

Visionary Solutions, Inc.

AVN2XX Quick Start Guide

(AVN200, AVN210, and AVN220)



AVN200



AVN220



AVN210

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- Please visit the support section of our website at www.vsicam.com for manuals, other documentation, and software downloads.
- This is a Quick Start Guide only and **NOT** the full User's Manual. Current user manuals are available online.

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AVN2XX Quick Start Guide

Introduction

This document is intended to assist users of the AVN2XX series encoders in the initial configuration and setup of the devices. This document is NOT intended to provide installation instructions for either the AmiNet or other AVN products (AVN4XX).

Requirements

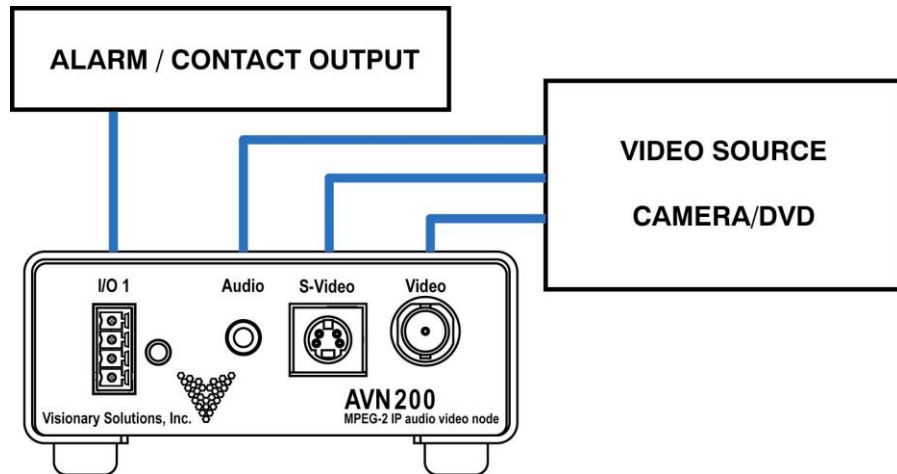
In order to setup the AVN2XX for streaming, the user must have a valid video source, an available network address, and some sort of decoder, either software or hardware.

Step 1: Connect AVN2XX Hardware

1. Connect one or more of your video sources to the appropriate video input(s).
2. Connect one or more of your audio sources to the appropriate audio input(s).
3. Connect the LAN Ethernet cable to the Ethernet RJ-45 connector.
4. Connect the power cable to the AVN2XX Power Supply connector and power on the AVN2XX. In the case of the AVN220 (blade) the power is supplied via the MPPXXX chassis.

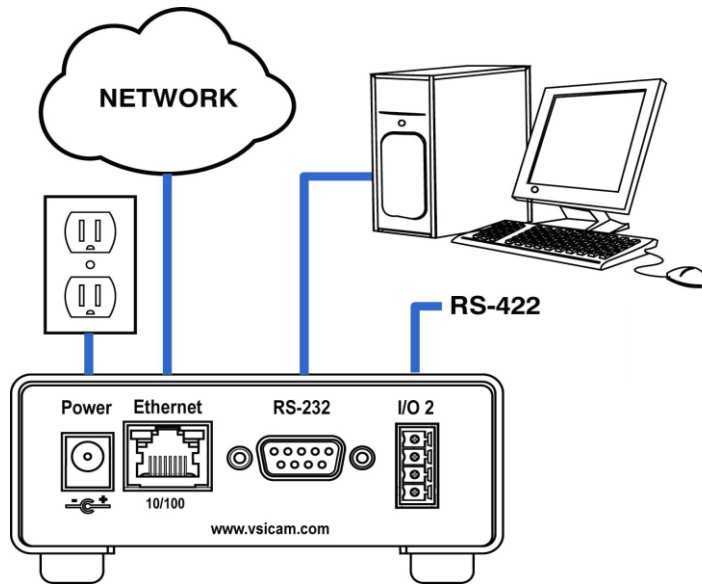
Input Connector Diagrams by Device Type

**AVN200
Front Panel
Diagram:**

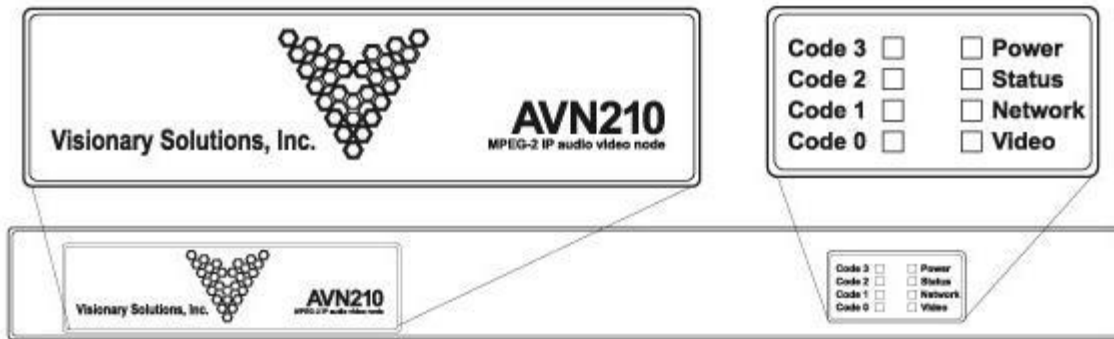


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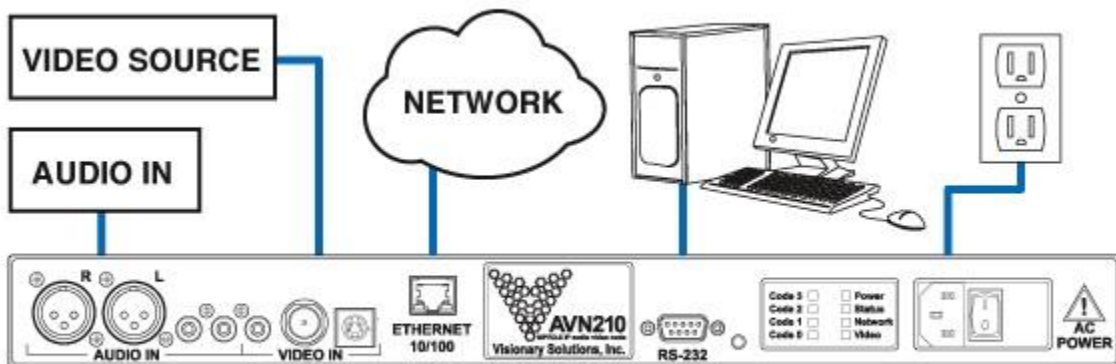
**AVN200
Rear Panel
Diagram:**



AVN210 Front Panel Diagram:

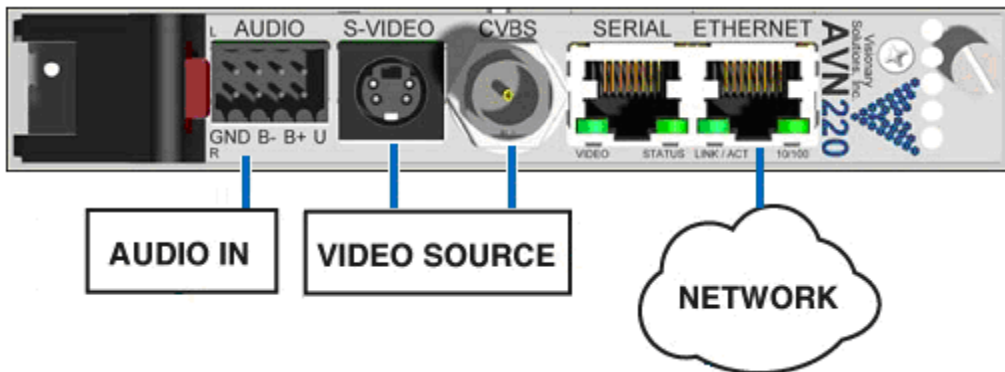


AVN210 Back Panel Diagram:



AVN220 Panel Diagram:

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Step 2: Assign the AVN2XX a network IP address

Before you can use the AVN2XX on your network, you will need to determine whether to assign a static IP Address to your AVN2XX or use the default DHCP setting that allows your network to automatically assign a dynamic IP address. **It is highly recommended that you assign a static IP Address to your AVN2XX.** If the unit is not statically configured and no DHCP server is available on the network, the unit will default to IP address **192.168.1.253**.

1. In order to configure your AVN2XX, you will need to ask your IT/Networking department for the following information:
2. Does your network use DHCP and have a DHCP Server running? (Yes or No. If No, you will need to assign a static IP Address to your AVN2XX.)
3. What is the subnet mask of your network? (e.g., 255.255.255.0)
4. What is the default gateway address on your network? (e.g., 192.168.1.1)
5. What is an available IP address we can assign to the AVN200 unit? (e.g., 192.168.1.100)
6. Connect the Null Modem cable between the RS-232 port (serial on the AVN220) of the AVN2XX and a COMM port on your PC (typically the COM1 port).

Note: *If there is a COMM port conflict and you are unable to use HyperTerminal (see #3 below), you may configure the AVN2XX with the PackeTV™ Configuration Utility. Refer to the PackeTV™ Configuration Utility User's Manual for details.*

7. Launch a terminal application, such as TeraTerm (Google: teraterm download) or Microsoft's HyperTerminal.
 - a. In this example, go to the Windows Start menu, select Programs> Accessories> Communications> HyperTerminal.
 - b. Select a name and an icon for this connection, click **OK**.
 - c. Specify the port that you are connected to on your PC (**typically COM1**), click OK.
 - d. Configure the Port Settings as follows: **Bits per second (38400), Data bits (8), Parity (None), Stop bits (1), Flow Control (None)**. Click **OK**.
 - e. From the Main Admin Menu, select "Config Menu", and press **ENTER** to open the Config Menu.

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- f. Turn off DHCP. Select the “Use DHCP” option, then press **ENTER**. Type “no” at the prompt then press **ENTER** again. Once DHCP is turned off you will want to modify the following options: IP Address, Netmask and Gateway. Record each value that you enter as you will need those values when you go to start/connect to a video stream. When you are finished configuring options, select the “Save” option and press **ENTER**. Next, select the “Return” option to return to the Main Admin Menu.
 8. (Optional) Before exiting HyperTerminal, you can assign an Administrative Username and Password to the AVN2XX (see the User’s Manual for more information). By default the AVN2XX **Username/ Password** are **admin/admin**.
 - a. From the Main Admin Menu, select the “Config Menu” option. At the Security Menu, enter the items that you would like to modify.
 - b. When you modify the Password, your entry will be visible in plain text and you will be asked to confirm your entry. When finished, you must save your settings in order for them to take effect. Select the “Save” option and press **ENTER**.
 9. After saving your changes, go up to the top-level Main Admin Menu (99 to go up) and select the “Reboot” option. The AVN2XX should reboot and the Menu should appear on your console window again when the reboot is complete. Your AVN2XX should be ready to configure for streaming.
- Note:** *The values that you enter and save in this menu will be stored even if the AVN2XX is rebooted. If at any point your AVN2XX becomes unusable or has undesirable settings, it can be restored to a factory default state by pressing and holding in the blue reset button on the front of the unit for 3 seconds.*
10. Exit HyperTerminal (or terminal emulator application) and disconnect your Null Modem Cable if no longer needed.

Step 3: Configure the AVN2XX for Streaming

1. Open the device’s web/browser interface by opening a web browser and typing <http://xxx.xxx.xxx.xxx>, where the xxx.xxx.xxx.xxx corresponds with the IP address of the AVN2XX being configured, and selecting **ENTER**.
2. From the main browser page (see image below), configure the unit’s basic encoder properties to desired values. The critical settings are the Destination IP and Port values. See steps **b.** through **h.**, below, for details on configuring the minimum required settings for operation.

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Browser Management				AVN2XX50-2.10 Jan 29 2009	
System Settings					
Serial #	Name	Location	State	Options	
3458	AVN2XX#03458	anywhere	Ok	SAP	
Network Configuration					
IP Address	Netmask	Gateway	MAC Address	Edit	
192.168.3.211	255.255.255.0	192.168.3.129	00:0e:14:00:0d:1e	Stats	
Stream Parameters					
Stream Encap	Stream Encap is controlled by the Stream Destination. 224.0.0.1 --> 239.255.255.255 will be Multicast . all other valid addresses will be Unicast .				
Destination IP	225 . 168 . 3 . 211				
Destination Port	1234 [49410-65535]				
Stream Bitrate	3800000 [1500000-7500000]bps				
Audio Bitrate	<input type="radio"/> Off <input checked="" type="radio"/> 256kbps <input type="radio"/> 384kbps				
Video Input	<input type="radio"/> SVideo <input checked="" type="radio"/> Composite				
Video Format	<input checked="" type="radio"/> NTSC-M <input type="radio"/> PAL <input type="radio"/> PAL-M <input type="radio"/> SECAM				
Video Resolution	<input checked="" type="radio"/> D1 <input type="radio"/> 2/3D1 <input type="radio"/> 1/2D1 <input type="radio"/> SIF				
Encapsulation	<input type="radio"/> RTP <input checked="" type="radio"/> UDP				
Username/Password	<input type="text"/> / <input type="text"/>				
<input type="button" value="Start"/> <input type="button" value="Advanced"/> <input type="button" value="Aux Stream"/> <input type="button" value="Admin"/> <input type="button" value="Stats"/> <input type="button" value="Save"/> <input type="button" value="Reboot"/>					

- a. **IP Address, Netmask, and Gateway** should already be configured.
- b. **Destination IP:** This setting controls where the encoder will send the stream and is therefore a critical component to successful streaming. The destination IP address can either be a Unicast address (single point/viewer) or Multicast (many viewers). For more information see the section titled "Unicast and Multicast Transmissions over the Network" below. The Destination IP shown in the screenshot above is a multicast address and will be able to be viewed by multiple users on the network.
- c. **Destination Port:** This setting, like the Destination IP, is a critical component to successful streaming, as it is the second half of the

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stream's complete destination address. The decoder, whether hardware or software, will need to know both the Destination IP address and the Destination Port number to successfully find and decode the stream. There is a default port generated based upon the IP address, or you can assign the port number "1234" which has become the new default destination port for VSI encoders. The screenshot above shows the new default value.

- d. **Stream Bitrate:** The default value is 3.8 Mbps, but this value can be changed to meet your network and quality requirements.
 - e. **Video Input:** Set the value to match the desired video input to the AVN2XX. Can be either Composite BNC or S-Video (or Composite RCA for AVN210 only).
 - f. **Video Format:** The default is NTSC-M, which is the format used within the U.S. but can be set to PAL, PAL-M or SECAM as required.
 - g. **Video Resolution:** The default is D1 but a lower resolution can be selected if desired.
 - h. **Encapsulation:** This value should be UDP for most cases.
 - i. **Audio (AVN210 only):** In the System Settings sections of the main web interface page, there is an *Audio* button which brings up the *AVN210 Audio Configuration* page. Toggle between Balanced XLR or Unbalanced RCA, to match the audio input.
3. Enter the AVN2XX's username and password into the edit boxes at the bottom of the page and click the Save button. The AVN2XX is now ready to start encoding / streaming.

Step 4: Start the AVN2XX Stream

1. Click the Start button in the lower left hand corner of the AVN2XX's main browser page (see screenshot above) to begin encoding/streaming.
2. Upon a successful start, the Start button should change to a Stop button and the Destination IP: edit box should change to read: "Currently Streaming in Unicast Mode" or "Currently Streaming in Multicast Mode" depending on the type of Destination IP address (unicast or multicast) set before starting the stream.

Step 5: View / Decode the Stream

The AVN2XX should now be streaming to the Destination IP address and Destination Port configured in Step 3 above. To decode the stream it is necessary to configure the decoder (whether hardware or software) to find the stream on the network. The decoder configuration is dependent upon the decoder being used and is therefore beyond the scope of this document. Please review the other support documentation, below, to learn how to configure and view AVN generated streams using Amino STBs (set top boxes) and VLC Media Player.

1. AmiNet STB (hardware decoders)

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For instructions on configuring AmiNet hardware decoders for use with the AVN2XX, see the “Amino and AVN Configuration Manual” ([link here](#)) or at the following URL:

http://www.vsicam.com/core/___downloads/Amino_140_VSI_Configuration_Manual.pdf

2. VLC Media Player

A. To download the free software decoder go to <http://www.videolan.org/> and get the VLC media player (current version).

B. Once installed, configure the decoder to receive the AVN generated stream.

I. New versions of VLC:

- 1) Select the “Open Network...” option under the Media menu.
- 2) In the next dialog set the Protocol option to UDP and put the Destination IP address and Destination Port from the AVN2XX’s browser interface page into the Address and Port fields respectively.
- 3) Click the “Play” button at the bottom the dialog to begin viewing.

II. Older versions of VLC:

- 1) Select the “Open Network Stream...” option under the File menu.
- 2) In the next dialog select the UDP/RTP Multicast radio button and put the Destination IP address and Destination Port from the AVN2XX’s browser interface page into the Address and Port fields respectively.
- 3) Click the “OK” button at the bottom the dialog to begin viewing.

Unicast and Multicast Transmissions over the Network

A Unicast transmission sends IP packets to a single recipient on a network. A Multicast transmission sends IP packets to a group of hosts on a network. If the streaming video is to be distributed to a single destination, then you would start a Unicast stream by setting the destination IP address and port on the AVN equal to the destination’s values. If you want to view the stream at multiple concurrent locations, then you would set the AVN’s destination IP address to a valid Multicast IP address (224.0.0.0 - 239.255.255.255).

Note that while the Multicast IP address range is from 224.0.0.0 - 239.255.255.255, the first octet (224.xxx.xxx.xxx) is generally reserved for administration. VSI recommends setting the first octet to 225 and the remaining three octets to the AVN’s IP address. For example, if the AVN’s IP address is 192.168.1.53, then set the destination IP address to 225.168.1.53 for Multicast streaming.

Since Multicasting is a relatively new technology, some legacy devices that are part of your network might not support Multicasting.

Before using the AVN2XX in Multicast streaming mode, check the functional specifications of your network infrastructure to ensure that the Multicast stream will not create major

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traffic on your network. If your backbone switch supports Internet Group Messaging Protocol (IGMP) snooping, it allows the core of your network to ignore the traffic streams that Multicasting may generate.


Safety and Compliance Information

1. Unintended use of this product, or use with non-VSI listed components, is forbidden and violates safety approvals.
2. Only use the power supply that is provided with this system.


Safety Approval:

UL Listed I.T.E. E257717

Unit Ratings:

 **Caution:** 3.3Vdc, 2A

Power Supply Rating:

 **Caution:** 100-240V~, 50-60 Hz, 0.5A

Fuse Rating:

No user accessible fuse.