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Personal Monitoring System

# **Quick-Start Guide**

# Personal Monitoring System

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© Pivitec, LLC  
116 Research Drive, Ste 138  
Bethlehem, PA 18015, USA

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# READ THIS FIRST

## Important Safety Instructions

- Read these instructions.
- Keep these instructions
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with a dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or third prong is provided for your safety. If the provided plug does not fit your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way, such as when the power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- No on/off power switches are included in the system. The external power supply should be used to control power to a Pivitec, LLC device. This power supply should remain readily operable.



## **WARNING!**

TO REDUCE THE DANGER OF ELECTRICAL SHOCK DO NOT REMOVE COVERS. NO USER SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL ONLY

To reduce the risk of fire or electrical shock, do not expose this product to rain or other types of moisture.

To avoid the hazard of electrical shock, do not handle the power cord with wet hands.

## **CAUTION:**

Using any audio system at high volume levels can cause permanent damage to your hearing.

Set your system volume as low as possible.

Avoid prolonged exposure to excessive sound pressure levels.

**IMPORTANT:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications to the product not expressly approved by Pivitec, LLC could void the user's FCC authority to operate the equipment.

## Warranty

Pivitec, LLC warrants this product against defects in materials and workmanship for a period of **one year** from the date of the original retail purchase.

This warranty does not apply if the equipment has been damaged due to misuse, abuse, accident, or problems with electrical power. The warranty also does not apply if the product has been modified in any way, or if the product serial number has been damaged, modified, or removed.

If a defect is discovered, first write or call Pivitec, LLC to obtain a Return Authorization number. No service will be performed on any product returned without prior authorization. Pivitec, LLC will, at its option, repair or replace the product at no charge to you. The product must be returned during the warranty period, with transportation charges prepaid to Pivitec, LLC, 116 Research Drive, Bethlehem, PA 18015, USA. You must use the product's original packing materials for shipment. Shipments should be insured for the value of the product. Include your name, address, phone number, description of the problem, and copy of the original bill of sale with the shipment. The Return Authorization number should be written on the outside of the box.

THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE (OR JURISDICTION TO JURISDICTION). PIVITEC'S RESPONSIBILITY FOR MALFUNCTIONS AND DEFECTS IN HARDWARE IS LIMITED TO REPAIR AND REPLACEMENT AS SET FORTH IN THIS LIMITED WARRANTY STATEMENT. ALL EXPRESS AND IMPLIED WARRANTIES FOR THE PRODUCT, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE WARRANTY PERIOD SET FORTH ABOVE. NO WARRANTIES, WHETHER EXPRESS OR IMPLIED, WILL APPLY AFTER SUCH PERIOD.

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# Pivitec® Personal Monitoring System

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## Quick Start Guide

### Before You Begin

Before you begin setting up your system, please read the following instructions carefully.

### Check Components

Your Pivitec Personal Monitoring System consists of several hardware components. Please verify that you have all of these components before proceeding, as they are all required for a successful installation.

- One or more Pivitec Approved Ethernet switches with Power over Ethernet (PoE). Please contact your dealer for more information.
- One Wi-Fi Access Point (i.e. a wireless router, such as an Apple AirPort Extreme or Airport Express)
- One or more Apple iPads with the v2Mix® Pro application installed
- One or more e32 Mixers
- One or more Network Audio Interfaces (such as the e16i Analog Input Module or e16i/o-MY Card for Yamaha) and any included 48vdc power supplies. Your system will support up to two (2) Network Audio Interfaces providing up to 32 channels of network audio.
- CAT5e Ethernet cables to connect devices to the Ethernet switch

### Read Safety Information

Even though Pivitec's e32 Mixers and other Network Audio Interfaces operate at low voltages, proper care and handling should be observed at all times when using these devices. Please read all safety information before proceeding.

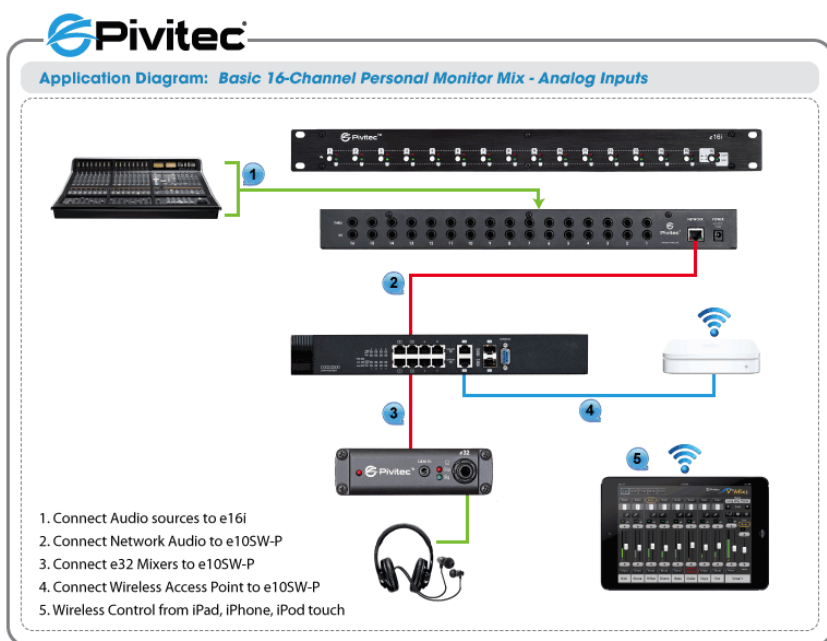
As with any audio hardware, the e32 Mixers and / or Network Audio Interfaces may create loud sounds during normal operation. Avoid setting volume/gain levels too high, and take proper precautions to avoid hearing damage and/or loss.

## Prepare Your System

If you have not already done so, now would be a good time to download the v2Mix® Pro control app from the Apple [App Store](#).

Make sure all of your devices are unplugged and unpowered. Do not power them up until instructed to in the section “Powering Up the System”. Powering up components in a different order may cause the system to not operate properly.

NOTE: Please refer to the sample System Diagram below for an overview of how your system should go together. Refer to the Pivitec website for further System Application Diagrams or contact Pivitec for help in determining your system configuration.



## Making Audio Connections

NOTE: Always make audio connections with the device powered off to avoid any loud transients that might damage other equipment or could cause hearing damage.

### E16i Analog Input Modules

The e16i has 16 balanced TRS mono connections on the back panel for connecting audio input sources. Use appropriate cables to connect your audio sources to the inputs on the e16i and set the Input Pad switch on each channel (+4dBV/-10dBu) to match the signal level of the input source. If there is more than one e16i in the system, additional setup will be required. Please consult the e16i Quick start guide for more information. You will use the v2Mix® Pro app to "connect" these signals to the desired Channel Bank on the e32 mixer later in this guide.

### E32 Mixers

In addition to the Headphone Jack on the front panel, the e32 has balanced 1/4" TRS Stereo Line Level outputs on the rear panel as well as a 3.5mm stereo line input on the front panel. Connect your headphones or in-ear phones to the headphone jack on the front panel. For use with wireless IEM systems, connect the balanced line level outputs on the rear panel to the appropriate inputs on your wireless IEM transmitter. NOTE: It may be necessary to adjust the input sensitivity of your transmitter to prevent clipping and reduce noise levels. Consult the manual for your transmitter for instructions.

Both the Headphone Output and Stereo Line Level Outputs are active at the same time. Both are simultaneously controlled by the Master Volume control in the v2Mix® Pro Control Application. These outputs are driven by a high quality Voltage Controlled Amplifier (VCA) for low noise levels and optimum headroom.

### Digital Network Audio Interfaces

Pivitec's other Network Audio Interfaces, such as the e16i ADAT, e64i/o MADI and e16i/o MY Card are digital interfaces and do not have analog audio connections. Please see the instructions included with those devices for proper connection to your sound system.

### Connecting to other Ethernet AVB Network Devices

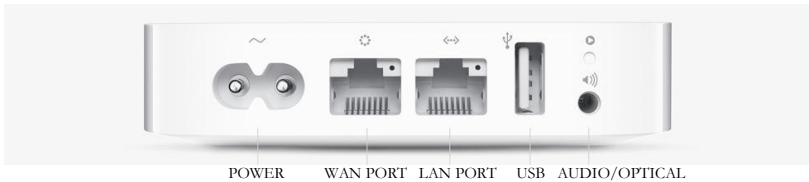
Using your Pivitec e32 Mixers with other AVB Network Devices requires the use of a compliant AVB Network switch. Pivitec has more information on compatible switches on [our website](#). You can also contact [Pivitec support](#) for further information.

# Making Network Connections

You are now ready to begin connecting your devices to your Ethernet switch. Please connect them in the order specified below. Do NOT power up any device until instructed to in the section “Powering Up the System”.

## Wi-Fi Access Point / Wireless Router

Properly set up and configure your Wi-Fi Access Point (WAP) or Router per the manufacturer’s instructions. Make sure that DHCP is enabled so that the Pivitec devices can acquire an IP address for proper system configuration. Connect the LAN Port of the WAP to an open non-PoE port on the Ethernet switch. DO NOT use the "WAN" or "Internet" port on your router to make the connection between the router and the Ethernet switch connected to your Pivitec e32 Mixers and Network Audio Interfaces. Consult the manual for your Wi-Fi Access Point to identify the proper port. If you are using an Airport Express or Extreme, and an Internet connection is required for use with sheet music or other applications on your iOS device, please consult the [Airport Wi-Fi Configuration](#) guide from Pivitec's website.



**Network Audio Interfaces:** Connect Pivitec Network Audio Interfaces to an appropriate port on the Ethernet switch as follows:

**e16i Analog Input Module:** This unit does not support PoE. Connect to any available port and use the included 48vdc Power Supplies.

**e16i/o-MY Card:** This unit does not support PoE as it will receive power from the console. (See instructions provided with this card for proper installation and configuration for your console.)

**e16i ADAT:** PoE is recommended for this device. Connect to an available PoE port on your Ethernet switch. If PoE is not available, contact Pivitec or your dealer for the approved 48vdc power supply.

**e64i/o MADI:** Depending on channel count and sample rate requirements, a Gigabit Ethernet connection is recommended in addition to PoE. Please consult the instructions provided with the unit.

## e32 Mixers

Connect the e32 Mixers to any available PoE port on your Ethernet switch.

# Powering Up the System

The first time you use the system, we recommend that the following Power Up procedure be followed to ensure proper operation. Please follow these instructions carefully. On subsequent system start-ups it is not necessary to follow this Power Up sequence.

## 1. Power Up the Wi-Fi Access Point

You may now power on the Wi-Fi Access Point only. Please wait until the Wi-Fi Access Point is fully powered up and Ethernet and Wi-Fi connections are available. (In the example below showing the Apple Airport Extreme this is indicated by a solid green light on the front panel. Consult the owner's manual for your Wi-Fi device for proper instructions.)

Example: Apple Airport Extreme



## 2. Power up the Network Audio Interfaces

If using e16i Analog Input Modules, Connect the provided 48vdc Power Supplies to the power jack on the back of the units. If using any of Pivtec's other Network Audio Interfaces that use PoE (such as the e16i ADAT) then it is not necessary to power them up. They will power up with the Ethernet Switch. If using the e16i/o MY Card for Yamaha, make sure your console power is turned on at this time.

## 3. Power Up the Ethernet Switch

Once the Wi-Fi Access Point is fully operational, you may now power up the Ethernet Switch. Depending on your switch configuration, this may take up to 2 minutes.

## Verify Power to the e32 Mixers and any Network Audio Interfaces

The Ethernet switch provides PoE to the e32 Mixers and any other Network Audio Interfaces after it powers up. You can verify that they are properly powered by checking the solid red light on the e32 Mixers, and the solid blue light on the e16i Input Modules.



If the switch is powered but there is no power to the e32 Mixers you may not have PoE properly set up on your switch or you may not have a PoE enabled switch. Please contact [technical support](#) for more information.

Note: At this time we only recommend using Pivitec Approved Ethernet switches such as the Pivitec e10SW-P or e24SW-P, or for AVB connectivity, the Extreme Networks Summit X440-8P or 24P. Please contact your dealer or Pivitec for more information.

## Using V<sup>2</sup>Mix<sup>®</sup> Pro

Pivitec's V<sup>2</sup>Mix<sup>®</sup> Pro Application for iOS Devices is used for configuration and control of your Personal Monitor Mix system. V<sup>2</sup>Mix<sup>®</sup> Pro is compatible with all iOS versions from iOS 5 forward and is a "universal" app compatible with iPad, iPhone, and iPod touch. We will use the term "iPad" to describe all compatible iOS devices. If you have not done so, please download and install V<sup>2</sup>Mix<sup>®</sup> Pro prior to finishing system configuration.



## Connect your iPad to Wi-Fi

Your iPads must be on the same network as the e32 Mixers and Network Audio Interfaces. Connect your iPad to the same Wi-Fi Router or Wireless Access Point that is connected to your switch.

1. On your iPad, go to Settings and select Wi-Fi. First, ensure that “Wi-Fi” is set to “ON”.
2. Under “Choose a Network...”, touch the Wi-Fi network name to connect to that Wi-Fi network. The currently active network appears in blue and has a checkmark on the left.

If your network name does not appear in this list, please contact [Technical Support](#).

## Launch V2Mix® Pro

1. Press the Home button on the iPad to return to the home screen. Now click on the V2Mix icon to launch the V2Mix® Pro Application.
2. Towards the lower right of the screen, you will see a text area that says “(none)”. This is your mixer/status name. It shows you which e32 Mixer you are currently connected to in addition to status messages. The message “(none)” indicates that e32 Mixers are available, but you are not currently connected to any.



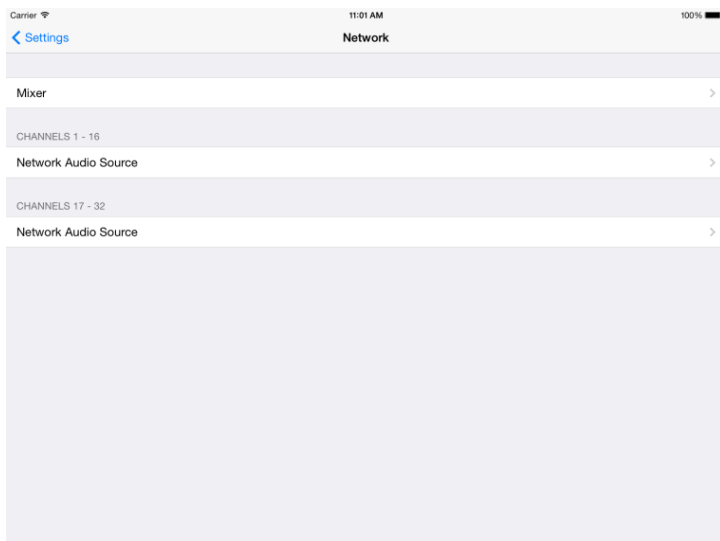
## Connect to an e32 Mixer

To use **V<sup>2</sup>Mix® Pro**, you must first select an e32 Mixer to control. This process is known as **Pairing**. Once **V<sup>2</sup>Mix** has Paired with an e32 Mixer, it can send control commands to that e32 Mixer only. No **V<sup>2</sup>Mix** app may control an e32 Mixer is that is currently controlled by another **V<sup>2</sup>Mix** app.

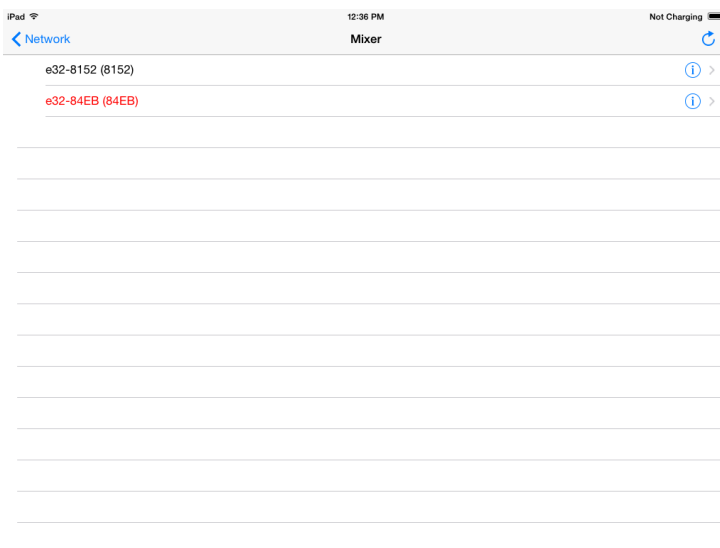
1. To select an e32 Mixer, click on the Settings button in **V<sup>2</sup>Mix**.



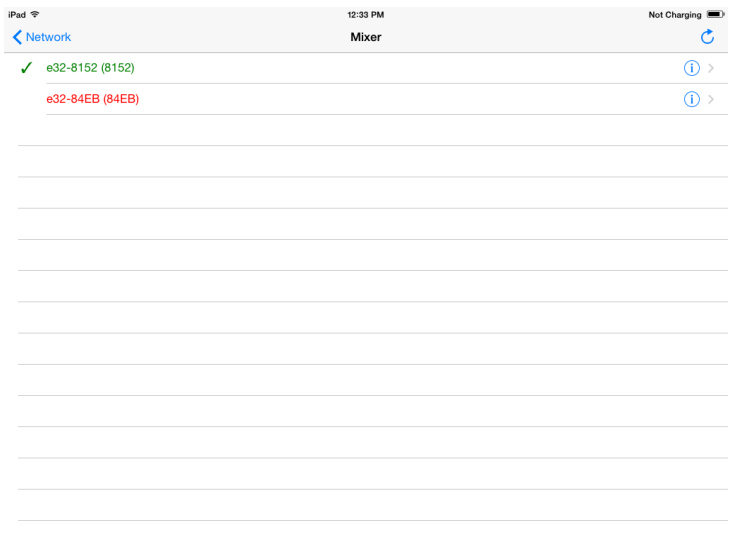
2. Next, click on Network on the left hand side, and select Mixer.



This screen will display a list of e32 Mixers that **V<sup>2</sup>Mix** discovered on the network. e32 Mixers that are currently controlled by another **V<sup>2</sup>Mix** app appear in red. Names that appear in black are available for pairing.



Touch an e32 Mixer name to Pair with your iPad for control. The e32 Mixer name will turn green and display a checkmark to its left. You are now paired with that e32 Mixer.



Press the Network, then Settings, then Done in the upper left to return to the main V<sup>2</sup>Mix screen. You are now paired with the e32 Mixer and can proceed to connecting to or "Mapping" the Network Audio Interfaces as Audio Inputs. If Network Audio Interfaces have already been configured and connected, full control of the e32 is now established.

## Configure Network Audio Interfaces

Each e32 Mixer can support 32 channels of audio from the network by connecting to two different 16-channel groups identified as Network Audio Source 1-16 or 17-32. These are identified as "Network Audio Sources" or "Streams" in the Network menu of the V2Mix® Pro App. These are connected or "Mapped" as either Channels 1-16 or 17-32 in the e32 Mixer.

Pivitec's Network Audio Interfaces, such as the e16i Analog Input Module, e16i ADAT, and e16i/o-MY also transmit audio to the network as 16-channel Streams. The e64i/o-MADI can transmit up to 4 individual 16-channel streams when used with e32 Mixers. If you are using more than one Network Audio Interface, configure each e32 Mixer to Map each 16-Channel Stream with the corresponding channel groups 1-16 or 17-32.

### Example:

Assume that you have e16i Input Modules named e16i-A and e16i-B, as well as a single e32 Mixer.

The e32 Mixer supports two Channel Groups: 1 - 16 and 17 - 32.

This system may be configured in either of these configurations:

#### Configuration Example 1

e32 Channels 1 - 16: e16i-A

e32 Channels 17 - 32: e16i-B

#### Configuration Example 2

e32 Channels 1 - 16: e16i-B

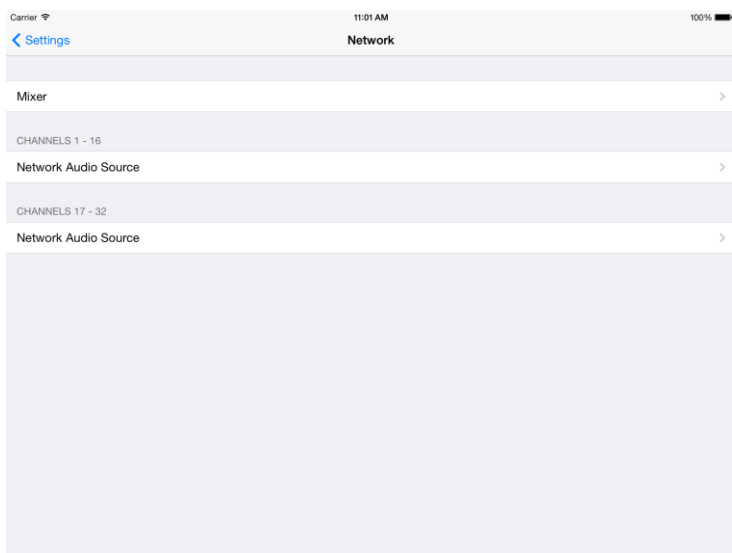
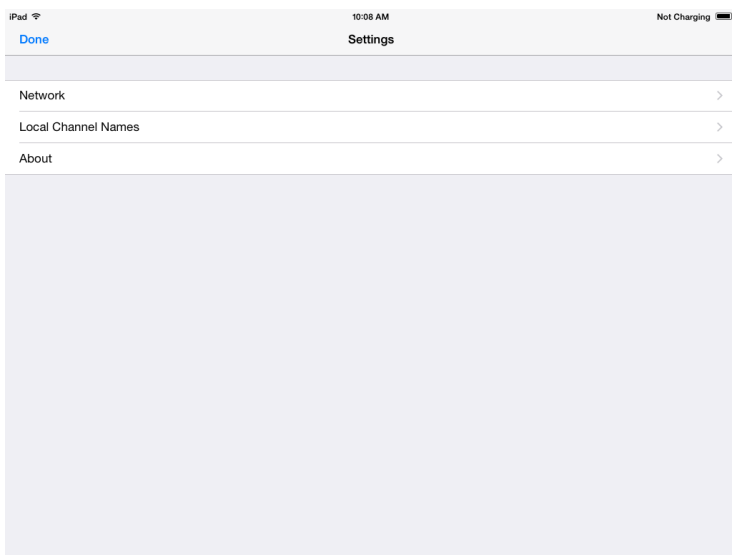
e32 Channels 17 - 32: e16i-A

This setting can be configured through the V2Mix application. Because this setting is on a per-Mixer basis, it must be configured for each mixer.

## Assign an e16i Input Module to a bank on an e32 Mixer

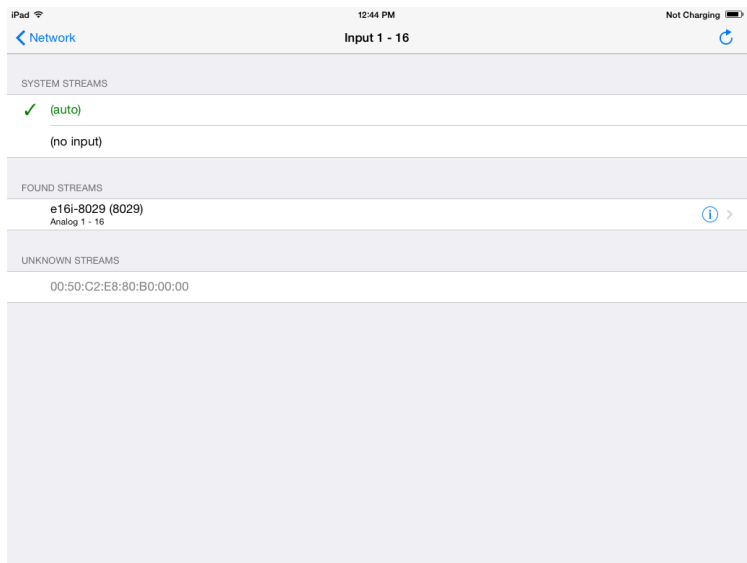
Before you begin this process, you must be paired with an e32 Mixer. Changing these settings will only affect the mixer with whom you are currently paired.

Touch the Settings button. On the left hand side, click Network. On the right hand side, below mixer, you will see "Channel 1 - 16" and "Channel 17 - 32". Under each of these headings, you will see "Network Audio Source". Touch "Network Audio Source" to assign the input module for that bank.

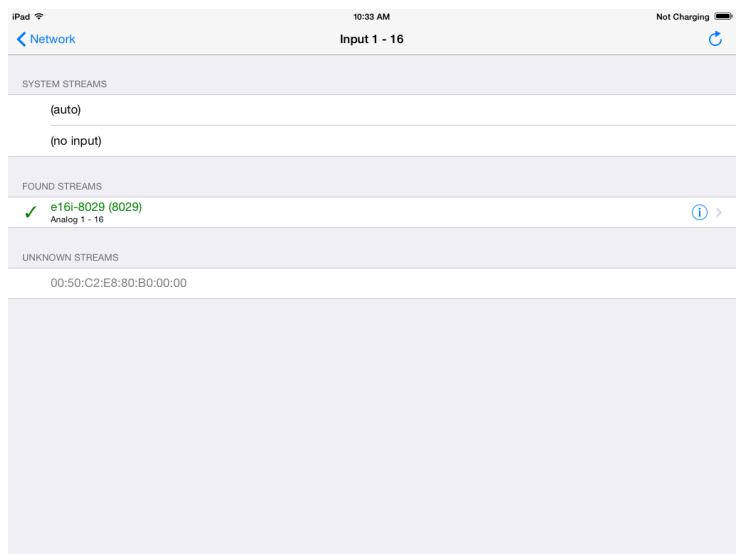


You will now see a screen that says either "Input: Channel 1 - 16" or "Input: Channel 17 - 32" at the top, with a list of inputs. Below that will be a list of inputs discovered on your network. Available inputs are displayed in black. System inputs include "(auto)", which is chosen by default, and "(no input)". The "(auto)" setting

is not used in this configuration, and should be disregarded. The "(no input)" setting allows you to turn off all input to a bank.



Press to select the Network Audio Interface input stream you would like to associate with the inputs you have chosen. (In this case, you are assigning Input 1-16). The selected input for this bank is now displayed in green with a checkmark to its left.



Below that is “(Unknown Streams)” which is a list of missing input streams. These are Streams that the e32 Mixer is looking for, but are not connected to the current network. If you are not hearing audio on an e32 Mixer, ensure that it is not looking for any missing Streams. It is strongly recommended to re-assign any bank that is reporting a missing Stream to a Network Audio Interface that exists on the current network.

## Technical Support

If you have any questions or problems during installation or operation of your Pivitec Personal Monitoring System, please contact Pivitec technical support at:

## Customer Support

Pivitec, LLC  
116 Research Drive  
Bethlehem, PA 18105

[info@pivitec.com](mailto:info@pivitec.com)

Phone: +1-610-849-5061

Phone support is available M-F from 9am to 5pm EST

## Glossary

**DHCP**- Dynamic Host Configuration Protocol, a protocol for assigning dynamic IP addresses to devices on a network.

**Discovery** – The process by which V<sup>2</sup>Mix® Pro finds and enumerates all e32 Mixers and Network Audio Interfaces on a network.

**Pairing** – The process by which V<sup>2</sup>Mix® Pro connects to, downloads the current settings from, and maintains control of the selected e32 Mixer. Only 1 iOS device can be Paired to an e32 Mixer at a time.

**PoE** – Power over Ethernet (PoE) is a technology for wired Ethernet LANs (local area networks) that allows the electrical current necessary for the operation of each device to be carried by the data cables rather than by additional power cords. This allows the e32 Mixer and other compatible Pivitec Network Audio Interfaces to operate without any additional power supply.

**Network Audio Interface** – A device which sends or receives audio over an Ethernet network.

**Mapping** – The association of channels in a stream with channels on a device.

**Streams** – One or more audio channels sent over an Ethernet network as a group.