

iDimension[®] Plus

Static Dimensioning System – Version 4.11

Managers Guide



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1.0 Introduction

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

When interfacing this device to a third parties software 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 Safety

Safety Signal Definitions:



DANGER Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. Includes hazards that are exposed when guards are removed.



WARNING Indicates a potentially hazardous situation that, if not avoided, could result in serious injury or death. Includes hazards that are exposed when guards are removed.



CAUTION Indicates a potentially hazardous situation that, if not avoided, could result in minor or moderate injury.



IMPORTANT Indicates information about procedures that, if not observed, could result in damage to equipment or corruption to and loss of data.

General Safety



Do not operate or work on this equipment unless this manual has been read and all instructions are understood. Failure to follow the instructions or heed the warnings could result in injury or death. Contact any Rice Lake Weighing Systems dealer for replacement manuals.



Failure to heed could result in serious injury or death.

Electric shock hazard!

There are no user serviceable parts. Refer to qualified service personnel for service.

The unit has no power switch, to completely remove D/C power from the unit, disconnect the D/C power cable from the main socket.

For pluggable equipment the socket outlet must be installed near the equipment and must be easily accessible.

Always disconnect from main power before performing any work on the device.

Do not allow minors (children) or inexperienced persons to operate this unit.

Do not operate without all shields and guards in place.

Do not use for purposes other than weighing applications.

Do not place fingers into slots or possible pinch points.

Do not use this product if any of the components are cracked.

Do not make alterations or modifications to the unit.

Do not remove or obscure warning labels.

Do not use near water.

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.

1.3 FCC Compliance

United States

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 his own expense.

Canada

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

1.4 Network Connection

To establish a secure connection to the iDimension Plus, connect the unit via web browser or Ethernet.

DHCP is enabled by default.

1.4.1 Accessing QubeVu Manager via Web Browser

Compatible web browser: Google Chrome 25.0 or higher.

1.4.2 Accessing QubeVu Manager on 169.254.1.1

Connect a computer to the iDimension with the Ethernet cable, either directly or over the network.

Type the IP address of the iDimension into a browser to access the QubeVu Manager tools.



Note *If this is the initial configuration, the computer must be connected directly to the iDimension.*

1.4.3 Direct Connection

Connect the iDimension directly to a computer with an Ethernet cable. If an Ethernet port is not available on the computer, contact Rice Lake Service for support using the USB to Ethernet Adapter (PN 175621).

1.4.4 Network Connection

The iDimension can be installed on the network with the Ethernet cable, and configured with a static IP address or using DHCP. Consult the network administrator to determine the best approach.

Network Settings (Windows)

To access QubeVu Manager, configure the local area connection.

1. Press the **Windows + R** keys.
2. Within the **Open** field type the following: `control ncpa.cpl`.

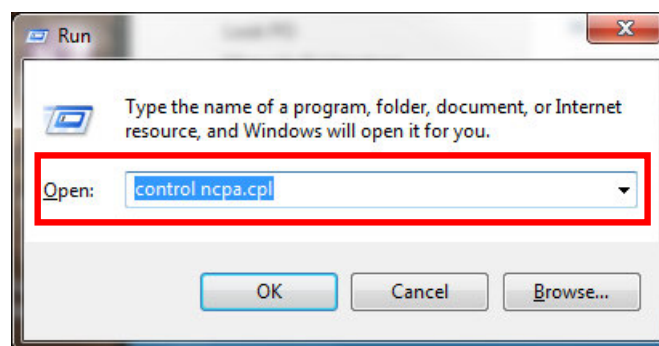


Figure 1-1. Run Shell Open

3. Select **Ok**.

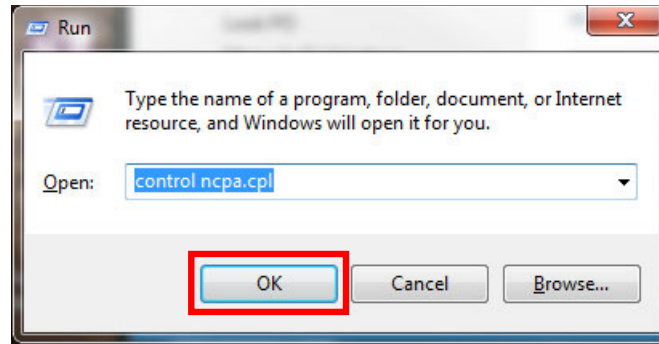


Figure 1-2. Run Shell Confirmation

4. **Network Connections** displays.

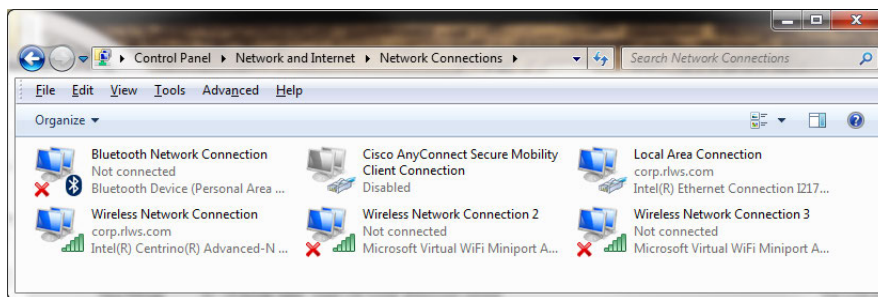


Figure 1-3. Network Connections

5. Right-click on a **Local Area Connection**.

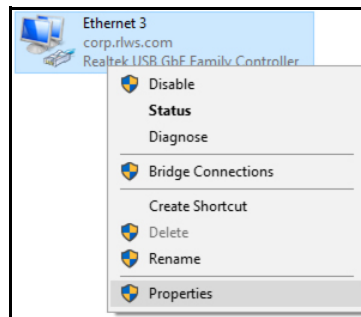


Figure 1-4. Network Options

6. Select **Properties**.

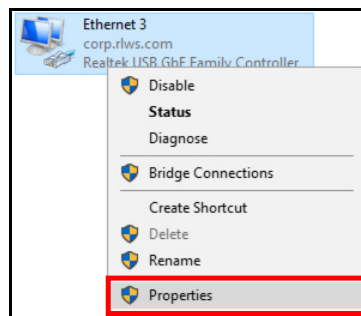


Figure 1-5. Network Properties

7. Select **Internet Protocol Version 4 (TCP/IPv4)** by double-clicking.

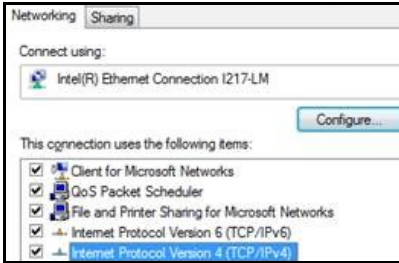


Figure 1-6. Local Area Connection Properties

8. Select **Use the following IP address.**

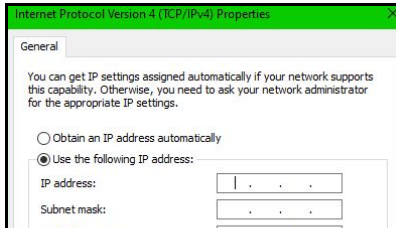


Figure 1-7. IP Address Selection

9. Change the **IP address** to 169.254.1.10.

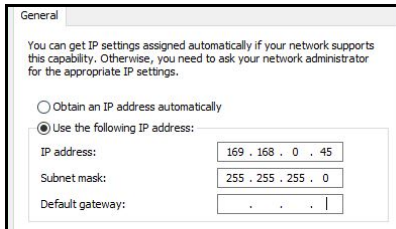


Figure 1-8. IP Address Configuration

10. Change the **Subnet mask** to 255.255.255.0.

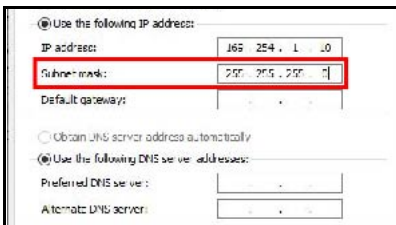


Figure 1-9. Subnet Mask Configuration

11. Select **Ok.**

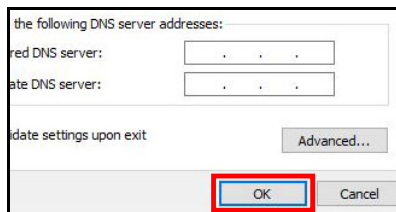


Figure 1-10. Configuration Confirmation

12. Open an Internet browser.
13. Type 169.254.1.1 in the address bar and press the **Enter** key to display the iDimension QubeVu Manager.



Note See the *iDimension Operation Manual (PN 195439)* for operation instructions.

2.0 QubeVu Login Screen

The QubeVu Manager is the firmware installed on the iDimension Plus dimensioning head that provides more advanced configuration or features, system diagnostics and calibration not accessible from the touch screen operator display. To access the QubeVu Manager firmware, connecting the device to an Ethernet port on a computer.

To view the **QubeVu Manager**, open an Internet browser and enter `http://169.254.1.1`. If using DHCP or static IP address, replace 169.254.1.1 with the IP address provided by the network administrator.

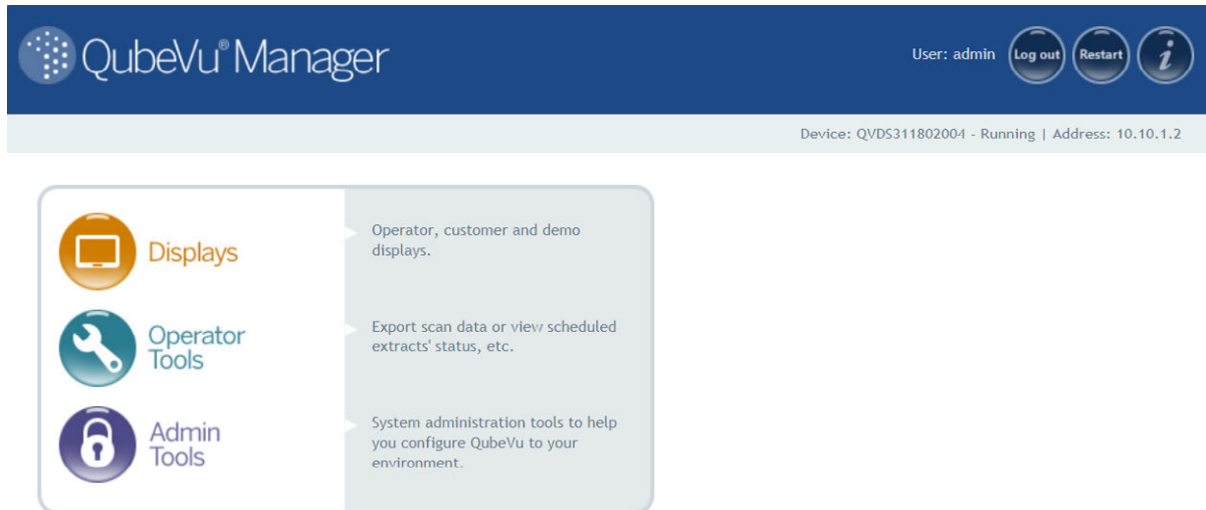


Figure 2-1. QubeVu Manager Home Page

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.

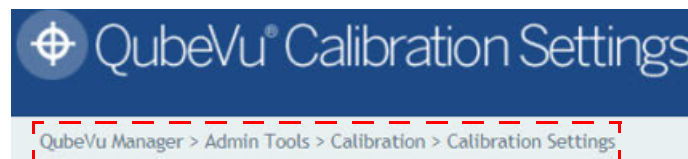


Figure 2-2. Navigation Menu

2.2 Status

The 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. Select Log Out to return to the standard user mode.

Device: The default setting is the serial number of the iDimension. 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.

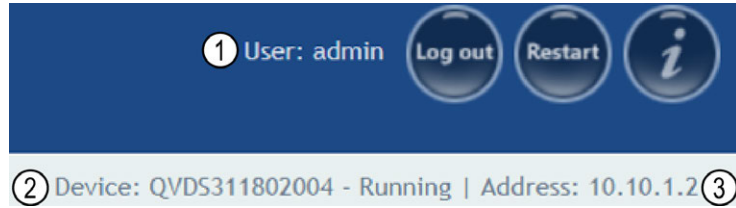


Figure 2-3. Status Display

Item No.	Description
1	User
2	Device and System Status
3	IP Address

Table 2-1. 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.

2.2.1 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
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

Table 2-2. Status Messages

2.2.2 Restart/Reboot iDimension

Select **Restart** to either restart or reboot the system.

Select **Restart** to restart the service currently running on the device.

Select **Reboot** to reboot the operating system. Rebooting the iDimension Plus takes several minutes and power cycles the unit. If USB scale is connected, turn the scale back on to perform a transaction.




Figure 2-4. Restart/Reboot Prompt

2.3 QubeVu Inspector

The **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**.

1. Select  to access device information.

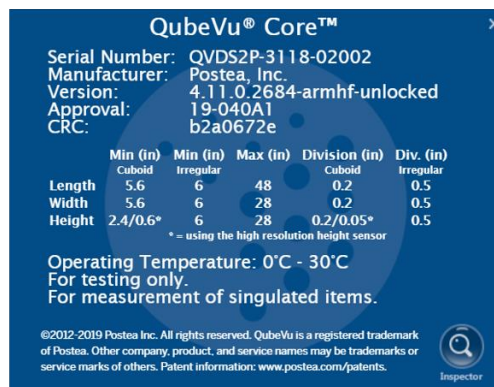


Figure 2-5. QubeVu Inspector Selection

2. Select . The **QubeVu Inspector** menu displays.

2.4 Device Information

The **Device Information** button provides access to view the serial number, software version number and to access the **Inspector** menu.

The **Device Information** tab displays specific information about the device.

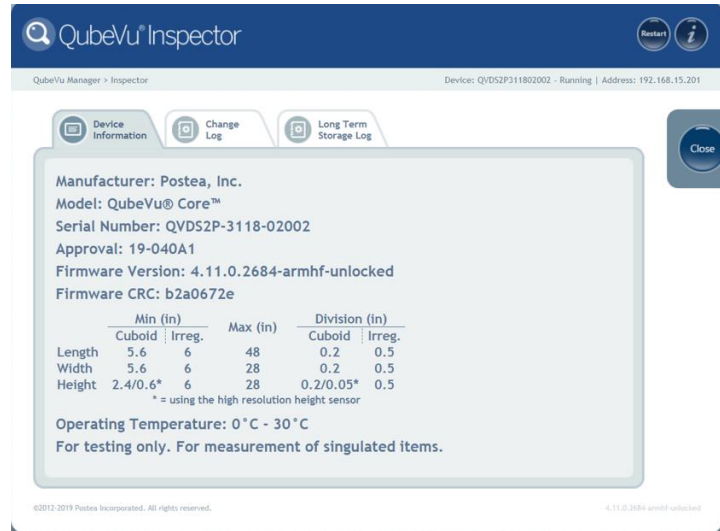


Figure 2-6. QubeVu Inspector Device Information Tab

2.5 Change Log

The **Change Log** is a list of changes made to setting. This menu is used by the local weights and measures inspector.

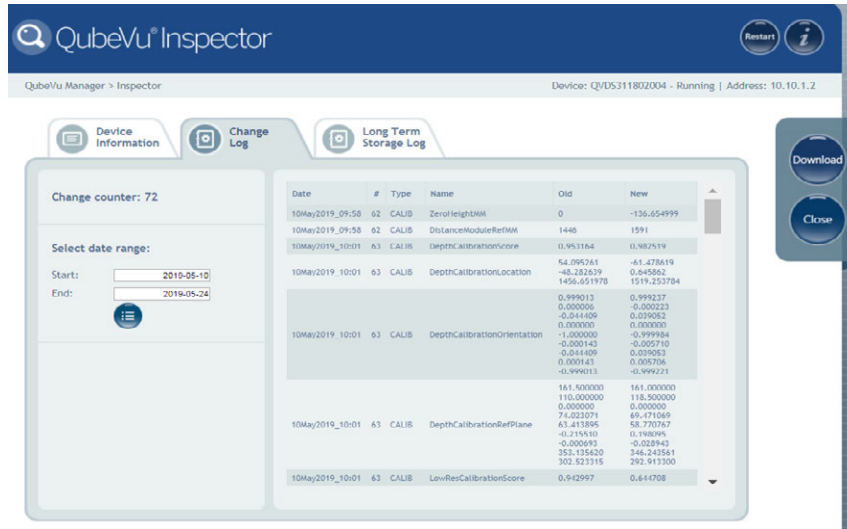




Figure 2-7. Change Log

- To view using a date range – enter a **Start** and **End** date then select 
- To view previous logs, select  without entering a date range
- Use the arrow keys on the PC keyboard to scroll through the results; Select **Download** to export the log to a .csv file

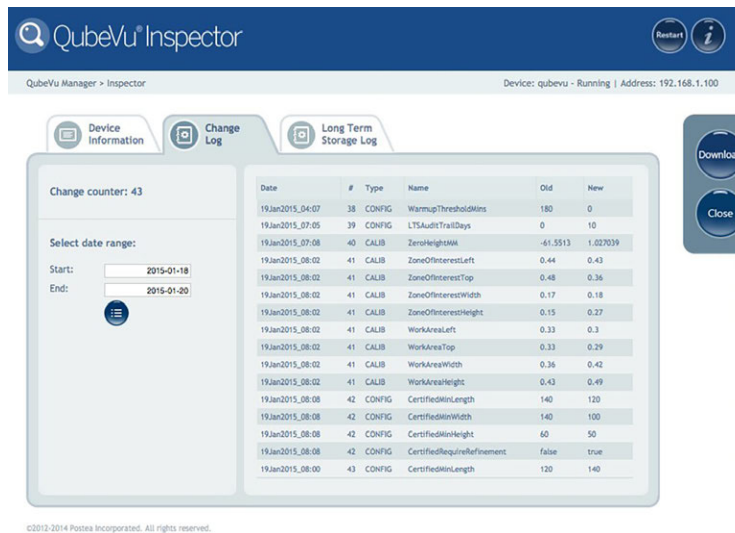


Figure 2-8. Change Log Data

2.6 Long Term Storage Log

Long term storage is necessary to satisfy particular Legal for Trade requirements in certain jurisdictions. The measurement data stored in **Long Term Storage** 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.

2.6.1 Enabling Long Term Storage

Long term storage is enabled from the **Measurement Settings** (Section 5.3.4 on page 25).

2.6.2 Viewing 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. To assist with this selection, the total number of entries is displayed along with the first and last scan IDs.

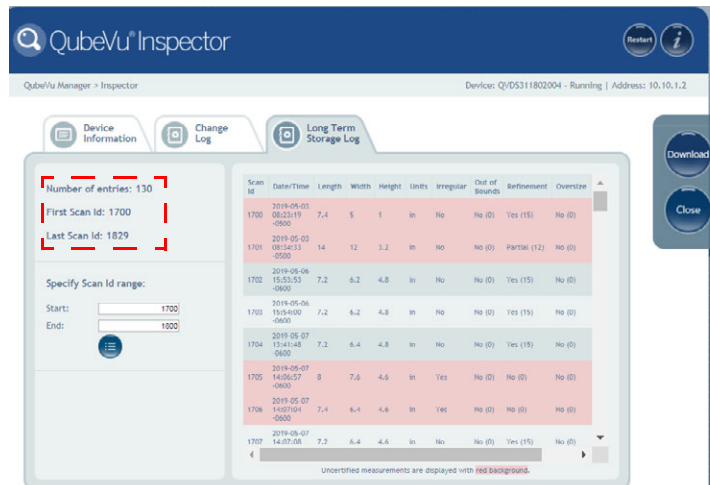


Figure 2-9. Long Term Storage Tab

Enter a scan ID range and select .

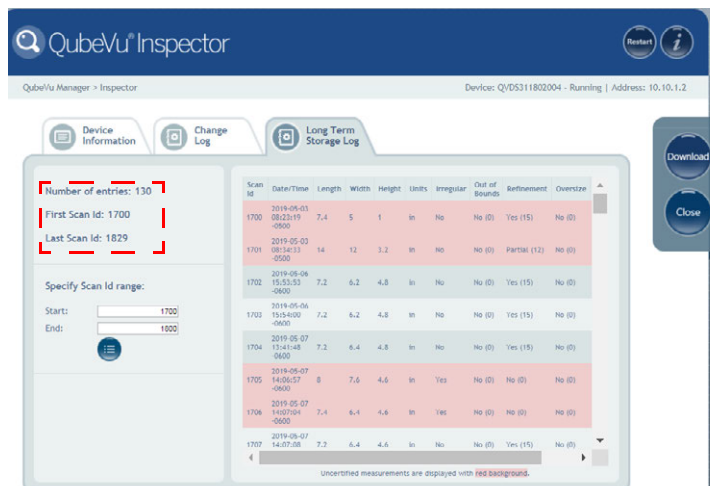


Figure 2-10. Long Term Storage Data

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

2.7 Displays

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


1. From the QubeVu home page, select  Displays.
2. Select the display to edit.



Figure 2-11. Displays Menu

2.7.1 Operator Display

The **Operator Display** simulates the configuration of the Touch Screen USB display.

See the iDimension Plus Operation Manual (PN 195439) for a description of each function.

The **Operator Display** can be configured using the Admin/Setup Menu/Displays administrative function.

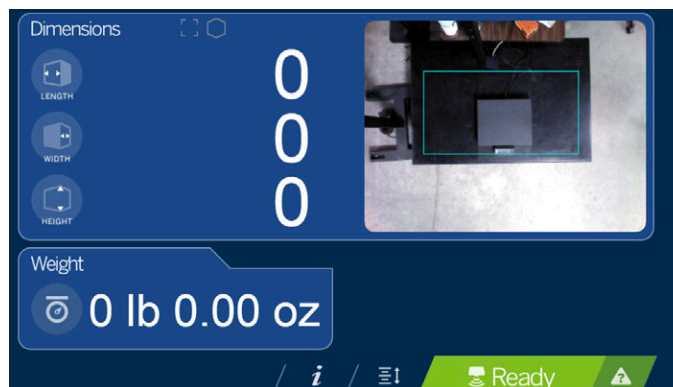


Figure 2-12. Operator Display

2.7.2 Customer Display

Customer Display can be used for applications where a visible display is required for viewing of dimensioning transaction.

The **Customer Display** does not provide access to any operator controls.

The **Customer Display** can be configured using the Admin/Setup Menu/Displays administrative function.

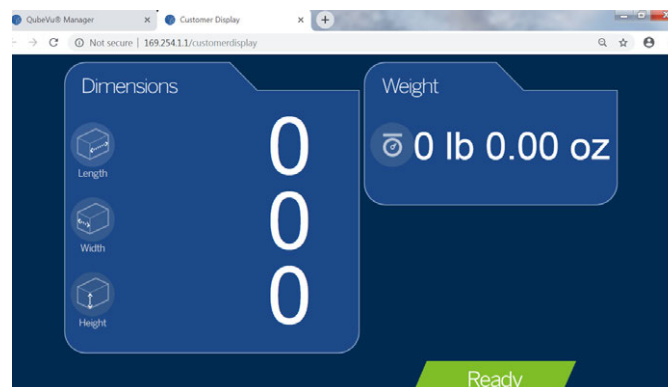


Figure 2-13. Customer Display

2.7.3 Demo Display

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

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



Figure 2-14. Demo Display



Status messages are always displayed within the display screen menus. The messages displayed on screen are not error messages.

See [Section 11.0 on page 57](#) for displayed status, extended status and error status messages.

Button	Description
Scan	The button manually triggers a dimension
High Resolution Scan	For engineering use only
Zero Height	The Zero Height button calculates the difference between the scan head and the base and defines the background of the dimensioning area; For use when the background of the work area has changed, the scale has shifted on the platform causing the device to provide inaccurate dimensions for the height

Table 2-3. Display Parameters

Zero Height Button

1. When selected, the following prompts:

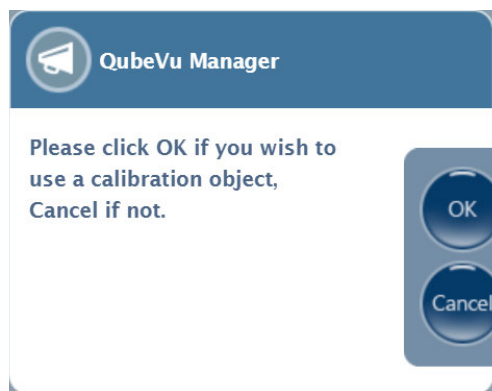


Figure 2-15. Calibration Object Confirmation



For flat top scales or no scale, a calibration object is not required.


2. If a calibration object is used, select **Ok** to continue.
3. If a calibration object is not used, select **Cancel** to continue.
4. If the scale is using a ball-top or conveyor roller weight plater, place the calibration object on top of the platform.
5. Select **Ok** to perform a zero height.

3.0 Operator Tools

This section provides an overview of iDimension Plus operator tools instructions.

3.1 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 11.2.1 on page 60](#), for detailed information on configuring scan data extract.

From the main menu, select  Operator Tools.


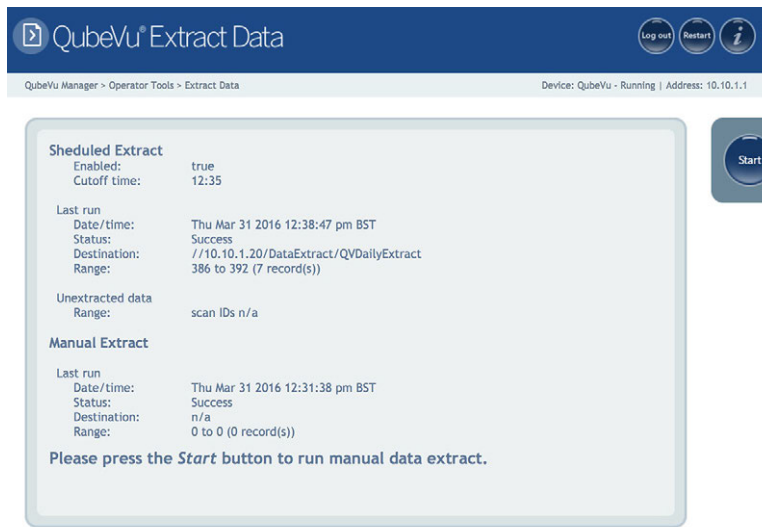
Select  **Extract Data** to view the status of the scheduled scan data extract or perform a manual scan data export.



Figure 3-1. Operator Tools Menu

The **Extract Data** menu displays the status of both the scheduled extract and the manual extract. Select **Start** to perform a manual extract.


 A screenshot of the QubeVu Extract Data web interface. The page title is "QubeVu Extract Data". The breadcrumb trail is "QubeVu Manager > Operator Tools > Extract Data". The device information is "Device: QubeVu - Running | Address: 10.10.1.1". The main content area is divided into two sections: "Scheduled Extract" and "Manual Extract".

Scheduled Extract	
Enabled:	true
Cutoff time:	12:35
Last run	
Date/time:	Thu Mar 31 2016 12:38:47 pm BST
Status:	Success
Destination:	//10.10.1.20/DataExtract/QVDailyExtract
Range:	386 to 392 (7 record(s))
Unextracted data	
Range:	scan IDs n/a
Manual Extract	
Last run	
Date/time:	Thu Mar 31 2016 12:31:38 pm BST
Status:	Success
Destination:	n/a
Range:	0 to 0 (0 record(s))
Please press the Start button to run manual data extract.	

 On the right side of the interface, there is a blue "Start" button.

Figure 3-2. Manual Extract Display


4.0 Admin Tools

This section provides an overview of iDimension Plus admin tools instructions.

4.1 Admin Tools Menu

Admin Tools are used for configuring, calibrating, defining, upgrading, backing up and running diagnostics on the system.

To enter the **Admin Tools** menu use the following steps:

1. Go to the home page.
2. Select  Admin Tools to log in.
3. The default user name is **admin** and the default password is **password**.
4. Select desired tool.

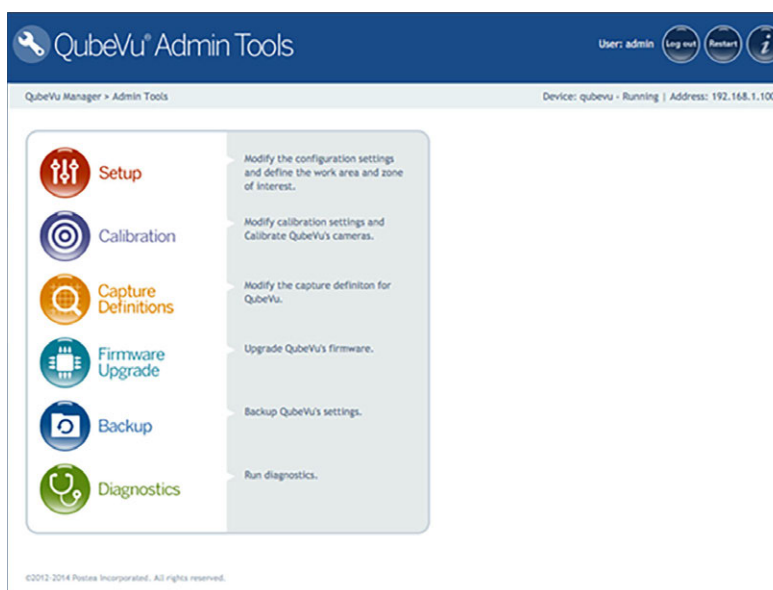


Figure 4-1. Admin Tools Menu

Parameter	Description
Setup	General (operational and scale), time and date, data extraction and long term storage, measurement, network settings
Calibration	Calibration settings, define work area and zone of interest, calibrate cameras (Section 6.0 on page 34)
Capture Definitions	Capture definitions for QubeVu (Section 7.0 on page 43)
Firmware Upgrade	Update firmware (Section 8.0 on page 45)
Backup	Backup and restore settings (Section 9.0 on page 48)
Diagnostics	Diagnostics settings (Section 10.0 on page 50)

Table 4-1. Admin Tools

4.1.1 Edit/Cancel/Save Keys

While in the **Admin Tools** menus, on the right side of the screen the **Edit**, **Cancel** and **Save** keys are active.

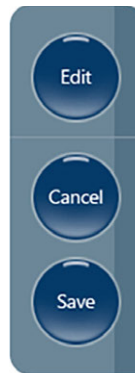


Figure 4-2. Edit, Cancel and Save Keys

Edit

Display while in the general setting mode and calibration menu. Prior to making changes to these settings, select **Edit**. Change the settings then select **Save** to continue.

Cancel

Cancels all edits made to all tabs, unless saved.

Save

The **Save** key saves 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.

5.0 Setup

This section provides an overview of iDimension Plus setup instructions.

5.1 Setup Menu


Select  **Setup** to enter the setup menu.



Figure 5-1. QubeVu Setup

5.2 General Settings

General setting provides access to configuring the operation of the unit, enable flat detection, configure the scale and other external interface methods for retrieving data.

 **Note** Select from the Setup menu to enter.

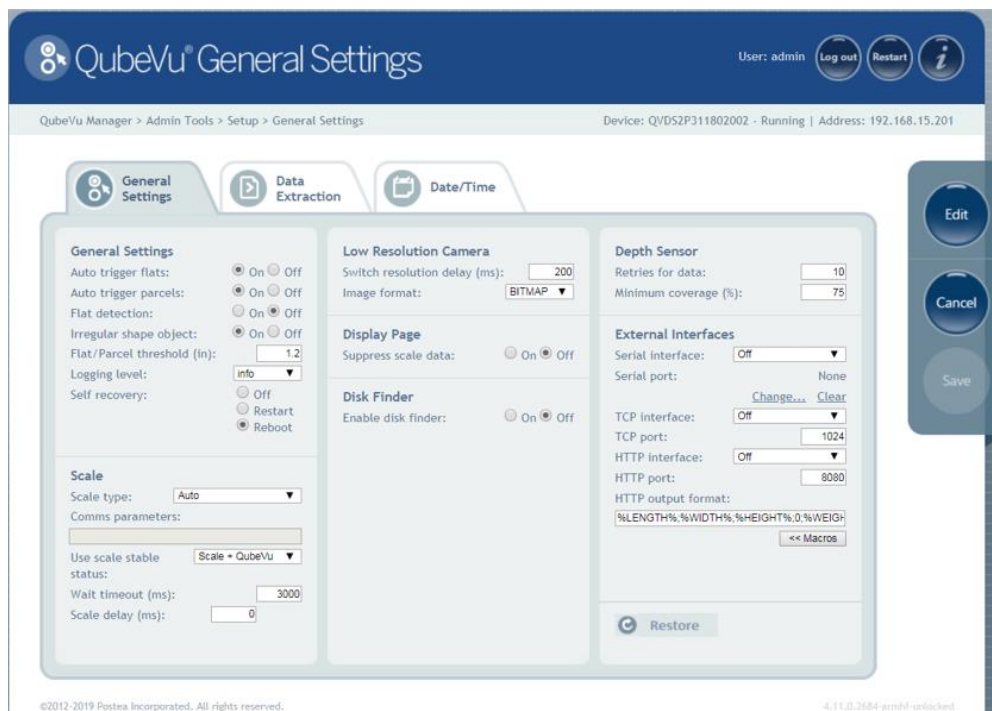


Figure 5-2. Setup – General Settings

5.2.1 General Settings Parameters

Below are the default factory settings.

The screenshot shows a 'General Settings' window with the following options:

- Auto trigger flats: On Off
- Auto trigger parcels: On Off
- Flat detection: On Off
- Irregular shape object: On Off
- Flat/Parcel threshold (in):
- Logging level: ▼
- Self recovery: Off, Restart, Reboot

Figure 5-3. General Settings

Parameter	Description
Auto Trigger Flats	Determines if the capture (dimensions, weight, image) is automatically triggered for items classified as flats; On = capture initiated when a flat item is placed in the Work Area , item is stable and a stable weight has been received from a connected scale, default
Auto Trigger Parcels	The default setting is On ; A parcel is defined as a package that is determined automatically at 85% or higher in a cuboid score
Flat Detection	The default setting is Off ; Turning flat detection On requires a compatible scale to be connected to the iDimension; The weight of the item is used to identify an object below 1.2" or 3 cm to perform a dimensioner; This setting can also be configured from the configuration menu through the touchscreen display; If no scale is used, turn on the Enable Disk Finder feature
Irregular Shape Object	The default setting is On ; An irregular shaped object is defined as anything dimensioned other than a perfect cube or parcel that has been determined below an 85% cuboidal level a process for dimensioning irregular items differently is used. When the system determines the object is an irregular shape it provides dimensions in 0.5" increments, not 0.2"; Do not turn off the unit, the system will not treat the object as an irregular and use a cuboid process that may provide erratic results
Flat/Parcel Threshold (in/mm)	The default setting is 1.2" or 3 cm; This determines the maximum height of what is considered a flat and the process to determine a Flat dimension; Do not reduce this setting; When the system is installed on a pole mount at 6.5' or 2 meters; Change this setting to 2" or 5 cm NOTE: Measurement units are dependent upon the Certification Settings (Section 5.3.4 on page 25).
Logging Level	The default setting is Info ; Changing to error or debug will increase the amount engineering and performance information stored in the diagnostics and log files shown in "ipaddress/log" command
Self Recovery	The default setting is 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; Clear the platform to return to ready state 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, Wait will be displayed on the USB display; Clear the platform to return to ready state; If the scale is receiving power from the USB port, check to make sure the scale is on and working properly

Table 5-1. General Settings Parameters

5.2.2 Scale

The iDimension Plus is designed to directly interface to common shipping scales. Each scale has unique interface protocols that are designed to work with common shipping systems.

Refer to the manufacturers manual to determine the available “protocols” to choose from.

The iDimension Plus provides a USB port for connecting the scale. Some scale manufacturers may vary on the compatibility and capabilities of protocols for a scales with RS-232 or USB connections.



A scale with USB HID is a standard Windows and USB.org protocol that works with scales when displaying weight lb or kg. If a Postal Scale displaying weight in lb/oz the USB HID protocol will not function.

If the scale is equipped with only an RS-232 port, a compatible FTDI RS-232/USB converter (PN 178501) is required.

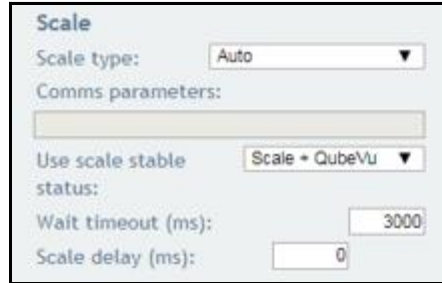


Figure 5-4. Scale Settings

Parameter	Description
Scale Type	Selectable from a drop-down list: Auto – Upon Start-up or reset, the iDimension will automatically attempt to identify a scales factory default settings as shown below; USB HID scales are not supported with auto None – No scale is connected External – Requires advanced integration using iDimension Plus API; With no scale connected USBHID* – A compatible scale using scale using USB HID protocol; See Comms parameter Mettler Toledo – A scale configured for the Mettler Toledo Standard protocol MTSICS – A scale configured for using the (Mettler Toledo Standard Interface Command Set) NCI – A scale using the Avery Weigh-Tronix/NCI protocol; For Rice Lake BenchPro Postal Scales, use this setting for scales in lb/oz mode Pennsylvania7300 – The Pennsylvania 7300 scale is used
Communication Parameters USB RS-232	Enter the RS-232 parameter settings of the scale selected; See the scale manufacturers operator’s manual for instructions: Baud Rate – 1200, 2400, 4800, 9600, 14400, 19200, 38400, 57600 and 115200 Parity – None, Odd, Even Bits – 5,6,7,8,9 Stopbits – 1, 1.5, 2 <i>Example: 9600,N,8,1</i>
Communication Parameters USB HID	The following is a list of Compatible USB HID scales including the Vendor ID and product ID; The following example is is for a Rice Lake Benchpro Scale; 1C19 is the vendor ID and 0002 is the product id; Use a comma to separate the values (Table 5-3) <i>Example: 1C19,0002</i>

Table 5-2. Scale Parameters

Manufacturer	Model	Vendor ID	Product ID
Rice Lake Weighing Systems	BenchPro Series	1C19	0002
Fairbanks Scale	Ultegra Series	0b67	0x555e
Mettler Toledo	PS / BC Series	0922	F000
Dymo Costar	M10	0922	8003
Dymo Costar	S50	0922	8007

Table 5-3. USB HID Scale Manufacturer Information

Parameter	Description
Use Scale Stable Status	Use Scale Stable Status determines when the iDimension locks the displayed weight and dimensions on the touchscreen display (Table 5-4); Dimensions are locked and the remove state is displayed using both the scale stable reading and iDimension filter Scale+QubeVu – This is the default factory setting and is recommended for use QubeVu – Dimensions are locked and remove is displayed without checking if the scale is stable; Using this feature may provide incorrect weight on the display; Not recommended for use Scale – Dimensions are locked and remove is displayed when the scale has returned a stable reading to the iDimension; Not recommended for use, this may increase the remove state to more than 3 seconds
Wait Timeout (ms)	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
Scale Delay (ms)	The time in milliseconds in which the iDimension waits to requests a weight from the scale; Increase this setting to 500ms to allow the weight on the scale to stabilize, if experiencing incorrect weights being displayed on the iDimension vs the scales display

Table 5-4. Use Scale Stable Status Selections



Note If the required scale is not listed, contact Rice Lake Weighing Systems to purchase a BenchPro scale.

5.2.3 Display Page

Parameter	Description
Suppress Scale Data	Suppresses the display of scale data (weight) on all displays, even if the scale is attached; Default: Off; Valid value: On/Off

Table 5-5. Display Page Parameter

5.2.4 Disk Finder

Parameter	Description
Enable Disk Finder	Disk finder uses the flat detection circle located on the base plate when there is no scale directly connected to the device; A flat is considered anything under the setting under Flat/Parcel threshold setting; Default: Off; Turn on to enable

Table 5-6. Disk Finder Parameters

5.2.5 Depth Sensor

Do not modify default values unless directed by Rice Lake Weighing Systems.

Parameter	Description
Retries for Data	The number of times QubeVu will attempt to get valid data from the depth sensor before reporting an error Default value: 10 Valid values: N/A
Minimum Coverage	The number valid pixels in a scene, expressed as a percentage; Intended to help in environments with direct sunlight or high intensity overhead lighting. Default value is 75%

Table 5-7. Depth Sensor Parameters

5.3 External Interfaces

QubeVu provides additional external interfaces to facilitate integration with client applications and backend systems. These interfaces are configured from the **General Settings** tab. This document describes the intended use and configuration. For detailed information on using these interfaces refer to the iDimension API guide.

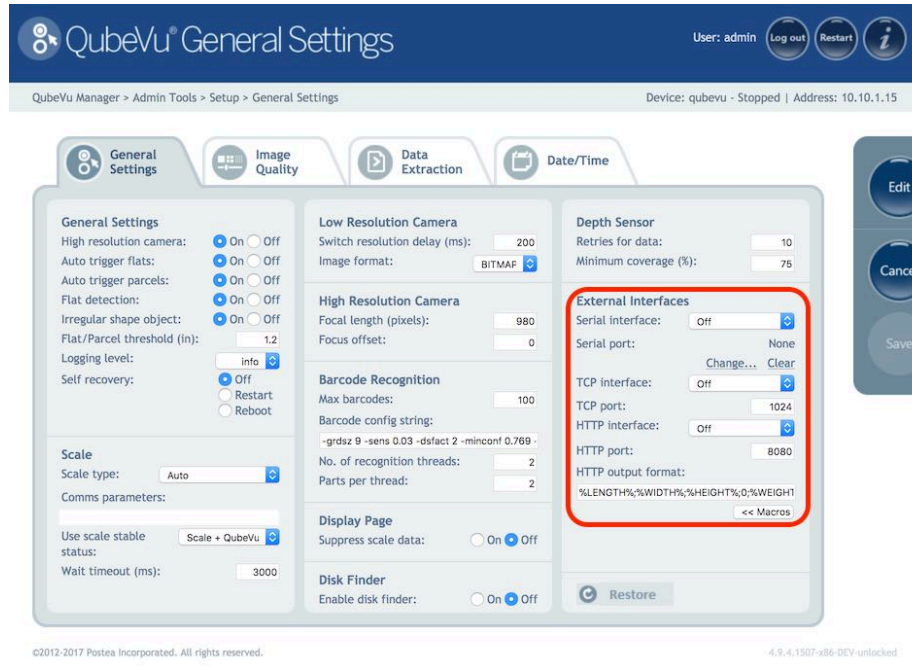


Figure 5-5. External Interfaces

Three external interfaces are provided:

- **Serial interface**
- **TCP interface**
- **HTTP interface**

5.3.1 Serial Interface

The serial interface operates in two modes:

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

Configuring Serial-USB Adapter

1. Select QubeVu or Cubiscan 110/150 from the serial interface dropdown list.

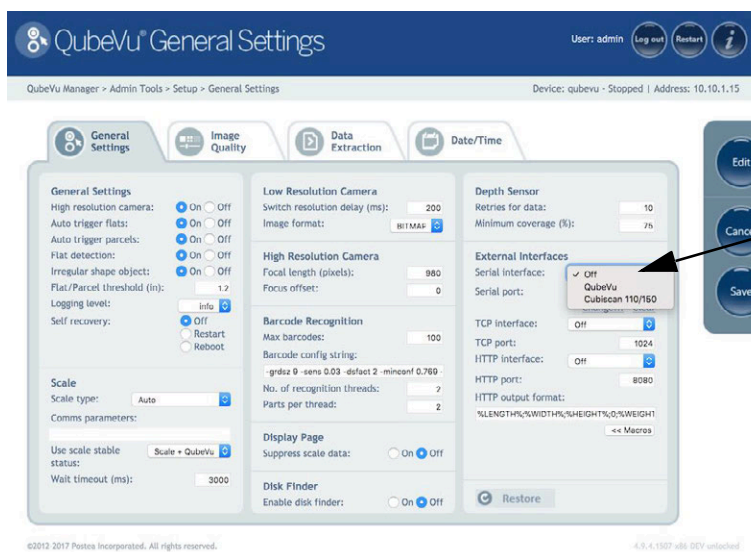


Figure 5-6. Adapter Select

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

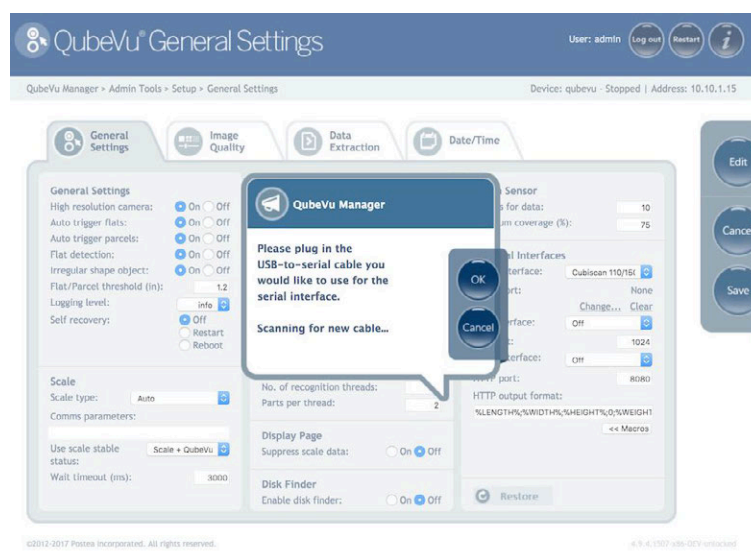


Figure 5-7. Cable Scan

3. Plug the cable into the USB port on iDimension or USBhub. The cable will be detected.
4. Select **Ok** to proceed.
5. Select **Save** to complete the serial emulation setup.

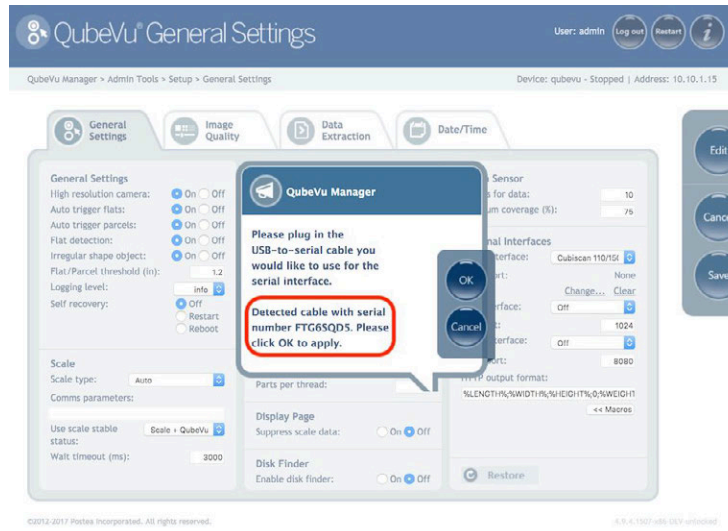


Figure 5-8. Cable Detected

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

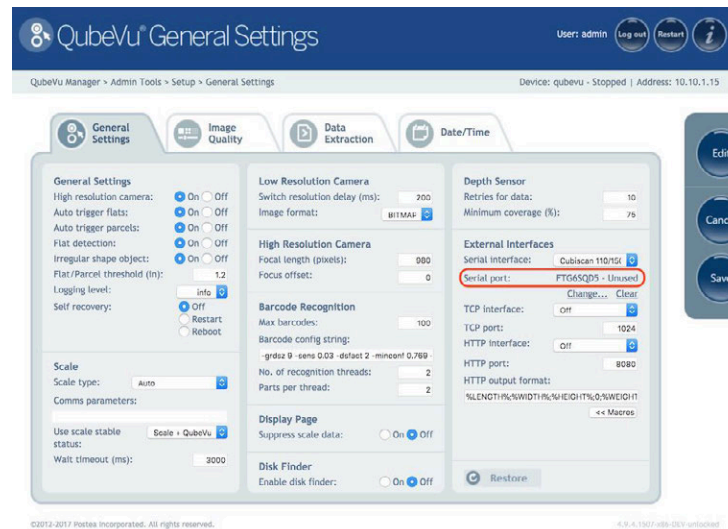


Figure 5-9. Serial Port Status

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 5-8. Serial Port Statuses

5.3.2 Data Extraction

The iDimension Plus 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 11.2 on page 59](#) for sample file and configuration examples.

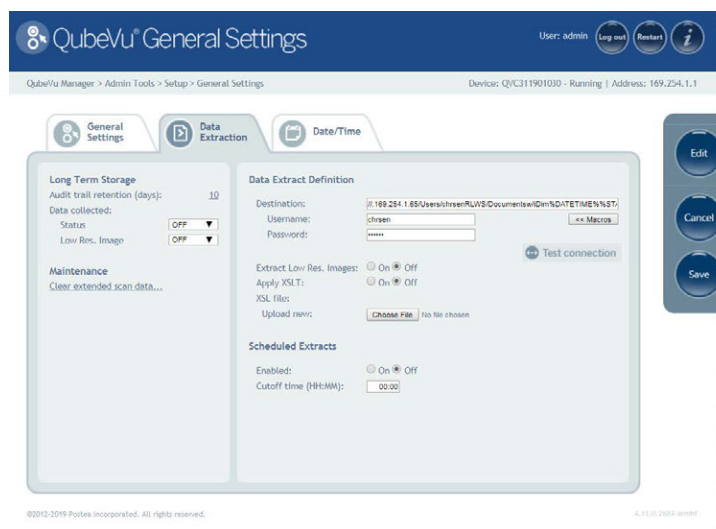


Figure 5-10. Data Extraction Tab

Section	Parameter	Description
Long Term Storage	Audit trail retention (days)	Specifies the number of days captured data is retained in long term storage; Default: 0
	Data collected	Determines if the status xml is included in the stored data; If set to critical, scanning operation is prevented if no storage space is available; Default: Off ; Valid values: On/Off/Critical
	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 ; Valid values: On/Off/Critical
Maintenance	Clear extended scan data	Deletes low res images and status when data collected is configured are critical or status
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 the 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
	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
		Upload new:
Scheduled	Enabled	Determines if Data Extract is enabled
	Cutoff time (HH:MM)	Specifies the time of day in hours and minutes, after which the daily extract runs
	Save	Saves changes to the data extraction definition

Table 5-9. Data Extraction Parameters

5.3.3 Date/Time

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.

1. Select **Date/Time** tab from **General Settings** and current date and time are displayed.

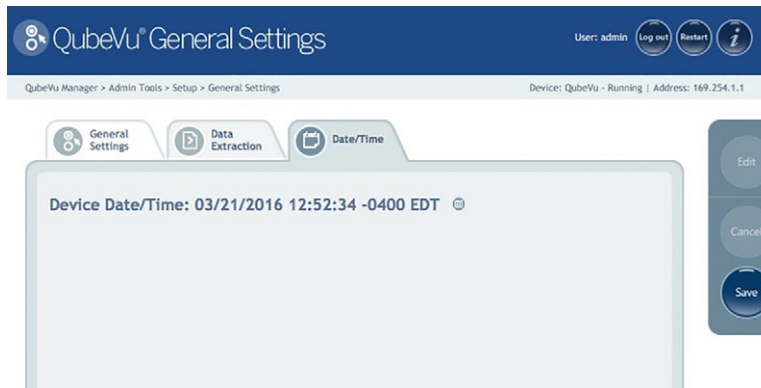



Figure 5-11. Date and Time Tab

2. Select  to change the date and time settings of the unit.
3. Select **Now** to select the current date and time, or enter data required, from the local computer.

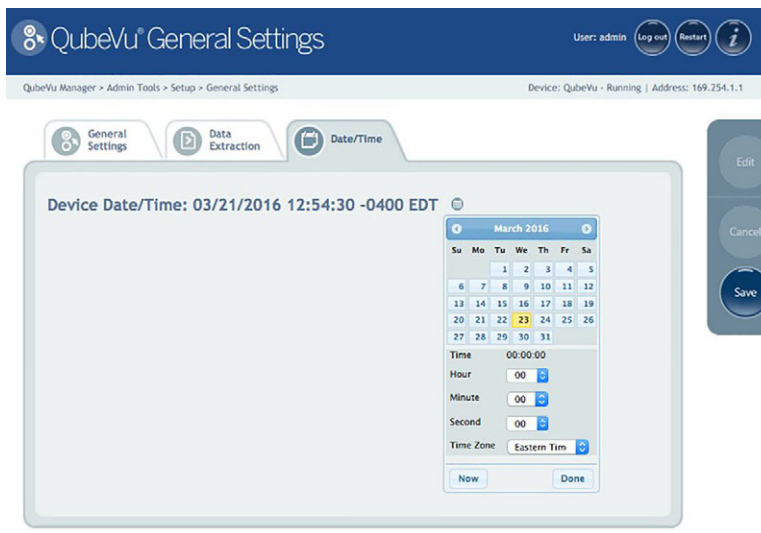


Figure 5-12. Date and Time settings

4. Select a **Time Zone**.
5. Select **Done** to apply the settings.

5.3.4 Measurement Settings Tab

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

Select  **Measurement Settings** on the **Setup** menu.

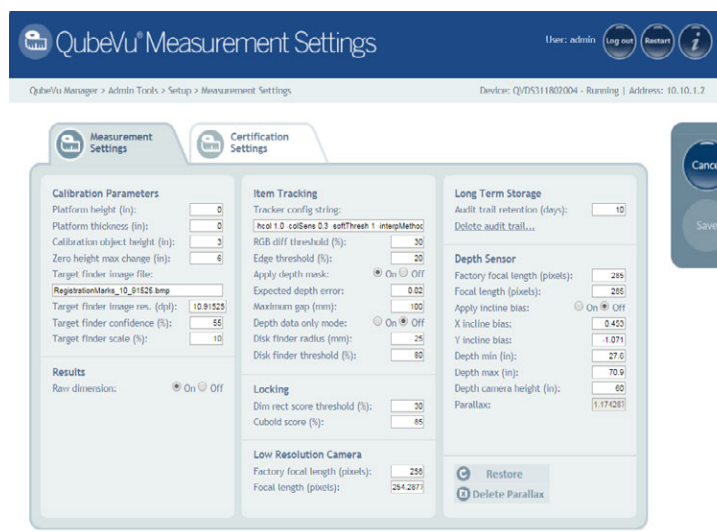


Figure 5-13. Measurement Settings Main Menu

Calibration Parameters

Set **Calibration Parameters** as required.

Parameter	Description
Platform Height (mm)	Primarily required when carrying out a factory calibration of the cameras; The value specifies the height of a platform placed on top of the iDimension Plus base plate (scale) which is intended to be permanently located there; For a factory calibration, this value must be set to 0 mm; Default: 0" (0 mm) ; Do not modify
Calibration Object Height (mm)	The height of the object used to calibrate the iDimension Plus; If using the calibration object supplied with the device, this setting is either 76 mm or 77 mm depending on the version of the calibration object supplied; Default: 3" (76 mm)
Platform Thickness (in)	–
Zero Height Max Change (in)	Maximum allowable change in height for the zero height; Default: 6" (152 mm) ; If the scale height used is greater than 6", zero height will not function correctly
Target Finder Image File	Specifies the name of the bitmap file which describes the calibration pattern; Default: RegistrationMarksCropped.bmp; Do not modify
Target Finder Image Res (dpi)	Effective printed size of the calibration pattern on the calibration object; This size is provided in terms of a resolution, in dots per inch, relative to the bitmap file provided in the Target Finder Image File
Target Finder Confidence (%)	Minimum confidence value required for a calibration process to be considered successful; The system derives a confidence value along with its result as it searches for the calibration pattern; Default: 55% ; Valid values: 0–100%; Do not modify
Calibration Target Finder Scale (%)	Tolerance for the expected size of the calibration pattern; Default: 10% ; Valid values: 0–100%; Do not modify

Table 5-10. Calibration Parameters

Results

The **Results** parameter determines the handling of raw results.

Parameter	Description
Raw Dimension	Instructs the iDimension Plus to return raw results which have not been rounded to the nearest division; Default: Off

Table 5-11. Results

Item Tracking

Parameter	Description
Expected Depth Error	Default Value is 0.02; if depth data only mode is On, set to 0.01
Maximum Gap (mm)	Default value is 100mm
Depth Data Only Mode	Default value is Off; Turning On is used in non-legal for trade modes only; if the background of the measuring surface contains glare, this switch is used to calculate dimensions using the depth only sensor; Requires flat detection modification to 0.8" for flat surfaces (2.4" for roller conveyors), updating expected depth error, turn require refinement to Off in the certification settings

NOTE: Use default values unless directed otherwise by the factory.

Table 5-12. Item Tracking Parameters

Locking

Parameter	Description
Dim Rect ScoreThreshold (%)	Value below which returned dimension is ignored; measures the rectangular outline; Default: 30% ; Valid values: 0–100%
Cuboid score (%)	Value below which the object is deemed to be irregular; measures the outline of the box; Default: 85% ; Valid values: 0–100%

Table 5-13. Locking Parameters

Low Resolution Camera

Parameter	Description
Switch Resolution Delay (ms)	A minimum period of time, in milliseconds, that the system should pause after switching the resolution of the camera; Do not change this setting unless instructed to by Rice Lake Weighing; Default value: 200 Valid values: 100ms – 500ms
Image Format	The format of the low resolution image is available to capture; Default value: Bitmap; Valid values: Bitmap / JPEG

Table 5-14. Low Resolution Camera Parameters

Long Term Storage

The **Long Term Storage** determines the length of retention for captured results.

Parameter	Description
Audit Trail Retention (days)	Specifies the number of days captured data is retained; Default: 0 ; Valid values: 0–999

Table 5-15. Long Term Storage Parameters

Parameter	Description
Factory Focal Length (pixels)	Initial focal length of the depth sensor for factory calibration, provided in pixels relative to its resolution; Default: 285 pixels
Focal Length (pixels)	The focal length of the depth sensor, in pixels relative to its resolution; Default: 285 pixels
Apply Incline Bias	Default value is Off
X Incline Bias	Default value is 0
Y Incline Bias	Default value is 0
Depth Min (in)	Threshold depth value below which depth measure is ignored; Minimum distance allowed between the device head and the object it is measuring; Default: 27.6" ; Valid values: 23.6"–70.9" (or Depth max value); Do not modify
Depth Max (in)	Threshold depth value above which depth measure is ignored; Maximum distance allowed between the device head and the object it is measuring; Default: 70.9" (Table 5-17); Valid values: 23.6"–70.9" (or Depth Min value); Do not modify
Depth Camera Height (in)	Distance between the depth sensor and the base of the iDimension Plus; Default: 60.2" (Table 5-17); Valid values: 23.6"–70.9"
Parallax	Read only field; Correction factor compensating for slight parallax imperfections

NOTE: Use default values unless directed otherwise by the factory.

Table 5-16. Depth Sensor

Model	Depth Max	Depth Camera Height
iDimension Plus	70.9" (1800 mm)	60.2" (1529 mm)
iDimension Plus XL	90.6" (2300 mm)	79" (2000 mm)

Table 5-17. Polemount Distance Values

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 5-14. Restore Prompt

2. Select **Ok** to restore the factory default settings or if backing up from a file, select **Browse** to select a backup file.
3. Select **Ok**. The iDimension Plus restarts after the restore.

Delete Parallax

IMPORTANT

This command must not be used unless directed by the Rice Lake Weighing Systems Dimensioning Team. Factory calibration may be required.

Certification Settings

Certification settings are configured during the initial set-up wizard which provides pre-defined configuration for Legal for Trade applications and allow modification settings for non-Legal for Trade applications.

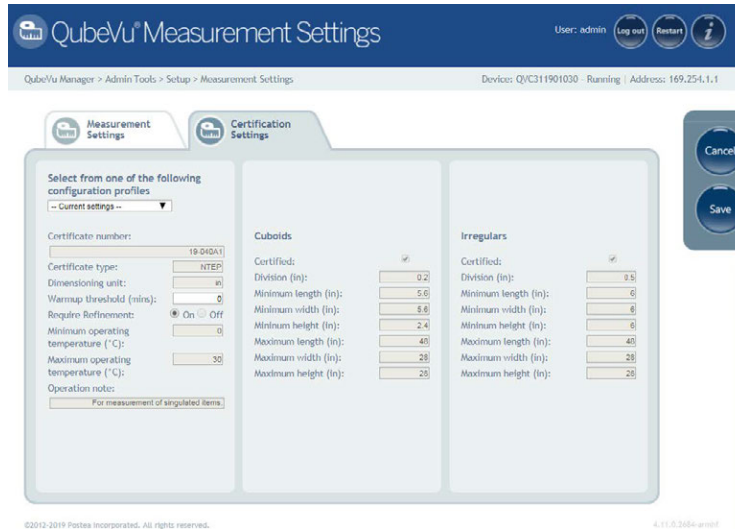


Figure 5-15. Measurement Settings Main Menu

Parameter	Description
Configuration Profiles	Configuration profiles will adjust the system to the correct units of measure and measurement settings required for installation
	NTEP 19-040A1 (pole mount) – Configured the device for inches based on the Legal for Trade settings; Setting cannot be modified
	Metric (pole mount) – Configured the iDimension Plus for metric and allows configuration of available settings
	US Customary (pole mount) – Configured the iDimension Plus for inches and allows configuration of available settings
	Metric (XL mount) – Configures the iDimension Plus XL for metric and allows configuration of available settings
	US Customary (XL mount) – Configured the iDimension Plus XL for inches and allows configuration of available settings
Warm-up Threshold (minutes)	Default: 0; Upon system restart the time the system requires warm-up prior to entering into the Ready Mode
Require Refinement	Default: On Intended for Legal for Trade mode only
	On: If confidence of system does not meet the requirements, the USB display indicates “Verify” and does not display dimensions
	Off: Recommended setting in non-Legal for Trade applications, and depth data only mode; The USB display ignores “Verify” and displays dimensions for all measured
Division Size	Cuboids default: 0.2" (0.5 cm) Irregular default: 0.5" (1 cm) Controls the displayed increment of the measurement on the USB display and status; Modifying the division size does not affect accuracy
Minimum (L x W x H)	Controls the undersize flag on the USB display
Maximum (L x W x H)	Controls the oversize indication on the USB display and webservice API

Table 5-18. Certification Settings

5.4 Display Settings

The display settings allows configuration of the **Operator Display** and **Customer Display**.

The customer display is used in specific applications when a second display is attached or a web browser is used for customer facing applications.

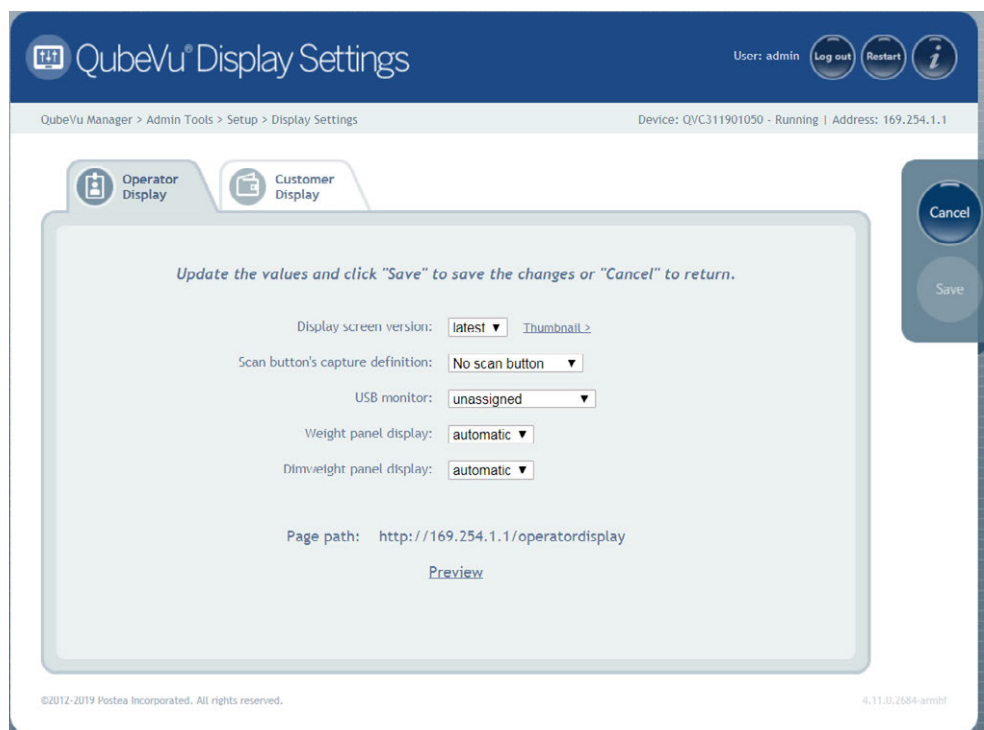


Figure 5-16. Display Settings



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

Parameter	Description
Display Screen Version	Default: Latest – Display screen version #2 1 – Displays dimensions and weight only 2 – Displays live camera feed in “Ready,” item image in “Remove,” dimensions and weight display panel
Scan Button Capture Definition	Default: No Scan button Select a capture definition from the 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
USB Monitor	Default: Unassigned – Auto detection of USB display For use if additional USB displays are connected to the iDimension; If using more than 1 display, select the correct serial # of the USB monitor assigned to the Operator Display and Operator Display
Weight Panel Display	Default: Automatic – USB display shows weight panel display with or without scale attached Hidden– The weight panel display will be removed from the USB display
Dimweight Panel Display	Default: Automatic – Off For demo purposes only, contact factory for use and configuration

Table 5-19. Display Settings




Figure 5-17. Display Screen #1



Figure 5-18. Default Display Screen

5.5 User

Press  **User** from the **Setup** menu to enter.

The user screen provides access to modify the default password.

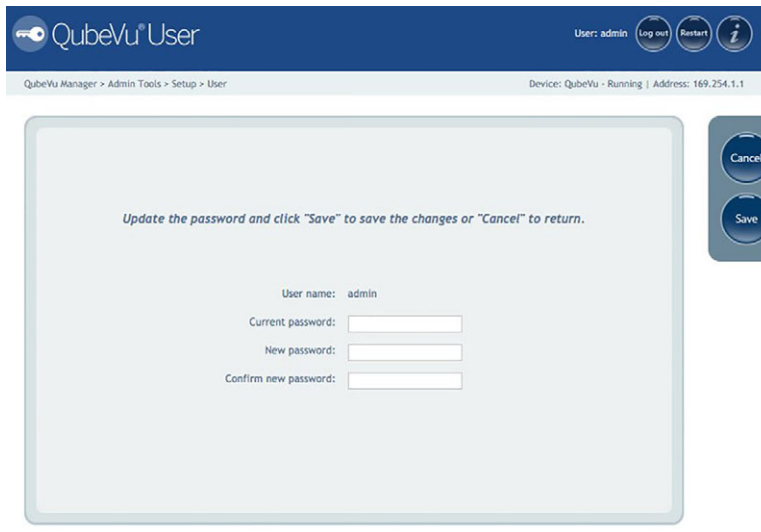


Figure 5-19. QubeVu User Tab

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.*

5.6 Network

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

Press  **Network** on the **Setup** menu.

Figure 5-20. Default Network Interface Settings

Enter or modify the network settings for the network.

Parameter	Description
DHCP	Have the network administrator verify if the iDimension Plus is to be set up on the network using the Dynamic Host Configuration Protocol (DHCP); If DHCP is checked, a unique Host Name for this device must be defined; The name is used to access the device from the Manager Tools in the future; A host name can be up to 15 characters <i>Example: http://<hostname>/</i>
IP Address	If DHCP is not checked, define a unique IP address for each iDimension Plus installed; Default IP address: 169.254.1.1 Consult with the network administrator if unsure how to assign a new IP address; If using fixed IP addresses, access iDimension Plus by the hostname or the IP address: <i>http://<hostname>/</i> <i>http://<ip address>/</i>
Subnet Mask	Default subnet mask: 255.255.255.0 Consult the network administrator for the correct setting
Gateway	Default gateway: 0.0.0.0 Consult the network administrator for the correct setting
Hardware Address	Each iDimension Plus has been assigned a unique hardware MAC address; Do not change this setting
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
DHCP Lease Expire	Displays the time and date the DCHP IP address expires

Table 5-20. Network Interface Parameters

5.6.1 Network Security

Click on **Enable HTTPS** to enable HTTPS. Enter the file name of the key file, certificate file and key pass phrase.

Select **Upload** to transfer the information from the PC to the iDimension Plus.

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

Selecting the **Network Security** tab, displays the current settings.

The screenshot displays the 'Network Security' configuration page in the QubeVu Network interface. At the top, the user is logged in as 'admin' with options for 'Log out', 'Restart', and an information icon. The breadcrumb trail is 'QubeVu Manager > Admin Tools > Setup > Network Interface'. The device information is 'Device: Q/C311901050 - Running | Address: 169.254.1.1'. The 'Network Security' tab is active, showing a list of SSL certificate details: Public key algorithm, Issuer, Subject, Validity, Usage, Thumb print algorithm, and Thumb print. Below this is an 'Enable HTTPS' checkbox which is currently unchecked. The 'Upload new key and certificate' section contains three fields: 'Key file' (with a 'Choose File' button and 'No file chosen' text), 'Cert file' (with a 'Choose File' button and 'No file chosen' text), and 'Key pass phrase' (with a text input field). An 'Upload' button is positioned to the right of the 'Key pass phrase' field. On the far right of the main content area, there are 'Cancel' and 'Save' buttons. The footer contains the copyright notice '©2012-2019 Postea Incorporated. All rights reserved.' and the version number '4.11.0.2684-armhf'.

Figure 5-21. Network Security Tab



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

6.0 Calibration Menu

This section provides an overview of iDimension Plus calibration instructions.

Use the calibration tool to set the camera settings and calibrate the Depth, Low Resolution and High Resolution cameras.

This is typically done once at setup. If the iDimension Plus is moved to a different location or the type of scale has changed, the calibration settings are checked to ensure correct calibration.



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 Plus Admin Tools.*

6.1 Calibration Menu

From the **Admin** menu, press  Calibration to enter the setup menu.



Figure 6-1. Calibration Menu

6.1.1 Calibration Settings

Press  Calibration Settings to set parameters within the **Calibration Settings** tab.

Modification to any factory default setting is not recommended. See [Figure 6-2](#) for factory default settings.



Note *The lock motion % can be adjusted based on the application. The motion area is directly tied to the Work Area defined in the Zone of Interest tab or the Scan Area configured during the Set-up Wizard. If motion is detected within the Work Area, the system will not lock on an object to calculate a dimension.*



Figure 6-2. Calibration Settings Tab

Dimensioning

To overcome noise and improve accuracy, a low-pass filter is applied to the three dimensions of the object from every frame captured.

Parameter	Description
Dimension Up (%)	Controls the speed of the low-pass filter as a percentage; the closer to 100%, the faster the filter's response; the closer to 0%, the slower the filter's response; Default: 70% ; Valid values: 0–100%
Dimension Down (%)	

Table 6-1. Dimensioning Parameters

Locking

Locking is the ability to lock onto and dimension objects then return to a ready state.

Parameter	Description
Lock Motion (%)	Motion threshold value below which the system must settle in order to lock onto an object; Default: 0.5% ; Valid values: 0-100%
Motion Up (%)	Low-pass filter is applied to the motion detected from every frame captured; Up and down parameters control the speed of this low-pass filter as a percentage (closer to 100%, faster filter response; closer to 0%, slower filter response); Default: 90% ; Valid values: 0-100%
Motion Down (%)	Low-pass filter is applied to the motion detected from every frame captured; Up and Down parameters control the speed of this low-pass filter as a percentage (closer to 100%, faster filter response, closer to 0%, slower filter response); Default: 50% ; Valid values: 0-100%
Lock Rect Score (%)	Specifies a minimum tracking confidence value needed to be reached in order to trigger the capture of the object's dimensions; Default: 0% ; Valid values: 0-100%
Weight Diff Ready (%)	Determines the percentage of weight drop (after an item is removed from the scale) needed to reset the system to a ready state; this percentage is relative to the weight of the object last dimensioned; Default: 50% ; Valid values: 0-100%
Min. Weight Ready (g)	Weight threshold value (grams), below which the system determines if there is not an object on the scale and switch to a ready state when no scale is connected; Default: 100 g ; Valid values: 0-200 g

Table 6-2. Locking Parameters

Relocking

Relocking is the iDimension Plus ability to dimension a new object even in cases when a ready state is not detected due to particularly fast operations.

Parameter	Description
Diff Center Enabled	Determines if the system relocks based on the detection of a shift in the object's center; Default: Off
Diff Center (in)	Specifies the amount of variation in the location of the object placed on the platform which triggers the capture of new dimensions; Default: 3.9" ; Valid values: 0.8"–11.8"
Diff Theta Enabled	Determines if the system relocks based on the detection of a shift in the object's orientation; Default: Off ; Valid values: On/Off
Diff Theta (rad)	Specifies the amount of variation in the orientation of the object placed on the iDimension Plus which triggers the capture of new dimensions; Default: 0.262 rad ; Valid values: 0.1 rad–0.4 rad
Diff Dim Enabled	Determines if the system relocks based on inconsistencies in the reported dimensions for the objects; Default: Off
Diff Dim (in)	Specifies the amount of variation in the dimensions of consecutive objects placed on the iDimension Plus which triggers the capture of new dimensions; Default: 2" ; valid values: 0.8"–4"
Diff Weight Enabled	Determines if the system relocks based on inconsistencies in the reported weight for the object; Default: Off
Diff Weight (%)	Specifies the amount of variation in the weight received from the scale triggers the capture of new dimensions; The threshold value, as a percentage of weight, above which such inconsistencies are detected in order to trigger a relock; Default: 10% ; Valid values: 0–100%

Table 6-3. Relocking Parameters

Configuration Actions

Allows the restoration of the settings on the Calibration Settings tab to the default values or to restore them from a previously saved backup file.

1. Select . The factory restore prompt displays.



Figure 6-3. Factory Restore

2. Select **Ok** to restore the factory default settings or if backing up from a file.
3. Select **Browse** to select a backup file.
4. Select **Ok**. The iDimension Plus restarts after the restore.

6.2 Calibration Settings

The calibration settings include configuration of the **Work Area** and **Zone of Interest**.

The **Work Area** represents the area around the base used for detecting motion. The system waits until there is no motion detected before attempting to scan an item.

The **Work Area** also provides a maximum area for the detection of flats (items less than 1.2" in height) and irregular objects. Flats and irregular objects must be completely within the **Work Area** in order to be detected.

When configuring the **Work Area**, this area should be clear of objects that would affect dimensioning performance.

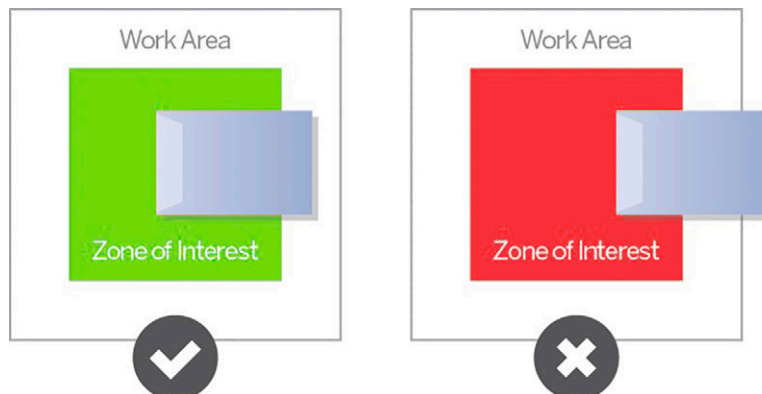


Figure 6-4. Flat Work Area

IMPORTANT

Figure 6-4 is for flats and irregular objects only. Parcels are dimensioned even if part of the item is outside of the Work Area.

6.2.1 Zone of Interest

The **Zone of Interest** represents the detection area to be used for item dimensioning. Items must be placed at least partially within the **Zone of Interest**.

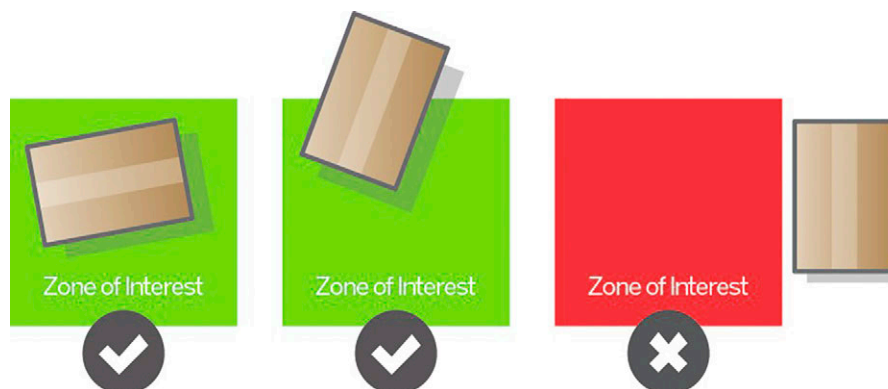


Figure 6-5. Zone of Interest



Note If the background of the dimensioning area is reflective, adjust the Zone of Interest to approximately 3" x 3".

6.2.2 Zone of Interest Configuration Mode

To review the current camera calibration settings within QubeVu, see the following procedure:

1. From the **Admin** menu, select  Calibration to enter the setup menu.



Figure 6-6. Admin Tools

2. Select  Calibration Settings to set parameters within the **Calibration Settings** tab.



Figure 6-7. Calibration Menu

3. Select the **Zone of Interest** tab.

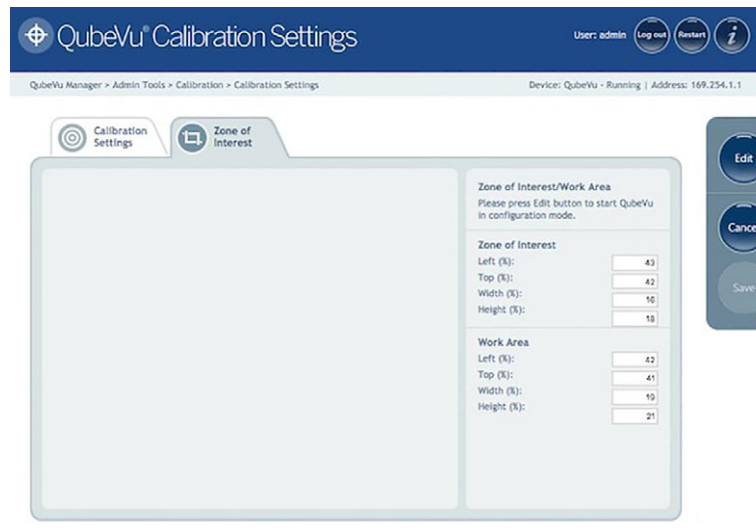


Figure 6-8. Zone of Interest Tab

4. Select **Edit** to switch to configuration mode. This may take a few minutes while the device resets.

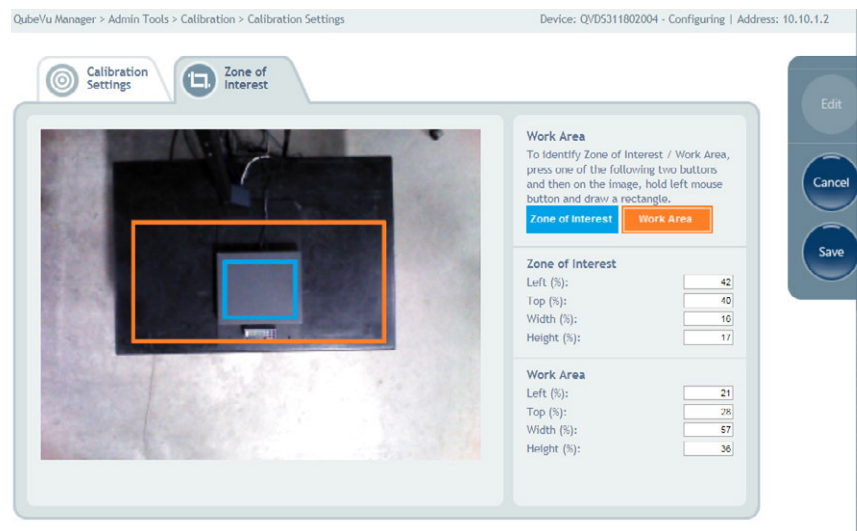


Figure 6-9. Zone of Interest Tab



Note

Modifying the Zone of Interest and Work Area is required if the height of the scale has been changed or if a scale has been added or removed from the operation.

5. Once the system has successfully entered into the edit and configuration mode, a live image will be displayed. Select **Zone of Interest** or **Work Area** and hold the mouse over the image to create new parameters.



Note

Ensure the Work Area is larger than the Zone of Interest.

6. Select **Save** to continue. The system restarts. Ensure the platform is clear of obstructions to return to the ready state.

6.3 Camera Calibration from QubeVu Manager

For camera calibration information, see the following procedures:

6.3.1 Camera Calibration

The system is factory calibrated however it may be required to perform a calibration if the system has moved to a different location, new scale is being used or the system is providing inaccurate dimensions.

Calibration requires the use of the included calibration object.

If using a scale, make sure the scale is centered between the marks on the base plate and place the calibration object on top of the scale platform.

If no scale is used, place the calibration object between the base plate mark.

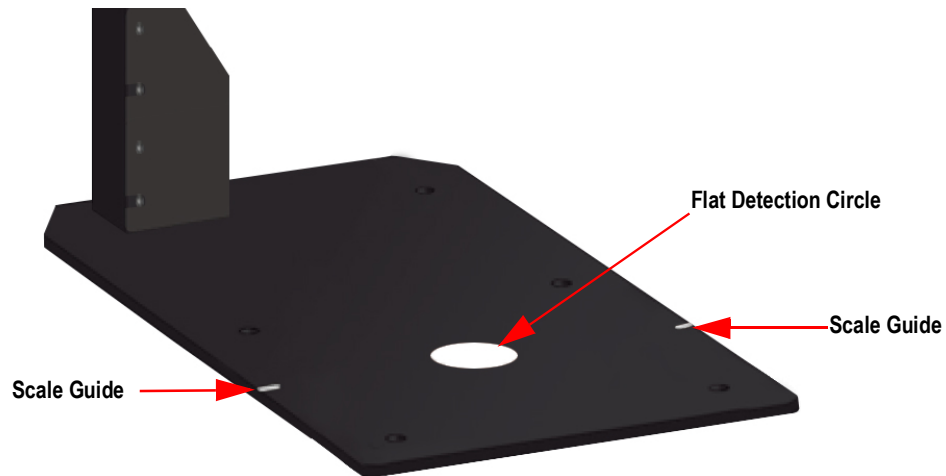


Figure 6-10. Base Plate Marks

To calibrate the camera, use the following steps:



1. From the **Admin** menu, select  Calibration.
2. Select  Camera Calibration. The **Camera Calibration** menu displays.
3. Select the **Depth Confidence** tab. A live image displays.



Figure 6-11. Depth of Confidence Tab

- Press and hold the left mouse button and drag the mouse to draw a rectangle around the calibration object.



Figure 6-12. Calibration Object Bounds

- Select the **Low Resolution** tab.
- Press and hold the left mouse button and drag the mouse to draw a rectangle around the calibration object.

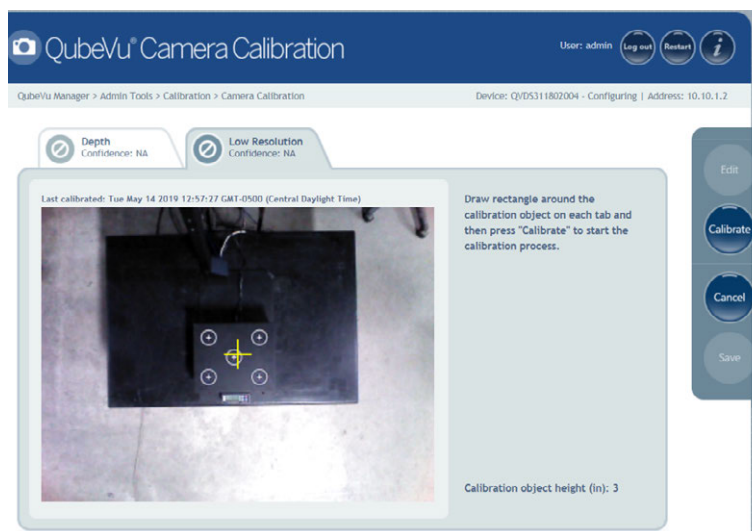





Figure 6-13. Low Resolution Tab

- Select **Calibrate**.  must display on each tab for the calibration to be successful.
- Review each tab to ensure the calibration object was successfully captured and no other object had mistakenly been placed in the view of the camera.
- Select **Save**. The unit automatically restarts to apply the camera calibrations.

Calibration Unsuccessful

If  displays, the calibration has failed. The red cross hairs out of alignment indicate they are out of alignment and a new calibration is required.

1. Select **Cancel** and perform a new calibration.
2. Redraw the rectangles within the two tabs.
3. Calibrate again until both tabs display .

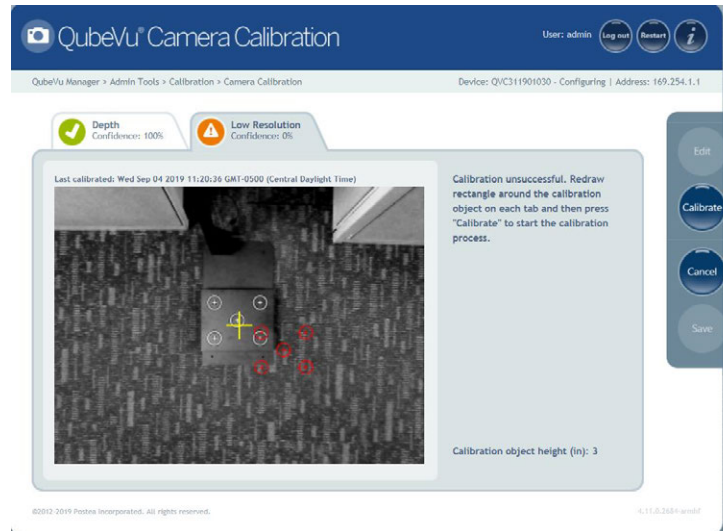


Figure 6-14. Calibration Not Success

If unsuccessful calibration continues, check for:

1. The dimensioning head is level.
2. Sunlight is not within the background and field of view of the camera.
3. Glare from overhead lights are within the background and field of view of the camera.
4. The workspace or background has too much clutter, or noise from other objects.

7.0 Capture Definitions

This section provides an overview of iDimension Plus capture definitions 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.

From the **Admin** menu, press  **Capture Definitions** to enter the setup menu.

7.1 Capture Definition Triggers

A capture definition is used to describe the process (either dimensioning or low resolution image) applied to an item after it has been detected. There are five predefined profiles ([Table 7-1](#)).

To create a capture definition ([Section 7.2 on page 44](#)).

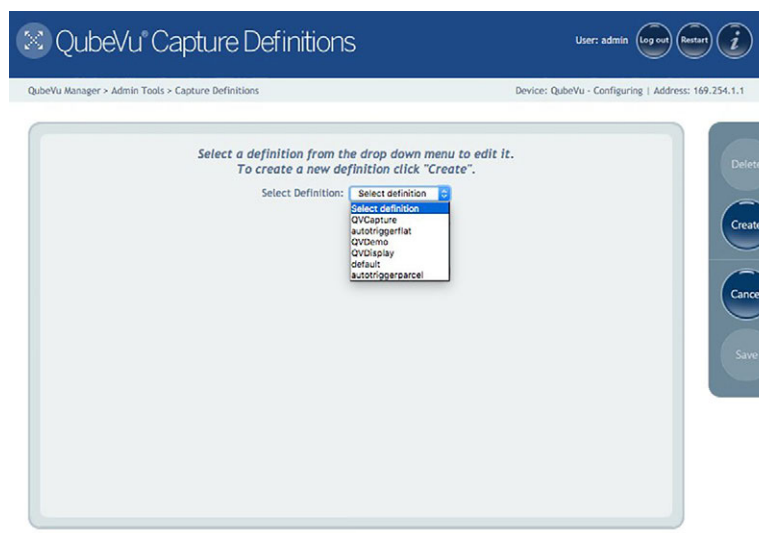


Figure 7-1. Capture Definitions Menu

Capture Definition	Description
autotriggerflat	Used for items with a height less than the flat/parcel threshold when automatic triggering is enabled
Default	Used when barcode scanner is attached to trigger a scan
QVDemo	Used when the Capture button is pressed in QubeVu Manager Demo page
autotriggerparcel	Used for items with a height greater than the flat/parcel threshold when automatic triggering is enabled
QVDemoHighRes	Not available in iDimension Plus
QVCapture	Used when external scan request Scan is selected
QVDisplay	Used when the Scan button is selected on the Operator Display

Table 7-1. Pre-Defined Capture Definitions

7.2 New Capture Definition Profile

It is possible to create new profiles according to individual processing requirements.

Use the following steps to create a capture definition:

1. Select **Create**.
2. Enter a name in the **Definition name**.
3. Timeout.
4. Check or uncheck the **Low Res Camera Capture** setting if needed.
5. Check or uncheck the **Markings** setting if needed.
6. Select **Save**.

Figure 7-2. Create Capture Definition

Parameter	Description
Definition Name	Name for definition
Timeout	Default: 0; the system does not time out
Low Resolution Camera Capture	If checked, the iDimension Plus will create a low resolution camera image; Available through the web-service API
Markings	If checked, the iDimension Plus marks the low resolution image with the selected information: Date and Time – Date and time stamp of the scan ScanID – Unique scan ID number Dimensions – Three dimensions (height, width, length) Indicators – Any indicators <i>Example: Undersized, oversized, irregular and others.</i> Item Outline – 2D outline of the dimensioned item

Table 7-2. Capture Definition Parameters

8.0 Firmware Upgrade

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.

A firmware update is uploaded from:

- USB Drive – A open USB port located on the main head or the lower pole assembly
- Network Share – Enter network path, username and password to access the file location
- Local file – A file or USB drive from the local PC

From the **Admin** menu, select  **Firmware Upgrade** to enter the firmware upgrade menu.

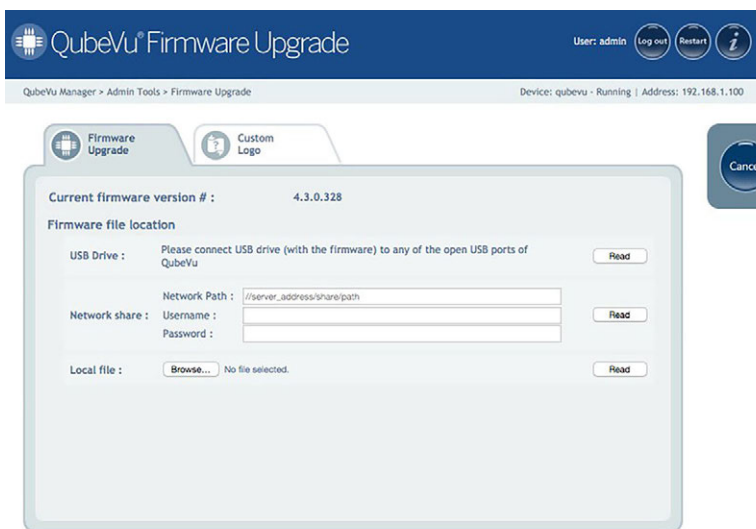


Note

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 Plus Admin Tools.

8.1 Firmware Upgrade Tab

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



The screenshot displays the 'QubeVu Firmware Upgrade' web interface. At the top, it shows the user is 'admin' with 'Log out' and 'Restart' buttons. The breadcrumb trail is 'QubeVu Manager > Admin Tools > Firmware Upgrade'. The device status is 'Device: qubevu - Running | Address: 192.168.1.100'. The main form has two tabs: 'Firmware Upgrade' (selected) and 'Custom Logo'. The 'Firmware Upgrade' tab shows the current firmware version as '4.3.0.328'. Under 'Firmware file location', there are three options: 'USB Drive' with a 'Read' button and instructions to connect a USB drive; 'Network share' with fields for 'Network Path' (pre-filled with '://server_address/share/path'), 'Username', and 'Password', each with a 'Read' button; and 'Local file' with a 'Browse...' button and 'No file selected.' text, also with a 'Read' button. A 'Cancel' button is located on the right side of the form.

Figure 8-1. Firmware Upgrade

8.1.1 USB Drive or Network Share

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

The screenshot shows a 'Firmware Upgrade' window with two tabs: 'Firmware Upgrade' (selected) and 'Custom Logo'. The current firmware version is 4.11.0.2684-armhf. Under 'Firmware file location', there are three options:


- USB Drive:** A text box with the instruction 'Please connect USB drive (with the firmware) to any of the open USB ports of QubeVu' and a 'Read' button.
- Network share:** Fields for 'Network Path', 'Username', and 'Password', with a 'Read' button.
- Local file:** A text box with a 'Browse...' button and a 'Read' button.

 Below these options is a list of firmware versions. The first entry is selected:

4.11.1.2711-armhf-DEV.rel	301967360
---------------------------	-----------

 At the bottom right, there is an 'Upload' button with a circular icon containing an eye.

Figure 8-2. Firmware Upgrade USB File Read

1. Enter the network path, username and password with firmware update stored.
2. Select **Read**.
3. Select the firmware version from the list of firmware version updates.
4. Select  to compute the checksum.
5. Select **Upload** after the checksum is computed. The firmware upgrade process copies the update file to the iDimension Plus embedded processor.
6. Update firmware.



Note

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

8.1.2 Local File

Select choose file to access and open the file from the local directory to the computer. Select **Upload** to upload the firmware to the embedded processor of the iDimension Plus.


8.2 Updating Firmware

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



Figure 8-3. Updating Firmware

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

Select  to validate checksum.

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

8.3 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.

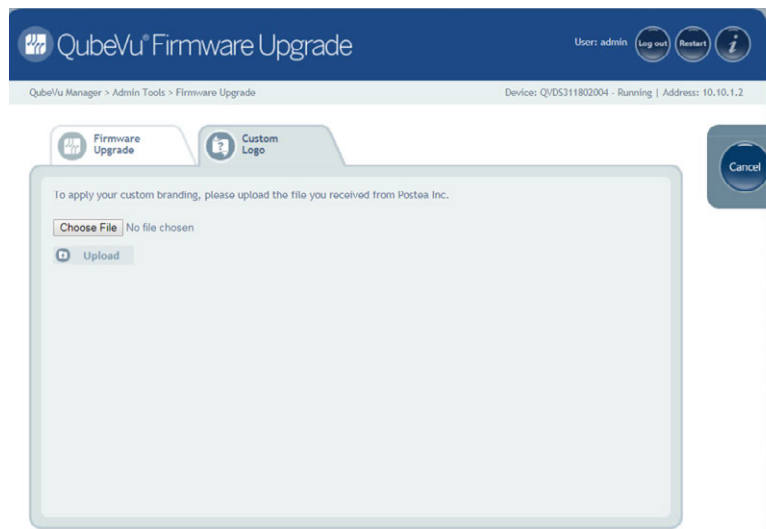


Figure 8-4. Custom Logo Tab

9.0 Backup and Restore

This section provides an overview of iDimension Plus backup and restore instructions.

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



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 Plus Admin Tools.*

From the **Admin** menu, select  **Backup** to enter the **Backup** menu.

9.1 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 Plus. 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.

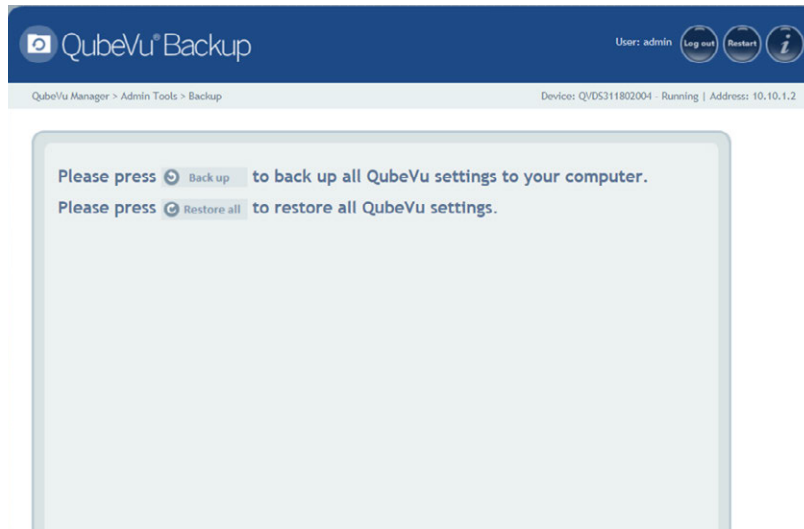


Figure 9-1. Backup and Restore Menu

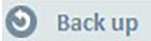
1. Select  to begin the backup process.
2. Select the arrow next to the **Save** button in the box at the bottom of the PC window.



Figure 9-2. Backup Dialog Box

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



Figure 9-3. Backup Complete Notification

9.2 Restore

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

1. Select  to begin the restore process.

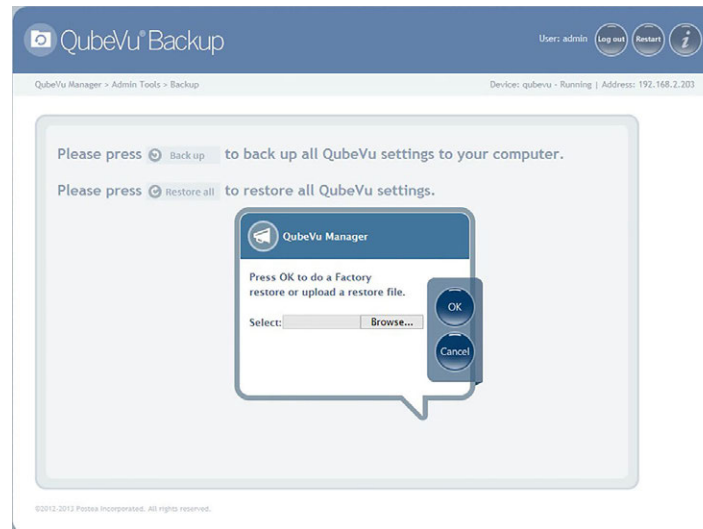


Figure 9-4. Restore Menu Browse Window

2. Select **Ok** to restore all settings from the factory calibration or select **Browse** to select a saved file from the PC.
3. If **Browse** was selected in [Step 2](#), find and select the desired backup file. Select **Ok** to restore settings.

10.0 Diagnostics


This section provides an overview of iDimension Plus diagnostics instructions.

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



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 Plus Admin Tools.*

10.1 Diagnostics Menu

The **Diagnostics** menu provides tools to help troubleshoot the device. The operator may need to run a factory test, individually select a test by selecting .

Each test will provide a pass or fail. Contact the factory to determine if a failure has occurred.

From the **Admin** menu, select  **Diagnostics** to enter the setup menu.


The **Diagnostics** menu has four tools used for testing hardware and for providing information about the system.



Figure 10-1. Diagnostics Menu

10.1.1 Component Tests

The **Component Tests** menu is used to test hardware components individually or all at once.

- Select **Test All** to test all hardware components; If a scale is connected the camera level test will fail
- Select  for each component to test

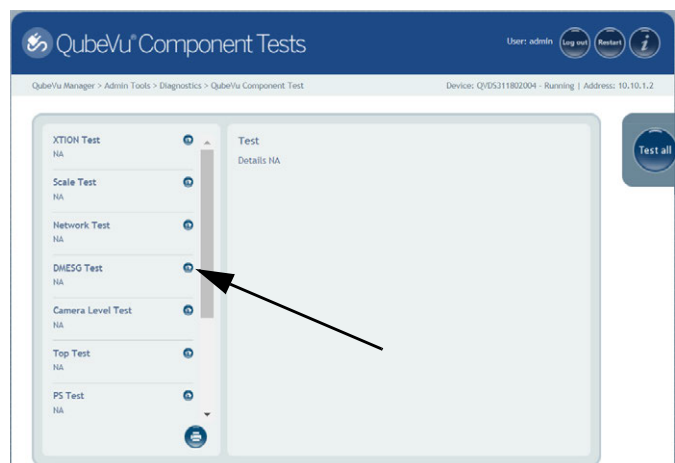


Figure 10-2. Component Tests

The status of each component is returned as either **Passed** or **Failed**. Additional details can be viewed by pressing .

Report component failures to the Rice Lake Weighing Systems.



Figure 10-3. Component Test Successful

See [Table 10-1](#) for common tests to run for troubleshooting:

Field Test	Description
Depth Sensor	Perform a testing on the iDimension Plus main sensor to determine if operational; Use this test if the system is measuring accurately
Scale	Tests the scale parameters configured in the setup mode and the scale are communicating; Check the interface cables between the scale and PC if a fail displays or upon entry of scale configuration
Camera Level	Uses the flat detection circle on the base plate to determine if the main head is level; The scale must be removed for the test to pass; If a fail is displayed, check the head to make sure it is level then retest
Port Scan	Tests of the ports on the main head

Table 10-1. Troubleshooting Tests



Note *Network, dsms6, top test, PS test, serial number test and temperature test are for manufacturing purposes only.*

10.1.2 Scale Test

The **Scale Test** tool is used to help determine the communication settings of a serial scale attached to the iDimension Plus. To perform a test with the scale, use the scale test in components test section.

10.1.3 System Log

The system log storage data is configured in the setup menu. For troubleshooting, the file may be required to be sent to the factory for engineering analysis and troubleshooting. 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).

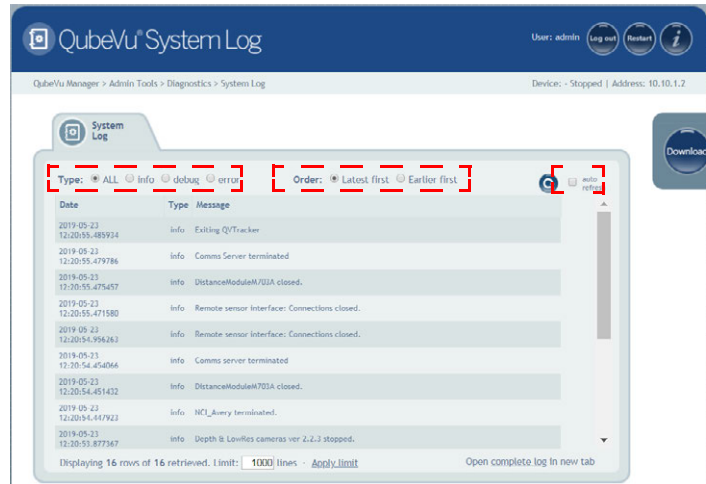



Figure 10-4. System Log

The log can be refreshed by pressing  or automatically refreshes by checking the auto refresh box.

To download the log to a .csv file, press **Download**.

10.1.4 Debug Info

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. Press **Select All** to download all of the debug information.

1. Press **Download** to save the file to the computer.



Figure 10-5. Debug Info

10.2 TCP Interface

The TCP interface operates in two modes:

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

10.2.1 TCP Interface Configuration

1. Select QubeVu or Cubiscan 110/150 from the TCP interface dropdown list.

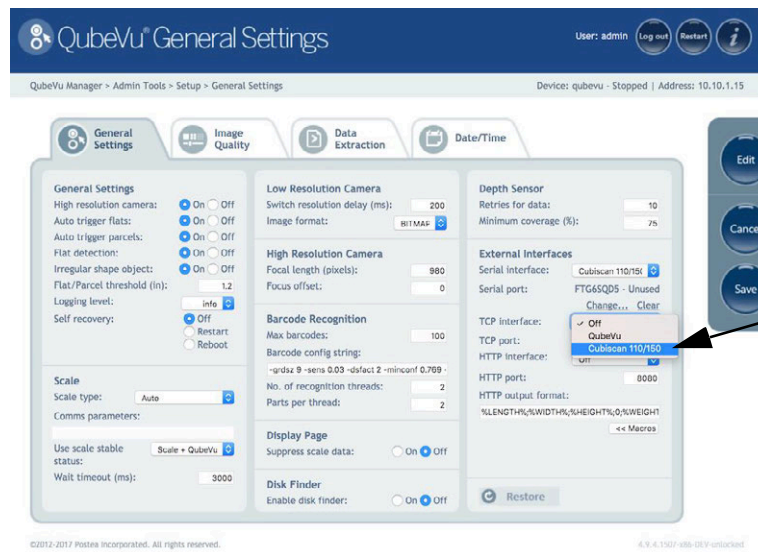


Figure 10-6. Select TCP Interface

2. Set the TCP port.
3. Click **Save** to complete the TCP emulation setup.

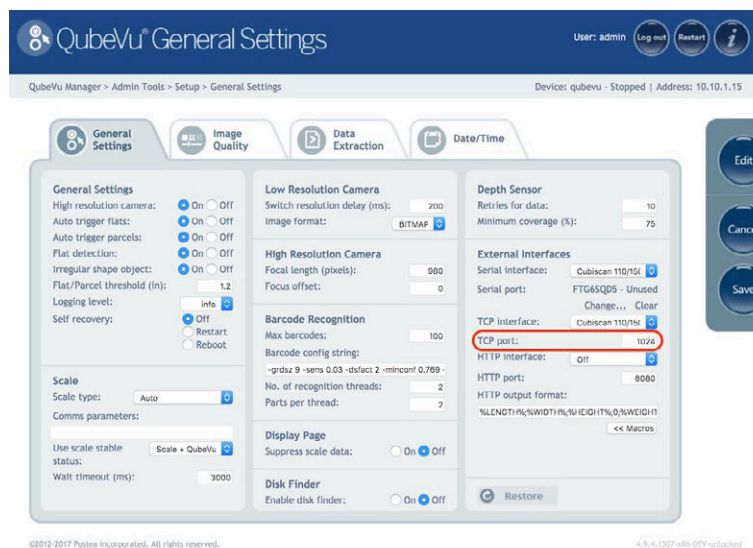


Figure 10-7. Select TCP Port

10.2.2 Client/PC Setup

In order for the client application to talk to QubeVu via TCP the following pre-requisites must be installed and configured:

- Com0Com
 - Com2TCP
1. Download and install Com0Com:
 - x86:
 - https://storage.googleapis.com/google-code-archiveddownloads/v2/code.google.com/powersdr-iq/setup_com0com_W7_x86_signed.exe
 - x64:
 - https://storage.googleapis.com/google-code-archiveddownloads/v2/code.google.com/powersdr-iq/setup_com0com_W7_x64_signed.exe
 2. Download and install Com2TCP:
 - x86 / x64:
 - https://www.dropbox.com/s/augu7bw7x4ou7rl/QubeVuCom2TcpSetup_4.7.1.9639-DEV.EXE?dl=0
 3. Run the Desktop shortcut called QubeVu Com2Tcp Setup. Right click on the shortcut then select **Run as administrator**.



Note This script must be run as an elevated user, such as Administrator.

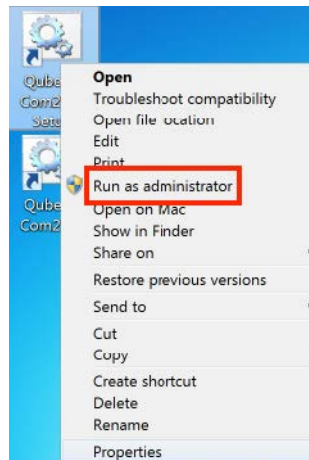


Figure 10-8. Run Administrator

4. Right click on the Desktop shortcut, **QubeVu Com2Tcp** and select **Properties**.
5. Append the string in the **Target** field with the IP address of the QubeVu and the TCP port configured in [Section 10.2.1 on page 53](#) above.
 - Example: "C:\Program Files (x86)\Postea\QubeVu Com2Tcp Scripts\qv_com2tcp_run.bat" 10.10.1.1 1024
6. Click **Ok**.
7. To establish the TCP connection double click on the Desktop shortcut, **QubeVu Com2Tcp**. The software will run in a command window which must not be closed. **Windows Task Scheduler** should be used to automate the start up of **Com2TCP**.

10.3 HTTP Interface

The HTTP interface outputs data in a text/plain MIME type message. It can be used to emulate the data interfaces of other dimensioning systems.

Example: The ParcelCube 900 R2 system.

The instructions below describe how to configure the interface.

Refer to the API guide for detailed information on using the interface.

10.3.1 Configuring the HTTP Interface

1. Select **Text** from the **HTTP interface** dropdown list.

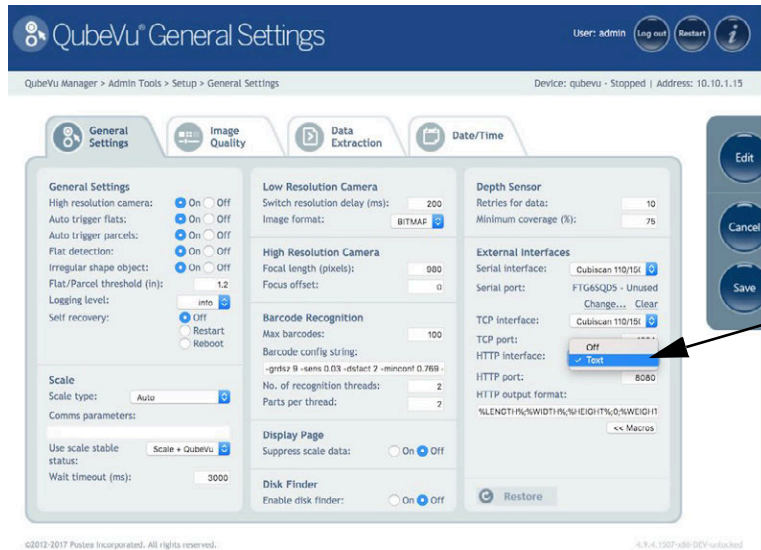


Figure 10-9. HTTP Interface Dropdown List

2. Set the **HTTP port**.

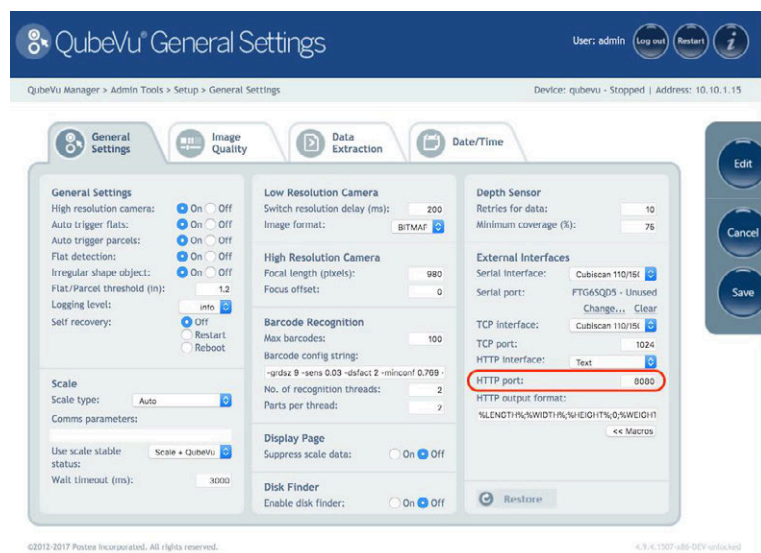


Figure 10-10. Set HTTP Port

11.0 Appendix

This section provides an overview of the iDimension Plus appendix.

11.1 Status Messages

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

The Device is in configuration mode.



Figure 11-1. Data Extraction Configuration Example

Item No.	Description
1	Status
2	Extended Status

Table 11-1. Status Messages

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 11-2. Status Messages

11.1.1 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 warmup 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 11-3. Status Messages

11.1.2 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 11-4. Error Messages

11.2 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_iam8PMuFd7L5vlsa?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>
```

11.2.1 Data Extraction Configuration Example

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

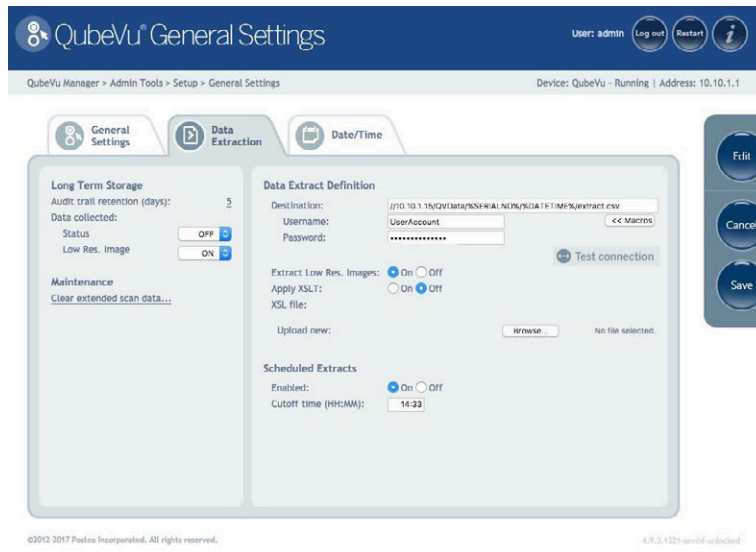


Figure 11-2. Data Extraction Configuration Example

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.

11.2.2 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
Low Res. Image Collection is ON	A low res image of each scan will be stored

Table 11-5. Data Collection Parameters

11.2.3 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 the 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 will create a results 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 11-3.

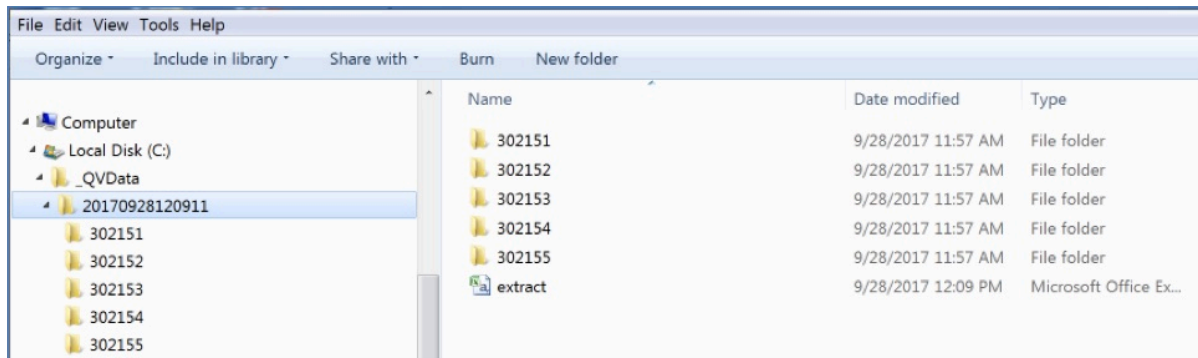


Figure 11-3. Data Extraction Configuration Example

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.

12.0 Specifications

Product Dimensions

Length	25" (63.5 cm)
Width	14.25" (56 cm)
Height	63.8" (162 cm)
Weight	28.5 lb (13 kg)

Power Requirements

Single power source 110–240 V external power supply, US power cord

Object Colors

All opaque packaging

Measurement Time

0.2 seconds, scale setting times vary by manufacturer

Cuboidal Specifications

Division	±0.2" (0.51 cm)	
Capacity	Minimum	Maximum
Length	5.6" (14.22 cm)	48" (121.92 cm)
Width	5.6" (14.22 cm)	28" (71.12 cm)
Height	2.4" (6.1 cm)	28" (71.12 cm)

Irregular Specifications

Division	±0.5" (1.27 cm)	
Capacity	Minimum	Maximum
Length	6" (15.24 cm)	48" (121.92 cm)
Width	6" (15.24 cm)	28" (71.12 cm)
Height	6" (15.24 cm)	28" (71.12 cm)

Operating Temperature

32°–86° F (0°–30° C)

Humidity

Non-condensing

Mechanical Environment Class

M1

Electromagnetic Class

E1

I/O Ports

- (1) USB type A port (interface to scale)
- (1) 10/100/100BASE-T Ethernet port (interface to PC)

Software Integration

API and SDK files available for network device integration

Warranty

One-year limited warranty

Certifications and Approvals



NTEP

CoC Number: 19-040A1



EU

File Number: T11908



OIML

File Number: R129/2000-A-NL1-20.05



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