Using Music Port with Home Automation Systems

This paper describes how to use the NuVo Music Port in conjunction with an automation controller that needs access to the RS232 port on the NuVo amplifier.

There are three possible scenarios for using the Music Port with an automation controller. The choice of which scenario to use is largely dependent on the capabilities of the automation controller that is being used. The following table can be used to determine which scenario to use for your particular application.

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**Scenario 1: RS232-based Automation Controller**

**Scenario 1 Overview**

In scenario 1, the Music Port PC will be connected to both the automation controller and the Music Port with serial cables. In this scenario, the PC will forward any serial communication received from the automation controller to the serial port on the Music Port. It will also forward any serial communication received from the Music Port to the serial port on the automation controller. This will only work when the PC is turned on.

**Scenario 1 Hardware Setup**

The only additional wiring required is one extra RS232 cable between the PC and the automation controller. Since PCs and automation controllers are usually DTEs, it will usually be necessary for this to be a null modem cable.

![Wiring diagram for using Music Port with RS232-based automation system](image-url)
Scenario 1 Software Setup

In scenario 1, the COM port that is connected to the automation controller needs to be configured like COM3 in Figure 2.

![Software setup for using Music Port with RS232-based automation system](image)

Figure 2: Software setup for using Music Port with RS232-based automation system
Scenario 2: IP-based Automation Controller with TCP Client Capability

Scenario 2 Overview

In scenario 2, the automation controller and will communicate with the NuVo amplifier through the Music Port PC over the home network. In this scenario, PC will forward any IP traffic received from the automation controller to the serial port on the Music Port. It will also forward any traffic received from the Music Port to the automation controller over the home network. Like scenario 1, the automation controller will only be able to talk to the NuVo amplifier when the PC is turned on.

Scenario 2 Hardware Setup

The standard Music Port wiring can be used for this scenario. Both the Music Port PC and the automation controller need to be connected to the home network.

![Wiring diagram for using Music Port with IP-based Automation Controller with TCP Client Capability](image)

Scenario 2 Software Setup

The automation controller should be configured to communicate with the NuVo amplifier through the Music Port.
PC instead of a serial port. Configure the automation controller to connect to the NuVo amplifier via <IP address of Music Port PC> port 5006 instead of an RS232 port. Consult the documentation for your automation controller for details.
Scenario 3: IP-based Automation Controller with TCP Server Capability

Scenario 3 Overview

In scenario 3, the automation controller will connect directly to the NuVo amplifier directly through the Music Port and will act as a proxy server for the Music Port PC to access the serial port of the Music Port over the home network. In this scenario, the automation controller can communicate with the NuVo amplifier whether the PC is on or off, which is why this is the preferred method.

Scenario 3 Hardware Setup

In scenario 3, the automation controller should be connected directly to the Music Port with a serial cable. The Music Port PC and the automation controller will communicate with each other over the home network.

![Wiring diagram for using Music Port with IP-based Automation Controller with TCP Server Capability](image)

Figure 4: Wiring diagram for using Music Port with IP-based Automation Controller with TCP Server Capability

Scenario 3 Software Setup
Refer to the documentation for your automation controller and set up a TCP Server that listens for connections on a well-known port, 5006 for example. That TCP server should be configured to forward any inbound traffic from this port to the automation controller’s serial port that is physically connected to the NuVo Music Port. Similarly, all data that is received from the NuVo Music Port over that same serial port needs to be forwarded to port 5006.

Using the Media Control Server Configuration Tool, on the NuVo Bridge tab, select Connect via TCP/IP. Next to Server Port, enter the IP address of the automation controller, followed by the port number that the automation controller has opened for communication. In figure 5, the IP address of the automation controller is 192.168.1.111 and port 5006 is open for the Media Control Server to connect to the automation controller.

![Software setup for using Music Port with IP-based Automation Controller with TCP Server Capability](image)

**Figure 5:** Software setup for using Music Port with IP-based Automation Controller with TCP Server Capability