

# LASER DISTANCE METER 200 FT. (60m)

#### **USER'S MANUAL**





Please read this manual carefully and thoroughly before using this product.

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# INTRODUCTION

Thank you for purchasing General Tools & Instruments' (General's) LDM60 Laser Distance Meter-200 ft. (60m). Please read this user's manual carefully and thoroughly before using the instrument.

The LDM60 is designed to replace a tape measure for professionals such as builders, architects, engineers, surveyors, carpenters, plumbers, painters, electricians, realtors, home inspectors, HVAC system designers and installers, and carpet/flooring installers and salesmen. The meter works by projecting a red laser beam on a target and measuring how long it takes the reflected beam to return to the meter. This time is proportional to the distance to the target. The LDM60's range of approximately 200 ft. (60m) makes it suitable for most indoor measuring tasks and many outdoor jobs as well.

Why is the LDM60 better than a tape measure?

• It's faster. It takes much less time to hold the meter against a wall, aim at the opposite wall and press the measurement button than to secure one end of a tape measure, walk the other end to the far wall, write down the reading and retract the tape. The longer the distance to be measured, the more time saved. That's true for small rooms, and even more so for larger spaces. The more crowded the area to be measured— whether with furniture, equipment or trees—the greater the time savings. The average measuring job can be completed in about 1/3 the time needed to use a tape measure. In addition to this time savings, there's also a savings in labor costs; many jobs that require two people holding the ends of a tape measure can be done with one person holding a laser distance meter.

- It's more accurate. Thanks to precision optics, laser devices like the LDM60 can measure the distance between any two points with  $\pm 1/16$  in. ( $\pm 1.5$ mm) accuracy. It's impossible to get that level of precision from a tape measure that is prone to bending and sagging. What's more, it's much easier to read the LDM60's digital display, which can be held at eye level, than to read a tape measure that needs to be held in a measuring position that makes reading tiny hash marks difficult. In addition, like most laser distance meters the LDM60 lets the user choose his measurement unit. This eliminates the need to convert measurements from one unit to another, a common source of measurement error. Finally, the LDM60 automatically memorizes the last 20 measurements it makes. This eliminates the need to write down readings as you make them, another convenience.
- It's smarter. The LDM60 has some front-panel buttons that you won't find on any tape measure. Push the Area/Volume button once, and the meter prompts you to make the length and width measurements needed to calculate the size of an area—and then does the math for you. Push the button twice, and the meter prompts you to make height, length and width measurements—and then multiplies the three values to calculate the volume of interest. High-end laser distance meters' ability to calculate areas and volumes has made them favorites with carpet/flooring and HVAC professionals, respectively.
- It's more versatile. Another button on the front panel of the LDM60 makes it possible to make measurements that no tape measure can make. This button activates Indirect Measurement mode. In this mode the meter uses Pythagorean geometry to measure a distance based on its relationship to other distances around it. In practical terms, what this means

is that the LDM60 can use triangulation to measure the height of a tree or a building without anyone needing to climb it, or the width of a river without anyone needing to cross it.

• It's safer. Because the LDM60 can measure distance from a distance, it takes the risk out of routine but tricky tasks. It's no longer necessary to stand on a stepladder and reach to measure the height of a ceiling, or to climb a steep and slippery incline to gauge the length of a pipe run.

The LDM60 has a 4-line backlit liquid-crystal display measuring 1 (W) x 1.44 (H) in. The meter comes in a box along with two "AAA" batteries, a soft carrying case with a belt loop (holster), a small Phillips-head screwdriver and this user's manual.

# **KEY FEATURES**

- 196.7 ft. (60m) range Accuracy of ±1/16 in. (±1.5mm)
- Displays distances in feet + fractional inches (default), feet with decimal fraction, inches or meters
- Calculates areas and volumes
- Uses triangulation to calculate height or length from a distance
- Backlit 4-line LCD
- Addition, subtraction, and continuous measurement (tracking) modes ideal for layout work
- Fast response time
- Stores/recalls 20 measurements/calculations
- References measurements from meter's front or rear edge
- · Auto power off, auto laser off and auto backlight off
- Splashproof and dustproof to IP54 standard
- · Pocket-sized and lightweight
- Powered by two "AAA" Alkaline batteries

# WHAT'S IN THE BOX

The LDM60 comes in a box along with:

- A holster (soft pouch with a belt loop)
- Two "AAA" Alkaline batteries
- A small Phillips-head screwdriver for opening the battery compartment
- This user's manual

# PRODUCT OVERVIEW

Fig. 1 shows all of the controls on the meter's front panel. Fig. 2 shows all possible display icons and indications. Familiarize yourself with the positions and functions of these controls and indicators before moving on to the safety, setup and operating instructions.

## Fig. 1. The LDM60's front-panel controls

- 1. Measurement button (activates laser)
- 2. Enters Area/Volume Measurement mode
- 3. Enters Indirect Distance Measurement mode
- 4. Enters Continuous Distance Measurement (Tracking) mode
- 5. Adds next measurement to previous one
- 6. Subtracts next measurement from previous one
- 7. Enters Memory Recall mode
- 8. Toggles measurement reference between meter's front and rear



Fig. 1

 9. Dual function button: Chooses any of four distance units Turns display backlight on and off
10. Triple function button: Powers meters off Clears last measurement or cancels last action Clears (resets to zero) stored measurement/calculation values one at a time, starting with the oldest value

### Fig. 2. The LDM60's display indications and icons

- 1. Measurements referenced from front edge of meter
- 2. Flashes when laser is on
- 3. Measurements referenced from rear edge of meter
- 4. Operating in Direct or Continuous Measurement Mode
- 5. Operating error indication
- 6-10. Measurement type indicator
  - Distance (direct)
  - Distance (indirect—triangulation with two inputs)
  - Distance (indirect—triangulation with three inputs)
  - 🗆 Area
  - C Volume
  - 11. Battery status
  - 12. No. of stored value displayed
  - 13. Top display line
  - 14. Value displayed on second line is a minimum
  - 15. Second display line
  - 16. Value displayed on third line is a maximum
  - 17. Third display line
  - 18. Bottom (summary) display line (shows last measurement or calculation result)



Fig. 2

## SAFETY INSTRUCTIONS CAUTION!

The meter's targeting laser is a Class 2M type that emits less than 1 mW of radiation at 660 nanometers.

Avoid direct eye contact with the laser, and do not point it at people or animals. Eye protection is normally afforded by the blink reflex. U.S. law prohibits pointing a laser beam at aircraft; doing so is punishable by a fine of up to \$10,000 and imprisonment.

# SETUP INSTRUCTIONS

## INSTALL BATTERIES

The LDM60 is ready to use after you install the two supplied "AAA" batteries in a compartment in the back of the meter. To open the compartment, use the small supplied Phillips-head screwdriver to loosen the single screw holding the battery compartment cover in place. Remove the cover and set it aside. Position the batteries so their polarity marks match the diagram inside the compartment. Replace the cover and tighten the screw to secure it.

# **OPERATING INSTRUCTIONS**

## POWERING ON AND OFF

**To turn the meter on**, press and release the A button. This activates the display and the laser. It also sounds a short beep, causes the laser icon (Callout 2 of Fig. 2) to flash, and places the meter in direct distance measurement mode.

While the meter is powered on, any push of any button produces a beep to confirm that some action has taken place (a measurement was made, an operating mode or measurement unit was changed, etc.). The only actions that are not accompanied by a beep are the laser timing out (after 30 seconds of inactivity) for safety reasons and the backlight timing out (after 1 minute of inactivity) to conserve battery charge. The beeper also sounds when the meter automatically powers off after 3 minutes of inactivity. The beeper cannot be disabled.

To turn the meter off manually, press and hold the  $\mathfrak{B}$  button. The instrument will respond with a long beep as it powers off.

## QUICK START INSTRUCTIONS

### To make a quick distance measurement:

- 1. Power the meter on.
- 2. Within 30 seconds, point the top of the meter at a target and press the ALL S button. The distance to the target—in the default measurement unit of feet + fractional inches—will be displayed on the bottom line of the display.

To temporarily change the distance measurement unit, follow the instructions on p. 13.

If the laser has timed out (i.e., it has been on for more than 30 seconds), or if you have just made a measurement, you will not see a red dot on the target and there will be no flashing icon (Callout 2 of Fig. 2) on the display. **To make a distance measurement with the laser off, you must press the** A MEAS **button** *twice*—once to activate the laser and once to make the measurement. See pp. 27 and 28 for additional operating tips.

## CHOOSING A MEASUREMENT REFERENCE

The LDM60 can reference its measurements from the front edge of the meter or the rear edge.

For most distance measurements, choosing the rear edge as the reference produces more-accurate readings. Doing so allows you to hold the bottom of the meter horizontally against one wall of a room, or vertically against the floor, and send the laser beam out the top of the unit toward the opposite wall or the ceiling. However, for continuous distance (tracking) measurements (see p. 15), using the front of the meter as the reference produces more-accurate readings. In tracking mode, you typically walk the meter back from a wall to a distance specified on a blueprint. In this case, what you want to measure is the distance to the wall from the top of the meter.

The *i* button on the front panel lets you select the front or the rear edge of the meter as the measurement reference. The two small icons shown in Fig. 3 are the corresponding display indications.

When the meter is powered off and on again, the measurement reference automatically resets to the default: the rear of the meter.

Fig. 3. Referencing measurements from the rear (left) and front (right) of the meter



#### CLEARING THE DISPLAY/CANCELLING AN ACTION

When pressed briefly, the triple-function 😚 button:

- 1. Works like the "Clear Entry" button on a calculator to clear the last value entered in a calculation sequence
- 2. Works like the "Undo" command on a computer menu to cancel the last action selected
- 3. Works like a "Reset" button to "zero-out" individual measurement/calculation values stored in memory (see pp. 24 and 25) in chronological order, oldest first

## CHANGING THE MEASUREMENT UNIT

The LDM60's default distance measurement unit is feet + fractional inches, expressed as X'Y". The default area measurement unit is square feet, expressed as ft<sup>2</sup>. The default volume measurement unit is cubic feet, expressed as ft<sup>3</sup>.

To temporarily change the distance measurement unit, press and hold the  $J_{\rm hit}^{*}$  button as many times as necessary until the desired unit appears at lower right. The options, in order, are: meters (m), feet (ft, expressed as a whole number plus a decimal fraction), inches (in) and ft + in (expressed as X'Y", where X is a whole number and Y is a whole number plus a common fraction). When the meter is powered off and on again, the distance measurement unit automatically resets to the default: feet + fractional inches.

## TURNING THE BACKLIGHT ON AND OFF

**To turn the display backlight on**, press the unter button briefly. The backlight will remain on for 1 minute and then automatically turn off (without sounding a beep) to conserve battery charge. To turn the backlight off, press the unter button briefly again. The default state is backlight off.

## MEASURING DISTANCES

#### **Direct Measurements**

#### To measure the distance to a target:

- 1. Power on the meter and select a measurement unit, an appropriate measurement reference (in most cases, the rear of the meter) and an appropriate backlight state (on for indoor work, off for outdoor work).
- 2. If the laser icon (Callout 2 of Fig. 2) is *not* flashing and the laser pointer is *not* visible, press the  $A_{\text{EAS}}$  button to activate the laser. Doing so will sound a short beep, cause the laser icon to flash, and place the meter in direct distance measurement mode.
- 3. After checking that the laser is on, aim it at a target and press the AB button. The distance to the target—in the default distance unit of feet + fractional inches—will be displayed on the bottom line of the display. The laser will flash quickly three times, a short beep will sound, and the distance to the target—in the default distance unit of feet + fractional inches—will appear on the bottom line of the display in the selected measurement unit.

To temporarily change the distance measurement unit, follow the instructions on p. 13. Figure 4 is a screen shot of a measurement of 5 feet, 1 and 15/16 inches.

#### Fig. 4. A direct distance measurement of 5 feet, 1 and 15/16 inches

In direct distance measurement mode, you can display up to four consecutive measurements in the order in which they were made. Fig. 5 is a screen shot which shows the values of four direct distance measurements made in top-to-bottom order.

#### Fig. 5. Four direct distance measurements made in order from top to bottom

### *Continuous Distance Measurement (Distance Tracking)*

This operating mode is ideal for transferring measurements from construction plans or blueprints. In practice.

you walk the meter back from a wall a specified distance while the meter tracks its own position by measuring the distance to the wall twice per second. As you make these dynamic measurements and you close in on the specified distance, the meter takes note of the closest and farthest you have been from the wall and displays these minimum and maximum distances along with the final distance.

Before entering continuous distance measurement mode, be sure to temporarily change the measurement reference from the rear of the meter to the front (see p. 12). Next, hold the meter horizontally with its top against the wall shown on a plan. Then, after making sure that the laser is on, press the Line button and back away from the wall while continuing to point the laser at





the wall. The  $\mapsto$  i icon will appear on the display and the meter will sound two beeps and begin to measure the distance from the meter to the wall twice per second. Each measurement will cause the beeper to sound, and the measurements will be shown and continuously updated on the bottom line of the display. At the same time, the second and third display lines continuously update the meter's minimum and maximum distance from the wall during this measurement session.

When you and the meter stop moving, the meter assumes that the specified distance has been reached and responds by sounding multiple beeps. The inactivity triggers the 30-second countdown to laser power off and the 3-minute countdown to meter power off. The meter's MIN, MAX and current distance from the wall values remain on the display (Fig. 6) until the meter automatically powers off automatically.

#### Fig. 6. The results of using continuous measurement to step off a specified distance (10m) from a wall

To exit continuous distance measurement mode, press the  $A_{\text{meas}}$  button. This returns the meter to direct distance measurement mode.



### Adding and Subtracting Distances

The LDM60 has two front-panel buttons that make it easy to add or subtract a distance measurement from an existing measurement, in effect turning the earlier measurement into a baseline. This addition/subtraction function comes in handy when accumulating multiple distance measurements.

For example, consider how the meter could speed up the measurements involved in laying out a long brick wall of multiple sections that are not in a straight line. Once stakes, strings and frame are in place, the LDM60 could accurately measure the length of each section by shooting from one stake to the next. The meter would also keep a running total of these measurements and display the final result—the wall's perimeter—on its bottom line.

**To add a measurement** to an existing measurement displayed on the bottom line, press the + button. The earlier measurement will be moved from the bottom line to the second line and a flashing + icon will appear at the left of five dashes (representing the distance value to be added) on the third line. Then press the  $\stackrel{\wedge}{_{\rm MEAS}}$  button while aiming the laser *at the point from which the first measurement was made*. The meter will measure the distance to that point, replace the dashes on the third line with that value, and display the sum of the two measurements on the bottom line (Fig. 7).

#### Fig. 7. A display showing the addition of a 16.325 ft. measurement to a measurement of 2.090 feet

**To subtract a measurement** from an existing measurement displayed on the bottom line, press the **—** button. The

earlier measurement will be moved from the bottom line to the second line and a flashing — icon will appear at the left of five dashes (representing the distance value to be subtracted) on the third line. Then press the  $A_{MEAS}$  button while aiming the laser at the point from which the first measurement was made. The meter will measure the distance to that point, replace the dashes on the third line with that value, and display the difference of the two measurements on the bottom line.

#### Indirect Measurements of Height or Length using Triangulation

The LDM60 can use triangulation (one type of indirect measurement based on Pythagorean geometry) to calculate the height or length of an object from a distance. The meter can perform two kinds of calculations:

• **Triangulation with two inputs.** This kind of distance measurement can be made only for distances that present you with a right angle. A good example is measuring the height of a building from across the street at ground level (Fig. 8). Because the meter and the bottom of the building are both at ground level, the side of the building (whose height "A" is unknown) forms one leg of a right triangle whose other leg is the distance across the street ("B" in the figure). In other words, you can triangulate the height "A" using only two inputs because "A" is



perpendicular to "B"—one of the distances you can measure. The meter can measure "B" as well as the distance to the top of the building ("C" in the figure), which is the hypotenuse of the right triangle. Once the meter has determined the values of "B" and "C", it calculates the value of "A" according to Pythagoras' famous equation:  $A^2 + B^2 = C^2$ .



Fig. 8. Triangulating a height using two inputs

• Triangulation with three inputs. This kind of distance measurement can be made for distances that do not present you with a right angle. A good example is measuring the height of a building from another building across the street through an open fourth-floor window (Fig. 9). Because the meter and the bottom of the target building are not both at ground level, you must measure one common leg "B1/B2" (which is perpendicular to the wall of the building) and the hypotenuses of two right triangles "C1" and "C2". Once these two values are known, the meter can solve two Pythagorean equations for the missing values of the other two legs ("A1" and "A2"). The final calculation, which solves for A—the height of the building—is A = A1 +A2.



# Fig. 9. Triangulating a height using three inputs

# To measure the height of an object using triangulation with two inputs:

- 1. First make sure that the line of sight from the meter to the bottom of the object forms a right angle.
- 2. Use the i button to choose the front edge of the meter as the measurement reference. Also make sure the laser is on.
- 3. Press the button once. A ≪ icon will appear on the left side of the display with the hypotenuse flashing.
- 4. Aim the laser at the top of the object and press the ▲ MEAS button. The distance measured (the hypotenuse) will appear on the second line of the display and the horizontal leg of the on-screen triangle will begin flashing.
- 5. *Without moving the meter*, and keeping it as horizontal as possible, aim the laser at the bottom of the object and press the ALA button. The distance measured will appear on the third line of the display and the height of the object will appear on the bottom (summary) line. The final display will look similar to Fig. 10.



Fig. 10. A two-input indirect measurement of the height of a tree standing 4.990 meters tall

# To measure the height of an object using triangulation with three inputs:

- 1. Use the i button to choose the front edge of the meter as the measurement reference. Also make sure the laser is on.
- 2. Press the ≪ button twice. A ≪ icon will appear on the left side of the display with the upper hypotenuse flashing.
- **3.** Aim the laser at the top of the object and press the American button. The distance measured will appear on the top line of the display and the horizontal line bisecting the on-screen triangle will begin flashing.
- **4.** *Without moving the meter* and keeping it as horizontal as possible, aim the laser directly at the object and press the button. The distance measured will appear on the second line of the display, the horizontal line will stop flashing, and the lower hypotenuse will begin flashing.
- **5.** Without moving the meter, aim the laser at the bottom of the object and press the AEAS button. The distance measured will appear on the third line of the display and the height of the object will appear on the bottom (summary) line. The final display will look similar to Fig. 11.

Fig. 11. A three-input indirect measurement of the height of a wall standing 14.27 ft. tall



## MEASURING AREAS

The LDM60 can calculate the area of a square or rectangular room or space by measuring its length and width and multiplying the two values.

#### To measure an area:

- 1. Make sure the meter is using its rear edge as the measurement reference and that the laser is on.
- 2. Press the e button once. A icon will appear on the left side of the display with its top line flashing.
- 3. Holding the rear of the meter against one wall of the room or space, aim the laser pointer at the opposite wall and press the ▲ MEAS button. The distance measured will appear on the second line of the display, the top line of the rectangle will stop flashing, and the right side of the rectangle will begin flashing.
- 4. Move the meter to an adjacent wall of the room or space and hold its rear against that wall. Aim the laser at the opposite wall and press the ADD and the distance measured will appear on the third line of the display and the area of the room or space—in "square" units—will appear on the bottom line. The final display will look similar to Fig. 12.

Fig. 12. Calculation of the area of a room measuring 16 feet, 3 and 13/16 inches by 9 feet, 6 and 1/2 inches



## MEASURING VOLUMES

The LDM60 can calculate the volume of a square or rectangular room or space by measuring its height, depth and width and multiplying the three values.

#### To measure a volume:

- 1. Make sure the meter is using its rear edge as the measurement reference and that the laser is on.
- 2. Press the **•** button twice. A **•** icon will appear on the left side of the display with its right front vertical leg flashing.
- 3. Holding the rear of the meter against the floor of the room or space, aim the laser pointer at the ceiling and press the  $\mathbb{A}_{\text{MEAS}}^{\Delta}$  button. The distance measured will appear on the top line of the display, the right front vertical leg of the cube will stop flashing, and the top right "depth" leg of the cube will begin flashing.
- 4. Move the meter to one wall of the room or space and hold its rear against that wall. Aim the laser pointer at the opposite wall and press the ▲ button. The distance measured will appear on the second line of the display, the top right "depth" leg of the cube will stop flashing, and the top front horizontal leg of the cube will begin flashing.

5. Move the meter to an adjacent wall of the room or space and hold its rear against that wall. Aim the laser at the opposite wall and press the A button. The distance measured will appear on the third line of the display and the volume of the room or space—in "cubic" units—will appear on the bottom line. The final display will look similar to Fig.13.



#### RECALLING AND CLEARING STORED MEASUREMENTS/CALCULATIONS

The LDM60 automatically stores its last 20 measurements or calculations and retains them in memory after being powered off. The records also are unaffected by a battery discharge or battery change. Once the memory is full, the next measurement or calculation overwrites the oldest record in a first in-first out (FIFO) scheme. Record #1 is the most recent measurement or calculation, and Record #20 is the oldest. The records are recalled sequentially, using the front-panel + and — buttons.

**To recall a record**, press the button. The value of the first (most recent) measurement or calculation will appear on the bottom line, and a "1" will appear over the icon near the top of the display, below the battery icon. Use the + and — buttons to navigate to the desired record number (Fig. 14). Tip: Pressing the — button when Record #1 is displayed recalls Record #20.



You must clear stored records one by one. **To clear an individual record** (reset it to 0.000), display it and press the S<sup>th</sup> button. **To clear all records,** set the record number to "1" and press the S<sup>th</sup> button as many times as the number of records stored (up to 20 times).

#### SPECIFICATIONS 0.33 to 197 ft. (0.1 to 60m) Measurement Range (indoor) Measurement Accuracy $\pm 1/16$ in. ( $\pm 1.5$ mm) Resolution 1mm **Display Unit Options** feet + fractional inches (default), inches. feet + decimal inches, meters **Response Time** 2 seconds, max Laser Type, Wavelength, Power Class 2M II, 635nm, < 1mW Operating Modes Direct Distance Measurement. Distance Addition/Subtraction. Continuous Distance Measurement (Distance Tracking), Indirect Distance Measurement (Triangulation) with 2 or 3 inputs, Area Measurement, Volume Measurement Display 4-line backlit LCD measuring 1 (W) x 1.44 (H) in. Memory 20 measurements Splashproof and Dustproof To IP54 standard Auto Power Off After 3 minutes of inactivity Auto Laser Off After 30 seconds of inactivity Auto Backlight Off After 1 minute of inactivity 3000 measurements, typical Battery Life **Operating Temperature** 32° to 104°F (0° to 40°C) -14° to 158°F (-25° to 70°C) Storage Temperature @ <85% R.H. Power Source 2 "AAA" batteries Dimensions 4.3 x 1.9 x 1.1 in. (110 x 48 x 28mm) Weight 3 oz. (84q) without batteries or holster, 3.6 oz. (102g) with batteries

& holster

# **OPERATING & MAINTENANCE TIPS**

Because the laser silently auto powers off after 30 seconds of inactivity while the meter remains powered on, you'll often find that when you press the  $A_{MEAS}$  button expecting to make a measurement, all you have done is reactivate the laser. In this case, you have to press the button a second time to take a reading. To minimize the number of times this happens, learn to distinguish the slightly different beeps that accompany making a measurement and activating the laser. Compared to the measurement beep, the laser activation beep has a slightly lower frequency (tone).

When measuring horizontal distances, keep the meter as horizontal as possible.

When measuring long distances, use a target plate made of white paper or cardboard. Using a monopod or resting the meter on a surface (rather than holding it in your hand) helps to steady the laser on distant targets.

The meter will almost always register an "Info 204" error if the target is an LCD or plasma computer or TV screen. The calculation error results because the display absorbs the incoming beam and reflects nothing back to the meter.

The following errors can be corrected:

Code	Cause	<b>Corrective Measures</b>
Info 204	Calculation error	Repeat the
		measurement(s)
Info 208/252	Temperature too high	Cool down the meter
Info 220	Low battery	Change batteries
Info 253	Temperature too low	Warm up the meter
Info 255	Received signal too weak/	Use white target plate
	Measurement time too long	
Info 256	Received signal too strong	Use target plate
	(target too reflective)	
Error	Hardware/uncertainty error	Power the meter
		off and on

Replace the batteries when the on-screen battery icon prover stops flashing.

Use Alkaline batteries only.

To avoid ruining the meter, remove the batteries when you do not expect to use the meter for a long period of time (several months).

Clean the meter with wiping it with a damp soft cloth. Never use solvents or abrasives.

Keep the meter away from water, toxic environments and temperature extremes.

# WARRANTY INFORMATION

General Tools & Instruments' (General's) LDM60 Laser Distance Meter 200 ft. (60m) is warranted to the original purchaser to be free from defects in material and workmanship for a period of three years. Subject to certain restrictions, General will repair or replace this product if, after examination, the company determines it to be defective in material or workmanship.

This warranty does not apply to damages that General determines to be from an attempted repair by non-authorized personnel or misuse, alterations, normal wear and tear, or accidental damage. The defective unit must be returned to General Tools & Instruments or to a General-authorized service center, freight prepaid and insured.

Acceptance of the exclusive repair and replacement remedies described herein is a condition of the contract for purchase of this product. In no event shall General be liable for any incidental, special, consequential or punitive damages, or for any cost, attorneys' fees, expenses, or losses alleged to be a consequence of any damage due to failure of, or defect in any product including, but not limited to, any claims for loss of profits.

# **RETURN FOR REPAIR POLICY**

Every effort has been made to provide you with a reliable product of superior quality. However, in the event your instrument requires repair, please contact our Customer Service to obtain an RGA (Return Goods Authorization) number before forwarding the unit via prepaid freight to the attention of our Service Center at this address:

> General Tools & Instruments 80 White Street New York, NY 10013 212-431-6100

#### **NOTES**




# Specialty Tools & Instruments

#### GENERAL TOOLS & INSTRUMENTS 80 White Street, New York, NY 10013-3567 PHONE (212) 431-6100 FAX (212) 431-6499 TOLL FREE (800) 697-8665 e-mail: sales@generaltools.com www.generaltools.com

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