries/pack from the tool when not using it for extended periods. When storing for extended periods, the batteries can corrode and discharge themselves.

Un-screw the bolt at the bottom of instrument base. Remove the battery pack.

Use either alkaline battery or Ni-Mh battery pack. When inserting alkaline batteries, pay attention to the correct polarity according to the representation on the inside of the battery compartment. Always replace all batteries at the same time. Only use batteries from one brand and with the identical capacity.

When installing the battery pack onto base, be certain that electrode connection align properly. Secure by tighten the bolt onto the bottom of instrument base.

Remove the batteries from the tool when not using it for extended periods. When storing for extended periods, the batteries can corrode and discharge themselves.
Charging Rechargeable NiMh Battery Pack
Insert the charger into the outlet and the charging port of the instrument or the battery pack. The charger LED will display 1 of 3 modes:

1. Red flashing light - Battery NOT Charging. Check connections
2. Red light - Battery Charging Take up to 7 hrs to fully charge
3. Green light - Battery Fully Charged. Ready for Use

When using the standard rechargeable batteries of the instrument, recharging takes up to 8 hours (4 x 5000 mAh Ni-Mh batteries).

Power required for the charger: Frequency: 50-60HZ; Voltage: 85-265V.

Instrument can be used while charging rechargeable battery pack.
Brand-new rechargeable batteries or rechargeable batteries unused for long period need to be recharged and discharged three times to attain full capacity.

**OPERATION**

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**WARNING** Do not subject the instrument to extreme temperatures or variations in temperature. As an example, do not leave it in vehicles for long time. In case of large variations in temperature, allow the instrument to adjust to the ambient temperature before putting it into operation. In case of extreme temperatures or variations in temperature, the accuracy of the instrument can be impaired.

Avoid heavy impact to or falling down of the instrument. After severe exterior effects to the instrument, it is recommended to carry out an accuracy check each time before continuing to work.

**Setting Up the Instrument**
Position the instrument on a firm surface in the horizontal or vertical (4200HV) position, mount it to a tripod or to the wall mount with alignment unit. Due to the high leveling accuracy, the instrument reacts sensitively to ground vibrations and position changes. Therefore, pay attention that the position of the instrument is stable in order to avoid operational interruptions due to re-leveling.
Switching On and Off
Press the Power ON/OFF 3a keypad and allow the laser instrument to self-level. If the power indicator LED blinks, the voltage of the batteries is low and batteries need to be replaced or recharged.

The laser instrument can stand alone on a level, sturdy surface or preferably secured to a 5/8-11 tripod.

When the instrument is powered ON it will automatically self-level. After self-leveling, the laser instrument will begin operating in Rotation Mode at the speed of 600 RPM.

If the instrument is placed improperly, or the slope of instrument exceeds the range of +/-5°, the Power indicator LED and the laser beam will blink at the same time.

The instrument will shut down automatically if the unit exceeds the self-leveling system range for more then 5 minutes.

### OPERATION MODES

#### Variable Rotation Speed
(4200HV Only)

The Variable Rotation Speed Mode keypad 3e will give you the option of increasing or decreasing the speed of the rotating laser. Repeatedly pressing the keypad will adjust the speed from 600, 300, 150, and 0 RPM.

#### Scanning or Sweeping
(4200HV Only)

The Scanning Mode 3f creates a shorter, brighter laser “chalk line” that can be used for leveling or plumbing. This feature can also be used to keep the instrument from interfering with other lasers and detectors on site. Pressing the Scanning Mode keypad 3g, will lengthen or shorten the scan area of the laser beam.

While in Scanning Mode, the position of the scanning area can be adjusted. Press the Clock-Wise 3h and Counter-Clock-Wise 3g Beam Positioning keypads.

#### Slope/Grade Mode

When the instrument is set upright for horizontal rotation, the slope of the X-axis and Y-axis can be adjusted by using Manual Mode 3b. Press the Manual/Automatic keypad 3h, the instrument will enter into the mode of manual adjustment.
**Slope of X-axis**

Aim the X1-beam to the direction of the slope required. Press the slope adjustment buttons or to move the laser beam up or down until the beam slope is set at the desired position.

**Slope of Y-axis**

Aim the Y1-beam towards the direction of slope required. Press the slope adjustment buttons or to position the laser beam up or down until the beam slope is set at the desired position.

To return to automatic Self-Leveling Mode, press the Manual/Automatic keypad again. Allow time for the instrument to self-level.

**Smart H.I. Alert System (ADS)**

Enable to the ADS system to alert user when laser has been disturbed. Press the ADS button to activate. When the LED is blinking slowly, the laser is in H.I Alert mode. When the light is blinking quickly, the laser level will not level as it has been disturbed and needs reset.

**Vertical Laydown Positioning (4200HV Only)**

Place the laser instrument in the laydown position on a flat, level surface. Press the Power ON/OFF keypad. Allow the instrument to self-level.
The ambient temperature has the greatest influence. Especially temperature differences occurring from the ground upward can divert the laser beam. The deviations play a role in excess of approx. 65-ft (20m) measuring distance and can easily reach two to four times the deviation at 330-ft (100m). Because the largest difference in temperature layers is close to the ground, the instrument should always be mounted on a tripod when measuring distances exceeding 65-ft (20m). If possible, also set up the instrument in the center of the work area.

**Checking the Leveling Accuracy**

Apart from exterior influences, device-specific influences (such as heavy impact or falling down) can lead to deviations. Therefore, check the accuracy of the instrument each time before starting your work. A free measuring distance of 165-ft (50m) on a firm surface is required for the check. A reversal measurement must be carried out over both axes X and Y (each positive and negative; 4 complete measurements).

- Mount the instrument in the horizontal position onto a tripod or place it on a firm and level surface near wall. Switch the instrument on. Position the X-axis to aim to a wall or target plate.

- After the leveling, mark the center of the laser beam on wall (point H1).

- Rotate the instrument by 180°, allow it to level in and mark the center point of the laser beam on the wall (point H2).

- The difference D of both marked points H1 and H2 on wall is the actual deviation of the instrument for the measured axis.

The value of D (deviation) should be less than 5/16-in (8mm).
Repeat the measuring procedure for the Y-axis. Position the Y-axis to aim to a wall or target plate.

- After the leveling, mark the center of the laser beam on wall (point H1).
- Rotate the instrument by 180°, allow it to level in and mark the center point of the laser beam on the wall (point H2).
- The difference D of both marked points H1 and H2 on wall is the actual deviation of the instrument for the measured axis.

The value of D (deviation) in either axis should be less than 5/16-in (8mm).

If the instrument should exceed the maximum deviation in anyone of the measuring procedures, have it checked at a SitePro after-sales service agent.

Checking the Vertical Alignment (4200HV Only)

A free measuring distance of 100-ft (30m) on a firm surface between two walls or targets A and B is required for the check.

Place the laser instrument in the laydown position on a flat, level surface.

- Mount the instrument in the vertical position onto a tripod using mount accessory or place it on a firm and level surface near wall.
- Switch the instrument on. Position the up beam to aim at wall A or target plate.

- After the leveling, mark the center of the laser beam on wall A (point H1).
- Rotate the instrument by 180° (without changing the height),
allow it to level and mark the center point of the laser beam on wall B (point \( \text{H2} \)).

- Without turning the instrument, position it close to wall B by moving the tripod.

- After instrument levels, align the height of the instrument so that the center point of laser beam is exactly on point \( \text{H2} \) of wall B.

- Rotate the instrument by 180° (without changing the height), allow it to level and mark the center point of the laser beam on wall A (point \( \text{H3} \)).

- The mark of point \( \text{H3} \) should be marked in such a way that it is as vertical as possible (above or below) of point \( \text{H1} \).

The difference \( D \) of both marked points \( \text{H1} \) and \( \text{H3} \) on wall A is the actual deviation of the instrument for the measured axis.

The value of \( D \) (deviation) should be less than 3/16-in (4mm).

If the instrument should exceed the maximum deviation in anyone of the measuring procedures, have it checked at a SitePro after-sales service agent.
The 4200HV includes a remote control.

**WARNING** Have the remote control repaired only through a qualified repair person and only using identical replacement parts. This will ensure that the functionality of the remote control is maintained.

Do not operate the remote control in explosive atmospheres, such as in the presence of flammable liquids, gases or dusts. Sparks can be created in the remote control which may ignite the dust or fumes.

The remote control can be used up to a maximum of 100 feet (30m) away from the instrument.

The remote must be pointed towards the instrument for proper operation. All the features of the 4200HV can be controlled using the remote.

Requires 2 ‘AA’ Alkaline batteries.

**LD20 DETECTOR**

The detector aids in locating and targeting a visible or invisible beam emitted by a rotary laser instrument; perfect for use in outdoor conditions, where sunlight and distance may make locating the beam more difficult.

The laser detector includes a rod clamp which allows to mount the detector onto square, round or oval sighting rods.

**LD20 FEATURES**

The numbering of the product features shown refers to the illustration of the tool above.

1. On/Off switch
2. Center mark
3. LCD Display

3a. “Fine” adjustment indicator
3b. “Coarse” adjustment indicator
3c. Direction indicator “move downward”
3d. Center indicator
3e. Direction indicator “move upward”
**LD20 PREPARATIONS**

**Inserting/Replacing the Battery**

9V alkaline battery is recommended for the tool. Pull the latch of battery lid outward and open the battery lid.

When the batteries are low, the battery low indicator **g** will display.

Remove the battery when not using it for extended periods. When storing for extended periods, the battery can corrode and discharge.
LIMITED WARRANTY

Dave White’s SitePro ("Seller") warrants to the original purchaser only, that all David White laser tools and optical instruments will be free from defects in material or workmanship for a period of two (2) years from date of purchase.

SELLER’S SOLE OBLIGATION AND YOUR EXCLUSIVE REMEDY under this Limited Warranty and, to the extent permitted by law, any warranty or condition implied by law, shall be the repair or replacement of parts, without charge, which are defective in material or workmanship and which have not been misused, carelessly handled, or misrepaired by persons other than

MAINTENANCE AND SERVICE

Store and transport the tool only in the supplied protective case.
Keep the tool clean at all times.
Do not immerse the tool into water or other fluids.
Wipe off debris using a moist and soft cloth. Do not use any cleaning agents or solvents.
Regularly clean the surfaces at the exit opening of the laser in particular, and pay attention to any fluff of fibers.
If the tool should fail despite the care taken in manufacturing and testing procedures, repair should be carried out by an authorized after-sales service center for Dave White’s SitePro instruments.
In all correspondence and spare parts orders, please always include the model number and serial number of the instruments.

All precision instruments should be cleaned, lubricated, checked and adjusted ONLY at a qualified instrument repair station or by the manufacturer, at least once a year.
In case of repairs, send in the instrument packed in its protective case.

ENVIRONMENT PROTECTION

Recycle raw materials & batteries instead of disposing of waste. The unit, accessories, packaging & used batteries should be sorted for environmentally friendly recycling in accordance with the latest regulations.
Seller or Authorized Service Center. To make a claim under this Limited Warranty, you must return the complete laser, optical instrument or David White product, transportation prepaid, to SITEPRO Service Department or Authorized Service Center. Please include a dated proof of purchase with your tool. For locations of nearby service centers, please call 1-855-354-9881.

THIS LIMITED WARRANTY DOES NOT APPLY TO ACCESSORY ITEMS SUCH AS TRIPODS, RODS, HAND LEVELS, FIELD SUPPLIES, TAPES, MOUNTING DEVICES AND OTHER RELATED ITEMS. THESE ITEMS RECEIVE A 90 DAY LIMITED WARRANTY.

To make a claim under this Limited Warranty, you must return the complete product, transportation prepaid. For details to make a claim under this Limited Warranty please visit www.davidwhite.com or call 1-855-354-9881.

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IN NO EVENT SHALL SELLER BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING BUT NOT LIMITED TO LIABILITY FOR LOSS OF PROFITS) ARISING FROM THE SALE OR USE OF THIS PRODUCT. SOME STATES IN THE U.S., AND SOME CANADIAN PROVINCES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE IN THE U.S., OR PROVINCE TO PROVINCE IN CANADA AND FROM COUNTRY TO COUNTRY.

THIS LIMITED WARRANTY APPLIES ONLY TO PRODUCTS SOLD WITHIN THE UNITED STATES OF AMERICA, CANADA AND THE COMMONWEALTH OF PUERTO RICO. FOR WARRANTY COVERAGE WITHIN OTHER COUNTRIES, CONTACT YOUR LOCAL SITEPRO DEALER OR IMPORTER.

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