Cubiscan® 325

Operations and technical manual

Version 2.0

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Cubing and weighing systems

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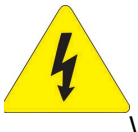
CUBISCAN®

Cubiscan 325 operations and technical manual

CAUTION

The Cubiscan 325 should only be serviced by qualified personnel.
Observe precautions for handling electrostatic sensitive devices when setting up or operating the Cubiscan 325.



WARNING

Disconnect all power to the Cubiscan 325 before servicing or making any connections.

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LIMITED WARRANTY

QUANTRONIX NEW PRODUCT

Statement of Warranty. Quantronix, Inc.'s, warranty obligations are limited to the terms set forth below: Quantronix (hereinafter referred to as the "Seller") warrants that its new product is in accordance with Seller's published specifications (or those agreed upon with Buyer in writing) at the time of sale or lease and that it is free from non-cosmetic defects in materials and workmanship under normal use for a period of one (1) year from the date of sale or the commencement date under a written equipment lease or rental agreement (the "Warranty Period"). If a hardware defect arises and a valid claim is received within the Warranty Period, at its option, Seller will either (i) repair the hardware defect at no charge, using new or refurbished replacement parts, or (ii) exchange the product or defective part(s) with a product or part(s) that are new or which has been manufactured from new or serviceable used parts and is at least functionally equivalent to the original product or part, or (iii) refund the purchase price of the product after Buyer has returned the product to Seller. For purposes of this warranty agreement, "Buyer" shall mean and refer to (i) the party which originally – whether from Seller directly, or from an authorized distributor, agent or reseller who is authorized by Seller – purchases, or leases under a written equipment lease or rental agreement, the Seller's product which is the subject of this warranty, or (ii) any subsequent purchaser or transferee that acquires valid title to the equipment within the Warranty Period.

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1. Been the subject of an accident, or repairs or modifications attempted or made and not authorized by Seller.

2. Been used with incompatible products.

3. Been operated under abnormal conditions, excessive heat or cold, highly corrosive environments, or in an unintended manner.

4. Not been operated or maintained in accordance with Seller's instructions.

5. Been subject to misuse or abuse, negligent handling, improper installation, accident, damage by fire, flood, snow, ice, water or other liquid damage, lightning, abnormal electrical condition and/or power surge, earthquake, or other act of God or events outside of Sellers control.

6. Had serial numbers altered, defaced or removed.

7. Been operated beyond capacity.

8. Not been manufactured by Seller including parts, accessories, or components which have been integrated into, used alongside of, or in conjunction with a product manufactured by Seller.

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Manual updated February 19, 2024.

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CHAPTER 1
PRODUCT DESCRIPTION

The Cubiscan 325 is a large, static cubing system that uses sensing technologies to measure and weigh irregularly-shaped parts and components as well as boxed items. Small and large items are measured with great precision using infrared sensing technology. The sensing gate is moved by hand to allow the user complete control over the measuring process.

The Cubiscan 325 is commonly used to improve storage-space planning, for carton size selection, repacking, check-weighing, and shipment manifesting in medical, pharmaceutical, apparel, hardware, and consumer goods distribution. It has an integrated touchscreen display and outputs to a user-supplied PC. Capacity for irregular items can be measured up to 36 x 24 x 24 inches with a resolution of 0.05 inches. The Cubiscan 325 also includes an integrated, high-accuracy 50 x 0.005 lb scale.

Each unit has one active serial communication port, one Ethernet port, one USB-B port and three USB-A ports. Proprietary interface software, called Qbit™, is available and allows for menu-driven operator control, data storage/transfer, and diagnostics. A mobile cart and useful accessories such as a portable power supply are available to create a completely mobile cubing, weighing, and identification workstation.

The Cubiscan 325 uses powerful sensing technologies to create a flexible and economical solution for today's most demanding cubing and weighing applications.

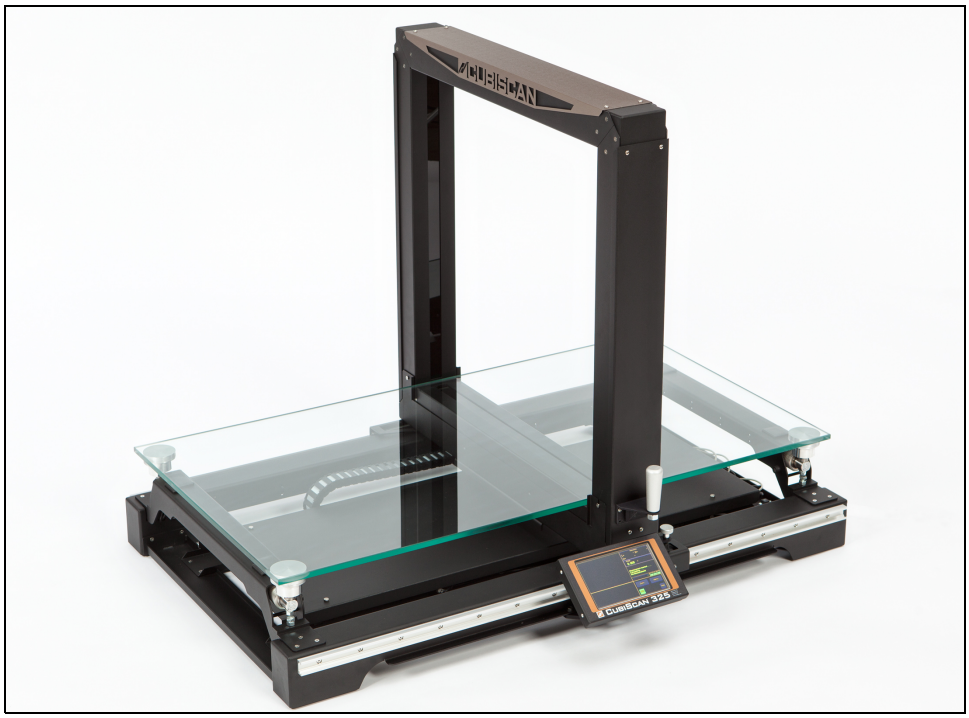

Figure 1
Cubiscan 325

Specifications

Power requirements

100 – 240 VAC, 50 – 60 Hz

Environmental

Operating temperature:	14° to 104° F (-10° to 40° C)
Humidity:	0 to 90% non-condensing

Measuring sensor

Infrared light beam

Weight sensor

Four load cells

Measuring capacities

Measurement range

Length:	0.10 to 36.00 in (0.2 to 90.0 cm)
Width:	0.10 to 24.00 in (0.2 to 60.0 cm)
Height:	0.10 to 24.00 in (0.2 to 60.0 cm)

Measurement increment: 0.05 in (0.1 cm)

Measurement time: 1-5 seconds

Object characteristics: Opaque

Weight capacity: 0.005 to 50.000 lb (0.002 to 25.000 kg)

Weight increment: 0.005 lb (0.002 kg)

Physical

Length:	49 in (125 cm)
Width:	38 in (97 cm)
Height:	38 in (97 cm)
Weight:	173 lbs (78.5 kg)

User Interface

Minimum PC Specifications:
Windows 10/8/7/XP/95/98/NT/2000, Pentium II processor, 20 megabytes of disk space, screen resolution setting of 800 X 600

Cubiscan's QBIT™ software can be used to interface with the Cubiscan 325.

Display:
Integrated TFT LCD touchscreen displays L, W, H, weight, unit of measure, 2D and height profile, and diagnostic codes.

Outputs:
Serial (1), Ethernet (1), USB-B (1), USB-A(3)

CHAPTER 2
SETUP

This chapter provides instructions for assembling and setting up the Cubiscan 325. Perform the steps to set up the Cubiscan 325 in the following order:

Unpacking

The Cubiscan 325 is shipped in a crate with all components. The glass platform is packed in a separate cardboard box inside the crate.

Remove the glass platform from the box and place it in a safe location. The platform is in a protected cardboard box inside the top of the crate.

Remove the box of accessories packed on the side of the crate.

Figure 2
Cubiscan 325 in crate

Examine the container and the Cubiscan 325 carefully for any damage. If, after unpacking, you discover any damage to the Cubiscan 325, contact the carrier immediately.

Remove the wooden supports holding the Cubiscan 325 in place.

Refer to the list below to identify the components.

- AC power cord
- Calibration Cube, 5'' x 3'' x 2''
- Ethernet cable
- Hardware (Phillips screws, load cell balls, T-handle pins, glass platform ball sockets)
- Touchscreen
- Trend net Ethernet adapter

If any of the components or accessories are missing or defective, contact Cubiscan or your system integrator.

Lift the Cubiscan 325 out of the shipping crate. It is best to have two people to do this because the Cubiscan 325 weighs about 173 lbs (78.5 kg) and may be awkward to handle.

Placement

The Cubiscan 325 is designed to be operated in a warehouse environment; however, for proper operation the following conditions should be met if possible.

- Do not subject the Cubiscan 325 to extremes in temperature or humidity. Locate the Cubiscan 325 as far from open freight doors as possible. Heaters or air conditioners should not blow directly on the Cubiscan 325.
- Avoid placing the Cubiscan 325 in direct sunlight, as it may affect measurement readings.
- Protect the Cubiscan 325 from static electricity, especially the touchscreen.
- Place the Cubiscan 325 on a flat, sturdy surface as free from vibration as possible. Excess vibration can reduce the accuracy of the Cubiscan 325 scale.
- The Cubiscan 325's platform is free-floating—it is resting on four springs (load cells). Maintain a minimum of one-inch clearance at the back and sides of the Cubiscan 325. Do not rest objects against or set objects on the Cubiscan 325 when not in use.
- If a computer is used, place it as close to the Cubiscan 325 as possible. The operator needs to use the keyboard or mouse on the computer while cubing and weighing packages using the Cubiscan 325.
- Orient the Cubiscan 325 so the touchscreen faces the operator.

Assembling the Cubiscan 325

The Cubiscan 325 is almost completely assembled when shipped.

- Place the base assembly of the Cubiscan 325 on a stable surface. Make sure that the Cubiscan 325 is level. Adjust the leveling feet located in each corner if necessary.
- An optional cart, custom-designed for the Cubiscan 325, is available from Cubiscan. If you purchased this cart, use the two T-handle pins to secure the Cubiscan to the cart. See Figure 3.

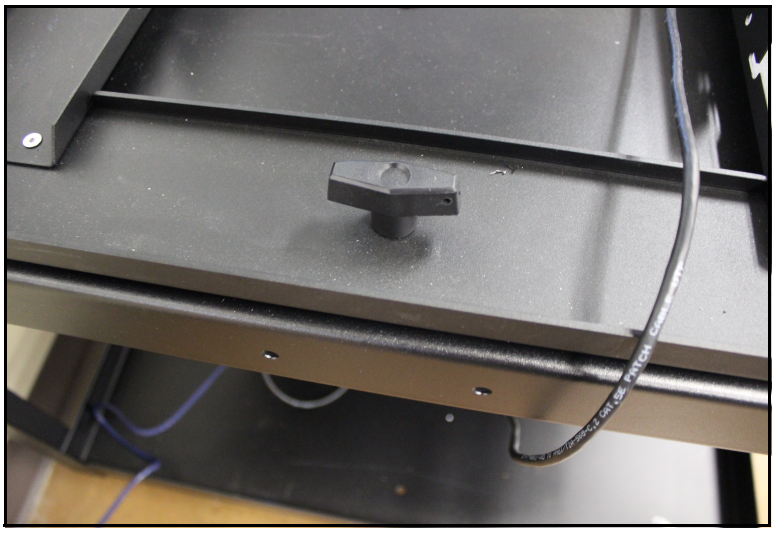

Figure 3
T-Handle

Removing the shipping material

1. Remove the zip ties holding the gate in place.

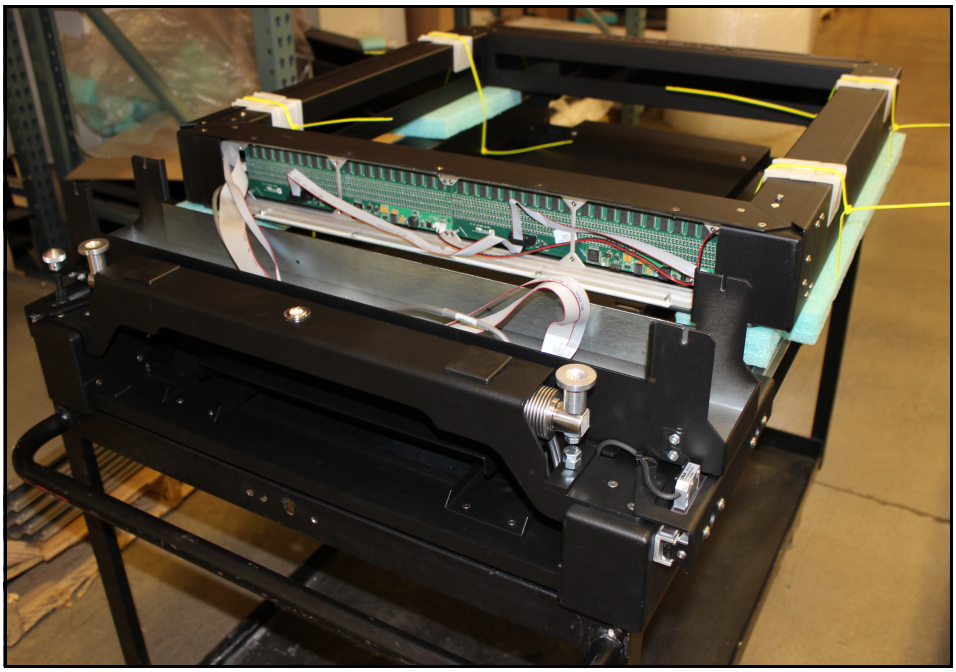

Figure 4
Gate zip ties

Placing the gate

1. Use two people to carefully lift the gate up and place it in the gate tray; avoid pinching any cables. The front of the gate (the side with the handle attached), must face the front of the system. If this side of the gate is not in front, the Cubiscan will not work properly.

2. Before securing the gate in place, remove the red brackets at the bottom of the gates.

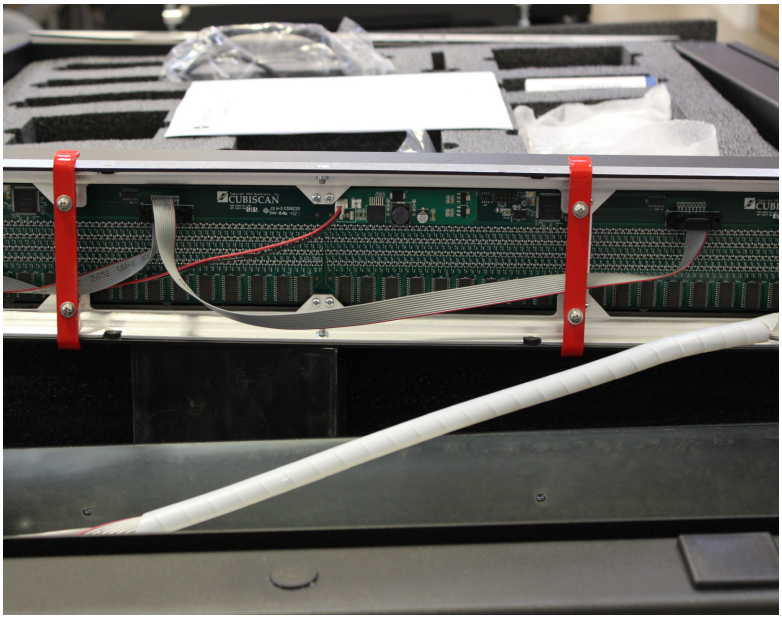

Figure 5
Red brackets

3. Secure the gate to the gate tray using the eight Phillips screws provided. The four slot screws may already be screwed into the gate. If they are, you only need to screw four Phillips screws into place.

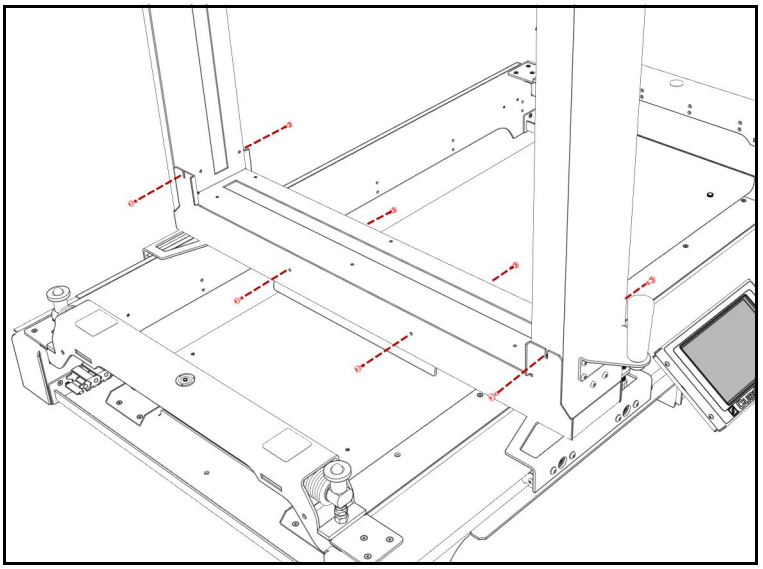

Figure 6
Gate screws

Placing the glass platform

1. Place the four load cell balls in the load cell cups.

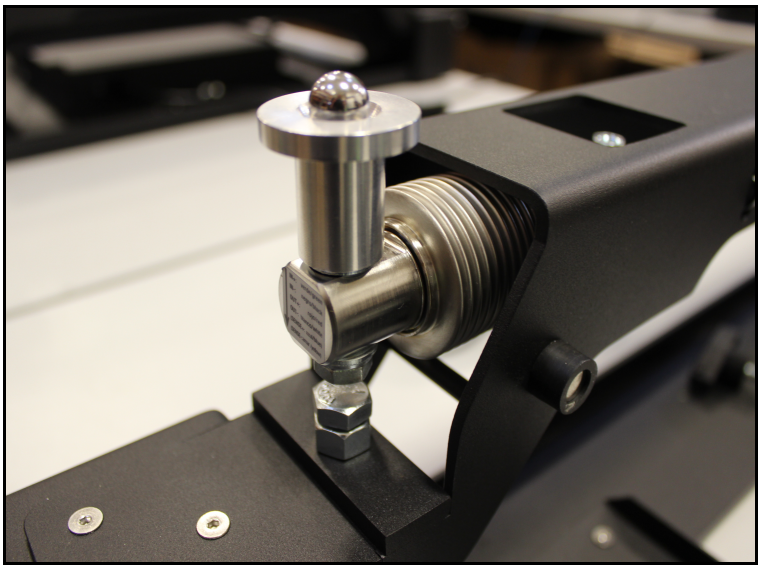

Figure 7
Load cell balls

2. Remove the glass cubing and weighing platform from the cardboard box that was in the shipping crate. You will need to screw the four ball sockets into place. Locate the ball sockets and 16 screws among the hardware provided. Screw the ball sockets in place as shown below.

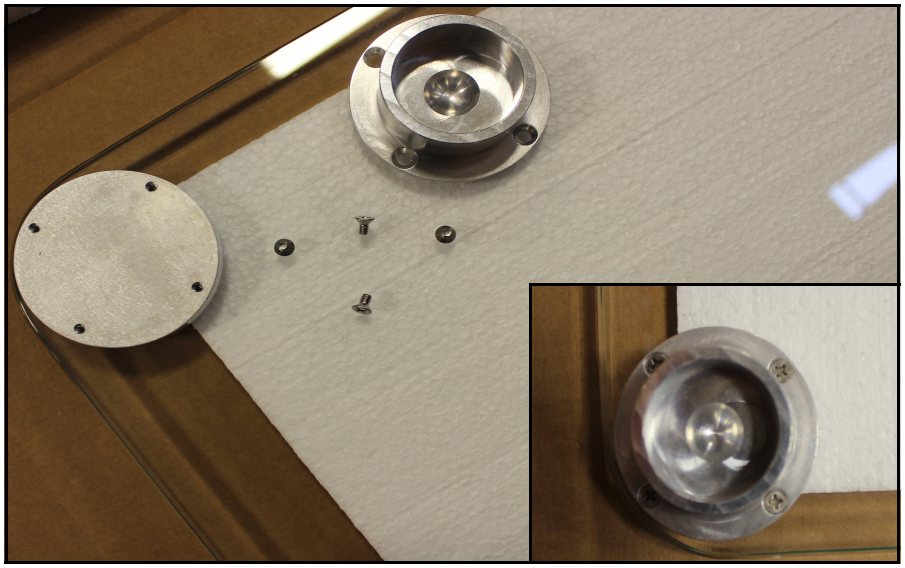

Figure 8
Glass platform ball socket

3. Carefully place the glass platform on the load cells, as shown below. It is best to use two people to move the glass. Avoid placing excessive force or stress on the load cells.

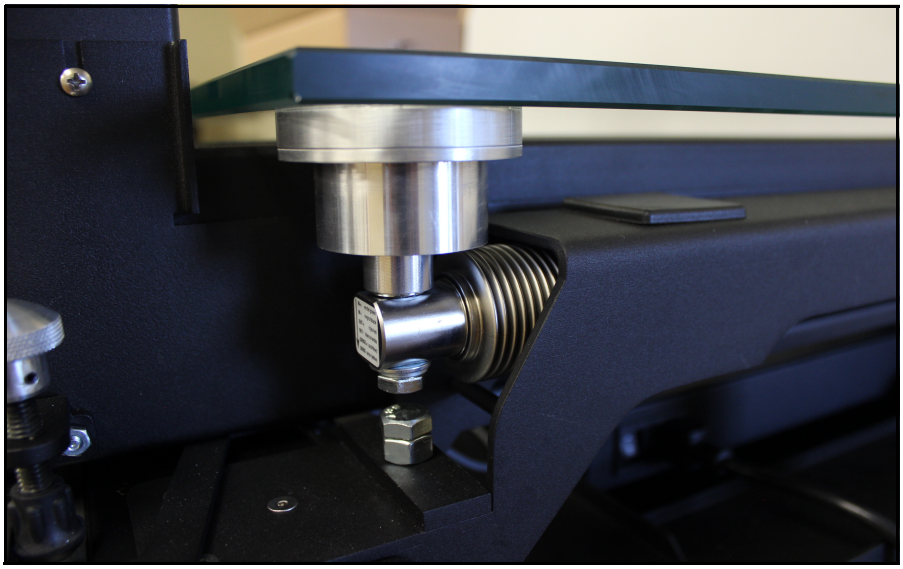

Figure 9
Glass platform

Attaching the touchscreen

1. Remove the two wing nuts from the back of the touchscreen.

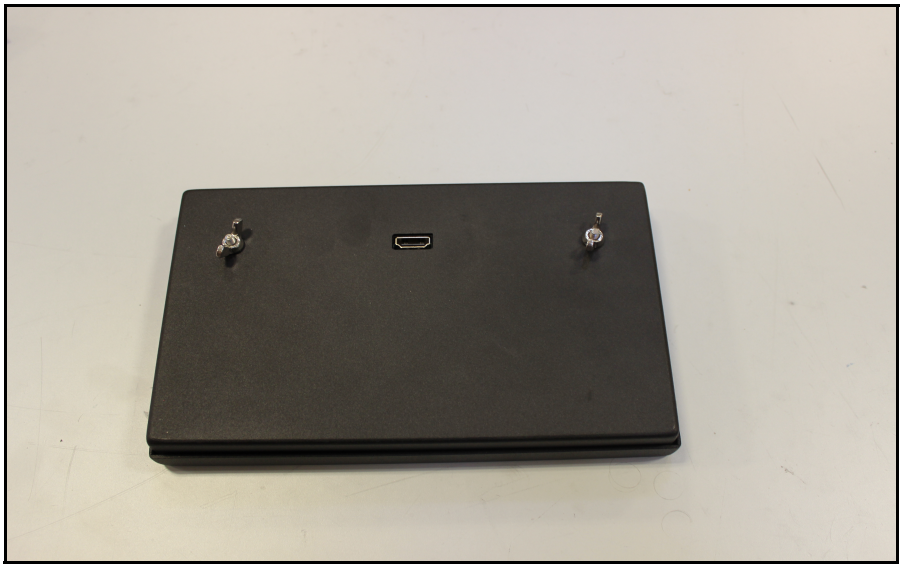

Figure 10
Touchscreen wing nuts

2. Attach the touchscreen to the mount on the front of the Cubiscan. Secure the touchscreen using the two wing nuts.

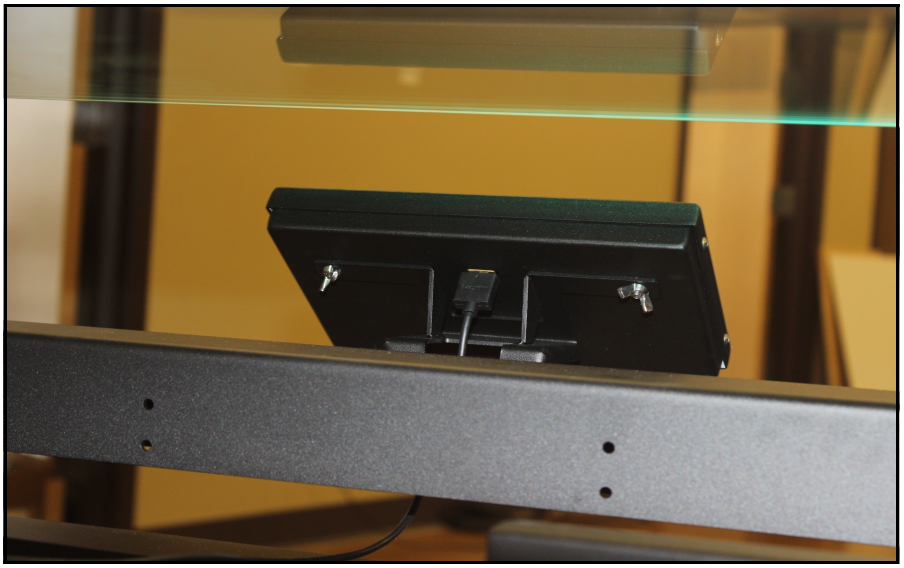

Figure 11
Touchscreen attached

3. Plug the display cable into the back of the touchscreen.

Loosen the gate stop

1. Loosen the gate stop by turning it counter-clockwise. If you ever want to lock the gate in place, simply turn the gate stop clockwise until the gate no longer moves.

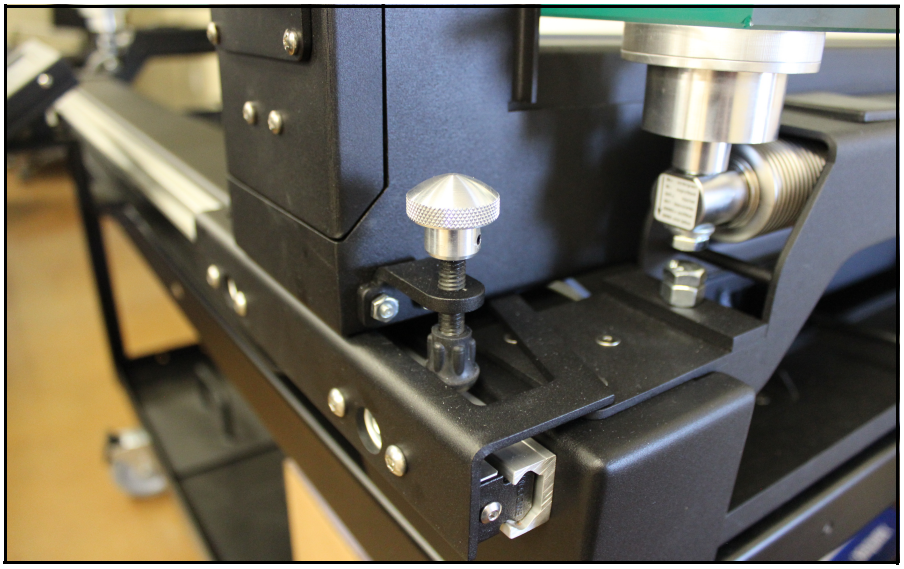

Figure 12
Gate stop

Connecting power

1. Locate the AC power cord (supplied) and connect it to the power connection on the right side of the controller box as shown below.

Figure 13
Connecting power

2. Route the AC power cord so it cannot be crushed, bent, or pulled loose.

3. Connect the other end of the AC power cord to a standard power outlet.

4. Use the power switch on the right side of the controller box (shown above) to turn the Cubiscan 325 on and off.

NOTE *The Cubiscan 325 should be powered on before running the Qbit program to cube and weigh packages.*

Turning on the Cubiscan 325

Specific procedures must be followed each time you turn on the Cubiscan 325, as follows:

1. Make sure there are no packages or other objects on the Cubiscan 325 platform.

2. Make sure the gate is in the home position (right-hand side).

3. Turn on the Cubiscan 325 with the power switch located on the right side of the controller box.

4. Zero the Cubiscan 325. For instructions, see "Zeroing the Cubiscan 325" on page 35

The Cubiscan 325 performs self-calibration and diagnostic procedures that take about 5 seconds. Do not touch the Cubiscan 325 platform during these 5 seconds.

Connecting to a computer or network (optional)

To connect the Cubiscan 325 to a computer, do the following.

1. Place the computer close to the Cubiscan 325. (Refer to "Placement" on page 7 for information.)

2. Remove the center cover by removing the two thumb screws located on the right-hand side of the cover. Slide the cover off to the left so that you can access the ports on the left side of the controller.

3. Locate the controller box. The controller box can be found beneath the measuring gate's home position (the right-hand side).

4. Choose from one of the following operating methods.

- Connect the Cubiscan 325 to a host system via a standard 10/100Base-T Ethernet TCP/IP port. This is the recommended method and all parts needed to connect the Cubiscan 325 to a computer via an Ethernet connection have been supplied by Cubiscan. You may need to load the driver. To load the driver onto the computer follow the instructions on page 17. You can use Qbit software or the touchscreen options to configure the Cubiscan 325 for TCP/IP communication. Contact Cubiscan for information on available software. Or, refer to the Communications Protocol.
- Connect the Cubiscan 325 to a PC using a USB cable (not provided) through the USB port on the controller box.
- Connect the Cubiscan 325 to a PC through the RS-232-C serial port on the controller box. Use the Qbit software on the computer to run the Cubiscan 325.

- Operate the Cubiscan 325 without a computer using the touchscreen. Refer to "Measuring/Weighing items" on page 32 for information.

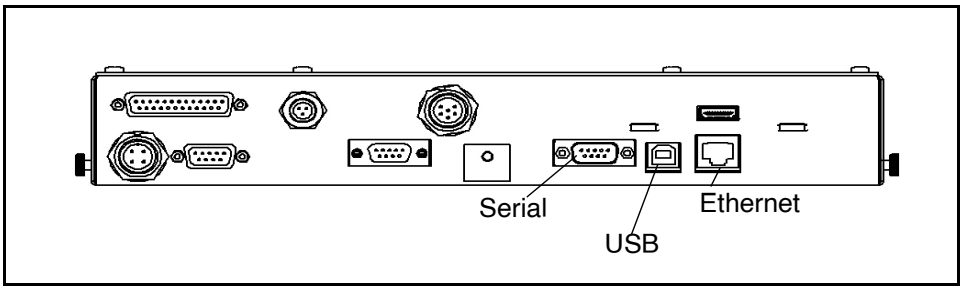

Figure 14
Ethernet, serial, and USB connectors

Connecting to a computer via Ethernet

This section describes how to use Ethernet to connect a computer to the Cubiscan 325 (recommended method).

Use Cubiscan® Qbit software (refer to the *Qbit User Guide*) or the touchscreen options (see CHAPTER 4 "CONFIGURATION") to configure the Cubiscan 325 for TCP/IP communication. Contact Cubiscan if you need additional assistance.

If you are using the Ethernet connection option:

1. Install the driver that is needed, for further information on installing the driver, see "Installing and configuring the Ethernet driver" on page 17.
2. Connect the Ethernet cable (supplied) to the Cubiscan 325's Ethernet port, as shown in Figure 14.
3. Attach the Ethernet cable to the TRENDnet USB to Ethernet cable adapter (supplied).
4. Connect the TRENDnet cable adapter to the PC.

NOTE *The following screen images were taken from a Windows 7 operating system. Your screen images may appear different if you are using a different operating system. The Cubiscan is compatible with later versions of Windows, including Windows 11.*

Installing and configuring the Ethernet driver

To install the Ethernet driver complete the following steps:

1. Plug the white TRENDnet USB to Ethernet adapter into the computer. The following bubble will appear in the bottom right corner of the screen.

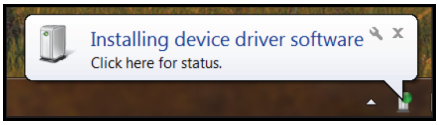

Figure 15
Installation bubble

- Wait a few moments for the installation process to finish and the following bubble will pop up.

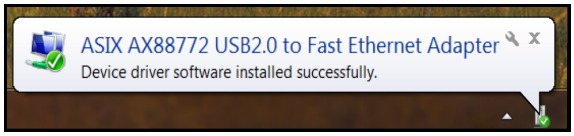

Figure 16
Device installed bubble

- If you clicked on the installation bubble, the following window will open.

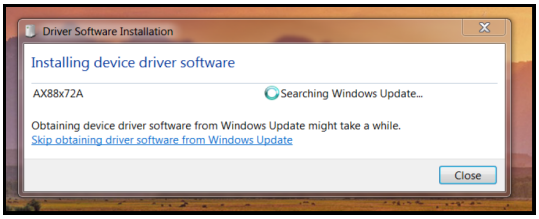

Figure 17
Installation process bubble

- Once the driver has finished the installation process it will report that the adapter is ready to use.

Figure 18
Adapter is ready to use

Access Ethernet network settings

Once the driver is installed you need to set the static IP address and the Subnet mask of the adapter. You can access these network settings by completing the following steps:

1. Under **Control Panel > Network and Internet > Network and Sharing Center** locate and click on the correct connection to bring up the status window.

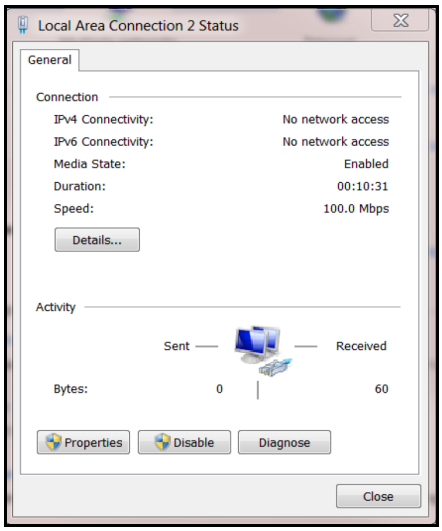

Figure 19
Status window

2. Select **[Properties]**. Double click Internet Protocol Version 4 to bring up the general properties window.

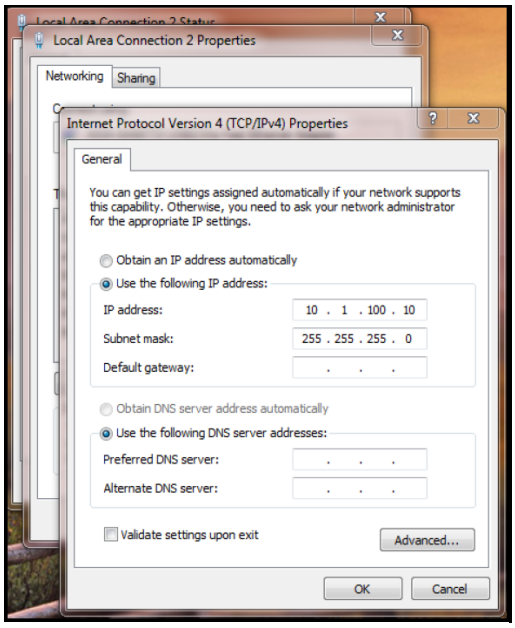

Figure 20
General properties window

From this screen you can set the IP address and Subnet mask. The recommended IP address setting is 10.1.100.10. The recommended Subnet mask setting is 255.255.255.0.

3. Click **[OK]** to exit when you are finished. Close any other remaining windows.

Once you have completed this setup process, the computer should communicate with the Cubiscan 325.

Connecting to a computer via USB

This section describes how to use a USB connection to connect a computer to the Cubiscan 325.

If you are using the USB cable (not supplied) connection:

1. Connect the USB cable to the Cubiscan 325's USB port located on the controller box, as shown in Figure 14.

2. Make sure that the proper driver has been installed on the PC see "Installing and configuring the USB driver" on page 21.

3. Connect the USB cable to the PC.

Installing and configuring the USB driver

The USB-B communication uses the HID interface and does not require a driver. When it is turned on, the Cubiscan 325 will recognize the cable connection and, if configured correctly, will respond to a connection request from the host. The device will appear in the device manager list as an HID compliant device.

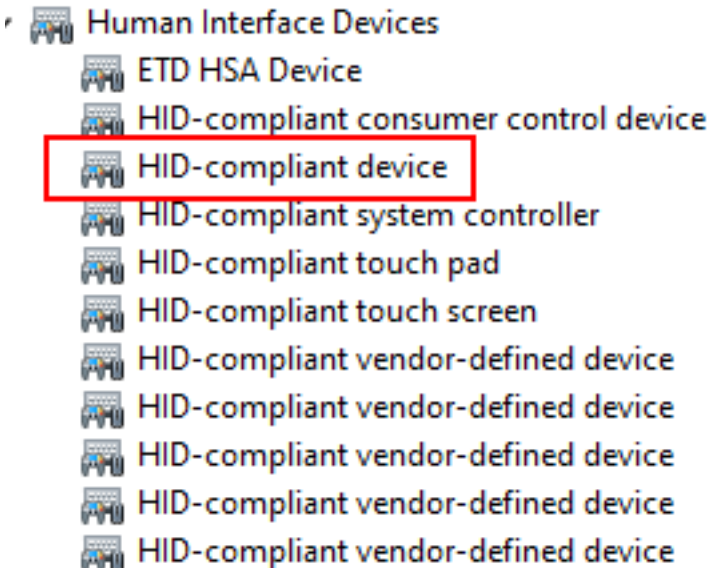

Figure 21
HID compliant device

Connecting to a computer via serial (RS-232-C)

If you are using the RS-232 serial communications cable (not supplied), complete the following steps:

1. Route the RS-232 serial communications cable so it cannot be crushed, bent, or pulled loose. Make sure that the cable does not interfere with the scale.

2. Connect the serial cable to the Cubiscan 325's serial port, as shown in Figure 14.

3. Locate a free RS-232-C serial port on your computer. Refer to your computer's documentation, if necessary, to identify the ports. If the serial port is 9-pin, connect the serial cable directly to the serial port.

4. To secure the RS-232 serial cable, tighten both screws at each end of the cable. It is important that the cable be secure.

Installing Qbit (optional)

A flash drive is available containing the Qbit software program, which can be used to operate the Cubiscan 325.

The *Qbit User Guide*, located on the drive, provides instructions for installing and using Qbit. You can also download the user guide from the Cubiscan website at www.cubiscan.com.

Barcode Scanner Mount (optional)

For your convenience, the barcode mounting assembly for the Cubiscan 325 is designed to mount on either the left or right side of the cart simply by flipping the mounting unit over to the correct orientation.

To do this ensure that the mount is situated so that the top surface slopes downward toward the front of the cart. This surface is where the barcode reader will be mounted and should be situated in a way that makes it easily accessible.

Use the ¼" Lock split washer and ¼" PHP screws to secure the mounting bracket to the cart.

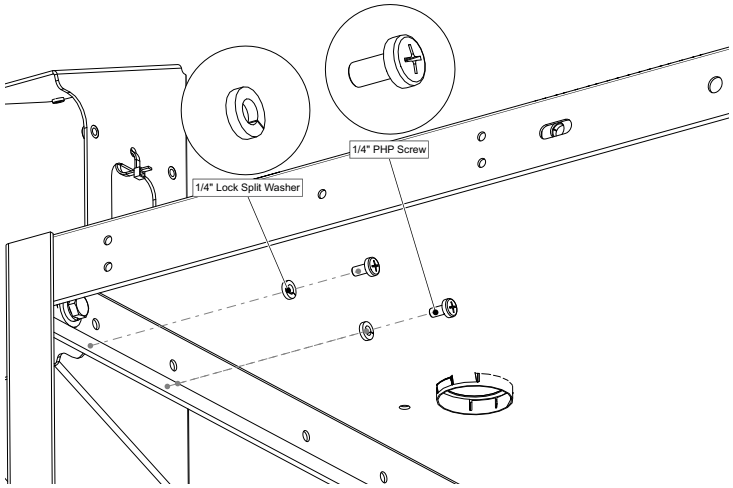

Figure 22
Left-hand mounting

When mounting on the right-hand side of the cart, you may remove the side panel in order to have better access to the bracket mounting holes.

As before, ensure that the mounting bracket is situated so the top mounting surface slopes downward toward the front of the cart.

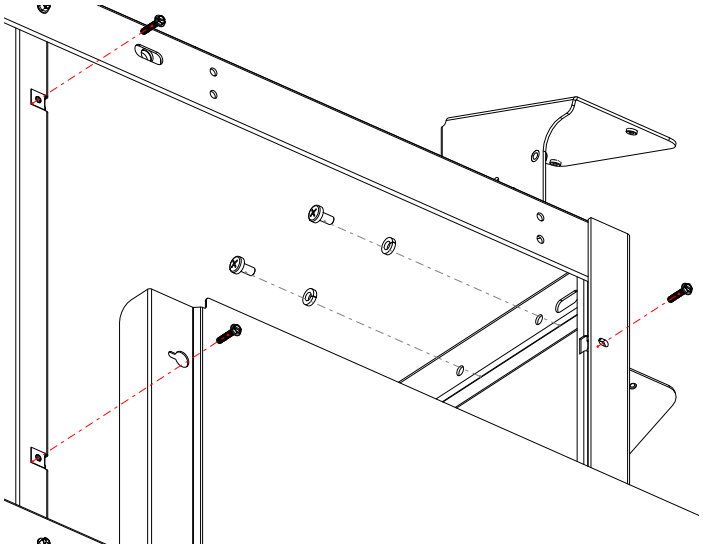

Figure 23
Right-hand mounting

Replace the side panel to its original position.

Once the mount is securely in place, use the three 1 ½" PHP screws to secure the barcode reader base to the mount.

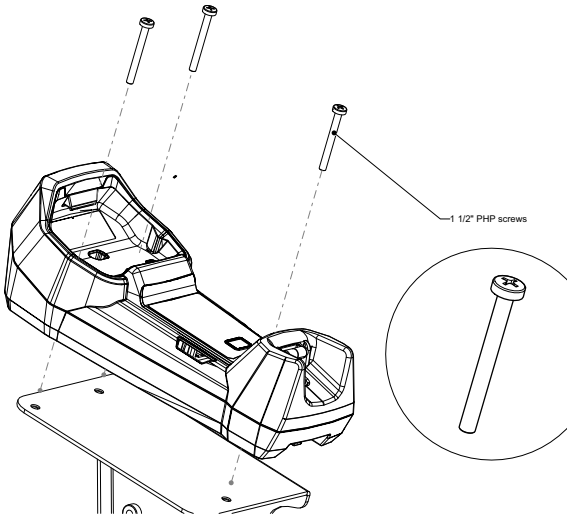

Figure 24
Mounting barcode base

The screws will pass through the mounting holes of the barcode reader stand and fasten to the corresponding holes in the mount.

Depending on the orientation, the cord will wrap on the left or right side of the mount as seen in Figure 25. Use cable ties to secure the cord to the mount.

Run the cord through the gap in the mount to the controller unit.

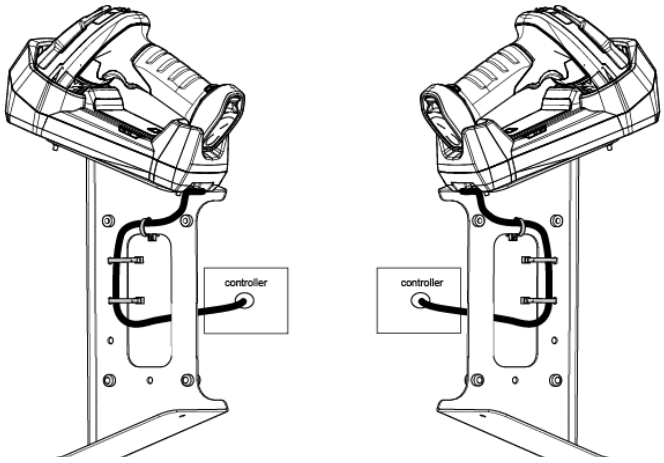

Figure 25
Cord winding

Setup checklist

Before using the Cubiscan 325 for the first time, verify the following:

1. Have the Cubiscan 325 and the computer (if applicable) been placed in the proper operating environment? (page 7)

2. Has the Cubiscan 325 been fully assembled? (page 7)

3. Has all shipping material been removed? (page 9)

4. Is the Cubiscan 325's glass platform free moving? The Cubiscan 325 should not be pushed up against a wall and no object, cable, etc., should be resting on it or against it.

5. Has the Ethernet, RS-232, or USB cable been attached to the Cubiscan 325 and the computer (if applicable)? (page 15)

6. Has the AC power cord been connected correctly? (page 14)

7. If you are using Qbit to operate the Cubiscan 325, has the software been copied onto your computer's hard-disk drive? (Refer to the *Qbit User Guide* for information.)

8. Does the Cubiscan 325 require recalibration? The Cubiscan 325 was calibrated at the factory, but *may* require recalibration due to handling during shipping. Refer to "CALIBRATION" on page 55 for information on calibrating the Cubiscan 325. If you are using Qbit software, check the status of the Cubiscan 325 before operating it. Refer to the *Qbit User Guide* for information on checking the Cubiscan 325's *status.important* events in history time line

CHAPTER 3
OPERATION

This chapter provides instructions for operating the Cubiscan 325.

NOTE *The Cubiscan 325's glass platform should be kept clean and free of objects that are not being measured.*

Before you begin

Follow the procedures below to turn on the Cubiscan 325. The Cubiscan 325 should be turned on before you start Qbit (if applicable).

1. Make sure there are no objects on the Cubiscan 325's platform.
2. Make sure that the gate has enough room to move freely.
3. Turn on the Cubiscan 325. The Cubiscan 325 performs self-diagnostic procedures that take about 5 seconds. Do not touch the Cubiscan 325 platform during these 5 seconds.
4. The Cubiscan 325 must be zeroed each time it is turned on. For instructions on zeroing the Cubiscan 325 see "Zeroing the Cubiscan 325" on page 35.

NOTE *Do not lean on or touch the Cubiscan 325 glass platform or the object while the object is being measured and weighed. Any kind of contact with the platform during the measurement process can alter the weight or sensor reading.*

CAUTION

While the Cubiscan 325 has overload protection, objects heavier than 50 pounds (25 kg) should not be placed on the platform. Overloading the scale or shock loading (dropping a heavy object on the scale) can cause permanent zero shift, making the scale inoperable.

Cubiscan 325 touchscreen

You can use the Cubiscan 325 touchscreen (below) to configure and control the Cubiscan 325 as well as display measurement results.

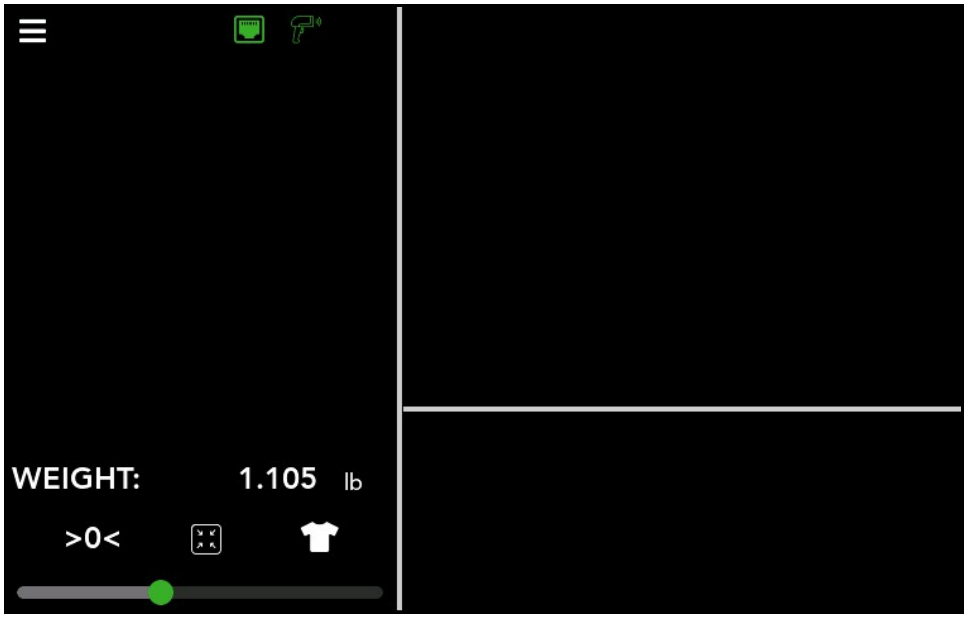

Figure 26
Cubiscan 325 touchscreen

Touchscreen care

Never use a sharp or hard-tipped object to tap on the touchscreen. You can tap lightly on the screen with your fingertip, or you can use the eraser end of a pencil or a stylus with a soft point. Use a light touch, just hard enough for the screen to respond.

To clean the touchscreen, moisten a soft cloth with water, then gently wipe the screen clean with the cloth. Do not spray liquid directly on the touchscreen.

Cubing and weighing

The Cubiscan 325 can be used to measure irregularly-shaped, opaque objects as small as 0.1 inch (refer to "Specifications" on page 2 for specifications and size limitations).

Objects are measured by the infrared light beams on the Cubiscan 325's gate by moving the gate over the object on the platform.

Refer to the appropriate following section for instructions.

Cubing and weighing using Qbit

Refer to the *Qbit User Guide* for instructions on measuring, weighing, and other functions in Qbit. The *Qbit User Guide* is provided on the flash drive or you can download it from the Cubiscan website at www.cubiscan.com.

Cubing and weighing using Web Services

Refer to the *API Documentation Guide* for instructions on interfacing to the Cubiscan via Web Services.

Cubing and weighing using other interfaces

Refer to the *Communications Protocol* for information to set up cubing and weighing through other interfaces.

Cubing and weighing using the touchscreen

All controls and displays for the Cubiscan 325 are shown on the touchscreen at the front of the base. If a computer is not connected, you can use the touchscreen to measure and weigh objects.

Measurement and weight results will only display when the Cubiscan 325 touchscreen is displaying the home screen.

Figure 27
Measurement display

Length
Width
Height
: These display the measured dimensions in inches (in), centimeters (cm), or millimeters (mm) as selected.

DIM-WGT
: This displays the measured dim-weight in pounds (lb) or kilograms (kg) as selected.

FACTOR
: *Displays the factor used to determine the dim-weight. The fact is typically determined by preconfigured settings or can be set manually. See* "Units" on page 45

WEIGHT
: Displays the weight of the object.

->0<- (indicator)
: This indicates that the scale is zeroed and ready to receive an object. This indicator must be lit before you can place an object on the platform. When you place an object on the platform, the indicator goes off.

Filter mode

Enable filter mode by tapping on the icon. In filter mode the Cubiscan 325 will detect the object with the most contiguous pixels (indicating the

largest object). All other objects or artifacts will still show in the view panel highlighted in red, but none will be included in the final calculation of the largest object.

Figure 28
Filter Mode

Apparel mode

Tapping the shirt icon will enable apparel mode. Measurement in apparel mode allows for a compression plate to be placed on the article to ensure height is measured accurately, see "Measuring with apparel mode" on page 36.

Menu

Tap the menu icon in the upper left corner of the machine to open the menu bar. From here you can select from the various options (**Version**,

Settings, **Measure settings**, **Connection**, **Gate, Scale**, **Touchscreen** and **Log**, as displayed below:

Figure 29
Menu

Measuring/Weighing items

The measuring gate can measure opaque objects as small as 0.1 inch (2 mm). An image of the object is displayed on the touchscreen as it is measured. Take the following steps to measure and weigh an item using the touchscreen:

1. Verify that the Cubiscan 325 scale is at zero. The zero (**>0<**) indicator should be highlighted.

2. Place the object on the glass platform. The zero (**>0<**) indicator will go out.

NOTE

Do not lean on or touch the Cubiscan 325 platform or the object while an object is being measured. Any kind of contact with the platform during the measurement process can alter the weight or sensor reading.

3. Move the measurement gate slowly using the handle until it has fully crossed the object. Once the gate has paused the measurement will register on the display. If the measurement was successful the length, width, height, and weight of the object are displayed.

4. Remove the object from the platform. Wait for the **zero** indicator to light before placing the next object on the platform.

5. If the **zero** indicator (**>0<**) does not highlight green, it means that the Cubiscan 325 needs to be zeroed. To zero the scale, make sure that the platform is free of all objects, then tap **[>0<]**.

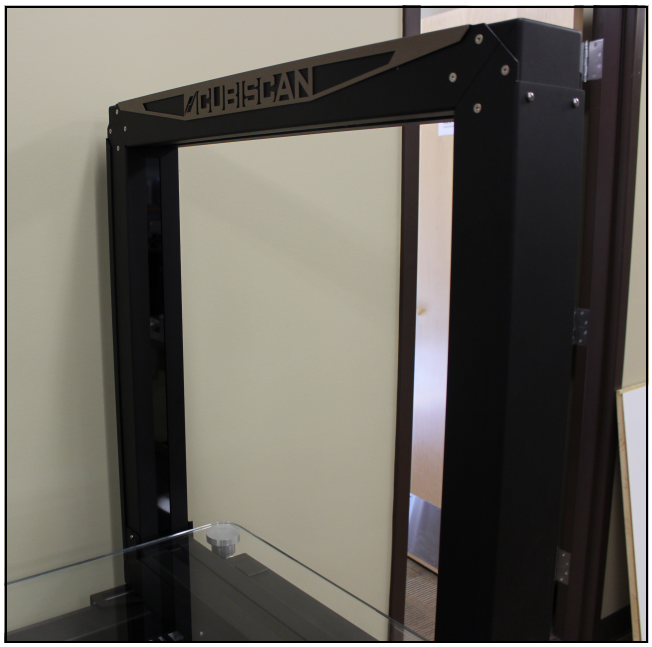

Figure 30
Measuring gate

NOTE

Do not move the gate too quickly across the platform. A gate speed error will display on the touchscreen if you move it too quickly.

A two-dimensional image of the object shows the top-down view of the object. An image of the side view of the object appears below the image of the top-down view. The length, width, height, and weight are displayed on the touchscreen.

Figure 31
Measurement display

Depending on settings, to fully complete the measurement other actions must be taken. The green icons at the top the home screen display indicate what actions need to be taken. These may include:

- Scanning the barcode or multiple barcodes is required. When this is enabled a green barcode will display at the top of the left-side display panel next to the menu icon. To enable/disable this function, see "Barcode" on page 45.
- Waiting for confirmation from the server that data was sent and received. To enable/disable this function, see "Server Acknowledge" on page 51.
- Remeasuring without the compression plate in the case of apparel mode. To enable/disable this function, see "Apparel" on page 48.

When the measurement is complete a checkmark will appear in the left-side panel.

Figure 32
Measuring check box

Zeroing the Cubiscan 325

Tap the **[>0<]** button on the touchscreen to "zero" the Cubiscan 325. This sets all empty measurements and weight to zero. The weight when the platform is empty must be set to zero for the Cubiscan 325 to operate properly. The Cubiscan 325 tries to zero itself automatically. However, you may need to use this option in the following circumstances.

- If, during a long measuring session, environmental conditions (temperature and humidity) have changed noticeably.
- If you suspect that the last zeroing was in error (something was on the platform).
- The weight displayed when nothing is on the platform is negative.

NOTE

Make certain that the platform is free of all objects before using Zero. If not, the zero reading will not be accurate.

Measuring with apparel mode

The following steps describe how to measure apparel in a way that allows you to measure average length, width, and height with filtering. This mode is a more efficient way to obtain measurements for accurate packaging of flexible items. To make the apparel mode function accessible on the home screen, see "Apparel" on page 48.

When measuring, the length and width measurement will be taken separate from the height measurement. Complete the following steps when measuring in apparel mode:

1. To enable apparel mode, tap the shirt icon at the bottom of the left-side panel of the home screen.

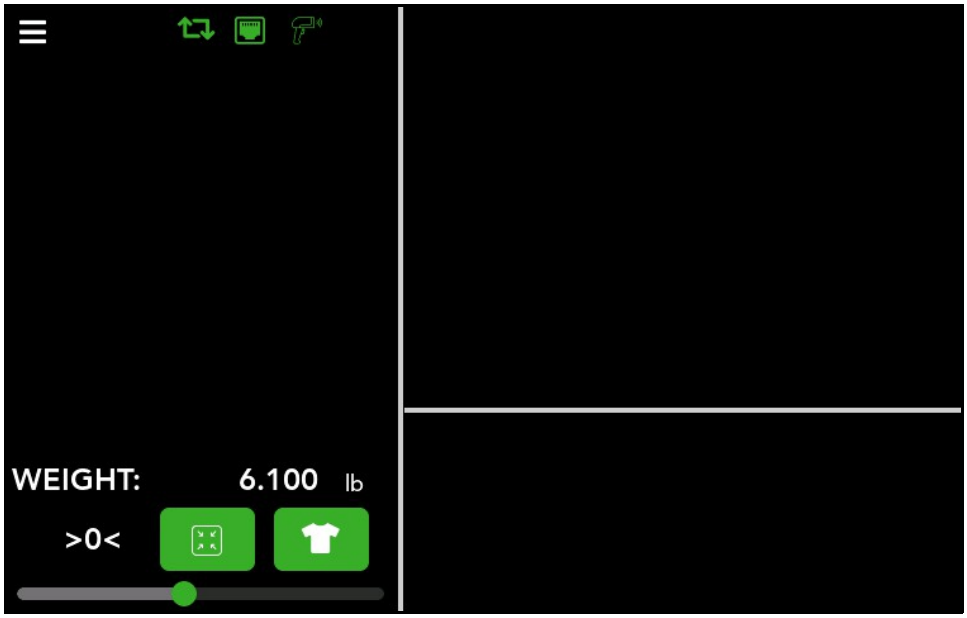

Figure 33
Apparel Mode

2. Begin by clearing all objects from the platform and ensuring the zero icon (**>0<**) is highlighted.

3. Place the apparel on the platform, followed by the compression plate.

4. Pass the gate over the apparel to complete the height measurement with the compression plate. Notice in the height display panel, a red line separates the boundary between the compression plate and the apparel. This allows for a more accurate measurement of height during

the second pass. No measurements are displayed in the left-side panel during first pass.

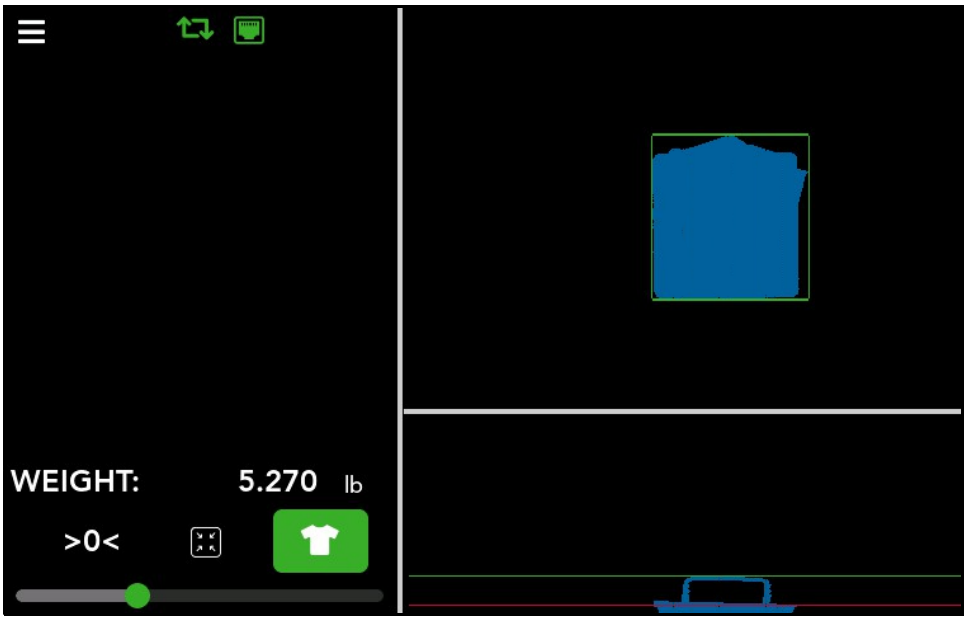

Figure 34
Apparel mode: first pass

5. Remove the compression plate, and pass the gate over the apparel again. Measurements will now display in the left-side panel with their respective adjustments. Notice in the height display, the red line is

present, indicating the compressed height, along with a green line, indicating the non-compressed height.

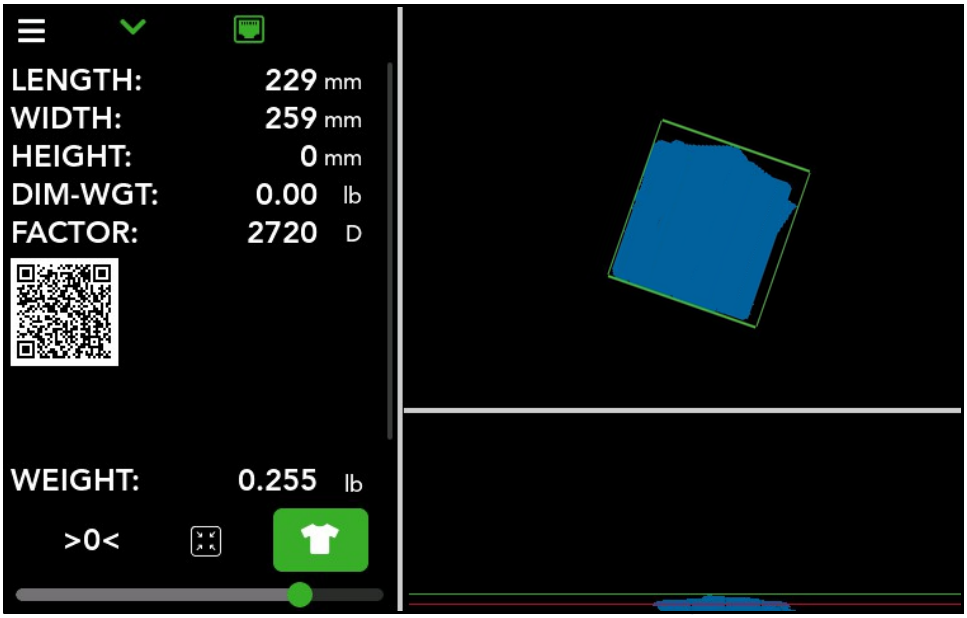

Figure 35
Apparel mode: second pass

6. Finish the measurement by performing any additional actions such as scanning the barcode.

CHAPTER 4
CONFIGURATION

This chapter provides instructions for using the Cubiscan 325 touchscreen to set up the length, width, and height measurements, as well as special features that the Cubiscan 325 offers. This chapter also provides instructions for configuring the units, dimensional weight factor, com port, and other settings. For information on calibrating the Cubiscan 325 gate, touchscreen, or scale, refer to CHAPTER 5 "CALIBRATION".

If you have a computer connected to the Cubiscan 325 with Qbit installed, you can use Qbit to set up the measurement and dimensional weight units, select the Cubiscan 325 communications port, perform calibration, and other functions. Refer to the *Qbit User Guide* for instructions on measuring and other functions in Qbit. The *Qbit User Guide* is provided on the flash drive with the Qbit application, or you can download it from the Cubiscan website at www.cubiscan.com.

Settings

General settings

The Cubiscan 325 may be customized to suit your specific dimensioning needs. To access the general settings, complete the following steps:

1. Tap the menu icon in the upper left corner of the home screen.

2. From the menu side panel, select **SETTINGS**.

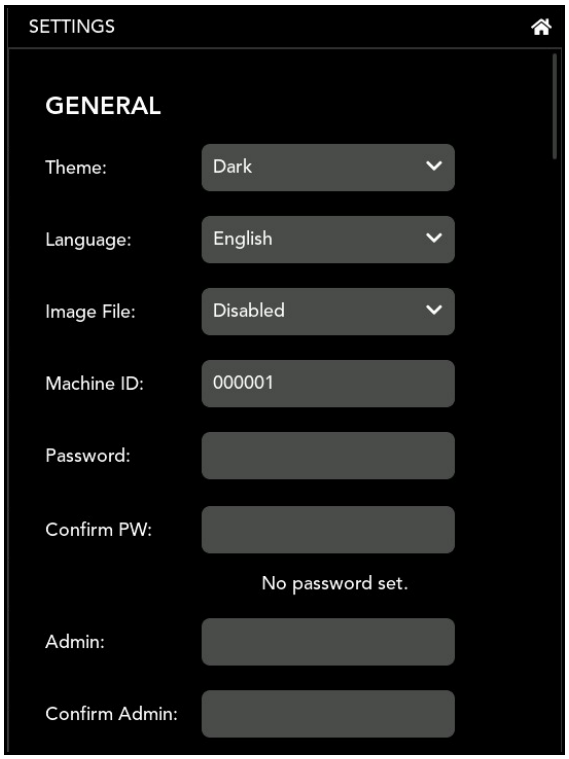

Figure 36
General settings

Theme Users may select from either a light theme or a dark theme.

Language Select your desired language form the following options: **English**, **French**, **Spanish**, **Portuguese**, **Japanese**, and **Chinese**.

Image File Images posted from the machine may be set to **XY BMP**, **XY&Z BMP**, or **disabled**.

Machine ID Optional Machine ID may be set for the Cubiscan. This may be useful in a facility where data is tracked from more than one Cubiscan.

Password Optional password Protection for the touchscreen is available. Enter desired password into the text field and reenter it in the field next to **Confirm PW**.

When the password is set you will also be prompted to enter the *password* and *username* to access the web interface administration page. The *username* will be **cubiscan** and the *password* will be whatever is entered in the settings.

Admin Add an administrator password by entering it in the field next to **Admin**. Reenter the password in the field next to **Confirm Admin**.

Date and Time

To set the date and time complete the following steps:

1. Tap the menu icon in the upper left corner of the home screen.
2. From the menu side panel, select **SETTINGS.**
3. Scroll down to the DATE AND TIME.

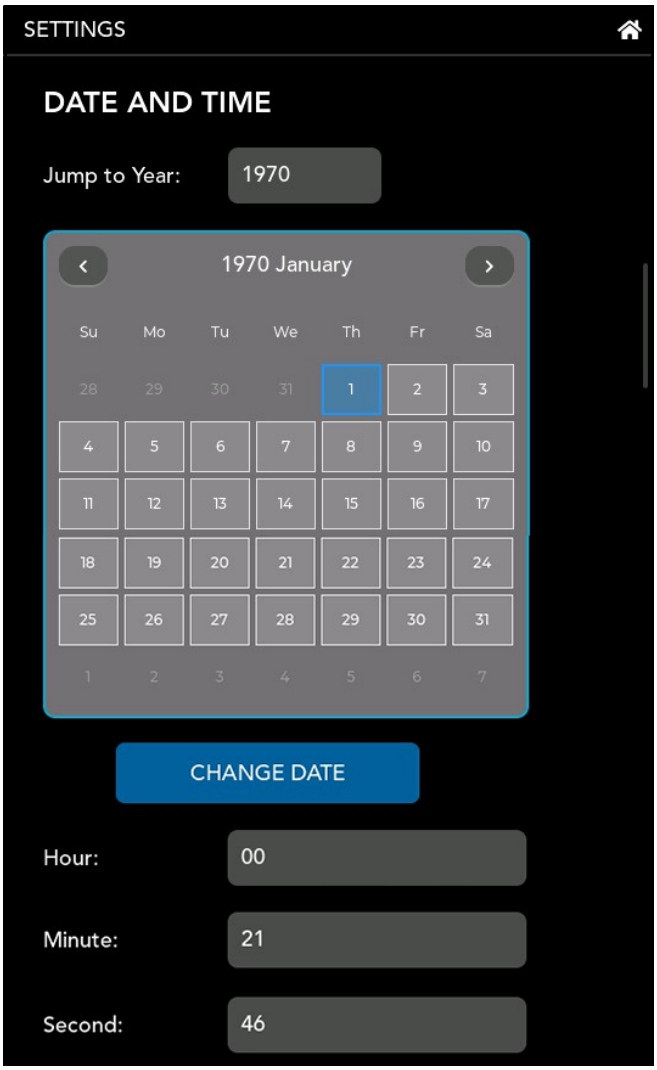

Figure 37
Date and Time

Date Settings

Set the date for the Cubiscan using the calendar input. Tap **[CHANGE DATE]** after making changes to the date to ensure changes are saved.

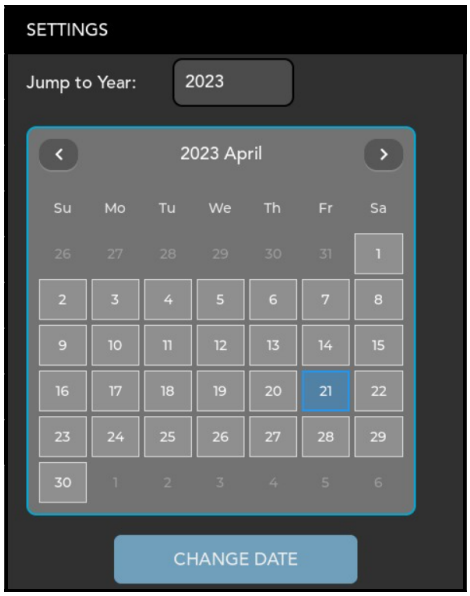

Figure 38
Date settings

Time Settings

Set the time by entering values into the text fields next to **Hour**, **Minute**, and **Second**.

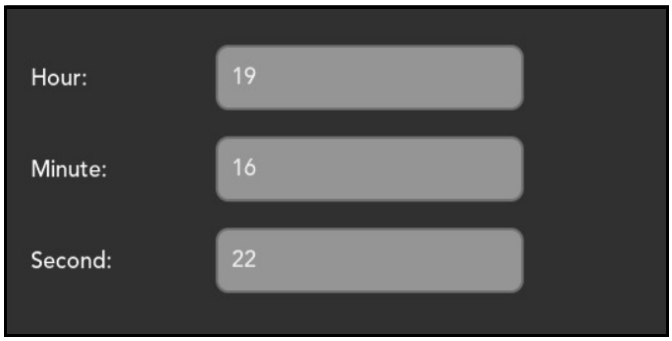

Figure 39
Time settings

System Reset

In the event that settings need to be reset back to factory defaults, the Cubiscan 325 has a system reset. By initiating system reset, all settings including custom settings will be reset back to their initial presets. Reseting

the system back to defaults will result in loss of all custom settings and should be avoided unless absolutely necessary.

Figure 40
System reset

To initiate a system reset complete the following steps:

1. Tap the menu icon in the upper left corner of the home screen.
2. From the menu side panel, select **SETTINGS.**
3. Scroll down to **SYSTEM RESET.**
4. Tap **[RESET TO FACTORY DEFAULTS]**.

Measure Settings

The following options can be used to configure your Cubiscan 325. Settings exist for configuring measurements and the interface, allowing you to setup a measurement system that meets your needs and preferences.

To access the measure settings, perform the following steps:

1. Tap the menu icon in the upper left corner of the home screen.

2. From the menu side panel, select **MEASURE SETTINGS**.

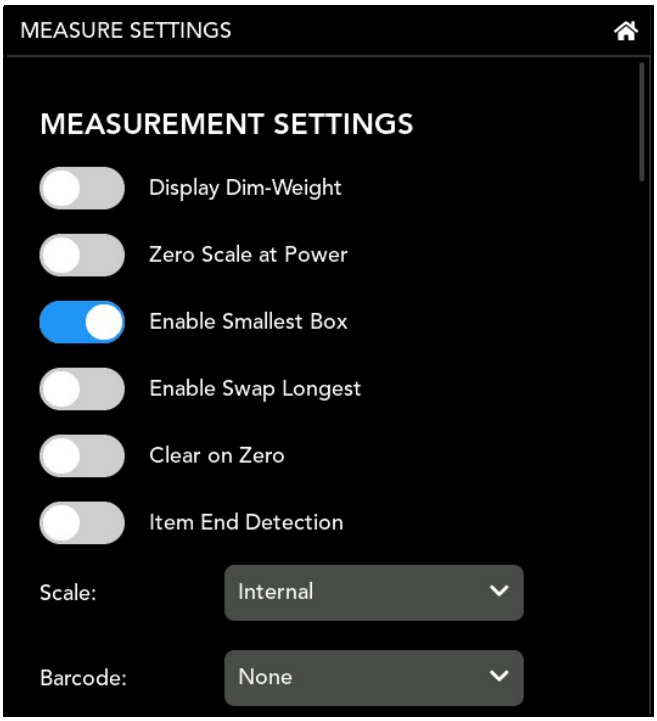

Figure 41
Measure Settings

Display Dim Weight Toggle this switch to display the dim weight and factor on the home screen.

Zero Scale at Power Toggle to have the scale zeroed automatically when powered on.

Enable Smallest Box Check this box if you want to enable the smallest box mode. This mode boxes items into the smallest box possible, the placement of the item on the platform makes no difference. Turning off the smallest box mode measures items depending on their placement on the platform.

Enable Swap Longest Check this box if you want to enable the Swap Longest feature. This feature will automatically report the longest dimension as the length.

Clear on Zero When this box is enabled, the image associated with a measurement will disappear once the item is removed from the measuring platform. When this box is unchecked, the image associated with a measurement will remain on the screen until a measurement of another item is taken.

Item End Detection Toggle item end detection on or off. This will enable an error message if a measurement is started but no end is detected.

Scale — Select **internal** to use the built-in scale or select **disable** to not use the scale.

Barcode — Select from **none**, **one**, or **two**. This will determine whether a barcode should be scanned and whether one or two barcodes should be scanned.

Units

The Units section, provides configuration of measuring units. These units will be displayed on the measurement screen and will be posted to data acquired during measurements.

Figure 42
Units

Dim units — In this field you can select **inches**, **centimeters**, or **millimeters** for your dimensional units.

Weight units — In this field you can select **pounds** or **kilograms** for your weight unit.

Dim-factor — In this field you can select a **domestic** or **international** dim-factor.

Factor — Will automatically set to the selected **Dim-Factor** (domestic or international). Below, the preconfigured factor will be displayed for the given units and dim-factor selected. This factor may be adjusted as needed by entering the desired factor in the text field.

QR Code

The Cubiscan 325 offers a QR Code that may be displayed on the touchscreen, providing the dimensioning information. This may be used in conjunction with third party software as a means of capturing the dimensioning information.

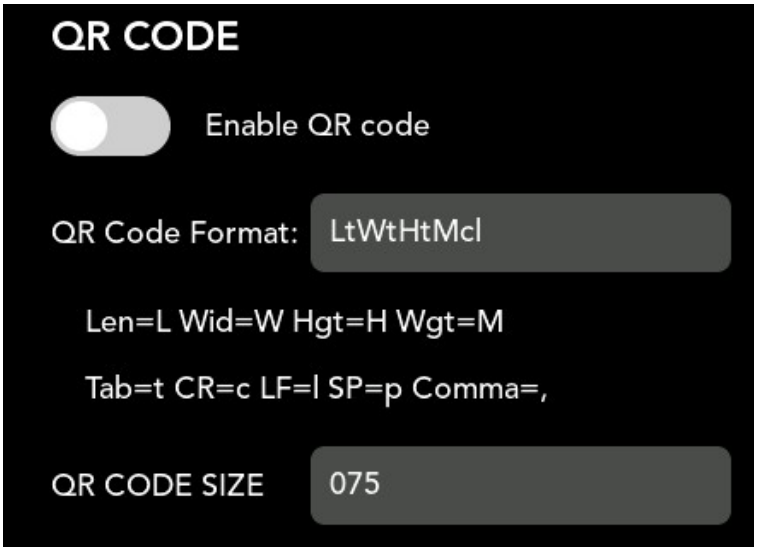

Figure 43
Barcodes

Enable QR code Toggle to enable/disable the QR code. When enabled, the QR code will appear on the home screen after a product has completed dimensioning. See "Cubing and weighing using the touchscreen" on page 29.

QR Code Format Determine the format that the information will be received. Using the commands as depicted in the chart below the text field, you may customize the format according to your needs.

QR Code Size Set the size of the barcode that will display on the home screen.

Filter

The filter mode is to designed to filter out unwanted objects or artifacts that are not associated with the object being measured.

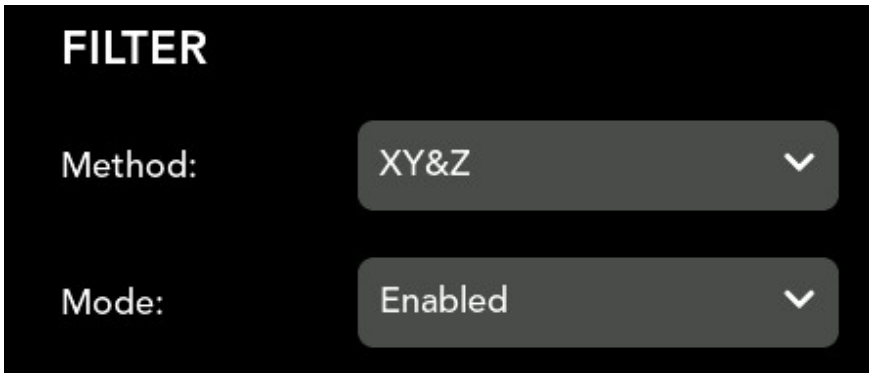

Figure 44
Filter

Method Select from the options **XY&Z** or **XY only**. Selecting **XY only** will display length and width only. Selecting **XY&Z** to display length, width, and height.

Mode The Filter Mode options are **disabled**, **enabled**, **auto-off**, and **lock-on**.

When **Disabled** is selected, the check box will not be visible on the home screen.

When **Enabled** is selected, a filter mode check box will be visible on the home screen, and the mode can be enabled or disabled from the home screen.

When **Auto-Off** is selected, the operator will need to manually select the check box for each measurement.

When **Lock-On** is selected, the check box will always be checked and the Cubiscan 325 will take measurements in filter mode until the mode option is changed.

Apparel

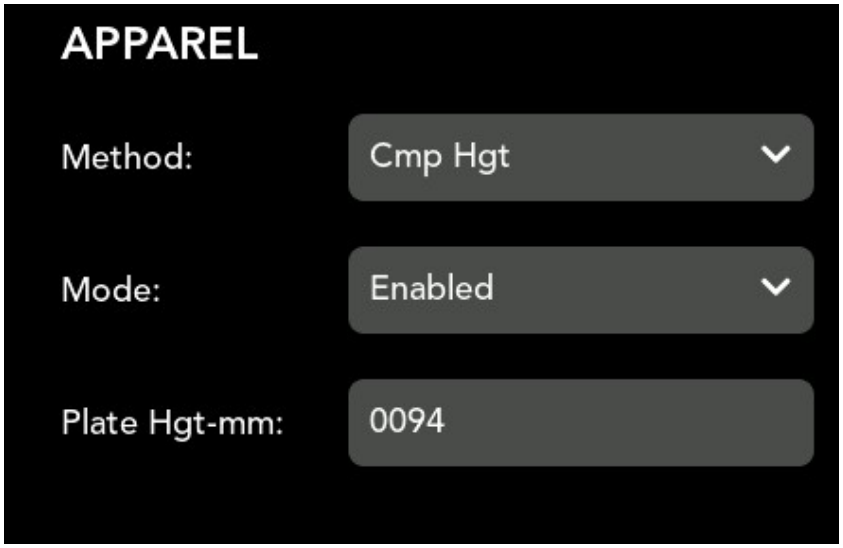

Figure 45
Apparel

Method This drop-down menu offers different methods for measuring apparel.

- **Cmp Hgt** This method produces compressed height results when using a compression plate.
- **Avg Hgt** Some items have uneven heights. This method enables you to obtain the average height of an item.
- **Avg Len & Wid** Some items have overstated lengths and widths. This method enables you to obtain the average dimensions of an item that may not have straight edges.
- **Cmp Hgt, Avg Len & Wid** When using this method with a compression plate, the results will show the compressed height, and the average legnth and width of an item that may not have straight edges.
- **Avg Hgt, Len, & Wid** This option is ideal to obtain realistic dimensions for apparel and other flexible objects without the use of a compression plate. The results will display the average height, length, and width of an item.

Mode This drop-down menu offers different modes for using the apparel method feature. The options are disabled, enabled, auto-off, and lock-on.

When **Disabled** is selected, the check box will not be visible on the home screen.

When **Enabled** is selected, an apparel mode check box will be visible on the home screen.

When **Auto-Off** is selected, the operator will need to manually select the check box for each apparel measurement.

When **Lock-On** is selected, the check box will always be checked and the Cubiscan 325 will take measurements in apparel mode until the mode option is changed.

Plate Hgt-mm

This field displays the height (85 mm) of the compression plate provided by Cubiscan. If a different compression plate is used, you'll need to change the value in this field so that the Cubiscan 325 can subtract the height of the compression plate from measurements in which it is used.

Connection

The Connection section Provides information and options for the setup of an Ethernet or other connection, allowing for the transfer of data from the CS 325.

To access the connection settings, perform the following steps:

1. Tap the menu icon in the upper left corner of the home screen.
2. From the menu side panel, select **CONNECTIONS**.

Ethernet Settings

The Ethernet Settings field allows you to select the Ethernet settings for the Cubiscan. The following information is displayed to help you connect with the CS 325: **MAC Address**, **IP Address**, **Subnet**, and **Gateway**.

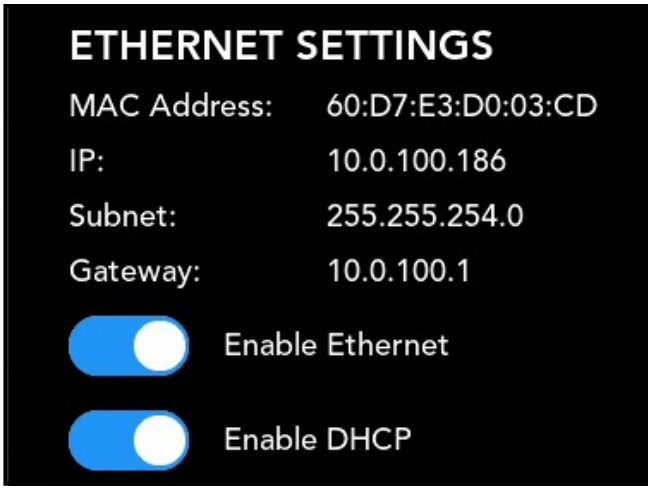

Figure 46
Connection

Enable Ethernet Toggling this option enables or disables the Cubiscan 325's ability to communicate via Ethernet.

Enable DHCP Toggling this option enables or disables a Dynamic Host Configuration Protocol (DHCP) connection.

Communication Settings

Under the communication settings section are options for setting how the server will receive communications from the Cubiscan 325.

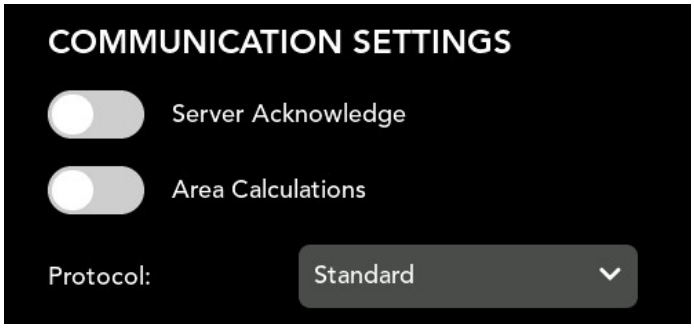

Figure 47
Communication settings

Server Acknowledge Toggle to enable/disable the server acknowledge function. When enabled, the measurment will not complete until an acknowledgment is detected from the server. See "Cubing and weighing using the touchscreen" on page 29

Area Calculations Toggle to enable/disable the area calculation function. When enabled, the Cubiscan 325 will calculate an estimate of the area of the object in the XY plane. This calculation is not meant to be an accurate representation of area, but is an estimate used for tracking purposes.

Protocol Sets the protocol for posting data to server (web-server posting not included). Options include: **standard**, **expanded**, **CS-100L**, **JSON**, or **Custom**. The default is *standard*. If you are unsure what protocol to use for posting data, consult your network administrator.

Web-server

The Web-server settings provides options to set Protocol and certificate server request (CSR).

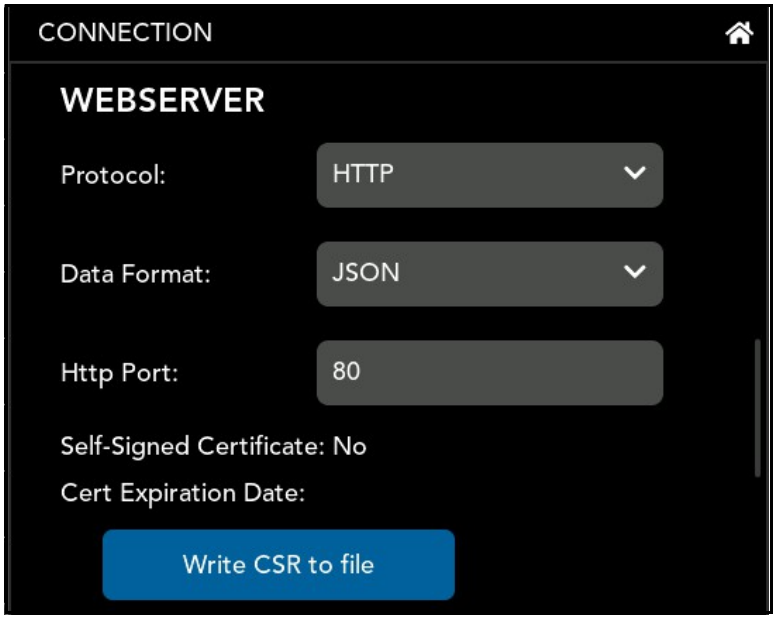

Figure 48
Connection - Protocol

Protocol Enable or disable Protocol and set desired Protocol. Options include: **HTTP** and **HTTPS**.

Data Format Sets the protocol for posting data to web-server. Choose from the following data formats: **XML** or **JSON**.

Http Port Enter the port number for the webserver.

Write CSR to file Tap **[Write CSR to file]** to copy the certificate signing request to file. If you would like to use a different certificate for https than the self-signed, you may download the CSR file to create your own. After creating the CSR, upload it with the name "cert.pem".

Post

The Post section provides a toggle to enable or disable the posting of data.

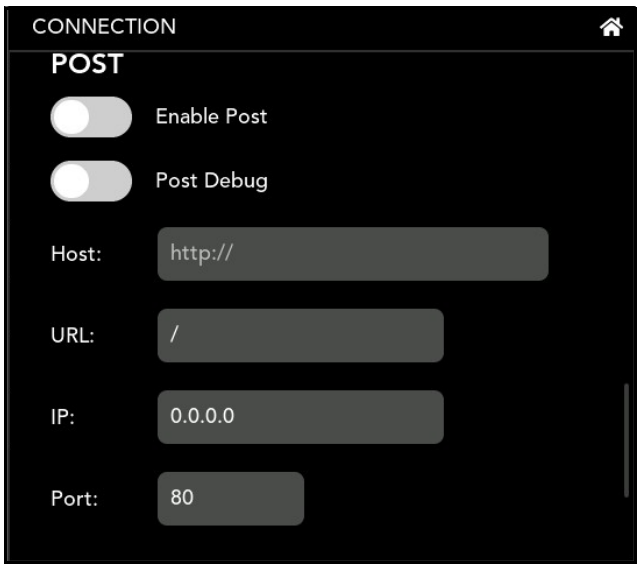

Figure 49
Connection - post

With post enabled, the following information will be needed for the Cubiscan to post data:

Enable Post Toggle to enable/disable posting of measurement data.

Post Debug Toggle to enable/disable posting of debug data

Host Enter host address of network to post data.

URL Enter the address of the network to post data.

IP Enter IP of the network to post data.

Port Enter the network port used to post data.

Scale Setting

The Cubiscan 325 has a built in scale. To configure the scale, complete the following steps:

1. Tap the menu icon in the upper left corner of the home screen.
2. From the menu side panel, select **SCALE**.

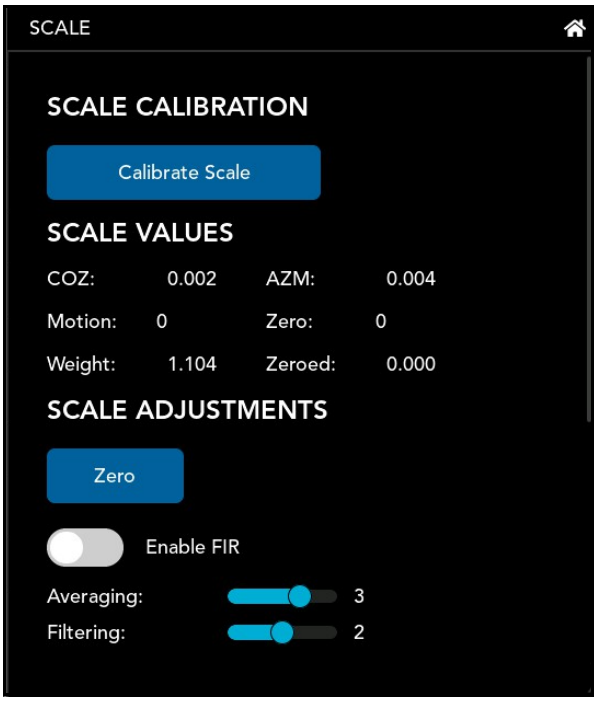

Figure 50
Scale status drop-down selection

Calibrate Scale Tap button to begin scale calibration. See "Calibrating the scale" on page 56.

Scale Values Displays information from scale including weight and zero.

Zero Tap button to zero the scale.

Enable FIR Toggle to enable/disable FIR function. FIR is an alternative algorithm used to calculate weight more accurately. While accuracy may increase, the time for measurement will increase as well.

Averaging Adjusts the amount of measurement data averaged during weighing. The greater the number, the more accurate the measurement. Increasing the averaging will increase the time to complete measurement.

Filtering Adjusts the intensity of filtering during weighing. The greater the number, the more accurate the measurement. Increasing the filtering will increase the time to complete measurement.

CHAPTER 5
CALIBRATION

This chapter provides instructions for calibrating the Cubiscan 325 touchscreen, measurement gate, and scale (load cells). The Cubiscan 325 is calibrated at the factory; however, some circumstances in which recalibration may be required include the following:

- Calibrate the touchscreen if you have trouble making selections on the screen.
- Calibrate the Cubiscan 325 if you have problems cubing and weighing after assembly and setup.
- Calibrate the Cubiscan 325 if it is subjected to any type of mechanical shock or collision with a heavy object.
- Calibrate the Cubiscan 325 as part of a regular maintenance schedule. Calibration of the scale is recommended at least annually. If the Cubiscan 325 is used heavily, scale calibration should be performed monthly.
- Perform quality checks as needed, depending on how critical the accuracy of the data is to you. Recalibrate if you are outside the tolerance of +/- 0.05 inches (+/- 0.1 cm) for the gate or +/- 0.010 pounds (+/- 0.005 kg) for the scale.

During quality checks or when calibrating, make sure that the Cubiscan 325 is not affected by external forces that may affect readings, such as sunlight or fans.

Before you begin

Before calibrating the Cubiscan 325, remove all items or other material from the platform and blow any dust off the measurement sensors.

Calibrating the scale

To perform the calibration, you will need the following:

- Official test weight up to 50 pounds (25 kg) (it is recommended that you calibrate with the maximum weight)

IMPORTANT: Do not begin scale calibration until you have the test weight. Calibrating without an accurate known weight (within 0.01 of a lb/kg) can make all future weight readings inaccurate.

Take the following steps to calibrate the Cubiscan 325 scale.

NOTE *When calibrating the scale, the Cubiscan 325 must be stable with no movement of the platform such as that caused by vibration or air.*

1. At the home screen, tap the menu icon in the upper left corner.

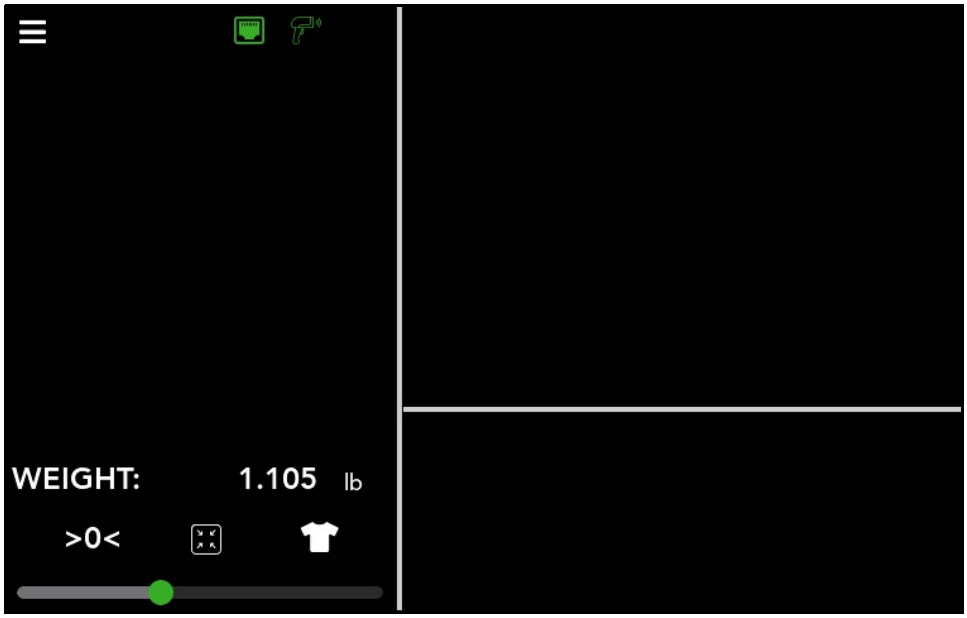

Figure 51
Home screen

NOTE *If you have set up a password previously in the system configuration, you need to enter the password to unlock the menu.*

2. Tap **Scale**. Tap the **[Calibrate Scale]** button to begin the scale calibration.

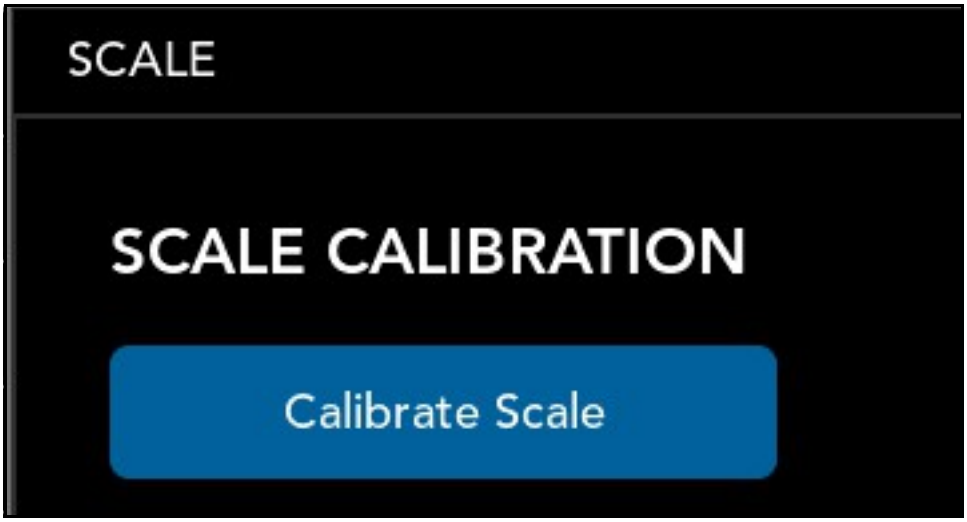

Figure 52
Scale screen

3. The following screen is displayed. Follow the instructions as displayed.

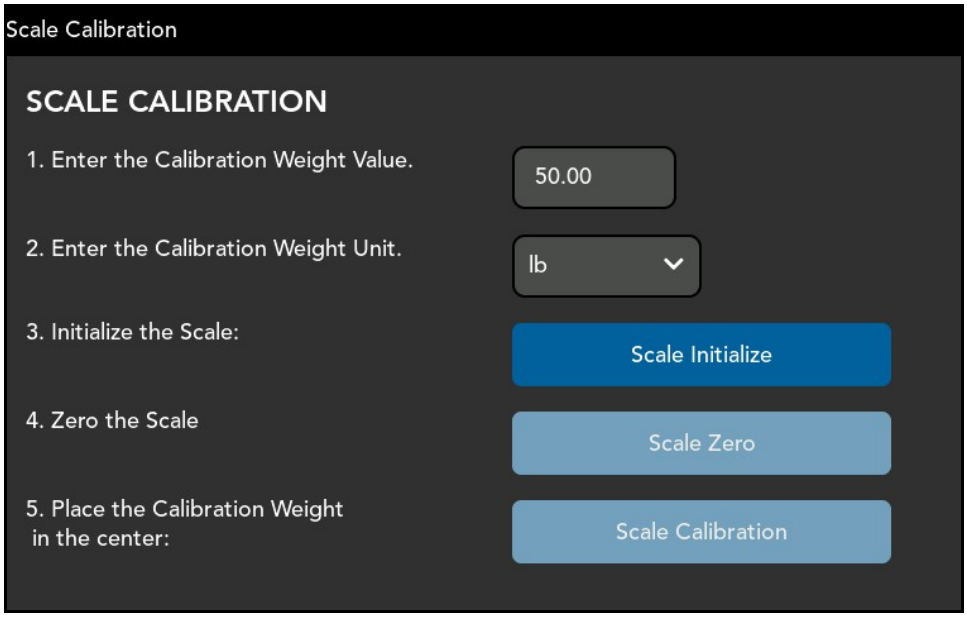

Figure 53
Second scale calibration screen

4. Enter the calibration weight value in the first text field. Then select the units in the dropdown below the field.

5. Clear the platform of all items. Tap **[Scale Initialize]** to begin the calibration process. A message will appear.

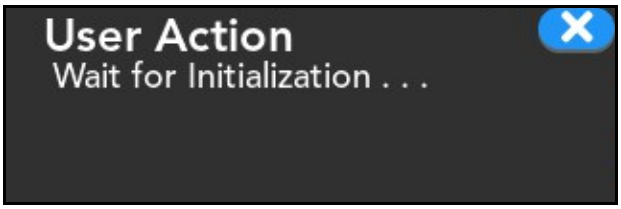

Figure 54
Initialize message

6. After the scale has initialized, Tap **[Scale Zero]** to zero the scale.

7. Once the scale is zeroed, place the calibration weight on the platform and tape **[Scale Calibration]**. A message will display when calibration is complete.

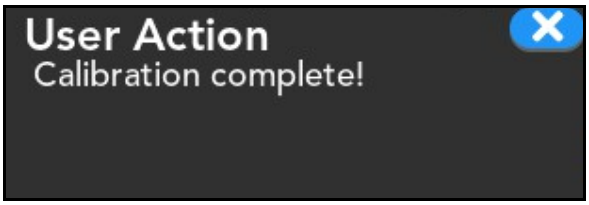

Figure 55
Scale calibration complete

Calibrating height

To calibrate the height using the touchscreen, proceed as follows.

1. At the home screen, tap the menu icon in the upper left corner.

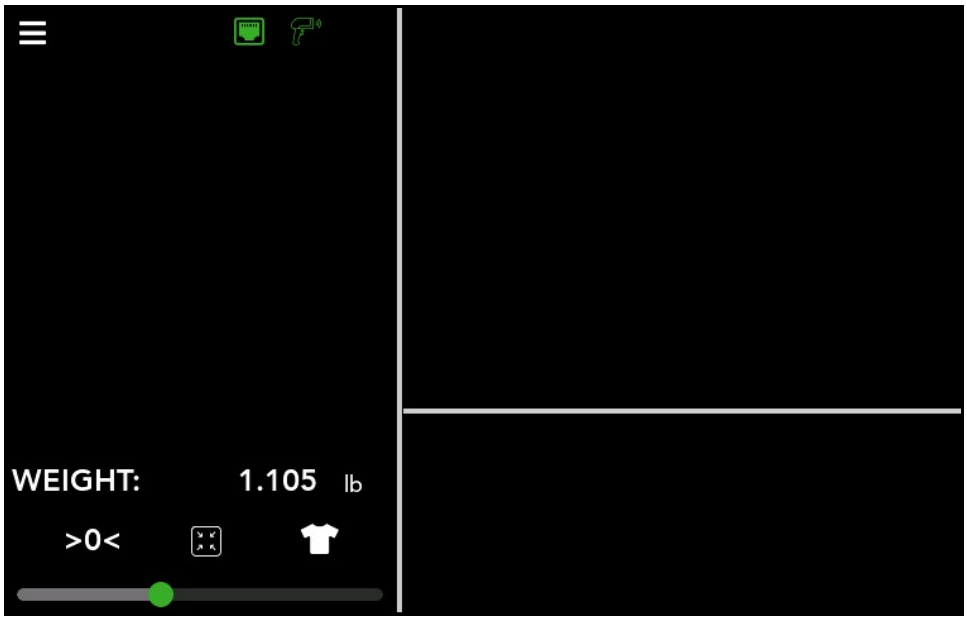

Figure 56
Home screen

2. Select **GATE** from the menu selection.

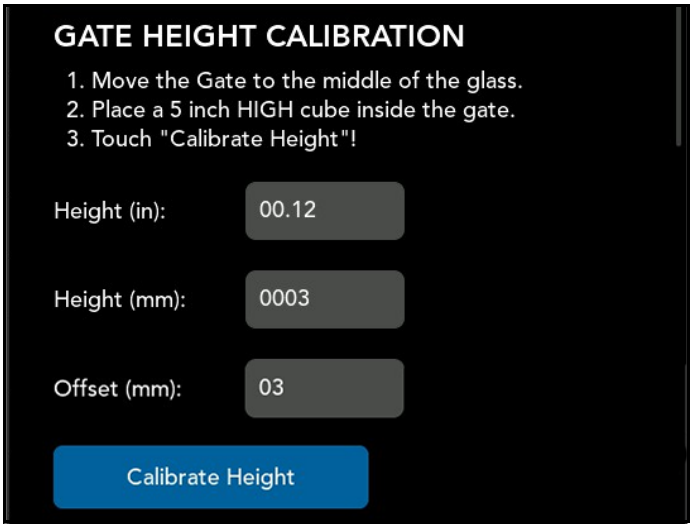

Figure 57
Gate calibration screen

3. The 5” measuring cube is required for calibration.

The **Height (in)** and **Height (mm)** fields display live values and will change when the 5" box has been placed in the gate. The Offset (mm) field will display the offset value after tapping the **[Calibrate Height]** button.

Follow the instructions displayed under the **GATE HEIGHT CALIBRATION** section to finish gate calibration.

4. Move the Gate to the middle of the glass.

5. Place the 5" calibration cube inside the gate and tap **[Calibrate Height]**.

CHAPTER 6
MAINTENANCE

This chapter provides information on the care and maintenance of the Cubiscan 325. Routine maintenance and careful handling will help keep the Cubiscan in good operating condition and prevent service calls or repairs.

Precautions

The Cubiscan 325 should not be subjected to extremes in temperature or humidity, nor should it be subjected to excessive vibration. For environmental recommendations, see "Placement" on page 7.

Do not put packages on the platform that are known to be over 50 pounds (25 kg). All objects, especially heavy ones, should be placed on the platform gently. Shock loading will occur if an object is dropped or thrown onto the platform. This puts unnecessary and potentially damaging pressure on the load cell.

The Cubiscan 325 has been designed to accept overload without damage. However, rough handling and abuse, over time, can cause the load cell to lose much of its spring action. In addition, severe shock loading can cause permanent zero shift, making the scale inoperable.

Cleaning the gate filters

This section describes how to clean the gate filters. The gate filters should be kept clean. While dust normally won't interfere with sensor operation, they should be cleaned routinely to prevent the possibility of interference.

To clean the gate filters, use a clean, damp (if needed) microfiber cloth. Use water to dampen the cloth; do not clean the gate filters with a solvent as this could cause damage.

Removing the controller

If you suspect that there is a problem with the Cubiscan 325 controller, first review the Troubleshooting chapter and take any recommended action. If the problem persists, contact **Cubiscan Technical Assistance** at **801.451.7000** for assistance.

If Cubiscan recommends removing the controller and returning it for service, proceed as follows.

1. Turn off the power switch, and disconnect the power cord from the controller.

2. Remove the two center cover thumb screws that are located on the right side of the system. Slide the cover to the left so that you can access the controller cables.

3. You can try to remove the controller without removing the glass, or you can remove the glass platform using two people. It can simply be lifted off the Cubiscan 325 base. Place the platform in a safe location where it will not get stepped on or broken.

4. Move the gate to the far left position.

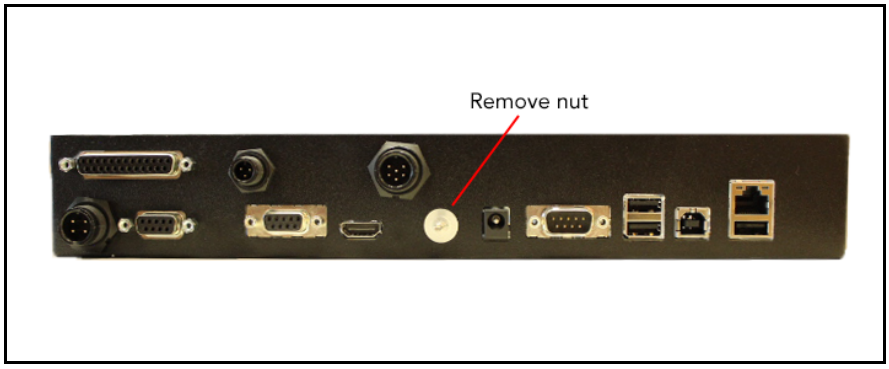

Figure 58
Controller box

5. Locate the controller (the black box located below the gate's home position). Remove the nut using an 11/32'' nut driver (see Figure 58).

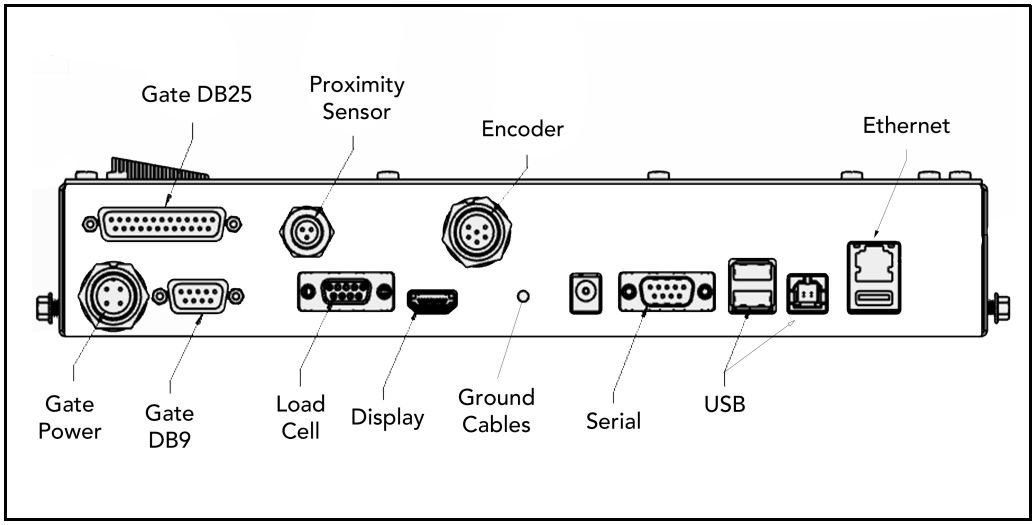

Figure 59
Drawing of controller

6. Disconnect all connectors that are attached to the controller box (refer to Figure 59 as needed), as follows:

   - To remove the Ethernet cable connector, press the tab on the connector to release it, and pull it straight out.
   - To remove the USB and display cable, simply pull it straight out using even pressure.
   - To remove the serial and load cell cables, loosen the screws and pull the cable connectors out using even pressure.
   - To remove the gate DB9 connector and the gate DB25 connector, use a Phillips head screwdriver to loosen the screws, and pull the cables straight out.
   - To remove the gate power, proximity sensor, and encoder cables; unscrew the cables and pull them straight out.
   - Remove the nut holding the ground cables in place and detach the ground cables from the controller.

7. Verify that all cables have been removed from the controller, then lift the box up and pull it out sideways (to the right) until it is clear of the metal frame of the Cubiscan 325.

CHAPTER 7
TROUBLESHOOTING

This chapter provides assistance in identifying and solving common problems with the Cubiscan 325. If you encounter problems not covered in this chapter, or if a defect is suspected, contact your system integrator or call **Cubiscan Technical Assistance** at **801.451.7000** for assistance.

After installation, some problems are caused either by incorrect cabling or because the system setup is not correct. If you are having problems with the Cubiscan 325, first verify that all cables attached to the controller box (serial communications cables, sensor cables, power cord, Ethernet cable, load cell cable) are fully seated and secure (locking rings, clips, or screws). Then, verify that the setup is correct.

Problems with your computer may affect operation of the Cubiscan 325 system. If you have trouble starting Qbit or if you encounter problems with your computer (including computer-related error messages), refer to your computer manual or contact your computer representative or dealer for assistance.

Frequent computer errors may be caused by dust or static electricity. It is important that your computer be kept as clean and static free as possible. Consult your computer manual for information.

If problems continue, review the following sections for more information.

No response when you turn power on

If there is no response when you power on the Cubiscan 325, do the following:

1. Verify that the AC power cord is pressed firmly into the power socket.
2. Check the fuse in the fuse drawer next to the power switch.
3. Verify that the AC power source is working properly.

Contact Cubiscan if you require additional help.

Scale readings are not accurate

If you suspect that the Cubiscan 325 scale readings are inaccurate, do the following:

1. Zero the Cubiscan 325 by tapping the **[>0<]** button on the home screen.
2. Make sure that the Cubiscan 325 is on a level surface.
3. Make sure the scale setting in menu is set to **Internal**. See "Scale Setting" on page 53.
4. Move the Cubiscan 325 if it is located close to open freight doors or where air is blowing on it. Extreme air flow can affect the accuracy of the Cubiscan 325. Refer to "Placement" on page 7 for information.
5. Recalibrate the Cubiscan 325. Refer to "Calibrating the scale" on page 56 for instructions.

Dimension readings are not accurate

If you suspect that the Cubiscan 325 dimension readings are inaccurate, do the following:

1. Check the glass platform and gate filters for dirt or debris. Clean the glass platform with a clean, damp cloth.
2. Verify that the image is representative of the measured item. If not, check gate diagnostics of the Cubiscan 325. Refer to "Gate diagnostics" on page 69 for further information.

Computer error messages

The following error messages generated by Qbit indicate a communications problem between the Cubiscan 325 and the computer.

No Communication with Cubiscan 325

This message indicates that no communication is taking place between the computer and the Cubiscan 325.

Transmission Error

This message indicates that erroneous data or garbled data is being sent from the Cubiscan 325.

If you receive one of these messages, verify the following.

1. Is the Cubiscan 325 turned on and securely connected to power?
2. Is the network cable connected to both the Cubiscan 325 and the computer or network, and are both connections secure?
3. (Computer connection) Is the network cable connected to the computer?
4. Is there a problem with the computer or network? Troubleshoot the computer, or contact your network administrator

Version

This section discusses the options available on the Version menu. To access the version screen, tap the menu icon in the upper left corner of the home screen.

Figure 60
About version

The following information will display about the Cubiscan 325 and its Firmware.

MAC Address The Media Access Control (MAC) address.

Serial Number The product number that is unique to each Cubiscan 325.

MDMI The Multiple Dimensional Measuring Instrument (MDMI) status. This status can either be sealed or unsealed.

NAWI The Non-Automatic Weighing Instrument (NAWI) status. This status can either be sealed or unsealed.

Operation Hours	The total hours of operation for the Cubiscan 325.
Firmware	The firmware version used for the main controller, including build and Kernel.

Firmware

This section displays the firmware version used for the main controller, including build and kernel. This information is useful when a technician is diagnosing issues that may arise from the Cubiscan firmware.

Updating firmware

1. From the Version Screen, go to the Firmware section.

2. Select the version of the firmware you wish to install from the list of firmwares. The list will appear in a gray box. In order for the firmware to appear in this list, it must be installed through a network connection. For instructions on how to load firmware through a microUSB, contact **Cubiscan Technical Assistance** at **801.451.7000**.

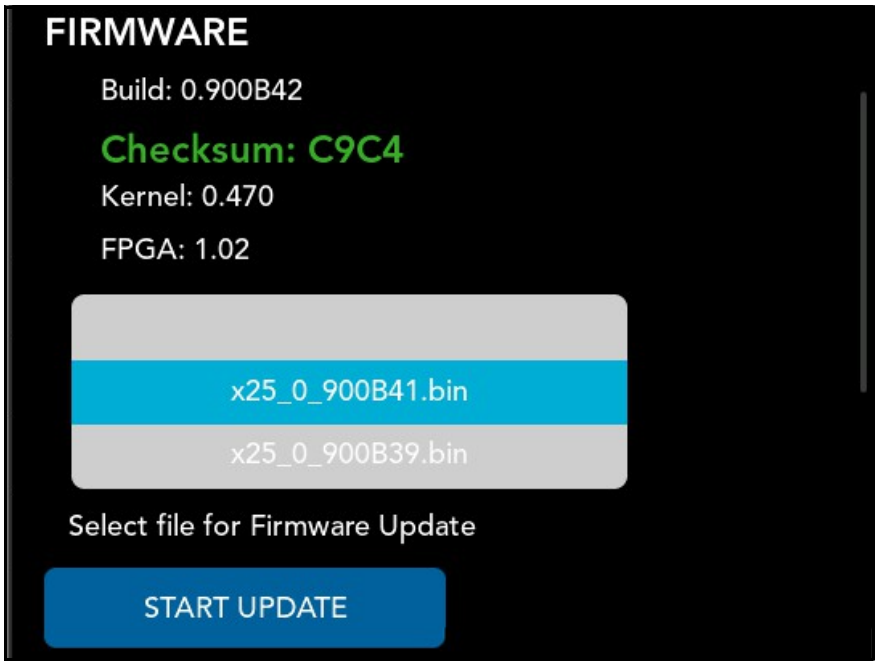

Figure 61
Updating firmware

3. Tap **[START UPDATE]**, to begin the update of the firmware.

Soft Reset

There may be an occasion that the Cubiscan 325 will need a soft reset. This is a reset of the operating system without shutting off the power to the machine. A soft reset may be necessary if the operating system is not working as intended or is running sluggish.

Complete the following steps to initiate a soft reboot:

1. From the Version Screen, go to the Reset section

Figure 62
Soft Reset

2. Tap **[SOFT RESET]**, to initiate soft reset.

Diagnostics

This section describes the diagnostic capabilities of the Cubiscan 325.

Gate diagnostics

The gate diagnostics screen is used to help technicians determine if there are issues with the gate sensors. If you suspect the gate is not working properly, contact **Cubiscan Technical Assistance** at **801.451.7000**.

Complete the following steps to view the gate diagnostics:

1. From the menu on the home screen, select Gate**.**

2. On the gate screen, tap **[Diagnose Gate]** in the Gate Diagnostics section.

Figure 63
Diagnose Gate

The four LED beam bars now shown on the left-side of the display represent the LED beams that the Cubiscan 325 uses to measure objects. This is a useful screen for determining the functionality of the LED beams.

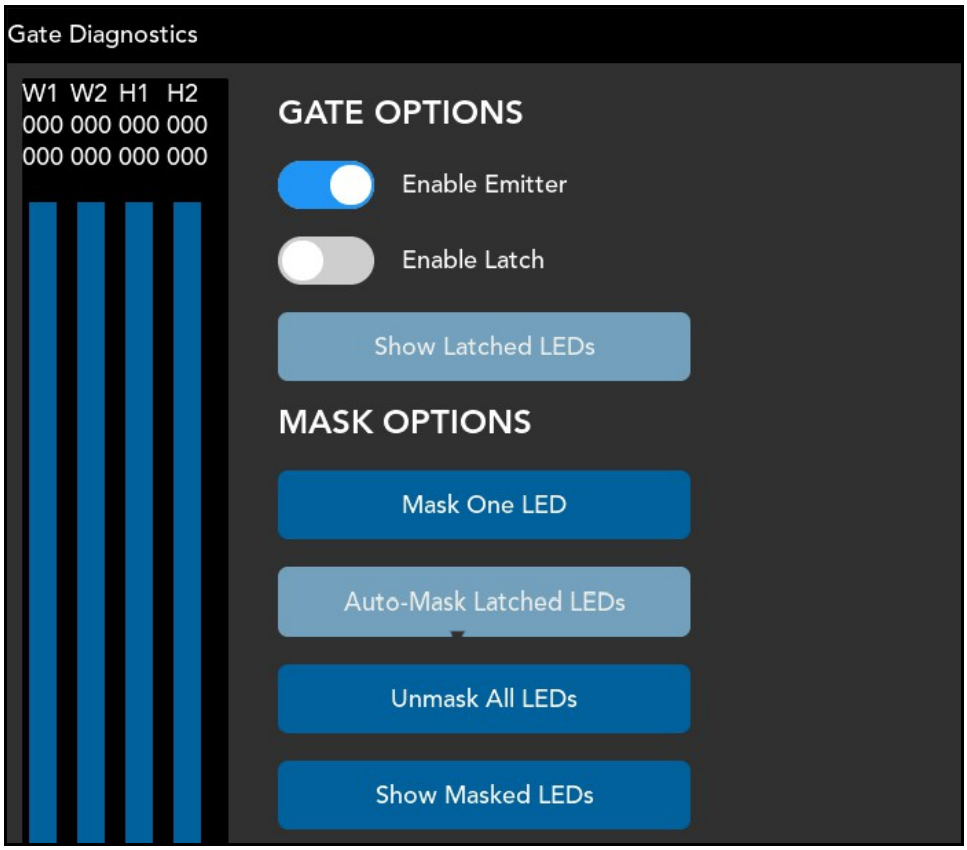

Figure 64
Gate Diagnostics

The width and height bars correspond to the width and height boards in the measurement gate.

These LED beam bars are solid blue when no light beams are being broken, which typically means that there is no object in the measurement field. The beams turn yellow when there is break in the beam.

The four LED beam bars now shown on the left-side of the display represent the LED beams that the Cubiscan 325 uses to measure objects. This is a useful screen for determining the functionality of the LED beams.

The width and height bars correspond to the width and height boards in the measurement gate.

Gate Options

Under the section Gate Options are controls for enabling the emitter and latch functions.

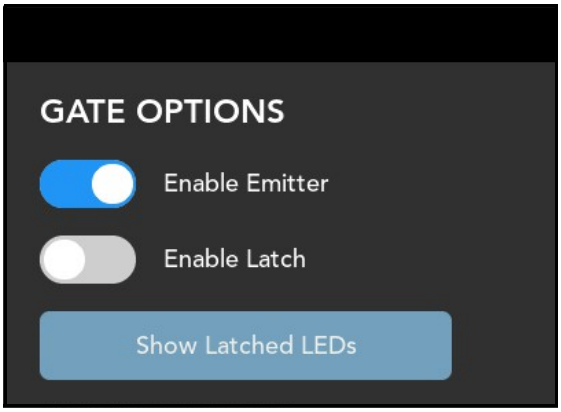

Figure 65
Gate Options

Enable Emitter Toggle the emitter LEDs on and off. The **Enable emitter** toggle should always be enabled when you are measuring objects. When this box is unchecked, the gate is not emitting light and cannot measure objects.

Enable Latch Toggle the latching function on and off. When toggled on, red marks will display next to places where the beam is broken.

Show Latched LEDs Tap **[Show Latched LEDs]** to display a list of all latched LEDs. This information may be helpful to mask LEDs that are negatively affecting measurements.

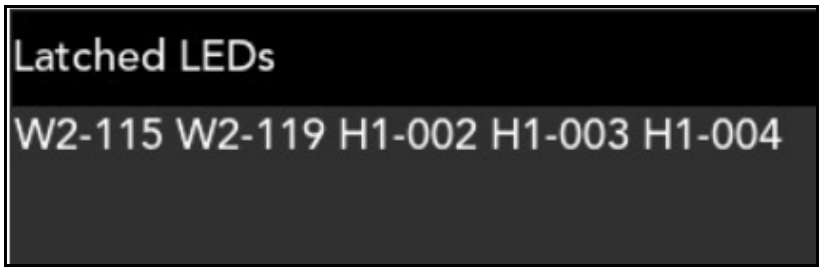

Figure 66
Latched LEDs

Mask Options

Under the section Mask Options are controls for masking LEDs for both the width and height. When masked, an LED will not transmit or receive. This

may be necessary to prevent the inclusion of an LED that may be problematic during the measuring process.

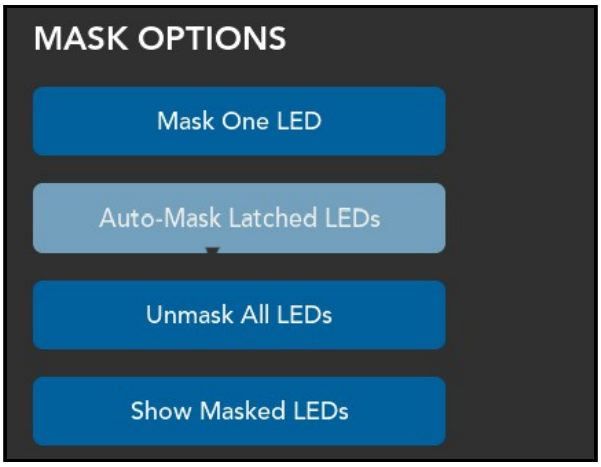

Figure 67
Mask Options

Mask One LED

Tapping **[Mask One LED]**, will display a pop up where an LED can be masked manually by entering its Width and Height positions. Below the text fields is a list of LEDs that are currently masked.

Figure 68
Masking a LED

Auto-Mask Latched LEDs

Tap **[Auto-Mask Latched LEDs]** to mask any LEDs that are currently latched. Masked LEDs will show as black bars in the displayed beams.

Unmask All LEDs

Tap **[Unmask All LEDs]** to remove the mask from all LEDs.

Show Masked LEDs

Tap **[Show Masked LEDs]** to display a list of all masked LEDs. This information may be helpful to mask LEDs that are potentially defective.

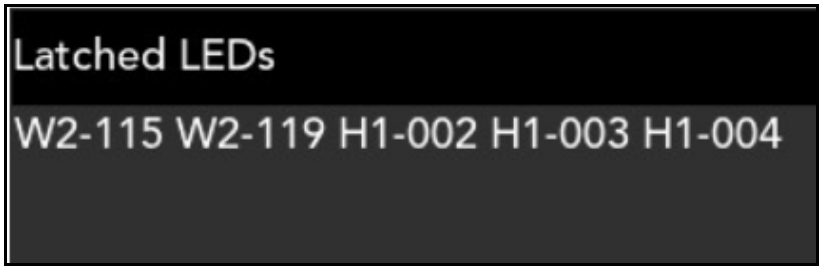

Figure 69
Latched LEDs

Masking LEDs

Issues may arise in the measuring process that prevent the CS 325 from properly identify the smallest bounding square around an object.

Figure 70
Errors in measuring

Causes of errors in measurement may include:

- Dirt or imperfections in the glass blocking beams.
- The glass platform is not properly leveled or has a deformity causing it to slope.
- Defective LEDs or sensors.

Generally, if the issue is centralized to one location, it is an indication that the platform may need cleaned. If the issue stretches along the entirety of the platform or a large section of it, the platform may be sloping. Before masking LEDs clean the platform and ensure it is level.

If issues persist in the measuring process, follow these steps to mask the LEDs:

1. Select the Gate selection from the menu in the upper-left corner of the home screen.

2. Tap **[Diagnose Gate]**.

Figure 71
Gate Diagnostic

3. Toggle on the **Enable Latch**.

Figure 72
Enable latch

4. Move the gate across the area of the platform that is having issues. Yellow lines in the beam display signify the LEDs that are affected. With

the latch enabled, red lines will appear next to the displayed beams, marking the affected LEDs.

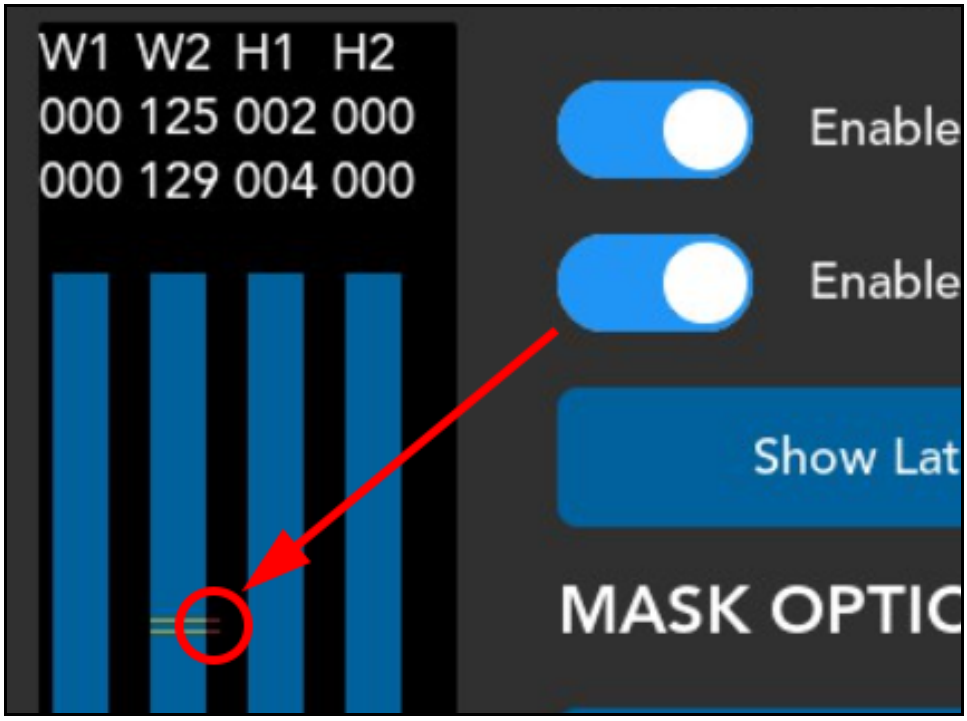

Figure 73
Latched LEDs

5. Tap **[Auto-Mask Latched LEDs]** to mask the latched LEDs. Alternatively, Tap **[Mask One LED]** to manually enter the location of the LEDs you wish to mask. Tap **[Show Latched LEDs]** to find the width and height locations of the latched LEDs.

Figure 74
Auto-Mask

6. With the LEDs masked, you may begin dimensioning without the affected LEDs.

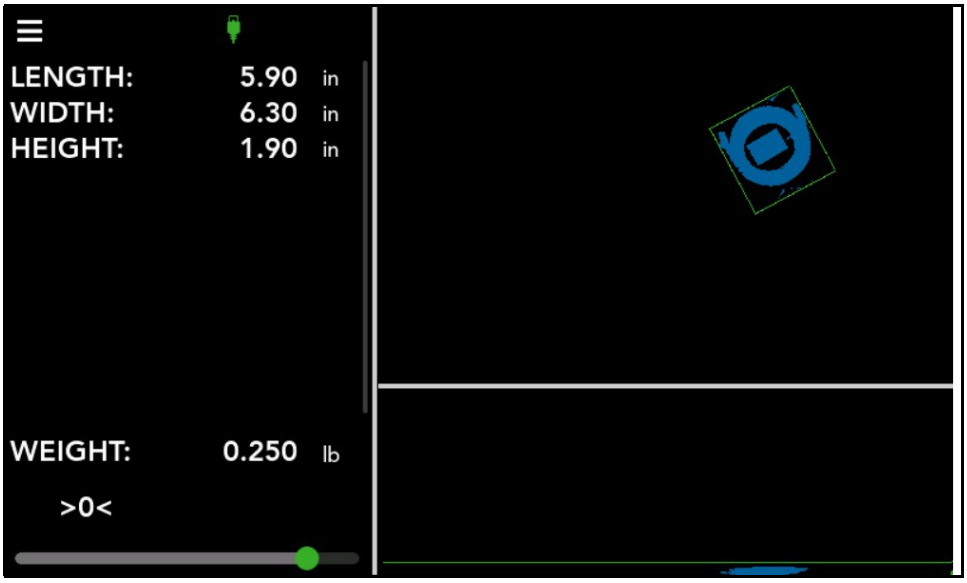

Figure 75
Masked measurement

Gate Settings

1. Scroll down to the Gate Settings section.This screen displays information about the height and width boards for both the LED's and sensors.

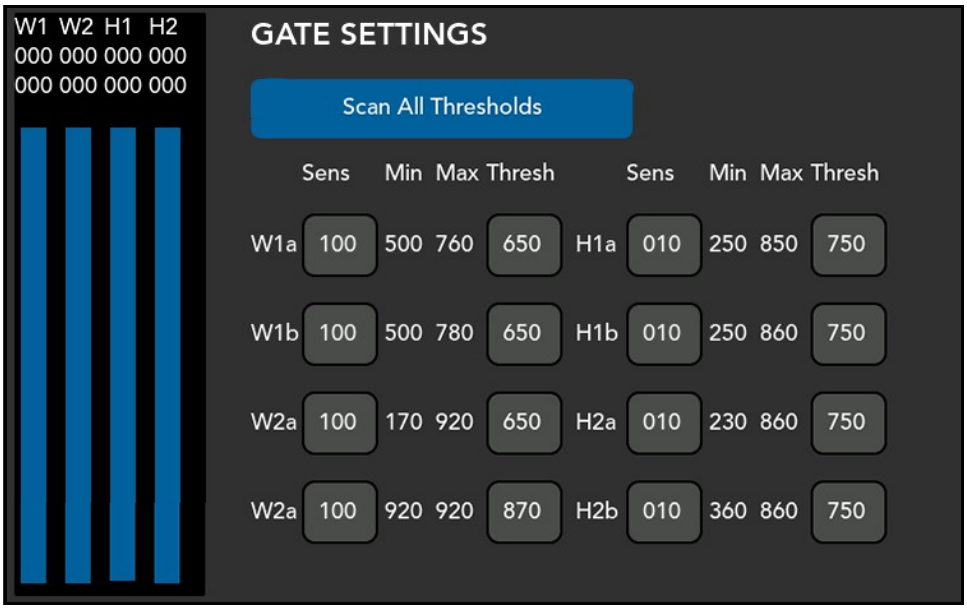

Figure 76
Gate settings

2. Tap **[Scan All Thresholds]**. This will scan the LED curtain to calculate new sensor thresholds. Along each of the four columns, the number values would be the same. If there is a discrepancy or if there is no

response from the gate or any of its boards, contact a Cubiscan technician to help assess the problem.

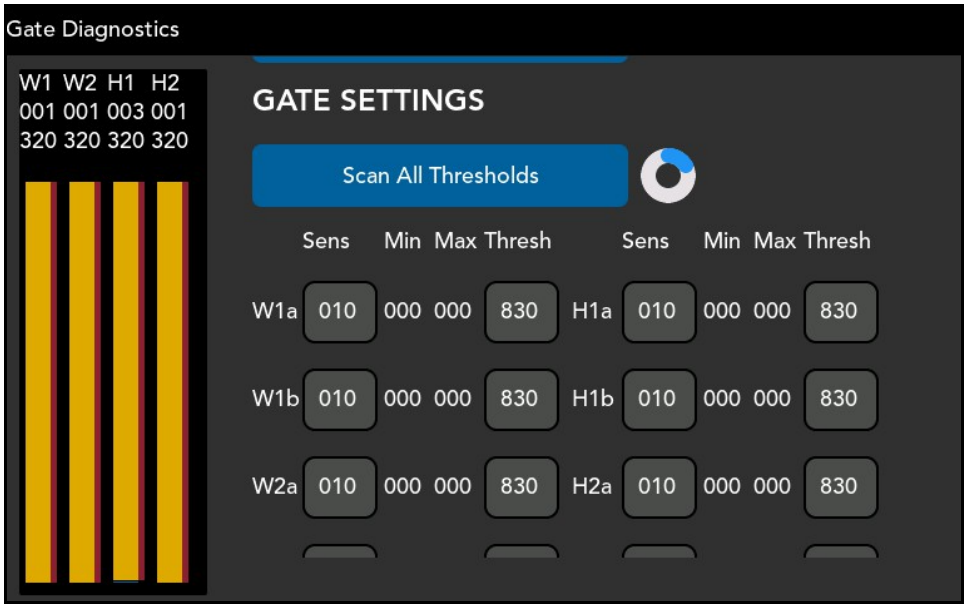

Figure 77
Gate thresholds

APPENDIX A
PARTS LIST

Following is a list of parts that can be purchased for the Cubiscan 325 as spare parts or if replacement is necessary.

Part No.	Description	Quantity/Unit
10083	AC power cord	1
10084	Scale card PCB	1
12344	1/2'' Diameter ball	4
16234	Infrared receive PCB	4
16231	Infrared transmit PCB	4
16623	Proximity sensor	1
13351	1 Amp fuse	2
16254	Load cell summing PCB	1
13411	USB to Ethernet adapter	1
13624	Calibration cube, 5'' x 3'' x 2''	1
14066	Leveling foot	4
16420	Touchscreen assembly (display)	1
14100	Main controller assembly	1
13413	Load cell	4
14326	CAT 5e patch (Ethernet cable), 10 ft	1
14697	Infrared filter, 14''	4
14725	Encoder magnet	1
14743	Motion encoder with connector	1
15200	Glass plate (with discs)	1