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For patent information, refer to www.hsmpats.com.
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Customer Support

Technical Assistance

To search our knowledge base for a solution or to log in to the Technical Support portal and report a problem, go to www.hsmcontactsupport.com.

For our latest contact information, see www.honeywellaidc.com/locations.

Product Service and Repair

Honeywell International Inc. provides service for all of its products through service centers throughout the world.

To obtain warranty or non-warranty service, you must first obtain a Return Material Authorization number (RMA #), then return the product to Honeywell (postage paid) with a copy of the dated purchase record.

To learn more, go to www.honeywellaidc.com and select Service & Repair at the bottom of the page.

Limited Warranty

For warranty information, go to www.honeywellaidc.com and click Get Resources > Warranty.
What is AutoCube 8200?

AutoCube 8200 is a high performance fixed dimensioning system that uses 3D depth sensing technology to measure objects. The dimensioning system consists of the AutoCube camera mounted on a stand and connected to a host computing system through a USB interface. It can be used in many different environments from a courier company retail store to an inbound station of a warehouse.

Out of the Box

Make sure your shipping box contains these items (full kit):

- AutoCube camera with protective foam
- Stand with cable(s) and clamps
- 4 cable covers
- Stand clamp
- Display and holder (optional accessories)
- Mounting hardware
- Stand base cover

Unpacking the Box Contents

Carefully unpack the box contents.

Caution: Do not remove the protective foam from the camera during installation.
Caution: Do not open the AutoCube camera! The warranty and certification is void if this stipulation is ignored. The device may only be opened by authorized persons.

About this Guide

This guide provides assembling and mounting instructions as well as information on system setup and configuration. It also includes maintenance instructions and technical specifications.

Additional Documentation

This guide is intended to supplement the following documents available at www.honeywellaidc.com:

• AutoCube 8200 Quick Start Guide
• AutoCube 8200 SDK and API

Software

The AutoCube software is available at hsmftp.honeywell.com. See Software Installation on page 13 for details on downloading and installing.
Before You Begin

Determine where you will place the stand and if the cables will exit through the bottom of the stand (going through the mounting surface) or through the side of the stand.

What You Need

- Drill with a Ø12.5 mm drill bit
- Measuring tape
- Allen wrench, 3 mm and 5 mm
- Adjustable Wrench
- Hole saw Ø32 mm (optional)
- Pliers (if cables exit side of stand)
- Phillips screw driver (optional)
Hardware Overview

**Note:** The optional display can be mounted on any side of the pole.
Installation Overview

Dimensions

The following are the recommended dimensions for installation. The camera angle (A) and distance from the pole to the center of the measurement area (D) vary depending on pole height (H).

<table>
<thead>
<tr>
<th>Pole Height (H)</th>
<th>Camera Angle (A)</th>
<th>Distance (D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≈160 cm / ≈5.25 ft</td>
<td>≈30°</td>
<td>≈63 cm / ≈2 ft</td>
</tr>
<tr>
<td>≈190 cm / ≈6.25 ft</td>
<td>≈45°</td>
<td>≈133 cm / ≈4.3 ft</td>
</tr>
</tbody>
</table>

Note: If you are not using the pole, the camera height (H), measured from the front center of the camera, should be ≈1.5 m / ≈5 ft or ≈1.8 m / ≈6 ft.
Prepare the Mounting Surface

Use the stand clamp as a template to trace and drill 4 holes (12 mm diameter) in the mounting surface.

*Note:* If the cables will exit through the bottom of the pole and through the mounting surface, you must also drill the center hole of the stand clamp large enough to pull the cable(s) through.

Adjust Stand Height

Stand height (H) is measured from the top of the stand to the top of the measurement area or scale.

1. Loosen the screws on each side of the pole (4x) using an Allen wrench.

2. Slide the pole up to the desired height. Refer to the recommended Dimensions.

3. Tighten screws on each side of the pole to secure the pole.

4. Pull the camera cable out of the bottom of the pole until approximately 25 cm (10 in) remain exposed at the top of the pole so it can be attached to the camera later.
5. Cut the cable covers to the length needed to cover the cable channels on the pole. Snap into cable channels.

**Note:** Cut the cable cover for the back side of the pole slightly shorter than the others so that the camera cable can exit and be connected to the camera.

**Route the Cables**

By default the cables are routed out of the bottom of the stand. To route the cables out of the side:

1. Pull up the stand cover - some resistance is normal.
2. Pull the cables up and through the side exit on the pole.
Install the AutoCube Camera

Caution: Do not remove the protective foam during installation.

1. Angle the clamp on the top of the pole perpendicular to the pole. Turn the knob to loosen the clamp.

2. Insert the ball of the camera into the clamp. Make sure the Honeywell logo on the front is right side up. Adjust the camera to the correct angle (A) from the pole (see Dimensions on page 5).

3. Turn the knob to tighten the clamp. Be sure it is tight enough so that the camera will not move.

4. Attach the USB cable at the top of the pole to the camera. Secure the cable to the camera by tightening the screws by hand.

Note: Be sure the camera is horizontal to the measurement area and aimed directly at the area. No roll and no yaw.

Note: Keep the protective foam on the camera until installation is finished.

Mount the Stand

Recommended 2 person operation.

1. Rotate the stand assembly upright on the mounting surface. Align stand base to previously drilled holes.

Note: If cables exit through the bottom of the pole, pull them through the mounting surface.
2. Place washers on the stand base then the mounting bolts through the stand base and mounting surface. Thread into the stand clamp placed under the mounting surface.

3. Add the leveling screws if needed. Use in case the mounting surface is uneven. The stand must be level.

4. Pull the display cable (optional) out of the cable exit (side or bottom), leaving enough for the cable to attach to the display (optional).

5. Slide the stand cover all the way down and click into place. Make sure cables exit the side of the stand cover if using side exit.

6. Verify that the camera is level and at the correct angle. Adjust if necessary.
Install the Display (Optional)

If using a display, you will need to install the display holder, then install the display. You can mount the display holder on to any side of the pole.

**Note:** Depending on the kit, the display holder may already be installed on the pole. If that is the case, skip the following instructions and go directly to the next section (To install the display: on page 11).

To install the display holder:

1. Decide which side of the pole you want to mount the display holder. Remove the cap plugs so that you have access to the screw holes.

2. Mount the RAM ball on to the pole using 2 screws (provided).

3. Attached the clamp to the RAM ball on the pole and to the RAM ball on the display holder. Tighten using the knob on the side of the clamp.

4. Run the USB cable for the display through the hole on the side of the pole (close to the display holder), exiting through the bottom or side of the pole (depending on the installation).
To install the display:

**Note:** *Depending on your system, the driver for the display may need to be installed from the CD provided with it.*

1. Attach the USB cable to the display. Use the strain relief on the back of the display to hold the cable in position.
2. Pull open the side of the display holder, insert the display, then slide the open side of the holder back into place over the display.
3. Secure the display by using 2 small screws (provided). On the back of the holder, screw them into the holes located in the slots.
4. Adjust the position of the display by loosening the clamp with the knob. Set in position and tighten the clamp. Remove the knob, conserving it for future use.

## Connect to the Host

1. Connect the display cable(s) exiting the bottom or side of the stand to the host PC USB port(s).
2. Turn on the host PC.
3. Carefully remove protective foam from the camera.

If using a display, it is detected by Windows as a second monitor. Set this monitor as an extension of Windows desktop in **Control Panel, Display, Change display settings**.
Connect a Scale (Optional)

AutoCube supports flat top, ball top and roller top scales from the following vendors: Mettler Toledo, Fairbanks and Avery Weigh-Tronix. Scales must be connected via USB HID interface.

**Note:** When using a ball top or roller top scale place a blank sheet of paper on the scale before selecting the ground plane. Then remove the paper and continue with object measurement.

Connect a Bar Code Scanner (Optional)

Honeywell bar code scanners connected with USB POS HID interface can be used with AutoCube.
Software Installation

The AutoCube software requires a 64-bit PC or laptop running Windows 7 or later. Minimum required configuration is Dual Core i3 (or equivalent) desktop processor with 2 GB RAM.

Download the Software

2. Create an account if you have not already created one. If you have an account sign in or click on Go to Site to sign in.
3. Install the Honeywell Download Manager tool before downloading the software.
4. Locate the AutoCube software in the directory (Software/Dimensioning/AutoCube).
5. Click Download. Download Manager will open and download the file.

Install the Software

Launch the installation by double clicking the .exe file. Follow the screen prompts. During installation you will have the option to configure the AutoCube software to launch at start up.

Note: You must have administrative rights on the PC to install the software.
Launch the AutoCube Software

When you launch the AutoCube software the first time you must:

- Register your device
- Set up the AutoCube application

AutoCube Registration

*Note:* You must have administrative rights on the PC to complete the AutoCube registration.

**To complete AutoCube registration:**

1. Launch the AutoCube software.
2. Click on *Haven’t registered yet? Sign up* and follow the screen prompts.
3. Enter your information in step 1. Enter the e-mail address that you want your ID and password sent to. Click *Next*.

! Caution: Enter a valid e-mail address so that you are sure to receive your ID and password.

4. Enter your information in step 2, then click *Register*.

! Caution: Enter a valid phone number so that you are sure to receive your one time password (OTP).

Wait while registration is in progress. When finished, you will see the *Registration Initiated* screen. An e-mail is sent to your e-mail address.

5. Check your e-mail. Open the verification e-mail and click on *Get Started Now* to confirm your e-mail address.

6. Your registration information opens in your browser. Make sure the information is correct, click *Proceed*.

7. A one time password (OTP) is sent to your phone number. Enter your OTP and click *Submit OTP*.

8. Click *I Agree* on the End User License Agreement screen and then click *Proceed*.

9. Create a password for your account. The password must include at least one lower case letter, one upper case letter, one number, and one special character. Click *Proceed*.

10. Registration is complete. Close your browser.
Set Up the AutoCube Software

To setup the AutoCube application

1. Launch the AutoCube application from the icon on your desktop or from the Start menu (Start, AutoCube, AutoCube_App).

2. Click Sign in.

3. Enter your e-mail address and password then click Sign in.

Note: Uncheck the Remember me box if you are installing the application on a PC for non-admin users. This will block non-admin users from being able to change the application settings.

4. A one time password is sent to your phone. Enter your OTP. Click Submit OTP.

5. Return to the AutoCube application.
6. To begin using the application with the default settings, select **Standard Settings** then click **Sign In**.

To customize the application, select **Custom Settings** then click **Sign In**. Follow the screen prompts to set up the following:

- Capture Mode and Length Axis (see page 25)
- Object Volume Display and Dimensional Weight Factor (see page 27)
- Unit of Measure (see page 27)
- Log Settings and Image Location (see page 29)
- Support Contact Information (see page 31)

These settings and additional options can be changed at any time using the **Settings** menu (see page 24.)

**Note:** If the AutoCube device has already been registered, the button will display “Get Started” instead of “Sign In.”

---

**AutoCube Application Status**

Once the AutoCube app is installed and running, you can see the status of the app’s cloud connection in the lower left corner of the screen. If you have integrated a scale, there will be a scale status shown as well.

**Status Without Scale**

| Cloud: Connected |

**Status With Scale**

| Cloud: Connected | Scale: Connected |
There are 3 possible statuses:

- Connecting - in the process of connecting.
- Connected - connected and ready to be used.
- Disconnected - not connected. If the Cloud status is disconnected, you can continue to use the app for up to 14 days, but you will not be able to send or receive information from the cloud (such as software updates). If you are using a scale and the Scale status is disconnected, you can continue to use the app, but it will not receive information from the scale.

**Set Measurement Area**

The measurement area can be a counter top or an object such as a scale.

1. Click on the image to select the area. If you are using a scale or other type of platform, place it in the image and click on it.

**Select Measurement Area: Counter Top**
Note: Make sure that there are no other objects in the view of the camera when setting the measurement area.

2. Wait a few seconds then a colored area appears showing the area selected. Click accept to continue or clear to start over again.

Measurement Area Set: Counter Top

Cloud: Connecting...
Operation

To navigate in the AutoCube software, use the menus on the top of the application:

- Measure
- Log
- Settings
- Notification
- About
Measure

Depending on how your application is setup, AutoCube can operate in two modes:

- Manual Mode
- Automatic Mode

**Note:** The Weight field will only display if you are using a connected scale. Please refer to the section Measurement Panel on page 22.

**Manual Mode**

Place the package in the measurement area. (In the example below, a scale is not connected so the Weight field is not displayed.):

Click the **Measure** button to measure it.
Automatic Mode

Place the package in the measurement area and it is measured automatically. If a scale is attached it will be weighed as well, as shown in the example below:

Measurement with a Bar Code Scanner

When a bar code scanner is connected via USB to your computer, the Scan Data field will display in the measurement panel. No other software should have an active bar code scanner connection while you are using the AutoCube app.

You have two options for capturing scan data:

- Scan a bar code to initiate the AutoCube measurement process.
- Or
- Click Measure then scan the bar code.

**Note:** Glare from the bar code scanner may affect the image but will not affect the dimensioning.
Note: The bar code displayed in the Scan Data field may be cropped but the bar code data will be captured in full.

Measurement Panel

The information in the measurement panel varies depending on how the software is set up and whether you have connected a scale. Volume and Dimensional Weight are optional and selected in the settings (see Dimension Display on page 27).

Note: Volume and Dimensional Weight outputs are for information only and are not certified measurements.

Note: The measurement panel can display up to 7 data points. If more than 7 data points are needed, volume will not display in the measurement panel.
Recommendations

- Packages need to be placed at least partially within the measurement area (see Set Measurement Area on page 17).
- Packages need to be placed fully on the platform in the camera’s view. If not, an error message will appear:

![ERROR](image)

- Black, shiny, and transparent packages are not supported.
- The following irregular shapes are supported:
  - Tube
  - Triangular tube (prism)
  - Cubes with an uneven top, sloped top, uneven side

**Note:** Tubes (cylinders and prisms) should not be orientated vertically.
- Stacked packages will be measured as one object.
- Can be used in typical office lighting, avoid direct sunlight. Light source must not be directed toward the camera optics.

Log

All actions by the camera are recorded in the log and categorized as:
- Measurement—measurement information such as length, width and height. If a scale is connected, weight will be shown as well.
- Info—system information such as ground plane set, system initialized, etc.
- Errors—system errors such as invalid measurement, out of range, etc.
By default the list is sorted by Log ID. You can also choose to sort the list by Event by clicking on Event.

When a measurement is recorded, the measured image with wire frame is also saved. To access the image, click on the small blue box on the right.

**Note:** An asterisk in the Message field indicates that the dimensions are not for legal trade.

**Note:** If you uninstall and reinstall the AutoCube software, the log and images are kept and are not overwritten.

**Settings**

To view or edit the AutoCube application settings:

1. Click on the **Settings** menu.
2. Use the menu on the left to access the different settings.

**Note:** The Settings menu may be slightly different depending on your region.

### Measurement Mode

Select Automatic or Manual Capture Mode and Length Axis.

You can also use this screen to enable the Wireframe feature, which adds a yellow outline to measured objects as shown below. By default the Wireframe option is turned off.
Wedge Settings

The wedge function is used to send measurement data to an active application (such as Notepad) by using a keyboard shortcut.

**Note:** The wedge function is only available in manual measurement mode.

Set up the following options:

- **Enable Wedge** turns the Wedge function on.
- Use **Data Transfer Hot Key** to create a keyboard shortcut that will be used to send the data to the open application.
- Use the **Define Data Points and Delimiter** field to specify which data is transmitted and in what order. Use delimiters as separators between data points. Available data points and delimiters are bar code, length, width, height, weight, volume, dimension unit, weight unit, date and time, horizontal tab, vertical tab, space, comma, and carriage return.
- Select **Round up to next integer** if you prefer dimension (or weight, if a scale is in use) to round up rather than be sent as a fraction. For example, if this field is turned on for dimensions, a length of 2.5 inches would be transmitted as 3 inches.

To send measurement data using the Wedge function:

1. Measure an object (see Measure on page 20).
2. Once the measurements are taken and shown in the measurement panel, open an application such as Notepad.
3. Press the **Data Transfer Hot Key** combination that you have selected in the wedge settings.
4. The data is transferred to the open application.
Dimension Display

Select additional information that will be displayed in the Measurement Panel when measuring an object.

**Note:** *Volume and Dimensional Weight outputs are for information only and are not certified measurements.*

![Dimension Display](image)

**Note:** *Click on the question mark for an explanation of Dimensional Weight Factor.*

Unit of Measurement

Depending on your region you may or may not be able to select a different unit of measurement.

![Unit of Measurement](image)
Export Mode

If you are using a custom application, you can choose to export information manually (see Custom Applications on page 33) or automatically by selecting an Export Mode.

You also have the option to save the image (see the next section Types of Saved Images) as well as limiting the number of saved images. The image will be saved in the same location as the image with measurements. See Log Settings & Image Location on page 29 to set storage location.

Types of Saved Images

Screen Image

Raw Image (everything in the camera's field of view)

Cropped Image
Enable or disable the troubleshoot log. You can also select what information you want to be included in the log: Info, error, and/or warning.

The troubleshoot log is located in C:\Program data\AutoCubeLogs. This log may be used by technical support.

Log Settings & Image Location

- Select the number of log records to store. The required minimum of log records is 1000.

  **Note:** An increased number of logs saved will increase the amount of space used on the hard drive.

  - If you enable **Image Capture Without Dimensioning** an additional **Capture Image** button will display on the **Measure** screen. This option allows you to use AutoCube as a camera without taking measurements.
• Specify an image storage location. This location should be accessible by both admin and non-admin users.

• You have the option to save an image with bar code data in the file name. In the example below, the bar code data is displayed in the file name at the top and in the **Scan Data** field on the right:

![Image Storage Location Example](image)

**Export Text File**

This setting is used to automatically export data to a text file.

- **Enable Text File Export** turns the setting on.
- Specify where you would like the text file to be saved in the **Text File Storage Location** field. This location should be accessible by both admin and non-admin users.
- Use the **Data to be Exported** field to specify which data is transmitted and in what order. Use delimiters as separators between data points. Available data points and delimiters are bar code, length, width, height, weight, volume, dimension unit, weight unit, date and time, horizontal tab, vertical tab, space, comma, carriage return, and image name.
• If you have already started a text file and you change the data points, going forward the data exported to that existing file will follow the new parameters. If you want to start a new text file, click **Start New File**.

**Support Contact Information**

Record support contact information here for easy access.

**Notification**

To display the list of all notifications (completed and pending), click on the **Notification** menu. This list shows the type of update, status, and how many times it has been postponed (snoozed).
From this list you can install or snooze pending updates using the snooze icon 🕒. You can also delete completed updates using the delete icon ⚡.

**Note:** Non-admin users do not have access to the snooze icon 🕒.

### Notification Popup Window

When an update is pushed out to a device, a notification popup window appears. Choose an action from the **Action** drop down list. You can select **Install now** or postpone the update. Click **Done** when you are finished.

You have 15 minutes to respond to the notification. If you do not respond, the update will start automatically after 15 minutes.

For more information on software updates, see **Update the Software** on page 36.

**Note:** If you are not the administrator, you can only select snooze 3 days in the drop down list. This gives the non-admin user time to inform the administrator of the notification so they can connect with administrator privileges and install the update.

**Note:** The notifications popup window only shows the pending updates.
About

The About screen shows information specific to your device.

Custom Applications

The AutoCube software can also be integrated into a custom application using the AutoCube SDK and API. When using a custom application with the AutoCube application, you will be able to export the AutoCube application information to the custom application using the Export button.

For more information go to www.honeywellaidc.com for the AutoCube SDK documentation.
Clean the Camera Lenses

Depending on the environment, the AutoCube camera lenses can become dirty with dust and/or grease. To clean the lenses use compressed air to blow off dust and debris. If more cleaning is necessary use isopropyl alcohol (or similar solution) applied with an optical grade cleaning cloth.

Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image is frozen in AutoCube application.</td>
<td>Close the application, unplug and re-plug the USB cable for the camera, then restart the AutoCube application.</td>
</tr>
<tr>
<td>Cannot detect object.</td>
<td>• Object is too dark.</td>
</tr>
<tr>
<td></td>
<td>• Object is too shiny.</td>
</tr>
<tr>
<td></td>
<td>• Object is too big.</td>
</tr>
<tr>
<td></td>
<td>• Object is not in the measurement area.</td>
</tr>
<tr>
<td></td>
<td>• Object is transparent</td>
</tr>
<tr>
<td>Cannot set measurement area.</td>
<td>• Ground plane surface is too reflective or transparent.</td>
</tr>
<tr>
<td></td>
<td>• Ground place surface is not flat enough.</td>
</tr>
<tr>
<td>Must reset measurement area when re-launching the application.</td>
<td>Be sure that the measurement area is empty when launching the application.</td>
</tr>
<tr>
<td>Forgot your AutoCube account ID and password.</td>
<td>Click on “Forgot your password?” or “Can’t access your account?” on the AutoCube Registration login page. Follow the instructions.</td>
</tr>
<tr>
<td>Application gets stuck then does not recognize the connected device.</td>
<td>Close the application, unplug and re-plug the camera, then restart if the software. If this continues, restart the PC.</td>
</tr>
<tr>
<td>App status shows disconnected.</td>
<td>The app is not able to connect to the cloud. Check your Internet connection.</td>
</tr>
</tbody>
</table>
Update the Software

To update the software from the notification popup window

When a software update is available, the notification popup window appears.

1. Click on the **Action** drop down list to choose an action.

2. Select **Install now** to launch the software update. Click **Done**.

   You can also choose to postpone (snooze) the update. If the update has been postponed, you can launch it from the Notification menu. See **To update the software from the Notification menu** on page 37.

   You can only postpone an update for up to 5 times. After that, you will simply be notified when the update starts.

3. The software download and installation begin. Follow the screen prompts.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Windows 10, when a bar code scanner is connected the application does not show scan data.</td>
<td>Install null driver to allow Honeywell scanners to work in USB HID interface for Windows 10. Refer to docs.microsoft.com for more information on installing a null driver.</td>
</tr>
<tr>
<td>During software update notification, PC Admin is not able to see the clock icon to select snooze or install.</td>
<td>AutoCube application must be run as administrator in Windows 8, 8.1 and 10.</td>
</tr>
<tr>
<td>“Dimensioning disabled. Please use consistent measurement unit on weight scale and dimensioning.”</td>
<td>If the scale uses metric weights, set the unit of measure in AutoCube to centimeters. If the scale measures in pounds, set AutoCube to use inches.</td>
</tr>
<tr>
<td>AutoCube app becomes unresponsive while laptop is in sleep mode.</td>
<td>Restart application and turn off sleep or hibernation mode.</td>
</tr>
</tbody>
</table>
When the download and installation are complete, the application closes automatically. You will receive a message indicating that the operation was successful.

![AutoCube - InstShield Wizard]

Software upgrade for AutoCube successfully completed. Relaunch application to continue working.

OK

4. Restart the application and continue working. If the software upgrade fails, you will receive a notification. In this case, continue working with the current software version.

**To update the software from the Notification menu**

If a software update has been snoozed, you must launch the update from the Notification Menu.

1. Click on the **Notification** menu.
2. Click on the snooze icon 

3. Select **Install now**, then click **Done** (you can also postpone (snooze) the update on this screen).

4. The software download and installation begin. Follow the screen prompts.

   When the download and installation are complete, the application closes automatically. You will receive a message indicating that the operation was successful.

5. Restart the application and continue working.

   If the software upgrade fails, you will receive a notification. In this case, continue working with the current software version.
This section defines the security processes, both implemented and recom-
mended by Honeywell, for using the AutoCube fixed dimensioning system.
System Architecture

AutoCube In-Premise Architecture

Honeywell Cloud Services

TLS

Cloud

TLS

Customer Firewall

TLS

Host Computer

USB

AutoCube Camera
Security Checklists

The checklists cover some of the main threats that may exist on a network containing AutoCube and the steps that can be used to mitigate them.

Note: Honeywell recommends that the PC on which the AutoCube software is installed is protected with a full disk encryption solution such as Microsoft’s BitLocker or other equivalent solution.

Infection by Viruses and Other Malicious Software Agents

This threat encompasses malicious software agents such as viruses, spy-ware (Trojans), and worms.

The intrusion of malicious software agents can result in:

- Performance degradation.
- Loss of system availability.
- The capture, modification, or deletion of data.

Mitigation Steps

<table>
<thead>
<tr>
<th>Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure that your virus protection and Microsoft security hot fixes are up to date on all computers where AutoCube software is installed and AutoCube system is connected to it.</td>
</tr>
<tr>
<td>Ensure that there is no email or instant messaging clients on any computer hosting AutoCube system.</td>
</tr>
</tbody>
</table>

Note: The use of spy-ware removal applications may cause unexpected results if run on your computers hosting AutoCube system. These applications may alter registry settings that are crucial to the operation of the software.

Unauthorized External Access

This threat includes intrusion into the AutoCube system from the business network and possibly an intranet or the Internet.

Unauthorized external access can result in:

- Loss of system availability.
- Incorrect execution of controls causing the failure of search and rescue.
- Theft or damage of system contents.
- The capture, modification, or deletion of data.

Damage to reputation if the external access becomes public knowledge.
Unauthorized Internal Access

This threat encompasses unauthorized access from people or systems within the business network. This threat is the most difficult to counter since attackers may have legitimate access to part of the system and are simply trying to exceed their permitted access.

Unauthorized internal access can result in:

- Loss of system availability.
- Incorrect execution of controls causing the failure of the AutoCube system.
- Incorrect execution of controls causing the failure of search and rescue.
- The capture, modification, or deletion of data.

Theft or damage of system contents.

Mitigation Steps

<table>
<thead>
<tr>
<th>Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set the minimum level of privilege for all accounts, and enforce a strong password policy, both for Windows user accounts and AutoCube user accounts.</td>
</tr>
<tr>
<td>Restrict access to the AutoCube system to authorized user only.</td>
</tr>
<tr>
<td>Use a firewall at the interface between other networks and AutoCube devices.</td>
</tr>
</tbody>
</table>

Audit Log

All captured data (measurements), events and errors are stored into the Log (see Log on page 23). The log serves as product history for Weight and Measure certification audit on customer site. It is read-only for all users including system administrators of the computer. Content of the log is protected from modifications using a software protection algorithm.

The log can stored up to 10K entries. When storage capacity is reached, the oldest entry is replaced by the new one.
AutoCube 8200 Technical Specifications

Physical Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Dimensions</td>
<td></td>
</tr>
<tr>
<td>Camera</td>
<td>L33 x W6.3 x H9.7 cm (L13 x W2.5 x H3.8 inches)</td>
</tr>
<tr>
<td>Weight (camera only)</td>
<td>900g / 2 lbs</td>
</tr>
<tr>
<td>Pole Height</td>
<td>1.6 m to 1.9 m (5.25 ft to 6.25 ft)</td>
</tr>
</tbody>
</table>

Electrical Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Voltage</td>
<td>4.4v - 5.25 at device</td>
</tr>
<tr>
<td>Operating Power</td>
<td>400mA RMS (2W) typical</td>
</tr>
<tr>
<td>Host System Interface</td>
<td>USB 2.0 high speed</td>
</tr>
</tbody>
</table>

Laser Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength</td>
<td>850nm</td>
</tr>
<tr>
<td>Power Output</td>
<td>0.78mW max.</td>
</tr>
<tr>
<td>Classification</td>
<td>IEC 60825-1:2014 Class 1</td>
</tr>
</tbody>
</table>

Performance Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shape</td>
<td>Cube (NTEP/OIML/MID certification)</td>
</tr>
<tr>
<td></td>
<td>Irregular shapes (NTEP certification)</td>
</tr>
<tr>
<td>Accuracy</td>
<td>5 mm (0.2 inches), NTEP certified</td>
</tr>
<tr>
<td></td>
<td>1 cm (0.4 inches), OIML/MID certified</td>
</tr>
<tr>
<td>Measurement time</td>
<td>Less than 1 second</td>
</tr>
</tbody>
</table>
Performance Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object size at 1.6 m/5.25 ft pole height (1.5 m/5 ft camera height)</td>
<td></td>
</tr>
<tr>
<td>Min. cube</td>
<td>10 cm / 4 inches</td>
</tr>
<tr>
<td>Max. cube</td>
<td>80 cm / 31.5 inches</td>
</tr>
<tr>
<td>Max. rectangular cube</td>
<td>110 x 90 x 70 cm / 43 x 35 x 27.5 inches</td>
</tr>
<tr>
<td>Object size at 1.9 m/6.25 ft pole height (1.8 m/6 ft camera height)</td>
<td></td>
</tr>
<tr>
<td>Min. cube</td>
<td>10 cm / 4 inches</td>
</tr>
<tr>
<td>Max. cube</td>
<td>90 cm / 35 inches</td>
</tr>
<tr>
<td>Max. rectangular cube</td>
<td>120 x 100 x 70 cm / 47 x 39 x 27.5 inches</td>
</tr>
<tr>
<td>Object colors</td>
<td>All opaque packaging except black, very glossy, and transparent</td>
</tr>
<tr>
<td>Lighting</td>
<td>100 to 2500 lux (typical office light), avoid direct sunlight</td>
</tr>
<tr>
<td>Measurement surface</td>
<td>Level tables, scales, no black or transparent surfaces</td>
</tr>
</tbody>
</table>

System Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host Computing System</td>
<td>Windows 64-bit PC &amp; Laptop, OS 7 and later, USB 2.0 or later</td>
</tr>
<tr>
<td></td>
<td>Windows Tablet OS 8 and later, 64-bit only, USB 2.0 or later</td>
</tr>
<tr>
<td></td>
<td>Minimum requirement configuration is Dual Core i3 processor (or equivalent) desktop processor with 2GB RAM</td>
</tr>
</tbody>
</table>

Environmental Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>-10°C to 40°C (14°F to 104°F)</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-10°C to 40°C (14°F to 104°F)</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>0 to 95% relative humidity, non-condensing</td>
</tr>
<tr>
<td>Vibration</td>
<td>Mil-STD-8910G Method 514.6 Annex C, Category 4</td>
</tr>
<tr>
<td>IP rating</td>
<td>IP54</td>
</tr>
</tbody>
</table>
Label Placement

Safety, certification, warranty, and serial number labels are located on the back of the camera.

Laser Safety Label

CLASS 1 LASER PRODUCT
Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007.

Laser Aperture
Laser Output Angle

Invisible laser radiation output: