



## SnapAV Episode Subwoofer Integration Protocol Document

Integration Protocol v1.0 rev20190313

### Overview

This integration protocol details how a third-party system can be used to control a SnapAV Episode Subwoofer. With the Subwoofer online, the integration protocol will be listening for connections on **port 23 at the controllers IP address**. **NOTE: 10 simultaneous connections can be made at a time.** To get started, netcat or similar software can be used to initiate a connection and test any of the following protocol commands below.

### Authentication

The protocol requires authentication before proceeding with commands. Once connected, a login prompt will be received, and the third-party system must provide a valid username and password. If correct, login will be successful and other commands can be issued. If incorrect, the third-party system will be prompted for login again. After three incorrect logins, the Amplifier will disconnect from the third-party system.

### Unsolicited Messages

The protocol will send unsolicited messages to the third-party system whenever the system changes. This is intended so that all third-party systems that are connected via the protocol do not need to poll to get the current status.

### Specification

THIRD-PARTY SYSTEM <-----> SNAPAV DEVICE  
i.e. IP: 192.168.0.20 Port: 23

### Integration

Message Structure
Command and response messages are standard ASCII text.
? – Request message
! – Control message
# - Error message
~ - Unsolicited message
\n – End of command message, ASCII hex: 0x0A dec: 11

## Protocol

<b>Protocol Command</b>	<b>Description/Response</b>
?Firmware\n	<p>Request Firmware Version.</p> <p>Response: ?Firmware=&lt;version&gt;\n</p> <p>Params: &lt;version&gt; String</p> <p>Example Response: ?Firmware=1.0.0.0\n</p> <p>Description: Firmware is on version “1.0.0.0”.</p>
?MACAddress\n	<p>Request MAC Address.</p> <p>Response: ?MACAddress=&lt;mac&gt;\n</p> <p>Params: &lt;mac&gt; string</p> <p>Example Response: ?MACAddress=AA:BB:CC:DD:EE:FF\n</p> <p>Description: MAC Address is “AA:BB:CC:DD:EE:FF”.</p>
?Model\n	<p>Request Model Number.</p> <p>Response: ?Model=&lt;model&gt;\n</p> <p>Params: &lt;model&gt; String</p> <p>Example Response: ?Model=EA-100-SUB\n</p> <p>Description: Model number is “EA-100-SUB”.</p>
?PowerStatus\n	Request Power Status for the system.

	<p><b>Response:</b> ?PowerStatus=&lt;power&gt;\n</p> <p><b>Params:</b> &lt;power&gt; 0 = OFF 1 = ON 2 = STANDBY</p> <p><b>Example Response:</b> ?PowerStatus=0\n</p> <p><b>Description:</b> Power is off.</p>
?VolumeStatus\n	<p>Request Volume Status.</p> <p><b>Response:</b> ?VolumeStatus=&lt;level&gt;\n</p> <p><b>Params:</b> &lt;level&gt; 1 - 100</p> <p><b>Example Response:</b> ?VolumeStatus=50\n</p> <p><b>Description:</b> Volume level is 50%.</p>
?MuteStatus\n	<p>Request Mute Status.</p> <p><b>Response:</b> ?MuteStatus=&lt;mute&gt;\n</p> <p><b>Params:</b> &lt;mute&gt; 0 = OFF 1 = ON</p> <p><b>Example Response:</b> ?MuteStatus=0\n</p> <p><b>Description:</b> Mute status is unmuted.</p>
?TemperatureStatus\n	<p>Request Temperature Status.</p> <p><b>Response:</b> ?TemperatureStatus=&lt;temp&gt;\n</p>

	<p>Params:      &lt;temp&gt;      Degrees F</p> <p>Example Response:      ?TemperatureStatus=90\n</p> <p>Description:      Current temperature for device is 50 degrees F.</p>
?PresetStatus\n	<p>Request current Preset Status.</p> <p>Response:      ?PresetStatus=&lt;preset&gt;\n</p> <p>Params:      &lt;preset&gt;      1 = FLAT      2 = MUSIC      3 = MOVIE      4 = NIGHT</p> <p>Example Response:      ?PresetStatus=3\n</p> <p>Description:      Current preset is 3 for “MOVIE”.</p>
?SystemStatus\n	<p>Request current System Status.</p> <p>Response:      ?SystemStatus=?\n</p> <p>Params:      ?</p> <p>Example Response:      ?SystemStatus=?\n</p> <p>Description:      Current system status is ?.</p>
!PowerSet=<power>\n	<p>Request to change power status.</p> <p>Params:      &lt;power&gt;      0 = OFF      1 = ON      2 = STANDBY</p>

	<p>3 = TOGGLE</p> <p>Example: !PowerSet=1\n</p> <p>Description: Turn power on.</p>
!VolumeSetLevel=<level>\n	<p>Request to change the absolute volume level.</p> <p>Params:</p> <p>&lt;level&gt;</p> <p>1 - 100</p> <p>Example: !VolumeSetLevel=50\n</p> <p>Description: Set volume level to 50%.</p>
!VolumeRamp=<direction>,<step>\n	<p>Request to change the relative volume level.</p> <p>&lt;direction&gt;</p> <p>0 = DOWN 1 = UP</p> <p>&lt;step&gt;</p> <p>1 - 5%</p> <p>Example: !VolumeRamp=1,2\n</p> <p>Description: Ramp up the volume two steps. So if the level was at 50, ramping up at 2 steps would set the volume to 52.</p>
!MuteSet=<mute>\n	<p>Request to change the mute status.</p> <p>Params:</p> <p>&lt;mute&gt;</p> <p>0 = OFF 1 = ON 2 = TOGGLE</p> <p>Example: !MuteSet=2\n</p> <p>Description: Toggle mute status. [If muted, unmuted   If unmuted, mute]</p>

!PresetSet=<preset>\n	<p>Request to change the current preset.</p> <p>Params:</p> <p>&lt;preset&gt;</p> <p>1 = FLAT 2 = MUSIC 3 = MOVIE 4 = NIGHT</p> <p>Example: !PresetSet=3\n</p> <p>Description: Request to set current preset to 3 for “MOVIE”.</p>
!Reboot\n	<p>Request to reboot the device immediately. The client will lose the connection to the device until the device is back online.</p> <p>Response: OK\n</p>
#Error\n	<p>Sent whenever an invalid command was received or an internal device error has occurred. Please see the device log page for further detailed error messages.</p>
~PowerStatus\n	<p>Unsolicited message to indicate that Power Status has changed.</p> <p>Params:</p> <p>&lt;power&gt;</p> <p>0 = OFF 1 = ON 2 = STANDBY</p> <p>Example Response: ~PowerStatus=0\n</p> <p>Description: Power is off.</p>
~VolumeStatus=<level>\n	<p>Unsolicited message to indicate that Volume Status has changed.</p> <p>Params:</p> <p>&lt;level&gt;</p> <p>1 - 100</p> <p>Example Response: ~VolumeStatus=50\n</p> <p>Description: Volume level is 50%.</p>
~MuteStatus=<mute>\n	<p>Unsolicited message to indicate that Mute Status has changed.</p>

Params:  
<mute>  
0 = OFF  
1 = ON

Example Response:  
~MuteStatus=0 \n

Description:  
Mute status is unmuted.