Power is knowledge.™

LifeSafety Power®

BITSTREAM™
power • data • fire over ethernet

BTS500-8R

C E

RoHS compliant

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P03-099 Rev A01

Table of Contents

Notes and Warnings

Symbol Definitions

The following symbols are used throughout this manual

⚠ This symbol is intended to alert the installer of shock hazards within the enclosure. Service should only be performed by qualified service personnel

⚠ This symbol is intended to alert the installer of important information intended to help the installer avoid personal injury or property damage

Warnings

⚠ Installation and service should be performed only by qualified service personnel and should conform to all local codes

⚠ To reduce the risk of electric shock or fire, do not expose this equipment to rain or moisture

⚠ This equipment shall be installed in a manner which prevents unintentional operation by employees, cleaning personnel, or others working in the premises, by falling objects, customers, building vibration, or similar causes

⚠ This equipment is not intended for use within the patient care areas of a Health Care Facility

⚠ Replace fuses only with the same type and rating as indicated in the specifications section of this manual.

⚠ To prevent impaired operation, ensure that all wiring is routed and secured to prevent accidental open or short circuit conditions

⚠ The system and any batteries (if used) should be tested at least once per year to ensure proper operation

Regulatory Information

The equipment discussed within this manual has been tested to the following standards:

- UL294
- EN60950 EN55022 CLASS A EN55024
- CE

CE   RoHS compliant

FCC Information

NOTE: *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.*

Conventions Used Within this Manual

Positional information (e.g. top, bottom, up, down, left, right, etc.) is referenced with the board or enclosure in the orientation shown in the illustrations in this manual

Introduction

Product Description

The BitStream BTS500 series of multi-port PoE switches are designed to provide PoE power with battery backup to 802.3bt compatible IP devices such as access control panels, IP surveillance cameras, IP phones, locks, IR illuminators and other PoE compatible access control edge devices. The BTS500 series products provide up to 90W of power per port and are compliant with the IEEE 802.3bt standard.

The chart below shows the models in the BTS500 product family.

BTS500 Midpsan Injectors

Model No.	Description	Notes
BTS500-8R	8 port / 90W per port 500 Watts Unmanaged Switch	Battery backup, SFI Mode, 802.3bt compatible

The BTS500 series is compatible with the BX50 PoE splitter with Single-point Fire Interface (SFI) and the BX75 with local fire alarm disconnect. Single-point Fire Interface (SFI) mode is a proprietary mode compatible with the BX50 PoE splitter. SFI mode allows a single FACP connection at the BTS500 switch to drop lock power on all connected BX50 splitters, eliminating the need for an FACP connection at each door.

All models are fully network managed and are capable of charging battery sets from 4 to 18 amphours utilizing an internal float charger for central battery backup without excessive loading of the rack UPS.

Specifications

Input voltage range	90 – 265 VAC
Input frequency	47 – 63 Hz
Power Factor / Current THD	> 0.9 / <10%
Total Output Power	500W
Max Power per Port	90W
Network Speed	10/100/1000
Battery Voltage	48V

Section 1 – Installation

The following pages cover the installation of the BTS500 Series rack-mountable PoE switches.

1.1 Mounting the BTS500 into a Standard 19" Rack

Use the following procedure when mounting a BTS500 series switch into a standard EIA 19" equipment rack.

1. If not already, securely mount the included ears to the front of the enclosure sides using the eight included countersunk screws (four per ear).

2. Locate the rack-mounting holes in the ears of the enclosure. (Figure 1)

3. Slide the enclosure into an open 1U location in the rack

4. Center the enclosure in the rack and secure with the four 10-32 x 3/4" screws provided.

NOTE: Use rails or other appropriate support for heavy enclosures. Keep heavier components near the bottom of the rack to reduce the risk of toppling of a top-heavy rack.
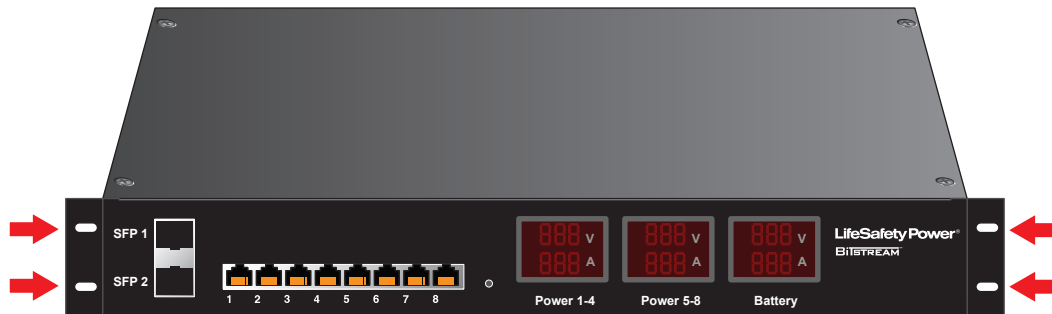

Figure 1: The Enclosure Mounting Holes

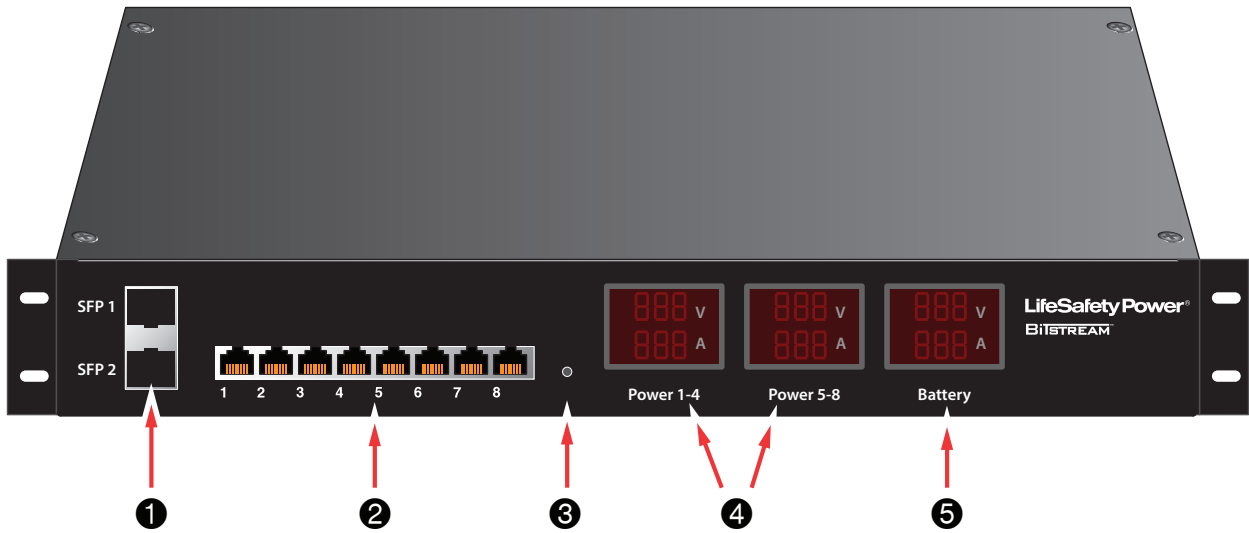## 1.2 BTS500 Rackmount Switch Overview
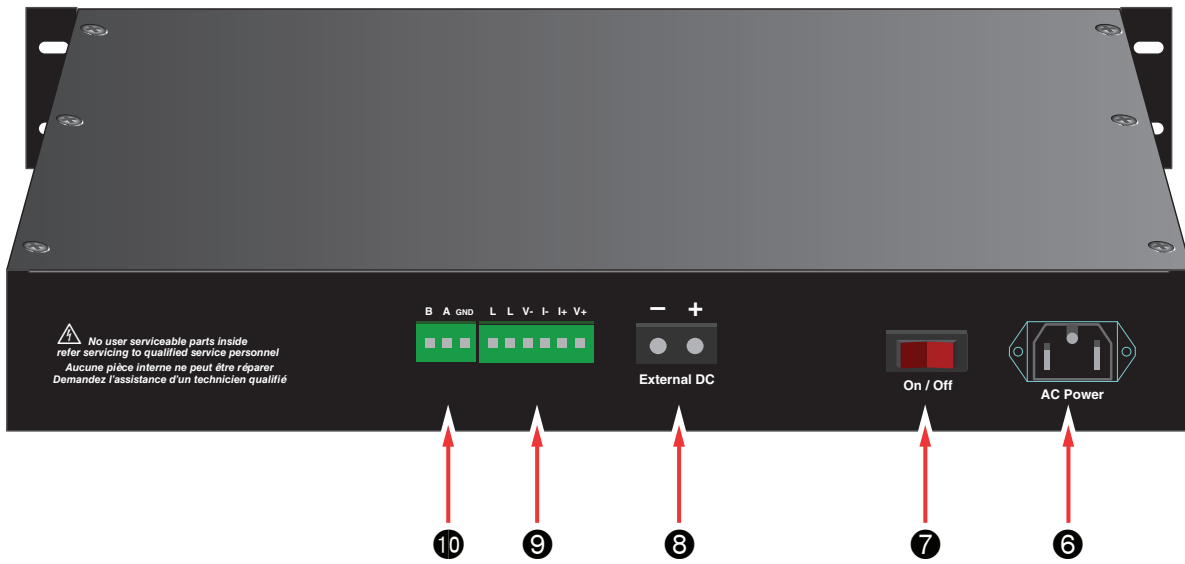

Figure 2: BTS500 Front View

Figure 3: BTS500 Rear View

The following are basic descriptions. Refer to the appropriate section for more detailed information. Note that the front panel may appear different based on the configuration of your system.

❶ SFP Ports
Two high speed SPF ports are available, typically used for a fiber connection.

❷ Ethernet Connections / PoE Outputs (1 - 8)
These ports provide the connections between the LAN and the connected network devices while also supplying PoE power. These ports accept standard RJ45 cables.

❸ Reset Button (Reset)
Pressing the recessed reset button with a pin for a length of time will reset the BTS500 as follows:

10 Seconds User Name & Password Only
20 Seconds User Name, Password, and IP Settings

NOTE - *The user name and password will both reset to "admin". If pressed for 20 seconds, the IP address will reset to 192.168.1.9 and the other IP settings will return to default.*

❹ Power Meters (Power 1-4 & Power 5-9)
These meters display voltage and current for the labaled groups of ports. The left side meter provides power information for ports 1-4, while the center meter provides information for ports 5-9.

❺ Power Meters (Battery)
This meter displays voltage and current for the connected battery set. If no battery set is connected, this meter will show no values.

❻ AC Line Input (AC Power)
This is the connector for the AC line cord. Plug the included computer-style line cord into this connector. Connect the other end of the cord to the power strip inside the rack or another suitable AC power receptacle. The BTS500 series has a universal input and accepts 90-265VAC input.

❼ Main AC Power Switch / Circuit Breaker (On/Off)
This is the main AC power switch for the BTS500. This switch lights when power is on and also has a built-in circuit breaker rated at 15A. If the circuit breaker trips, reset it by cycling the switch to off then back to on.

❽ External DC Voltage Input (External DC +/-)
This input may be used to either power the BTS500 via an external 50VDC supply or to provide battery backup to the BTS500. The "External DC" input is reverse polarity protected. See below for details:

To Use Battery Backup
Connect AC power to the BTS500 unit as normal. In addition, connect a 48V nominal battery set to the "External DC" connector, using the battery cable supplied.

To Use an External 50Vdc Supply
Connect a 50V power supply to the "External DC" connector at the rear. The ratings requirements for the DC power supply are given below:

Input voltage range	44 –57 VDC
Max input current (500W model)	14.0 A
Max input current (250W model)	7.0 A

Note that if both AC and DC power sources are connected to the unit at the same time, the AC source will supply the power to the output ports. The external DC source will not supply the outputs unless the AC source is missing or the power switch is turned off.

❾ Fire Alarm Input (For BX50 SFI Mode)
This input accepts an input from a Fire Alarm Control Panel (FACP) to activate SFI mode when used with BX50 PoE splitters. See section 1.3 for more information on the Fire Alarm Input and SFI mode.

❿ RS485 Connection (B, A, GND)
This connector provides an RS485 connection between the BTS500 and any connected LSP accessory boards with an RS485 connection, such as a Generation 2 M8 or M8P.

1.3 Using the Fire Alarm Input for SFI Mode

The BTS500-8R contains a Fire Alarm Input which can be used to activate Single-point Fire Interface mode (SFI) when used with LifeSafety Power's BX50 PoE splitters. SFI mode allows a single FACP connection at the BTS500 to control the lock output of one or more BX50 splitters through the ethernet cable without additional wiring between the BTS500 and BX50, or to the door.
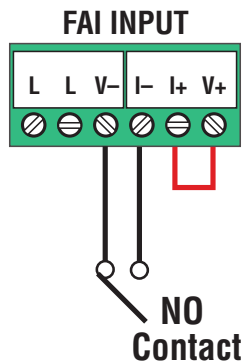
NOTE: Only the BX50 is compatible with SFI mode. Activating SFI on other devices will result in improper operation.

Wiring the Fire Alarm Input

The Fire Alarm Input of the BTS500 consists of 6 terminals for flexibility in connection method. See Figure 4 below for typical wiring diagrams. Connections are as follows:
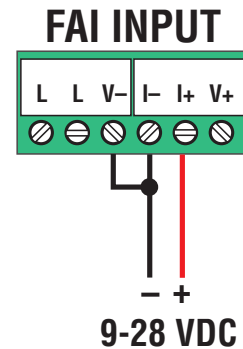
- **I+ & I- Terminals** These terminals are the input terminals for the FAI input. The FAI input is activated when a voltage between 9 and 28VDC is present on these terminals in the proper polarity.
- **V+ & V- Terminals** These terminals are a low-current auxiliary voltage which can be used for activating the I+ and I- terminals
- **L Terminals** When a NC contact is placed across the L terminals, the FAI input will latch when activated until the NC contact is momentarily opened. If latching is not needed, these terminals should be left disconnected.

Normally Open Contact

FAI INPUT

| L | L | V– | I– | I+ | V+ |

NO
Contact

Voltage Input

FAI INPUT

| L | L | V– | I– | I+ | V+ |

– +
9-28 VDC

Normally Closed Contact

FAI INPUT

| L | L | V– | I– | I+ | V+ |

NC
Contact

Latching

FAI INPUT

| L | L | V– | I– | I+ | V+ |

NC
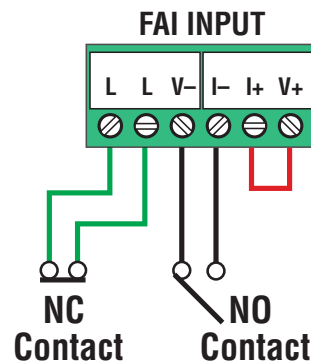Contact
NO
Contact
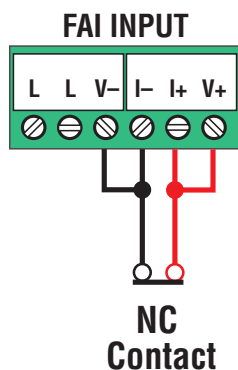
Note - NO Activation shown, but any method can be used for FAI activation

Figure 4: Wiring the FAI Input

Section 2 – Initial Configuration

The PowerCom PoE management interface allows users to configure, monitor, and control each output port of the BTS500 series switch. PowerCom PoE is an embedded web browser based interface and does not require the installation of any dedicated software on the user's PC. Any device with a network connection and a web browser may be used to access PowerCom PoE.

2.1 Preparing to configure the BTS500

In order to perform the initial configuration of the BTS500, you will need the following:

- A computer (PC or Mac) set to a static IP address in the subnet 192.168.1.xxx, where xxx is a subnet address (0 to 255) not being used by any other device on the network. Do not use 192.168.1.9 or the final IP address you will be using for the BTS500. (See Figure 5.)

- A CAT5 or higher Ethernet cable long enough to reach between the computer and one of the BTS500's ethernet ports.

- The BTS500 must be powered. After powering, wait approximately 2 minutes for the BTS500 to initialize.

After the BTS500 is powered and initialized, connect the ethernet cable between the ethernet port of the BTS500 and computer.

Figure 5: Example of a PC Ethernet port setting window

2.2 Logging into PowerCom PoE for the first time

From the factory, the BTS500 is preset with the following settings:

- IP Address: 192.168.1.9
- Username: admin
- Password: admin

Open a browser on the computer and enter "192.168.1.9" into the address bar. The login screen will appear (See Figure 6). Enter "admin" for both the user name and password.

⚠ If the wrong password is entered three consecutive times, the user will be locked out of the device for 24 hours. Enter the password carefully to avoid lockout.

On first login, the BTS500 will require a password change. Enter a new password and submit. The BTS500 Home Page should appear (See Figure 7).
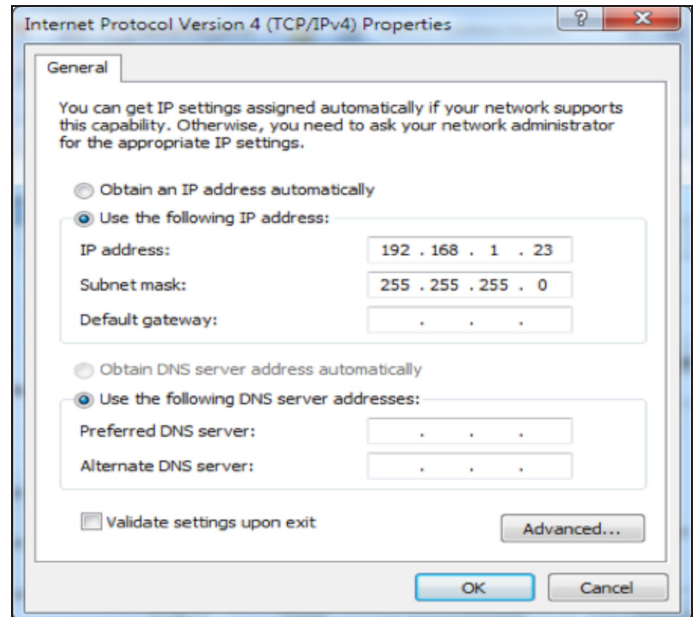

Figure 6: PowerCom PoE user login screen

Figure 7: BTS500-8R Home Page

2.3 Configuring the TCP/IP Settings

In the menu bar at the top of the browser screen, click the "Configure" link. Figure 8 shows the top section of the BTS500 Configure page.

At the top left of the Configure page is the "TCP/IP Settings" area. The settings in this area include:

IP Address
The factory default IP address is set to 192.168.1.9. This address may be changed to any valid IP address. In the event the IP address is later forgotten, press the "Reset" button on the front panel of the BTS500 for 20 seconds and the IP address, default user name, and default password will be reset to factory default values.

Net Mask
Should typically be set to 255.255.255.0 - consult with your IT department for more information.

MAC Address
The MAC Address is factory set and is not programmable by the user.

Gateway IP Address
The default gateway is 192.168.1.1. This value may be changed by the user - consult with your IT department for more information.

DNS0, DNS1 Addresses
The default value for DNS0 and DNS1 are 192.168.1.1. These values may be changed by the user - consult with your IT department for more information.

HTTPS Port
Enter the port used for the HTTPS connection - consult with your IT department for more information.

Enable DHCP
Normally, this option is left unchecked, however in some cases you may want to allow the network to assign an IP address to the BTS500. However, please note that **once you select this option, you will need a network scanning tool to find the BTS500's IP address before you will be able to log into the BTS500 and that the IP address may change periodically.**

You must click the "Submit" button at the bottom right of this area to save the changes in this section. The new settings will take effect after the BTS500 is power cycled, or rebooted.

IPV6 Settings
Below the TCP/IP settings are the IPV6 settings. If required, enter these settings as appropriate. Consult with your IT department for more information. Click submit once the settings are entered. The new settings will take effect after the BTS500 is power cycled, or rebooted.

2.4 Configuring the Time Settings

The Time Settings block (See Figure 8) is where the time and date are programmed into the BTS500. First, select the correct time zone from the drop down list and click Submit. After the time zone is set, the time and date can be set one of three ways:

Manual Entry
Enter the correct time and date in the following format and click the "Submit" button:

For Date: **YYYY MM DD**

For Time: **HH MM SS**

⚠ ALWAYS enter two digits in time field.. ie., 7AM = 07, not 7

The new date and time will take effect immediately.

Sync Date/Time With Computer
The "Sync Date/Time with computer" button will set the date and time of the BTS500 to match the computer currently being used to access the BTS500. The new date and time will take effect immediately.

Sync With NTP Server
To sync the BTS500's time and date with an NTP server, enter one or two NTP server addresses into the NTP Server fields. Click the Get GMT Time button to get the time and date from the NTP server. The BTS500 will periodically update the date and time from the NTP server.

Once set, you must click the "Submit" button to save the time and date settings.

2.5 MSM Settings

These settings are used when connecting the BTS500 to an MSM Enterprise server. Enter the IP address of the MSM Server in the "IP Address" field. Set the Port number as appropriate (typically 9888). Click Submit when done to save the settings. Consult the MSM Enterprise manual for more information.

2.6 Configuring the SNMP Settings

In the SNMP Settings block, under the "Basic" heading, set Read and Write Community to "public" and set Location to a meaningful name of your choice. This entry will help you identify the specific BTS500 when multiple BTS500s are installed on the same subnet. This entry will be read by an SNMP system as "syslocation", OID .1.3.6.1.2.1.1.6. The port used for SNMP may also be changed in this section (161 Default). Be sure to open the SNMP port if accessing SNMP outside your firewall. Below the port number setting, select the trap type (Trap or In-

form). Click the "Submit" button at the bottom of the "Basic" section to save the settings, otherwise you will lose the settings. These settings will take effect after a reboot of the BTS500.

The "Security Name" section of the SNMP Settings block allows you to grant only specified computers (by IP address) SNMP v1 and v2 access. Since v1 and v2 do not have password protection, the Security Name settings add security to v1 and v2 access. The web server is password protected and a user must have the web server password in order to setup a computer in the Security Name settings and gain

v1 and v2 access. Multiple source networks can be added to the Security Name Settings block. Be sure to click the "Submit" button to save the settings. The settings will take effect after a reboot of the BTS500.

The "V3 User" section of the SNMP Settings block allows for a user to set up an SNMP v3 user name and password. With a user name and password, the BTS500 may be accessed from anywhere via the internet by using the SNMP v3 protocol. No security name setup is required for v3 users and multiple v3 users may be set up in the same table. Click the

Figure 8: Top section of the BTS500 Configure page

"Submit" button to save the settings, which will take effect after rebooting the BTS500.

The SNMP Trap Receiver IP and Port settings should be set to the proper address for the SNMP Trap receiver. Click the "Submit" button and reboot the BTS500 for the settings to take effect. The SNMP Trap Version may be selected using "Select Trap Version".

2.7 Configuring the Email Settings

The BTS500 can be configured to send email alerts on user-specified conditions and periodic status reports. Underneath the SNMP Settings block on the Configure page is the Email Settings block (See Figure 9).

Under "Receive Addresses", the email address or addresses to receive the alerts and reports should be entered. Up to four recipient email addresses may be entered.

Under "Sender", the settings of the account to send the emails should be entered. These settings include:

Sender SMTP Server	This is the address of the SMTP server for the email provider. Consult with your email provider for this address.
Email Address	This is the email address which the BTS500 will use to send emails.
Email Password	This is the password associated with the Sender's Email account
SMTP Port #	Enter the port number required by your email provider for sending email.
TLS	Check this box if your email provider requires TLS or SSL encryption
Authentication	Choose the proper authentication method for your email provider from the drop-down list. Usually, this is "login". Select "off" to completely disable authentication.
Period	Selects how often the BTS500 sends a regular email status report. The period can vary from 1 hour to 6 months or, if you do not want the BTS500 to send periodic reports, select "Never". Note that the "Period" setting does not affect the sending of email alerts generated on faults or events selected by the user, only the periodic status report.

⚠ **Note:** *Regarding Microsoft Exchange – By Default, Microsoft Exchange will not accept SMTP connections. To use the BTS500's email functions through Microsoft Exchange, the Exchange service must be configured to allow SMTP connections. Consult with the administrator of your Microsoft Exchange Server.*

⚠ **Note: Click the "Submit" button to save the settings.**

TIP: Most mobile phone providers have an email address available which will convert an email into an SMS text message. This email address is usually in the form of: (the mobile phone number)@xxxxxx. Consult with your mobile provider for more information. The CSV attachment will be removed, since SMS text messages are not compatible with attachments. Because of this, it is recommended that the SMS email be entered as an ADDITIONAL "Receive Address" on the BTS500, so that the CSV file will still be available via regular email.

Email Test

Below the Email Settings section is the Email Test section. After configuring the email settings, the Email Test button will send a test email to all Email Receive addresses. Please note that it could take an hour or more to receive the email, depending on the speed of your email server. Clicking the Show Email Log button will show the feedback from the email server. This can be useful for diagnosing email problems.

2.8 VPN Settings

The VPN Settings section is for the discontinued MSM-200 hardware VPN (See Figure 9). The MSM-200 has been replaced with MSM Enterprise. If connecting to an existing MSM-200 system, see the MSM-200 manual for more information.

PowerCom® POE MIDSPAN MANAGER

Email Settings

Receive Addresses		Sender	
E-Mail Address 1:		SMTP Server:	
E-Mail Address 2:		EMail Address:	
E-Mail Address 3:		EMail Password:	
E-Mail Address 4:		SMTP Port #:	25
		TLS:	☐
		Authentication:	login
		Period:	Never

Submit

Email Test

Email Test   Show Email Log

VPN Settings

EnableRemoteVPNServer	IP Address	User Name	Password
☐		****	••••

Submit

General Settings

Site ID: LSP   Report Occurrences: 1   Data buffer interval: 5 Min   Password Lockout Delay: 24 Hour

Submit

User Settings

Authorization	User Name	Password	Verify Password	
admin	admin			☐
guest	guest			☐
admin				

Password Complexity Normal   Submit   Delete

Normal complexity: Password must have at least 1 uppercase letter, 1 lowercase letter, 1 number and total length at least 8 characters.

Enhanced complexity: Password must have at least 1 uppercase letter, 1 lowercase letter, 1 special character, 1 number and total length at least 14 characters.

Figure 9: Middle Section of the BTS500 Configure page

2.9 General Settings

There are four settings in the General Settings section (See figure 9):

Site ID Entered by user. Enter any meaningful name to identify the BTS500 switch unit. This name will be displayed at the top of each page and in email alerts.

Report Occurrences This setting selects how many datapoints are in the CSV file when the BTS500 sends an email. Settings can be from 1 to 1000.

Data Buffer Interval This setting selects how often the BTS500 takes a "snapshot" of the data for the report. Settings range from 5 minutes to 24 hours.

Password Lockout Delay This sets the lockout time after an incorrect password is entered three times. Settings range from 5 minutes to 24 hours.

2.10 User Settings

In the User Settings block of the Configure screen (bottom of Figure 9), you can enter the user names, passwords, access levels, and set the password complexity requirements for the BTS500.

The default user is "admin" and the default password for this account is also "admin". On first login, the BTS500 will force the user to change the default password. Click Submit after making any changes in the User Settings section. Note that there must ALWAYS be at least one admin-level user.

Adding a New User

To add another user, first select the Authorization level desired for the user. Three authorization levels are available:

- **Admin** - Admin-level users have full control over the BTS500. There are no restrictions.
- **Manager** - Manager-level users have access to all areas of the BTS500 except for the Configure page.
- **Guest** - Guest-level users may only view information on the BTS500 screens. No changes can be made and none of the control features are available.

After selecting the Authorization level, enter the new user name in the User Name column and enter the password into the Password column. Passwords must meet the complexity level setting requirements. Re-enter the password into the Verify Password column.

After clicking Submit, the new user will be active and another blank row will appear for entering the next user name.

2.11 Certificate Settings

The BTS500 allows a user-supplied certificate to be used. Click the "Import Certificate" button (Figure 10) to enter the Import Certificate screen. Contact your IT department for more information.

Click the Choose File button to select the certificate to be used, then click Download, then Confirm to download the certificate.

Click the Submit and Test buttons to use and test the certificate.

2.12 SSL Protocol and CipherSuite Settings

This section allows the user to select which SSL protocol to use. The default setting is Normal. See Figure 10

2.13 Certificate Log

Click Show Certificate Log to view the certificate activity log. Click Hide Certificate Log to hide the window. See Figure 10

2.14 Import and Export Configuration File

The BTS500 allows the user to export the configured settings to a file. This file can be used as a backup or to transfer these settings to other BTS500 devices that require similar settings. The settings exported include: Time Settings, MSM Settings, SNMP Settings, VPN Settings, User Settings, Zone Programming

To export the settings, click the Export Configuration File button (See Figure 10). The exported file saves to the default download location of the browser.

To import a configuration file, click the Import Configuration File button to open the Import Settings screen.

Click the Choose File button and select the configuration file to be imported. Click Download, then Confirm to import the settings.

2.15 IEEE802.1x Settings and Log

This section allows the user to set up IEEE802.1x authentication, if required. Click Submit after completing this section. The "Show IEEE802.1x Log" button will show or hide the log on the screen.

Enhanced complexity: Password must have at least 1 uppercase letter, 1 lowercase letter, 1 special character, 1 number and total length at least 14 characters.

Certificate Settings

PFX Certificate	Certificate Authority	Default Certificate
Certificate: Import Certificate	Certificate: Import Certificate	
Password:		
Test Submit	Submit	Submit
	The current use of the certificate is a default certificate.	

SSLProtocol and CipherSuite Settings

SSL Options: Normal

SSL Protocol: all -SSLv3

CipherSuite: HIGH:MEDIUM:!MD5:!RC4

Submit

Certificate Log

Show Certificate Log

Import and Export Configuration File

Import Configuration File   Export Configuration File

IEEE802.1x Settings

EAP Method: EAP-MD5

Enable IEEE802.1x: ☐

Username:

Password: ••••••

Enable Alert: ☐

Certificate Expiration: 30 Days

Service Due: No

EAP State: NULL

Submit

IEEE802.1x Log

Show IEEE802.1x Log

User Login Record

Show Login Log

User Activity Record

Show Activity Log

Figure 10: Bottom Section of the BTS500 Configure Page

2.16 User Login Record / User Activity Record

Click the Show User Login Record button to show the history of login information for the BTS500. The Show User Activity Record shows the log of activity for each user. See Figure 10

2.17 The Programming Page

Clicking the Programming button on the home page brings up the PoE configuration screen. Figure 11 shows the Programming page of the BTS500.

The programming page allows users to set "Disable on FAI" and optional upper and lower limits for the measured voltage and current of each port. If any of these limits are exceeded, and the "E-Mail Alert" box is checked for the port, an email will be sent to the address configured in Section 2.7 of this manual. This email includes an attached CSV file containing fault details as well as historical data. **NOTE:** *The email settings must be configured properly. See Section 2.7 of this manual.*

"Fill All" Button (top) - This button will take all settings from Zone 1 and copy them to all other zones.

"Fill All" Buttons (column) - Each column has a "Fill All" button. This button takes the setting from Zone 1 of that column only and copies it to all other zones.

"Import Settings" Button - This button opens a page allowing you to select a BTS500 Configuration file to import. Click the Browse button to select the file, then click open. After selecting the file, click "Download" then "Confirm".

"Export Settings" Button - This button saves the configuration of the BTS500 to a file, which may be imported to other BTS500s. If prompted after clicking, select "Save File".

NOTE: *The upper and lower limits entered must be within the allowed range. For voltage limits, the range is 0 to 60V. For current limits, the range is 0 to 1.15A.*

NOTE: *Disable on FAI should* **ONLY** *be selected as "Yes" on zones connected to a BX50 PoE splitter. Selecting "Yes" on other devices will result in incorrect operation.*

Figure 11: Programming page of the BTS500-8R

Section 3 – Using the BTS500

3.1 Viewing Parameters on the BTS500 Home Page

The Home Page is shown in Figure 12. To access the Home Page, click "Home" in the menu bar at the top of the page.

The top of the home page shows general information:

Model Number
This field displays the model number of the BTS500 being accessed.

Site ID
This field is a descriptive name for the BTS500 unit being accessed and is set by the user on the Configure page.

Date and Time
This field shows the date and time as set by the user on the Configure page.

Total Power
This field shows the total power being drawn from all outputs of the BTS500.

Below the top section, there are nine buttons. Their functions are described below:

Enable selected ports
Clicking this button enables PoE on any ports whose checkbox in the "Port" column is checked. After the button is clicked, any ports selected in the "Port" column will be deselected.

Enable all ports
Clicking this button will enable PoE on all output ports of the BTS500 switch.

Disable selected ports
Clicking this button disables PoE on any ports whose checkbox in the "Port" column is checked. After the button is clicked, any ports selected in the "Port" column will be deselected. This function is useful for disabling PoE on unused zones or devices.

Figure 12: Home page of the BTS500-8R

Disable all ports
Clicking this button will disable PoE on all output ports of the BTS500 switch.

Reset Selected Ports
Clicking this button will disable PoE power for 10 seconds on any ports whose checkbox in the "Port" column is checked. After 10 seconds, the ports will be reenabled.

Reset All Ports
Clicking this button will disable PoE power on all ports for 10 seconds. After 10 seconds, the ports will be re-enabled.

View Data
Clicking this button will show the history data buffer. Up to 1000 datapoints may be displayed. This data can be manually exported to a CSV file.

Save settings
Clicking this button will save the settings on the page.

Programming
This button brings the user to the PoE Programming page. See section 2.17

Below the buttons is the port information and control area:

Port
This column lists the port numbers with a checkbox to the left of each number. The port numbers in this column refer the port numbers on the front panel of the BTS500. Click the checkboxes to select one or more ports for enabling or disabling. Click the checkboxes again to deselect the port.

Priority
This column allows users to set a priority for each port. For each port there is a corresponding priority drop-down list where a priority between 0 and 3 can be selected (where "0" is the highest priority and "3" is the lowest priority). After the priorities are set, the "Save settings" button at the top of the page must be clicked to save the priority settings.

When the total power drawn from the BTS500 exceeds the rated value (500W), the lowest priority ports will begin disabling to prevent the BTS500 from overloading. **NOTE:** *Each port can supply a maximum of 90W of power per the IEEE 802.3bt standard provided that the total power drawn does not exceed the rated power.*

NOTE: *If two or more ports have the same priority selected, the BTS500 will disable the lowest number port first (i.e. Port 1 will disable, then Port 2 if both are set to the same priority).*

Channel
This column shows the channel configuration for the port. This configuration is auto-selected by the BTS500 based on the type of device connected. Single signature PoE devices will appear as "Channel A&B" on a single line. Dual signature devices will show Channel A and Channel B as separate lines.

Device
This column allows the user to enter names for the devices connected to each output port of the BTS500. The maximum length of the entry is 30 characters. After entering the names, click the "Save settings" button at the top of the page.

Enabled
This column shows the enable/disable state of each port. If a port is enabled, the display shows "Yes". If a port is disabled, the display will show "No". See the Enable, Disable, and Reset button descriptions in this section for more information.

FAI State
This column shows the FAI status for each zone as follows:

N/A   FAI is not enabled for the zone

Inactive FAI is enabled for the zone, but the FAI input is not active. The lock power on the BX50 for this zone is ON

Active   FAI is enabled for the zone and the FAI input is active. The lock power on the BX50 for this zone is OFF.

Voltage
This column displays the measured PoE port output voltage for each port in volts.

Current
This column displays the measured PoE port output current for each port in milliamps.

Power
This column displays the calculated power output of each PoE port in watts.

Class
This column displays the power class of each port. The "power class" information is provided by the connected Powered Device (such as a PoE compatible IP camera) during the power interface between the BTS500 and the Powered Device. When a port is not connected to a load (Powered Device), or when a port is disabled, the class display shows "N/A".

Status
This column displays the status of each output port.

When a port is normal (a Powered Device is drawing power within the specified limits), the corresponding status will display "Normal" with a green background. If there are any fault conditions or a valid PoE device is not connected the corresponding status will display "Fault" with a yellow background. If a port is disabled by the browser interface, the corresponding status will display "Disabled" with a grey background.

3.2 The RS485 page

The BTS500 has a rear-panel RS485 connector for communicating with LifeSafety Power accessory boards containing an RS485 connection, such as the generation 2 M8 or M8P boards. To access these devices, click the RS485 top menu item (See Figure 13).

Any devices connected to the BTS500 trough the RS485 interface will appear on this page with the device's model, location, and status. Clicking on the device will open the device's interface. See the manual for the connecteded device for more information on usage and configuration.

3.3 The Tools page

Upgrading Firmware

The Upgrade Firmware section is at the top left of the Tools page (See Figure 14). To upgrade the firmware, use the following steps:

1. Ensure that the new firmware file is available on your computer. The latest firmware file is available from the LifeSafety Power website.

2. Click the "Upgrade" button. The Upgrade window will appear.

3. Click "Browse..." and locate the new firmware file with the file extension ".bin" on your computer.

4. Once the file is selected, click "Open".

5. Click the "Download" button to temporarily download the new firmware into the RAM of the BTS500. This process will take from 30 seconds to one minute, depending on network speed and traffic. The message box will display "Downloading...".

6. Once the firmware is loaded into the BTS500's RAM, verify the correct file name and click the "Confirm" button to confirm the upgrade.
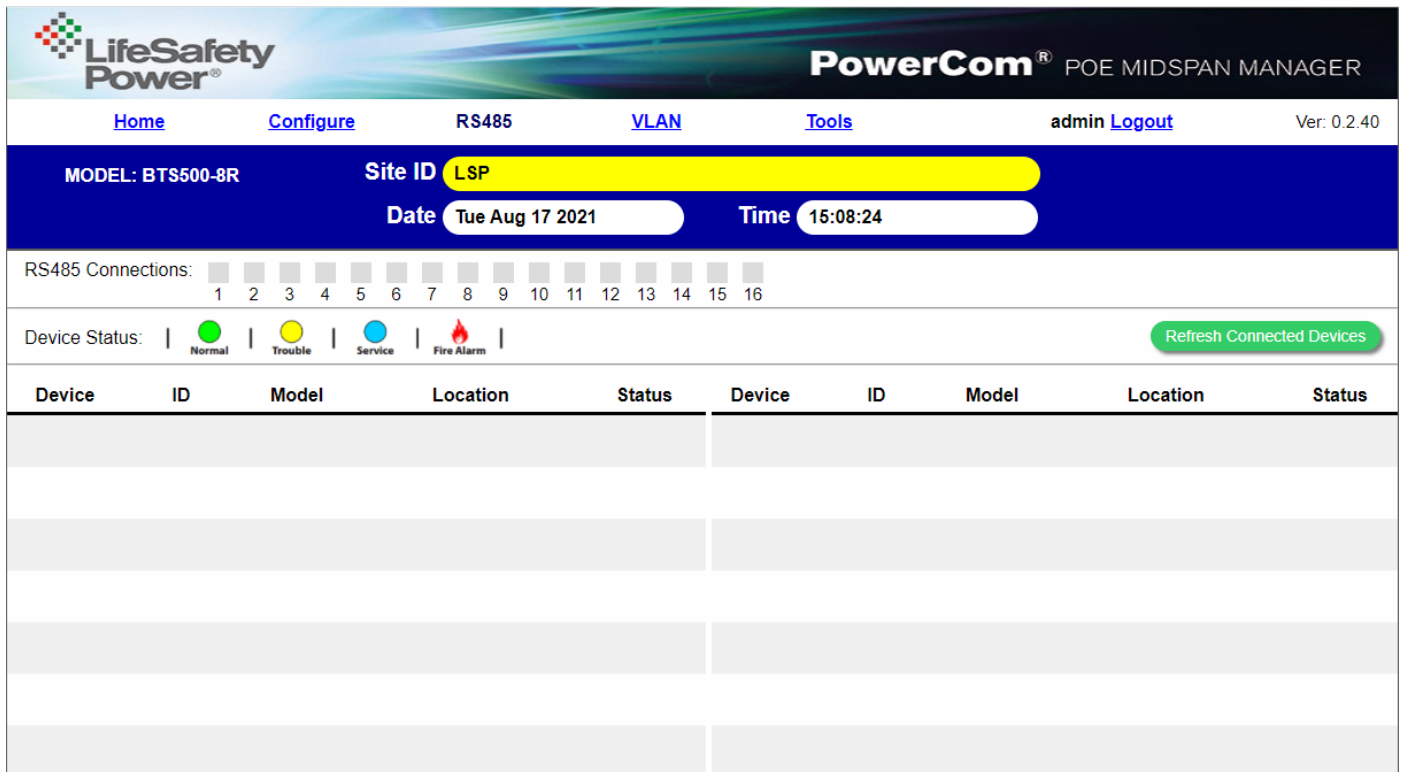
Figure 13: The RS485 page of the BTS500

7. Click "Burn" to begin burning the firmware to the BTS500's processor. This process may take up to 12 minutes - DO NOT REMOVE POWER TO THE BTS500 DURING THIS PROCESS or the BTS500 will be rendered nonfunctional.

Once the update is complete, a message will appear in the message box indicating "Update Finished". The BTS500 must be rebooted in order to start the new firmware.

Rebooting the BTS500

The "Reboot" section is on the top right of the Tools page (See Figure 14). To reboot the BTS500, click the "Reboot Switch" button.

A message will appear asking if you are sure you want to reboot. Click YES to Confirm the reboot. The rebooting process will take approximately 1 minute, during which time you will lose communication with the BTS500.

User Notes

The bottom of the Tools page contains a User Notes section where important information about the installation, service history, etc can be saved. Up to 1000 characters can be entered. After entering the notes, click "Submit" to save them. The "Clear" button will remove the notes.

Figure 14: The Tools page of the BTS500

Appendix 1 – Software Agreement

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Appendix 1 – Software Agreement - continued

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