iDimension® PWD

Static Dimensioning System

Managers Guide

RICE LAKE®
WEIGHING SYSTEMS

July 16, 2020

PN 198680 Rev A

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1.0 Introduction

QubeVu® Manager is the program provided to set up and configure the iDimension PWD and is recommended for use by technical system administrators.

When interfacing this device to a third party program, please reference the software manufacturer's documentation for setup and configuration parameters as necessary.

Manuals and additional resources are available from the Rice Lake Weighing Systems website at www.ricelake.com
Warranty information can be found on the website at www.ricelake.com/warranties

1.1 Additional Resources

For additional resources, see the following information:

iDimension PWD Assembly Instructions

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

iDimension PWD Operation Manual

The iDimension PWD Operation Manual (PN 198811) provides an overview on how to operate the iDimension PWD.

iDimension PWD Setup Manual

The iDimension PWD Setup Manual (PN 199543) provides an overview on how to setup QubeVu Manager for the iDimension PWD.

880 Performance™ Series Controller and Indicator Technical Manual

The 880 Performance Series Controller and Indicator Technical Manual (PN 158387) provides a detailed overview of the 880 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.

1.2 Regulatory Information

This product is a Class 1 Laser Product according to IEC 60825-1:2007 Ed. 2.0 and complies with 21 CFR 1040.1 pursuant to Laser Notice No. 50. A laser source with a diffraction optical element is embedded in the product, which produces a maximum output power of 1.1 mW at the aperture with a maximum wavelength of 825 nm.

FCC

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense. Changes or modifications not expressly approved by Postea, Inc. could void the user's FCC granted authority to operate the equipment.

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2.0 QubeVu Manager

This section provides an overview of QubeVu Manager information.

QubeVu Manager is the program installed on the iDimension PWD which provides more advanced configuration or features, system diagnostics and calibration not accessible from the touch screen operator display.

To access QubeVu Manager, connect the iDimension PWD via ethernet to a computer then open a web browser and enter: http://192.168.0.2.

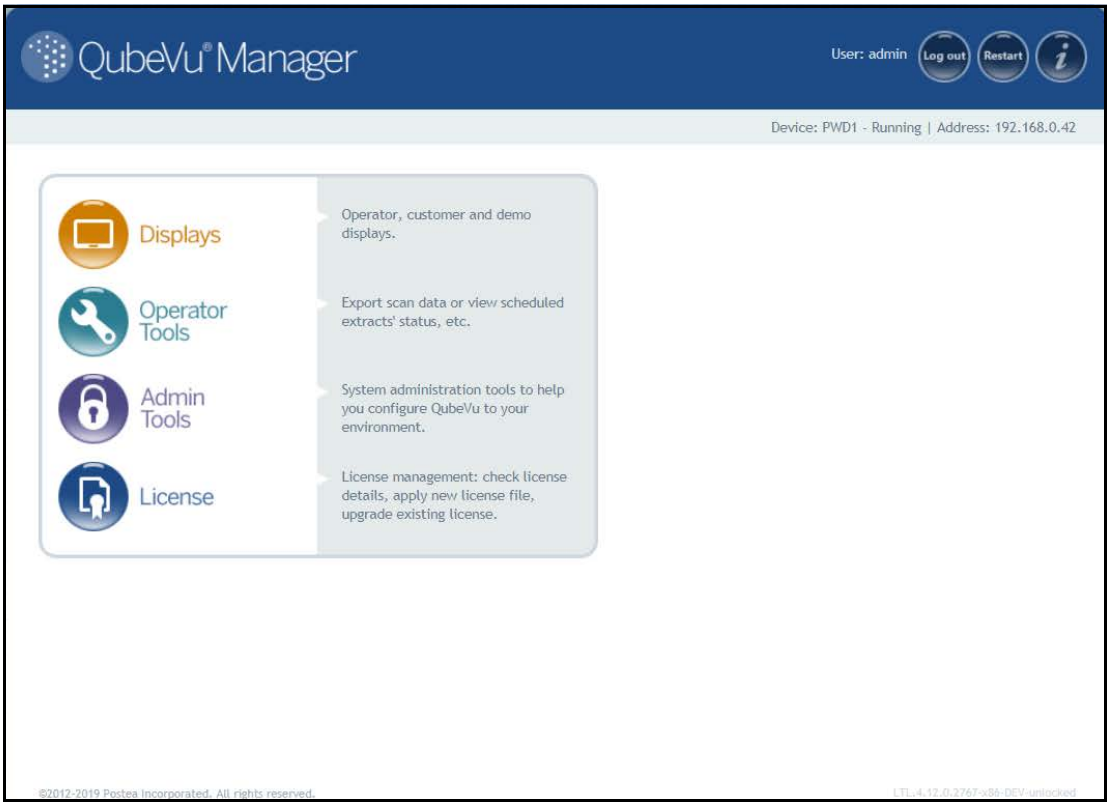

Figure 2-1. QubeVu Manager Home Page

Parameter	Description
Displays	Display information (Section 3.0 on page 10)
Operator Tools	Operator tools information (Section 4.0 on page 14)
Admin Tools	Admin tools instructions (Section 5.0 on page 16)
License	License information (Section 12.0 on page 62)

Table 2-1. QubeVu Manager Home Page Navigation

2.1 Navigation

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

Example: The user is in the Calibration Settings screen and can select Admin Tools to return to the Admin Tools menu or Qubevu Manager to return to the home page.

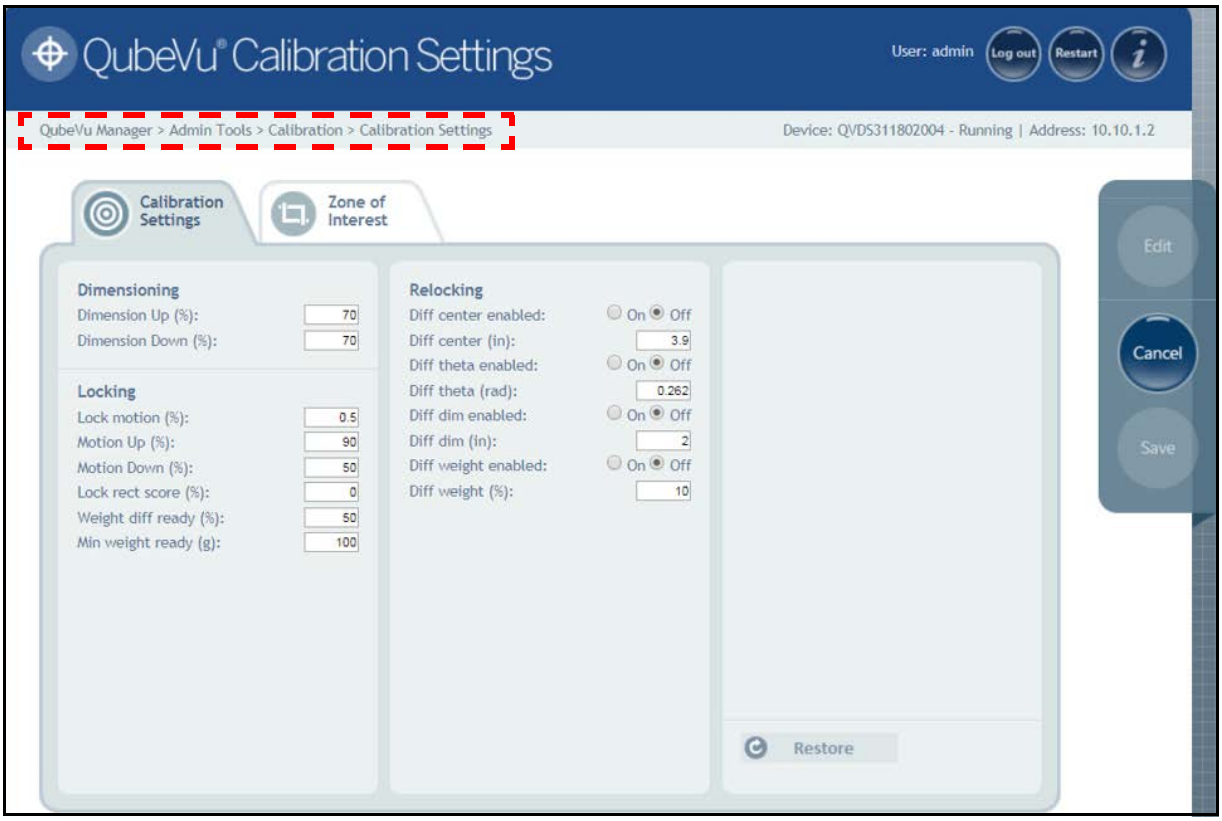

Figure 2-2. Menu Navigation

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2.2 Edit/Cancel/Save Keys

Within various menus, there are three active keys: Edit, Cancel and Save.

Figure 2-3. Edit, Cancel and Save Keys

Edit

Press Edit to enable settings within the general setting mode and calibration menu settings to be changed.

After changing the settings, press Save to continue.

Cancel

Press Cancel to cancel all edits made to all tabs, unless saved.

Save

Press Save to save all changes made during the edit process within the page and a sub menu tab. Upon save, the unit may restart and return to the home screen.

2.3 System Status

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

Example:

User: Logged into the device under the Admin mode. Press Log out *to return to the standard user mode.*

Device: The default setting is the serial number of the iDimension device. This can be renamed within the Network Settings while in the Admin mode.

Running: The current status of the unit.

Address: 10.10.1.2: The Current IP address of the unit.

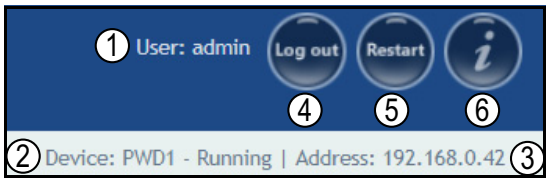

Figure 2-4. Status Display

Item No.	Description
1	User
2	Device and System Status (Section 2.3.1)
3	IP Address
4	Log Out (Log In is located here if not signed in)
5	Restart (Section 2.3.2 on page 6)
6	QubeVu Inspector (Section 2.4 on page 6)

Table 2-2. Status Indicators

If edit has been selected while in a screen, the unit may stay in the ***Configuring*** status and a restart is required to return to the ***Running*** 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; If the device remains in STARTING mode, use the demo display or USB display **Help** button to view and clear dimensions
ERROR	The web browser is unable to determine the status; ERROR may display during a system reboot
STOPPING	The system is transitioning into 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
RESTARTING	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, and Edit condition has been activated to change configuring settings; If the settings are saved, the device should return to the RUNNING mode; If a save function has not been performed properly and the device is in the configuring mode, perform a restart
RUNNING	System is in operational state

Table 2-3. Status Messages

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2.3.2 Restart Device Information

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

- Press Restart to restart the service currently running on the device
- Press Reboot to reboot the operating system. Rebooting the unit takes several minutes and power cycles the unit
- Press Cancel to go to the previous menu

Figure 2-5. Restart/Reboot Prompt

2.4 QubeVu Inspector

QubeVu Inspector allows users to view information regarding the device, changes made to settings and long term storage data. It is not necessary to log in to view the information available on the ***QubeVu Inspector*** tab.

Use the following steps to access ***QubeVu Inspector*** tab:

1. Press to access device information. The ***Device Information*** tab displays specific information about the device.

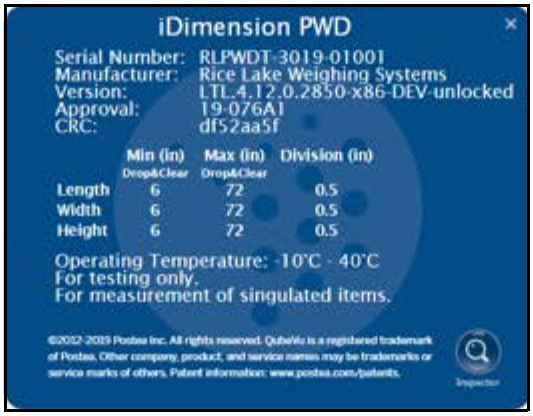

Figure 2-6. QubeVu Information Window

2. Select . The ***QubeVu Inspector*** menu displays (Section 2.4.1 on page 7).

2.4.1 Device Information Tab

The ***Device Information*** tab provides access to view the serial number and firmware version number.

Figure 2-7. Device Information Tab

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2.4.2 Change Log Tab

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

- To view using a date range – enter a ***Start*** and ***End*** date then press 

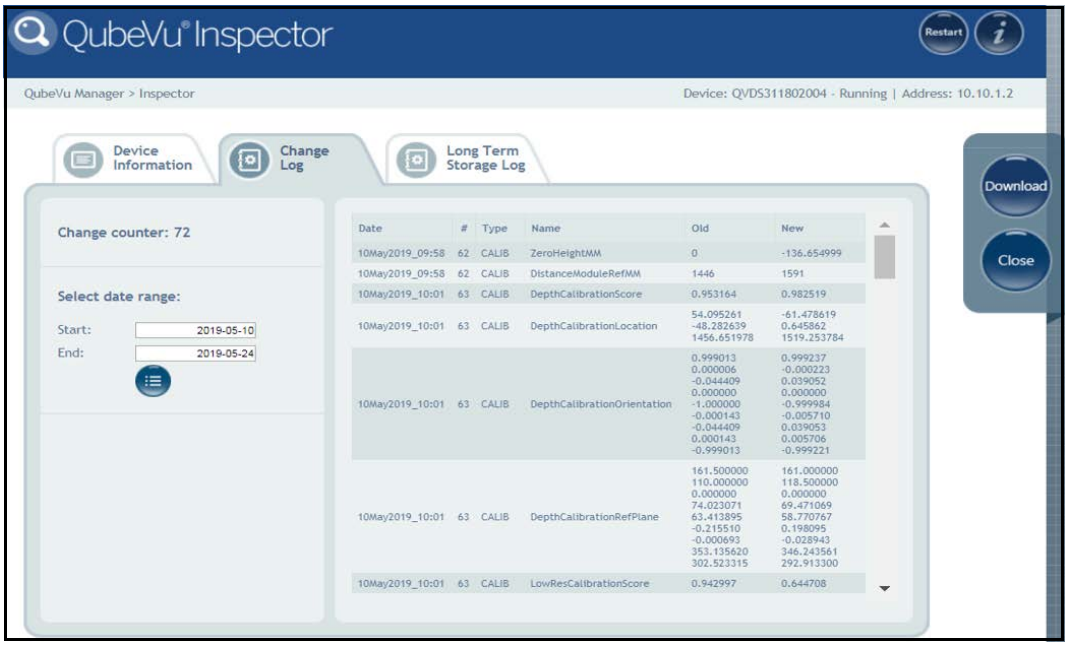

Figure 2-8. Change Log Tab

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

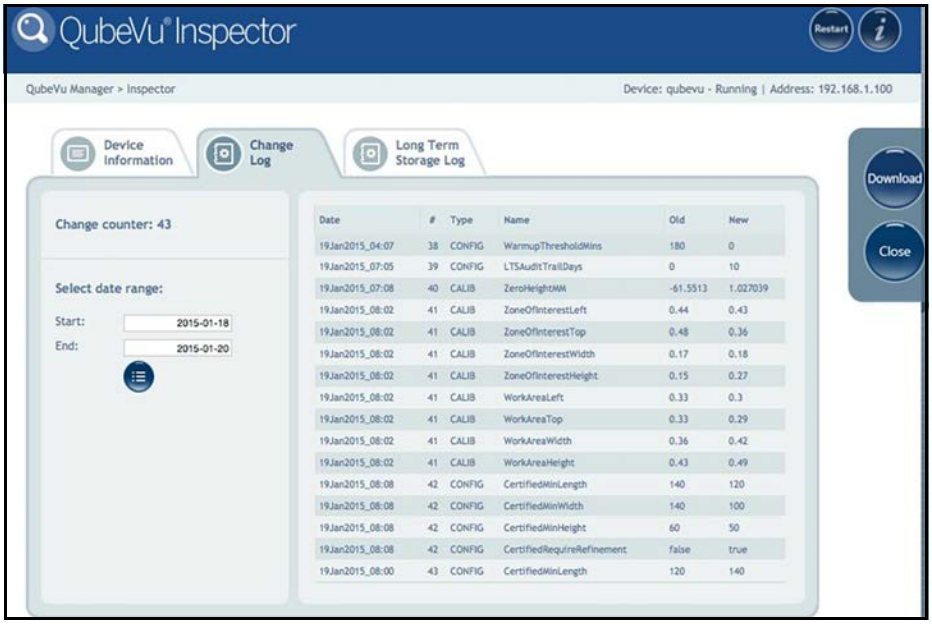

Figure 2-9. Change Log Tab (Continued)

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

2.4.3 Long Term Storage Log Tab

The ***Long Term Storage*** tab is necessary to satisfy particular Legal-for-Trade requirements in certain jurisdictions. The measurement data stored in the ***Long Term Storage Log*** contains all relevant information necessary to reconstruct an earlier measurement. The stored data is protected against accidental, unintentional and intentional changes and can be authentically traced back to the measurement which generated them.

Enable Long Term Storage

Long term storage is enabled from the ***General Settings*** menu (Section 6.1.2 on page 22).

View Long Term Storage Data

Long term storage data is viewed from the ***Long Term Storage Log***. The log is queried by specifying a ***Start*** and ***End*** scan ID.

Note

The total number of entries is displayed along with the first and last scan IDs.

This information is highlighted within Figure 2-10.

- Enter a scan ID range and press  to search for a specific log

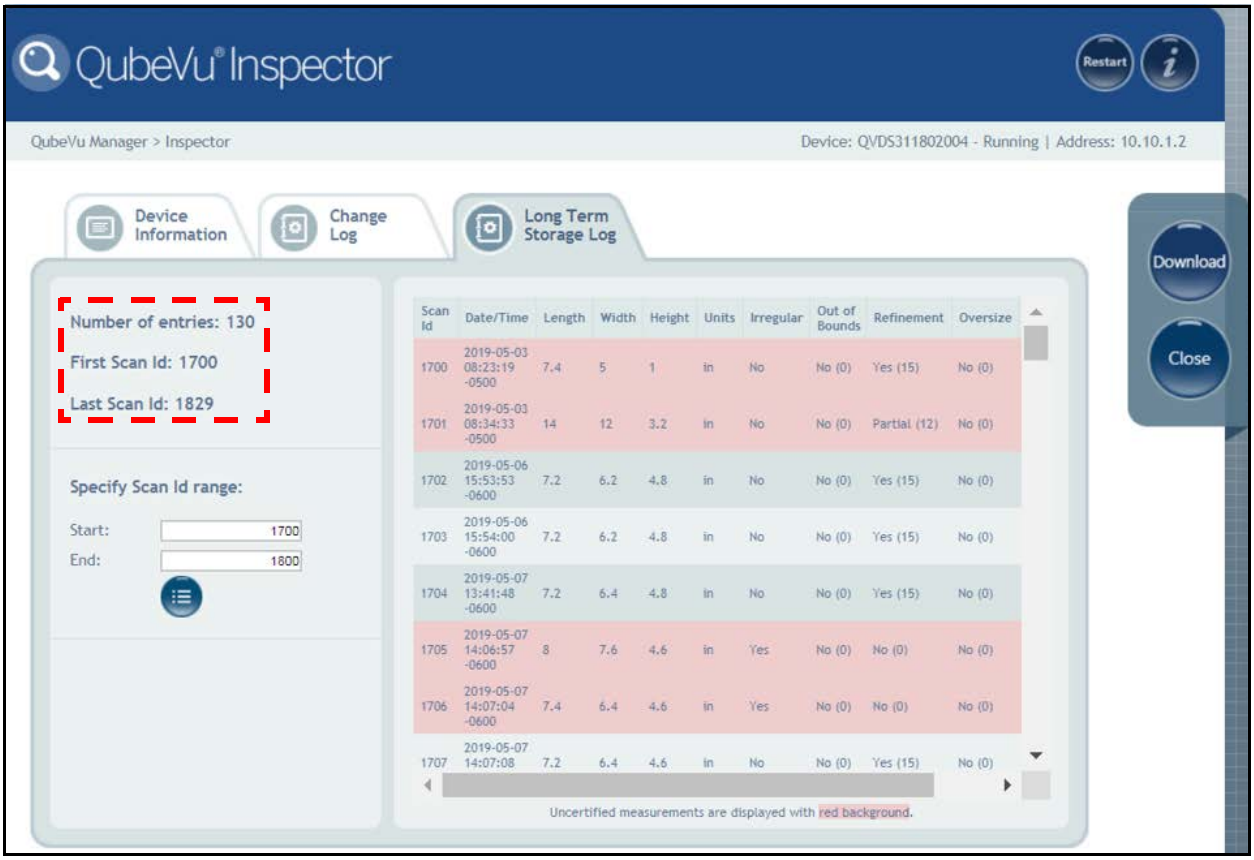

Figure 2-10. Long Term Storage Log Tab

- Use the arrow keys on the PC keyboard to scroll through the results
- Press  to export the log to a .cvs file

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3.0 Display

This section provides an overview of iDimension PWD ***Display Pages*** menu instructions.

QubeVu Manager provides three displays that can be used in case the application does not have access to the USB touchscreen operator display.

To enter the ***Display Pages*** menu use the following procedure:

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

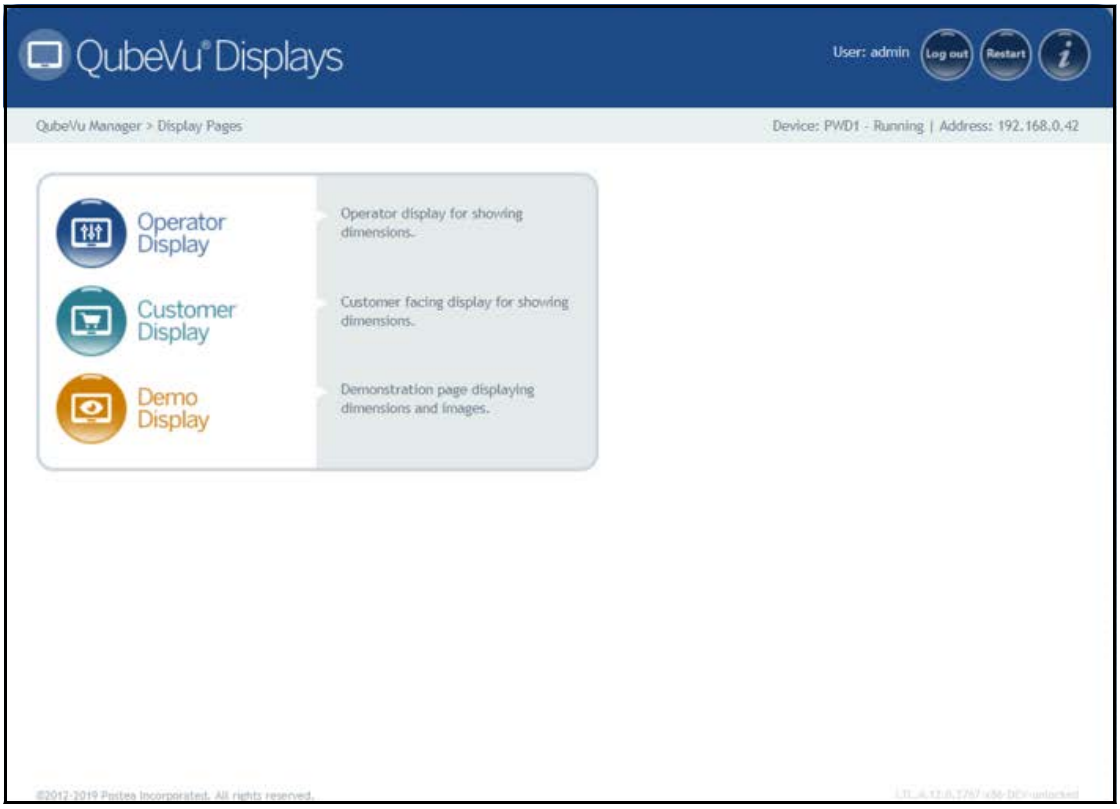

Figure 3-1. Displays Menu

Parameter	Description
Operator Display	Operator display information (Section 3.2 on page 12)
Customer Display	Customer display information (Section 3.3 on page 12)
Demo Display	Demo display information (Section 3.4 on page 13)

Table 3-1. QubeVu Manager Home Page Navigation

3.1 Touch Screen Display

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

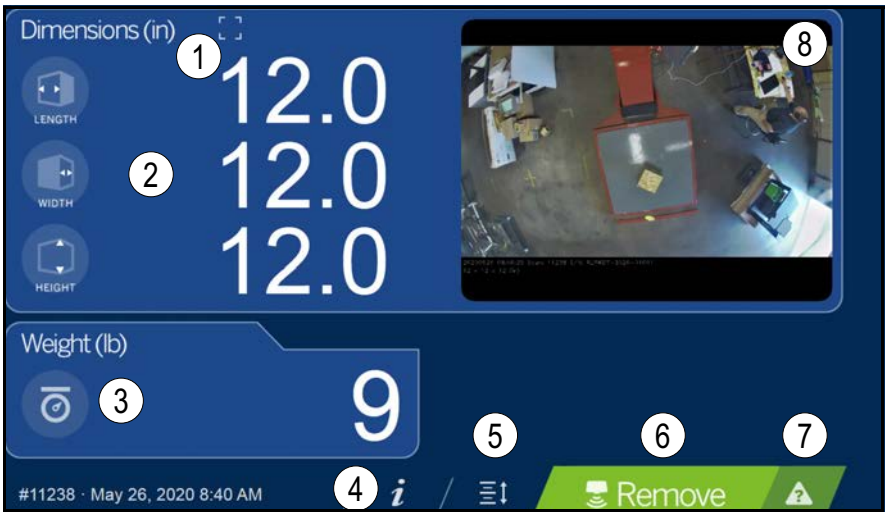

Figure 3-2. Touchscreen Display

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

Item No.	Function	Function
1	Out of Bounds Indication	For out of bounds indications, see Section 3.1.1
2	Displayed Dimensions	Displayed Dimensions
3	Weight Display	The weight display is used to indicate to weight of the item at the time of the item at the time of the dimensions were captured; Use the 880 Indicator weight display to view live weight data, including negative weight
4	Information Button	Provides access to configuration menu to set-up of time and date, display configured IP address and firmware updates via USB thumb drive
5	Zero Height Key	Not applicable to this application
6	Scan Button	Trigger the iDimension PWD to dimension
7	Help Key	Displays the Issue Review menu; Provides real time feedback to the operator of the unit; Provides step by step instructions on how to clear conditions such as started, stopped, wait or remove condition with no object in the scan area
8	Live Image	The weigh area provides a real-time view of the scanning area from the scanning head onto the USB display

Table 3-2. Key Functions

3.1.1 Customer Display Icon – Out of Bounds Indications

Out of bounds indication provide a visual indication if the placement of the pallet or box is within a 72"x 72" work area. Figure 3-3 indicates the pallet is out of bounds on the left edge, when facing the scale:

Figure 3-3. Out of Bounds Indication – Left

The following out of bounds flags found in the engineering app: {IPaddress/tools/engapp.php}, the “IPaddress/status” or “IPaddress/statusex” web pages:

Left – OOB = 1
Front – OOB = 8
Right – OOB = 2
Rear – OOB = 4

Note ***Out of bounds flags are used in combination with “Ref” designation during configuration for the Remote Sensors. If the OOB indications do not reflect accurately, please review the IP camera reference settings.***

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3.2 Operator Display

The ***Operator Display*** menu simulates the configuration of the Touch Screen USB display. The ***Operator Display*** menu can be configured using the Admin/Setup Menu/Displays administrative function.

- Press Operator Display from the ***Display Pages*** menu (Figure 3-1 on page 10) to enter the ***Operator Display*** menu.

Figure 3-4. Operator Display

Note ***See Section 3.1 on page 11 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 any operator controls. The ***Customer Display*** menu can be configured using the Admin/Setup Menu/Displays administrative function.

- Press Customer Display from the ***Display Pages*** menu (Figure 3-1 on page 10) to enter the ***Customer Display*** menu

Figure 3-5. Customer Display

3.4 Demo Display

The ***Demo Display*** menu is intended for use during demonstrations and testing the effects of configuration changes.

The ***Demo Display*** menu can be used to help the Rice Lake Weighing Systems technical support team in troubleshooting.

- Press Demo Display from the ***Display Pages*** menu (Figure 3-1 on page 10) to enter the ***Demo Display*** menu

Press Scan to manually trigger a dimension.

Figure 3-6. Demo Display

Status messages are displayed within display screen menus. Messages displayed on screen are not error messages. See Section 13.4 on page 70 for displayed status, extended status and error status messages.

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4.0 Operator Tools

This section provides an overview of iDimension PWD ***Operator Tools*** menu instructions.

To enter the ***Operator Tools*** menu use the following procedure:

- Press Operator Tools from the ***QubeVu Manager*** menu (Figure 2-1 on page 2) to enter the ***Operator Tools*** menu

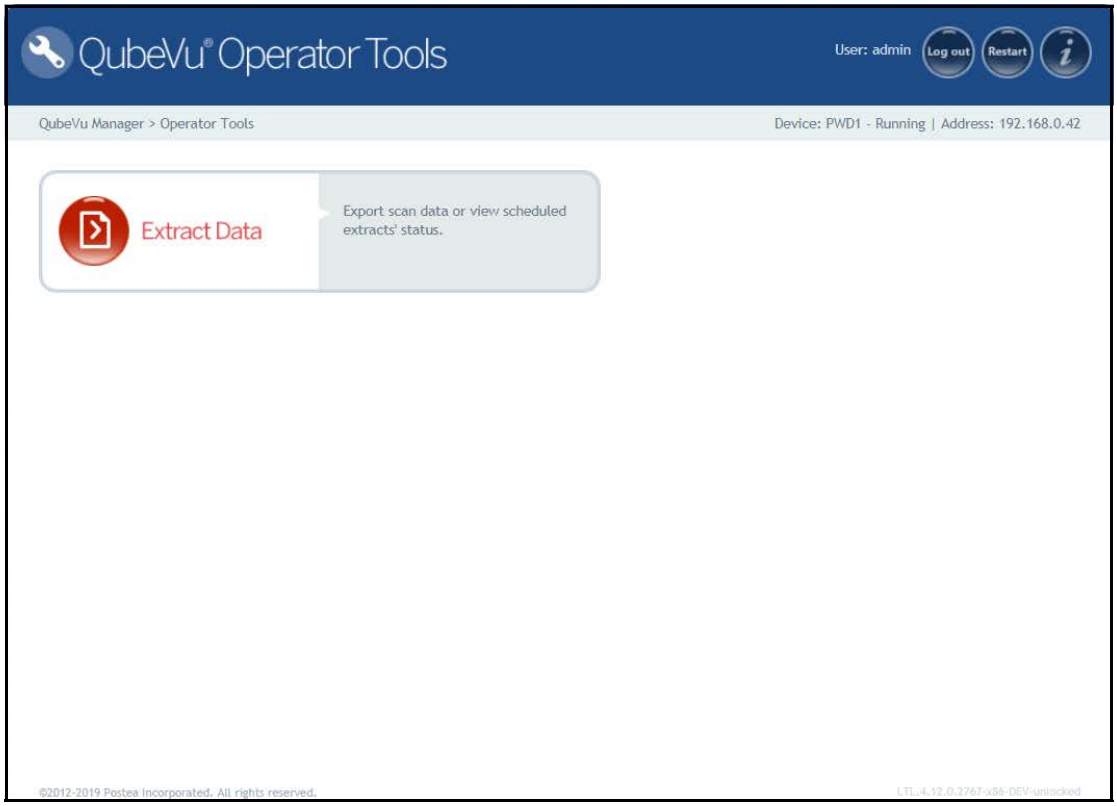

Figure 4-1. Operator Tools Menu

4.1 Extract Data

Extract Data allows the user to view the status of the scheduled scan data extract and perform a manual export of scan data. See Section 6.1.2 on page 22 for detailed information on configuring a scan data extract.

1. Press Extract Data from the ***Operator Tools*** menu (Figure 4-1 on page 14) to enter the ***Extract Data*** menu.
   - The ***Extract Data*** menu displays the status of both the scheduled extract and the manual extract
2. Press Start to perform a manual extract.

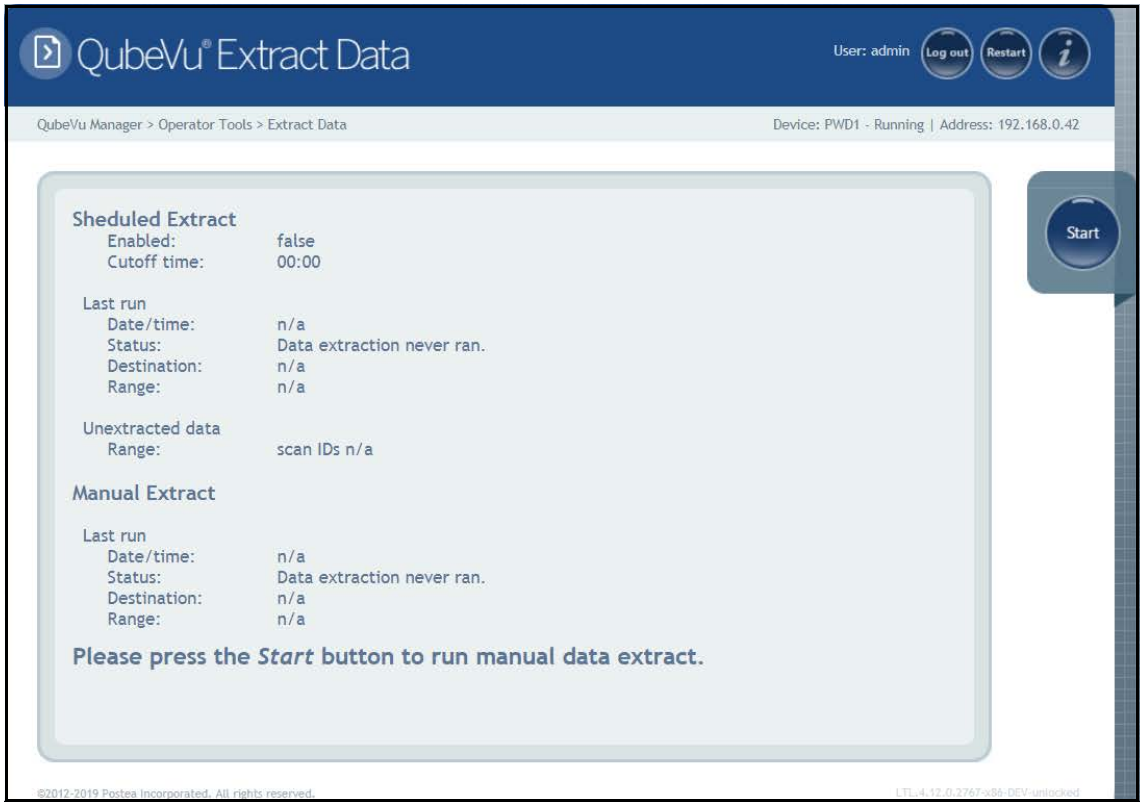

Figure 4-2. Extract Data

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5.0 Admin Tools

This section provides an overview of iDimension PWD ***Admin Tools*** menu instructions.

The ***Admin Tools*** menu is used for configuring, calibrating, defining, upgrading, backing up and running diagnostics on the system. To enter the ***Admin Tools*** menu use the following procedure:

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

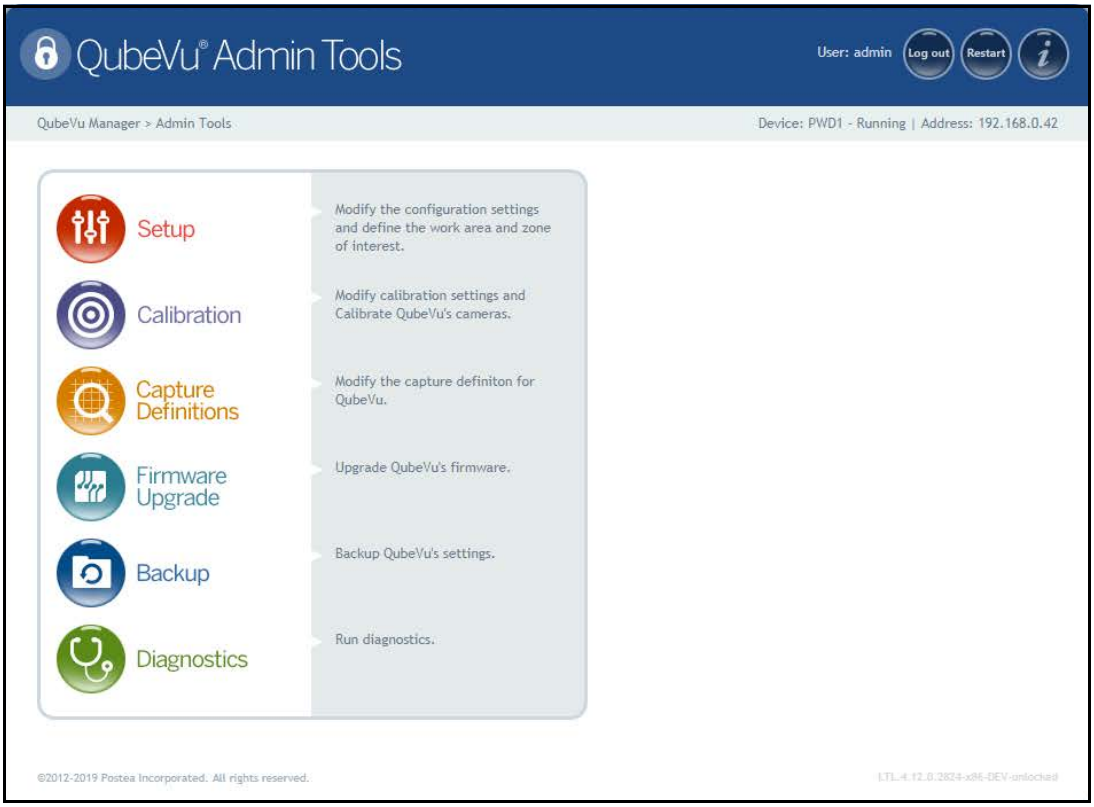

Figure 5-1. Admin Tools Menu

Parameter	Description
Setup	General (optional and scale), time and date, data extraction and long term storage, measurement, network settings (Section 7.0 on page 38)
Calibration	Calibration settings, define work area and calibrate cameras (Section 7.0 on page 38)
Capture Definitions	Capture definitions for QubeVu (Section 8.0 on page 48)
Firmware Upgrade	Update firmware (Section 9.0 on page 50)
Backup	Backup and restore settings (Section 10.0 on page 53)
Diagnostics	Diagnostics settings (Section 11.0 on page 55)

Table 5-1. Admin Tools Navigation

6.0 Setup

This section provides an overview of iDimension PWD ***Setup*** menu instructions.

To enter the ***Setup*** menu use the following procedure:

1. Press Admin Tools from the ***QubeVu Manager*** menu (Figure 2-1 on page 2) to enter the ***Admin Tools*** menu.
2. The QubeVu Manager login screen displays. The default username and password are **admin** and **password**.
3. Press Setup from the ***Admin Tools*** menu (Figure 5-1 on page 16) to enter the ***Setup*** menu.

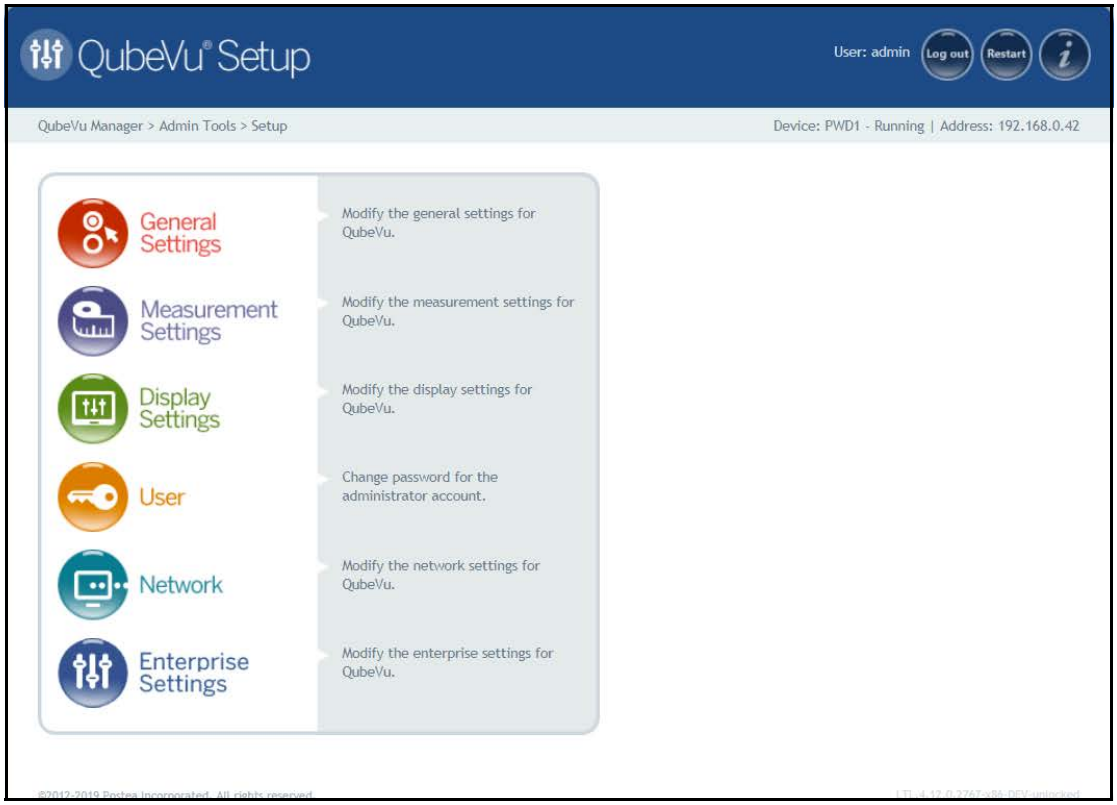

Figure 6-1. Setup Menu

Parameter	Description
General Settings	Modify the general settings for QubeVu (Section 6.1 on page 18)
Measurement Settings	Modify the measurement settings for QubeVu (Section 6.2 on page 27)
Display Settings	Modify the display settings for QubeVu (Section 6.3 on page 33)
User	Change password for the administrator account (Section 6.4 on page 35)
Network	Modify the network settings for QubeVu (Section 6.5 on page 36)
Enterprise Settings	For future use

Table 6-1. Setup Navigation

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6.1 General Settings

General setting provides access to configuring the operation of the unit, configure the scale and other external interface methods for retrieving data. Allows a user to modify settings in the parameters menus.

To enter the ***General Settings*** menu use the following procedure:

- Press General Settings from the ***Setup*** menu (Figure 6-1 on page 17) to enter the ***General Settings*** menu

For ***General Settings*** menu navigation, see the following information:

Parameter	Description
General Settings	General settings (Section 6.1.1)
Data Extraction	Date extraction settings (Section 6.1.2 on page 22)
Date/Time	Date and time settings (Section 6.1.3 on page 24)
External Cameras	External cameras settings (Section 6.1.4 on page 25)

Table 6-2. General Settings Navigation

6.1.1 General Settings Tab

The ***General Settings*** tab allows dimensioning settings to be customized and changed (Table 6-3 on page 19):

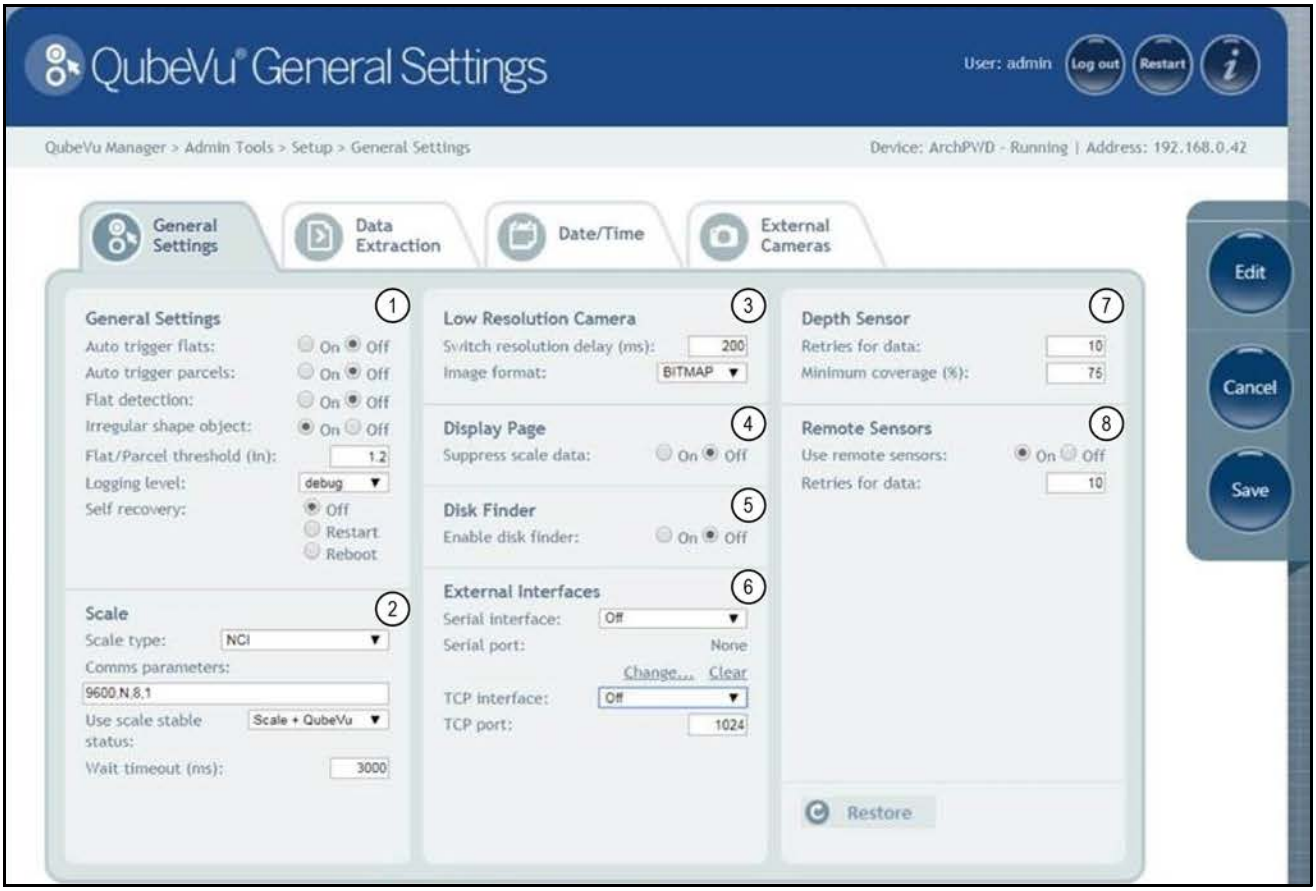

Figure 6-2. General Settings Tab

Item No.	Parameter	Description
1	General Settings	Auto Trigger Flats – Not applicable for this application, do not modify Default: **Off** Selections: On, Off
		Auto Trigger Parcels – Not applicable for this application, do not modify Default: **Off** Selections: On, Off
		Flat Detection – Not applicable for this application, do not modify Default: **Off** Selections: On, Off
		Irregular Shape Object – Do not modify Default: **On** Selections: On, Off
		Flat/Parcel Threshold (in) – Not applicable for this application, do not modify Default: **1.2**
		Logging Level – Changing to error or debug will increase the amount of engineering and performance information stored in the diagnostics and log files shown in "ipaddress/log" command Default: **debug**
		Self Recovery – Determines the recovery option of the unit: Default: **Off** Selections: Off, Restart, Reboot Off – System will not perform a self recovery Restart – If the system has determined a critical error state, the unit will perform a restart of the software and returns the system to normal mode; If an object is under the device during a reboot, Wait will be displayed on the USB display Reboot – If the system has determined a critical error state, the unit will perform a reboot, an automatic power cycle that clears the error and returns the system to normal mode; If an object is under the device during a reboot; The USB display cycles power and return to normal operating mode
2	Scale	Scale Type – The 880 indicator includes a custom NCI protocol setting to communicate with the PWD Application setting required: **NCI**
		Communication Parameters USB/RS-232 – The 880 indicator is configured for the following data: Application setting required: 9600,N,8,1 Baud rate: 9600 Parity: **N**one Start bits: 8 Stop bit: 1
		Use Scale Stable Status – Do not modify Determines when the iDimension locks the displayed weight and dimensions on the touchscreen display; Dimensions are locked and the remove state is displayed using both the scale stable reading and iDimension filter: Default: **Scale+QubeVu** Selections: Scale+QubeVu, QubeVu, Scale Scale+QubeVu – This is the default factory setting and is recommended for use QubeVu – Not recommended for use, using this feature may provide incorrect weight on the display; Dimensions are locked and remove is displayed without checking if the scale is stable Scale – Dimensions are locked and remove is displayed when the scale has returned a state
		Wait Timeout – Do not modify The time in milliseconds the dimensions will wait for the scale to return a stable weight; System will timeout and not return to the remove state; Increase this settings if the scale is in an unstable environment Default: **3000**
3	Low Resolution Camera	Switch Resolution Delay (ms) – Do not modify unless instructed by Rice Lake Weighing Systems dimensioning support Default: **200**
		Image Format – Defines the image format used in QV/status Default: **BITMAP** (**.BMP**) Selections: BITMAP (.BMP), .JPEG

Table 6-3. Measurement Settings Parameters

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Item No.	Parameter	Description
4	Display Page	Suppress Scale Data – Suppresses the display of scale data (weight) on all displays, even if the scale is attached Default: **Off** Selections: On, Off
5	Disk Finder	Enable Disk Finder – Not applicable for this application, do not modify; Default: **Off** Selections: On, Off
6	External Interfaces	Serial Interface – For use when capturing data from RS-232/Serial Converter when connected to the PC; For detailed information on using these interfaces refer to the iDimension API Guide (Section 13.7.1 on page 75 for details on configuration of TCP Interface) Default: **Off** Selections: Off, QubeVu, Cubiscan 100/110
		Serial Port – Set-up a RS-232/USB converter for interface to the PC
		TCP Interface – For use when using the TCP command/response format when attached to the network Default: **Off** Selections: Off, QubeVu, Cubiscan 100/110
7	Depth Sensor	Retries for Data – Do not modify unless instructed by Rice Lake Weighing Systems dimensioning support The maximum number of instances each sensor will attempt to capture data before error occurs Default: **10**
		Minimum Coverage – Do not modify unless instructed by Rice Lake Weighing Systems dimensioning support The minimum number of pixels each sensor requires before an error occurs; Values are shown in the debug logging level: www.ipaddess/log Default: **75**
8	Remote Sensors	Use Remote Sensors – Do not modify Default: **On** Selections: On, Off
		Retries for Data – Do not modify unless instructed by Rice Lake Weighing Systems dimensioning support The maximum number of instances each sensor will attempt to capture data before error occur Default: **10**

Table 6-3. Measurement Settings Parameters (Continued)

Configuring Serial-USB Adapter

1. Select QubeVu or Cubiscan 110/150 from the serial interface drop-down list (Item 6 in Figure 6-2 on page 18).

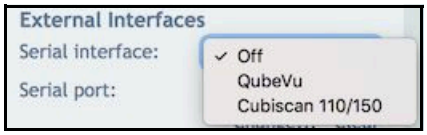

Figure 6-3. Adapter Select

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

Figure 6-4. Cable Scan

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

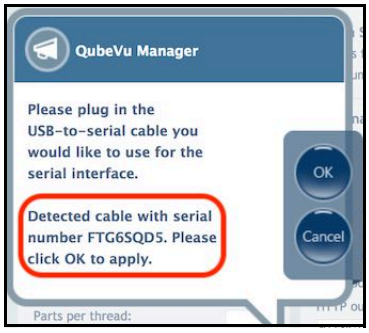

Figure 6-5. Cable Detected

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 pressing the **Change…** dialog.

Figure 6-6. Serial Port Status

Serial Port Status	Description
Unused	Newly plugged in cable, not yet in use
Disconnected	Cable is saved in configuration but it is not plugged in physically
Listening	The cable is plugged in operating
Binding	Cable is plugged in and initializing
Failed	An error condition occurred; To get the details of the error, hover over the cable status indicator text and an info bubble with an extended error message will appear

Table 6-4. Serial Port Statuses

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6.1.2 Data Extraction Tab

The ***Data Extraction*** tab stores the results of all successful scans in non-volatile memory for a configured period of time. The information stored includes data available in long term storage. See Section 13.8.1 on page 75 for sample file and configuration examples.

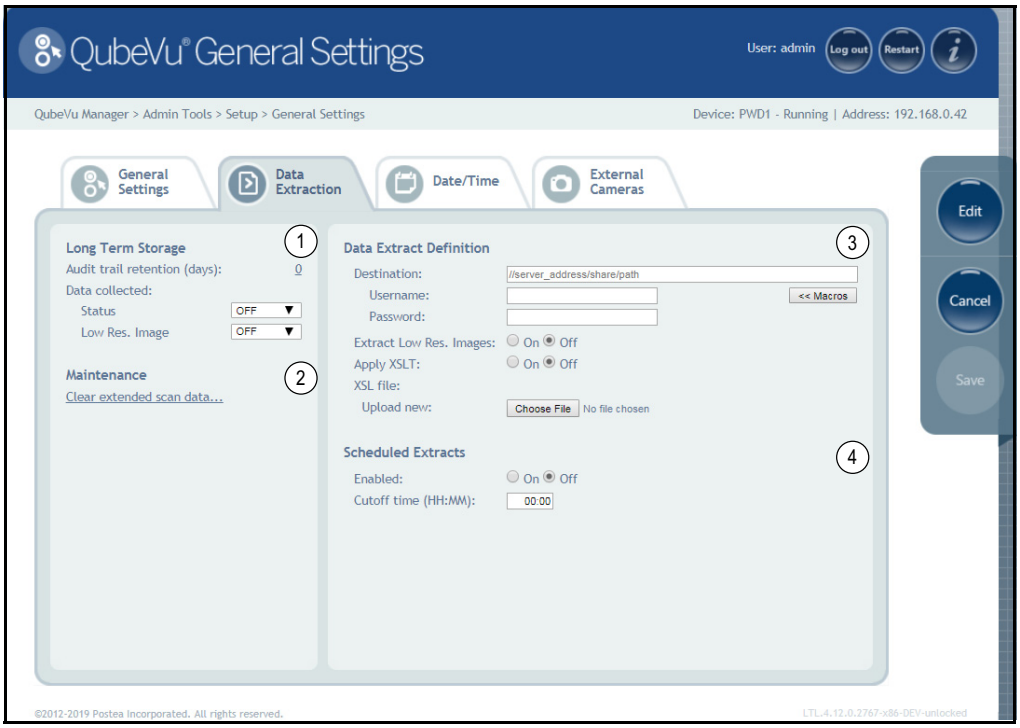

Figure 6-7. Data Extraction Tab

Item No.	Parameter	Description
1	Long Term Storage	Audit trail retention (days) – Specifies the number of days captured data is retained in long term storage Default: **0**
		Data Collected: Status – Determines if the status xml is included in the stored data Default: **Off** Selections: On, Off, Critical
		Data Collected: Low Resolution Image – Determines if the low-resolution is included in the stored data; If set to critical, scanning operation is prevented if no storage space is available Default: **Off** Selections: On, Off
2	Maintenance	Clear Extended Scan Data – Deletes low res images and status when data collected is configured are critical or status
3	Data Extraction Definition	Destination – UNC path which the extract file is saved to; User name and password fields are required; **Test Connection** tests the specified location for access; Contact your local IT support staff for assistance
		Macros – Use the following to specify variables for a destination path: % DATETIME% – Date and time the extract was created (yyyymmddHHMMSS) % HOSTNAME% – Host name % SERIALNO% – Serial number % IPADDRESS% – IP address % CUTOFFDATE% – Scheduled date of the extract % STARTCAPTUREID% – Start capture ID of the extract % ENDCAPTUREID% – End capture ID of the extract
		Username and Password – Credentials required to access the specified UNC destination; User must have read/write permissions
		Test Connection – Verifies the destination is accessible; Contact the local IT support staff for assistance
		Extract Low Res Images – Determines if the low resolution images are included in the extracted data Default: **Off** Selections: On or Off
		Apply XSLT – XSL can be used to transform the XML document to another required format, including .csv format with computed fields and file level summaries; The XML document contains all status.xml results for a day between cutoffs; An XSLT file can be uploaded using the **Browse** button; SDK for XSL transformation samples and a test tool Default: **Off** Selections: On or Off
4	Scheduled	Enabled – Determines if ***Data Extract*** is enabled Default: **Off** Selections: On or Off
		Cutoff time (HH:MM) – Specifies the time of day in hours and minutes, after which the daily extract runs

Table 6-5. Data Extraction Parameters

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6.1.3 Date/Time Tab

The ***Date/Time*** tab is used to change date and time settings. The date and time are used to time stamp configuration changes which affect the Legal-for-Trade certification.

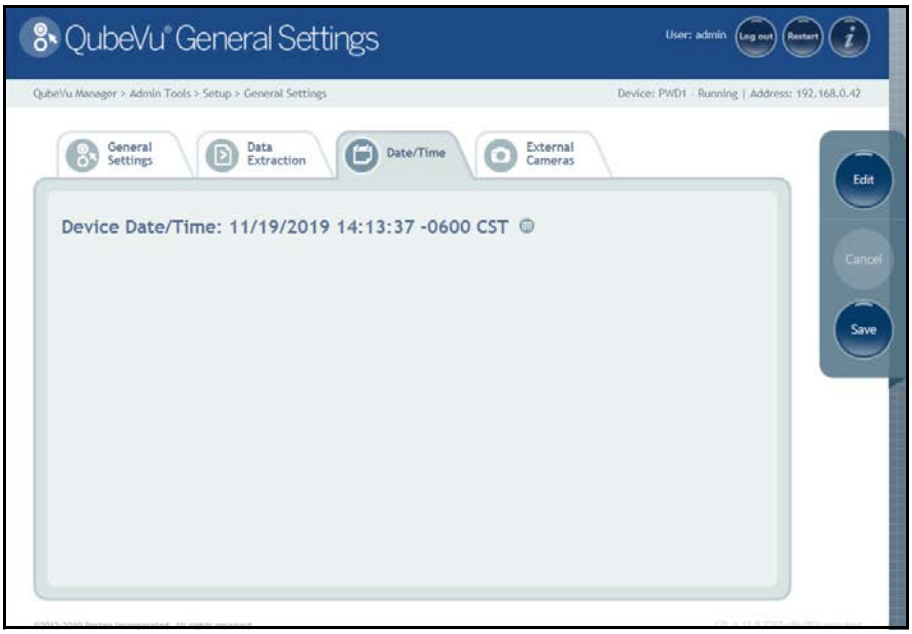

Figure 6-8. Date and Time Tab

1. Press  to change the date and time settings of the unit.

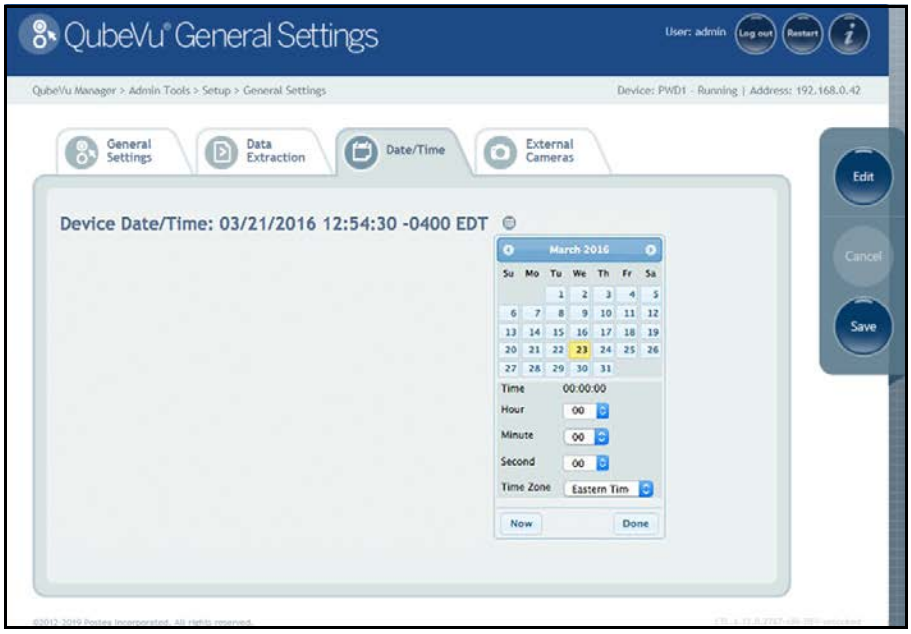

Figure 6-9. Date and Time Tab

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

6.1.4 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 to configure. The default static IP address of the camera is 192.168.0.90.
See Section 13.2 on page 65 for instructions on using the Axis IP utility program. The utility program is found on the installation thumb drive, located within the kiosk.

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

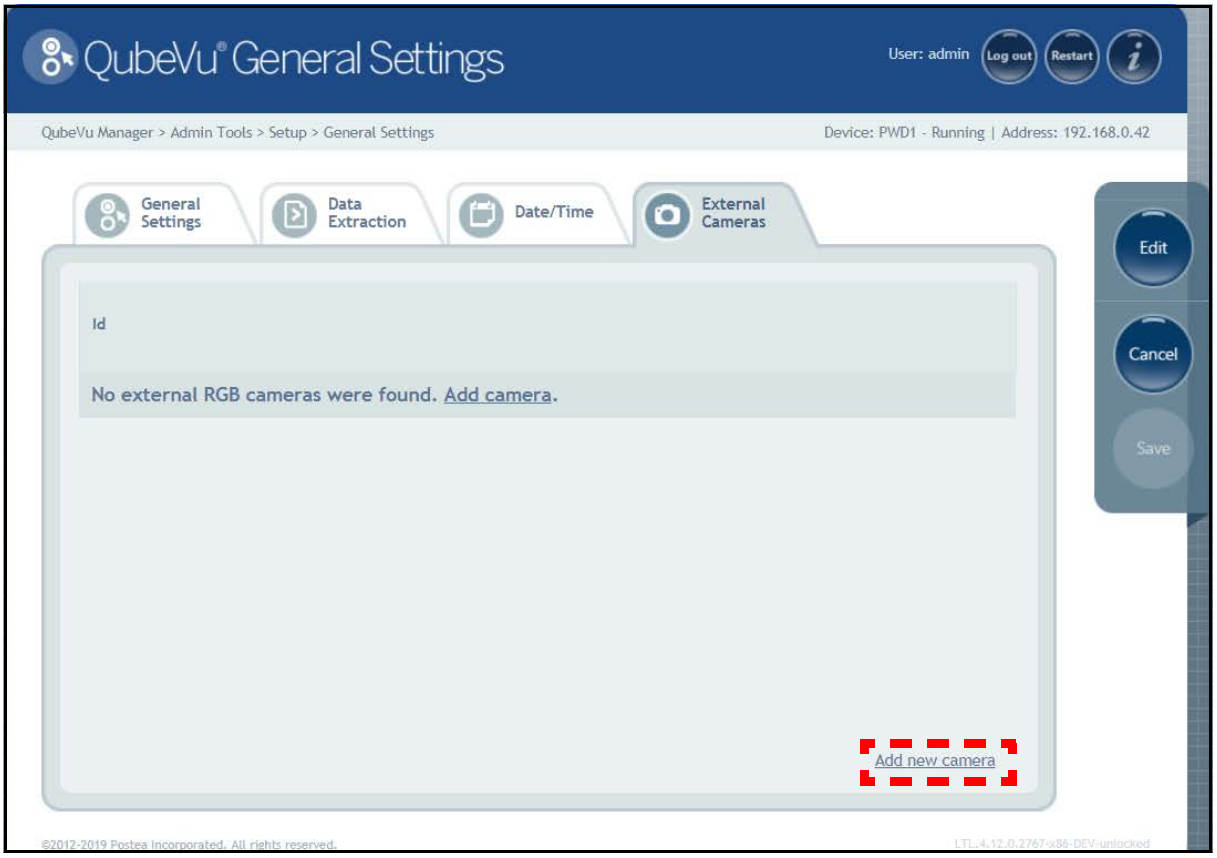

Figure 6-10. External Camera Tab

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2. Enter the information:
   a. IP address = 192.168.0.90 (camera default)
   b. Username = root
   c. Password, entered twice = password
   d. ImageUrl = /axis-cgi/jpg/image.cgi
   e. Select Save to continue

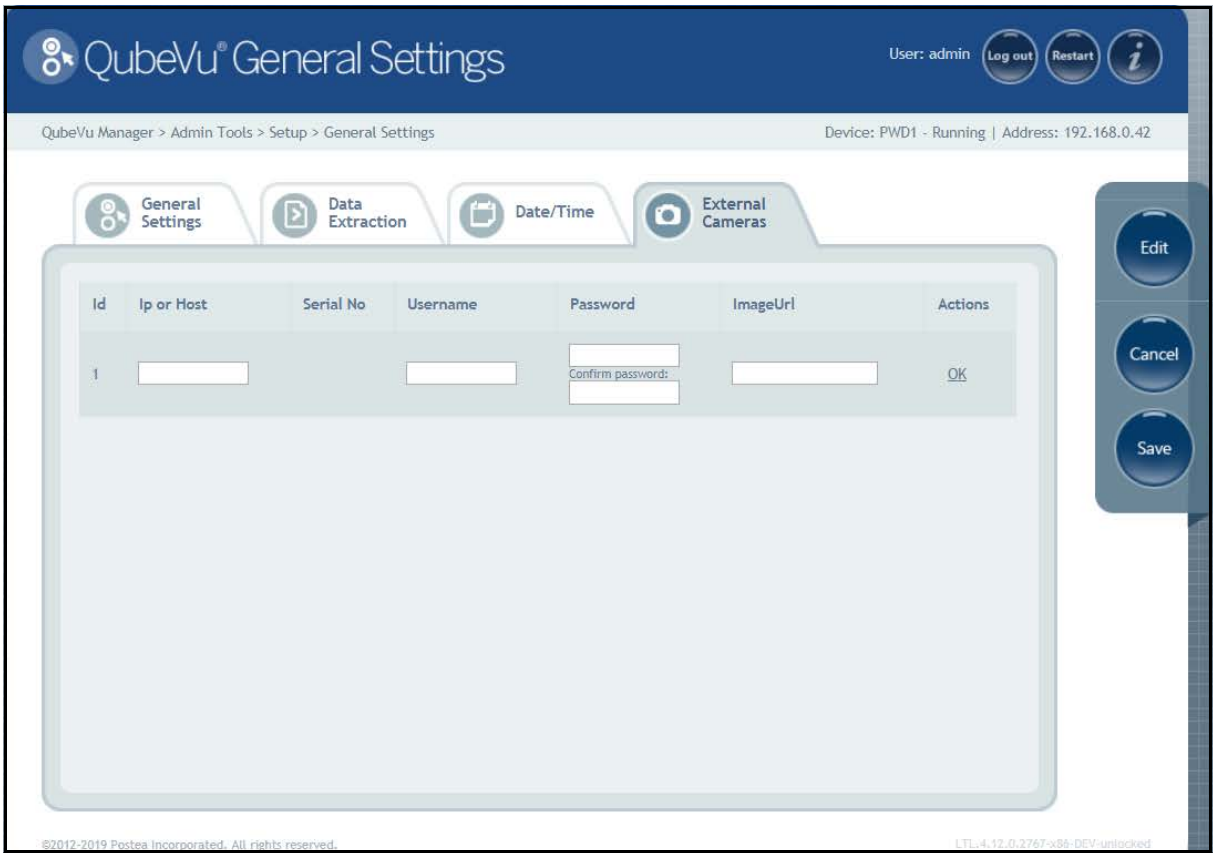

Figure 6-11. External Cameras Tab Camera Information

3. The QubeVu Manager restarts and returns to the Home page. Return to the external cameras tab and press **Test**.
4. Select OK.

Figure 6-12. External Camera

6.2 Measurement Settings

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

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

To enter the ***General Settings*** menu use the following procedure:

- Press Measurement Settings from the ***Setup*** menu (Figure 6-1 on page 17) to enter the ***Measurement Settings*** menu.

For Measurement Settings menu navigation, see the following information:

Parameter	Description
Measurement Settings	Measurement settings (Section 6.2.1)
Remote Sensors	Remote sensor settings (Section 6.2.2 on page 30)
Certification Settings	Certification settings (Section 6.2.3 on page 32)

Table 6-6. Measurement Settings Navigation

6.2.1 Measurement Settings Tab

Modify the values within ***Measurement Settings***. See Table 6-3 on page 19 for parameter information.

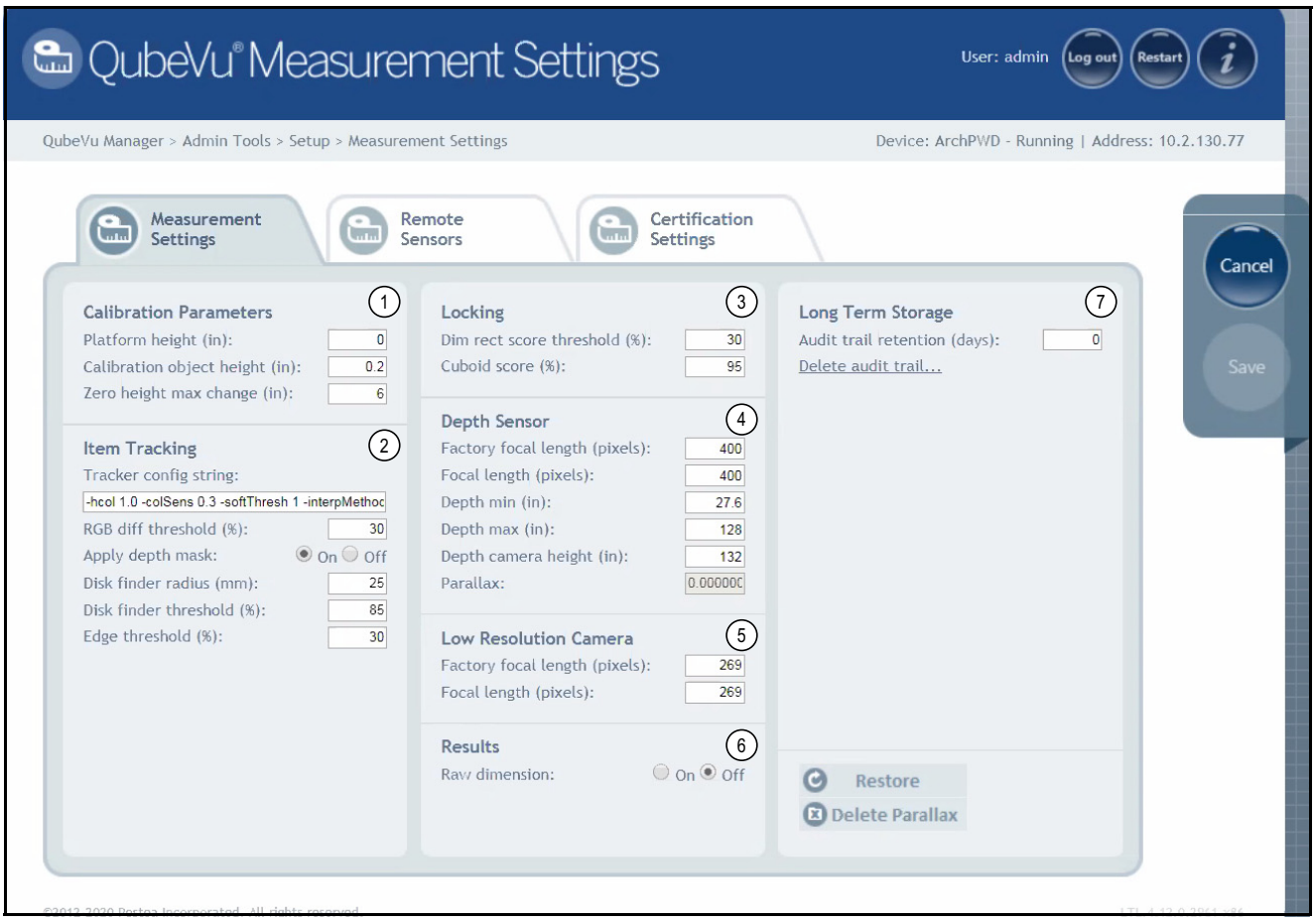

Figure 6-13. Measurement Settings Tab

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Item No.	Parameter	Description
1	Calibration Parameter	Platform height (in) – Not applicable for this application, do not modify Default: **0**
		Calibration Object Height (in) – Do not modify Default: **0.2**
		Zero Height Max Change (in) – Not applicable for this application, do not modify the default setting Default: **6**
2	Item Tracking	Tracker Config String – Not applicable for this application, do not modify the default setting Default: **-hcol 1.0 -colSens 0.3 -softThresh 1 -interpMethod**
		RGB Diff Threshold (%) – Not applicable for this application, do not modify Default: **30**
		Apply Depth Max – Not applicable for this application, do not modify Default: **On** Selections: **On** or Off
		Disk Finder Radius – Not applicable for this application, do not modify Default: **25**
		Disk Finder Threshold – Not applicable for this application, do not modify Default: **85**
		Edge Threshold – Not applicable for this application, do not modify Default: **30**
3	Locking	Dim Rect Score Threshold (%) – Not applicable for this application, do not modify the default setting Default: **30**
		Cuboid Score (%) – Not applicable for this application, do not modify the default setting Default: **95**
4	Depth Sensor	Factory Focal Length (pixels) – Do not modify Default: **400**
		Focal Length (pixels) – Do not modify Default: **400**
		Depth Min (inches) – Threshold depth value below which any depth measure returned by the sensor will be ignored; This value is the minimum distance in inches between the unit head and the object it should be measure Default: **27.6**
		Depth Max (inches) – The maximum camera height total has minus 4" to the total height to compensate for the device height; The iDimension PWD will not recognize an item less than 4" Default: **128**
		Depth Camera Height (inches) – The measurement from the bottom of the IFM remote sensors to the top of the floor scale or dimensioning surface Default: **132**
		Parallax – Not applicable for this application Default: **0**
5	Low Resolution Camera	Factory focal Length (pixels) – Not applicable for this application, do not modify, for use with QV Core main head Default: **269**
		Focal Length – Not applicable for this application, do not modify, for use with QV Core main head Default: **269**
6	Results	Raw Dimension – Returns raw results which have not been rounded to the nearest division; Default: **Off** Selections: On or Off
7	Long Term Storage	Audit Trail Retention (days) – Used if Data Extraction is enabled; Specifies the number of days captured data will be retained in long term storage; Long term storage is managed in the general settings data extraction tab and can be displayed in the inspector function Default: **0**
		Delete Audit Trail – Deletes contents of long term storage held in memory

Table 6-7. Measurement Settings Parameters

Restore

Restores the ***Measurement Settings*** tab parameters to default values, or restores from a previously saved backup file.

1. Select Restore. The factory restore prompt displays.

Figure 6-14. Restore Prompt

2. Press OK to restore the factory default settings or if backing up from a file press Browse... to select a backup file.
3. Press OK. The iDimension PWD restarts after the restore.

Delete Parallax

This command must not be used unless directed by the Rice Lake Weighing Systems Dimensioning Team.
Factory Calibration may be required. Not applicable, do not modify.

Select Delete Parallax.

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6.2.2 Remote Sensors Tab

The remote sensors tab provides access to the iDimension PWD Remote sensor setting and configuration status. The remote sensors tab can also be used to determine the working status of a remote sensor.

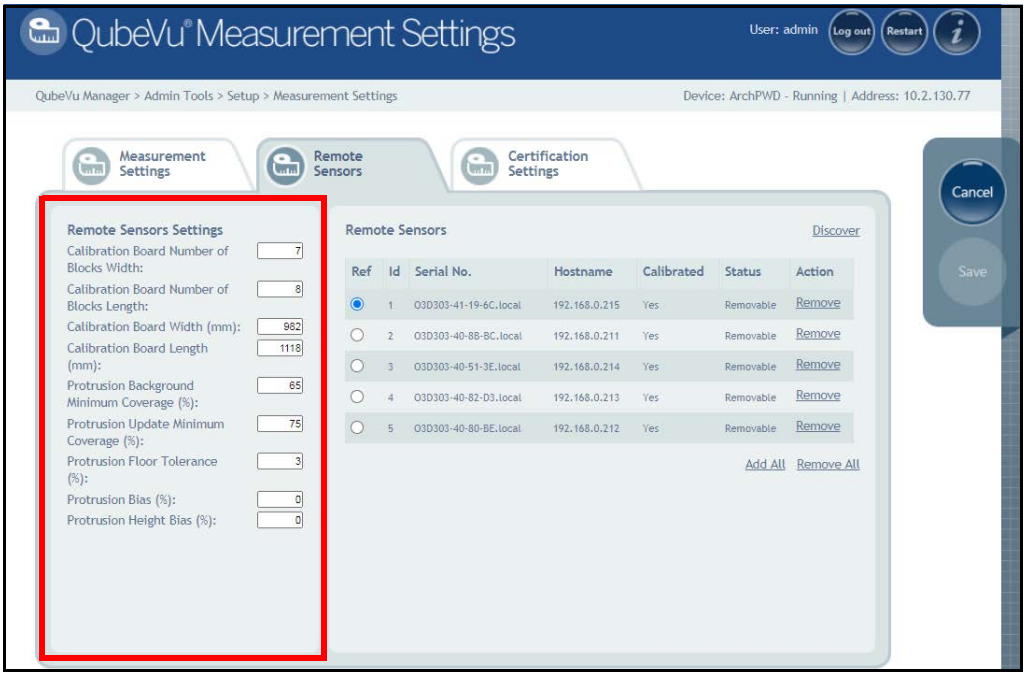

Figure 6-15. Remote Sensors Settings

Parameter	Description
Calibration Board Number of Blocks Width	Do not modify Matches the calibration object for the PWD Default: **7**
Calibration Board Number of Blocks Length	Do not modify Matches the calibration object for the PWD Default: **8**
Calibration Board Width (mm)	Do not modify Matches the calibration object for the PWD Default: **982**
Calibration Board Length (mm)	Do not modify Matches the calibration object for the PWD Default: **1118**
Protrusion Background Minimum Coverage (%)	Do not modify Controls minimum background coverage defined in ipaddress/log to allow the system to provide a valid dimension Default: **65**
Protrusion Update Minimum Coverage (%)	Do not modify Controls minimum valid pixel coverage defined in ipaddress/log to allow the system to provide a valid dimension Default: **75**
Protrusion Floor Tolerance (%)	Do not modify Depth camera height x%; Data ignored by sensors Default: **3**
Protrusion Bias (%)	Not applicable for this application, do not modify Default: **0**
Protrusion Height Bias (%)	Not applicable for this application Default: **0**

Table 6-8. Remote Sensor Settings

Note ***The iDimension PWD uses 4 or 5 sensors while dimensioning with black plastic wrap.***

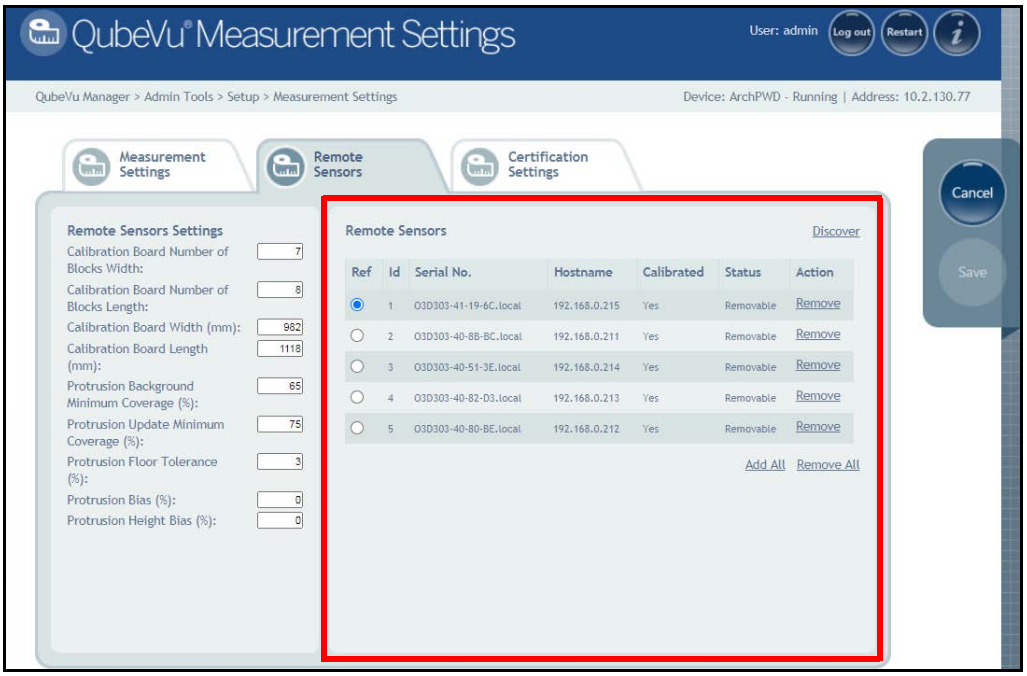

Figure 6-16. Remote Sensors: Discovery Settings

Parameter	Description
Discovery	Upon a new installation, a “Remove All” function or replacement of sensor, select this feature to update the Remote sensor table and firmware with IFM sensors used for the iDimension system
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 iDim PWD will automatically select this sensor as a reference sensor
ID	Automatic assignment of sensor by firmware; The id number is configured in the IFM sensor using the vision assistant
Serial No.	Serial number of IFM sensor
Host Name	IP address of IFM sensor; IP addresses are configured using the IFM vision assistant and must use the same network address and subnet with unique host numbers as the iDimension PWD Network settings The factory default setting of the IFM sensors are: ID 1 = 192.168.0.4 ID 2 = 192.168.0.5 ID 3 = 192.168.0.6 ID 4 = 192.168.0.7 ID 5 = 192.168.0.8 (applicable for 5 sensor installation)
Calibrated	The Calibrated parameter indicates whether or not the individual sensor has been previously calibrated No – During initial installation, the sensors have not been calibrated to the individual LTL unit; Upon successful calibration, the status will change to Yes; If a sensor has been replaced in the field, a new serial No will appear and display No Yes – The remote sensors have been calibrated during initial installation; If the sensors, IP address has been changed in the field after installation, make sure you remove all sensors, perform a discover and add new sensors prior to a new calibration being performed
Status	The status filed defines the current connection status of each sensor after initial installation, discovery and Action of add all has been performed Removable – Sensor has been identified during initial installation Pending Add – Sensor has not been added Disconnected – Sensor is not connected to network switch or sensor has error
Action	Available selections: Add – Individually add each sensor to embedded firmware for use with iDim LTL/PWD; It is recommended to use “Add All”; After selecting this function calibration is required Remove - Individually remove each sensor from the embedded firmware for use with iDim LTL/PWD; It is recommended to use “Remove All” when changing sensors or IP addresses, then Add all; After selecting this function calibration is required
Add All	Select this feature to add all sensors when status is “Pending Add”; Calibration is required after selected
Remove All	Select this feature to remove all sensors when status shows removable; For use when changing a sensor or changing IP addresses after calibration; Calibration is required after selected

Table 6-9. Remote Sensor Discovery Settings

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6.2.3 Certification Settings Tab

The ***Certification Settings*** tab controls the under-size and oversize flags and configures the displayed resolution used during dimensioning. The defaults shown below should not be increased or decreased unless instructed by the factory.

If the application is Legal-for-Trade, select PWD NTEP 19-076 from the configuration profile to add the certificate number to display on the inspector screen.

Figure 6-17. Measurement Settings Tab

Item No.	Parameter	Description
1	Configuration Profiles	Configuration profiles will adjust the system to the correct units of measure and measurement settings required for installation Selections: NTEP19-040, Metric, US Customary NTEP 19-040 – Configured the device for inches based on the Legal-for-Trade settings; Setting cannot be modified Metric – Configured the iDimension PWD for metric and allows configuration of available settings US Customary – Configured the iDimension PWD for inches and allows configuration of available settings
		Certificate Number – Certification number
		Dimensioning Unit – Measurement for the unit of weight used Selections: in, kg
	Warm-up Threshold (minutes)	Upon system restart the time the system requires warm-up prior to entering into the Ready Mode Default: **0**
	Require Refinement	Do not modify Default: **Off** Selections: On or **Off**
		Minimum Operating Temperature (C°) – The minimum temperature the unit can function
		Maximum Operating Temperature (C°) – The maximum temperature the unit can function
		Operation Note – Field for the operator to provide notes
2	Cuboids Size	Controls the displayed increment of the measurement on the USB display and status; Modifying the division size does not affect accuracy Division: 0.5" (1 cm)
	Minimum (L x W x H)	Controls the under-size flag on the USB display and web service API
	Maximum (L x W x H)	Controls the oversize indication on the USB display and web service API
3	Irregulars	Irregulars share the same information as cuboids

Table 6-10. Certification Settings

6.3 Display Settings

The display settings configures the functionality of the USB display.

- Press Display Settings from the ***Setup*** menu (Figure 6-1 on page 17) to enter the ***Display Settings*** menu.

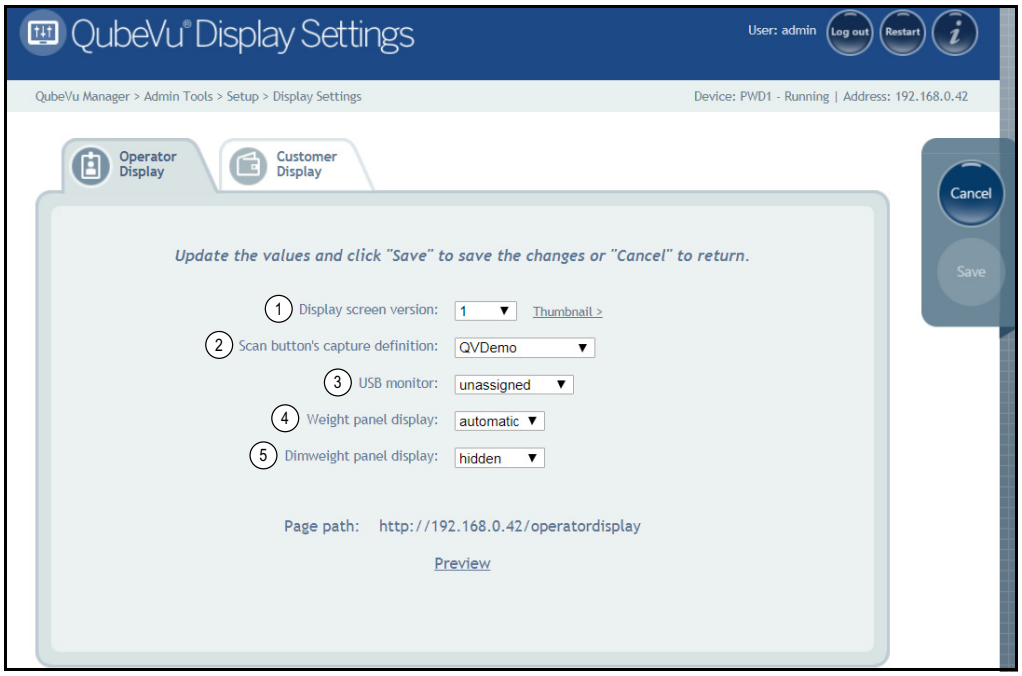

Figure 6-18. Operator Display Tab

Note

See Section 3.1 on page 11 for touchscreen display information.

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

Item No.	Parameter	Description
1	Display Screen Version	1 – Displays dimensions and weight only 2 – Displays live camera feed in "Ready," item image in "Remove," dimensions and weight display panel Default: **1**
2	Scan Button Capture	Select a capture definition from available list to add a **Scan** button onto the USB Operator Display Adding a **Scan** button to the USB Operator Display enables manual triggering of the system to perform a dimension Default: **No Scan button**
3	USB Monitor	For use if additional USB displays are connected to the iDimension If using more than 1 display, select correct serial # of the USB monitor assigned to ***Operator Display*** and ***Customer Display*** Default: **Unassigned** – Auto detection of USB display
4	Weight Panel Display	USB display shows weight panel display with or without scale attached Hidden– The weight panel display will be removed from the USB display Default: **Automatic – On**
5	Dimweight Panel Display	For demo purposes only, contact factory for use and configuration Default: **Automatic – Off**

Table 6-11. Display Settings

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Figure 6-19. Default Display Screen

Figure 6-20. Example Display Screen #2

Note ***The display screen shown in Figure 6-20 is a different dimensioning unit and is only used for reference.***

6.4 User

This section provides an overview of iDimension PWD ***User*** menu instructions.

The ***User*** menu provides access to modify the default password.

- Press User from the ***Setup*** menu (Figure 6-1 on page 17) to enter the ***User*** menu.

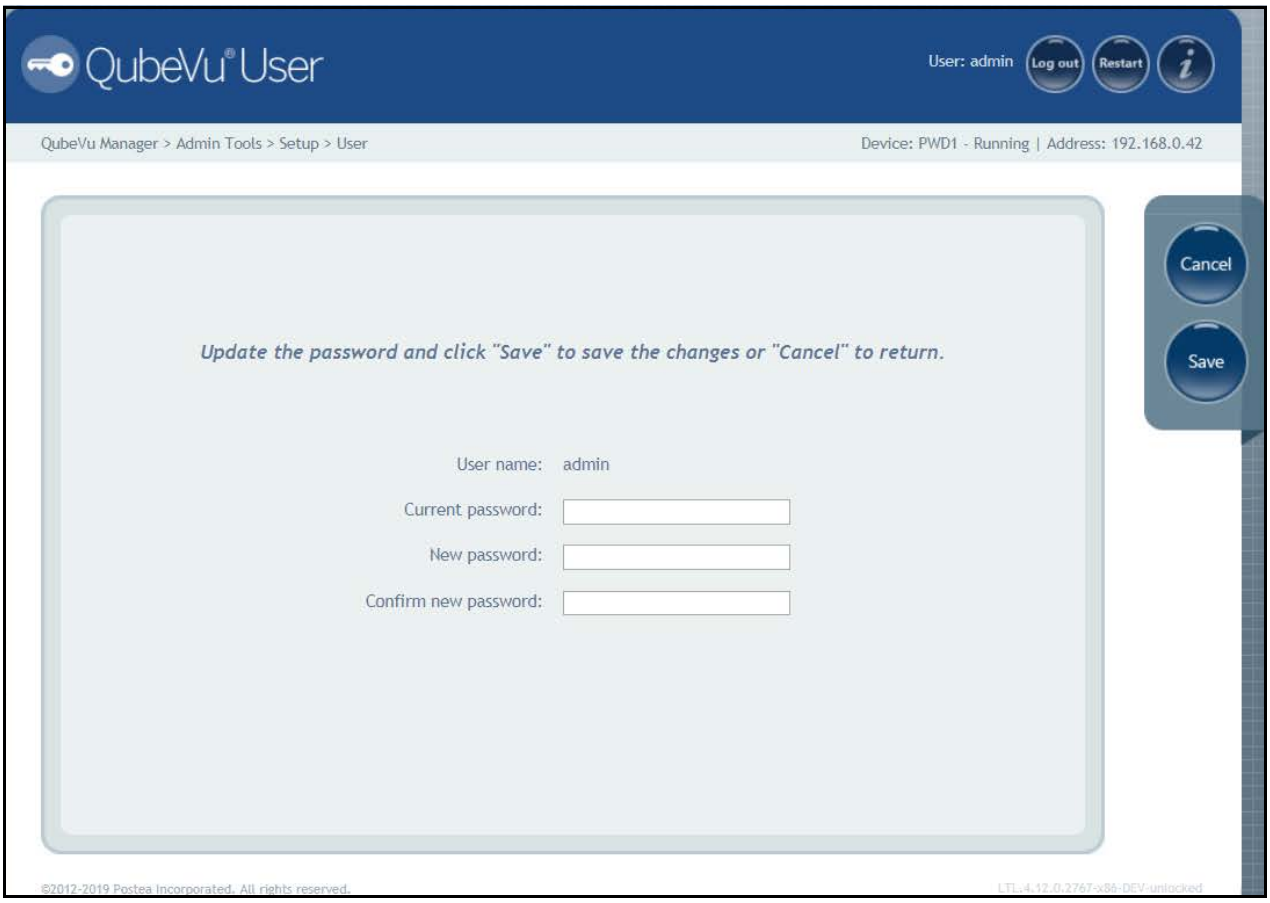

Figure 6-21. User Tab

When entering a new password, consider the following:

- 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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6.5 Network

Use the ***Network*** tool to define network settings.

- Press Network from the ***Setup*** menu (Figure 6-1 on page 17) to enter the ***Network*** menu.

6.5.1 Network Settings Tab

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

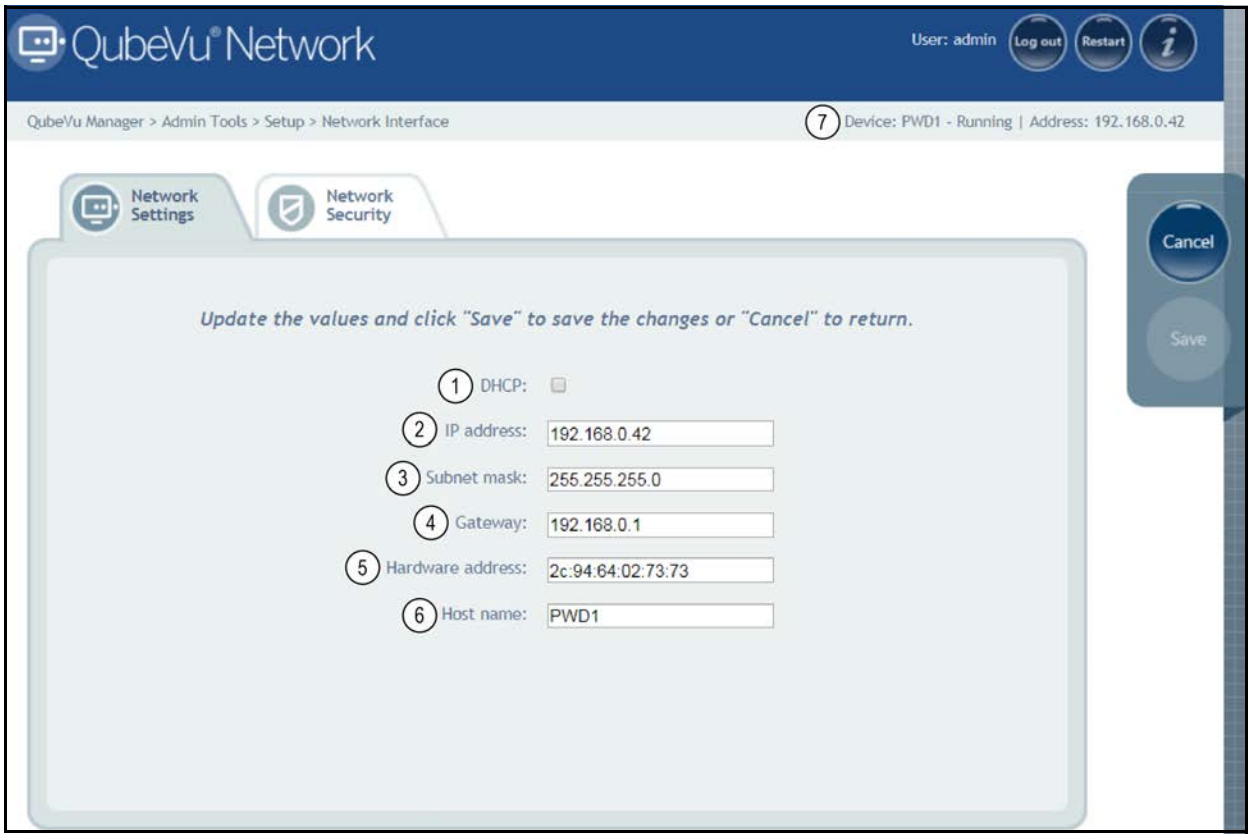

Figure 6-22. Default Network Interface Settings

Enter or modify the network settings for the network.

Item No.	Parameter	Description
1	Interface DHCP	Do not modify Default: **eth1**
2	IP Address	If DHCP is not checked, define a unique IP address for each iDimension PWD installed Consult with the network administrator if unsure how to assign a new IP address; If using fixed IP addresses, access iDimension PWD by the hostname or the IP address: http://<hostname>/; http://<ip address>/ Default IP address: **192.169.0.1**
3	Subnet Mask	Consult the network administrator for the correct setting Default: **255.255.255.0**
4	Gateway	Consult the network administrator for the correct setting Default: **192.168.0.2**
5	Hardware Address	Do not modify Each iDimension PWD has been assigned a unique hardware MAC address
6	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***
7	Device Name	Default: **PWD1**

Table 6-12. Network Interface Parameters

6.5.2 Network Security Tab

Selecting the ***Network Security*** tab displays the current settings. To configure ***Network Security***, follow the procedure below:

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

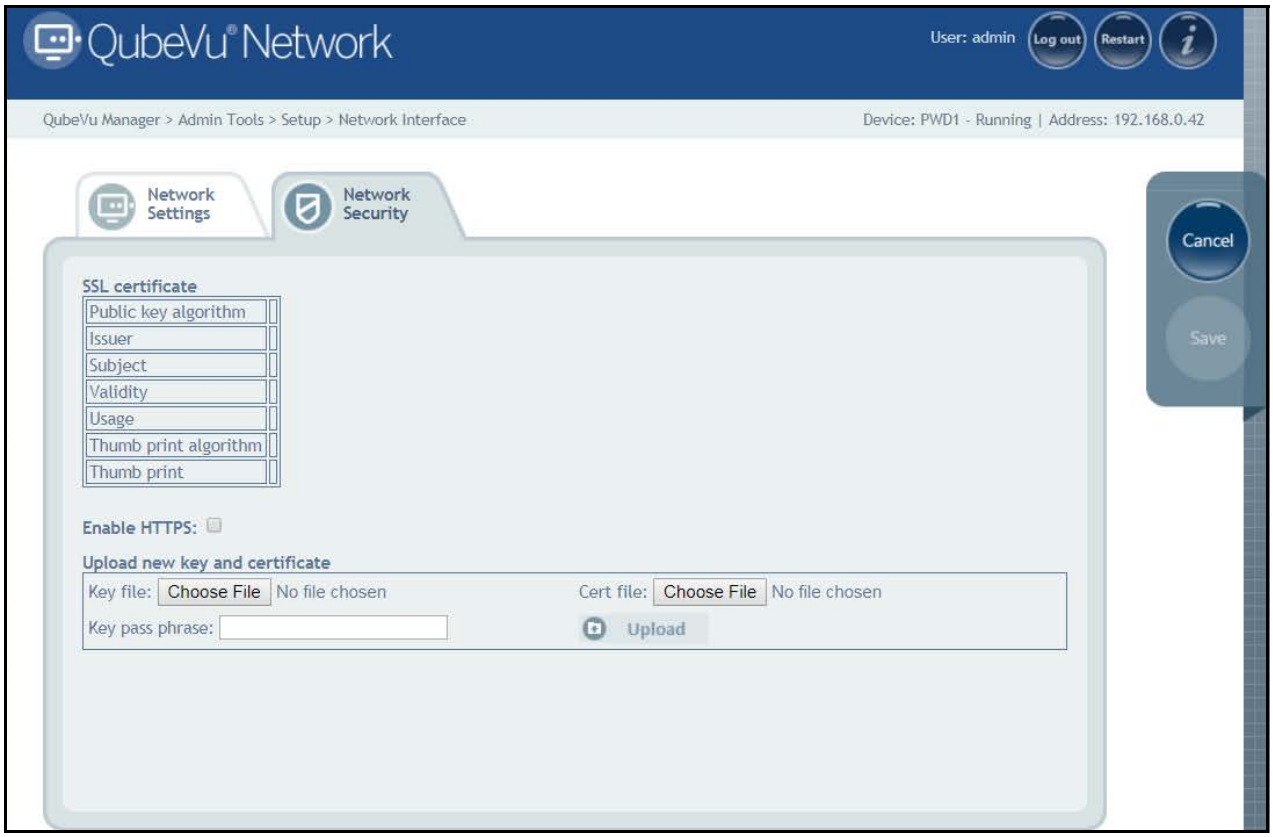

Figure 6-23. Network Security Tab

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

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7.0 Calibration

This section provides an overview of iDimension PWD ***Calibration*** menu instructions.

The ***Calibration*** menu provides access to the following information:

- Calibration settings for the ***Sensor Calibration*** and ***Set Work Area*** configuration
- Camera calibration – if required, calibrates the iDimension PWD using the calibration object; Calibration is required during initial setup, adding or replacing sensors or if the sensors have become out of alignment during use

To enter the ***Calibration*** menu use the following procedure:

1. Press Admin Tools from the ***QubeVu Manager*** menu (Figure 2-1 on page 2) to enter the ***Admin Tools*** menu (Figure 5-1 on page 16).
2. The QubeVu Manager login screen displays. The default username and password are **admin** and **password**.
3. Press Calibration from the ***Admin Tools*** menu (Figure 5-1 on page 16) to enter the ***Calibration*** menu.

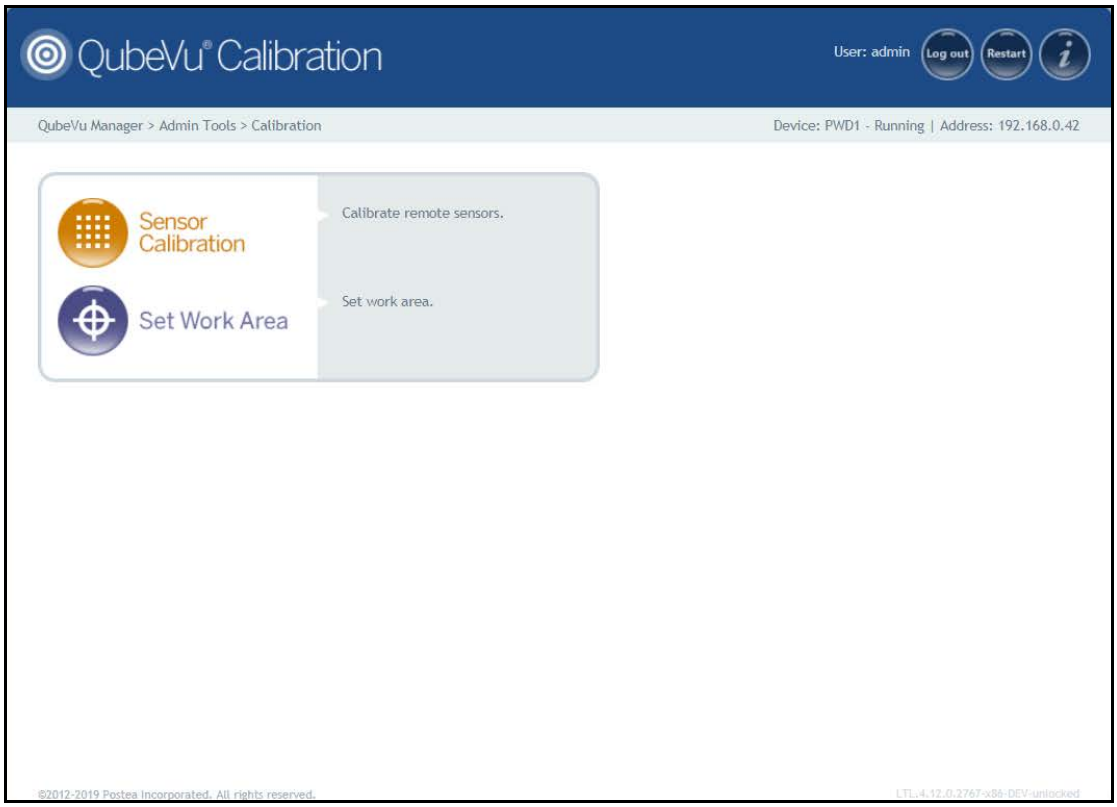

Figure 7-1. Calibration Menu

Parameter	Description
Sensor Calibration	Calibrate remote sensors (Section 7.1 on page 40)
Set Work Area	Set work area (Section 7.2 on page 46)

Table 7-1. Calibration Navigation

Calibration Object

A calibration object is provided with each unit and is required for calibration. The calibration object is an 8 x 7 square checkerboard and is 1118 mm x 982 mm and packaged in a 57" x 48" carton with protective foam inserts.

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.

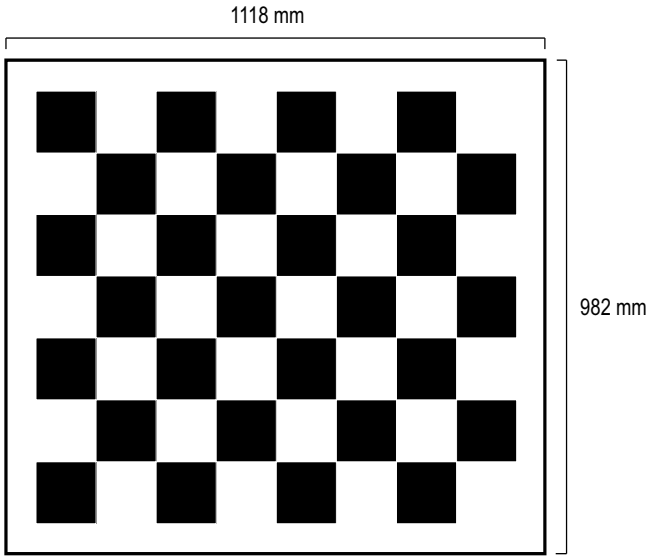

Figure 7-2. Calibration Object

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7.1 IFM Sensor Alignment and Calibration

Initial setup requires alignment of IFM sensors towards the middle of the floor scale using the cross hairs.

Calibration requires the use of the calibration object and requires a 5-point procedure. Calibration is performed by placing the calibration object on the floor scale, starting at the 4 o'clock position (120°) and rotating the object 30° each step.

1. Press Sensor Calibration from the ***Calibration*** menu (Figure 7-1 on page 38) to enter the ***Remote Sensors Calibration*** menu.

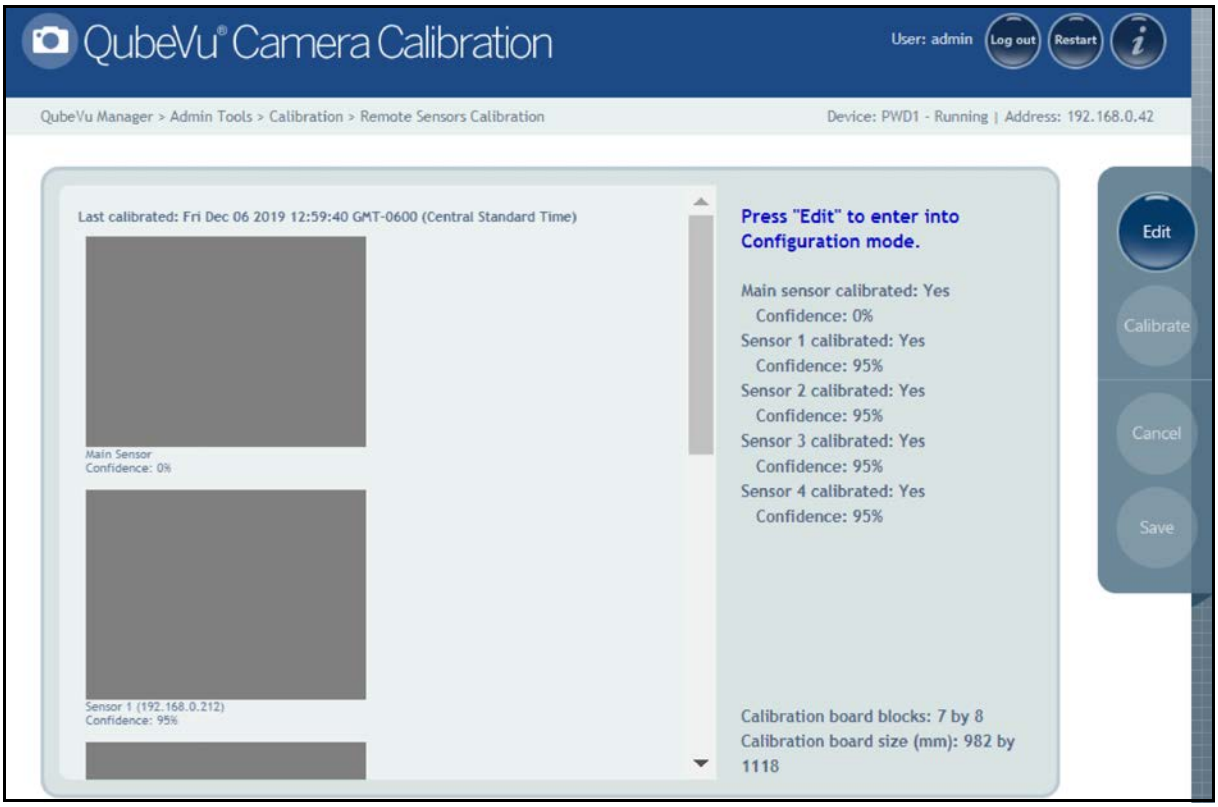

Figure 7-3. Remote Sensors Calibration

2. Align remote sensors towards the center of the floor scale using the cross hairs to guide, provided by the IFM sensors.
   - Ensure the sensor rods are securely mounted in place
   - Exact alignment is not critical
   - Aligning is defining the calibration position of each sensor
3. Press Edit to enter configuration mode. If a pop-up menu displays, refresh the web browser.
4. Place calibration object on the scale.

5. Align calibration object so the cross hairs are centered. Rotate the calibration object to 4 o'clock with the tower assembly being at 12 o'clock (Figure 7-4).

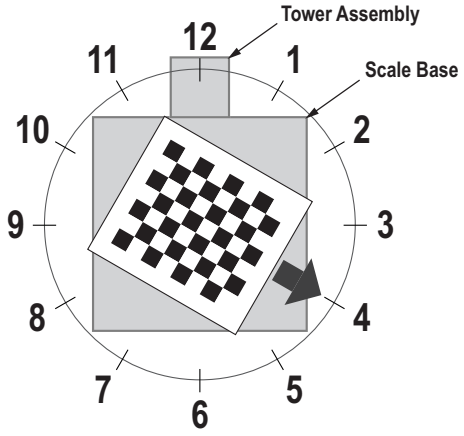

Figure 7-4. Rotate to 4 o'clock

6. Press Calibrate.

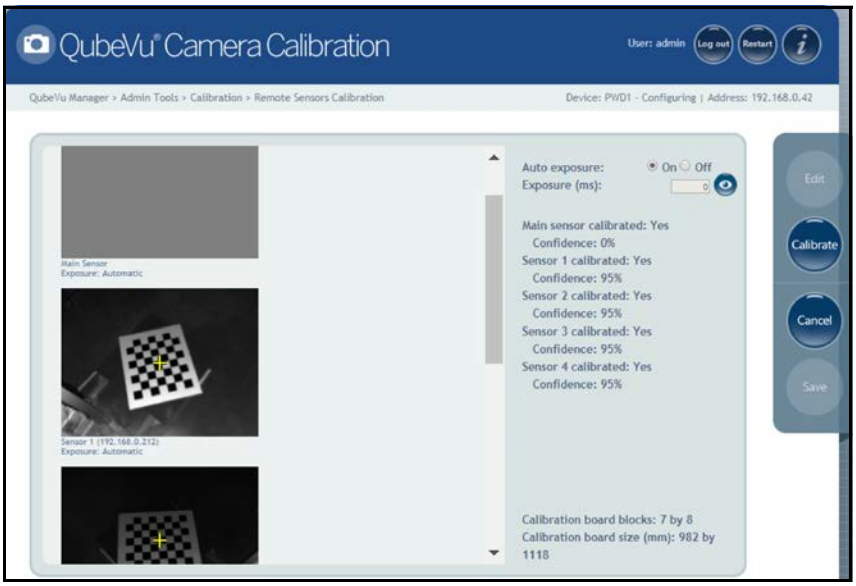

Figure 7-5. Object Calibration 1

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7. Align calibration object so the cross hairs are centered. Rotate the calibration object to 5 o'clock with the tower assembly being at 12 o'clock (Figure 7-6).

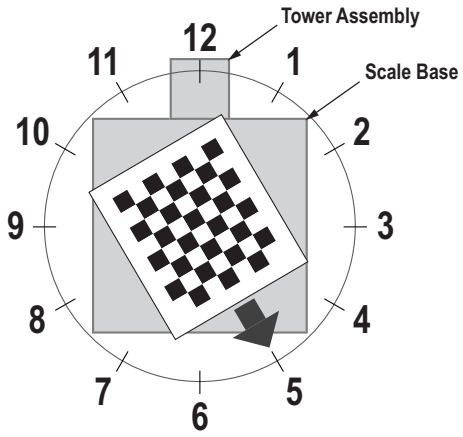

Figure 7-6. Rotate to 5 o'clock

8. Press Calibrate.

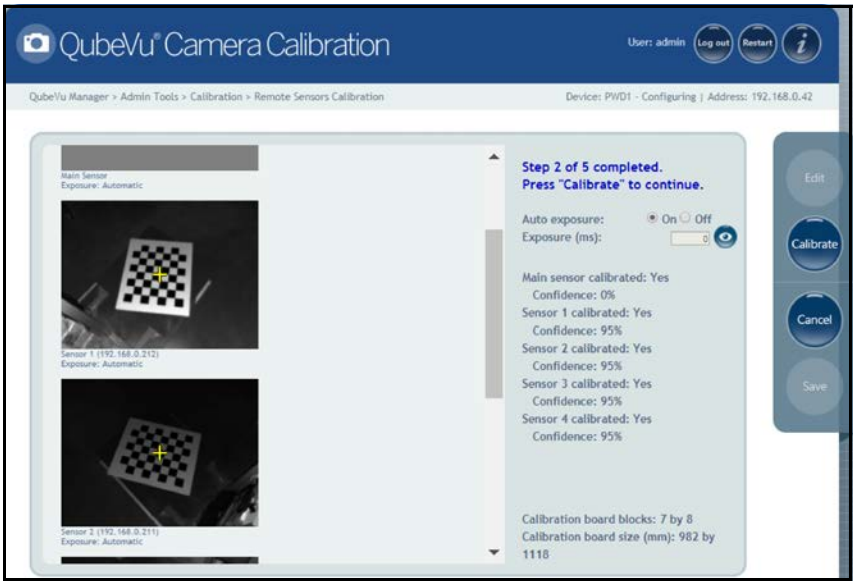

Figure 7-7. Object Calibration 2

9. Align calibration object so the cross hairs are centered. Rotate the calibration object to 6 o'clock with the tower assembly being at 12 o'clock (Figure 7-8).

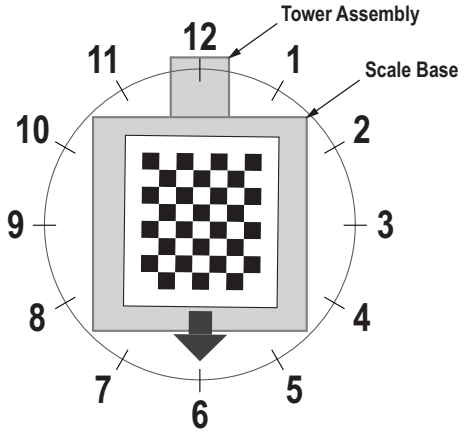

Figure 7-8. Rotate to 6 o'clock

10. Press Calibrate.

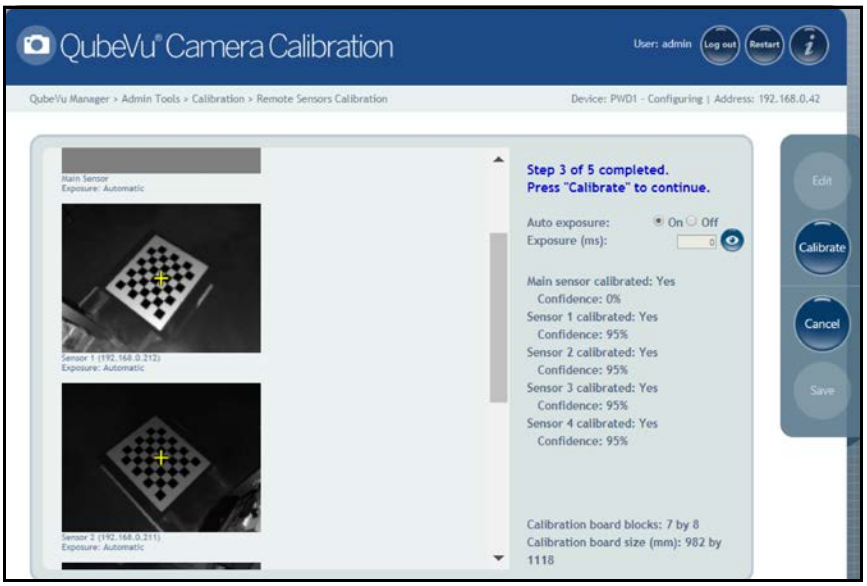

Figure 7-9. Object Calibration 3

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11. Align calibration object so the cross hairs are centered. Rotate the calibration object to 7 o'clock with the tower assembly being at 12 o'clock (Figure 7-10).

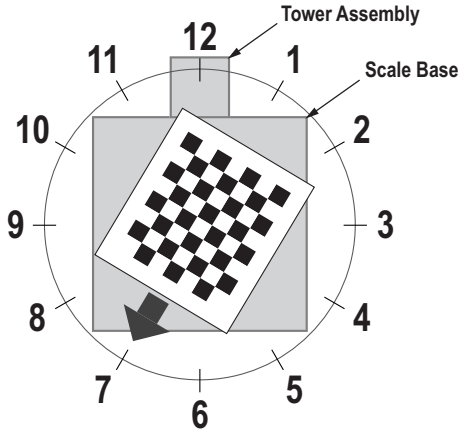

Figure 7-10. Rotate to 7 o'clock

12. Press Calibrate.

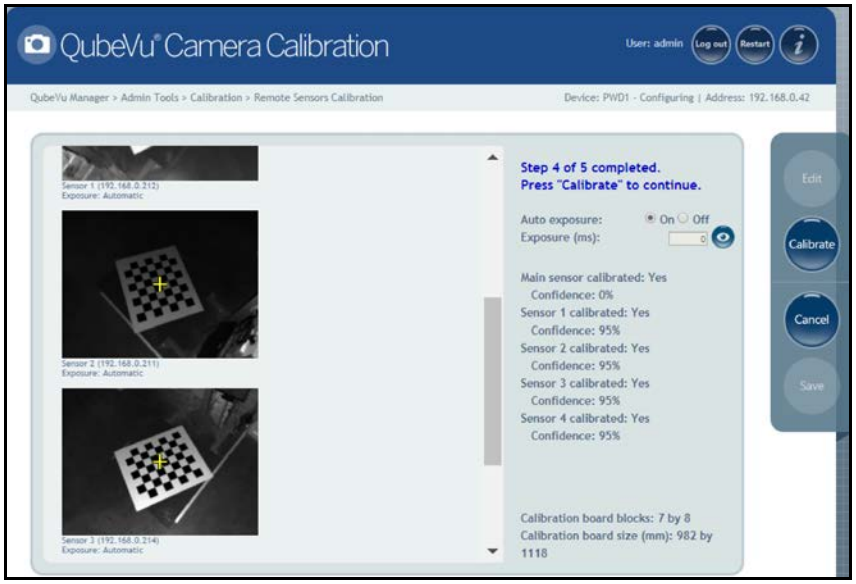

Figure 7-11. Object Calibration 4

13. Align calibration object so the cross hairs are centered. Rotate the calibration object to 8 o'clock with the tower assembly being at 12 o'clock (Figure 7-12).

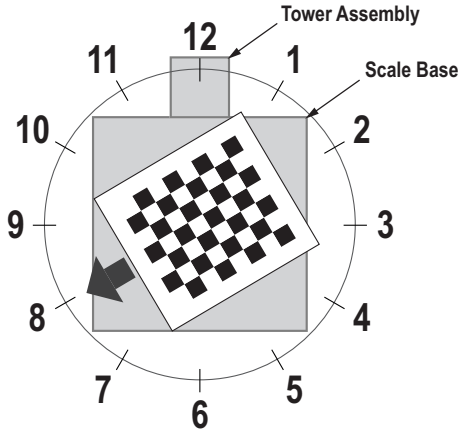

Figure 7-12. Rotate to 8 o'clock

14. Press Calibrate.

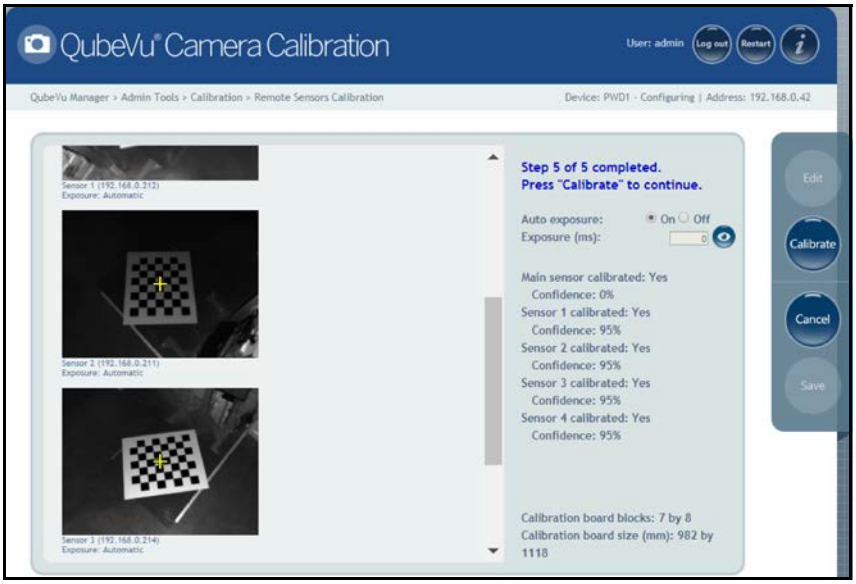

Figure 7-13. Object Calibration 5

Note ***If calibration fails, check for direct sunlight affecting the system then perform a new calibration.***

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15. Upon successful calibration, press Save. The system returns to the ***Calibration*** menu.

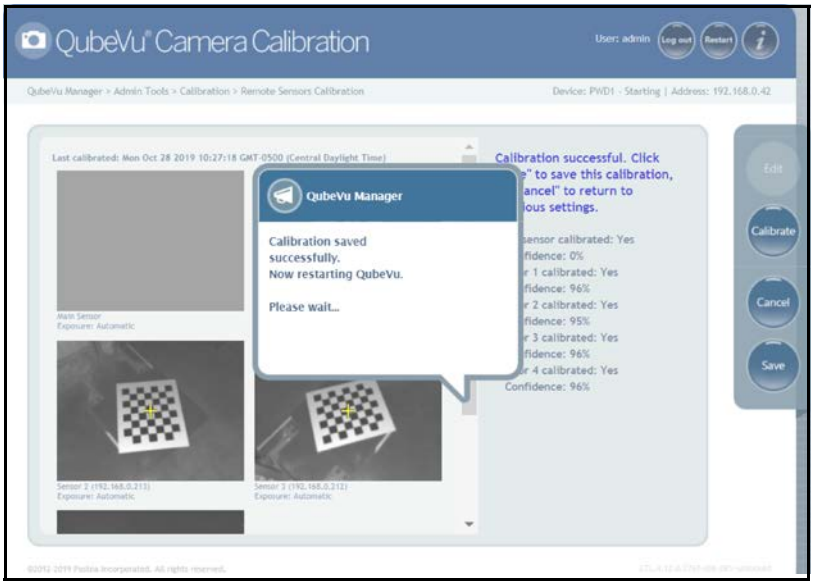

Figure 7-14. Successful Calibration

7.2 Setup Work Area

The Setup Work Area configures the iDimension PWD to control the out of bounds indications.

1. Press Set Work Area from the ***Calibration*** menu (Figure 7-1 on page 38) to enter the ***Set Work Area*** menu.

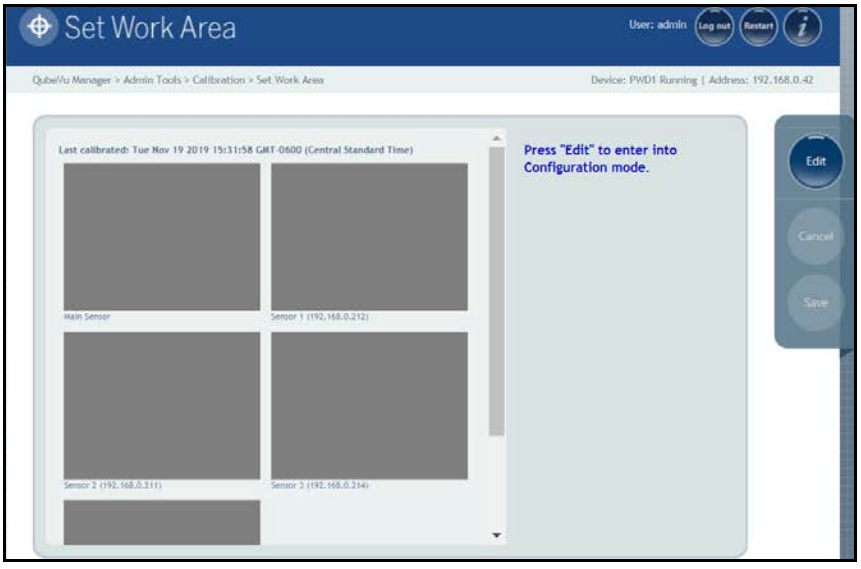

Figure 7-15. Work Area Settings

2. Press Edit and configure the settings as shown below:

Note ***Rice Lake Weighing Systems suggests using a minimum of 76" for the work area to ensure proper placement of the maximum 6' x 6' pallet.***

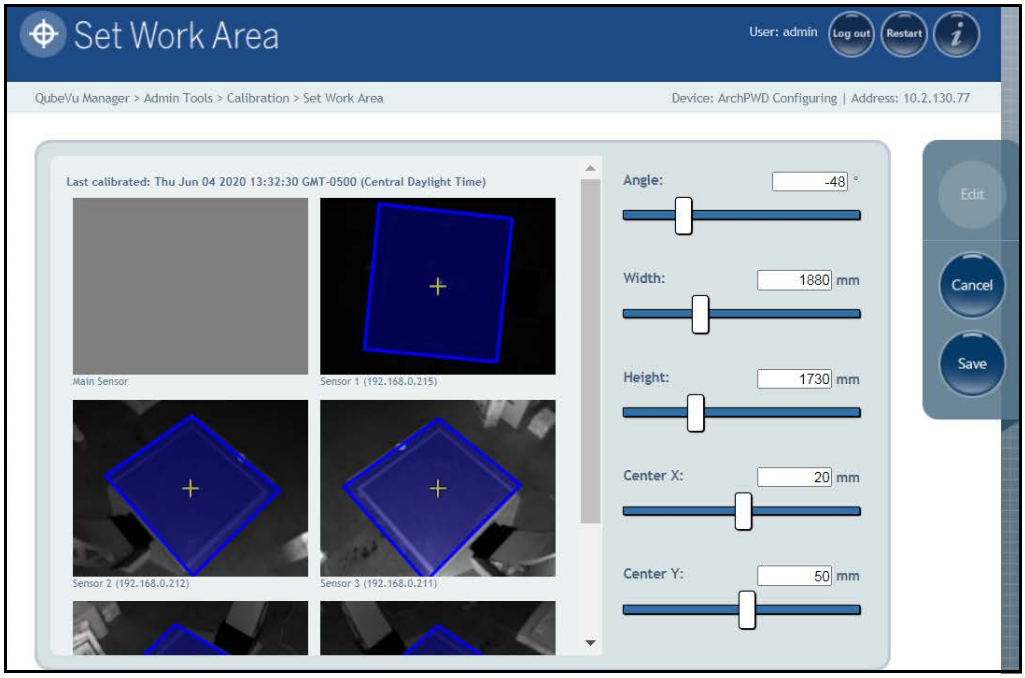

Figure 7-16. Work Area Configuration

Note ***Negative values (-48) are set using the slider bar. Adjust the numeric values (-xx) only.***

Note ***The default values shown in Figure 7-16 is for reference only.***
Refer to Table 7-2 for default values.

Definition	Description
Angle	Enter the value for the desired work area angle Default: **-48°**
Width	Enter the value for the desired work area width Default: **1880 mm (80")**
Height	Enter the value for the desired work area height Default: **1730 mm (80")**
Center X	Enter the value for the desired work area center X Default: **20 mm (1.14")**
Center Y	Enter the value for the desired work area center Y Default: **50 mm (4.72")**

Table 7-2. Work Area Values

Technical Notes Work Area and Area of Interest
The percentages are with respect to the field of view of the virtual camera that collects the projections.
That virtual camera acts as if it were suspended in the center, at the same height as the remote sensors, looking straight down and with a fixed focal length of 400 pixels and a viewable of 448x336.
100% of the width of that field of view (448 pixels) will correspond to x = (448 * h) / 400, where h is the height at which the sensors are mounted (i.e. 11" for LTL and 10" for PWD).
For example for PWD at 10" height, 33% will correspond to: 0.33 * (448 * 10) / 400 = 3.7"
Similarly, 100% of the height of that field of view (336 pixels) will correspond to x = (336 * h) / 400.

3. Press Save to continue.

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8.0 Capture Definitions

This section provides an overview of iDimension PWD ***Capture Definitions*** menu instructions.

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 use the following procedure:

1. Press Admin Tools from the ***QubeVu Manager*** menu (Figure 2-1 on page 2) to enter the ***Admin Tools*** menu (Figure 5-1 on page 16).
2. The QubeVu Manager login screen displays. The default username and password are **admin** and **password**.
3. Press Capture Definitions from the ***Admin Tools*** menu (Figure 5-1 on page 16) to enter the ***Capture Definitions*** menu.

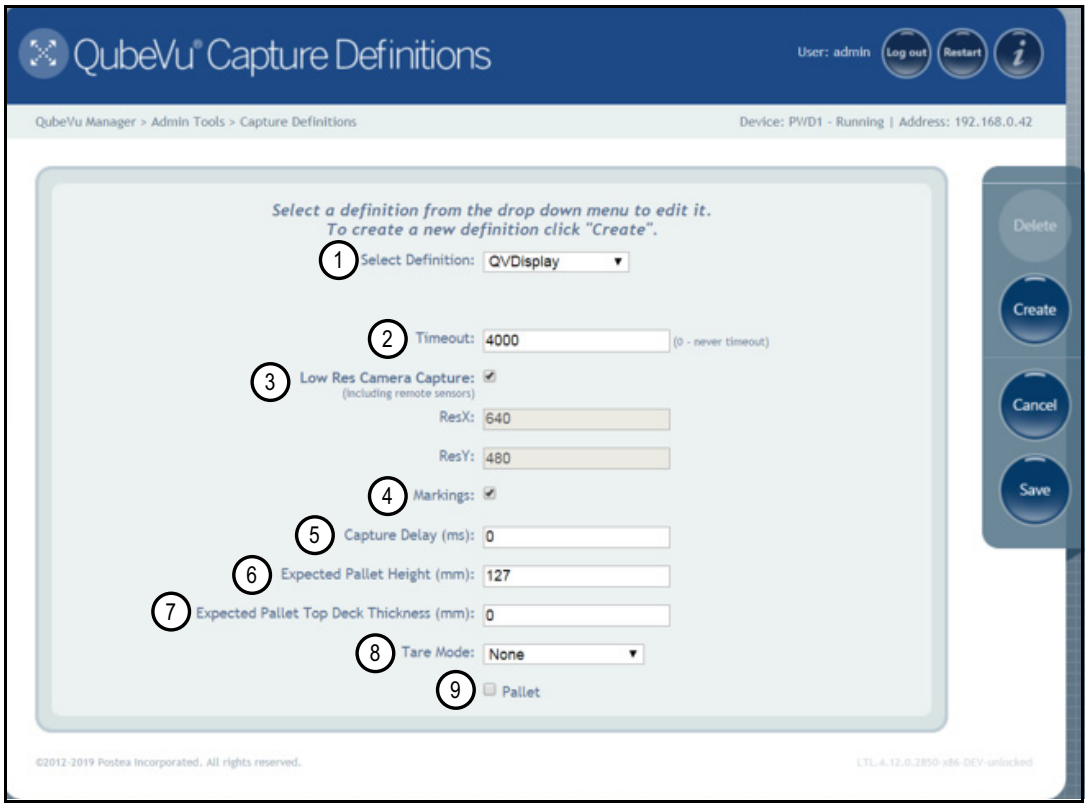

Figure 8-1. Capture Definitions Menu

Figure 8-2. Available Low Resolution Camera Markings

Item No.	Parameter	Description
1	Select Definition	QVDisplay – Not applicable for this application
		QV Demo – Used when the Capture button is pressed from the USB display or QubeVu Manager Demo Display
		Autotriggerflat – Not applicable for this application
		Autotriggerparcel – Not applicable for this application
		Default – Used when capture command is triggered from attached barcode scanner
		QVCapture – Can be used when a capture command is sent by a third party program
2	Timeout	A period of time the device pauses between scans; Enter 0 for no pause to occur
3	Low Res Camera Capture	If enabled, defines the resolution for ResX and ResY; Optional marking define capture guides for placement
4	Markings	If checked, the iDimension PWD marks the low resolution image with the selected information (Figure 8-2 on page 48): Date and Time – Date and time stamp of the scan ScanID – Unique scan ID number Dimensions – Three dimensions (height, width, length) Indicators – Any indicators (Undersized, oversized, irregular and other indications) Item Outline – 2D outline of the dimensioned item
5	Capture Delay (ms)	The total time (ms) the device waits to capture the scan after initial trigger
6	Expected Pallet Height (mm)	Pallet height used for Tare feature; Enter the value in mm Default: **0**
7	Expected Pallet Top Deck Thickness (mm)	Not applicable for this application Default: **0**
8	Tare Mode	Selections: None, ForkTruck, AutoDetectForkTruck Default: **None**
9	Pallet	A non-Legal-for-Trade feature; If selected enter the height of the pallet in mm; The system measures the object on the pallet; <TareExpectedHeight>0<TareExpectedHeight>

Table 8-1. Pre-Defined Capture Definitions

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9.0 Firmware Upgrade

This section provides an overview of the iDimension PWD ***Firmware Upgrade*** menu instructions.

Firmware upgrades are available at www.ricelake.com. The operator may be instructed to update the unit firmware to take advantage of new features added or bug fixes to increase the performance of the unit.

To enter the ***Firmware Upgrade*** menu use the following procedure:

1. Press Admin Tools from the ***QubeVu Manager*** menu (Figure 2-1 on page 2) to enter the ***Admin Tools*** menu (Figure 5-1 on page 16).
2. The QubeVu Manager login screen displays. The default username and password are **admin** and **password**.
3. Press Firmware Upgrade from the ***Admin Tools*** menu (Figure 5-1 on page 16) 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 PWD Admin Tools.***

9.1 Firmware Upgrade Tab

The ***Firmware Upgrade*** tab is used to choose the option of uploading the firmware upgrade file.

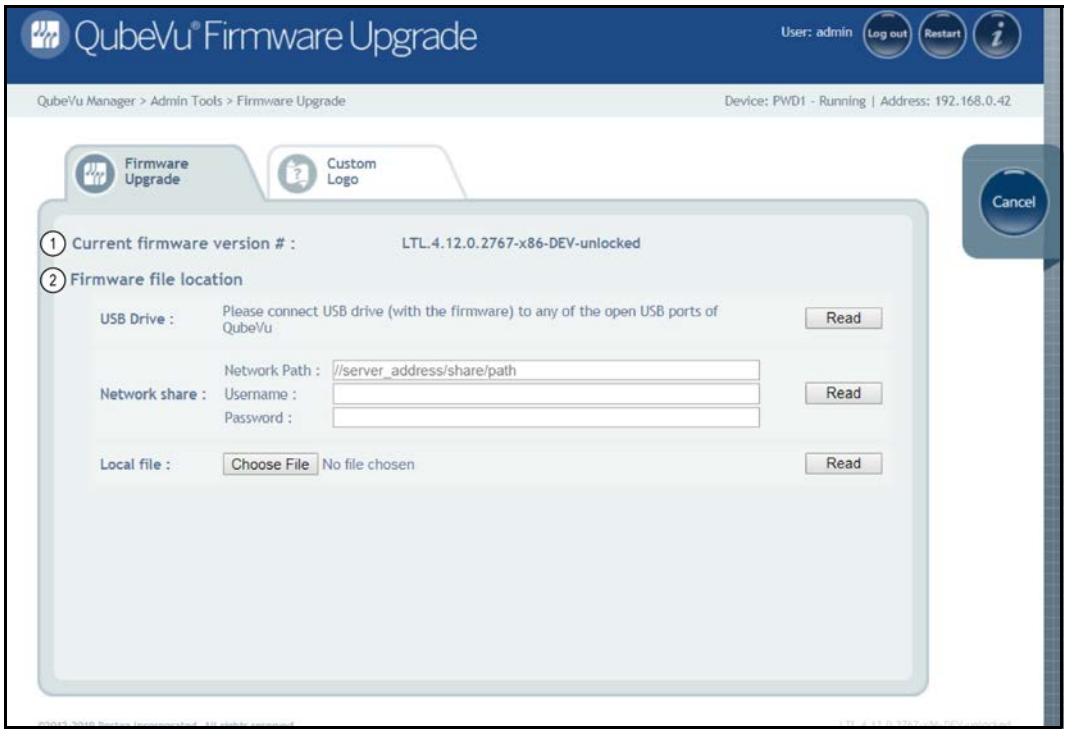

Figure 9-1. Firmware Upgrade

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 PWD unit to an open USB port of the unit (Section 9.1.1 on page 51)
		Network Share – Network path, username and password for sharing information with the local network (Section 9.1.1 on page 51)
		Local File – Choose a file to load firmware (Section 9.1.2 on page 51)

Table 9-1. Pre-Defined Capture Definitions

9.1.1 USB Drive or Network Share

The procedure for using an USB drive is described in this section.

1. Enter the network path, username and password with firmware update stored.
2. Select Read.

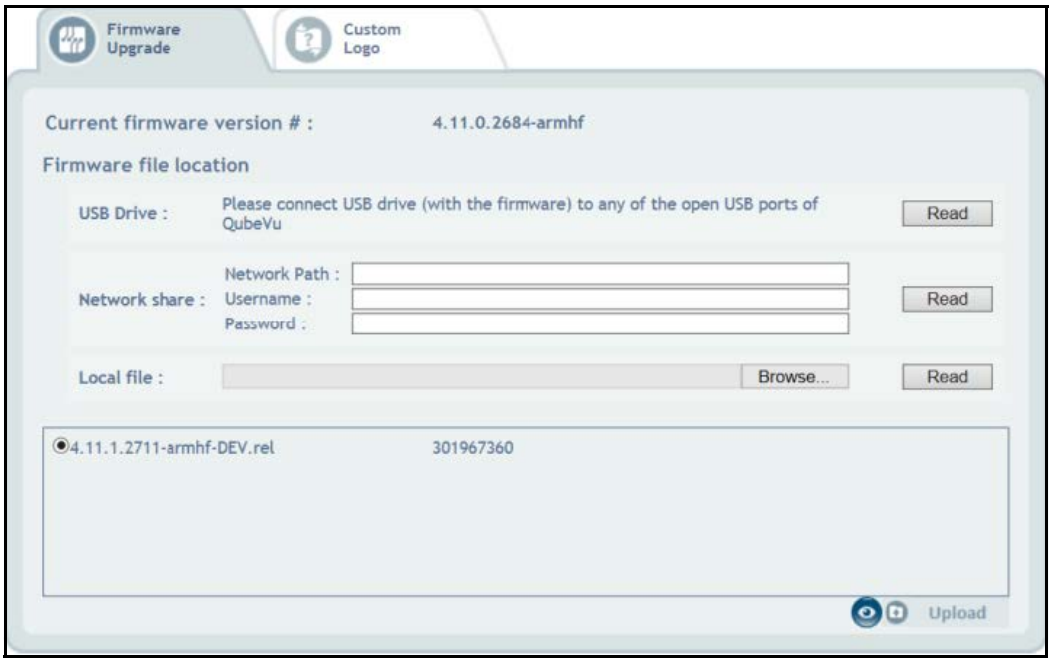

Figure 9-2. Firmware Upgrade USB File Read

3. Select the firmware version from the list of firmware version updates.
4. Select to compute the checksum.

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

9.1.2 Local File

The procedure for using an local file is described in this section.

1. Select Browse....
2. Select Choose File.
3. Select the firmware from the directory.
4. Select OK.
5. Select **Read to Compute Checksum**.
6. Select Upload after the checksum is computed. The firmware upgrade process copies the update file to the iDimension PWD embedded processor.
7. Update firmware.

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Updating Firmware

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

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

Press to validate checksum.

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

Figure 9-3. Updating Firmware

9.2 Custom Logo Tab

The QubeVu manager can be customized with a company logo. Please contact Rice Lake Weighing Systems Dimensioning Team to use this feature as the logo file must be pre-approved.

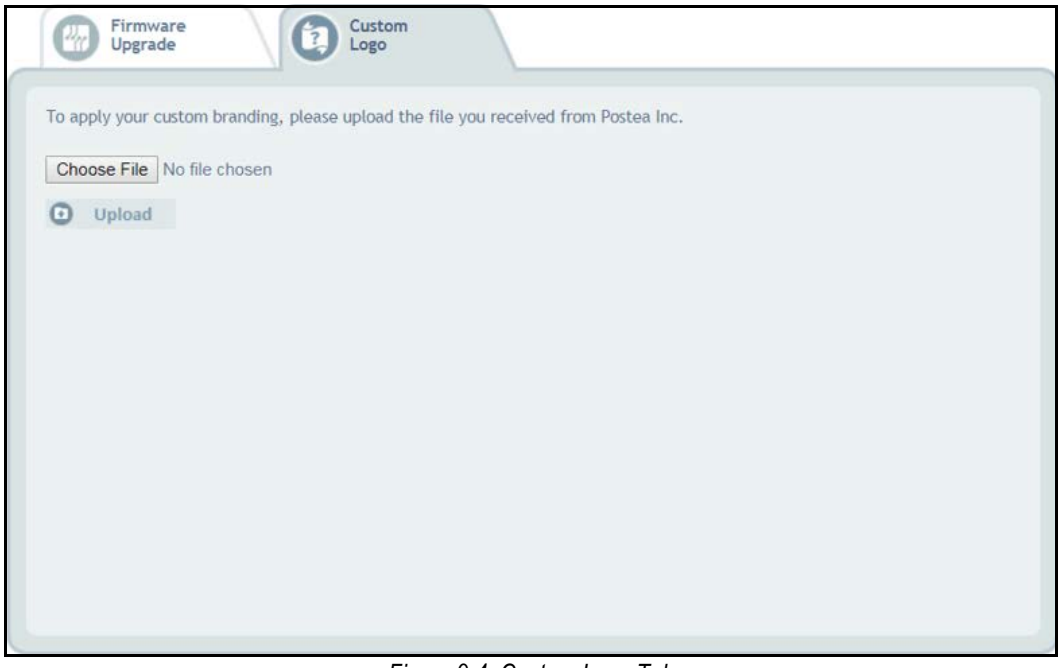

Figure 9-4. Custom Logo Tab

10.0 Backup and Restore

This section provides an overview of iDimension PWD ***Backup*** menu instructions.

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 PWD Admin Tools.

To enter the ***Backup*** menu use the following procedure:

1. Press Admin Tools from the ***QubeVu Manager*** menu (Figure 2-1 on page 2) to enter the ***Admin Tools*** menu (Figure 5-1 on page 16).
2. The QubeVu Manager login screen displays. The default username and password are **admin** and **password**.
3. Press Backup from the ***Admin Tools*** menu (Figure 5-1 on page 16) to enter the ***Backup*** menu.

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

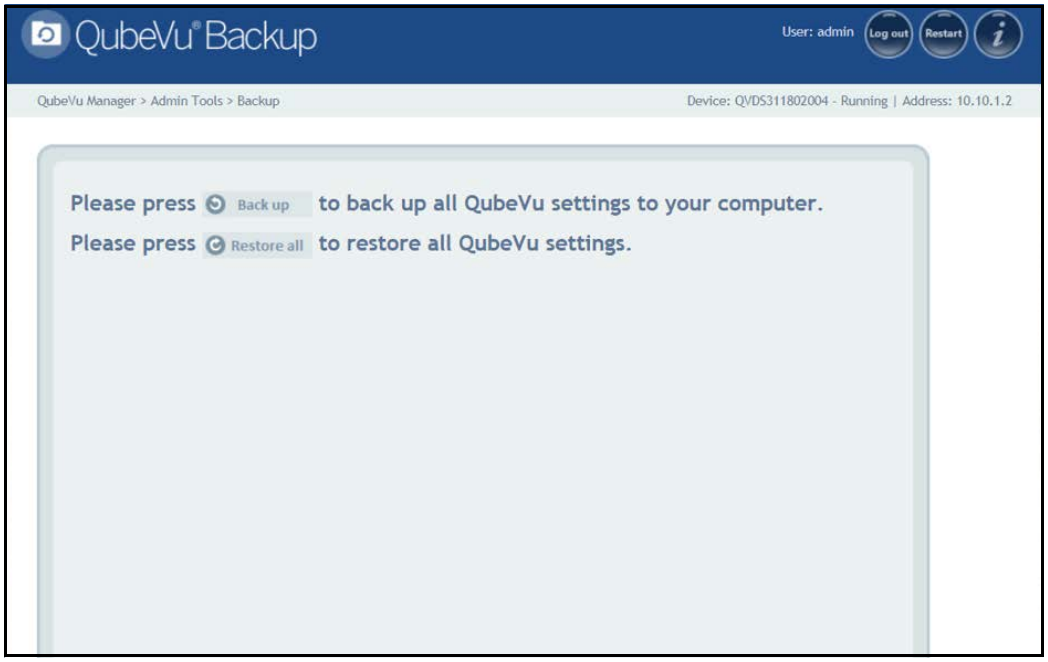

Figure 10-1. Backup and Restore Menu

Parameter	Description
Backup	Back up all QubeVu settings to the local computer (Section 10.1 on page 54)
Restore All	Restore all QubeVu settings (Section 10.2 on page 54)

Table 10-1. Setup Navigation

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10.1 Backup

The ***Backup*** function creates a backup file of all settings. It is recommended to complete a back up after the initial setup of the iDimension PWD. The backup file is saved to a PC folder as an XML file. A backup file can be sent to the factory to help troubleshoot the device.

1. Press Back up to begin the backup process.
2. Press the drop-down arrow on the Save.

Figure 10-2. Download Ribbon - Accept

Note ***The download ribbon may appear differently depending on the operating system the PC uses.***

3. Press **Save As** to select the folder and name the file name.
4. Press Save. When the backup is complete a notification box displays.

Figure 10-3. Download Ribbon - Complete

10.2 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.

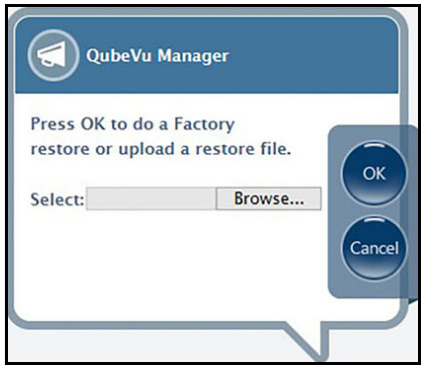

Figure 10-4. Restore Menu Browse Window

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

11.0 Diagnostics

This section provides an overview of iDimension PWD ***Diagnostics*** menu instructions.

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 PWD Admin Tools.***

To enter the ***Diagnostics*** menu use the following procedure:

1. Press Admin Tools from the ***QubeVu Manager*** menu (Figure 2-1 on page 2) to enter the ***Admin Tools*** menu (Figure 5-1 on page 16).
2. The QubeVu Manager login screen displays. The default username and password are **admin** and **password**.
3. Press Diagnostics from the ***Admin Tools*** menu (Figure 5-1 on page 16) to enter the ***Diagnostics*** menu.

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

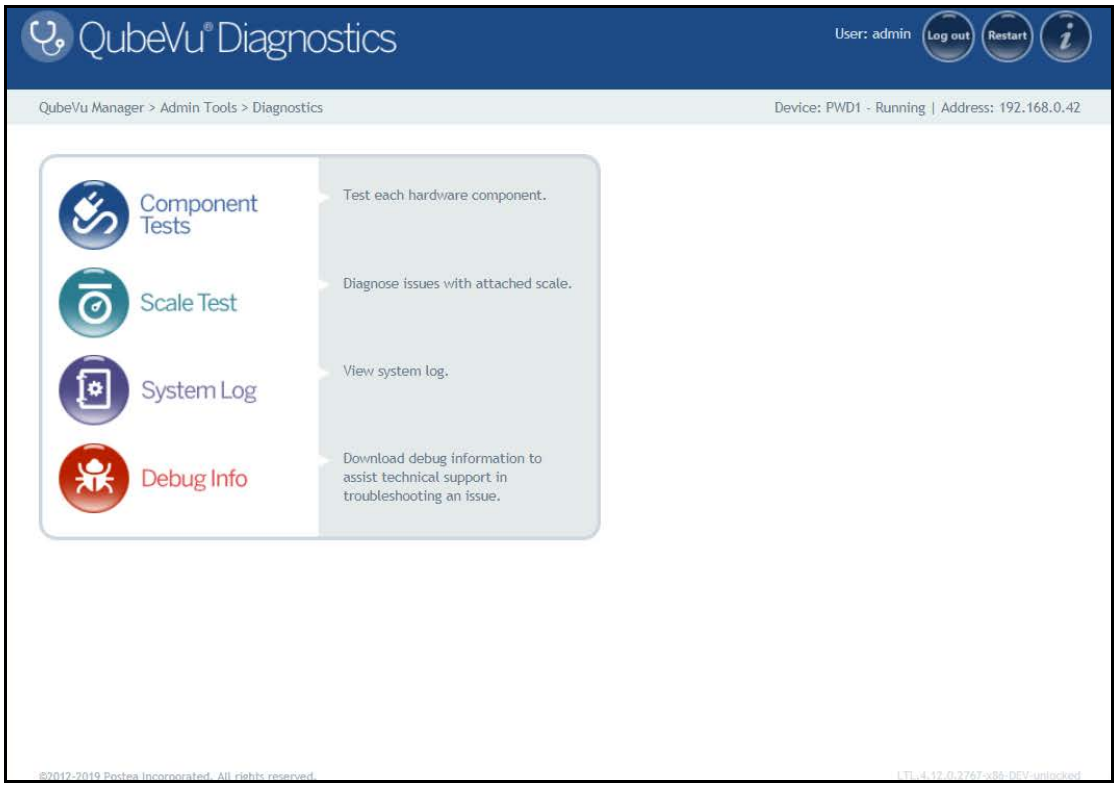

Figure 11-1. Diagnostics Menu

Parameter	Description
Component Tests	Test each hardware component (Section 11.1 on page 56)
Scale Test	Diagnose issues with an attached scale (Section 11.1.1 on page 60)
System Log	View system log (Section 11.2 on page 61)
Debug Info	Download debug information to assist technical support in troubleshooting an issue (Section 11.3 on page 61)

Table 11-1. Setup Navigation

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11.1 Component Tests

Press Component Tests from the ***Diagnostics*** menu (Figure 11-1 on page 55) to enter the ***Component Tests*** menu.

The ***Component Tests*** menu is a tool to help diagnose the operation of the iDimension PWD. The applicable tests for this product include, ***Scale Test*** and ***Remote Sensors Test*** to determine operating status of the device. Contact the factory to determine if a failure has occurred.

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

- Press next to each test to perform the specific test
- Press Test all next to each test each component

XTION Test

Not applicable for this application.

Scale Test

The ***Scale Test*** is used to help determine the communication settings of a serial scale attached to the unit.

Network Test

The ***Network Test*** performs a test to confirm the iDimension PWD network address to 169.254.1.1. The ***Network Test*** checks if the remote sensors and IP cameras, which are connected through ethernet to the device, are pinging correctly.

The status of each component is returned as either ***Passed*** or ***Failed***. Press to view additional details.

Report component failures to the Rice Lake Weighing Systems technical support team.

Figure 11-2. Network Test

Note ***Network, DMESG and Tempterature tests are for manufacturing purposes only.***

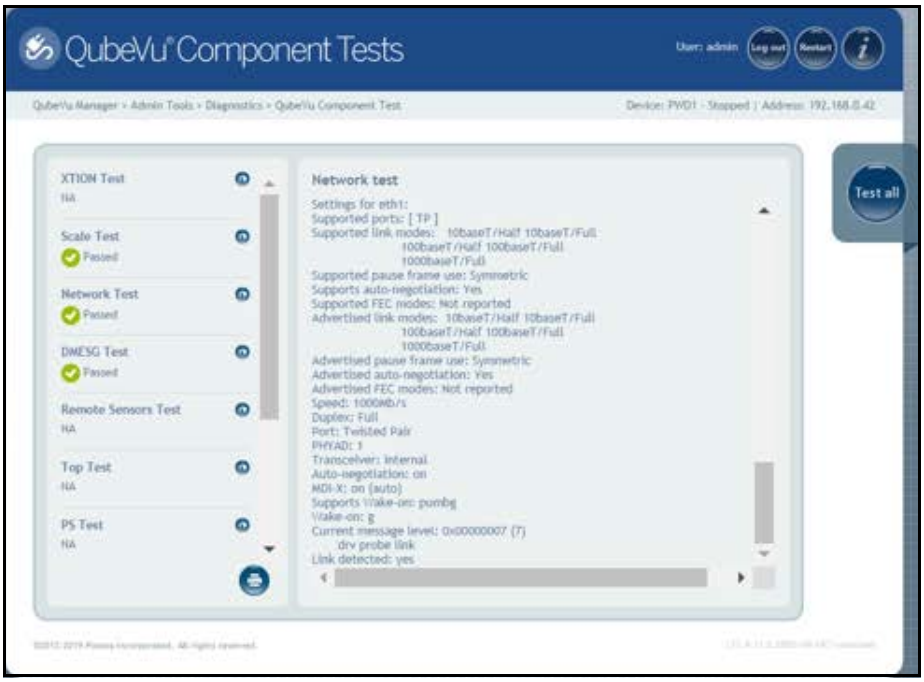

Figure 11-3. Network Test (Continued)

DMESG Test

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

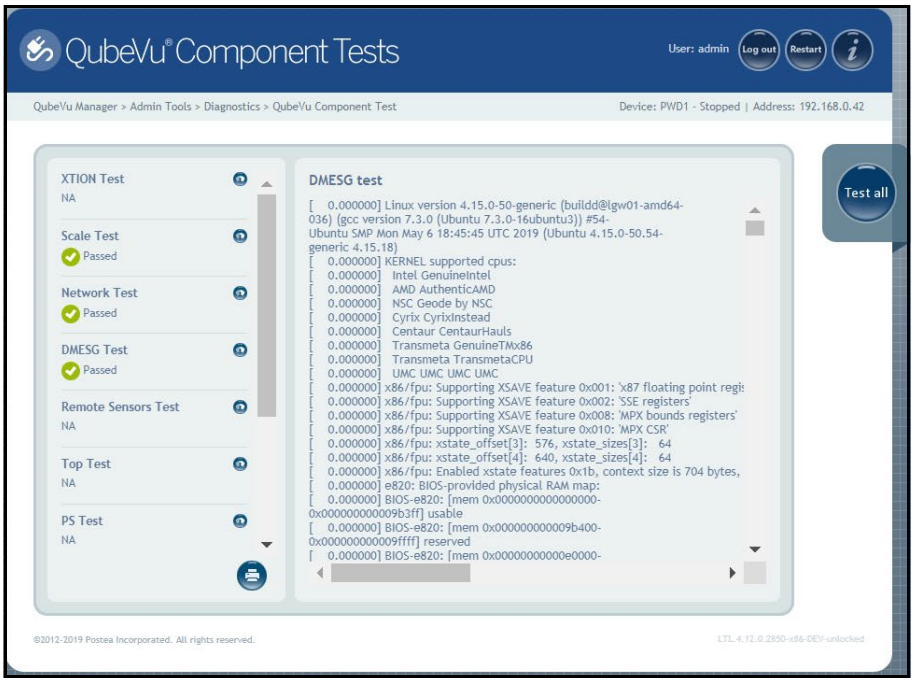

Figure 11-4. DMESG Test

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Remote Sensors Test

The ***Remote Sensors Test*** provides results for the following tests: ***Depth Information Test*** and ***Depth Image Test***. This test will take approximately 3-5 minutes to run. Scroll through pages to identify failures, each of the 4 or 5 sensors has a unique IP address. This test runs through the configuration of the IFM sensor, including firmware and application file loaded and running temperature.

Depth Information Test – provides the total for the framerate of the remote sensors and total RGB images captured:

Figure 11-5. Depth Information Test

Depth Image Test – provides details on the physical ports (USB/Serial):

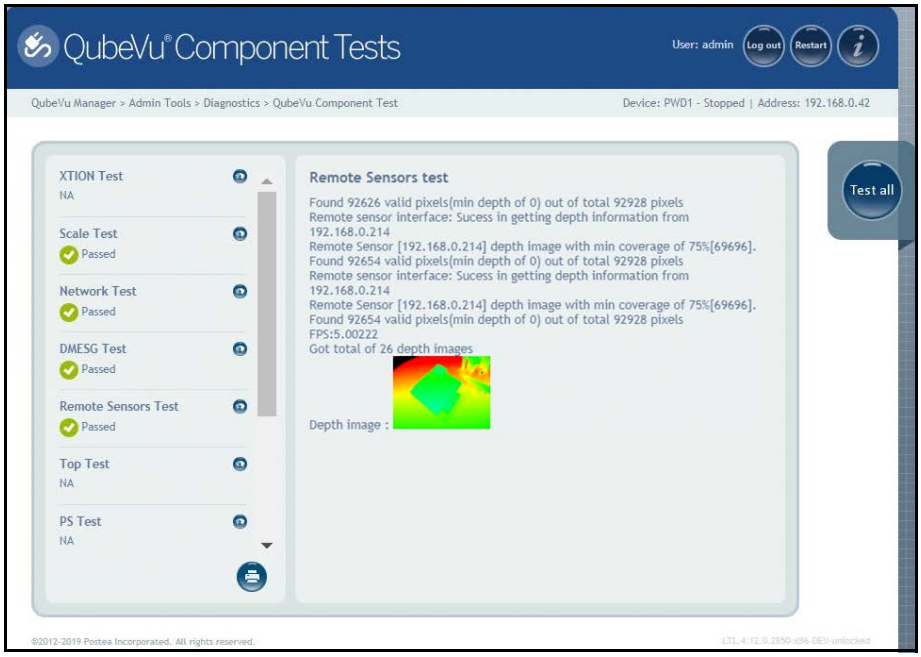

Figure 11-6. Depth Image Test

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 the of valid pixels.

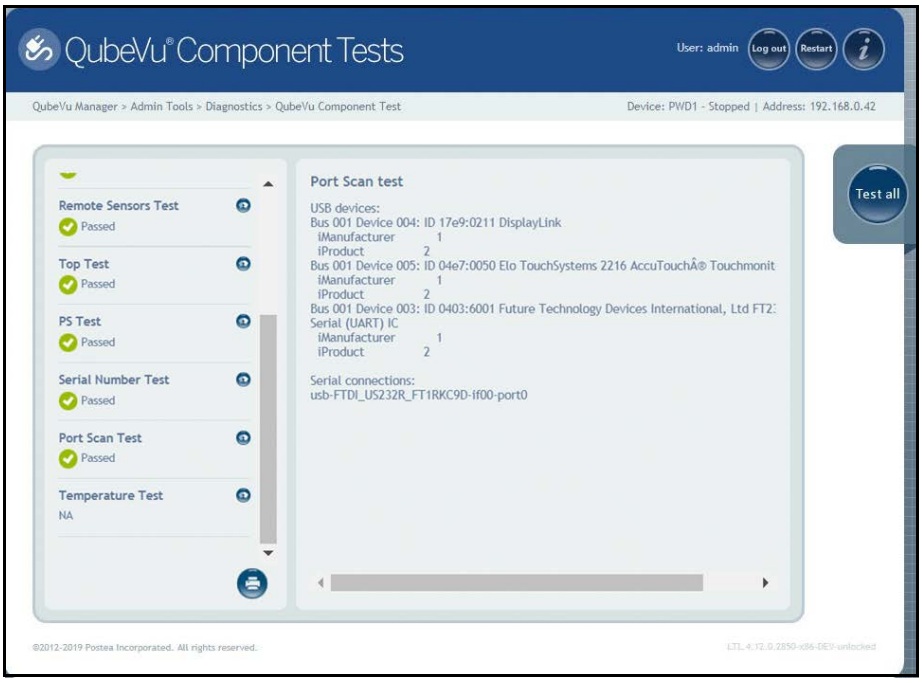

Figure 11-7. Port Scan Test

Temperature Test

The ***Temperature Test*** provides details about the remote sensor.

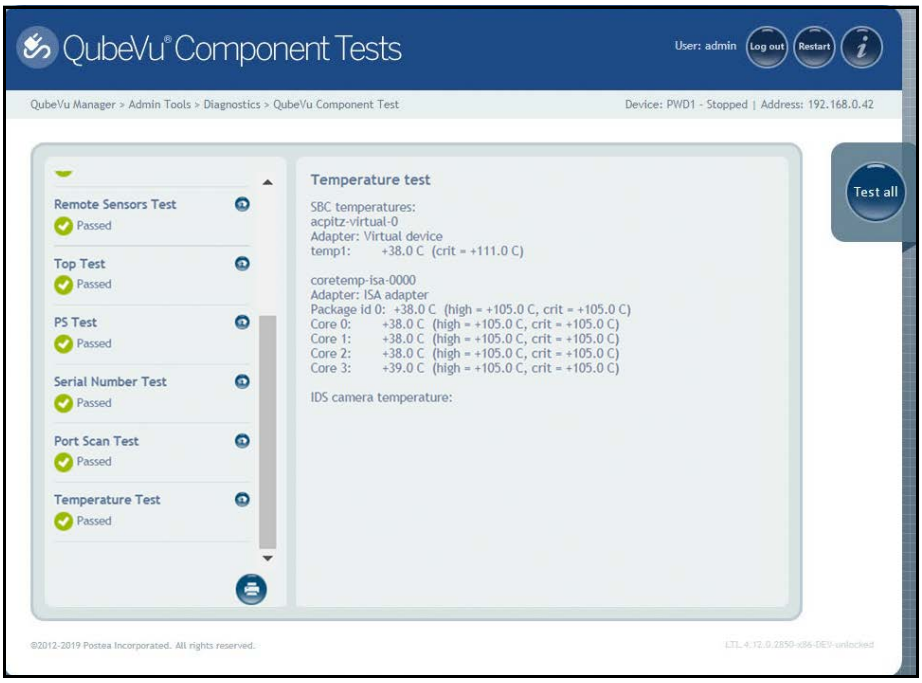

Figure 11-8. Temperature Test

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11.1.1 Scale Test

Press  Scale Test from the ***Diagnostics*** menu (Figure 11-1 on page 55) to enter the ***QubeVu Scale Test*** menu.

The ***QubeVu Scale Test*** is used to test the connection from the indicator to the iDimension PWD. The scale settings are configured properly for NCI– 9600,N,8,1 (Table 6-3 on page 19).

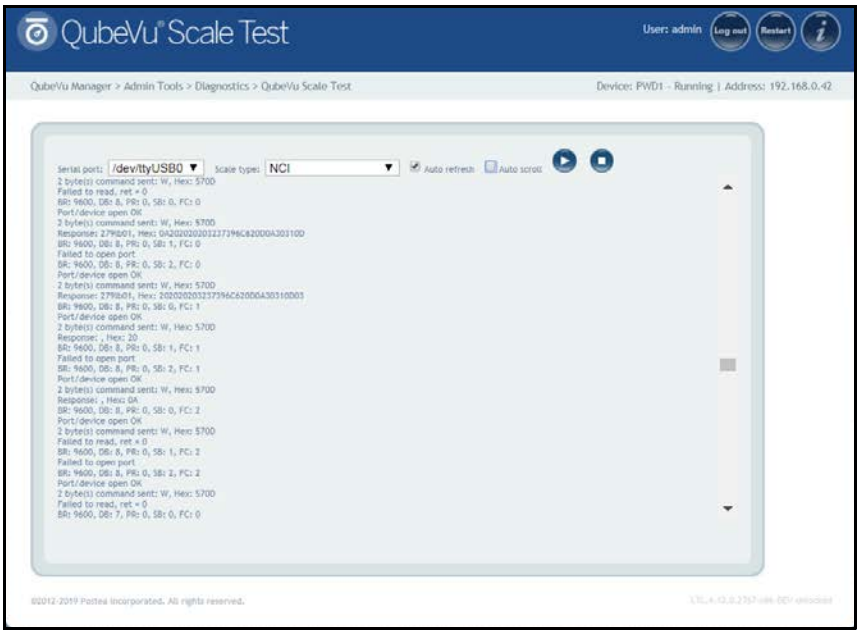

Figure 11-9. Scale Test

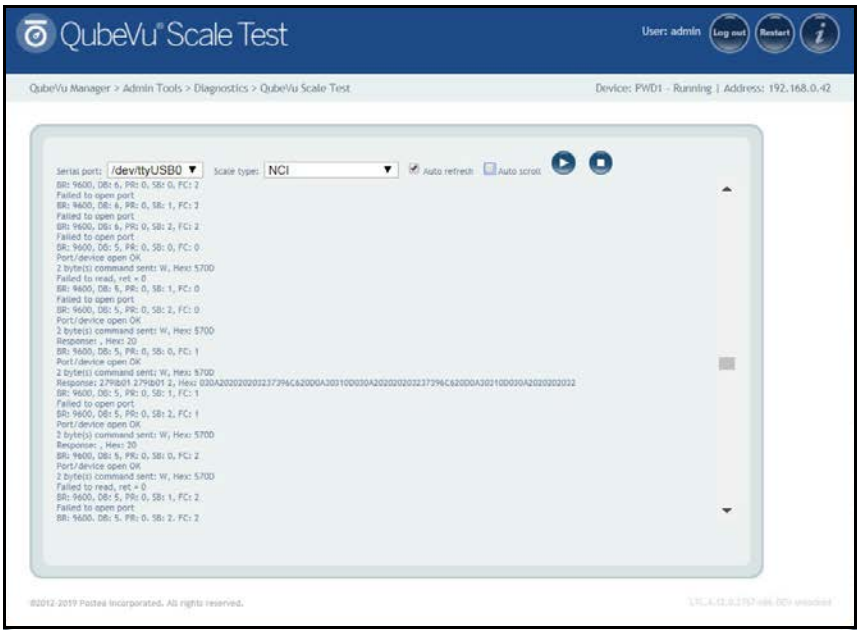

Figure 11-10. Scale Test (Continued)

11.2 System Log Tab

Press System Log from the ***Diagnostics*** menu (Figure 11-1 on page 55) to enter the ***System Log*** menu.

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

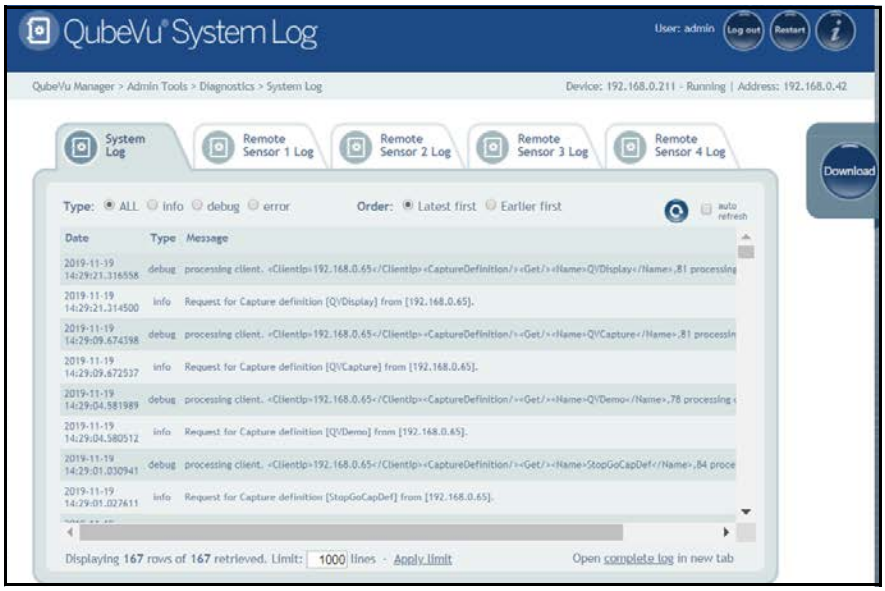

Figure 11-11. System Log Tab

Note ***The Remote Sensor Logs are not applicable.***

11.3 Debug Info

Press Debug Info from the ***Diagnostics*** menu (Figure 11-1 on page 55) to enter ***Debug Information*** menu.

The ***Debug Info*** is a file that provides engineering and trouble shooting information of the operation of the unit. This file may be requested for troubleshooting purposes. Check the **Select All** box then press Download to save the file to the computer.

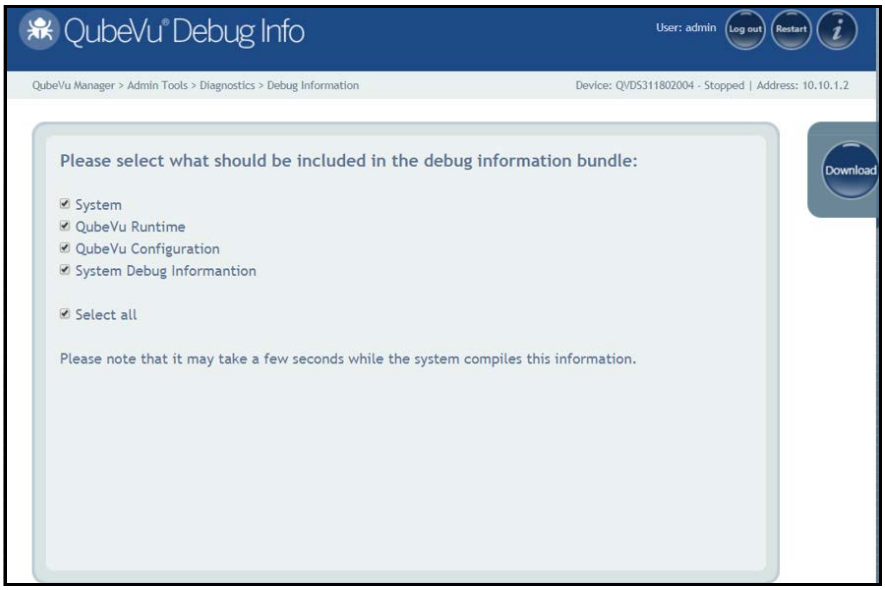

Figure 11-12. Debug Information

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12.0 License

This section provides an overview of iDimension PWD ***License*** menu information.

To enter the ***License*** menu use the following procedure:

1. Press  License from the ***QubeVu Manager*** menu (Figure 2-1 on page 2) to enter the ***License*** menu.
2. The QubeVu Manager login screen displays. The default username and password are **admin** and **password**.

A license file is uploaded at the time of manufacturing to identify the customer and date installed.
The QubeVu license will not expire. A license code request is sent to support@postea.com, with the license request code.
Select Choose File ***to upload the license provided. This menu is for factory use only.***

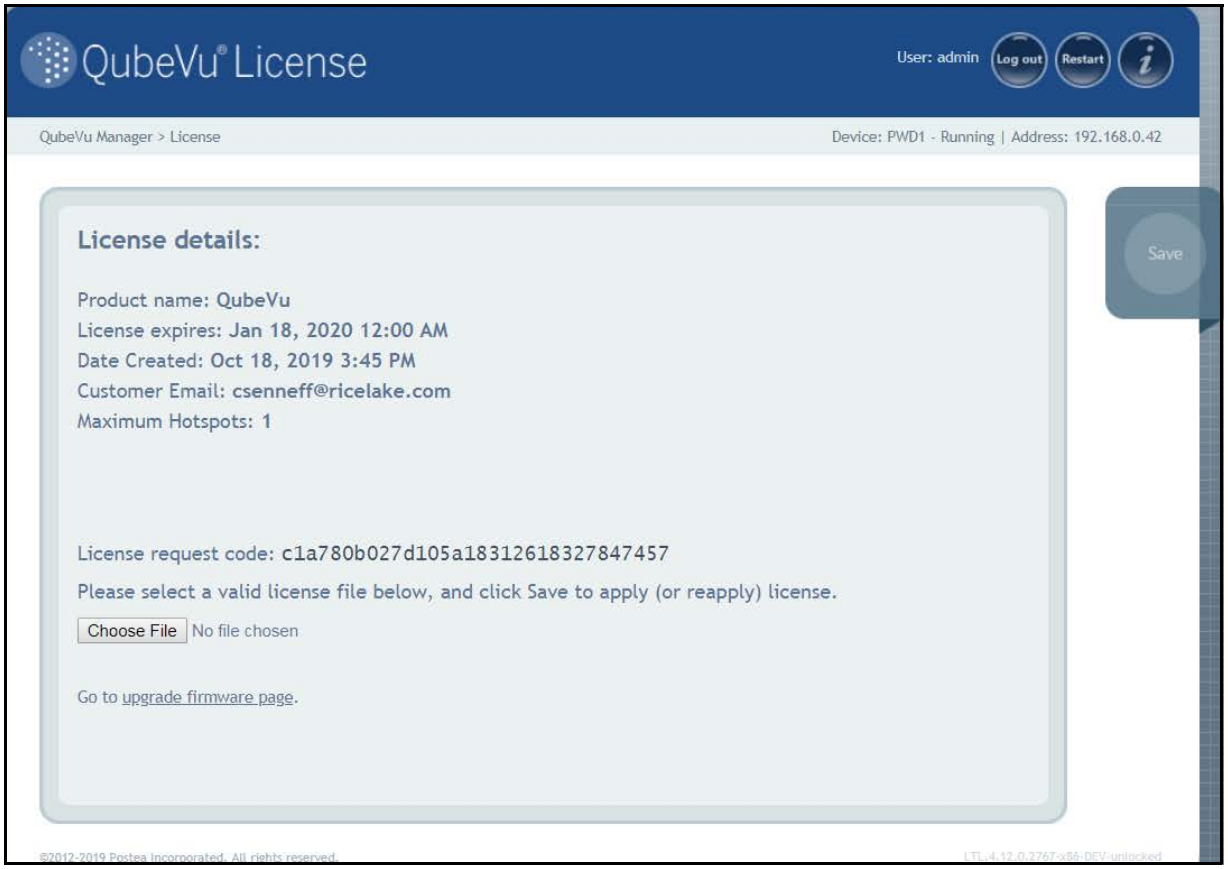

Figure 12-1. QubeVu License

13.0 Appendix

This section provides an overview of additional iDimension PWD documentation.

13.1 QubeVu Engineering Application

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

1. Using an internet browser, type in IPaddress/tools/engapp.php,
   - The example in Figure 13-1 is: http://192.168.0.42/tools/engapp.php
2. Press Connect.

Note Connect ***is located in the same spot as*** Disconnect***. Figure 13-1 is for reference.***

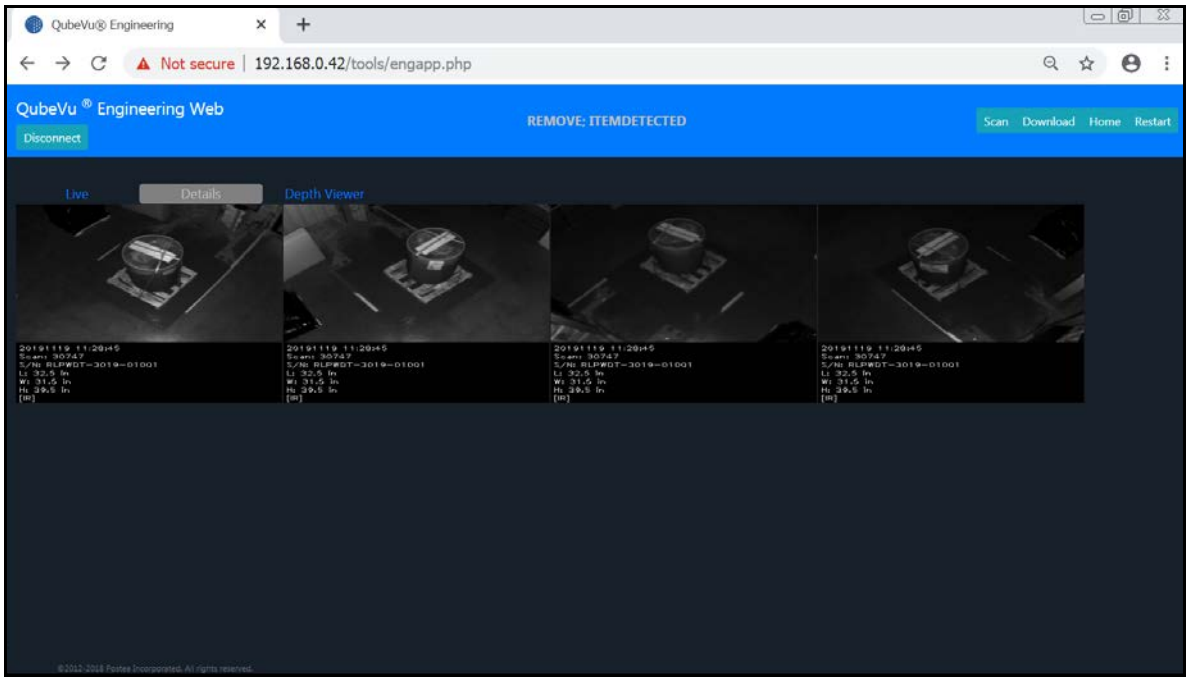

Figure 13-1. Engineering Application

3. The status message will change from ***Disconnect*** to HS1; ***Ready*** or ***Remove***
4. Press Details.

Note Details ***may not be live until the device has detected an object. Figure 13-1 is for reference.***

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5. Select Scan.

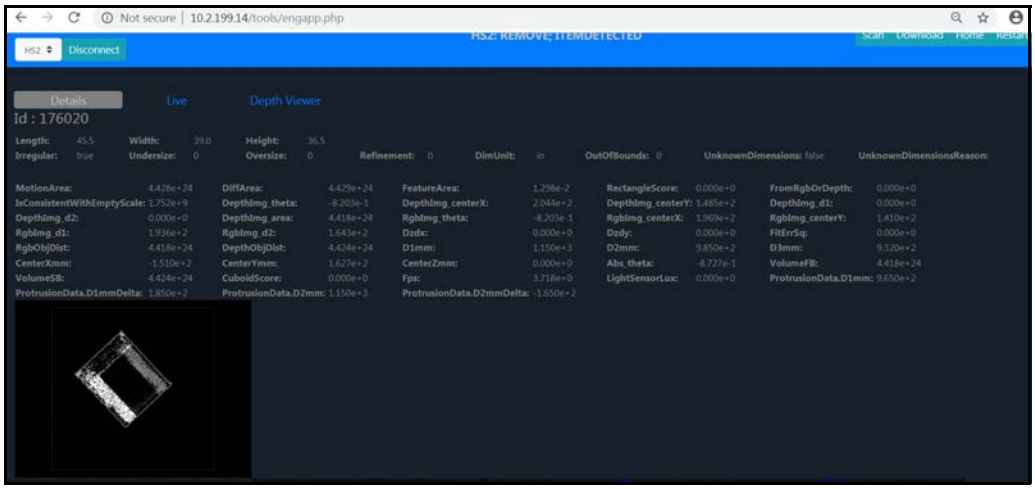

Figure 13-2. Application Scan

6. Select Download.

Enter the length, width and height (L, W and H) then press Download. The file is downloaded. Navigate to the default download location of the local PC to find the file. This file can be emailed to the Rice Lake Weighing Systems Dimensioning support team for analysis by engineering.

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

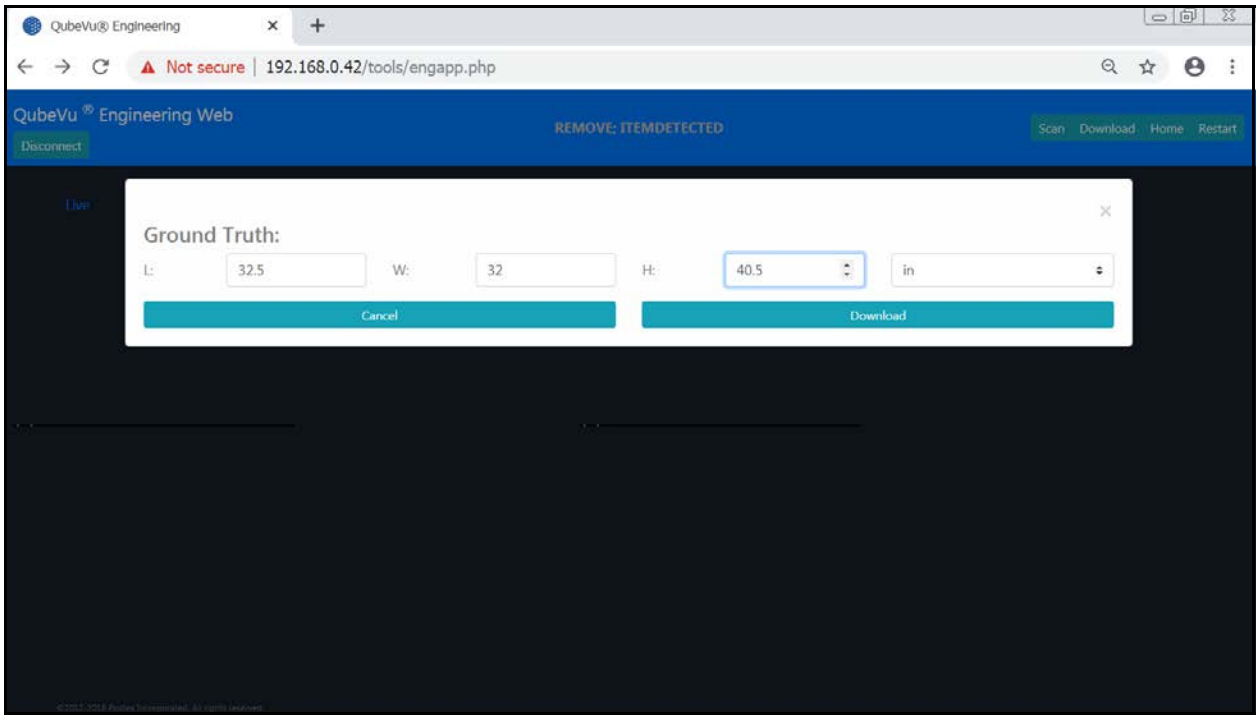

Figure 13-3. Ground Truth

13.2 Configuring Axis IP Camera Using IP Utility

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

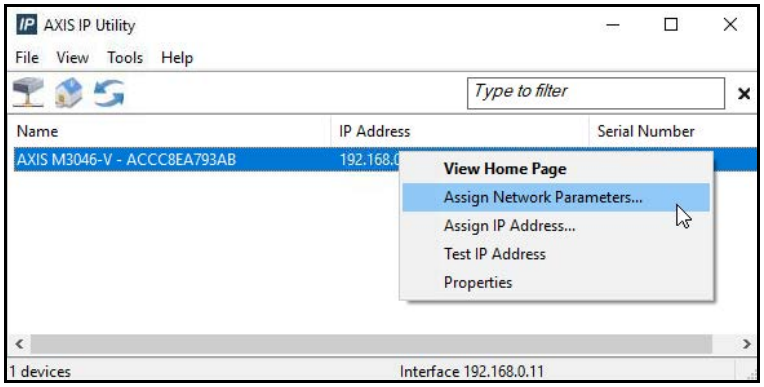

Figure 13-4. Assign Network Parameters

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

Note

Default Axis factory username: root

Default Axis factory password: pass

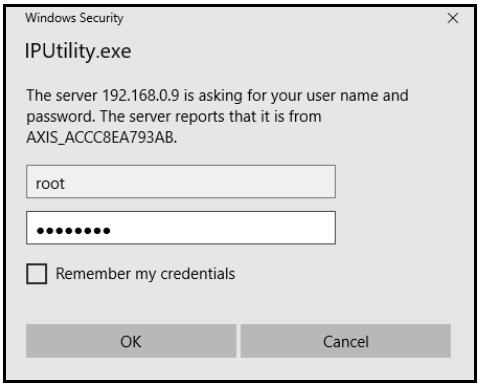

Figure 13-5. Login

3. Make the necessary changes and press OK.

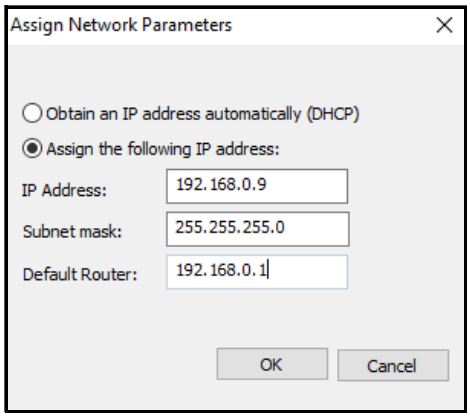

Figure 13-6. Assign Network Parameters

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4. Press OK.

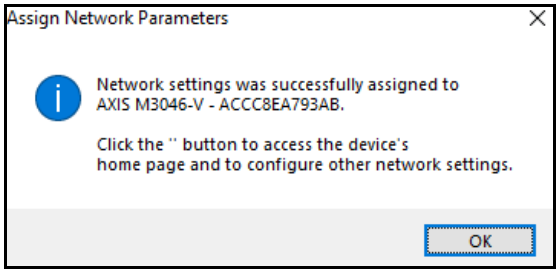

Figure 13-7. Network Parameter Confirmation

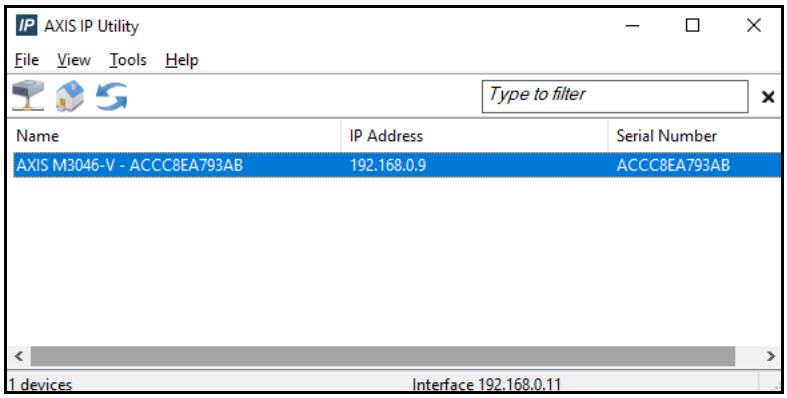

Figure 13-8. AXIS IP Utility

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

Note

Default Axis factory username: root

Default Axis factory password: pass

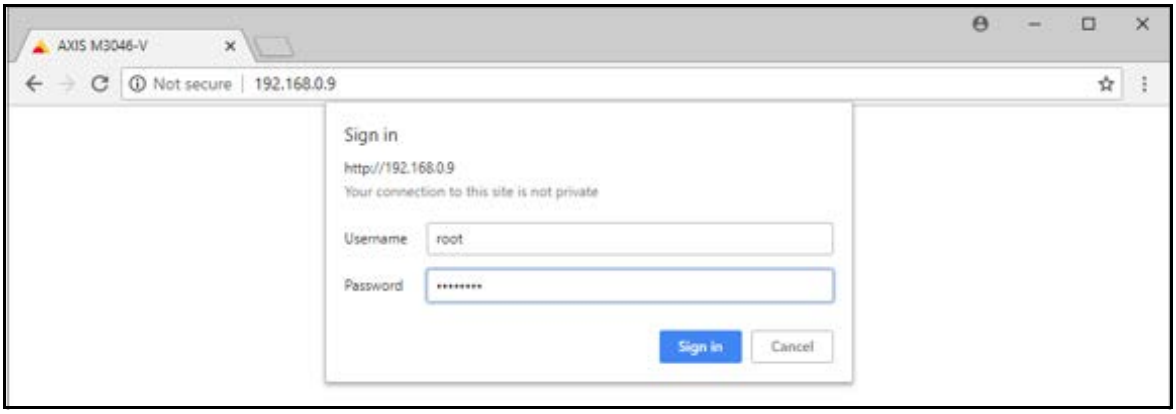

Figure 13-9. AXIS Sign-in

7. Press Sign in.

8. Press Next.

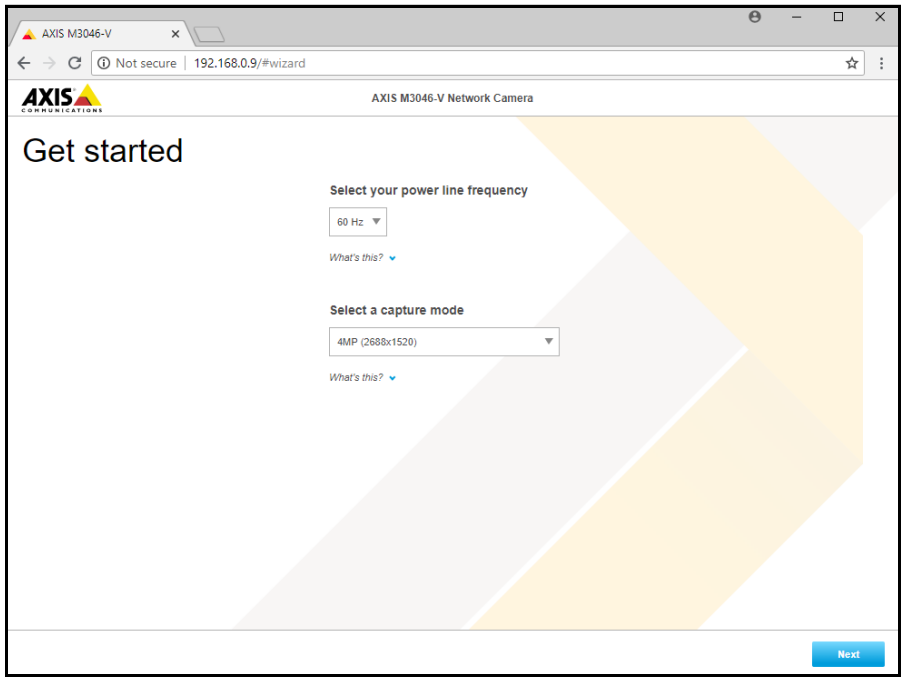

Figure 13-10. Network Camera

9. Press Next.

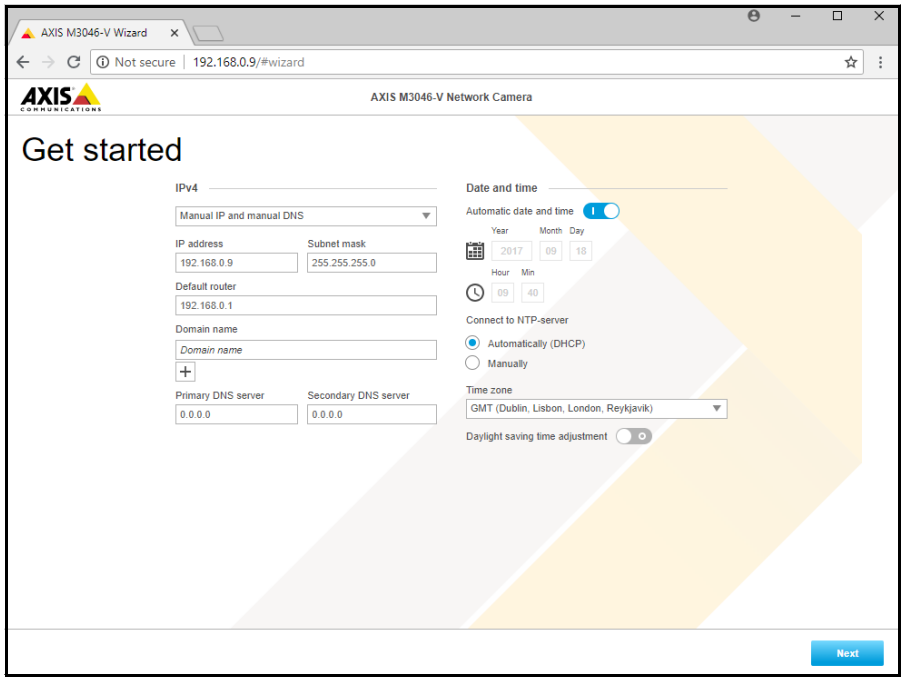

Figure 13-11. Network Camera (Continued)

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10. Adjust camera angle and zoom to application requirements.
11. Press Done.

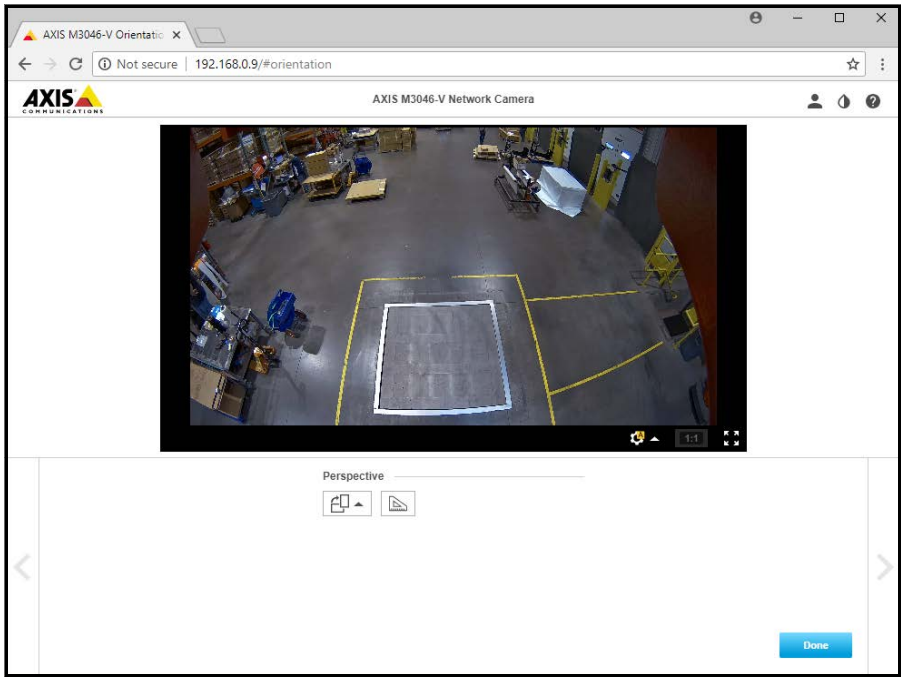

Figure 13-12. Camera Feed

12. Close the window.

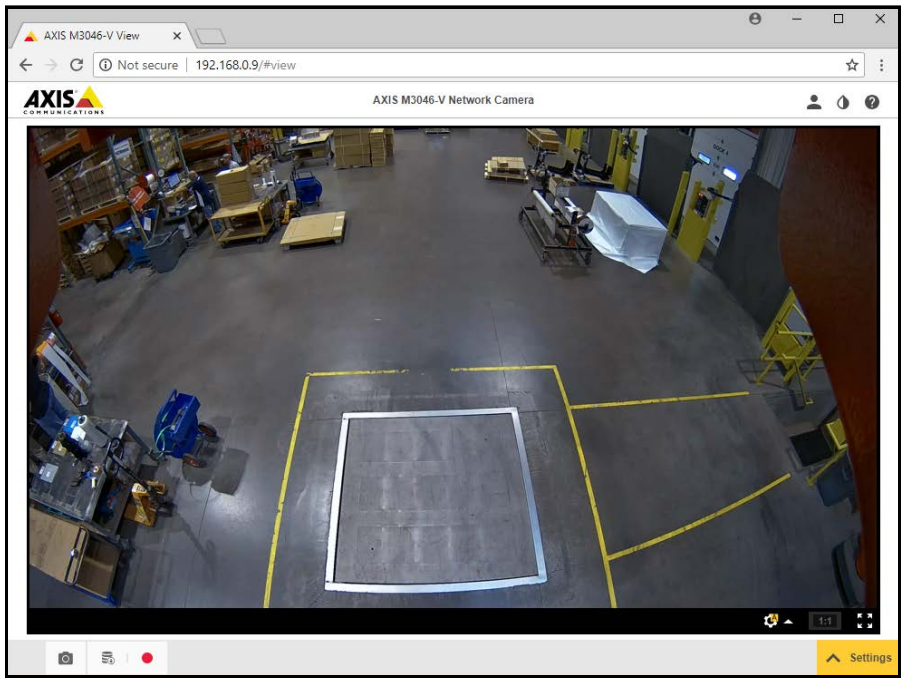

Figure 13-13. Camera Feed (Expanded)

13.3 Installation Notes

The following actions are required to configure an iDimension PWD during initial installation. This process is followed after the unit has been installed using one of the ceiling mount 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:
    a. Configure sensors using IFM vision assistant with new network addresses
    b. Configure Network Setting tab
    c. Configure IP camera using Axis IP utility program

The following is the network scheme used from the factory:

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/backdoor, connect to this on first power up
	169.254.1.1	
Web Relay	192.168.0.3	When applicable
Remote Sensor Labeled #1	192.168.0.4	–
Remote Sensor Labeled #2	192.168.0.5	–
Remote Sensor Labeled #3	192.168.0.6	–
Remote Sensor Labeled #4	192.168.0.7	–
Remote Sensor Labeled #5	192.168.0.8	Sensor in iDimension PWD junction box
IP Camera 1	192.168.0.9	If applicable (optional)
IP Camera 2	192.168.0.10	If applicable (optional)
JLT	192.168.0.11	Ethernet connection to the iDimension PWD
Forklift Operator Display	192.168.0.12	If applicable (optional)

Table 13-1. Network IPs

Remote IFM sensors default IP addresses are 192.168.0.6 through 192.168.0.9.
IP Camera default IP address is 192.168.0.9

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

2. Configure Depth Camera Height and Depth Max from the Measurement Sensors tab in the Depth Sensor settings.
3. Configure Capture Definitions (QV Demo and Default) to meet application requirements.
   Markings to meet customer requirements and Tare mode should be none.
4. Configure Displays/Customer Display:
    a. iDimension PWD – Display Screen Version 1
5. Add Remote Sensors:
    a. Discover
    b. Add all
6. Calibration Mode:
    a. Align sensors centered onto calibration object
    b. Perform calibration

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13.4 Status Messages

Status and error messages are visible from the QubeVu Manager Demo Display (Section 3.4 on page 13).

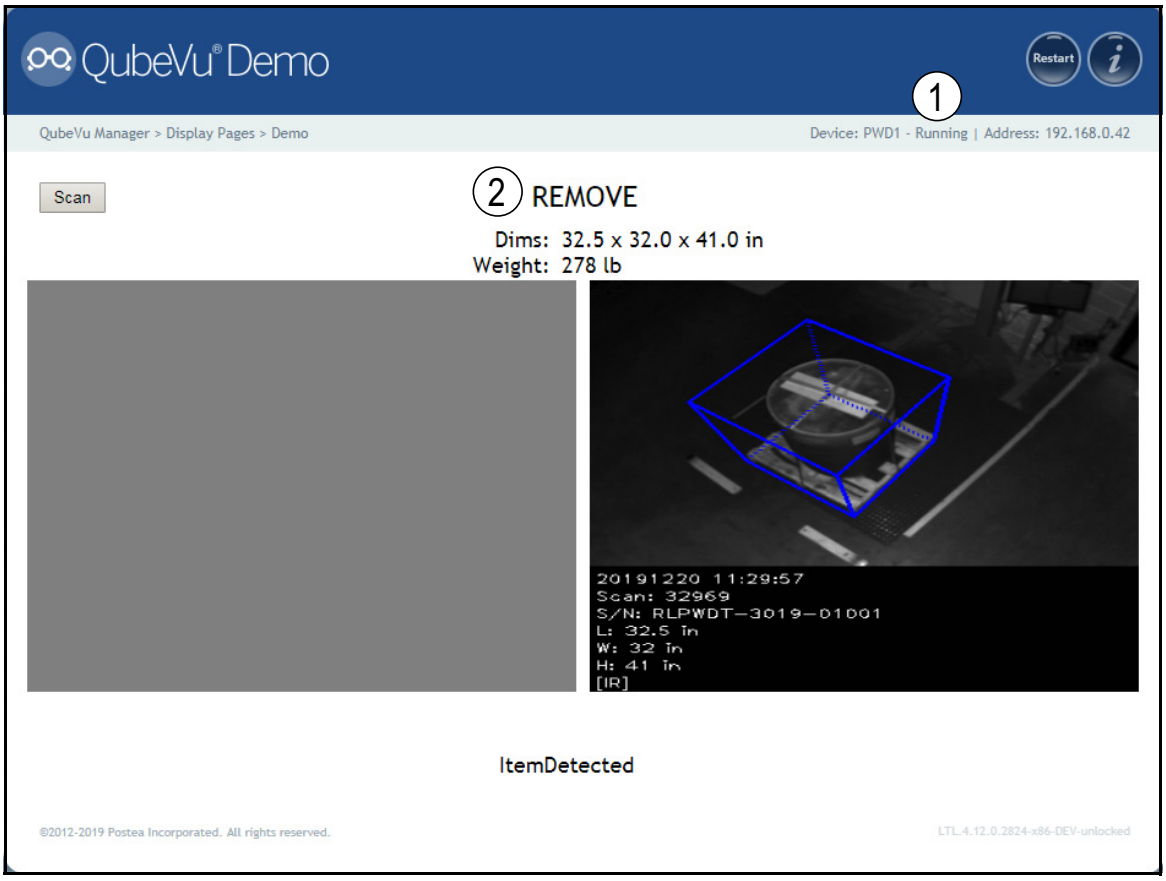

Figure 13-14. Demo Display

Item No.	Description
1	Status
2	Extended Status

Table 13-2. 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 13-3. Status Messages

13.4.1 Extended Status Messages

Status	Description
ScaleNotStable	This is set during tracking if the scale indicates that the value returned is not a stable value; 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 has detected that 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 will progress to 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 value; 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; A repositioning of 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 13-4. Extended Status Messages

13.4.2 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 13-5. Error Messages

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13.5 Appendix C: Sample XSL File

Sample XSL file for use in the Daily Extract process. For further samples see the QubeVu SDK: (https://www.dropbox.com/sh/0idltsx9z334vzd/AACYaRBs_iam8PMuFd7L5vIsa?dl=0)

```
<?xml version="1.0" encoding="UTF-8"?>

<xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform" xmlns:qv="http://postea.com/WebServices/QubeVu">

    <xsl:output method="text"></xsl:output>

    <xsl:template match="/">ScanId,DateTime,Length,Width,Height,DimUnit

<xsl:apply-templates/>

    </xsl:template>

<xsl:template match="qv:QVStatus">

    <xsl:apply-templates select="qv:CapturedData"/>

</xsl:template>

    <xsl:template match="qv:CapturedData">

        <xsl:value-of select="@CaptureId"/>,<xsl:value-of select="qv:DateTime"/>,<xsl:value-of select="qv:Dimensions/qv:Length"/>,<xsl:value-of select="qv:Dimensions/qv:Width"/>,<xsl:value-of select="qv:Dimensions/qv:Height"/>,<xsl:value-of select="qv:Dimensions/@DimUnit"/><xsl:text>&#13;</xsl:text>

    </xsl:template>

</xsl:stylesheet>
```

13.6 Data Extraction Configuration Example

The ***Data Extraction*** tab is split into two panes. The left pane specifies what data is to be collected and the right pane specifies the data extraction method.

Below is an example of a ***Data Extraction*** configuration:

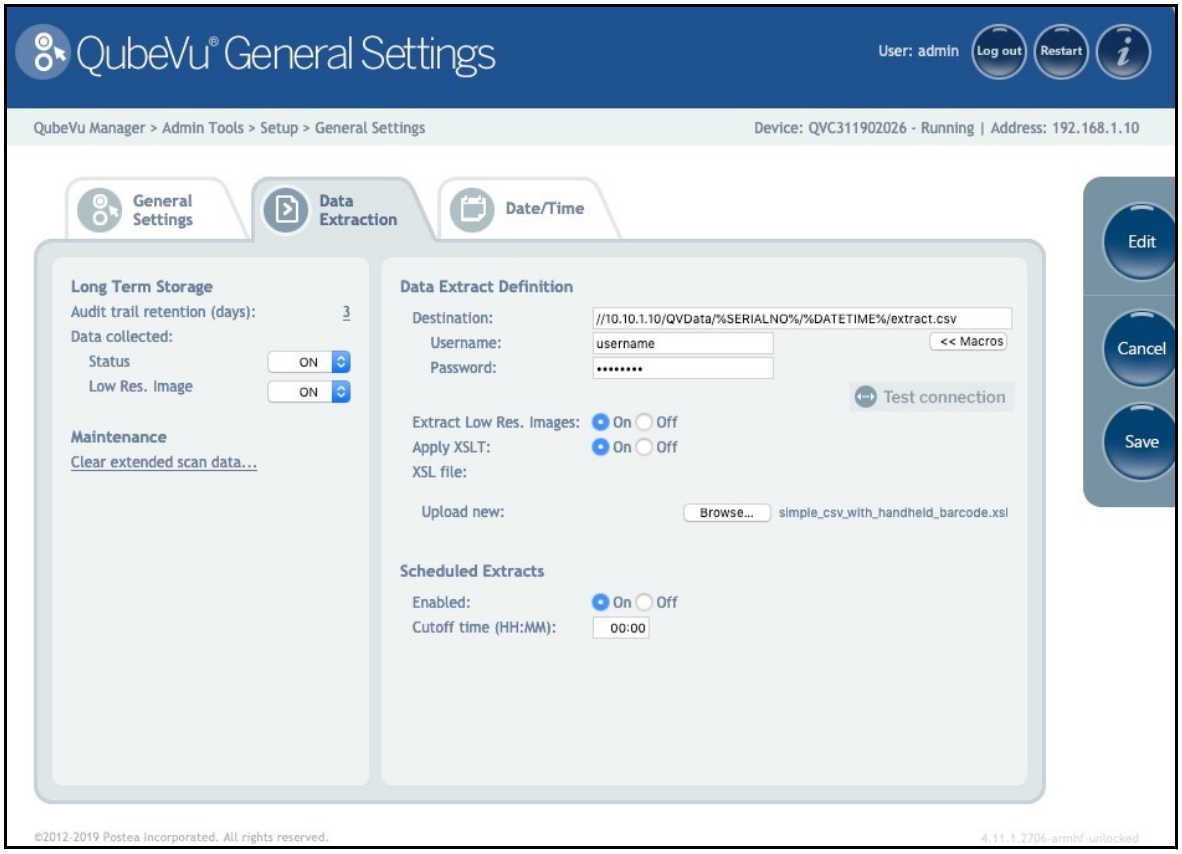

Figure 13-15. Data Extraction Tab

13.6.1 Data Collection

In the example provided the following data collection parameters are set:

Parameter	Description
Audit Trail Retention (Days): 5	Data will be stored for 5 days
Status.xml Collection is OFF	Status.xml will not be stored (required)
Low Res. Image Collection is ON	A low res image of each scan will be stored (optional)

Table 13-6. Data Collection Parameters

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13.6.2 Data Extraction Definition

The Data Extraction Definition section is used to specify where the data will be extracted to, the format of the data and the extract schedule. The target location is a shared folder on a server or computer. If assistance is required for setting up the shared folder please contact your IT Support team.

Example: //10.10.1.10/QVData/%SERIALNO%/%DATETIME%/extract.csv

Contains the following elements:

- 10.10.1.10 is the IP address of the target PC/server
- QVData is the name of the shared folder on the target PC/server
- %SERIALNO% will create a sub folder in the share using the serial number of the QubeVu as a name; This is useful if multiple QubeVu's are using the same shared folder
- %DATETIME% will create a further sub folder using the date and time of the extract as a name
- extract.csv creates a result file with the name extract.csv prefixed with the creation date and time

Note ***Low-res image extraction is turned ON, and XSLT is not in use. The above configuration results in a data set similar to Figure 13-16.***

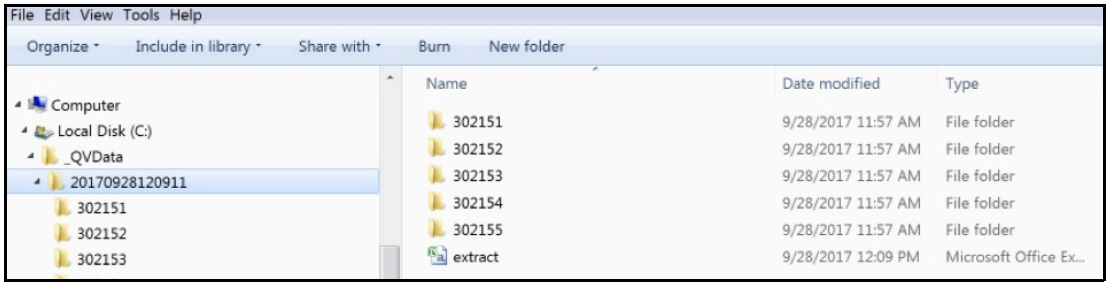

Figure 13-16. Data Extraction Configuration Example

The folder named "20170928120911" contains the data for the extract. Dim data is stored in the file "extract.csv".

The image files for each scan are stored in individual folders, identified by the numeric CaptureID of the scan.

The example above contained five scans so the five images are in the folders named 302151–302155.

13.7 TCP Interface

To edit the TCP interface, see Item 6 in Section 6.1 on page 18. 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

13.7.1 TCP Interface

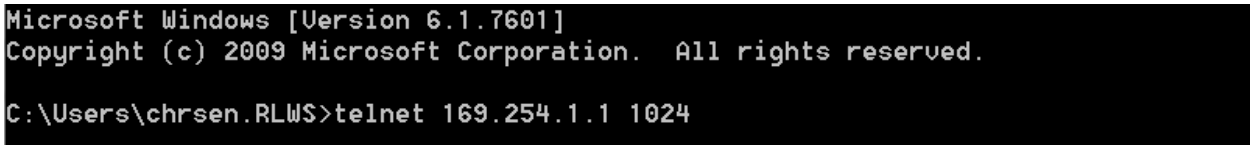

Figure 13-17. TCP Interface Example 1

Figure 13-18. TCP Interface Example 2

13.7.2 TCP Interface Configuration

1. Select **QubeVu** or **Cubiscan 110/150** from the TCP interface drop-down list.
2. Set the TCP port.
3. Press 

to compete the TCP emulation setup.

13.8 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 13-7. Remote Sensors Parameters

13.8.1 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>

13.8.2 Serial Interface

The serial interface operates in two modes:

- QubeVu – A simple request or response protocol; Refer to the iDimension API Guide (Section 13.7.1) for detailed information on using this interface
- Cubiscan – 110/150 Emulates a subset of commands supported by Cubiscan 110/150

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