



The Hall Research **Switch-Cat™** all inclusive classroom AV Systems are easy-to-install, economical, and versatile solutions that utilize HRT's renowned twisted pair technology for AV, control and power signaling.

The systems allow a variety of AV sources to be routed to any projector or remote display up to 750 feet away. 2 PC (or HDTV) and 1 SDTV (S-Video or Composite Video) sources are standard each with its own stereo audio. The –SP models also feature an XLR microphone input eliminating the need for any additional sound reinforcement equipment.

The **Switch-Cat™** systems employ only 2ea Cat5 cables to connect the input wallplate to the remote receiver. Automatic video equalization provides a perfect image without any adjustments or tweaking. The receiver has a built-in 20 Watt total Stereo Amplifier that can drive 4 or 8 ohm speakers directly. There is only one power supply for the entire setup that connects to the receiver so the installer need not be concerned with making a power connection to the wallplate.

Projector control is performed via RS-232 port on the remote receiver. The system includes control codes for most popular projectors, and ships with a Windows™ PC software that allows the installer to define and upload the strings for any specific projector.

There are 2 basic versions of the **Switch-Cat™** system to fit a variety of budget and performance requirements. The basic VSA-31 is comprised of only 2 pieces, a wallplate that provides all the AV source connections together with user interface – on/off, source selection, and volume control. The VSA-31-SP splits the wallplate in two, so there are a total of 3 pieces: receiver, connector plate, and user interface.

The –SP also adds microphone input (with phantom power and mic preamplifier), relay for control of screens or projector lifts, and additional user definable button.

Below are further descriptions of each version:

### Model VSA-31 Basic **Switch-Cat™**

Designed to add high-end AV capabilities to any classroom or conference room, the VSA-31 integrates AV switching, projector control, video transmission over twisted pair, and audio amplification in one package.

The VSA-31 is comprised of a transmitter, configured as a 4-gang Wallplate, and a small receiver.

The transmitter provides individual buttons for turning the projector power on/off as well as selecting the video source from among 2 PCs or a TV (S-Video / Composite). The Wallplate also features a volume knob for adjusting the audio level independently for each input. No power supply is needed for the Wallplate since power is supplied via the Cat5 cables from the remote unit.

The unit sends the selected input source to a receiver via 2 Category 5 cables up to 750 feet (230 m) away. The system features a built-in 20 Watt total stereo audio amplifier to drive 4 or 8 Ohm speakers directly. The receiver provides an RS-232 output port that connects to the projector to issue control commands for power on/off and source selection.

The Model VSA-31 supports resolutions up to 1920 x 1200 and features automatic cable length compensation so no user adjustments is necessary. Besides the built-in audio amplifier, the remote receiver provides line-level audio output for connection to an external audio amp if required.



The Basic VSA-31 Wallplate  
Sender and Remote Receiver



The Basic VSA-31  
Block Diagram

### Model VSA-31-SP Split **Switch-Cat™**

While retaining compatibility with the VSA-31's receiver, the –SP version splits the wall plate into its constituent functional components: The audio/video connector plate and a separate user interface Controller Wallplate.



Connector Plate with Microphone Input  
*\* Available in white or black color*



User Interface  
*\* Available in white or black wallplate  
or stand alone keypad*

This arrangement allows the installation to have all the video and audio cabling located in a place away from the user interface for a clean and professional look.

Other features include:

- User Interface available as 2-gang wallplate or desktop standalone keypad
- Single UTP (CAT5) cable connection to the user interface with no additional power supply
- XLR Microphone input with phantom power and preamplifier with programmable
- Independent microphone volume adjustment
- Selectable volume control and mute button for the AV or the Microphone audio
- A new user programmable AUX button that can control a relay and/or send other user control commands to the projector
- Bidirectional RS232 connection to the projector
- Simple UTP (CAT5) cable connections between all the Wall plates and the receiver.
- Only one power supply for the entire system