LS1000
VoIP Speakerphone
Models: IPVT01, IPVT02, IPVT03, IPVT04, IPVT05, IPVT06

Admin Guide

Installation | Configuration | Support | Maintenance | Use

Code Blue

800.205.7186 ● www.codeblue.com

WARNING

ONLY QUALIFIED PERSONNEL SHOULD INSTALL THESE UNITS. THE INSTALLATION SHOULD CONFORM TO ALL LOCAL CODES. IN SOME COUNTRIES, A CERTIFIED ELECTRICIAN MAY BE REQUIRED.

NOTICE TO USERS

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2 Introduction

Thank you for choosing the Code Blue **LS1000** full duplex VoIP speakerphone for indoor and outdoor applications.

This speakerphone is part of our Emergency Signaling group of products built to meet the latest regulations, withstand the harshest elements and be proactive solutions for when you need them most. This guide provides basic and advanced configuration information for obtaining the best performance with the **LS1000** phones.

Single
Button

Double
Button

Double Button w/
Keypad

Single Button
w/ Axis Camera

Double Button
w/ Axis Camera

Double Button
w/ Axis Camera & Keypad

Call Privacy Laws

Some states require all parties to be aware that they are being recorded. Code Blue phones offer the ability to play a message stating that the caller is being recorded and giving the caller the option to continue or end the recorded call.

3 Dimensions

LS1000 SPEAKERPHONE - NO Camera
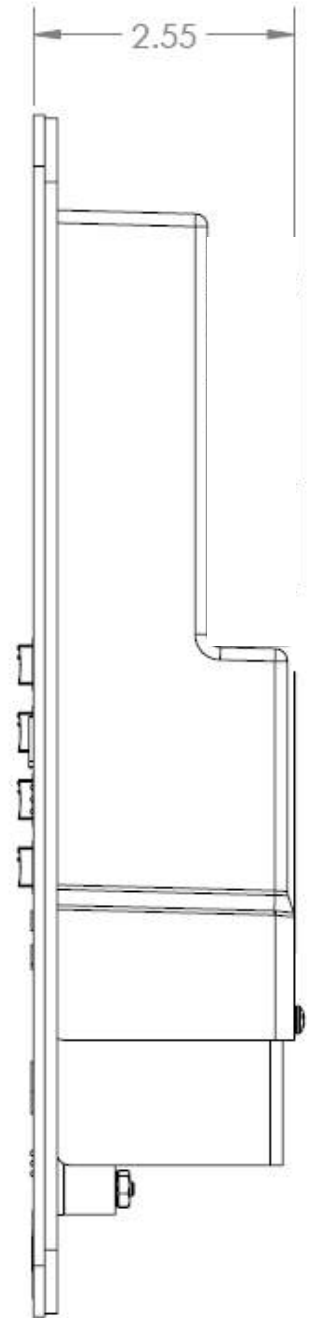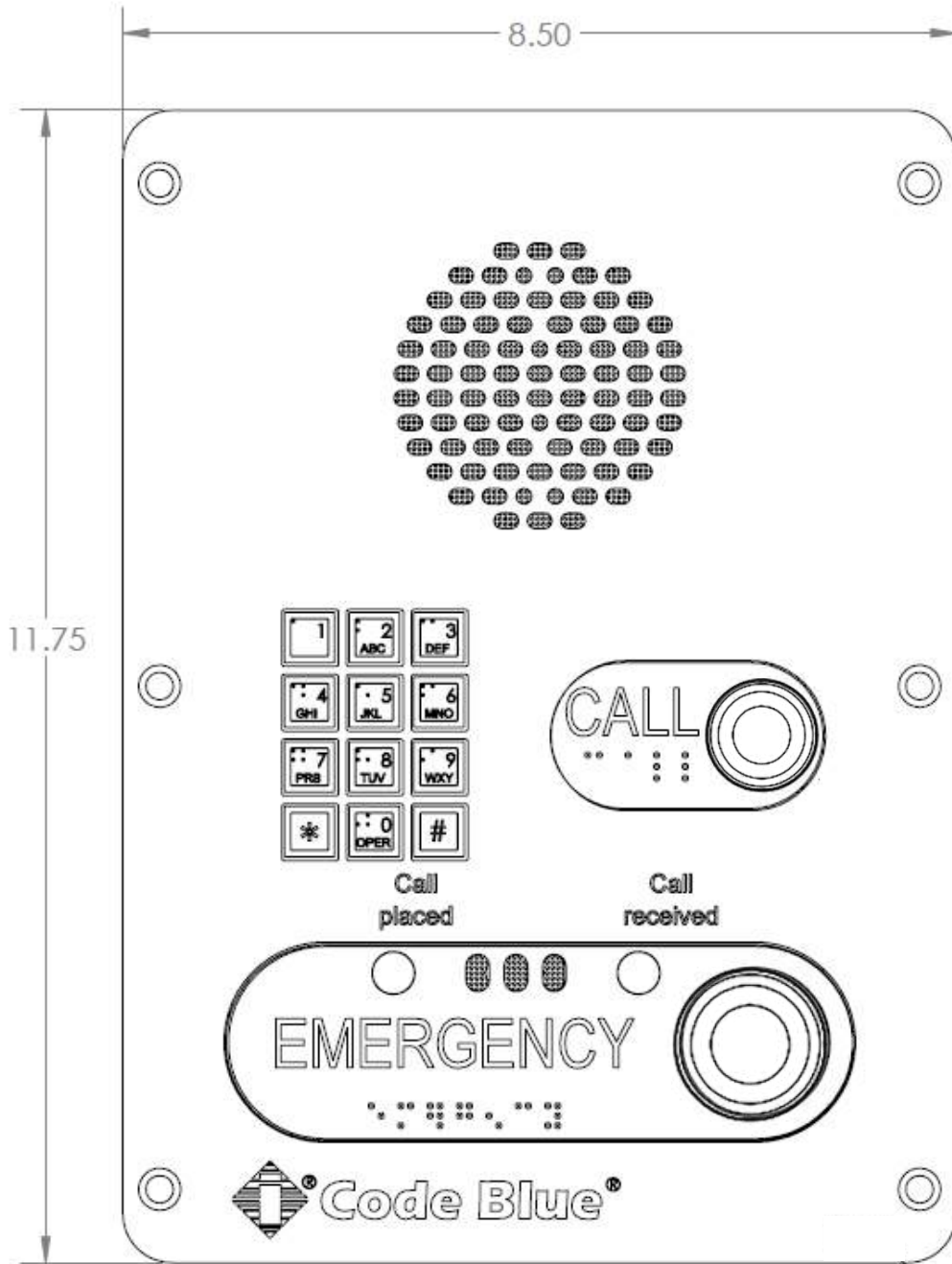
LS1000 SPEAKERPHONE - w/ Axis Camera Option
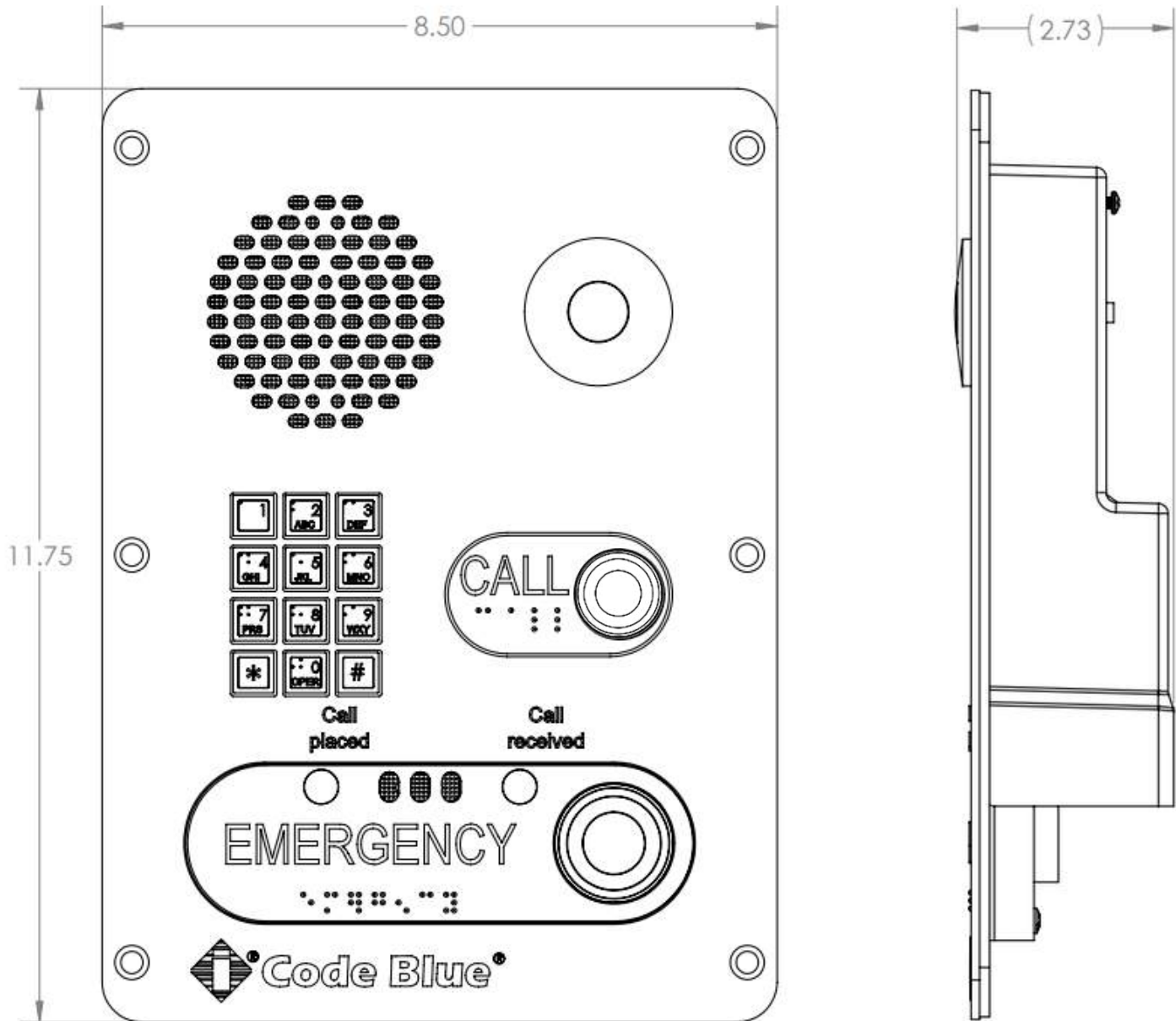
4 Safety Information

HAZARD LEVELS LEGEND

DANGER	Indicates a hazardous situation which, if not avoided, *will* result in death or serious injury.
WARNING	Indicates a hazardous situation which, if not avoided, *could* result in death or serious injury.
CAUTION ⚠	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE	Indicates a situation which, if not avoided, could result in damage to property.
IMPORTANT	Indicates significant information that is essential for proper product functionality.
NOTE	Indicates useful information that helps get the most out of a product.

Safety Instructions

WARNING
- Code Blue products shall be installed by trained professionals. The installation should conform to all local codes. In some countries, a certified electrician may be required.

NOTICE
- When transporting a Code Blue product, use the original packaging or equivalent to prevent damage to the product.
- Code Blue products shall be used in compliance with local laws and regulations.
- Store the Code Blue product in a dry and ventilated environment.
- Do not install the product on unstable brackets, surfaces or walls.
- Use only applicable tools when installing Code Blue products.
- Do not use chemicals, caustic agents, steel wool or aerosol cleaners other than those tested and recommended by Code Blue.
- Use only accessories that comply with technical specifications of the product. These can be provided by Code Blue or a third party.
- Use only spare/replacement parts provided by or recommended by Code Blue.

Transportation

NOTICE
- When transporting a Code Blue product, use the original packaging or equivalent to prevent damage to the product.

5 How to Update Connectors

As of 2020, many Code Blue products come with Wago connectors. These connectors provide ease of use and a much stronger connection. Below are the steps needed to change to the new connectors.

Example:

Wago socket connectors to add to your wires.
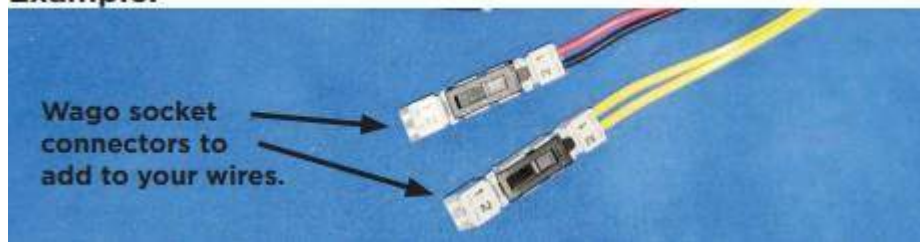
Cut off both wires.
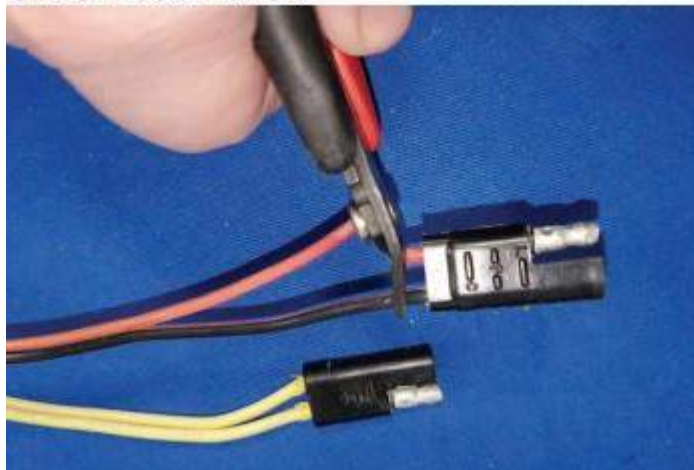
Strip all wires and twist tight.
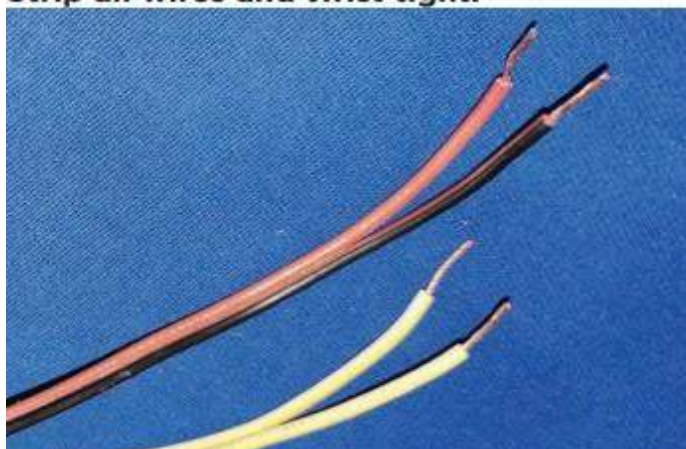
Place small screwdriver into square hole and push down. Insert cut wire into round hole and remove screwdriver. Repeat on the rest of the connectors.

Once all connectors have been switched, you are ready to apply power.
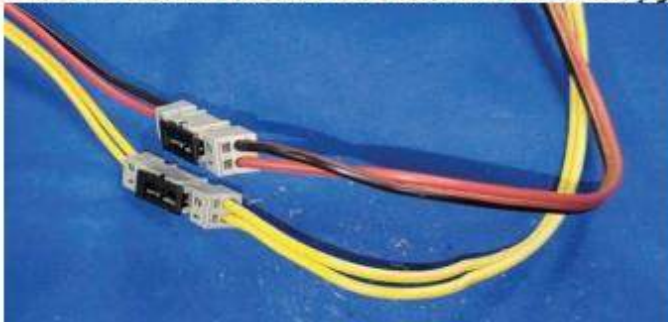
6 LS1000 Installation Instructions

GETTING STARTED

This guide contains information and a general overview for **LS1000**, including applications, installation, and wiring.

LS1000 Features

- Single Button, Double Button, and Keypad configurations available

- SIP 2.0 Protocol Support

- 3 Ethernet Ports

- 3 auxiliary N.O. input contact closures

- 3 auxiliary N.O. output contact closures

- NEMA 3S Compliant

- Peer-to-peer audio communication

- Multicast audio

- Multiple ADA compliant lettering choices with Braille

IMPORTANT NOTICE

The LS1000 Speakerphone operates on either PoE or 12V DC Voltage. Connecting voltages other than PoE or 12V DC to the speakerphone may result in electrical damage to the speakerphone causing it to no longer work properly. Damage due to connecting incorrect voltage to the LS1000 speakerphone is NOT covered under warranty. Included with all LS1000 units shipped from Code Blue is a 24V AC/DC to 12V DC Step-Down Transformer to assist with installs that have existing 24V AC/DC present. This transformer MUST be used during install if 24V AC/DC is present.

Surface or Flush Mount Installations

Tools Needed

1. Drill and screws to mount unit to wall.
2. Code Blue Security bit and any 1/4" bit drive handle.

Basic Flush Mount Installation Instructions (CB 6-f Enclosure):

1. Remove six security screws with Code Blue security bit and any 1/4" bit driver tool.
2. Separate LS1000 from enclosure and set aside carefully. The flush mount enclosure will come with no mounting holes. It can be mounted from the sides, top or bottom. Once your mounting needs have been determined, drill the holes needed for your specific installation requirements into the flush mount back box.
3. Mark the mounting holes onto the mounting surface. In order to comply with the Americans with Disabilities Act (ADA) of 1990, the speakerphone button(s) should be positioned between 34 and 48 inches from grade level. (Consult an ADA specialist in your area to verify local and federal guidelines.)
4. Connect earth ground to the provided copper grounding lug using a minimum 14-gauge conductor.
5. Connect electrical and communications wiring using the diagrams in Section 16 of this guide.
6. Follow all federal and local codes that apply.
7. Attach faceplate to enclosure using six security screws.

Basic Surface Mount Installation Instructions (CB 6-s Enclosures):

1. Remove six security screws with Code Blue security bit and any 1/4" bit driver tool.
2. Separate LS1000 from enclosure and set aside carefully.
3. Mark the mounting holes onto the mounting surface. In order to comply with the Americans with Disabilities Act (ADA) of 1990, the speakerphone button(s) should be positioned between 34 and 48 inches from grade level. (Consult an ADA specialist in your area to verify local and federal guidelines.)
4. Drill all marked holes.
5. Secure the housing to the wall – If you are securing to drywall, utilize drywall screws and anchors. If you are securing to metal, utilize sheet metal screws. If you are securing to brick, use Tapcon screws. Fasten all screws securely.
6. Connect earth ground to the provided copper grounding lug using a minimum 14-gauge conductor.
7. Connect electrical and communications wiring using the diagrams in Section 16 of this guide.
8. Follow all federal and local codes that apply.
9. Attach faceplate to enclosure using six security screws.

Installation into Code Blue Enclosure

Tools Needed

1. Drill with 1/4" Bit Driver.
2. Code Blue Security Bit.

Installation into the following enclosures is covered on this page.

Towers
- CB 1 Series
- CB 5 Series
- CB 9 Series
- CB RT Series

Wall Mount
- CB 2 Series
- CB 4 Series
- CB 6 Series

Towers & Wall Mount Enclosures WITHOUT Phone Installed at Factory:

1. Remove six security screws and Code Blue security bit from Faceplate Speakerphone box. Set aside for later use..
2. Remove the Faceplate Speakerphone from the box.
3. Connect power & communication wiring according to the proper diagrams located in Section 16 of this guide.
4. Follow all federal and local codes that apply.
5. Attach faceplate to enclosure using six security screws & security bit.

Towers & Wall Mount Enclosures WITH Phone Pre-Installed at Factory:

1. Remove six security screws with Code Blue security bit and 1/4" bit driver tool.
2. Separate LS1000 from enclosure and set aside carefully.
3. Make any additional power or communication connections as needed, by following the diagrams located in Section 16 of this guide.
4. Follow all federal and local codes that apply.
5. Re-attach faceplate to enclosure using six security screws.

7 LS1000 with Axis Camera Option Installation Instructions

Basic Components

The majority of LS1000 with Axis Camera Speakerphones contain the following primary components:

**Faceplate Speakerphone
w/ Axis Camera Installed**　　　　　**Axis Main Unit**　　　　　**3' (1m) Indoor/Outdoor Camera Cable**

Installation into New Code Blue Enclosure

When an LS1000 with Axis Camera Option is ordered with a new Code Blue tower or wall mounted enclosure, it will be shipped pre-installed in the enclosure and with power and communication wiring properly installed. You may need to remove the faceplate phone for programming or other installation purposes. Please follow the instructions to do so on the previous page. Wiring Diagrams for these configurations can be found in Section 16 of this Guide.

Enclosure Compatibility

The LS1000 with Axis Camera has been designed to be installed into the following Code Blue enclosure models.

<u>**Towers**</u>
- **CB 1-e**
- **CB 1-s**
- **CB 1-w**
- **CB 5-p**
- **CB 5-s**
- **CB 9-s**
- **CB 9-t**
- **CB RT**

<u>**Wall Mount**</u>
- **CB 2-a***
- **CB 2-e**
- **CB 2-s**
- **CB 4-r***
- **CB 4-s***
- **CB 4-u**
- **CB 6-s**

* CB 2-a, CB 4-r, CB-4s(single faceplate opening) & CB 6-s enclosures ordered with the LS1000 including and Axis Camera along with Cellular Service equipment will require the use of an externally mounted NEMA enclosure to house the Cellular Equipment. This requirement is due to space and air circulation requirements that need to be met in order for the products to function properly. Please contact Customer Service for more details.

Retrofitting Existing Code Blue Enclosure

Retrofitting an existing Code Blue LS1000 with Axis Camera may require the use of additional components depending on the the unit type it is being installed into along with the internal power configuration with that unit. Examples of the most commonly seen unit & power configurations are contained in this section of the guide. If you do not see your Code Blue unit or power configuration, please contact Customer Service in order to determine product compatibility and any additional components that may be required for install.

DANGER · Before proceeding with any of the following steps, ensure power is disconnected from the unit. Failure to do so may result in electrical shock causing bodily harm.

Axis Main Unit Installation

The LS1000 with Axis Camera Speakerphone is made up of the main components mentioned on the previous page. In retrofit situations, this will require the mounting of the Axis Main Unit component within the Code Blue enclosure being serviced. The following are examples of common locations and methods to mount the Main Unit inside your enclosure. If you do not see your configuration listed below, or have additional questions, please contact Customer Service for more details.

Axis Main Unit

Main Unit Surface Mounting Plate & DIN Rail Mount

Depending on the enclosure's configuration & available space, the use of either a surface mounting plate or DIN rail mount may assist with the install of the main unit inside the Code Blue Enclosure. These components may be referenced in future steps.

Main Unit Surface Mount Plate
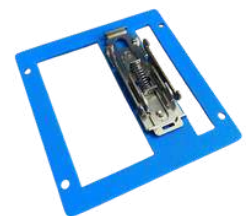
Main Unit DIN Rail Mounts

NOTE: Using the surface mount plate will require the drilling and tapping of appropriate holes or the use of self tapping screws to properly mount the Main Unit inside of an enclosure.

Axis Main Unit Installation (continued)

CB 1 & CB 9 Series Towers

Located behind the speakerphone opening, inside the tower, is an accessory equipment plate welded into the tower. In Dual Opening units, it is typically located directly behind the upper faceplate opening. If space allows, the Axis Main unit can be installed here using the Main Unit Surface Mount Plate, weatherproof VHB tape, or weatherproof hook & loop tape. Alternatively, a hanger plate can also be utilized if there is no equipment currently occupying this space.

Located behind the tower access door is the power panel for the enclosure. If space allows, the Axis Main Unit can be mounted here using the Main Unit Surface Mount Plate, weatherproof VHB tape, or weatherproof hook & loop tape. Alternatively, if the tower contains a DIN type power system, a DIN rail mount for the Main Unit can be used.

Axis Main Unit Installation (continued)

CB 2-a Wall Mount Enclosures

If space allows, the Axis Main unit can be installed here using weatherproof VHB tape, or weatherproof hook & loop tape. If previously installed Cellular Communication equipment is present in this space a remotely mounted NEMA housing may be needed in order to allow ample spacing and airflow within the unit.

Alternatively, if a DIN Rail power assembly is present on the back plate, and there is at least 4.75"x4.75" of open space, a DIN Rail mounting plate can be utilized.
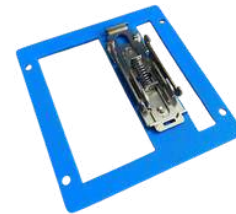
This space on the back plate cannot be utilized to mount the Axis Main Unit inside CB 2-a enclosures, as when the speakerphone is installed, there is not enough remaining clearance for the unit to fit properly.

**CB 2-a
Enclosure**

**CB 2-a
Back Plate**

Axis Main Unit Installation (continued)

CB 2-e Wall Mount Enclosures
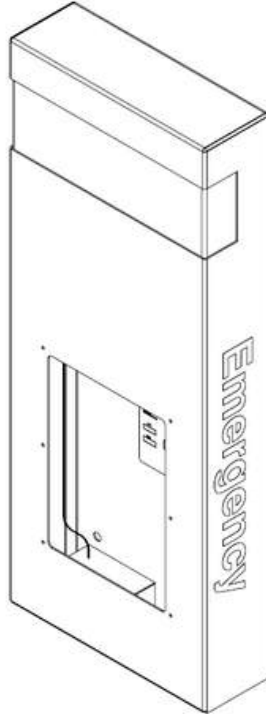
CB 2-e Enclosure
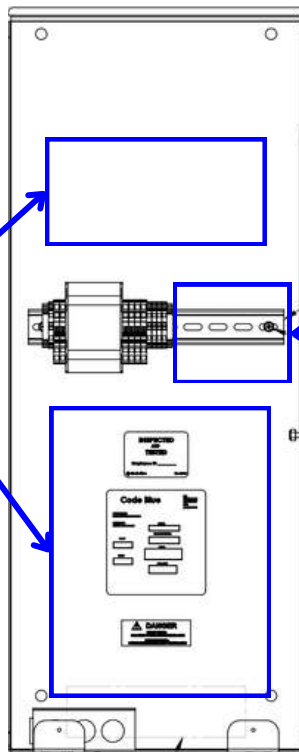
If space allows, the Axis Main unit can be installed in either location using weatherproof VHB tape, or weatherproof hook & loop tape.

Alternatively, if a DIN Rail power assembly is present on the back plate, and there is at least 4.75"x4.75" of open space, a DIN Rail mounting plate can be utilized.

CB 2-e Back Plate

Axis Main Unit Installation (continued)

CB 2-S Wall Mount Enclosures
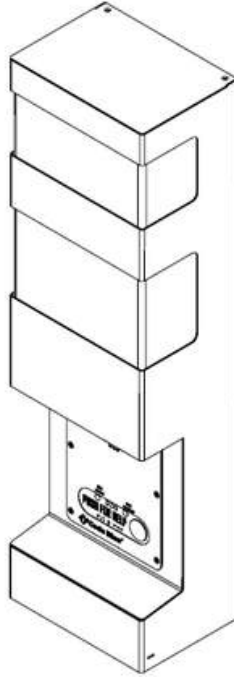
CB 2-s Enclosure
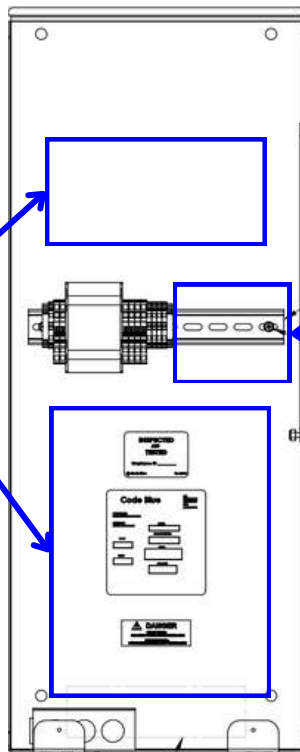
If space allows, the Axis Main unit can be installed in either location using weatherproof VHB tape, or weatherproof hook & loop tape.

Alternatively, if a DIN Rail power assembly is present on the back plate, and there is at least 4.75"x4.75" of open space, a DIN Rail mounting plate can be utilized.

CB 2-s Back Plate

Axis Main Unit Installation (continued)

CB 4-r Wall Mount Enclosures
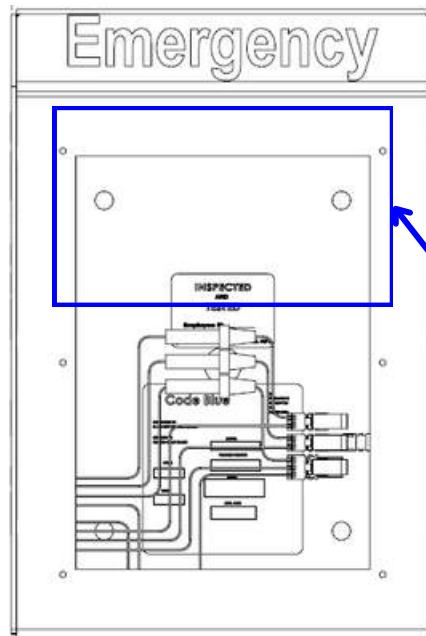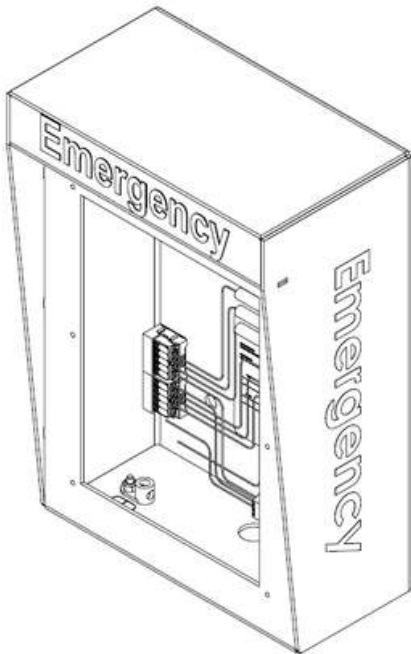
If space allows, the Axis Main unit can be installed here, inside the enclosure, above the power system, using weatherproof VHB tape, or weatherproof hook & loop tape. If previously installed Cellular Communication equipment is present in this space a remotely mounted NEMA housing may be needed in order to allow ample spacing and airflow within the unit.

CB 4-s Wall Mount Enclosures with Single Opening
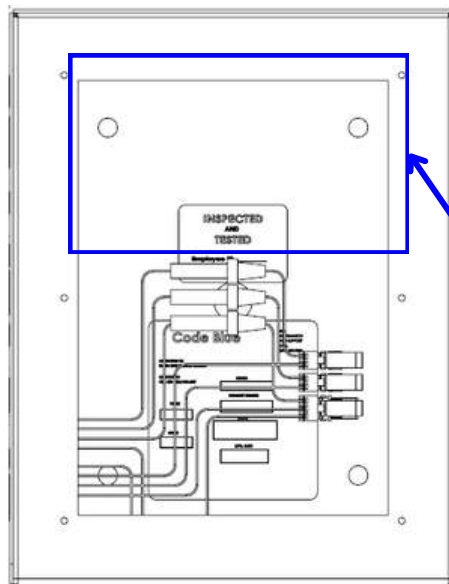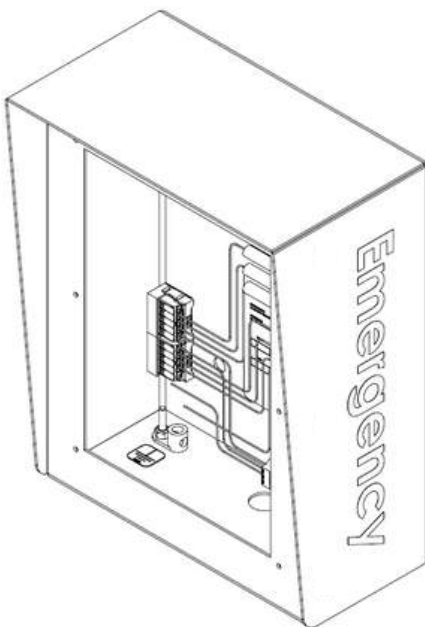
If space allows, the Axis Main unit can be installed here, inside the enclosure, above the power system, using weatherproof VHB tape, or weatherproof hook & loop tape. If previously installed Cellular Communication equipment is present in this space a remotely mounted NEMA housing may be needed in order to allow ample spacing and airflow within the unit.

Axis Main Unit Installation (continued)

CB 4-s Wall Mount Enclosures with Dual Opening
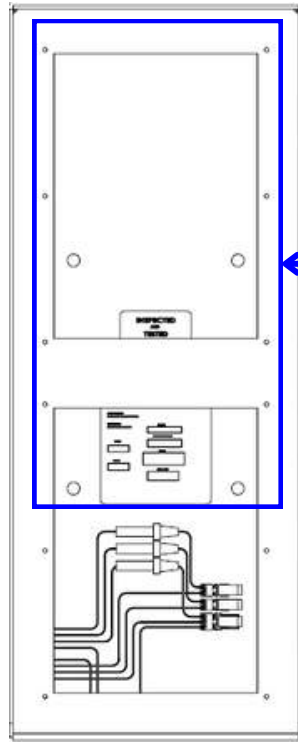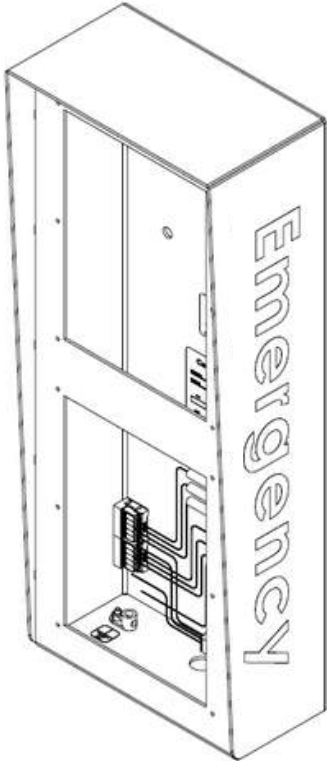
If space allows, the Axis Main unit can be installed here, inside the enclosure, above the power system, using weatherproof VHB tape, or weatherproof hook & loop tape.

CB 4-u Wall Mount Enclosures
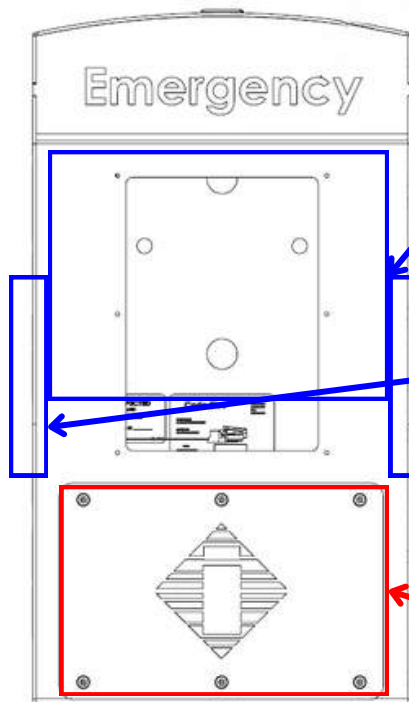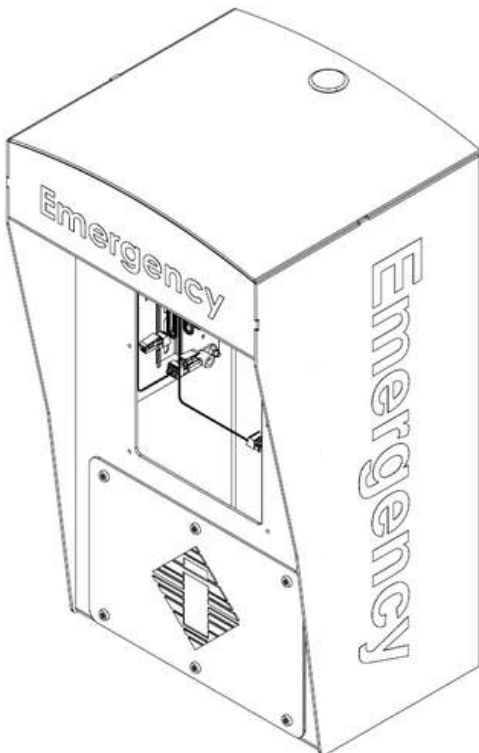
If space allows, the Axis Main unit can be installed here, inside the enclosure, using weatherproof VHB tape, or weatherproof hook & loop tape.

Either of the inside sidewalls of the enclosure can be utilized as mounting location for the Axis Main Unit, if they are not previously occupied by other equipment. Use weatherproof VHB tape, or weatherproof hook & loop tape in these locations.

Only mount the Axis Main Unit in this location if there is not equipment associated with NightCharge power system located here already.

Axis Main Unit Installation (continued)

CB 5 Series Towers

Located behind the tower access door is the power panel for the enclosure. If space allows, the Axis Main Unit can be mounted here using the Main Unit Surface Mount Plate, weatherproof VHB tape, or weatherproof hook & loop tape. Alternatively, if the tower contains a DIN type power system, a DIN rail mount for the Main Unit can be used.

Located behind the speakerphone opening, inside the tower, is an accessory equipment plate welded into the tower. In Dual Opening units, it is typically located directly behind the upper faceplate opening. If space allows, the Axis Main unit can be installed here using the Main Unit Surface Mount Plate, weatherproof VHB tape, or weatherproof hook & loop tape. Alternatively, a hanger plate can also be utilized if there is no equipment currently occupying this space.

Axis Main Unit Installation (continued)

CB 6-s Wall Mount Enclosures
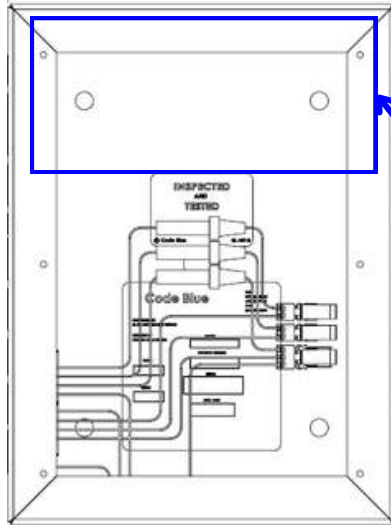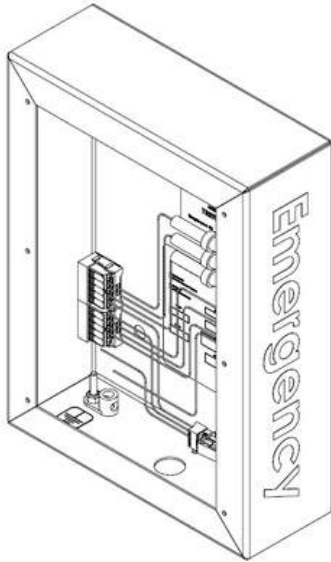
If space allows, the Axis Main unit can be installed here, inside the enclosure, above the power system, using weatherproof VHB tape, or weatherproof hook & loop tape. If previously installed Cellular Communication equipment is present in this space a remotely mounted NEMA housing may be needed in order to allow ample spacing and airflow within the unit.

CB RT Towers

Note: Due to the shape and large amount of flat surfaces inside the CB RT, Axis Main Unit mounting locations using VHB tape or hook & loop tape can vary widely. Exercise caution when mounting the Axis main in order to prevent interference with other wiring or devices that may be present inside the tower.
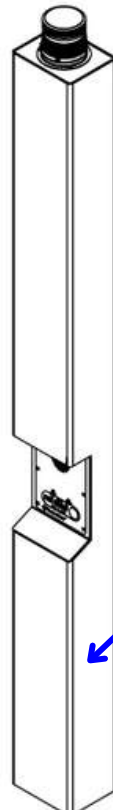
Located behind the tower access door is the power panel for the enclosure. If space allows, the Axis Main Unit can be mounted here using the Main Unit Surface Mount Plate, weatherproof VHB tape, or weatherproof hook & loop tape. Alternatively, if the tower contains a DIN type power system, a DIN rail mount for the Main Unit can be used.

Axis Main Unit Wiring

The following diagrams will explain how to properly wire the Axis Main Unit within an existing Code Blue enclosure, based on common power systems Code Blue offers. If you do not see your specific power configuration listed, please contact Customer Service for additional details. For information on how to connect the Axis Main Unit to the LS1000 with Axis Camera, please see Section 16 of this guide.

Power System Type: Code Blue Multi-Tap Transformer/Power Brick

Code Blue's Multi-Tap Transformer/Power Brick is configured with five 24V AC outputs and five 12V DC outputs.

- Connect one of the available 12V DC outputs directly to the power harness supplied with the LS1000 including Axis Camera Speakerphone.
- If there is not an open 12V DC output available, the use of a 24VAC to 12V DC adapter or transformer will be required. Please use Code Blue Part # 41005 for the required components.

Components Included with part # 41005

24VAC/DC
Step-Down Transformer

2x 2-Pin Connectors

Wire Harness w/ Wago
Connection & Lock
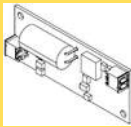
Axis Main Unit Wiring (continued)

Power System Type: Code Blue 24V/100-240V AC Standard DIN Rail System
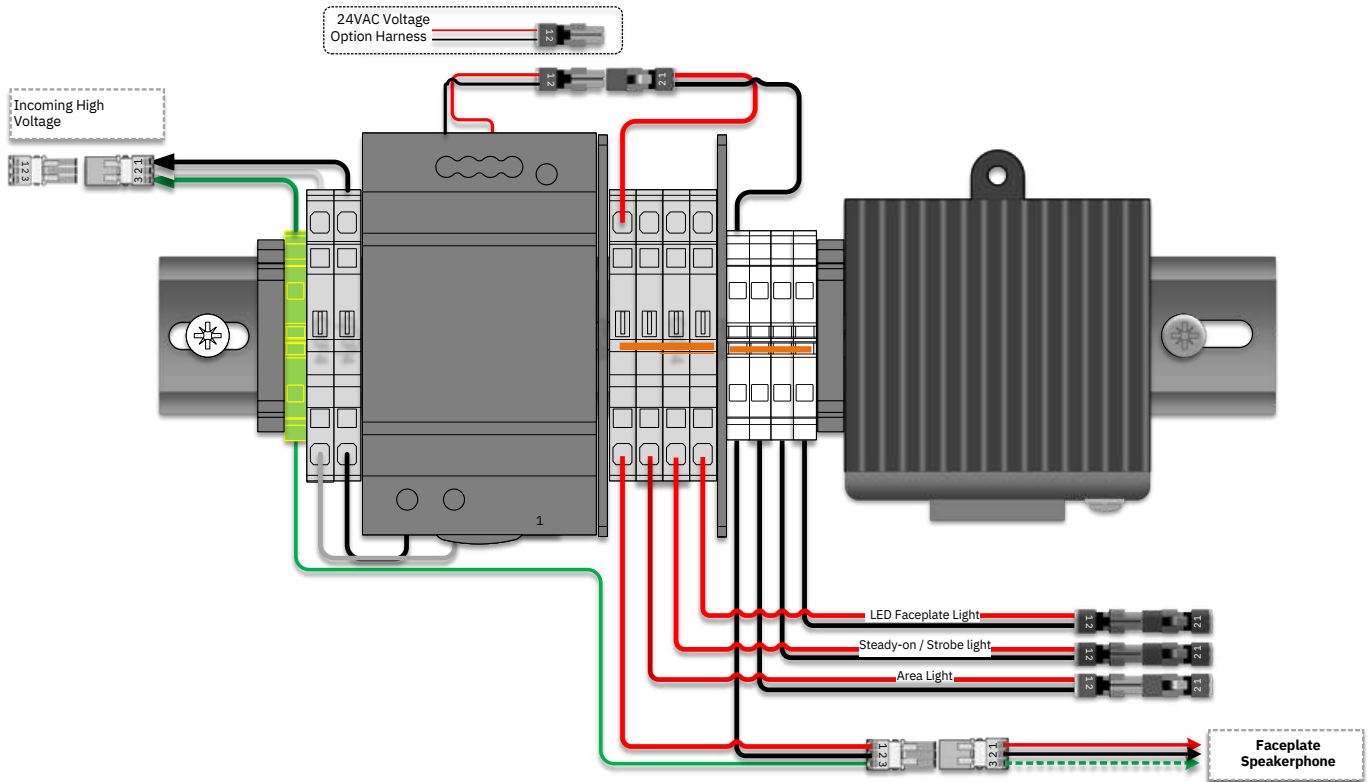
Code Blue's Standard 24V/100-240VAC DIN Rail power system is configured with four 24V AC outputs. The output dedicated to the speakerphone, which should also include the Step Down Transformer referenced in this photo, will still be utilized to power the speakerphone.

24V AC/DC-12V DC Step-Down Transformer Required Prior to Speakerphone Connection. Transformer is Included with Speakerphone.

- If there is an available 24VAC output open in the existing DIN rail power system, this can be connected to a 24VAC to 12VDC adapter or transformer. From that voltage conversion, the connection can then be made to the Axis Main Unit.
- If there is NOT an available 24VAC output open in the existing DIN rail power system, a modification to the power assembly & the use of Code Blue part # 41001 will be required.

Components Included with part # 41001

| 24VAC/DC Step-Down Transformer | 2-Pin Connector | Fused DIN Rail Terminal Block | DIN Rail Buss Block | Wire Harness w/ 2-Pin Connector | 2-Pin Jumper for Buss Term | 2-Pin Jumper for Fused Term Block |

The steps to modify the power system are on the next page.

Axis Main Unit Wiring (continued)

DANGER Before proceeding with any of the following steps, ensure power is disconnected from the unit. Failure to do so may result in electrical shock causing bodily harm.

- If surge protection is present, slide the component to the right on the DIN Rail.
- Using a flat screwdriver, loosen the DIN Rail End Stop located directly to the right of the surge protection & slide to the right, allowing enough room for the additional terminal blocks to be added.
- Slide the DIN Rail Partition Plate AND the 4 Buss Block Terminals to the right, allowing enough room between the Fused Terminal Blocks and the partition plate for the addition Fused Terminal Block to be installed.
- Install the additional Fused Terminal Block between the existing 4 Fused Terminal blocks and the Partition Plate.
- Lift the hinged portion of the Fused Terminal blocks & install a 2-Pin Jumper connecting the new Fused Terminal Block to the existing 4. Close the hinged portions when complete.
- Install the additional Buss Block Terminal between the existing 4 Buss Block Terminals and the End Stop.
- Install a 2-Pin Jumper connecting the new Buss Block Terminal to the existing 4.
- Move the End Stop back to the left, securing all of the components in place & tighten down with a flat screw driver.
- When complete, the power assembly should look like the below picture.

Completed Standard DIN Rail Retrofit
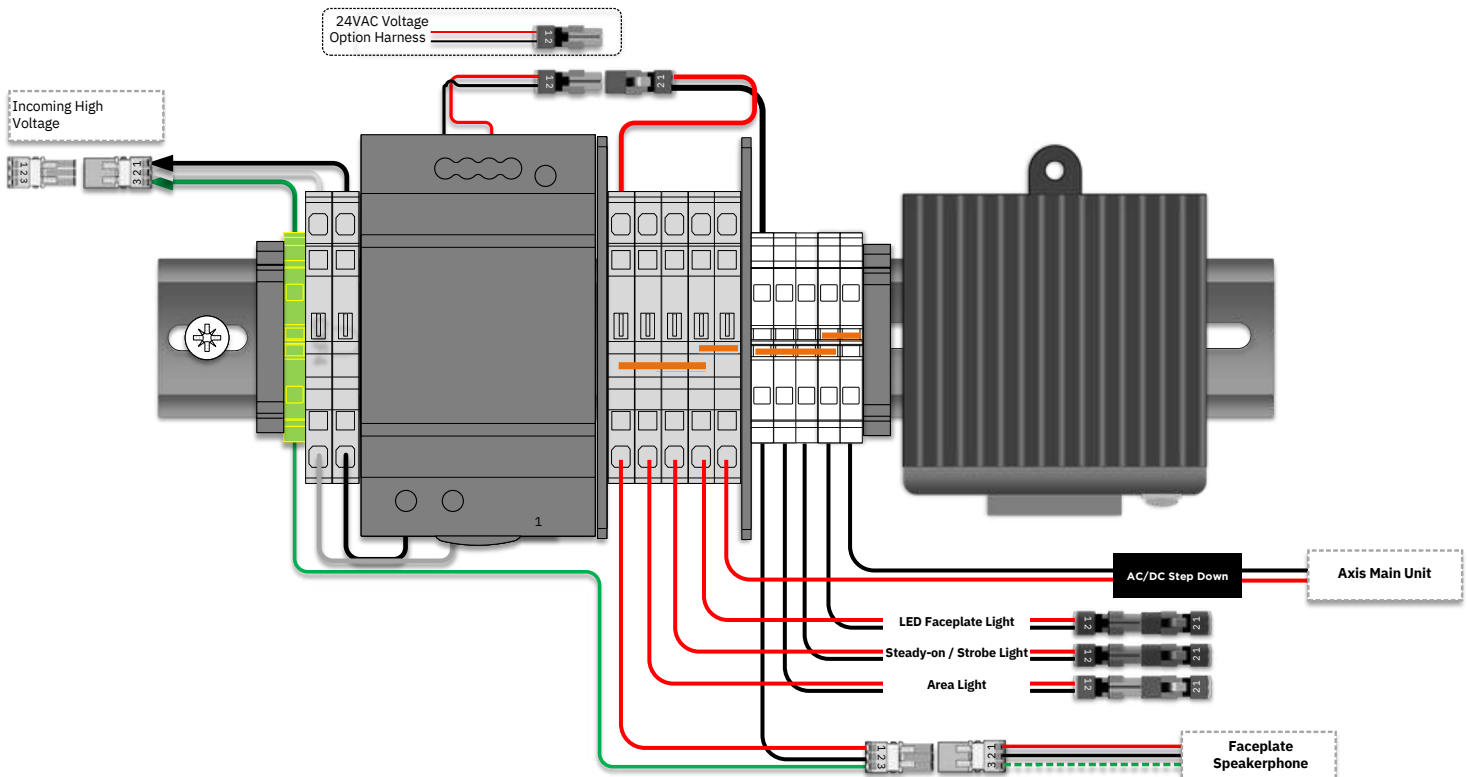
Axis Main Unit Wiring (continued)

Power System Type: Code Blue Power over Ethernet(PoE) DIN Rail System
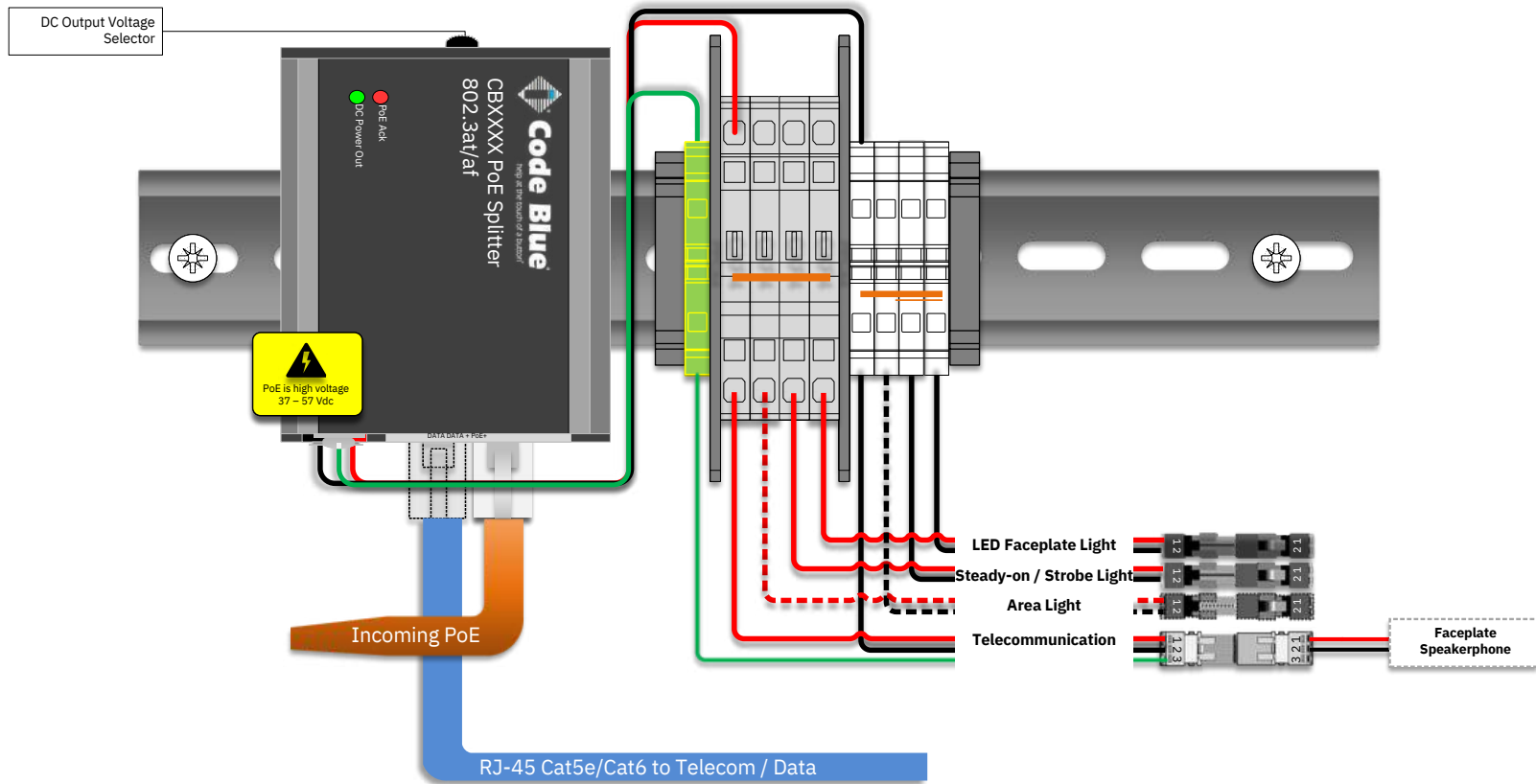
Code Blue's Power over Ethernet(PoE) DIN Rail power system is configured with four outputs, with voltage of 12 or 24V DC, based on the Output Voltage setting on the PoE Splitter. If 24V DC is selected, a 24V AC/DC to 12V DC Step Down Transformer is required prior to connection to the LS1000 Speakerphone.

- If there is an available 12 or 24V DC output open on the existing DIN Rail power system, this can be connected directly to the Axis Main Unit Power Input.
- If there is NOT an available 12 or 24V DC output open in the existing DIN rail power system, a modification to the power assembly & the use of Code Blue part # 41002 will be required.

Components Included with part # 41002

| PoE Splitter w/ PoE Passthrough | DIN Rail Mount | 2-Pin Wago Conversion Kit | Cat6 Patch Cable |

The steps to modify the power system are on the next page.

DANGER Before proceeding with any of the following steps, ensure power is disconnected from the unit. Failure to do so may result in electrical shock causing bodily harm.

Axis Main Unit Wiring (continued)

DANGER Before proceeding with any of the following steps, ensure power is disconnected from the unit. Failure to do so may result in electrical shock causing bodily harm.

- Disconnect RJ45 connectors from existing PoE Splitter
- Disconnect Red, Black & Green wires connecting the existing PoE Splitter to the DIN Rail Assembly.
- Remove existing PoE Splitter from DIN Rail Assembly.
- Replace with PoE Splitter from Code Blue Part # 41002.
- Using a small flat screw driver, remove the Green Ground Terminal Block from the DIN Rail assembly.
- The harness that previously connected the existing speakerphone to the DIN rail assembly will be converted to now power the Axis Main Unit.
    - Disconnect the 3-Pin Wago Plug Connector from the ends of the red & black wires connected to the leftmost Fused Terminal Block & Buss Block Terminals on the DIN rail assembly.
    - Replace the removed 3-Pin Wago Plug Connector with the 2-Pin Wago Connector supplied with part # 41002, ensuring the red wire connects to terminal 1 & the black wire connects to terminal 2 of the Wago Connector.
    - Connect the Axis Main Unit Power Harness(included with the speakerphone) to the newly installed 2-Pin Wago Connector.
- Loosen the leftmost End Stop with a flat screwdriver, slide it the right against the Partition Plate and tighten back down to secure in place.
- Connect the red & black wires from the DIN Rail assembly, to the new PoE Splitter as shown in the photo below.
- Connect the PoE output/passthrough to the new LS1000 speakerphone using the Cat6 Patch Cable provided with part # 41002.
- Using the Cat6 Patch Cable provided with the new LS1000 speakerphone, connect the Axis Main Unit to the LAN1 port on the speakerphone.
- Connect the incoming PoE Ethernet cable to the PoE input on the newly installed PoE Splitter.
- When complete, the wiring should appear as shown in the diagram on the next page.

Axis Main Unit Wiring (continued)

Completed PoE DIN Rail Retrofit

LS1000 Speakerphone Connections

Cat6 RJ45

Cat6 RJ45

Axis Main Unit

PoE Splitter w/ PoE Passthrough

LED Faceplate Light

Steady-on / Strobe Light

Area Light

Incoming PoE

Axis Main Unit Wiring (continued)

Power System Type: Code Blue Wall Mount Audio Paging DIN Rail System

Code Blue's Audio Paging DIN Rail power system is configured with five 24V DC outputs. The output dedicated to the speakerphone, which should also include the Step Down Transformer referenced in this photo, will still be utilized to power the new LS1000 with Axis Camera.

- If there is an available 24VDC output open on the existing DIN Rail power system adapter or transformer. From that voltage conversion, the connection can then be made to the Axis Main Unit.
- If there is NOT an available 24VDC output open in the existing DIN rail power system, a modification to the power assembly & the use of Code Blue part # 41003 will be required.

Components Included with part # 41003

| Fused DIN Rail Terminal Block | DIN Rail Buss Block | 2-Pin Jumper for Buss Term | 2-Pin Jumper for Fused Term Block |

The steps to modify the power system are on the next page.

DANGER Before proceeding with any of the following steps, ensure power is disconnected from the unit. Failure to do so may result in electrical shock causing bodily harm.

Axis Main Unit Wiring (continued)

DANGER Before proceeding with any of the following steps, ensure power is disconnected from the unit. Failure to do so may result in electrical shock causing bodily harm.

- Using a flat screwdriver, loosen the rightmost DIN Rail End Stop.
- Slide the DIN Rail End Stop and the Green Ground Terminal to the right, allowing enough room for the additional terminal blocks to be added.
- Slide the DIN Rail Partition Plate AND the 5 Buss Block Terminals to the right, allowing enough room between the Fused Terminal Blocks and the partition plate for the addition Fused Terminal Block to be installed.
- Install the additional Fused Terminal Block between the existing 5 Fused Terminal blocks and the Partition Plate.
- Lift the hinged portion of the Fused Terminal blocks & install a 2-Pin Jumper connecting the new Fused Terminal Block to the existing 5. Close the hinged portions when complete.
- Install the additional Buss Block Terminal between the existing 5 Buss Block Terminals and the End Stop.
- Install a 2-Pin Jumper connecting the new Buss Block Terminal to the existing 5.
- Move the Green Ground Terminal & End Stop back to the left, securing all of the components in place & tighten down with a flat screw driver.
- When complete, the power assembly should look like the diagram on the next page.
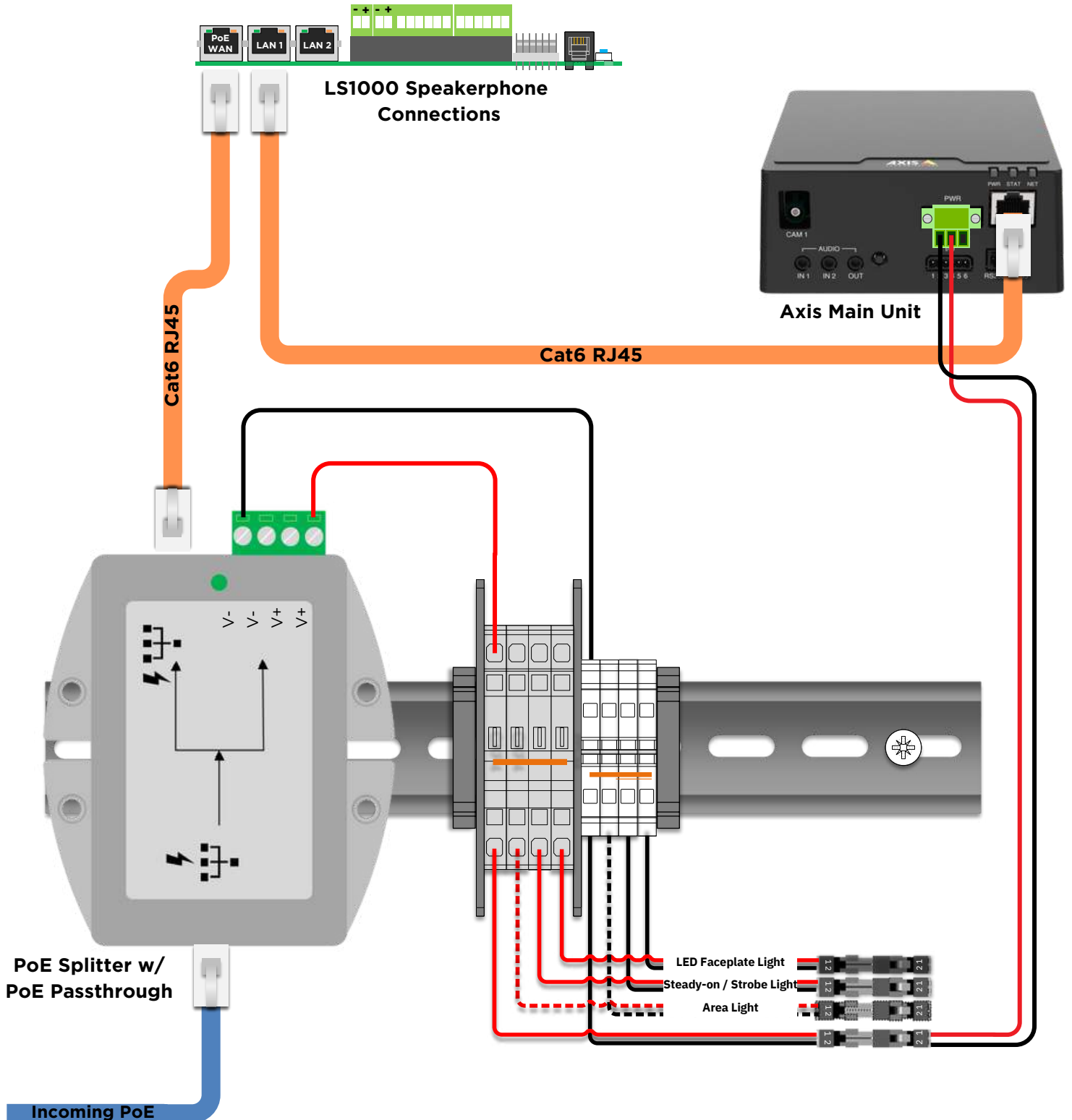
Axis Main Unit Wiring (continued)

Completed Wall Mount Audio Paging DIN Rail Retrofit
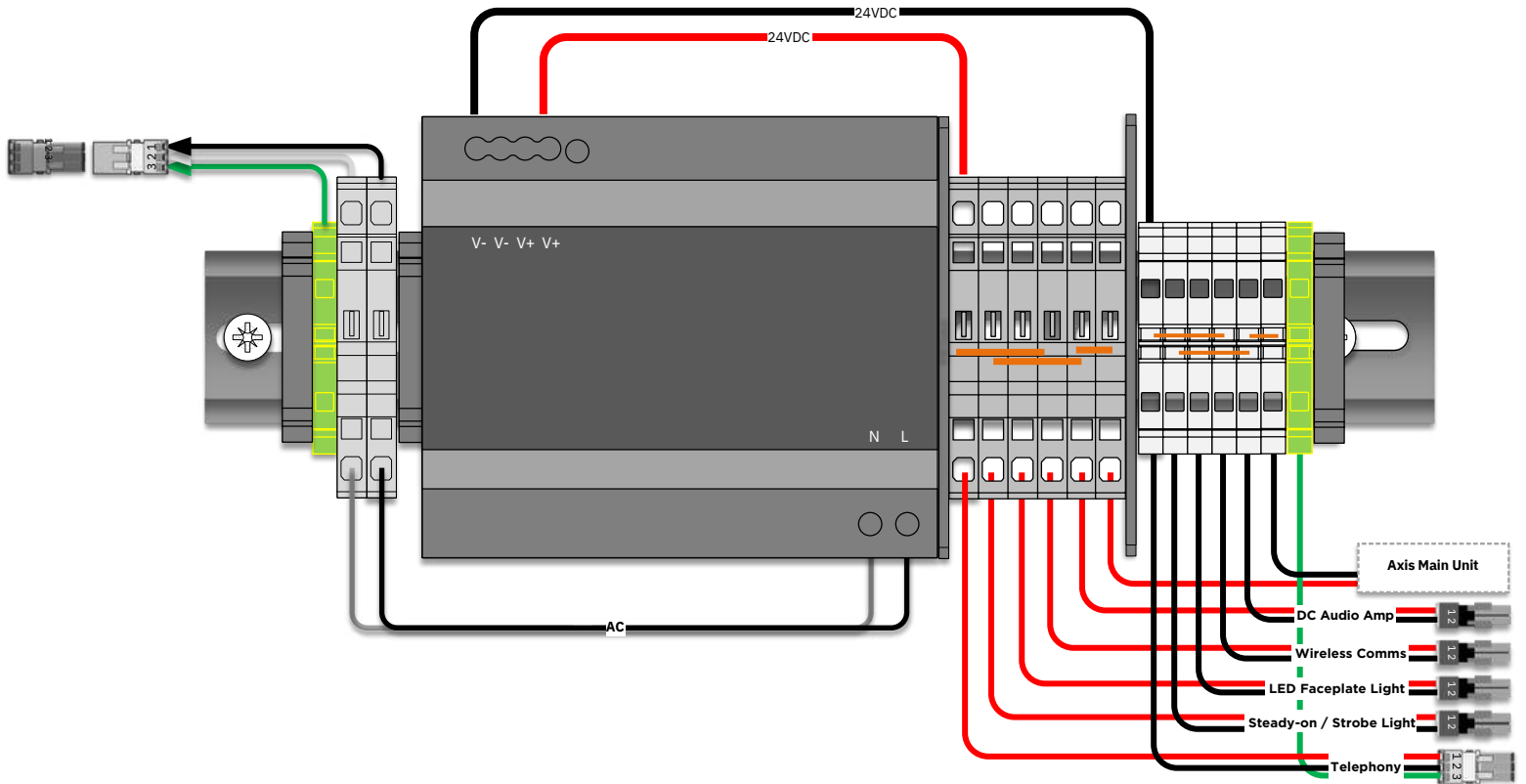
Axis Main Unit Wiring (continued)

Power System Type: Code Blue Tower Audio Paging DIN Rail System

Code Blue's Audio Paging DIN Rail power system is configured with five 24V DC outputs. The output dedicated to the speakerphone, which should also include the Step Down Transformer referenced in this photo, will still be utilized to power the new LS1000 with Axis Camera.

- If there is an available 24VDC output open on the existing DIN Rail power system adapter or transformer. From that voltage conversion, the connection can then be made to the Axis Main Unit.

- If there is NOT an available 24VDC output open in the existing DIN rail power system, a modification to the power assembly & the use of Code Blue part # 41003 will be required. :

Components Included with part # 41003

Fused DIN Rail Terminal Block	DIN Rail Buss Block	2-Pin Jumper for Buss Term	2-Pin Jumper for Fused Term Block

The steps to modify the power system are on the next page.

DANGER Before proceeding with any of the following steps, ensure power is disconnected from the unit. Failure to do so may result in electrical shock causing bodily harm.

Axis Main Unit Wiring (continued)

DANGER Before proceeding with any of the following steps, ensure power is disconnected from the unit. Failure to do so may result in electrical shock causing bodily harm.

- Using a flat screwdriver, loosen the rightmost DIN Rail End Stop.
- Slide the DIN Rail End Stop to the right, allowing enough room for the additional terminal blocks to be added.
- Slide the DIN Rail Partition Plate AND the 6 Buss Block Terminals to the right, allowing enough room between the Fused Terminal Blocks and the partition plate for the addition Fused Terminal Block to be installed.
- Install the additional Fused Terminal Block between the existing 6 Fused Terminal blocks and the Partition Plate.
- Lift the hinged portion of the Fused Terminal blocks & install a 2-Pin Jumper connecting the new Fused Terminal Block to the existing 6. Close the hinged portions when complete.
- Install the additional Buss Block Terminal between the existing 6 Buss Block Terminals and the End Stop.
- Install a 2-Pin Jumper connecting the new Buss Block Terminal to the existing 6.
- Move the End Stop back to the left, securing all of the components in place & tighten down with a flat screw driver.
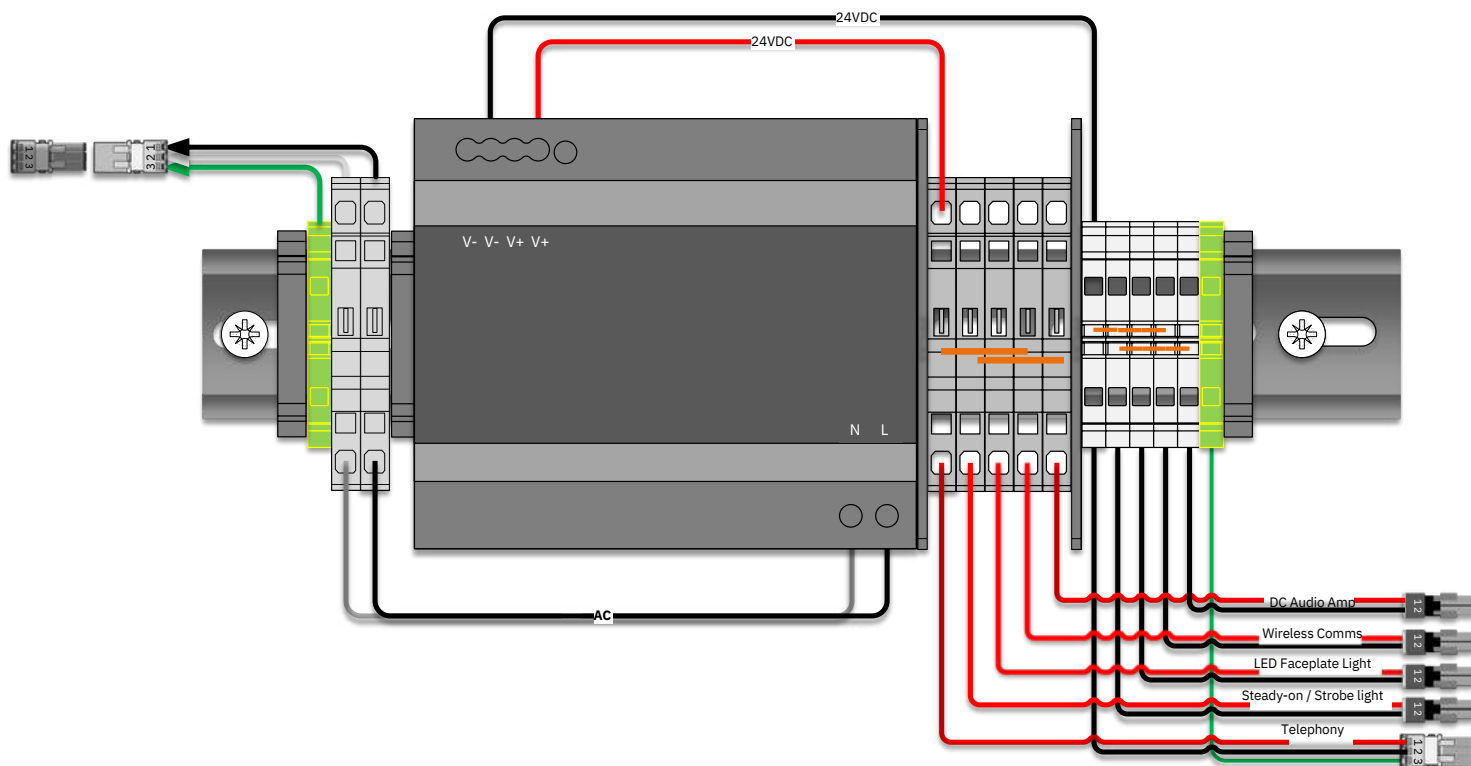- When complete, the power assembly should look like the diagram on the next page.

Axis Main Unit Wiring (continued)

Completed Tower Audio Paging DIN Rail Retrofit
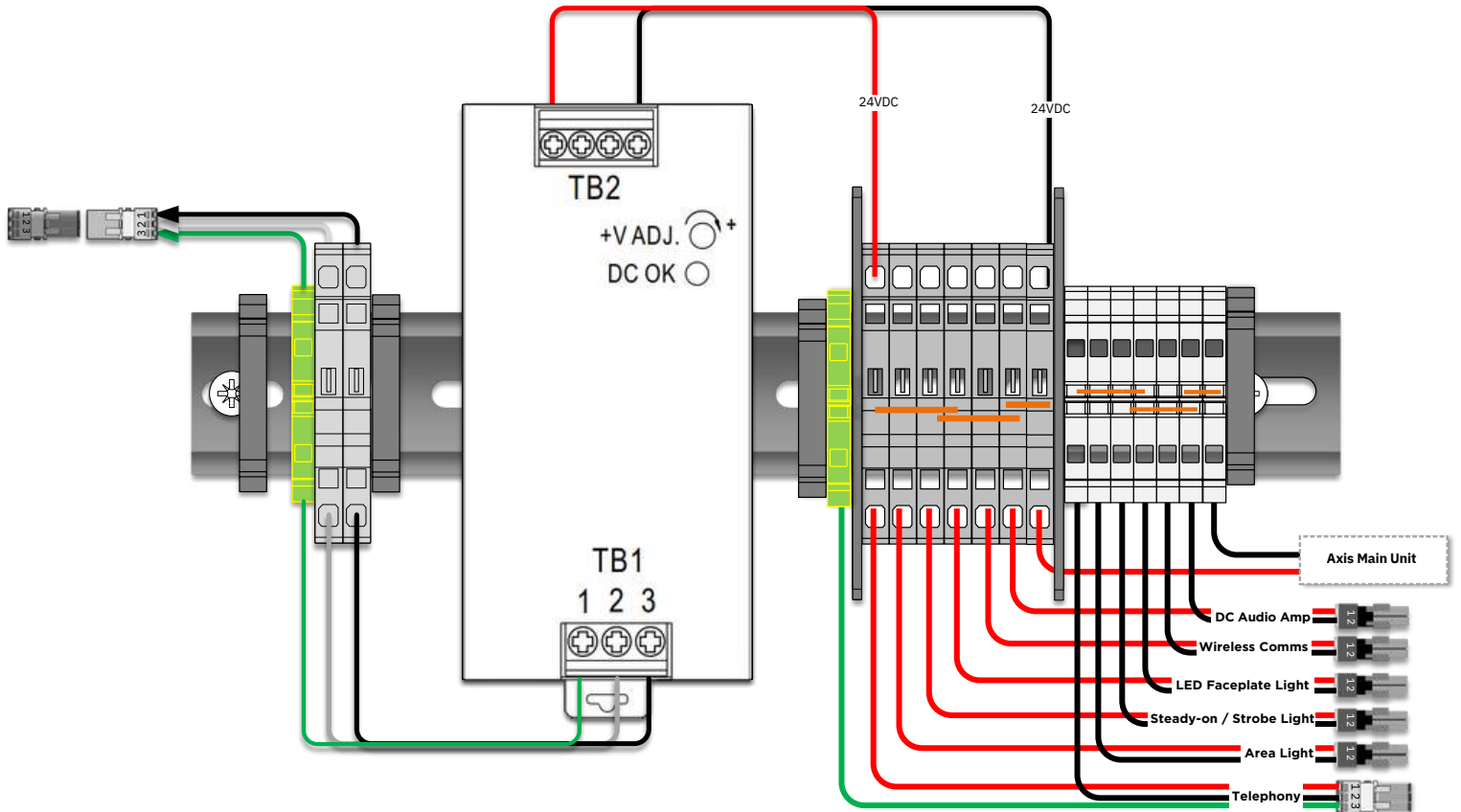
Axis Main Unit Wiring (continued)

Power System Type: Code Blue Manifold Power System
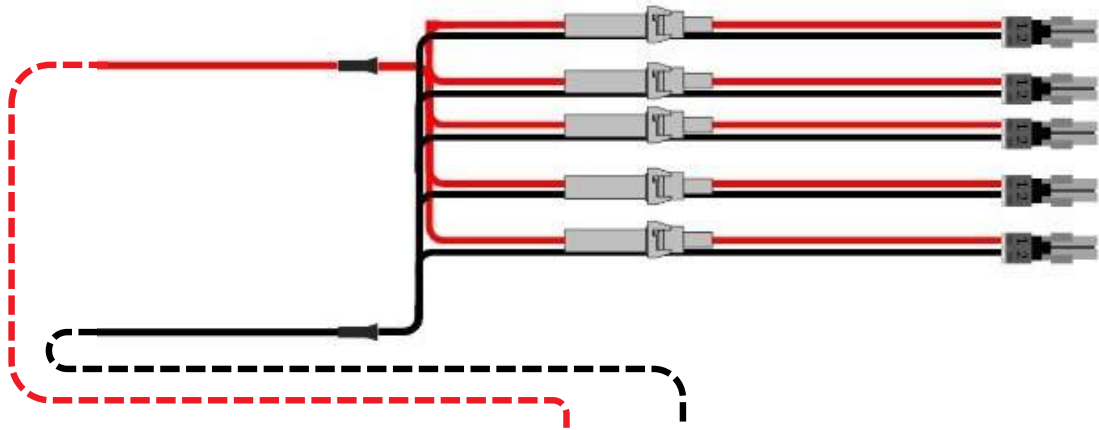
Possible Existing Transformers Inside Enclosures

120VAC to 24VAC

100-240VAC to 12VDC

OR

Direct 24VAC or 12/24VDC into Power Manifold
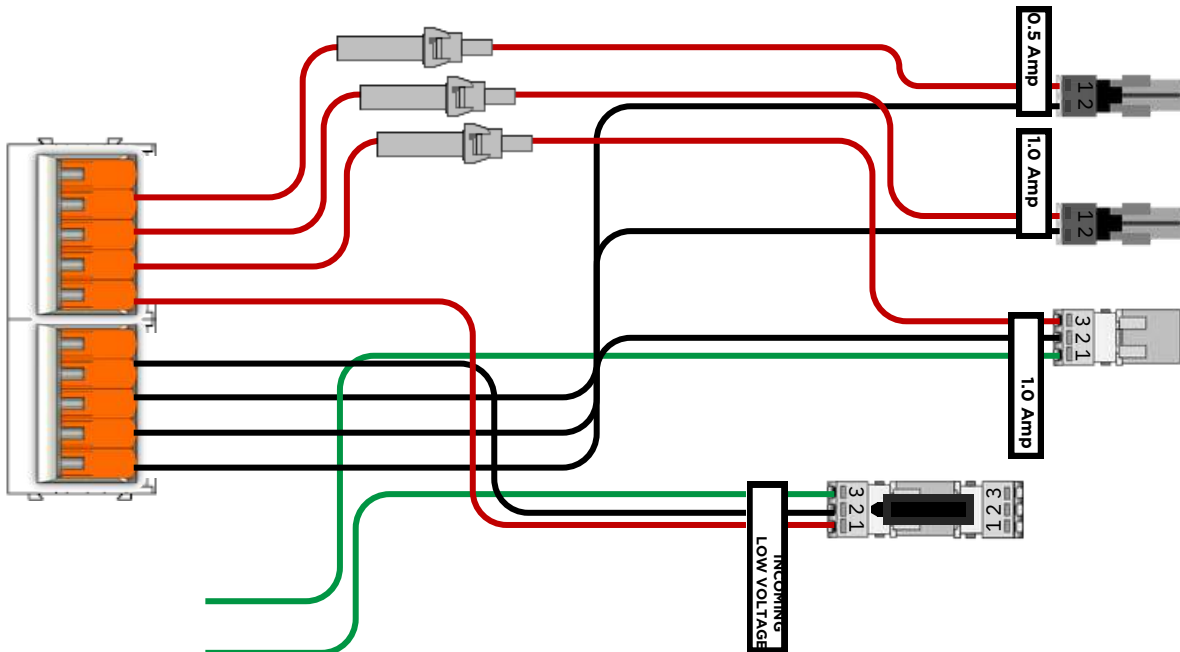
Axis Main Unit Wiring (continued)

Power System Type: Code Blue Manifold Power System

Code Blue's Power Manifold Systems are configured in a variety of ways to meet a multitude of voltage requirements in the field. The main two options are those that are connected to a high voltage transformer prior to the 5-Way manifold power distribution, and those that have low voltage (24VAC or 12-24VDC) wired directly to a terminal block. The following explains compatibility options with those different system types.

- **High Voltage Transformer**
  - If there is an open 24VAC or 12/24VDC output, that can be utilized for the Axis Main Unit. A 24VAC output must first have an AC-DC voltage step-down transformer placed in line prior to connecting to the Axis Main Unit. A 12/24VDC output can be wired directly into the Axis Main Unit without requiring a voltage conversion. See Code Blue Part # 41006.
  - If there is NOT an open 24VAC or 12/24VDC output available, this power system will not be compatible with an LS1000 including and Axis camera & will require a replacement power system in order to properly function. Contact Customer Service for further details.
- **Low Voltage Wired to Terminal Block**
  - If there is an open 24VAC or 12/24VDC output, that can be utilized for the Axis Main Unit. A 24VAC output must first have an AC-DC voltage step-down transformer placed in line prior to connecting to the Axis Main Unit. A 12/24VDC output can be wired directly into the Axis Main Unit without requiring a voltage conversion. See Code Blue Part #41006.
  - If there is NOT an open 24VAC or 12/24VDC output available, this power system will not be compatible with an LS1000 including and Axis camera & will require a replacement power system in order to properly function. Contact Customer Service for further details

Components Included with part # 41006

24VAC/DC
Step-Down Transformer

2-Pin Connector

Wire Harness w/ Wago
Connection & Lock

Axis Main Unit Wiring (continued)

Power System Type: Code Blue PoE NON-DIN Rail Power System
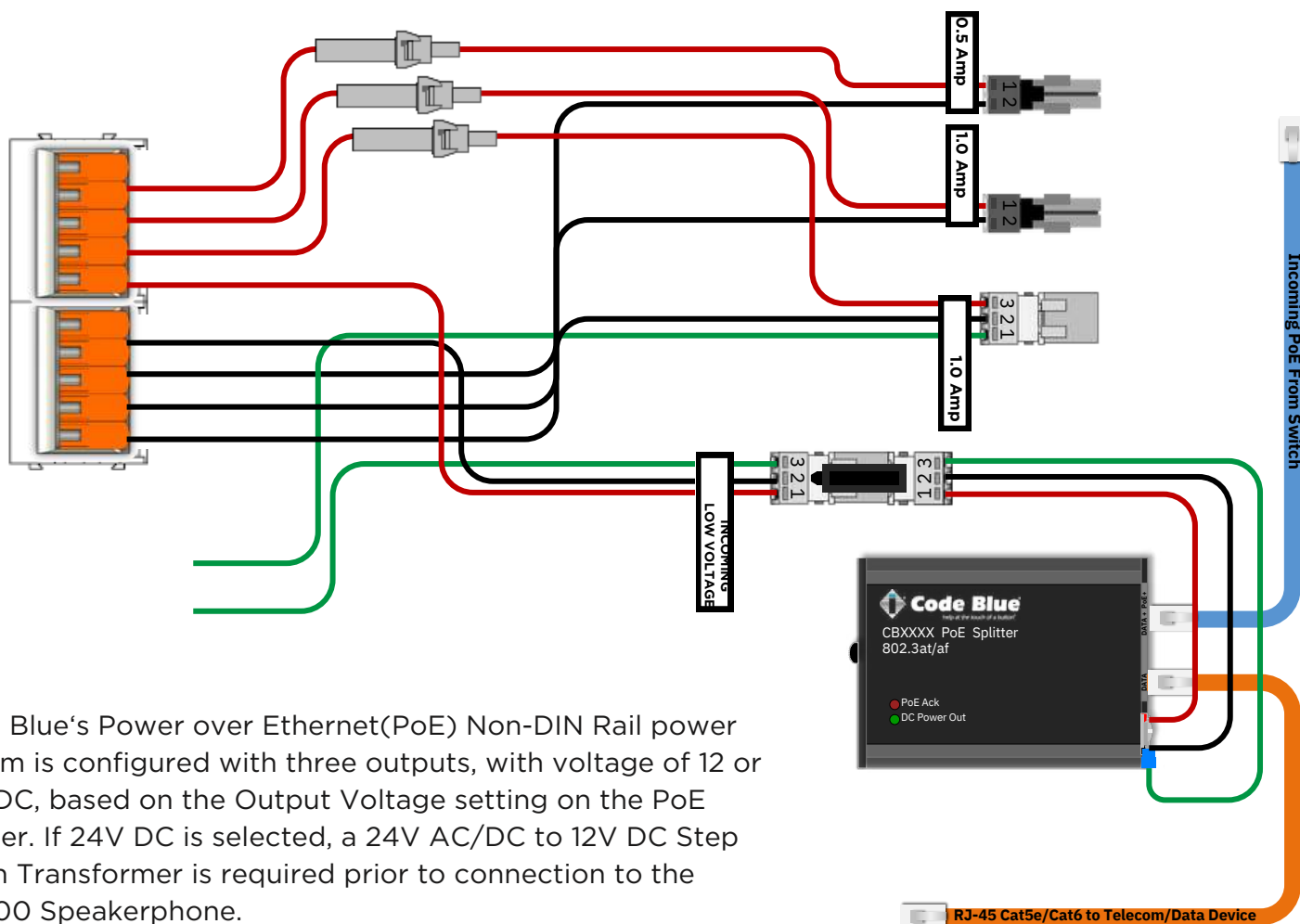
Code Blue's Power over Ethernet(PoE) Non-DIN Rail power system is configured with three outputs, with voltage of 12 or 24V DC, based on the Output Voltage setting on the PoE Splitter. If 24V DC is selected, a 24V AC/DC to 12V DC Step Down Transformer is required prior to connection to the LS1000 Speakerphone.

- If there is an available 12 or 24V DC out open on the existing DIN Rail power system, this can be connected directly to the Axis Main Unit Power Input.
- If there is NOT an available 12 or 24V DC output open in the existing DIN rail power system, a modification to the power assembly & the use of Code Blue part # 41007 will be required.

Components Included with part # 41007

PoE Splitter w/ PoE Passthrough

2-Pin Wago Conversion Kit

Cat6 Patch Cable

**The steps to modify the power system are on the next page.**

DANGER Before proceeding with any of the following steps, ensure power is disconnected from the unit. Failure to do so may result in electrical shock causing bodily harm.

Axis Main Unit Wiring (continued)

DANGER Before proceeding with any of the following steps, ensure power is disconnected from the unit. Failure to do so may result in electrical shock causing bodily harm.

- Disconnect RJ45 connectors from existing PoE Splitter
- Disconnect Red, Black & Green wires connecting the existing PoE Splitter to the Power Manifold Assembly.
- Remove existing PoE Splitter from Power Manifold Assembly.
- Replace with PoE Splitter from Code Blue Part # 41007, securing it in place with the attached VHB tape.
- The harness that previously connected the existing speakerphone to the power manifold will be connected to the Axis Main Unit.
  - Disconnect the 3-Pin Wago Plug Connector from the ends of the red & black wires originally connected to the existing speakerphone harness.
  - Replace the removed 3-Pin Wago Plug Connector with the 2-Pin Wago Connector supplied with part # 41007, ensuring the red wire connects to terminal 1 & the black wire connects to terminal 2 of the Wago Connector.
  - Connect the Axis Main Unit Power Harness(included with the speakerphone) to the newly installed 2-Pin Wago Connector.
- Connect the PoE output/passthrough to the new LS1000 speakerphone using the Cat6 Patch Cable provided with part # 41007.
- Using the Cat6 Patch Cable provided with the new LS1000 speakerphone, connect the Axis Main Unit to the LAN1 port on the speakerphone.
- Connect the incoming PoE Ethernet cable to the PoE input on the newly installed PoE Splitter.
- When complete, the wiring should appear as shown in the diagram on the next page.

Axis Main Unit Wiring (continued)

Completed PoE Non-DIN Rail Retrofit

PoE Splitter w/ PoE Passthrough
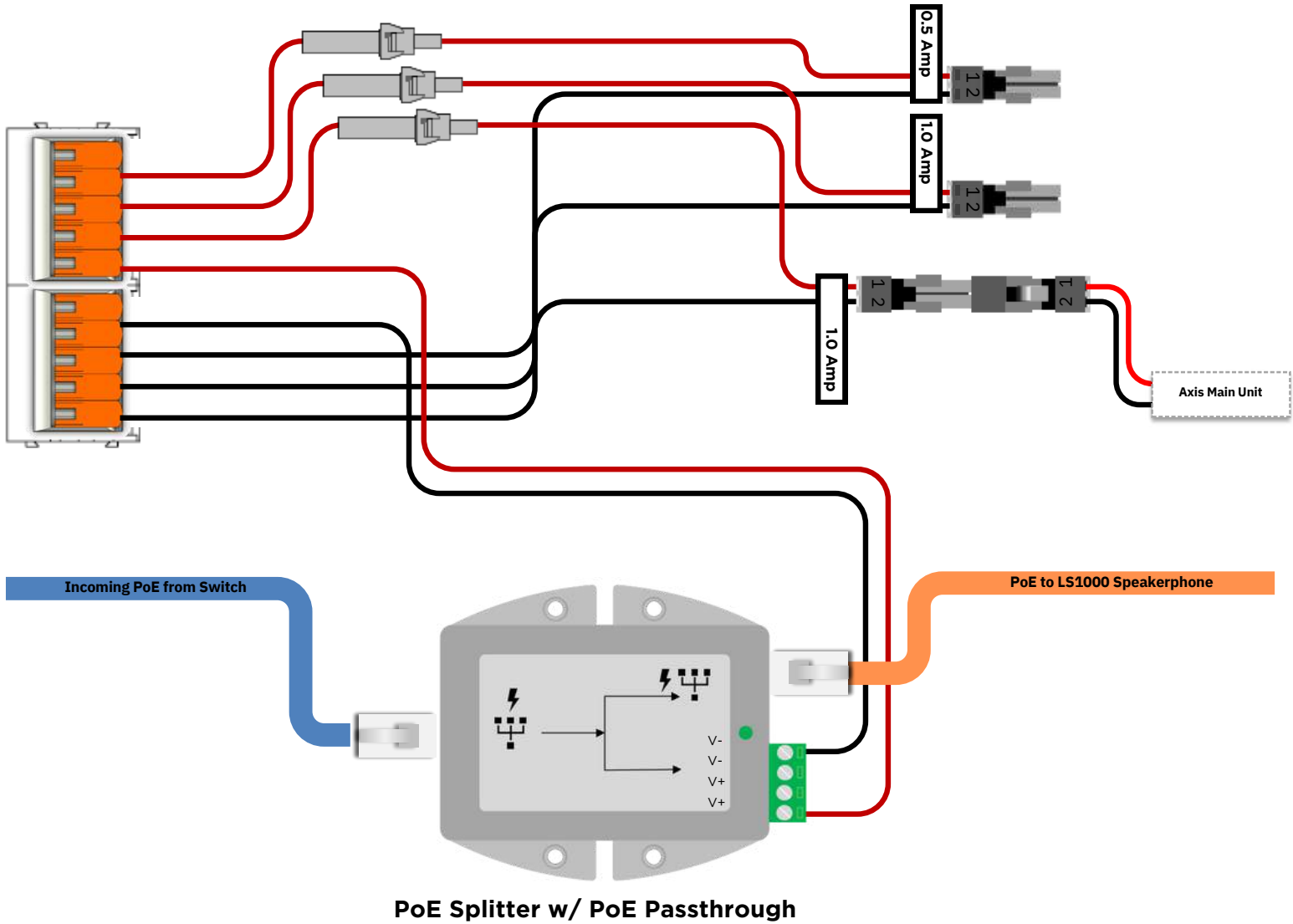
8 Setting Up Your LS1000

Determine the IP Address

Once you can browse into the device, you can switch to a static IP if desired.

Connect the LS1000 to your DHCP Network. The "Call Placed" red LED will flash while the device is booting up. The LS1000 will acquire its network settings from the DHCP server on the network. If the network is not running DHCP the device will default to the IP address of 192.168.0.249 after one minute.

If you do not have network scanner software, you can download many free ones. "Advanced IP Scanner" is one example. Run a scan of the subnet the LS1000 device is plugged into, and your PC if plugged into the same network.
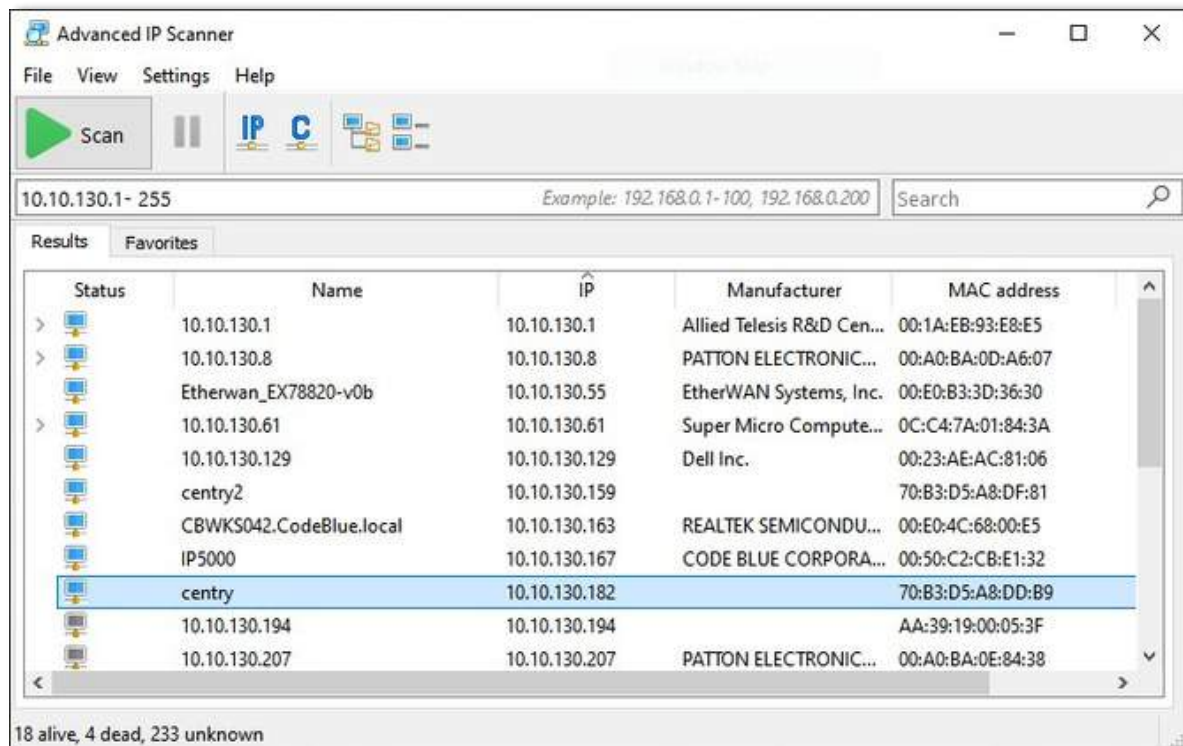
You can find the IP address for your LS1000 speakerphone by matching its MAC address. You can then browse to the IP address of the device. The recommended web browsers are Google Chrome and Mozilla Firefox. You may experience erratic behavior with other browsers.

Default Login Information

Username: admin

Password: admin
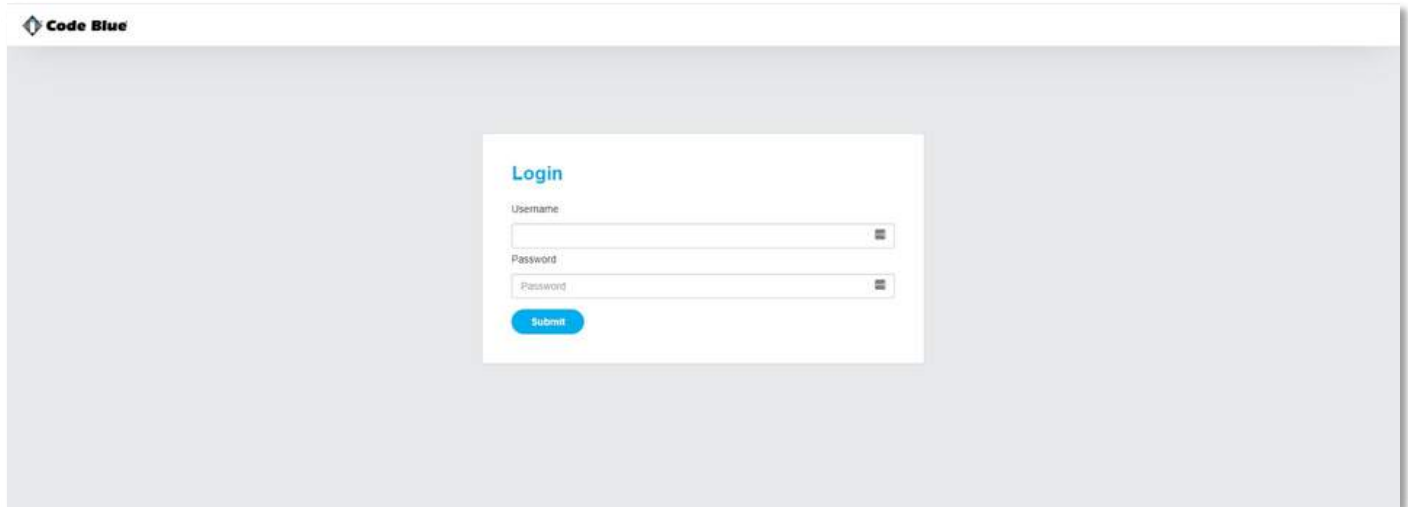
Network - General Settings

Once logged into the device, you can change the Network Settings in General Settings under Network if you want to switch over to a static IP address.
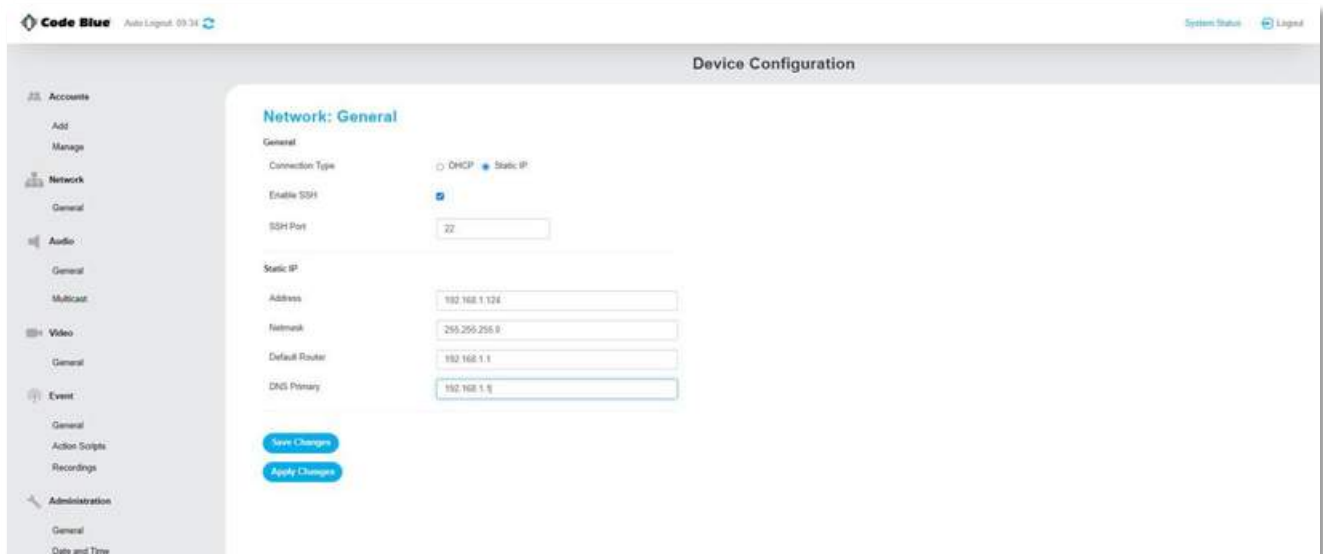
Generally, you can leave the Host and Domain fields empty.

SSH Port 22 is enabled by default. You can change the Port and disable it, if desired.

If limiting Network Ports, then the ports to have open are:

• tcp 22 SSH Secure Shell Protocol (Configurable)

• tcp 53 DNS Domain Name Service over TCP

• udp 53 DNS Domain Name Service over UDP

• tcp 80 HTTP Hyper Text Transfer Protocol

• tcp 161 SNMP Simple Network Management Protocol

• tcp 162 SNMP Trap Simple Network Management Protocol Trap

• tcp 443 SSL Secure Socket Layer (Deprecated)

• udp 554 RTSP Real Time Streaming Protocol

• udp 554 RTSP Real Time Streaming Protocol

• udp 5060 SIP Session Initiation Protocol

• tcp 5061 SIP Session Initiated Protocol

• rtp 16384-32767 Real Time Transport (Configurable)

Accounts

Add Account

These settings are usually provided by IP PBX, SIP server or SIP gateway personnel. When setting up a SIP or peer-to-peer account, make sure the correct Account Type is selected

- **Account Name:** Free form field to identify the account.

- **Username/Number:** Phone number or extension for the LS1000. This is still required for peer-to-peer; Any number value can be entered.

- **Speaker Volume:** You can set the speaker volume gain here in the GUI, as well as from a touch-tone phone using in-call commands. This becomes the default volume level.

- **Mic Volume:** You can set the mic volume gain here in the GUI, as well as from a touchtone phone. using in-call commands. This becomes the default volume level.

- **Enable SIP Video:** Select this option to allow SIP video packets to be transmitted. RTSP video will still be available but note that only one format will be available at a time.

- **SIP Video Resolution:** Use drop down menu to select resolution for SIP video. This does not apply to RTSP video quality.

- **Force Resolution:** Some desk phones will overwrite the resolution set in the LS1000 to their native resolution. Select this option to force the selected resolution.

SIP Server Settings

Server IP Address: You can use the domain name or IP address of your IP PBX, SIP Gateway, SBC or whatever you register SIP devices to.

Password: This is the shared SIP secret password that the phone and your SIP registration server share.

Server Port: 0 for auto detect. Commonly may be 5060. If necessary, you may have to specify a port here.

Advanced SIP Settings

Transport Protocol: IPv4 or IPv6.

Communication Protocol: UDP or TCP.

Registration Lifetime: Default is 600 seconds. This is the time the phone will attempt re-registration if not contacted by the SIP server.

Keep Alive: Check if you want keep-alive messages sent between the SIP server and the phone.

Use a Proxy Server: If using a proxy server in addition to a SIP server, then specify the IP Address

or Domain, SIP Authentication ID and Outbound Proxy Port used.

Manage Accounts

- After adding an account, you can manage the created accounts on this page.

 Note: You can create a near infinite to different SIP servers. Generally, only one is used.

- Click onto an account to manage it for viewing or to make changes.
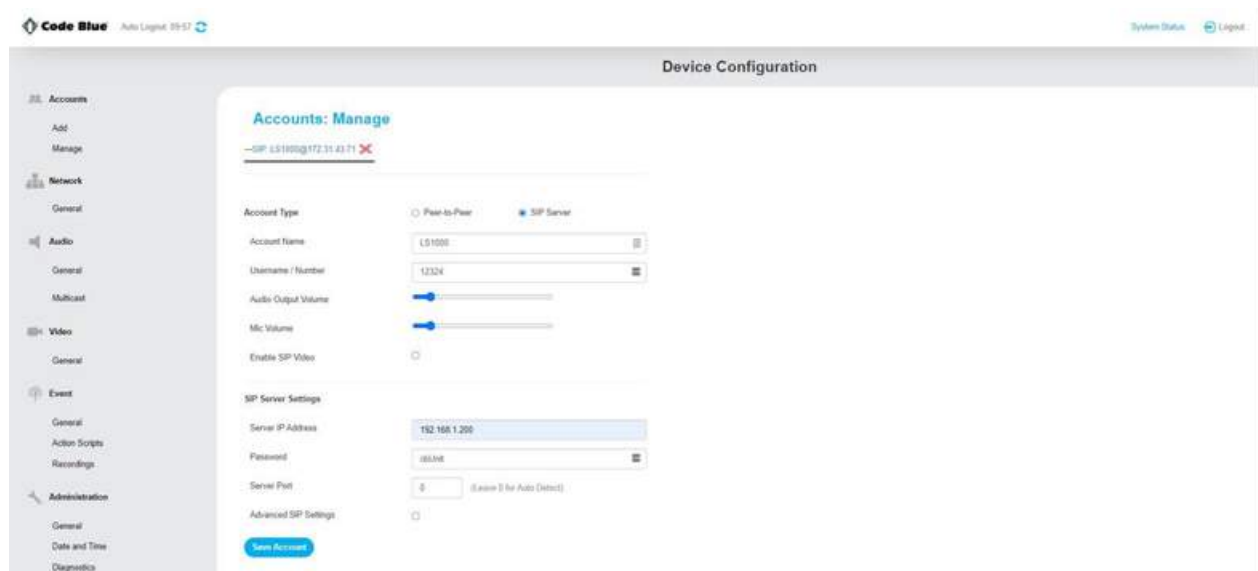
System Status

After creating your account and providing the SIP server, check the registration status on the System Status page. This is located in the top right corner of the screen.

In this screen, you can see the current IP address of the phone, which is the same for the camera.

It also will display the current registration status of the configured accounts. Registration status of "good" is what you are looking for. If it is not, investigate the matching account settings configured in the SIP server and if the network has been opened in between.
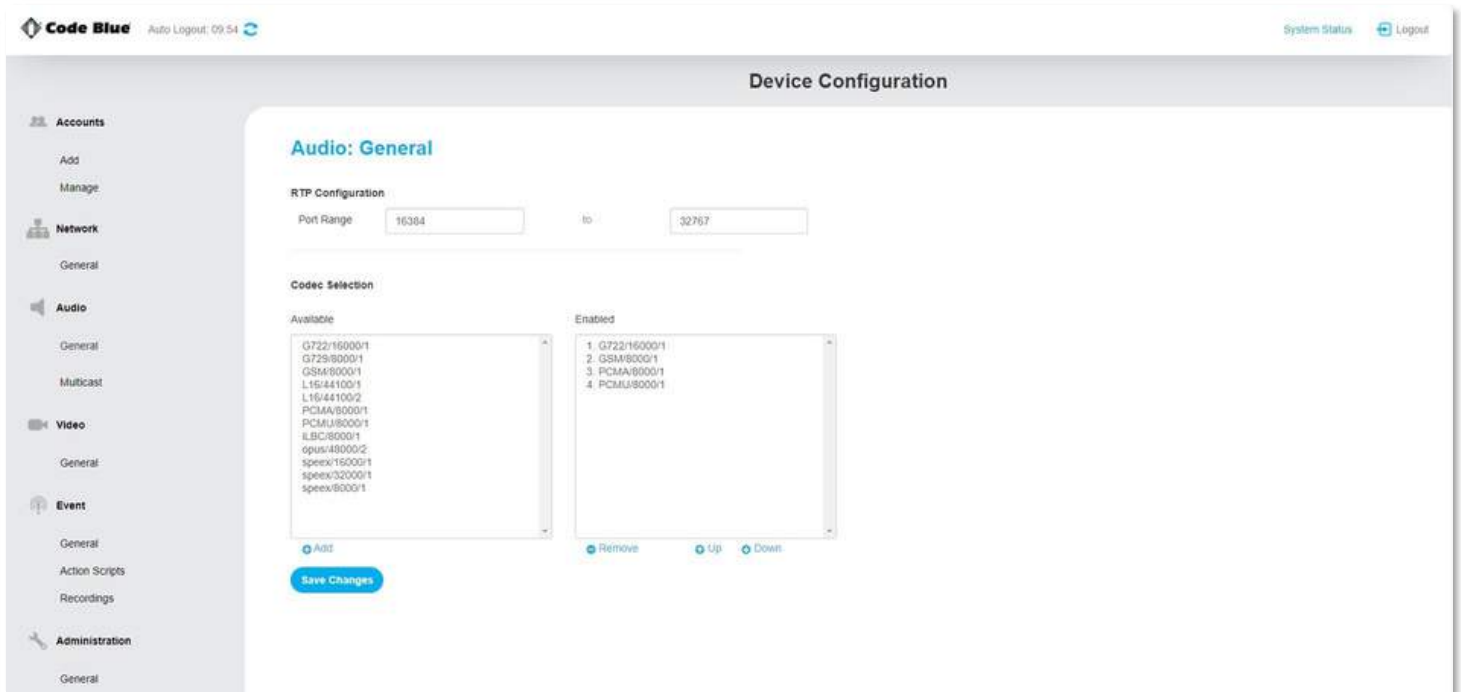
Audio

Default RTP Ports and Codecs are listed here. These can be adjusted based on the needs of the SIP or PBX server.

Multicast Audio

To add a new multicast configuration, enter a Label, the Listening IP address and Port.

To change the priority of the multicast, simply drag and drop. A phone call priority level also can be set with the Order Priority box checked. By default, the Phone Call Priority is set to 0.

General Video LS1000 w/ Axis Camera

- For information on the F9111 Main Unit, including device configuration, initial setup, specifications, & troubleshooting, please visit the link below:

AXIS F9111 Main Unit User manual

When you connect a sensor unit to a main unit, we recommend that you make the connection before you power up the main unit. If you disconnect a sensor unit and connect a different one, you must restart…

axis.com

- For details & specifications on the F9111 Main Unit, please visit the link below:

AXIS F9111 Main Unit | Axis Communications

2nd generation: Single-channel modular unit with audio and I/O

axis.com

- For details & specifications on the F2105-RE Sensor, please visit the link below:

AXIS F2105-RE Standard Sensor | Axis Communications

2nd generation: Discreet standard sensor with 1080p

axis.com

General Video - LS1000 w/ Legacy On Board Camera

Note: The information below only applies to legacy LS1000 camera units, not to the LS1000 w/ Axis camera previously shown on this page.

- The default settings of RTSP can be adjusted on this page (SIP Video is controlled in the Account settings).
- The camera and the phone share the same IP address.
- You can view the camera stream using either Code Blue Fusion Server with Blue Alert Monitor, Code Blue ToolVox® with Blue Alert® EMS or your own VMS or video stream software. (Example: VLC Media Player.)

The RTSP Stream format is as follows:

rtsp://<LS1000 IP address>/codeblue

To determine the network bandwidth utilized with your compression and quality options, you can use an online bandwidth calculator such as www.cctvcalculator.net/en/calculations/bandwidth-calculator.

General Events

In the General Events setting you can alter the outgoing call tone, apply a call ending warning, allow or disallow incoming calls and apply location recordings.
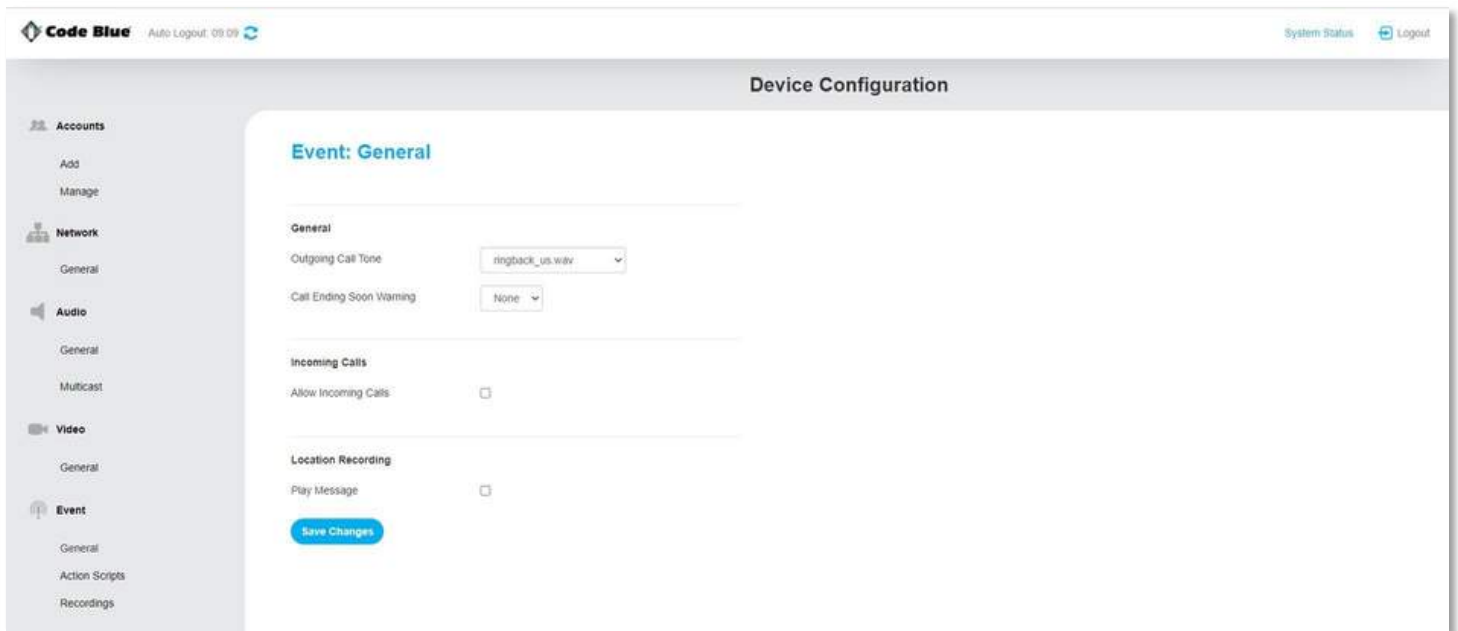
Action Scripts

Action Scripts determine what happens when a button is pushed, or aux input is activated. If you have a multi-button phone the red button is button 1.

- Select the button or aux input you would like to associate and action with.

- Choose "Add Action"

- You can choose to have an aux output triggered, place a call, or simply play a message. You can also string multiple actions together.
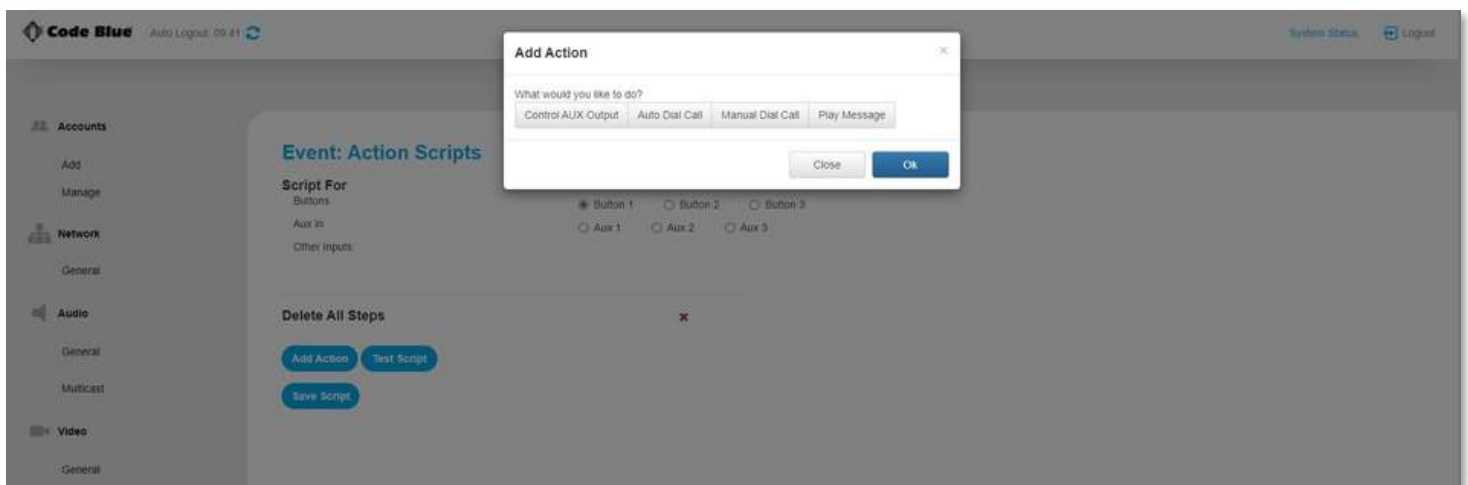
Place Call Action

Select the Account that was created earlier that the calls will be routed through.
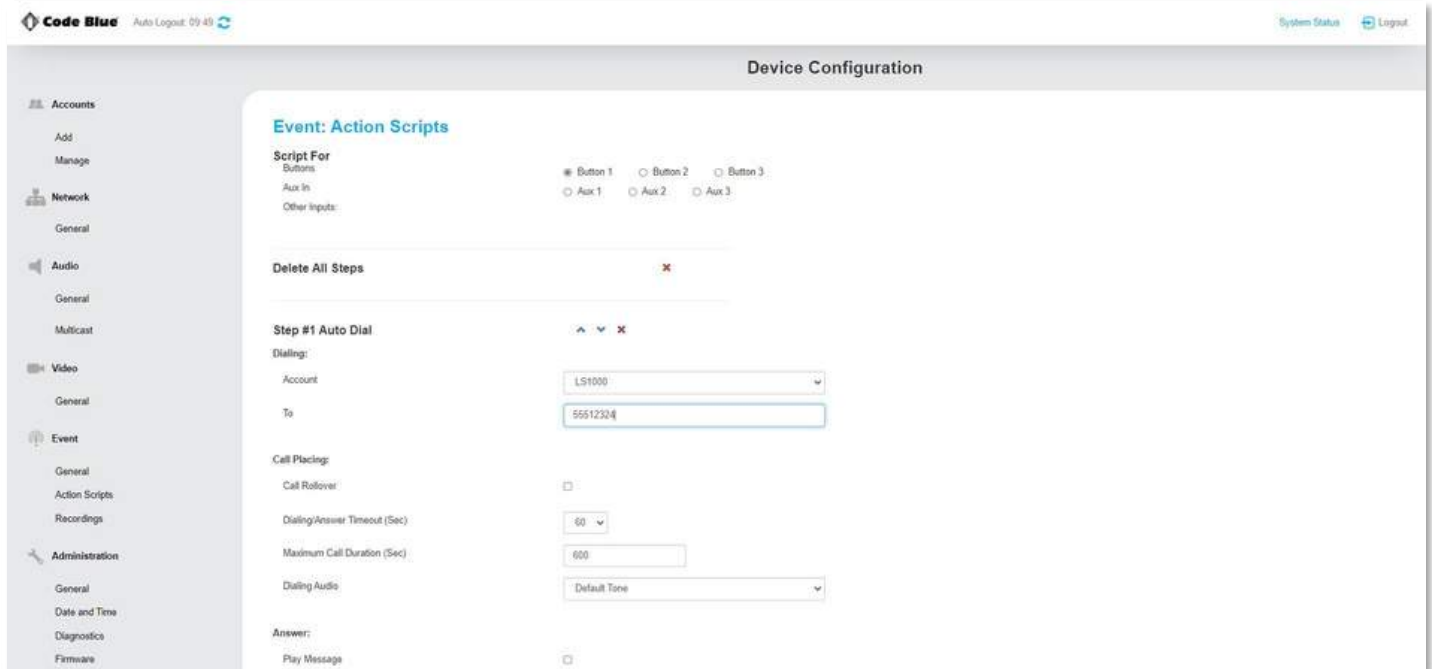
- Enter in the "To" field the number you would like LS1000 to dial. For peer-to-peer, enter the IP Address:Port the call is intended to go to.

- If that number does not answer, you can "Add Call" and select another account and phone number to dial. This is useful if you have the phone registering to multiple SIP servers/SIP PBXs. For example, you can have it call 911 from Account 1 and call 911 from Account 2 if Account 1 is down. The phone will roll over to Account 2 and call out that account.

- Repeat for the number of times you want the call to rollover before answering.

- Each iteration of the rolled over call uses the "Dialing/Answer Timeout."

  NOTE: If voicemail answers, then that is considered an answered call.

- "Maximum Call Duration" is 600 seconds or 10 minutes by default. This is used as a timer in case the receiving party never hangs up the call. This timer is editable.

"While Dialing"

- You can select the audio of ring-back or use a custom recording that is uploaded into the phone in the Recordings page. A common recording script would be something like, "Security has been contacted; please stand by."

- This message will repeat just like ring-back would until the call is answered. This message will stop when the call is answered.

"When Answered"

- The default mode is two-way audio upon the call being answered.

- Additional options include playing a custom recording locally out of the LS1000 speaker and/or playing a custom recording remotely to the receiving party that identifies where this call is coming from.

- Note: This is a useful feature if the receiving party is not going to get a unique caller ID name/number for this location.

- Once the recording has played, two-way audio will commence.

 NOTE: If playing a remote message but not a local message, then the person at the LS1000 will hear dead air until the remote message is done playing. It is advisable to play the same message to both parties in this case.

NOTE: It is advisable to keep your recordings short to establish connection to a two-way call as quickly as possible.

"In-Call Commands"

- Default is to have the in-call commands available during the phone call. These can be disabled for this action. In-call commands are also available on an inbound call into LS1000. See section on in-call commands for the full list.

Control AUX Output

Choose the AUX output you want to control.
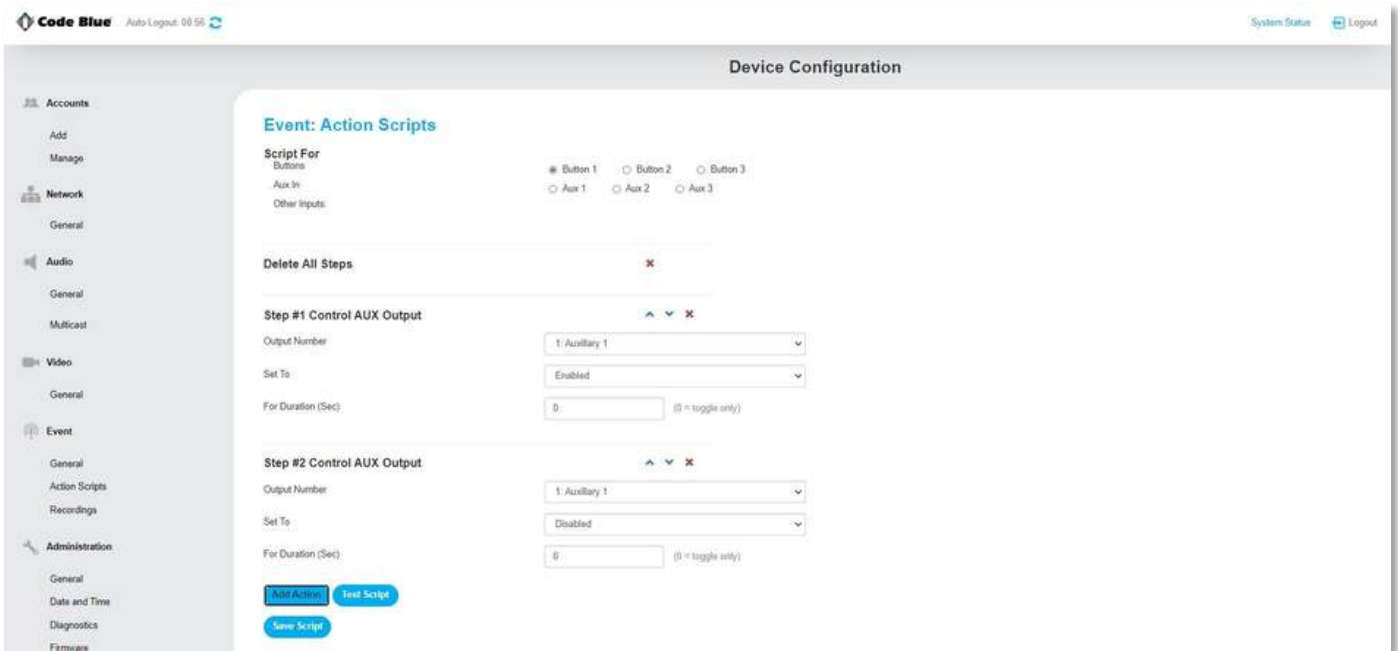
- Choose enabled or disabled for this action. Enabled closes the normally open contact; disabled opens the normally open contact.

- Choose the duration you want the action to last. (0 seconds = indefinite.)

Note: This is the most common setting for controlling an auxiliary, such as a blue light strobe, to stay activated for the duration of the call if linked to a place call action

Play Message

- Play a message when this step is reached as part of your greater action script or as the only action in your action script.

- Upload your recordings by going to the Recordings page. The message only plays out of the LS1000 speaker.

Note: There are blue arrows that can move your action up and down in the action script.

Note: You can string together many actions in the action script.

A typical action script for a LS1000 may just have a Place Call Action, or if your LS1000 has a remote beacon/strobe light, then it would look like the example below to have the strobe linked to the duration of
the call.

At the bottom of the action script page, you can test your action script and it will launch through the script and place a call, play a message, or trip auxiliaries.

Note: This will call whatever number you have entered in

Recordings

- Upload recordings into the phone on this page.

- Recordings uploaded are then available in action scripts.

- The phone only can play uncompressed 16-bit PCM or compressed g.711 A-law/U-law format .wav files.

- If you upload unsupported audio file formats, they will not play in the action script.

Administration

- Upload a secure PEM certificate and PEM key.

- This page also allows for the default password to be changed. New passwords must be at least six characters long.

- From the General Administration page, you can pull OS and SIP logs that can be used to diagnose issues with functionality and SIP registration/Call Routing.

- The LS1000 can be rebooted from this page as well.
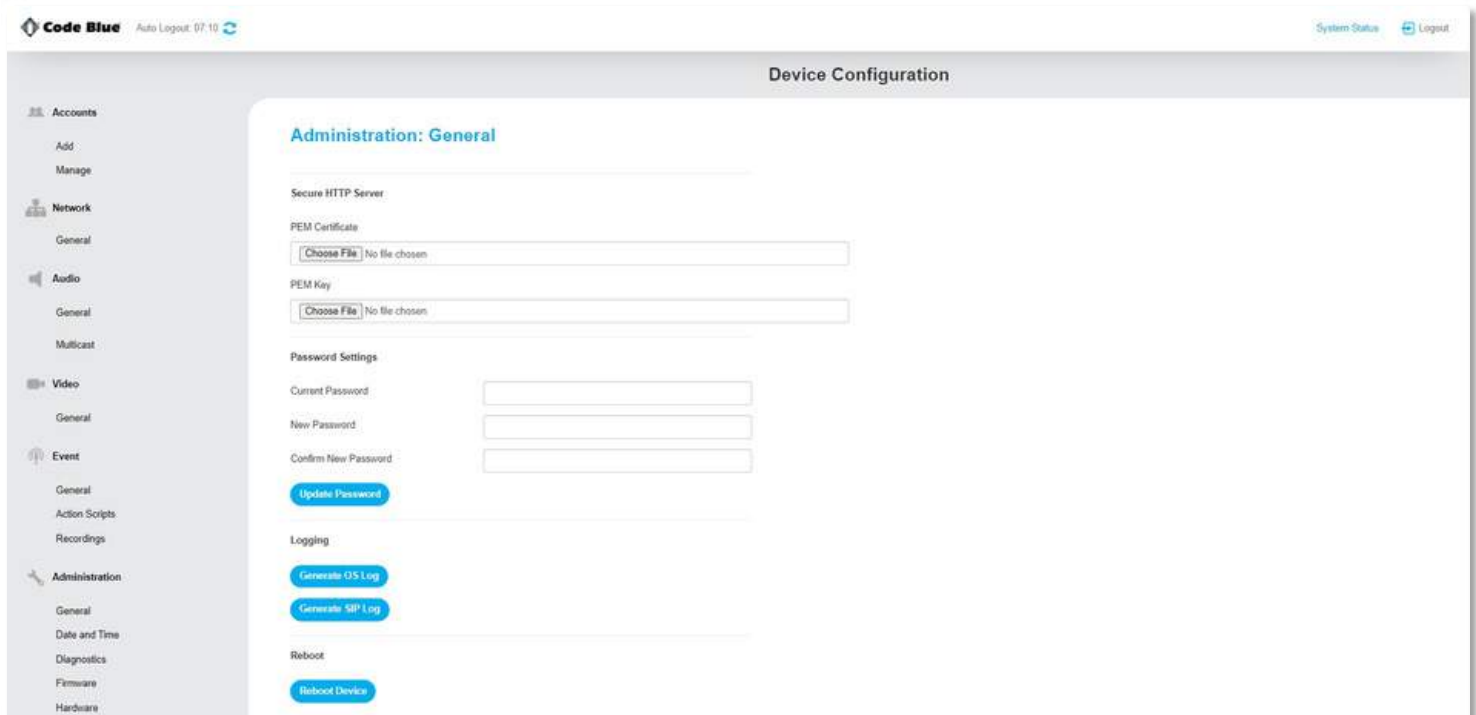
Date and Time

- Adjust the date and time on this page or point the phone to a NTP server to have a permanent time source.
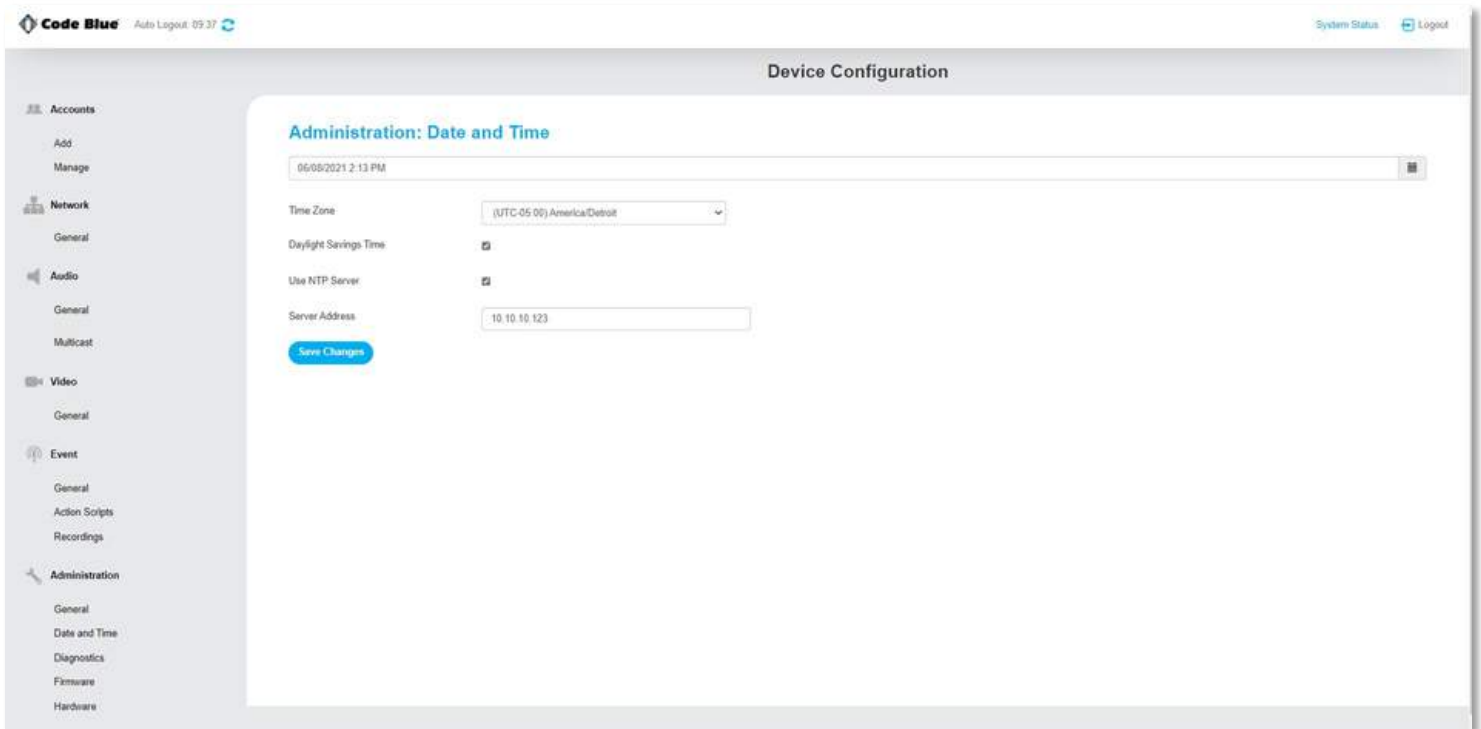
Diagnostics

- With SNMP Traps enabled, enter the SNMP server name, port number (162 by default) and Read/Write Community Names.

- Each trap can be enabled or disabled to customize the output.
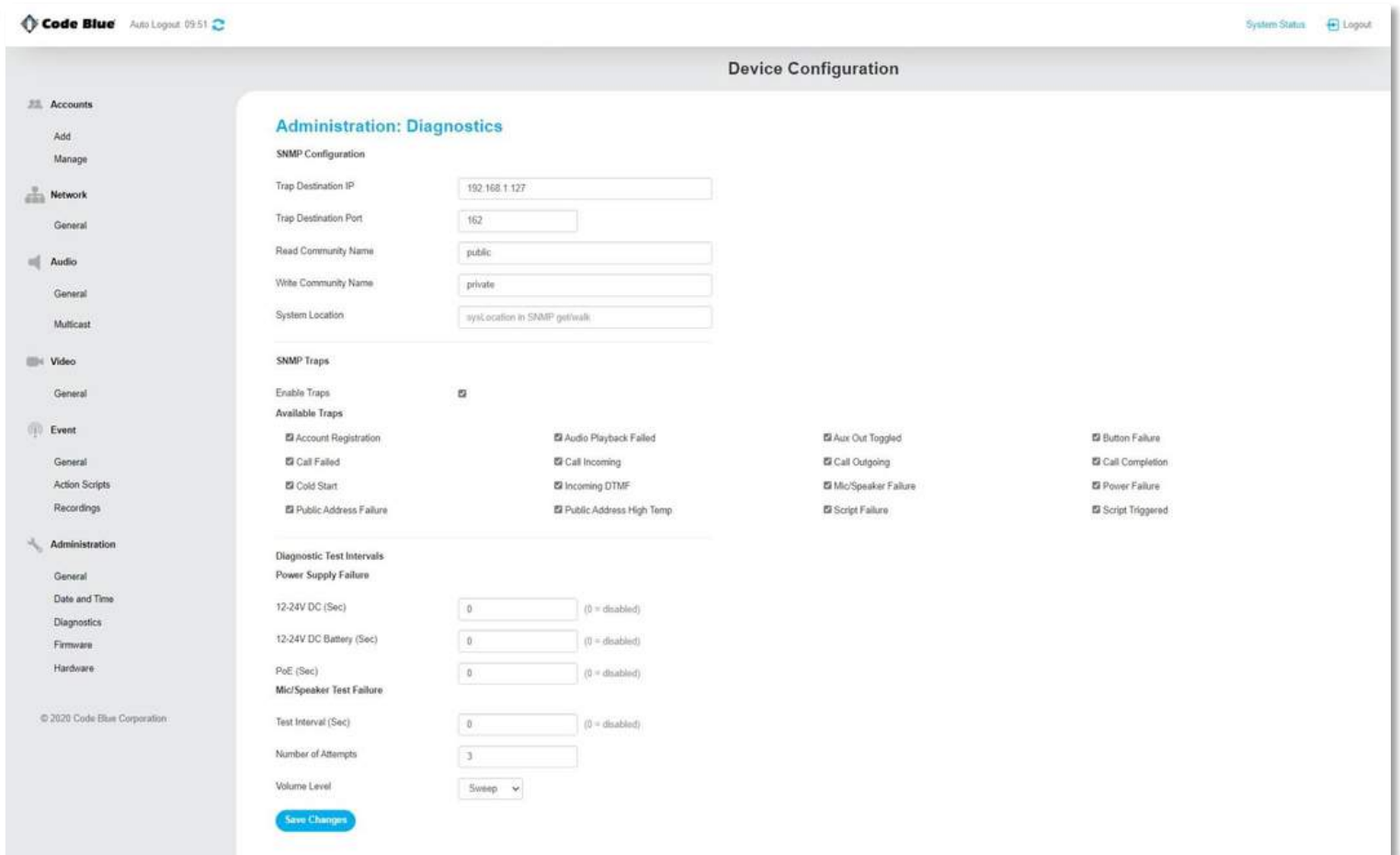
- The time interval for Power, Microphone and Speaker can be adjusted. By default, these are set to 900 seconds for Power Failure tests and 0 Seconds (Disabled) for Mic/Speaker tests.

- The volume of the Mic/Speaker test can be adjusted via a drop-down menu.

Firmware

Upload new firmware into the phone from www.codeblue.com/resources. Once you download onto your PC, unzip the file. From the LS1000 firmware page, browse to the .bin file on your PC and upgrade your LS1000.

Hardware Settings

- Hardware settings allow you to enable or disable the Station Light, adjust the brightness, and blink rate.

- Each button can be configured as a Non-Emergency Button, Emergency or Volume Control. The color of the ring LED around each button can be changed in the drop-down menu.

- Any additional peripherals attached to LS1000 must be marked as "Installed" to ensure functionality.
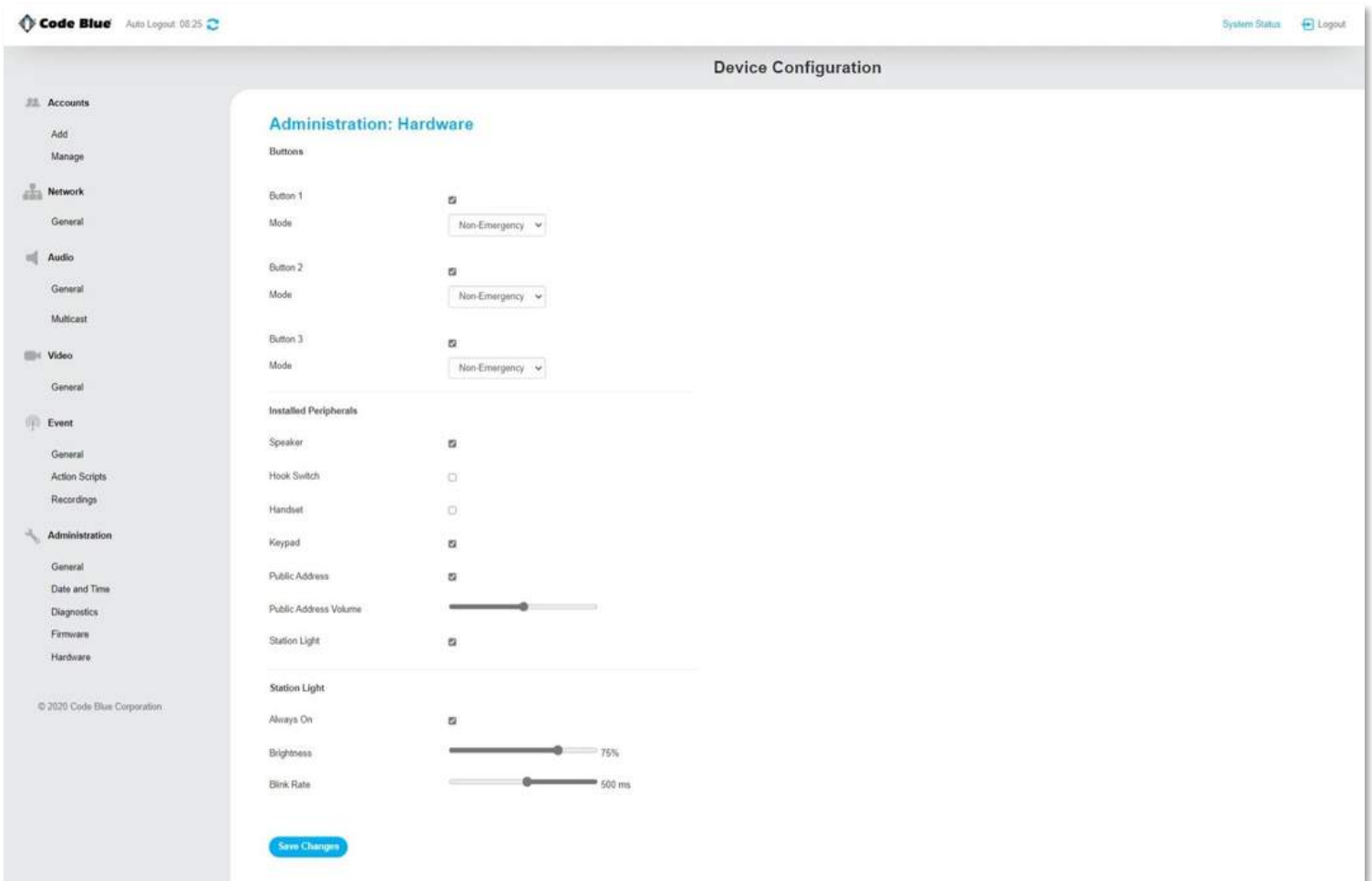
9 In-Call Commands

You can make adjustments during a live phone call with the **LS1000** device. This can be done by calling into the **LS1000** or by a call initiated by the **LS1000** to the receiving party. The party with the touch-tone phone can use the keys on their keypad via DTMF tones to make adjustments.

In-Call Command	Function	Description
4	Aux 1 Output	Toggle contact closed/open
5	Aux 2 Output	Toggle contact closed/open
6	Increase Mic Gain	Small adjustments to LS1000 microphone
7	Decrease Mic Gain	Small adjustments to LS1000 microphone
8	Increase Speaker Gain	Small adjustments to LS1000 speaker
9	Decrease Speaker Gain	Small adjustments to LS1000 speaker

Note: These adjustments do not persist after the call has ended. The LS1000 phone will return to the default levels set in the account screen via the phone's web GUI. See the Accounts chapter for further information.

10 Compatibility

- LS1000 is a SIP version 2.0 (RFC3261) device and is compatible with IP Gateways and PBXs that can register third party SIP devices.

- **You must verify that the IP PBX you are registering LS1000 to can handle third party SIP devices, whether through licensing and/or hardware add-ons. Please note that LS1000 currently does not work with a separate Proxy Server. SIP registration and calls must point to the same domain/IP Address SIP Server.**

- Examples of mainstream IP PBXs LS1000 has registered to as a third party SIP device include:
    - Avaya
    - Asterisk
    - Cisco Call Manager
    - Nortel
    - and many others...

Software Incompatibility

• Cisco Catalyst 9300 switches

11 Configuring for Cisco Unified Call Manager

PREPARATION

1. Record the MAC address and determine the current IP address for each LS1000 device you wish to use with CUCM.

2. Determine which partition you will put the LS1000 directory numbers into.

3. Obtain one directory number for each Ce LS1000 device.

   - If you are going to use the LS1000's dual account configuration to register to redundant CUCM servers, obtain a second directory number for each LS1000 device.

4. Determine which calling search space you will assign to the LS1000.

LS1000 CONFIGURATION

Configure Account(s)

1. Log in to LS1000 via its web interface. The default username and password are admin and admin.

2. Select Account 1.

3. For VoIP Protocol, select SIP and RTP.

4. Under SIP Configuration, for Username/Number enter the directory number assigned in the CUCM.

5. For Display Name, enter caller ID text.

6. For Domain, enter the hostname or IP address of the CUCM subscriber you wish to register this account.

7. Insure Keep-Alive is enabled.

8. For Password, enter the password you entered into Digest Credentials under the CUCM end user.

9. Click Save.

10. Repeat steps 3-9 with Account 2 if you are using the second account.

Other Settings

Refer to Section 10 to complete the setup of the LS1000, including Numbers, General Settings, Hardware Settings and Action Scripts. When finished, it should now register to CUCM and be able to place calls in the assigned calling search space as well as receive calls at the directory number it is configured with.

Note: If you are setting up the LS1000 with secondary account support, make sure that you create each failover number twice.

UCM CONFIGURATION

All UCM-side configuration is done within the Cisco Unified CM Administration web interface.

Create Phone Security Profile

1. Navigate to System > Security > Phone Security Profile.

2. Do a Find on "Third-party" to locate the Third-party SIP Device Basic - Standard SIP Non-Secure Profile. Click the Copy icon.

3. Check Enable Digest Authentication.

4. Change the Name and Description to Code Blue LS1000 Profile.

5. Click Save.

Configure End Users

For each LS1000 device, configure a new end user for SIP authentication.

1. Navigate to User Management > End User.

2. Click Add New.

3. For the User ID, enter the Directory Number of the LS1000 phone.

4. Fill in the Last Name field with the Directory Number.
   - The Directory Number, User ID, and Last Name fields must all be the same.
   - Create and record a secure SIP password and fill in the Digest Credentials and Confirm Digest Credentials fields with this password. You will be entering this password later into the LS1000.

5. Click Save.

Configuring End Users for Secondary Accounts

If you are going to use the Cen LS1000's try's secondary account functionality to register to a separate directory number to a separate CUCM node for failover support, repeat the above process using a local-use-only MAC address. A local-use-only MAC address has the U/L bit set to 1 to indicate the address is locally administered.

Configure Phones and Directory Numbers

For each LS1000 device, configure a new Phone and associated directory number.

1. Navigate to Device > Phone.

2. Click Add New.

3. For Phone Type, select Third-party SIP Device (Basic).

4. Enter the MAC Address of the phone in hexadecimal format; e.g. 00:50:C2:17:7B:E8 would become 0050c2177be8.

5. For Device Pool, select Default (or some other locally-configured device pool).

6. For Phone Button Template, select Third-party SIP Device (Basic).

7. For Calling Search Space, select the calling search space the LS1000 is to use.

8. For Device Security Profile, select Code Blue LS1000 Profile.

9. For SIP Profile, select Standard SIP Profile.

10. For Digest User, select the end user matching the MAC address of the phone.

11. Click Save.

12. On the left side of the screen, click Line [1] - Add a new DN.

13. Fill in the Directory Number.

14. For Route Partition, select the partition the directory number resides in.

15. Under Line 1, for Display (Internal Caller ID), enter a descriptive name for Caller ID purposes.

16. If you wish to return a busy signal for silent monitoring if the LS1000 is in use, disable Call Waiting: under Multiple Call/Call Waiting Settings, For both Maximum Number of Calls and Busy Trigger, enter 1.

17. Click Save.

Configuring Phones and Directory Numbers for Secondary Accounts

If you are going to use the LS1000's secondary account functionality, repeat the above process with a local-use-only MAC address as outlined in Configuring End Users for Secondary Accounts, and specify a distinct directory number.

Integrating InformaCast Utilizing Cisco Call Manager

Access to the InformaCast emergency notification system produced by Singlewire Software frequently is included with Cisco Unified Communication Manager (CUCM). Code Blue's VoIP speakerphones (LS1000) can be registered and configured with CUCM as SIP devices that are compatible with IP Gateways and PBXs that can register third-party SIP devices.

To send audio pages from InformaCast to Code Blue speakerphones, select the Code Blue devices as end point phones for the messages. The Code Blue phones will have the ability to answer and play the audio by default.

12 Troubleshooting

The LS1000 is a network device. The following are tips for troubleshooting:

Power - Ensure the power to your device is working and rated for 802.11af/at PoE specifications if using PoE. LS1000 should only have one source of power other than a backup battery. If not using PoE, then main power needs to fall into 12 Volts DC.

Ping Test - This determines connectivity and the packet loss and latency time to and from your destination and the quality of your network connection to LS1000. If you receive no response and power is confirmed, contact your network administrator. You can also ping from within the phone towards your IP PBX to test that it can reach its IP PBX/SIP Gateway.

Network – If you are putting LS1000 on a network that restricts ports, then the following ports must be open for LS1000 to communicate to its appropriate IP PBX/SIP Gateway:

1. IAX2/UDP outgoing to port 4569 on IP PBX/SIP Gateway (only needed if using IAX2 instead of SIP on the accounts page).
2. SIP/UDP outgoing to port 5060 IP PBX/SIP Gateway.
3. RTP/UDP incoming from IP PBX/SIP Gateway to UDP ports 23456-23556 (configurable).

DHCP - L1000 is set up for DHCP by default. If you cannot determine the IP address of your LS1000, contact your network administrator.

Account - Ensure your SIP account is set up correctly. Account username and password must match the account credentials on your VoIP system. This is the most common mistake with setting up SIP accounts.

Codec - Ensure the codec settings on your VoIP system match the LS1000 codec settings.

Firewall - Firewalls commonly block or partially block VoIP calls. Check with your network administrator if you cannot communicate with your LS1000 from behind a firewall.

Note: If you do not have a DHCP server running, use a standard home/wireless router and plug your speakerphone and laptop into the same router. Once you know the IP Address, you can browse to it via a web browser.

13 Remote Mount Beacon/Strobe Installation

ATTACH J-BOX TO THE POLE

- Thread the banding (B) through the pole bracket (A) located on the backside of the J-box (C).
- Wrap the banding around the pole. Cut the banding to desired length.
- Using a screwdriver or nut driver, tighten the banding and make sure that the unit is in the desired location.

NOTE: J-box must be positioned so weep hole faces down.

ATTACH LIGHT TO BRACKET

- Using the three M4 X 8 screws enclosed (K), fasten the strobe (J) to the round portion of the strobe bracket.

NOTE: If the beacon/strobe is mounted upside-down, a drain hole must be drilled into the lens to prevent it from filling with water.

ATTACH LIGHT AND BRACKET TO THE J-BOX

- Connect all wiring from the strobe to the wiring from the unit inside of the J-box using wire nuts.

- Attach strobe bracket to the J-box using four 6-32 X ½ screws as shown
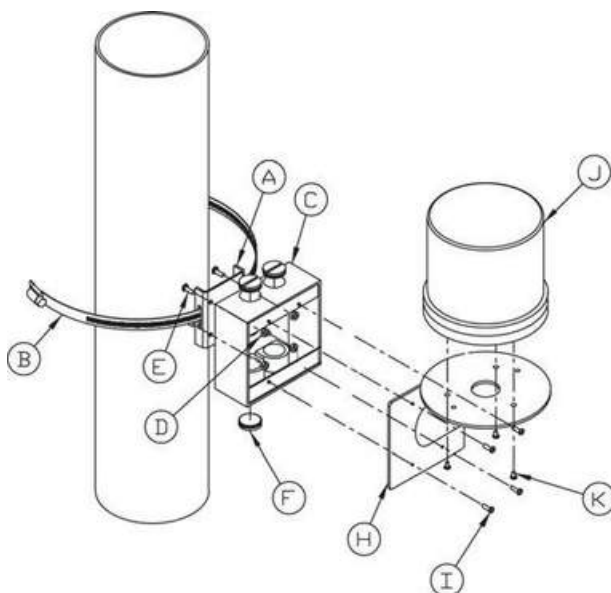
A - pole-bracket

B - banding

C - J-box

D - pole-bracket mount nut (4 each)

E - pole-bracket mount screw (4 each)

F - conduit plug

H - strobe-bracket I - 6-32 X ½ screws (4 each)

J - strobe light

K - M4 X 8 screws (3 each) (Low voltage)

K - 10-24 X ¾ screws (2 each) (High voltage)

All wiring must be installed and connected by experienced and certified personnel to meet local and national electrical codes, and will include a service disconnect.

LS1000 VoIP Speakerphone
Administrator Guide

14 Strobe Operation & Programming

S-1000 & S-1050 Strobe Operation

NOTE: Instructions pertain to:
Model S-1000 LED Beacon/Strobe and
Model S-1050 LED Beacon/Strobe only.

RED   POSITIVE (12-24V DC or AC)

BLACK   COMMON (GROUND)

YELLOW   (FLASH MODE)

DRY   CONTACT
CLOSED = "ON"

YELLOW   (FLASH MODE)
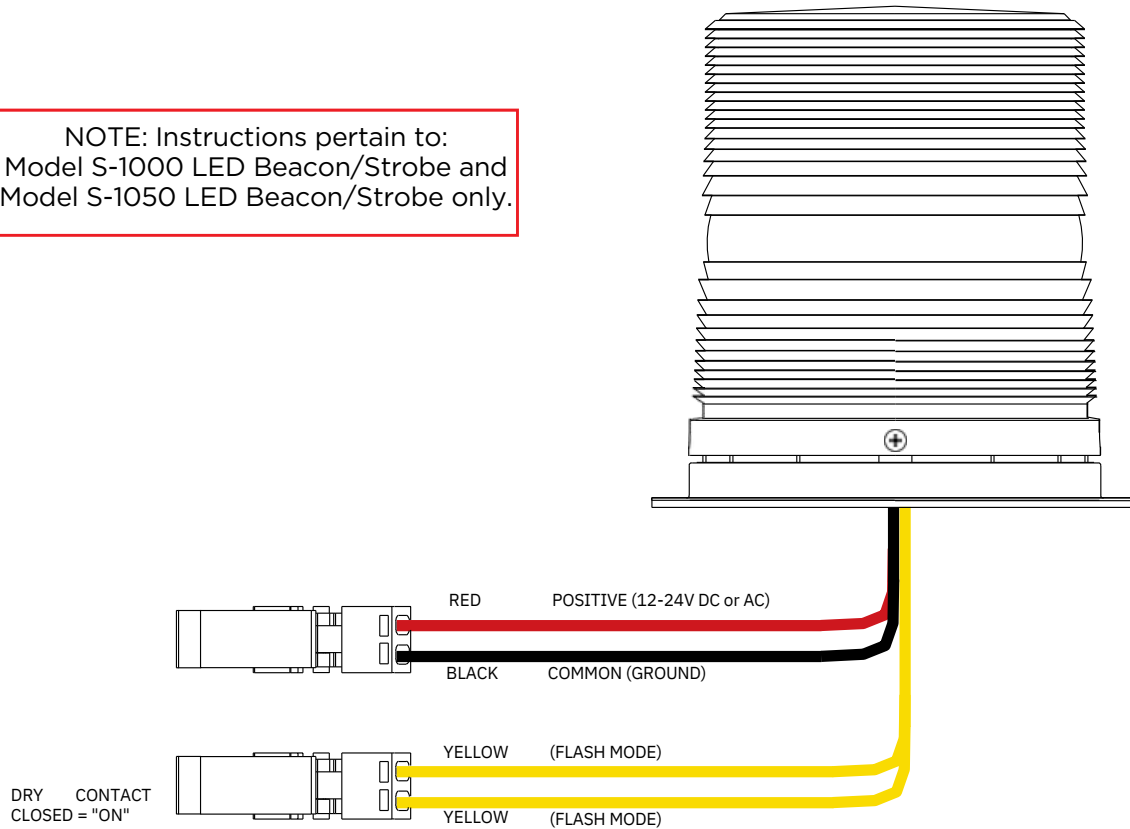
CAUTION ⚠ **REMOVE ALL POWER FROM UNIT BEFORE SERVICING.**

OPERATION

To activate the LEDs in the PRIMARY-STEADYBURN MODE, connect the BLACK and RED wires to 12-24 volts AC or DC.

When in PRIMARY-STEADYBURN MODE, to change the LEDs to SECONDARY-FLASH MODE, connect both YELLOW control wires together (i.e., CLOSED = ON).

PHOTOCELL FEATURE (S-1050 MODEL)

The Steadyburn Mode will be ON in dark or night ambient environments and OFF in bright or daylight ambient environments. The S-1050 LED Beacon/Strobe has two built-in photo response features: (a) dawn/dusk transition delay of 15-30 minutes and (b) transient light acknowledgement delay of at least 3 minutes.

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PROGRAMMING PRIMARY & SECONDARY MODES

1. Remove power from unit.

2. Short the Yellow wires together.

3. Restore power to the unit and wait until the unit begins to flash. Once the unit begins to flash, remove the short. The unit will alternately demonstrate the Secondary-Flash Mode and Primary-Steadyburn Mode that will be displayed during operation. For approximately 4 seconds the Secondary-Flash Mode will be demonstrated, followed by the Primary-Steadyburn Mode.

4. To select the next mode of operation, momentarily short the yellow wires. The unit will cycle to the next mode in the list above.

Mode Number	Primary-Steadyburn Mode	Secondary-Flash Mode
1	High	Single - 60 FPM
2	OFF	Single - 60 FPM
3	Low	Single - 60 FPM
4	High	Single - 150 FPM
5	OFF	Single - 150 FPM
6	Low	Single - 150 FPM
7	High	Single - 375 FPM
8	OFF	Single - 375 FPM
9	Low	Single - 375 FPM
10	High	Neobe - 75
11	OFF	Neobe - 75
12	Low	Neobe - 75
13	High	Neobe - 150
14	OFF	Neobe - 150
15	Low	Neobe - 150
16	High	Double - 125
17	OFF	Double - 125
18	Low	Double - 125
19	High	Double - 250
20	OFF	Double - 250
21	Low	Double - 250

5. There are seven Flash Modes and three Steadyburn Modes combinations to choose from.

6. When you reach the desired mode of operation, remove power from the unit. You MUST leave power disconnected for 20 seconds BEFORE reapplying. When power is reapplied, the unit will operate as programmed above.

NOTE: If you do not leave power disconnected for 20 seconds before reapplying power, the light will default to Program Mode.

INPUT VOLTAGE RANGE: 12-24V AC or DC		
TEMPERATURE RATING: -40°C to +65°C (-40°F to 149°F)		
TYPICAL POWER CONSUMPTION AT 25°C		
Voltage Flash Mode		Steady Mode - High
12V DC	0.24 A Max	0.24 A
24V DC	0.12 A Max	0.12 A
12V AC	1.1 A rms Max	0.53 A rms
24V AC	0.22 A rms Max	0.22 A rms
NOTE: Average current draw in Flash Mode will vary by selected Flash mode. The above maximum amperage draw is stated at Single 60 FPM.		

15 Power Requirements

The following table on pages 74-77 includes **LS1000** and ALL OTHER Code Blue Devices and Enclosures for reference

Faceplates	Voltage	Max Current	Max Watts	Norm Current	Norm Watts	KWHrs
IA4100	24V AC	0.40	9.60	0.22	5.28	0.13
	12V DC	0.90	10.80	0.39	4.68	0.11
	24V DC	0.90	21.60	0.39	9.36	0.22
IP5000	24V AC	0.10	2.40	0.07	1.68	0.04
	12V DC	0.19	2.28	0.15	1.80	0.04
	24V DC	0.19	4.56	0.15	3.60	0.09
Centry	12VDC	0.50	6.00	0.38	4.56	0.11
LS1000/LS2000	12V DC	0.50	3.60	0.40	4.80	0.12
Lights	**Voltage**	**Max Current**	**Max Watts**	**Norm Current**	**Norm Watts**	**KWHrs**
s-1000/S-2000 LED Strobe	24V AC	0.28	6.72	0.22	5.28	0.13
	12V DC	0.26	3.12	0.24	2.88	0.07
	24V DC	0.26	6.24	0.24	5.76	0.14
A-700 Area Light	24V AC	1.80	43.20	0.83	19.92	0.48
	12V DC	2.68	32.16	0.38	4.56	0.11
	24V DC	2.68	64.32	0.38	9.12	0.22
S-1050 LED Strobe W/ Photocell	24V AC	0.28	6.72	0.22	5.28	0.13
	12V DC	0.27	3.22	0.24	2.88	0.07
	24V DC	0.27	6.43	0.24	5.76	0.14
LED Light Bar	24V AC	0.04	0.96	0.04	0.96	0.02
	12VDC	0.04	0.48	0.04	0.48	0.01
	24V DC	0.04	0.96	0.04	0.96	0.02
WM180 PAS With LED Strobe	12-24V DC	7.30	175.20	2.10	50.40	1.21

Models With IA4100 Faceplate	Voltage	Current	Watts	KWHrs
CB 1-e	24V AC	0.48	11.52	0.28
	12VDC	0.67	8.04	0.19
	24V DC	0.67	16.08	0.39
CB 1-s	24V AC	1.31	31.44	0.75
	12V DC	1.05	12.60	0.30
	24V DC	1.05	25.20	0.60
CB 5-s	24V AC	0.48	11.52	0.28
	12V DC	0.67	8.04	0.19
	24V DC	0.67	16.08	0.39
CB 9-s	24V AC	0.26	6.24	0.15
	12V DC	0.43	5.16	0.12
	24V DC	0.43	10.32	0.25
CB 2-e	24V AC	0.44	10.56	0.25
	12VDC	0.63	7.56	0.18
	24V DC	0.63	15.12	0.36
CB 2-a	24V AC	0.48	11.52	0.28
	12V DC	0.67	8.04	0.19
	24V DC	0.67	16.08	0.39
CB 2-s	24V AC	1.31	31.44	0.75
	12V DC	1.05	12.60	0.30
	24V DC	1.05	25.20	0.60
CB 2 w/ Audio Paging	12-24V DC	6.44	154.56	3.71
CB 4-s	24V AC	0.22	5.28	0.13
	12V DC	0.39	4.68	0.11
	24V DC	0.39	9.36	0.22
CB 4-r	24V AC	0.26	6.24	0.15
	12V DC	0.43	5.16	0.12
	24V DC	0.43	10.32	0.25
CB 4-u	24V AC	0.26	6.24	0.15
	12V DC	0.43	5.16	0.12
	24V DC	0.43	10.32	0.25
CB 6-F & CB 6-S	24V AC	0.22	5.28	0.13
	12V DC	0.39	4.68	0.11
	24V DC	0.39	9.36	0.22
CB RT	24V AC	0.48	11.52	0.28
	12V DC	0.67	8.04	0.19
	24V DC	0.67	16.08	0.39

Models With IP5000 Faceplate	Voltage	Current	Watts	KWHrs
CB 1-e	24V AC	0.33	7.92	0.19
	12VDC	0.43	5.16	0.12
	24V DC	0.43	10.32	0.25
CB 1-s	24V AC	1.16	27.84	0.67
	12V DC	0.81	9.72	0.23
	24V DC	0.81	19.44	0.47
CB 5-s	24V AC	0.33	792.00	0.19
	12V DC	0.43	5.16	0.12
	24V DC	0.43	10.32	0.25
CB 5-s	24V AC	0.11	2.64	0.06
	12VDC	0.19	2.28	0.05
	24V DC	0.19	4.56	0.11
CB 2-e	24V AC	0.29	6.96	0.17
	12V DC	0.39	4.68	0.11
	24V DC	0.39	9.36	0.22
CB 2-a	24V AC	0.33	7.92	0.19
	12VDC	0.43	5.16	0.12
	24V DC	0.43	10.32	0.25
CB 2-s	24V AC	1.16	27.84	0.67
	12V DC	0.81	9.72	0.23
	24VDC	0.81	19.44	0.47
CB 2 w/ Audio Paging	12-24V DC	6.44	154.56	3.71
CB 4-S	24V AC	0.07	1.68	0.04
	12V DC	0.15	1.80	0.04
	24V DC	0.15	3.60	0.09
CB 4-r	24V AC	0.11	2.64	0.06
	12VDC	0.19	2.28	0.05
	24V DC	0.19	4.56	0.11
CB 4-u	2av AC	0.11	2.64	0.06
	12VDC	0.19	2.28	0.05
	24V DC	0.19	4.56	0.11
CB 6-F & CB 6-S	24VAC	0.07	1.68	0.04
	12V DC	0.15	1.80	0.04
	24V DC	0.15	3.60	0.09
CB RT	24V AC	0.33	7.92	0.19
	12V DC	0.43	5.16	0.12
	24V DC	0.43	10.32	0.25

Models with LS1000/LS2000	Voltage	Current	Watts	KWHrs
CB 1-e	12V DC	0.68	8.16	0.20
CB 1-s	12V DC	1.06	12.72	0.31
CB 5-s	12V DC	0.68	8.16	0.20
CB 9-S	12V DC	0.44	5.28	0.13
CB 2-e	12V DC	0.64	7.68	0.18
CB 2-a	12V DC	0.68	8.16	0.20
CB 2-s	12V DC	1.06	12.72	0.31
CB 4-s	12V DC	0.40	4.80	0.12
CB 4-r	12V DC	0.44	5.28	0.13
CB 4-U	12V DC	0.44	5.28	0.13
CB 6-F & CB 6-S	12V DC	0.40	4.80	0.12
CB RT	12V DC	0.68	8.16	0.20

High Voltage Models	Voltage	Current	Watts	KWHrs
CB 1 w/ Audio Paging	12-24V DC	3.83	460	11
CB 5 w/ Audio Paging	12-24V DC	3.33	400	9.6
CB 1 w/ NightCharge	120V AC	2.5	300	2.4
CB 4-U w/ NightCharge	120V AC	2.5	300	2.4

High Voltage AC Components	Voltage	Current	Watts	KWHrs
Multi-Tap Power Supply	120V AC	1.75A/210VAC	210	5.04
DIN Rail Power Supply	120V AC	1.2A/115VAC	115	2.76
Audio Paging Amp	12-24V DC	3.83	459.6	11.03

16 Wiring Diagrams

Standard Phone Connections

NOTICE

PCB Sensitive to static discharge.

DANGER

Power over Ethernet 802.3 af/at 37-57V DC (max 24 watts)

CAUTION ⚠️
12V 2Ah SLA Battery (max 400mA)

CAUTION ⚠️
12V DC (max 400mA) Finger Safe Header

WAN PoE Enabled Ethernet

LAN Port 1

LAN Port 2

Battery /Alt

Main Power

Output Relay N/O

Input Relay N/O V-Triggered

PAS Control Cable

PAS Audio

Reset Button
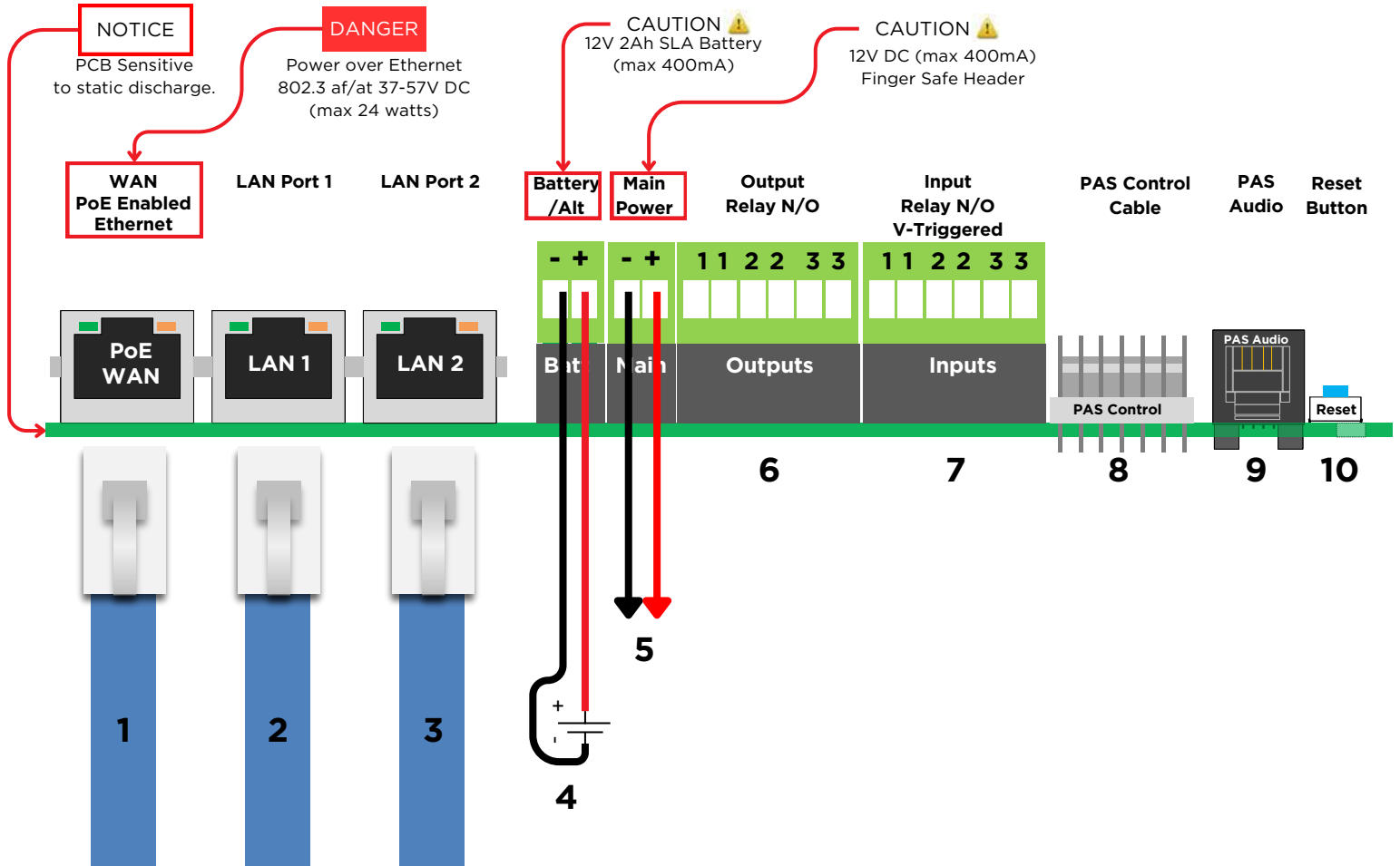
1. **PoE/WAN Port** - Cat 5e/Cat6 RJ45 Connect to Switch (100 Mb)
2. **LAN 1 Port** - Cat 5e/Cat6 RJ45 Connect to Peripheral (100 Mb)
3. **LAN 2 Port** - Cat 5e/Cat6 RJ45 Connect to Peripheral (100 Mb)
4. **Battery Backup** - Optional 12V 2Ah(Not available with models containing camera)
5. **Main Power** - 12V DC
6. **Aux Outputs (3)**
 • The auxiliary outputs are Normally Open and can be triggered in your action script to close. Duration is defined in your action script.
7. **Aux Inputs (3)**
 • The auxiliary inputs are Normally Open and are triggered by voltage. The voltage range is 9 to 32V AC or DC with current protection of 1.25 Amps.
8. **PAS Control** - 7 Pin Control Cable from Audio Paging Amplifier Assembly
9. **PAS Audio** - RJ12 Cable from Audio Paging Amplifier Assembly
10. **Factory Reset Switch**
 • With power connected to LS1000, hold down this reset switch for 12 seconds and then release. The unit will reboot. All previous settings will be lost.

LS1000 w/ Axis Camera

Pre-Installed Inside Enclosure - PoE DIN Rail Power System

PoE WAN | **LAN 1** | **LAN 2**

CAM 1 — **AUDIO** — **IN 1** **IN 2** **OUT** — **PWR** — **1 2 3 4 5 6** — **RS232** — **PWR STAT NET**

Cat5e/Cat6 RJ45 Patch Cable

Cat5e/Cat6 Connected to Network Switch

12V DC Incoming Voltage from PoE DIN Rail System
*USE 24V AC/DC to 12V DC STEP DOWN TRANSFORMER IF NECCESARY

Camera Connection Located on Back of Speakerphone

12-24V DC Incoming Voltage from PoE DIN Rail System
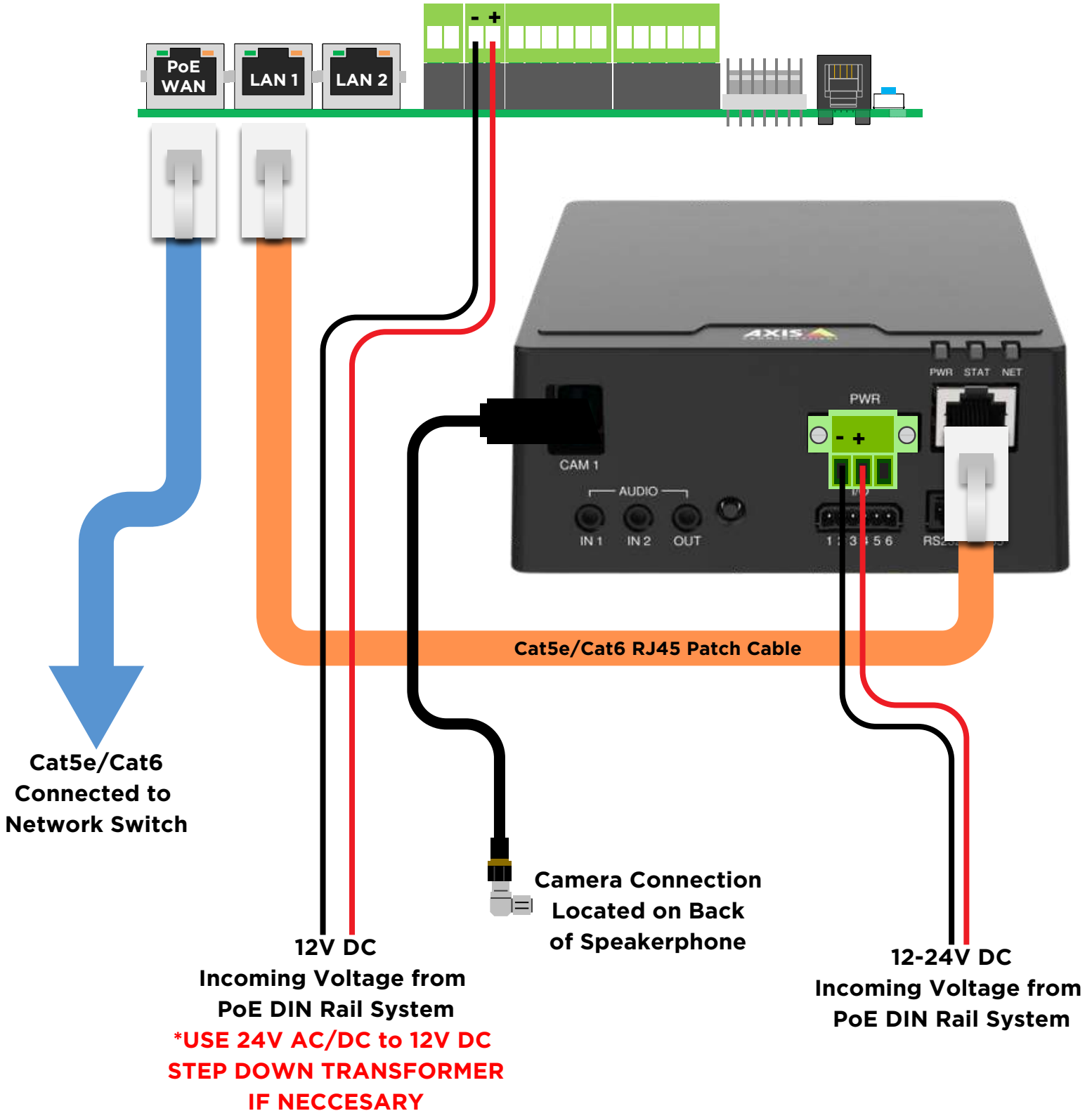
LS1000 w/ Axis Camera
Pre-Installed Inside Enclosure - PoE 3 or 5 Way Power Manifold

PoE WAN

LAN 1

LAN 2

PWR   **STAT**   **NET**

PWR

CAM 1

AUDIO   IN 1   IN 2   OUT

1 3 5 6   RS2

Cat5e/Cat6 RJ45 Patch Cable

Cat5e/Cat6 Connected to Network Switch

Camera Connection Located on Back of Speakerphone

12V DC Incoming Voltage From Power Manifold 3 or 5 Way

*USE 24V AC/DC to 12V DC STEP DOWN TRANSFORMER IF NECCESARY

12-24V DC Incoming Voltage From Power Manifold 3 or 5 Way

Code Blue

LS1000 w/ Axis Camera

LS1000 PCB

- +

PoE WAN

LAN 1

LAN 2

Cat5e/Cat6 Connected to Network Switch

AXIS

PWR STAT NET

PWR

CAM 1

AUDIO

IN 1 IN 2 OUT

1 2 3 4 5 6

RS232

Cat5e/Cat6 RJ45 Patch Cable

12V DC Incoming Voltage

Camera Connection Located on Back of Speakerphone

12-24V DC Incoming Voltage

LS1000 w/ Axis Camera

Pre-Installed Inside Enclosure - 24V/100-240V AC DIN Rail Power System

Cat5e/Cat6 Connected to Network Switch

Cat5e/Cat6 RJ45 Patch Cable

Camera Connection Located on Back of Speakerphone

12V DC Incoming Voltage From DIN Rail System

*USE 24V AC/DC to 12V DC STEP DOWN TRANSFORMER IF NECCESARY

12-24V DC Incoming Voltage From DIN Rail System
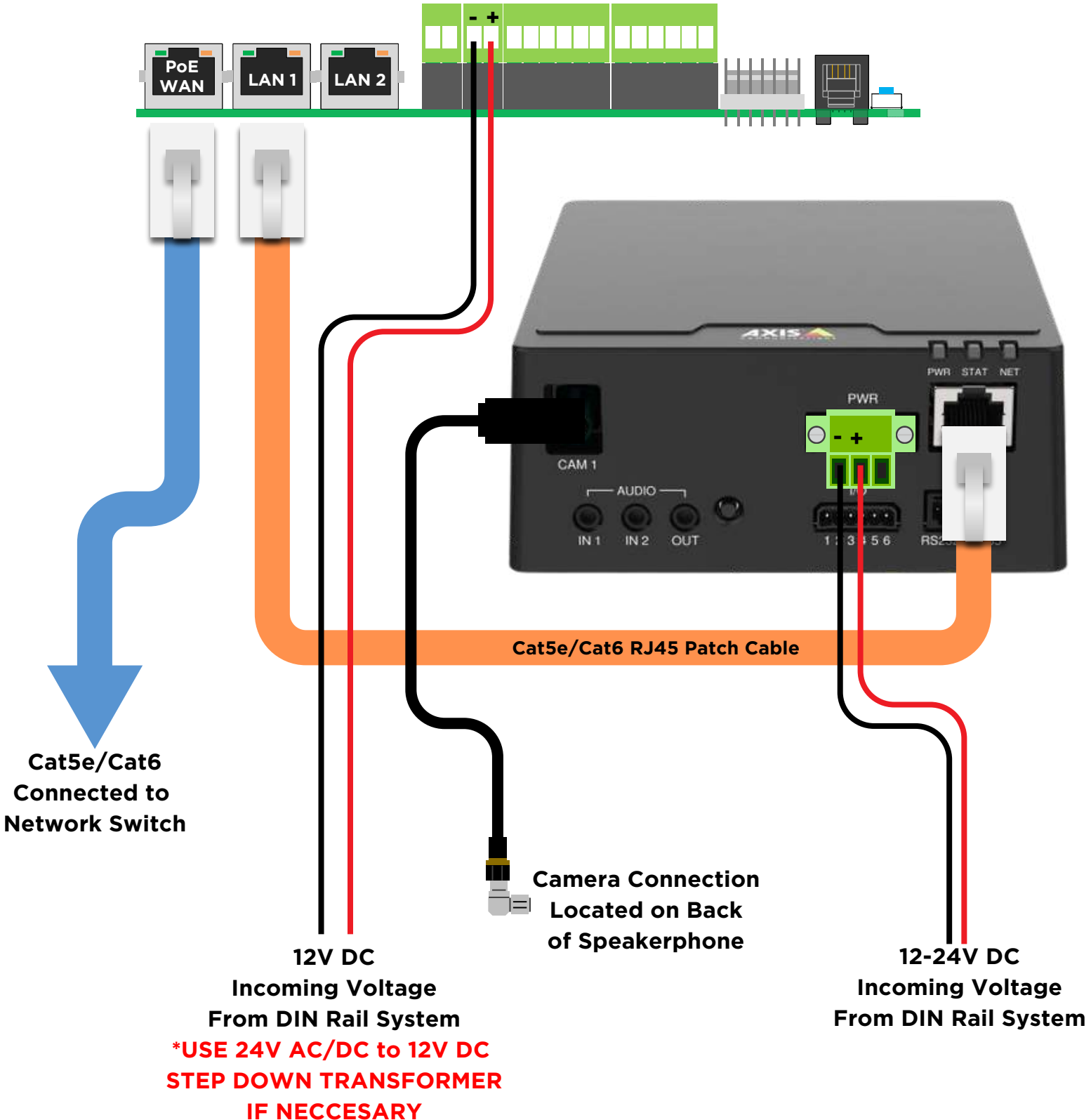
17 Maintenance Schedule

LEGEND

G Guard Tasks   **T** Technician Tasks

DAILY OR WEEKLY

G **Perform functional communications check.**
- Action: Press Red Button
  - Strobe activates
  - Red LED "Call Placed" light turns on
  - Message plays
  - Call connects, green LED "Call Received" light turns on
  - Confirm conversation clarity with dispatch

MONTHLY OR QUARTERLY

G **Visually check lighting functions:**
- Faceplate light
- Beacon/Strobe

G **Visually inspect unit for damage to**:
- Faceplate
- Piezo Button
- Microphone
- Speaker

T **Check Batteries:**
- Functioning with full charge.
- Recharging fully, including NightCharge®/Solar Units(Note: Mid-to-late afternoon inspection is recommended)

IMPORTANT NOTE: Depending on the environment in which the batteries are installed, it is recommended that batteries for Solar & NightCharge® products are fully replaced every 2-3 years.

BIANNUALLY

T **Remove access door and faceplate assembly to inspect the following:**
- Ensure all electrical connections are secure
- Check all phone connections for corrosion *(If corroded, clean and coat with dielectric gel or replace)*
- Ensure all battery connections are tight and clean
- Verify no stains exist around gasket areas (stains indicate leaking & gasket should be replaced)
- Verify moisture weep hole on cabinet bottom is open and unobstructed
- Verify bottom of bollards are at least 1/2 inch above footing and free of obstructions (only applies to CB1, CB5, CB9, & CBRT units)

G **Apply automotive paint sealant to unit exterior for protecting finish against environmental pollutants (Suggested products include Black Magic Wet Shine Liquid Wax, Nu Finish NFP-80, and 5 Star Shine)**

G **Clean & coat exterior stainless steel cabinets with cleaner/polish (Suggested products include Chase Products' Champion Spray-on Stainless Steel Cleaner to help protect finish against environmental pollutants)**

T **Visually confirm line-of-sight is still clear to base station (i.e., confirm that new tree growth, new building construction or other obstructions are not bloacking view of base station)**

UNIT SURFACE MAINTENANCE

The painted and stainless steel Code Blue models require periodic care to sustain their aesthetic appearance. Units located outdoors are vulnerable to harsh environmental conditions, including UV rays, acid rain, diesel fumes and airborn iron particles (i.e., dust) which over time may cause unit discoloring. To prevent pollutants developing harmful chemical reactions on Code Blue units, an appropriate surface maintenance schedule should be adhered to. The Surface Care Frequency table below provides general guidelines to assist in configuring a schedule. Please note that the frequency of care required to guard the Code Blue unit's surface from damage will also be dictated by local environmental characteristics.

LEGEND: POLLUTANTS LEVEL

Level	Stars
Low	★
Low/Moderate	★★
Moderate	★★★
Moderate/High	★★★★
High	★★★★★

SURFACE CARE FREQUENCY

	MONTHLY	BIMONTHLY	QUARTERLY	BIANNUAL	ANNUAL
Painted		★★★★★	★★★★	★★★	★
Stainless Steel	★★★★★	★★★★	★★★	★	

See scheduled tasks under Biannually for suggested paint sealants or stainless steel cleaners.

AVERAGE COMPONENT LIFE

Component life is based on various mechanical, operational and environmental factors. Your local Code Blue reseller can assist you with a regularly scheduled maintenance program customized to your individual site requirements.

Code Blue strongly recommends contacting a local CB dealer to establish a proactive maintenance schedule.

18 Warranty

Code Blue Corporation provides a limited warranty on this product. Refer to your sales agreement to establish the terms. In addition, Code Blue's standard warranty language, as well as information regarding support for this product while under warranty, is available at **www.codeblue.com/support**

In Case of Breakdown

In case of system breakdown, discontinue use and contact Tech Support at:

technicalsupport@codeblue.com or call **800-205-7186, option 3**.

In Case of Abnormal Operation

If the unit emits smoke or an unusual smell, if water or other foreign material enters the enclosure, or if you drop the unit or damage the enclosure, power off the unit immediately and contact Code Blue Customer Service at:

customerservice@codeblue.com or call **800-205-7186, option 2**.

19 Download Information

Code Blue now has a centralized location where you can find installation, setup, information, configuration and operation instructions.

Admin Guides: www.codeblue.com/resources/guides

Frimware: www.codeblue.com/resources/firmware

Maintenance Tips: www.codeblue.com/support

Product Sheets: www.codeblue.com/resources/sheets

Specifications: www.codeblue.com/resources/specifications

For Legacy Product Information:

www.codeblue.com/legacy-products

These guides should contain all the information needed for your application. If further information is required, please contact **customerservice@codeblue.com**.

20 Legal & Regulatory Information

Legal Considerations

Video and audio surveillance can be regulated by laws that vary from country to country. Check the laws in your local region before using this product for surveillance purposes.

Liability

Every care has been taken in the preparation of this document. Please inform Code Blue Corporation of any inaccuracies or omissions. Code Blue cannot be held responsible for any technical or typographical errors and reserves the right to make changes to the product and manuals without prior notice. Code Blue makes no warranty of any kind with regard to the material contained within this document, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Code Blue shall not be liable or responsible for incidental or consequential damages in connection with the furnishing, performance or use of this material. This product is only to be used for its intended purpose.

Intellectual Property Rights

Code Blue Corporation has intellectual property rights relating to technology embodied in the product described in this document. This product contains open source code that also contains additional open source libraries.

Equipment Modifications

This equipment must be installed and used in strict accordance with the instructions given in the user documentation. This equipment contains no user-serviceable components. Unauthorized equipment changes or modifications will invalidate all applicable regulatory certifications and approvals.

Trademark Acknowledgments

Code Blue and Centry products are registered trademarks or trademark applications of Code Blue Corporation in various jurisdictions. All other company names and products are trademarks or registered trademarks of their respective companies.

Regulatory Information

Electromagnetic Compatibility (EMC)

This equipment has been designed and tested to fulfill applicable standards for:
- Radio Frequency emission when installed according to the instruction and used in the intended environment.
- Immunity to electrical and electromagnetic phenomenon when installed according to the instructions and used in its intended environments.

USA

This equipment has been tested using a shielded network cable (STP) and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense. The product shall be connected using a shielded network cable (STP) that is properly grounded.

Canada

This digital apparatus complies with CAN ICES-3 (Class A). The product shall be connected using a shielded network cable (STP) that is properly grounded.

Cet appareil numérique est conforme à la norme NMB ICES-3 (classe A). Le produit doit être connecté à l'aide d'un câble réseau blindé (STP) qui est correctement mis à la terre.

Disposal and Recycling

When this product has reached the end of its useful life, dispose of it according to local laws and regulations. For information about your nearest designated collection point, contact your local authority responsible for waste disposal. In accordance with local legislation, penalties may be applicable for incorrect disposal of this waste.

This guide should contain all the information needed for your application. If any further information is needed, please contact **customerservice@codeblue.com.**

Support

Should you require any technical assistance, please contact Code Blue.

Visit **codeblue.com** to:

- Download user documentation and software.
- Find answers to resolved problems in the FAQ database.

Report problems to Code Blue Technical Support via email at:

technicalsupport@codeblue.com or **800-205-7186**