HOSPITALITY & SPECIALTY COMMUNICATIONS

SYS6700HD

Drive-Up Communication System

Installation Instructions

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FIGURES AND DIAGRAMS

Illustrations in this publication are approximate representations of the actual equipment, and may not be exactly as the equipment appears.

HM Electronics, Inc. is not responsible for equipment malfunctions due to erroneous translation of its installation and/or operating publications from their original English versions.

FCC NOTICE

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

NOTE: 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 communication. 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.

Changes or modifications not expressly approved by HM Electronics, Inc. could void the user's authority to operate this equipment.

The antenna(s) used for the base transmitter must be installed to provide a separation distance of at least 7.87 inches (20 cm) from all persons, and must not be co-located or operating in conjunction with any other antenna or transmitter.

This device has been designed to operate with an antenna having a maximum gain of 2dBi. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

The term "IC:" before the certification/registration number only signifies that the Industry Canada technical specifications were met.

Hereby, HM Electronics, Inc. declares that the SYS6700HD is in compliance with the essential requirements and other relevant provisions of the Radio Equipment Directive (RED).

CE

This product operates in the 2400 to 2483.5 MHz frequency range. The use of this frequency range is not yet harmonized between all countries. Some countries may restrict the use of a portion of this band or impose other restriction relating to power level or use. You should contact your Spectrum authority to determine possible restrictions.

Important Safety and Usage Information

CAUTION: As would be the case with any audio device, such as headphones or a headset, that carries amplified sound to the ears, misuse of such a device or use at excessive volume levels may cause hearing impairment or loss of hearing. The following safety instructions must be followed when using the all-in-one headset transceiver. Failure to follow these safety instructions could result in injury.

Avoiding Hearing Damage: Permanent hearing loss may occur if the all-in-one headset transceiver is used at excessive volume levels. Turn on the all-in-one headset and check the volume prior to use. The audio volume may be adjusted by using the up / down arrow buttons on the all-in-one headset.

Prolonged use at excessive volume levels over time may sound normal but can be damaging to hearing. If you experience ringing in the ears or muffled speech sounds, discontinue use and have your hearing checked. The louder the volume, the less time is required before your hearing could be affected.

The following precautions should be taken to protect your hearing:

- Limit the amount of time you use the all-in-one headset at high volume.
- Avoid turning up the volume to block out noisy surroundings.
- Turn the volume down if you can’t hear people speaking near you.

1. INTRODUCTION

The **6700HD Wireless Drive-thru Audio System** is designed to deliver a clear drive-thru conversation.

The **Push-to-Talk** feature is a basic headset operation that allows customer communication by holding a headset button to talk and listen. The headset button is released to disconnect (see below).

Hands Free headset modes allow Order Takers to communicate with customers as they would in a phone call by pressing a button once to talk to a customer at the menu. The headset automatically disconnects when the customer drives away.

1.1 Full Duplex and Half Duplex Modes

1.1.1 Full Duplex:

In most Drive-Thru operations, a Menu board or Speaker Post consists of a Microphone to hear the customer talk and a Speaker so the customer can listen.

When your Base Station is configured in **Full Duplex** mode, the Microphone and Speaker can transmit audio at the same time like a telephone call. This is beneficial for increasing the ability to understand a customer and immediately respond without delay.

1.1.2 Half Duplex:

Half Duplex works like a Walkie Talkie. To speak to the customer, press the headset **A button**. To listen to a customer, release the **A button**.

In this unique configuration, the stall or order point consists of only a single speaker.

This single speaker is used to both speak to and listen to the customer. But because there is only one speaker, the Order Taker can't speak and listen simultaneously as performed in Full Duplex mode.

2. STANDARD EQUIPMENT

These instructions are for installation of standard SYS6700HD equipment and most commonly used optional equipment. Specific instructions may also be enclosed with optional equipment.

IMPORTANT! *If you haven't already done so, before proceeding with the installation, set up the battery charger and plug it into an AC electrical outlet, and charge all the batteries in it while other equipment is being installed. Refer to Section 3, next page.*

Standard installation of the SYS6700HD consists of installing Routers, Bridge, Base Stations and Consoles inside the building. Ceiling Speakers may also require installation. Outside in the drive-thru area, speakers/microphones must be connected via cables to Routers inside the building. Cables may already be in place, but may need to be pulled in some cases.

A vehicle detector may need to be installed in a drive-thru lane. Wiring of all units, various adjustments and DIP switch settings, as well as equipment setups will be required.

After all the equipment is installed and set up, an operational check must be done. Last, and of utmost importance, a SYS6700HD training/orientation session will be required for store personnel.

Approximately three nights are standard with two people for installation of the SYS6700HD.

Before installing the system, coordinate the time of installation with the store owner/manager to minimize disruption of business.

As you unpack the SYS6700HD, check the packing list for each item to verify receipt of all equipment listed.

3. BATTERY CHARGER SETUP

3.1 Power Adapter

Plug the cord from the provided +5VDC power adapter into the top of the battery charger as shown in Figure 1, and then plug the power adapter into an electrical outlet. Be certain to use the power adapter that was packaged with the battery charger.

Figure 1. Battery charger power adapter connection

3.2 Battery Charging

Charge all the headset batteries while you are installing the other equipment. Charging time is about 2.5 hours for each 4 batteries. When the batteries are fully charged, install them into all headsets.

Procedure:

Insert batteries in the charging ports for charging. The batteries can only go into the charging ports one way. If they do not go in easily, turn them around. **DO NOT force them**. Push each battery down into a port until it clicks in place, to be sure it makes full contact.

Battery Status Lights:

The battery status lights indicate the charging status, as shown on the battery status guide at the bottom of the battery charger front panel.

- A **YELLOW LIGHT** means the charger is not sensing a battery is in the slot.
- Insert a battery in one of the four charging ports until it clicks in place.
- A **YELLOW LIGHT** and **RED LIGHT** flashing (back and forth) means the battery is preparing to charge.
- A **RED LIGHT** will stay on next to a battery while it is charging.
- A **GREEN LIGHT** will go on next to a battery when it is fully charged.
- If a **YELLOW LIGHT** is on next to a battery in a charging port, it means the charge failed. If this happens: (1) Be sure the battery is pushed all the way into the port until it snaps into place to make contact. (2) Try charging it in a different port. If it charges this time, the first charging port may be defective. If the battery does not charge in the second port, replace it with another battery.
- Store up to four fully charged batteries in the storage ports.

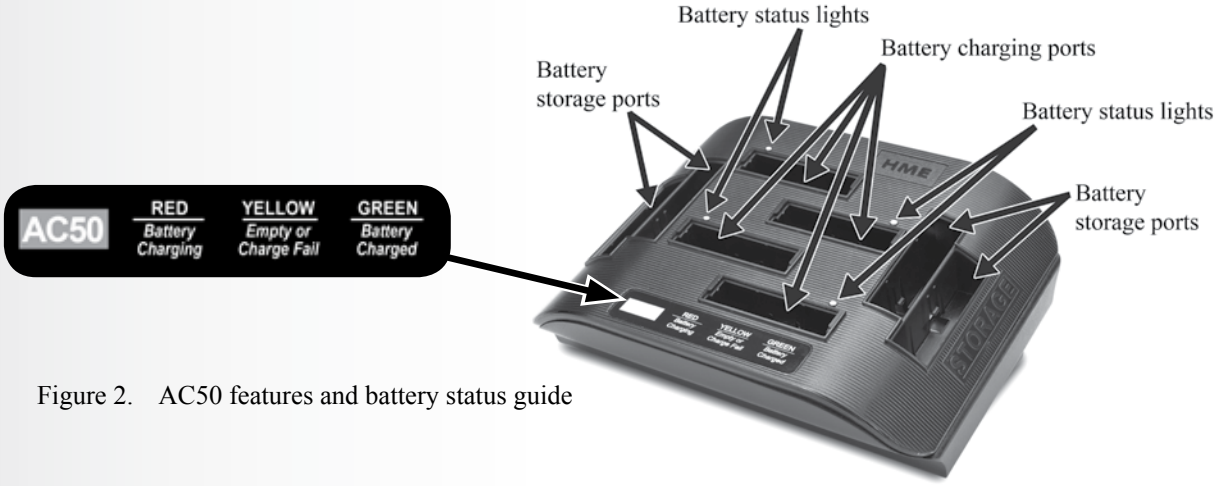


Figure 2. AC50 features and battery status guide

4. PREPARATION FOR INSTALLATION

- About three nights with two people are required for the installation.
- Before you begin, meet with the store owner to schedule the installation at a time that will minimize disruption of business.
- Confirm that electrical power will be available.
- Be certain some type of compatible vehicle detector loops or other vehicle detector systems have already been installed in the drive-thru lane.

4.1 Tools Required

- Phillips (cross-point) screwdriver, size #2
- Standard (slotted) screwdriver, ⅛ inch (3.2 mm)
- Power drill and drill-bit set
- Metal fish tape, 250 feet (76 meters)
- Wire cutter/stripper
- Soldering iron
- Rosin-core solder
- Electrical tape

4.2 Interference Prevention

IMPORTANT: *Interference may occur if the audio system is not properly installed.*

The following types of interference could occur if precautions are not taken during installation. Read this section carefully before proceeding.

4.2.1 Electrical Interference

Electrical faults in appliances and other electrical equipment can cause headset interference when the system is active, such as static, hum, crackling, buzzing and zip sounds.

Interference caused by electrical faults in lighting systems might not be noticed immediately, since most lighting systems are controlled by a timer or light sensing device.

Faulty Wiring or Components:

Faulty components or electrical wiring in menu boards or speaker posts can cause symptoms identical to those caused by AM interference. Remove power to the menu board or speaker post at the circuit breaker until the electrical system can be repaired.

Improper Earth Grounds:

Improper earth grounds in the building can cause random buzzing and zip sounds in the headset when operating in either channel A or B. Placing a surge protector between the base station power adapter and the electrical outlet can eliminate the problem.

> **In the event of an electrical power outage —**
>
> If you experience problems with your HME equipment after the electricity returns, unplug the equipment and wait 15 seconds, then plug it back in.

4.3 Radio Options

Hereby, HM Electronics, Inc., declares that SYS6700 is in compliance with the essential requirements and other relevant provisions of the Radio Equipment Directive (RED). In AFH mode, SYS6700 complies with European Telecommunications Standards Institute (ETSI) harmonized European standard EN 300 328. Customers, Distributors or Installers operating in a CE regulated country that switch off or disable AFH will render the product non-compliant with the directive and will be considered the manufacturer of the product.

CE Base Station Adaptive Frequency Hopping

Background

The HME SYS6700 wireless system utilizes a Frequency Hopping Spread Spectrum (FHSS) radio in order to provide robust communications. This system operates in the unlicensed 2.4 GHz band. With the proliferation of other devices over the past few years in the same 2.4 GHz band, instances where these devices and systems can interfere with each other has greatly increased.

The European Union has updated the radio standards for equipment operating in this band in an attempt to reduce interference between equipment from different manufacturers. This European Telecommunications Standards Institute (ETSI) harmonized European standard is known as EN 300 328.

Radio Frequency Interference caused by Wi-Fi routers and Access Points

Most Wi-Fi access points allow the administrator to set the channel and bandwidth for the system. Some systems employ an 'Auto' mode, in which the Wi-Fi access point will automatically select the channel.

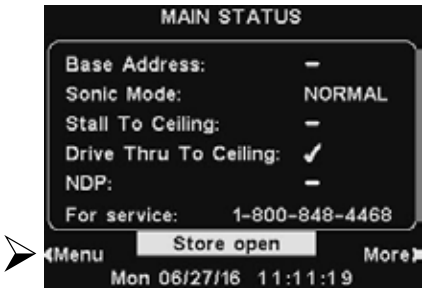
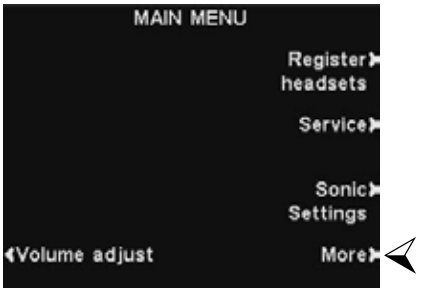
With Wi-Fi access points, it is sometimes advantageous to manually select a channel number to keep the Wi-Fi transmission at a fixed location. Common Wi-Fi channels used are 1 and 11.

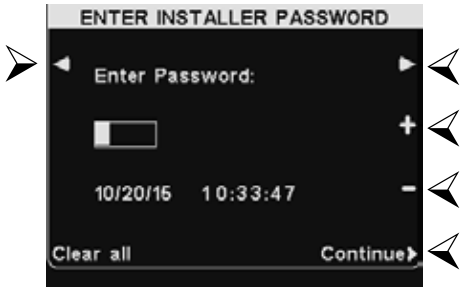
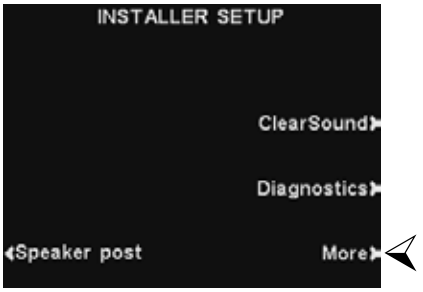
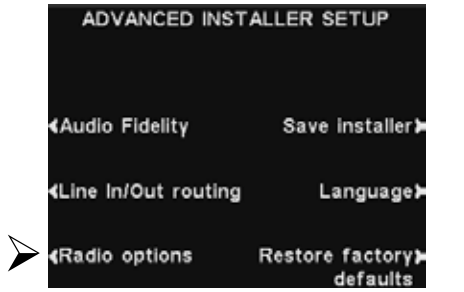
In order to avoid the Radio Frequency interference caused by Wi-Fi routers and Wi-Fi access points, the Base Station offers three user selectable Hop Bands of radio operation. Making use of these bands can assure that base communication is always free of interference.

Interference may be occurring if: you're hearing clicks and/or pops; voices break up while talking; you're hearing a "Busy" prompt in headset when a button is pressed; the headset is flashing red lights; you're intermittently hearing "Lane 1" in the headset. To adjust this setting, refer to instructions in Section 4.3.1, next page.

The **Radio Options** allow adjustments to avoid radio frequency interference that may occur when multiple base stations are installed in close proximity to one another.

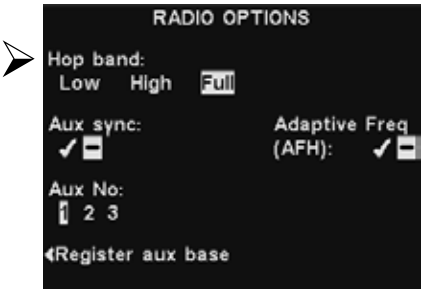
To access the Radio Options:

1. On the base station MAIN STATUS display, press the **Menu button**.	
2. From the MAIN MENU, press the **More button**.	
3. From the ADVANCED MENU, press the **Installer setup button**.	

4. Use the ◀ and ▶ buttons to move the highlighted box in the Enter Password field. Use the **+ button** to put alphabetic characters in the highlighted box, or the **– button** to put numeric characters in the highlighted box. Enter the password and select the **Continue button**.	
5. From the INSTALLER SETUP, press the **More button**.	
6. From the ADVANCED INSTALLER SETUP menu, press the **Radio options button**.	

4.3.1 Hop Band

Hop Band includes **Low**, **High** and **Full** band options used to limit base station interference. *Full Band* is recommended for most cases.



Low Band

2.40192 - 2439.94 GHz / 2401.92 - 2439.94 MHz

Using **Low Band** sets the frequency range in which the Base Station operates to the lower end of the broadcast range. If you know that the Wi-Fi access point is set to Wi-Fi channel 11, then you should set the base station to operate in 'Low' band so the base avoids the Wi-Fi channel 11 frequency range.

High Band

2443.39 - 2481.41 MHz

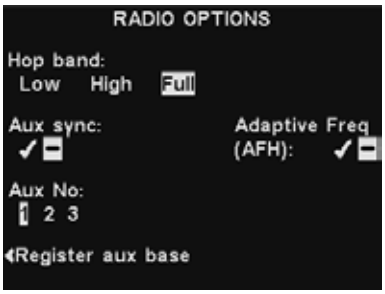
Using **High Band** sets the frequency range in which the Base Station operates to the upper end of the broadcast range. If you know that the Wi-Fi access point is set to Wi-Fi channel 1, then you should set the base station to operate in 'High' band so the base avoids the Wi-Fi channel 1 frequency range.

Full Band

When the base is configured in **Full Band**, the Base uses the whole broadcast frequency range, offering the greatest opportunity for headsets to communicate with the base.

However, when in Full Band, the base can be susceptible to interference from Wi-Fi routers and Wi-Fi access points. In order to avoid this inference, the base offers two other bands: **High** and **Low**.

4.3.2 Aux Sync



Multi-Base Synchronization Configuration

The purpose of Multi-base synchronization is to allow multiple Bases at the same location to operate without interfering with one another. It does this by synchronizing and separating the frequency hopping sequences used by the Bases. This prevents any frequency overlap between the Bases to avoid interference. For a multi-base system, there is always one Primary Base and 1 to 3 Aux Bases.

In a Sonic installation, the Primary Base will always be Base 1. Enabling Multi-Base Sync consists of the following steps that are detailed below:

- Configuring the Primary Base.
- Configure each Aux Base and put it into REGISTER AUX BASE mode.
- Put the Primary Base into REGISTER MULTI mode and the Aux Bases will detect and sync to the Primary.
- Take the Primary Base out of Registration mode to return it to normal operation.

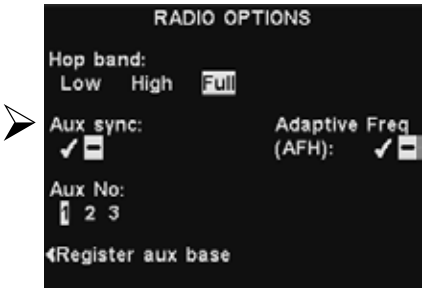
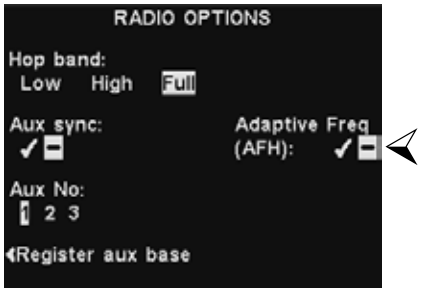
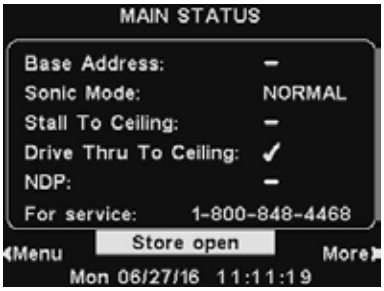
IMPORTANT: The Adaptive Frequency Hopping (AFH) feature is not compatible with Multi-Base Sync. **AFH** must be turned **OFF** (**–**) for Multi-Base Sync operation.

Hop Band can be set to **Low**, **High** or **Full**, but all Bases must have the same Hop Band configuration or they will not stay synchronized. See section 4.3.1 for more information on the Hop Band settings.

The **Adaptive Freq** (AFH - Adaptive Frequency Hopping) option is a regulatory requirement for all systems installed in the European Union. **This setting should remain OFF (–) in Non-European countries**.

Primary Base Configuration

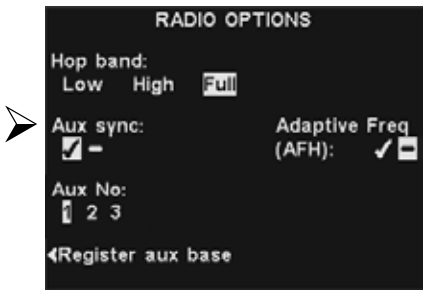
Configure the Primary Base first, prior to Aux Base configuration. Always designate Base 1 in the Sonic system as the Primary Base. To get started:

1. Disable **Aux Sync** (**–**).	
2. Disable the **Adaptive Freq** (AFH) option (**–**).	
3. Press **BACK** to apply and save any changes. Press **BACK** repeatedly to return to the MAIN STATUS.	

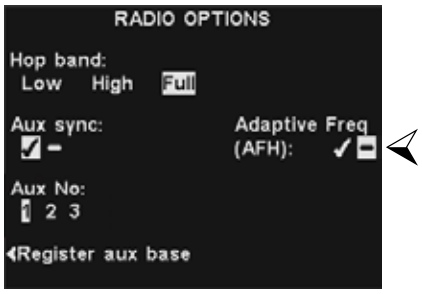
Aux Base Configuration

Perform these steps for each **Aux Base**. Bases 2 through 4 will be designated as Aux Bases.

1. Enable **Aux Sync** (✓).

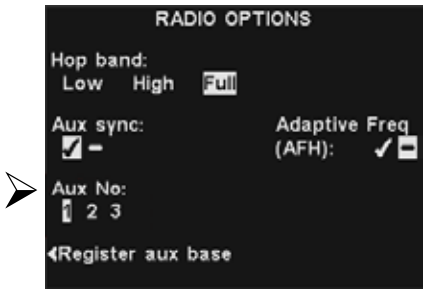


2. Disable **AFH** (–).

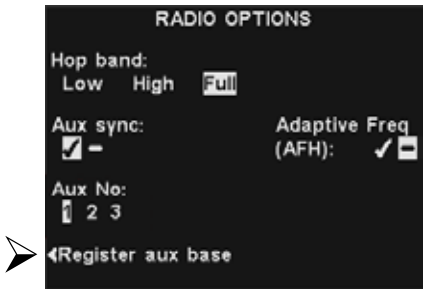


3. Set each Base's **Aux No** setting according to this table:

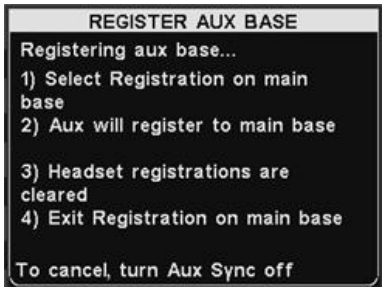
Base	Aux No
Base 2	1
Base 3	2
Base 4	3



4. Select **Register Aux Base** to enter REGISTER AUX BASE mode.

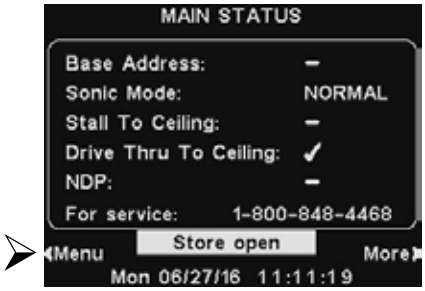


5. The Aux Base begins searching for the Primary Base. This mode does not time out. The Aux Base will stay in this mode until it finds a Primary Base or is canceled manually.
Once all Aux Bases are in REGISTER AUX BASE mode, move on to the next step of putting the Primary Base into Headset Registration mode.

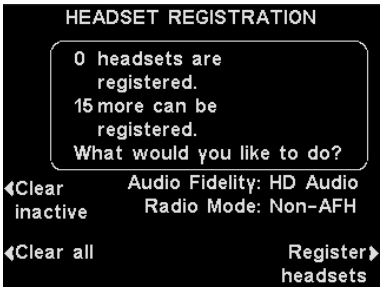


Synchronize Bases

1. On the Primary Base select **Menu**.



2. Select **Register Headsets**.



3. Select **Register Multi**.

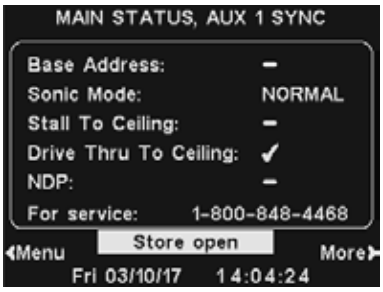
NOTE: Unlike registering headsets, the Primary Base will not display visual feedback that Aux Bases have been successfully registered. The Primary Base will stay in Multi-registration mode for just 5 minutes.

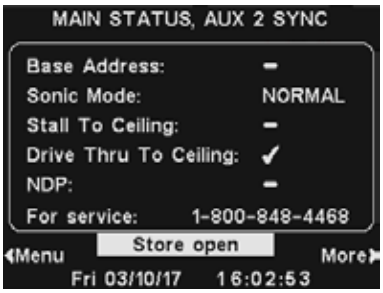
If the Primary times out before all Aux Bases have been synced, simply return the Primary back to Register Multi mode and continue until all Aux Bases have been successfully synced.

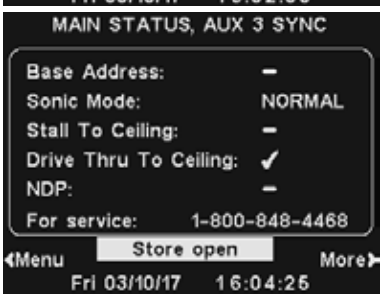
4. When an Aux base successfully registered to the Primary Base, the MAIN STATUS screen will appear and display **AUX 1 SYNC**, **AUX 2 SYNC** or **AUX 3 SYNC** on the top line.

Once all of the Aux Bases have successfully synced, wait for the Primary Base to time out or press **BACK** until it returns to the MAIN STATUS screen.

NOTE: Each Aux Base must have its own Aux Sync number. If two bases display the same Aux Sync number, they will interfere with one another and prevent communication.







5. EQUIPMENT INSTALLATION

These instructions are for installation of standard SYS6700HD equipment and most commonly used optional equipment. Specific instructions may also be enclosed with optional equipment. Installation requirements may vary. Typical equipment locations are shown in Figure 3, next page.

IMPORTANT*: If you haven't already done so, set up the battery charger and charge all headset batteries in it while the other equipment is being installed.*

5.1 Cable Pulling

Cable should have been pulled in advance (by a contractor) from the menu boards in the drive-thru lane (if any) and each drive-up stall into the building. If none have been pulled, you will need to do so before installing SYS6700HD equipment. If there is existing cable in a conduit from each menu board, the conduit may be too small for any additional cables. If so, you can do one of the following:

- **For half-duplex systems**, in retrofit installations, use the existing speaker wire as-is, or install all new cables in the existing conduit.
- **For full-duplex systems**, use the existing speaker wire and install new conduit next to the old for additional new cables, or remove the old conduit and cables, and install new, larger conduit, then run all new cables through the larger conduit.

CAUTIONS*:*

- *Use only Belden 8723 or equivalent four conductor cables. These cables contain two individually shielded twisted pairs of 22AWG stranded conductors, with a common drain wire.*
- *In Full Duplex installations, never use a single four conductor cable for both Speaker and Mic, always;*
  - *Use two separate cables for the speaker and the mic between each base station, and the router,*
  - *Use two separate cables for the speaker and the mic between each router, and the next router,*
  - *Use two separate cables for the speaker and the mic between each router, and the POPs menu (or speaker post).*
  - ***Failure to do so will cause audible crosstalk, feedback, echo, and noise.***
- *Never run high-voltage cables in the same conduit with audio or loop cables.*

The recommended HME audio cable contains four color coded, insulated wires and a bare shield (drain) wire. Pull the cables (two for full-duplex, one for half-duplex) through the underground conduit from the outside speaker post or menu board, and from the stalls into the building as follows:

1. Run fish tape from inside the building through the conduit to the speaker post or menu board.
2. Go outside. If you are pulling more than one cable, **mark the cables and spools for identification**. Fasten each cable to the fish tape where it comes out of the conduit, and go back inside the building.
3. Pull the fish tape and cable through the conduit and into the building. As the cable comes through the conduit, disconnect it from the fish tape and pull enough of it through the conduit to reach the router.
4. Go outside again and route the cable from the outside conduit to the speaker and microphone units in the speaker post or menu board.
5. Cut the cable, leaving about **3 feet of slack**. If more than one cable has been pulled, **mark the ends of the cables again for identification**.
6. Remove about 2 inches of the outer insulation from the end of each cable. Strip about ½ inch of insulation from each of the four wires in the cable.
7. When you have pulled all the cables into the building, route them together to the router through walls and over ceiling panels if possible. Refer to the wiring diagrams, pages 61-67, for connections.

EQUIPMENT INSTALLATION

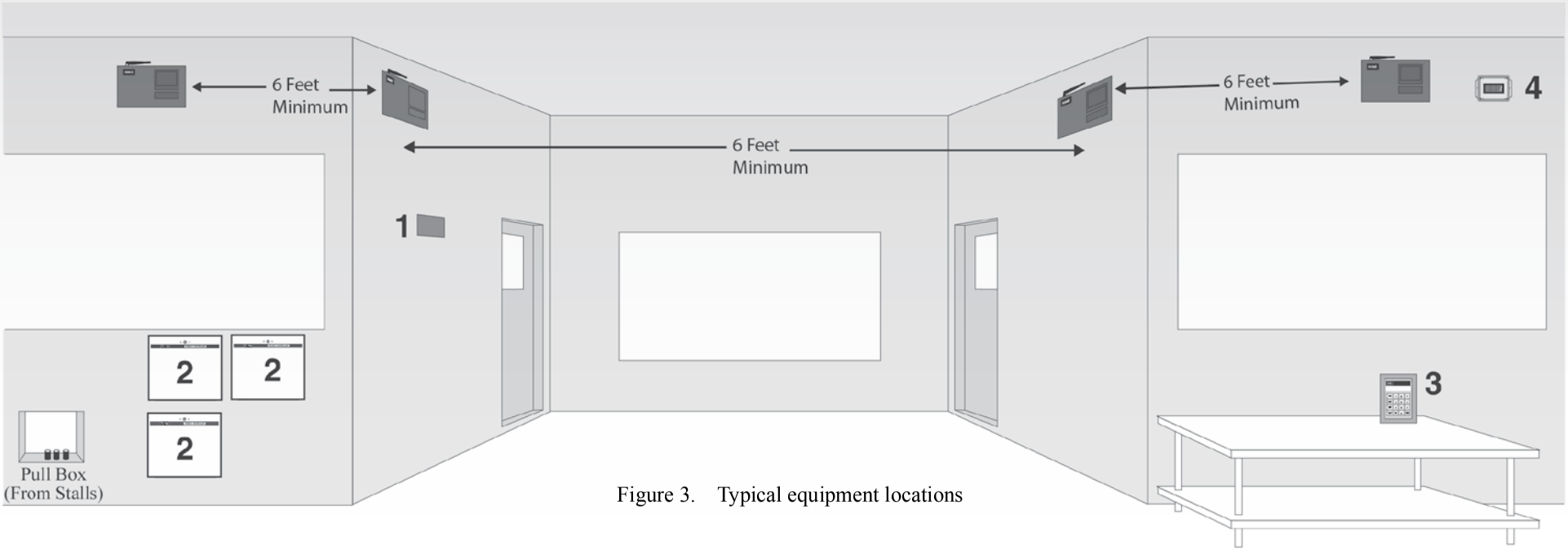


Figure 3. Typical equipment locations

RS485 is a digital communication network that MUST be wired in SERIES from one device to the next.
There are some requirements which MUST be followed for the SYS6700HD to operate correctly, which are noted below:

1. **6700HD Bridge:** The Bridge provides an interface between the RS485 network and base stations' Ethernet network. The RS485 network MUST begin here. The 6700HD is normally located in the office. The remaining components (Routers, Consoles, Remote Displays) may be connected in any order.

2. **Router:** The Routers provide a switching matrix connecting Base Stations to Order Points. Each Router can accommodate 16 order points, a maximum of 4 Routers may be connected.

3. **Console:** The Console allows manual control of the system by Order Takers.

4. **Remote Display**:

   Mode 1 - The Remote Display shows the number of customers in queue, alternating with the longest time the oldest customer has been in queue.
   Mode 2 - Shows the Base number in which the remote is assigned and the connection status of the base.

NOTE: The last device connected on the RS485 network **MUST** have the RS485 bias and termination DIP switches turned ON.

- All equipment must be accessible and serviceable to store employees with a step ladder.
- Leave space between Routers so the diagnostic lights are visible.
- Never locate any equipment above the ceiling.

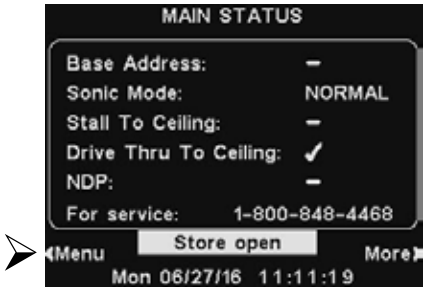
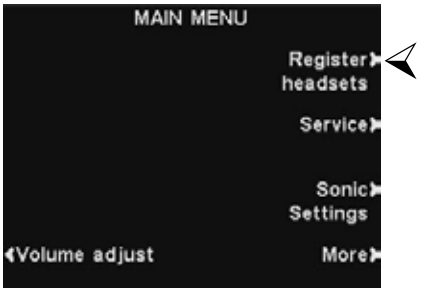
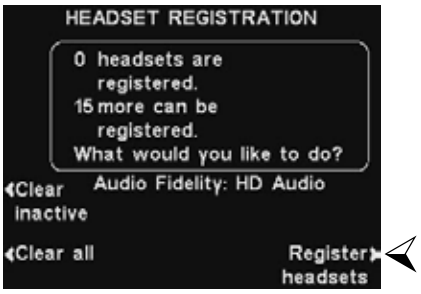
5.2 Register Headsets to Base Stations

Register one headset at a time (at least one) to each base station, one at a time. With the labels provided, label the headset with its registered base number.

Up to 15 headsets can be registered to a base station. Replacement headsets must be registered before they can be used. When a headset is replaced, the replaced headset remains in memory. If the maximum number of 15 (in memory) is exceeded, you must clear some (or all) of the current registrations to free up memory and register the new headset (see **Clear Headset Registration**, next page).

Register each headset as follows:

NOTE: Headsets must be within 6 feet (1.83 meters) of the base station while being registered.

1. Be certain all headsets to be registered are turned **Off**, and the base station power is **On**. On the base station MAIN STATUS display, press the **Menu button**.	
2. From the MAIN MENU, press the **Register headsets button**.	
3. First, verify that headsets CAN be registered (no more than 15 already registered). If the screen reads "15 headsets are registered" and "0 more can be registered", refer to the **Clear Headset Registration** section, next page. From the HEADSET REGISTRATION display, press the **Register headsets button** to begin registration.	

4. If you are registering only one headset, press the **Register single button**. If you are registering more than one headset, press the **Register multi** (multiple) **button** and continue registering each headset, one at a time.	
5. Activate Registration mode by pressing and holding the **B button** and then pressing the **Power button** (red) simultaneously. Once the power light starts to flash, release the buttons. Confirm that the headset's power light is blinking, and a voice in the headset states "Headset #, Battery Low/Half/Full, Registration".	
6. The registration process begins. When the headset has successfully registered, the ID number assigned to this Headset is displayed. ID numbers are assigned sequentially 0 through 9, then A, B, C, D and E.	
7. Confirm that the power light on the registered headset displays a steady green.	

When you have finished registering each all headsets for a particular base station headset, press the Back button repeatedly until you return to the MAIN MENU or MAIN STATUS display.

5.2.1 Clear Headset Registration

On the HEADSET REGISTRATION display, pressing the **Clear inactive button** will unregister only headsets that are turned off or out of range.

Pressing the **Clear all button** will unregister all headsets that are registered to the base station. The base station will automatically restart.

IMPORTANT: If the "Clear All" option is selected, NO headsets will operate until they are re-registered. It is best NOT to use this option during store business hours.

If you experience difficulties registering headsets: In the USA, call HME Technical Support at 1-800-848-4468. Outside the USA, call your local HME representative for assistance.

5.3 Base Station Installation

Bases must be mounted and installed at least 6 feet from one another. Discuss the location of the base stations with the store owner or manager. They should be mounted less than 10 feet from an available electrical outlet and away from grease and large metal objects. Also, they should be mounted near eye level, so the display screens will be easily visible and the control buttons will be accessible.

The base transmitter antenna(s) must be installed where they will be at least 7.9 inches from all persons, and will not be near any other antenna or transmitter.

Things to consider before and during base station installation

- The base stations should be located where, if you stand with your back to the wall, you can see most of the work area where the headsets will be used.
- The number of walls between the base stations and the area where the headsets will be used should be minimized.
- Sheets of stainless steel on the walls may shield or reflect radio signals.
- Large windows allow signals to pass through, which can improve outside coverage.
- If a system is being replaced, it may not be desirable to use the existing mounting location for the base stations. However, it may be required in some cases.
- Only power supplies provided with the system should be used.

5.3.1 Install Antennas on Base Station

Locate the two antennas enclosed with each base station, and install them on each base station by screwing them onto the antenna connectors.

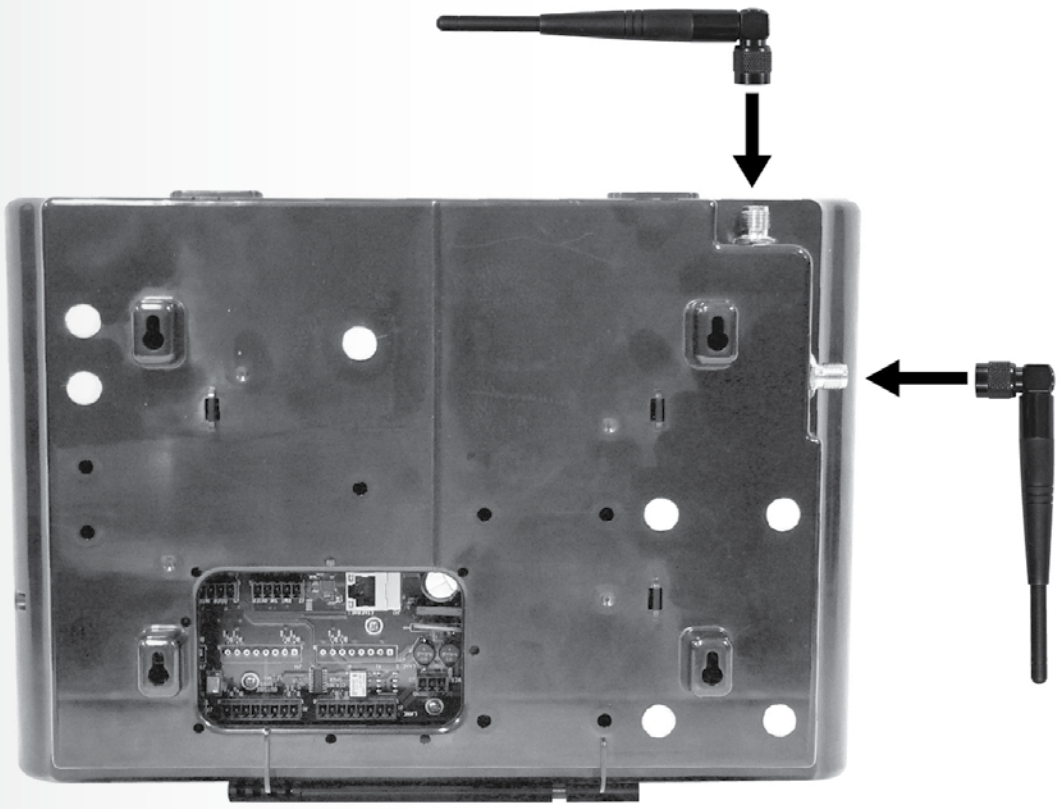


Figure 4. Antenna mounting

5.3.2 Mount Base Stations on Wall

Base stations should be mounted away from grease and large metal objects. They must be at least 6 feet apart, less than 10 feet from an available electrical outlet.

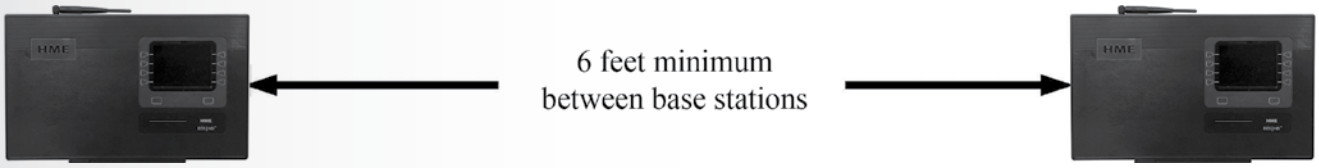


Figure 5. Distance between base stations

Mount each base station on the wall as follows:

1. Hold the base station against the wall with its door open, and mark the wall through the four screw holes on the back of the cabinet (Figure 6).
2. Set the base station down, and drill four 3/16" holes at the marked spots.
3. Insert the enclosed #6 screw anchors into the holes.
4. Drive the four enclosed screws into the anchors, leaving the screw heads 1/8 inch away from the wall.
5. Mount the base station on the wall by placing the four screw holes in the back of the base station over the four screws, sliding the base station.
6. Tighten the screws to secure the base station in place.
7. If required, install an optional vehicle detector board inside base station #1, see section 5.8.

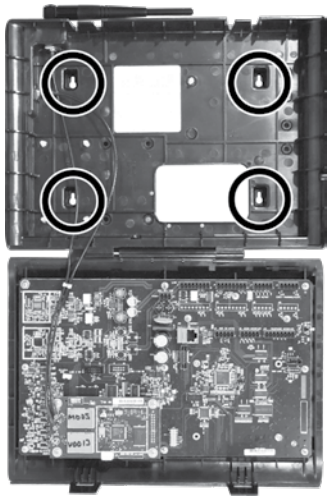


Figure 6. Open base station showing four screw holes

5.3.3 Connect Base Station Power Supplies

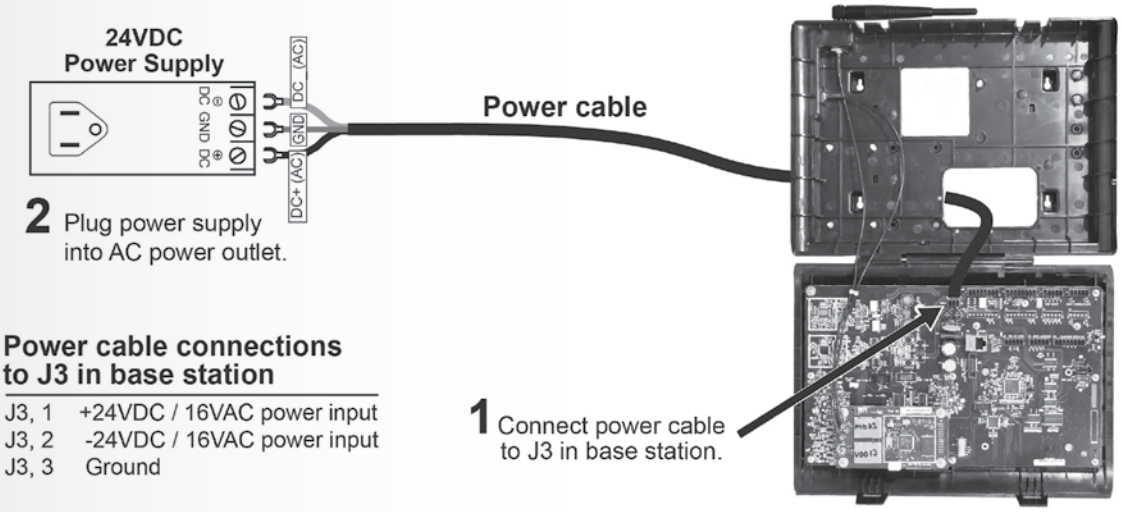


Figure 7. Power supply connection to base station

Connect a power supply to each base station and an AC electrical outlet according to the numbered instructions shown in Figure 7 (above). If necessary, refer also to the wiring diagrams on pages 61-67.

NOTE: Only power supplies provide with the system are to be used.

5.4 Router Installation

Mount the Routers close enough to the pull boxes in order to be reached by the cables pulled into the building from the outside. They must be close enough to AC electrical outlets for the power, or the adapter cables will need to be extended.

1. Hold the enclosed Router mounting template against the wall at the desired location, and mark the wall through the four screw hole targets on the template.
2. Remove the template from the wall, and drill four 3/16” holes in the wall at the marked spots.
3. Insert the four enclosed screw anchors into the holes.
4. Insert the four enclosed screws through the plastic shoulder washers and into the screw anchors, and tighten them to secure the shoulder washers against the anchors.
5. Replace the circuit board and all eleven screws.
6. Position the Router unit over the four screws on the wall, so the screw heads go into the four holes on the back of the Router (Figure 8).
7. Slide the unit downward to secure it in place.

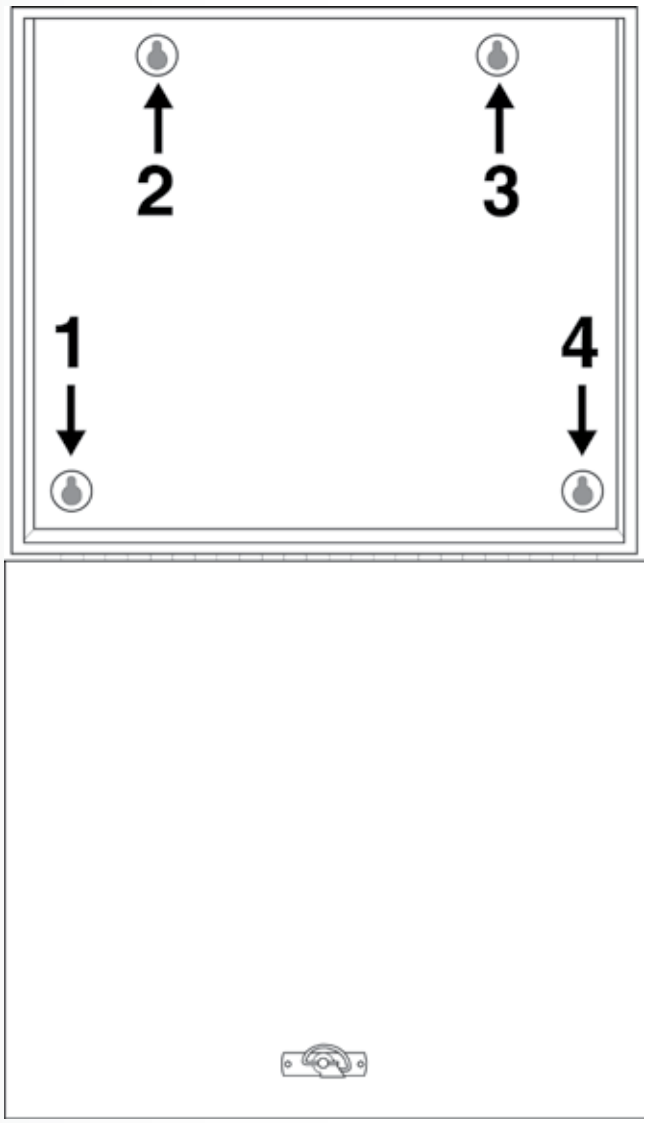


Figure 8. Power supply connection to base station

5.4.1 Connect Base Station Power Supplies

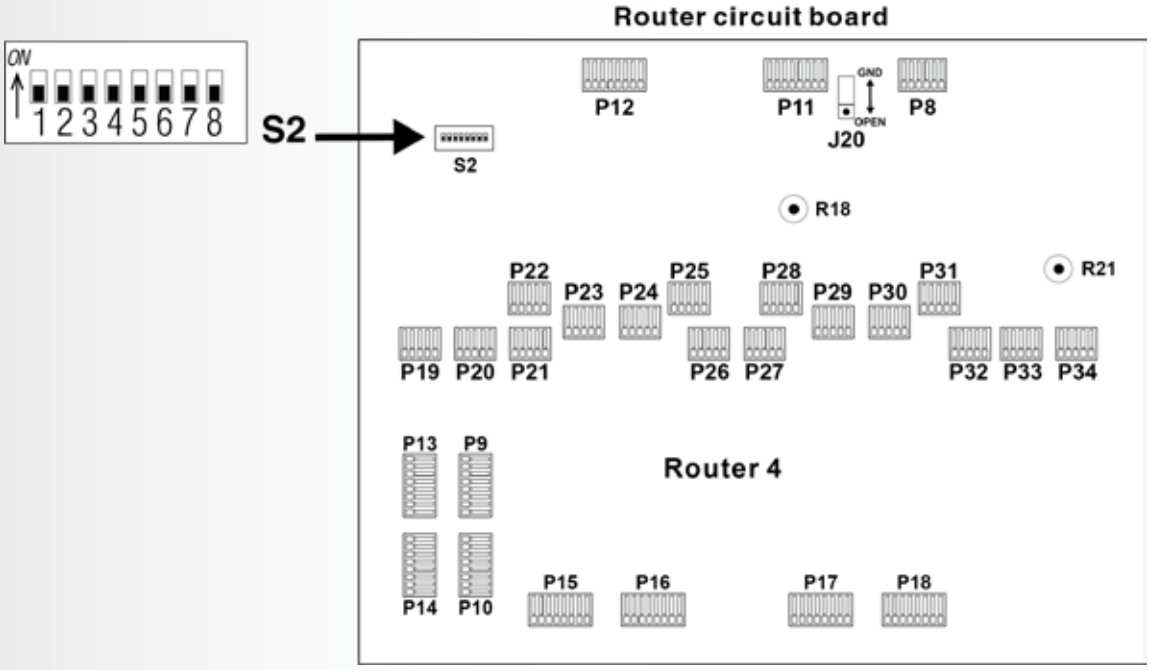


Figure 9. Router DIP switch

S2 Switch Settings				
Switch	Function - Set Router Physical Address			
	Router #1 OP 0 - 15	Router #1 OP 16 - 31	Router #1 OP 32 - 47	Router #1 OP 48 - 63
1	OFF*	OFF	OFF	OFF
2	OFF*	OFF	ON	ON
3	OFF*	ON	OFF	ON

4	4 & 5 = OFF - RS485 Bias is OFF 4 & 5 = ON - RS485 Bias is ON	
5		
6	OFF - Speaker Used*	ON - Handset used
7	OFF - Aux Audio*	ON - Msg Repeater
8	OFF - Normal*	ON - Diagnostic

*factory setting

- S2 switches 1 through 3 are used to set the Router addresses.
  NOTE: Each Router must have a separate address.
- S2 switches 4 and 5 are used to set the RS485 bias (used only if the router is the last device on the RS485 line).
- S2 switches 6 and 7 are used to select outbound audio options.
- S2 switch 8 is used for diagnostics.
- R18 is for queue tone volume of the ceiling speaker.
- R21 is for the ring-back tone volume for the stalls and menus outside (when switch 8 is set to ON).

5.5 Remote Display Installation

The Remote Display should be installed on a wall, inside the building, where it can be seen by crew personnel. Installation of the Remote Display requires one hole to be drilled through the wall for cable routing, and two screw holes for mounting the unit on the wall of the building. Follow the instructions below.

- Drill a 3/8 inch (9.5mm) hole in the wall where the display unit will be mounted.
- Remove the front panel and attached circuit board from the display unit enclosure, and drill a 3/8 inch (9.5mm) hole centered through the back of the enclosure as shown in Figure 11.

NOTE: This is for mounting the unit directly over a cable hole in the wall. If you do not want to mount the unit over the cable hole, you can drill a hole in one of the sides of the display enclosure.

- Hold the display enclosure against the wall so the hole in the center of the enclosure is over the hole in the wall, and mark the wall through the two screw holes in the flanges on the sides of the enclosure.
- Set the display enclosure aside and drill two 3/16 inch (4.8 mm) screw holes at the marked spots, deep enough to insert the enclosed screw anchors.
- Insert the enclosed screw anchors completely into the two screw holes in the wall.
- Hold the display enclosure against the wall so the screw holes in its flanges are over the screw anchors on the wall, and screw the two enclosed screws through the holes and all the way into the screw anchors.
- Using the enclosed 5 pin connectors, connect cable according to the wiring diagrams.

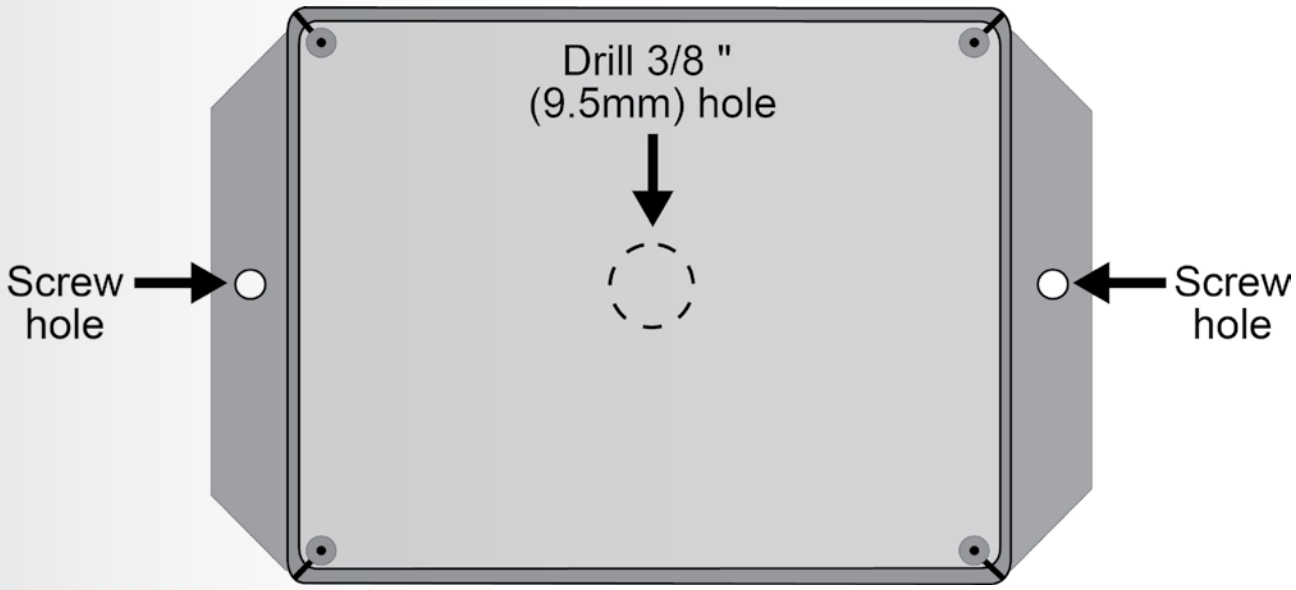


Figure 10. Mounting the Remote Display Unit

5.5.1 Connect Base Station Power Supplies

Remote Display circuit board

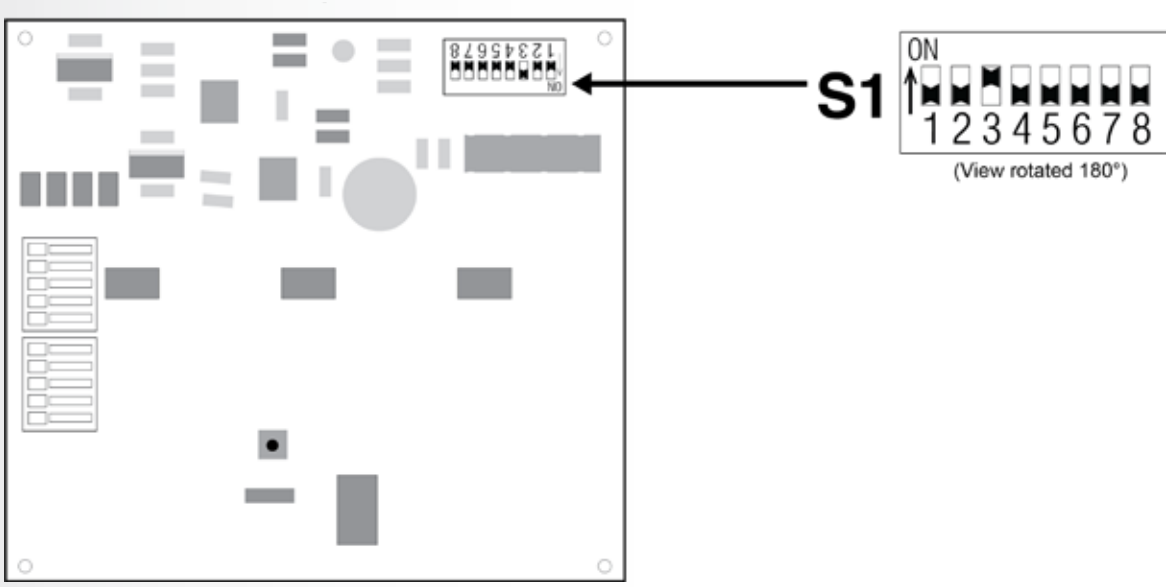


Figure 11. Mounting the Remote Display Unit

S1 Switch Settings				
Switch	Base Station #1	Base Station #2	Base Station #3	Base Station #4
1	OFF	OFF	ON	ON
2	OFF	ON	OFF	ON
3	ON – Monitor number of customers in queue, alternating with wait time. OFF – Monitor Base Station connection status			
4	Both "ON" – RS485 Termination ON Both "OFF" – RS485 Termination OFF			
5				
6	NOT USED			
7	NOT USED			
8	NOT USED, Reserved for Development			

- S1 switches 1 and 2 are used to set the Remote Display addresses.
- S1 switch 3 is used to select what data will be shown on the display.
- S1 switches 4 and 5 used to turn RS485 BIAS and termination ON.
- S1 switches 6 - 8 are not used.

5.6 Console Installation

The Console is mounted on a counter-top bracket. This allows it to be positioned in a user-friendly, slanted position that is typically on the counter near the POS terminal. If desired, the Console can be mounted on the wall. Install the Console in the following manner:

Counter top:

- Using the enclosed 5-pin connector, connect the cable wires to the Console according to the wiring diagram, Figure 19.
- Position the Console in its most convenient position near the Drive-thru POS terminal (or where indicated by the store manager).

Figure 12. Position of Console on counter-top bracket

If the Console will be wall-mounted:

1. Remove the four Phillips head (crosspoint) screws from positions 1 - 4 on the bottom of the counter-top bracket (Figure 11).
2. Hold the bracket against the wall at the desired mounting location, and mark the wall through the holes numbered 5 and 6 (Figure 11).
3. Remove the bracket from the wall and drill a 3/16" hole in the wall at each of the marked spots.
4. Insert the enclosed screw anchors in the holes.
5. Insert the enclosed screws in the anchors, and tighten them until their heads are approximately ¼ inch from the wall.
6. Replace the Console on the bracket, so it slants in the direction opposite displayed in Figure 10.
7. Using the enclosed 5-pin connector, connect the cable wires to the Console according to the wiring diagram (Figure 19).
8. Figure 13. Bottom of counter-top bracket
9. Use the hole plugs provided to cover up openings on the bottom of console.
10. Position the Console over the screws on the wall, so the screw heads go into the upper and lower mounting holes on the back of the bracket and slide the unit downward.

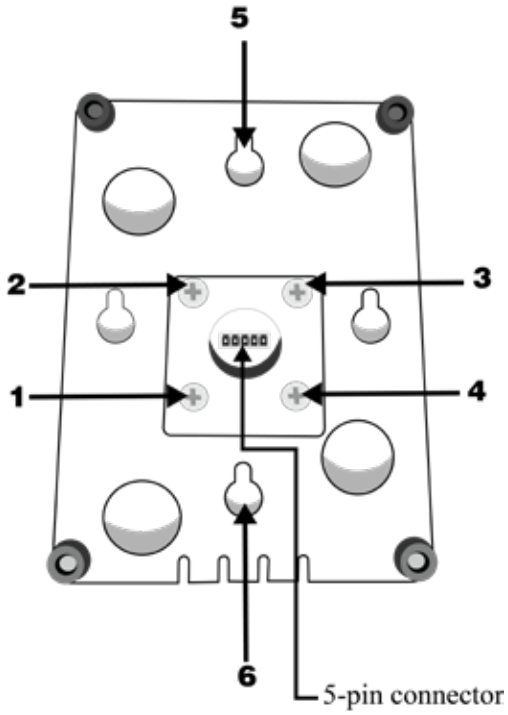


Figure 13. Bottom of counter-top bracket

5.6.1 Connect Base Station Power Supplies

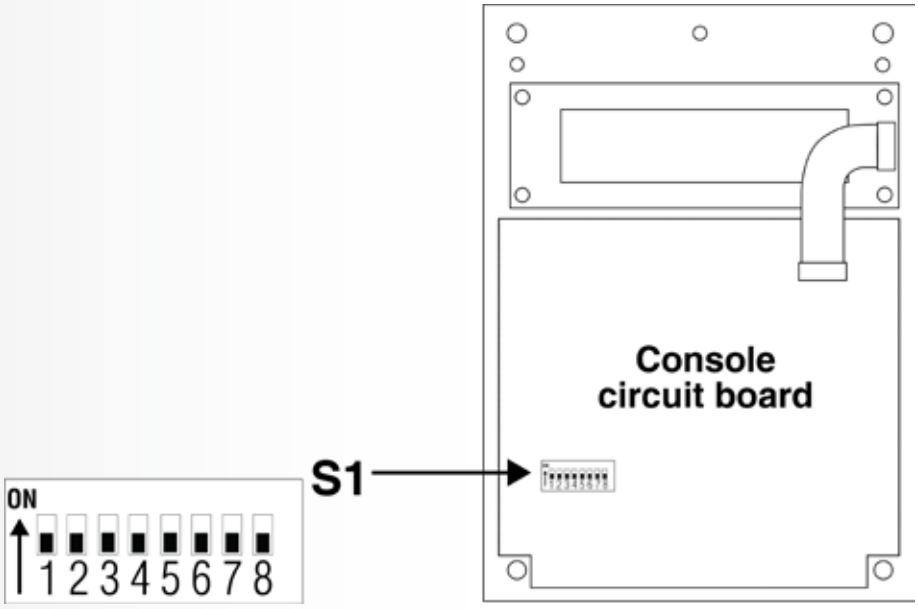


Figure 14. Console DIP switch

S1 Switch Settings								
	Function – Set Console Physical Address							
Switch	**Console #1**	**Console #2**	**Console #3**	**Console #4**	**Console #5**	**Console #6**	**Console #7**	**Console #8**
1	OFF	OFF	OFF	OFF	ON	ON	ON	ON
2	OFF	OFF	ON	ON	OFF	OFF	ON	ON
3	OFF	ON	OFF	ON	OFF	ON	OFF	ON

4	NOT USED	
5	NOT USED	
6 - 7	OFF – RS485 bias OFF	ON – RS485 bias ON
8	OFF – Normal	ON – Diagnostic ON

- **S1 switches 1 through 3** are used to set the Console addresses.
  NOTE: Each Console must have a separate address.
- **S1 switches 4 and 5** are not used.
- **S1 switches 6 and 7** are used to set the RS485 bias (used only if console is the last device on the RS485 line).
- **S1 switch 8** is used for diagnostics.

5.7 Console Installation

The HME 6700HD Bridge provides an interface between the base stations and RS485 devices (routers/Consoles). Follow these instructions to mount and connect the unit.

Figure 15. HME 6700HD Bridge

5.7.1 Console Installation

Using the enclosed mounting hardware, mount the unit on the wall near the store router/switch close to an electrical outlet. Be certain to use the power adapter that was packaged with the HME Bridge. Other power adapters may damage the device.

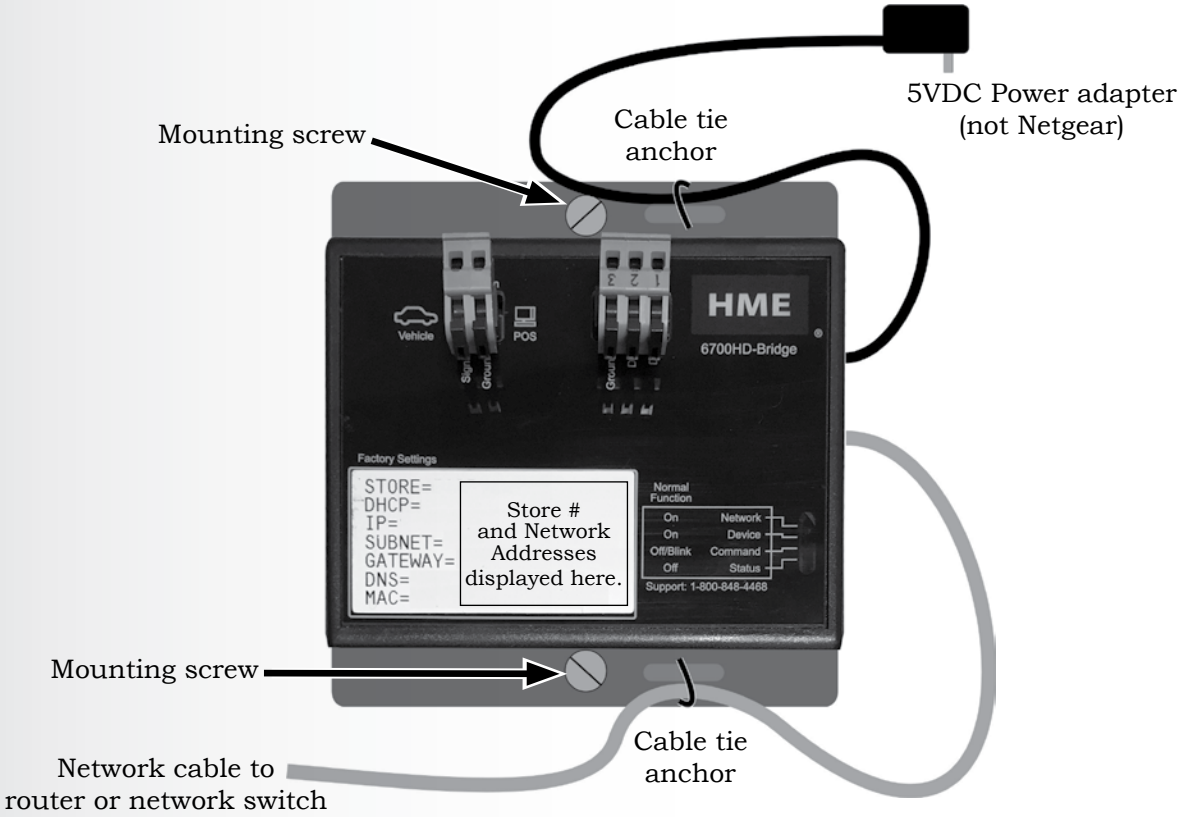


Figure 16. 6700HD Bridge mounting and cable connections

5.7.2 Console Installation

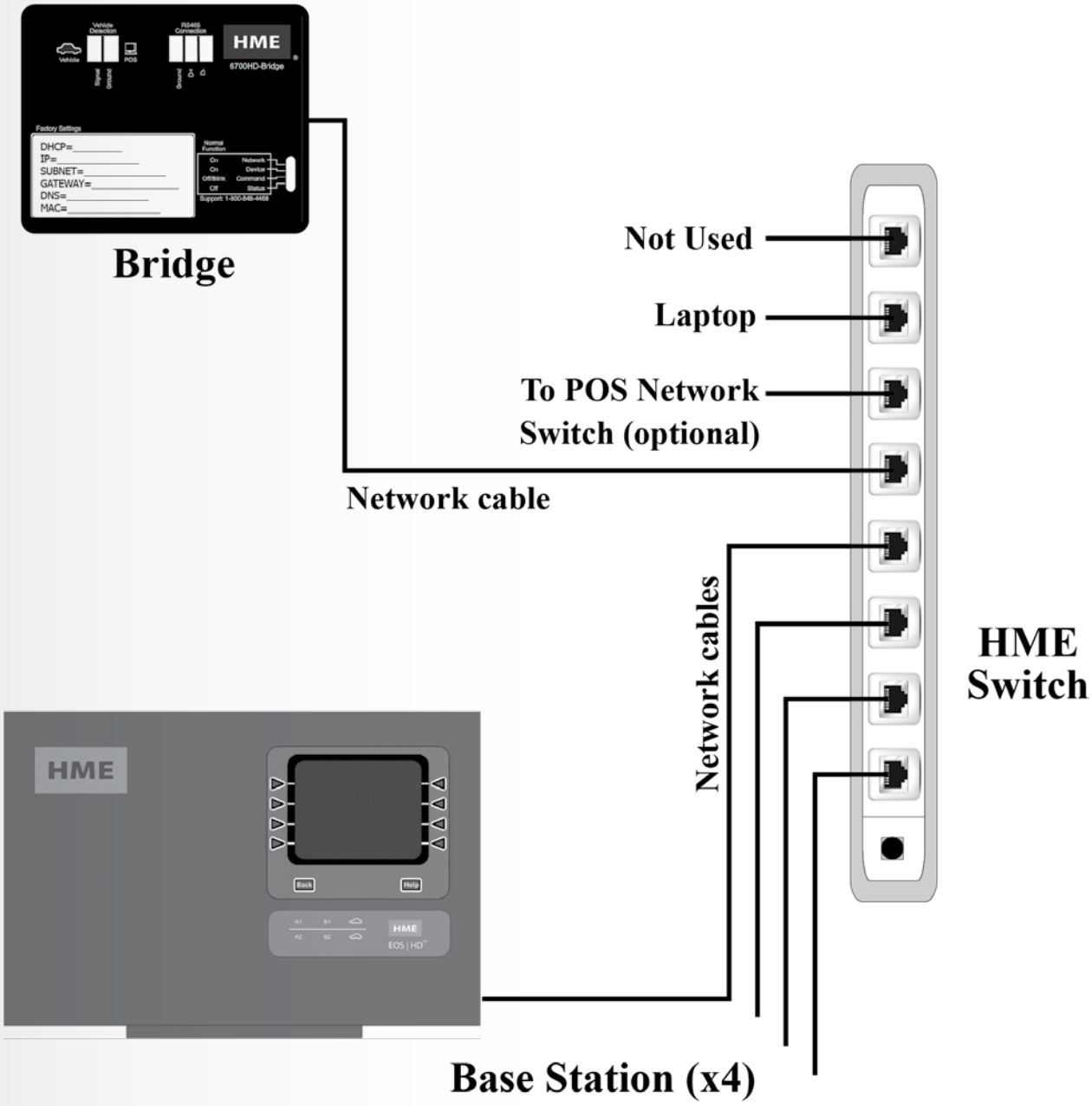


Figure 17. HME 6700HD Bridge wiring diagram

5.7.3 IMPORTANT: Step-by-Step Installation Process

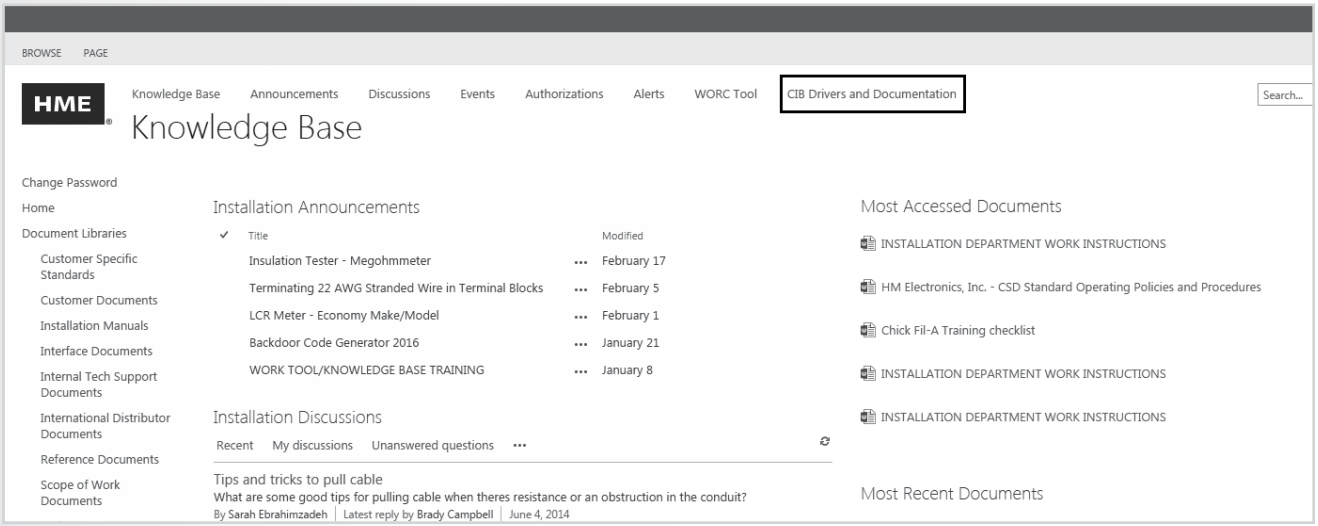
Before you can connect to the Bridge, you'll first need:

- A laptop or desktop computer (running Windows 7 or higher)
- USB to Mini-USB cable
- Network cable (CAT5 or above, 10 feet or greater)

NOTE: No Wi-Fi connections or equipment may be connected to the store network.

Installing CIB Drivers to Windows

Before you connect devices and begin installation, you'll need to install required drivers to your PC. The drivers must be downloaded from the HME Knowledge Base.



Here's what you'll need:

- Laptop
- Ethernet cable (9-12 feet) to connect the Laptop to the bridge/switch
- USB to Mini-USB cable (9-12 feet) in order to connect to CIB for Driver Upload.

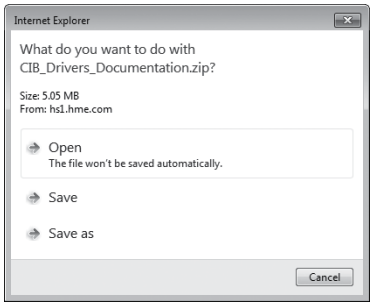
To get started:

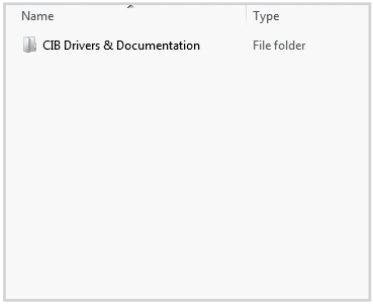
1. From the Knowledge Base website, click on **CIB Drivers and Documentation** to initiate the download.

   Click the **Open** option to view the drivers in a directory.

   NOTE: If you want to save the file to your hard drive, use one of the two **Save** options.

2. Once you've clicked **Open**, double click the **CIB Drivers & Documentation** folder to view the two install files.

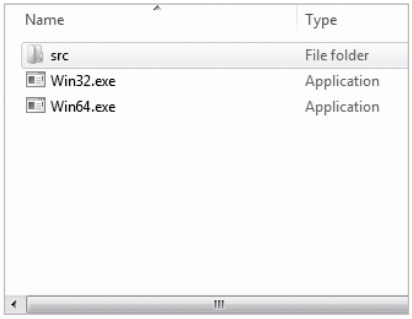




3. Double click and install the driver that supports your Windows operating system: **Win64.exe** (for 64-bit) or **Win32.exe** (for 32-bit).

NOTE: To determine your system type (32-bit or 64-bit), click on the Windows **Start button**, right click on **Compute**r and select **Properties**.

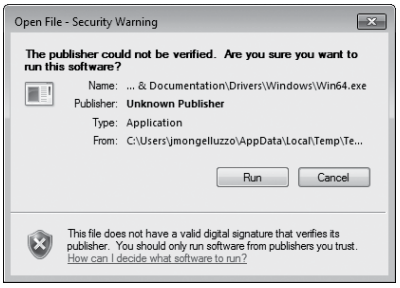
Note that most systems will be 64-bit.



4. Select **Run** to install the drivers.

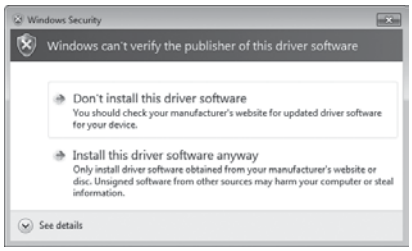
If you have security software running, you may need to select **Run** again on a screen to follow.

NOTE: It is unnecessary to select the **Extract all** option. If you do, it will create a duplicate of the directory accessed in Step 2.



5. To install the drivers, click **Next** and confirm the installation on any screens that follow.

NOTE: If you see the Program Compatibility dialog asking if the drivers were installed correctly, select **YES**.



If Driver Installation Fails...

It may be necessary disable integrity checks (Windows 7). To disable signature verification of drivers:

1. Go to Start Menu > Run option, and type the following command:
   - **bcdedit /set nointegritychecks ON**
2. Restart the PC and attempt to install the drivers again.
3. Once successful, you should enable the signature verification of drivers. Go to Start Menu > Run and type the following command:
   - **bcdedit /set nointegritychecks OFF**
4. Restart your computer.

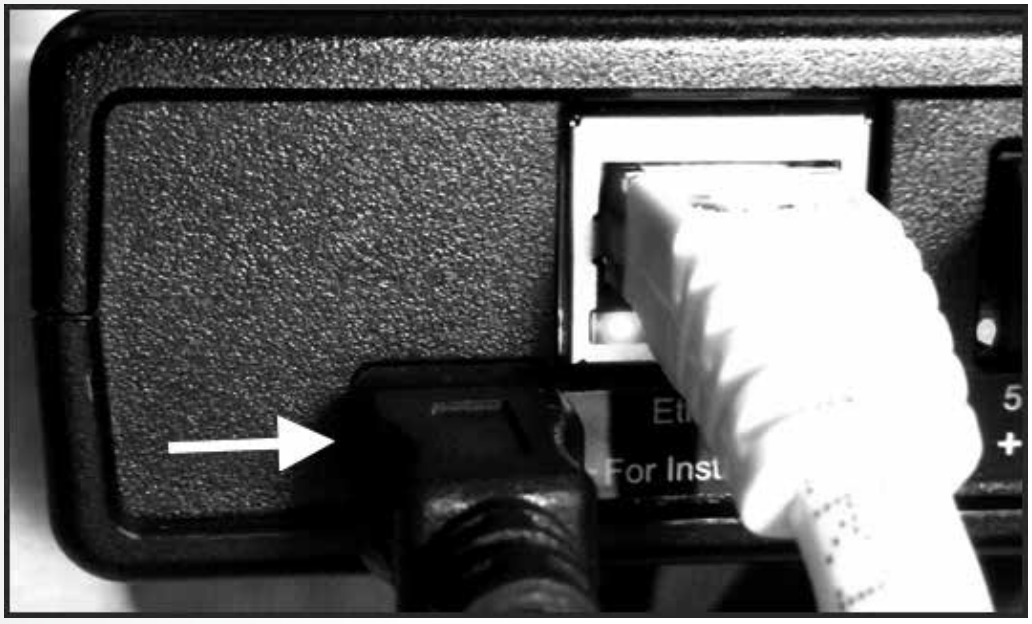
Connect to Bridge with USB (Fixed Address)

1. Connect all System 485 devices and power ON, but **DO NOT** connect the 485 to the bridge yet.
2. Connect all the network cables to bases and bridge, connect them to the network switch but **DO NOT** power on the bases at this time.
3. Turn on the laptop and connect the USB to Mini USB cable to the Bridge.
4. Once connected, open a browser and enter the address: **192.168.7.2**. If the drivers were installed correctly, you will be connected to the Bridge website.

   NOTE: Only **Google Chrome** and **Firefox** browsers are supported. Some settings will not be editable if using Internet Explorer.

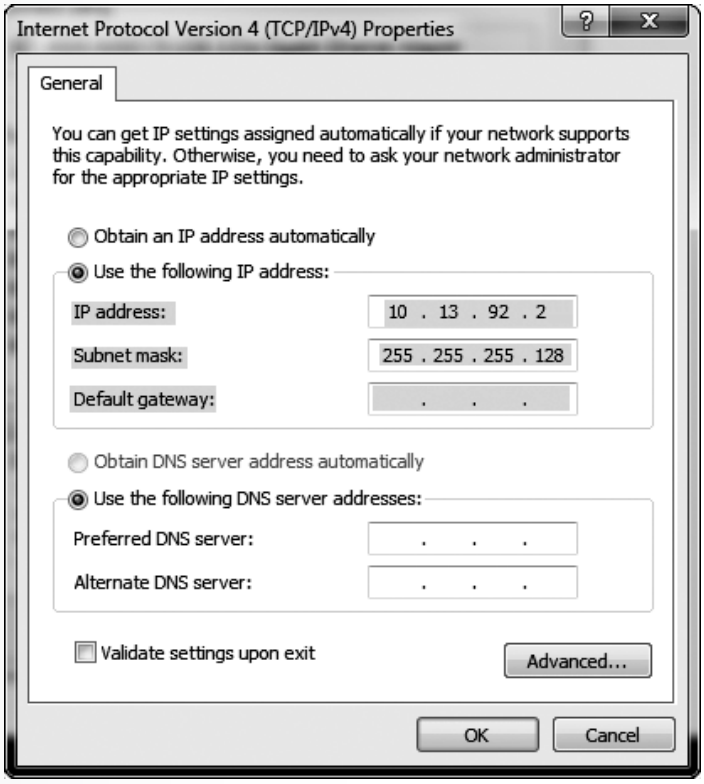
5. Go to **Bridge Power Up** (page 28) to continue setup.

   NOTE: If this is the first time you have connected to a Bridge to your laptop, and you have NOT installed the necessary drivers that allow USB cable communication, see **Installing CIB Drivers to Windows** (section 5.7.3).



Accessing the Bridge with Ethernet

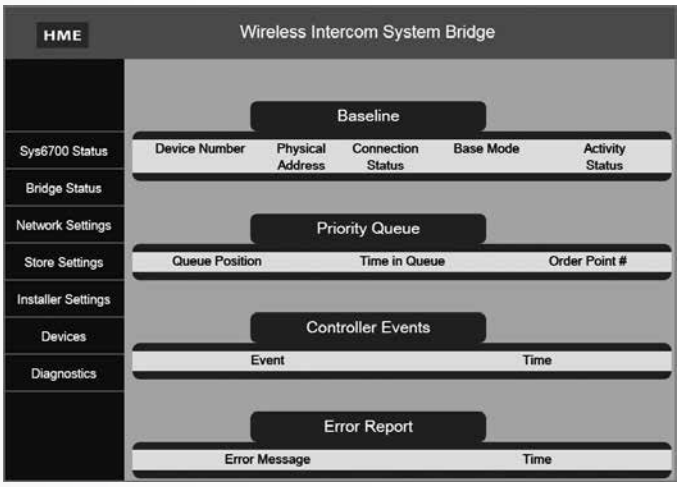
1. Connect all System 485 devices and power ON, but **DO NOT** connect the 485 to the bridge yet.
2. Connect all the network cables to bases and bridge, connect them to the network switch but **DO NOT** power on the bases at this time.
3. Connect the laptop to the HME network switch via a network (CAT5) cable. This should be the same network switch connecting the Sonic Bridge and base stations.
4. Configure the laptop IP address to communicate with the Sonic Bridge. The recommended address that should be used for the laptop is 10.xx.xx.55. The Bridge IP address is **10.xx.xx.2**, where the middle two octets are the store number (Ex: **Store 1392** has the address **10.13.92.2**). Refer to label on front of the bridge.
5. Configure the "Subnet mask" for the laptop to be **255.255.255.128**. The "Default Gateway" should be left blank.
6. Go to **Bridge Power Up** (next page) to continue setup.



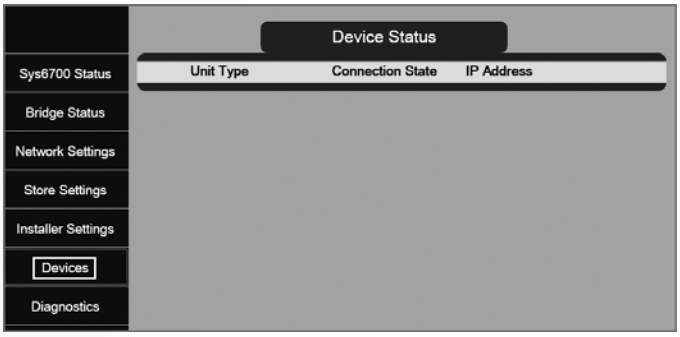
Example

Bridge Power Up

1. Power on the Bridge, and wait 40 seconds for a full boot up.
2. Connect to the Bridge Website.
   a) If you're connected to the Bridge **via USB**, enter **192.168.7.2** in your browser's address bar to view the Sonic Bridge website.
   b) If connected **via Ethernet**, enter "**http://10.xx.xx.2**" in the browser's address bar. The middle two octets are the store number (ex: **Store 1392** has the address **10.13.92.2**). The Sonic Bridge website will appear on-screen.
   c) No information will be displayed in the **Baseline** section at this time.



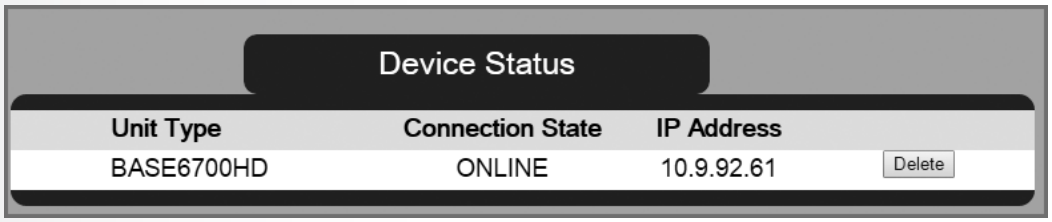
3. Click on **Devices.** A list of bases should not be displayed. The bases should still be powered off.



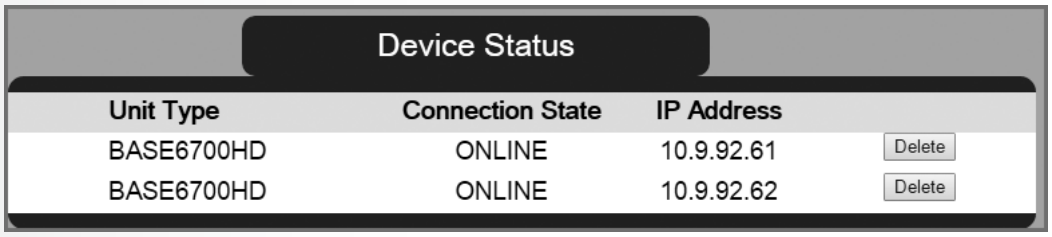
4. Power up base 1, wait 15-20 seconds then click on **Devices** to refresh the page. The first base should show as **ONLINE**. Once listed as online, repeat for each base.
5. Watch each base status screen, and wait for **NDP** to change from "**–**" to "**✓**", and then continue to power up the next base.

Examples displayed on the next page:

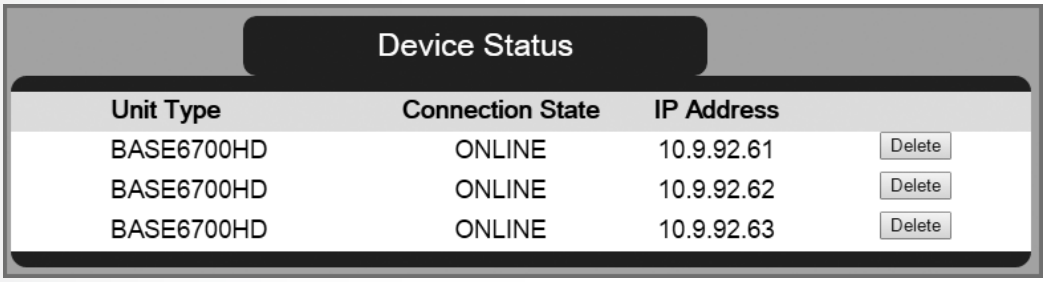
Base 1 powered on and connected



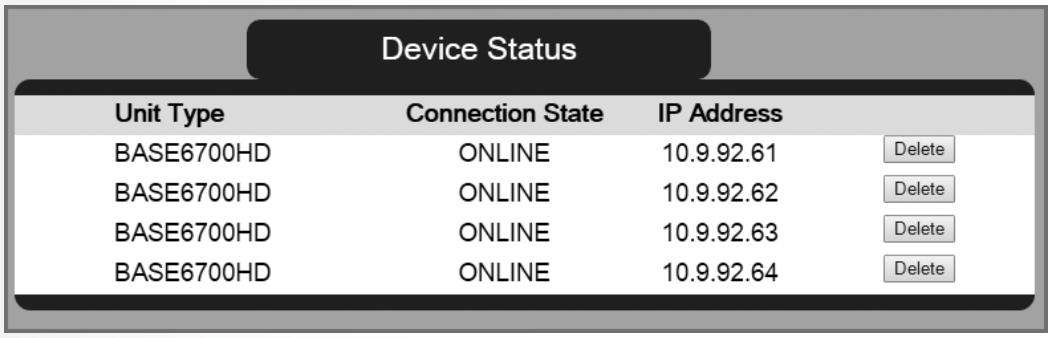
Base 2 powered on and connected



Base 3 powered on and connected



Base 4 powered on and connected, and all bases are Online



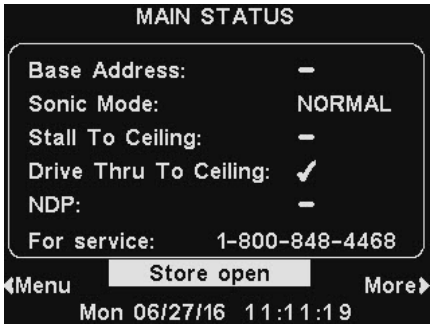
6. Once the final base appears online, wait an "additional 2 minutes". The Bridge and the Bases will take this amount of time to settings and finish establishing a solid connection.

   NOTE: There will be no visible indication that the process is completed, but a two minute wait should suffice.

7. Check the **NDP** status setting on the Base's MAIN STATUS display to confirm that the Bridge is talking to each of the bases.

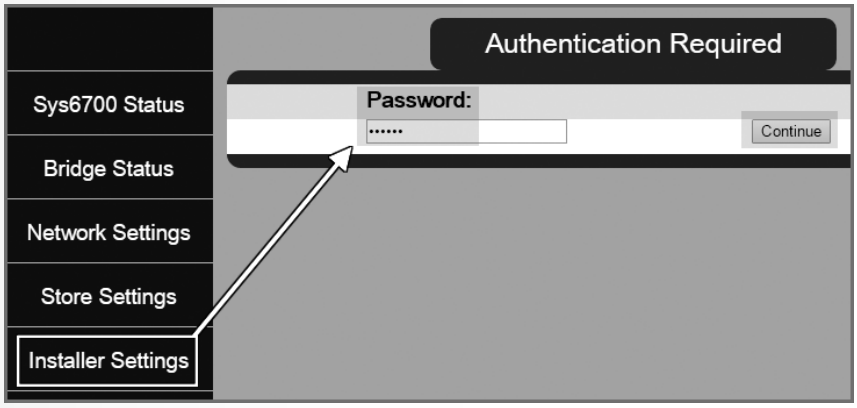
   If a "✓" is displayed, the Bridge is actively communicating with a base.

   If a "–" is displayed, there is no communication. In this instance, review or repeat the above steps or call HME Technical Support at 800-848-4468.

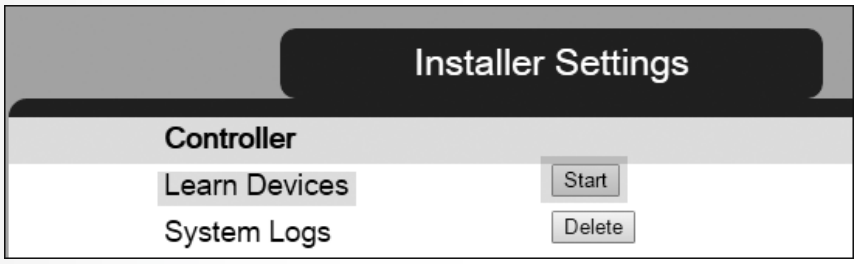


8. Connect the System 485 cable, and the vehicle detector cable to the Bridge.

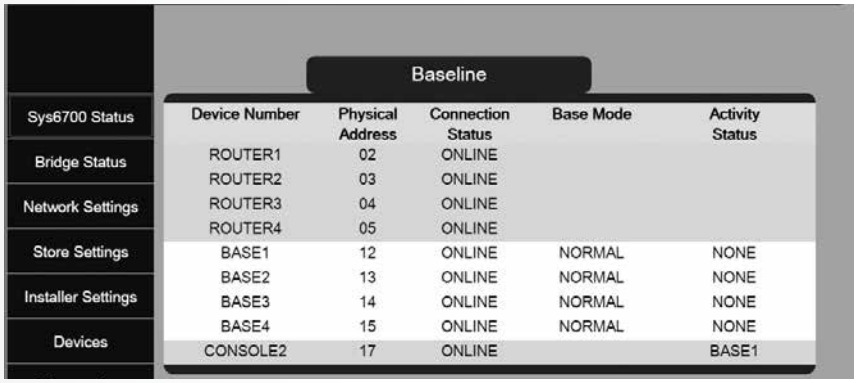
9. Click on **Installer Settings**, enter password:**112462** and click on **Continue**.



10. Click on **Start** to run the **Learn**. The Bridge will learn the bases, routers and console within seconds.

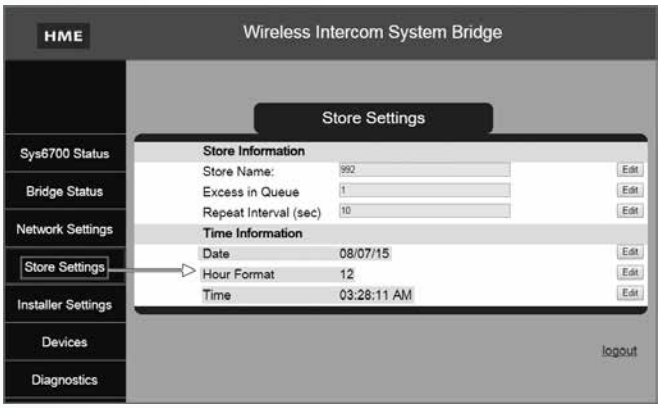


11. Verify the **Learn** was successful by clicking on "Sys6700 Status". All devices should have "*Online*" displayed under "*Connection Status*" if the Learn was successful.



NOTE: If all expected devices do not appear, power off the Bridge and disconnect the RS485 connection. Verify that the RS485 devices have the correct address, and double check all RS485 wiring.

12. Click on **Store Settings**, set the correct Date/Time and then "*power cycle*" the Bridge.



13. **Excess in Queue** alert tones are sounded in the ceiling speaker if too many customers are in queue and more order takers are needed. Click **EDIT** to access the *Excess in Queue* settings. Use the pull-down to select a number. The range is 1 to 20, but the setting should be set at "1". Click **SAVE**.

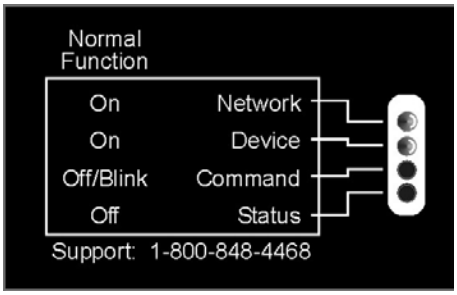
Note: Setting the **Excess in Queue** value to any other number than "1" means that the store will not be notified of calls pending until (2, 3, 4, etc.) number of cars are in the queue.

14. Click **EDIT** to access the **Repeat Interval** settings. Use the pull-down to select a Repeat Interval number (in seconds). The range is 1 to 60 seconds. Click **SAVE**.

NOTE: To turn alert tones off, set Excess-in-Queue to "0". Excess-in-Queue alert tones must be set from 1 second minimum to 60 second maximum repeat intervals.

15. Visually confirm that the 6700HD Bridge Status LEDs and network LEDs are lit by checking the 6700HD Bridge LED status. To verify that the Bridge LEDs display Normal Function:

- The **Network** LED should be blinking.
- The **Device** LED should be steady on (the bases have been located).
- The **Command** LED should be Off or temporarily On.
- The **Status** LED should be Off.

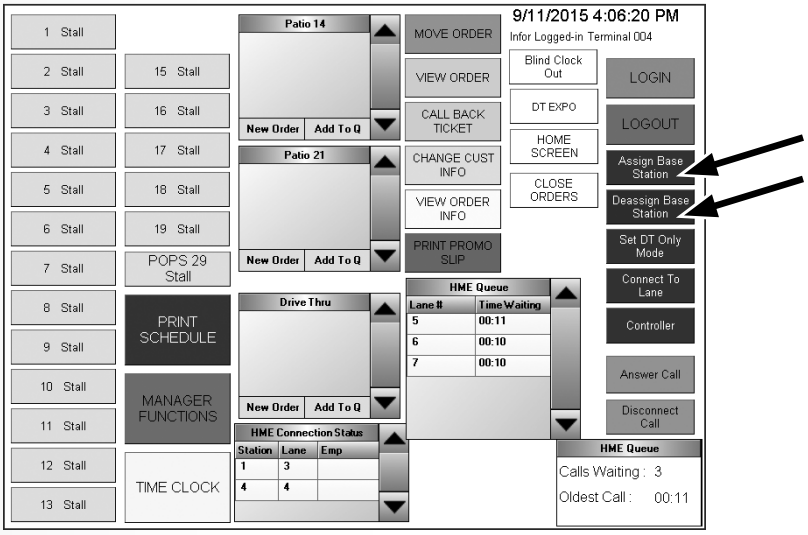


16. Test the system to verify proper functionality.

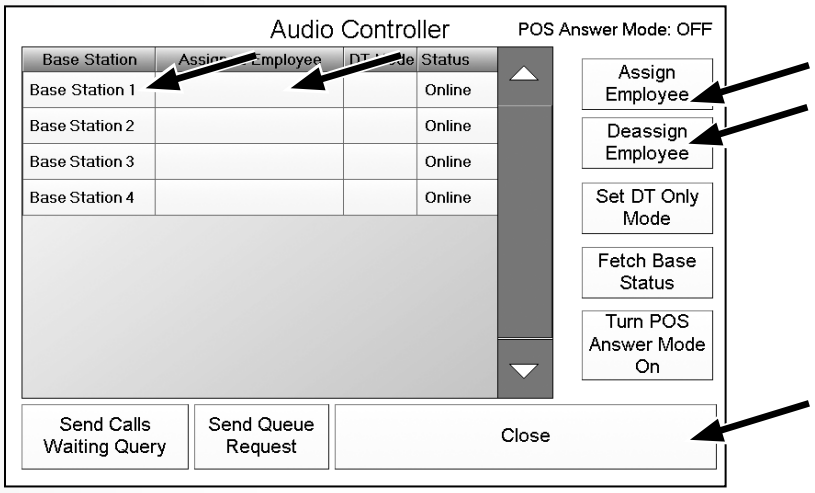
5.8 Assign/Deassign an Employee to a Base Station (Headset) using Infor POS Software

Employees must be assigned to a specific base station. The Infor POS system includes this simple process to assign or deassign an employee:

1. Swipe an access card to view the Main POS screen.
2. Select the **Assign Base Station** or **Deassign Base Station** button to view the Audio Controller screen.



3. From the Audio Controller screen, select a Base Station to view a list of employee names.
4. Select an employee name from the Assign Employee column, and then select the **Assign Employee** or **Deassign Employee** button.
5. Repeat the process to assign or deassign more employees. Select **Close** to exit the screen.



5.9 Optional Vehicle Detector Installation in Drive-Thru Lane

If a vehicle detector loop will be used, it should have already been installed. If another type vehicle detector will be used, install it according to its own installation instructions.

Connect it to the Bridge according to Figure 21, pg. 64. Note that the connections are different for internal and external type vehicle detectors. Be certain the wires are fully inserted into each connector plug to prevent shorting the wires.

1. Route a cable from the vehicle detector to the Bridge.
2. Remove 4 inches of outer insulation from the end of the cable at the Bridge, and strip approximately ¼ inch of insulation from each of the color-coded wires coming from the cables.
3. If an **internal vehicle detector** is used, route the cable from the underground loop to Base 1, and connect it to the TB1 terminal block on the Vehicle Detector Board, as shown in Figure 21, pg. 64.

   If an **external vehicle detector** is used, route the cable from the underground loop to the external detector. Wire the detector output to pins 1 and 2 of the J5 connector on the Bridge circuit board, as shown in Figure 19, pg. 62.

6. SYS6700 BRIDGE INTERFACE

6.1 SYS6700 Status

6.1.1 Baseline

Device Number

This column displays various devices that have been learned by the 6700 system.

Physical Address

This column displays the RS-485 address (real) of the various Devices that have been learned.

Connection Status

This column displays the connection status of the learned Devices. **ONLINE** indicates that the device is recognized, and **OFFLINE** indicates the learned device is not currently connected to the system.

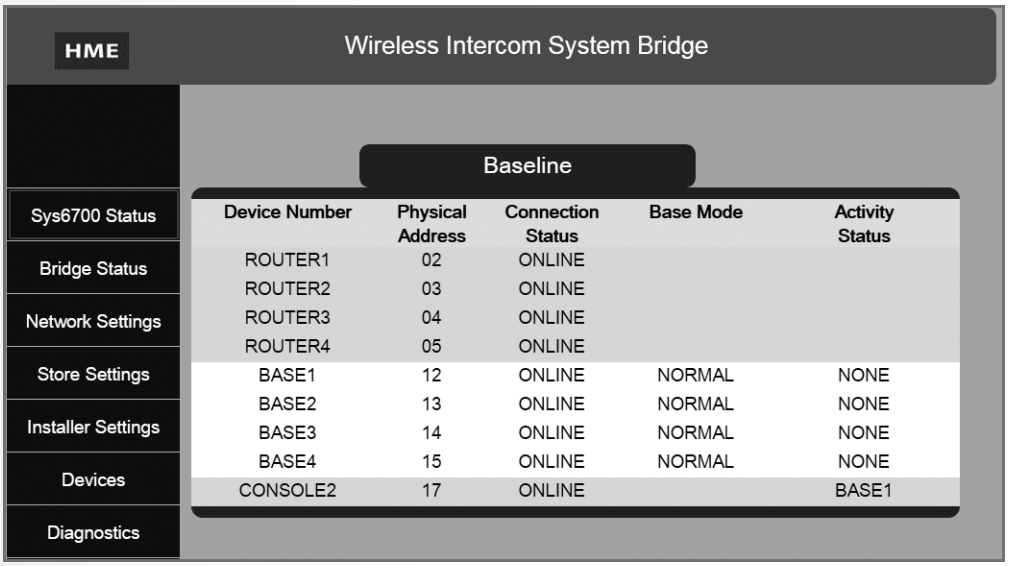
Base Mode

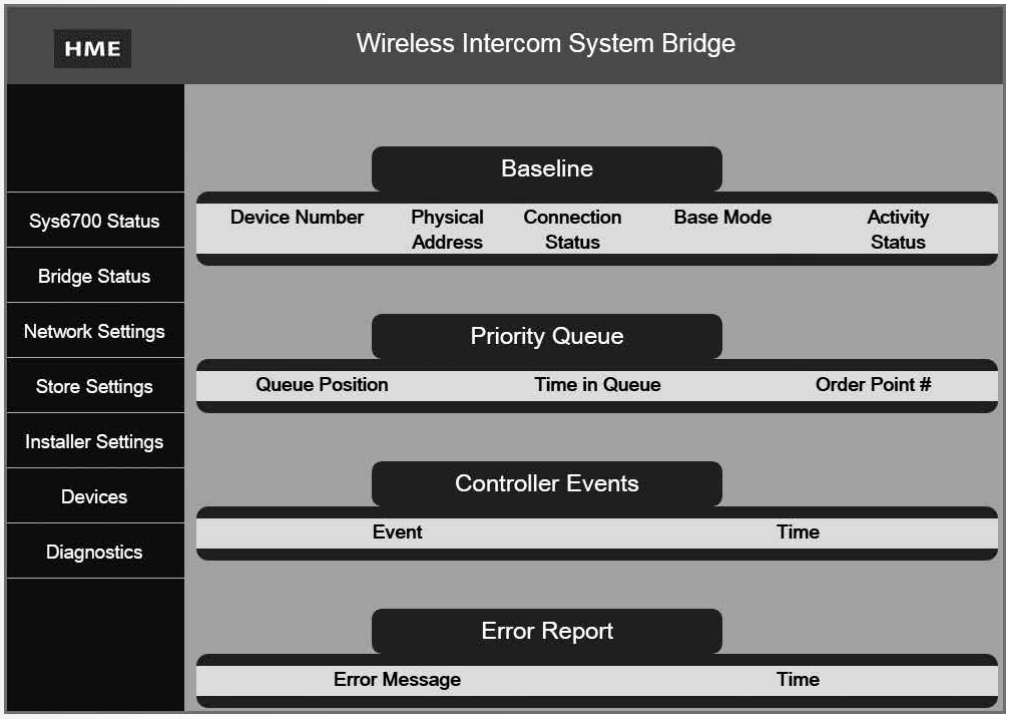
This column displays the current Base Stations' status. If a Base is in **NORMAL** mode, it can answer both the Stalls and the Drive-thru. If Base Mode displays **DT Only** then that base has been set to only answer the Drive-thru, it cannot answer stalls.

Activity Status

This column displays the connection status of the bases and the control status of the Console.

For example, a base connected to Stall 3 will display **STALL 3**; a base currently connected to the Drive-Thru displays **DRIVE-THRU**. If a console is currently assigned to control a base, the column will display **BASE#**. With no current base activity, the column will display **NONE**.





6.2 Priority Queue

Queue Position

The order (in line) of each car in the queue is displayed.

Time in Queue

Car wait time in the queue is displayed.

Order Point

The order point visited by the cars in queue is displayed.

6.3 Controller Events

Event

Defines the action performed by the controller: Power Up, Shut Down, Learn and System Default

Time

Provides the exact time the controller performed an action.

6.4 Error Report

Error Message

Records system errors: Base # Failed, Console # Failed and Router # Failed

Time

Records the exact time an error occurred.

6.5 Bridge Status

6.5.1 Current Status

Serial Number

The serial number of the Bridge is displayed. It should match the bar code displayed on the Bridge.

Firmware Version

The current Firmware version of the Bridge.

Settings Version

The current Settings version of the Bridge is displayed.

OS Version

The current OS version of the Bridge.

6.5.2 Network Configuration

DHCP

It displays whether the bridge is or isn't currently configured in DHCP.

NOTE: DHCP is not normally used. Do not enable without direction from HME technical support.

IP Address

Displays the Bridge's current IP address.

Subnet

Displays the Bridge's current Subnet address.

Gateway

Displays the Bridge's current Gateway address.

DNS1

Displays the Bridge's current DNS1 address.

DNS2

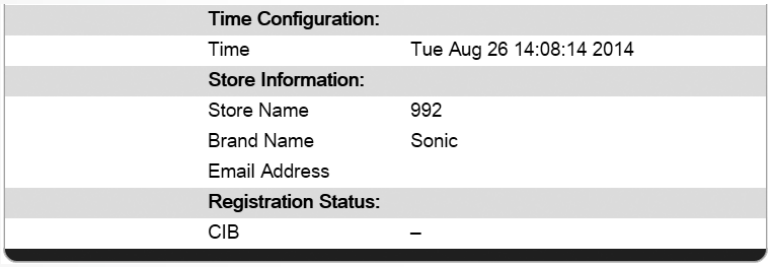
Displays the Bridge's current DNS2 address.

MAC

Displays the Bridge's programmed MAC Address.

Link

A "check mark" indicates the Bridge is currently connected to a network, and a "dash" indicates the Bridge does not have a network connection.



Time Configuration:	
Time	Tue Aug 26 14:08:14 2014
Store Information:	
Store Name	992
Brand Name	Sonic
Email Address	
Registration Status:	
CIB	–

6.5.3 Time Configuration

Time

Displays the Date and set Time on the Bridge.

Note: Date and Time set on the base station will not over ride the Date and Time set on the Bridge.

6.5.4 Store Information

Store Name

This setting displays the Store Number programmed into the Bridge. A Store Number is required for successful Bridge registration to the HME Cloud.

Brand Name

This setting displays the Store Brand programmed into the Bridge. A Store Brand is required for successful Bridge registration to the HME Cloud.

Email Address

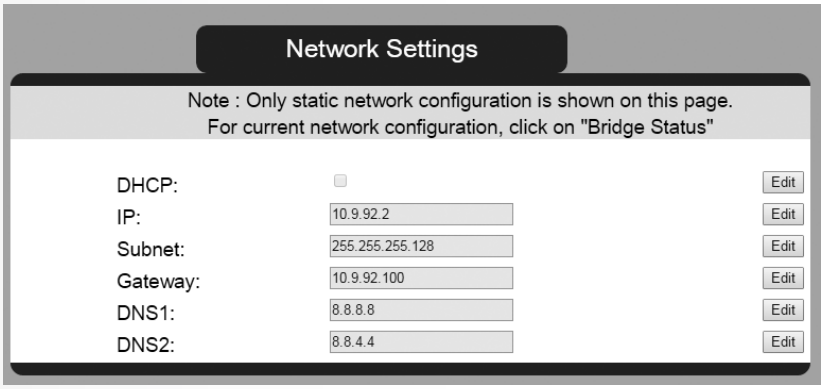
The Email address programmed into the Bridge is displayed. An email address is required for successful Bridge registration to the HME Cloud.

6.5.5 Registration Status

CIB

This indicates whether the Bridge is or isn't registered to the HME Cloud. A "check mark" indicates the Bridge is currently registered to the HME Cloud. A "dash" indicates the Bridge is not currently registered to the HME Cloud.

6.6 Network Settings



NOTE: Any changes to these Network settings require a power cycle of the Bridge to take effect.

DHCP

This setting allows DHCP to be enabled or disabled. A “check mark” on the box indicates that DHCP has been enabled. An “empty box” indicates that DHCP is disabled.

NOTE: DHCP is not normally used. Do not enable without direction form HME technical support.

IP Address

This setting is used to set the Bridge’s Static IP address.

Subnet

This setting is used to set the Bridge’s Static Subnet address.

Gateway

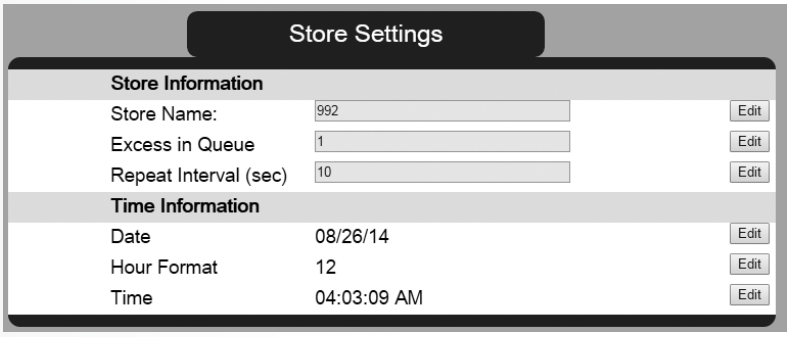
This setting is used to set the Bridge’s Static Gateway address.

DNS1

This setting is used to set the Bridge’s Static DNS1 address.

DNS2

This setting is used to set the Bridge’s Static DNS2 address.



6.7 Store Settings

6.7.1 Store Information

Store Name

This setting is used to set the Store Number.

Excess in Queue

This setting is used to set the maximum amount of cars allowed in the queue before the Excess in Queue warning tone will be played in the ceiling speaker.

Repeat Interval (sec)

This setting determines how often the Excess in Queue warning tone will be repeated.

6.7.2 Time Information

NOTE: Any changes to these settings require that you power down then power up the Bridge.

Date

Used to set the Bridge Date.

Hour Format

Used to set the Bridge's hour format. The options are 12 hour am/pm or 24hr military time. The 24HR format is recommended.

Time

Used to set the Bridge time.

6.8 Installer Settings

6.8.1 Authentication Required

Password

Input the installer password, and the press the "Continue" button to gain access to the Installer Settings.

6.8.2 Controller

Learn Devices

This setting is used to Learn all the devices in the 6700 system, Bases, Routers and Consoles. Select "Learn" to begin the process.

System Logs

Clicking the **Delete button** will clear all the Bridge's logs.

Select this option following a successful install and test to clear the logs, so any future errors are properly recorded during store operation.

6.8.3 Store Setup

Max Order Points

Set the maximum amount of Order Points that each particular store is using. By default, this setting will automatically populate with the maximum amount of Order Points possible once all the Routers have been learned. One Router = 16 Order Points; two routers = 32 Order Points, etc.

6.8.4 POS

Port

Set the correct port used by the POS system. By default, the port should be set to 8020 unless otherwise specified by the POS requirements for a particular store.

6.8.5 Base Discovery

Network Scan & Broadcast

This setting allows you to set the speed at which the "CIB Application" scans the network to discover bases connected to the 6700 network.

- **Off** = No scan for any devices.
- **Normal** = Two IP addresses scanned every 5 seconds.
- **Fast** = 10 Network IP addresses scanned every 5 seconds.

It is recommended that this setting be set to **Normal**.

6.8.6 Defaults

System Restore

This setting allows the Bridge to be restored to the default settings. In some cases where the Bridge is not performing correctly, it may be necessary to select this option. Once selected, all custom programming for the Bridge will be lost.

In order for the Bridge to operate after System Restore, it is required that the Bridge be manually programmed. Please be certain that Bridge programing is fully understood before using this option.

NOTE: An administrator password is required to access this setting.

6.9 Devices

6.9.1 Device Status

Unit Type

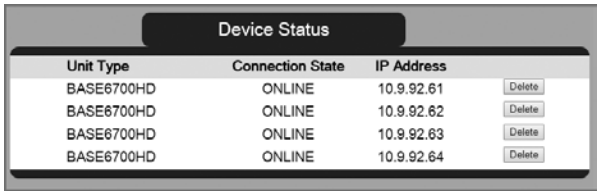
Displays the type of device that the Bridge's "CIB Application" has discovered.

NOTE: Mouse-over on the unit type to view a pop up that displays the Firmware version of the unit.

Connection State

The current connection state of Discovered devices on the Local Area Network (LAN) is displayed.

- **Online** = currently located on the network.
- **Offline** = previously located on the network but now off the network.
- **Bootloader** = the device is in the bootloader state. Bootloader is displayed only during firmware update of base stations.



IP Address

Displays the IP Address of the located devices.

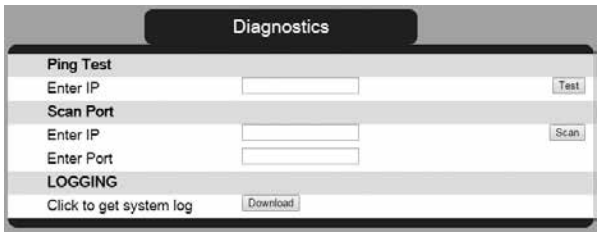
Delete

Use the "**Delete**" button to delete a device found by the Bridge's CIB Application. The CIB Application can hold a maximum of 8 devices in memory. Once the 8 devices have been discovered, no more devices can be discovered.

The "**Delete**" button allows an old device (a failed base that needs to be replaced) to be erased from CIB Application memory, so a new base or other device can be discovered.

NOTE: Deleting any displayed device requires that you power down the Bridge then power back up to complete the deletion.

6.10 Diagnostics



6.10.1 Ping Test

Enter IP

Enter an IP address and press the **Test button**. If the Bridge is able to ping the IP address of the device, Success will be displayed. If it is unable to ping the IP address of the device, Failed will be shown.

The Ping Test is used to determine if the POS is reachable during 6700 to POS integration.

6.10.2 Scan Port

Enter IP

Enter the IP address of the device to scan its port.

Enter Port

Enter the port number to scan, and then press the **Scan button**. If the Bridge is able to scan the port number of the device, Success will be reported. If it is unable to scan the port number of the device, Failed will be reported.

NOTE: It is important to always logout of the password protected areas when finished. If you do not logout, these critical settings will remain exposed.

6.10.3 Wiring Diagnostic Test

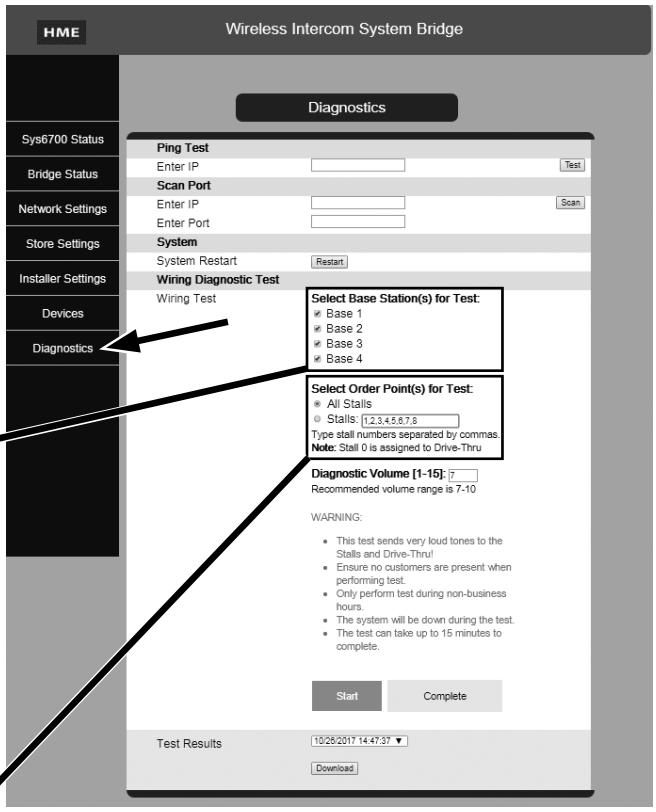
This tool allows Installers to initiate a tone test to verify the wiring connections of a Full-Duplex Sonic 6700 system. It's designed to help Installers detect which combination of equipment (base station, router, or stall) may have wiring errors. Once the test is completed, a test result report will be available for download.

Warning: This test sends very loud tones to the Stalls and Drive-Thru!

- Ensure no customers are present when performing the test.
- If a stall button is pressed or a vehicle is detected in the drive-thru, the test will automatically cancel.
- Only perform the test during non-business hours.
- The system will be down during the test.
- The test can take up to 15 minutes to complete.

Diagnostics

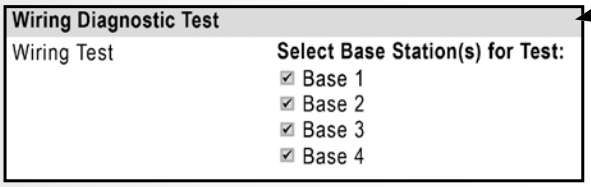
To access the Diagnostics options, click **Diagnostics** from the list of options on the left side of the page.



Select Base Station(s) for Test

The Wiring Diagnostic Test offers the option to test a specific base station or all base stations.

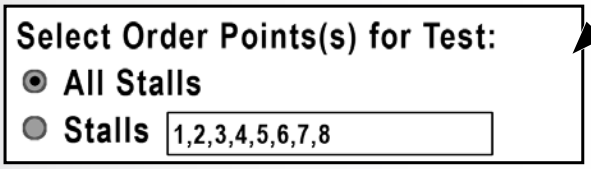
To select which base stations to test, click the check box next to a listed base station. Clicking a "✓" in a box will deselect a base.



Select Order Points for Test:

Test some or all order points.

Select **All Stalls** to test all order points.



If specific order points need to be tested, select the **Stalls** option and manually type in stall numbers (separated by a comma). Stall ranges can also be entered with a dash.

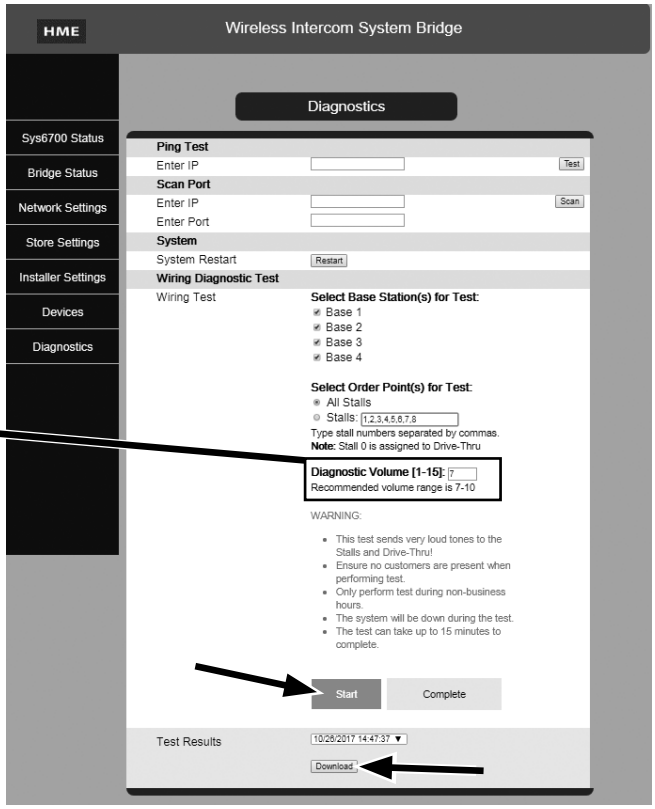
Example: Typing "5-12" will indicate that stalls 5 through 12 will be tested.

Note: Stall 0 is always assigned to Drive-Thru.

Select Diagnostic Volume for Test

By default, the test's volume level is set to 7. The recommended volume range is 7-10.

In an instance where the environmental noise is too high, it may be necessary to exceed volume level 10 to get to a satisfactory test level. Tone levels above 10 are very loud, so be careful when using them.



Start Test

Click **Start** to begin the test.

Once the test begins, the "**Start**" button will change to a "**Cancel**" button, and the status indicator will show "**In-Progress**".

Press the "**Cancel**" button at any time to cancel the test. The cancellation process takes approximately one minute to complete.

Once the test or the cancellation of a test is complete, the "**Cancel**" button will revert back to "**Start**", and the "**In-Progress**" indicator will change to "**Complete**".

If any of the stall buttons are pressed during the test, or a car is detected in drive-thru, the test will automatically cancel.

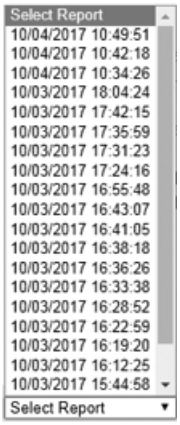
The status indicator will change from "**In-Progress**" to "**Failed**", indicating that the test was interrupted.

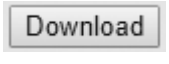
Test Results

To view test results, select the desired report from the "**Select Report**" pull-down menu then press the "**Download**" button.

The reports will be labeled by the date and time that the test was performed. The most recent report will be displayed at the top of the pull-down menu.

The downloaded report is text-based and can be opened and viewed using a word processing program, such as WordPad, Notepad, Microsoft Word, etc.

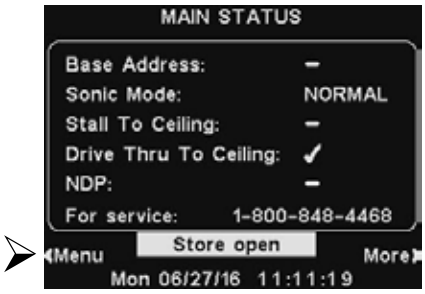
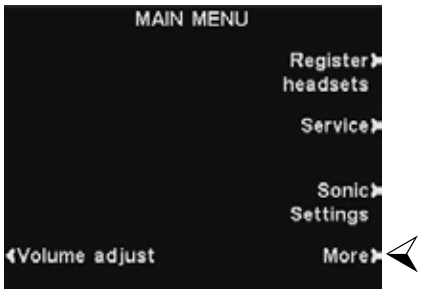
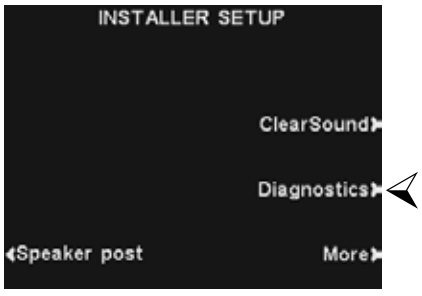
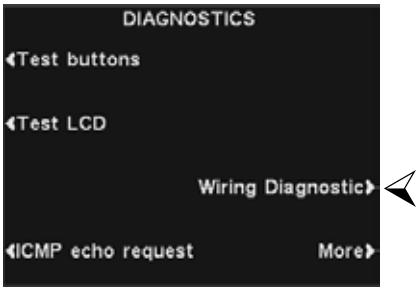




Wiring Diagnostic Test

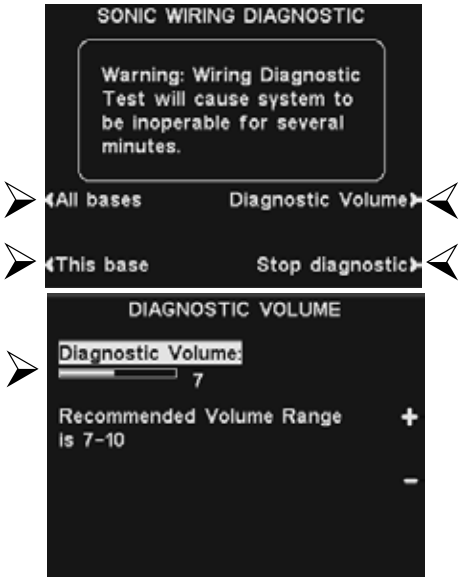
The Wiring Diagnostic Test can be started from any base station Menu, but the test options are limited to the following:

- All stalls and all bases are tested, or a specific base is tested with all stalls.
- Individual order points cannot be selected for the test.
- There is no reporting of the test results on the base station.
- The Wiring Diagnostic report must be downloaded from the bridge (described on the previous page) to view the test results.

1. To start the Wiring Diagnostic Test from a base station, press the **Menu button** from the Main Menu (on any base station).	
2. From the Main Menu, select the **More button**.	
3. From the Advanced Menu, select the **Installer Setup** button, and enter the Installer password.	
4. From the Installer Setup menu, select the **Diagnostics button**.	
5. From the Diagnostics menu, select the **Wiring Diagnostic button**.	

6. There are four options on the Sonic Wiring Diagnostic menu:

- **All Bases**: Uses all bases to test all order points.
- **This Base**: Uses this base only to test all order points.
- **Diagnostic Volume button**: Select the tone volume for the test. If no selection is made, the Diagnostic volume will default to level 7.
- **Stop Diagnostic button**: Stops the test at any time.



6.10.4 Understanding the Wiring Diagnostic Report

1. Report Example

```
Summary:
 Store Number: X
 Bridge Version: 2.12.6
 Test Start Time: 08/23/2017 09:20:08
 Test End Time:   08/23/2017 09:21:15
 Tested 2 base(s) with 5 stalls.
 Test Tone Volume Level: 7

Drive-Thru/Stall Test Result Key:
 PASS: Consistent Tone Level Greater Than 1000
 FAIL: Tone Level Less Than 1000 and/or Intermittent Tone

Crosstalk Test:
 Base 1: No Crosstalk Detected
 Base 2: Crosstalk Detected

------------------ BASE 1  [Version 1.80.x] ------------------
Stall #     Result       Tone Level    Condition(s)

   DT        PASS           1500       Steady Tone
   1         FAIL           1122       Intermittent Tone
   2         FAIL           830        Low Tone
   3         PASS           1355       Steady Tone
   4         FAIL           900        Low Tone,Intermittent Tone


------------------ BASE 2  [Version 1.80.x] ------------------

WARNING: Crosstalk Detected!
Test results could be compromised.
Drive-Thru/Stall test has been canceled for this base.
Verify speaker and mic wires do not share a common cable between
BASE and ROUTER and/or ROUTER to ROUTER.
Once wiring is repaired, re-run test.
```

2. The Summary section of the report will list the following:

- Store number
- Bridge version
- Start and end time of the test
- Number of bases tested with the number of order points tested
- Level of tone volume used for the test

```
Summary:
 StoreNumber: 12435
 Bridge Version: 2.12.11
 Test Start Time: 10/20/2017 05:45:06
 Test End Time: 10/20/2017 05:48:12
 Tested 4 base(s) with 16 stalls.
 Test Tone Volume Level: 7
```

3. The Drive-Thru/Stall Test Result Key explains criteria that will determine if an order point passed or failed the test.

To be considered a “PASS”, the tone level received must be greater or equal to a magnitude of 1000.

Tone level received that is less than a magnitude of 1000 and/or is intermittently received will be considered a “FAIL”.

Each base station will be listed in the report separately with its results.

```
Drive-Thru/Stall Test Result Key:
 PASS: Steady Tone Level Greater Than 1000
 FAIL: Tone Level Less Than 1000 and/or Intermittent Tone
```

4. The **Crosstalk Test** is used to detect if the microphone and speaker wires have been incorrectly installed using the same insulated cable (i.e. all wires bundled together), rather than the microphone and speaker wires properly installed in separated insulated cables.

This test verifies correct wiring from base station to router and from router to router.

When a base station detects crosstalk, the test will be canceled for that base station. The test will proceed for base stations not experiencing crosstalk. If crosstalk is detected for all base stations, the entire test will cancel.

The report will list the crosstalk results by base station number, and list wiring errors that need to be corrected. Once the wiring is corrected, run the test again to verify the crosstalk was eliminated.

An example of the **Crosstalk Detected** message is shown in the illustration.

```
Crosstalk Test:
 Base 1: No Crosstalk Detected
 Base 2: Crosstalk Detected
 Base 3: No Crosstalk Detected
 Base 4: Crosstalk Detected
```

```
------------------ BASE 4  [Version 1.80.x] ------------------

WARNING: Crosstalk Detected!
Test results could be compromised.
Drive-Thru/Stall test has been canceled for this base.
Verify speaker and mic wires do not share a common cable
between BASE and ROUTER and/or ROUTER to ROUTER.
Once wiring is repaired, re-run test.
```

5. Each base station tested will report the following:

- The Stall # tested with the listed base station.*
- The PASS or FAIL Result for each stall tested.
- The magnitude of the Tone Level received during the test:

  PASS: Tone level greater or equal to 1000 and condition of tone is steady.

  FAIL: Tone level less than 1000 and/or condition of Intermittent Tone received.
- The Condition of the tone received (varied based upon the tone received):**

  Steady Tone: The tone received is consistent and greater or equal to a magnitude of 1000.

  Low Tone: The tone received is less than the magnitude of 1000.

  Intermittent Tone: The tone received was not consistent.

*Stall 0 is assigned to drive-thru. Drive-thru will be abbreviated as “DT” on the stall number listing.

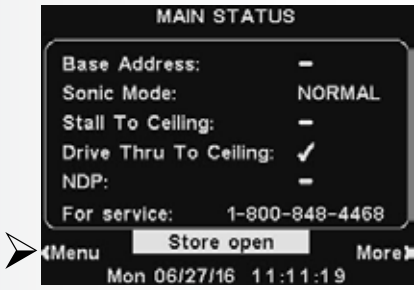
**Low and/or intermittent tone conditions indicate some problem with either the speaker or microphone elements, the wiring of the speaker or microphone or a router issue.

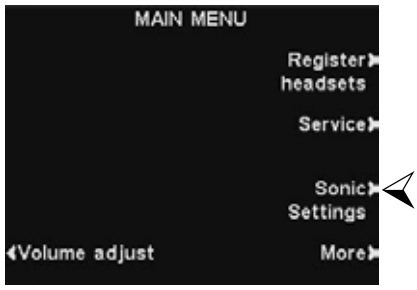
---------- BASE 1 [Version 1.80.x] ----------

Stall #	Result	Tone Level	Condition(s)
1	PASS	2854	Steady Tone
2	PASS	1501	Steady Tone
3	PASS	1966	Steady Tone
4	PASS	2359	Steady Tone
5	FAIL	806	Low Tone
6	PASS	1741	Steady Tone
7	PASS	3555	Steady Tone
8	PASS	2698	Steady Tone
9	PASS	3513	Steady Tone
10	FAIL	532	Low Tone, Intermittent Tone
11	FAIL	872	Low Tone
12	PASS	3218	Steady Tone
13	PASS	2647	Steady Tone
14	PASS	2395	Steady Tone
15	PASS	1101	Steady Tone
16	PASS	1528	Steady Tone

7. SONIC SETTINGS

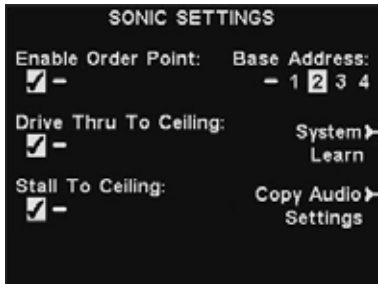
The SONIC SETTINGS menu allows you to adjust communication settings related to functions of the drive up stalls and drive-thru, and configure up to four base addresses. To access these settings, select **Menu** at the MAIN STATUS menu, then select **Sonic** Settings.





There are two communication settings and one Base Address option.

7.1 Enable Order Point



This option enables communication with an order point.

If it is disabled, the headset will continue to beep, but there will be no communication with stalls or the drive-thru.

Press the **Enable Order Point** button on the STORE SETTINGS screen. By default, it is set to ✓ (on). Disable it by selecting – (off).

7.2 Drive Thru to Ceiling

This option provides the ability to hear inbound Drive-thru audio through the base station's ceiling speaker. The outbound audio will not be heard. The default setting is ✓ (on). Select – (off) to disable it.

7.3 Stall to Ceiling

This option provides the ability to hear inbound Stall audio through the base station's ceiling speaker. The outbound audio will not be heard. The default setting is – (off). Select ✓ (on) to enable it.

7.4 Base Address

For stores with more than one base, use this option to choose the base address (1, 2, 3 or 4) for each base. Each base must be set to a different address. ***Note: The Base Address is set during installation and should not be changed unless instructed by HME Technical Support.***

7.5 System Learn

The base tells the Bridge to Learn the entire Sonic system (Bases, Routers and Console) without the need to access the base station settings using a web browser.

Warning: Performing a System Learn will take the audio system offline for several minutes.

7.6 Copy Audio Settings

Once audio settings have been satisfactorily set on one base (of a multi-base system), select this option to automatically copy those audio settings to all connected bases.

Warning: Performing the Copy Audio Settings function will take the audio system offline for several minutes.

NOTE:
*If your headset is beeping, but you cannot communicate, check to make sure **Enable Order Point** is set to ✓ (on).*

8. FUNCTIONAL CHECK & SYSTEM SETUP

8.1 Functional Check

After all cable connections are completed and all DIP switches have been appropriately set, proceed with the following functional check. Be certain all power adapters are plugged into electrical outlets. Perform the following tests with every headset to every stall.

8.1.1 Installation Checklist / Preliminary Setup

- ❑ All batteries are charged or are in the charger.
- ❑ Base Stations have been mounted, and range tested.
- ❑ A Console is mounted next to Point of Sale terminal.
- ❑ Routers and Console have been set for a unique address on the RS485 line.
- ❑ The RS485 wiring has been completed.
- ❑ The Remote Display(s) have been mounted where they are visible from all parts of the restaurant.
- ❑ The wiring of the speakers and call buttons has been completed between the stalls and Routers.
- ❑ The ceiling speaker has been connected to one of the Routers.
- ❑ The wiring of the microphone and speaker between the Base Stations and Routers has been completed.
- ❑ The wiring of the ceiling speaker to the Base Stations has been completed.
- ❑ Headsets have been registered to Base Stations and marked with corresponding Station ID (1-4) and have been set for Push-to-Talk (PTT) mode.
- ❑ Power has been applied to Bridge, Routers, and Base Stations.

8.1.2 Stall Connections

- ❑ Place a battery in headset #1 and turn the headset on.
- ❑ Press the call button at Stall #1.
- ❑ Verify the call tone is heard in the headset.
- ❑ Verify the First-in-Queue tone is repeatedly playing from the 'Router ceiling speaker.
- ❑ Verify Console display "WAITING= 1" on the first line of the display.
- ❑ Verify the Remote Display shows "1".
- ❑ Press and release the "A1" or "A2" button on the headset.
- ❑ Verify "Stall 1" is heard in the headset followed by inbound audio from Stall 1.
- ❑ On Console, verify "WAITING= 0" on the first line.
- ❑ On Console assigned to Station 1, verify "STALL 1 CONNECTED" on the display.
- ❑ Verify the Remote Display shows "0".
- ❑ While pressing the "A1" or "A2" button, speak into the headset microphone, and verify the audio is heard at Stall 1. For full-duplex installations, inbound audio can still be heard while the "A1" or "A2" button is pressed. For half-duplex, the "A1" or "A2" button must be released to again hear inbound audio.
- ❑ Press the "B" button on the headset and verify the headset becomes silent.
- ❑ Repeat the above connection verification for all remaining Stalls.

8.1.3 Drive-Thru Connections

- ❑ Drive a car into the Drive-Thru. Verify the Drive-Thru tone is heard in the headset.
- ❑ Verify the First in queue tone is repeatedly playing from the Router ceiling speaker.
- ❑ Verify Console display "WAITING= 1" on the first line of the display.
- ❑ Verify the Remote Display shows "1" and the car's current time in the queue.
- ❑ Press and release the "A1" or "A2" button on the headset. Verify "Drive-Thru" is heard in the headset followed by inbound audio from the Drive-Thru.
- ❑ On Console, verify "WAITING= 0" on the first line.
- ❑ On Console assigned to Station 1, verify "DRIVE-THRU CONNECTED" on the display. On the Remote, verify that it displays "0".
- ❑ While pressing the "A1" or "A2" button, speak into the headset microphone, and verify the audio is heard at the Drive-Thru. For full-duplex installations, inbound audio can still be heard while the "A1" or "A2" button is pressed. For half-duplex, the "A1" or "A2" button must be released to again hear inbound audio.
- ❑ Press the "B" button on the headset. Verify the headset becomes silent.

8.1.4 Drive-Thru Connections

- ❑ Drive a car into the Drive-Thru. Verify the Drive-Thru tone is heard in the headset.
- ❑ Verify the First in queue tone is repeatedly playing from the Router ceiling speaker.
- ❑ Verify Console display “WAITING= 1” on the first line of the display.
- ❑ Verify the Remote Display shows “1” and the car’s current time in the queue.
- ❑ Press and release the “A1” or “A2” button on the headset. Verify “Drive-Thru” is heard in the headset followed by inbound audio from the Drive-Thru.
- ❑ On Console, verify “WAITING= 0” on the first line.
- ❑ On Console assigned to Station 1, verify “DRIVE-THRU CONNECTED” on the display. On the Remote, verify that it displays “0”.
- ❑ While pressing the “A1” or “A2” button, speak into the headset microphone, and verify the audio is heard at the Drive-Thru. For full-duplex installations, inbound audio can still be heard while the “A1” or “A2” button is pressed. For half-duplex, the “A1” or “A2” button must be released to again hear inbound audio.
- ❑ Press the “B” button on the headset. Verify the headset becomes silent.

8.1.5 Drive-Thru Only Mode

- ❑ On Console assigned to Station 1, Press the “DRIVE-THRU ONLY” key.
- ❑ Verify “ENTER DRV THRU ONLY?” on line two of the Console display.
- ❑ Press the “ENTER” key of the Console. Verify “Drive-Thru Only” is heard in headset.
- ❑ Verify “DRIVE-THRU ONLY” on line two of the Console display.
- ❑ Drive a car into the Drive-Thru lane. Verify Drive-Thru tone is heard in headset.
- ❑ Verify the Router ceiling speaker remains silent.
- ❑ Verify the Remote Display shows “0” (if installed at set to display number in queue).
- ❑ Verify Console display “WAITING= 0” on the first line of the display.
- ❑ Press and release the “A1” or “A2” button on the Belt-Pac. Verify the Drive-Thru tone followed by inbound audio from the Drive-Thru is heard in the headset.
- ❑ Verify “DRIVE-THRU CONNECTED” on line two of the Console display.
- ❑ Verify the Remote Display shows “0”.
- ❑ While pressing the “A1” or “A2” button, speak into the headset microphone, and verify the audio is heard at the Drive-Thru. For full-duplex installations, inbound audio can still be heard while the “A1” or “A2” button is pressed. For half-duplex, the “A1” or “A2” button must be released to again hear inbound audio.
- ❑ Press the “B” button on the headset. Verify the headset becomes silent.
- ❑ Verify “DRIVE-THRU ONLY” on line two of the Console display.
- ❑ Press the call button for Stall 1.
- ❑ Verify the First in queue tone is repeatedly playing from the Router ceiling speaker.
- ❑ Verify Console display “WAITING= 1” on the first line of the display.
- ❑ Verify the Remote Display shows “1”.
- ❑ Verify the headset remains silent.
- ❑ Press and release the “A1” or “A2” button on the headset.
- ❑ Verify “Empty Queue” is heard in the headset.
- ❑ Press the “DRIVE-THRU ONLY” key on the Console assigned to Station 1.
- ❑ Verify “EXIT DRV THRU ONLY?” on line two of the display.
- ❑ Press the “ENTER” key on the console. Verify the headset remains silent.
- ❑ Verify “READY” on line two of the Console.
- ❑ Verify the call button tone is now heard in the headset.
- ❑ Press and release the “A1” or “A2” button on the headset. Verify “Stall 1” is heard in the headset.
- ❑ Press and release the “B” button on the headset. Verify the headset is now silent.

8.1.6 Final

- ❑ Follow the outline established in STALL CONNECTIONS, DRIVE-THRU CONNECTIONS, DRIVE-THRU ONLY MODE and MONITOR MODE for all remaining headsets (2-4).
- ❑ Change station assigned to console to match headset number.
- ❑ Use this checklist, as well as the Quick Reference Guide, to train store personnel on the system operation.

9. EQUIPMENT SPECIFICATIONS

Base Station

Voltage input	24VDC ±2.5V
DC current input	2.5A maximum
Audio distortion	5% maximum level
Outside speaker output	3 watts RMS into 8 ohms
Ceiling speaker power	3 watts RMS into 8 ohms
TX/RX frequency	2400MHz – 2483.5MHz
Dimensions	9.75” H x 13” W x 3.5” D
Weight	3.25 lbs maximum

Headset

Battery type	3.6V Lithium ion
Battery life	11 - 13 hours (typical)
RF frequency	2400MHz – 2483.5MHz
Weight	3.53 oz with battery

Battery Charger

Voltage input	5VDC
Charging time	2.5 hrs maximum
Dimensions	5.56” x 4.25” x 1.69”
Weight	12.03 oz with bracket

Console

Voltage input	24VDC
DC current input	100mA maximum
Controls/Switches	Sixteen channel-select and mode switches One 8-position DIP switch
Indicators	Three green LED’s and one 2-line LCD for customer status
Connectors	One 5-pin terminal block
Dimensions	7.12” H x 5” W x 4.25” D overall, with bracket
Weight	2.95 lbs

Router

Voltage input	24VDC
AC current input	3A maximum
Ceiling speaker power	3 watts RMS into 8 ohms
Controls/Switches	One 3-position vehicle detector switch (Reset-Normal-Override) One 8-position DIP switch
Indicators	Five red status lights
Connectors	One 6-pin terminal block – P8 Ten 8-pin terminal blocks – P9 through P18 Fifteen 16-pin terminal blocks – P19 through P34
Dimensions	12.6" H x 14.2" W x 4" D
Weight	12.1 lbs

Bridge

Voltage input	5VDC
Dimensions	3.75" H x 3.94" W x 1.23" D
Weight	0.3 lbs

Remote Display (optional)

Dimensions	6.6” H x 4.3” W x 1.8” D (167.6mm x 109.2mm x 47.5mm)
Weight	0.5 lbs

10. INTERFACE DESCRIPTION

10.1 Base Station

Audio circuit Board

J1 – . . . . . Ceiling Speaker In/Out, Lane 1
J1,1 . . . . . Ground
J1,2 . . . . . /A1 Talk
J1,3 . . . . . Relay 1 Common
J1,4 . . . . . Relay 1 Normally Open
J1,5 . . . . . Relay 1 Normally Closed
J1,6 . . . . . Ceiling speaker +
J1,7 . . . . . Ceiling speaker −
J1,8 . . . . . Ground
J2 – . . . . . Remote
J2,1 . . . . . Ground
J2,2 . . . . . /Remote speed team
J2,3 . . . . . Ground
J2,4 . . . . . /Operator
J2,5 . . . . . Not used
J3 – . . . . . Power
J3,1 . . . . . +24VDC
J3,2 . . . . . -24VDC
J3,3 . . . . . Ground
J4 – . . . . . Interface w/ Switcher Board, Lane 1
J4,1 . . . . . Microphone 1
J4,2 . . . . . Microphone 2
J4,3 . . . . . Ground
J4,4 . . . . . +12VDC
J4,5 . . . . . Not used
J4,6 . . . . . Negative vehicle detect input
J4,7 . . . . . Vehicle detector power (12V)
J4,8 . . . . . Not used
J4,9 . . . . . Outside speaker –
J4,10. . . . . Outside speaker +
J5 – . . . . . Door Inputs
J5,1 . . . . . Door 1
J5,2 . . . . . Door 2
J5,3 . . . . . Door 3
J5,4 . . . . . Door 4
J5,5 . . . . . Ground
J6 – . . . . . Interface w/o Switcher Board, Lane 1
J6,1 . . . . . Microphone 1
J6,2 . . . . . Microphone 2
J6,3 . . . . . Ground
J6,4 . . . . . +12VDC
J6,5 . . . . . Negative vehicle detect input
J6,6 . . . . . Not used
J6,7 . . . . . Outside speaker –
J6,8 . . . . . Outside speaker +
J7 – . . . . . Line In/Out, Lane 1
J7,1 . . . . . Line out
J7,2 . . . . . Ground
J7,3 . . . . . Line in
J7,4 . . . . . Ground
J7,5 . . . . . Not used
J9 – . . . . . Early Warning / Alert, Lane 1
J9,1 . . . . . Early warning

J9,2 . . . . . Ground
J9,3 . . . . . Not used
J9,4 . . . . . Ground
J9,5 . . . . . Alert in
J10 – . . . . . Vehicle Detector Board Interface, Lane 1 (Primary)
J10,1 . . . . . Negative vehicle detect signal
J10,2 . . . . . +12V Vehicle detector power
J10,3 . . . . . Ground
J10,4 . . . . . Not used
J10,5 . . . . . Not used
J15 – . . . . . Telephone Interface
J15,1 . . . . . Telephone audio into base
J15,2 . . . . . 12V
J15,3 . . . . . /A2 talk
J15,4 . . . . . /B2 talk
J15,5 . . . . . Car 2
J15,6 . . . . . Vehicle detect in
J15,7 . . . . . Ground
J15,8 . . . . . Telephone audio out to phone line

10.2 Router

P19 through P34 - Outside speaker/mic (for half-duplex) & call switch connector

P19,1. . . . . Location 0 . . . . . Speaker/Mic
P19,2. . . . . Location 0 . . . . . Speaker/Mic
P19,3. . . . . Location 0 . . . . . +12 VDC for call switch light
P19,4. . . . . Location 0 . . . . . Call switch signal
P19,5. . . . . Location 0 . . . . . Call switch ground
P20,1. . . . . Location 1 . . . . . Speaker/Mic
P20,2. . . . . Location 1 . . . . . Speaker/Mic
P20,3. . . . . Location 1 . . . . . +12 VDC for call switch light
P20,4. . . . . Location 1 . . . . . Call switch signal
P20,5. . . . . Location 1 . . . . . Call switch ground
P21,1. . . . . Location 2 . . . . . Speaker/Mic
P21,2. . . . . Location 2 . . . . . Speaker/Mic
P21,3. . . . . Location 2 . . . . . +12 VDC for call switch light
P21,4. . . . . Location 2 . . . . . Call switch signal
P21,5. . . . . Location 2 . . . . . Call switch ground
P22,1. . . . . Location 3 . . . . . Speaker/Mic
P22,2. . . . . Location 3 . . . . . Speaker/Mic
P22,3. . . . . Location 3 . . . . . +12 VDC for call switch light
P22,4. . . . . Location 3 . . . . . Call switch signal
P22,5. . . . . Location 3 . . . . . Call switch ground
P23,1. . . . . Location 4 . . . . . Speaker/Mic
P23,2. . . . . Location 4 . . . . . Speaker/Mic
P23,3. . . . . Location 4 . . . . . +12 VDC for call switch light
P23,4. . . . . Location 4 . . . . . Call switch signal
P23,5. . . . . Location 4 . . . . . Call switch ground
P24,1. . . . . Location 5 . . . . . Speaker/Mic
P24,2. . . . . Location 5 . . . . . Speaker/Mic
P24,3. . . . . Location 5 . . . . . +12 VDC for call switch light
P24,4. . . . . Location 5 . . . . . Call switch signal
P24,5. . . . . Location 5 . . . . . Call switch ground
P25,1. . . . . Location 6 . . . . . Speaker/Mic
P25,2. . . . . Location 6 . . . . . Speaker/Mic
P25,3. . . . . Location 6 . . . . . +12 VDC for call switch light
P25,4. . . . . Location 6 . . . . . Call switch signal
P25,5. . . . . Location 6 . . . . . Call switch ground
P26,1. . . . . Location 7 . . . . . Speaker/Mic

P26,2. . . . . Location 7 . . . . . Speaker/Mic
P26,3. . . . . Location 7 . . . . . +12 VDC for call switch light
P26,4. . . . . Location 7 . . . . . Call switch signal
P26,5. . . . . Location 7 . . . . . Call switch ground
P27,1. . . . . Location 8 . . . . . Speaker/Mic
P27,2. . . . . Location 8 . . . . . Speaker/Mic
P27,3. . . . . Location 8 . . . . . +12 VDC for call switch light
P27,4. . . . . Location 8 . . . . . Call switch signal
P27,5. . . . . Location 8 . . . . . Call switch ground
P28,1. . . . . Location 9 . . . . . Speaker/Mic
P28,2. . . . . Location 9 . . . . . Speaker/Mic
P28,3. . . . . Location 9 . . . . . +12 VDC for call switch light
P28,4. . . . . Location 9 . . . . . Call switch signal
P28,5. . . . . Location 9 . . . . . Call switch ground
P29,1. . . . . Location 10 . . . . . Speaker/Mic
P29,2. . . . . Location 10 . . . . . Speaker/Mic
P29,3. . . . . Location 10 . . . . . +12 VDC for call switch light
P29,4. . . . . Location 10 . . . . . Call switch signal
P29,5. . . . . Location 10 . . . . . Call switch ground
P30,1. . . . . Location 11 . . . . . Speaker/Mic
P30,2. . . . . Location 11 . . . . . Speaker/Mic
P30,3. . . . . Location 11 . . . . . +12 VDC for call switch light
P30,4. . . . . Location 11 . . . . . Call switch signal
P30,5. . . . . Location 11 . . . . . Call switch ground
P31,1. . . . . Location 12 . . . . . Speaker/Mic
P31,2. . . . . Location 12 . . . . . Speaker/Mic
P31,3. . . . . Location 12 . . . . . +12 VDC for call switch light
P31,4. . . . . Location 12 . . . . . Call switch signal
P31,5. . . . . Location 12 . . . . . Call switch ground
P32,1. . . . . Location 13 . . . . . Speaker/Mic
P32,2. . . . . Location 13 . . . . . Speaker/Mic
P32,3. . . . . Location 13 . . . . . +12 VDC for call switch light
P32,4. . . . . Location 13 . . . . . Call switch signal
P32,5. . . . . Location 13 . . . . . Call switch ground
P33,1. . . . . Location 14 . . . . . Speaker/Mic
P33,2. . . . . Location 14 . . . . . Speaker/Mic
P33,3. . . . . Location 14 . . . . . +12 VDC for call switch light
P33,4. . . . . Location 14 . . . . . Call switch signal
P33,5. . . . . Location 14 . . . . . Call switch ground
P34,1. . . . . Location 15 . . . . . Speaker/Mic
P34,2. . . . . Location 15 . . . . . Speaker/Mic
P34,3. . . . . Location 15 . . . . . +12 VDC for call switch light
P34,4. . . . . Location 15 . . . . . Call switch signal
P34,5. . . . . Location 15 . . . . . Call switch ground

P15 through P18 - Outside speaker (for full-duplex) connector

P15,1. . . . . Location 0 . . . . . Speaker
P15,2. . . . . Location 0 . . . . . Speaker
P15,3. . . . . Location 1 . . . . . Speaker
P15,4. . . . . Location 1 . . . . . Speaker
P15,5. . . . . Location 2 . . . . . Speaker
P15,6. . . . . Location 2 . . . . . Speaker
P15,7. . . . . Location 3 . . . . . Speaker
P15,8. . . . . Location 3 . . . . . Speaker
P16,1. . . . . Location 4 . . . . . Speaker
P16,2. . . . . Location 4 . . . . . Speaker
P16,3. . . . . Location 5 . . . . . Speaker
P16,4. . . . . Location 5 . . . . . Speaker
P16,5. . . . . Location 6 . . . . . Speaker
P16,6. . . . . Location 6 . . . . . Speaker

P16,7. . . . . Location 7 . . . . . Speaker
P16,8. . . . . Location 7 . . . . . Speaker
P17,1. . . . . Location 8 . . . . . Speaker
P17,2. . . . . Location 8 . . . . . Speaker
P17,3. . . . . Location 9 . . . . . Speaker
P17,4. . . . . Location 9 . . . . . Speaker
P17,5. . . . . Location 10 . . . . . Speaker
P17,6. . . . . Location 10 . . . . . Speaker
P17,7. . . . . Location 11 . . . . . Speaker
P17,8. . . . . Location 11 . . . . . Speaker
P18,1. . . . . Location 12 . . . . . Speaker
P18,2. . . . . Location 12 . . . . . Speaker
P18,3. . . . . Location 13 . . . . . Speaker
P18,4. . . . . Location 13 . . . . . Speaker
P18,5. . . . . Location 14 . . . . . Speaker
P18,6. . . . . Location 14 . . . . . Speaker
P18,7. . . . . Location 15 . . . . . Speaker
P18,8. . . . . Location 15 . . . . . Speaker

P8 - Power and ceiling speaker connector

P8,1. . . . . 24 VDC –
P8,2. . . . . 24 VDC +
P8,3. . . . . Ground
P8,4. . . . . - - - not used
P8,5. . . . . Ceiling speaker out
P8,6. . . . . Ceiling speaker ground

P9 & P13 – Base station speaker/mic (for half-duplex) connector

P9,1 & P13,1 . . . . . Base 1 speaker/mic
P9,2 & P13,2 . . . . . Base 1 speaker/mic
P9,3 & P13,3 . . . . . Base 2 speaker/mic
P9,4 & P13,4 . . . . . Base 2 speaker/mic
P9,5 & P13,5 . . . . . Base 3 speaker/mic
P9,6 & P13,6 . . . . . Base 3 speaker/mic
P9,7 & P13,7 . . . . . Base 4 speaker/mic
P9,8 & P13,8 . . . . . Base 4 speaker/mic

P10 & P14 - Base station speaker (for full-duplex) connector

P10,1 & P14,1 . . . . . Base 1 speaker
P10,2 & P14,2 . . . . . Base 1 speaker
P10,3 & P14,3 . . . . . Base 2 speaker
P10,4 & P14,4 . . . . . Base 2 speaker
P10,5 & P14,5 . . . . . Base 3 speaker
P10,6 & P14,6 . . . . . Base 3 speaker
P10,7 & P14,7 . . . . . Base 4 speaker
P10,8 & P14,8 . . . . . Base 4 speaker

P11 & P12 - Auxiliary audio interface connector

P11,1 & P12,1 . . . . . 24 VDC out
P11,2 & P12,2 . . . . . RS485 + (positive data)
P11,3 & P12,3 . . . . . RS485 − (negative data)
P11,4 & P12,4 . . . . . Ground
P11,5 & P12,5 . . . . . Shield
P11,6 & P12,6 . . . . . - - - not used
P11,7 & P12,7 . . . . . - - - not used
P11,8 & P12,8 . . . . . - - - not used

10.3 Console

Control board

J1 - LCD display connector

J1,1. . . . . Vcc (+5 VDC)
J1,2. . . . . Vss (Ground)
J1,3. . . . . RS (Register select)
J1,4. . . . . Vee (Contrast voltage)
J1,5. . . . . E (Enable)
J1,6. . . . . R/W (Read/write)
J1,7. . . . . DB1
J1,8. . . . . DB0
J1,9. . . . . DB3
J1,10. . . . . DB2
J1,11. . . . . DB5
J1,12. . . . . DB4
J1,13. . . . . DB7
J1,14. . . . . DB6

J2 - RS485 buss connector

J2,1. . . . . +22 VDC
J2,2. . . . . RMT+ (Positive data)
J2,3. . . . . RMT− (Negative data)
J2,4. . . . . Ground
J2,5. . . . . Shield

Switch board

J1 - LCD display connector

J1,1. . . . . Row 1
J1,2. . . . . Row 2
J1,3. . . . . Row 3
J1,4. . . . . Row 4
J1,5. . . . . Column 1
J1,6. . . . . Column 2
J1,7. . . . . Column 3
J1,8. . . . . Column 4

10.4 Remote Display

J1,1. . . . . +22 VDC
J1,2. . . . . RMT+ (Positive Data)
J1,3. . . . . RMT− (Negative Data)
J1,4. . . . . Ground
J1,5. . . . . Shield

J2,1 . . . . . +22 VDC
J2,2 . . . . . RMT+ (Positive Data)
J2,3 . . . . . RMT− (Negative Data)
J2,4 . . . . . Ground
J2,5 . . . . . Shield

10.5 Bridge

J5 – RS485 connector

J5,1. . . . . D−
J5,2. . . . . D+
J5,3. . . . . Ground

J7 – Vehicle Detect

J7,1. . . . . Veh Det
J7,2. . . . . Common

11. TROUBLESHOOTING

In case of any problems with your SYS6700HD, refer to the following checklist. If you cannot correct any problems using the checklist, call HME Customer Support at 1-800-848-4468.

PROBLEM	PROBABLE CAUSE	SOLUTION
"Battery failed" is heard in headset when power button is pressed.	Battery may be defective.	Replace battery. Call HME.*
	Battery contacts may be dirty.	Clean battery contacts with alcohol.
"Headset failed" is heard in headset when power button is pressed.	Headset may be defective.	Use another headset. Call HME.*
	Battery contacts may be dirty.	Clean headset battery contacts with alcohol.
Call tones heard in headset, but "Empty Queue" is heard when the "A1" or "A2" button was pressed.	An order taker using another Base Station connected to the customer first.	Verify on the Console display that there are no customers in queue.
When switching to "Drive-Thru Only" mode, "Drive-Thru Busy" is heard in the headset.	Another Base Station is already in "Drive-Thru Only" mode.	Check the Console displays to determine which Base Station is in "Drive-Thru Only" mode and switch it out of this mode if desired.
When pushing the "A1" or "A2" button to try and talk to the Drive-Thru customer again, I was connected to a customer at a different location, even though I didn't press the "B" button to disconnect from the Drive-Thru first.	The Drive-Thru customer will be automatically disconnected when the vehicle drives away from the vehicle detector.	When talking to the Drive-Thru customer, listen for the headset to become quiet when the vehicle pulls away.
		Set the Base Station in the "Drive- Thru Only" mode to allow connections to the Drive-Thru lane only.
When pushing the "A1" or "A2" button to connect to a customer, "Empty Queue" is heard in the headset, even though there are customers waiting.	The Base Station is set for "Drive- Thru Only" mode, which only allows connections to customers in the Drive-Thru lane.	Monitor Mode is no longer a supported feature. If one of your bases enters monitor mode, contact HME Tech Support to resolve the issue.
When pushing the "A1" or "A2" button to connect to a customer, "Monitor Connected" is heard in the headset, even though there are customers waiting.	Monitor mode is no longer supported.	If a base enters Monitor mode, contact HME Technical Support to resolve the issue.
When connecting to a customer using the Console, the display shows the connection, but nothing is heard in the headset.	The Console is set for a Base Station other than the one for the headset being used.	Be certain the Base Station indicated on the Console display matches the number on the headset.
	The headset is not turned On.	Turn headset on. Be certain light goes on.
	Headset defective.	Replace with another headset.
	Low or dead battery.	Check power light. If not lit, replace battery.
	Headset failed.	Call HME.*
	Power off at Base Station.	Check circuit breaker for building.
When connecting to a customer using the Console, the display shows the location is busy, and "Stall xx busy" is heard in the headset.	Another Base Station is already connected to that customer location.	Select a different customer location.

* For assistance, call HME at 1-800-848-4468, or Fax 858-552-0172.

PROBLEM	PROBABLE CAUSE	SOLUTION
"Device Failed" is heard in the headset.	A Router, Console or Base Station has stopped working.	Call HME.*
"Headset failed" is heard in headset when power button is pressed.	RF Interference caused by bases being too close to one another.	Bases should be installed a minimum of 6 feet apart with 10 feet or greater preferred.
	Power off at Base Station.	Check circuit breaker for building.
	Power supply in Base Station not working.	Check power supply indicator lights on Base Station. If any light is not lit, be certain AC power adapter is plugged into electrical outlet.
	Headset not turned on.	Turn headset on. Be certain light goes on.
	Volume not set correctly.	Adjust volume on headset.
	Headset defective.	Replace with another headset.
	Low or dead battery.	Check power light. If not lit, replace battery.
	Headset failed.	Use another headset. Call HME.*
Headset channel "A1" or "A2" buttons not working.	Headset not turned on.	Turn on headset.
	Dead or weak battery.	Replace battery.
Channel "A1" or "A2" or "B" light on Base Station does not light when Headset button "A1" or "A2" or "B" is pressed.	Headset is not registered to a preferred base.	Look at each base as you press the registration button to determine which base displays "A1", "A2", etc.
	Dead or weak battery.	Replace battery.
	Headset failed.	Use another headset.
	Base Station failed.	Call HME.*
No alert tones or voice prompts heard in headset.	Headset not turned on.	Turn on headset.
	Base has fallen off the network.	Verify that NDP check mark is shown on the Main Status screen. Check network connections. Call HME.*
	Power off at Base Station.	Check power supply indicator lights on Base Station. If any light is not lit, be certain AC power adapter is plugged into electrical outlet.
Outbound sound too low.	Outbound volume set too low for environment.	Adjust outside speaker volume control until level is satisfactory.
No outbound sound; customer cannot hear anything, - or -Personnel cannot hear outside customers in headset.	Defective speaker (if single customer location affected).	Call HME.*
Personnel hear only static in headsets.	Base station may have entered into a bad state.	Reset the base station, and then test audio.
	Loose transmitter antenna connection on Base Station.	Tighten transmitter antenna connection. (The antenna on the top, left of the Base Station.)
	Circuit board defective.	Call HME.*

* For assistance, call HME at 1-800-848-4468, or Fax 858-552-0172.

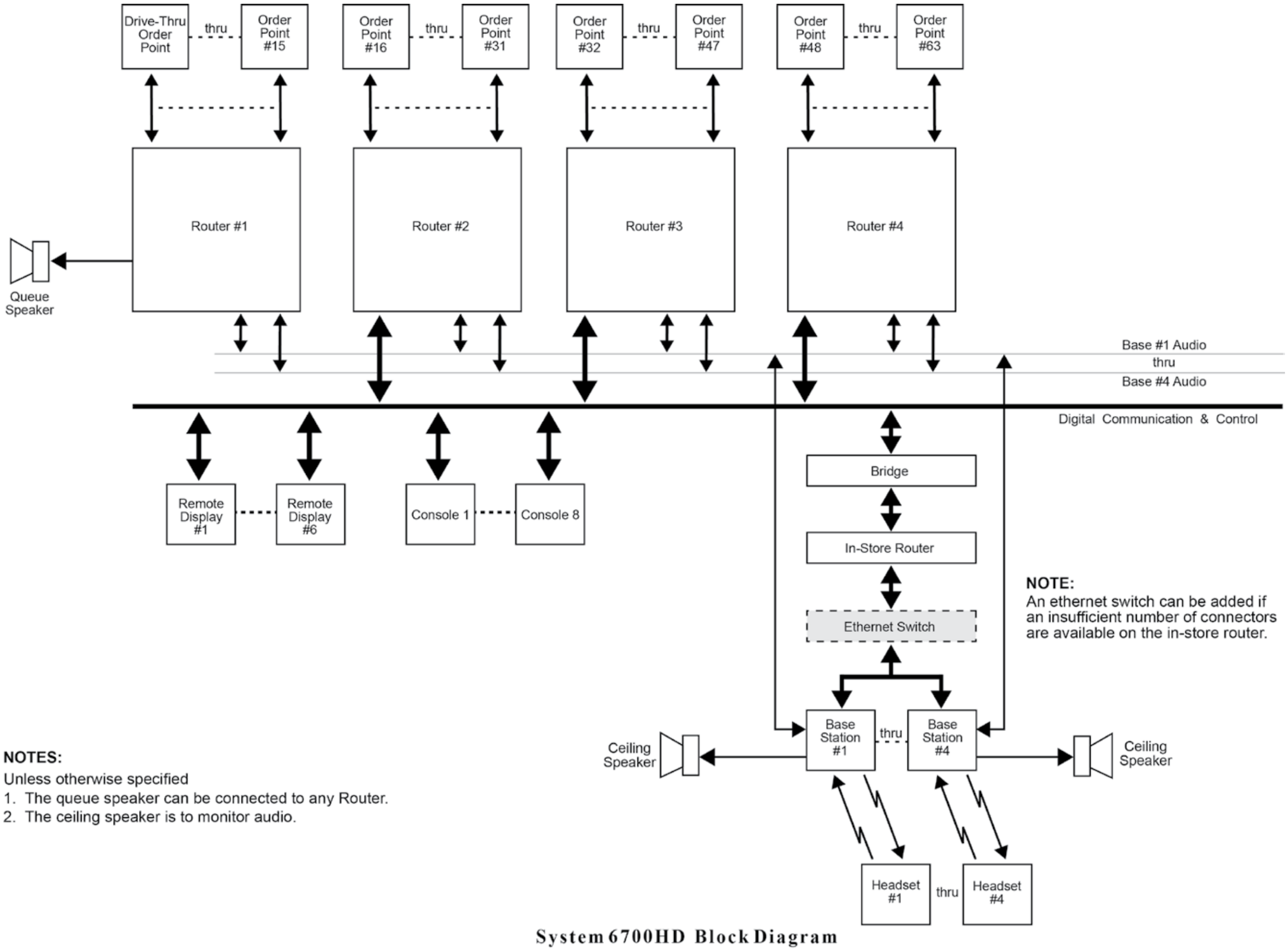
PROBLEM	PROBABLE CAUSE	SOLUTION
No tone or sound in headset when vehicle drives up to menu board.	Base may have fallen off the network.	Verify the NDP check mark is shown on the base's Main Status screen. Check network connections. Call HME.*
	Power interruption has unbalanced detecting circuit.	Call HME.*
Headset has intermittent sound.	Low battery.	Replace battery.
	Defective headset cable.	Use another headset. Call HME.*
Headset is not disconnected after the order has been completed.	Headset button B not pressed and released to close channel.	Press the **B button** to disconnect the headset.
	Headset failure.	Try another headset. If headset still does not become silent after all customers have been served, call HME.*
Battery Charger not working.	Charger not plugged in.	Plug in Battery Charger. If still not working, call HME.*
Registration of headset failed. "Registration failed" message heard in headset. Lights stay red.	Base station power not on. Headset **B button** not pushed when powering up. You're standing too close to the base station. A base registration button was not pushed.	Power on the base station. Repeat registration procedure. Stand at least 10 feet away from the base station when trying to register headsets. Call HME.*

* For assistance, call HME at 1-800-848-4468, or Fax 858-552-0172.

In the event of an electrical power outage —

Such as from a lightning storm or power generator failure, if you experience problems with your HME equipment after the electricity comes on again, unplug the AC power adapters from their electrical outlets and wait 15 seconds, then plug them back in.

12. WIRING DIAGRAMS

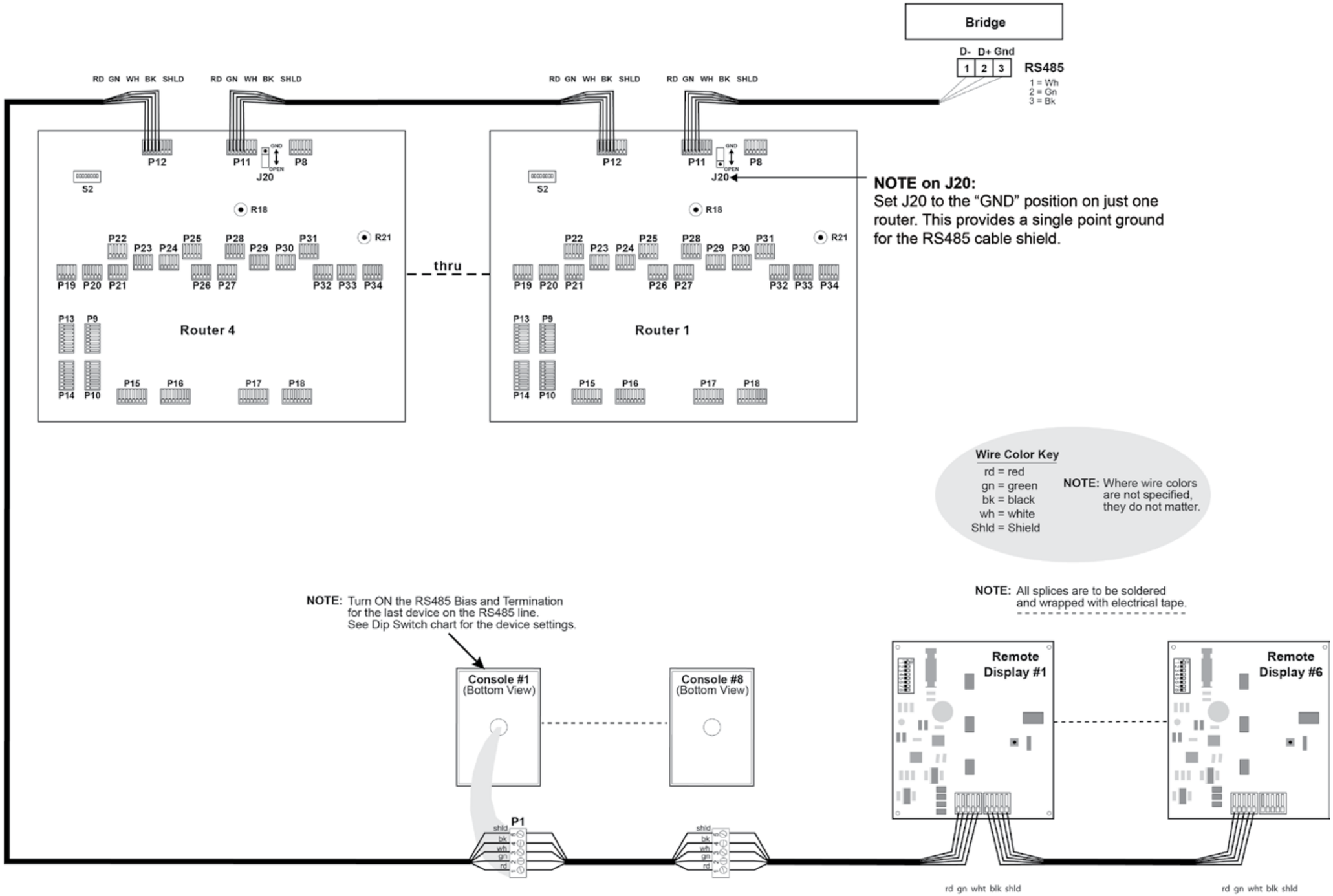


NOTES:

Unless otherwise specified

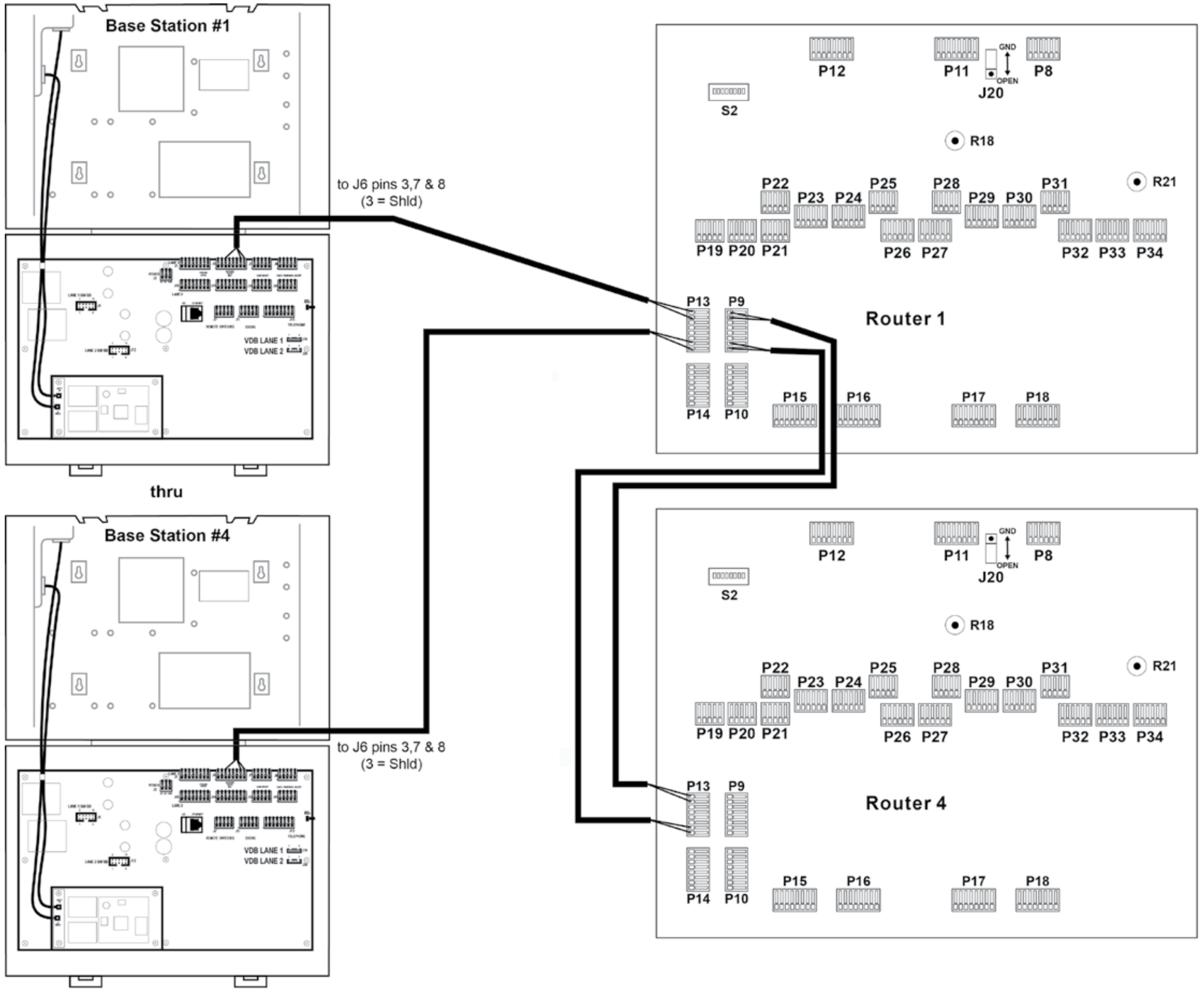
1. The queue speaker can be connected to any Router.
2. The ceiling speaker is to monitor audio.

Figure 18. System 6700HD Block Diagram



System 6700HD Wiring Diagram for RS485 Digital Communication Link

Figure 19. RS485 Digital Communications Link



Wire Color Key
rd = red
gn = green
bk = black
wh = white
Shld = Shield

NOTE: Where wire colors are not specified, they do not matter.

System 6700HD Wiring Diagram for Base to Router Speaker and Microphone Wiring in Half-Duplex Systems

Figure 20. Base to Router Speaker and Microphone Wiring in Half-Duplex Systems

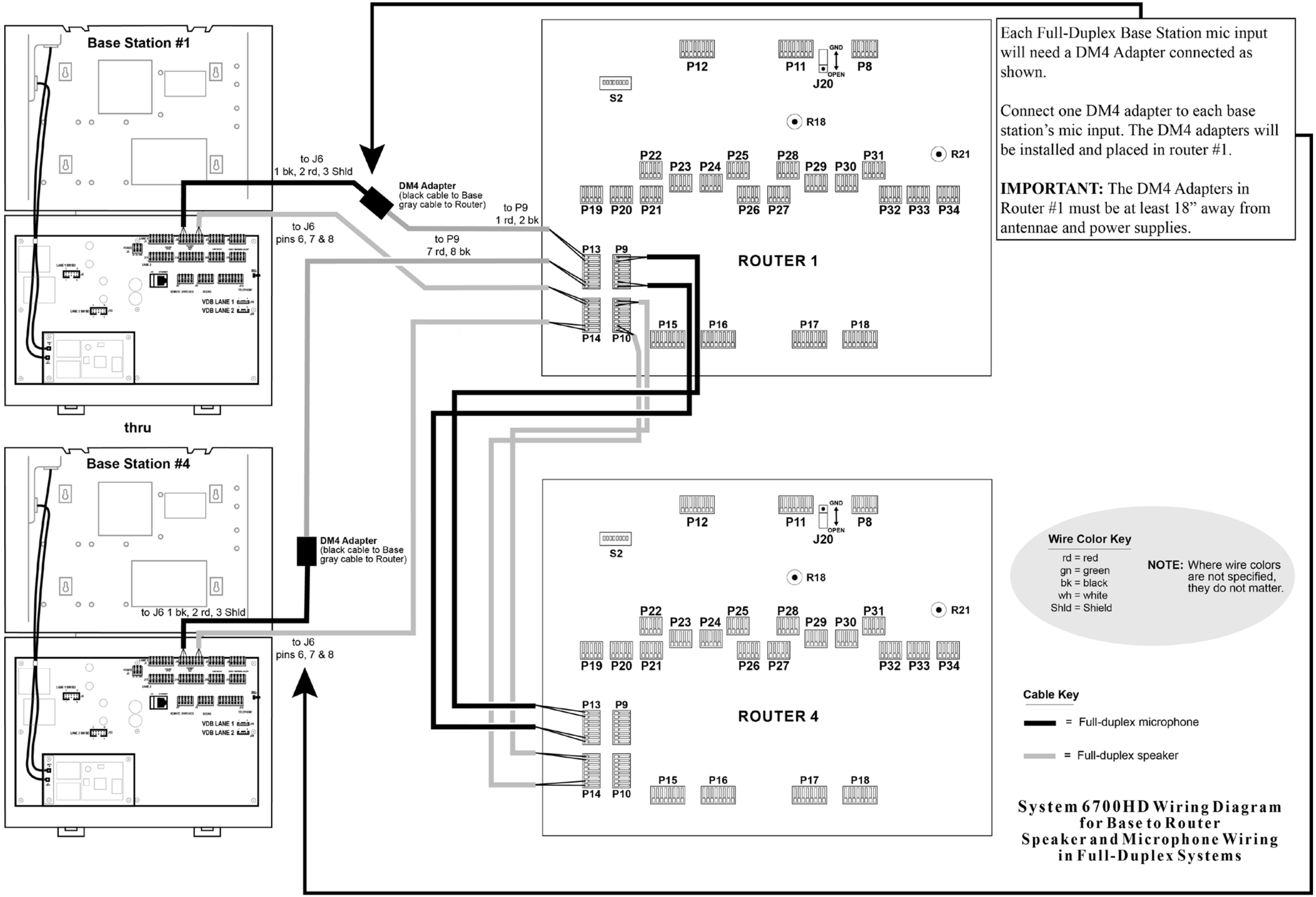


Figure 21. Base to Router Speaker and Microphone Wiring in Full-Duplex Systems

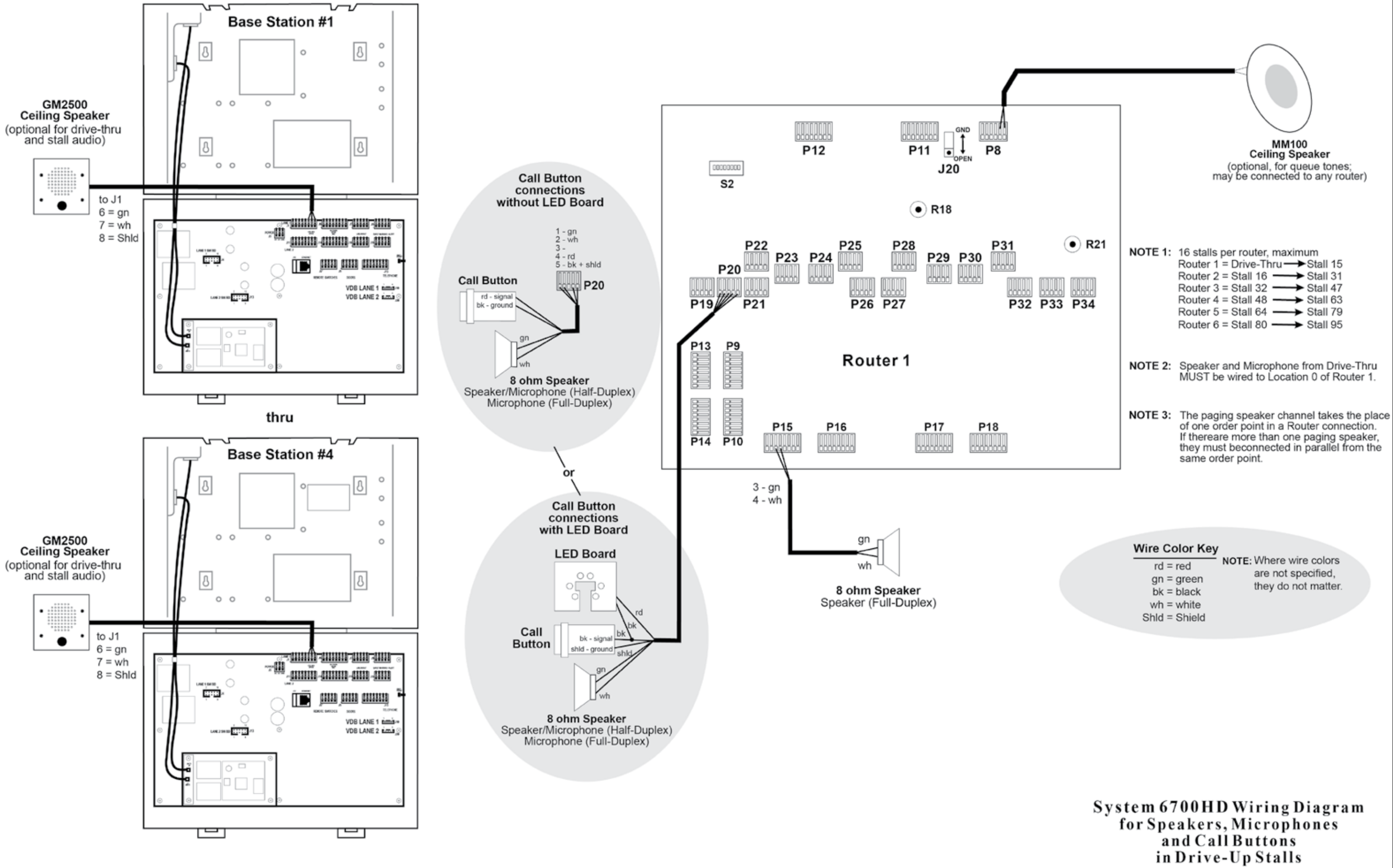


Figure 22. Speakers, Microphone and Call Buttons in Drive-Up Stalls

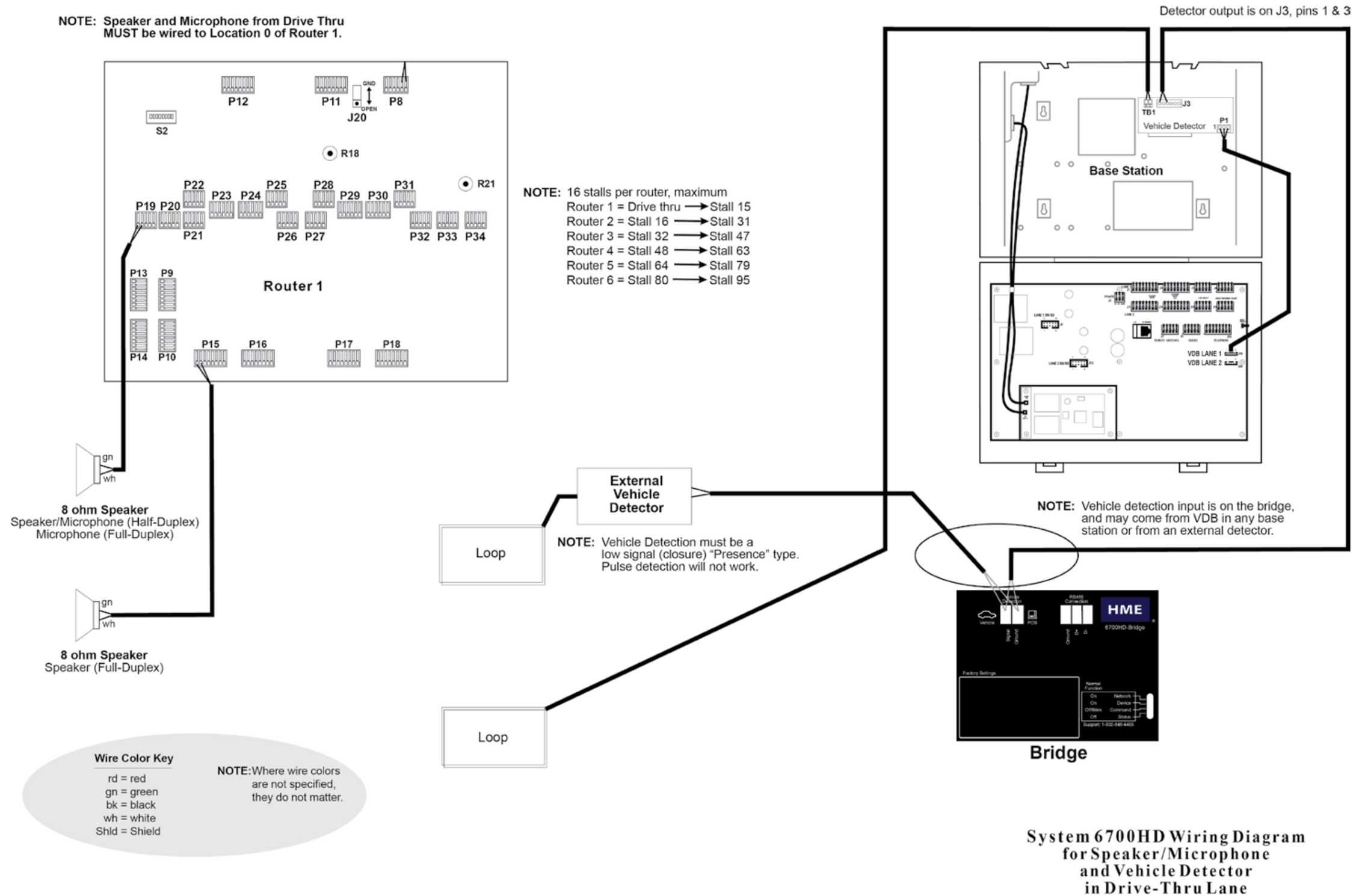
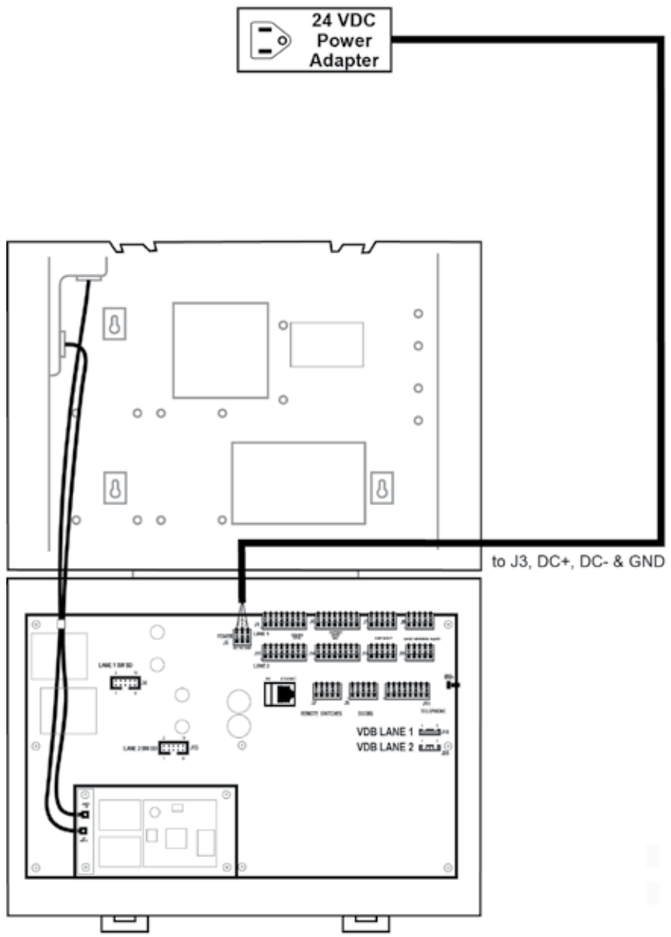
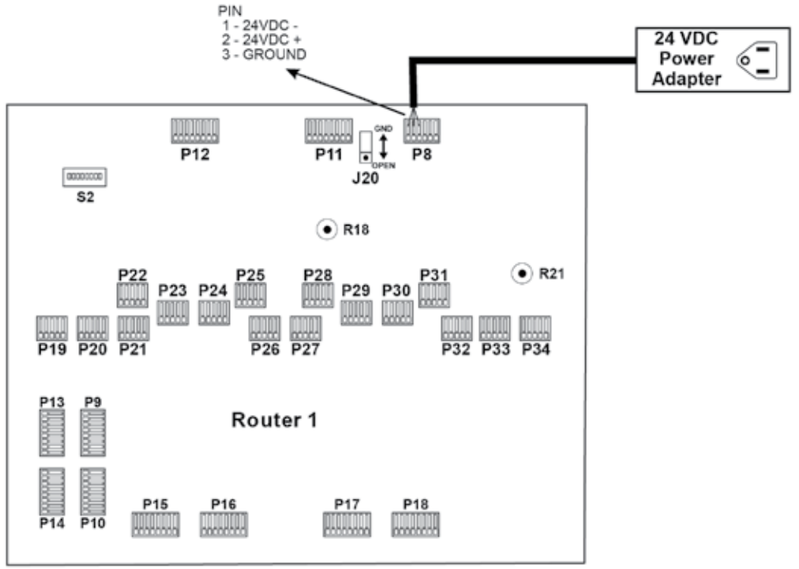
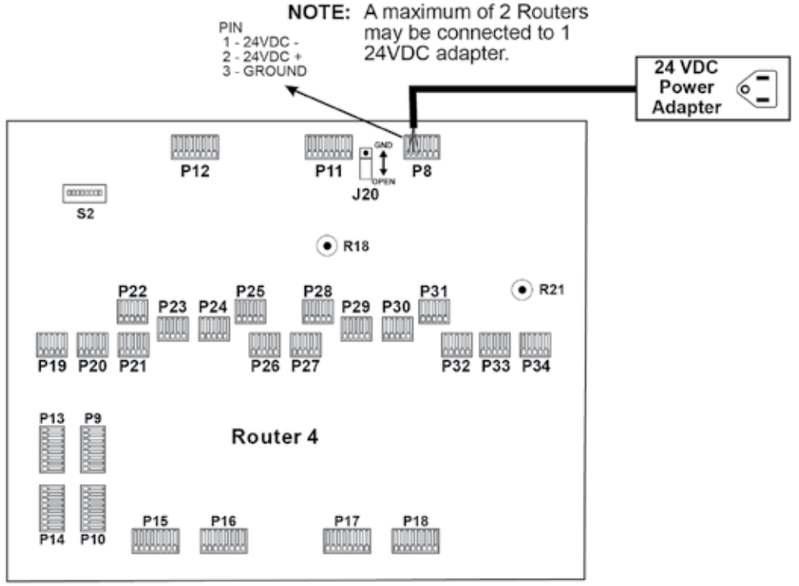


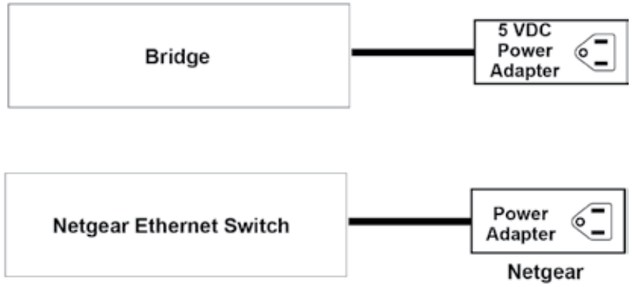
Figure 23. Speaker/Microphone and Vehicle Detector in Drive-Thru Lane





NOTE: A maximum of 2 Routers may be connected to 1 24VDC adapter.





Wire Color Key

rd = red
gn = green
bk = black
wh = white
Shld = Shield

NOTE: Where wire colors are not specified, they do not matter.

NOTE: Grounds of power cords MUST connect to unit being powered.
Consoles receive their power from the RS485 line.

Figure 24. Power Supplies

System 6700HD Wiring Diagram for Power Supplies