Installation Guide

For Firmware Version 4.07

Series 1500™
Intercom Systems

Audio Authority®

Contents

WARNINGS

- Read these instructions before installing or using this product.
- To reduce the risk of fire or electric shock, do not expose components to rain or moisture
- This product must be installed by qualified personnel.
- Do not expose this unit to excessive heat.
- Clean the unit only with a dry or slightly dampened soft cloth.

LIABILITY STATEMENT

Audio AP Authority®

Installation Guide

Introducing Series 1500™ Intercom Systems

Series 1500 Intercom systems enable clear two-way communications in retail service businesses. Two-way video can be integrated with high-performance audio to provide a complete intercommunication solution over a single Category 5/6/7 UTP cable. The versatile Model 1500A or 1500AH Counter Station can access up to 16 lanes. Lane Stations can be connected directly to a Counter Station in a one-on-one system, or multiple Counter Stations and Lane Stations can be networked using an Audio Authority intercom hub.

Model 1509SD mini audio hub is perfect for two-on-four audio systems, while AV system hubs can support up to 8 Counter Stations on 16 lanes. An AV system hub is required for multi-lane video systems (see examples). Video communication is easily added by installing a Model 1501L (inbound only) or 1502L (two-way) video display for Counter Stations. Video in the lane can be installed using separate cameras and displays, or Audio Authority video customer stations.

About 1580 Intercom Systems:
The 1580 Series is ideal for small, 1-on-1 and 1-on-2 driveup intercom systems. The 1580 is not compatible with Series 1500. Refer to the 1580 manuals and literature available at www.audioauthority.com/1580.

Special Tools & Supplies

- Cat 5 network cable tester
- RJ-45 plug crimping tool (Audio Authority recommends EZ-RJ Pro crimp tool)
- Category 5e or 6 UTP cable and RJ-45 terminations (Audio Authority recommends EZ-RJ-45 connectors)
- 18mm flare nut wrench for gooseneck mic installation
- Model 1550A Installer Setup Display

Series 1500 System Components

Counter Station (audio)	1500A	2-way video display for driveup, 7"	1526V
Counter video display, (inbound only)	1501L	2-way video display for driveup, 10.4"	1527V
Counter video display, two-way	1502L	Intercom-Telephone Interface	1533
Video adapter, for 1500	1504	Surface-mount customer handset	1540
2-on-4 audio only hub	1509SD	Flush-mount customer handset	1541
4-on-4 audio-video hub	1510*	Wireless headset	1542J
4-on-8 audio-video hub	1511*	Traffic sensor	1547
8-on-12 audio-video hub	1512*	Headset switch	1548
8-on-16 audio-video hub	1513*	Installer setup tool (LCD)	1550A
4-counter plug-in card	1515	Adjustable mounting arm	1592
4-lane plug-in card	1516	Universal power supply	571-013
System plug-in card	1517SD	5 Amp power supply	805-028
Lane Station	1520	Gooseneck microphone	631-026
Integrated AV Customer Station, 7"	1526AV	External microphone kit	631-029
Integrated AV Customer Station, 10.4"	1527AV	External 3" speaker	631-030

*See page 12 for hub configurations

1-on-1 Installation

The simplest system configuration involves only one counter station connected directly to one lane station (no hub). This configuration can be audio-only or audio-video. Run a length of Cat 5 cable from the counter location to the lane location. See "Installing Components" for detailed instructions.

Note: In systems without a hub, there is no way to upgrade firmware or access some features of the 1550A setup tool. A hub can be temporarily connected to program all functions using a 1550A.

AUDIO ONLY COUNTER STATION

MODEL 1500A

HEADSET

POWER

MODEL 1502L

AV COUNTER STATION

MODEL 1500A

HEADSET

POWER

POWER

MIC
SPEAKER
CALL BUTTON
TRAFFIC SENSING
REMOTE CONTROL RELAY
ARMORED HANDSET

LANE STATION
LOCATED IN DRIVE UP UNIT

MODEL 1520

VIDEO DISPLAY

MODEL 1526V

Cat 5/6 - always use EIA-568B standard cable termination (see page 9)
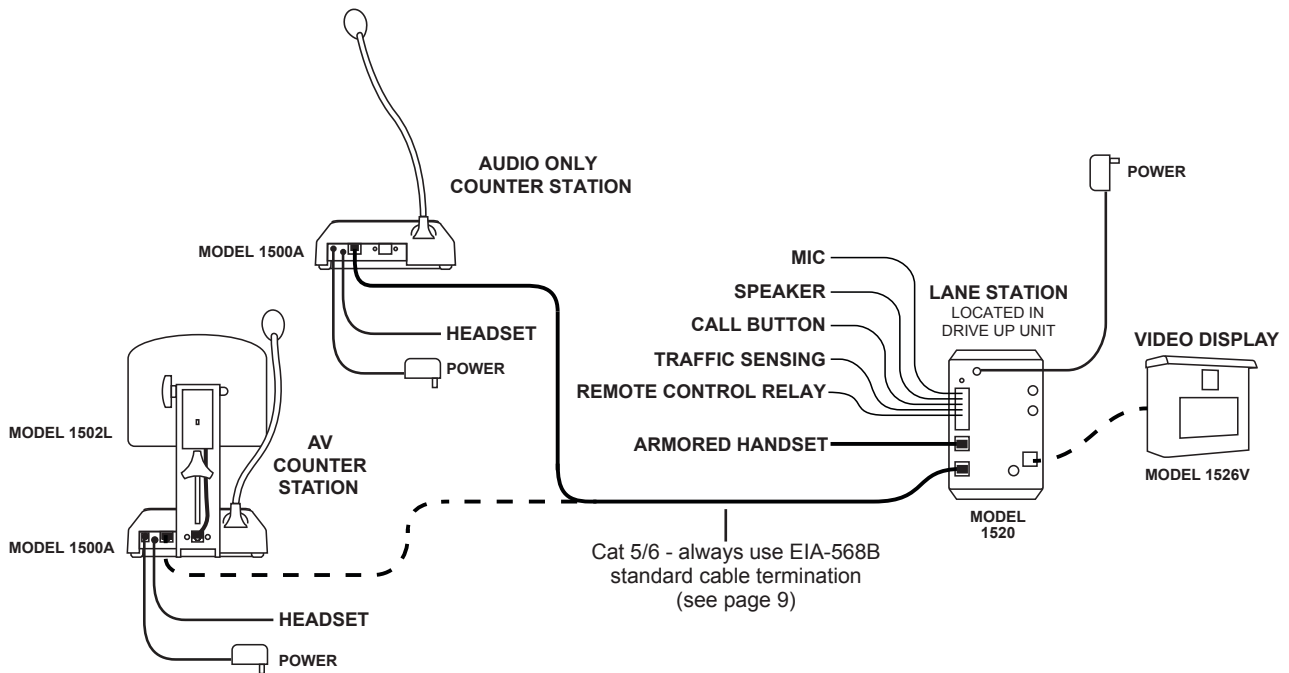
Figure 1. 1 on 1 Configuration

2-on-4 Audio Installation

The Model 1509SD Audio Only Hub allows one or two Model 1500A Counter Stations to serve up to four 1520 Lane Stations. **1509SD Hub configurations must be audio-only**. Run a length of Cat 5 cable from each Counter Station to the Hub. Run a length of Cat 5 cable from the Hub to each Lane Station. See "Installing Components" for detailed instructions.

POWER

AUDIO COUNTER STATION

MODEL 1500A

HEADSET

AUDIO COUNTER STATION

MODEL 1500A

HEADSET

POWER

POWER

AUDIO HUB MODEL 1509SD

POWER

MIC
SPEAKER
CALL BUTTON
TRAFFIC SENSING
REMOTE CONTROL RELAY
ARMORED HANDSET

LANE STATION
LOCATED IN DRIVE UP UNIT

MODEL 1520

Figure 2. 2 on 4 Configuration

2-on-4 Audio-Video Installation

The Audio-Video Hub configurations allow from one to as many as eight Counter Stations to serve up to 16 Lane Stations. **These configurations (1510, 1511, 1512 and 1513) may be audio-only or audio-video.** Run a length of Cat 5 cable from each Counter Station to the Hub. Run a length of Cat 5 cable from the Hub to each Lane Station. See "Installing Components" for detailed instructions.
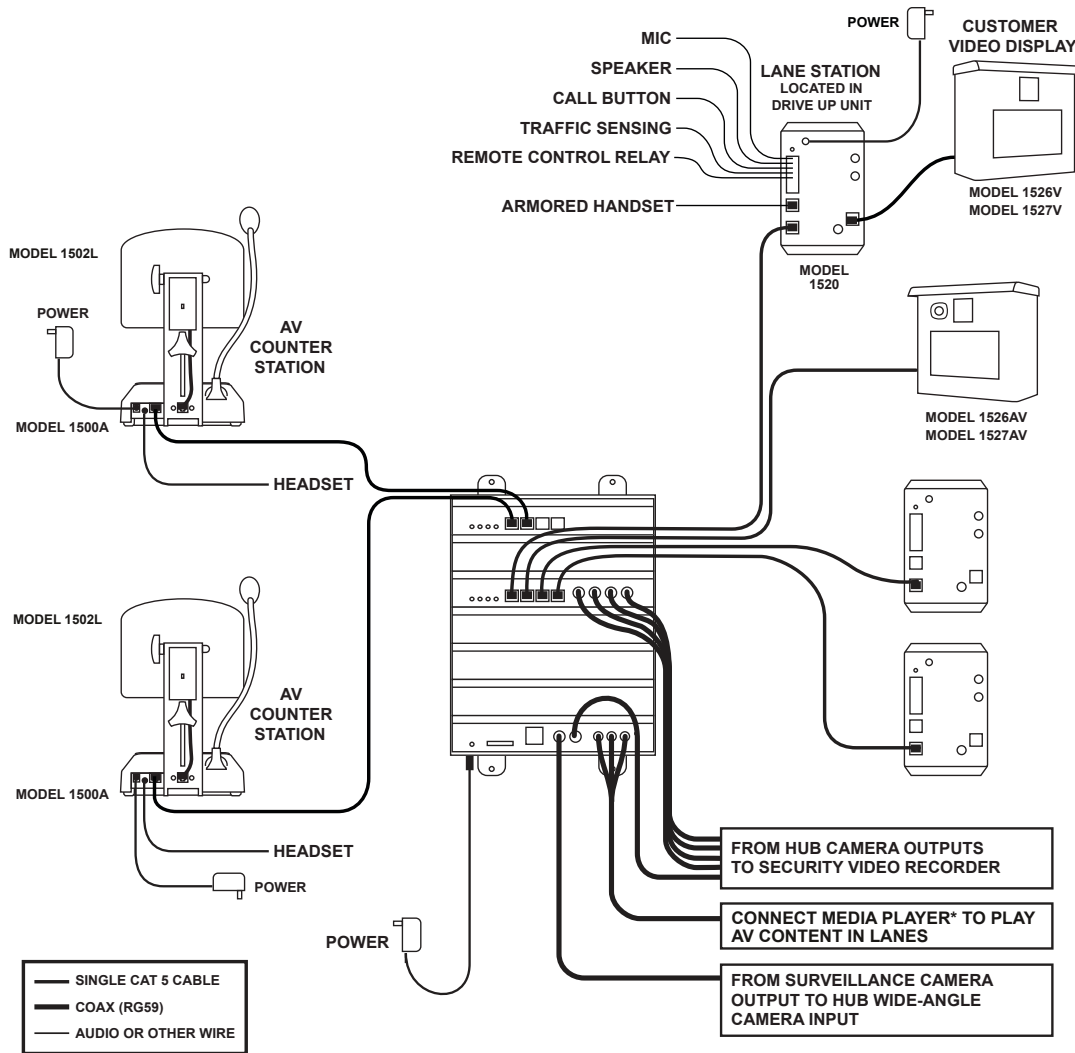
Figure 3. 2 on 4 AV Configuration

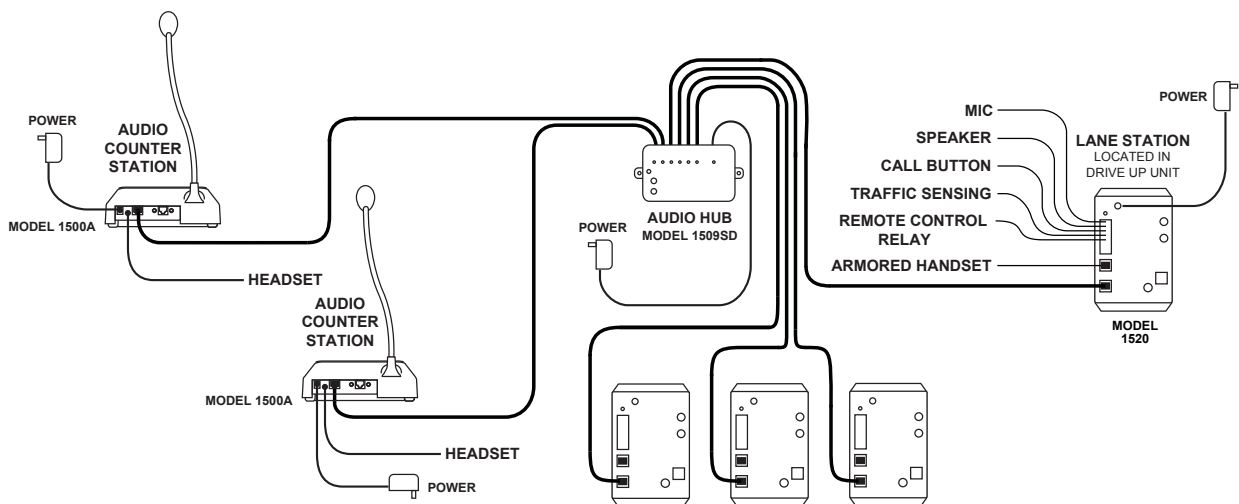*Figure 3*. Two Counter Stations serve Four Lane Stations. Counter Stations and Lane Stations may have video capability, or audio-only. One Lane Station is shown with a Model 1526V Video Add-On; alternatively, any 1520 may be connected to existing camera and video display. 1526AV and 1527AV incorporate all features of 1520 with call button, speaker, mic, camera, and display.

If desired, any 1520 could be replaced by a 1526AV Customer Video Station, which has all the capability and connections of a 1520 plus a camera, video display and call button mounted in one enclosure.

*** Use an AV media player that has analog audio and composite video output. See page 9 for details.**

Installing 1500A Counter Stations

1. Unpack each Model 1500A Counter Station and, if applicable, install a 1501L or 1502L Video Display. Plug the Cat 5 video cable into the matching port on the 1500A.

2. Attach the field-replaceable microphone, tightening the nut securely with a 18mm flare nut wrench, and tuck its rubber boot firmly into place.

3. Plug the Cat 5 cable from the hub into the hub port of each 1500A and connect the power supply to the Power jack. See page 9 for Cat 5 cable fabrication.

4. Install the desired keyboard inlays into the Model 1500A. On initial power-up, the hub sets the default key layout automatically according t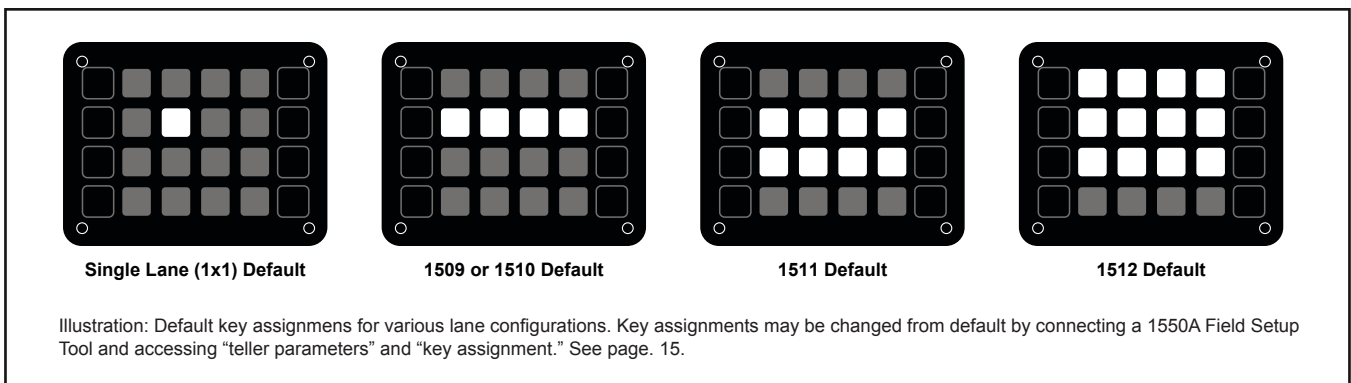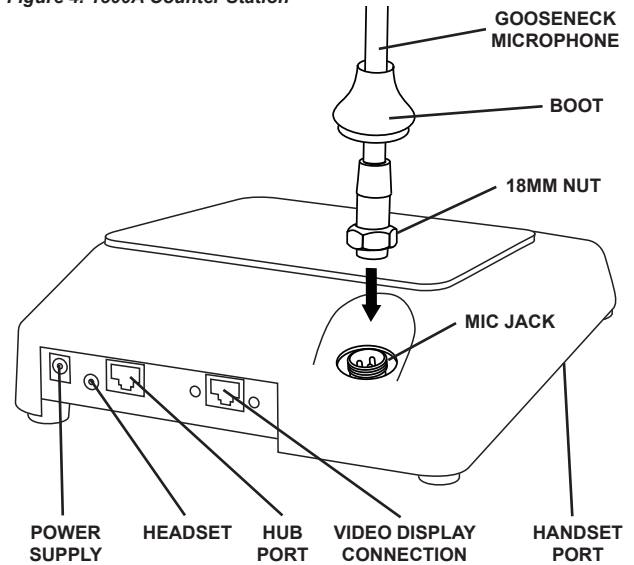o the number of connected Counter and Lane Stations (see examples below). You can choose to color-code by the carrier color or label the keys numerically. Place blank, black chips in all non-active positions. Save the unused key chips on the premises for future changes or expansion.

Figure 4. 1500A Counter Station

GOOSENECK MICROPHONE

BOOT

18MM NUT

MIC JACK

POWER SUPPLY   HEADSET   HUB PORT   VIDEO DISPLAY CONNECTION   HANDSET PORT

Single Lane (1x1) Default   **1509 or 1510 Default**   **1511 Default**   **1512 Default**

Illustration: Default key assignmens for various lane configurations. Key assignments may be changed from default by connecting a 1550A Field Setup Tool and accessing "teller parameters" and "key assignment." See page. 15.

Installing Model 1500AH

1500AH Counter Stations ship with a handset cradle attached. Install them the same as a 1500A but connect the included handset to the handset port on the underside of the Counter Station as shown. Adjust handset volume using the 1550A Installer setup tool, then, if more adjustment is desired, use the two knobs on the bottom of the 1500AH as shown.
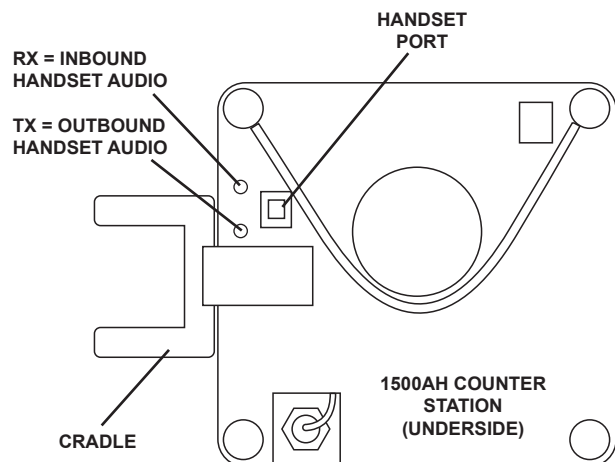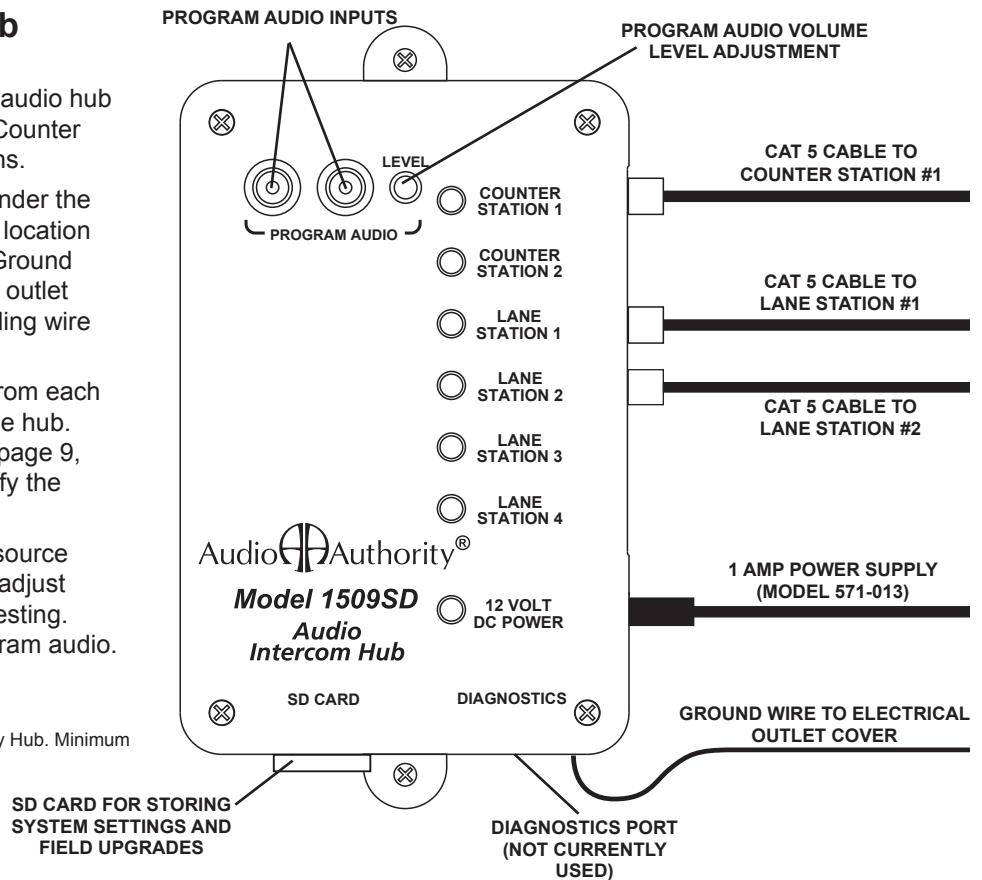
HANDSET PORT

RX = INBOUND HANDSET AUDIO

TX = OUTBOUND HANDSET AUDIO

1500AH COUNTER STATION (UNDERSIDE)

CRADLE

Figure 5. 1500AH Counter Station

Installing a 1509SD Hub

The Model 1509SD is a compact audio hub with a maximum capacity of two Counter Stations serving four Lane Stations.

1. Position and install the hub under the counter or in a secure indoor location such as a telephone closet. Ground the hub to a nearby electrical outlet cover using the green grounding wire attached to the hub.

2. Run a length of Cat 5 cable from each counter and lane station to the hub. Observe the wiring guide on page 9, and use a cable tester to verify the terminations.

3. If desired, connect an audio source to Program Audio jacks, and adjust volume level during system testing. See page 9 for more on program audio.
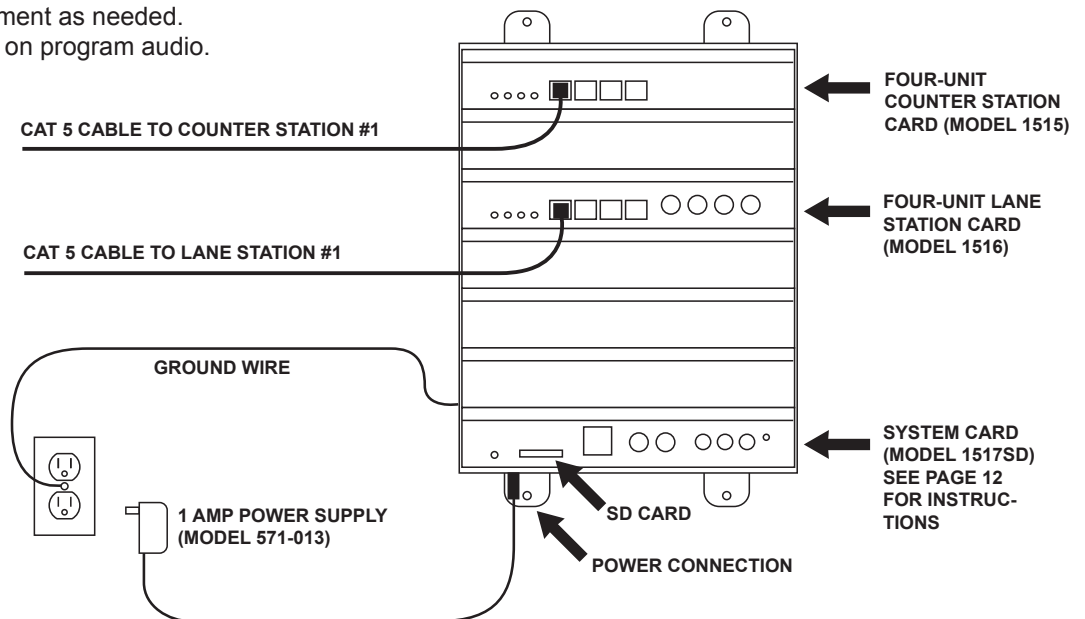
PROGRAM AUDIO INPUTS

PROGRAM AUDIO VOLUME LEVEL ADJUSTMENT

LEVEL

PROGRAM AUDIO

COUNTER STATION 1

COUNTER STATION 2

LANE STATION 1

LANE STATION 2

LANE STATION 3

LANE STATION 4

Audio A Authority®

Model 1509SD
Audio
Intercom Hub

12 VOLT DC POWER

SD CARD   DIAGNOSTICS

CAT 5 CABLE TO COUNTER STATION #1

CAT 5 CABLE TO LANE STATION #1

CAT 5 CABLE TO LANE STATION #2

1 AMP POWER SUPPLY (MODEL 571-013)

GROUND WIRE TO ELECTRICAL OUTLET COVER

Figure 6. Shown is Model 1509SD Audio only Hub. Minimum connections are shown for a 1 on 2 system.

SD CARD FOR STORING SYSTEM SETTINGS AND FIELD UPGRADES

DIAGNOSTICS PORT (NOT CURRENTLY USED)

Installing the AV System Hub (1510, 1511, 1512, 1513)

1. Position and install the Hub under the counter or in a secure indoor location such as a telephone closet. Ground the hub to a nearby electrical outlet cover using the green grounding wire attached to the hub.

2. If the installation requires additional capacity, install a Counter Card or Lane Card(s) as needed (see page 13).

3. Run a length of Cat 5 cable from each counter and lane station to the hub. Observe the cable fabrication guide on page 9, and use a cable tester to verify the terminations.

4. Connect other equipment as needed. See page 9 for more on program audio.

CAT 5 CABLE TO COUNTER STATION #1

CAT 5 CABLE TO LANE STATION #1

FOUR-UNIT COUNTER STATION CARD (MODEL 1515)

FOUR-UNIT LANE STATION CARD (MODEL 1516)

GROUND WIRE

Figure 7. Model 1510, the minimum capacity AV Hub configuration. Minimum connections for Audio-video Hubs are shown. For more configurations, system card functions, and other connections, see page 12 and 13.

1 AMP POWER SUPPLY (MODEL 571-013)

SD CARD

POWER CONNECTION

SYSTEM CARD (MODEL 1517SD) SEE PAGE 12 FOR INSTRUC-TIONS

Installing Model 1520 Lane Stations

Lane Stations may be placed at the customer end of a drive-up or walk-up intercom system. The Model 1520 is the basic Lane Station unit for installations where the microphone, speaker (plus video screen and camera, if used) are mounted separately. The Model 1526AV and 1527AV are video Lane Stations, including all of the features of the 1520 plus microphone, speaker, camera and video screen mounted inside one enclosure. The Model 1526V and 1527V 2-way Video Display must be used with a 1520, and contain only the camera and video screen.

1. Install the Model 1520 Lane Station in each deal drawer or pneumatic unit on the customer end, using the screws provided. If AC power is not available at the customer end, see Step 5.

2. Install the lane microphones and speakers if they are not already installed. Mount the speakers in the grilles provided in the drive-up units. Peel the backing from the microphone windscreen and adhere them directly centered over a 1/8" hole drilled in the faces of the customer units. At each station, place the microphone and speaker as far apart as practical, while centering the microphone to receive customer speech. Install Teller Call push-button switches, if needed.

3. Connect the Microphones, Speakers and Teller Call switches to the 1520 terminal blocks. Strip all wires **1/4" long**. If pneumatic blower muting is desired, connect the **DRY** blower contacts to the corresponding points on the terminal blocks, using small (22-18 AWG) wire. If traffic sensing devices or remote-controlled security doors are in use, connect them as indicated.

4. At each lane where video is in use, connect standard 75-ohm NTSC cameras and monitors to the 1520 video jacks, or connect a Model 1526V or 1527V Customer Video Display to the Video port on the 1520. Plug power supplies into the Power jacks.

5. Plug the lane power supplies into a source of 100-240 volts AC. If AC power is not available on the customer end, a power supply may be located indoors and its output leads extended using a suitable gauge of wire as shown. To power multiple lane units from a single power supply source, contact Audio Authority Technical Support at 800-322-8346.

Recommended AWG For Power Supply Leads

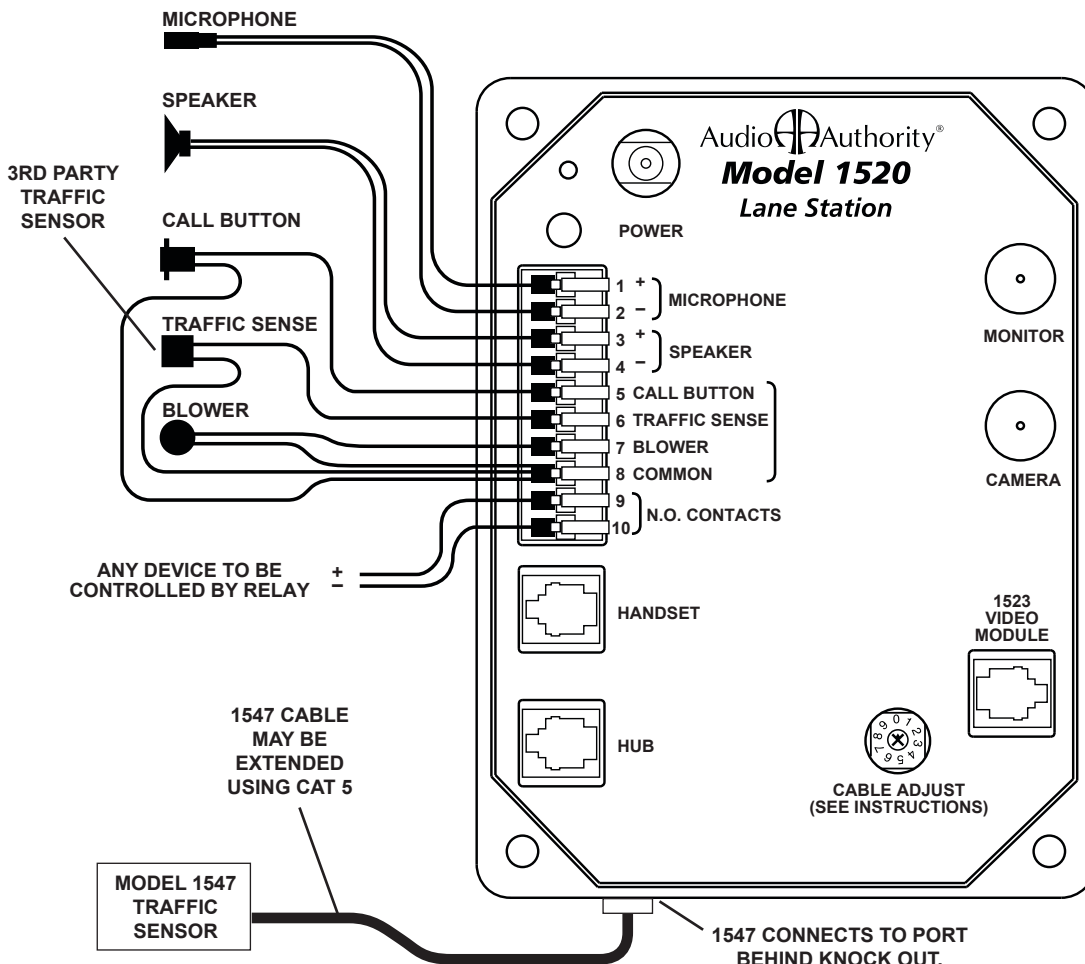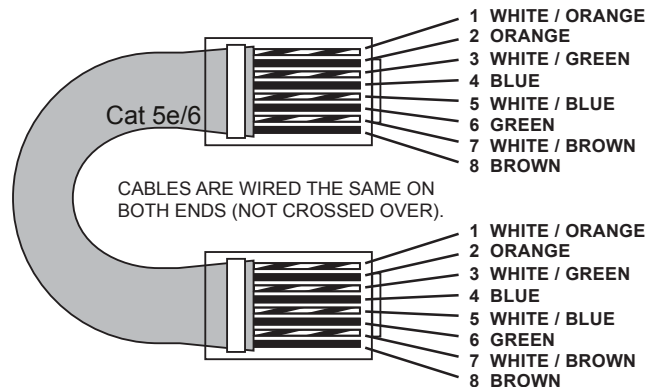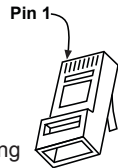| Maximum Distance	Gauge
40 ft	18
60 ft	16
100 ft	14

FIGURE 8.
1520 Lane Station

Wiring

Series 1500 is designed for excellent performance using Cat 5 cable (Cat 5e, Cat 6 or Cat 7 is UTP (Unshielded Twisted Pair) cable that carries multiple signals for long distances). Follow instructions below, or in retrofit installations where the existing wiring must be used, refer to 1500 alternate wiring instructions (752-502) at www.audioauthority.com.

Cat 5 Cable Fabrication

Terminate the ends of each Cat 5e/6 cable with RJ-45 modular plugs using the EIA 568B pinout (paired 1-2, 3-6, 4-5, and 7-8). Pre-made network cables may also be used for shorter runs. **TEST** all cables (including pre-made) with a network cable tester.

Pin 1

RJ-45 plug with pins facing up and clip facing away.

Cat 5e/6

CABLES ARE WIRED THE SAME ON BOTH ENDS (NOT CROSSED OVER).

1 WHITE / ORANGE
2 ORANGE
3 WHITE / GREEN
4 BLUE
5 WHITE / BLUE
6 GREEN
7 WHITE / BROWN
8 BROWN

1 WHITE / ORANGE
2 ORANGE
3 WHITE / GREEN
4 BLUE
5 WHITE / BLUE
6 GREEN
7 WHITE / BROWN
8 BROWN

Using Cable Adjust for Long Cat 5 Cable Runs

For a Cat 5 cable run with total length over 100 feet, use the following guidelines: Set Cable Adjust Dial on the 1520 in increments of 100 feet (1 = 100 to 199 feet, 2 = 200 to 299, etc.). For 1-way video set only the length control on the 1501L (Cable Adjust Dial on 1520 = 0). For 2-way video set the length controls on both the 1520 and 1502L.

Using Traffic Sensors

The 1520 Lane Station provides a connection for Audio Authority's Model 1547 traffic sensor on the bottom edge of the case (see illustration on page 8). When a vehicle triggers the 1547, the Counter Station generates a call tone for the corresponding lane to alert the operator. The call tone for the traffic sensor can be a different ring tone from the call button at the same lane (see page 15). To extend a traffic sensor, use an in-line coupler and a length of Cat 5 cable.

1501L OR 1502L

CABLE ADJUST DIAL
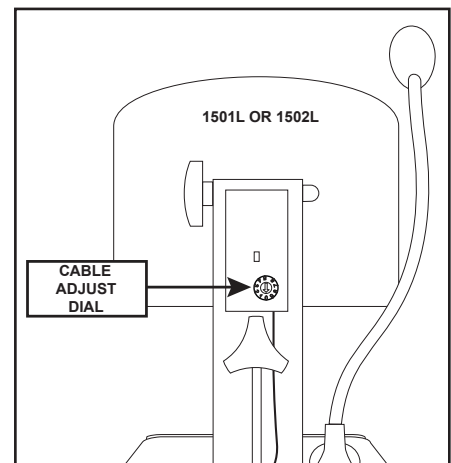
Alternatively, a third party traffic sensor may be used by connecting it to the TRAFFIC SENSE terminal and COMMON terminal as shown on page 8. Third party sensors have different pinouts and color codes. Be sure to verify the specific pinout with the manufacturer's documentation.

Playing Audio and Video Content Through Lane Stations

If audio or video messaging content will be playing when customers are on hold or the lane is idle, plug the source player into the PROGRAM INPUT ports on the 1509SD or 1517SD hub card. Program audio level may be manually adjusted at the hub. Any lane's program audio may be turned off during idle periods (still heard while on hold) using the 1550A *Program Audio Abate* setting (see page 16). If the program video source is a PC, either a composite video card or external converter is required to scale the PC video output to standard definition composite video signal.

DVD or MEDIA

COMPOSITE VIDEO

VOLUME CONTROL

AUDIO

PC (VGA OUTPUT)

VGA

AUDIO

EXTERNAL CONVERTER

COMPOSITE VIDEO
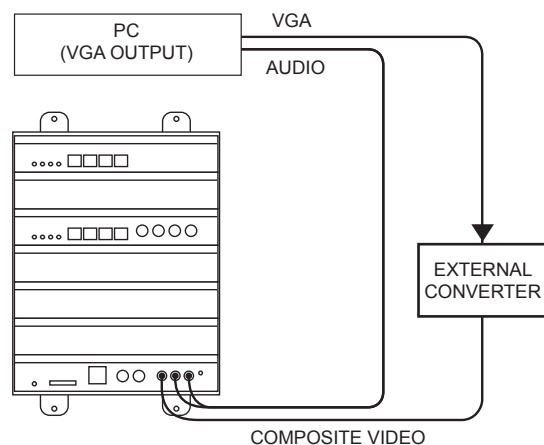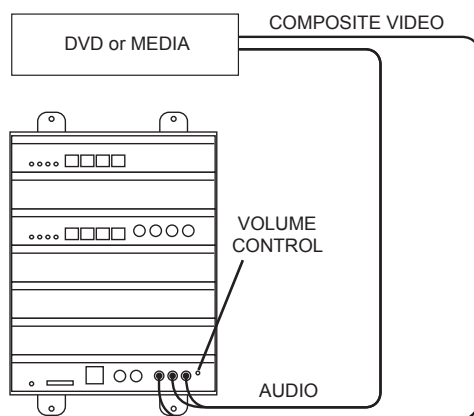
Operation

The Series 1500 Intercom is operated via touch-sensitive keys on Model 1500A Counter Station keypads, shown below. Tasks such as answering a customer call, ending a call, and putting a customer on HOLD are shown on the Operator Guide (page 11) which should be kept near the Counter Station for reference.

Counter Station Keypad.

LANE KEYS
Lane 1 and Lane 2 are located here by default.

CAMERA UP AND DOWN
If video is installed, aims the lane camera higher or lower.

MIRROR
When two-way video is installed, use MIRROR to aim the Counter Station camera on operator.

SETUP
Choose ringtones and ring volume. Choose handset/headset volume (page 11).

VOLUME UP AND DOWN
Customer's voice becomes louder or softer in Counter Station speaker or earpiece of headset and handset.

HOLD
Place a Lane on HOLD. If program audio-video is installed, the customer hears music or other messages. Touch the Lane Key to resume contact. Touch and hold the HOLD key to operate a relay (see below).

PRIVACY LIGHT
Comes on when wireless headset or handset is active.

PRIVACY
The privacy key is used to switch from the speaker and gooseneck mic to the wireless headset. It is not used with the handset.

Operating Remote Devices

The 1520 can be wired to operate a latch or door in a remote location via the 1500A keypad (see page 8 for relay connection details). The system can be set up (using the 1550A) to be operated in two different ways; consult your technical support provider for details.

- Option 1: Any time the lane is selected the remote device is active (e.g. a door opens).
- Option 2: When a lane is active, the operator touches and holds the HOLD key to activate the device (e.g. hold the door open). The HOLD key operates normally when touched briefly.

Using a Wireless Headset or Handset

The 1500A and 1500AH switches between the built-in speaker and gooseneck microphone, the 1500AH handset, and an optional wireless headset. Some examples of using these communication methods are listed below. Always deactivate the wireless headset between customer interactions to increase battery life.

*Note:
Supported headset models are limited to Plantronics CS50, CS55, and Jabra PRO 920. Others may be compatible, but are not supported.*

Answering a Call

- Speaker/gooseneck mic: Touch the rapidly flashing lane key.
- Handset: Pick up the handset, touch the rapidly flashing key.
- Wireless headset: Activate the headset, touch PRIVACY and select the flashing lane. If the headset is the preferred method, leave PRIVACY on.

Putting a Call on HOLD

- Speaker/gooseneck mic: Touch HOLD.
- Handset: Touch HOLD, then hang up the handset.
- Wireless headset: Touch HOLD.

Picking Up a Call from HOLD

- Speaker/gooseneck mic: Touch the blinking lane key.
- Handset: Touch the blinking lane key and pick up the handset.
- Wireless headset: If PRIVACY is already on, activate the headset and select the blinking lane key.

OPERATOR GUIDE

Model 1500A Intercom
Counter Station

Operation Tips
• Speak naturally into the microphone at a distance of about two inches
• Touch keys with the pad of your finger
• Press MIRROR to view yourself (2-way video only) – to aim camera, adjust display tilt

Lane Key Indicators

RED (flashing rapidly)	=	Customer CALLING for service
GREEN	=	Customer in 2-WAY contact with your counter station
RED	=	Customer in 2-WAY contact with another counter station
GREEN (blinking slowly)	=	Customer placed on HOLD from your counter station
RED (blinking slowly)	=	Customer placed on HOLD from another counter station
GREEN (flashing rapidly)	=	Monitoring transaction on another counter station (Master Teller)

Counter Station

• To connect a customer calling	Touch LANE key
• To place a customer on HOLD	Touch the HOLD key
• To connect a customer on hold	Touch the LANE key
• To end contact with customer	Touch the active LANE key
• To cancel hold and end contact	Touch the LANE key twice
• To talk over a customer	Touch and hold the active LANE key
• To adjust incoming volume	Touch VOLUME UP or VOLUME DOWN key
• To enter/exit PRIVACY (headset) mode	Touch the PRIVACY key
• To activate remote relay	See installer or administrator for instructions

Adjust Counter Station Handset Volume (1500AH)
• In SETUP MODE, touch PRIVACY and press VOLUME UP or DOWN
• If further handset transmit or receive volume adjustment is needed, contact your technical support provider

Wireless Headset
• To use a wireless headset, touch PRIVACY, activate the headset, and select the flashing lane key
• If the headset is the preferred method, leave privacy on
• To increase headset battery life, deactivate the headset between customer interactions

Handset
• To answer a call, pick up the handset and touch the rapidly flashing lane key
• To place a customer on hold, touch HOLD
• To speak to a customer on hold, pick up the handset and touch the lane key

Counter Station Video

• To adjust outside camera on selected lane	Touch CAMERA UP or CAMERA DOWN key
• To view yourself (to aim camera)	Touch MIRROR key (30 second time-out)
• To view outgoing video program	Hold MIRROR key 3 seconds (no lane selected)
• To pause lane camera scrolling	Touch HOLD key (no lane selected)
• To view next lane camera	Touch CAMERA UP key (no lane selected)
• To view previous lane camera	Touch CAMERA DOWN key (no lane selected)

Adjust Ringtones and Ringer Volume
• Touch and hold the SETUP key until lights next to CAMERA and VOLUME keys blink
• Touch CAMERA UP and DOWN to select one of 16 ringtones
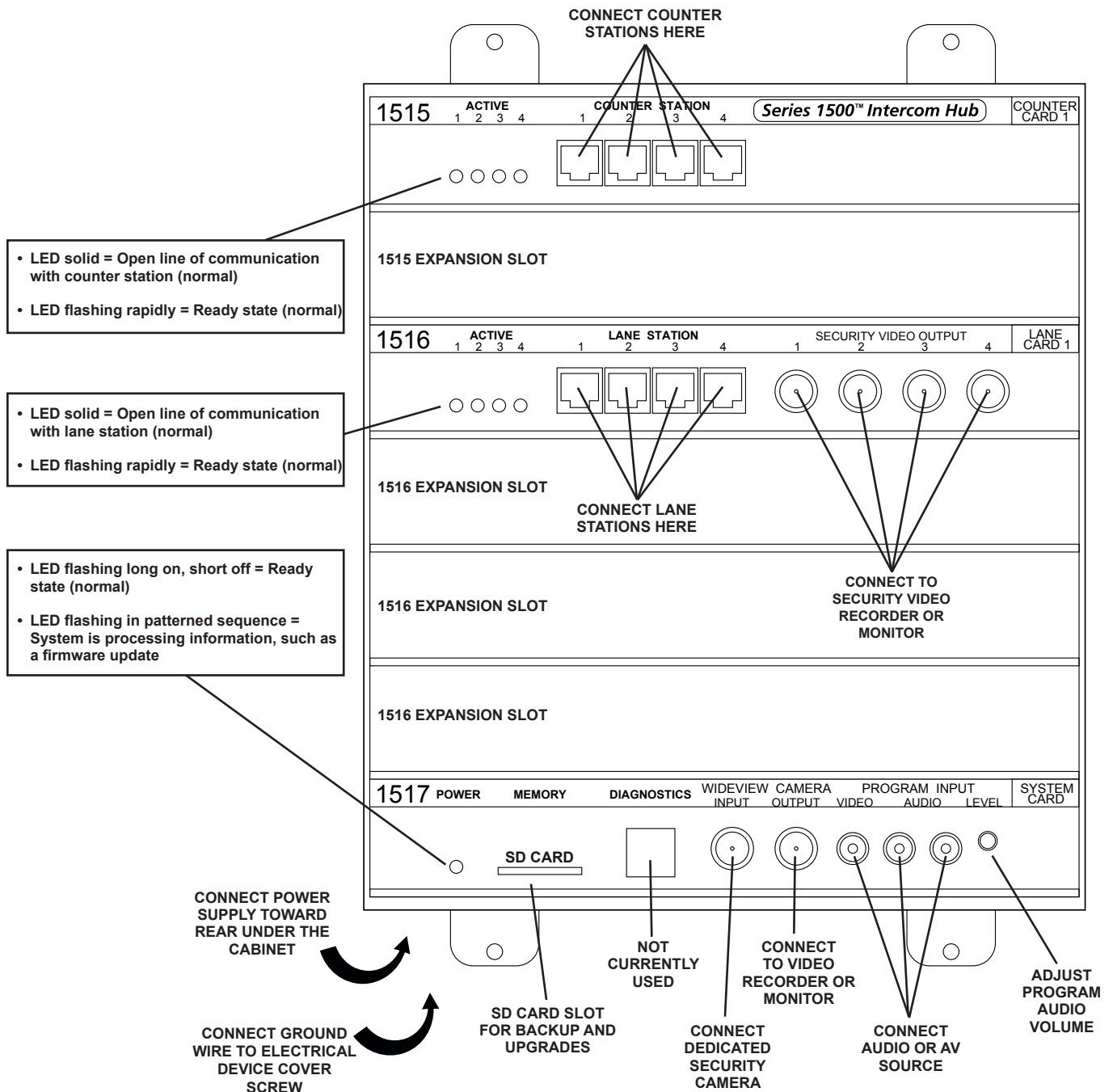• Touch VOLUME UP and DOWN to set ringer volume

Audio Authority®

AV System Hub Model 1510

- The Model 1510 is an audio-video Hub with a capacity of up to four Counter Stations serving four Lane Stations. The Hub's capacity can be expanded in the field by adding Counter and/or Lane cards (see page 13).

- System settings can be stored on a standard SD card for security or replication purposes. Firmware upgrades can be downloaded from the Audio Authority website and performed using the SD card when necessary. These operations require a Model 1550A Installer Setup Tool and a 1500ACounter Station.

- Composite video and stereo analog audio inputs allow multimedia source devices to play advertising content on any lane whenever customer is on hold or it is idle. See page 9 for details.

- Direct outputs from wide angle camera (dedicated security camera) and/or lane cameras for surveillance recording. Video is output continuously from each camera connected.

CONNECT COUNTER STATIONS HERE

| 1515 | ACTIVE 1 2 3 4 | COUNTER STATION 1 2 3 4 | Series 1500™ Intercom Hub | COUNTER CARD 1 |

- **LED solid = Open line of communication with counter station (normal)**
- **LED flashing rapidly = Ready state (normal)**

1515 EXPANSION SLOT

| 1516 | ACTIVE 1 2 3 4 | LANE STATION 1 2 3 4 | SECURITY VIDEO OUTPUT 1 2 3 4 | LANE CARD 1 |

- **LED solid = Open line of communication with lane station (normal)**
- **LED flashing rapidly = Ready state (normal)**

1516 EXPANSION SLOT

CONNECT LANE STATIONS HERE

- **LED flashing long on, short off = Ready state (normal)**
- **LED flashing in patterned sequence = System is processing information, such as a firmware update**

1516 EXPANSION SLOT

CONNECT TO SECURITY VIDEO RECORDER OR MONITOR

1516 EXPANSION SLOT

| 1517 | POWER | MEMORY | DIAGNOSTICS | WIDEVIEW INPUT | CAMERA OUTPUT | PROGRAM INPUT VIDEO AUDIO LEVEL | SYSTEM CARD |

SD CARD

CONNECT POWER SUPPLY TOWARD REAR UNDER THE CABINET

CONNECT GROUND WIRE TO ELECTRICAL DEVICE COVER SCREW

SD CARD SLOT FOR BACKUP AND UPGRADES

NOT CURRENTLY USED

CONNECT DEDICATED SECURITY CAMERA

CONNECT TO VIDEO RECORDER OR MONITOR

CONNECT AUDIO OR AV SOURCE
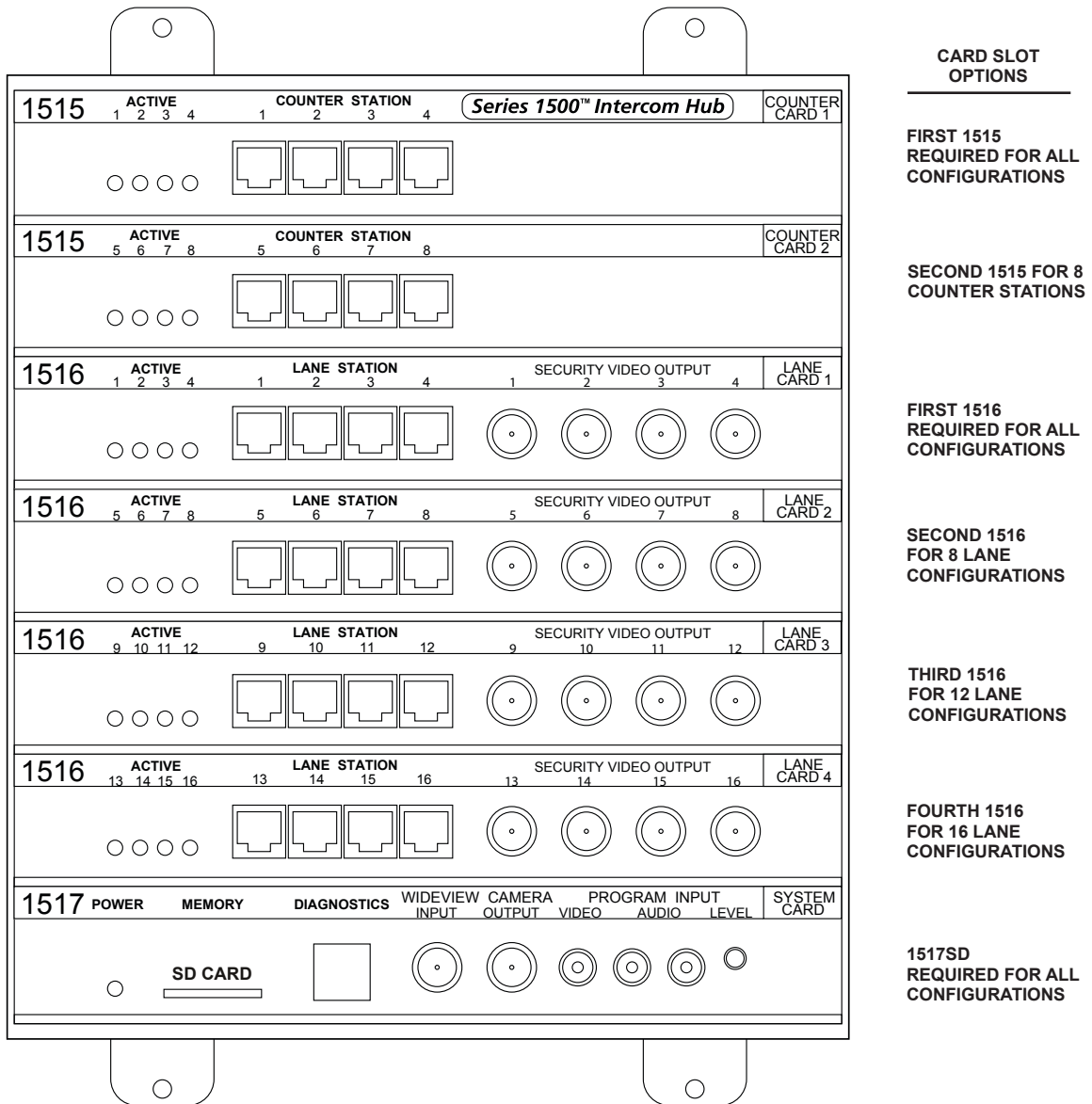
ADJUST PROGRAM AUDIO VOLUME

Hub Configurations and Capacity

Shown below is the Model 1513 Hub, a maximum capacity configuration; all Counter and Lane Card slots are filled. Several other configurations are available; contact Audio Authority® for details, or visit www.audioauthority.com.

To increase Counter or Lane Station capacity, remove power from the Hub. Remove the blank faceplate from the appropriate card slot(s) and insert the new cards carefully, making sure the connections are firmly seated. Insert the two screws to secure the card, and connect new Lane Stations and/or Counter Stations. Connect power and test the system.
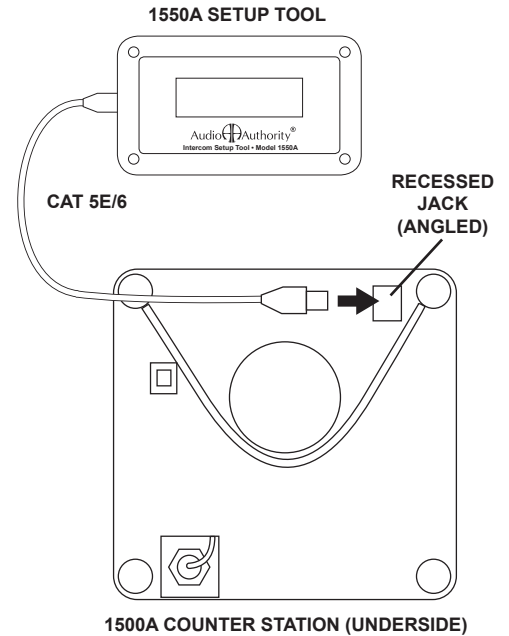
An alternate maximum configuration is possible, in which four Counter Stations serve 20 Lane Stations. If a 4-on-20 configuration is desired, contact Audio Authority for special instructions.

CARD SLOT OPTIONS

FIRST 1515 REQUIRED FOR ALL CONFIGURATIONS

SECOND 1515 FOR 8 COUNTER STATIONS

FIRST 1516 REQUIRED FOR ALL CONFIGURATIONS

SECOND 1516 FOR 8 LANE CONFIGURATIONS

THIRD 1516 FOR 12 LANE CONFIGURATIONS

FOURTH 1516 FOR 16 LANE CONFIGURATIONS

1517SD REQUIRED FOR ALL CONFIGURATIONS

Using the 1550A Installer Setup Tool

System Calibration and Setup

The Model 1550A is a display that shows the setup menus and settings for Series 1500 Intercom Systems. See page 18 for a menu map and default values. The entire system can be calibrated from one Counter Station. Connect the 1550A Setup Tool to the RJ45 jack on the underside of any live Counter Station. (The jack is at an angle.)

1550A SETUP TOOL

Audio Authority®
Intercom Setup Tool • Model 1550A

CAT 5E/6

RECESSED JACK (ANGLED)

CAMERA = Select next or previous Lane or Counter Station (after selecting a single Lane or Counter Station)

SETUP = Enter or Confirm

VOLUME = Move menu cursor up and down

PRIVACY = Go Back to previous menu

▲	1	2	3	4	▲
▼	5	6	7	8	▼
	9	10	11	12	
▶	13	14	15	16	◀

1500A COUNTER STATION (UNDERSIDE)
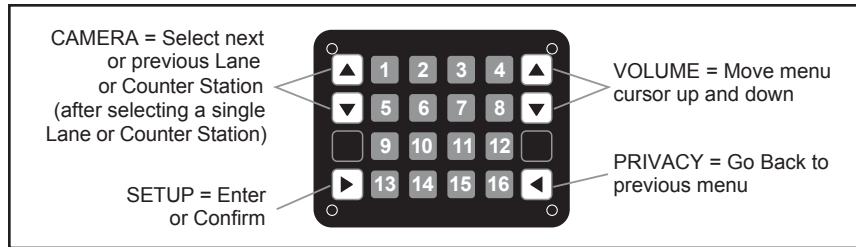
Basic Setup Procedure

- Hold the SETUP key on the Counter Station for one second to enter Setup Mode. The 1550A displays: "SERIES 1500 EQUIPMENT CALIBRATION PLATFORM".
- To navigate the menus, use the VOLUME UP and VOLUME DOWN keys to move the cursor.
- Touch SETUP to enter a submenu or confirm a selection, and PRIVACY to go back.
- Any changes you make are recorded as you exit each submenu. When you exit Setup Mode, you must choose to either save all changes and exit or exit without saving.
- If you need to re-enter Setup Mode, simply press SETUP for one second.

Power User Tips

- For faster menu navigation, submenus may be selected by touching the key that is lit RED corresponding to the menu item (see the numbered keys above). For instance, to enter BLOWER MOTOR DELAY, press 1 and then 1.
- See page 18 for a menu map and default values.
- To Exit Setup Mode from any menu, hold SETUP for one second and follow the prompts on the 1550A.
- After adjusting a Lane Station or Counter Station, you can use the CAMERA UP or CAMERA DOWN keys to select other stations for adjustment without leaving the submenu.

SD Card Installation Notes

Series 1500 SD cards have two uses: Storing intercom configuration data and upgrading the intercom system firmware.

- Storing the configuration of the intercom system for later retrieval or programming another system is the primary use for the SD card. This can save time from one installation to the next if the installations are similar. The system settings can also be retrieved from the memory card in case of a system upgrade or equipment replacement.
- To store configuration data on the memory card, insert the card into the hub and perform a WRITE TO MEM.CARD operation in the SETUP menu (see page 15). Then remove the card and store it onsite in a safe, designated location. In the same manner, write the configuration data to an additional SD card if copying the settings to another system is desired.
- To load a configuration from the memory card, insert the card into the hub and perform a READ FROM MEM.CARD operation in the SETUP menu (see page 18).

NOTE: It is NOT necessary that the SD memory card remain in the hub during normal operation.

Using Ringtones

16 different ringtones are available in the 1500 system. Operators may choose a distinct ringtone for each counter station and adjust the ringtone volume using console controls (see operator instruction card on page 11). Using the 1550A the installer may assign each lane a distinct ringtone (see ringtone override, page 16), and designate one ringtone for IR traffic sensors, and a different one for call buttons (see menu map, page 18).

1550A Configuration Example

To enter the configuration menu, connect a 1550A Setup Tool to the underside of any 1500A Counter Station, then press and hold the SETUP key for one second. See page 18 for a menu map and default values.

Note: default values for each setting are listed here: www.audioauthority.com/1500defaults

1. **Adjust Audio Levels**
   Select 2: LANE PARAMETERS – Select 2: AUTO-SELECT 1 LANE – Touch SETUP
   a. Inbound audio level
      i. Select 1: INBOUND VOLUME LVL
      ii. Select exact value (1 – 16) or use VOLUME keys to raise or lower inbound volume
      iii. Touch PRIVACY key to return
   b. Outbound audio level
      i. Select 2: OUTBOUND VOLUME LVL
      ii. Select exact value (1 – 16) or use VOLUME keys to raise or lower outbound volume
      iii. Touch PRIVACY key to return
   c. Adjust open loop gain
      i. Select 3: OPEN LOOP GAIN
      ii. Select exact value (1 – 16) or use VOLUME keys to raise or lower open loop gain
      iii. Touch PRIVACY key to return
   d. Touch CAMERA UP/DOWN keys at any time to adjust next/previous lane station

2. **Configure Key Assignment**
   Select 3: TELLER PARAMETERS - Select 2: SINGLE TELLER – Touch SETUP – Select 1: KEY ASSIGNMENT
   a. Use VOLUME keys to select lane to be assigned
   b. Touch any lane key to assign selected lane to that key
   c. If the desired key is already assigned, touch it twice
   d. Touch CAMERA UP to configure next teller station

3. **Save Settings and Exit Setup**
   a. Hold SETUP for one second to jump to EXIT menu at any time
   b. Select 2: EXIT AND SAVE
   c. Touch SETUP, then press SETUP again to confirm

Menu Selections   Definitions

AUTO-SELECT 1 LANE   Allows installer to configure lane audio settings using live audio from the lane. Useful for adjusting inbound and outbound audio levels.

ALLOW HANDSFREE   Allow communication using speaker and gooseneck microphone.

ALLOW VIDEO SCROLL   Inactive Counter Stations view all available cameras in sequence; when video scroll is disabled, inactive Counter Stations see only the wideview camera (if installed).

BACKGRND THRESHOLD   Adjustment for level of background audio rejected by Counter Station microphone. 0 = no rejection.

BLOWER MOTOR DELAY   If enabled, the period between disengagement of blower and microphone audio un-mute.

FIRMWARE UPGRADE   This menu allows the firmware of system components to be upgraded.

HANDSET MIC LVL   Inbound handset volume level adjustment.

HANDSET SPKR LVL   Outbound handset volume level adjustment.

HALF DUPLEX ONLY   Enables 'push-to-talk' operation.

INBOUND VOLUME LVL   Inbound volume level adjustment.

KEY ASSIGNMENT   This menu enables lane selection keys to be redefined in any configuration desired. First select the lane number to be assigned using the VOLUME keys. Then touch the key to be assigned to that lane. If the desired key is already assigned, touch it twice. For 20 lane systems use "Page Mode". Page Mode allows the user to flip between two "pages" of keys. The first page contains lane 1-10, the second 11-20. To enter or exit Page Mode, touch the HOLD key while in KEY ASSIGNMENT.

LANE MIRROR DISABLE   OFF = idle Lane Stations display their own camera output. ON = idle Lane Stations DO NOT display their own camera output.

MASTER TELLER   Enables one Counter Station to monitor conversations conducted on all other Counter Stations.

OUTBOUND VOLUME LVL   Outbound volume level adjustment.

OPEN LOOP GAIN   Adjustment for adapting to different acoustic environments. Lower this setting for Lane Station acoustical environments with too much microphone and speaker coupling. Increase this setting to hear more of the customer while operator is talking.

PGM AUDIO ABATE   ON = Program Audio heard ONLY when lane is *on hold*. OFF = Program Audio heard when lane is *idle* OR *on hold.*

PHARMACY SETTINGS   See the Model 1533 Telephone Intercom Interface Manual for details.

POWER SAVE DELAY   If enabled, the length of time the system must be idle before entering Power Save (LCD sleep).

READ FROM MEM. CARD   System settings are restored from hub memory card.

RELAY OPERATION   Allows configuration of Lane Station relay contacts (Model 1520 terminal block pos. 9 & 10). The contacts can be set to close using the HOLD key, or while the lane is selected. (See Operator Card I for HOLD key operation details.)

RINGTONE OVERRIDE   Press a key to select a unique ringtone for the selected Lane Station(s). 1 = no override (plays the ringtone set by each Counter Station). All other keys represent unique ring tones which override any Counter Station settings.

SINGLE LANE   Allows installer to configure lane audio settings without using live audio from the lane. Useful when lanes are in use or audio is not required for adjustments.

SUPERVISOR TELLER   If enabled, allows one Counter Station to monitor others.

SWAP CAMERA UP/DOWN   Swaps functions of the camera up and down buttons – use with third party camera tilt.

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TRAFFIC SENSOR TONE	Press a key to select a unique ringtone for all traffic sensor events. 0 = no ringtone, 1 = use Lane Station Ringtone Override setting.
WRITE TO MEM. CARD	System settings are saved to hub memory card.

Firmware Update Instructions (Version 4.0 and later)

Download the latest Series 1500 firmware from www.audioauthority.com and follow the instructions to copy the files onto any SD card.

This update may take several minutes. The system cannot be used during this time, so plan for adequate down-time to complete and verify the update.

Note:
If your system is not SD card-compatible, or has v1.9 or earlier firmware, call Audio Authority Tech Support.

• Insert the SD Memory Card into the Hub* Card slot (1509SD or 1517SD).
• Connect a 1550A Setup Tool to the underside of a Model 1500 Counter Station that has firmware v4.0 or higher.
• Press Setup for 2 seconds
• Press Key 5 (1st button on second row)
• Press Key 4 (last button on top row)
• Press the Mirror key
• Press the Setup key twice
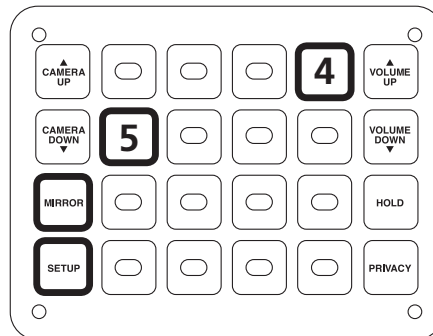
After a successful update, "Firmware upgrade complete" is displayed on the 1550A screen. The menu on the 1550A now shows several new selection options that apply only to the new 1500A, 1500AH, and 1533. Once the update is complete, all indicators on the hub will return to normal operation.

* 1-on-1 Systems may be updated by temporarily inserting a hub into the system.

Series 1500 Menu Map with Default Values

Firmware Version 4.07 May 31, 2013
To access the 1500 system parameters, connect a Model 1550A Installer Setup Tool to any Counter Station in the system. The following table shows the menu structure and factory default values, where applicable. For 1533 setup, see menu map in 1533 manual.

Root Menu	First Menu Subset	Second Menu Subset	Financial Default Value	Pharmacy Default Value
1: System Parameters	1: Blower Motor Delay		3.0	3.0
	2: Power Save Delay**		90	90
	3: Supervisor Teller*		None	None
	4: Lane Mirror Disable**		Off	Off
	5: Traffic Sensor Tone		Use Lane Ringtone	Use Lane Ringtone
	6: Background Threshold		4	4
	7: Allow Video Scroll		On	Off
	8: Master Teller		None	1
2: Lane Parameters	1: Single Lane	1: Inbound Volume Level	8	8
	2: Auto Select Lane	2: Outbound Volume Level	4	4
	3: Group of Lanes	3: Open Loop Gain	12	12
	4: All Lanes	4: Handset Mic Level	8	8
	5: Cancel	5: Handset Speaker Level	8	8
		6: Ringtone Override*	None	None
		7: Half Duplex Only	Off	Off
		8: Program Audio Abate*	Off	Off
		9: Relay Operation	Selection Activates	Selection Activates
		10: Swap Camera Up/Down	Off	Off
		11: Suppress Video	Off	Off
3: Teller Parameters	1: This Teller	1: Key Assignment**		
	2: Single Teller	2: Allow Hands Free	On	Off
	3: Group of Tellers			
	4: All Tellers			
	5: Cancel			
4: Set Defaults	1: Cancel			
	2: Financial Defaults			
	3: Pharmacy Defaults			
5: Memory Card	1: Cancel			
	2: Write To Memory Card			
	3: Read From Memory Card			
	4: Firmware Upgrade			
6: Exit	1: Cancel			
	2: Exit and Save			
	3: Exit Without Saving			

*Not Available with 1-on-1 configurations
**Not available with 1509SD mini hub configurations

Testing the Installation

Check the following locations for successful power-up and connectivity, indicated as follows:
- ❑ 1500A Counter Station: All LEDs become dark until keys are pressed
- ❑ 1509SD Hub: flashing green Power LED, rapidly flashing counter station and lane station LEDs on connected ports
- ❑ 1517SD system card: flashing green LED, rapidly flashing counter station and lane station LEDs on connected ports
- ❑ 1520 Lane Station: rapidly flashing Power LED

Check system operation by selecting each lane and speaking with an assistant at the customer position. For drive-up lanes, the assistant should be speaking from an idling vehicle. Adjust Lane Microphone and Speaker gains using the Model 1550A Setup Tool.

Troubleshooting Tips

- ❑ Always test Cat 5 cables with a professional Network Cable Tester – even pre-made cables (see page 9)
- ❑ Try connecting a Counter Station directly to a Lane Station to rule out faulty system components
- ❑ In case of unexpected performance, restore system defaults to rule out incorrect system parameters

Counter Station Lights Remain in 'Burn in' Pattern

- ❑ Check Cat 5 cable - consistently use EIA 568B standard cable termination (see page 9)
- ❑ Ensure Counter Station is connected to the correct hub port

Low Volume at Counter Station

- ❑ Adjust inbound or open loop gain levels
- ❑ Call Audio Authority Technical Support

Acoustical Coupling

- ❑ Increase separation of lane microphone and speaker
- ❑ Isolate lane microphone and speaker with sound-damping barrier (i.e. foam rubber)
- ❑ Mount lane speaker and microphone on separate surfaces or adjust their mounting angles
- ❑ If the above remedies do not solve the problem, adjust inbound, outbound or open loop gain levels

Poor Deal Drawer Acoustics

- ❑ Fill hollow cavities in the deal drawer with foam rubber sheets or blocks
- ❑ Do not rest Counter Station directly on top surface of deal drawer

Repeating Pops in Audio

- ❑ Check Cat 5 cables - consistently use EIA 568B standard cable termination (see page 9)
- ❑ Check system ground connections

No Video or Poor Video Quality

- ❑ Check Cat 5 cables - consistently use EIA 568B standard cable termination (see page 9)
- ❑ Eliminate long coaxial cable runs between cameras/displays and Lane Station
- ❑ Check microphone wiring polarity

Lane Keys Don't Respond

- ❑ Keys not assigned to Counter Station – reassign keys or restore factory defaults in configuration menu

Lane Microphone Doesn't Work

- ❑ Microphone must be electret condenser type
- ❑ Check microphone polarity

Wind Noise

- ❑ Can often be eliminated by putting a small plug of 3M Scotchbrite™ in the microphone opening
- ❑ For optimum results, use Audio Authority lane microphones which have a special foam surround