



The Ultimate Home Theater Experience the Fast and Easy Way

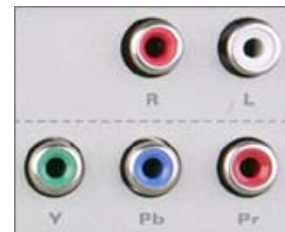
A Hands on review of the ATEN VS-231/431 HDTV A/V Switch

The Developing HDTV High Definition Market

As we enter the second half of the 21st Century's first decade, people interested in the latest, greatest and most innovative products have suddenly come to realize that the ubiquitous DVD is no longer the best choice for high quality home theater setups. In the future, even the best performance from the DVD-9 format will be merely a beginner's setup for serious connoisseurs in pursuit of superior video quality and audio fidelity. An all-new high quality television standard has now emerged from the digital industry. Backed by Microsoft, the HDTV (High Definition Television) high definition video standard is now the focus of everyone's attention. When pitted against HDTV, the performance from the traditional 480-line TV is simply laughable. The 720p format generally considered to be the minimum standard can achieve an ultra-high resolution of 720 scan lines, which is equivalent to a resolution of 1280x720@ 24Hz. The best standard is 1080p, capable of achieving resolutions of up to 1920x1080@24Hz. This is the standard that is increasingly being sought by many consumers.

There is no doubt then that the high definition market is beginning to mature. Research indicates that there are currently thousands of types of HDTV standard video playback devices such as LCD TVs, plasma TVs and even projectors now available in the Chinese market. Amongst family users in medium to large cities, up to 89.7% of consumers indicated that they would only consider products that support HDTV. No matter how rapid the pace of development for televisions has been, they now seem to lag behind the sheer explosive growth of high definition video sources. Major cities such as Beijing and Shanghai have now begun promoting the conversion over to digital, with TV broadcasts now providing subscription based high definition digital signals. High definition video playback devices are becoming popular as well, with high definition satellite receivers, high definition DVD players and the blue laser video players all either set to -- or already -- drawing people's attention. Even computers are now set to provide high definition signals, such as Microsoft's XBOX360 TV gaming console.

The existing high definition playback devices however are clearly not keeping up with the rapidly developing high definition video sources. If you look at the HDTV LCD TVs currently on the market, they will usually incorporate a lot of AV signal inputs, but only one set of HDTV high definition signal inputs (the Y/Pb/Pr jacks). This basically means that if your home has a high definition TV signal source and a HDTV player or even a XBOX360 as well, your TV will find itself caught short. You will end up having to squeeze in behind the TV to switch the signal cables all the time. The [ATEN VS-231/431 HDTV A/V Switch](#) recently developed by ATEN International is clearly the solution to this problem. It can help you combine the inputs from multiple high definition video sources into one high definition television, switching freely between them via a remote controller. Let us now take a look at this brand new entry to the market.



The Unique ATEN VS-231/431 HDTV A/V Switch

HDTV A/V Switches are a new addition to the lineup. There are many kinds of switches available on the market today, most of them being KVM or KVMP switches intended for computer systems. Since televisions are usually equipped with multiple Video In/Video Out ports, few of them actually need an A/V switch. Recognizing the fact the new HDTV televisions on the market lack multiple HDTV ports (Y/Pb/Pr), the ATEN VS-231 and VS-431 offers consumers the choice of between a 2-to-1 and 4-to-1 multi-HDTV A/V switch.



Based on the description and parameters provided by ATEN International, we can summarize the basic technical parameters of the VS-231 and VS-431 as follows:

1. They can provide 2 (VS-231) or 4 (VS-431) HDTV high definition signal sources to one television and switch between them.
2. Supports all spectrum, high quality and discrete audio channels for 3D surround sound.
3. Excellent compatibility due to its comprehensive home theater connection support.

4. Switching between input sources can be easily done through the front control panel or the IR remote controller.
5. Excellent product, reliable quality and long-term warranty support.
6. Equipped with 250MHz of video bandwidth, it supports resolutions up to 1600x1200@60Hz and the 1080p HDTV standard.
7. Easy to install.

Of these basic technical parameters, the most important is the HDTV (Y/Pb/Pr) signal switching feature offered by the VS-231/VS-431. The official name for HDTV's Y/Pb/Pr ports is the Color Difference Component Video Connection. Like AV and S-Video connections, these are all formal video signal input standards though AV and S-Video are more commonly seen.

An AV connection transmits a basic black and white signal on to which a color and saturation signal is imposed. Since the color signals are overlaid on each other, AV is also known as Composite video. From this author's experience, subjectively speaking AV signal quality at most rates a 6 out of 10. If the TV is of exceptional quality, this barely passes, so it is obviously unable to meet the requirements of high video quality.

S-Video avoids the overlaid signals and instead adopts Y/C separation -- the brightness and color signals are kept discrete. This greatly reduces the interference from overlapping signals, with the separate of signals allowing the resolution and color to be greatly enhanced. The increase in transmission quality of the resolution means that color representation is improved as well, so it scores 8 out of 10.

The Color Difference Component Connection -- or the Y/Pb/Pr connection -- is in fact a development on the S-Video connection. It further separates the C signal into U and V, so what is transmitted is in fact the three signals of Y/Cb/Cr (interlaced) or Y/Pb/Pr (progressive). From this we can see that the composite (color difference) connection is an improvement on the S-Video connection. This development is perfect for HDTV, as it enhances the S-Video color performance even more to achieve perfect reproduction.



Rear Panel of the VS-231 High Definition A/V Switch



Rear Panel of the VS-431 High Definition A/V Switch

Looking at the actual product itself, when we use the color difference composite Y/Pb/Pr connection, we will be dealing with a set of 5 ports in total on the panel. These include the Video signal port Y (shows a black and white image), the color and brightness ports Pb and Pr as well as R and L ports that separates the left and right audio channels. On most televisions the input ports we see are AV, consisting of a Y port, C port and an audio port. The output quality is therefore obviously simply incomparable.

The VS-231 and VS-431 provides for the first time the ability to switch between Y/Pb/Pr ports. This means that HDTV users can now easily switch between multiple video signal sources.

It's The Attention to Details That Make It Easy to Use

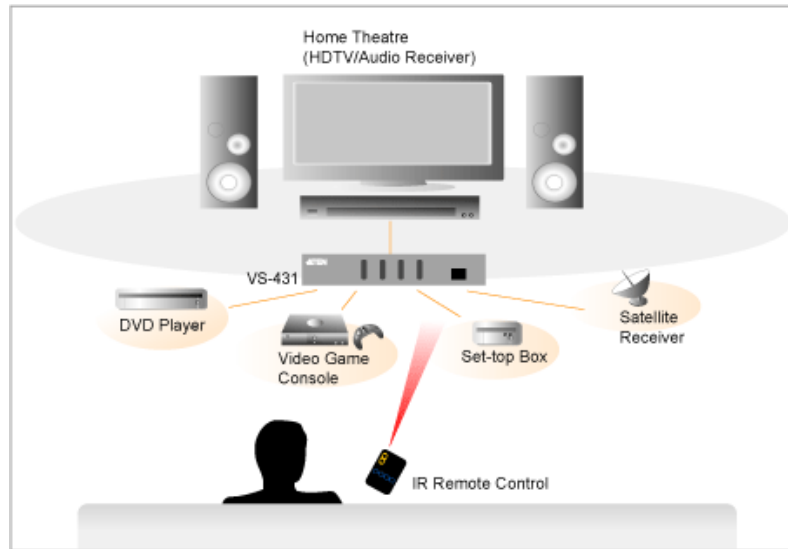
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It's The Attention to Details That Make It Easy to Use

Sometimes, getting one particular detail right is enough to make everything worthwhile. The IR remote controller provided by ATEN for the VS-231/VS-431 is the kind of thoughtful touch that demonstrates ATEN's attention to detail. With the remote controller, it is possible to switch between channels and adjust their order in the cycle directly. The compact size of the remote controller itself also means that no matter where you put it down it won't get in the way.





From the above, we can see that the VS-231 and VS-431 from ATEN International are two unique products that are well suited to customers dealing with HDTV LCD TVs, plasma TVs and projectors. As it is capable of receiving and transferring inputs from DVD players, TV set-top boxes, video game consoles and satellite receivers, it brings a great deal of convenience to consumers during usage. This is a type of product that is sure to enjoy excellent prospects on the market in the future as the trend for HDTV continues to pick up.

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