**Alcorn
McBride
Inc.**

V-Page VP16K User's Guide

INTELLIGENT DANTE/AES67 PA STATION

November 6, 2018

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WELCOME!

Thank you for purchasing The Alcorn McBride V-Page™ Network-enabled paging station. The V-Page provides facility-wide intelligent paging using Dante™ Audio Networks and the Q-Sys™ PA Station Protocol.

Configuration of your paging network including zone assignments, button and light behaviors and zone priorities is completely soft programmable using the Q-Sys Designer and administrator software.

A single Ethernet (Cat5e or greater) cable carries audio, power, control and monitor data between the V-Page station and the Q-Sys system. A facility may incorporate an unlimited number of V-Page stations by simply connecting them to Power Over Ethernet (PoE) network switches.

SFP connector for an optional transceiver (not included) allows to use fiber cable for data communication.

The V-Page Model VP16K station allows you to create customized paging consoles with up to 16- zones of control. This kit is designed to mount on a standard DIN rail inside a console.

PRODUCT FEATURES

The V-Page offers a wide range of features including:
- Dante and AES67 Audio Network Compatible
- Q-Sys PA Station Protocol
- Audio, Control and Power on one ethernet cable
- Power-Over-Ethernet (Class 3) with indicator
- Up to 16 Zones for customized consoles
- 16 Lamp Driver Outputs
- 16 Contact-Closure Inputs
- Breakaway feature.
- Phoenix Screw Terminal Blocks
- Adjustable LED Brightness
- Adjustable Mic Gain
- Mounts in standard DIN rail
- SFP cage for optional fiber optic cable line

TECHNICAL SUPPORT

Now that we've tantalized you with all of the wonderful things this product can do, I'll bet you're chomping at the bit to flip all the switches and push all the buttons. Not so fast! Before we get to the fun stuff, we just want to take a moment to remind you that we are here to help. Chances are that you're building something really cool and we want you to have access to the resources and support you need to be successful.

To start, you'll find a wealth of information on our website. This includes Application Notes that give you detailed documentation and examples for how this product is used in common types of themed entertainment projects. You'll also find the latest downloads for software, firmware, drawings, 3D models, cutsheets, and other helpful resources on our Support page. The Knowledge Base is especially handy for common questions and helpful troubleshooting tips. And last, but certainly not least, you always have our friendly and mildly entertaining staff available by email or telephone.

Application Notes	http://www.alcorn.com/applications
Support Resources	http://www.alcorn.com/support
Knowledge Base (FAQ)	https://alcornmcbride.zendesk.com/hc/en-us
Email Support	support@alcorn.com
Telephone Support	(407) 296-5800 (Mon-Fri 9am-6pm EST)

GETTING STARTED – VP16K

Alright, time to roll up your sleeves and get to work! This section will guide you through basic concepts that will help you get on your way with V-Page.

The V-Page station(s) communicates with a Q-Sys Core via network connection using a Plugin. To install the plugin you need to download the file from the website and copy and paste the component to your design. The plug in can be downloaded from our website at http://alcorn.com/support/software/

You must be running Q-Sys Firmware 7.0.0 or above and V-Page firmware 2.00 or above for the Plugin to work. To learn how to do a firmware update please refer to the firmware update section of this manual.

There are three steps that need to be completed to ensure that V-Page and Q-Sys function together properly.

1)   V-Page Hardware Installation
2)   Linking a V-Page and Q-Sys Core together
3)   Configure the audio routing using Q-Sys and Dante controller

HARDWARE INSTALLATION

a. Make sure that all the dip switches are in the "Off" Position
b. Power on V-Page by connecting Ethernet port to the Power Over Ethernet (PoE) switch and wait 20 seconds for V-Page unit to initialize. If no Power Over Ethernet (PoE) is available, refer to the VP32K Hardware section to learn about using an external power supply.
c. Be sure to have your V-Page units on the same network as the Q-Sys Core

LINKING A NEW V-PAGE AND Q-SYS CORE TOGETHER

a. Single click the V-Page Plugin block for the station you would like to link and ensure your property settings are configured. (Refer to Plugin Properties section of this manual).
b. Connect to the Q-Sys Core and then double click to open the plugin.
c. Set Dip Switch #1 from Off to On and Off again.
d. On the Q-Sys plugin, on the top right corner click "Link". Once the station is linked to the Core the station will re-boot. At this time your plugin will be "Online" and the LED will light up.

AUDIO CONFIGURATION

a. Launch Dante Controller.
b. Click on the "Device Info" tab and double click on the V-Page station.
c. Enable AES67 under AES67 tab. Once the station has been rebooted, it's time to create an AES67 multi-cast flow. Click on "Add Multicast Flow".
d. Check the "AES67 Flow" box. Add your channel into the new flow. Click "Create".
e. In Q-Sys Designer, double click your AES67 Receiver Module and pick the new Stream Name.

# HARDWARE INFORMATION

VP16K OVERVIEW

V-Page Model VP16K includes a 5-Pin Female XLR connector and a clip holder designed for a Push-to-Talk microphone.
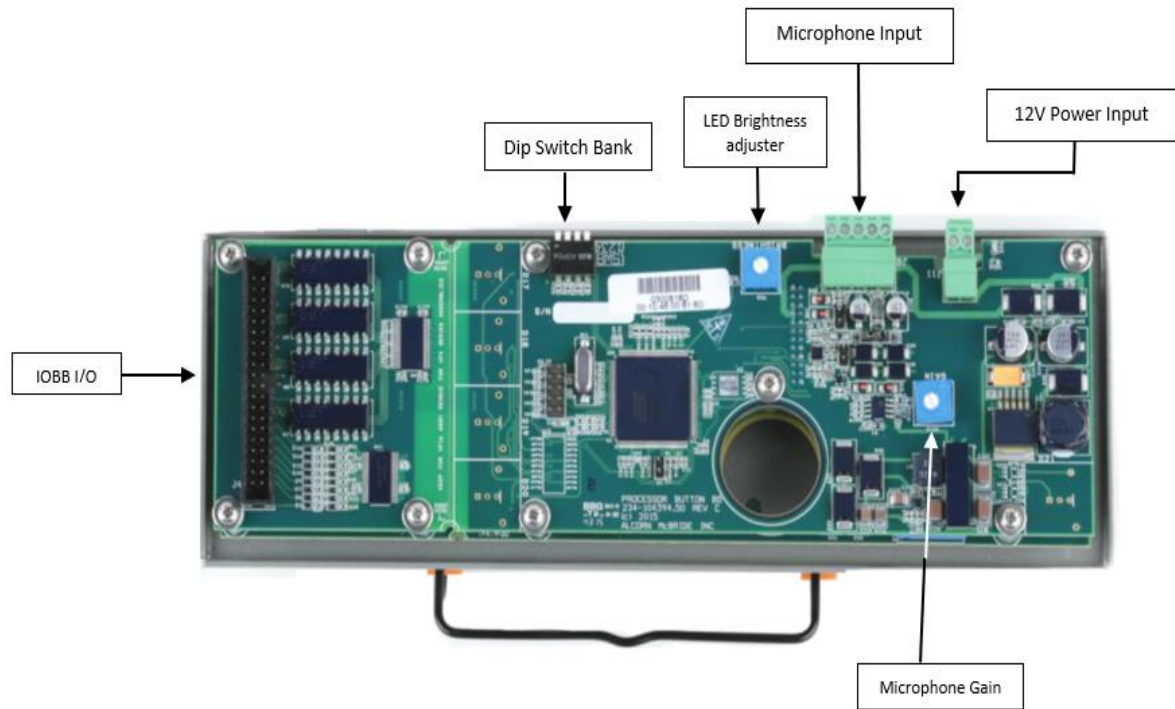
NETWORK DESCRIPTIONS

V-Page is part of a system consisting of a Q-Sys Core, Network Router(s)/Switch(s), and the V-Page Stations themselves. A single physical connection handles both control and audio transport this connection can either be via Ethernet cables or Fiber Optics if your installation length exceed 328 ft.
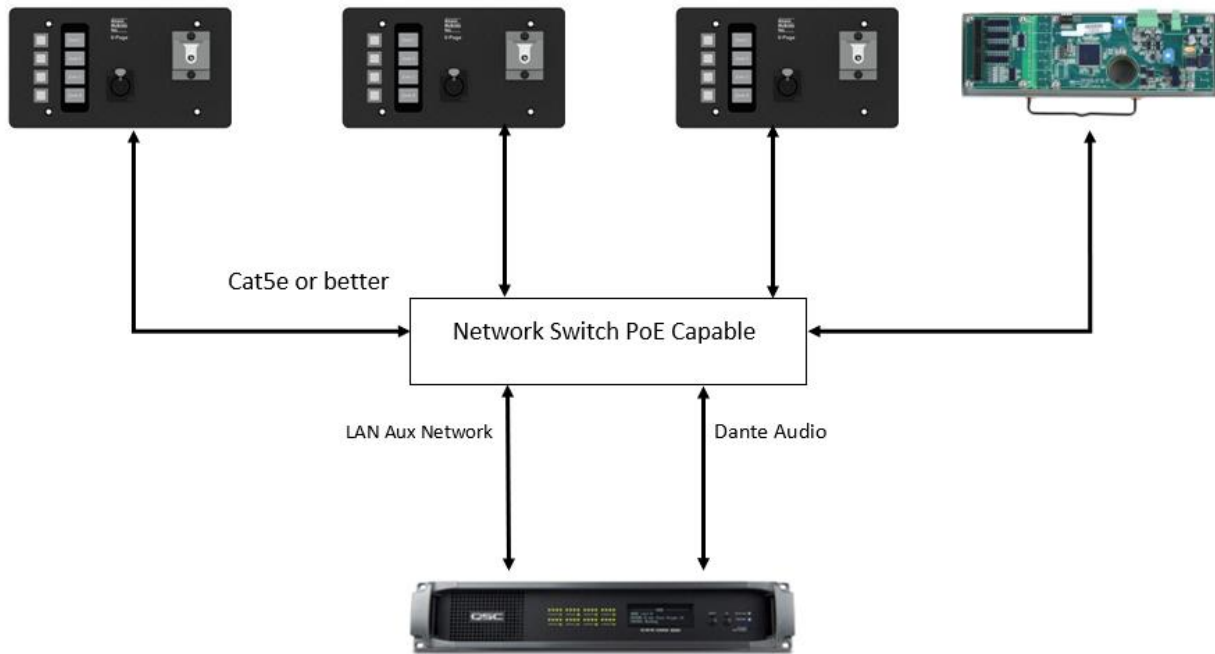
VP16K and VP4X Stations via Ethernet cables and AES67 audio
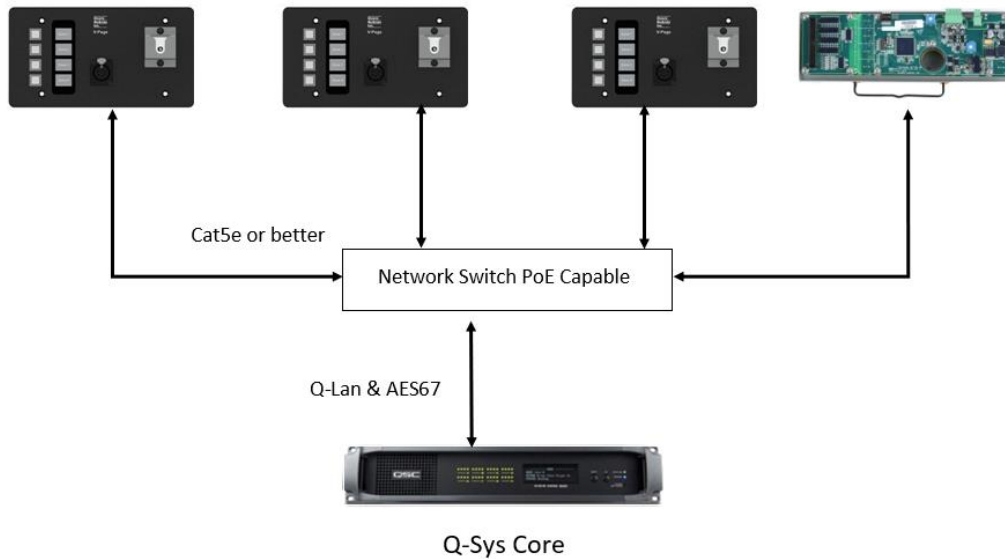
VP16K and VP4X Stations via mixed cabling and AES67 audio
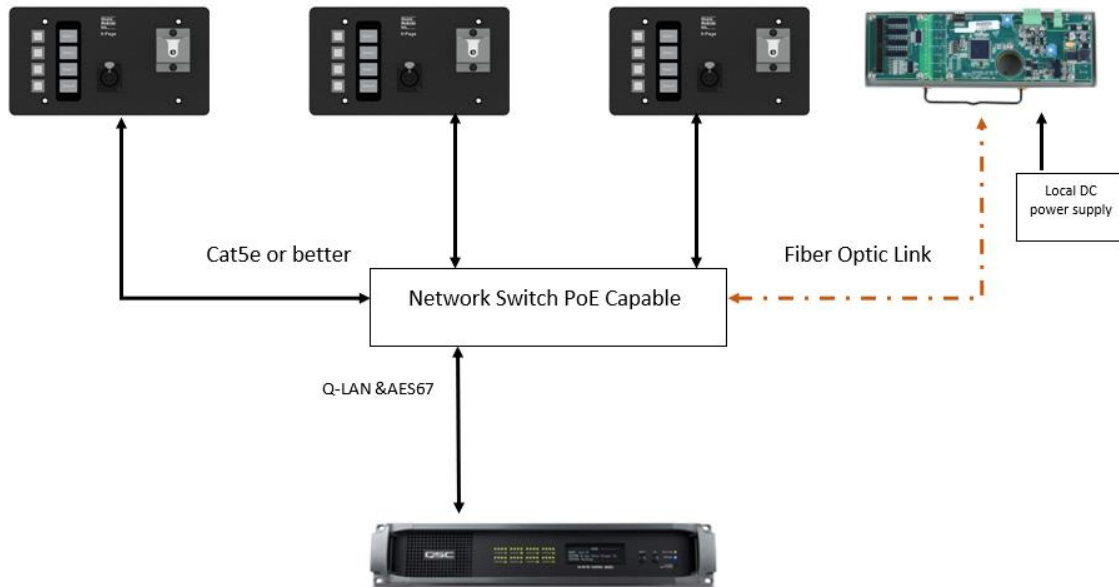
VP16K and VP4X Stations via Ethernet cables and Dante audio

Note: This is the recommended method where Dante Audio and Control are using the same network switch. Q-Lan and Dante requires a different QoS configuration while the LAN Aux Network act as a "generic" ethernet port. Always remember to keep the V-Page units control NIC in the same network as your QSC Q-SYS Core.

VP16K and VP4X Stations via mixed cabling and Dante audio
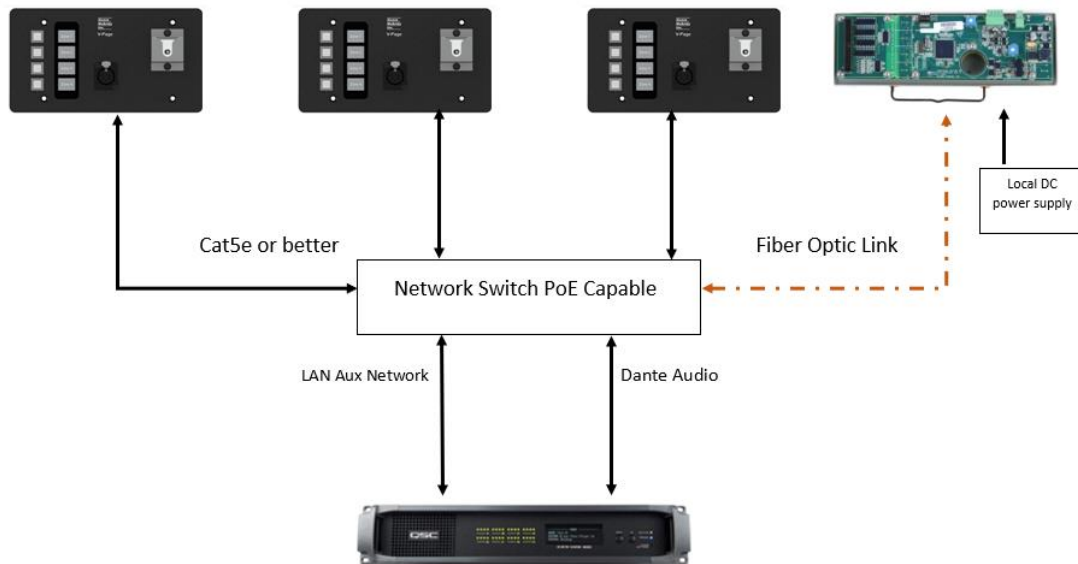
ZONE STATUS LEDS

On a VP16K, each control zone indicator has the ability to blink on and off.

LED State	Description
On	Zone Available for Selection
Off	Zone Unavailable (Page in Progress)
All Blinking (Rapid)	Firmware Update Mode
Blinking	Zone Selected
All Sequential Blinking	Link Active
All Blinking (Slow)	No Sync – No Q-Sys Core Detected

CONFIGURATION OF DIP SWITCHES

The configuration DIP switches are located on the side of the V-Page. Changing the states of these switches alter the behavior of the V-Page. DIP switching may perform different functions during power up and during runtime. Default position for all the switches for normal operation is OFF (UP if looking from the side of the unit).

V-Page can power up in one of the following modes (based on switches configuration):
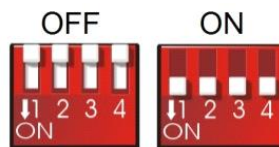
- Normal Mode.
- Factory Test Mode.
- Firmware Update Mode.

During power up, the state of the switch (ON or OFF) determines the action.

During runtime, toggling the DIP switch (OFF => ON => OFF) will perform specified action. See the descriptions below.

NOTE: Not all switches have a power up function associated with it.
NOTE: Not all switches have a runtime function associated with it.

DIP SWITCH 1: LINK MODE

RUNTIME – LINK:

OFF => ON => OFF: Activate/deactivate Link. Toggle once to activate, toggle again to deactivate. Link will also exit on successful completion or will auto-exit after 60 seconds (default).

Link can be used in conjunction with Q-Sys to assign station ID, static IP/Port and Q-Sys feedback information to the V-Page. In a sense, this pairs the V-Page with a specific Q-Sys Core. While Link is active, LEDs sequentially light up, one at a time.

DIP SWITCH 2: FIRMWARE UPDATE MODE / RESET FACTORY DEFAULTS

POWER UP – FIRMWARE UPDATE MODE:

ON: Enter Firmware Update mode. In this mode of operation, V-Page disregards all its settings and the rest of the DIP switches and uses a default IP of 192.168.0.254. Web server serves up Firmware Update page. For a detailed explanation on Updating V-Page firmware, see the Firmware Update section.

To exit Firmware Update Mode, return the switch to OFF position and perform a power cycle.

OFF: Default state of the switch for normal operation.

NOTE: It's advised to use AMI Terminal to invoke the firmware update. The V-Page will enter the firmware update mode on the last known IP instead of fixed 192.168.0.254

RUNTIME – LOAD FACTORY DEFAULTS (IN NORMAL OPERATION MODE ONLY):

OFF => ON => OFF: Perform factory defaults. All LEDs will light up solid RED for a few seconds, then V-Page will perform reset to defaults. Any stored settings will be erased from non-volatile memory and restored to their factory defaults. This affects Dante settings as well.

NOTE: Loading Factory Defaults will erase all V-Page settings!!

DIP SWITCH 3: FACTORY TEST MODE

POWER UP – FACTORY TEST MODE (FIRMWARE UPDATE DIP SWITCH 2 MUST BE OFF):

ON: Used for Factory Testing purposes only.

OFF: Default state of the switch for normal operation.

NOTE: Factory Test Mode is mainly used for troubleshooting. It is NOT a requirement to program the V-Page as all the parameters can be programmed while operating in the normal mode.

NOTE: While in Test Mode, V-Page will not fully operate as a paging station.

DIP SWITCH 4: SPARE (NOT IN USE)

This DIP Switch is currently not in use.

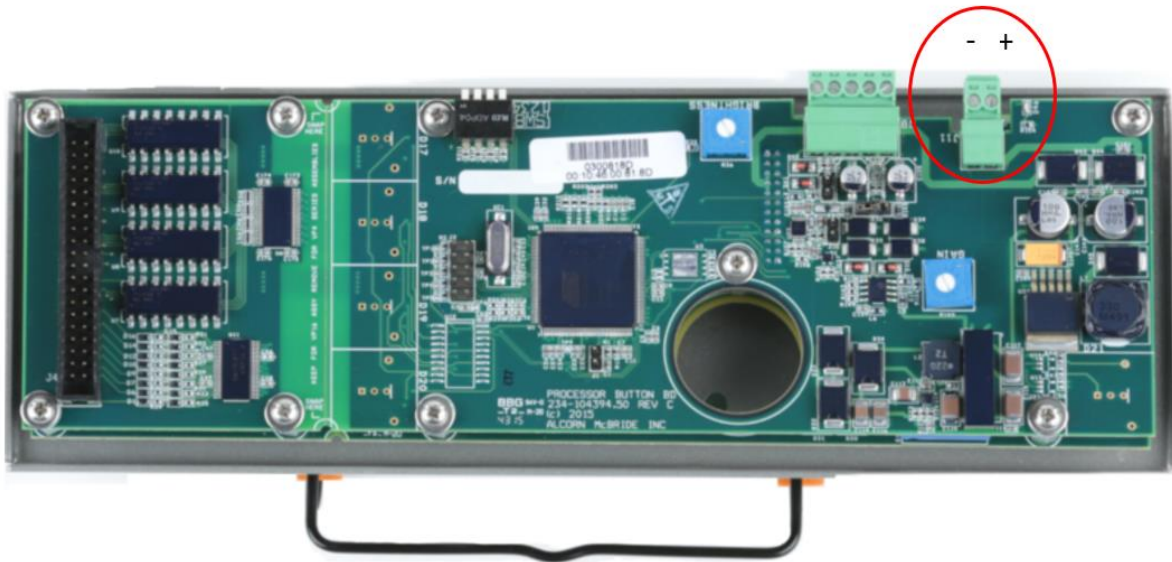### POWER UP/RUNTIME:

ON: Not in use.

OFF: Default state of the switch for normal operation.

CONNECTORS

POWER INPUT

An external power input is provided if you decide not to use the Power-Over-Ethernet (POE) feature. The Power connector pinout is shown circled in red below.

The power input accepts 5VDC to 37VDC at 1A Max.

MICROPHONE INPUT

The Microphone connector pinout is shown below. Pin numbers are also printed on the bottom of the PCB. The microphone input is designed for Dynamic Microphones, or Condenser-type microphones.
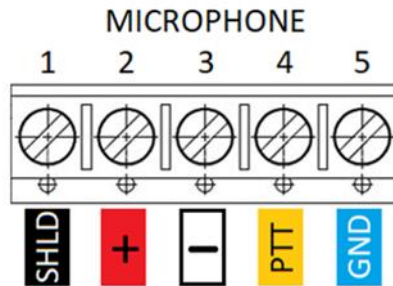
Phoenix Connector	Cable Color Code	5 Pin Female XLR
1	BLACK	1
2	RED	2
3	WHITE	3
4	YELLOW	4
5	BLUE	5

VP16K IOBB

The model VP16K includes a connection to a Phoenix breakout (IOBB) for externally mounted pushbuttons and indicator lamps. The lamp outputs are optically isolated, capable of sinking up to 50mA at 30VDC max each.

VP16PCB IOBB Connections

Terminal	Description	Terminal	Description
1	BUTTON1	20	BUTTON2
2	BUTTON3	21	BUTTON4
3	BUTTON5	22	BUTTON6
4	BUTTON7	23	BUTTON8
5	BUTTON9	24	BUTTON10
6	BUTTON11	25	BUTTON12
7	BUTTON13	26	BUTTON14
8	BUTTON15	27	BUTTON16
9	BUTTON COMMON	28	BUTTON COMMON
10	BUTTON COMMON	29	LAMP1
11	LAMP2	30	LAMP3
12	LAMP4	31	LAMP5
13	LAMP6	32	LAMP7
14	LAMP8	33	LAMP9
15	LAMP10	34	LAMP11
16	LAMP12	35	LAMP13
17	LAMP14	36	LAMP14
18	LAMP16	37	LAMP GROUND
19	LAMP GROUND		

ETHERNET JACK

A standard RJ-45 Ethernet Jack is used for the network connection and Power Over Ethernet (PoE) power.

SFP FOR OPTION FIBER CABLE

A small form factor pluggable transceiver connector for optional network connection can be used in conjunction with RJ45 connection to daisy chain multiple units together. Both Single-Mode and Multi-Mode modules are compatible. Make sure that the same module model is used on both ends.

## VP16K IOBB EXTERNAL BUTTON AND LAMP CONNECTIONS

Below is a wiring diagram showing hot to wire the input button and indicators to the IOBB supplied with the VP16K.
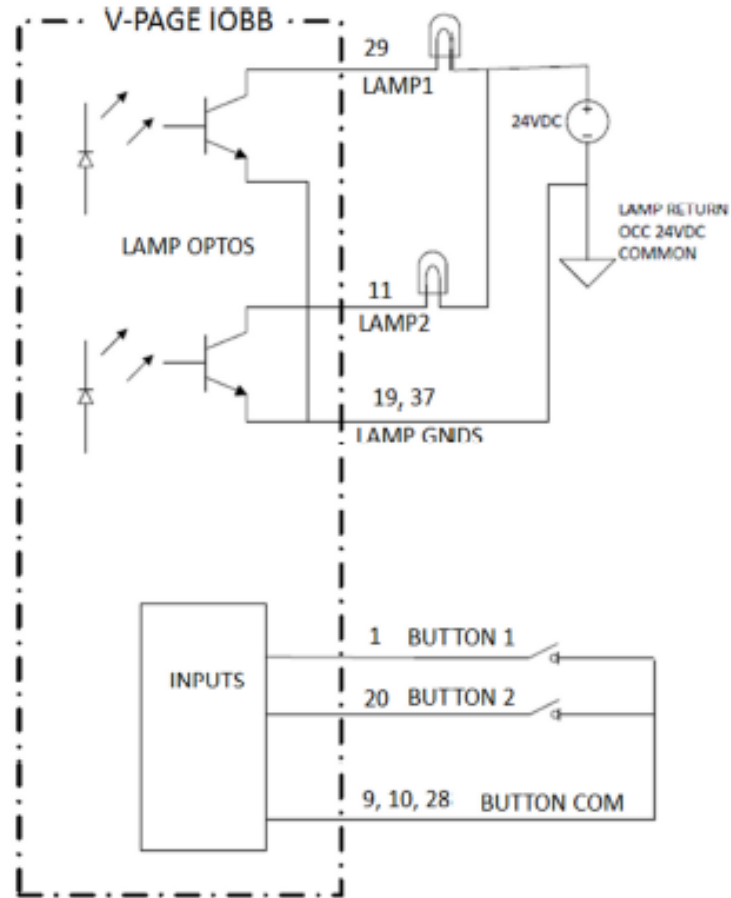
Q-SYS CONFIGURATION AND PLUGIN

The V-Page communicates with a Q-Sys system to enable paging zones and determine zone priority, etc. It utilizes the built in Q-Sys Zone PA Router. The V-Page station can also be configured directly from within Q-Sys. We utilize a process called Link that makes the connection of Q-Sys and V-Page a very easy process.

We utilize the built-in Q-Sys paging station capabilities of the station router to handle the PA routing of audio and zone selection. With Q-Sys you can assign zones to different outputs Q-Sys Administrator. For more details on this topic please refer to the help file on the Q-Sys Designer software.
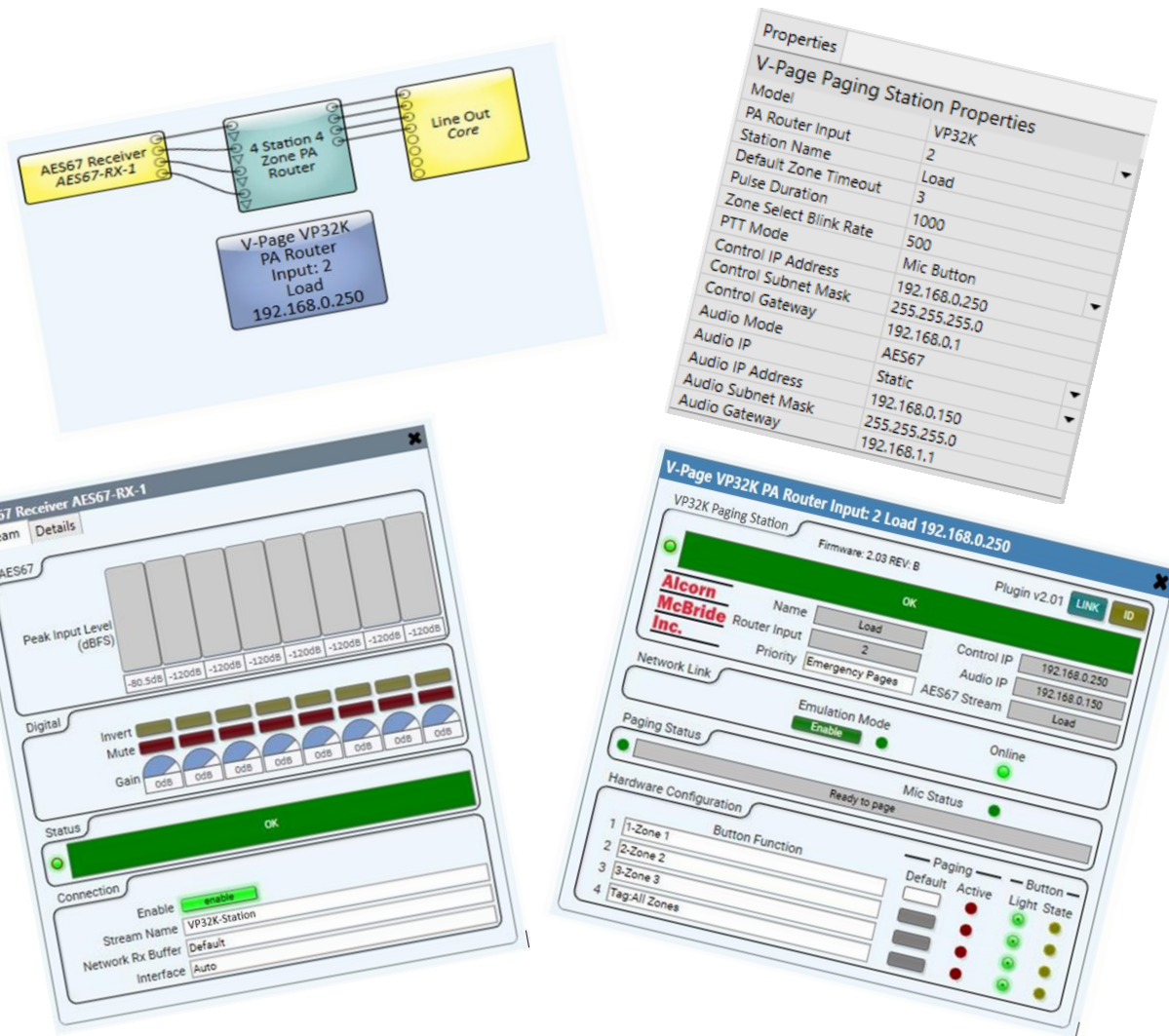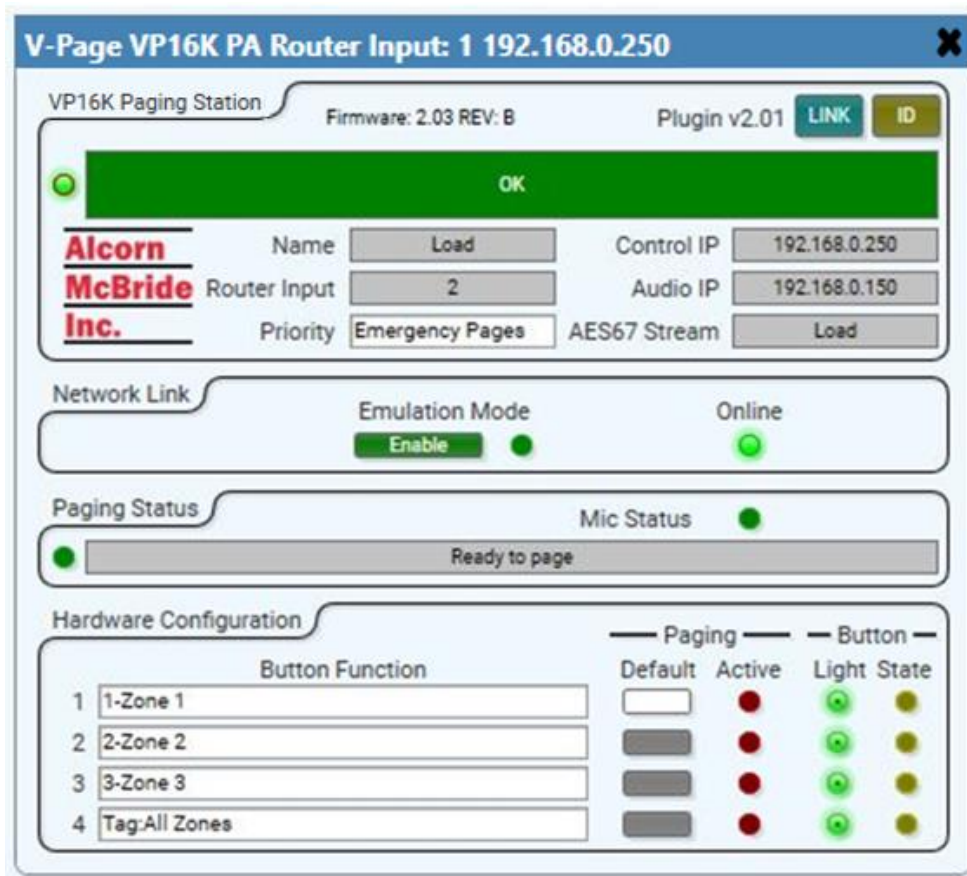
1. **Title Bar:** Basic plugin information.
2. **Firmware:** Current VP32K firmware version.
3. **Plugin:** Current Plugin version
4. **Link:** Use this button to associate a physical station with the plugin component (refer to "Linking a Station" section on the next page).
5. **ID:** Pressing the Button will make the indicators of the V-Page station blink momentarily

6. **Status Bar:** A graphic representation of an active VP32K hardware. (Red: Disconnected. Green: Connected)
7. **Station Name:** You can give the station a unique descriptive name to differentiate from other V-Page stations.
8. **Router Input:** The station ID, corresponding to the station number on the PA Router.
9. **Priority:** Station priority according to the PA settings on Q-sys administrator.
10. **Control IP Address:** The IP Address of the V-Page station.
11. **Audio IP Address:** The IP Address of the audio stream.
12. **Audio Stream:** The type of digital audio stream used (Dante or AES67).
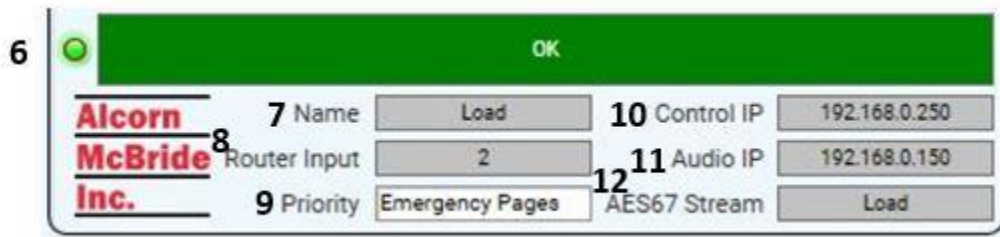
13. **Emulation Mode:** Allows the plugin and V-Page station to be used without a core for programing purposes.
14. **Online:** LED is on if the V-Page station is currently connected to the Core.

15. **Paging Status and LED:** Indicates whether the station is ready to page, actively paging, or unable to page.
16. **Mic Status LED:** Turn to bright green LED once the microphone is turn on.

17. **Button Function:** Use this to assign zones to the V-Page buttons. These zones can be administered through Q-sys administrator
18. **Default Button:** This setting allows you to select which zone button the station will select once a page is complete.
19. **Active:** LED will light up when the zone is in use.
20. **Light:** Will replicate the current condition of the button (Red: Busy. Green: Ready to page)
21. **State LED**:
    - **Breakaway Mode:** Determines the mode of the station buttons.
    - **Off:** Operate as a regular zone selection button
    - **Toggle:** When pressed, the control pin 'Breakaway State LED' will toggle states. (01), 10). This can be used to interface to other control pins within Q-sys like mute functions. In this mode, the button LED will represent the state of the 'Breakaway State LED' control pin.
    - **Trigger:** This is like the toggle mode except that the control pin 'Breakaway State LED' will momentarily pulse to a value of 1. In this mode, the V-Page button LED can be manually controlled using the control pin 'Breakaway Input LED'.

- **Model:** The user can select the proper model number of each station.
- **PA Router Input:** The input number to the PA Router component.
- **Station Name:** User defined name of each station.
- **Default Zone Timeout:** The amount of time in seconds set by the user before going back to the default zone set by the Default button.
- **Pulse Duration:** Value in milliseconds of LED buttons blinking
- **Zone Select Blink Rate:** The amount of time in milliseconds for all the buttons once is selected.
- **PTT Mode:** The user can enable the microphone by press and hold a zone button (Zone Button mode) or by choosing Mic Button mode.
- **Control IP Address:** The IP address of the network control of the unit entered by the user or fully populated once an IP is being assigned by a switch in DHCP mode.
- **Control Subnet Mask:** The subnet mask of the control network of the unit.
- **Control Gateway:** The gateway settings of the control network.
- **Audio Mode:** User defined setting if hardware allows it. Can either be Dante or AES67.
- **Audio IP:** The IP address of the audio network of the unit entered by the user or fully populated once an IP is being assigned by a switch in DHCP mode.
- **Audio Subnet Mask:** The subnet mask of the audio network of the unit.
- **Audio Gateway:** The gateway settings of the audio network.

Properties	
V-Page Paging Station Properties	
Model	VP16K
PA Router Input	1
Station Name	
Default Zone Timeout	3
Pulse Duration	1000
Zone Select Blink Rate	500
PTT Mode	Mic Button
Control IP Address	192.168.1.250
Control Subnet Mask	255.255.255.0
Control Gateway	192.168.1.1
Audio Mode	AES67
Audio IP	Static
Audio IP Address	192.168.0.150
Audio Subnet Mask	255.255.255.0
Audio Gateway	192.168.0.1

LINKING V-PAGE STATIONS TO QSYS

Your Q-Sys design must contain the minimum elements to make a V-Page work: The V-Page Plugin, a PA Router, and your Audio Source. A VP16K can transmit a single digital audio signal via Dante and AES67 stream.

Once your design is ready to be tested simply "Save to Core and Run". With your V-Page powered on and the zone buttons blinking, press and hold inputs 1,2, and 4 until a continuous scan sequence start on your V-Page unit. If you do not have inputs 1, 2, and 4 wired to buttons, you may instead use the Link DIP switch to get the VP16K into link mode as well. More on this can be read in the DIP SWTICH 1: LINK MODE section of this manual.

Once your V-Page is in Link Mode, double click on the plugin block and press LINK.

Remember: When adding additional V-Page stations to your system, don't forget to give the new station a unique ID and IP address.

Congrats! Your V-Page control has been set and you should be able to test your control functions.

ADDING PREVIOUSLY PROGRAMMED V-PAGE STATIONS TO A NEW DESIGN

If you need to reprogram a V-Page station, toggle DIP Switch 2 to the "On" then "Off" position. This will reset the station into Factory Default Mode.

DANTE CONTROLLER SOFTWARE

Dante Controller will allow you to see all your Dante devices within the network, and enable the use of AES67 audio stream. Q-Sys control and AES67 can travel through the same physical cable; however, if Dante audio stream is preferred a separate Dante I/O card must be installed in your Q-Sys Core system.

You can download the Dante audio network configuration software, Dante Controller, here: https://www.audinate.com/products/software/dante-controller

This webpage also contains instructions on how to use the application.

AES67 AUDIO CONFIGURATION

Your design should contain an AES67 receiver in order to run digital audio from the V-Page through your design.

An AES67 Receiver should be previously added into the inventory tab by selecting the + sign and choosing an AES67 Receiver under the Streaming I/O sub menu. Drag and drop into your Q-SYS designer page an AES67 Receiver, connect a wire from Output 1 to Input 1 of the Zone PA router.
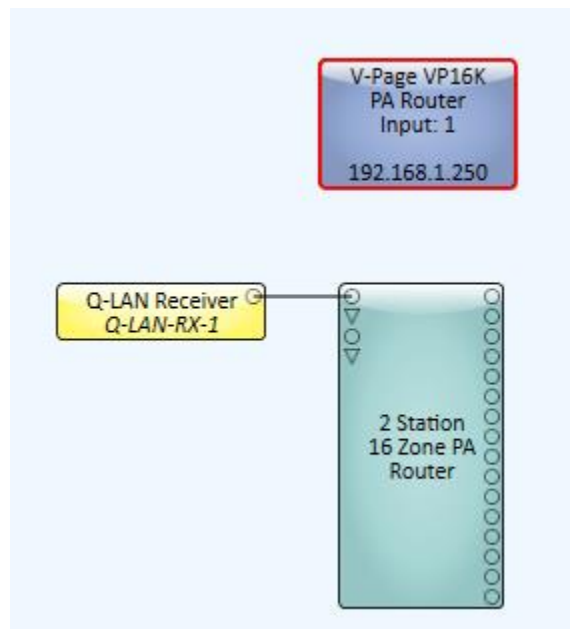
Next, "Save to Core and Run". Once connected, double click on your recently added AES67 Rx module an choose the stream name set by using Dante Controller.
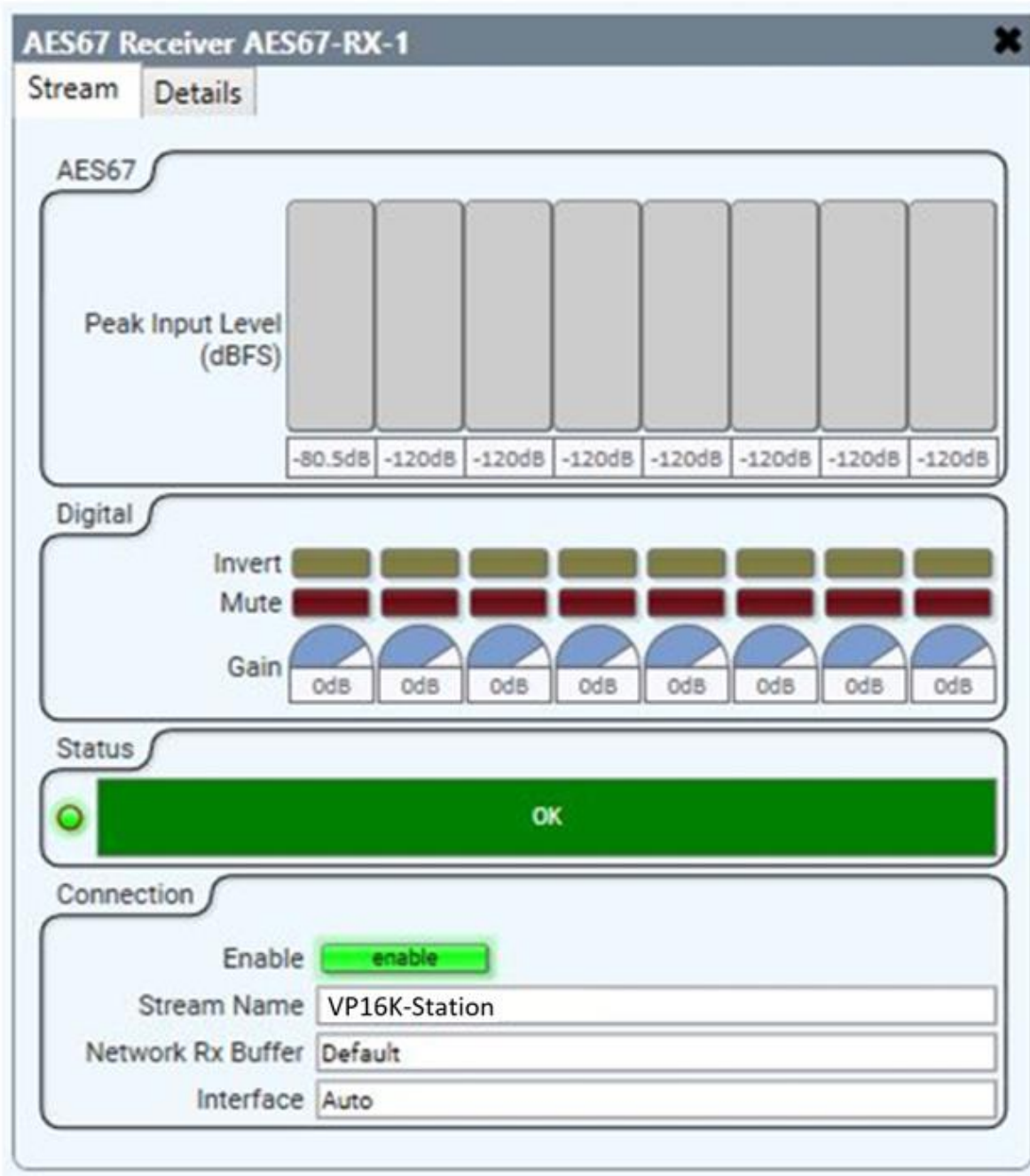
At this point you should be able to listen to your message once the Push-To-Talk is triggered. The Peak Input Level can help you to identify the audio signal for each V-Page.

FIRMWARE UPDATE

All attempts have been made to retain backwards compatibility.

Firmware Update is not a risk-free process, although all precautions have been taken to avoid catastrophic failures. The update should only be performed if needed. To obtain the latest firmware, please visit our website, www.alcorn.com
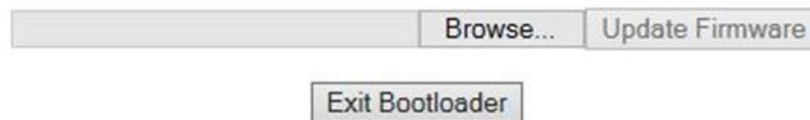
FIRMWARE UPDATE PROCEDURE

Enter Firmware Update Mode by selecting V-Page product in AMI Terminal and clicking "Enter Firmware Update Mode" button under Setup tab. V-Page will retain current IP in this mode.

Alternatively, see Failsafe Recovery if unable to enter Firmware Update Mode remotely (see troubleshooting guide at the end of this manual).

Once Firmware Update Mode is activated (rapidly patterned group blinking on VP16K models) and the unit gets a link light, navigate to the last known IP in your favorite browser to display the Firmware Loader web interface; example: http://192.168.0.20

Firmware Loader v1.0.4

VPage Current Firmware v2.04

| | Browse... | Update Firmware |

Exit Bootloader

Press "Browse" to select the V-PAGE.NEW file obtained earlier from alcorn.com and click "Update Firmware" to perform the update.

Update process may take up to a minute to complete. Then, V-Page will restart automatically (blinking LEDs until QSYS is detected). Update complete!

TROUBLESHOOTING GUIDE / FAQ

Have you tried turning it off and on again? If you have a question not answered by this manual, take a look at our Knowledge Base at alcorn.com. We're always updating it with new answers and useful information! If your question isn't answered there, please email us at support@alcorn.com

Q: HOW DO I TELL THE DIFFERENCE BETWEEN THE VP16PCB AND VP16K?

The VP16K replaced the VP16PCB in our VPage product line in early 2018. The quickest way to tell the difference is that the VP16K includes a silver, shiny long fiber connector underneath the bottom board of the VP16K. The VP16PCB does not have this hardware component.

Q: I CAN'T ROUTE AUDIO

One of the most common issue with routing audio is switch/router/firewall blocking/filtering out multicast traffic required for the PTP protocol. Please disable IGMP snooping and disable any multicast blocking/filtering. Consult your switch/router/firewall manual.

Q: I GET FEEDBACK WHEN I KEY THE MICROPHONE. WHAT IS CAUSING THIS?

Reduce the gain setting in the Q-Sys or amplifier system.

Q: I CAN'T CONNECT TO A V-PAGE?

The default network state of the unit is DHCP. A set of IP addresses are needed were each address can be assigned via a network switch that will handle IP address automatically or the use of third-party application like BootIP where the user can assign an IP address manually based on the MAC address of the network interface.

Each V-Page unit has two MAC addresses one for control and the other for digital audio. Our unique ID start as 00:10:46:XX:XX:XX where Audinate unique ID start as 00:1D:C1:XX:XX:XX

It's important to clarify QSC Q-Sys Core based systems and V-Page control IP must be allocated under the same network and subnet.

Q: MY Q-SYS CORE CAN'T FIND MY V-PAGE. I PRESS A BUTTON/INPUT ON THE V-PAGE AND NOTHING IS HAPPENING? V-PAGE COMPONENT IN Q-SYS SHOWS V-PAGE OFFLINE OR THE ZONES ARE NOT SELECTED WHEN V-PAGE IS OPERATED?

This answer applies to any issues related to Q-Sys V-Page communication. Any of the following could be the case:

- V-Page isn't properly configured (Incorrect IP and/or subnet, or incorrect router input set)
- V-Page Q-Sys IP reference or remote port doesn't match the network setup.
- There's a firewall preventing broadcast traffic from getting through to the V-Page.
- Configured IPs (Q-Sys, V-Page) are on a different subnet.

Q: HOW DO I RECOVER MY V-PAGE UNIT FROM A FIRMWARE FAILURE?

A: You can enter Failsafe Recovery Mode. This mode should only be entered when the V-Page is on a test bench and is not wired into the rest of the network.

To enter Failsafe Recovery Mode, set the Dip Switch #2 to ON (down), power cycle the unit and return Dip Switch #2 to OFF (up) position. The V-Page is placed on a static IP of 192.168.0.254, regardless of its settings. Then, update firmware like normal (refer to Firmware Update section of this manual).

## Q: WHAT TYPE OF INDICATORS CAN I USE?

A: If the lamps are not incandescent, make sure your LED polarity wiring is correct (anode vs cathode) and your power supply ground is properly connected. If the ground is common between the unit and the power supply, you can short out button common and lamp ground terminals in that case. For power supply with isolated ground, it must be connected to the lamp ground terminal (please see page 14 for lamp wiring diagram).

Please note, each lamp output is rated at 80V/50mA max.

Q: ENABLING MUTE AND PHANTON POWER

A: Enabling the Mute is very simple just jump J9 so anytime the Push-to-Talk buttons is inactive the microphone input will be muted. (Most Push-to-Talk microphones -including the available MIC-US600EL do this automatically so this jumper is not required. (See below image for jumper location).

To enable phantom power to the microphone, install the Phantom Power jumper at JP1 position 1-2. For no phantom power, do not install the jumper or just simply place it in position 2-3. The default location 2-3 (Phantom Power off)
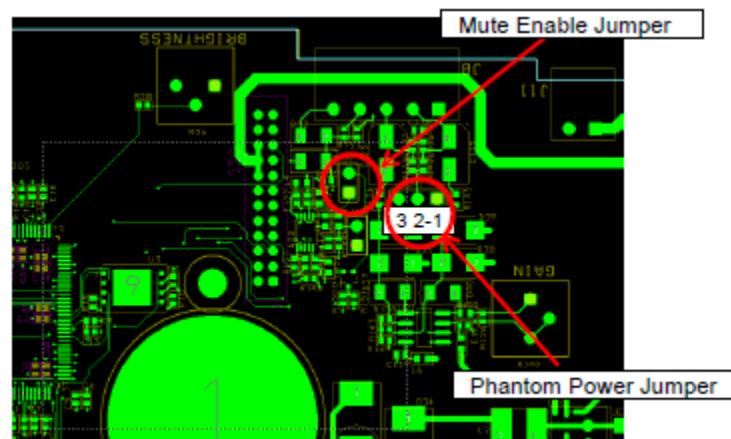
LOCATING A V-PAGE ON A NETWORK

The V-Page hardware contains one physical Ethernet connection but two interfaces (V-Page control and Dante audio). They are isolated. This means there are 2 MAC addresses assigned to each "physical" V-Page unit hence 2 IPs. Furthermore, on any given network there are most likely multiple V-Page units.

This guide focuses on simplifying locating process of the physical V-Page unit remotely using V-Page station ID, V-Page MAC/IP (control), Dante MAC/IP (audio) and control <-> audio interface matching in a physical V-Page unit. All units must be online (both interfaces) on the same subnet.

AMI Terminal, one of our free pieces of software available for download on our website, is used to send all the commands. AMI Terminal can broadcast across your subnet by connecting to X.X.X.255, i.e. 192.168.0.255. AMI Terminal cannot connect to a Dante audio interface, but it can match by the Dante information stored in the V-Page, hence it can be used to match any given Dante interface information to the physical V-Page including physical identify by the Dante MAC/IP address.

Action	Command	Response	Notes
Pinging all the V-Page Station IDs	"ID" h0D	V-Page Station ID from all the V-Pages online.	ID 99 is a default ID if Link hasn't been performed.
Pinging all the V-Page IPs	"IP" h0D	V-Page IP from all the V-Pages online.	IP reported is a dynamic IP if obtained via DHCP or static IP, if one is set.
Pinging all the V-Page MACs	"MC" h0D	V-Page MAC from all the V-Pages online.	
Pinging all the Dante MACs	"UMC" h0D	Dante MAC from all the V-Pages online.	
Pinging all the V-Page/Dante MAC pairs	"PMC" h0D	"V-Page MAC, Dante MAC" from all the V-Pages online.	Response contains both of the MACs (V-Page and Dante) from a single V-Page unit.
Physically identifying by V-Page Station ID	"XFN" h0D	"R" from matched V-Page and V-Page physically blinking for a short period of time.	X is the station ID assigned to the V-Page unit.
Physically identifying by V-Page or Dante IP	"X.X.X.XFN" h0D	"R" from matched V-Page and physically blinking for a short period of time.	X.X.X.X is the V-Page or Dante IP address.
Physically identifying by V-Page or Dante MAC	"X:X:X:X:X:XFN" h0D	"R" from matched V-Page and physically blinking for a short period of time.	X:X:X:X:X:X is the V-Page or Dante MAC address.

ACCESSORIES

Please contact sales@alcorn.com for pricing and availability.

IOBB

Part Number: IOBB
I/O Breakout Box. Includes 6ft DB37 Cable and 37-contact terminal block

HARDWARE SPECIFICATIONS

Size	Model VP4X: 8"W x 4.5"H x 2"D (20cm x 11.4cm x 5.1cm)
	Model VP12X: 9.75"W x 7"H x 2.5"D (24.8cm x 17.8cm x 6.4cm)
	Model VP16K: 9″W x 2.75″H x 2″D (22.9cm x 7cm x 5.1cm)
	Model VP32K: 9.75"W x 7"H x 2.5"D (24.8cm x 17.8cm x 6.4cm)
Controls & LED Indicators	4/12 (VP4X/VP12X) Illuminated Zone Select Pushbuttons
Ethernet Connector	Female RJ-45
Microphone Input	Balanced, Dynamic or Condenser
Power Input	Voltage/Current: 5-37VDC @ 1A Max
Power Input Connector	Screw Terminal Block
POE Class	Power Over Ethernet (POE) Class 3
Operating Temperature	0C (32F) to 38C (100F) 0-90% Relative Humidity