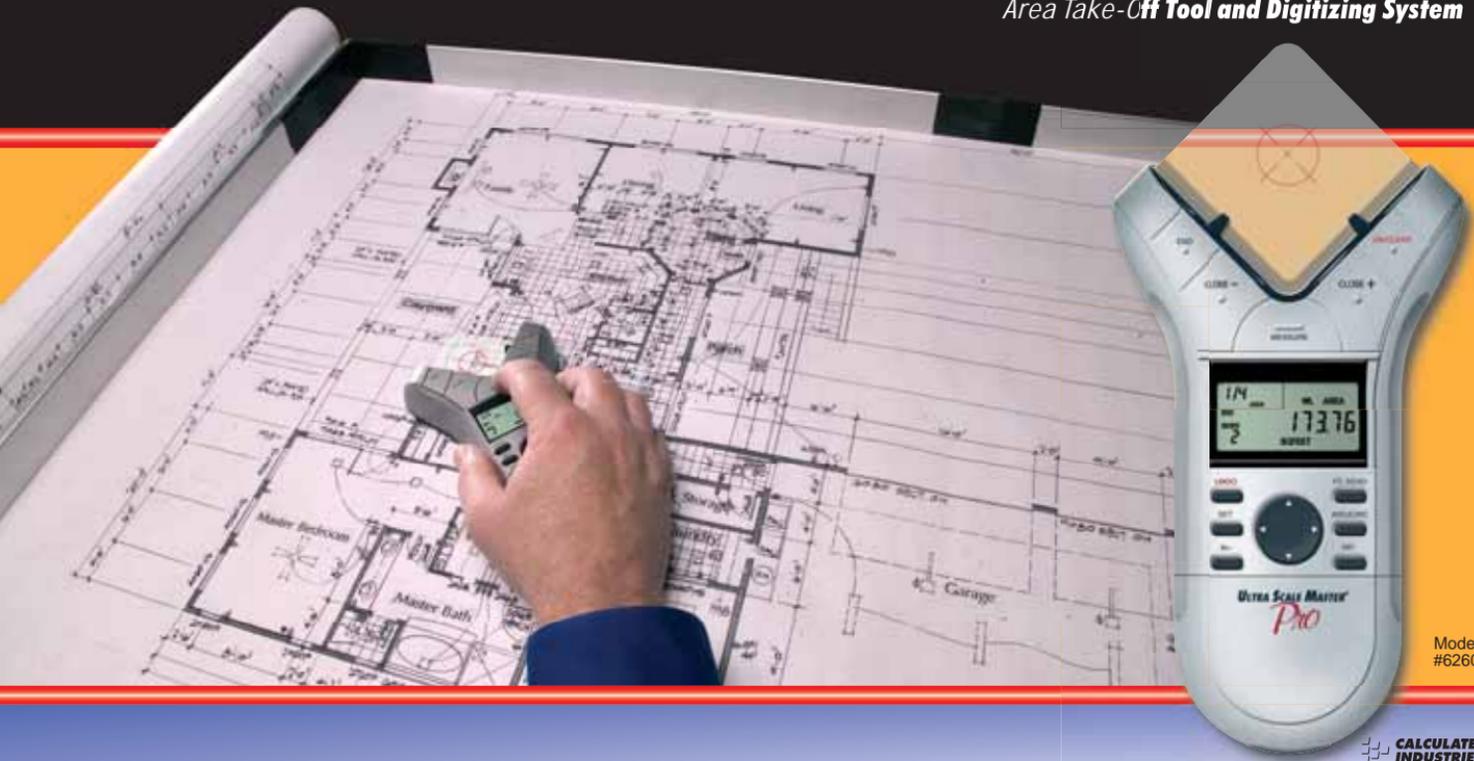


USER'S GUIDE **ULTRA SCALE MASTER[®] Pro**

Area Take-Off Tool and Digitizing System



Model
#6260

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INTRODUCTION

The **Ultra Scale Master Pro** has been specifically designed for residential and light commercial builders and contractors requiring area and volume take-offs. Use it for estimating project materials and costs, for measuring, storing and calculating perimeters, areas, and volumes from architectural plans and other types of scaled drawings. Use the **Ultra Scale Master Pro** to calculate the area and volume of irregular shapes; it can also be used as a digitizer. A PC interface is included to enable data and measurements to be sent to PC applications. The **Ultra Scale Master Pro** may be used with or without a PC.



SETUP

PACKAGE CONTENTS

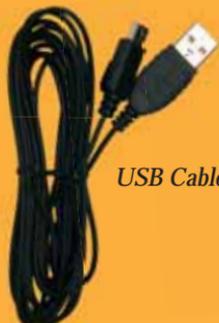
Your package contains the following pieces:



Four "AAA" batteries
(already installed)



Female End Cap



USB Cable

Corner Connector

Long Reflector Bar

Ultra Scale Master Pro
model 6260 (Puck)



Long Reflector Bar



*User's Guide,
Quick Reference Guide,
and Quick Setup Sheet*

Short Reflector Bar

Male End Cap



Carrying Case

RIGHT-HAND ASSEMBLY

Assemble the reflector bars as shown. Align the corner connector at a 90° angle at the top left corner of the plans.

NOTE: Sloping side of the Reflector Bars face outward.

2 Insert the male end of the second Long Reflector Bar into the female end of the Corner Connector.

1 Insert the male end of the Corner Connector into the female end of the first Long Reflector Bar.

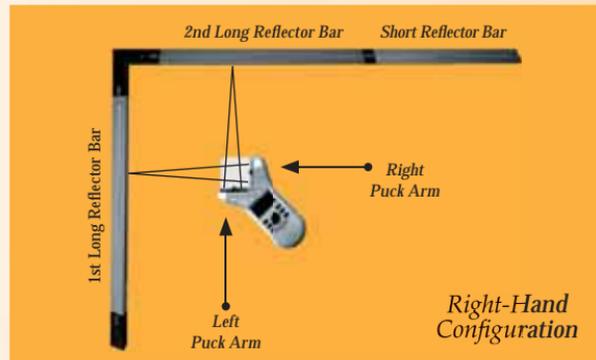
5 Slide Female End Cap onto the male end of the first Long Reflector Bar. The Female End Cap is preinstalled for a Right-Hand configuration.



NOTE: Sloping side of the Reflector Bars face outward.

3 *Insert the male end of the Short Reflector Bar into the female end of the second Long Reflector Bar.*

4 *Insert the Male End Cap into the female end of the Short Reflector Bar. The Male End Cap is preinstalled for a Right-Hand configuration.*



FINAL ASSEMBLY

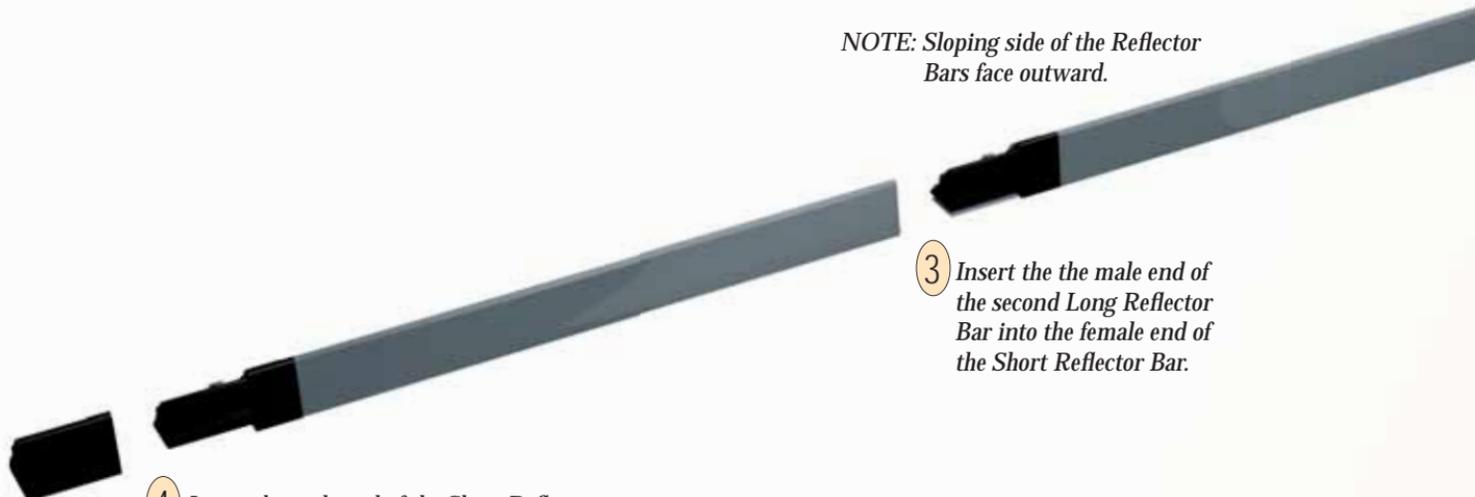
The ultrasonic beams are sent from the left arm of the Puck to the top bar, then reflected back, and from the right arm of the Puck to the side bar, then reflected back as shown above.

The Puck can be moved to any point within the bars as long as the left arm remains parallel to the top bar and the right arm remains parallel to the side bar as shown above.

LEFT-HAND ASSEMBLY

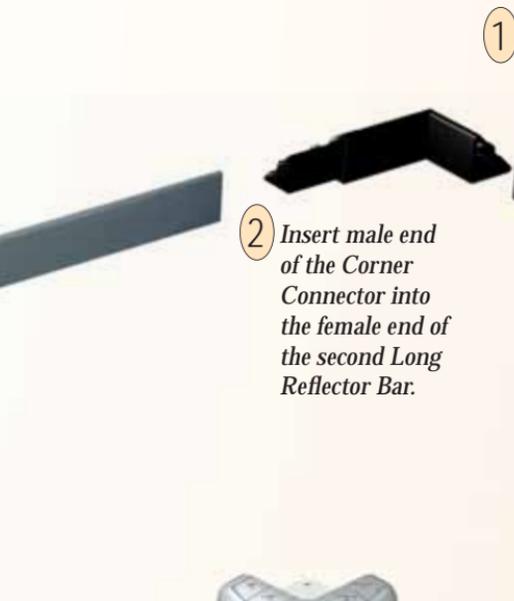
Assemble the reflector bars as shown. Align the corner connector at a 90° angle at the top right corner of the plans.

NOTE: Sloping side of the Reflector Bars face outward.



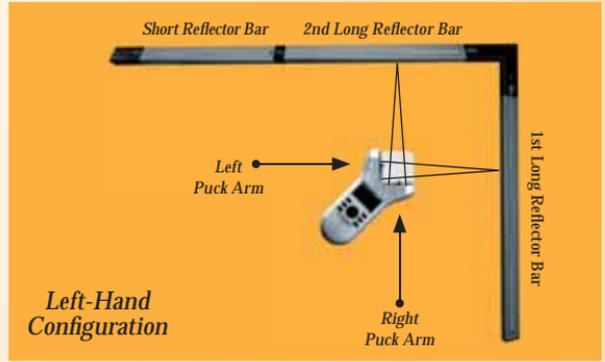
4 *Insert the male end of the Short Reflector Bar into the Female Bar End Cap.*

3 *Insert the the male end of the second Long Reflector Bar into the female end of the Short Reflector Bar.*



1 Insert the male end of the first Long Reflector Bar into the female end of the Corner Connector.

2 Insert male end of the Corner Connector into the female end of the second Long Reflector Bar.



5 Insert the Male Bar End Cap into the female end of the first Long Reflector Bar.

FINAL ASSEMBLY

The ultrasonic beams are sent from the right arm of the Puck to the top bar, then reflected back, and from the left arm of the Puck to the side bar, then reflected back as shown above.

The Puck can be moved to any point within the bars as long as the right arm remains parallel to the top bar and the left arm remains parallel to the side bar as shown above.

GETTING STARTED

Once assembly and setup are complete, proceed with the following steps in order to begin measuring.

1. When placing the bars and securing the drawing, make sure that the bars are at least 1" from the outermost measurements.
2. It is essential that the bars remain fixed relative to the drawing's position. Scribe a line to mark the initial location of the bars as a reference point should the bars shift.
3. The Puck should maintain a 45° angle within the bars while measuring.
4. Ensure that the measuring surface is flat and smooth. Make sure there are no folds, tears, or raised areas of the plans.
5. Make sure there are no objects between the Puck and the bars. This includes hands, arms, pencils or pens, USB cable, cups, scale rulers, etc.
6. Make sure that no air current is blowing directly into the measuring area. Air blowing into the measuring path can result in no measurement reading.
7. To get accurate measurements, make sure that the Puck and the bars are close to the ambient temperature of the work environment.



Right-Hand Configuration Shown



KEY DEFINITIONS

MEASURING KEYS

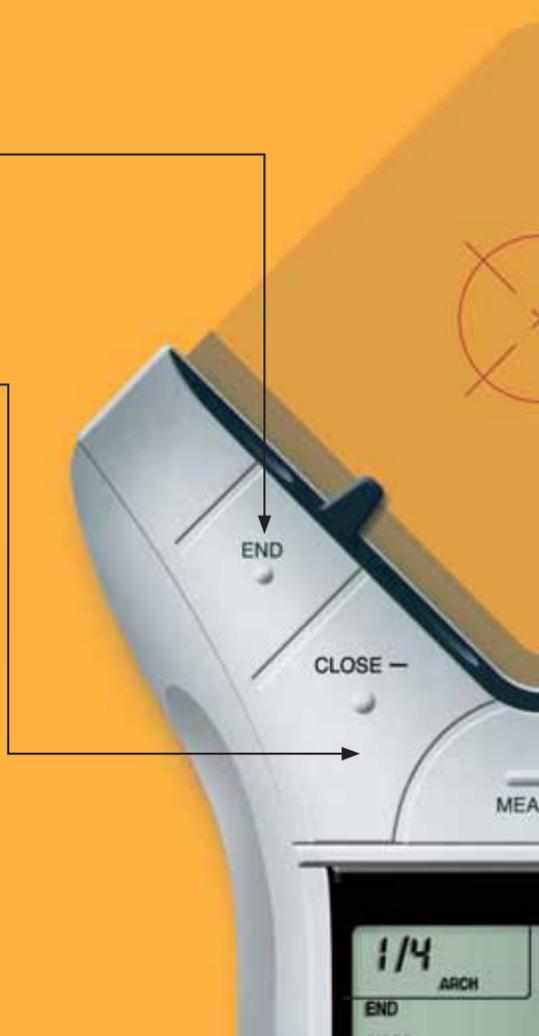
The keys shown are used for taking measurements on the blueprint and operating the display (D-Pad key).

[END] •

Ends polyline measurement, displaying the total perimeter. Also ends the 2-Point Circle measurement when measuring a diameter, displaying the circumference (perimeter).

[CLOSE —] •

Completes the Polygon or a 2-Point Circle and displays the calculated area. Results are identified as negative values. When measuring a Polygon, this key connects the last measured point to the start point.



Important Notes regarding the [ON/CLEAR] key:

If [ON/CLEAR] is pressed during measurement, the last measured point is undone and the previous measurement is displayed. A second press of [ON/CLEAR] ends the measurement (as if the [END] key was pressed) and clears the main display.

During an Arc or Circle measurement, however, a second press of [ON/CLEAR] exits the Arc or Circle measurement mode, discarding any measured points.

Additionally, if an error message is displayed during a measurement, pressing [ON/CLEAR] clears the error message and displays the previous measurement.



[ON/CLEAR]

Turns the unit ON and clears the display. Holding down the [ON/CLEAR] key for 1.5 seconds also powers the unit off.

[CLOSE +]

Completes the Polygon or a 2-Point Circle and displays the calculated area. Results are identified as positive values. When measuring a Polygon, this key connects the last measured point to the start point.

[MEASURE]

Takes a measurement between points.

[UNDO]

Undoes the previous measurement. Allows you to undo the last 10 measurements (if applicable) while in measure mode. If a measurement has been closed or ended, it will undo the close or end action and the previous 9 measurements upon repeated presses of [UNDO].

[SET]

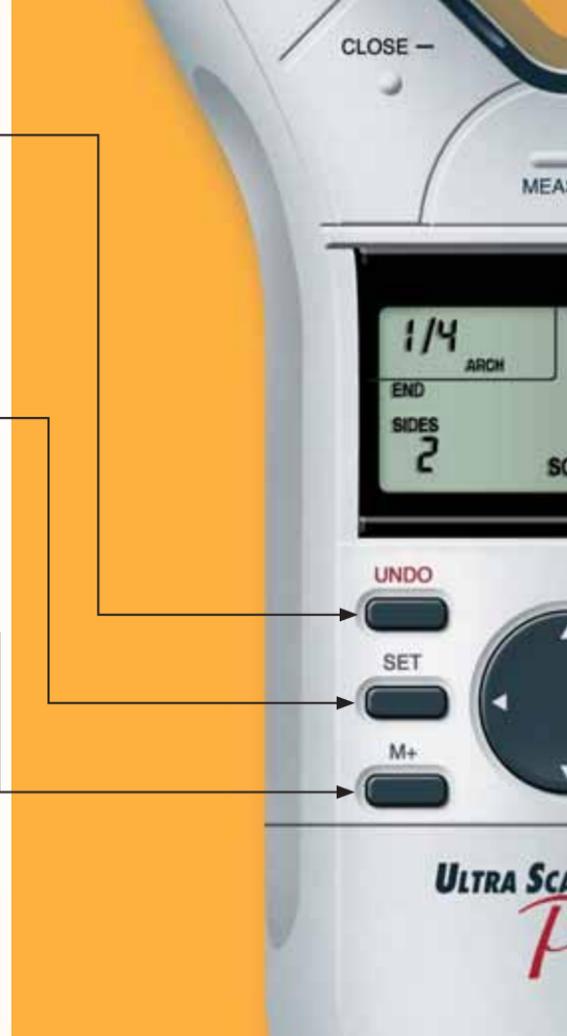
Used in conjunction with the [HEIGHT] and [SCALE] keys to set a Height or Custom Scale (See *Setting a Height* and *Setting Custom Scale* sections.) Also used to access secondary functions (e.g., M-, MC).

[M+]

Adds the displayed value to accumulative Memory (except when setting a Height or Custom Scale).

[SET] [M+] (M—)

Subtracts the displayed value from the accumulative Memory (except during a measurement).





[PC SEND]

When connected to a PC, sends the value on the main display in decimal format to the PC (see *PC Interface* section).

[ARC/CIRC]

First press identifies a new measurement as an Arc, second consecutive press identifies it as a Circle. Three points must be measured for an Arc; two points (diameter) or three points must be measured for a circle. The **Ultra Scale Master Pro** will auto-close three-point Arc or Circle measurements.

[MR] (Memory Recall)

First press displays the accumulative Memory value; second consecutive press displays Memory Count; third consecutive press displays the Memory Average. Repeated presses cycle back through this list of values.

[SET] [MR] (Memory Clear)

Clears the accumulative Memory.

Directional Pad (D-PAD)

When a measurement is ended or closed, pressing the D-Pad displays calculated values (disabled during measuring). Also used for setting Preferences, Height, and Custom Scales.

SETUP KEYS

The buttons shown below are accessed by sliding the bottom cover down until they are revealed.

- [MODE]** •
Used to select from the list of available modes (see *Built-In Scales* section).
- [SET] [MODE]**
Used to move back through the list of available modes.
- [SCALE]** •
Used to select from the list of available scales within each mode (see *Built-In Scales* section).
- [SET] [SCALE]**
Used to move back through the list of available scales.
- [DIGITIZER]** •
Sets unit into digitizing mode for use with digitizing software (see *Digitizer Mode* section).
- [RESET]** •
Clears all values and resets all settings including Preferences to their factory defaults. (Use the end of a paperclip or something of similar size to press.)





[UNITS]

Used to select from the list of available units of measurement (see *Units of Measurement* section).

[SET] [UNITS]

Used to move back through the list of available units of measurement.

[PREFS] (Preferences)

Accesses Preference settings (see *Preferences* section).

[HEIGHT]

Displays stored height. Also used in conjunction with [SET] for setting a Height (see *Setting a Height* section).

USING THE ULTRA SCALE MASTER PRO

UNDERSTANDING THE LCD

The selected Scale and Scale Category or "Mode" are displayed here. The Modes are as identified:

- ARCH (Architectural)
- ENG I/ENG II (Engineering)
- CUST (Custom)

The top legend displays the following:

- SET
- CIRC (Circle)
- ARC
- M (Memory)

The area immediately below the legend displays the following:

- PER (Perimeter)
- WL (Wall)
- HT (Height)
- AREA
-  (PC Connection)

The Measure Status and number of sides are displayed here (End or Closed are displayed only when a measurement has been completed).



Low Battery Indicator

Unit legend is a description of displayed values (i.e. Square Feet, Inch)

This area, often referred to as the "Main Display," is used to display values and important messages

BUILT-IN SCALES

The following modes and scales are available for selection using the [MODE] and [SCALE] keys, depending on whether the puck is set to Imperial or Metric mode using the [IMP/MET] switch located on the back of the puck. While in Imperial Mode, only the Imperial Modes and Scales are displayed. While in Metric Mode, only Metric Modes and Scales are displayed. However, all Imperial and Metric units of measurement are available within both modes. When switching back and forth between Imperial and Metric modes, your settings within each mode are held, including Preference. The values stored in [HEIGHT] and [M+] are cleared when switching between Imperial and Metric modes.

Note: While in Metric Mode, MET will appear in the scale area of the display to indicate that it is in Metric Mode.

IMPERIAL

Modes	Scales
Architectural (ARCH) 1 Foot =	1/4," 3/8," 1/2," 3/4," 1/1" (1"), 3/2" (1-1/2"), 2/1" (2"), 3/1" (3"), 4/1" (4"), 1/32," 1/16," 3/32," 1/8," 3/16"
Engineering I (ENGI) 1 Inch =	10.0,' 20.0,' 30.0,' 40.0,' 50.0,' 60.0,' 83.3,' 100.0,' 166.6,' 200.0,' 250.0'
Engineering II (ENGI) 1 Inch =	300.0,' 333.3,' 400.0,' 416.6,' 500.0,' 583.3,' 600.0,' 625.0,' 666.6,' 750.0,' 1,000,' 1,200,' 2,000,' 3,000'

METRIC

Modes	Scales
Architectural (MET ARCH)	1:50, 1:75, 1:1, 1:2, 1:3, 1:4, 1:5, 1:10, 1:20, 1:25, 1:30, 1:40
Engineering I (MET ENGI)	1:100, 1:125, 1:150, 1:200, 1:250, 1:300, 1:400, 1:500
Engineering II (MET ENGI)	1:1000, 1:1250, 1:1500, 1:1625, 1:2000, 1:2500, 1:5000, 1:6000, 1:10k, 1:12.5k, 1:20k, 1:25k, 1:50k

*Note: The default Modes and Scales are listed first and the remaining Modes and Scales are listed in the order that they appear on your **Ultra Scale Master Pro**.*

SHAPES AND DEFINITIONS

The **Ultra Scale Master Pro** can measure Polylines, Polygons, regular or irregular shapes, Arcs and Circles based on the following criteria:

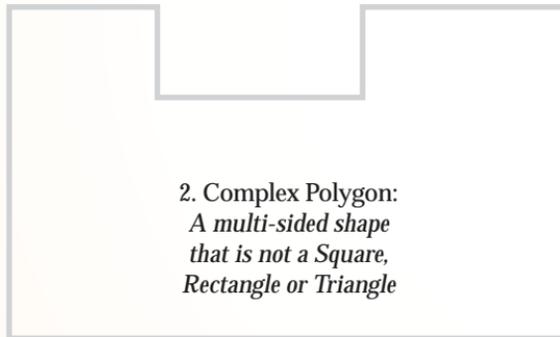
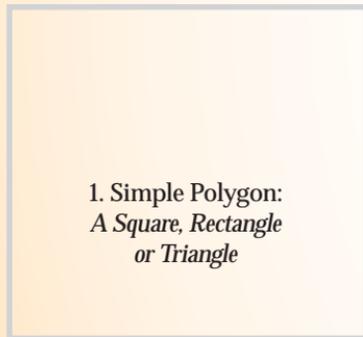
- Only one shape can be measured at a time
- For a Polygon or Polyline only the last 64 measured sides can be displayed when viewing side Lengths via the D-Pad right [▶] and left [◀] arrows
- Arc measurements are assumed to be part of a Circle
- In Arc or Circle Mode, measurements of ellipses or irregular Arcs will result in incorrect calculations; the resulting values are based on the assumption that the points measured apply to a segment of a Circle
- An Arc or three-point Circle greater than 180° can also be measured

Definitions and illustrations of some common shapes: Solution examples follow in the User's Guide:

POLYLINE:

A sequence of connected straight lines or a single linear distance like a fence line

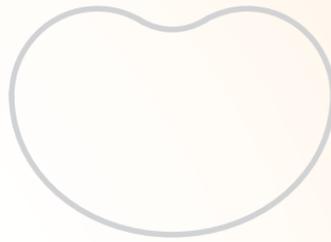
POLYGON: A closed geometric figure bounded by three or more straight lines



Note: The diagrams shown throughout the guide are not to scale and the displayed values are not representative of diagrams.

***IRREGULAR
SHAPE***

An outline or surface configuration of a form



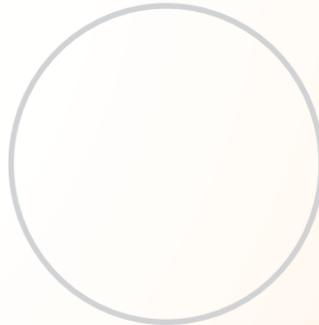
ARC:

A segment of a curve



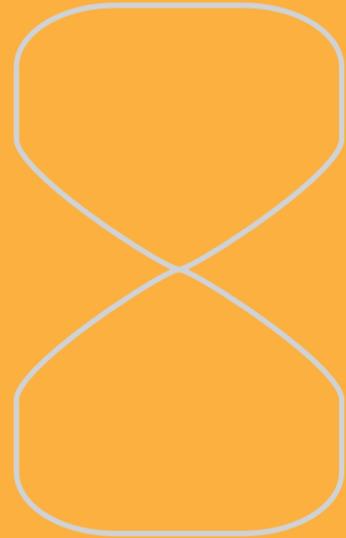
CIRCLE:

A plane curve equidistant from a fixed center



ILLEGAL SHAPE:

The Area and Volume can not be calculated for a shape containing bisecting lines. The Area and Volume of the shapes resulting from the bisecting lines can be calculated individually.



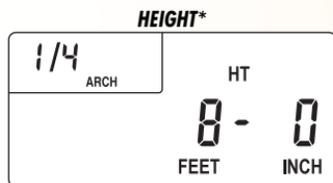
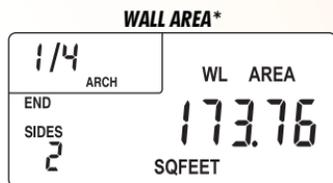
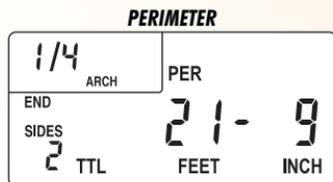
MEASURING POLYLINES

OPERATING SEQUENCE

- 1 Press the **[ON/CLEAR]** key twice to clear the display. Place the crosshairs over the first point and press the **[MEASURE]** key.
- 2 Move to the second point and press the **[MEASURE]** key. The display will show the Length of the first line segment.
- 3 Move to the third point and press the **[MEASURE]** key. The display will show the accumulated Length of the two measured segments.

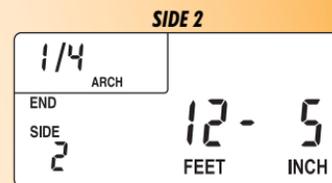
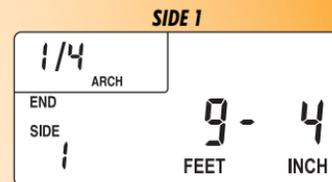


- 4 Press the [END] key. The total Perimeter is displayed. Once a measurement is ended, press the D-Pad down [▼] to display Perimeter, Wall Area, and stored Height. Continuous presses of the D-Pad down [▼] or up [▲] will scroll back and forth through the values.



*Wall Area and Height do not display if a Height has not been set. For this example, a Height of eight Feet was used (See *Setting a Height* section for instructions on setting a Height).

- 5 Press the D-Pad right [▶] to display the individual side Lengths in sequential order beginning with side one. Repeated presses of the D-Pad left [◀] will scroll back through the sides in descending order.



MEASURING SIMPLE POLYGONS

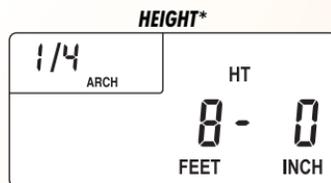
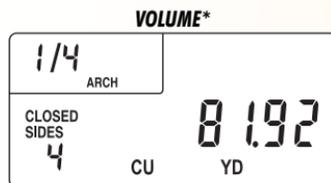
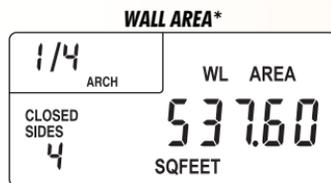
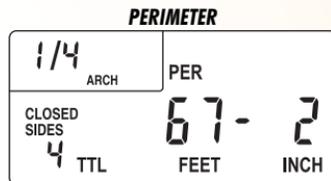
OPERATING SEQUENCE

- 1 Press the **[ON/CLEAR]** key twice to clear the display. Place the crosshairs over the first point and press the **[MEASURE]** key.
- 2 Move to the second point and press the **[MEASURE]** key. The display will show the Length of the first line segment.
- 3 Move to the third point and press the **[MEASURE]** key. The display will show the accumulated Length of the two measured segments.
- 4 Move to the fourth point and press the **[MEASURE]** key. The display will show the accumulated Length of the three measured segments.

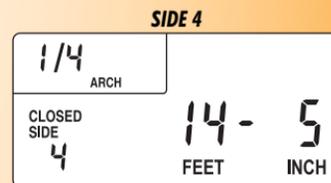
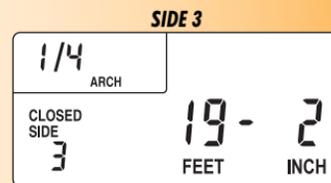
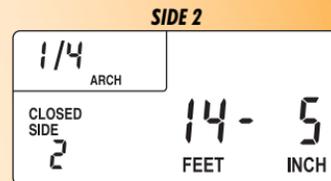
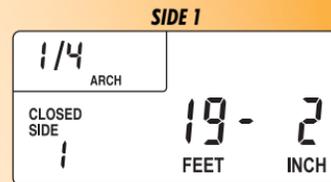


5 Press the [CLOSE+] key. The total Area is displayed. Once a measurement is closed, press the D-Pad down [▼] to display Perimeter, Wall Area, Volume and stored Height. Continuous presses of the D-Pad down [▼] or up [▲] will scroll back and forth through the values.

*Wall Area, Volume and Height do not display if a Height has not been set. For this example, a Height of eight Feet was used (See *Setting a Height* section for instructions on setting a Height).



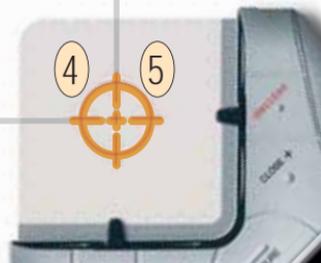
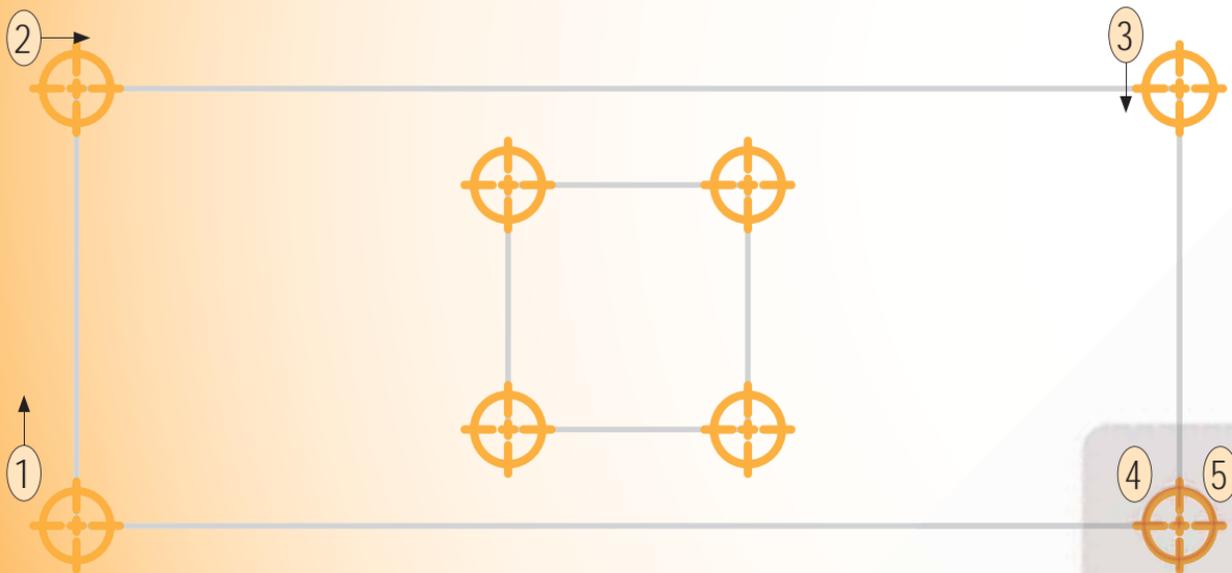
6 Press the D-Pad right [▶] to display the individual side Lengths in sequential order beginning with side one. Repeated presses of the D-Pad left [◀] will scroll back through the sides in descending order.



MEASURING TAKE-OUTS

OPERATING SEQUENCE

- 1 Press the **[ON/CLEAR]** key twice to clear the display. Place the crosshairs over the first point and press the **[MEASURE]** key.
- 2 Move to the second point and press the **[MEASURE]** key. The display will show the Length of the first line segment.
- 3 Move to the third point and press the **[MEASURE]** key. The display will show the accumulated Length of the two measured segments.
- 4 Move to the fourth point and press the **[MEASURE]** key. The display will show the accumulated Length of the three measured segments.



5 Press the [CLOSE+] key. The total Area is displayed.*

6 Press the [M+] key to store the Area in Memory, then repeat steps 1 through 4 for the Take-Out



7 Press the [CLOSE+] key followed by the [SET] then [M+] keys. Now press the [MR] key to display the Adjusted Area. Press the [SET] then [MR] keys to clear the Memory.



**To do a Volume Take-Out, press the D-Pad down [▼] or up [▲] until the total Volume is displayed.*

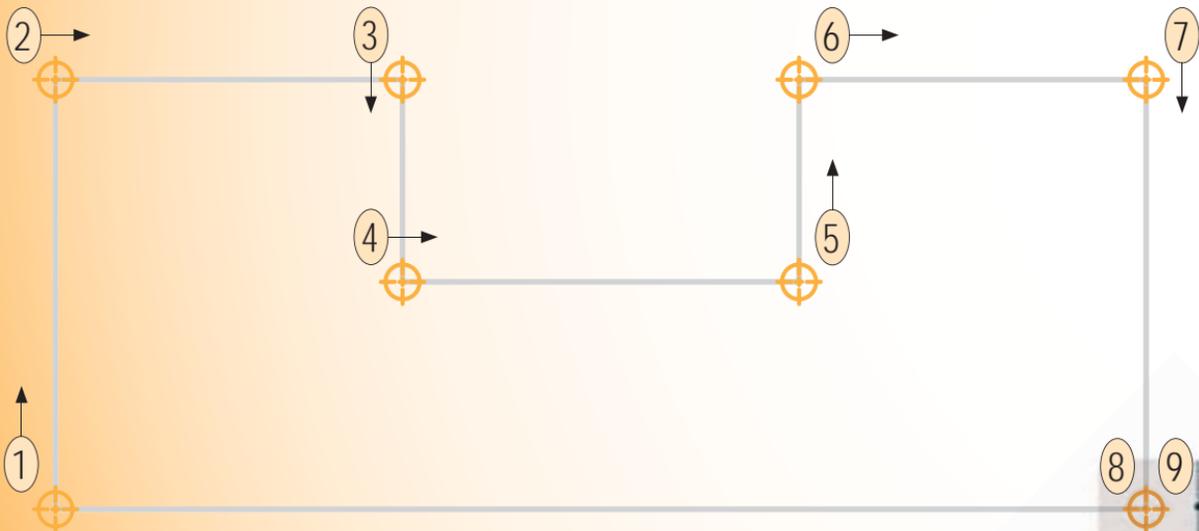
6



MEASURING COMPLEX POLYGONS

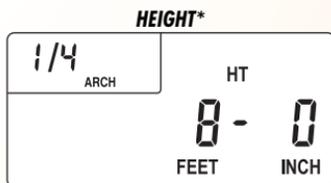
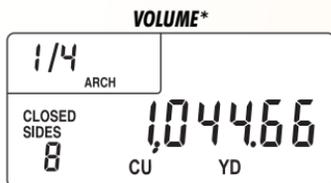
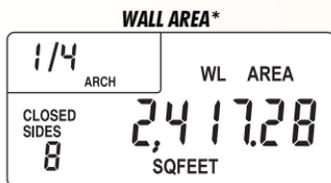
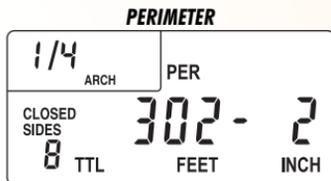
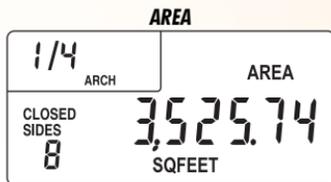
OPERATING SEQUENCE

- 1 Press the **[ON/CLEAR]** key twice to clear the display. Place the crosshairs over the first point and press the **[MEASURE]** key.
- 2 Move to the second point and press the **[MEASURE]** key.
- 3 Move to the third point and press the **[MEASURE]** key.
- 4 Move to the fourth point and press the **[MEASURE]** key.
- 5 Move to the fifth point and press the **[MEASURE]** key.
- 6 Move to the sixth point and press the **[MEASURE]** key.
- 7 Move to the seventh point and press the **[MEASURE]** key.
- 8 Move to the eighth point and press the **[MEASURE]** key. The accumulated Lengths of the seven measured segments will be displayed.

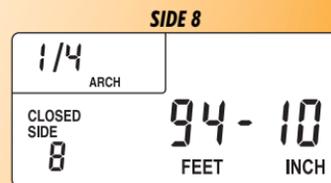
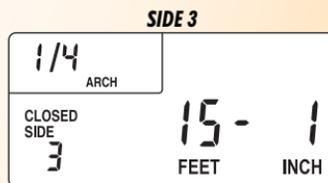
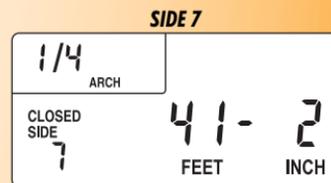
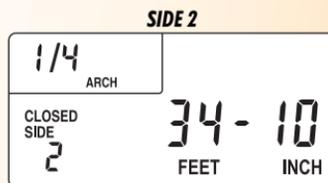
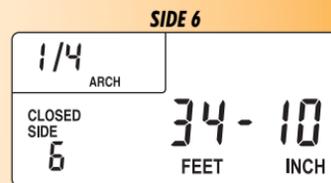
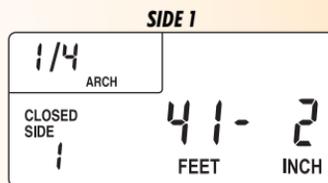
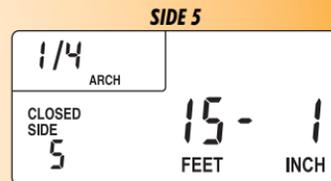
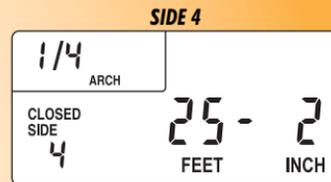


9 Press the [CLOSE+] key. The total Area is displayed. Once a measurement is closed, press the D-Pad down [▼] to display Perimeter, Wall Area, Volume and stored Height. Continuous presses of the D-Pad down [▼] or up [▲] will scroll back and forth through the values.

*Wall Area, Volume and Height do not display if a Height has not been set. For this example, a Height of eight Feet was used (See *Setting a Height* section for instructions on setting a Height).



10 Press the D-Pad right [▶] to display the individual side lengths in sequential order beginning with side one. Repeated presses of the D-Pad left [◀] will scroll back through the sides in descending order.



MEASURING IRREGULAR SHAPES

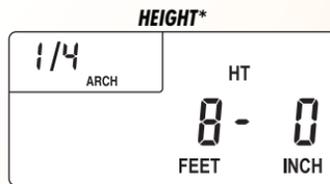
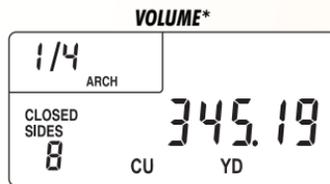
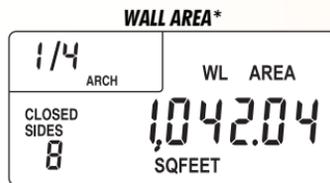
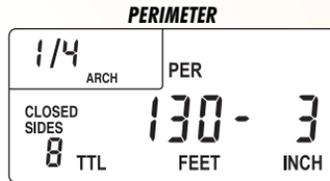
OPERATING SEQUENCE

- 1 Press the **[ON/CLEAR]** key twice to clear the display. Place the crosshairs over the first point and press the **[MEASURE]** key.
- 2 Move to the second point and press the **[MEASURE]** key.
- 3 Move to the third point and press the **[MEASURE]** key.
- 4 Move to the fourth point and press the **[MEASURE]** key.
- 5 Move to the fifth point and press the **[MEASURE]** key.
- 6 Move to the sixth point and press the **[MEASURE]** key.
- 7 Move to the seventh point and press the **[MEASURE]** key.
- 8 Move to the eighth point and press the **[MEASURE]** key. The accumulated Lengths of the seven measured segments will be displayed.

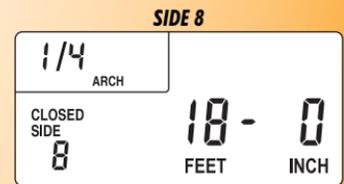
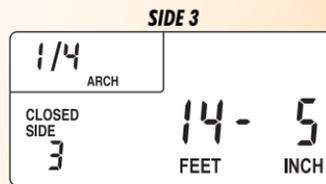
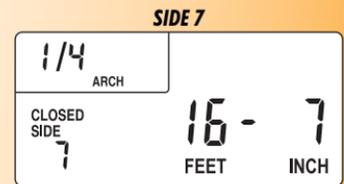
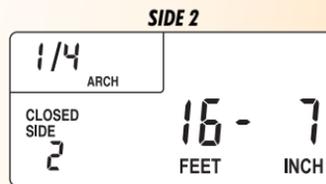
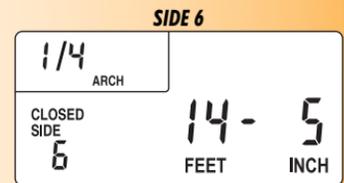
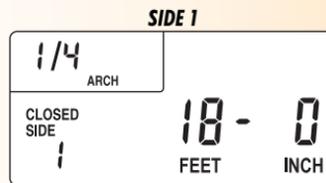
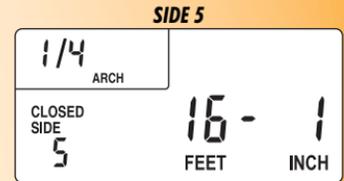
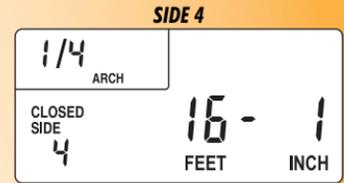


9 Press the [CLOSE+] key. The total Area is displayed. Once a measurement is closed, press the D-Pad down [▼] to display Perimeter, Wall Area, Volume and stored Height. Continuous presses of the D-Pad down [▼] or up [▲] will scroll back and forth through the values.

*Wall Area, Volume and Height do not display if a Height has not been set. For this example, a Height of eight Feet was used (See "Setting a Height" section for instructions on setting a Height).



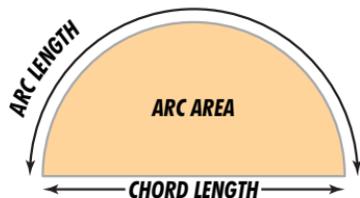
10 Press the D-Pad right [▶] to display the individual side Lengths in sequential order beginning with side one. Repeated presses of the D-Pad left [◀] will scroll back through the sides in descending order.



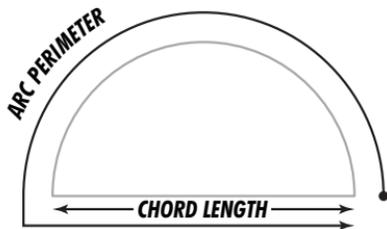
MEASURING ARCS AND CIRCLES

DEFINITIONS: Listed below are definitions and illustrations of the Arc and Circle measurement results.

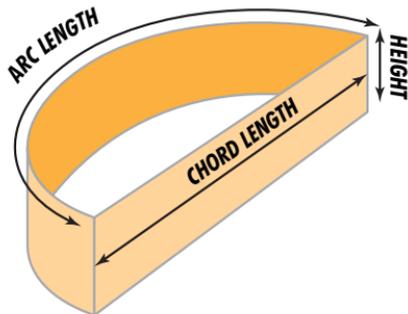
Arc Area – The total Area between the Arc Length and Chord Length, also called the Circle Segment.



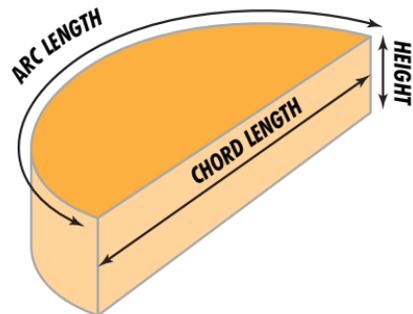
Arc Perimeter
– The total of the Arc Length and Chord Length. The linear distance around the Circle Segment.



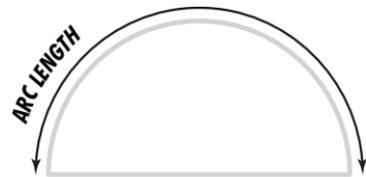
Arc Wall Area – The total of the Arc Perimeter multiplied by the stored Height. Only displayed if a Height has been stored.



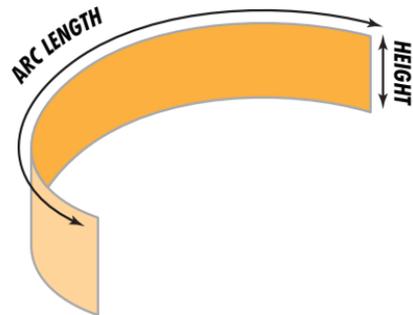
Arc Volume – The total of the Arc Area multiplied by the stored Height. Only displayed if a Height has been stored.



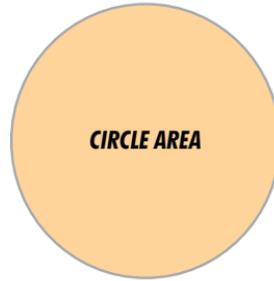
Arc Length – The total Length of the Arc.



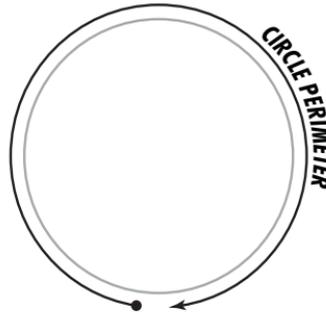
Arc Length Wall Area – The total of the Arc Length multiplied by the stored Height. Only displayed if a Height has been stored.



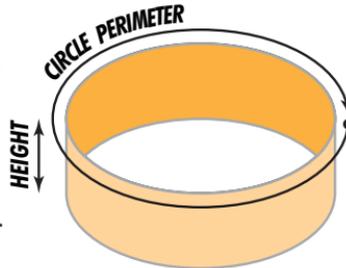
Circle Area – The total Area of the Circle.



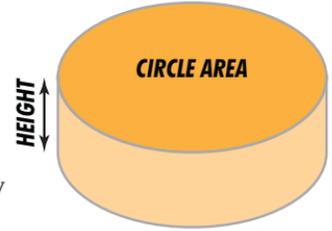
Circle Perimeter – The linear distance around the Circle. Also called the Circumference.



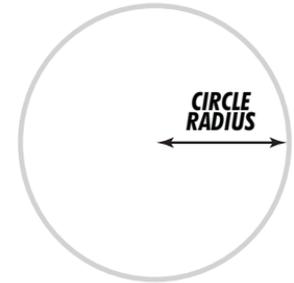
Circle Wall Area – The total of the Circle Perimeter multiplied by the stored Height. Only displayed if a Height has been stored.



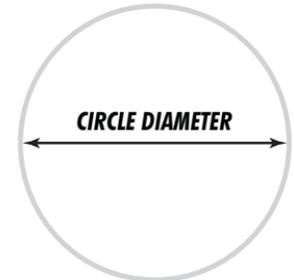
Circle Volume – The total of the Circle Area multiplied by the stored Height. Also called Column or Cylinder Volume. Only displayed if a Height has been stored.



Circle Radius – The linear distance from the center to the outside of the Circle. Half of the Circle Diameter.



Circle Diameter – The linear distance across the center of the Circle.



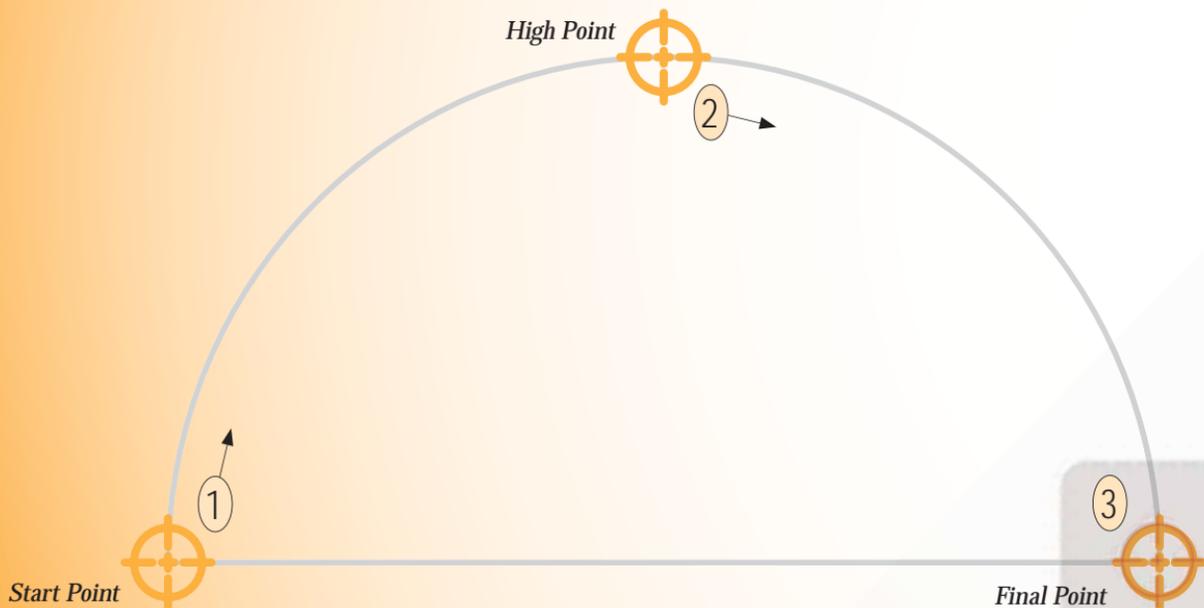
MEASURING ARCS

OPERATING SEQUENCE

- 1 Press the **[ON/CLEAR]** key twice to clear the display. Press the **[ARC/CIRC]*** key once to enter Arc Mode. Place the crosshairs over the Start Point of the Arc and press the **[MEASURE]** key.
- 2 Move to the High Point of the Arc and press the **[MEASURE]** key.

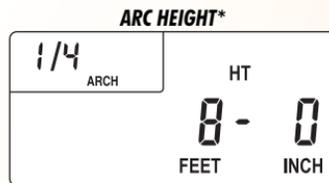
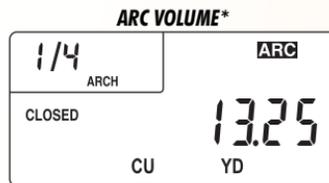
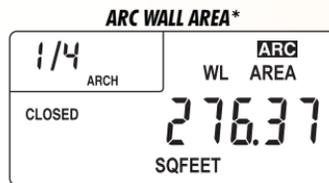
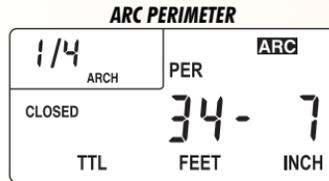
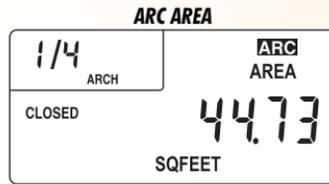
- 3 Move to the Final Point of the Arc and press the **[MEASURE]** key.

**You must identify the measurement as an Arc before you start measuring.*

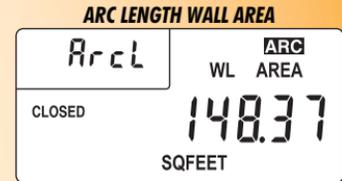


4 Upon pressing the [MEASURE] key in Step-3, the Arc measurement was automatically completed and the Arc Area displayed. Once an Arc measurement is completed, press the D-Pad down [▼] to display Arc Perimeter, Arc Wall Area, Arc Volume and stored Height. Continuous presses of the D-Pad down [▼] or up [▲] will scroll back and forth through the values.

*Arc Wall Area, Arc Volume and Height do not display if a Height has not been set. For this example, a Height of eight Feet was used. (See *Setting a Height* section for instructions on setting a Height)



5 Press the D-Pad right [▶] to display the Arc Length and Arc Length Wall Area. Continuous presses of the D-Pad right [▶] will scroll through these values. Repeated presses of the D-Pad left [◀] will scroll back through these values.



MEASURING 3-POINT CIRCLES

OPERATING SEQUENCE

- 1 Press the **[ON/CLEAR]** key twice to clear the display. Press the **[ARC/CIRC]*** key twice to enter Circle Mode. Place the crosshairs over the start point of the Circle and press the **[MEASURE]** key.
- 2 Move to the second point of the Circle and press the **[MEASURE]** key.
- 3 Move to the third point of the Circle and press the **[MEASURE]** key.

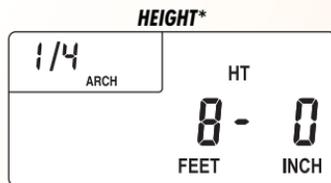
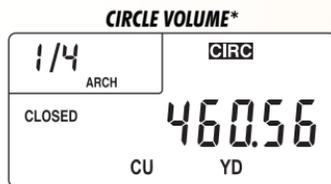
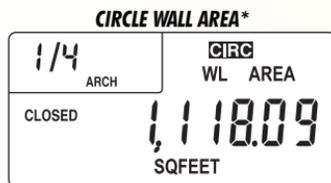
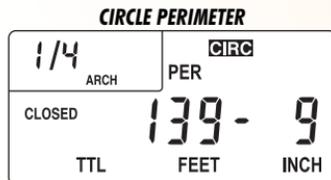
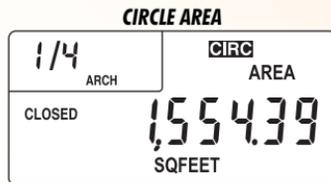
**You must identify the measurement as a Circle before you start measuring.*

Note: The second point can be any point along the Arc of the Circle between the start point and the third point.

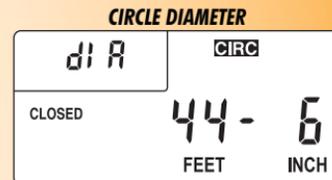
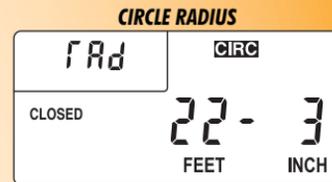


4 Upon pressing the [MEASURE] key in Step 3, the Circle measurement was automatically completed and the Circle Area displayed. Once a Circle measurement is completed, press the D-Pad down [▼] to display Circle Perimeter, Circle Wall Area, Circle Volume and stored Height. Continuous presses of the D-Pad down [▼] or up [▲] will scroll back and forth through the values.

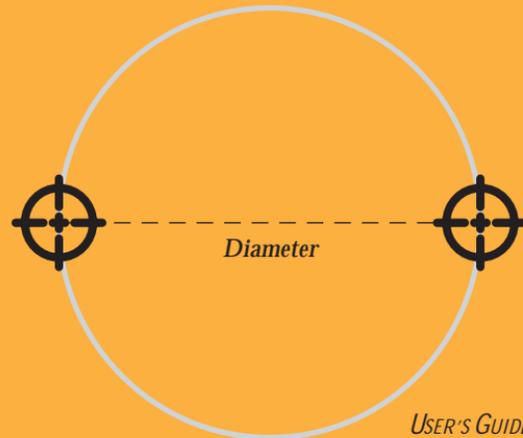
*Circle Wall Area, Circle Volume and Height do not display if a Height has not been set. For this example, a Height of eight Feet was used. (See *Setting a Height* section for instructions on setting a Height.)



5 Press the D-Pad right [▶] to display the Circle Radius and Circle Diameter. Continuous presses of D-Pad right [▶] will scroll through these values. Repeated presses of the D-Pad left [◀] will scroll back through these values.



If you have an actual Diameter, follow steps 1 and 2 then replace step 3 with a press of the [CLOSE+] key.



CUSTOM SCALES

There are two methods for programming Custom Scales into your **Ultra Scale Master Pro**. “Measured Custom Scales” allow you to measure a specified Length and assign the known value. “Entered Custom Scales” allow you to enter and set a known scale that is not included within the available built-in scales of the **Ultra Scale Master Pro**.

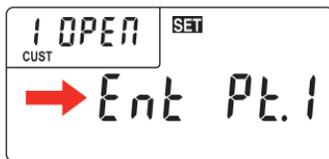
Four Custom Scales can be stored in Imperial and Metric Modes for a total of eight Custom Scales. Once a Custom Scale has been set in either mode, it is retained until a new scale is stored in its place or until an All Clear or Reset is performed. Switching between Imperial and Metric Modes does not clear stored Custom Scales.

SETTING A MEASURED CUSTOM SCALE

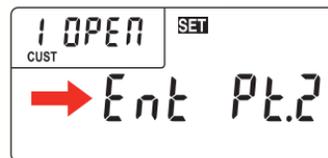
1. Press [MODE] until “CUST” is displayed. Press [SCALE] to scroll through the four available custom scales. For this example, Custom Scale-1 is used.



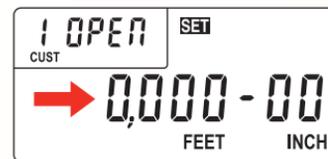
2. Press [SET] then [SCALE] to begin setting the Custom Scale. The display prompts you to enter Point-1.



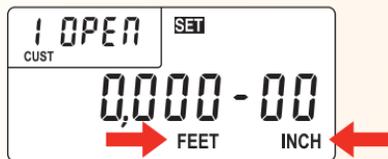
3. Place the crosshairs over the start point of the line and press [MEASURE]. You are prompted to enter Point-2.



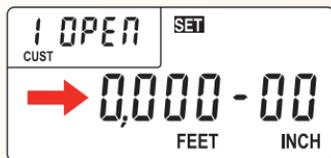
4. Place the crosshairs over the end point and press [MEASURE]. The display shows “0,000-00” for Imperial Mode and “00,000.0” is displayed for Metric Mode.



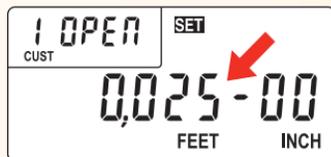
5. The displayed units begin flashing, indicating that they are ready to be changed. Press [UNITS] to scroll through the available units.*



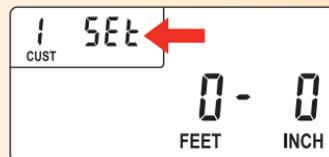
6. Press D-Pad right [▶] to begin value entry mode. The selected digit begins flashing, indicating that it is ready to be changed. Use D-Pad right [▶] and left [◀] to move between the digits.



7. Press D-Pad up [▲] or down [▼] to increase or decrease the selected digit.



8. To store the Custom Scale, press [SET] or [SCALE]. To confirm the scale has been set, “Scl Set” is displayed for one second. Stored Custom Scales display “SET” instead of “OPEN” (e.g., 1 SET).



**In Imperial Mode, only the following units are available:
Feet-Inch, Feet, and Inches.*

*In Metric Mode, only the following units are available: Meters,
Centimeters, and Millimeters.*

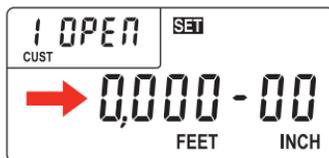
*Note: This example is shown in
Imperial Mode. The displays will be
slightly different if in Metric Mode.*

SETTING AN ENTERED CUSTOM SCALE (IMPERIAL MODE)

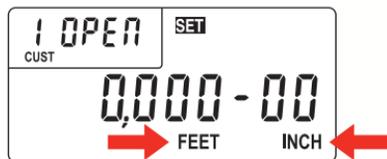
1. Press [MODE] until "CUST" is displayed. Press [SCALE] to scroll through the four available Custom Scales. For this example, Custom Scale-1 is used.



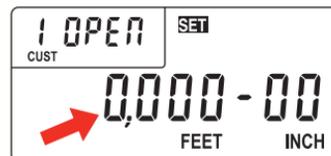
2. Press [SET] then press [SCALE] [SCALE] to begin entering the Custom Scale.



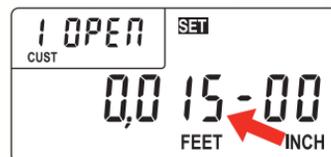
3. The displayed units begin flashing, indicating that they are ready to be changed. Press [UNITS] to scroll through the available units.*



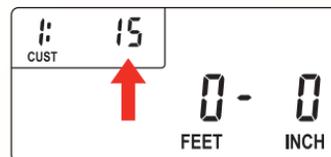
4. Use D-Pad right [▶] to begin value entry mode. The selected digit begins flashing, indicating that it is ready to be changed. Use D-Pad right [▶] and left [◀] to move between the digits.



5. Use D-Pad up [▲] or down [▼] to increase or decrease the selected digit.



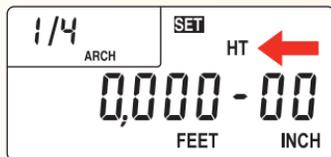
6. To store the Custom Scale, press [SET] or [SCALE]. To confirm the scale has been set, "Sc1 Set" is displayed for one second. Entered Custom Scales display the Inch-to-Feet scale ratio instead of "OPEN" or "SET" (e.g. 1:15 for 1 Inch = 15 Feet).



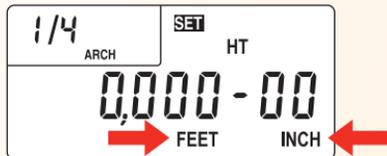
SETTING A HEIGHT

A Height can be set to calculate Wall Areas and Volumes which are displayed using the D-Pad once an area measurement has been completed. If no Height is stored, Wall Area and Volume are not displayed. The following example is shown in Imperial Mode. The displays will be slightly different if in Metric Mode.

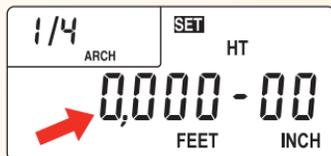
1. Press [SET] then [HEIGHT] to begin entering a Height.



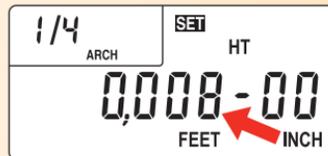
2. The displayed units begin flashing, indicating that they are ready to be changed. Press [UNITS] to scroll through the available units.*



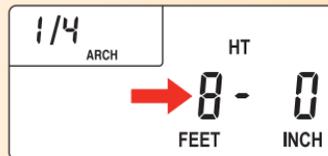
3. Use D-Pad right [▶] to begin value entry mode. The selected digit begins flashing, indicating that it is ready to be changed. Use D-Pad right [▶] and left [◀] to move between the digits.



4. Use D-Pad up [▲] or down [▼] to increase or decrease the selected digit.



5. To store your Height, press [SET] or [HEIGHT]. To confirm the Height has been set, "Ht Set" is displayed for one second.



**In Imperial Mode, only the following units are available:
Feet-Inch, Feet and Inches.*

*In Metric Mode, only the following units are available: Meters,
Centimeters and Millimeters.*

Note: Press [HEIGHT] to view a stored Height. A Height is only cleared if a new Height is stored, an All Clear or Reset is performed, or if the unit is switched between Imperial and Metric Modes.

UNITS OF MEASUREMENT

The following units of measurement are available for selection by pressing the [UNITS] key located under the slide cover door. You may change the units of measurement of a displayed value at anytime during measuring, or after a measurement has been completed. All of the Linear, Area, and Volume units shown below are available in both Imperial and Metric modes and are displayed in the order shown beginning with the default. The Imperial/Metric switch (located on the back of the Puck) determines the default starting unit:

LINEAR UNITS

Feet-Inch (FEET INCH)*
Feet (FEET)
Yards (YD)
Meters (M)**
Centimeters (CM)
Millimeters (MM)
Inch (INCH)

**Imperial Default*

***Metric Default*

AREA UNITS

Square Feet (SQ FEET)*
Square Yards (SQ YD)
Acres (AC)
Square Meters (SQ M)**
Square Centimeters (SQ CM)
Square Millimeters (SQ MM)
Hectares (HA)
Square Inches (SQ INCH)

Note: If a measurement or calculation with small units of measurement exceeds the seven-digit range of the display, it will be automatically displayed in the next larger units (e.g. 20,000,000 millimeters is displayed as 20,000.00 m).

VOLUME UNITS

Cubic Yards (CU YD)*
Cubic Feet (CU FEET)
Cubic Meters (CU M)**
Cubic Centimeters (CU CM)
Cubic Millimeters (CU MM)
Cubic Inches (CU INCH)

Note: You may change units on any displayed value, even while measuring. Continuous presses of [UNITS] will scroll through the available units of measurement listed above, converting the displayed value. If the value is too large to be displayed in the units selected, the display will remain unchanged (maintaining the same value and units) until the value is converted to a unit that can be displayed.

DIGITIZER MODE

The *Ultra Scale Master Pro* can be used as a Digitizer to send measurement data (X,Y coordinates) and key press data to digitizing software on a host personal computer (PC). See *PC Interface* section for system requirements and USB connection information.

Press the **[DIGITIZER]** key to enter Digitizer Mode. Display will show “digi On.” It will remain in Digitizer Mode until the **[DIGITIZER]** key is pressed again, or when a manual reset is performed (see *Reset* section).

WHILE IN DIGITIZER MODE:

The following keys send measurement data (X,Y coordinates) and key press data:

[MEASURE]
[END]
[CLOSE -]
[CLOSE +]

The following keys send only the key press data:

[UNDO]	D-Pad Up [▲]	[PC SEND]	[MODE]	[HEIGHT]
	D-Pad Down [▼]	[ARC/CIRC]	[SCALE]	[PREFS]
[M+]	D-Pad Right [▶]	[MR]	[UNITS]	
	D-Pad Left [◀]			

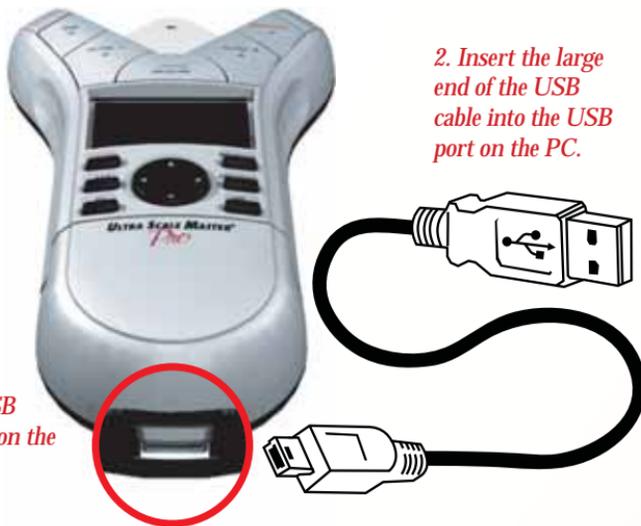
The following keys send no data:

[ON/CLEAR]
[SET]
[DIGITIZER]

PC INTERFACE

The **Ultra Scale Master Pro** with PC Interface can be used to send displayed numerical values from your Puck directly to the selected estimating, spreadsheet, word processing, or text editing program on your PC. It can also be used to send data to digitizing programs while in Digitizer Mode (see *Digitizer Mode* section).

The PC Interface is a ten-foot long USB cable specially designed for use with the **Ultra Scale Master Pro**. There is no driver software needed. Simply follow the instructions below to connect your **Ultra Scale Master Pro** to your PC.



1. Insert the small end of the USB cable into the USB plug located on the bottom end of the Puck.

2. Insert the large end of the USB cable into the USB port on the PC.

SYSTEM REQUIREMENTS:

— Windows 2000, XP, Vista Operating Systems — One USB port

***Note:** When connected to a PC, a small PC-shaped icon will appear at the upper right side of the Puck's display, indicating a valid connection has been established. This icon will be displayed only when the USB cable is securely connected to the Puck and the PC. The USB cable is specially designed for use only with the **Ultra Scale Master Pro**. The **Ultra Scale Master Pro** cannot be used with any other USB cable.*

SENDING VALUES TO YOUR PC (PC SEND)

The **[PC Send]** key sends the displayed value from the Puck to the selected software program on your PC. Values can be sent to the PC during a measurement and after it has been completed.

Only numeric values can be sent to the PC. Preference settings and error messages cannot be sent to the PC. Also, the following measurement prompts cannot be sent to the PC:

Start.Pt	Point 2	Ent Pt.1
High Pt	Point 3	Ent Pt.2
Final.Pt		

Note: Values cannot be sent to the PC while setting a Custom Scale or setting a Height.

There are three Preferences that determine how values are sent to the PC (see *Preferences* section for information on accessing and changing the Preferences).

PC SEND TERMINATING COMMAND:

- Enter*** - Performs an ENTER command after value is sent to the PC.
- Tab** - Performs a TAB command after value is sent to the PC.
- Left** - Performs a LEFT command after value is sent to the PC.
- Right** - Performs a RIGHT command after value is sent to the PC.
- Up** - Performs an UP command after value is sent to the PC.
- Dn** - Performs a DOWN command after value is sent to the PC.
- None** - Performs no action after value is sent to the PC.

PC SEND DISPLAY:

- Hold*** - The displayed value is not cleared after being sent to the PC.
- Clr** - The displayed value is Cleared after being sent to the PC. This setting is ignored while measuring.

USB SEND DELAY:

- Delay 1*** - FASTEST USB send speed.
 - Delay 2** - MEDIUM USB send speed.
 - Delay 3** - SLOW USB send speed.
 - Delay 4** - SLOWEST USB send speed.
- Use this setting to reduce the USB send speed if using a slower computer and experiencing problems sending values.*

**An asterisk denotes a default value.*

The following is an example of the results of a Polygon measurement, which include the Area, Perimeter, Wall Area, and Volume.

In the first column are the values as they would appear on the display of your Puck.

In the second column are the values as they would appear after being sent to a spreadsheet program on the PC. The data will appear within the selected area of the software program on the PC (in this case the cells of the spreadsheet).

The *Ultra Scale Master Pro* displays “SENT PC” for one second each time a value is sent to the PC successfully.

Note: The decimal equivalent of the value in the main display of the Puck is sent to the PC each time [PC Send] is pressed.

DISPLAYED RESULTS

AREA	
1/4 ARCH	AREA
CLOSED SIDES 4	28.155 SQFEET

PERIMETER	
1/4 ARCH	PER
CLOSED SIDES 4 TTL	67-6 FEET INCH

WALL AREA	
1/4 ARCH	WL AREA
CLOSED SIDES 12	63.96 SQFEET

VOLUME	
1/4 ARCH	
CLOSED SIDES 12	17.67 CU YD

RESULTS DISPLAYED IN SPREADSHEET

	A	B	C	D
1		Room 1	Room 2	Room 3
2	Area	281.55		
3	Perimeter			
4	Wall Area			
5	Volume			
6				

	A	B	C	D
1		Room 1	Room 2	Room 3
2	Area	281.55		
3	Perimeter	67.50		
4	Wall Area			
5	Volume			
6				

	A	B	C	D
1		Room 1	Room 2	Room 3
2	Area	281.55		
3	Perimeter	67.00		
4	Wall Area	63.96		
5	Volume			
6				

	A	B	C	D
1		Room 1	Room 2	Room 3
2	Area	281.55		
3	Perimeter	67.00		
4	Wall Area	63.96		
5	Volume	17.67		
6				

PREFERENCES

The following Preferences allow you to customize your **Ultra Scale Master Pro**. Access the Preferences by pressing [PREFS], located under the slide cover door. Press D-Pad up [▲] or down [▼] to scroll through the Preferences. Press D-Pad right [▶] or left [◀] to scroll through the available settings within the selected Preference.

1. MEASUREMENT DISPLAY:

Total* – Displays the accumulated total of all measured segments.

Side – Displays only the last measured segment.



2. BEEP:

On* – Beeps once after:

- a successful measurement
 - a successful PC data send
- Beeps twice after:
- an unsuccessful measurement
 - an unsuccessful PC data send
 - an error

Error – Beeps twice only after:

- an unsuccessful measurement
- an unsuccessful PC data send
- an error

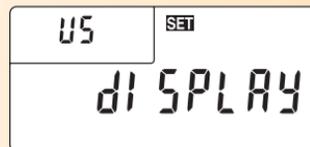
Off – Beep is turned off (never beeps)



3. US/EURO DISPLAY:

US* – Displays commas and decimals in standard US format; commas separate groups of three digits and decimals separate whole digits from decimal digits (e.g., 1,234.00).

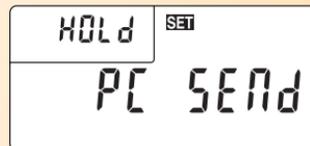
Euro – Displays commas and decimals in standard European format; commas separate whole digits from fractional digits and decimals separate groups of three digits (e.g., 1.234,00).



4. PC SEND DISPLAY:

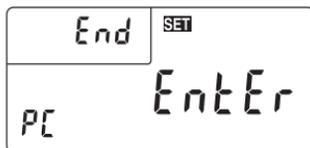
Hold* – The displayed value is not cleared after being sent to the PC.

Clr – The displayed value is cleared after being sent to the PC. This setting is ignored while measuring.



5. PC SEND TERMINATING COMMAND:

- Enter*** – Performs an ENTER command after value is sent to the PC.
- Tab** – Performs a TAB command after value is sent to the PC.
- Left** – Performs a LEFT command after value is sent to the PC.
- Right** – Performs a RIGHT command after value is sent to the PC.
- Up** – Performs an UP command after value is sent to the PC.
- Dn** – Performs a DOWN command after value is sent to the PC.
- None** – Performs no action after value is sent to the PC.



6. DIGITIZER OPERATION ORIENTATION:

- Right*** – Sets to right-hand operation orientation while in Digitizer Mode. See *Right-Hand Assembly* section.
- Left** – Sets to left-hand operation orientation while in Digitizer Mode. See *Left-Hand Assembly* section.



7. USB SEND DELAY:

- Delay 1*** – FASTEST USB send speed.
- Delay 2** – MEDIUM USB send speed.
- Delay 3** – SLOW USB send speed.
- Delay 4** – SLOWEST USB send speed.

Use this setting to reduce the USB send speed if using a slower computer and experiencing problems sending values.



**An asterisk denotes a default value.*

APPENDIX A

ACCURACY/ERRORS/AUTO SHUT-OFF

Accuracy/Display Capacity – The *Ultra Scale Master Pro* has a seven-digit main display, while maintaining an internal accuracy of 12-digits for calculations. The *Ultra Scale Master Pro* is capable of measuring at an accuracy of ± 0.040 " within a measuring range between one-inch and 36-inches from the reflector bars.

Errors – The following is a list of the error messages that will display after errors such as incorrect measurements or key presses are made. Two beeps will also sound after an error occurs if the Beep Preference setting is set to “**On**” (default) or “**Error**.”

REAd Error – Unable to take measurement, bad measurement, out of range or too close to bars

Error – Scale setting error (such as storing zero into a Custom Scale), math or dimension error (usually occurs when attempting to store values of different dimensions into Memory)

OFLO – Overflow (value is too large to be displayed)

SEnd Error – Not connected to a PC

Auto Shut-off – The *Ultra Scale Master Pro* is designed to shut itself off after 8-12 minutes of non-use. All of the current settings and measurements are saved automatically.

APPENDIX B

RESET

All Clear – All values can be cleared and all settings except Preferences returned to their defaults by pressing:

[SET] [END] [END]

“**ALL CLEARed**” will display for one second indicating that an All Clear has been performed.

Manual Reset – All values can be cleared and all settings including the Preferences returned to their defaults by performing a manual reset. A manual reset can be performed by using a paperclip (or something of similar size) to press into the small reset hole located beneath the bottom slide cover. “**ALL rESEt**” will display for one second indicating that the device has been reset.

See *Setup Keys* section for the location of the reset hole.

APPENDIX C

SPECIFICATIONS

Operating Modes	Stand Alone Operation, PC Input Mode, Digitizer Tablet Coordinate Entry (optional software is required)
Operating Systems Supported	Windows 2000, XP & Vista
Computer Interface	USB 1.1 and 2.0 compatible HID Mode
Bar Dimensions:	
Footprint	651 x 956 x 36 mm (25.63 x 37.63 x 1.40 inch)
Active Measurement Area	610 x 914 mm (24 x 36 inch) (re-configurable)
Weight	1049 grams (2.31 lbs)
Puck Dimensions:	
Footprint	294 x 199 x 30 mm (11.57 x 7.83 x 1.18 inch)
Weight	200 grams (7 oz)
Power Source	USB power when connected to PC 4 "AAA" batteries when used as stand alone
Range	1 to 36 inches
Accuracy	±0.040 inch
Operating Temperature	5 to 40°C (41 to 104°F)
Storage Temperature	-20 to 60°C (14 to 122°F)
Humidity Range	0 to 95%, non-condensing

APPENDIX D

REPAIR AND RETURN

WARRANTY, REPAIR AND RETURN INFORMATION Return Guidelines

1. Please read the Warranty in this User's Guide to determine if your Calculated Industries product remains under warranty before calling or returning any device for evaluation or repairs.
2. If your product won't turn on, check the battery as outlined in the User's Guide.
3. If you need more assistance, please go to the website listed below.
4. If you believe you need to return your product, please call a Calculated Industries representative between the hours of 8:00am and 4:00pm Pacific Time for additional information and a Return Merchandise Authorization (RMA).

Call Toll Free: 1-800-854-8075
Outside USA: 1-775-885-4900
www.calculated.com/warranty

WARRANTY Warranty Repair Service – U.S.A.

Calculated Industries ("CI") warrants this product against defects in materials and workmanship for a period of one (1) year from the date of original consumer purchase in the U.S.

If a defect exists during the warranty period, CI, at its discretion, will either repair (using new or remanufactured parts) or replace (with a new or remanufactured digitizer) the product at no charge.

THE WARRANTY WILL NOT APPLY TO THE PRODUCT IF IT HAS BEEN DAMAGED BY MISUSE, ALTERATION, ACCIDENT, IMPROPER HANDLING OR OPERATION, OR IF UNAUTHORIZED REPAIRS ARE ATTEMPTED OR MADE. SOME EXAMPLES OF DAMAGES NOT COVERED BY WARRANTY INCLUDE, BUT ARE NOT LIMITED TO, BATTERY LEAKAGE, BENDING, A "BLACK INK SPOT" OR VISIBLE CRACKING OF THE LCD, WHICH ARE PRESUMED TO BE DAMAGES RESULTING FROM MISUSE OR ABUSE.

To obtain warranty service in the U.S., please go to the website. A repaired or replacement product assumes the remaining warranty of the original product or 90 days, whichever is longer.

Non-Warranty Repair Service – U.S.A.

Non-warranty repair covers service beyond the warranty period, or service requested due to damage resulting from misuse or abuse.

Contact Calculated Industries at the number listed above to obtain current product repair information and charges. Repairs are guaranteed for 90 days.

Repair Service – Outside the U.S.A.

To obtain warranty or non-warranty repair service for goods purchased outside the U.S., contact the dealer through which you initially purchased the product. If you cannot reasonably have the product repaired in your area, you may contact CI to obtain current product repair information and charges, including freight and duties.

Disclaimer

CI MAKES NO WARRANTY OR REPRESENTATION, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCT'S QUALITY, PERFORMANCE, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. AS A RESULT, THIS PRODUCT, INCLUDING BUT NOT LIMITED TO, KEYSTROKE PROCEDURES, MATHEMATICAL ACCURACY AND PREPROGRAMMED MATERIAL, IS SOLD "AS IS," AND YOU THE PURCHASER ASSUME THE ENTIRE RISK AS TO ITS QUALITY AND PERFORMANCE. IN NO EVENT WILL CI BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY DEFECT IN THE PRODUCT OR ITS DOCUMENTATION.

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Calculated Industries, a leading manufacturer of special-function calculators and digital measuring instruments, is always interested in new product ideas in these areas. If you have an idea, or a suggestion for improving this product or User's Guide, please submit your comments online at www.calculated.com under "Contact Us", "Product Idea Submittal Agreement." Thank you.

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www.calculated.com

FCC Declaration of Conformity

WARNING: Changes or modifications to this equipment not expressly approved by Calculated Industries, Inc. and Scale Master Technologies, LLC could void the user's authority to operate this equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- >> Reorient or relocate the receiving antenna.
- >> Increase the separation between the equipment and receiver.
- >> Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.



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Notice for Canada

Radio Interference Notice for Canada

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme ala norme NMB-003 du Canada.

Compliance Information

Product Name and Model: Ultra Scale Master® Pro, Model 6260

The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC and carries the "CE" mark accordingly.

Safety	EN60950-1: 2002;
EMC	EN55022: 1998;
	EN55024: 1998;
	EN61000-4-2: 1995,
	EN61000-4-3: 1997

FCC 47 CFR, Part 15 Class B

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

4/07



UG6260E-B

Designed in the U.S.A. • Printed in China