# iDimension® QubeVu®

*Dimensioning Systems*
*Firmware: 6.X.X.XXXX*

# Administrator Guide

February 6, 2026

RICE LAKE® WEIGHING SYSTEMS

PN 221652 Rev F

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# Revision History

This section tracks and describes manual revisions for awareness of major updates.

| Revision | Date | Description |
|---|---|---|
| A | October 20, 2023 | Initial manual release |
| B | October 28, 2024 | Updated menus; added new model calibration procedures |
| C | March 6, 2025 | Updated general updates |
| D | August 5, 2025 | Updated safety information |
| E | January 15, 2026 | Updated Calibration, Work Area, Work Zone, Engapp, general updates |
| F | February 6, 2026 | Added OIML and NTEP specifications |
| | | |
| | | |

*Table i. Revision Letter History*

*Technical training seminars are available through Rice Lake Weighing Systems. Course descriptions and dates can be viewed at* ***www.ricelake.com/training*** *or obtained by calling 715-234-9171 and asking for the training department.*

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# 1.0 Introduction

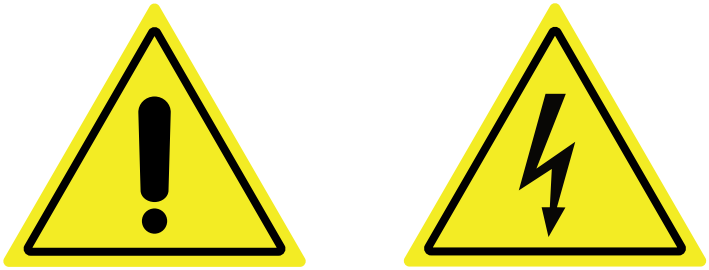
QubeVu Manager is an embedded program that configures iDimension products. This manual discusses configuring QubeVu with pallet dimensioners. and is recommended for use by technical system administrators.

***NOTE: When interfacing to a third party program, reference the software manufacturer's documentation for configuration as necessary.***

This manual is applicable with the following iDimension products:

- iDimension Flex Series Parcel and Pallet Dimensioning System
- iDimension LTL 5 Sensor Dimensioning System
- iDimension LTL 8 Sensor Dimensioning System
- iDimension PWD Pallet Weighing and Dimensioning System
- iDimension Plus Static Dimensioning System

***WARNING: Electric shock hazard! Ensure the iDimension is disconnected from the power source before opening kiosks or junction box enclosures. Do not remove or obscure the high voltage stickers.***



232618 232619

*Figure 1-1. High Voltage Stickers*

***NOTE: For information regarding iDimension Plus/Plus XL Static Dimensions Systems, see:***

***•iDimension Desktop Wedge Software Manual (214650)***

***•iDimension Software Suite (201231)***

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Warranty information is available at www.ricelake.com/warranties

## 1.1 Additional Resources

For additional resources, see the following information:

**iDimension Flex Series Assembly Instructions**

The iDimension Flex Assembly Instructions (PN 220532) provides an overview on how to assemble iDimension products.

**iDimension PWD Assembly Instructions**

The iDimension PWD Assembly Instructions (PN 198812) provides an overview on how to assemble the iDimension PWD.

**iDimension Plus Assembly Instruction**

The iDimension Plus Assembly Instructions (PN 197164) provides an overview on how to assemble the iDimension Plus.

**880 Performance™ Series Indicator/Controller Technical Manual**

The 880 Performance Series Technical Manual (PN 158387) provides a detailed overview of the 880 indicator installation, configuration and operation procedures.

**1280 Enterprise™ Series Indicator/Controller Technical Manual**

The 1280 Enterprise Series Technical Manual (PN 167659) provides a detailed overview of the 1280 indicator installation, configuration and operation procedures.

**SUMMIT® 3000 Installation Manual**

The SUMMIT 3000 Installation Manual (PN 76012) provides a detailed overview of the SUMMIT 3000 installation procedure.


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**RoughDeck® Floor Scale Installation Manual**
The RoughDeck Installation Manual (PN 66662) provides a detailed overview of the RoughDeck HP/HC installation procedure.

# 2.0 QubeVu Manager

This section provides an overview of QubeVu Manager. QubeVu Manager is the embedded program installed with the iDimension pallet dimensioner and provides configuration, system diagnostics and calibration not accessible from the touchscreen display.

To access QubeVu Manager, connect the iDimension pallet dimensioner via Ethernet to a computer and then open a web browser and enter the dimenesioner's IP address: **http://192.168.0.2** (primary) or **169.254.1.1** (secondary).

*Figure 2-1. QubeVu Manager Home Page*

| Parameter | Description |
|---|---|
| Displays | Display information (Section 3.0 on page 17) |
| Admin Tools | Admin tools information (Section 4.0 on page 22) |
| License | License information (Section 11.0 on page 86) |

*Table 2-1. QubeVu Manager Home Page Navigation*


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## 2.1 Navigation

The navigation menu is located in the upper left section of all pages. This allows users to track their current menu location and provides links to each preceding page.

For example, from the General Settings menu select Admin Tools to return to the Admin Tools menu or QubeVu Manager to return to the home page.

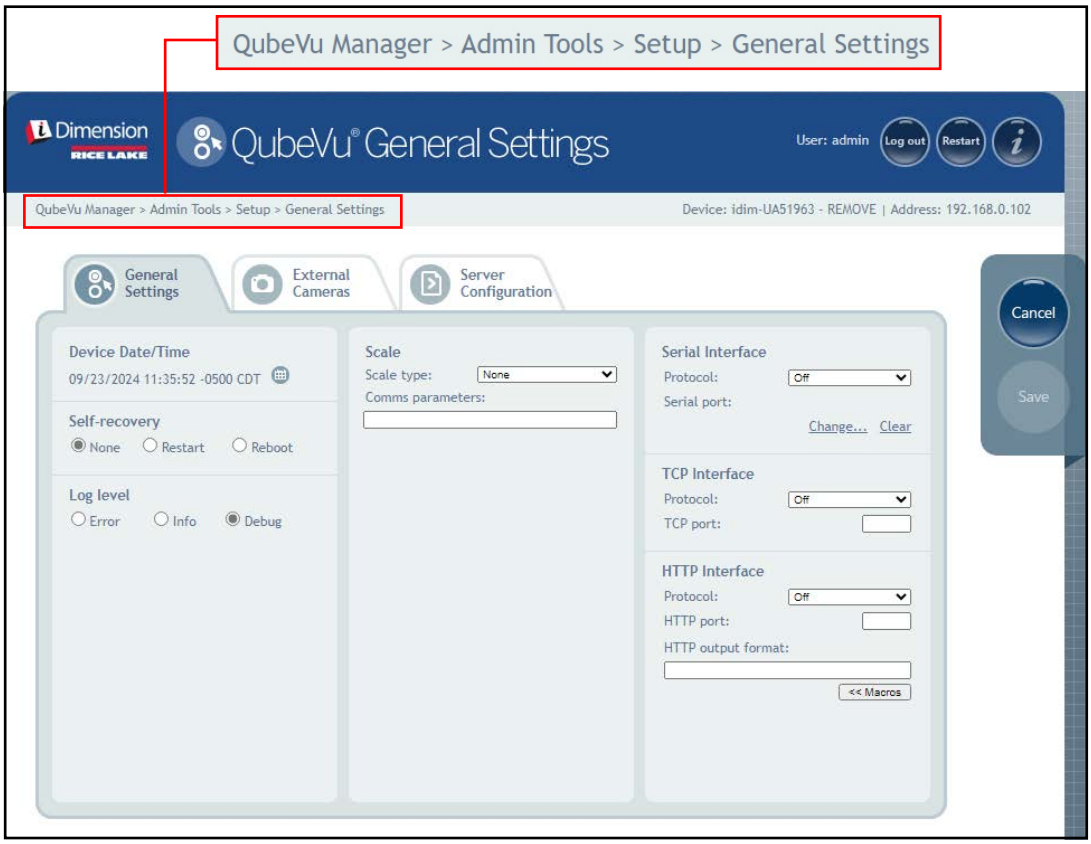


*Figure 2-2. Menu Navigation*

## 2.2 Edit/Cancel/Save Buttons

Throughout the menus, three active buttons commonly display: Edit, Cancel and Save.

*Figure 2-3. Edit, Cancel and Save Buttons*

| Item | Description |
|---|---|
| Edit | Press Edit to enable the functionality to change settings.<br><br>After changing settings, press Save to continue. |
| Cancel | Select Cancel to cancel changes made to the active tab, unless saved. |
| Save | Select Save to save changes made during the edit process.<br>***NOTE: Upon saving, the unit may restart and return to the home screen.*** |

*Table 2-2. QubeVu Manager Home Page Navigation*


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## 2.3 System Status

The system status of the connected device is displayed in the upper right corner of all pages.

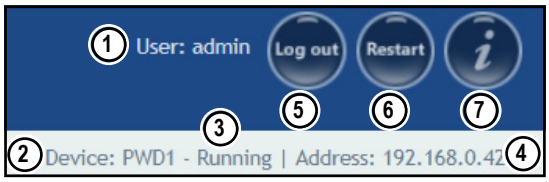


*Figure 2-4. Status Display*

| Item No. | Description |
|---|---|
| 1 | User<br>*Logged into the device under the Admin mode. Select* Log out *to return to the standard user mode.* |
| 2 | Device<br>*The default setting is the serial number of the iDimension device. This can be renamed in the Host Name parameter in Network Settings (while in Admin mode).* |
| 3 | System Status (*Section 2.3.1*)<br>*The current status of the unit.* |
| 4 | IP Address<br>*10.184.1.58: The Current IP address of the unit.* |
| 5 | Log Out (Log In displays if not signed in) |
| 6 | Restarts or Reboots system (Section 2.3.2 on page 13) |
| 7 | QubeVu Inspector (Section 2.4 on page 14) |

*Table 2-3. System Status Indicators*

If Edit is selected while in the Calibration section, the unit may change to ***Configuring*** status. The system will restart automatically upon saving or canceling changes and return to ***Ready*** mode.

### 2.3.1 System Status Messages

The device status messages which may be displayed are described below.

| Status | Description |
|---|---|
| STARTING | The system is starting up |
| STARTED | The device has been power cycled or rebooted. Wait for the status to change to RUNNING before performing a dimension.<br>If the device remains in STARTING mode, use the demo display or USB display **Help** button to view and clear dimensions |
| READY | The system is ready |
| ERROR | The internet browser is unable to determine the status. ERROR may display during a system reboot |
| DIMENSIONING | The system is processing a dimension |
| REMOVE | Dimensions are processed and the item may be removed |
| STOPPING | The system is transitioning to the STOPPED state |
| STOPPED | The service has stopped. STOPPED displays during a restart or reboot of the system. If the unit continues to display STOPPED, perform a restart or power cycle the unit from the AC Outlet or power switch on the kiosk |
| CALIBRATING | The device has been power cycled, reset or rebooted and the system is restarting services. Wait for the status to change to RUNNING before performing a dimension |
| CONFIGURING | While in Admin mode an Edit condition has been activated to change configuration settings. If the settings are saved, the device should return to the RUNNING mode. If a save function has not been performed and the device is in the configuring mode, perform a restart |
| RECOVERING | The system is attempting to reestablish connection with sensors |

*Table 2-4. Status Messages*

### 2.3.2 Restart Device Information

To restart or reboot the system, select one of the following buttons:

- Select Restart from the system start bar. The QubeVu Manager restart/reboot prompt appears.
- Select Restart to restart the service currently running on the device.
- Select Reboot to reboot the operating system. Rebooting the unit takes several minutes and power cycles the unit.
- Select Cancel to return to the previous menu.

*Figure 2-5. Restart/Reboot Prompt*


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## 2.4 QubeVu Inspector

***QubeVu Inspector*** provides ***Device Information*** and ***Change Log*** tabs. These tabs provide information regarding the device and changes made to settings. It is not necessary to log in to view the information available on the ***QubeVu Inspector*** tab.

### 2.4.1 Device Information Tab

The ***Device Information*** tab lists system information such as the serial number, firmware version number and specifications.

Perform the following to access the ***QubeVu Inspector***:

1. Select to access ***QubeVu Inspector***.

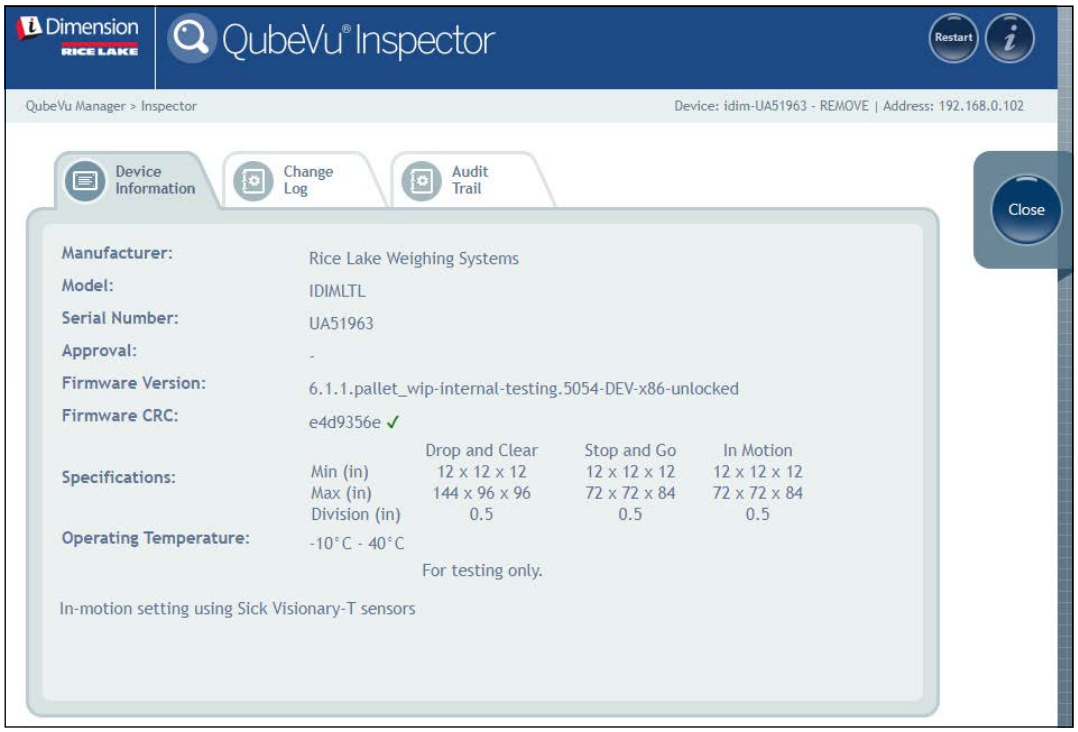


*Figure 2-6. QubeVu Inspector*

### 2.4.2 Change Log Tab

The ***Change Log*** tab provides a list of changes made to settings. This menu is used by the local weights and measures inspector and factory service personnel.

- To view changes using a date range, enter a ***Start*** and ***End*** date and then Select .

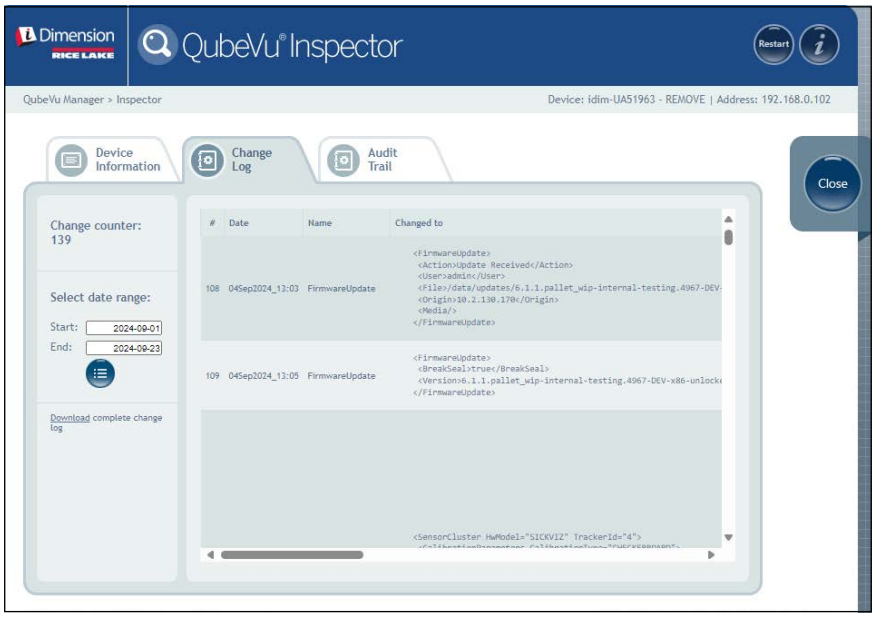


*Figure 2-7. Change Log Tab (Date Range)*

- To view all previous logs, select without entering a date range.

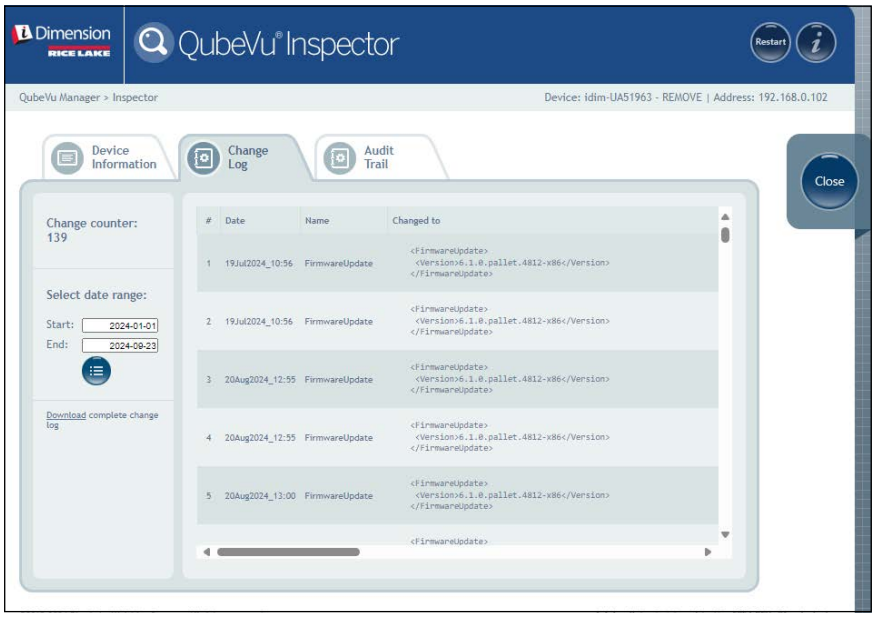


*Figure 2-8. Change Log Tab (All Data)*

- Use the arrow keys on the PC keyboard to scroll through the results.
- Select to export the log to a *.csv file.


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### 2.4.3 Audit Trail Tab

The Audit Trail Tab displays record audits history.

- To fetch records, fill the ***First record Id:*** and ***Nb. of records:*** fields and select .

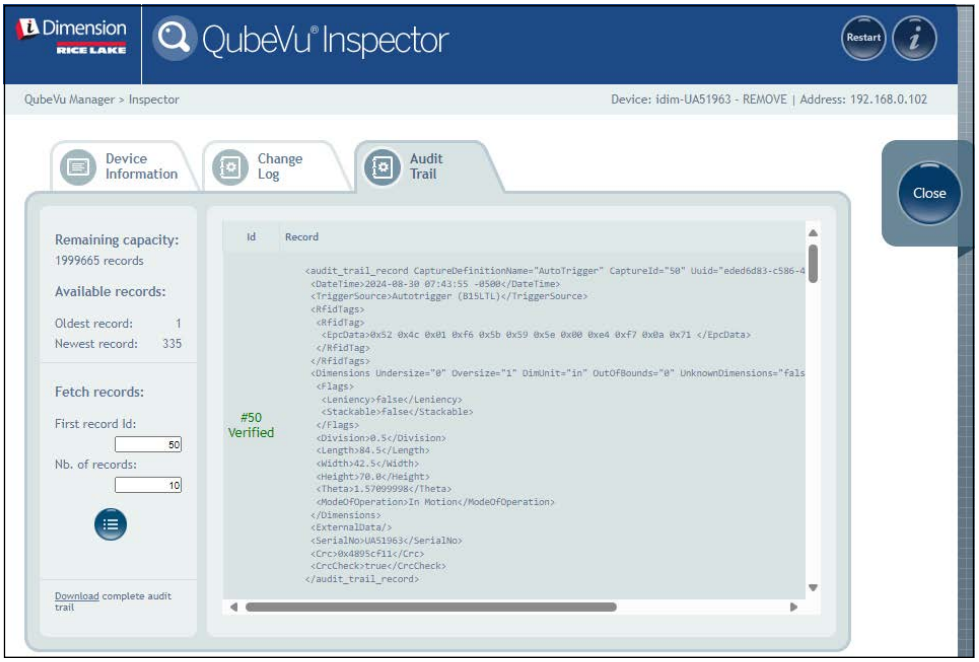


*Figure 2-9. Audit Trail Tab (Record Range)*

- To fetch all records, select without entering the fields.

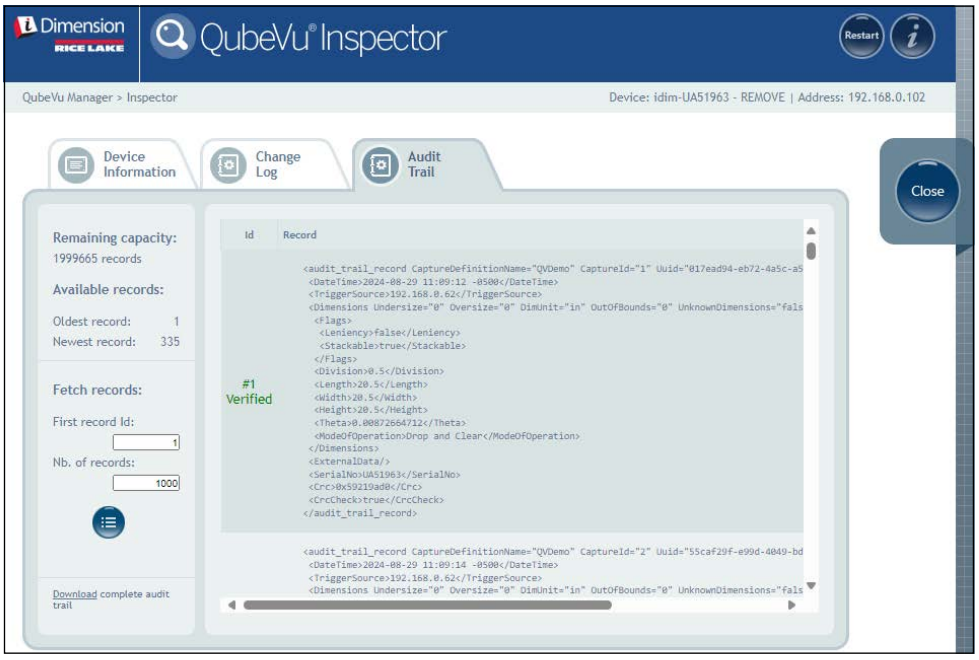


*Figure 2-10. Audit Trail Tab (All Records)*

- Use the arrow keys on the PC Keyboard to scroll through the results.
- Select Download to export records to a *.csv file.

# 3.0 Display

This section provides an overview of the QubeVu ***Display Pages*** menu. There are types of displays that can be used to relay information.

To enter the ***Display Pages*** menu, perform the following procedure:

- Select Displays from the ***QubeVu Manager*** menu (Figure 2-1 on page 9) to enter the ***Display Pages*** menu

*Figure 3-1. Displays Menu*

| Item | Description |
|---|---|
| Operator Display | Operator display information (Section 3.2 on page 19) |
| Customer Display | Customer display information (Section 3.3 on page 19) |

*Table 3-1. QubeVu Manager Home Page Navigation*


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## 3.1 Touchscreen Display

The touchscreen display is used to navigate QubeVu. The **Power** button for the USB display is located on the back of the unit. The USB display can be configured in QubeVu Manager.

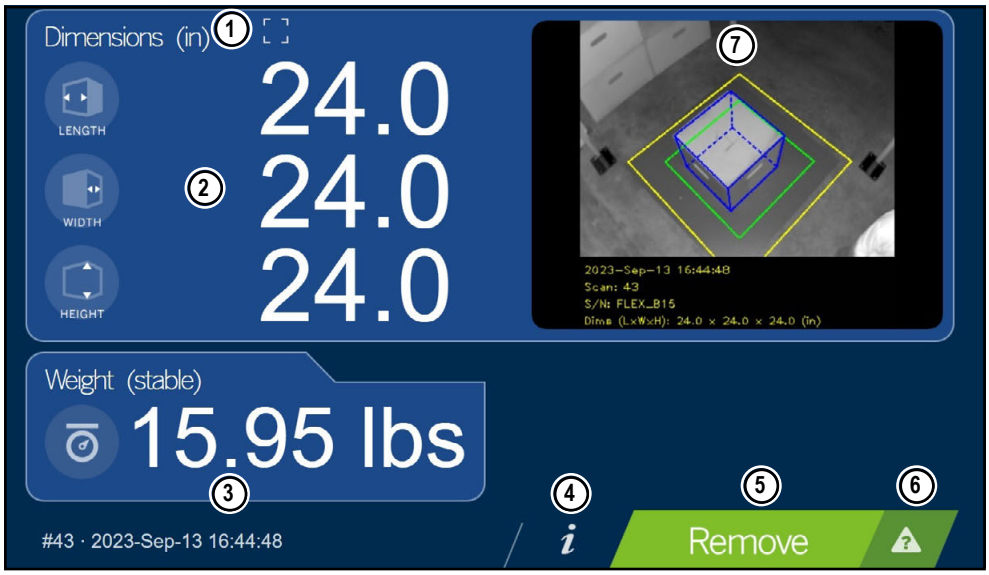


*Figure 3-2. Touchscreen Display*

Function keys allow the iDimension software to be managed via the touchscreen display.

| Item No. | Function | Function |
|---|---|---|
| 1 | Out of Bounds Indication | Displays when objects are out of bounds (see Section 3.1.1) |
| 2 | Dimension Display | Displays measured dimensions |
| 3 | Weight Display | Displays the weight of the item when the item's metrics when captured. Use Indicator weight display to view live weight data, including negative weight |
| 4 | Information Button | Accesses configuration menu to set up time and date, display configured IP address and firmware updates via USB flash drive |
| 5 | Scan Button | Activates the device to dimension |
| 6 | Help Key | Displays the Issue Review menu; Provides instructions to clear conditions such as started, stopped, wait or remove condition with no object in the scan area |
| 7 | Live Image | The weigh area provides a real-time view of the scanning area transmitted from the scanning head to the USB display |

*Table 3-2. Key Functions*

### 3.1.1 Customer Display Icon – Out of Bounds Indications

The Out of bounds (OOB) indication provides a visual symbol if the placement of the pallet or box is outside of the work area. Figure 3-3 indicates the pallet is out of bounds on the left edge, when facing the scale on a PWD:

*Figure 3-3. Out of Bounds Indication*

## 3.2 Operator Display

The ***Operator Display*** function simulates the USB touchscreen display. The ***Operator Display*** menu can be configured using the Admin Tools/Setup/Displays Settings function (Section 5.3.1 on page 35).

- Select

from the ***Display Pages*** menu (Figure 3-1 on page 17). The Operator Display appears.

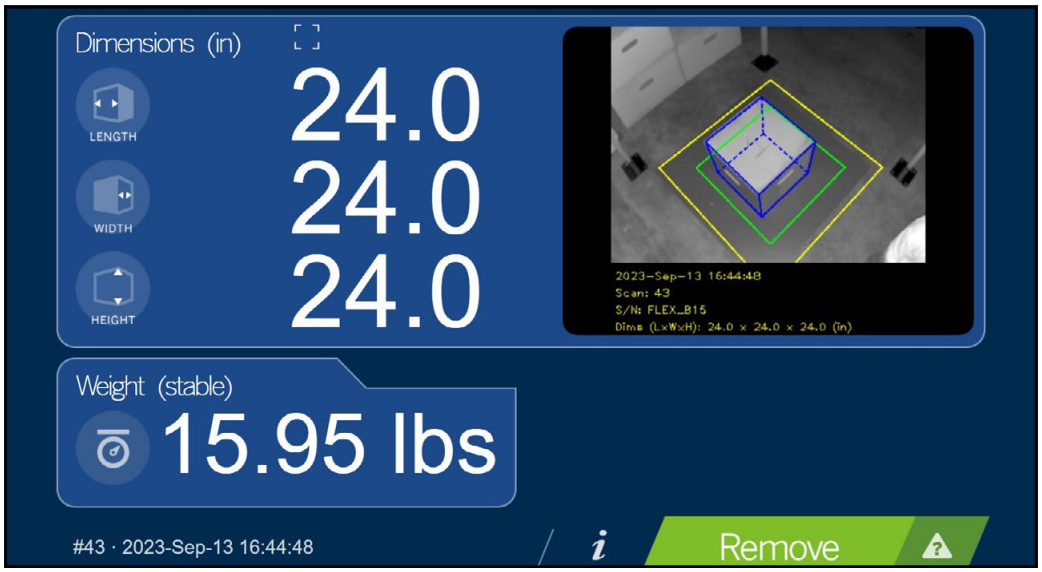


*Figure 3-4. Operator Display*

***NOTE: See Section 3.1 on page 18 for function descriptions.***

## 3.3 Customer Display

The ***Customer Display*** menu can be used for applications when a visible display is required for dimensioning. The ***Customer Display*** menu does not provide access to operator controls and is configured with Admin Tools/Setup/Displays Settings function (Section 5.3.2 on page 37).

- Select

from the ***Display Pages*** menu (Figure 3-1 on page 17). The Customer display appears.

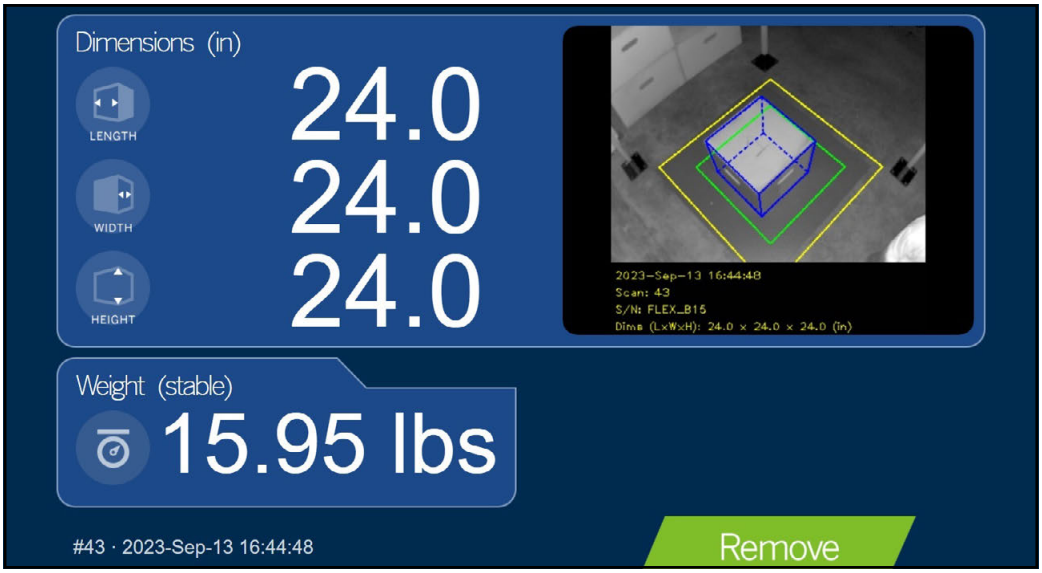


*Figure 3-5. Customer Display*


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## 3.4 Forklift Display

The ***Forklift Display*** is used in freight applications to give operators clearance or error messages. Forklift Display access must be addressed by typing the IP address of the unit into the web browser followed by /forkliftdisplay.

*Example: 10.2.131.197/forkliftdisplay*

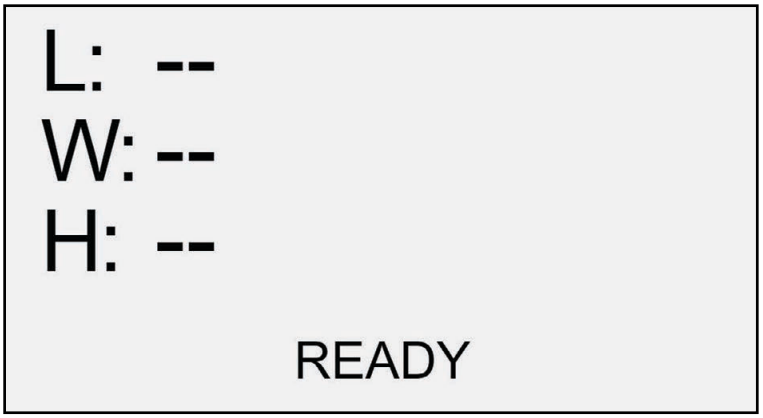


*Figure 3-6. Ready Message*

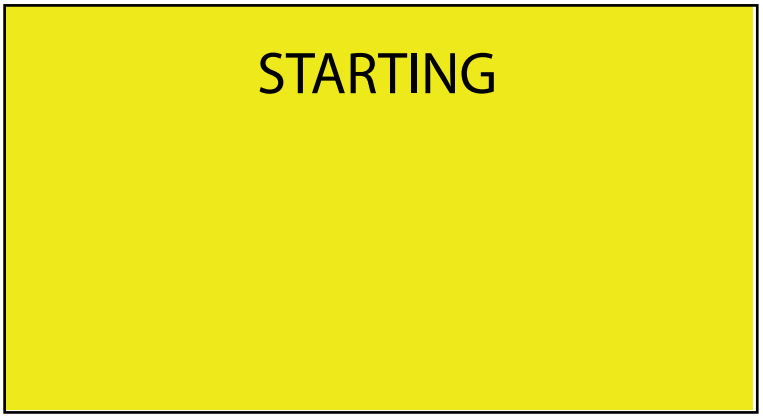


*Figure 3-7. Status Message*

***NOTE: Displays system status messages (Section 2.3.1 on page 12) except Dimensioning, Error, Remove and Ready.***

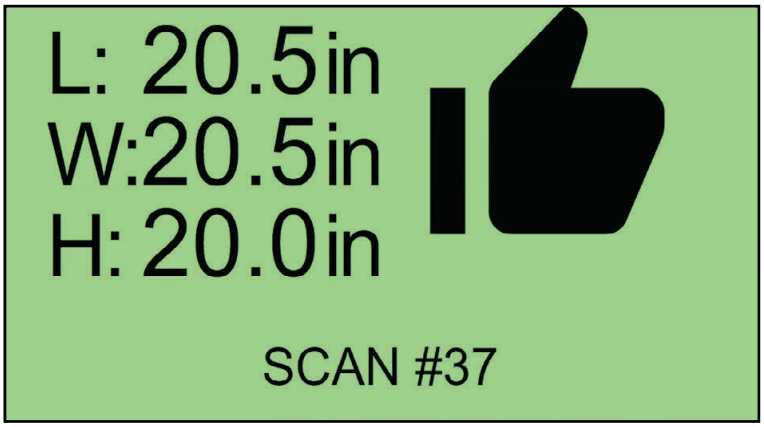


*Figure 3-8. Clearance Message*

*Figure 3-9. Error Message*

| Error Message | Description |
|---|---|
| ERROR getting QubeVu status - the device is probably off or restarting | System is rebooting |
| No item in sight | The object on the forklift is undetected |
| Center the freight | The object is inside the work area but outside of the central zone |
| Failed to collect data from the sensors - check connections... | System cannot detect the sensors due to network failure |
| Failed to connect to the sensors after recovery attempt | System attempted but failed to detect sensors due to network failure |
| Error - Lost connection to device, check network - reconnecting... | System failed to reconnect |

*Table 3-3. Error Messages*


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# 4.0 Admin Tools

This section provides an overview of the ***QubeVu Admin Tools*** menu. ***Admin Tools*** configure, calibrate, upgrade, back up and run diagnostics on the system.

To enter the ***Admin Tools*** menu, perform the following procedure:

1. Select Admin Tools from the ***QubeVu Manager*** menu (Figure 2-1 on page 9).
2. The QubeVu Manager login screen displays. Enter account credentials.

***NOTE: The default username and password are admin and password.***

3. Admin Tools screen displays.

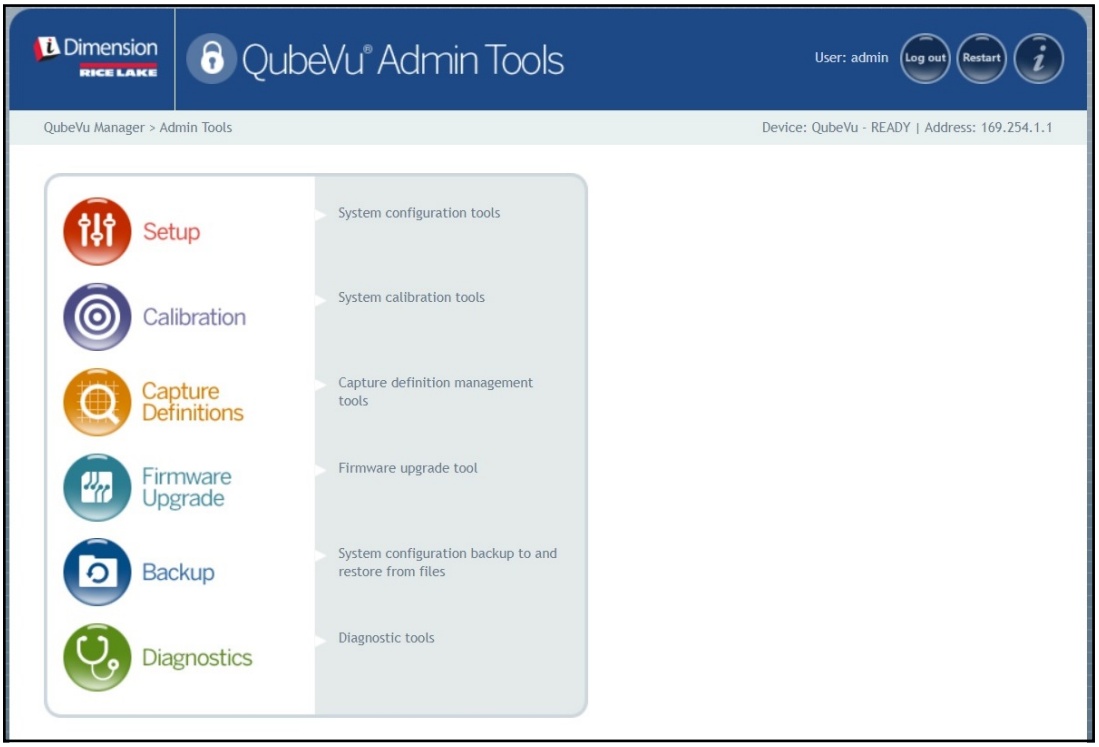


*Figure 4-1. Admin Tools Menu*

| Item | Description |
|---|---|
| Setup | General (optional and scale), measurement, user and network settings (Section 5.0 on page 23) |
| Calibration | Calibration settings, define work area and calibrate cameras (Section 6.0 on page 43) |
| Capture Definitions | Capture definitions for QubeVu (Section 7.0 on page 71) |
| Firmware Upgrade | Update firmware (Section 8.0 on page 73) |
| Backup | Backup and restore settings (Section 9.0 on page 77) |
| Diagnostics | Diagnostics settings (Section 10.0 on page 80) |

*Table 4-1. Admin Tools Navigation*

# 5.0 Setup

This section provides an overview of the QubeVu ***Setup*** menu.

To enter the ***Setup*** menu, perform the following procedure:

1. Select Admin Tools from the ***QubeVu Manager*** menu (Figure 2-1 on page 9).
2. The QubeVu Manager login screen displays. Enter account credentials.

***NOTE: The default username and password are admin and password.***

3. Select Setup from the ***Admin Tools*** menu (Figure 4.0 on page 22). The ***Setup*** menu displays.

*Figure 5-1. Setup Menu*

| Parameter | Description |
|---|---|
| General Settings | Modify general settings for QubeVu (Section 5.1 on page 24) |
| Measurement Settings | Modify measurement settings for QubeVu (Section 5.2 on page 31) |
| Display Settings | Modify the display settings for QubeVu (Section 5.3 on page 35) |
| User | Change password for the administrator account (Section 5.4 on page 39) |
| Network | Modify network settings for QubeVu (Section 5.5 on page 40) |

*Table 5-1. Setup Navigation*


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## 5.1 General Settings

***General Settings*** menu provides access to general device configuration, scale configuration, communication interface configuration.

To access ***General Settings*** menu, perform the following procedure:

- Select General Settings from the ***Setup*** menu (Figure 5-1 on page 23). The ***General Settings*** menu displays.

The ***General Settings*** menu provides two tabs:

- General Settings (Section 5.1.1)
- External Cameras (Section 5.1.2 on page 28)

### 5.1.1 General Settings Tab

The ***General Settings*** tab allows device settings to be customized and changed (Table 5-2 on page 25):

*Figure 5-2. General Settings Tab*

| Item No. | Parameter | Description |
|---|---|---|
| 1 | Device Date/Time | Configurable date and time |
| 2 | Self-recovery | Determines the recovery option of the unit.<br>Default: **Reboot**<br>Selections:<br>• None – System switches to Stop mode and a manual restart is required<br>• Restart – If the system has determined a critical error state, the unit restarts after 10 seconds.<br>• Reboot – If an error occurs three times within 15 minutes, the unit will restart. |
| 3 | Log level | Changing to error or debug increases the amount of engineering and performance information stored in the diagnostics and log files shown in "ipaddress/log" command<br>Default: **debug**<br>Selections:<br>• Error – Only logs error messages?<br>• Info – Only logs info messages?<br>• Debug – Logs all messages/ |
| 4 | Scale | Scale Type – Scale options: **Auto**, None, External, USB HID, Pennsylvania 7300, METTLER TOLEDO, MT-SICS, NCI, A&D FG, Dini, Rice Lake Indicator |
| | | Communication Parameters USB/RS-232 – Enter settings of the scale selected; configured indicator example: Application setting required: 9600,N,8,1<br>• Baud rate: 9600<br>• Parity: None<br>• Start bits: 8<br>• Stop bit: 1 |
| 5 | Serial Interface | Serial Interface – For use when capturing data from RS-232/Serial Converter when connected to the PC;<br>For detailed information on using these interfaces refer to the iDimension API Guide (Section 12.5.1 on page 97 for details on configuration of TCP Interface)<br>• Default: **Off**<br>• Selections: Off, QubeVu, Cubiscan 110/150 |
| | | Serial Port – Set-up a RS-232/USB converter for interface to the PC |
| 6 | TCP Interface | For use when using the TCP command/response format when attached to the network<br>• Default: **Off**<br>• Selections: Off, QubeVu, Cubiscan 110/150<br>• TCP Port: |
| 7 | HTTP Interface | For use when using the HTTP command/response format when attached to the network<br>Protocol<br>• Default: **Off**<br>• Selections: Off, Text<br>HTTP port – The port used to establish communication<br>• Default: **blank**<br>• Selections: Off, Text<br>HTTP output format<br>• Default: **blank**<br>• Selections: %DATETIME%, %CAPTUREID%, %LENGTH%, %WIDTH%, %HEIGHT%, %VOLUME%, %DIMUNIT%, %WEIGHT%, %WEIGHT-LB%, %WEIGHT-KG%, %WEIGHTUNIT%, %DISPLAYWEIGHT%, %BARCODES%, %STATUS, and %%%%, |

*Table 5-2. Measurement Settings Parameters*


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### Configuring the Serial Interface

1. Select **QubeVu** or **Cubiscan 110/150** from the serial interface drop-down list (Item 5 in Figure 5-2 on page 24).

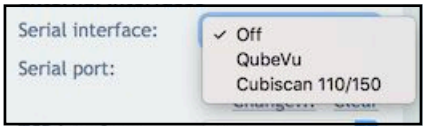


*Figure 5-3. Adapter Select*

2. Select **Change...** before plugging in the USB – Serial cable. iDimension software begins scanning for a new cable.

*Figure 5-4. Cable Scan*

3. Plug the cable into the iDimension USB port or the USB-hub. The cable will be detected.
4. Select OK to proceed.
5. Select Save to compete the serial emulation setup.

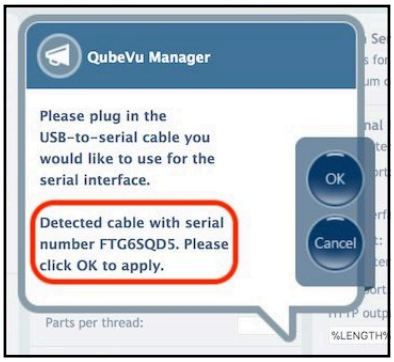


*Figure 5-5. Cable Detected*

The status of the serial port can be viewed from the ***General Settings***. The status is only refreshed when the page is refreshed or after selecting the **Change…** dialog.

### Configuring Date/Time

The ***Date/Time*** parameter sets the date and time. The date and time are used to time stamp configuration changes which affect the Legal-for-Trade certification.

1. In General Settings, select to change the date and time settings of the unit.

*Figure 5-6. Date and Time Tab*

2. Select **Now** to set the date and time to match the local computer date and time or enter a new date and time.
3. Select a **Time Zone**.
4. Select **Done** to apply the settings.


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### 5.1.2 External Cameras Tab

Adding external cameras, requires the configuration of the AXIS IP camera using the AXIS IP Utility program. Ensure the IP camera matches the PC network settings. The default static IP address of the camera is 192.168.0.90. See Section 12.2 on page 90 for instructions on using the Axis IP utility program. The utility program is found on integrated PC in the Utility folder.

1. To add a new external camera, select ***Add New Camera***.

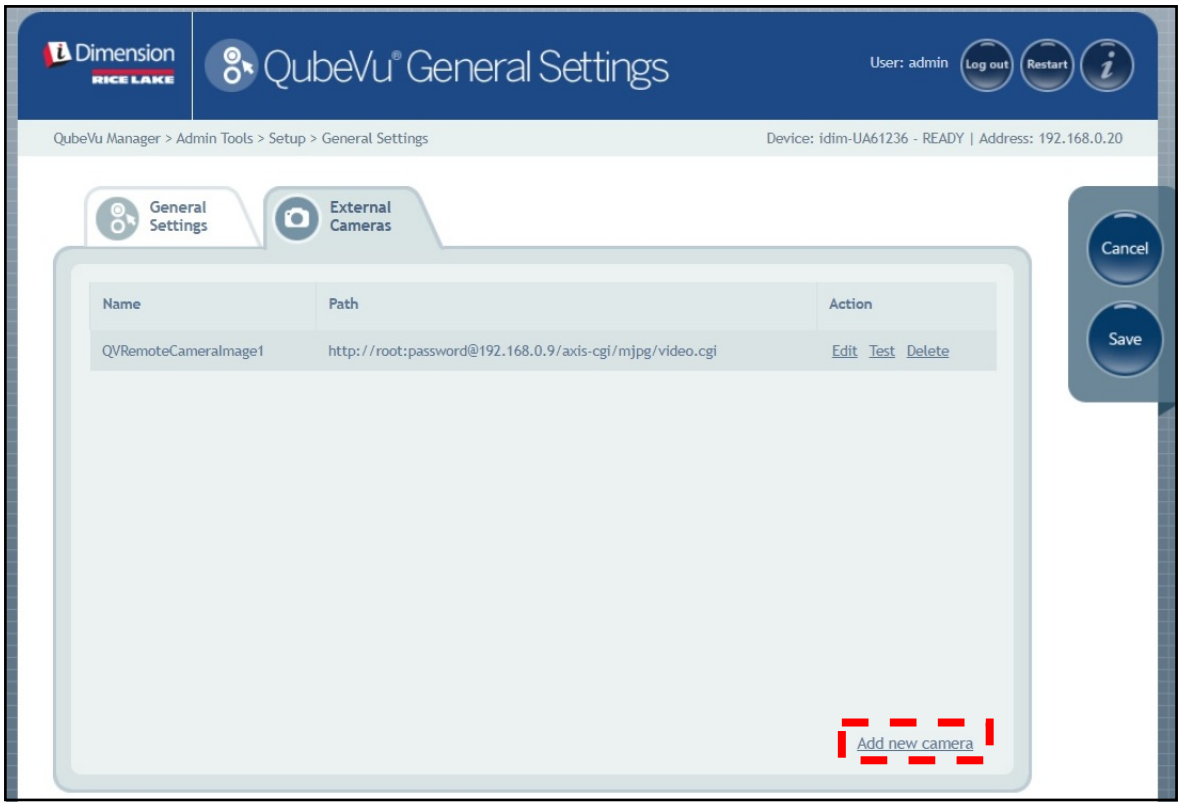


*Figure 5-7. External Camera Tab*

2. The page refreshes with temporary text added to Name, Path, and Scale factor columns.

*Figure 5-8. Temporary Camera Information*

3. Enter the desired camera name.

***NOTE: The operator display only shows images named QVRemoteImageX (where X is the numerical order of the camera).***

4. Configure the Path information (http://username:password@xx.xx.xx.xx/mjpg/video.mjpg) as the following:
   - username:password — User name and password credentials
   - @xx.xx.xx.xx — IP address of camera (for example, 192.168.0.90)
   - Mpg/video.mjpg

***NOTE: For firmware older than 6.1.2, use the path: https://root:password@xx.xx.xx.xx/axis-cgi/jpg/image.cgi***

5. Select **OK**.

6. Select Save to continue.

7. The QubeVu Manager restarts and returns to the Home page.
8. Return to the external cameras tab and Select **Test**.
9. Select OK.

*Figure 5-9. External Camera*

### 5.1.3 Server Configuration Tab

Provides server details where the device uploads measurement and image data.

***NOTE: Currently only one server can be configured.***

**Adding a server**

1. Files can be selected in the following ways:
   - Drag and drop the file in the Server #1 box.
   - Select **browse for files...** to pick server configuration file (see Figure 5-10 on page 29).

*Figure 5-10. Server Configuration Tab*


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2. Adjust server parameters.

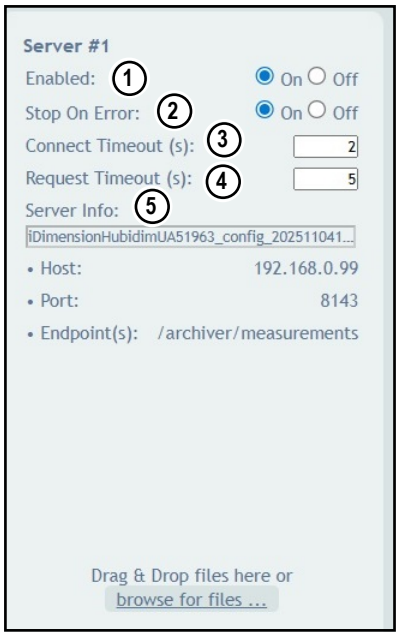


*Figure 5-11. Server Configuration Parameters*

3. Select Save.

| Item No. | Parameter | Description |
|---|---|---|
| 1 | Enabled | Must be ON for system to upload measurement and image data to the server. |
| 2 | Stop On Error | On - System will stop uploading in case of error.<br>Off - System will ignore upload errors and continue processing.<br>***NOTE: The system does not resend failed uploads.*** |
| 3 | Connect Timeout | Time in seconds the system will stop attempt to connect to the server. |
| 4 | Request Timeout | Time in seconds the system will stop attempt to send data to the server. |
| 5 | Server Info | Displays name of server. |

*Table 5-3. Server Configuration Parameters*

## 5.2 Measurement Settings

Displays and allows a user to modify settings in the parameters menus.

***IMPORTANT: Changing measurement parameters voids CubeVu's legal for trade certification.***

To enter the ***Measurement Settings*** menu, perform the following information:

- Select Measurement Settings from the ***Setup*** menu (Figure 5-1 on page 23). The ***Measurement Settings*** menu displays.
- A prompt appears describing the affect of changing Measurement parameters. If terms are acceptable select **OK**.

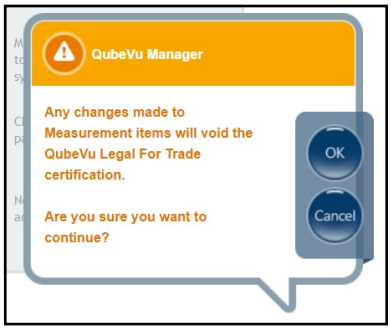


*Figure 5-12. Measurement Settings Prompt*

- Measurement Settings appears.

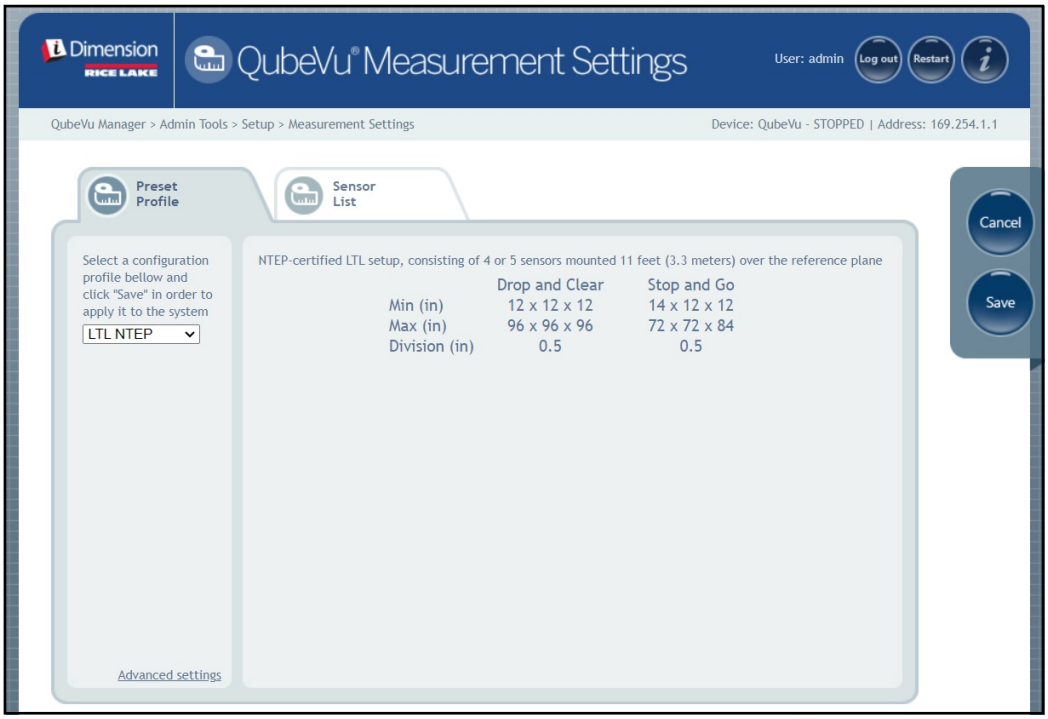


*Figure 5-13. Measurement Settings Tab*

The Measurement Settings menu contains two tabs:

- Preset Profile (Section 5.2.1)
- Sensors List (Section 5.2.3 on page 34)


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### 5.2.1 Measurement Settings Tab

Modify the values within ***Measurement Settings***. See Table 5-2 on page 25 for parameter information.

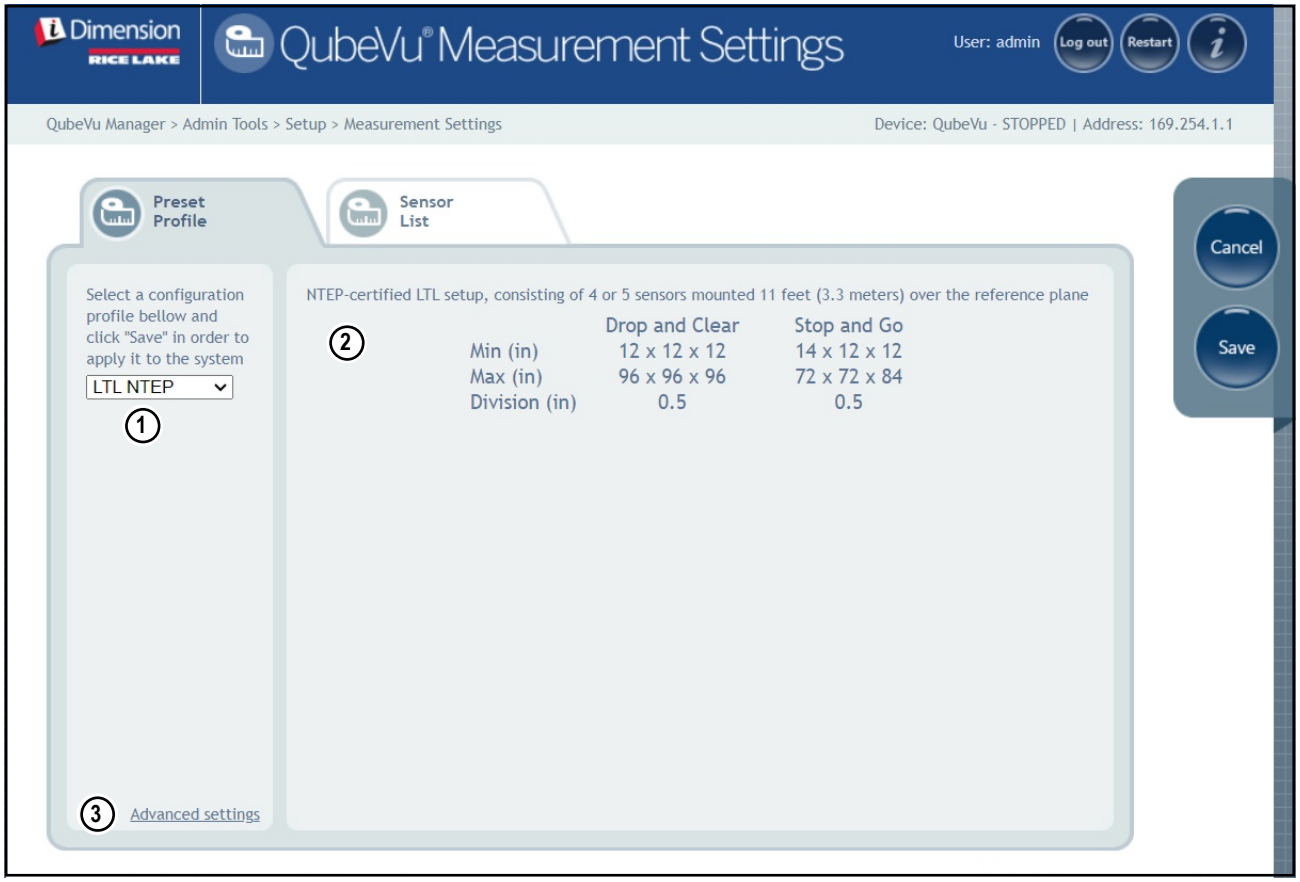


*Figure 5-14. Measurement Settings Tab*

| Item No. | Parameter | Description |
|---|---|---|
| 1 | Preset profile | Multiple profiles configured with specific measurement settings:<br>• Pallet: Metric, NTEP, METRIC, US Customary<br>• Parcel: Metric 1.2m, Metric 1.5m, Metric 2.0m, US 48in, US 60in, NTEP 60in, US 80in |
| 2 | Profile description | Lists specifications of the Preset Profile |
| 3 | Advanced Settings | Opens Advanced Measurement Settings (see Section 5.2.2 on page 33) |

*Table 5-4. Measurement Settings Functions*

### 5.2.2 Measurement Advanced Settings (Configuration Editor)

This menu contains various parameters that affect Measurements.

To enter the ***Measurement Advanced Settings*** menu, perform the following information:

- Select **Advanced settings** from the ***Measurement Settings*** menu (Figure 5-1 on page 23). The ***Configuration Editor*** menu displays.

***IMPORTANT: Do not modify parameters without contacting Rice Lake Weighing Systems first.***

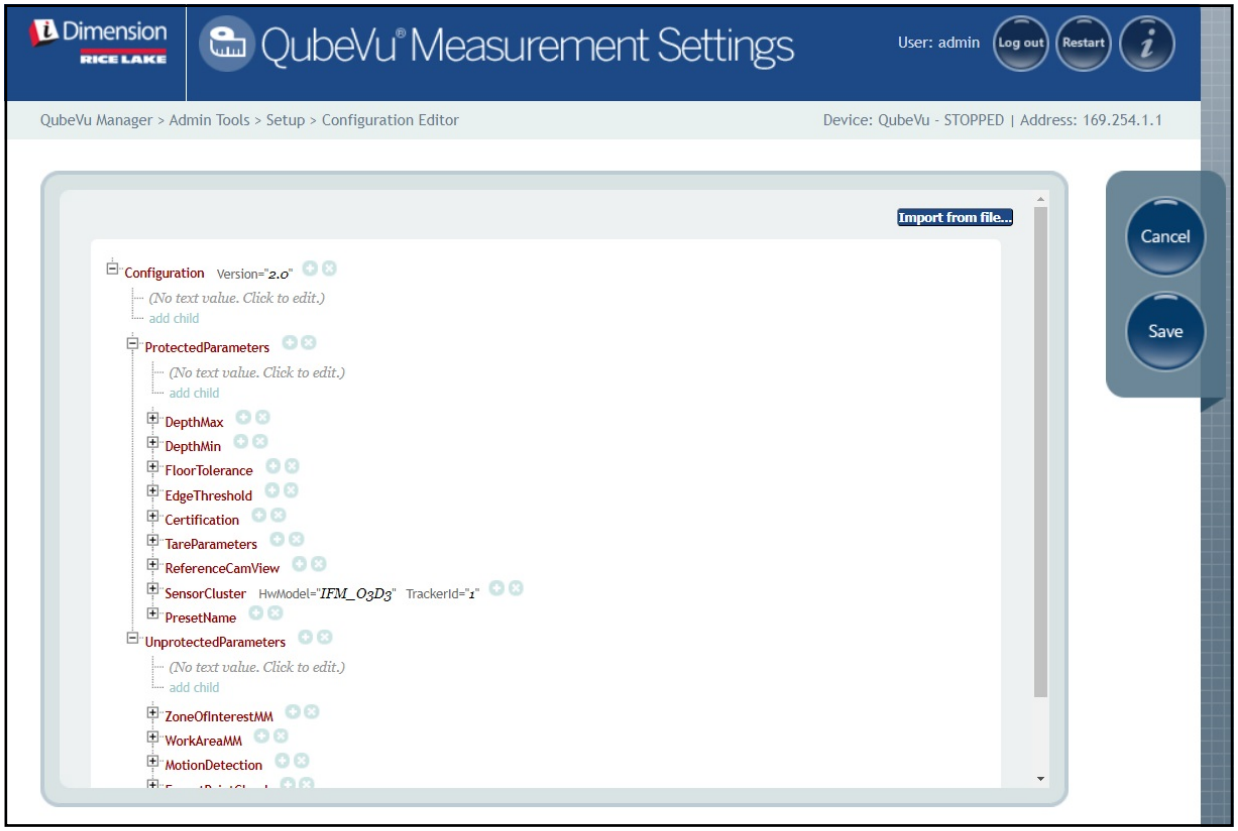


*Figure 5-15. Measurement Advanced Settings*


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### 5.2.3 Sensor List Tab

The Sensor List tab provides access to the iDimension working status status and calibration status.

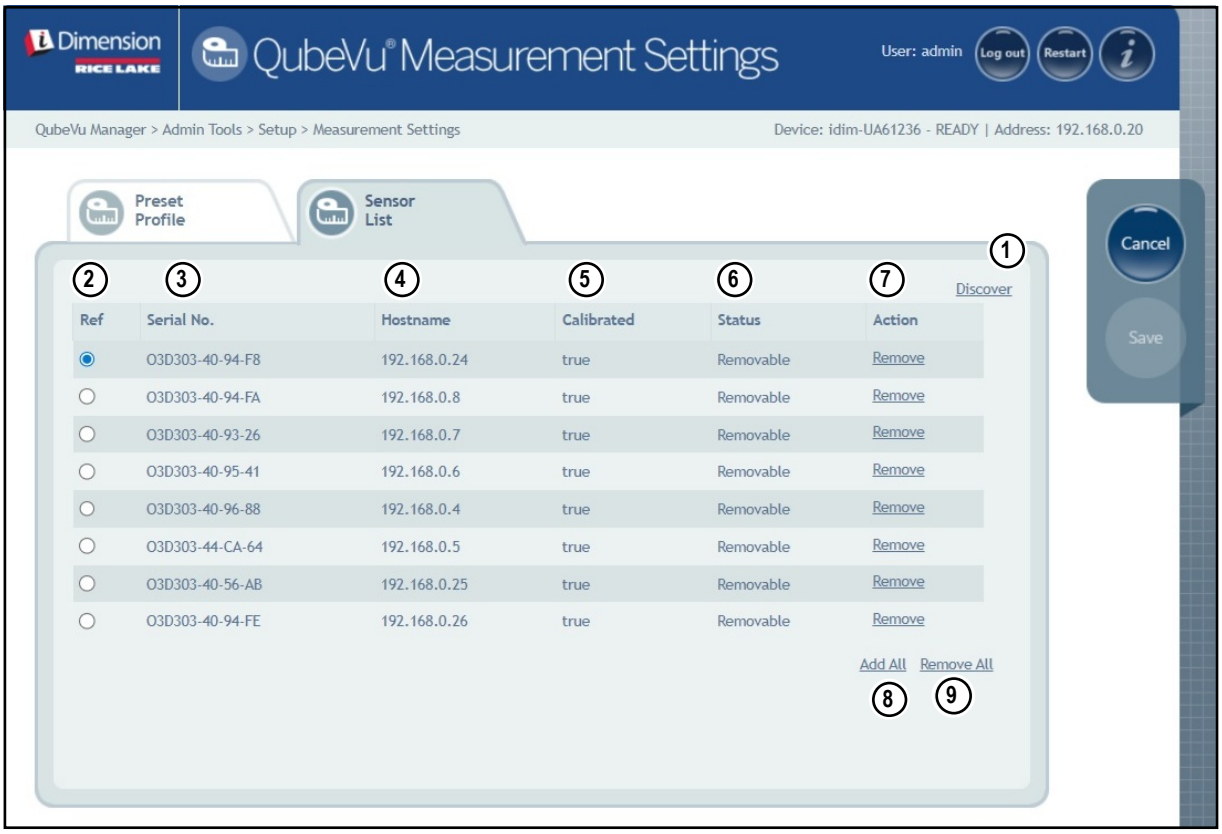


*Figure 5-16. Sensors List Functions*

| Item | Parameter | Description |
|---|---|---|
| 1 | Discover | Upon a new installation, a "Remove All" function or sensor replacement; select **Discover** to update the Sensor List and firmware with IFM or SICK sensors used for the iDimension system |
| 2 | Ref | The "Ref" or reference selection configures which sensor will be used as the visual reference when configuring "Set Work Area" in the calibration menu and defines the Out-Of-Bounds indications on the USB display correctly; If a fifth overhead sensors is used, the iDimension software will automatically select this sensor as a reference sensor |
| 3 | Serial No. | Serial number of IFM or SICK sensor |
| 4 | Host Name | IP addresses of sensors; IP addresses are configured using the IFM vision assistant or SICK SOPAS Engineering tool and must use the same network address and subnet with unique host numbers as the iDimension software Network settings.<br><br>Default IFM Sensor IP Addresses:<br>• ID 1 = 192.168.0.4<br>• ID 2 = 192.168.0.5<br>• ID 3 = 192.168.0.6<br>• ID 4 = 192.168.0.7<br>• ID 5 = 192.168.0.8 (for 5 sensor installation)<br>• ID 6 = 192.168.0.24 (for 8 sensor installation)<br>• ID 7 = 192.168.0.25 (for 8 sensor installation)<br>• ID 8 = 192.168.0.26 (for 8 sensor installation)<br><br>Default SICK Sensor IP Addresses:<br>• ID1 = 192.168.0.101<br>• ID2 = 192.168.0.102<br>• ID3 = 192.168.0.103<br>• ID4 = 192.168.0.104<br>• ID5 = 192.168.0.105 (for 5 sensor installation)<br>• ID6 = 192.168.0.106 (for 8 sensor installation)<br>• ID7 = 192.168.0.107 (for 8 sensor installation)<br>• ID8 = 192.168.0.108 (for 8 sensor installation) |

*Table 5-5. Remote Sensor Discovery Settings*

| Item | Parameter | Description |
|---|---|---|
| 5 | Calibrated | The Calibrated parameter indicates whether or not the individual sensor has been calibrated<br>• True – During initial installation, the sensors have not been calibrated to the iDimension unit; Upon successful calibration, the status changes to Yes; If a sensor has been replaced in the field, a new serial No will appear and display No<br>• False – The remote sensors have been calibrated during initial installation; If the sensors, IP address has been changed in the field after installation, remove all sensors, perform a Discovery and add new sensors prior to a new calibration being performed |
| 6 | Status | The status filed defines the current connection status of each sensor after initial installation, Discovery and Add All have been performed<br>• Removable – Sensor has been identified during initial installation<br>• Available – Sensor has been identified but not connected to network switch |
| 7 | Action | Available selections:<br>• Add – Individually add each sensor to embedded firmware for use with; It is recommended to use Add All; After selecting this function calibration is required<br>• Remove - Individually remove each sensor from the embedded firmware; It is recommended to use Remove All when changing sensors or IP addresses, then use Add All; After selecting this function calibration is required |
| 8 | Add All | Adds all sensors when status is Pending Add; Calibration is required after selected |
| 9 | Remove All | Removes all sensors when status shows removable; For use when changing a sensor or changing IP addresses after calibration; Calibration is required after selected |

*Table 5-5. Remote Sensor Discovery Settings (Continued)*

## 5.3 Display Settings

To access Display Settings:

- Select Display Settings from the ***Setup*** menu (Figure 5-1 on page 23) to enter the ***Display Settings*** menu.

### 5.3.1 Operator Display

The display settings configures the functionality of the USB display.

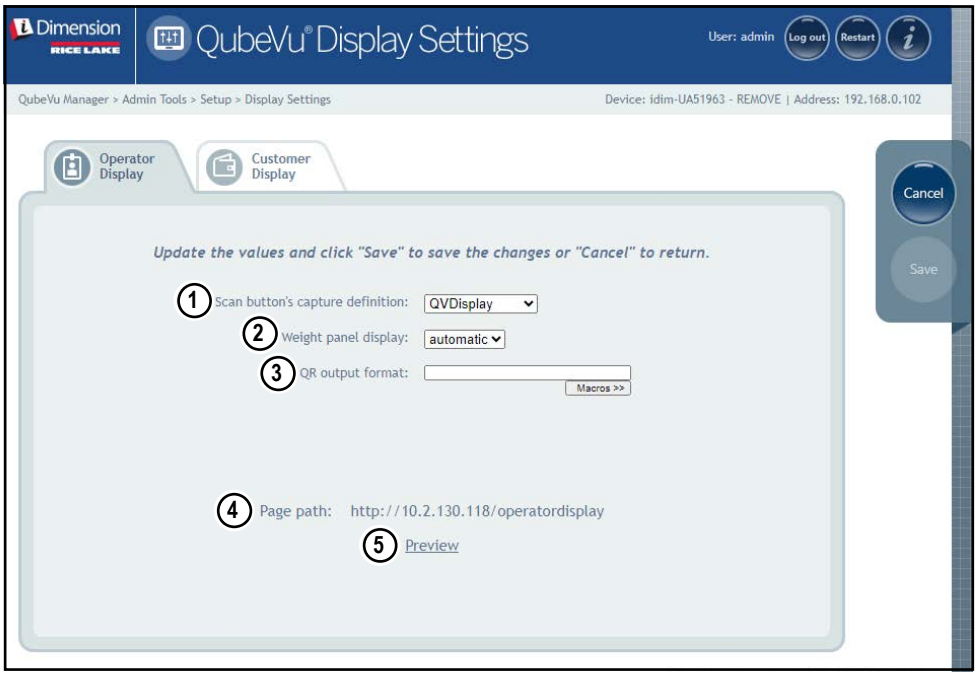


*Figure 5-17. Operator Display*

***NOTE: See Section 3.1 on page 18 for touchscreen display information.***

***The scan button and live image feed are not available in the customer display.***


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| Item No. | Parameter | Description |
|---|---|---|
| 1 | Scan button's capture definition | Select a capture definition from the available list to add a **Scan** button onto the Operator Display.<br>Adding a **Scan** button to the Operator Display enables manual triggering the system to perform a dimension.<br>Available selections:<br>• QVDemo - The scan button performs the QVDemo scan<br>• QVDisplay - The scan button performs the QVDisplay scan<br>• Default - No scan button<br>***NOTE: The parameters in this drop-down menu are retrieved from capture definitions (see See Section 7.0 on page 71).*** |
| 2 | Weight panel display | Default: **Automatic**<br>Available selections:<br>• Automatic – USB display shows weight panel display with or without scale attached<br>• Hidden – The weight panel display is removed from the USB display |
| 3 | QR output format | Configures a QR code that is presented on the USB display.<br>Macros provide definitions that may be selected:<br>• %DATETIME%<br>• %CAPUREID%<br>• %LENGHT%<br>• %WIDTH%<br>• %HEIGHT%<br>• %VOLUME%<br>• %DIMUNIT%<br>• %WEIGHT%<br>• %WEIGHT-LB%<br>• %WEIGHT-KG%<br>• %WEIGHTUNIT%<br>• %DISPLAYWEIGHT%<br>• %BARCDODE%<br>• %%% |
| 4 | Page path | The address to the operator display page. |
| 5 | Preview | Displays a preview of the configuration |

*Table 5-6. Operator Display Settings*

### 5.3.2 Customer Display

The display settings configures the functionality of the USB display.

- Select Display Settings from the ***Setup*** menu (Figure 5-1 on page 23) to enter the ***Display Settings*** menu.
- Select the **Customer Display** tab.

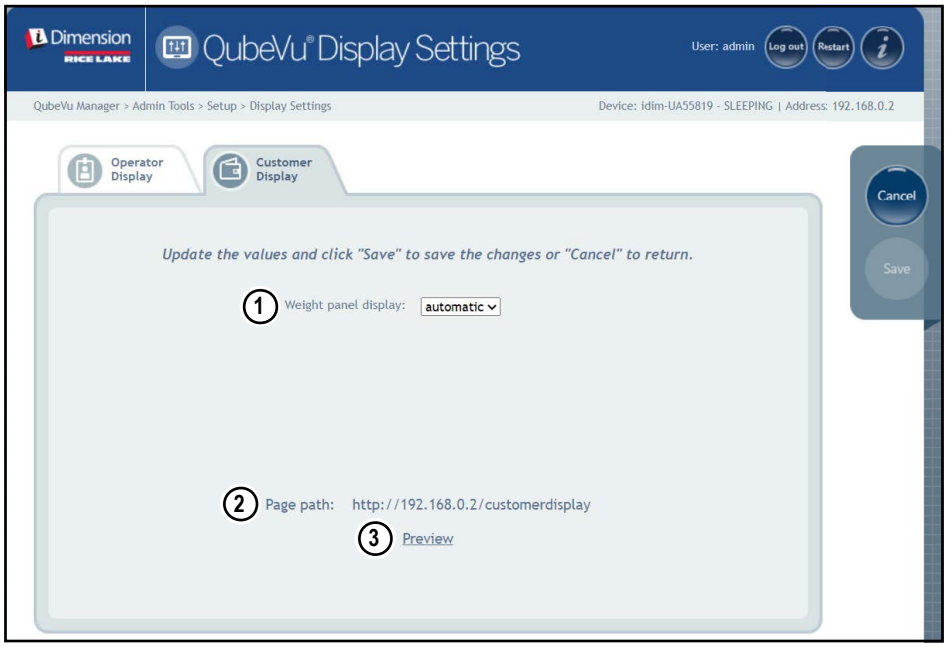


*Figure 5-18. Customer Display*

***NOTE: See Section 3.1 on page 18 for touchscreen display information.***

***The scan button and live image feed are not available in the customer display.***

| Item No. | Parameter | Description |
|---|---|---|
| 1 | Weight panel display | Default: **Automatic**<br>Available selections:<br>• Automatic – USB display shows weight panel display with or without scale attached<br>• Hidden – The weight panel display is removed from the USB display |
| 2 | Page path | The address to the operator display page. |
| 3 | Preview | Displays a preview of the configuration |

*Table 5-7. Customer Display Settings*


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## Display Examples

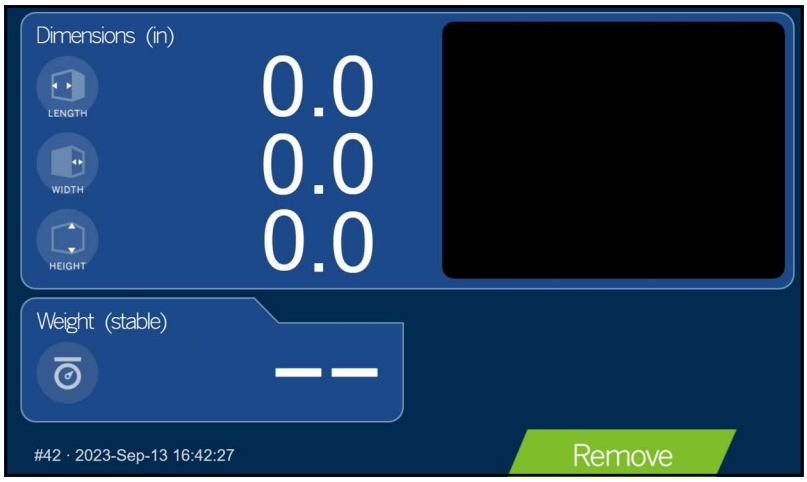


*Figure 5-19. Default Display Screen*

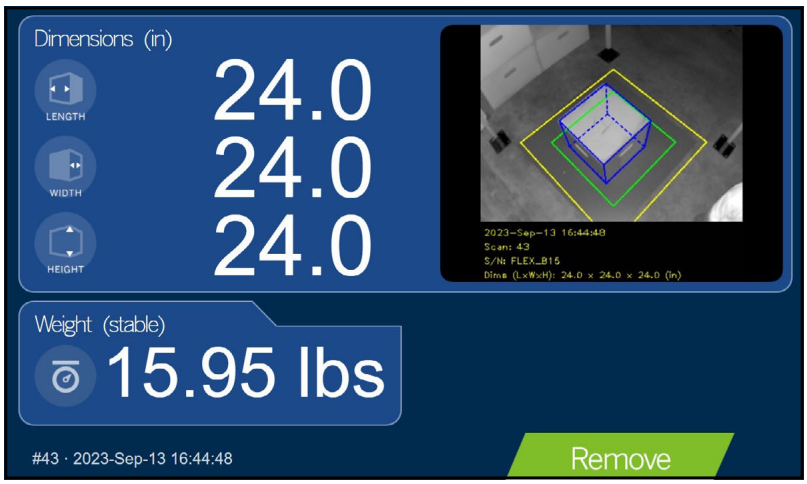


*Figure 5-20. Customer Display*

***NOTE: The display screen shown in Figure 5-20 is a different dimensioning unit and is only used for reference.***

*Figure 5-21. Example Display Screen with QR code*

## 5.4 User

This section provides an overview of the QubeVu ***User*** menu. The ***User*** menu provides access to modify the default password. To enter the ***User*** menu, perform the following information:

- Select User from the ***Setup*** menu (Figure 5-1 on page 23). The ***User*** menu displays.

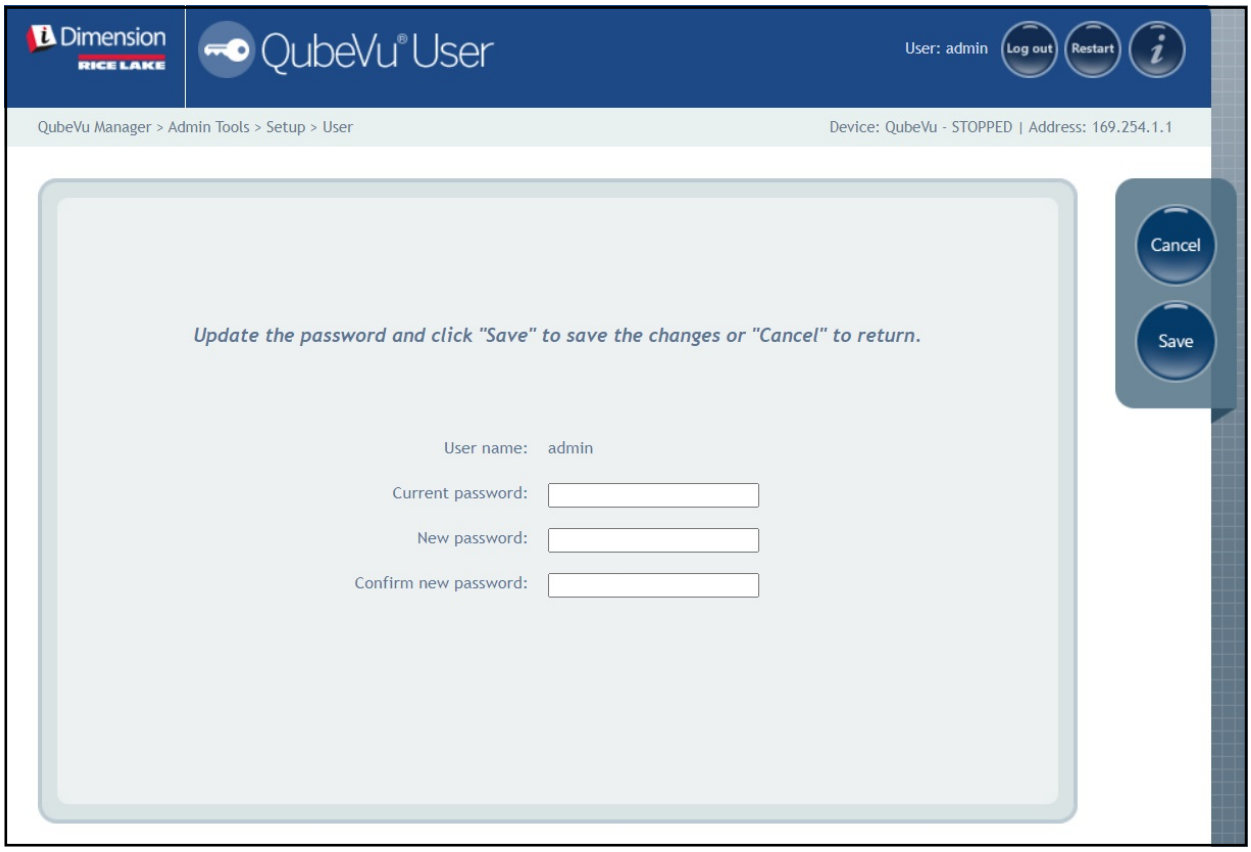


*Figure 5-22. User Tab*

When entering a new password, adhere to the following criteria:

- Minimum length: 6 characters
- Maximum length: 511 characters
- All printable characters are allowed except Unicode characters
- Password may not resemble the last password

***NOTE: Factory assistance is required to reset the password.***


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## 5.5 Network

Use the ***Network*** menu to configure network parameters. To enter the ***Network*** menu, perform the following:

- Select Network from the ***Setup*** menu (Figure 5-1 on page 23). The ***Network*** menu displays.

### 5.5.1 Network Settings Tab

***Network Settings*** tab provides parameters that set the network configuration.

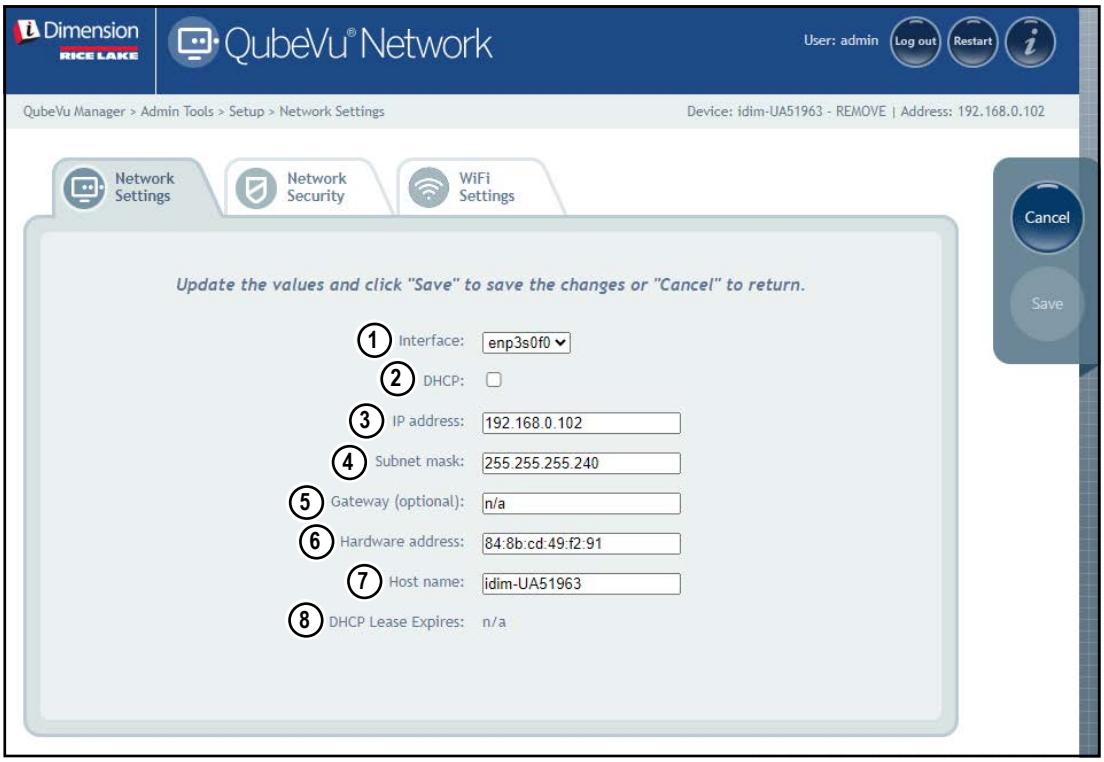


*Figure 5-23. Default Network Interface Settings*

Enter or modify the network settings for the network.

| Item No. | Parameter | Description |
|---|---|---|
| 1 | Interface | There are two Ethernet parameters, eth0 or eth. These parameter configure which port is used on the system.<br>Default: **eth0** |
| 2 | DHCP | Enables or disables DHCP. |
| 3 | IP Address | If DHCP is disabled, define a unique IP address for each iDimension pallet dimensioner installed.<br>Consult with the network administrator if unsure how to assign a new IP address. If using static IP addresses, access pallet dimensioner by the hostname or the IP address: http://<hostname>/; http://<ip address>/<br>Default IP address: **192.168.0.2** |
| 4 | Subnet Mask | Consult the network administrator for the correct setting<br>Default: **255.255.255.0** |
| 5 | Gateway | Consult the network administrator for the correct setting<br>Default: **192.169.0.1**<br>***NOTE: The Gateway parameter is unavailable when DHCP is enabled.*** |
| 6 | Hardware Address | Do not modify, each iDimension pallet dimensioner has been assigned a unique hardware MAC address. |
| 7 | Host Name | The default host name is the alphanumeric portion of the device serial number; A unique host name may be defined for each device; Up to 15 characters are allowed for the ***Host Name*** |
| 8 | DHCP Lease Expires | Displays the time when DHCP lease expires. The DHCP lease time is typically set by the internet service provider and varies in duration. |

*Table 5-8. Network Interface Parameters*

### 5.5.2 Network Security Tab

***Network Security*** tab allows enhanced security by encrypting communications with iDimension software using Hypertext Transfer Protocol Secure (HTTPS). By default, communication with iDimension software is via HTTP.

To configure ***Network Security***, perform the following:

1. Select the ***Network Security*** tab to display the current settings.
2. Select **Enable HTTPS** .
3. Select Choose File .
4. Select the certification file.
   - Certifications may be self-signed or sourced by third-parties and are not exclusively provided by Rice Lake Weighing Systems
5. Enter the file name of the key file, certificate file and key pass phrase.
6. Select Upload to transfer the information from the PC to the iDimension software.

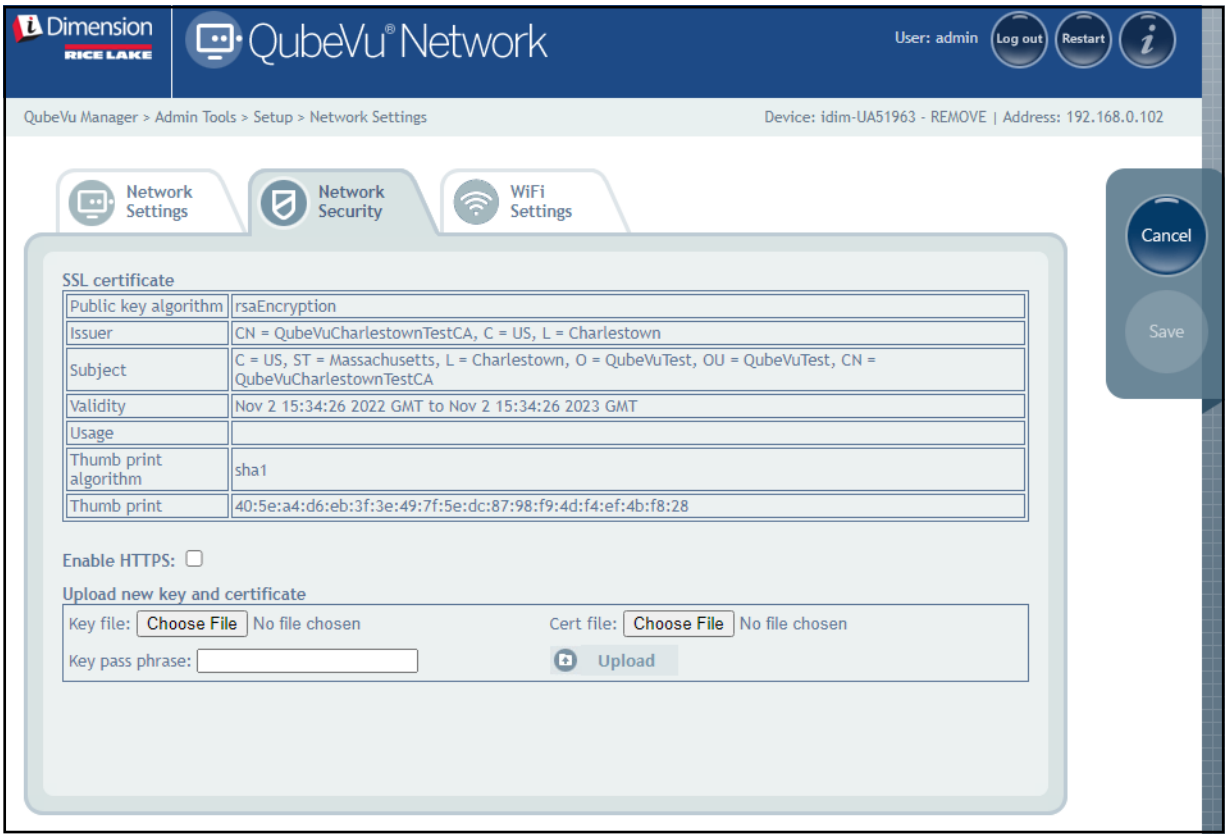


*Figure 5-24. Network Security Tab*

***NOTE: With HTTPS enabled, both the HTTP and the HTTPS addresses are available.***


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### 5.5.3 WiFi Settings Tab

The ***WiFi Settings*** displays WiFi connection characteristics and details.

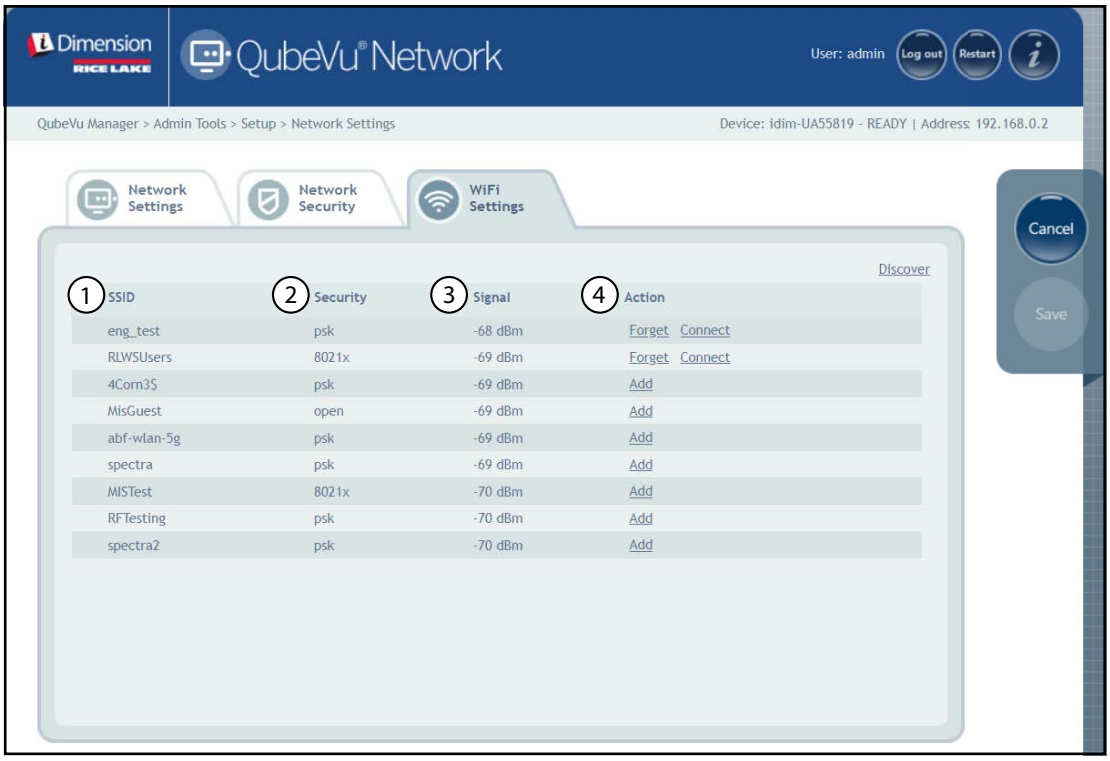


*Figure 5-25. WiFi Settings Tab*

| Item No. | Parameter | Description |
|---|---|---|
| 1 | SSID | Name of the wireless network |
| 2 | Security | Network security type:<br>• open - no authentication<br>• psk - pre-shared key used for authentication<br>• 8021x - WPA Enterprise security |
| 3 | Signal | Signal strength of wireless network |
| 4 | Action | Available actions:<br>• Add - adds the wireless network to the list of remembered networks and connects<br>• Connect - connects to a previously added wireless network<br>• Disconnect - disconnects from a connected the wireless network<br>• Forget - removes the wireless network from the list of remembered networks |

*Table 5-9. WiFi Setting Parameters*

# 6.0 Calibration

This section provides an overview of the QubeVu ***Calibration*** menu. Calibration is required during initial setup, adding sensors, replacing sensors or if the sensors have become out of alignment during use. This sections discusses the following topics:

- Calibration Object Section 6.1 on page 43
- Accessing Calibration Section 6.2 on page 44
- FLEX, LTL 5 Sensor, and PWD Calibration Section 6.3 on page 45
- LTL 8 Sensor Calibration Section 6.4 on page 51
- Plus Calibration Section 6.5 on page 60
- Set Work Area Section 6.6 on page 66
- Verify Calibration Section 6.7 on page 70

## 6.1 Calibration Object

A calibration object is provided with each unit and is required for calibration. There are three types of calibration objects:

- 8 x 7 square checkerboard (1118 mm x 982 mm / 44.02 in x 38.66 in) packaged in a carton with protective foam inserts
- 7 x 6 square checkerboard (980 mm x 840 mm / 38.58 in x 33.07 in) packaged in a carton with protective foam inserts
- 7 x 6 square checkerboard (288 mm x 252 mm / 11.33 in x 9.92 in) packaged in a carton with protective foam inserts

***NOTE: The calibration procedure remains the same regardless which calibration object is used.***
***The smallest checkerboard is only used with the iDim Plus.***

***IMPORTANT: The calibration objects must be kept free from dirt, fingerprints and damage.***

To store the calibration object, carefully repackage the calibration object back into the carton for future use.

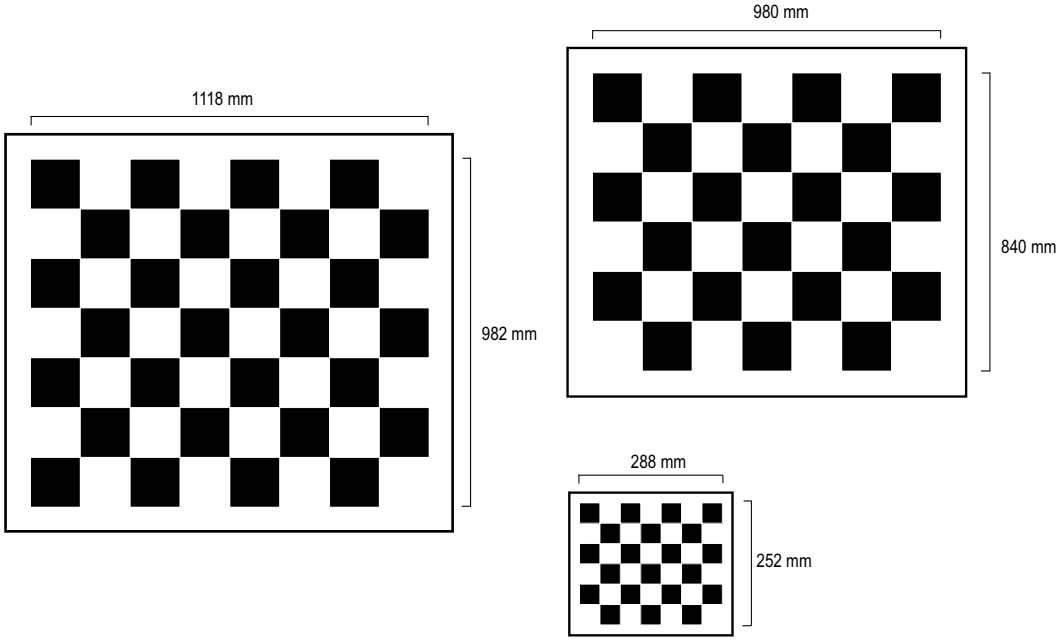


*Figure 6-1. Calibration Objects*


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## 6.2 Accessing Calibration

To enter the ***Calibration*** menu, perform the following:

1. Select Admin Tools from the ***QubeVu Manager*** menu (Figure 2-1 on page 9). The ***Admin Tools*** menu displays (Figure 4.0 on page 22).
2. The QubeVu Manager login screen displays. Enter account credentials.

***NOTE: The default username and password are admin and password.***

3. Select Calibration from the ***Admin Tools*** menu (Figure 4.0 on page 22). The ***Calibration*** menu displays.

*Figure 6-2. Calibration Menu*

4. Proceed to one of the following:
   - Section 6.3 on page 45 for Flex, LTL 5 sensor and PWD calibration
   - Section 6.4 on page 51 for LTL 8 sensor calibration

## 6.3 FLEX, LTL 5 Sensor, and PWD Calibration

Initial setup requires alignment of sensors towards the middle of the floor scale or calibration object using crosshairs. Calibration requires the use of the calibration object and requires a 5-point procedure. Calibration is performed by placing the calibration object at the 4 o'clock position (120°) and rotating the object clockwise 30° each step.

1. Select Sensor Calibration from the ***Calibration*** menu (Figure 6-2 on page 44). The ***Sensors Calibration*** menu displays.

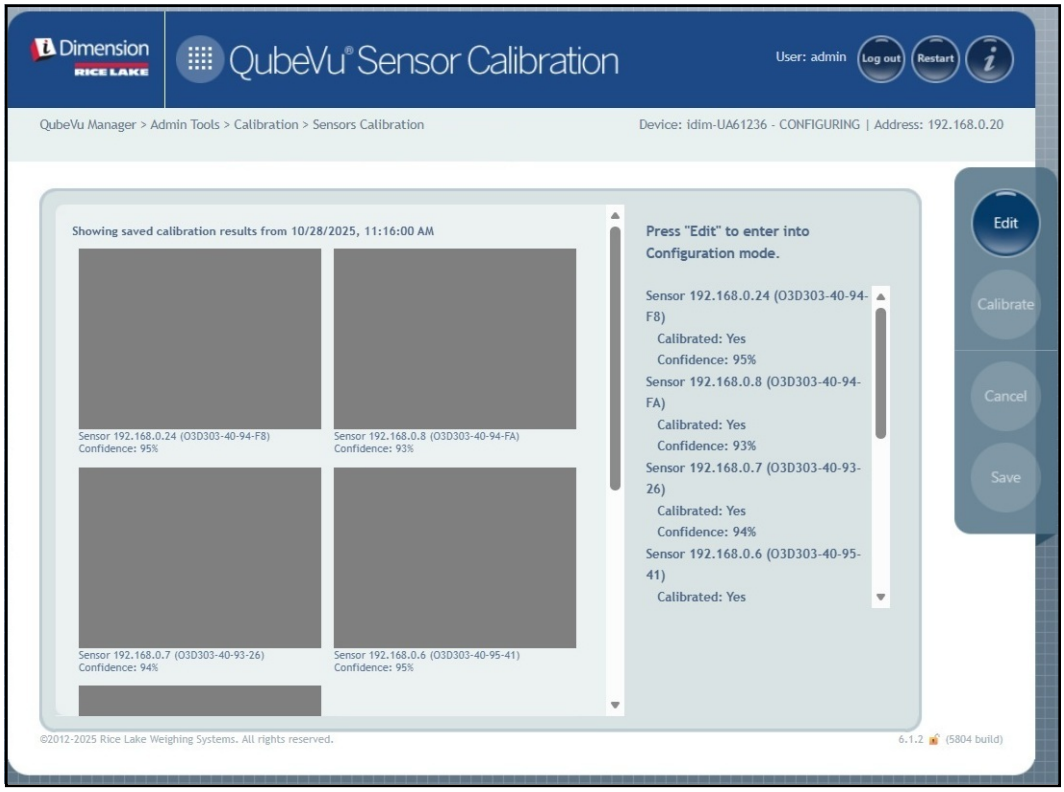


*Figure 6-3. Sensors Calibration*

2. Select Edit to enter configuration mode. The switching to configuration mode pop-up message briefly displays.

***NOTE: Select the internet browser's refresh if the message does not close after several minutes.***

*Figure 6-4. Switching to Calibration Mode Message*


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3. Align calibration object under remote sensors using sensor crosshairs as guides to center:
   - Ensure sensor rods are securely mounted in place
   - Exact alignment is not critical
   - Alignment defines the calibration position of each sensor

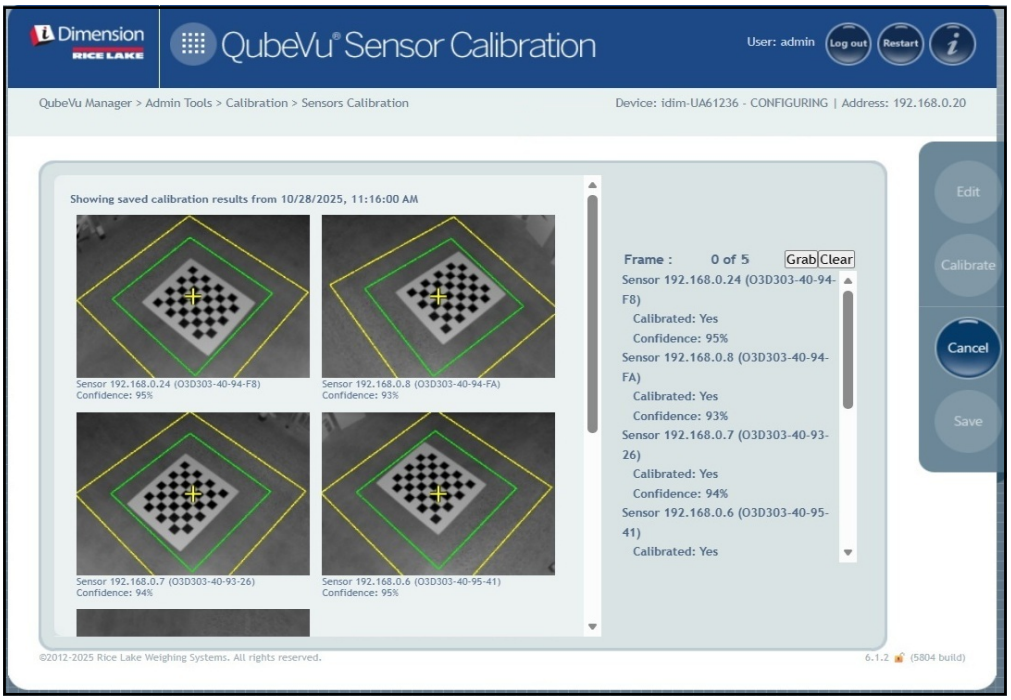



*Figure 6-5. Sensors Calibration*

4. Select Grab. The grabbing frame pop-up message briefly displays.

*Figure 6-6. QubeVu Frame Grabbing Message*

5. The first frame is now collected. Observe the frame counter increased from 0 to 1.

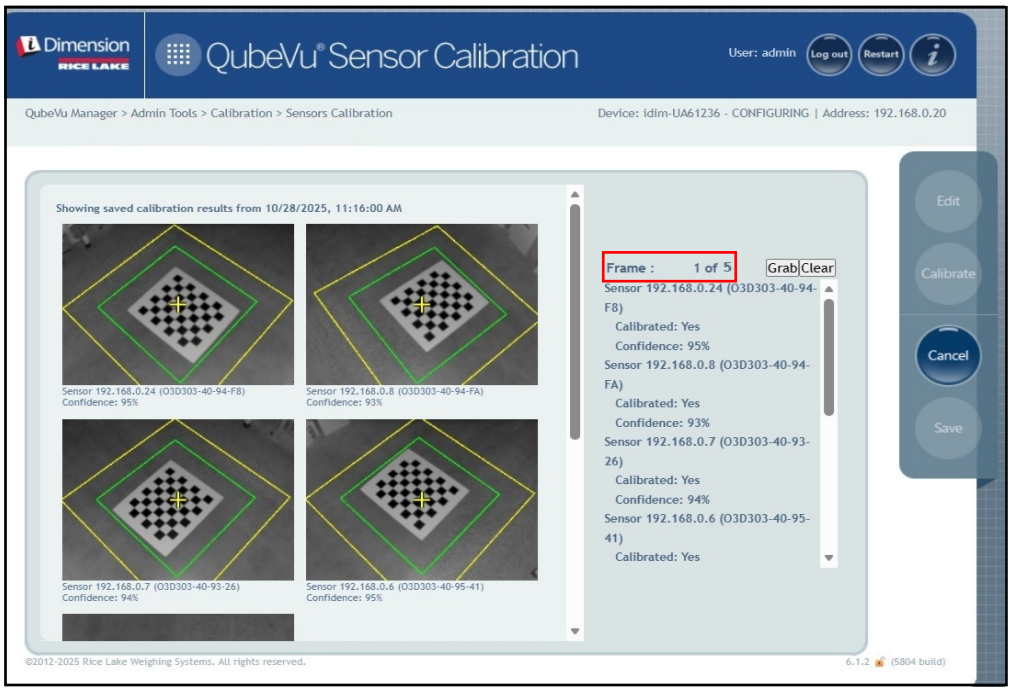
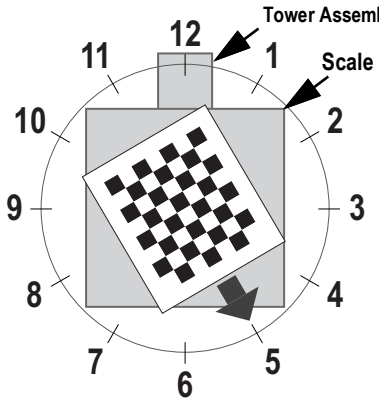
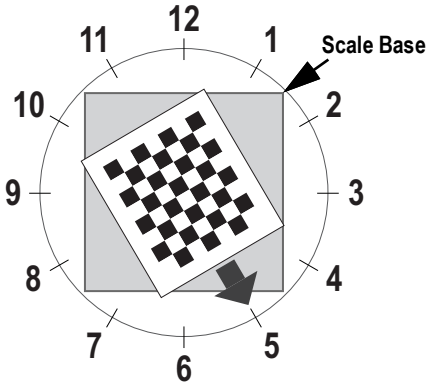



*Figure 6-7. Sensors Calibration*

6. Rotate the calibration object clockwise for the next grab as indicated below.
7. Repeat steps Step 3 through Step 6 four additional instances (a total of 5 grabs).

| Grab/Rotation | Calibration Object Position with Tower | Calibration Object Position when Hanging |
|---|---|---|
| 2/1 |  |  |

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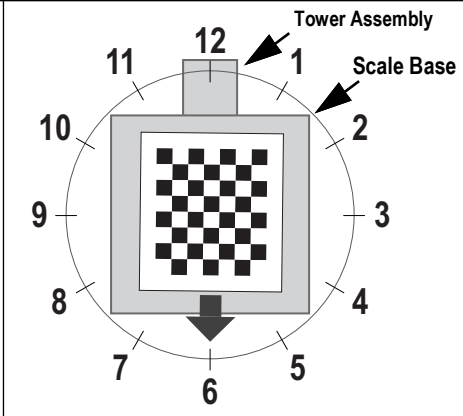
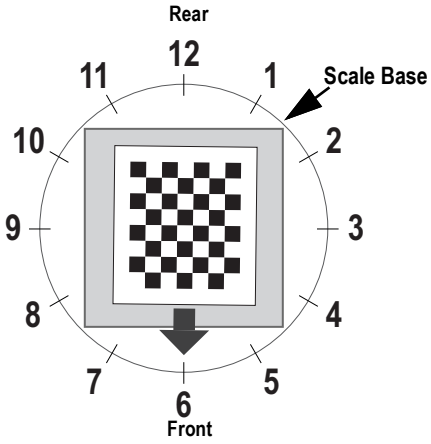
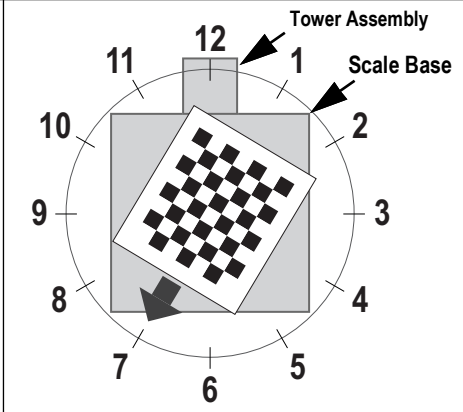
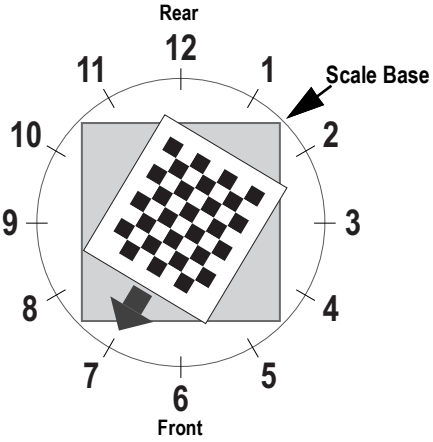
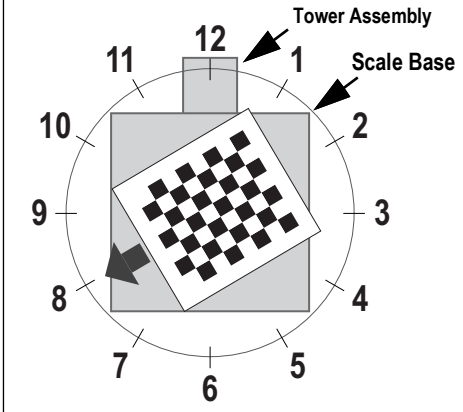
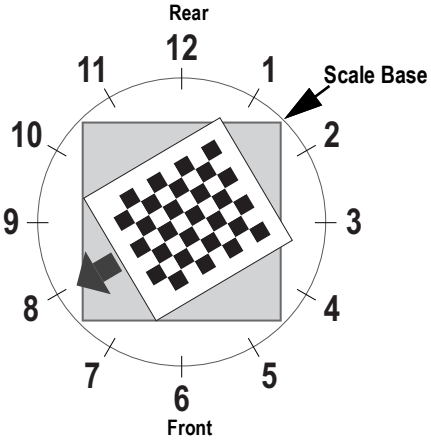
| Grab/Rotation | Calibration Object Position with Tower | Calibration Object Position when Hanging |
|---|---|---|
| 3/2 |  |  |
| 4/3 |  |  |
| 5/4 |  |  |

8. When all frame grabs are completed, QubeVu displays calibration results and sensor confidence levels.

*Figure 6-8. Sensor Calibration Result*

***NOTE: For systems with 4 to 5 sensors, at least five grabs are needed to save captured images. If calibration fails, check for direct sunlight affecting the system then perform a new calibration.***

9. Select Calibrate. The calibrating sensors pop-up message briefly displays.

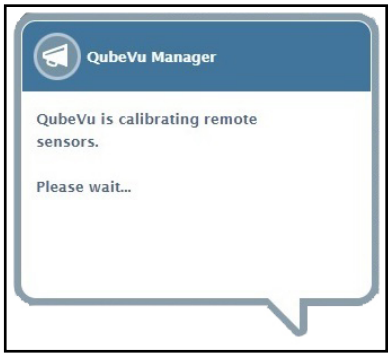



*Figure 6-9. Sensors Calibrating Message*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10. Select Save. The calibration details prompt displays.

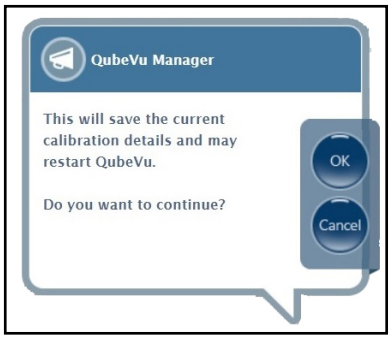


*Figure 6-10. Calibration Details Save Prompt*

11. Select OK to continue.
12. After calibration details are saved, the restart or reboot prompt displays.
13. Select the desired option and allow QubeVu to process the command.

*Figure 6-11. Reboot or Restart Prompt*

14. A message displays alerting of choice selected. In this example restart is selected.

*Figure 6-12. Restart Message*

15. Calibration is complete. Proceed to Section 6.6 on page 66.

## 6.4 LTL 8 Sensor Calibration

Initial setup requires alignment of sensors towards the middle of the floor scale or calibration object using crosshairs. During calibration, frames of the calibration object are grabbed at strategic positions under S1 (4), S2 (4), and directly under the device (2). Under S1 and S2, the calibration object is positioned at the 3 o'clock position and rotated clockwise 30° each step. When directly under the device, the calibration object is positioned on the floor scale at the 3 o'clock position and rotated clockwise 30° once.

1. Select

from the ***Calibration*** menu (Figure 6-2 on page 44). The ***Remote Sensors Calibration*** menu displays.

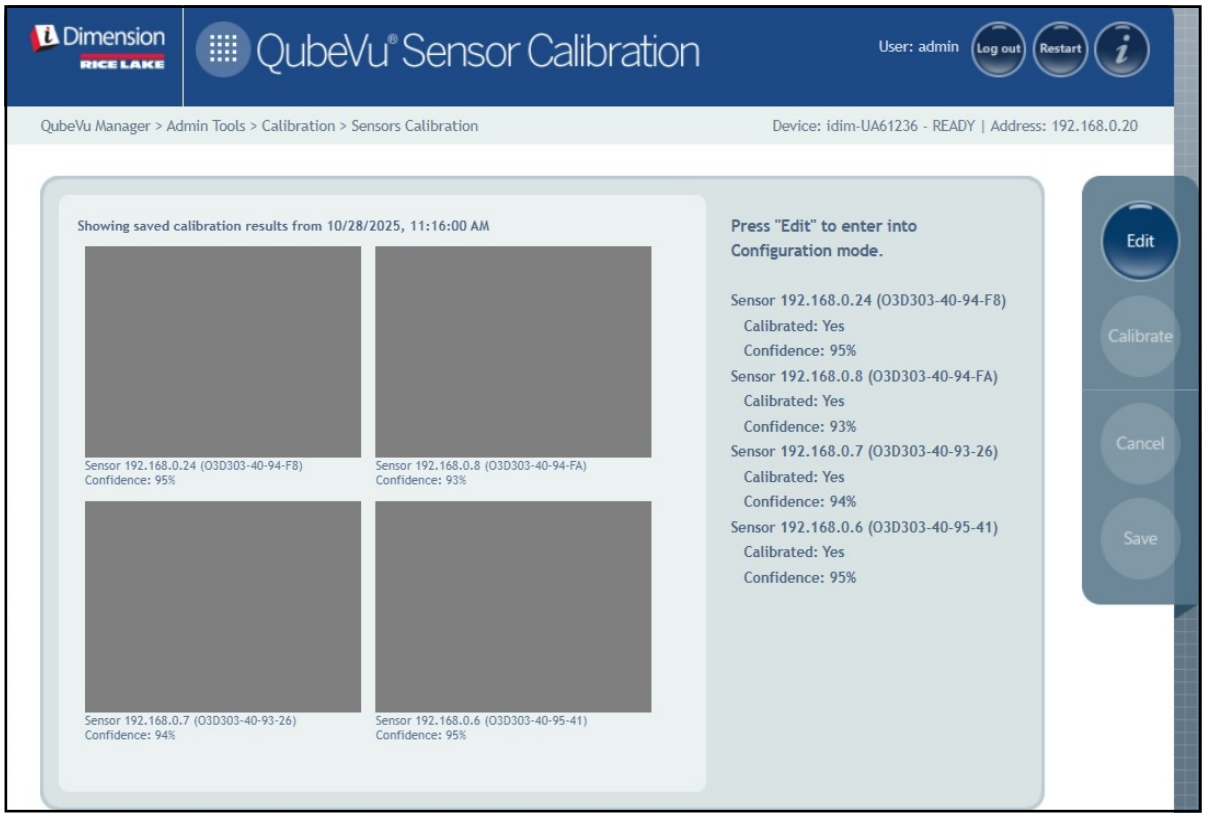


*Figure 6-13. Remote Sensors Calibration*

2. Select

to enter configuration mode. A pop-up window briefly displays.

***NOTE: Refresh the internet browser if the message does not close after several minutes.***

*Figure 6-14. Switching to Configuration Message*


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3. Place the calibration object directly under the reference sensor (S1) and then align S3/S5/S7 sensors to the center of the calibration object:
   - Ensure the sensor rods are securely mounted in place
   - Exact alignment is not critical
   - Alignment defines the calibration position of each sensor

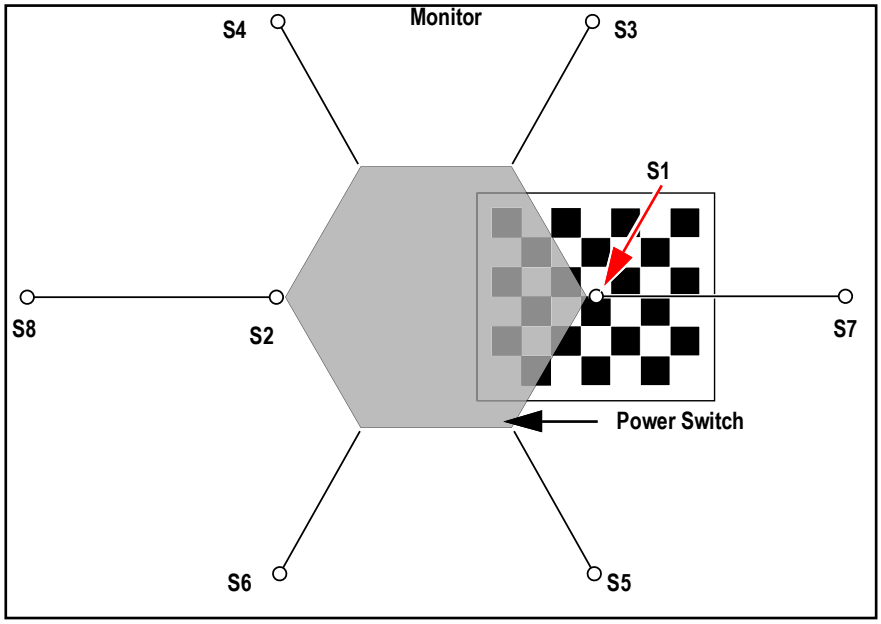



*Figure 6-15. Calibration Object Under S1 and Aligned with S3/S7/S5*

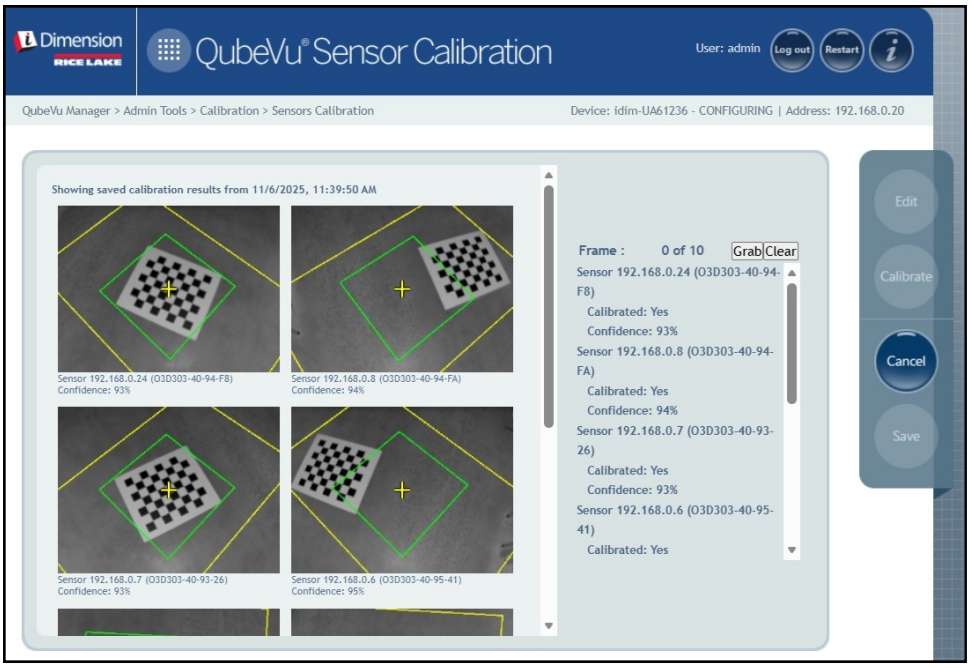
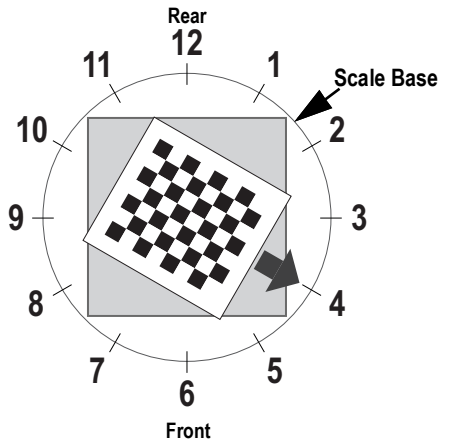
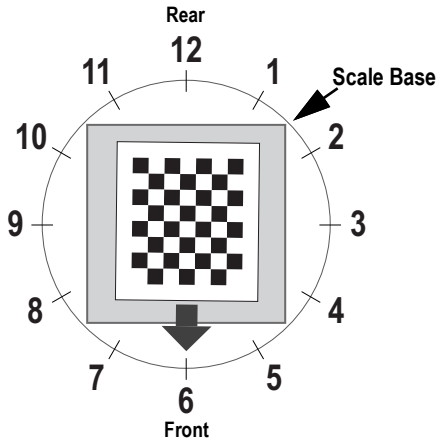
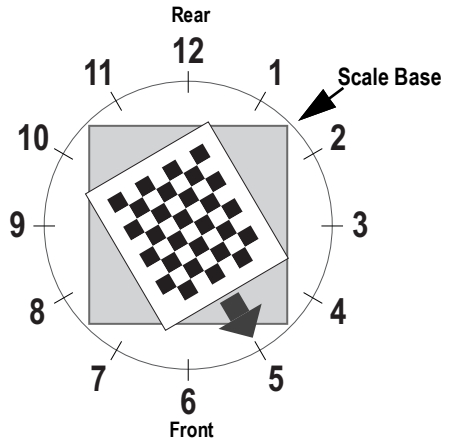



*Figure 6-16. Calibration Object Under S1*

4. Select Grab. The grabbing frame pop-up message briefly displays.

*Figure 6-17. QubeVu Frame Grabbing Message*

5. The first frame is collected and the Frame parameter increases to 1.
6. Rotate the calibration object clockwise for the next grab as indicated below.
7. Repeat steps Step 4 through Step 6 three additional instances (a total of 4 grabs for S1).

| Grab/Rotation | Calibration Object Position | Grab/Rotation | Calibration Object Position |
|---|---|---|---|
| 2/1 |  | 4/3 |  |
| 3/2 |  | | |

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8. Place the calibration object directly under the reference sensor (S2) and then align S4/S6/S8 sensors to the center of the calibration object:
   - Ensure the sensor rods are securely mounted in place
   - Exact alignment is not critical
   - Alignment defines the calibration position of each sensor

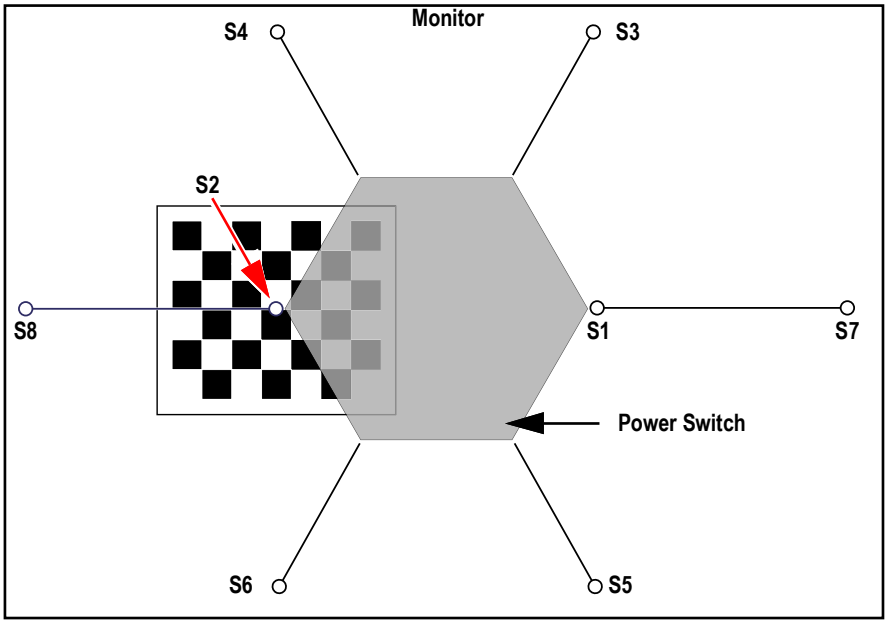


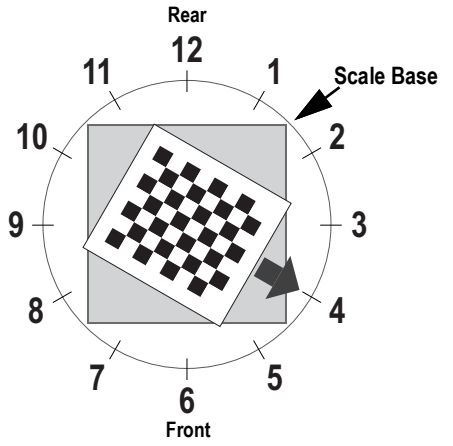
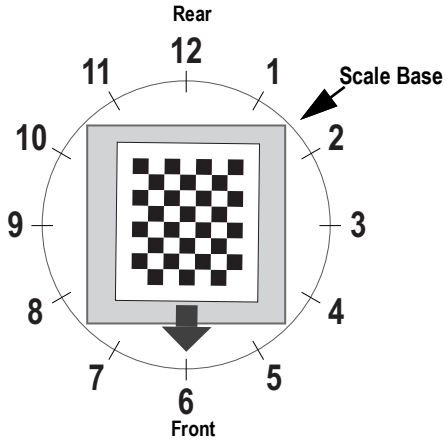
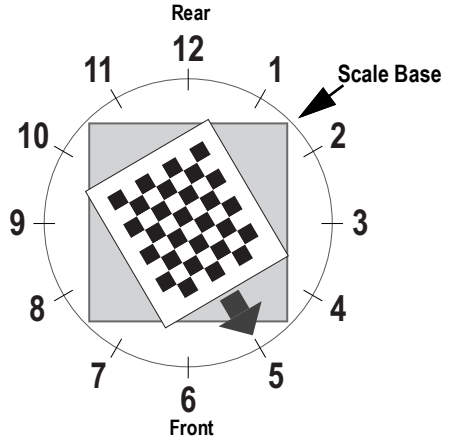

*Figure 6-18. Calibration Object Under S3 and Aligned with S/S4/S6/S8*

*Figure 6-19. Calibration Object Centered Under S2*

9. Select Grab. The grabbing frame pop-up message briefly displays.

*Figure 6-20. QubeVu Frame Grabbing Message*

10. The frame is collected and the Frame parameter increases by one.
11. Rotate the calibration object ct clockwise for the next grab as indicated below.
12. Repeat steps Step 9 through Step 11 three additional instances (total of 4 grabs for S2).

| Grab/Rotation | Calibration Object Position | Rotation | Calibration Object Position |
|---|---|---|---|
| 6/1 |  | 8/3 |  |
| 7/2 |  | | |

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13. Center the calibration object directly under the dimensioner.

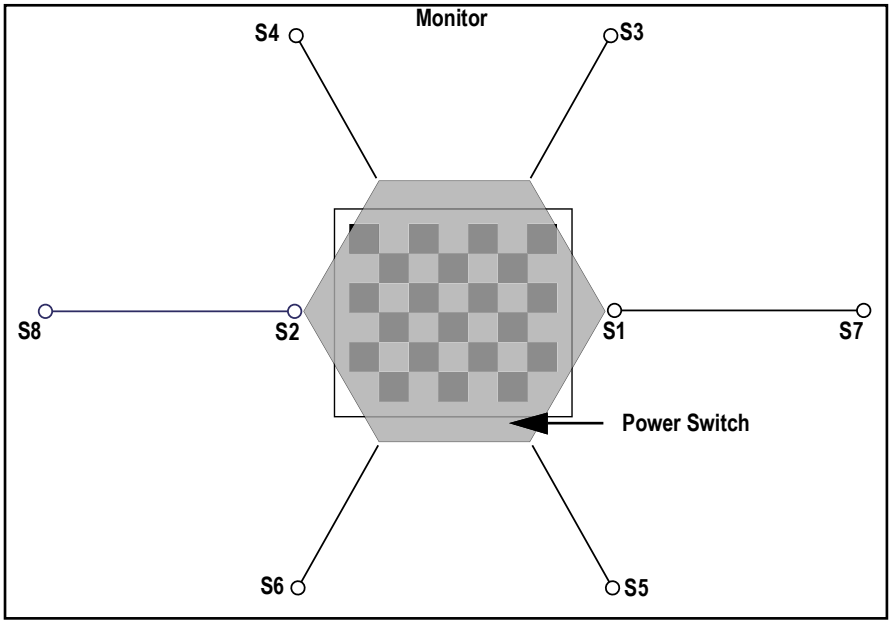


*Figure 6-21. Calibration Object Under Dimensioner*

*Figure 6-22. Calibration Object Under Dimensioner*

14. Select Grab. The grabbing frame pop-up message briefly displays.

*Figure 6-23. QubeVu Frame Grabbing Message*

15. After the message closes, rotate calibration object 30° clockwise.

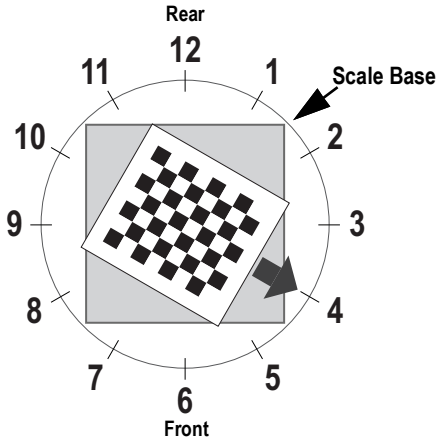


*Figure 6-24. Rotate to 4 o'clock*

16. Select Grab. The grabbing frame pop-up message briefly displays.

*Figure 6-25. QubeVu Frame Grabbing Message*


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17. Select Calibrate. The calibrating sensors pop-up message briefly displays.

*Figure 6-26. Sensors Calibrating Message*

18. Calibration completes and QubeVu displays calibration result and sensor confidence levels.

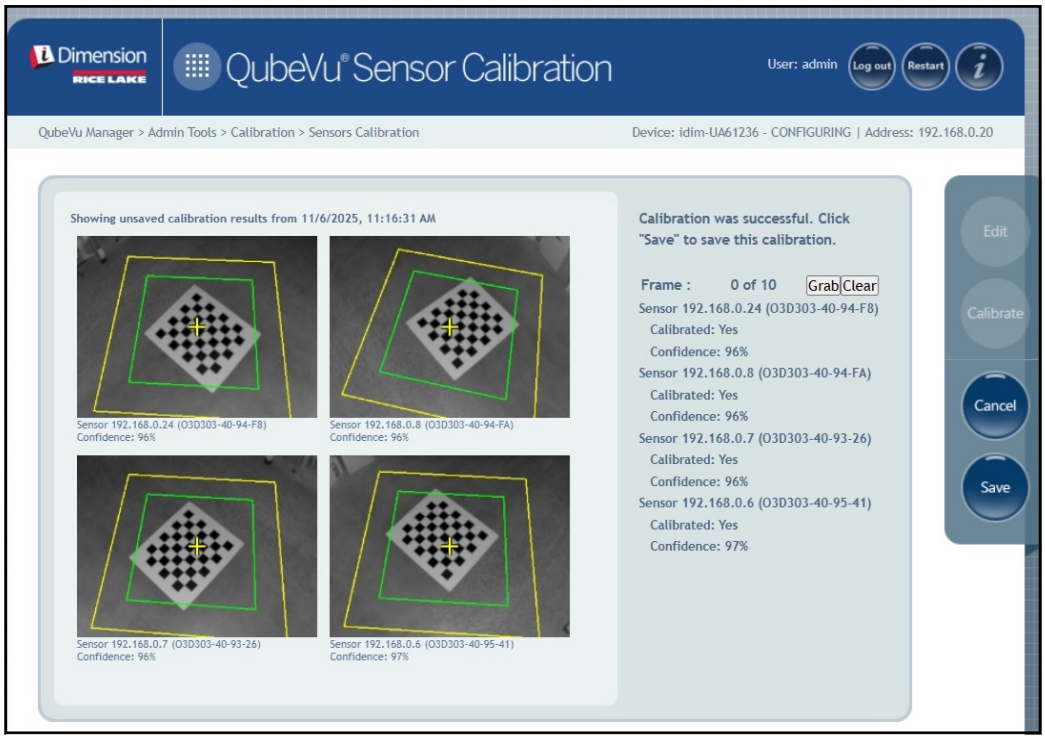


*Figure 6-27. Sensor Calibration Result*

***NOTE: For systems with 8 sensors, at least 10 grabs are needed to save captured images. If calibration fails, check for direct sunlight affecting the system then perform a new calibration.***

19. Select Save. The save calibration details prompt displays.

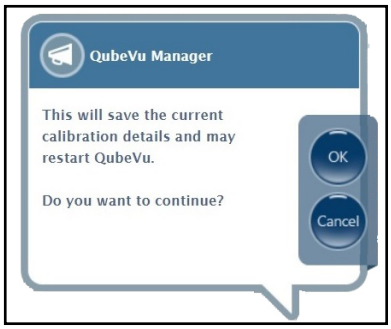


*Figure 6-28. Save Calibration Details Prompt*

20. Select OK. The calibration saving message displays.

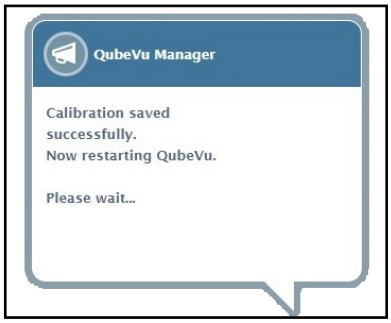


*Figure 6-29. Calibration Saving Message*

21. After the save is completed, restart message displays while QubeVu restarts.

*Figure 6-30. QubeVu Restart Message*

22. After QubeVu restarts, calibration is complete. Proceed to Section 6.6 on page 66.


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## 6.5 Plus Calibration

Initial setup requires alignment of sensors toward the middle of the floor scale or calibration object using crosshairs. Calibration requires the use of the calibration object with a 4-point procedure. Calibration is performed by placing the calibration object at the 6 o'clock position (180°) and rotating the object clockwise 30° each step.

***NOTE: Calibration should only be performed if the unit has been powered on for at least 30 min.***

1. Select Sensor Calibration from the ***Calibration*** menu (Figure 6-2 on page 44). The ***Sensors Calibration*** menu displays.

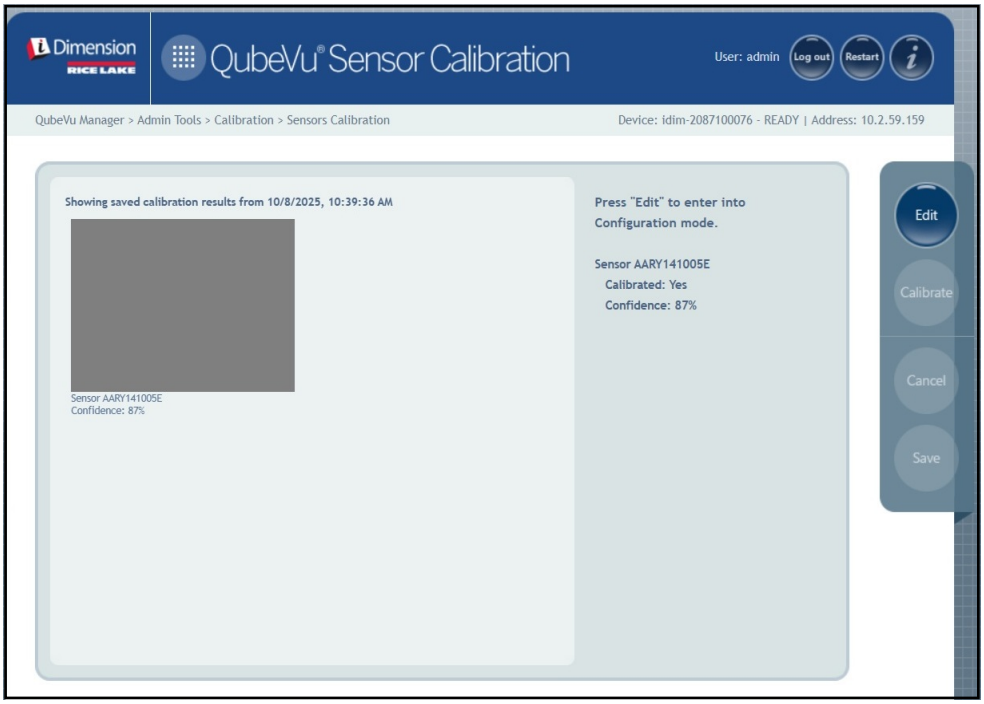


*Figure 6-31. Sensors Calibration*

2. Select Edit to enter configuration mode. The switching to configuration mode pop-up message briefly displays.

***NOTE: Select the internet browser's refresh button if the message does not close after several minutes.***

*Figure 6-32. Switching to Calibration Mode Message*

3. Align calibration object under remote sensors using sensor crosshairs as guides to center:
   - Ensure sensor rods are securely mounted in place
   - Exact alignment is not critical
   - Alignment defines the calibration position of each sensor

*Figure 6-33. Sensors Calibration*

4. Select Grab. The grabbing frame pop-up message briefly displays.

*Figure 6-34. QubeVu Frame Grabbing Message*


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5. The first frame is now collected. Observe the frame counter increased from 0 to 1.

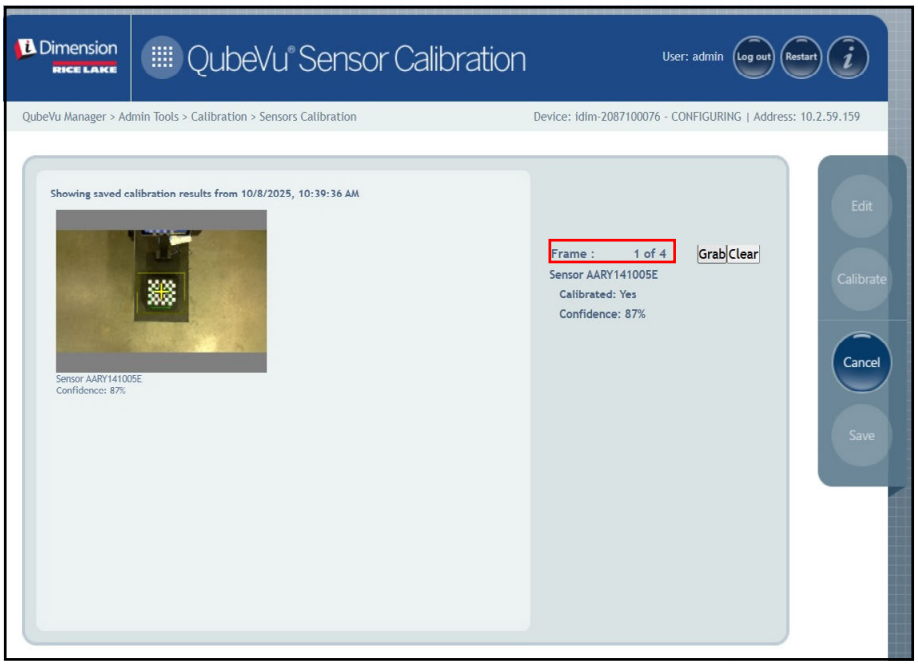
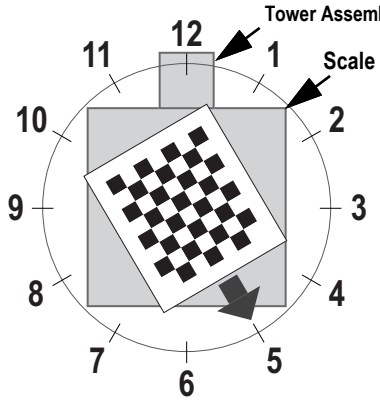
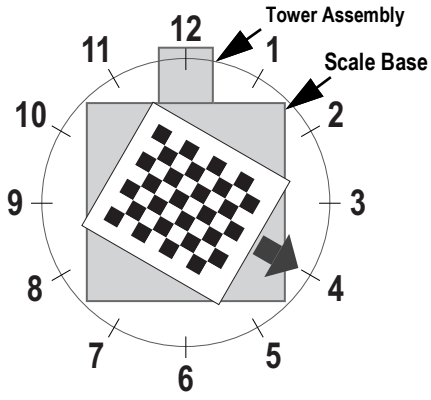
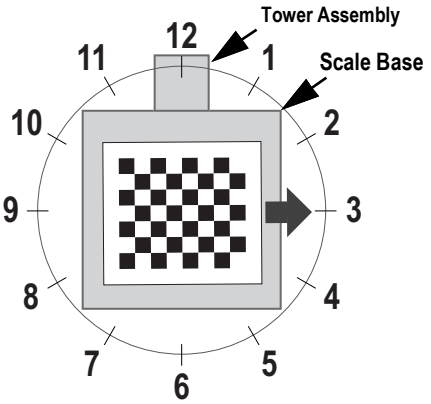



*Figure 6-35. Sensors Calibration*

6. Rotate the calibration object clockwise for the next grab as indicated below.
7. Repeat steps Step 3 through Step 6 four additional instances (a total of 5 grabs).

| Grab/Rotation | Calibration Object Position |
|---|---|
| 2/1 |  |

| Grab/Rotation | Calibration Object Position |
|---|---|
| 3/2 |   |
| 4/3 |   |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8. When all frame grabs are completed, QubeVu displays calibration results and sensor confidence levels.

*Figure 6-36. Sensor Calibration Result*

***NOTE: At least 4 grabs are needed to save captured images. If calibration fails, check for direct sunlight affecting the system then perform a new calibration.***

9. Select Save. The calibration details prompt displays.

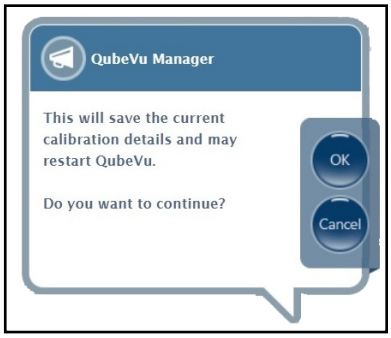


*Figure 6-37. Calibration Details Save Prompt*

10. Select OK to continue.

11. After calibration details are saved, the restart or reboot prompt displays.
12. Select the desired option and allow QubeVu to process the command.

*Figure 6-38. Reboot or Restart Prompt*

13. A message displays alerting of choice selected. In this example restart is selected.

*Figure 6-39. Restart Message*

14. Calibration is complete. Proceed to Section 6.6 on page 66.


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## 6.6 Set Work Area

The Set Work Area configures the area that is used for dimensioning.

1. Select Set Work Area from the ***Calibration*** menu (Figure 6-2 on page 44). The ***Set Work Area*** menu displays.

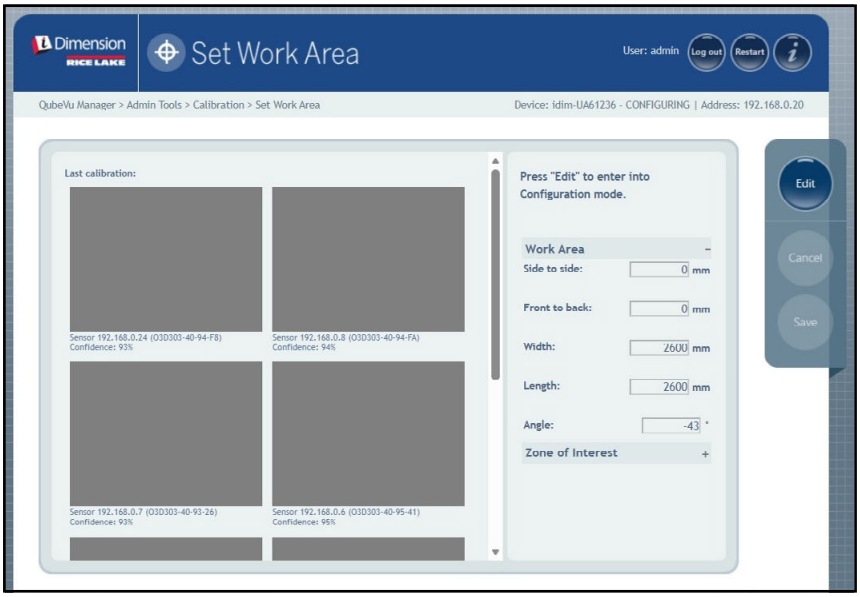
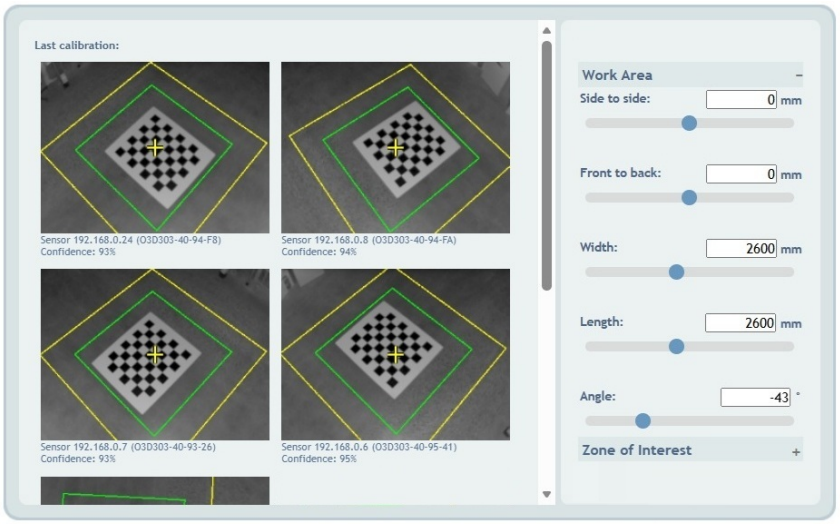
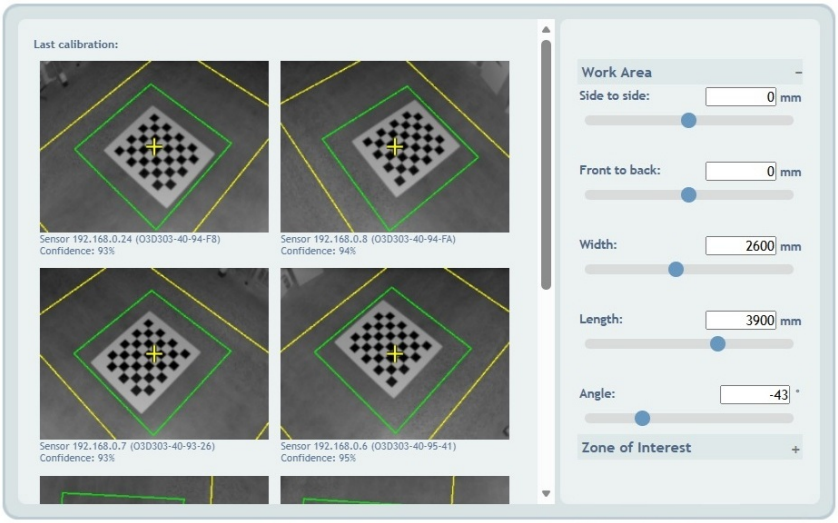
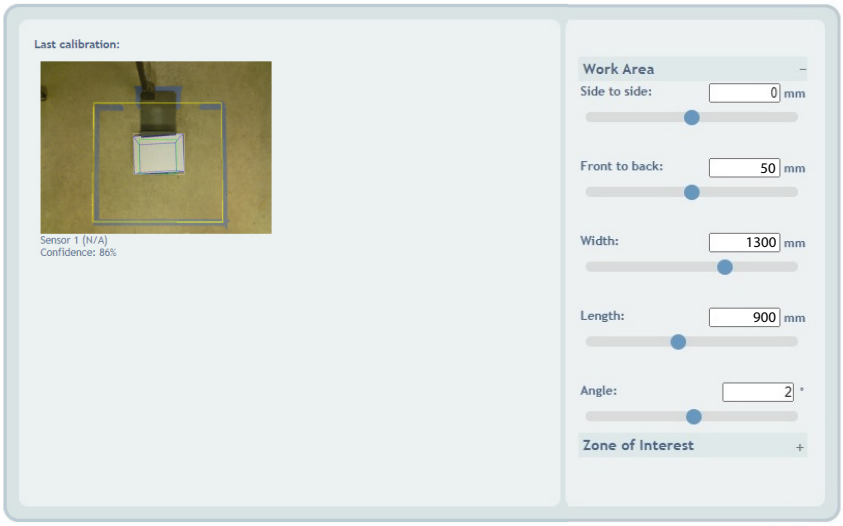



*Figure 6-40. Work Area Settings*

2. Select Edit.
3. Configure the Work Area parameter values as recommended below:

| | 8 Sensor IFM Systems | | 8 Sensor SICK Systems | |
|---|---|---|---|---|
| | Length (mm) | Width (mm) | Length (mm) | Width (mm) |
| Work Area | 3900 | 2600 | 4400 | 2900 |
| | **5 Sensor IFM Systems** | | **5 Sensor SICK Systems** | |
| | Length (mm) | Width (mm) | Length (mm) | Width (mm) |
| Work Area | 2600 | 2600 | 2900 | 2900 |

*Table 6-1. Work Area Recommended Values*

| Product | Configuration |
|---|---|
| Flex, LTL 5 sensor, PWD |  |
| LTL 8 sensor |  |
| Plus |  |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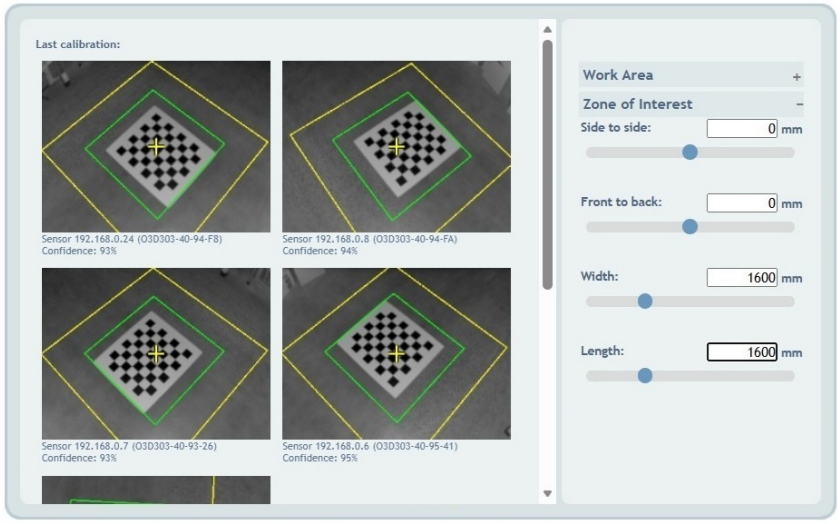
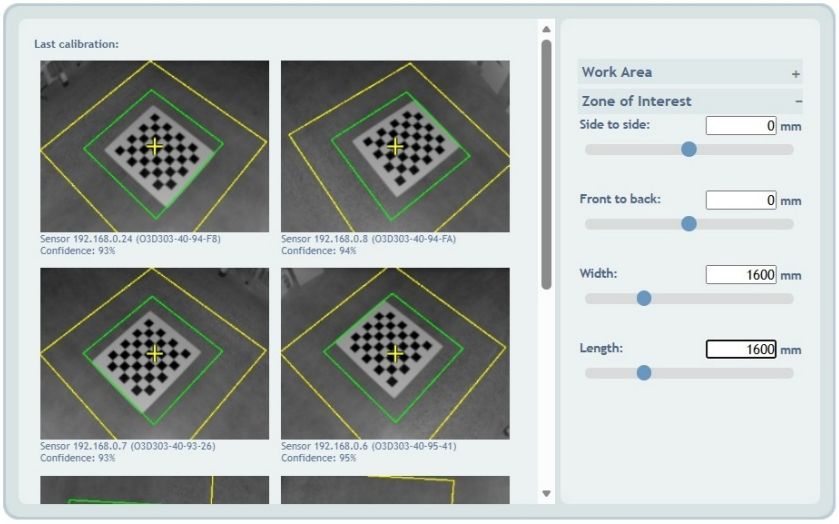
4. Configure the Zone of Interest parameter values as recommended below.

| | 5 or 8 Sensor IFM Systems | | 5 or 8 Sensor SICK Systems | |
|---|---|---|---|---|
| | Length (mm) | Width (mm) | Length (mm) | Width (mm) |
| Zone of Interest | 1600 | 1600 | 1800 | 1800 |

*Table 6-2. Zone of Interest Recommended Values*

| Product | Configuration |
|---|---|
| Flex, LTL 5 sensor, PWD |  |
| LTL 8 sensor |  |

| Product | Configuration |
|---|---|
| Plus | |



Select Save. The Work Area save prompt displays.

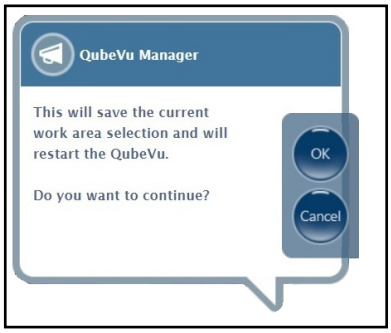



*Figure 6-41. Work Area Save Prompt*

5. Select OK. Camera calibration and Work Area save messages briefly display.

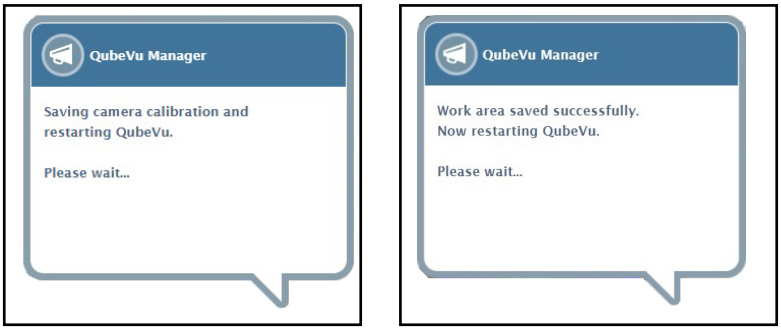



*Figure 6-42. Camera Calibration and Work Save Message*

6. Work Area configuration is complete.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## 6.7 Verify Calibration

Verify calibration with the test box in Operator Display.

1. Place the test box under the dimensioner.
2. Select Displays from the ***QubeVu Manager*** menu (Figure 2-1 on page 9) to enter the ***Display Pages*** menu.
3. Select Operator Display from the ***Display Pages*** menu (Figure 3-1 on page 17).
4. Measurement results should be the test box dimensions ± 0.5 in (iDimension FLEX, LTL 5 sensor, LTL 8 sensor, or PWD) or ± 0.2 in (iDimension Plus).

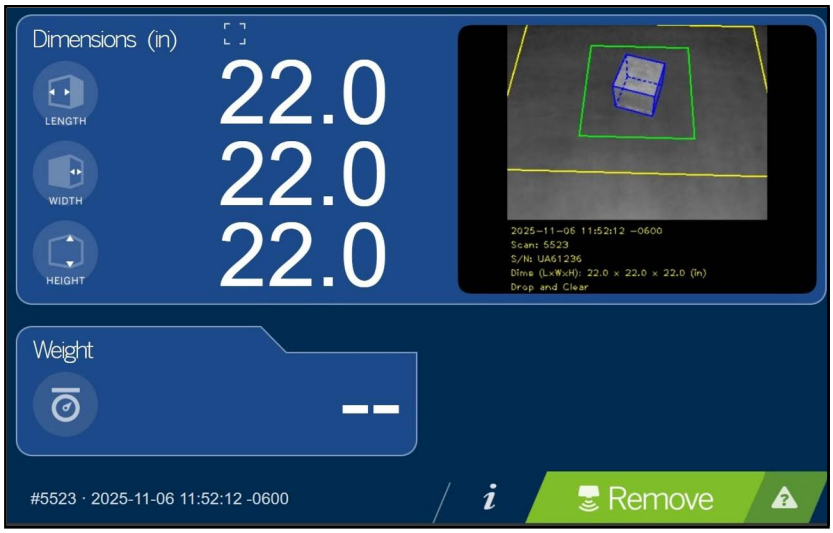


*Figure 6-43. Hanging Dimensioner Calibration Verified*

*Figure 6-44. iDim Plus with Calibration Verified*

# 7.0 Capture Definitions

This section provides an overview of the QubeVu ***Capture Definitions*** menu.

Unique capture definitions can be created with external triggering, or modify the existing capture definitions. A programmer can change the capture definition, or define a new one, when integrating with a client application. The capture definitions controls the low resolution images available through the web-service API, displays and the markings on each image.

Capture definitions are used to define the operations and output of a capture request.

To enter the ***Capture Definitions*** menu, perform the following procedure:

1. Select Admin Tools from the ***QubeVu Manager*** menu (Figure 2-1 on page 9). The ***Admin Tools*** menu displays (Figure 4.0 on page 22).
2. The QubeVu Manager login screen displays. Enter account credentials.

***NOTE: The default username and password are admin and password.***

3. Select Capture Definitions from the ***Admin Tools*** menu (Figure 4.0 on page 22). The ***Capture Definitions*** menu displays.

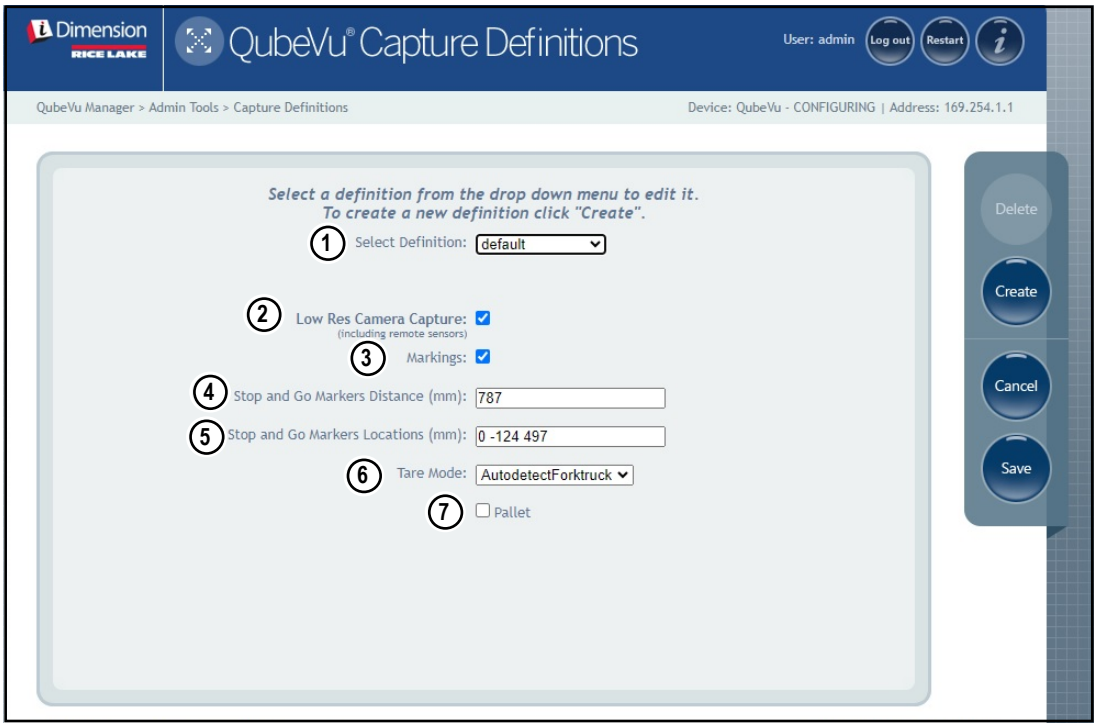


*Figure 7-1. Capture Definitions Menu with Definition Selected*

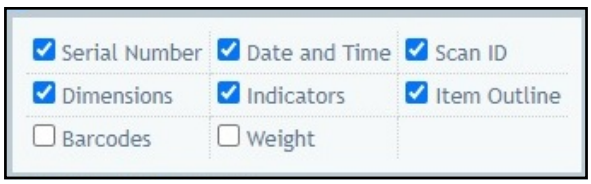


*Figure 7-2. Capture Definitions Menu with Definition Selected*


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| Item No. | Parameter | Description |
|---|---|---|
| 1 | Select Definition | QV Demo – The scan button performs the QVDemo scan<br>QVDisplay –The scan button performs the QVDisplay scan<br>Default – System default capture definition |
| 2 | Low Res Camera Capture | If enabled, configures cameras and remote sensors to capture images during each scan using capture definitions.<br>***NOTE: If disabled, images are not captured and the operator display does not display image data.*** |
| 3 | Markings | If enabled, iDimension software marks low resolution images with the selected information (Figure 7-2 on page 71):<br>• Serial Number – Serial number<br>• Date and Time – Date and time stamp of the scan<br>• Scan ID – Unique scan ID number<br>• Dimensions – Height, width, length dimensions<br>• Indicators – Any indicators (Undersized, oversized, irregular and other indications)<br>• Item Outline – 2D outline of the dimensioned item<br>• Barcodes – Barcode number<br>• Weight – Weight of object |
| 4* | Stop and Go Markers Distance (mm) | The distance in mm between the two markers that were applied to the fork scale. |
| 5* | Stop and Go Markers Locations (mm) | A 3D vector that locates the center between the two markers in the fork's heel coordinate system. In Figure 7-1 on page 71 the center of the marker is centered with the middle of the forks (0 -124 497), it is 497 mm higher than the heel, and back 124 mm from the backplane of the forks. |
| 6* | Tare Mode | Selections:<br>• None – Performs scans as "Drop and Clear"<br>• ForkTruck – Performs scans as "Stop and Go"<br>• AudoDetectForkTruck – Attempts to automatically determine the mode by trying both parameters (none and ForkTruck).<br>• Default: **None** |
| 7* | Pallet | A non-Legal-for-Trade feature; If selected, enter the height of the pallet in mm.<br>The system measures the object on the pallet; <TareExpectedHeight>0<TareExpectedHeight> |
| * = not applicable to the iDimension Plus | | |

*Table 7-1. Pre-Defined Capture Definitions*

# 8.0 Firmware Upgrade

This section provides an overview of the QubeVu ***Firmware Upgrade*** menu.

Firmware upgrades are available at www.ricelake.com. Operators may be instructed to update the unit firmware to take advantage of new features or software improvements to increase the performance of the unit.

To enter the ***Firmware Upgrade*** menu, perform the following procedure:

1. Select Admin Tools from the ***QubeVu Manager*** menu (Figure 2-1 on page 9) to enter the ***Admin Tools*** menu (Figure 4.0 on page 22).
2. The QubeVu Manager login screen displays, enter login credentials. The default username and password are **admin** and **password**.
3. Select Firmware Upgrade from the ***Admin Tools*** menu (Figure 4.0 on page 22) to enter the ***Firmware Upgrade*** menu.

***NOTE: The Administrator defined a username and password during the initial setup process. The username and password are required to log into and access the iDimension software Admin Tools.***

## 8.1 Firmware Upgrade Tab

The ***Firmware Upgrade*** tab configures how firmware is upgraded and facilitates the firmware upgrade process.

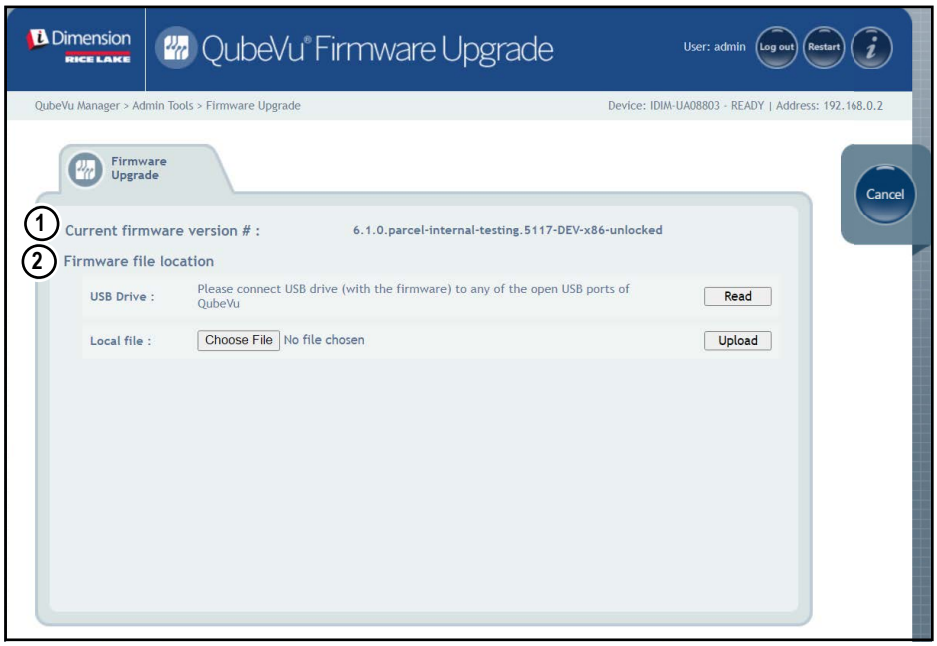


*Figure 8-1. Firmware Upgrade*

| Item No. | Parameter | Description |
|---|---|---|
| 1 | Current Firmware Version # | Displays the current firmware version number |
| 2 | Firmware File Location | USB Drive – Connect a USB drive with the firmware for the iDimension unit to an open USB port of the unit (Section 8.1.1 on page 74)<br>Network Share – Network path, username and password for sharing information with the local network (Section 8.1.1 on page 74)<br>Local File – Choose a file to load firmware (Section 8.1.2 on page 75) |

*Table 8-1. Firmware Upgrade Definitions*


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### 8.1.1 USB Drive or Network Share

To upgrade firmware with a USB drive or network share, perform the following:

1. Perform one of the following:
   - Connect USB drive with firmware to the device.
   - Enter the Network Path, Username and Password to the network with the firmware update.
2. Select Read.

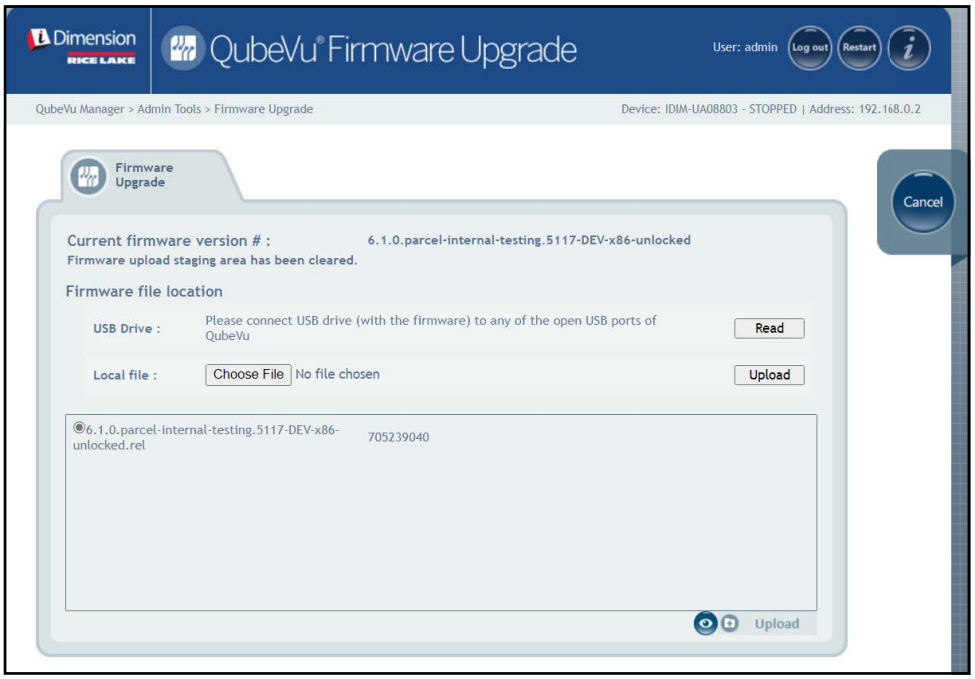


*Figure 8-2. Firmware Upgrade USB File Read*

3. Select the firmware version from the list of firmware version updates.
4. Select to compute the checksum.
5. Select Upload after the checksum is computed. The firmware upgrade process copies the update file to the iDimension pallet dimensioner's embedded processor.
6. Proceed to Update Firmware (see Section 8.1.3 on page 76).

***NOTE: Do not interrupt the upload process. An opportunity to stop the firmware upgrade is available after the file is uploaded.***

### 8.1.2 Local File

To upgrade firmware with a local file, perform the following:

1. Select Choose File .
2. Select the firmware from the directory.
3. Select **Read to Compute Checksum** and upload firmware.

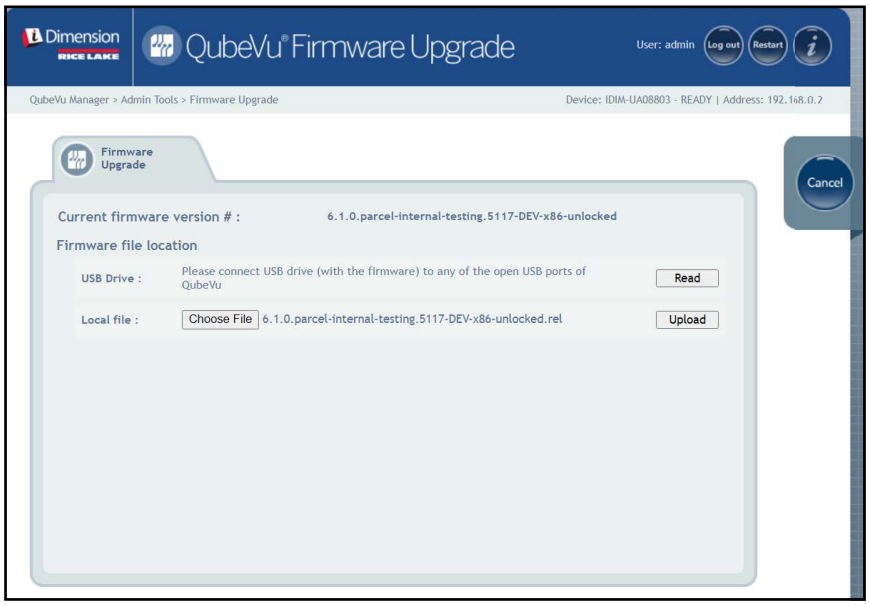


*Figure 8-3. Firmware Select with Local File*

4. The uploaded firmware notice appears and instructs to wait for firmware upload to complete. The firmware upgrade process uploads the update file to the iDimension pallet dimensioner's embedded processor.
5. The notice closes when the firmware is uploaded to the iDimension pallet dimensioner's embedded processor.

*Figure 8-4. Upload Firmware Notice*

6. Proceed to Update Firmware (see Section 8.1.3 on page 76).


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### 8.1.3 Updating Firmware

Once the firmware has been uploaded, Select Update Firmware and follow the pop-up window directions.

Select to delete the firmware uploaded, in case an error has been made.

Select to validate checksum.

The system will enter into a stopped state and return to normal operating mode within a few minutes.

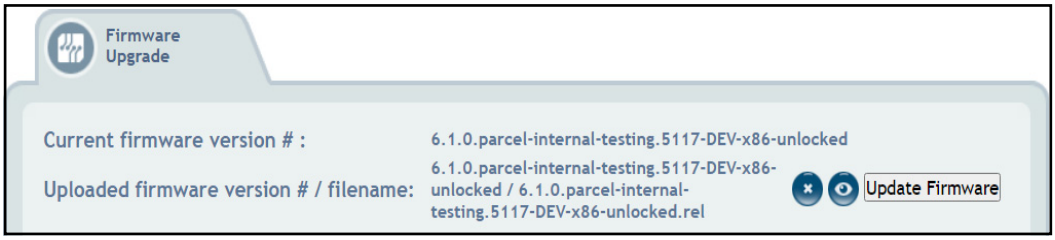


*Figure 8-5. Updating Firmware*

# 9.0 Backup and Restore

This section provides an overview of the QubeVu ***Backup*** menu.

To enter the ***Backup*** menu, perform the following procedure:

1. Select Admin Tools from the ***QubeVu Manager*** menu (Figure 2-1 on page 9) to enter the ***Admin Tools*** menu (Figure 4.0 on page 22).
2. The QubeVu Manager login screen displays. The default username and password are **admin** and **password**.
3. Select Backup from the ***Admin Tools*** menu (Figure 4.0 on page 22). The ***Backup*** menu displays.

***NOTE: The Administrator defined a username and password during the initial setup process. The username and password are required to log into and access the iDimension software Admin Tools.***

The ***Backup*** menu is used to create a backup file of settings and to restore those settings.

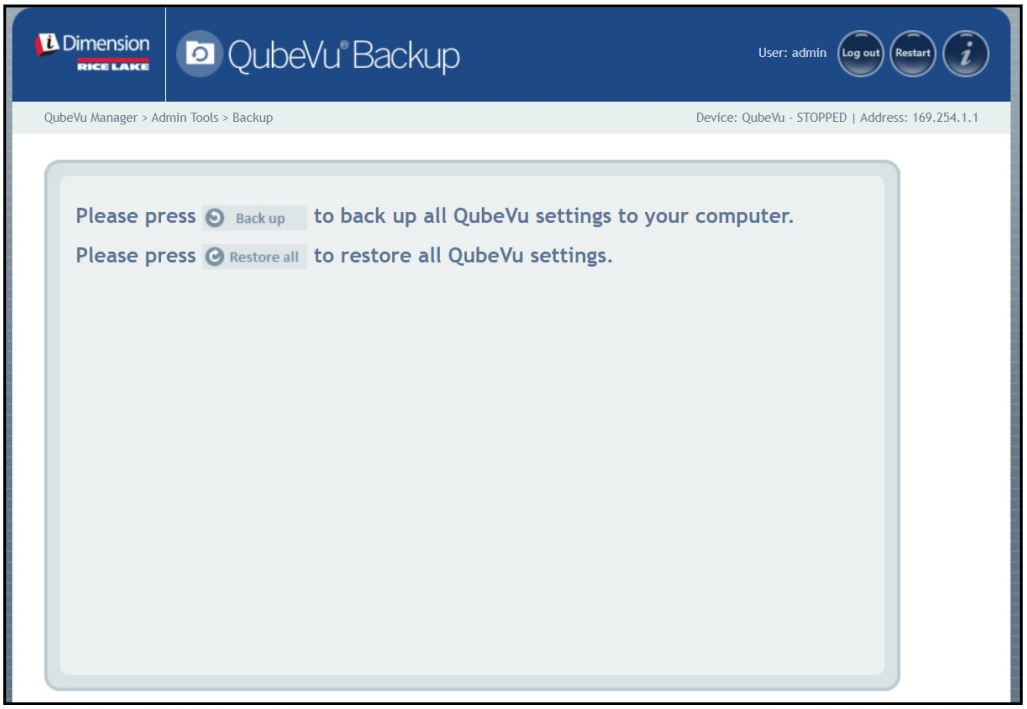


*Figure 9-1. Backup and Restore Menu*

| Parameter | Description |
|---|---|
| Backup | Back up all QubeVu settings to the local computer (see Section 9.1 on page 78) |
| Restore All | Restore all QubeVu settings (see Section 9.2 on page 79) |

*Table 9-1. Setup Navigation*


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## 9.1 Backup

The ***Backup*** function creates a backup file of all settings. It is recommended to create a backup after the initial setup of the iDimension pallet dimensioner. The backup file is saved to a PC folder as an XML file. Also, a backup file can be sent to the customer support to help troubleshoot the device.

1. Select Back up to begin the backup process.

***The installed internet browser and its configuration determines the behavior when downloading the backup. The internet browser may automatically download the backup, open the Save As window, or request if the file should be downloaded. In this example the Save As window appears.***

2. Navigate to the desired folder and then select **Save**.

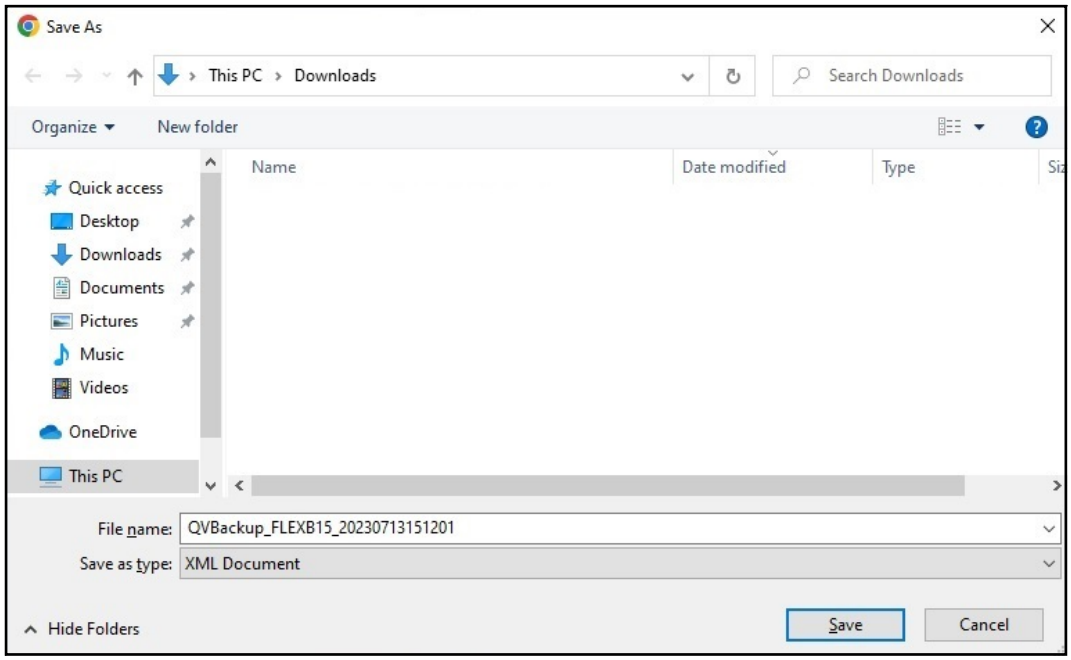


*Figure 9-2. Download Ribbon - Accept*

## 9.2 Restore

The ***Restore*** function is used to restore settings to factory default or from a saved backup file.

1. Select Restore all to begin the restore process.

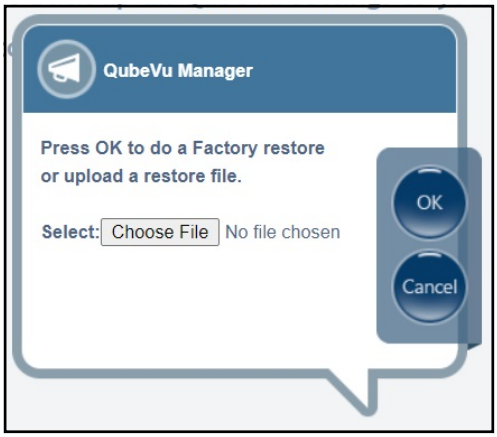


*Figure 9-3. Restore Menu Browse Window*

2. Select OK to restore all settings from the factory calibration or Select Choose File to select a saved file from the PC.
3. If Choose File is selected in Step 2, find and select the desired backup file. Select OK to restore settings.


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# 10.0 Diagnostics

This section provides an overview of the QubeVu ***Diagnostics*** menu.

To enter the ***Diagnostics*** menu, perform the following procedure:

1. Select Admin Tools from the ***QubeVu Manager*** menu (Figure 2-1 on page 9) to enter the ***Admin Tools*** menu (Figure 4.0 on page 22).
2. The QubeVu Manager login screen displays. Enter account credentials.

***NOTE: The default username and password are admin and password.***

3. Select Diagnostics from the ***Admin Tools*** menu (Figure 4.0 on page 22). The ***Diagnostics*** menu. Displays

***Diagnostics*** tools can be used to test hardware components and gather diagnostic information.

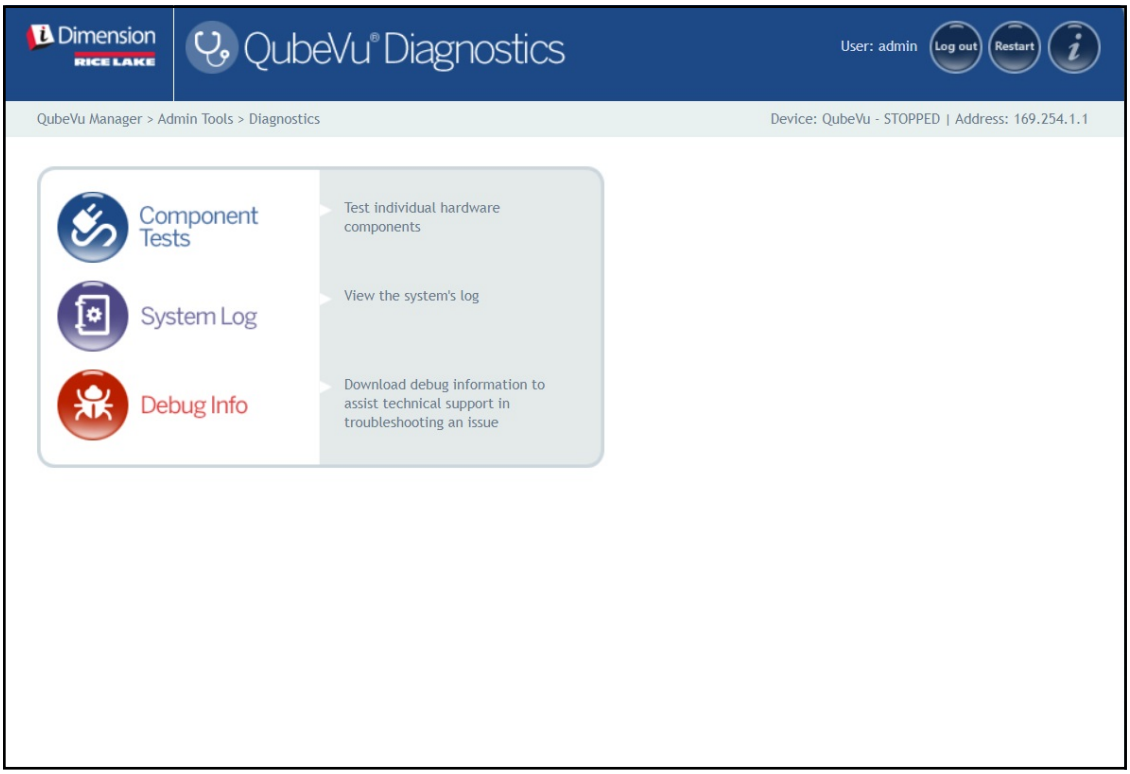


*Figure 10-1. Diagnostics Menu*

| Parameter | Description |
|---|---|
| Component Tests | Tests each hardware component (see Section 10.1 on page 81) |
| System Log | Views system log (see Section 10.2 on page 84) |
| Debug Info | Downloads debug information to assist technical support in troubleshooting an issue (see Section 10.3 on page 85) |

*Table 10-1. Setup Navigation*

## 10.1 Component Tests

Select Component Tests from the ***Diagnostics*** menu (Figure 10-1 on page 80) to enter the ***Component Tests*** menu.

The ***Component Tests*** menu helps diagnose operation status of the iDimension pallet dimensioner. Tests include ***Scale Test***, ***Sensors Test*** and ***Network Test***. Contact the factory to determine if a failure has occurred.

- Select to perform a specific test
- Select Test all test each component
- The status of each component is returned as either ***Passed*** or ***Failed***. Select to view additional details.
- Select on a test with results. A new tab in internet browser tab opens with details that is print formatted.

***NOTE: Upon completion of a component test, restart the system to return to normal operating mode.***

### Scale Test

The ***Scale Test*** determines if the configured scale is communicating and operating correctly with the attached unit.

### Network Test

The ***Network Test*** confirms the iDimension components are connected through the Ethernet are communicating correctly. Report component failures to the Rice Lake Weighing Systems technical support team.

***NOTE: Network tests are for manufacturing purposes only.***

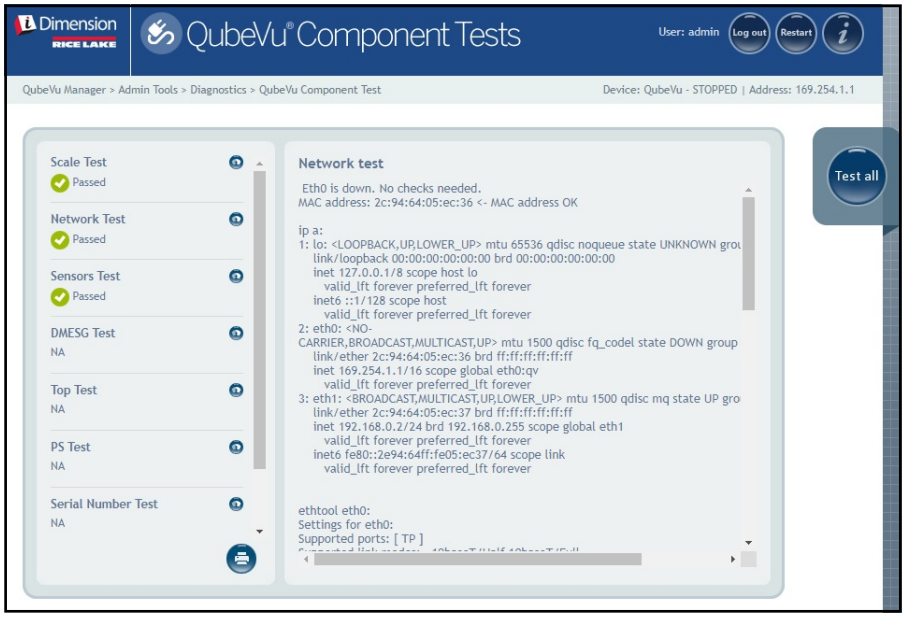


*Figure 10-2. Network Test*


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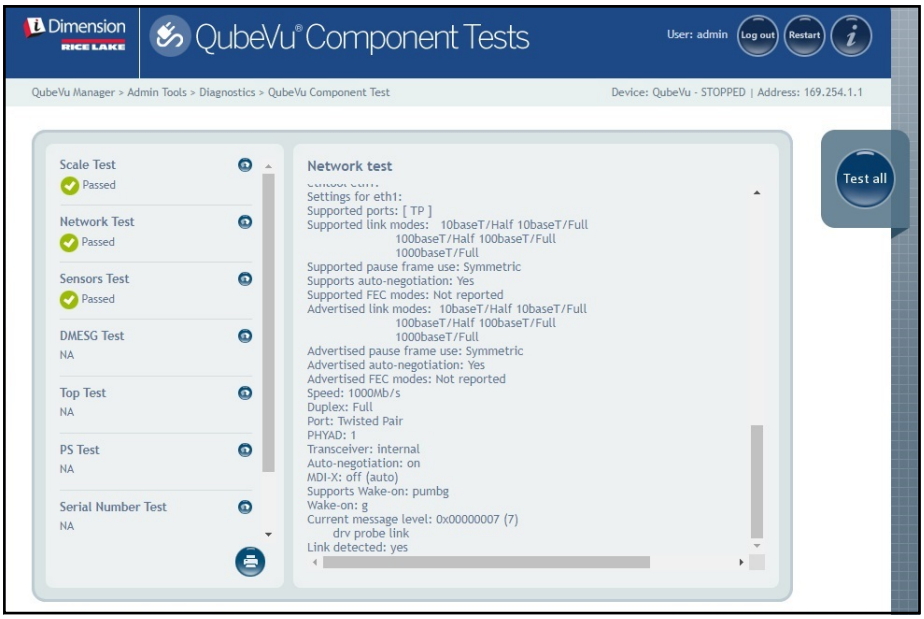


*Figure 10-3. Network Test (Continued)*

### DMESG Test

The ***DMESG Test*** performs a firmware diagnostics test.

***NOTE: DMESG tests are for manufacturing purposes only.***

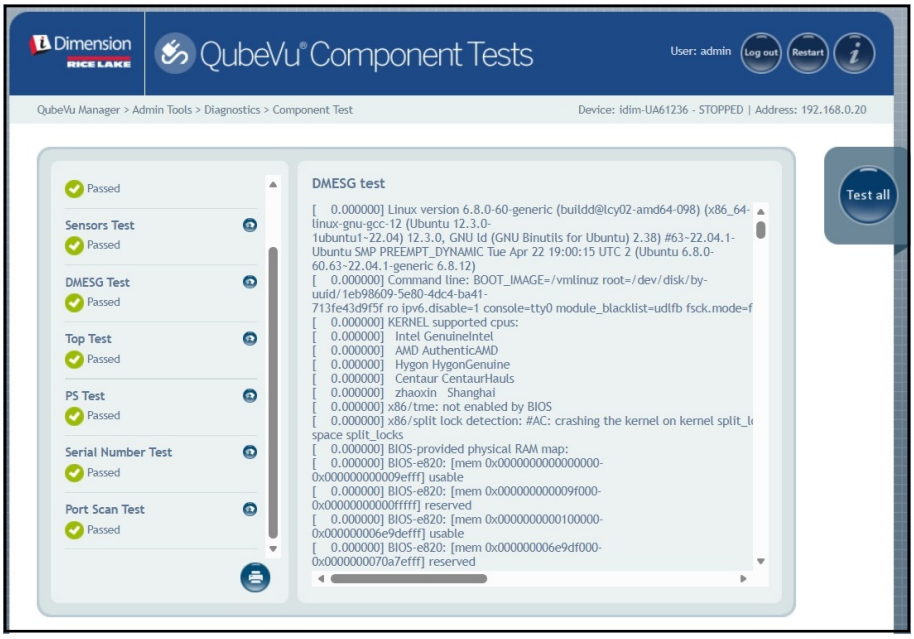


*Figure 10-4. DMESG Test*

***Sensor Test*** – determines if sensors are connected and retrieves data frames from each sensor. This test runs for approximately 1 minute. Scroll through pages to identify failures, each of the sensors has a unique IP address. This test runs through the configuration of the sensor, including firmware and application file loaded.

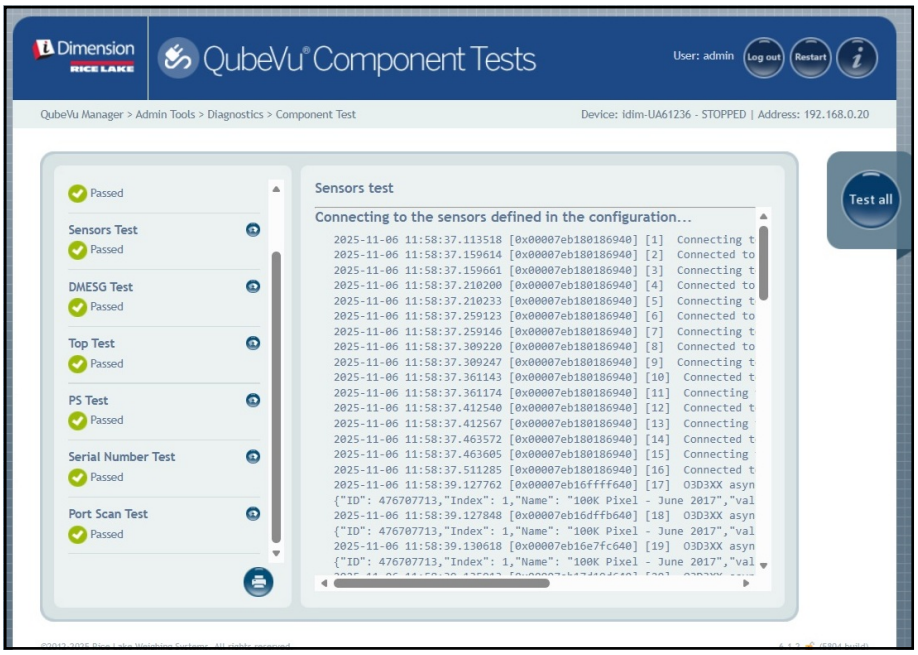


*Figure 10-5. Depth Information Test*

### Top Test, PS Test, Serial Number Tests

Do not modify unless instructed by Rice Lake Weighing Systems dimensioning support.

### Port Scan Test

The ***Port Scan Test*** provides details about devices connected to ports.

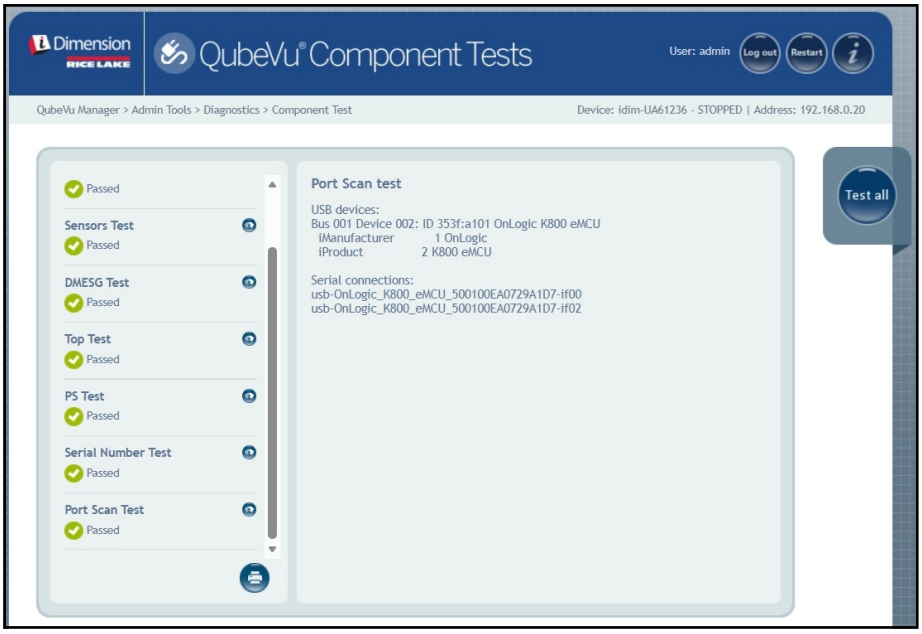


*Figure 10-6. Port Scan Test*


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## 10.2 System Log Tab

Select System Log from the ***Diagnostics*** menu (see Figure 10-1 on page 80). The ***System Log*** menu displays.

The system log log level is configured in the setup menu. The log view can be customized by type (ALL, debug, info, warning or error messages only) or by order (view latest first or earliest first).

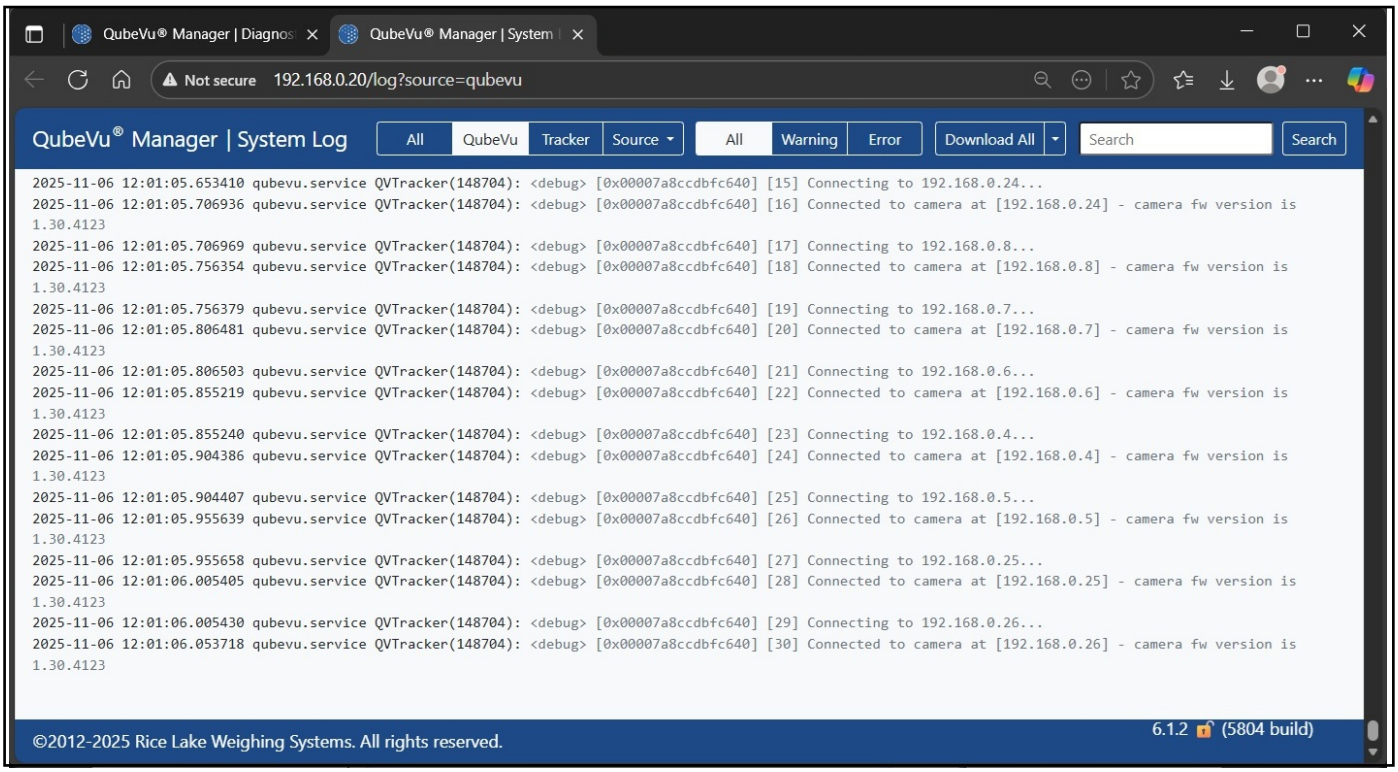


*Figure 10-7. System Log Tab*

## 10.3 Debug Info

Select Debug Info from the ***Diagnostics*** menu (see Figure 10-1 on page 80). The ***Debug Information*** menu displays. The ***Debug Info*** provides engineering and troubleshooting information on the operation of the unit. This file may be requested for troubleshooting purposes. Enable the **Select All** box and then Select Download to save the file to the computer.

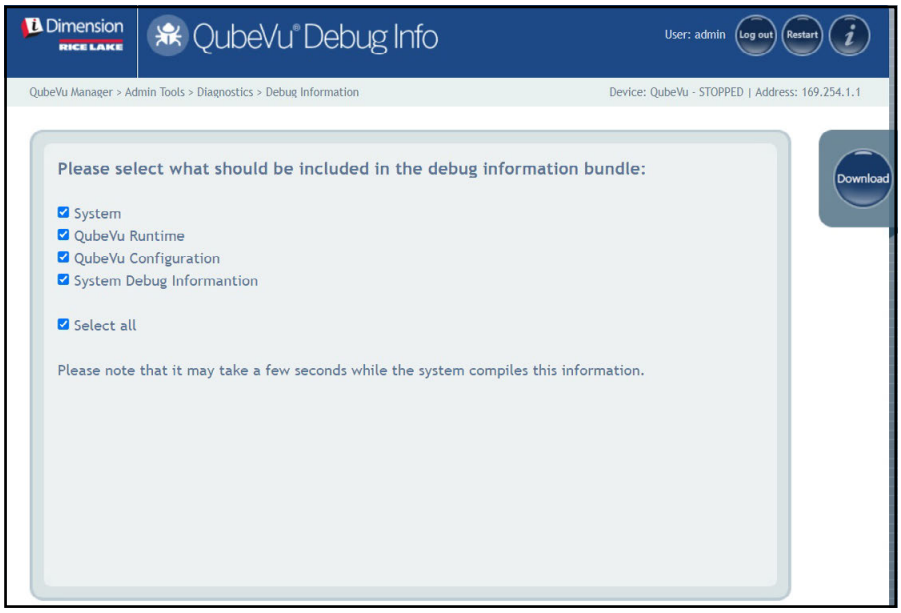


*Figure 10-8. Debug Information*


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# 11.0 License

This section provides an overview of the QubeVu ***License*** menu.

To enter the ***License*** menu, perform the following procedure:

1. Select License from the ***QubeVu Manager*** menu (see Figure 2-1 on page 9). The ***License*** menu displays.
2. The QubeVu Manager login screen displays. Enter account credentials.

***NOTE: The default username and password are admin and password.***

***NOTE: A license file is uploaded at the time of manufacturing and includes the the installation date. A QubeVu license will not expire. A license code request is sent to idim_support@ricelake.com, with the license request code.***

3. Select Choose File to upload the license provided.

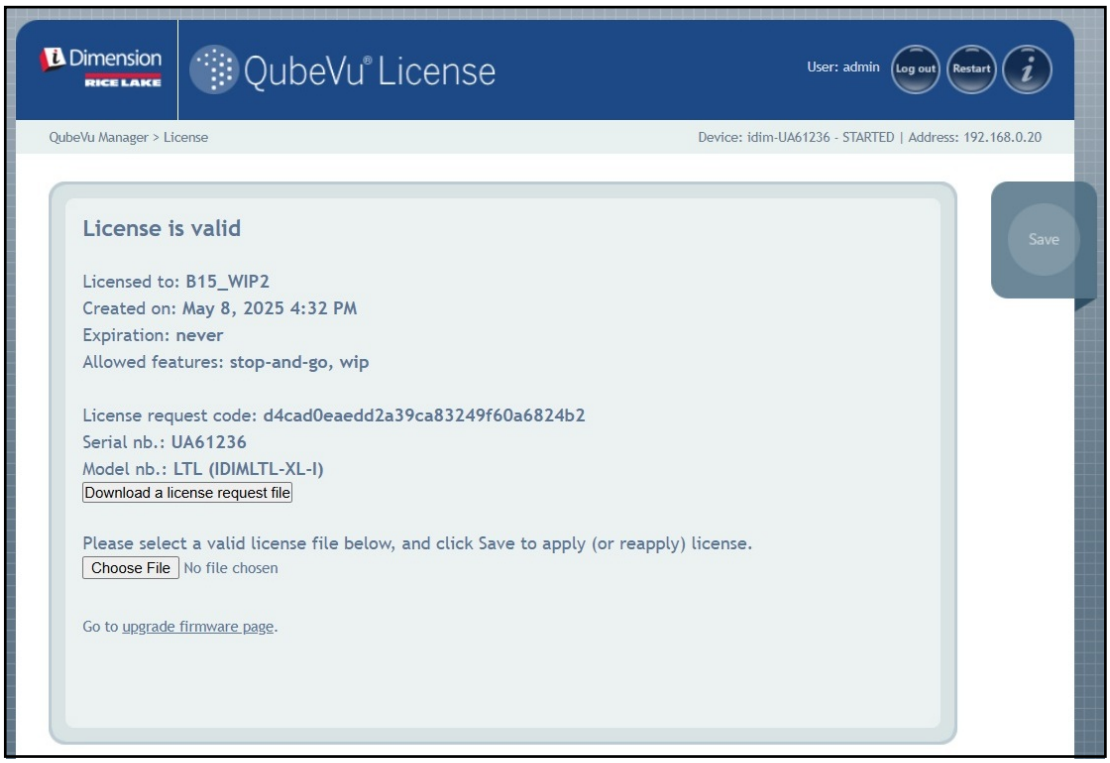


*Figure 11-1. QubeVu License*

# 12.0 Appendix

This section provides an overview of additional iDimension software documentation.

## 12.1 QubeVu Engineering Application

The ***QubeVu Engineering Application*** downloads a record of data that can be emailed to the factory for engineering analysis.

1. Using an internet browser, type the following in the address bar:
   - IPaddress/engapp

***NOTE: IP addresses may vary. The IP address In this example is 192.168.0.2, therefore, 192.168.0.2/tools/engapp.php is entered in the internet browser.***

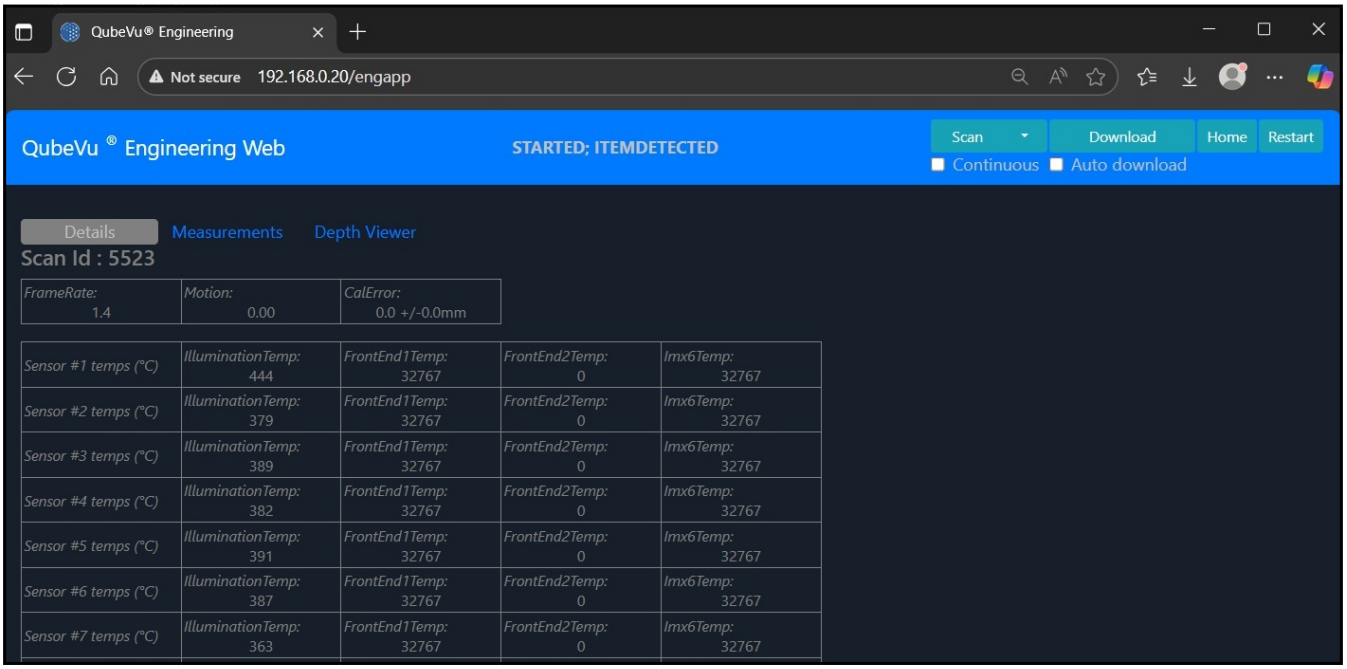


*Figure 12-1. Engineering Application*


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2. Select Scan.

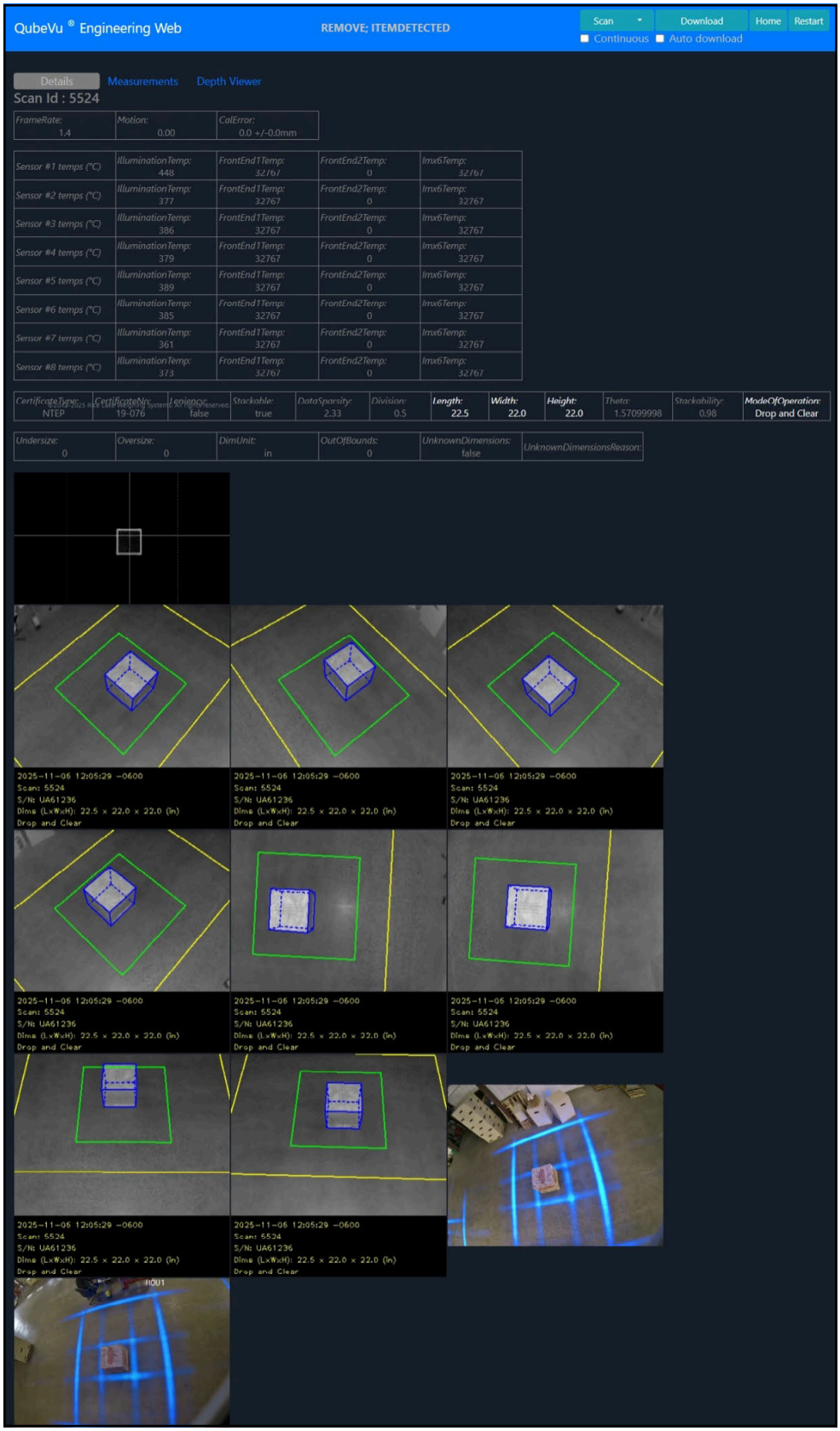


*Figure 12-2. Application Scan*

3. Select Download.
4. Enter the length, width and height (L, W and H) then select Download. The file is downloaded.
5. Navigate to the downloaded file location on the local PC.
6. Emeail this file to the Rice Lake Weighing Systems Dimensioning support team for analysis.

***NOTE: If known, the ground truth is the exact dimensions measured with a tape measure.***

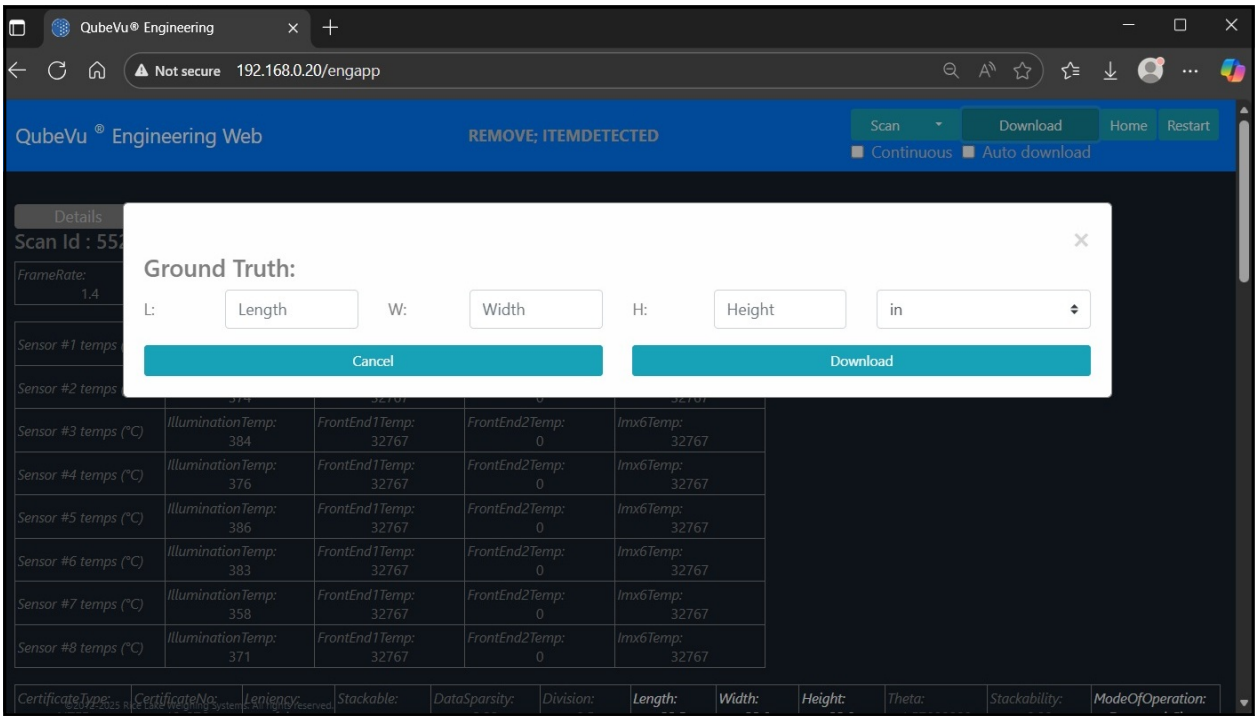


*Figure 12-3. Ground Truth*


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## 12.2 Configuring Axis IP Camera Using IP Utility

1. Run IPUtility.exe.
2. Select the camera, right-click and select **Assign Network Parameters**.

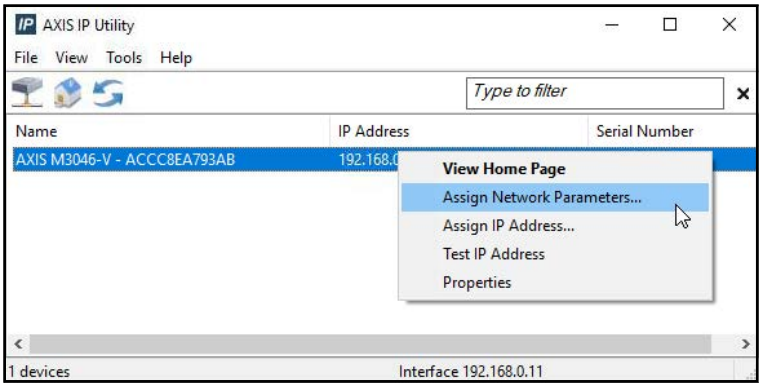


*Figure 12-4. Assign Network Parameters*

3. If prompted, login using the ***username*** and ***password***.

***NOTE: The default Axis username and password are root and password.***

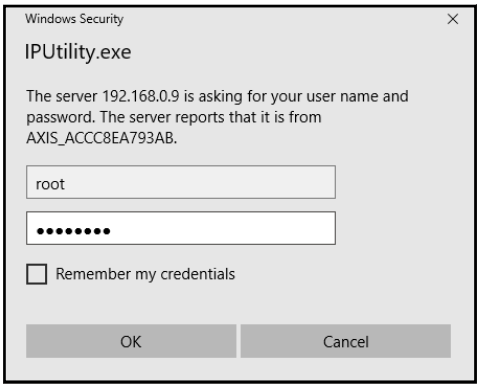


*Figure 12-5. Login*

4. Make necessary changes and select OK.

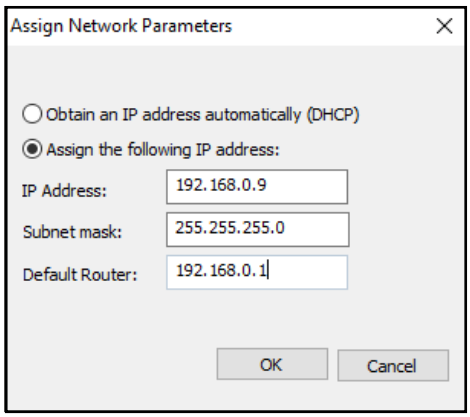


*Figure 12-6. Assign Network Parameters*

5. Select OK.

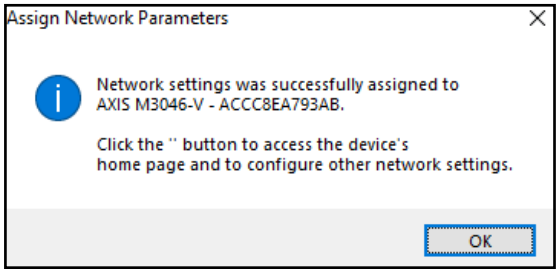


*Figure 12-7. Network Parameter Confirmation*

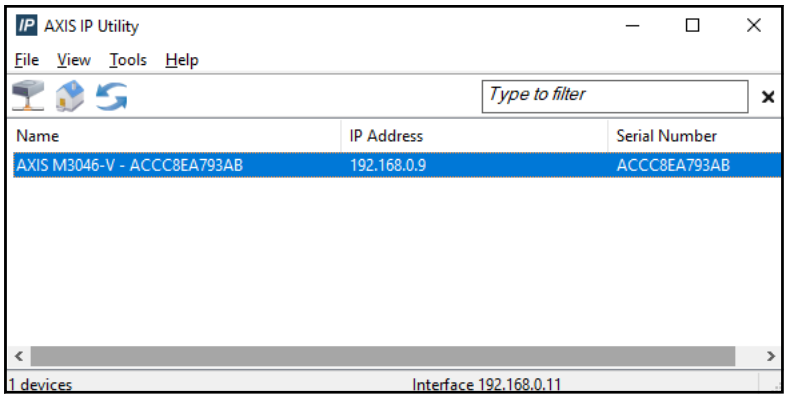


*Figure 12-8. AXIS IP Utility*

6. Type the new IP address of the IP camera (192.168.0.9 is the default IP address for the iDimension software).
7. The login displays. Enter the ***username*** and ***password***.

***NOTE: The default Axis username and password are root and password.***

*Figure 12-9. AXIS Sign-in*

8. Select Sign in.


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9. Select Next.

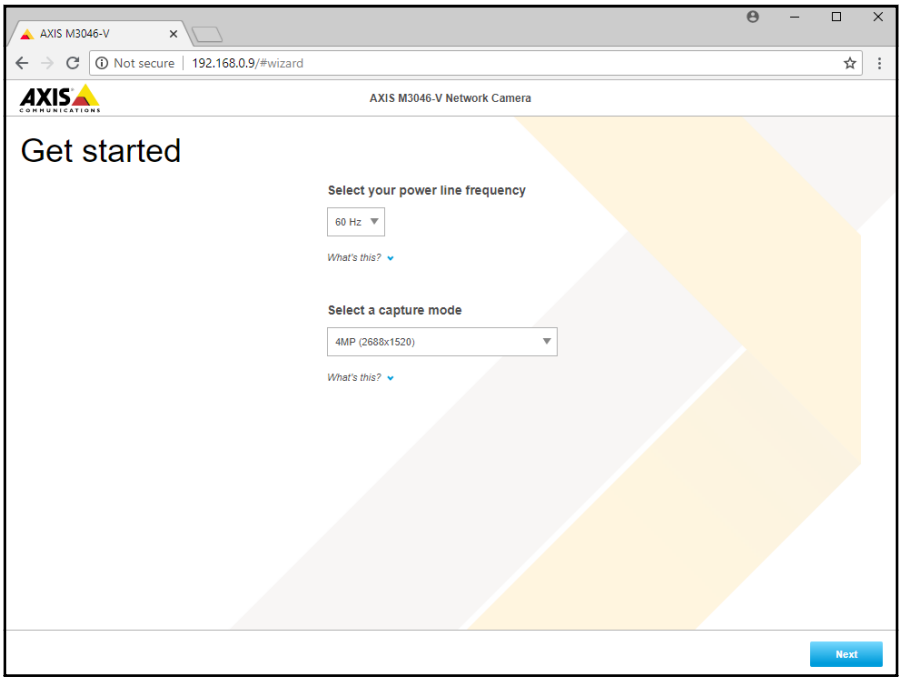


*Figure 12-10. Network Camera*

10. Select Next.

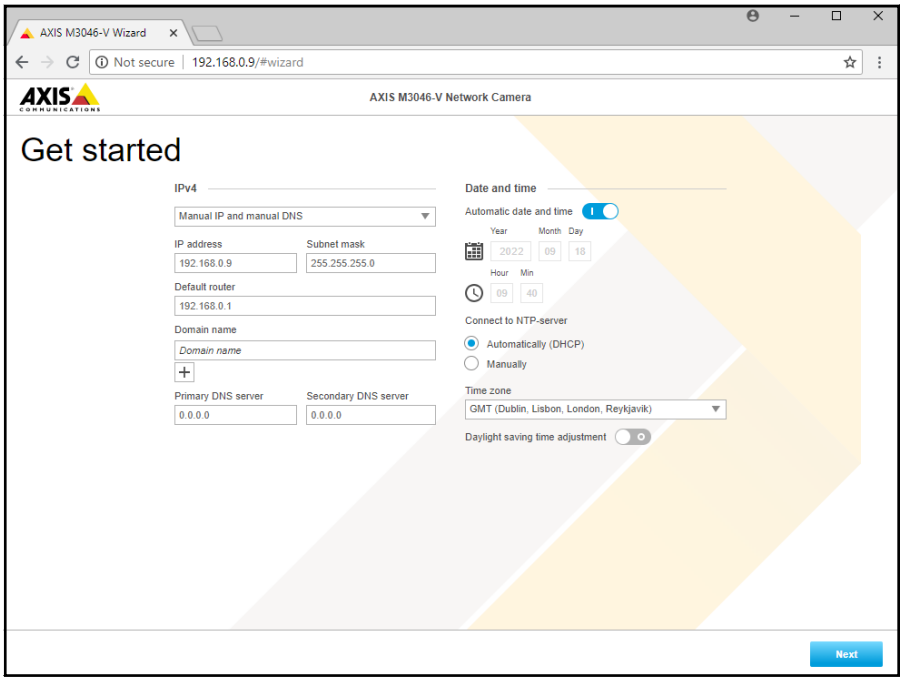


*Figure 12-11. Network Camera (Continued)*

11. Adjust camera angle and zoom to application requirements.
12. Select Done.

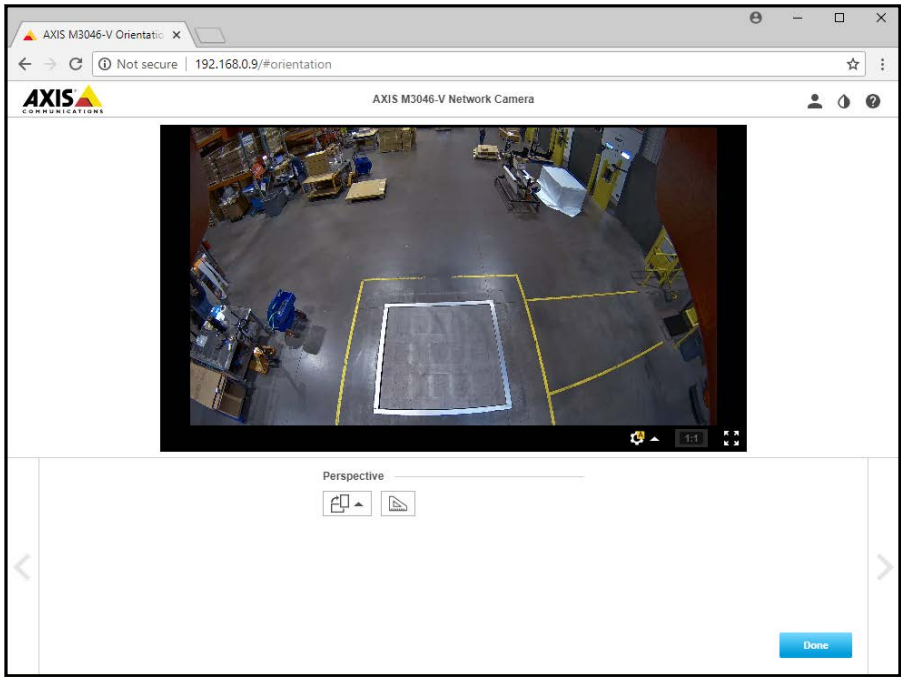


*Figure 12-12. Camera Feed*

13. Close the window.

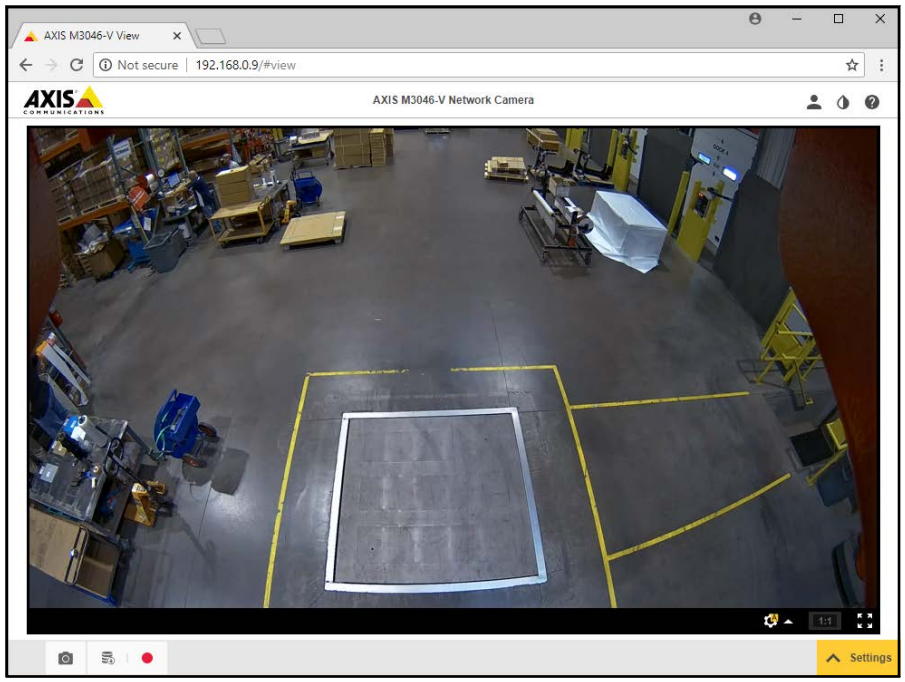


*Figure 12-13. Camera Feed (Expanded)*


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## 12.3 Installation Notes

The following actions are required to configure an iDimension pallet dimensioner during initial installation. This process is followed after the unit has been installed using one of the mounting methods. The IP camera and Forklift Operator display should be configured prior to mounting into the ceiling.

1. Check for Customer network IP address. If connected to the customer's network:
   - Configure sensors using IFM vision assistant or SICK SOPAS Engineering tool with new network addresses
   - Configure Network Setting tab

The following tables list the remote sensor and additional hardware component addresses used by the factory:

| Device | IFM IP Address | SICK IP Address | Notes |
|---|---|---|---|
| Remote Sensor #1 | 192.168.0.4 | 192.168.0.101 | |
| Remote Sensor #2 | 192.168.0.5 | 192.168.0.102 | |
| Remote Sensor #3 | 192.168.0.6 | 192.168.0.103 | |
| Remote Sensor #4 | 192.168.0.7 | 192.168.0.104 | |
| Remote Sensor #5 | 192.168.0.8 | 192.168.0.105 | Center sensor, for 5 sensor systems |
| Remote Sensor #6 | 192.168.0.24 | 192.168.0.106 | For 8 sensor installation |
| Remote Sensor #7 | 192.168.0.25 | 192.168.0.107 | For 8 sensor installation |
| Remote Sensor #8 | 192.168.0.26 | 192.168.0.108 | For 8 sensor installation |

*Table 12-1. Remote Sensor Network IPs*

| Device | IP Address | Notes |
|---|---|---|
| Gateway | 192.168.0.1 | For all sensors, internal PC, JLT and IP camera |
| Subnet Mask | 255.255.255.0 | For all sensors, main head, JLT and IP camera |
| Internal PC | 192.168.0.2 | After configuration default/back door, connect to this on first power up |
| | 169.254.1.1 | |
| Web Relay | 192.168.0.3 | When applicable |
| IP Camera 1 | 192.168.0.9 | If applicable (optional) |
| IP Camera 2 | 192.168.0.10 | If applicable (optional) |
| Mobile HMI PC | 192.168.0.11 | Ethernet connection to the iDimension pallet dimensioner |
| Forklift Operator Display | 192.168.0.12 | If applicable (optional) |
| Label Printer | 192.168.0.14 | If applicable (optional) |
| Scale Indicator | 192.168.0.15 | 1280, 880, 680, etc |
| Barcode Reader | 192.168.0.16 | If applicable (optional) |
| RFID Reader | 192.168.0.22 | If applicable (optional) |

*Table 12-2. Hardware Component IPs*

Use the QubeVu Manager Admin Tools to calibrate settings in each tab:

2. Configure Capture Definitions (QV Demo and Default) to meet application requirements. Markings to meet customer requirements and Tare mode should be none.
3. Configure Displays/Customer Display:
   a. iDimension software – Display Screen Version 1
4. Add Remote Sensors:
   a. Discover
   b. Add all
5. Calibration Mode:
   a. Align sensors centered onto calibration object
   b. Perform calibration

## 12.4 Status Messages

Status and error messages are visible from the QubeVu Manager Demo Display.

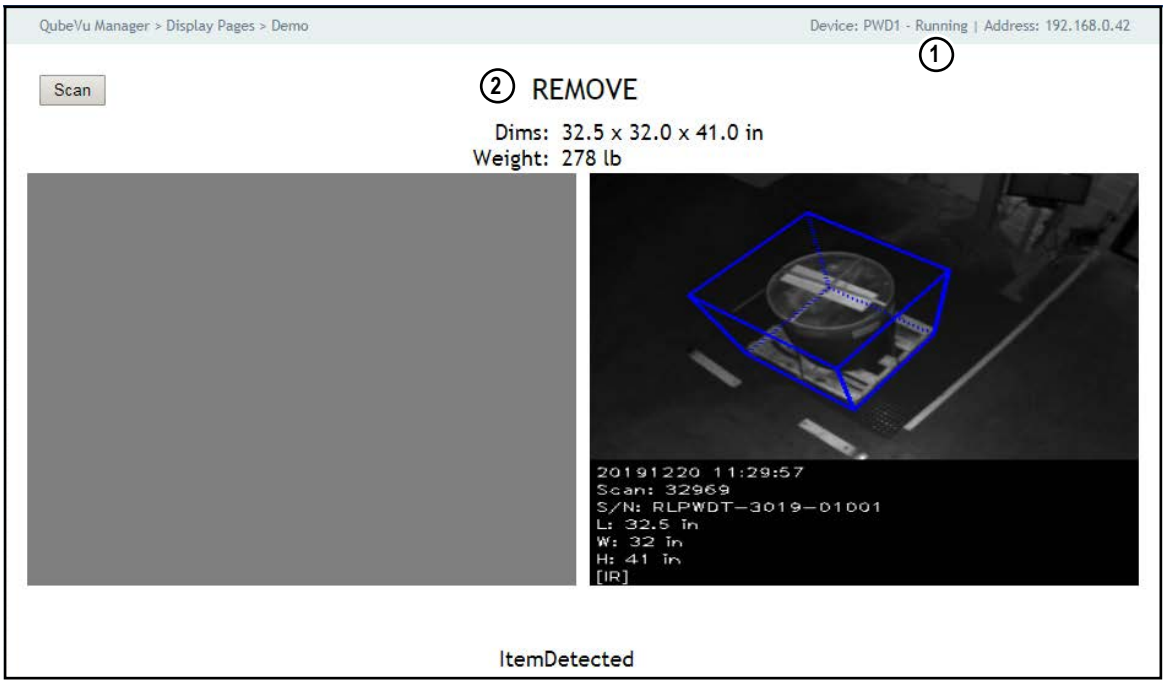


*Figure 12-14. Demo Display*

| Item No. | Description |
|---|---|
| 1 | Status |
| 2 | Extended Status |

*Table 12-3. Status*

| Status | Description |
|---|---|
| STARTING | The system is starting up |
| STARTED | The system has started but is not ready for processing a dimension; If the device is in this status for more than a couple of seconds there is most likely an object on the platform that needs to be cleared or the scale is not at zero weight; If no object is on the platform, perform a zero height |
| READY | The system is ready and waiting to be used |
| TRACKING | The system is processing a dimension |
| REMOVE | The dimension has been fully processed – the item can be removed when the client processing has completed transferring the data |
| STOPPING | The system is transitioning into STOPPED state |
| STOPPED | The service has stopped – there is a problem; Perform a restart or power cycle the unit from the AC Outlet |
| CALIBRATING | The device is in calibration mode |
| CONFIGURING | The device is in configuration mode; A restart can take the device out of configuration mode |

*Table 12-4. Status Messages*


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### 12.4.1 Extended Status Messages

| Status | Description |
|---|---|
| ScaleNotStable | This is set during tracking if the scale indicates that the value returned is not stable. This is only used when a recognized scale is connected to the system. Processing will not progress to the next step until this flag is cleared by receiving a stable weight from the scale |
| MotionDetected | This is set during tracking and ready states and indicates that the system has detected movement. Processing will not progress to the next step while this is set |
| ItemDetected | This is set when the system detects an item is placed on the device platform/scale. When a scale is used this indicates that weight returned is not zero. In 'scale-less' mode this indicates that the system cannot find the target panel |
| ItemNotDetected | This is set when the system is in ready mode and there is no item on the platform/scale |
| TrackerNotConfident | This indicates that the tracker detected an item but it is not confident what the dimensions of the item are. After a timeout (configurable) the system progresses to the next step and return zero-valued dimensions |
| ExceptionOccured | This is set when an exception occurs |
| DeviceNotStable | This is set during tracking if one of the sensors indicates that the sensor value returned is not a stable. Processing will not progress to the next step until this flag is cleared by receiving a stable value from the sensor |
| ServiceStarting | This is set when the system is initializing |
| ConfigMode | This is set when the system is in configuration mode, such as during calibration or image exposure adjustment. A restart operation takes the device out of configuration mode |
| ResultNotStable | This is set when the item is being manipulated such as when the item is in the act of being placed on the platform or removed from it |
| ItemOutOfBounds | This indicates that the item protrudes outside the measurable area. Repositioning the item is necessary |
| WaitingToWarmUp | This is set during the warm-up period. If device is used in a certified-for-trade application the warm-up period must have been elapsed before certified measurements can be taken |
| PlatformNotClear | This is set when there is something on the platform |

*Table 12-5. Extended Status Messages*

### 12.4.2 Error Messages

The device error messages which may be displayed are described below.

| Error Code | Description |
|---|---|
| 1 | Hardware Initialization FAILED |
| 2 | Tracker Config Initialization FAILED |
| 3 | Missing RegistrationMarksCropped.bmp |
| 4 | Setting reference image for Targetfinder FAILED |
| 5 | Loading of Calibration files FAILED |
| 6 | Getting new Images from hardware FAILED |
| 7 | Tracking FAILED |
| 8 | Calibrating |
| 9 | TCP Server Port binding failed |
| 10 | TCP Server exception in Processing Client |
| 11 | TCP Server time out on Imaging |
| 12 | Low res camera needs to be calibrated first |
| 13 | Calibration stopped |
| 14 | Error loading / parsing Configuration |
| 15 | Unable to save Calibration to file |
| 16 | Unable to use name set in Capture/Get command; CaptureDefinition with name were not set |
| 17 | Invalid CaptureDefinition command |
| 18 | Unable to delete Calibration files |
| 19 | Unable to Zero Height |
| 20 | Failed to write or verify audit trail |

*Table 12-6. Error Messages*

## 12.5 TCP Interface

To edit the TCP interface, see Section 5.1 on page 24. The TCP interface operates in two modes:

- QubeVu – A request or response protocol; See the QubeVu Developer Guide for information on using this interface
- Cubiscan – 110/150 Emulates a subset of commands supported by Cubiscan 110/150

### 12.5.1 TCP Interface

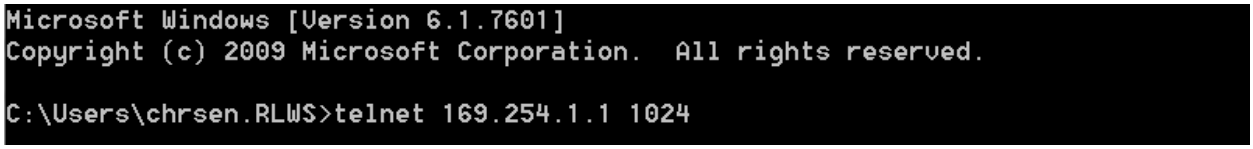


*Figure 12-15. TCP Interface Example 1*

*Figure 12-16. TCP Interface Example 2*

### 12.5.2 TCP Interface Configuration

1. Select **QubeVu** or **Cubiscan 110/150** from the TCP interface drop-down list.
2. Set the TCP port.
3. Select Save to compete the TCP emulation setup.

## 12.6 QubeVu Protocol

| Command | | |
|---|---|---|
| **Description** | **Request** | **Response** |
| Causes the QubeVu to send the dimension and weight data to the client computer | D<CR> | {length} x {width} x {height} {dimUnit} {displayWeight}<CR><LF> |
| Error Handling | | |
| Unit will return following response when dimensions are not available | D<CR> | 0 x 0 x 0 {dimUnit}<CR><LF> |

*Table 12-7. Remote Sensors Parameters*

### 12.6.1 Sample Requests and Responses

1. Dimension Command Request: D<CR>
   Response: 9.75 x 7.25 x 3.50 in<CR><LF>
2. Dimension Command Request: D<CR>
   Response: 0 x 0 x 0 in<CR><LF>
3. Invalid Command Request: M<CR>
   Response: ?<CR><LF>

### 12.6.2 Serial Interface

The serial interface operates in two modes:

- QubeVu – A simple request or response protocol; Refer to the iDimension API Guide (see Section 12.5.1) for detailed information on using this interface
- Cubiscan – 110/150 Emulates a subset of commands supported by Cubiscan 110/150


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## 12.7 Specifications

This section lists dimensioning specifications for both OIML and NTEP certificates. Visit RiceLake.com for complete certificates and specifications.

### 12.7.1 OIML

#### Drop and Clear

***NOTE: With this setting the object is measured on the floor in the field of measurement. The multi-dimensional measuring instrument automatically detects whether operation is Drop and Clear, Stop and Go or In-Motion.***

**Maximum Dimension**

| | |
|---|---|
| Length | max ≤ 360 cm |
| Width | max ≤ 240 cm |
| Height | max ≤ 240 cm |

**Minimum Dimension**

| | |
|---|---|
| Length | min ≥ 20 cm |
| Width | min ≥ 20 cm |
| Height | min ≥ 20 cm |

**Scale Interval d**

| | |
|---|---|
| Length | d ≥ 2 cm |
| Width | d ≥ 2 cm |
| Height | d ≥ 2 cm |

#### Stop and Go

***NOTE: With this setting the object is measured while being lifted by the forklift. The pallet must be lifted with 5 to 30 cm from the floor. The pallet's dimensions are included in the measurement and the multi-dimensional measuring instrument automatically detects whether operation is Drop and Clear, Stop and Go or In-Motion.***

**Maximum Dimension**

| | |
|---|---|
| Length | max ≤ 180 cm |
| Width | max ≤ 180 cm |
| Height | max ≤ 210 cm |

**Minimum Dimension**

| | |
|---|---|
| Length | min ≥ 30 cm |
| Width | min ≥ 30 cm |
| Height | min ≥ 30 cm |

**Scale Interval d**

| | |
|---|---|
| Length | d ≥ 2 cm |
| Width | d ≥ 2 cm |
| Height | d ≥ 2 cm |

**Limitations of Use**

| | |
|---|---|
| All Principles of operation (Stop and Go, Drop and Clear, In-Motion) | Objects with reflective surface |
| Stop and Go | Objects can only be measured correctly when the lowest part of the object or transport material (e.g., pallet) is lower than the forks of the forklift. |
| Minimum spacing between successive objects | Spacing ≥ 35 cm (multiple objects simultaneously in the measurement area) |

### 12.7.2 NTEP

#### Drop and Clear

**4 or 5 Sensors**

**Length**
Min = 6 in (15 cm)
Max = 108 in (274 cm)

**Width**
Min = 6 in (15 cm)
Max = 108 in (274)

**Height**
Min = 6 in (15 cm)
Max = 96 in (244 cm)

**8 Sensors**

**Length**
Min = 6 in (15 cm)
Max = 168 in (427 cm)

**Width**
Min = 6 in (15 cm)
Max = 108 in (274)

**Height**
Min = 6 in (15 cm)
Max = 96 in (244 cm)

#### Stop and Go / In-Motion

**4 Sensors**

**Length**
Min = 12 in (30 cm)
Max = 60 in (152 cm)

**Width**
Min = 12 in (30 cm)
Max = 60 in (152 cm)

**Height**
Min = 12 in (30 cm)
Max = 84 in (213 cm)

**5 or 8 Sensors**

**Length**
Min = 12 in (30 cm)
Max = 84 in (213 cm)

**Width**
Min = 12 in (30 cm)
Max = 84 in (213)

**Height**
Min = 12 in (30 cm)
Max = 84 in (213 cm)

***NOTE: In-Motion operation requires installation of SICK sensors and must use the 5 or 8 Sensor Configuration.***


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