

# NUVO®

Whole Home Audio

## Player Portfolio Audio System



### Product Manual

Includes:

- NVP100-xx Single Zone Player
- NVP200-xx Single Zone Player
- NVGW100-xx Wireless Gateway
- NVP3100-xx Three Zone Player
- NVP3500-xx Three Zone Player
- NVP300-xx Single Zone Pre-Amplifier



Direct Stream

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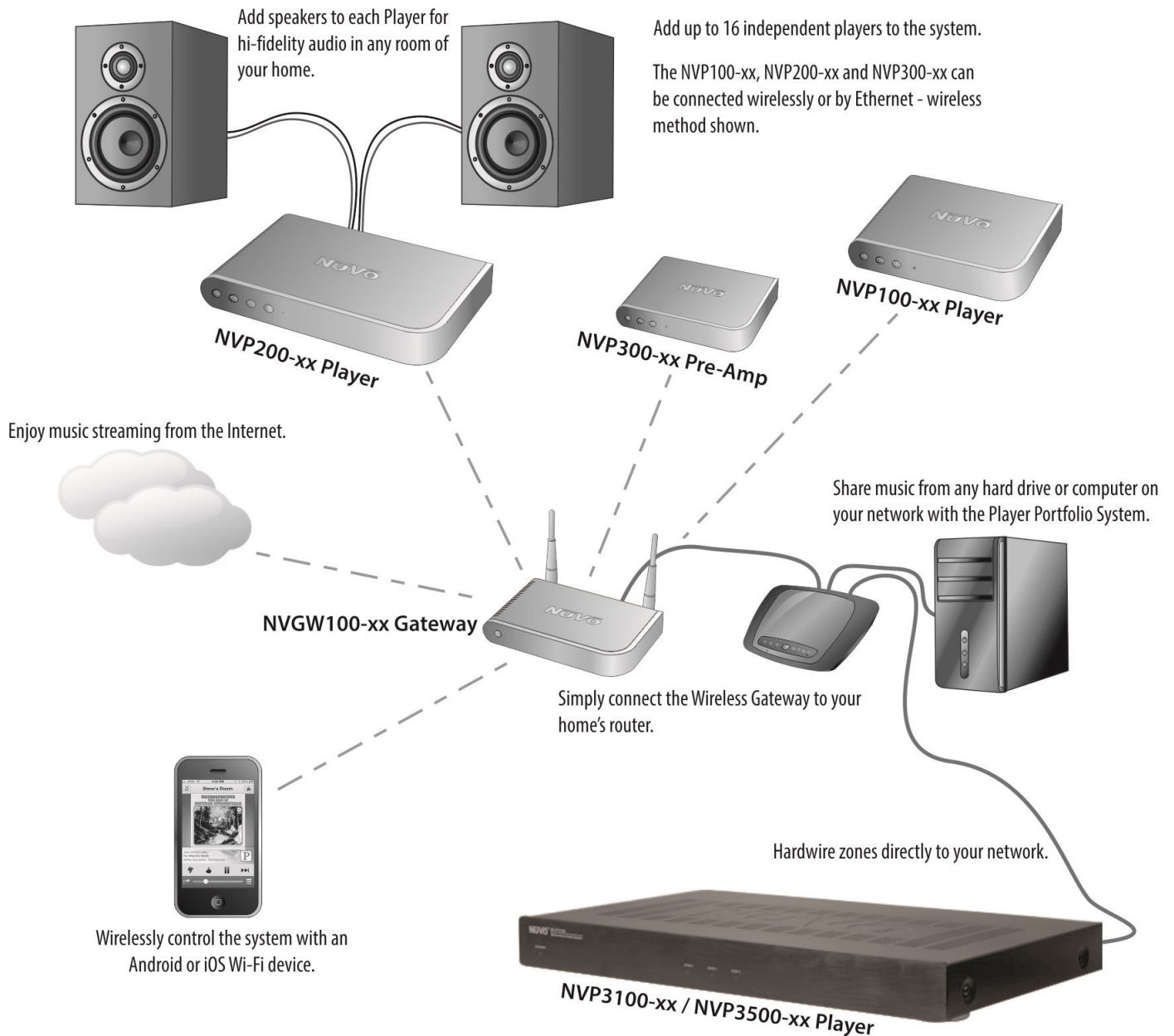
## The NuVo Wireless Audio System Product Manual

### Introduction

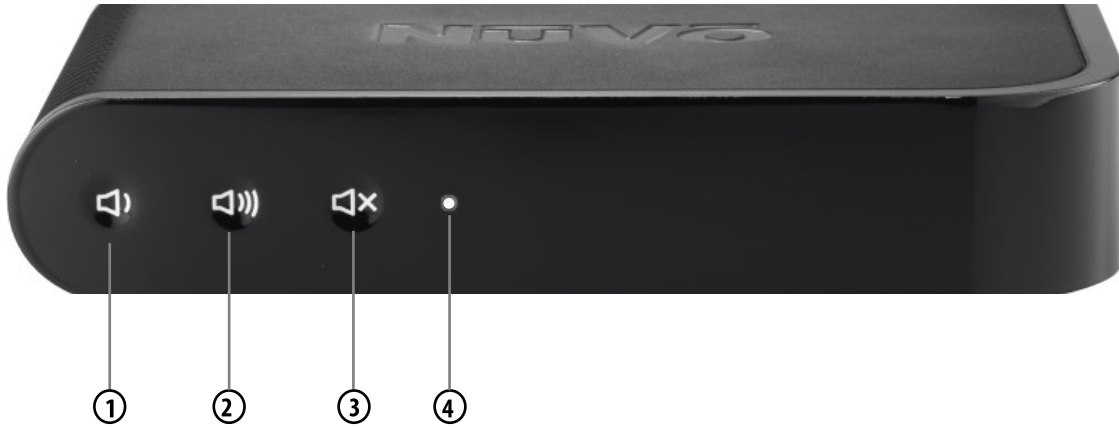
Welcome to the exciting world of the NuVo Player Portfolio Audio System. Now your favorite music, in any room you want it, anytime you want it, is as close as the touch of a button on any of your Apple or Android Wi-Fi enabled portable devices. True high fidelity music, from your own personal library or streaming from the Internet, is more affordable and accessible than you ever imagined.

This is your guide to quickly and easily filling a home with music.

### The NuVo Wireless Audio System

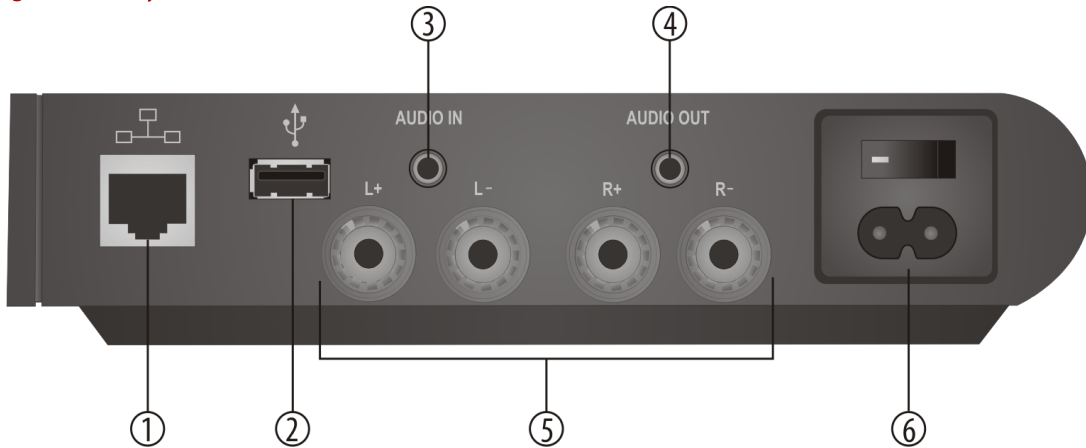


**NVP100-xx Single Zone Player Front Panel Features (Wireless or Ethernet Connectivity)**



1. **Volume Down:** Press to decrease audio volume.
2. **Volume Up:** Press to increase audio volume.
3. **Mute:** Press to mute/un-mute audio.
4. **LED Indicator:** Indicates status of NVP100-xx (see table in section 6.1 for details).

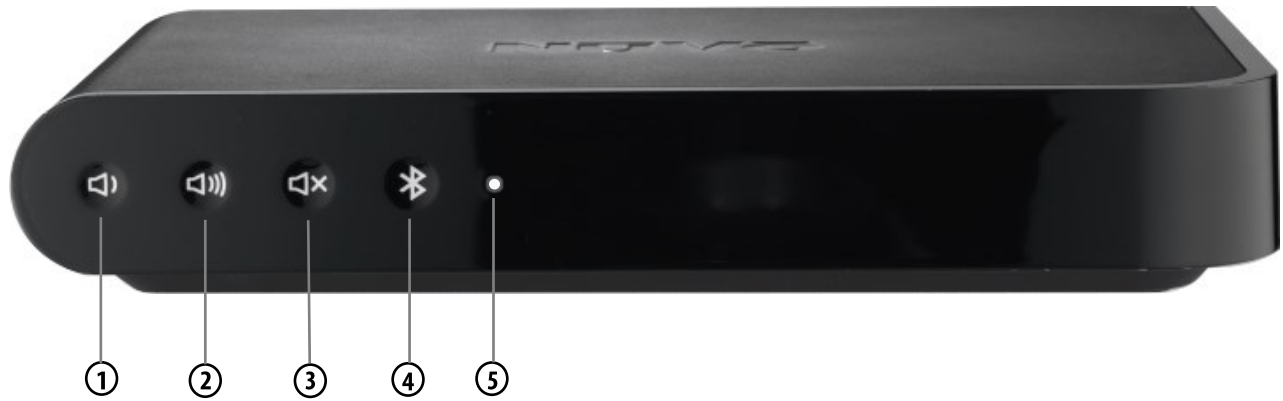
**NVP100-xx Single Zone Player Back Panel Features (Wireless or Ethernet Connectivity)**



1. **Ethernet:** This RJ45 port allows for a wired connection directly to the NVGW100-xx Gateway or directly to the network router.
2. **USB:** A USB storage device can share music content with the NuVo Player Portfolio Audio System through this port.
3. **Audio In:** This 3.5mm stereo input will accept any analog line level audio signal. The local audio source is amplified by the local player, as well as providing it as an additional source selection in any other associated audio zones within the NuVo Player Portfolio Audio System.
4. **Audio Out\*:** This 3.5mm stereo output provides the local line level audio signal to an additional amplifier, powered subwoofer, or headphones.
5. **Speaker Outputs\*:** These binding posts provide an amplified audio signal to any connected speakers. The maximum output of the P100 is 40 Watts at 8 Ohm stereo.
6. **AC:** The switchable universal power supply will accept any incoming AC voltage worldwide.

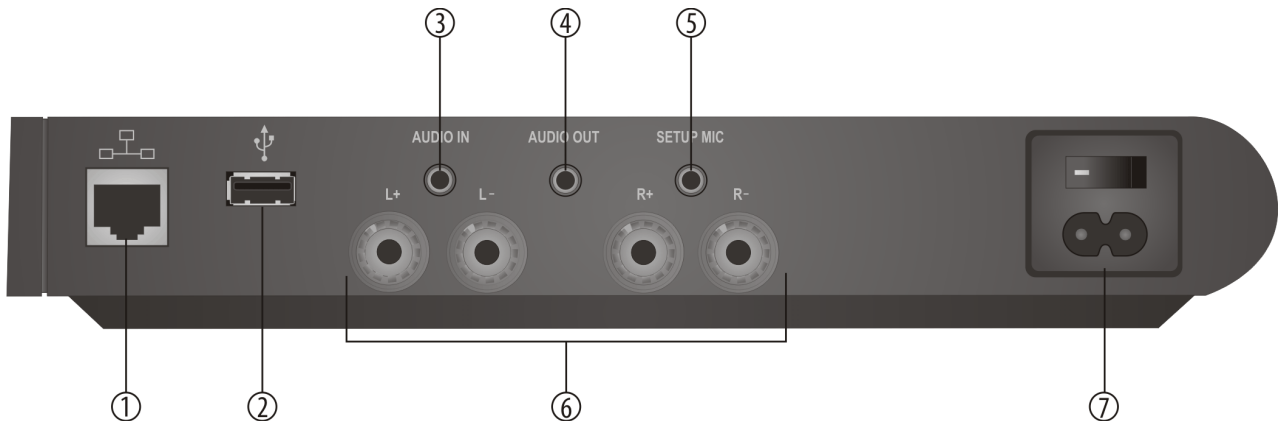
\* If the audio output of a video device is the source, there will be no perceptible delay in audio if a single player zone is selected. If two or more player zones are playing the audio from the video source an audio buffer will be engaged which will add a delay between the audio and video source.  
 \*\*\*Not all USB drives are supported natively by the USB port as current draw is limited to XX amps. If a device that exceeds this is used, an external power supply must be used.

**NVP200-xx Single Zone Player Front Panel Features (Wireless or Ethernet Connectivity)**



1. **Volume Down:** Press to decrease audio volume.
2. **Volume Up:** Press to increase audio volume.
3. **Mute:** Press to mute/un-mute audio.
4. **Bluetooth:** Press to cause the NVP200-xx to change to the next paired device in the list. Press and hold to break any current connections, become discoverable, and accept pairing requests.
5. **LED Indicator:** Indicates status of NVP200-xx (see table in section 6.1 for details).

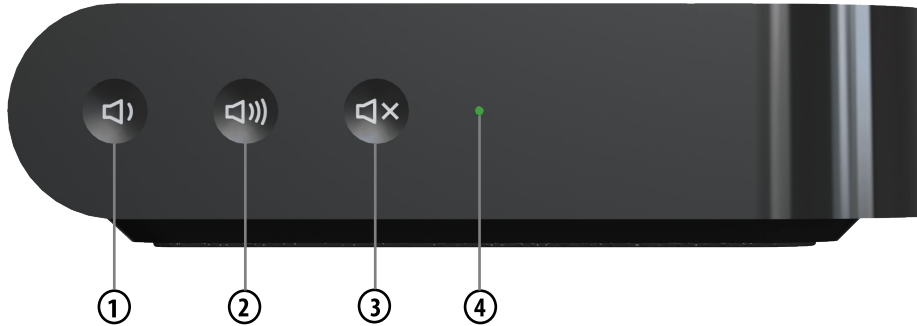
**NVP200-xx Single Zone Player Back Panel Features (Wireless or Ethernet Connectivity)**



1. **Ethernet:** This RJ45 port allows for a wired connection directly to the NVGW100-xx Gateway or directly to the network router.
2. **USB:** A USB storage device can share music content with the NuVo Player Portfolio Audio System through this port.
3. **Audio In:** This 3.5mm stereo input will accept any analog line level audio signal. The local audio source is amplified by the local Player, as well as providing it as an additional source selection in any other associated audio zones within the NuVo Player Portfolio Audio System.
4. **Audio Out\*:** This 3.5mm stereo output provides the local line level audio signal to an additional amplifier, powered subwoofer, or headphones.
5. **Setup Mic:** This 3.5mm input is for use with future software upgrades.
6. **Speaker Outputs\*:** These binding posts provide an amplified local audio signal to any connected speakers. The maximum output of the P200 is 120 Watts at 8 Ohm stereo.
7. **AC:** The switchable universal power supply will accept any incoming AC voltage worldwide.

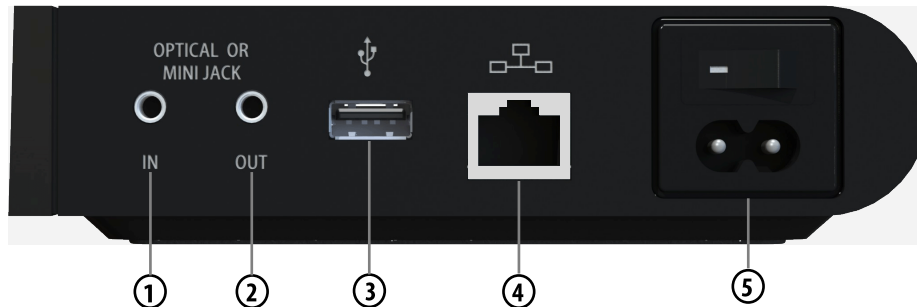
\* If the audio output of a video device is the source, there will be no perceptible delay in audio if a single player zone is selected. If two or more player zones are playing the audio from the video source an audio buffer will be engaged which will add a delay between the audio and video source.  
 \*\*\*Not all USB drives are supported natively by the USB port as current draw is limited to XX amps. If a device that exceeds this is used, an external power supply must be used.

**NVP300-xx Zone Player Front Panel Features (Wireless or Ethernet Connectivity)**



1. **Volume Down:** Press to decrease audio volume.
2. **Volume Up:** Press to increase audio volume.
3. **Mute:** Press to mute/un-mute audio.
4. **LED Indicator:** Indicates status of NVP300 (see table in section 6.1 for details).

**NVP300-xx Zone Player Back Panel Features (Wireless or Ethernet Connectivity)**



1. **Audio In:** This is a combination 3.5mm stereo line level and mini TOSLINK optical input. This input will automatically decipher the difference between an analog line level input and TOSLINK optical input. To connect to the TOSLINK input use a standard TOSLINK cable with the supplied TOSLINK mini– adapters or use a TOSLINK to TOSLINK mini cable. The line input is available to any player zone within the NuVo Wireless Audio System.
2. **Audio Out\*:** This is a combination 3.5mm stereo line level and mini TOSLINK optical output. This 3.5mm stereo output provides the local line level audio signal to an additional amplifier, powered subwoofer, or headphones. To connect to the TOSLINK input use a standard TOSLINK cable with the supplied TOSLINK mini– adapters or use a TOSLINK to TOSLINK mini cable.
3. **USB\*\*\*:** Any USB storage device can share music content with the NuVo Player Portfolio Audio System through this port.
4. **Ethernet:** This RJ45 port allows for a wired connection directly to the GW100 Gateway or directly to the network router.
5. **AC:** The switchable universal power supply will accept any incoming AC voltage worldwide.

\* If the audio output of a video device is the source, there will be no perceptible delay in audio if a single player zone is selected. If two or more player zones are playing the audio from the video source an audio buffer will be engaged which will add a delay between the audio and video source.  
 \*\*\*Not all USB drives are supported natively by the USB port as current draw is limited to XX amps. If a device that exceeds this is used, an external power supply must be used.

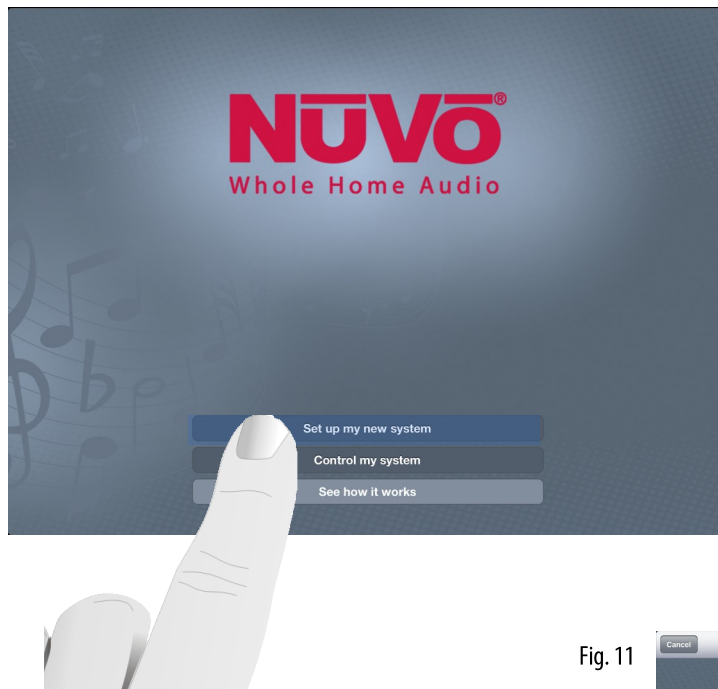
## 2. Setting Up a System from the iOS or Android App

Once you have connected the system to the local network you are ready to begin adding components in their desired locations, naming those locations for local control and creating your multi-zone music system. The process is easily done from any iPod Touch, iPhone, iPad, or Android device using the NuVo Wireless Audio System app.

### 2.1 New Wireless System Setup

Download the app to your device from the iTunes App Store or the Google Play Marketplace. Make sure your device is connected to the same network as the NuVo Player Portfolio Audio System. Open the app and select “Setup a new system” from the initial screen, as shown in fig. 10. “Set up my new system” is used to connect a new iOS or Android device to an existing system. **Note that the iOS app will not run on older iOS devices that cannot support iOS5 or later versions.**

Fig. 10



You should already have connected your Gateway to the home's network. If not, make sure that connection is made, **see section 1.2, Connecting the Gateway to the Network**. When the Gateway and home router connection is made, simply touch “Next”, as shown in fig. 11.

Fig. 11



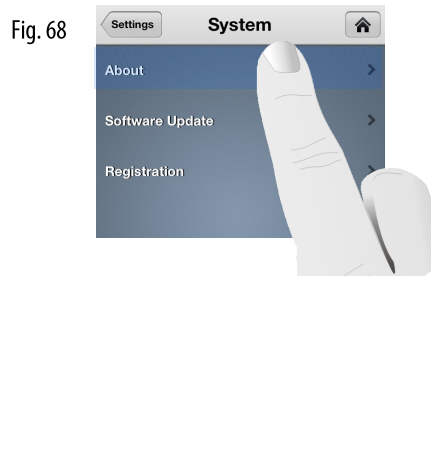
Fig. 12



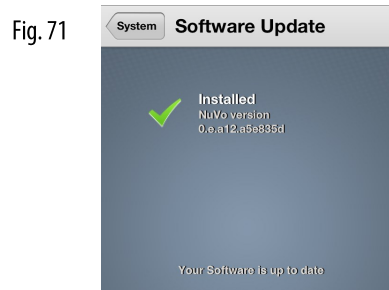
The app will indicate that the Gateway is connected to the network. Touch “Next” to proceed to the individual zone player setup, as shown in fig. 12.

## 4.7 System

When "System" is selected, as shown in fig. 67, the menu will display three important choices for information about the components of the system, as shown in fig. 68. The first choice, "About", gives specific component information for each zone, as shown in fig. 69.



"Software Update" will show any software updates that may be available, and allow for easy updates, as shown in figs. 70 and 71. Typically any updates will pop up on the app. An important advantage for the user is that the update is already downloaded in the background and once "install" is selected all the zones in the system will automatically be updated.



"Registration" will open the product warranty registration page, as shown in figs. 72 and 73. The opportunity to register the product is offered at the initial setup of the system. If the registration is completed at that time, this System selection is not necessary.





## 4.8 International

The “International” selection, as shown in fig. 74, provides a “Location” setting, as shown in fig. 75. When a country location is set, as shown in fig. 76, the legal 5 GHz wireless broadcast channel is set for the selected region. This is an important selection if you are using the 5 GHz wireless band for communication, **see section 4.1 Zones “Advanced”**.

Fig. 74

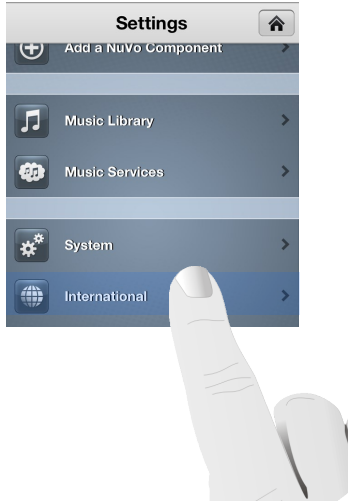


Fig. 75



Fig. 76



## 4.10 Help

The “Help” button, as shown in fig. 77, has links to contact NuVo directly or reference information on the system’s components, as shown in fig. 78.

Fig. 77

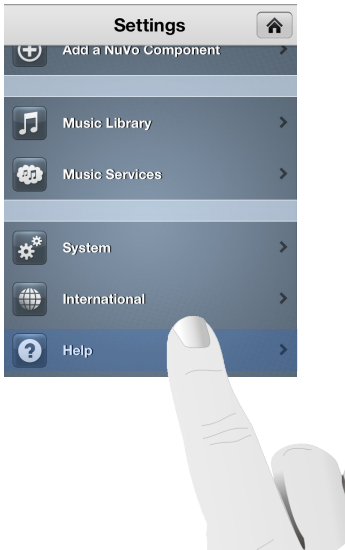
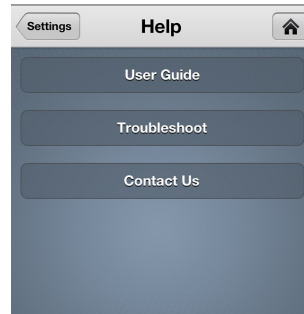


Fig. 78



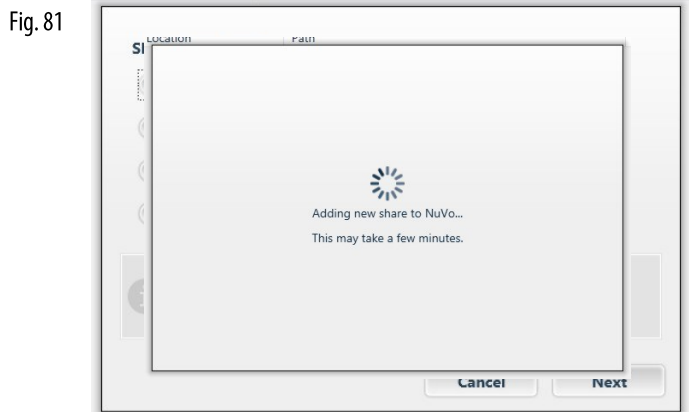
## 5. The Music Share Software

The Music Share Software allows music content from either shared network locations or libraries contained on personal computers to be streamed from any zone in the system.

1. From your computer, go to [www.nuvotechnologies.com/musicshare](http://www.nuvotechnologies.com/musicshare) to download the software from the NuVo website.
2. Follow the prompts for installing the software.
3. When the software is opened, it will connect to the network and display a blank music share page, as shown in fig. 79.

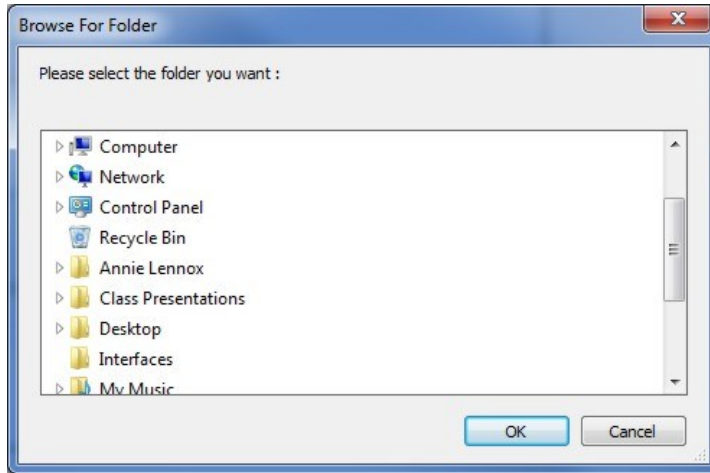


4. Click on the “Add new” button at the top of the window. The music share choices will open in the next window, as shown in fig. 80. “My Music” folder is the default location for Windows Media Player libraries. If your music is stored on a Mac computer, or your preferred music library software is in iTunes, then select “iTunes media folder”. When a selection is made, you will see a progress window, as shown in fig. 81.



5. You can also choose to share a specific folder or drive on the network. The “A specific folder . . .” choice will open Windows Explorer, as shown in fig. 82. From there you can choose a shared folder with music content or drive that is shared with the network.

Fig. 82



6. All shared folders and drives will be displayed in the software, as shown in fig. 83. The software can be opened at any time and content can be added or removed. Note that if you are sharing a personal library located on a personal computer hard drive, the software must actually be downloaded to that computer before the share is created. Once the share directory is created, it is not necessary to keep the Music Share Software open, although the computer hosting the music content must be active on the same network as the system for that content to be available for music playback.










Fig. 83



## 6. Troubleshooting

### 6.1 Front Panel LEDs

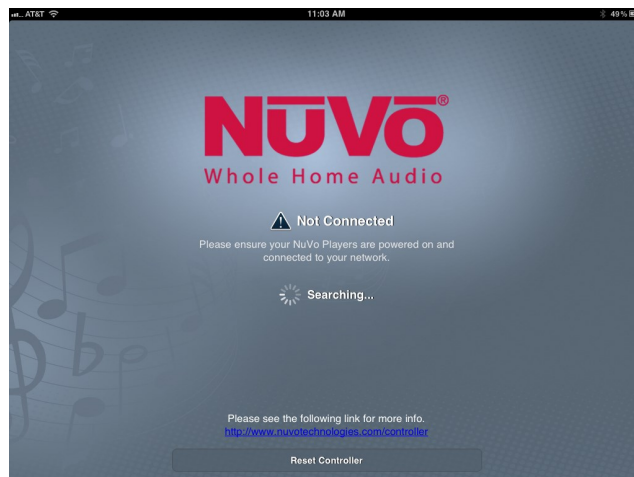
An important indicator of each zone’s operation is the LED light on the front panel of the zone players. The color and either solid or flashing state of the LED provides a visual reference for the player’s state of operation. Refer to the chart for an explanation of the functions and LED status.

LED Color	State of Zone Player	Explanation
	Not Lit	Zone player is not powered on.
	Solid White	Zone player is connected to the network and in normal operation.
	Flashing White	Zone player processor is busy; it should return to solid white.
	Solid Red	Hard failure. There is no network communication. Reboot by turning the power off and back on.
	Flashing Red	If the LED is flashing Red, its state indicates that the zone player is no longer seeing the network.
	Solid Green	Uninitialized state. It will become solid white when the zone player is added to a system and acquires a network address.
	Flashing Green	Busy uninitialized state. This is normal during the zone setup process. The LED will turn white at the completion of the zone setup. It also means that the zone is updating to a new version. Do not unplug during this process. At the completion of the update it will return to solid white.
	Solid Cyan	Zone is muted. When it is taken out of mute, it will return to solid white.
	Flashing Blue	This indicates that the P200 is in Bluetooth discovery mode.

### 6.2 Not Connected

A common indicator for lack of communication with the system is the app’s “Not Connected” screen, as shown in fig. 84. This screen appears when the controller is unable to see the zones in the system. There are several potential causes and remedies for this state that are important for troubleshooting.

Fig. 84



1. Look in the network settings of your control device and verify that it is connected to the same network as the Gateway and zone players.
2. This may sound relatively simple, but check the power status of the zone players. They should have a solid white (cyan if in Mute) LED light on the front panel.
3. Make sure that one or more of the players are not offline. This state would be indicated by a flashing red LED on the front panel. This can occur as a momentary state, in which case the LED will return to a solid white when the network connection is restored. This is often corrected by simply turning off and restoring power to the player. Once it is rebooted it should have a solid white LED on the front panel. If that does not restore a connection, reset the player defaults by turning the power off and back on. When the front panel LED lights up, follow the steps outlined in section 6.3 Restoring Defaults. When that process is complete the player will have a solid green LED. Repeat the zone player setup procedure from the control app, **see section 2.2 Adding Zones to an Existing System**. When the zone is reconnected the front panel LED should once again be solid white.
4. If you are using a Gateway, check its connection to the network's router. Reboot if necessary by unplugging the power cable and plugging it back in. This resets the Gateway and puts it back into channel auto select. If there is conflicting traffic on a given Wi-Fi channel, this will often correct the situation.
5. Occasionally home routers go offline. This is typically corrected by rebooting the router.

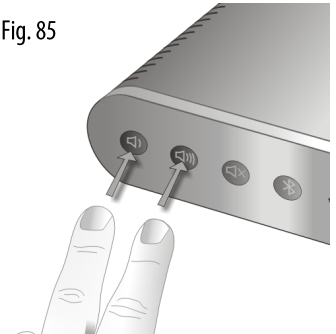
### 6.3 Restoring Defaults

An important troubleshooting step is to restore defaults on a zone player. If a hard failure occurs, which results in a solid red LED, or the boot up process does not complete correctly, which will result in a flashing white LED, you should follow these steps to return the player to its original factory state. Once a zone is reset, repeat the setup procedure from the control app.

Process for the NVP100-xx and NVP200-xx wireless players:

1. Turn off the power using the power switch on the back panel above the AC plug.
2. Turn the power back on and look for a white LED to light up.
3. As soon as you see a white LED, touch the Volume UP and Volume down buttons simultaneously, as shown in fig. 85.
4. When the LED appears green, release the buttons.
5. The LED will flash green, then white.
6. When the LED becomes solid green, the process is complete and the defaults have been restored.

Fig. 85



Process for the NVP3100-xx and NVP3500-xx players (these steps must be performed on each zone output independently):

1. Turn off the power using the power switch on the back panel above the AC plug.
2. Turn the power back on and look for a white LED to light up.
3. As soon as you see a white LED, touch the zone setup button, as shown in fig. 86 (setup button on front panel of P3500).
4. When the LED appears green, release the button.
5. The LED will flash green, then white.
6. When the LED becomes solid green, the process is complete and the defaults have been restored.

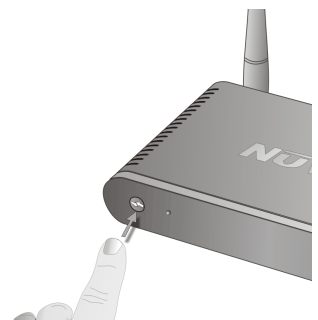
Fig. 86



Process for the NVGW100-xx Gateway

1. Press and hold the "Connect" button until the LED begins a rapid flash, as shown in fig. 87.
2. Wait for the flashing LED to return to a solid state.
3. Once the LED is solid green the reset is complete.

Fig. 87



**NOTE:** If you have reset defaults on all of the zones of the system, it is a good idea to also reset the Gateway as well before reinitiating the system setup.

## 6.4 System Diagnostics

A valuable tool for diagnosing system performance is the built-in system diagnostic utility. This can be accessed across the network from any computer or Wi-Fi enabled device through a web browser. To access the diagnostics page, enter a zone's IP address into the browser address window followed by a forward slash (/) and the text, "diagnostics.fcgi", as shown in fig. 88. This will open the diagnostics window as shown in fig. 89.

Fig. 88



Fig. 89

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Networked Audio SDK

Item	Value
Zones list	MemberId UPnP discovery SystemMaster discovery flags Time diff(ms)
Current zone time	memberId-0025ed1b1122 SDH Room SDH Room (0.13.41d.2206f3e/0.13.41d.2206f3e) (master) 0
Zone memberId	Fri Nov 9 21:59:34 2012 UTC
Zone Name	memberId-0025ed1b1122
System ID	SDH Room
Model	25df3ae4-9560-4a68-93a5-d1cd552d7e04
Version Info	{ "boardInfo" : { "db_rev" : 0, "model" : "p200", "pb_hwid" : 0, "pb_rev" : 0, "db_hwid" : 2 }, "type" : "boardInfo" }
System Settings	{ "versionInfo" : { "uboot_version" : "0.0.213.e03b306", "kernel_version" : "0.0.211.da6c73e", "rootfs_version" : "0.13.41d.2206f3e" }, "type" : "versionInfo" }
Diagnostics Commands	Settings ifconfig dmesg iwconfig iwpriv ra0 stat iwpriv ra0 get_site_survey iperf
Comment:	
Upload diagnostics to FogBugz	
Case number:	
Include music library:	<input type="checkbox"/>
	Upload

The advantage of the diagnostics utility is that it provides a view of all of the zones on the network from that particular zone's view. At the bottom of the window are a series of buttons, two of which can be advantageous for the installer. One is the Site Survey button (labeled **iwpriv ra0 get\_site\_survey**). This opens a new window that shows all of the neighboring networks in view of the zone and the channel those networks are operating on depending on whether the zone is set at 2.4 GHz or 5 GHz, as shown in fig. 90. If there is significant traffic at the displayed frequency across the available channels, it is a good idea to change frequency. Overloading of channel traffic generally is associated with 2.4 GHz. This issue rarely occurs at 5 GHz.

Fig. 90

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Networked Audio SDK

```

ra0 get_site_survey:
Ch SSID get_site_survey: BSSID Security Siganl(%)W-Mode ExtCH NT WPS DPID
36 NuVoHomeAudio9A009A 00:25:ed:9a:00:9b WPA2PSK/AES 57 11a/n NONE In NO
36 NuVoHomeAudio9A01AA 00:25:ed:9a:01:ab WPA2PSK/AES 78 11a/n NONE In NO
36 be!kin_076_5GHz ec:1a:59:14:20:78 WPA2PSK/AES 31 11a/n NONE In YES
40 NuVoHomeAudio9A00B4 00:25:ed:9a:00:d3 WPA2PSK/AES 73 11a/n NONE In NO
40 NuVoHomeAudio9A00E4 00:25:ed:9a:00:e5 WPA2PSK/AES 63 11a/n NONE In NO
40 dlink_media 00:18:e7:e1:7a:19 WPA1PSKWPA2PSK/TKIPAES 52 11a/n NONE In YES
44 NuVoHomeAudio9A0086 00:25:ed:9a:00:87 WPA2PSK/AES 83 11a/n NONE In NO
44 MikeKleIn 58:6d:8f:c2:48:76 WPA1PSKWPA2PSK/TKIPAES 68 11a/n ABOVE In YES
48 NuVoHomeAudio9A0068 00:25:ed:9a:00:69 WPA2PSK/AES 83 11a/n NONE In NO
149 BrianGW_2_4 00:25:ed:9a:00:e1 WPA2PSK/AES 57 11a/n NONE In NO
149 NuVo Wireless 34:bd:c8:86:69:50 WPA2PSK/AES 26 11a/n NONE In NO
149 NuVoHomeAudio9A00A8 00:25:ed:9a:00:a9 WPA2PSK/AES 63 11a/n NONE In NO
153 NETGEAR-5G 74:44:01:48:60:b0 NONE 26 11a/n BELOW In YES
153 NuVo Wireless 00:26:cb:13:ee:b0 WPA2PSK/AES 100 11a NONE In NO
153 PeteCisco_5 58:6d:8f:c2:46:55 NONE 47 11a/n BELOW In YES
157 NuVoHomeAudio9A00CE 00:25:ed:9a:00:cf WPA2PSK/AES 63 11a/n NONE In NO
157 Pete_5 28:cf:da:b1:b4:44 WPA2PSK/AES 73 11a/n ABOVE In NO
161 BachroomNuVo 98:fc:11:7d:66:8a WPAPSK/TKIP 100 11a NONE In YES
161 NuVoHomeAudio9A0084_2 e0:46:9a:7c:54:16 WPA2PSK/AES 68 11a/n NONE In YES
165 NuVoHomeAudio9A00C4 00:25:ed:9a:00:c5 WPA2PSK/AES 78 11a/n NONE In NO
165 NuVoHomeAudio9A00B8 00:25:ed:9a:00:b9 WPA2PSK/AES 100 11a/n NONE In NO

```