

## VSA-51 FAQ



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1. How many input plates can I connect to the unit?  
The VSA-51 can handle upto 5 input wall plates. But the type and quantities are according to below:  
VGA/YPbPr ... Qty 2 max  
Video (composite) ... Qty 2 max  
HDMI/DVI ... Qty 1 max
2. How do the input wall plates connect to the receiver?  
UTP or STP cables (cat5e/6). Some wallplates need one and some need 2 Cat5 cables
3. Do I need to hookup a power supply to the wallplates?  
No. All the wallplates get their power via the Cat5 cables
4. How many RS-232 ports does the unit provide for controlling other products?

2 programmable ports are provided. One is at the receiver which normally connects to the projector. The User interface keypad also has another RS-232 port that can be connected to another device (such as external scaler, media player, etc).

5. I noticed in the picture that there are 2 unused (AUX) buttons on the keypad, can I use those to issue secondary commands via RS-232?

Actually you can issue commands to both RS-232 ports and do many more “Actions” when you press the keys on the keypad (the right 8 buttons). These buttons are completely “soft” and are user defined. For example you can group a number of them into a Radio-Button Group (perfect for selecting different sources), or have the buttons be stand alone as momentary or toggle push button. For each press of the button you can define what actions are to occur. For example you can tell the receiver to route certain video, then send a certain command to the projector, send another command via 2<sup>nd</sup> RS-232 port, close or open contacts of two relays (discrete outputs for controlling motorized screens or lights, etc), even issue IR commands!

6. So I assume if I don’t need to have all 5 video input plates, I will have more buttons available to do other things? But what if I need even more buttons (for example if I have a DVD player in another room and I want to control Play/Pause/FF, etc from this keypad)?

No Problem. Hall Research sells an expansion on Decora™ plate with 8 more buttons that connects to the keypad and you can define its keys to do whatever “Action” sequence you want

7. Does the User Interface (2 gang Decora wallplate keypad) need its own power supply?

No, it is powered via the single Cat5 cable that connects it to the receiver

8. How do I define the “Action” sequences for the keys?

The VSA-51 has an IP port. You simply go to the IP address of the unit in a browser and you will find a powerful and state-of-the-art web interface for defining your action strings. No PC software is needed

9. Can I also control the room (projector on/off state, source selection, volume control, etc) from this web interface?

Yes, you can do anything that the User Interface keypad can do and more. In fact the webserver uses the latest web technologies so if someone in the class uses the keypad to change the volume or change input sources, these changes are reflected on your browser screen in real-time (no page refresh needed, each element is updated in milliseconds in real time to track the user interface keypad on the wall) and vice versa.

10. Can I use a smart-phone or tablet with IP connectivity to control the system?

Yes, that is one of the nicest features of the system

11. Then do I need the hardware (physical keypad), or can I save some \$\$ by not getting the keypad and controlling the system from a browser or smart pad?

Yes the system is fully operational with or without the physical keypad. But please note that the secondary RS-232 port is on the physical keypad, without the keypad you only have one serial port on the receiver. Also you cannot send IR command without the keypad since the IR command processing and generation happens on the keypad.

12. Can the system extend IR from an actual IR remote? For example if I have a consumer grade

DVD player in a closet can I extend IR to it from the User Interface keypad?

Yes. If you look at the keypad picture you see a dot under the volume bar. This is an IR detector that can extend your IR via 2 wires up to 250 feet away to an IR blaster (connectors for IR extension are provided on the rear of keypad and also on the Receiver (in case your projector does not have Serial control input).

13. If I know the IR standard and code for my external device I am trying to control, can I program some of the buttons to issue those commands, instead of using the actual IR remote and pointing it to the keypad?

Yes you can, but only if you know the standard and code for your device and if we currently support that standard. In future systems we may build in the ability to learn and play back IR commands. But for now if your external device does not have Serial control, and you don't know the IR commands for it, you can use an HR-4P to convert RS-232 commands to serial outputs. The HR-4P can learn any IR and play it back via RS-232 commands.

14. What are acceptable computer video resolutions – VGA and HDMI ?

Lets talk about every kind of video that can be used in the system:



a.

VGA input plates can use VGA or component video and have loop-out at the wallplate. Component video can be anywhere from 480i to 1080p and of course has no EDID. VGA input can be from 640x480 to 1920x1280. EDID handshake with the PC depends on whether there is a local LCD plugged in or not. If a local LCD is detected its EDID takes precedence, otherwise EDID is emulated by the wallplate so if the connection to the projector at the remote receiver is not made, and there is no local LCD at the wallplate, the PC still gets EDID handshake and boots up with video output.



- b. HDMI input can handle DVI (with a DVI to HDMI cable) or HDMI. There are no limitation on resolution, 1080p on HDMI and all supported single link resolutions for DVI. However due to HDCP, it does not decrypt the video data. It passes the EDID and HDCP data (it does buffer the data for proper error free extension) to and from the display device to the source. There is no local output on this wallplate. If local output is needed Hall research has one of the smallest professional grade HDMI 1.3 splitters on the market (SP-HDMI-2)



- c. The Composite video inputs can handle 480i or 576i (NTSC, PAL, and SECAM). No EDID is needed for this input.

15. Does the system perform EDID management? Or, will the computer (or HDMI device) need to accomplish a new hand-shake with the projector every time it is connected?

Please see answer for question 14. Basically for HDMI (or DVI) it does handshake with the projector every time it is connected, but for VGA it does not and the wallplate itself does the handshake.

16. Which HDMI versions are supported?

1.2, 1.3 and 1.4 (without the LAN or audio-back channel for 1.4)

17. Does the system support HDCP (over HDMI)?

YES

18. Does the system support audio that is embedded in the HDMI stream? If so, does it perform down-mixing of an embedded multi-channel audio stream (eg, 5.1 or 7.1) to mono or stereo?

The HDMI wall plate has Stereo audio inputs. So on your HDMI source (DVD player, STB, game console etc) you should set the audio outputs active (which is usually the default for most equipment). If the HDMI source does not have right and left audio outputs, Hall Research offers a pass-through HDMI adapter that extracts the audio. This small unit can be used for HDMI sources that don't have separate audio outputs. The adapter does provide Stereo output from HDMI source for analog output connection to the wallplate – please contact Hall Research sales department

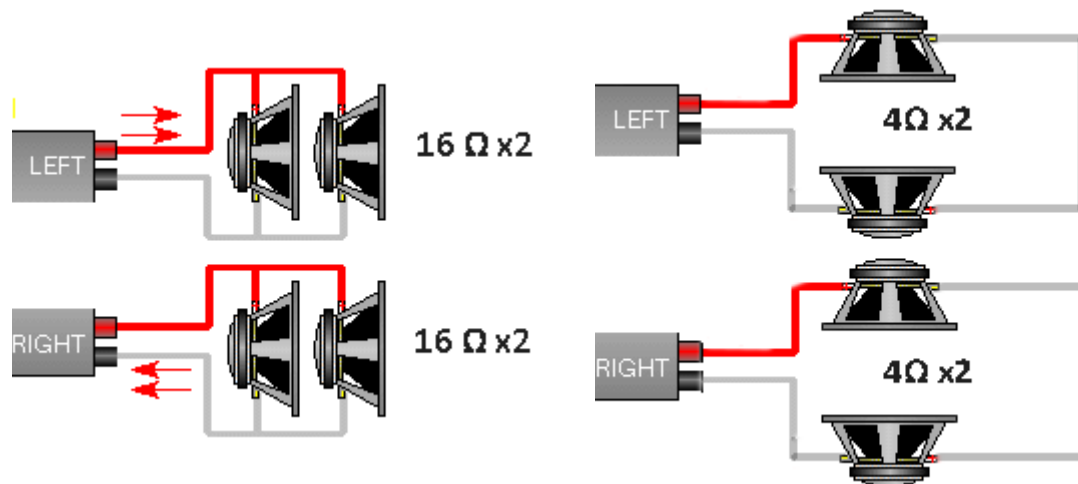
19. Is the power amplifier mono or stereo? Is it low impedance ( $8\ \Omega$ )? Or, is it constant voltage? ( $70V$ ?) Performance characteristics? (frequency range, THD)

The power amp is Stereo low impedance. It provides 30 watts peak or 25 watts continuous total power for each channel (50 w continuous, 60 w peak total power output). It can drive loads from 8 to  $16\ \Omega$ .

Frequency range is 20 Hz to 15 KHz. THD is 0.1% at 8 watts per channel and 0.7% at 15 watts per channel (measured with  $8\ \Omega$  load).

20. How do I install 4 speakers in a classroom tied to one system?

Since we do not recommend using a load less than  $8\ \Omega$  on the L or R outputs, to drive 2 speakers from each side, you need to connect two  $16\ \Omega$  speakers in parallel or two  $4\ \Omega$  speakers in series as shown below:



21. Does the microphone input have the capability of providing 48V DC phantom power?

No, the mic input is line level. We found that most classrooms use IR for their wireless mic's and virtually all have line level outputs. If you have a wired mic that needs preamp and phantom power etc, then you must condition that signal external to the VSA-51. That way you can spend little or a lot depending how good a system (noise, performance, etc) you require.

22. What are power requirements for VSA-51-R: Power consumption (amps or watts)? Will the power supply transformer be a "line wart" or a "wall wart" unit?

The unit comes with a single compact 90 watt “line wart” universal (high efficiency) power supply that powers up everything. The supply is designed to fit nicely with the Receiver in Hall Research Model VSA-MNT-51R Pole Mount Kit with Vault shown below:



Power consumption depends on how much power the audio amp is pushing out to the speakers. If there is no audio output the power requirement for the receiver and upto 5 wallplate inputs is 15 watts max. Since the audio amp can drive 50 watts of continuous power, max power requirement can be as high as 65 watts (but usually audio power is not maintained at a high level and average power over time will be considerably less). In a typical classroom with average audio power delivered of 8 watts, power consumption will be around 25 watts.

23. Can the unit sense a page in a separate paging system (emergency alarm or some such thing) and mute the audio so the alarm can be heard?

Yes, of course! The unit has a Page sensor input. This input is a balanced input with a programmable gain amp and level detector (to prevent false triggers). You can put in external alarm input into this input or connect a page sensor clamp from Hall Research.



The clamp is non invasive (you don't have to disconnect any wires from your existing paging system). The clamp has a hinged top and you simply open the hinge and clamp it over one of the wires of you paging system. The paging system can be low voltage or high voltage (70v etc). The web interface allows you to set the sensitivity of the paging detector to accommodate your campus' standard.

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We will add to this FAQ as our customers ask more questions of us, please check again later for updates!