

VAC Switches?

A switch allows the user to select one output from multiple baseband video inputs or multiple line-level audio inputs. VAC switches include both local and remote control capabilities as standard features. An easily accessed DIP switch provides local control; remote control is readily configured via mini-DIN "Control In" and "Status Out" connectors. Remote control can be as simple as a toggle switch or as innovative as the customer needs, since VAC switches accept TTL or CMOS level control signals in addition to switch closures.

Additionally, all switches (except those with loop-thru inputs) have VAC's exclusive **Power Fail Bypass** which use a passive relay to connect Input 1 to the output whenever the switch loses power. This feature acts as a failsafe mechanism, ensuring that the highest priority video signal is always available at the switch output.

Why Use VAC Switches?

VAC is the market leader in delivering exceptionally compact, reliable, and high-quality switches for broadcast, professional AV, security, military and avionics applications. VAC offers a large array of options to ensure that we can deliver the product that meets your exact needs.

VAC switch products incorporate the following valuable features:

- True 75 Ohm BNC connectors provide accurate matching to coax cable input and outputs
- High-quality RF relays provide exceptionally flat gain characteristics across the entire bandwidth, with DC to 100 MHz
- Optically isolated remote control inputs avoid the potential for ground loops and interference from long control cable runs
- Simple, reliable, and non-proprietary remote switching functionality

VAC switch products are available for:

- | | |
|---|----------|
| • Standard (instantaneous), Composite Video, Y/C Video,
and HD Component Video | Page: 31 |
| • Vertical Interval Switches | Page: 31 |
| • Automatic Video Switches, Composite and Y/C Video | Page: 32 |
| • Unbalanced Mono Audio | Page: 31 |
| • Balanced Mono Audio | Page: 31 |
| • Unbalanced Stereo Audio | Page: 31 |
| • Balanced Stereo Audio | Page: 31 |

Depending on the selected signal format and function, switches are available with up to eight inputs.

VAC offers over 90 standard switch products and is the only manufacturer that offers such a wide variety of features in a compact, mount-anywhere package. Finding the exact product for a specific application is easy as the catalog pages are organized by signal format, switch type, and number of inputs, with part numbers shown in an easy-to-read table format.

Remote Control Connections:

Control IN allows the user to remotely control the switch via a six-pin mini-DIN connector. VAC includes the mating mini-DIN connector, and the user can configure the switch to accept either contact closures or TTL/CMOS level signals. The Control IN features internal circuitry to de-bounce control bits, and optical couplers to isolate video system ground from the control system ground.

Status OUT allows the user to remotely determine the switch position, or control another VAC switch using a mini-DIN patch cable.

Note: Other switch configurations are available from the factory, including:

- *Local Control only and*
- *No Power Fail Bypass*

Switches

VAC Switches are available in the following product families:



Mini Function Block™ - Miniature (2.0" x 1.5" x 0.5") four-input switches with solder-tab or Terminal Block connections. Mini Function Blocks are ideal for applications where space is at a premium.

For more information on Mini Function Blocks and product listings, see pages 35-36.

ProSeries™ - VAC's more versatile family of products. Designed to the demanding needs of broadcast engineers, rugged enough for military applications, and competitively priced. ProSeries products meet the challenging requirements of today's video professionals.



A close-up view of the mini-DIN connectors and DIP switch which provide local and remote control capabilities for ProSeries switches. One of the two mini-DIN male connectors included with the switch is also shown.

Composite Video Switches

Input Impedance	Standard Input: 75 Ohms Loop-thru: > 5k Ohms (available on AVS only)
Input Signal Level	0-2Vpp; (0V DC offset)
Bandwidth	> 100 MHz
Input Coupling	DC
Output Impedance	75 Ohms
Non-Selected Input	75 Ohms
Local Control	DIP Switch
Remote Control	Control IN and Status OUT via 6-pin mini-DIN
Power	12V AC or FlexPwr™
Mounting	Two 6-32 threaded brass inserts
Dimensions & Shipping Weight	See Technical Data on pages 45-48

Audio Switches

Input Impedance	> 5k Ohms
Input Signal Level	0-24V (AC or DC); 500mA max
Bandwidth	> 100 kHz
Input Coupling	DC
Output Impedance	300 Ohms
Non-Selected Input	Open Circuit
Local Control	DIP Switch
Remote Control	Control IN and Status OUT via 6-pin mini-DIN
Power	12V AC or FlexPwr™
Mounting	Two 6-32 threaded brass inserts
Dimensions & Shipping Weight	See Technical Data on pages 45-48

Switches

• Video

# of Outputs	Signal Type	12V AC	FlexPwr™
2	Composite Video	17-111-112	17-511-112
	Vertical Interval	17-121-112	17-521-112
	Y/C Video	17-141-612	17-541-612
	HD	67-141-112	67-541-112
4	Composite Video	17-111-114	17-511-114
	Vertical Interval	17-121-114	17-521-114
	Y/C Video	17-141-614	17-541-614
	HD	67-141-114	67-541-114
8	Composite Video	17-111-118	17-511-118
	Vertical Interval	17-121-118	17-521-118
	Y/C Video	17-141-618	17-541-618
	HD	-	-

Connectors for the above units are 75 Ohm BNC Connectors - except the Y/C Video which have 4-pin DIN Connectors.
For additional connector choices visit our website.

• Audio

# of Outputs	Signal Type	12V AC	FlexPwr™
2	Unbalanced Mono	17-171-332	17-571-332
	Unbalanced Stereo	17-191-332	17-591-332
	Balanced Mono	17-181-332	17-581-332
	Balanced Stereo	17-101-332	17-501-332
4	Unbalanced Mono	17-171-334	17-571-334
	Unbalanced Stereo	17-191-334	17-591-334
	Balanced Mono	17-181-334	17-581-334
	Balanced Stereo	17-101-334	17-501-334
8	Unbalanced Mono	17-171-338	17-571-338
	Unbalanced Stereo	17-191-338	17-591-338
	Balanced Mono	17-181-338	17-581-338
	Balanced Stereo	17-101-338	17-501-338

Connectors for the above units are Terminal Block Connectors.
For additional connector choices visit our website.

Automatic Video Switches (AVS)

An automatic video switch, or **AVS**, automatically switches to an auxiliary input whenever there is a loss of signal on the primary input. The internal microprocessor of the AVS continuously monitors the primary input so that whenever there is a valid input signal on the primary, the switch returns to this input. AVS products are also sometimes referred to as "auto-sensing" switches.

AVS switches are commonly used in broadcast and security systems for redundancy, automatically selecting a secondary video feed upon loss of the primary feed.

AVS switches are equally useful in presentation and entertainment systems where a single monitor needs to be connected to multiple inputs. For example:

- In a presentation system, the AVS can default (auxiliary input) to a cable news channel but automatically switch to a local camera feed whenever the feed is active.
- In an entertainment system, and AVS can default (auxiliary input) to a DVD, but automatically switch to a video game system whenever the game is turned on.

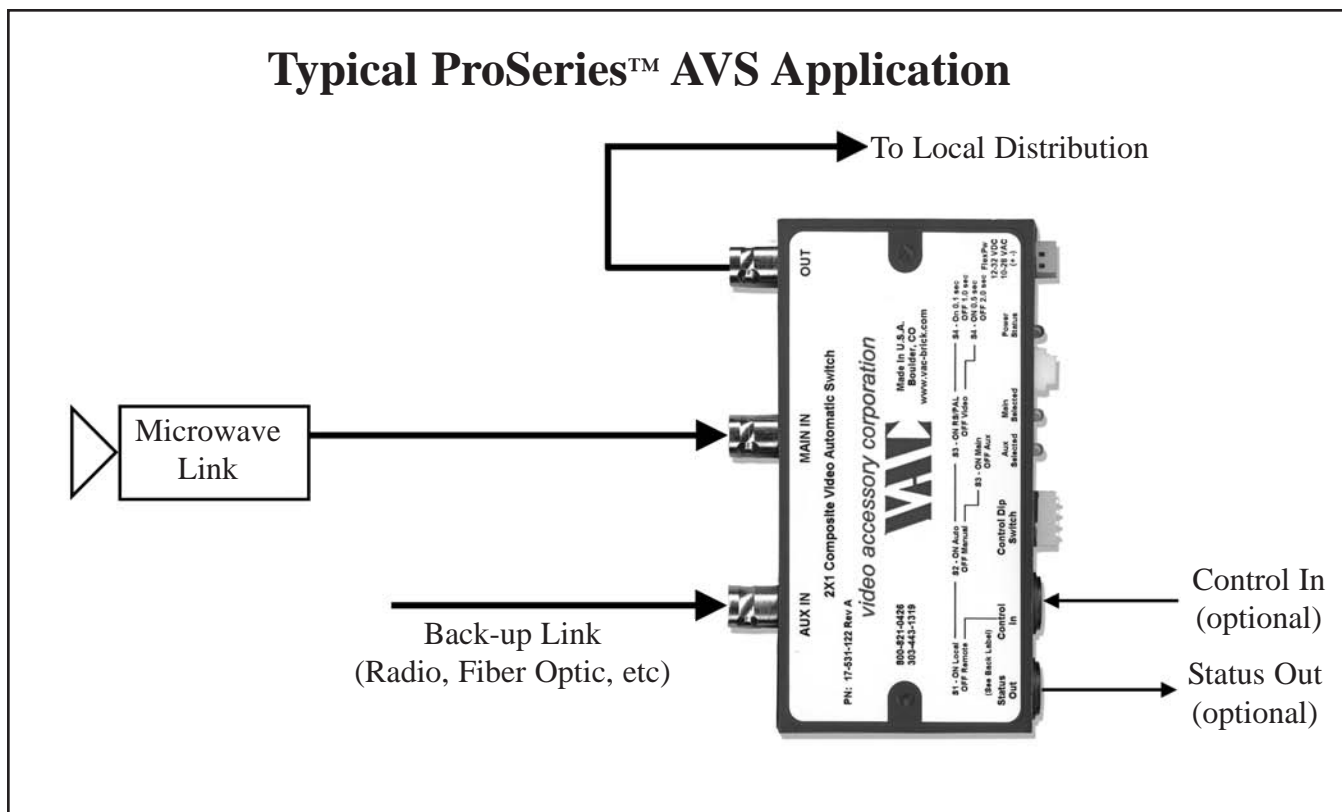
Since some video sources, most notably VCR decks and video game systems, **DO NOT** meet strict NTSC (or PAL) video specifications, VAC's AVS products now have selectable video modes:

- **NTSC Mode** that requires the input signal to meet NTSC or PAL specifications within a narrow tolerance range (ideal for broadcast and most security applications)
- **General Video Mode** that will recognize VCR signals (including pause, fast-forward and reverse modes), video games and other video sources that don't meet NTSC specs.

• AVS

Signal Format	Input Type	12V AC	FlexPwr™
Composite Video	Standard	17-131-112	17-531-112
	Loop-thru	17-131-129	17-531-129
Y/C Video	Standard	17-161-619	17-561-619
	Loop-thru	17-161-620	17-561-620

Connectors for the above units are 75 Ohm BNC Connectors - except the Y/C Video which have 4-pin DIN Connectors. For additional connector choices visit our website.



What is a COMBO Switch?

VAC's ProSeries™ combination audio + video COMBO switch allows the user to select one set (audio and video) of output signals from multiple baseband video and line level audio inputs. VAC switches include both local and remote control capabilities as standard features. An easily accessed DIP switch provides local control; remote control is readily configured via min-DIN "Control In" and "Status Out" connectors. Remote control can be as simple as a toggle switch or as innovative as the customer needs, since VAC switches accept TTL or CMOS level control signals in addition to switch closures.

Additionally, all switches (except those with loop-thru inputs) have VAC's exclusive **Power Fail Bypass** which use a passive relay to connect Input 1 to the output whenever the switch loses power. This feature acts as a failsafe mechanism ensuring that the highest priority video signal is always available at the switch output.

Why Use VAC COMBO Switches?

VAC is the market leader in delivering exceptionally compact, reliable and high-quality video switches for broadcast, professional AV, security, military and manufacturing applications. VAC offers a large array of options to ensure that we can deliver the product that meets your exact needs.

VAC COMBO switch products incorporate the following valuable features:

- True 75 Ohm video connectors for accurate matching to coax cable input and outputs
- High-impedance audio inputs
- DC coupling to ensure **ALL** of the input signal is replicated on each output
- Optically isolated remote control ports eliminate ground loops on control cables.
- High-quality relays provide exceptionally flat gain characteristics across the entire bandwidth
- Simple, reliable and non-proprietary remote switching functionality

Audio	
Audio Input Impedance	5k Ohms audio
Audio Input Signal Level	0-24V (AC or DC); 500mA max
Audio Bandwidth	DC-100 kHz
Non-Selected Input	Open Circuit
Video	
Video Input Impedance	75 Ohms
Video Input Signal Level	0-2Vpp; (0V DC offset)
Video Bandwidth	DC-200 MHz
Video Output Impedance	75 Ohms
Non-Selected Input	75 Ohms
General	
Local Control	DIP Switch
Remote Control	Control IN and Status OUT via 6-pin mini-DIN
Power	12V AC or FlexPwr™
Mounting	Two 6-32 threaded brass inserts
Dimensions & Shipping weight	See Technical Data on pages 45-48

Remote Control Connections:

Control IN allows the user to remotely control the switch via a six-pin mini-DIN connector. VAC includes the mating mini-DIN connector, and the user can configure the switch to accept either contact closures or TTL/CMOS level signals. The Control IN features internal circuitry to de-bounce control bits and optical couplers to isolate video system ground from the control system ground.

Status OUT allows the user to remotely determine the switch position or control another VAC switch using a mini-DIN patch cable.

Note: Other switch configurations are available from the factory, including:

- *Local Control only and*
- *No Power Fail Bypass*

COMBO™ Switches

• COMBO Switches

# of Inputs	Audio Type	Video Type	12V AC	FlexPwr™
2	Balanced Mono	Composite Video	69-111-032	69-511-032
		Y/C Video	69-111-152	69-511-152
		Vertical Interval	69-121-032	69-521-032
		Automatic Video	69-131-032	69-531-032
	Balanced Stereo	Composite Video	69-111-062	69-511-062
		Y/C Video	69-111-182	69-511-182
		Vertical Interval	69-121-062	69-521-062
		Automatic Video	69-131-062	69-531-062
4	Balanced Mono	Composite Video	69-111-034	69-511-034
		Y/C Video	69-111-154	69-511-154
		Vertical Interval	69-121-034	69-521-034
		Automatic Video	69-131-034	69-531-034
	Balanced Stereo	Composite Video	69-111-064	69-511-064
		Y/C Video	69-111-184	69-511-184
		Vertical Interval	69-121-064	69-521-064
		Automatic Video	69-131-064	69-531-064

Connectors for the above units are BNC for video (except 4-pin DIN for Y/C) and Terminal Block Connectors for audio. For additional connector choices visit our website.

