Brickstream® 3D+ Smart Device Basic Installation Guide

Software Version 1.0.0.90 for Brickstream® 3D+ Smart Device, October 2014

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http://www.brickstream.com

COMPLIANCE STATEMENTS

Product EMC Compliance

This product has been tested and verified to comply with the following electromagnetic compatibility (EMC) regulations.

FCC Regulatory Statements

This device complies with Part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: THE GRANTEE IS NOT RESPONSIBLE FOR ANY CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

RF Exposure Information

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm during normal operation and must not be collocated or operating in conjunction with any other antenna or transmitter.

Electromagnetic Capability (EMC) Directive

Conformity is declared to Standards:

- CISPR 22:2008-09/EN55022:2006 - Class A - Limits and methods of measurement of radio disturbance characteristics of Information Technology Equipment
- CISPR 24: 2010 / EN 55024:2010 - Electromagnetic Compatibility Requirements - Information Technology Equipment - Immunity Characteristics - Limits and Methods of Measurements

European Union Notice

This equipment complies with the requirements of the following EC Directives and carries the CE mark accordingly.

- EMC Directive 89/336/EEC as amended by Directives 91/31/EEC and Directive 93/68 EEC
- Low-Voltage Directive 73/23/EEC as amended by 93/68/EEC

Canadian Notice (Avis Canadien)

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

RF Exposure Statement

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme avec IC RSS-102 des limites d'exposition aux rayonnements définies pour un environnement non contrôlé. Cet émetteur doit être installé à au moins 20 cm de toute personne et ne doit pas être colocalisé ou fonctionner en association avec une autre antenne ou émetteur.

RoHS Compliance

This product is RoHS compliant

CAUTION

Equipment changes or modifications not expressly approved by Brickstream Corporation, the party responsible for FCC compliance, could void the user's authority to operate the equipment and could create a hazardous condition.

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1 INTRODUCTION

Welcome to the *Brickstream® LIVE Advanced Installation Guide*. The Brickstream® 3D+ Smart Device represents the next generation of video analytics. The *Brickstream® LIVE Advanced Installation Guide* is a part of the Brickstream® 3D+ Smart Device technical documentation suite, which also includes:

- *Brickstream® 3D+ Smart Device Basic Configuration Guide*
- *Brickstream® 3D+ Smart Device Advanced Configuration Guide*
- *Brickstream® 3D+ Smart Device Programmer's Guide* for advanced users

ABOUT THIS DOCUMENT

Audience for this Book

This guide details installation instructions for installers, implementation engineers, as well as support teams and training coordinators.

What is Covered in this Book

This book is divided into the following sections that will help you navigate through the Brickstream® 3D+ Smart Device. The following topics are covered in this book.

Section	Provides
Introduction	An overview of the Brickstream® 3D+ Smart Device technology and provides an outline of the supporting documentation that can be found in this book.
Installing the Brickstream® 3D+ Smart Device On-Site	An overview of the Brickstream® 3D+ Smart Device components.

Section	Provides
Setting up the Brickstream® 3D+ Smart Device	Instructions on how to use the PoE system; setup IP address client network connection; and create basic configuration settings.
Installing Software on a Factory Direct Brickstream® LIVE Smart Device	Instructions for downloading and installing the latest version of software for a new, factory-direct Smart Device

In addition, there is important information in the following appendices to support various tasks performed using this document:

- *Appendix A: Brickstream® 3D+ Smart Device Specifications* on page 52
- *Appendix B: Smart Devices/Lens Selection Tables* on page 57
- *Appendix D: GPIO Pinout Diagrams and RS-485 Connection* on page 84
- *Appendix C: Troubleshooting Brickstream® LIVE Smart Devices* on page 65

ABOUT BRICKSTREAM® 3D+ SMART DEVICES

Brickstream® 3D+ Smart Device captures behavior and tracks physical movements that provide a basis for analytical algorithms, enabling it to generate traffic metrics, queue metrics, and service metrics in a single Smart Device for Brickstream's brick and mortar (financial and retail) clients.

The Brickstream® 3D+ Smart Device:

- Has two camera lenses
- Uses CMOS (complementary metal-oxide semiconductor) image sensors for Wide VGA, High Dynamic Range (HDR) images
- Uses LINUX operating system (OS)
- Provides on-board processing and data storage
- Adjusts automatically to environmental changes (i.e., lighting and temperature)
- Is IP addressable for remote management and support, including firmware upgrades
- Offers RS-485 for EAS integration
- Includes a USB host port and three-channel digital I/O port
- Uses proven advanced stereo vision and patented path tracking technology to:
  - Collect and store metrics at one minute granularity
  - Count adults, children, and shopping units simultaneously in separate data streams
  - Filter objects based on height, shape, and size (e.g., children, shopping carts, strollers, etc.)
  - Provide robust and accurate metrics across a broad set of environments (e.g., indoor/outdoor and high traffic)
- Uses metal housing to provide heat dissipation and durability

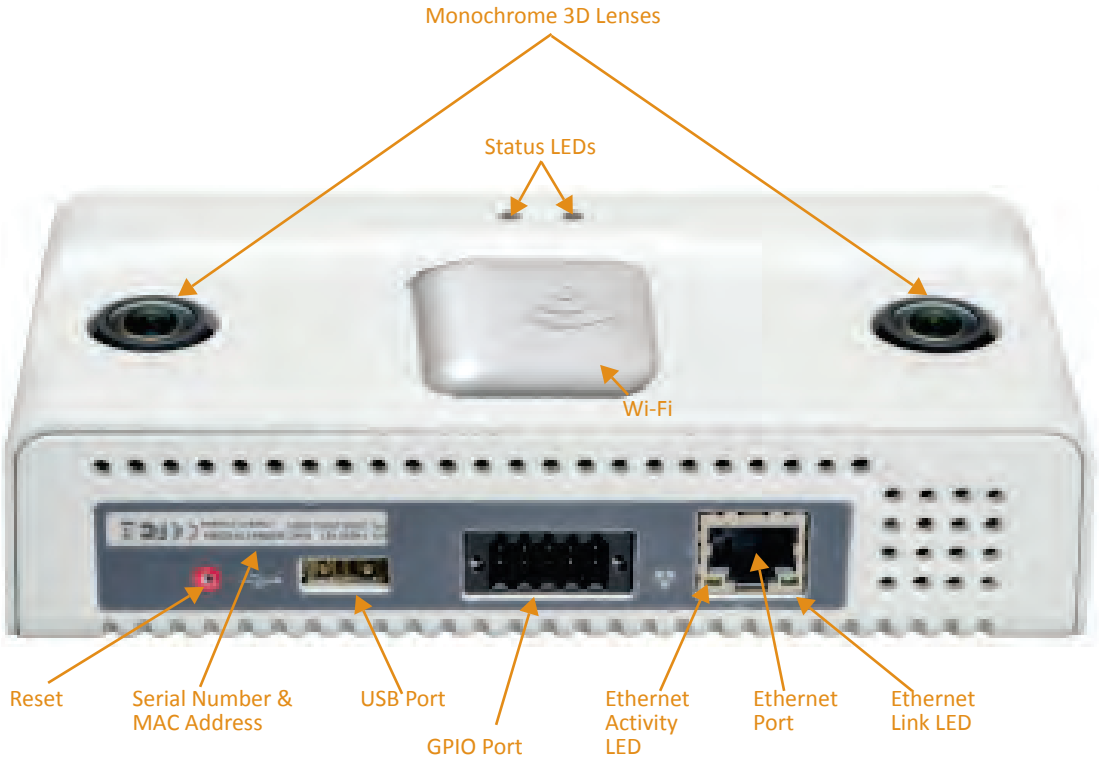
Brickstream® 3D+ Smart Device Hardware Components

The Brickstream® 3D+ Smart Device is boxed and shipped to a customer. To properly install the Smart Device, Brickstream recommends the purchase of an industry standard 802.3af PoE System. Depending on the method and location for installing the Smart Device, suitable mounting

hardware is required (e.g., outdoor enclosure, recessed mount, recessed tilting mount, or surface mount), purchased separately. Refer to the *Mount Types* on page 48 in this book for more information.

The following image provides a diagram of the Brickstream Smart Device.

Figure 1: Brickstream® 3D+ Smart Device Diagram



Brickstream® 3D+ Smart Device Software Components

The Brickstream® 3D+ Smart Device is pre-loaded with the available firmware prior to being shipped to a customer. It may be necessary to update firmware before installing the Smart Device. The factory default configurations are present on the Smart Device.

TIP

The version of software that the Smart Device is running displays on the right side of the footer in the Brickstream 3D+ web interface. For detailed instructions on updating the firmware, see Appendix C: Installing Software on a Factory Direct Brickstream® LIVE Smart Device on page 80.

The Brickstream® 3D+ Smart Device includes a web interface that can be accessed from any standard web browser that can access the network where the Smart Device is connected. The Brickstream® 3D+ Smart Device web interface provides configuration capabilities for the Brickstream® 3D+ Smart Device.

LICENSING

With the basic license, the Brickstream® 3D+ Smart Device includes:

- Basic counting software (1 zone)
- Tilt (up to 10°)
- Privacy
- Data encryption

For the Brickstream® 3D+ Smart Device, additional firmware licensing governs the following features:

- Advanced counting
- Advanced software (up to 32 zones, queuing, and servicing options)
- Queue software
- Service software (up to 32 zones)
- Tilt (greater than 10°)
- Report interface
- Path linking
- Traffic maps

TIP

Contact your Brickstream Sales Representative for pricing and availability.

BEFORE YOU BEGIN

Before you begin installing a Brickstream® 3D+ Smart Device, be sure that you have the following:

- Access to PoE
- Available ports on the PoE
- Power cable with IEC 320 EN 60320 C13 (F) connector and M connector suitable for local wiring
- UTP Category-5e (CAT5e) or greater cable
- All required permits in place for installation activities, as per local ordinances
- Network rules established and functioning

TIP

You can significantly reduce the installation time by preconfiguring all devices with the appropriate network and configuration setting prior to arriving on site. For detailed instructions on preconfiguration, see *Setting up the Brickstream® 3D+ Smart Device on page 5.*

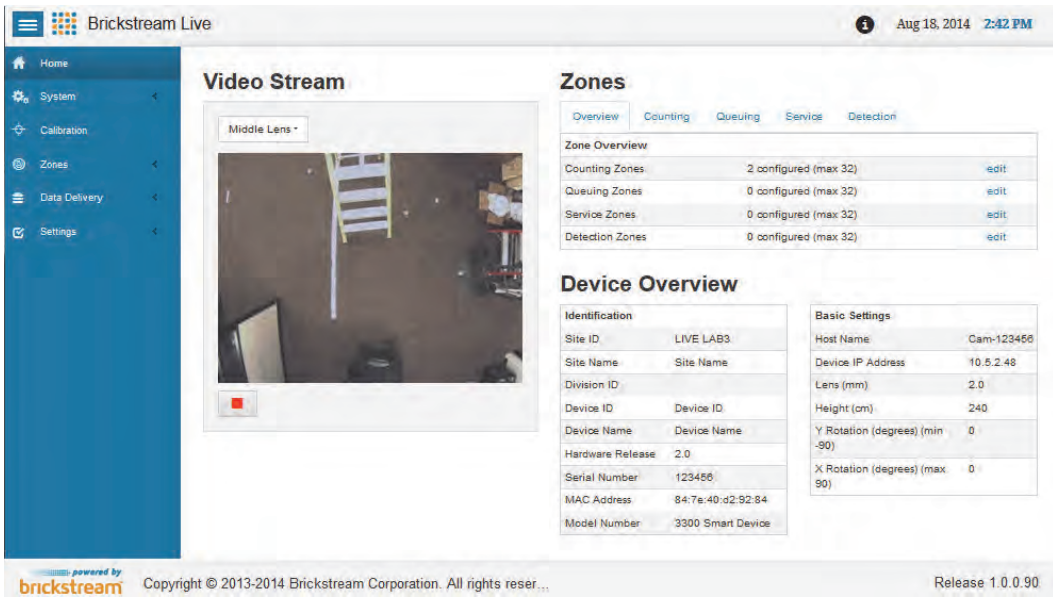
2 SETTING UP THE BRICKSTREAM® 3D+ SMART DEVICE

Using the Brickstream® 3D+ Smart Device requires following the instructions in this book to pre-configure and install the Smart Device, and then configure the supporting firmware. The following section of this book will provide you with an overview of the two major components of the Brickstream® 3D+ Smart Device solution.

USING THE BRICKSTREAM® 3D+ SMART DEVICE WEB INTERFACE

To access the web interface to pre-configure the Smart Device, use the default IP address of 198.168.1.7. All Brickstream® 3D+ Smart Devices are shipped to customers with this default IP address. Refer to *Connecting the Brickstream® 3D+ Smart Device to the Client Network* on page 10 for detailed instructions on how to change the default IP address to a client network IP address.

Figure 2: Brickstream® 3D+ Smart Device Web Interface



TIP

The version of software that the Smart Device is running displays on the right side of the footer in the Brickstream 3D+ web interface.

Brickstream® 3D+ Smart Device Navigation

The Brickstream 3D+ web interface consists of the following menu options with supporting submenus.

Menu Item	Uses
Home	Provides access to video and data streams, an overview information about the Smart Device, and links to edit counting, queueing, service, and detection zones
System	Importing and exporting Smart Device configurations, and licensing, upgrading, and remotely rebooting the Smart Device, accessible from the System submenu items
Calibration	Setting the appropriate height range and filter (e.g., adult, children, couples) parameters to achieve optimum performance levels from the Brickstream® 3D+ Smart Device
Zones	Setting up counting, queueing, service, and detection zones, as well as configuring path linking, as well as the queue and service zone parameters that the Brickstream® 3D+ Smart Device will use to monitor queue activity and service metrics, accessible from the Zones submenu items
Data Delivery	Configuring delivery settings for batch data, email, FTP, real time data, traffic (flow) maps, alerts, digital I/O, and AVI capture intervals, as well as accessing instant retrieval of data to send immediately, accessible from the Data Delivery submenu items
Settings	Establishing network connectivity, time synchronization, Device Manager connectivity, configuration of tracks, destinations for logs, password protection, and privacy options, accessible from the Settings submenu items
Information	Accessing logs and diagnostic information about the Smart Device

Functions of the Web Interface Buttons

The Brickstream 3D+ web interface offers the following methods to store changes to the Brickstream® 3D+ Smart Device's configuration file.

Button	Description
Save	Uses the permanent, non-volatile memory (Flash) of the Smart Device to store the effects of a change. Saved values are applied and become the new reset values for the **Reset** button.
Reset	Restores the previewed or changed values back to the last saved values.
Defaults	Restores the current values back to the factory defaults. The values will not be permanently saved until you click the **Save** button.

PRE-CONFIGURATION PROCESS

Before installing the Brickstream® 3D+ Smart Device at a customer site, the following pre-configuration process must be followed. During the pre-configuration stage, the Power-over-Ethernet (PoE) connection is set up, the Smart Device IP address is updated, and basic configuration settings are set up on the Smart Device. Refer to *Powering the Brickstream® 3D+ Smart Device* on page 44 for more information regarding the PoE connection set up.

Pre-configuring the Network IP Address

The Brickstream® 3D+ Smart Device is shipped from Brickstream with a default IP address of 192.168.1.7. You will need to set the Smart Device to use the IP address assigned by your Network Administrator so that it will be accessible from your network. The following instructions describe how to connect to the Smart Device to a standalone PC for the purpose of changing the Smart Device's default IP address.

Connecting to the Smart Device Using Default Settings

If your network uses 192.168.1.x as the default gateway, skip this section and go to *Connecting the Brickstream® 3D+ Smart Device to the Client Network* on page 10. Use the following steps to connect to the default IP address location of the new Brickstream® 3D+ Smart Device.

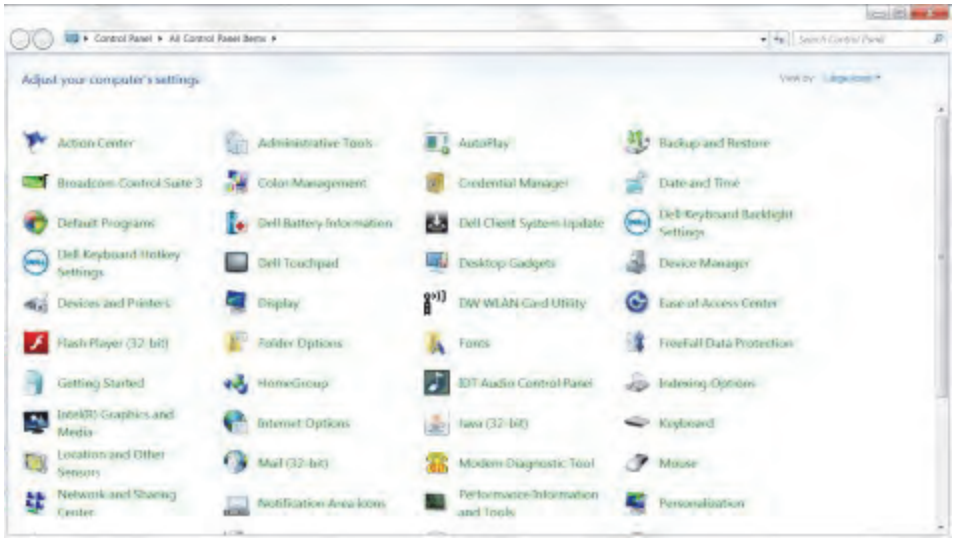
1. Turn on your PC, if it is not already powered.
2. Disconnect the CAT5e Ethernet cable from your PC.
3. Disable any wireless connections that you may have.

NOTES

No other network connections may be active during this process.

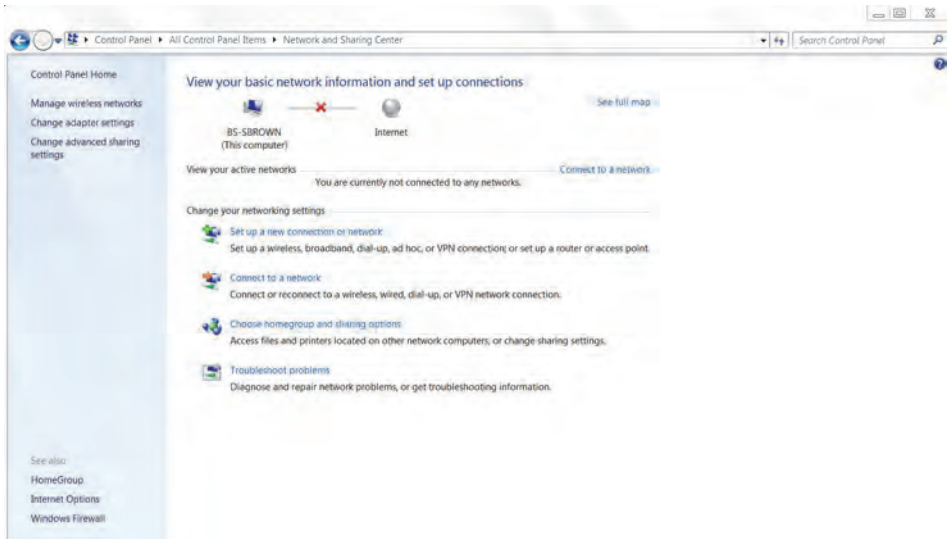
4. Click the **Start** icon and select **Control Panel** from the desktop of your PC. The **Control Panel** opens.

Figure 3: Control Panel



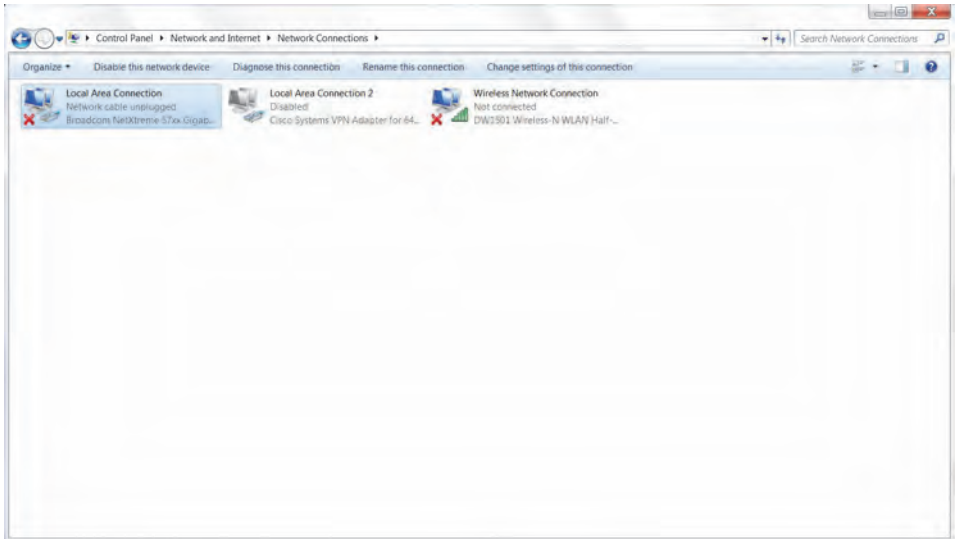
5. Double-click **Network and Sharing Center**. The **Network and Sharing Center** opens.

Figure 4: Network and Sharing Center



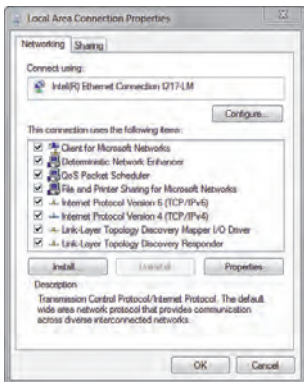
6. Click **Change adapter settings** in the left upper pane. The following window opens.

Figure 5: Change Adapter Settings Window



7. Click **Wireless Network Connection** and then click **Disable this network device**.
8. Right-click on **Local Area Connection** and choose **Properties**. The **Local Area Connection Properties** dialog box opens.

Figure 6: Local Area Connection Properties Dialog Box

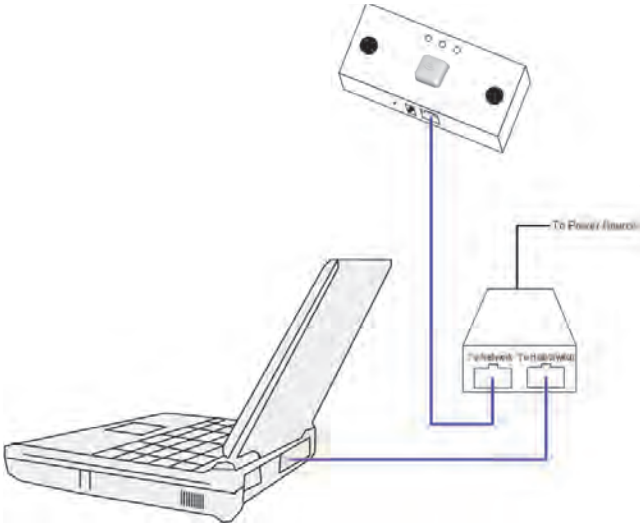


9. Select **Internet Protocol Version (TCP/IPv4)** and click **Properties**. The *Internet Protocol Version (TCP/IPv4) Properties* dialog box opens.

Figure 7: Internet Protocol Version (TCP/IPv4) Properties Dialog Box

10. Take note of the current settings in this window so that you can change them back after you set the network parameters on the Brickstream® 3D+ Smart Device.
11. Select **Use the following IP address**.
12. In the **IP address** field type a new IP address in the range of 192.168.1.x where x is not 7 or 10. The last digits of your PC's IP address should be different from that of the Smart Device (i.e., Brickstream® 3D+ Smart Device = 192.168.1.7 and PC = 192.168.1.11). The **Subnet Mask** field will be automatically populated with 255.255.255.0.
13. Click **OK**. The **Internet Protocol Version 4 (TCP/IPv4) Properties** dialog box closes.
14. Click **Close**. The **Local Area Connection Properties** dialog box closes.
15. Connect the Brickstream® 3D+ Smart Device to your PC as shown and described in the following figure.

Figure 8: Brickstream® 3D+ Smart Device Connection to Your PC



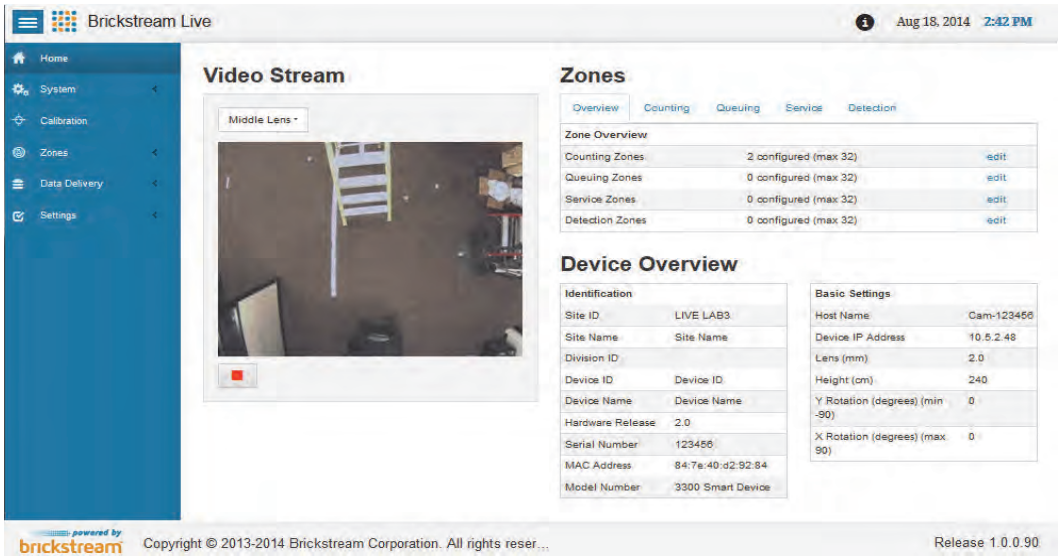
16. Plug the PoE injector to a power outlet.
17. Plug a CAT5e Ethernet cable from the port of the Smart Device to the **To Network** or **LAN/DC** port of the PoE injector.
18. Plug a CAT5e Ethernet cable from the **Hub/Switch** or **LAN** port of the PoE injector to the Ethernet port in your PC.

Connecting the Brickstream® 3D+ Smart Device to the Client Network

Use the following steps to set the Brickstream® 3D+ Smart Device default location to the new network location.

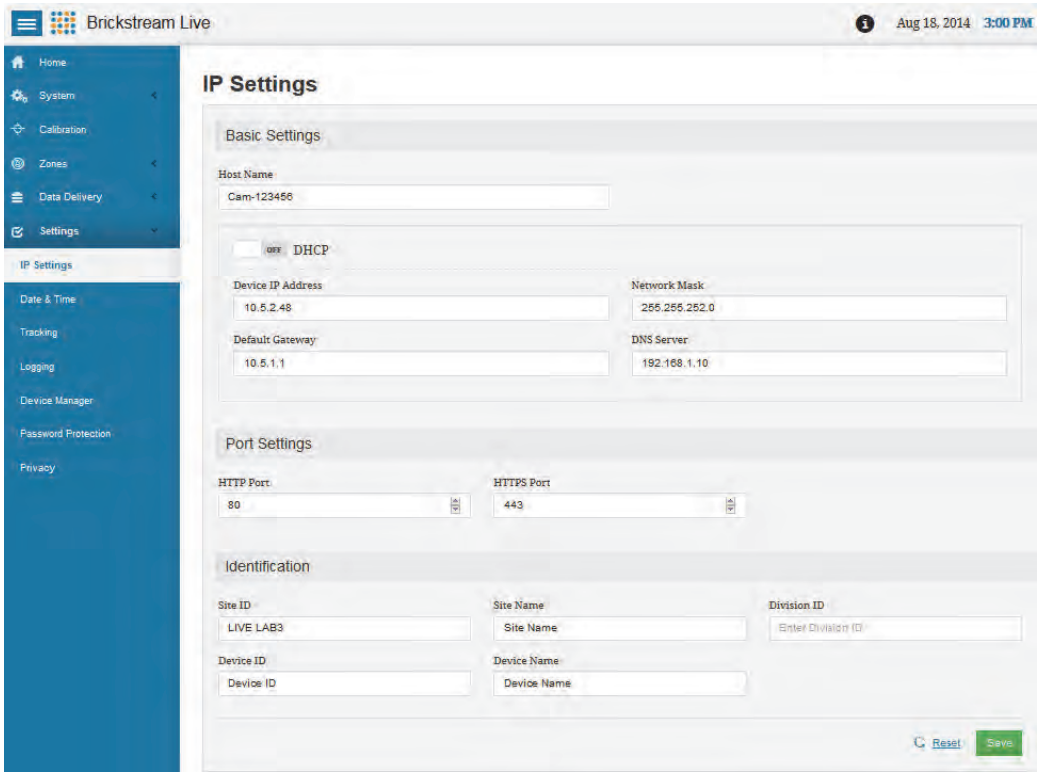
1. Open a web browser and type **http://192.168.1.7** into the URL address bar.
2. Press **Enter**. The **Home > Overview** page on the Brickstream 3D+ web interface opens.

Figure 9: Brickstream® 3D+ Smart Device Web Interface



3. In the left navigation list, click **Settings > IP Settings** to open the **IP Settings** page.

Figure 10: IP Settings



4. DHCP is disabled by default. Does your network use a DHCP server?

CAUTION

Even if your network is DHCP enabled, be sure to work with your network administrator to reserve a range of IP addresses for Smart Devices at this location before choosing to use DHCP with the Smart Devices.

Use the following table to determine your next steps.

If the Brickstream® 3D+ Smart Device will be using...	Select...
An IP address from a DHCP server	**Yes** in the **DHCP Enabled** field and skip entering a Hostname and IP address.[a]
A fixed IP address	**No** in the **DHCP Enabled** field.

a. When the Brickstream® 3D+ Smart Device is connected to a network, it will search for a DHCP server. Brickstream suggests that you use reserved DHCP IP addresses. This allows you to quickly locate and connect to the Brickstream 3D+ web interface after installation.

5. Use the following table to complete the remaining data entry.

Field	Description
Hostname	Type the Hostname that the Smart Device will use on your network. The Hostname is a label assigned to the Brickstream® 3D+ Smart Device that will identify the Smart Device in various forms of electronic communication (e.g., Internet, e-mail, etc.)
Device IP address	Type the IP address that the Smart Device will use on your network. An IP address is a numerical label assigned to the Brickstream® 3D+ Smart Device that will identify the Internet Protocol Address (IP address) of the Smart Device.
Network Mask	Type the Network Mask that the Smart Device will use on your network. A network mask is the same as an Internet Protocol Address (IP address). A network mask identifies which part of an address is to be used for an operation (i.e., making a TCP/IP connection).
Default Gateway	Type the Default Gateway that the Smart Device will use on your network. A default gateway is a node (a router) on a computer network that the network software uses when an IP address does not match any other routes in the routing table.
DNS Server	Type the optional DNS (Domain Name System) Server that the Smart Device will use on your network. A DNS Server maps a human-recognizable identifier to a system-internal, often numeric identification or addressing component. This service is performed by the server in response to a network service protocol request.
HTTP Port	Type the HTTP Port number that the Smart Device will use for HTTP communication. The HTTP (Hypertext Transfer Protocol) port number is the protocol used to exchange or transfer hypertext.[a]
HTTPS Port	Type the HTTPS Port number that the Smart Device will use for HTTPS communication. The HTTPS (Hypertext Transfer Protocol Secure) port number is a communications protocol for secure communication over a computer network, with especially wide deployment on the Internet.[b]
Site ID	This is a customer specific classification for a store or site number.[c]

Field	Description
Site Name	This is a customer specific classification for a store or site name. Typically, it is often a reference to the city or locale where the store is located.
Division ID	This is a customer specific classification of a group of stores within a retail chain.
Device ID	This is an alphanumeric code to uniquely identify the device within a site.
Device Name	This is a one word or two word name for the Smart Device that is derived from the Device ID (i.e., if a customer has assigned a Device ID = D1 then the Device Name might be Door 1.)

a. Your Network Administrator will provide you with the correct port number for your implementation.
b. Your Network Administrator will provide you with the correct port number for your implementation. If you do not have a license that enables encryption, the HTTPS port option is not available.
c. If you are using the Brickstream Operational Database and the Brickstream Device Adapter to store metric data, you should set the Site ID. The Brickstream Adapter will attempt to match the Site ID to a Site ID in the Operational Database in order to auto-register the Smart Device to a site.

6. Click **Save**. The Smart Device is now ready to be connected to the network using its new IP address and network configuration.
7. Click the **Counting** tab to verify visually that the Smart Device is displaying live video.
8. If the network for the on-site PC governing this Smart Device does not use the 192.168.1.x default gateway, restore the settings noted in step 10 on page 10, and then enable the Wireless Network Connection.
9. The Brickstream® 3D+ Smart Device is now connected. Go to the next section to set up some of the basic configuration parameters before the Brickstream® 3D+ Smart Device installation is completed.

BASIC CONFIGURATION SET UP

After you have configured the IP address so that it is accessible on the network, the Brickstream® 3D+ Smart Device requires a few basic configuration steps before it can properly receive requests and send XML data packets containing metric data to the appropriate application or server. Prior to calibrating the Smart Device and establishing advanced zone

configurations, use the following instructions to set up the basic configuration parameters for the Brickstream® 3D+ Smart Device:

- *Setting the Date/Time Options* on page 14
- *Setting Tracking Options* on page 16
- *Setting the Delivery Address for Logging* on page 16
- *Setting Device Manager Server Addresses and Ports (optional)* on page 17
- *Password Protecting Access to a Brickstream® 3D+ Smart Device* on page 19
- *Setting Privacy Options* on page 23
- *Setting Batch Data Streaming Options* on page 25
- *Setting Real Time Data Delivery Options* on page 27
- *Setting Email Delivery Options* on page 28
- *Setting FTP Delivery Options* on page 30
- *Setting Path Linking Options* on page 34

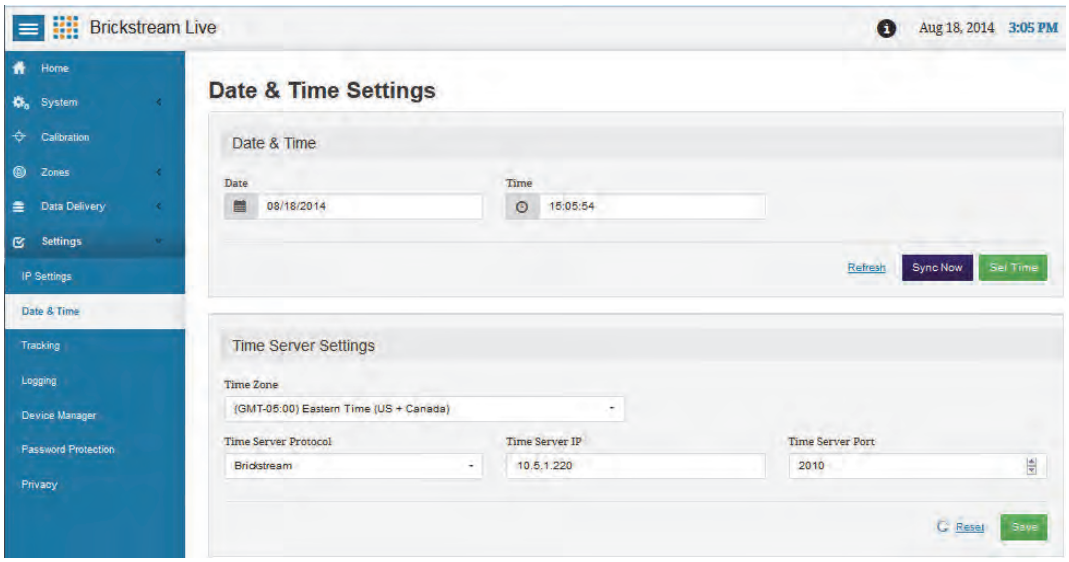
Setting the Date/Time Options

The date and time of the Brickstream® 3D+ Smart Device can be set automatically through the Time Server or manually through the Brickstream 3D+ web interface. The **Settings > Date and Time** Settings page of the Brickstream 3D+ web interface is used to set and edit this information.

Automatic Time Server SetUp

1. Open the Brickstream 3D+ web interface to the **Settings > Date and Time Settings** page.

Figure 11: Date and Time Settings Page



2. Select the appropriate time zone from the **Time Zone** list.

TIP *Select the time zone of the site where the Smart Device is being installed.*

3. Select the appropriate protocol from the **Time Server Protocol** list.

NOTES

Contact your Network Administrator to determine which time server protocol and time server IP address to use. For more information on the types of time server protocols, please refer to the Brickstream® 3D+ Smart Device Programmer's Guide. If there is no time server on the site network, go to *Manual Time Set Up on page 15.*

4. Type the IP address of the server running the Brickstream Time Server in the **Time Server** IP field.

TIP

The Time Server should be running on a server that is either on the same network as the Smart Device (requires no internet connectivity) or on a server that has a public IP address (requires internet connectivity). The Time Server will set the Smart Device time to UTC time, therefore the time server can be running in any time zone.

5. Type the Time Server **Port** number from which the Smart Device should attempt to get a time synchronization. The default port depends on the protocol selected:

Protoccol	Default Port
Brickstream 3D+	**2010**
Daytime	13
SNTP	123

TIP

When using Brickstream's proprietary time sync protocol, the time synchronization port and data delivery port can be sent to the same IP address and port if necessary, except when opting for either daytime or SNTP protocol.

If using Device Manager, use port 2010.

6. Click **Save**. The settings are saved.
7. Click **Sync Now** to test the connection of the time sync server. A time sync request is immediately sent to the IP address and port specified on the **Date and Time Info** page. A success or failure message is displayed at the top of the page depending on the synchronization outcome.

Manual Time Set Up

If you are using a server to synchronize time for the Smart Device, skip this procedure. If you are *not* using a server to synchronize the Smart Device, set the time on the Smart Device manually by following these steps.

CAUTION

This is a one-time setting when time synchronization is not used. Manual time setup is subject to time drift.

1. Open the Brickstream 3D+ web interface to the **Settings > Date and Time Settings** page.
2. Type the current date in the **Date** field.

3. Type the current time in the **Time** field.
4. Click **Set Time**. This will set the date and time on the Smart Device that you entered.

Setting Tracking Options

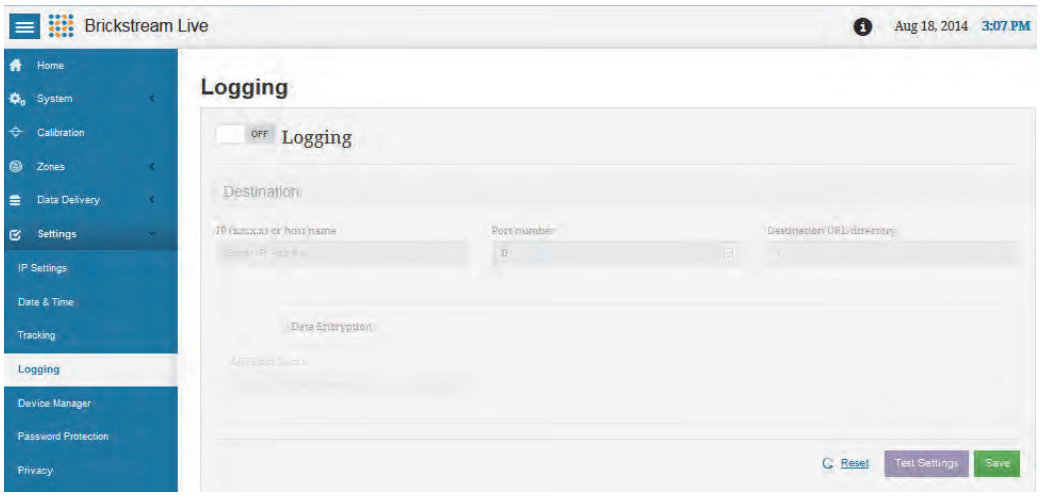
Detailed steps for using the 3D Tracking Configuration page is being developed. Please check back with your Brickstream representative for documentation updates.

Setting the Delivery Address for Logging

In order to receive and archive alert messages, you must have an application running on the server that parses the XML files and writes them to a database or a log file. The **Settings > Logging** page of the Brickstream 3D+ web interface is used to set and edit this information.

1. Open the Brickstream 3D+ web interface to the **Settings > Logging** page**.**

Figure 12: Logging Page



2. Click the **Logging** switch. The fields become active.
3. Type the IP address of the server that will receive data from the Smart Device into the **IP (x.x.x.x) or host name** field.
4. Type the port number to which the Smart Device should attempt to deliver XML log and diagnostic data in the **Port number** field.
5. Type the URL in the **Destination URL/directory** field if the Smart Device needs to send data to a specific URL in the HTTP POST. Set it to the default value of '**/**' if you have not been directed to change this field.

NOTES

This feature allows your IT department to use the same port for multiple devices and filter the traffic by the URL in the HTTP POST.

6. If desired, click the **Data Ecryption** switch to enable encryption of the Logging data stream.

NOTES

You must have an encryption license in order to enable encryption.

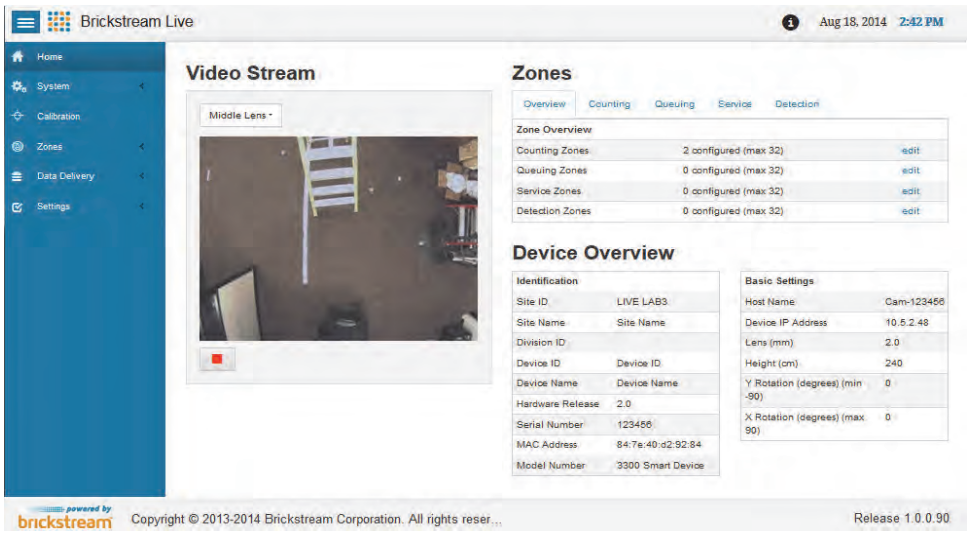
7. If using data encryption, enter the Server Name Indication (SNI) for the host the **SNI Host Name** field.
8. Click **Save**. The settings are saved.
9. Click **Test Settings** to test the connection of the logger server. A logger request is immediately sent to the IP address and port specified on the **Logging** page. A success or failure message is displayed at the top of the page depending on the outcome.

Setting Device Manager Server Addresses and Ports (optional)

Complete the following steps to point a Brickstream Smart Device default location to the Device Manager Server.

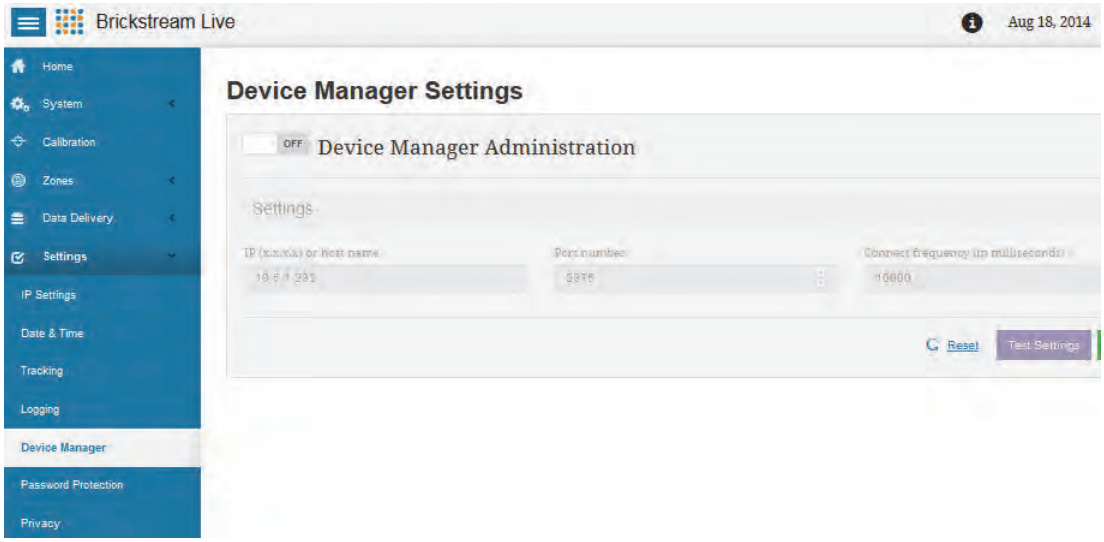
1. If it is not already open, access the Smart Device web interface.

Figure 13: Brickstream® LIVE Smart Device Web Interface



2. From the left navigation area, choose **Settings**> Device Manager. The **Device Manager Settings** page appears.

Figure 14: Device Manager Settings Page



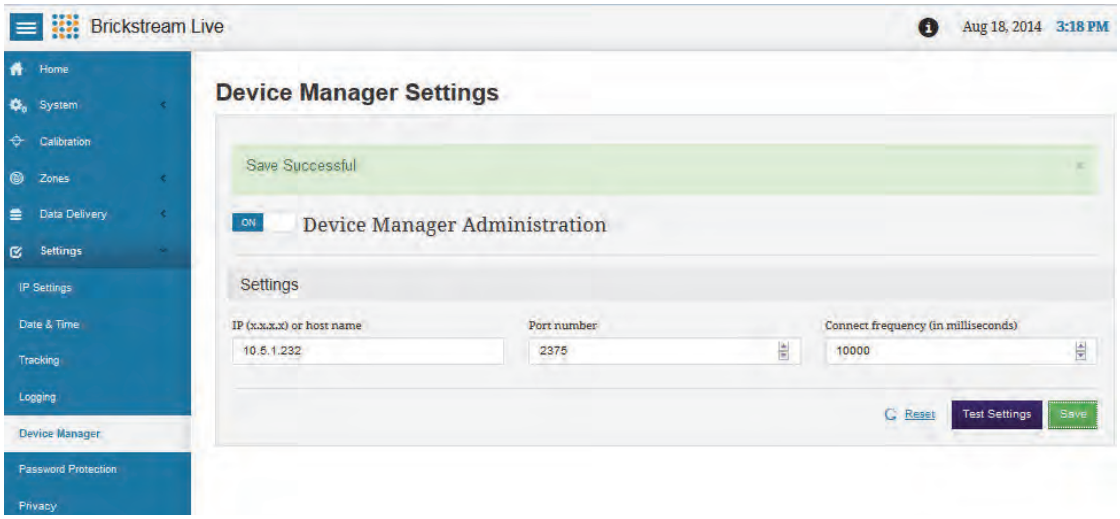
3. Click the **Device Manager Administration** switch. The fields become active.
4. Type the IP address or hostname where the Device Manager Server is running in the **IP (x.x.x.x) or host name** field.
5. Type the port number that you used when you started the Device Manager Server or use the port number provided to you by your Network Administrator in the **Port Number** field. The default value is **2375**.
6. Type the frequency (in milliseconds) that the Brickstream Smart Device will check into the Brickstream® 3D+ Smart Device Server for connection requests in the **Connect Frequency** field. The default value is **10000**.

TIP

For large-scale implementations, Brickstream recommends setting this value as 20000 to reduce server load and network traffic.

7. Click **Test Settings** to test the connection of the Device Manager server. A Device Manager server request is immediately sent to the IP address and port number specified on the **Device Manager** page. A success or failure message is displayed at the top of the page depending on the outcome.
8. Click **Save**. The save confirmation message appears.

Figure 15: Save Confirmation Message



The smart device is now ready to be connected to the network using its new IP Address and network configuration. The Brickstream Smart Device will begin checking in periodically with the Device Manager Server. When the Smart Device first connects with the Device Manager Server, the Smart Device will be auto-registered to either a previously created site or to the **Unassigned** site depending on your system setup.

Password Protecting Access to a Brickstream® 3D+ Smart Device

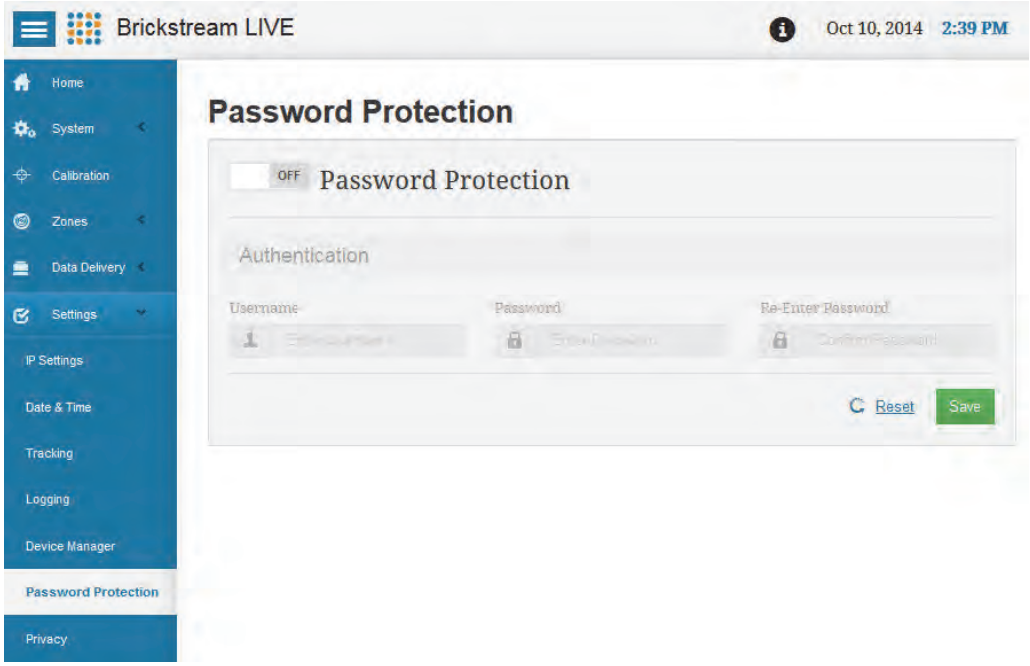
The Brickstream 3D+ web interface can be password protected to prevent unauthorized users from accessing the web pages. When enabled, the Brickstream 3D+ web interface prompts users for a username and password before allowing them to view any of the web pages in the interface. By default, password protection is disabled. Use the **Administrator** page in order to enable password protection.

Enabling Password Protection

Complete the following steps to enable password protection.

1. Access the Brickstream 3D+ web interface.
2. Click **Settings >Password Protection**. The **Password Protection** page appears.

Figure 16: Administration Page



3. Click the **Password Protection** switch to enable the fields.
4. Type a username in the **Username** field.

NOTES

Both User Name and Password fields are case sensitive.

5. Type a password in the **Password** field.
6. Re-type the same password in the **Re-Enter Password** field.

WARNING

Always re-type the password in the Confirm Password field. Do not copy and paste the password that you typed in the first Password field because any typing errors that you made will simply be copied into the confirmation field and you will not be able to access the Brickstream® 3D+ Smart Device after you save.

7. Click **Save** to save the changes. The Brickstream® 3D+ Smart Device is now password protected. The next time anyone attempts to access the interface from the browser, a login screen will appear.

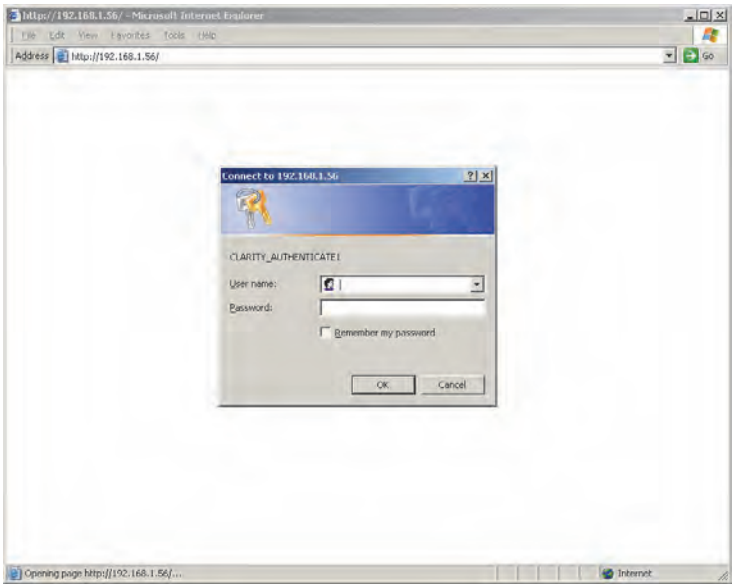
Accessing a Password Protected Brickstream® 3D+ Smart Device

You will need the username and password to access a password protected Brickstream® 3D+ Smart Device. If you have lost either (or both) of these, refer to See *Retrieving Forgotten or Lost Passwords*on page 135.

Complete the following steps to access a password protected Brickstream® 3D+ Smart Device.

1. Type the Brickstream® 3D+ Smart Device IP address into the address bar of a browser window. A login window appears.

Figure 17: Brickstream® 3D+ Smart Device Login Window



2. Type the user name in the **User Name** field.

NOTES

Both User name and Password fields are case sensitive.

3. Type the **Password** in the **Password** field.
4. Click **OK** to login. The Brickstream 3D+ web interface opens.

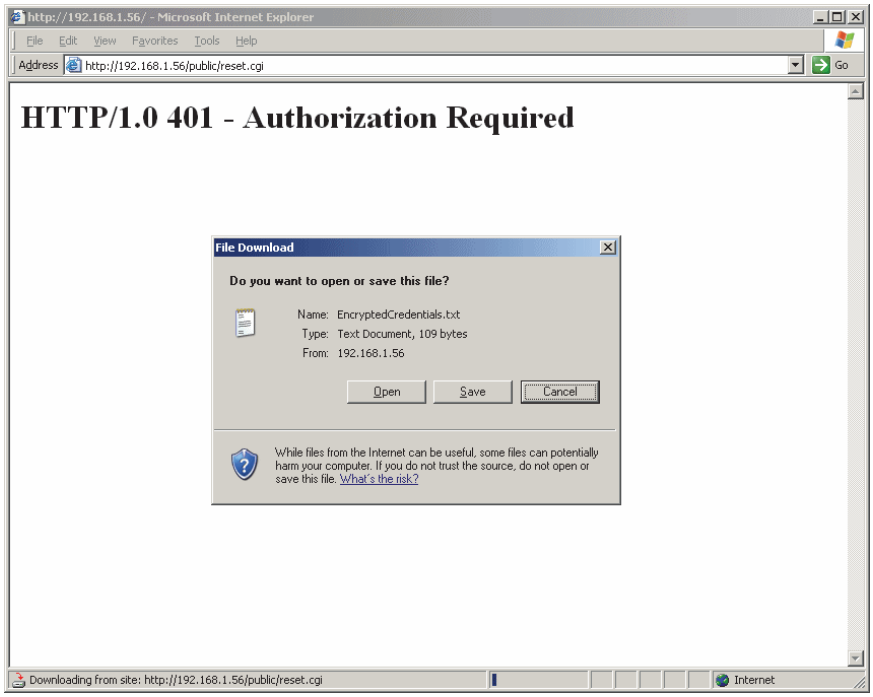
Retrieving Forgotten or Lost Passwords

If you lose or forget a user name or password for a Brickstream® 3D+ Smart Device, you will need to access a password retrieval page on the Brickstream® 3D+ Smart Device. This will create an encrypted file that you will need to email to support@brickstream.com. Brickstream will then decode the file and send your user name and password back to you.

Complete the following steps to retrieve a lost or forgotten user name and/or password.

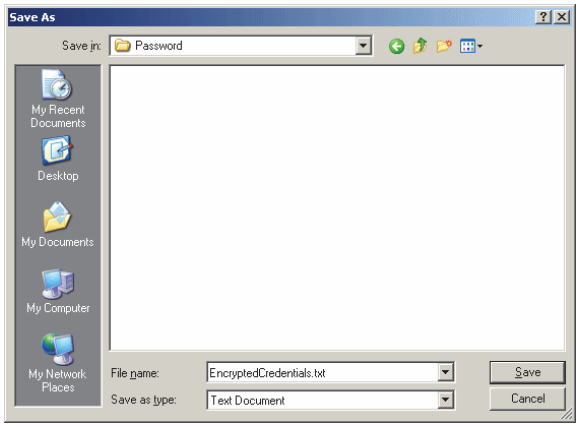
1. Open a browser window and type http://<IP Address>/public/reset.cgi (e.g. http://192.168.1.56/public/reset.cgi). The **File Download** window appears.

Figure 18: Encrypted File Retrieval Download Window



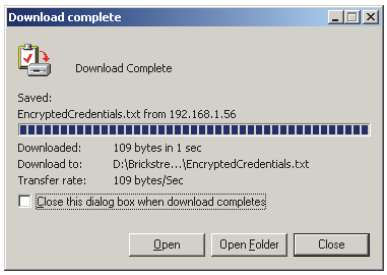
2. Click **Save**. The **Save As** window appears.

Figure 19: Save As Window



3. Navigate to the desired save location on your PC and click **Save**. The **Download Complete** window appears.

Figure 20: Download Complete Window



4. Click **Open Folder** to open the folder of the save directory.
5. Email the saved file to support@brickstream.com. Brickstream will then send you a file containing your user name and password.

Setting Privacy Options

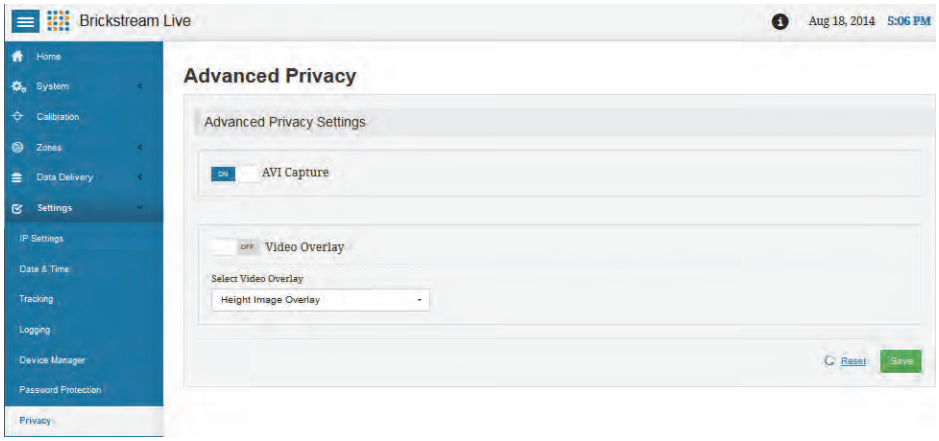
Privacy options allow you to prevent AVI captures from the Brickstream® 3D+ Smart Device and to mask live video image streams to prevent anyone from viewing images from the Smart Device. Use the **Advanced Privacy** page of the Brickstream 3D+ web interface to set and edit this information.

NOTES

You must have the appropriate license to view the Privacy page.

1. Open the Brickstream 3D+ web interface and click **Settings > Privacy** to access the Advanced **Privacy page.**

Figure 21: Advanced Privacy Page



2. If you want to disable AVI captures, click the **AVI Capture** switch to **OFF** to disable it.
3. If you would like to place an overlay on top of all video streams to mask the view from the Smart Device:
   a. Click the **Video Overlay** switch to the ON position to enable it.
   b. Choose an option from the **Select Video Overlay** list to select the type of overlay to use.

c. You can preview what each overlay looks like from the **Counting** page.

Figure 22: Original Image

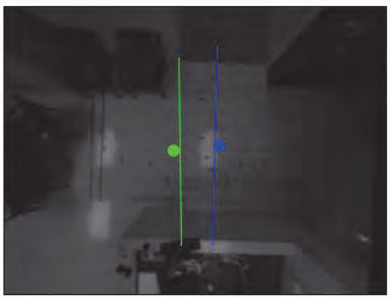


Figure 23: Height Image Overlay

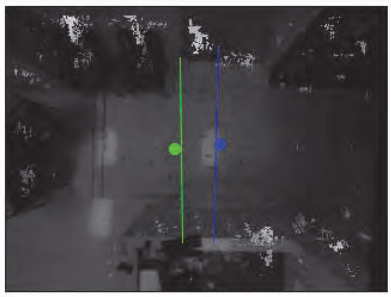


Figure 24: Height Image Overlay (4-Bit)

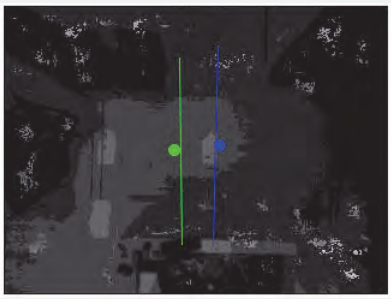
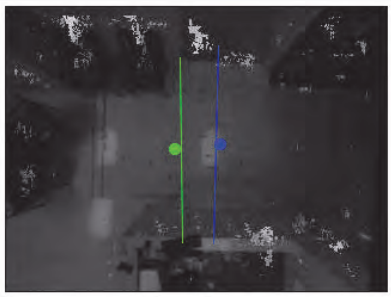


Figure 25: Edge Overlay

Figure 26: 4-Bit Gray Scale



WARNING

After saving the privacy settings, removing the privacy settings requires using the physical Reset button on the Smart Device. Refer to *Resetting the Brickstream® LIVE Smart Device* on page 65 for more information.

4. Click **Save**. The settings are saved.

SETTING DATA DELIVERY OPTIONS

Data delivery status is monitored to avoid loss of data. Select delivery mechanisms require server acknowledgment before attempting delivery of later time periods. Brickstream® 3D+ Smart Device supports the following data delivery options:

- *Setting Batch Data Streaming Options* on page 25
- *Setting Real Time Data Delivery Options* on page 27
- *Setting Email Delivery Options* on page 28
- *Setting FTP Delivery Options* on page 30

Metric data is buffered in on-board memory for 10 days, following these rules:

- Aggregation level has no effect on 10-day limit.
- Oldest data is always overwritten first.
- Power loss does not flush the metric buffer.

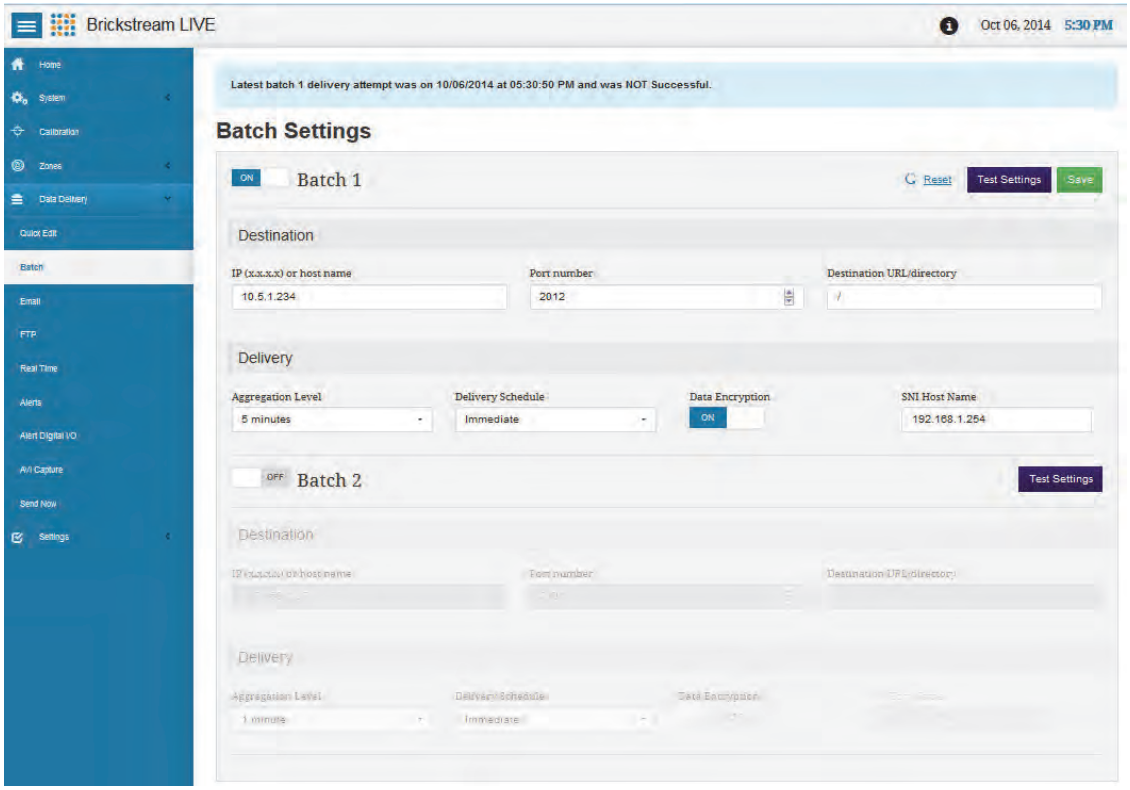
Delivery Mechanism	Delivery Policy
Batch Data Streaming	Server acknowledgement required
Real Time Data Streaming (HTTP)	Server acknowledgement required
Real Time Data Streaming (VLI)	No server acknowledgement required
Alert Delivery Data Streaming	No server acknowledgement required
Email Delivery	No retry policy
FTP Delivery	Configurable retry policy

Setting Batch Data Streaming Options

The Brickstream® 3D+ Smart Device can deliver batch data to up to two servers. Set the batch data delivery options as follows.

1. Access the Brickstream 3D+ web interface.
2. Click **Data Delivery > Batch**. The **Batch Settings**page opens.
3. Click the **Batch 1** switch to enable it.

Figure 27: Basic Settings - Data Delivery tab



4. In the **IP (x.x.x.x) or host name** field, type the IP address of the server that will receive data from the Brickstream® 3D+ Smart Device.
5. Type the **Port number** to which the Smart Device should attempt to deliver data.
6. Type the URL address in the **Destination URL/directory** field, if the Smart Device needs to send data feeds to a specific URL address in the HTTP POST. Use the default value of '**/**'if you have not been directed to change this field.

NOTES

This allows your IT department to use the same port for multiple devices and filter the traffic by the URL in the HTTP POST.

7. From the **Aggregation Level** list select how often to aggregate the count report (1 minute, 5 minute, 15 minute, 30 minute, or 60 minutes).
8. From the **Delivery Schedule** list choose how frequently to deliver the aggregated data sets (Immediately, 15 minutes, 30 minutes, or 60 minutes). The metric data will be delivered at this interval and at the aggregation level you selected in step 7.

NOTES

The Smart Device will deliver at a random frequency over the selected interval in order to limit the number of concurrent connections required on the server side.

9. If you want the batch data stream to be encrypted, click the **Data Encryption** switch to enable it.
10. If using data encryption, enter the Server Name Indication (SNI) hostname or IP address for the host the **SNI Host Name** field.

11. If you want to send batch data to a second server, click the **Batch 1** switch to enable it, and then repeat step 4 through step 10 for the second server.
12. Click **Save** to save your changes.

Setting Real Time Data Delivery Options

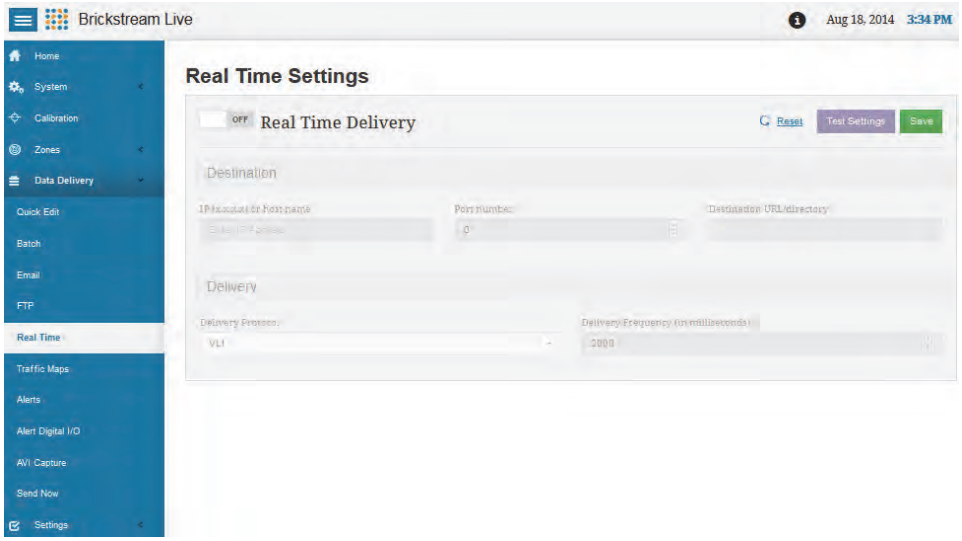
The Brickstream® 3D+ Smart Device sends real-time data feeds to server applications that reside in a store/on a site providing real-time dashboard capabilities for analysis or presentation purposes.

TIP

Data is not buffered, therefore, retransmission of lost data packets is not supported.

1. Open the Brickstream 3D+ web interface to the **Data Delivery > Real Time** page.

Figure 28: Real Time Settings Page



2. Click the **Real Time Delivery** switch. The fields become active.
3. Type the IP address of the server that will receive data feeds from the Smart Device in the **IP** (x.x.x.x) or host name field.
4. Type the port number to which the Smart Device should attempt to deliver data feeds in the **Port number** field. The default value is 9889.
5. Type the URL address in the **Destination URL/directory** field, if the Smart Device needs to send data feeds to a specific URL address in the HTTP POST. Use the default value of '**/**'if you have not been directed to change this field.

NOTES

This allows your IT department to use the same port for multiple devices and filter the traffic by the URL in the HTTP POST.

6. Type the number of milliseconds between connection attempts from the Smart Device to the Device Manager Server in the **Delivery Frequency (in milliseconds)** field. The default value is 10,000 or 10 seconds.

7. Click the **Delivery Protocol** list and choose the desired delivery protocol.

Option	Description
VLI	The XML data is sent as a raw TCP/IP data packet. The XML data is prepared with a 4 byte VLI which contains the length of the XML file to follow. The VLI interface does not require an acknowledgement.
HTTP	The XML data is contained within an HTTP POST. The same HTTP structure as a standard post to the server. The application must return an HTTP acknowledgement.

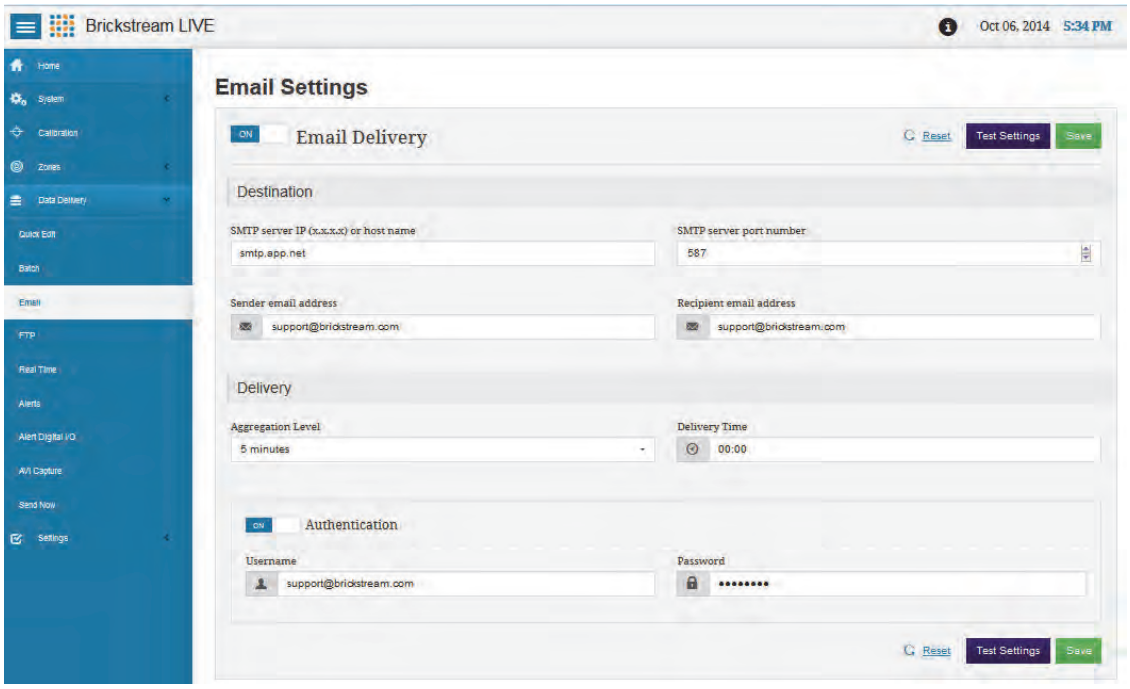
8. Click **Save** to make your changes effective. A save confirmation message appears.

Setting Email Delivery Options

The Smart Device can automatically send aggregated daily metric data to an email account. The **Email Settings** page of the Brickstream 3D+ web interface is used to set and edit this information.

1. Open the Brickstream 3D+ web interface, and then click **Data Delivery > Email** to open the **Email Settings** page.
2. Click the **Email Delivery** switch to enable the **Email Delivery** fields.

Figure 29: Email Settings Page



3. Type the email address of the person who will receive the email in the **Recipient email address** field.

NOTES

The field must contain the email address of a valid recipient on the SMTP server.

4. Type the email address of the person that is sending the email in the **Sender email address** field.

NOTES

The field must contain the email address of a valid sender on the SMTP server.

5. Type the IP address or Host Name of the SMTP Server in the **SMTP server** IP (x.x.x.x) or host name field.

WARNING

If you type a Host Name for the SMTP Server field, you must also enter a valid DNS Server IP address in the IP Settings group on the Network page.

6. Type the port number used by the server in the SMTP server p**ort** number field.
7. Type the email address of the person who will receive the email in the **Recipient email address** field.

NOTES

The field must contain the email address of a valid recipient on the SMTP server.

8. Type the email address of the person that is sending the email in the **Sender email address** field.

NOTES

The field must contain the email address of a valid sender on the SMTP server.

9. If your SMTP server requires an authentication password, click the **Authentication** switch, otherwise skip to step 12. The **User Name** and **Password** fields become active.
10. Type the username for your SMTP Server in the **Userame** field.
11. Type the password for your SMTP Server in the **Password** field.
12. Click the **Aggregation Level** list arrow and select an aggregation level for the count report email (5 mins, 15 mins, 30 mins, 60 mins, and daily.)

NOTES

Depending on which option is selected, the Smart Device will send you an email listing the metric data at the aggregation level selected over the previous 24 hours. For counting, if you select daily, the email will contain a single enter and exit count for the previous 24 hour period.

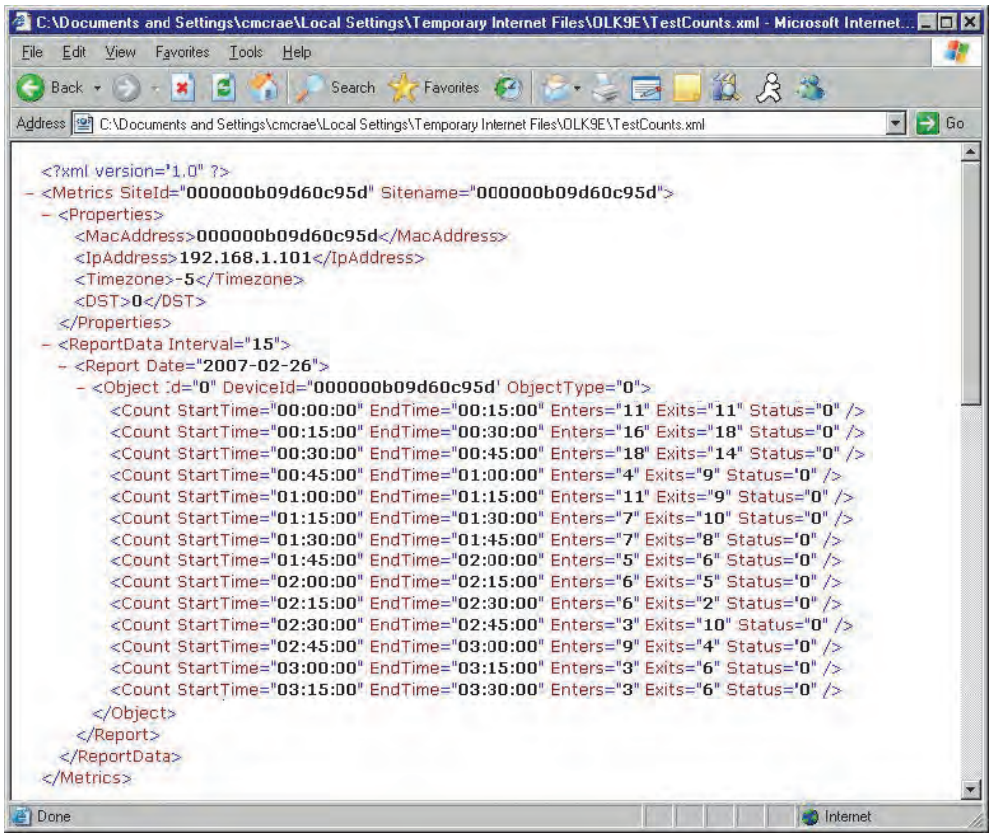
13. Type the time (in 24 hour format) at which the Smart Device should send the email in **Delivery Time** field. The aggregate email contains data from midnight to midnight during the previous calendar day. For example, if the Delivery Time is set for 18:00, the Smart Device will send the count data for the previous day at 6 PM every day.
14. Click **Save**. The settings are saved. A confirmation message appears.
15. Click **Test Email Settings**. A test email will be sent to the email address entered in the **Recipient** field. A confirmation message appears informing you that the email was successfully sent.

NOTES

If you receive an error message, see the troubleshooting procedures in *Appendix C: Troubleshooting Brickstream® LIVE Smart Devices on page 65.*

16. Check the email address in the **Recipient** field to ensure that the test email arrives, if possible.

Figure 30: Sample Brickstream® 3D+ Smart Device Count Data Email Attachment



Setting FTP Delivery Options

The Brickstream® 3D+ Smart Device can also automatically deliver metric files to an FTP server at an hourly or daily interval.

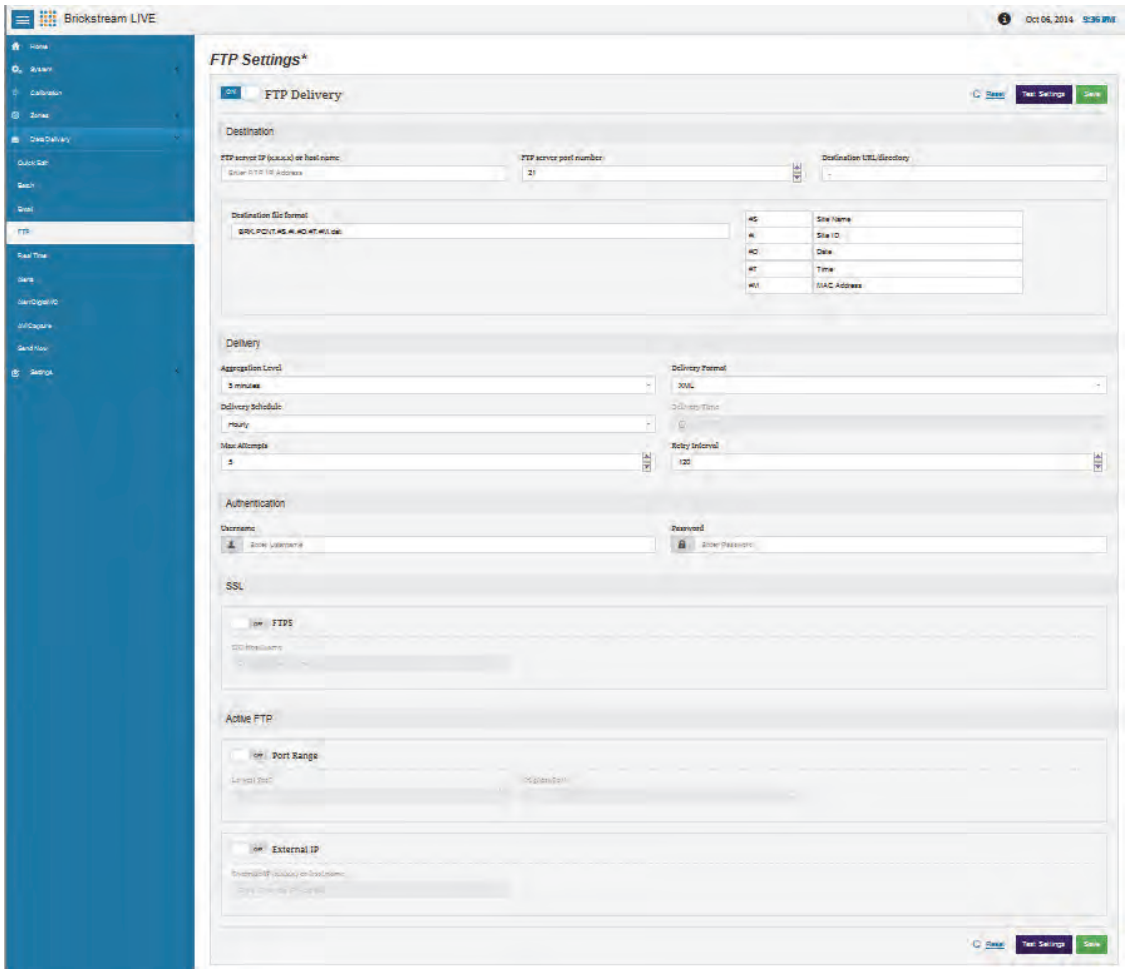
TIP

When FTP delivery is selected, the Smart Device first attempts to use the passive FTP protocol. If the delivery fails the Smart Device will attempt to use active FTP. When using active FTP, the connection attempts to use the IP address of the Smart Device and the full port range to establish a connection unless other options have been selected in the Active FTP selection for the FTP Delivery option.

Use the **FTP Settings** page of the Brickstream 3D+ web interface to set and edit this information as follows.

1. Open the Brickstream 3D+ web interface and click **Data Delivery > FTP** to access the **FTP Settings** page.
2. Click the **FTP Delivery** switch to enable it. The fields become active.

Figure 31: FTP Settings Page



3. Type the IP address of the FTP Server in the **FTP server IP (x.x.x.x) or host name** field.
4. Type the FTP port (typically 21) to be used in the **FTP server port number** field.
5. If the FTP files should arrive at a specific URL address or directory on the destination server, type the URL or path in the **Destination URL/directory** field. Use the default value of '**/**' if you have not been directed to change this field. If this field is left blank, files are delivered to the FTP root directory for the user.
6. Define the file naming convention for the data files in the **Destination file format** field. You can choose to include several variables from the Smart Device by typing a "#" followed by the one letter variable. Any characters that you type that are not immediately preceded by a "#" will be included in the file name as normal text.

TIP

The Brickstream 3D+ web interface prohibits you from using file names that contain Microsoft Windows reserved characters (/,\,?,&,,:,|,",<,>) or spaces. See the following table for variable definitions.*

Variable	Definition
#S	Inserts the **Site Name** from the **Settings** > **IP Settings** page.

Variable	Definition
#I	Inserts the **Site ID** from the **Settings** > **IP Settings** page.
#D	Inserts the date of the data contained in the sent data file formatted YYMMDD.
#T	Inserts the time of the last data bucket included in the sent data file formatted HHMMSS.
#M	Inserts the MAC address (formatted XX-XX-XX-XX-XX-XX) of the Brickstream® 3D+ Smart Device that is sending the data file.

For the following examples, assume the site name is set to Grocery1 and the site ID is set to 987.

File Naming Convention Field	Resulting File Name
#S.PCNT.#I.#D.#T.#M.dat	Grocery1.PCNT.987.090226.140000.00-b0-9d-70-01-05.dat
#S_#I_#T	Grocery_987_140000
countdata-#S-#I-#D#T.txt	countdata-Grocery1-987-090226140000.txt
#T#D_#M.csv	140000090226_00-b0-9d-70-01-05.csv

7. Type the FTP username that will be used to login to the FTP server in the **Username** field.
8. Type the password for this username in the **Password** field.
9. Click the **FTPS** switch to enable the encrypted FTPS protocol to deliver the data (encryption license required).
10. If you are using a SSL Virtual Host and Server Name Identification, type the host name in the **SNI Host Name** field.

NOTES

You can only access this field if data encryption is enabled in the previous step.

11. Type the FTP username that will be used to login to the FTP server in the **Username** field.
12. Type the password for this username in the **Password** field.
13. If the FTP files should arrive at a specific URL address or directory on the destination server, type the URL or path in the **Destination URL/directory** field. Use the default value of '**/**' if you have not been directed to change this field. If this field is left blank, files are delivered to the FTP root directory for the user.
14. In the **Delivery** area, click the **Aggregation Level** list and select the level at which you want the metric data to be stored in the files. The Smart Device can store data in intervals of 5, 15, 30, and 60 minutes.
15. Click the **Delivery Format** list and select the format for the data files sent over FTP. There are two options:

Format Option	Description
Pipe Delimited	The Pipe Delimited format sends data for each report zone with the relevant information separated by a pipe character '|'.
XML	The XML format sends metric data in an XML file similar to the XML packets that are sent out using the Batch Data Streaming option. See the *Brickstream® 3D+ Smart Device Programmer Guide* for more information on the XML format.

16. Click the **Delivery Schedule** list to select the frequency at which the FTP file is sent. You can have an FTP file delivered each hour, or you can have the file delivered once daily at a scheduled time.
17. If you selected daily delivery in the previous step, type a delivery time in the **Delivery Time** field, using 24-hour notation.
18. Type the maximum number of times the Brickstream® 3D+ Smart Device should attempt to connect to the FTP server to send the files in the case of a failure in the **Max Attempts** field.

NOTES

If this field is set to zero, the Smart Device will continue to retry indefinitely until it successfully sends the file.

19. Type the amount of time, in seconds, the Smart Device waits before attempting to reconnect to the FTP server in the **Retry Interval** field. This value can range from 1 to 599 seconds.
20. Click the **FTPS** switch to enable the encrypted FTPS protocol to deliver the data (encryption license required).
21. If you are using a SSL Virtual Host and Server Name Identification, type the host name in the **SNI Host Name** field.

NOTES

You can only access this field if data encryption is enabled in the previous step.

22. To use active FTP with a limited port range that is used for connections, click the Active FTP switch.
23. Type the port range into the **Lowest Port** field and the **Highest Port** field.
24. To pass an IP address that differs from the Brickstream 3D+ IP address to the firewall and FTP server, click the **Override IP (x.x.x.x) or host name** switch to enable it and type an IP address.
25. Click **Test Settings** to verify that the Smart Device can log into an FTP server at the specified IP address and port number using the designated username and password.
26. Click **Save** to make the settings effective.

TIP

If you encounter any error messages when setting the FTP connections, See Troubleshooting FTP Connections on page 65.

27. To configure the delivery of the Traffic Map data stream, click the **Traffic aps** switch. The fields become active.

TIP

If flowmap delivery is disabled, no traffic map data will be delivered to the Floorplan Editor or to the Traffic Map Analysis web tool.

28. Type the IP address of the server that will receive data from the Smart Device in the **IP (x.x.x.x) or host name** field.
29. Type the port number to which the Smart Device should attempt to deliver data in the **Port Number** field.

30. Type the URL in the **Destination URL/directory** field, if the Smart Device needs to send data to a specific URL in the HTTP POST.

NOTES

This allows the IT department to use the same port for multiple devices and filter the traffic by the URL in the HTTP POST.

TIP

*Set the **Destination URL/directory** field to the default value of '/'if you have not been directed to change this field.*

31. Choose from the **Delivery Schedule** list how frequently to deliver the data (hourly or daily).

TIP

The choice of Delivery Schedule will be the smallest increment for viewing the data stream of Traffic Maps in the Device Manager's Floorplan Editor, and also in the Traffic Map Analysis web tool.

32. For the Flow Map data to be encrypted, click the **Data Encryption** switch to enable it.

33. To use a SSL Virtual Host and Server Name Identification for the encrypted data, type the host name in the **SNI Host Name** field.

NOTES

This field is only accessible if data encryption is enabled.

34. Click **Save** to make these settings effective. The save confirmation message appears.

Setting Path Linking Options

The Path Linking feature for Smart Devices provides the ability to create a single path for a person moving through the space of multiple Smart Devices. Brickstream® 3D+ Smart Devices can now be linked together as though they were a single Smart Device to create a large virtual floor plan, supporting counting lines that span across up to three (3) Smart Devices. This greatly reduces the configuration time on wide entrances, where counting lines must be precisely positioned on two Smart Devices in order to avoid over counting and under counting. In addition, all behavioral analytics applied to counting lines in a single Smart Device can be consolidated and applied to a large virtual floor plan.

You can link a master Smart Device and up to a maximum of two additional slave Smart Devices together. Once the Smart Devices are linked, you can use the master Smart Device to create the counting lines and intersections for each linked Smart Device. You can combine the count line data from the slave Smart Devices and distribute this data as a part of the master Smart Device's data to the user designated data warehouses for further analysis. You can unlink a group of Smart Devices at any time and then re-link them later, or choose other Smart Devices to replace your original grouped combination.

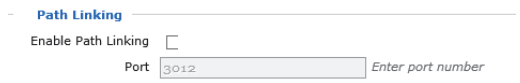
Enabling Path Linking

The Brickstream® 3D+ Smart Device allows you to designate a specific port number for path linking request deliveries, when using the Path Linking functionality on "master" and "ancillary" Smart Devices for path linking. This port number indicates where the master Smart Device listens for request, and is also the same port number that ancillary Smart Devices use to determine

where to send their data. Refer to *Setting Path Linking Options* on page 34 for more information. The **Path Linking** group on the **Basic Settings > Data Delivery** page of the Brickstream 3D+ web interface is used to set and edit this information.

1. Open the Brickstream 3D+ web interface to the **Basic Settings > Data Delivery page.**
2. Click **Path Linking** to expand the **Path Linking** section.

Figure 32: Path Linking



3. Select the **Enable Path Linking** check box. The field becomes active.
4. Type the **Port** number to which the Smart Device should attempt to deliver the path linking data in the **Port** field. The default value is 3012.

TIP

If you change the port number on the master Smart Device, the change is not effective until the master Smart Device is rebooted. Both the master Smart Device and the slave Smart Device must use the same port number for path linking, because this is how the master and slave Smart Devices share calibration and tracking information. Images are not passed the same way as the calibration and tracking data, so it is not reliable to gauge whether the linked data is being passed by whether you can see the images on both devices. The images may display even if the path linking is not working.

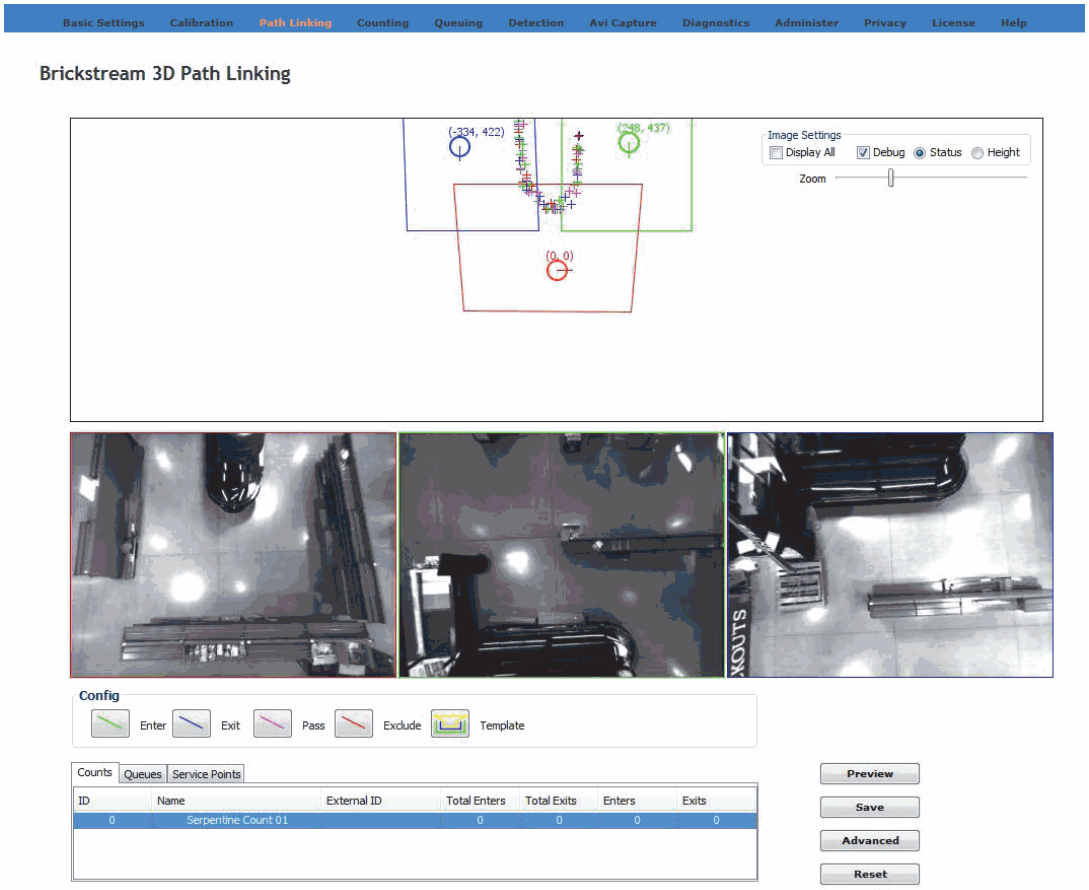
5. Click **Save**. The settings are saved.
6. If you are saved a change of the port number used for path linking on a master Smart Device, you must reboot the master Smart Device for the new path linking port number to become effective. Go to > Reboot, and then click Reboot.

Using the Path Linking Page

Installing a Path Linking license on a Smart Device enables the **Path Linking** page. This access will allow you to make this Smart Device a master Smart Device. Slave Smart Devices do not require a Path Linking license.

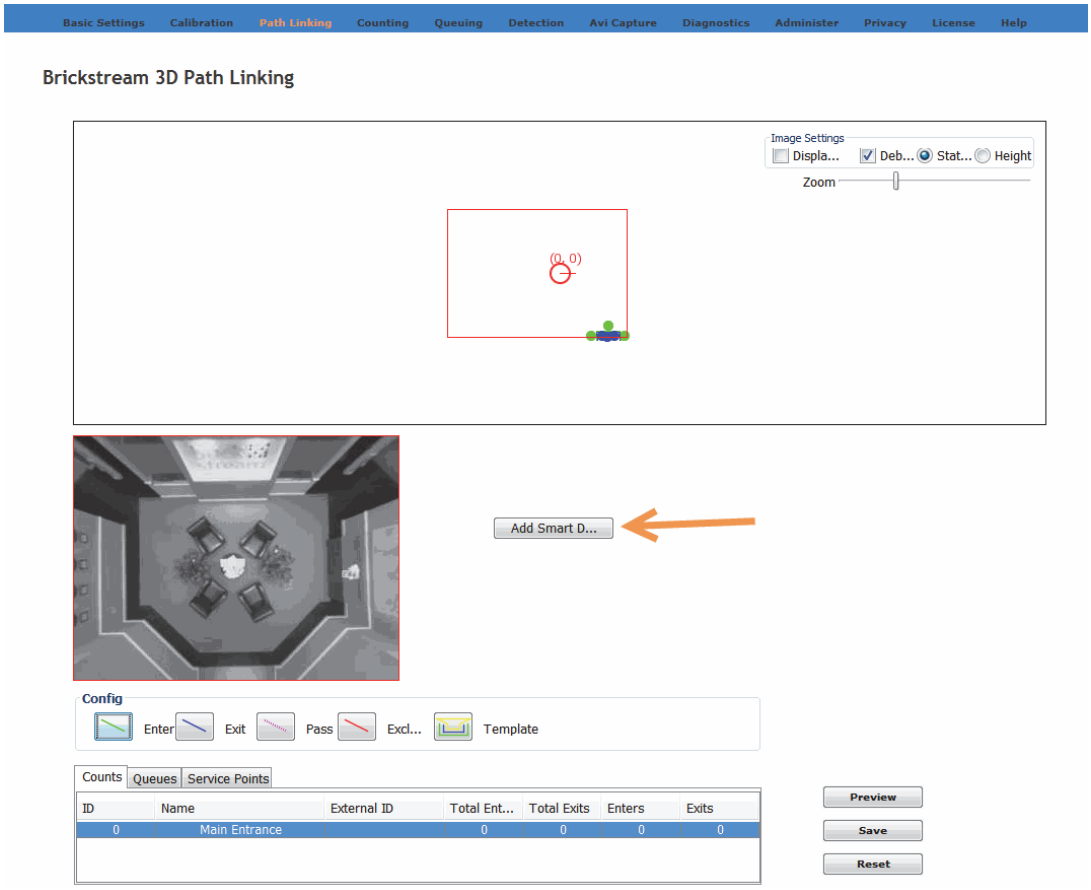
1. On the **Path Linking** page of the Smart Device, click the **Enable Path Linking** button.

Figure 33: Brickstream® 3D Path Linking Page



The Smart Device is now the master Smart Device, and an **Add Smart Device** button is accessible on the web page.

Figure 34: Add Smart Device Button



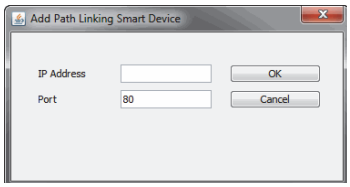
2. Continue to *Adding a Slave Smart Device* on page 37 to begin setting up the corresponding links to another or a maximum of two slave Smart Devices.

Adding a Slave Smart Device

Use the following steps to add a slave Smart Device.

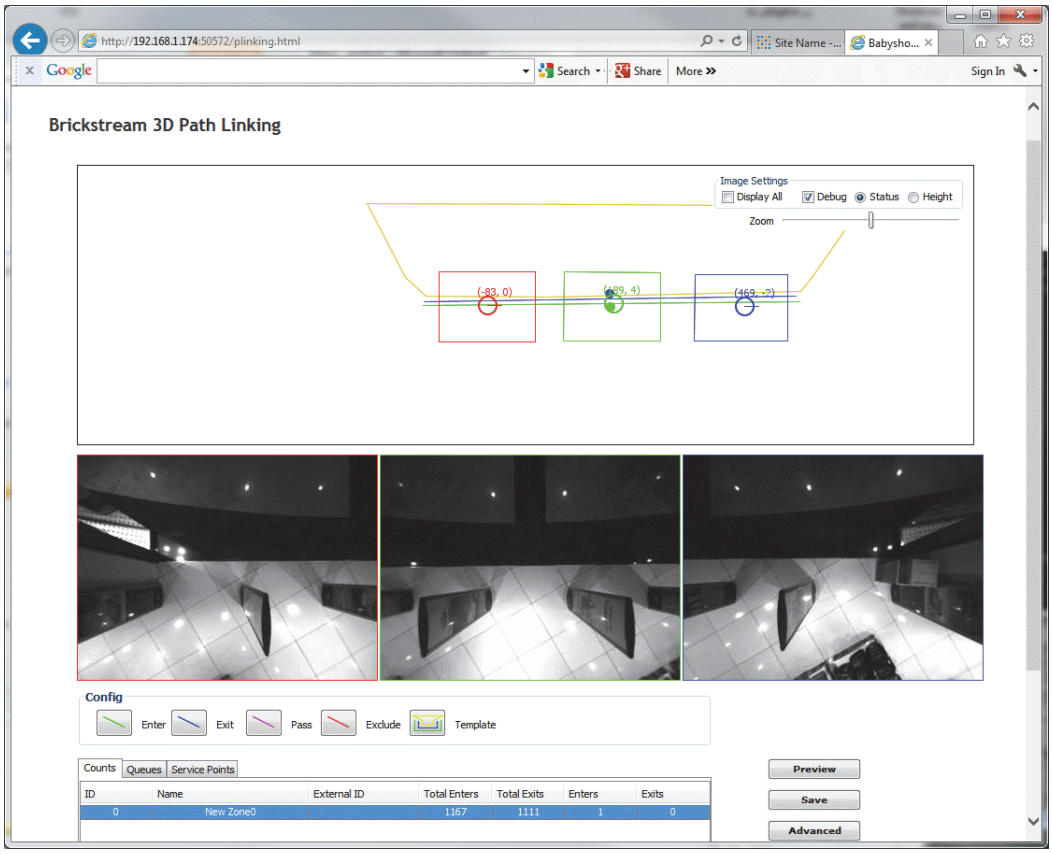
1. Click the **Add Smart Device** button. The **Input** window appears.

Figure 35: Input Window



2. Type the IP address location of the new slave Smart Device into the **Enter new IP address** field, and type the port number used for path linking on the master Smart Device into the **Port** field.
3. Click **OK**. An image of the master Smart Device and the new slave Smart Device displays in the bottom portion of the web page.

Figure 36: New Slave Smart Device



4. Repeat step 1 through step 3 to add a third slave Smart Device, if applicable.

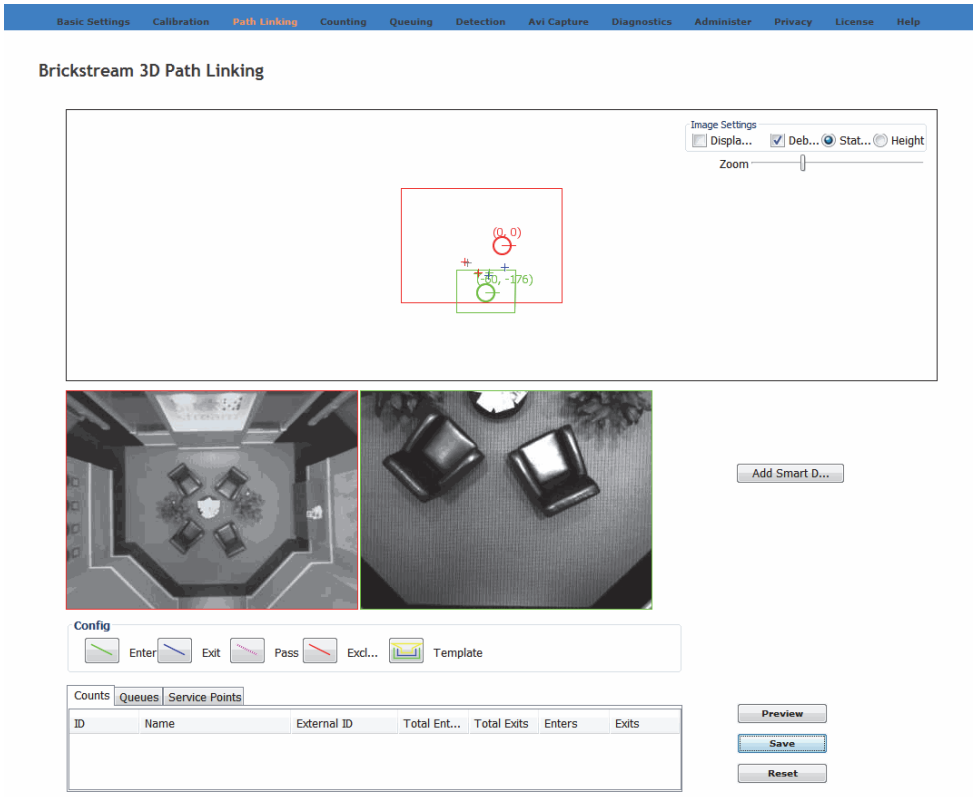
Configuring Smart Devices for Path Linking

In order for the master Smart Device to link paths across multiple Smart Devices, the master Smart Device must know where the slave Smart Devices are located within the real world space. This is done by using marker points that can be seen across two Smart Devices.

Use the following steps to mark intersecting points on the Smart Devices.

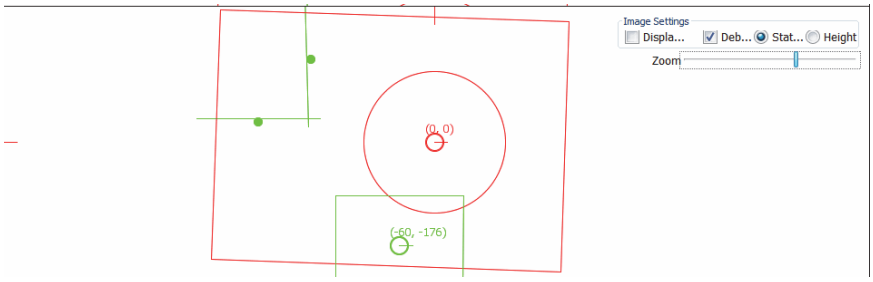
1. Identify a point of interest that can be seen in two Smart Devices.
2. Click on this point in the image of each Smart Device in the bottom portion of the web page. The mark will be highlighted on the **virtual floor plan** in the upper portion of the web page.

Figure 37: Virtual Floor Plan



3. Position the Smart Devices in the virtual floor plan so that the markers in the two Smart Devices are overlapping or as close to overlapping as possible. A minimum of two markers per Smart Device should be used for alignment.
4. Use the virtual floor plan to position a Smart Device. While keeping the mouse down, Smart Devices can be moved in the virtual floor plan.
5. Release the mouse after positioning the Smart Device. In some instances, Smart Devices may need to be rotated. When hovering near a Smart Device, a circle will appear and the mouse becomes a cross hair.
6. Select the circle and move the mouse up and down to rotate the Smart Device.

Figure 38: Navigational Circle



7. Use the rotation and Smart Device positioning to align the marker points on the virtual floor plan. Now when people move through the field of view of two Smart Devices, the paths are linked and only one track will appear.

8. Configure the count lines, queue and/or service zones once you have finished positioning the Smart Devices.
9. Use the **Template** button as shortcut for creating enter/exit/filter zones in just a few clicks.

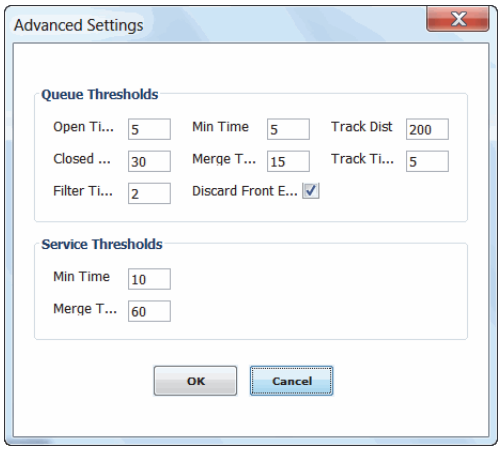
Setting Advanced Options for Queues

The Brickstream® 3D+ Smart Device has several customizable parameters that determine how the queue functions in your particular environment. See *Queuing Overview* on page 9 for a detailed description queue zone functionality.

Complete the following steps to access the **Advanced Settings** window.

1. Access the Brickstream 3D+ web interface.
2. Click the **Queuing** page.
3. Click the **Advanced** button in the lower right corner of the window. The **Advanced Settings** window appears.

Figure 39: Advanced Settings - Queue Thresholds



Field	Description	Default
Open Time	Sets the minimum time, in seconds, that person must stand inside the head zone (blue zone) before the queue count area is considered to be open. After this threshold is exceeded, all tracks that meet the queue constraints and enter the queue count area are included in the queue length metric.	5 seconds
Closed Time	Sets the minimum time that the head zone must stay empty before the Brickstream® 3D+ Smart Device will close the queue zone and stop counting tracks entering the queue count area.	30 seconds
Min Time	Sets the minimum time that a person must remain in the queue count area or service area before they are eligible to be counted in the queue length or service time. For queues, tracks also have to meet Track Dist and Track Time thresholds.	5 seconds (queue)
Merge Time	The minimum time period that a person, who has entered a zone, can exit the zone and then re-enter and have their wait time merged into the queue wait time or service time. See "Queue Count Area Constraints" on page 107.	30 seconds (queue)

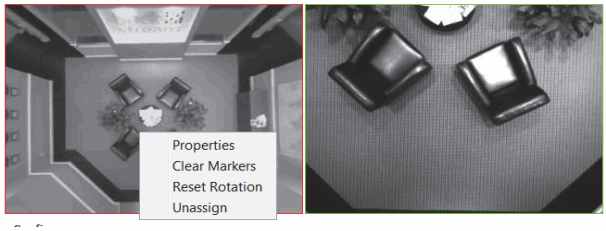
Field	Description	Default
Track Dist	Defines the maximum distance, in centimeters, that a person entering the queue must be to a person already in the queue in order to be counted. See "Queue Count Area Constraints" on page 107.	250 centimeters
Track Time	The minimum time that a person in the queue must be within the Track Dist of another person currently in the queue count area or head zone before they will be added to the queue length.	5 seconds
Filter Time	Sets the minimum time for which a track must meet the height and shape constraints in order for it to be counted in the queue metrics. Brickstream recommends that this field not be changed by end users.	
Discard Front Entry	Discards all queue metrics for tracks that cross the pink exit line prior to appearing in the queue. For example, in a self-checkout queue, staff may enter the queue from the front to assist customers.	

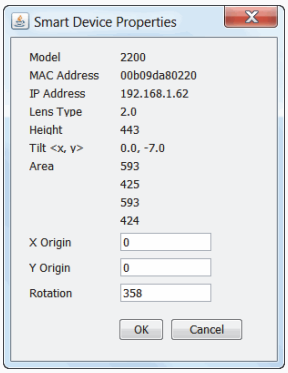
4. Adjust the settings as required by your particular installation. The default settings should not need to be adjusted for most applications in banking and retail environments.
5. Click **OK** to return to the **Path Linking** page.
6. Click **Save** from the **Path Linking** page to save the changes to flash memory.

Using the Path Linking Shortcut Menu

The following is a description of the Path Linking shortcut menu functionality. The Path Linking shortcut menu can be accessed by right-clicking on a Smart Device image.

Figure 40: Path Linking Shortcut Menu



Menu Item	Description
Properties	The Properties shortcut menu option allows you to view the properties of the Smart Device. **Figure 41: Smart Device Properties**  You can also manually change the X and Y axis and rotation of the Smart Device from this shortcut menu option.

Menu Item	Description
Clear Markers	If you have created point markers on the virtual floor plan for one of the Smart Devices, you can use the Clear Markers shortcut menu option to delete the markers.
Reset Rotation	If you have rotated a Smart Device on the virtual floor plan, you can use the Reset Rotation shortcut menu option to delete the rotation.
Unassign	If you have assigned a Smart Device as a master Smart Device or a Smart Device as a slave Smart Device, you can use the **Unassign** shortcut menu option to delete the assignment.

Sending Available Device Data on Demand

The Brickstream® 3D+ Smart Device can create on-demand data delivery requests for a specific range of dates and times in a designated format.

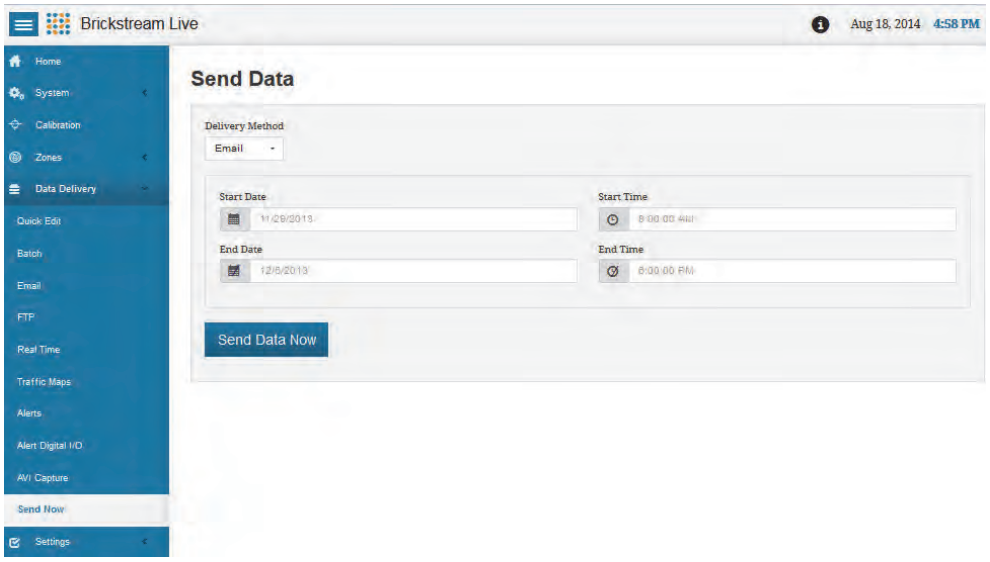
NOTES

The amount of days and data that can be retrieved is based on the amount of activity tracked and the number of zones set on the Smart Device. The average amount of days that can be retrieved is 50 days. Contact support@brickstream.com for information on projecting the actual number of days of data possible in a specific scenario.

Use the **Send Data** page of the Brickstream 3D+ web interface to set and edit this information.

1. Open the Brickstream 3D+ web interface and click **Data Delivery > Send Now** to access the **Send Data** page.

Figure 42: Send Data



2. Click the **Delivery Method** list arrow to designate a format for data delivery. The list appears. The following options are offered:
   - Email
   - FTP
   - Batch 1
   - Batch 2
3. In the **Start Date** field, type the date to begin to retrieve metric data.
4. In the **Start Time** field, type the time to begin to retrieve metric data in 12-hour format.
5. In the **End Date** field, type the date or click the calendar icon to select the date to stop retrieving metric data.
6. In the **End Time** field, type the time to stop retrieving metric data.
7. Click **Send Data Now** to submit this request. A message appears to confirm the immediate delivery request.