



# *INSTALLATION AND OPERATION MANUAL*

## **BASEBAND COMPONENTS**

Revision 1.00

PART NUMBER



**The Best Thing on Cable**



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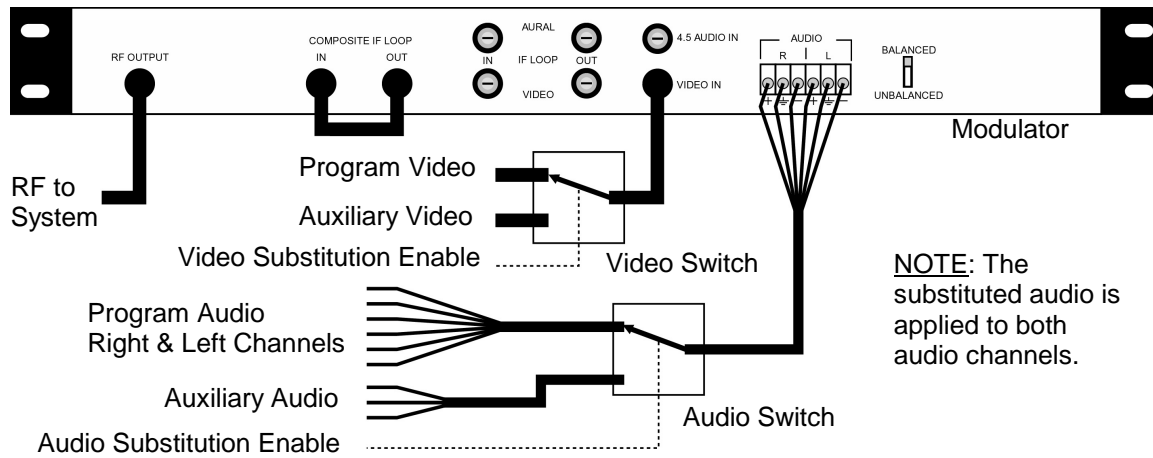
# Baseband Components

## Introduction

The ability to broadcast EAS alerts depend upon replacing the program information with the EAS message. The Trilithic EAS system is capable of substituting the EAS signal on several technologies. This document addresses baseband replacement technology and provides a guide on the installation and use.

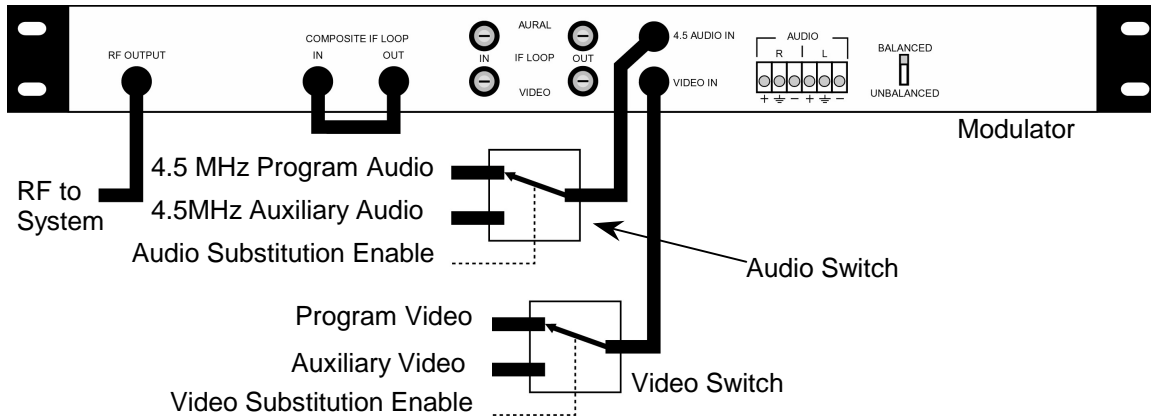
## Baseband Substitution Theory

Baseband substitution requires the replacement of the baseband audio and video at the modulator. This substitution is accomplished by utilizing audio and video switches that are enabled by a central controller. Auxiliary (EAS) audio and video is switched into the baseband program line effectively replacing the program signals.



**Figure 1 Substituting Baseband Audio and Video.**

Some systems utilize 4.5Mhz audio instead of baseband. Using the same technique substitution of the baseband video and the 4.5MHz audio can be accomplished.



**Figure 2 Substituting Baseband Video and 4.5MHz Audio.**

## Baseband Components

Trilithic offers a full range of components for baseband EAS messaging. While each component is designed to work with the Trilithic EASY system, most can be used by other applications.

### SW-2A Baseband Video/Audio Switch

The SW-2A switch was designed primarily to handle baseband video and audio switching. The SW-2A switch is a compact module that was designed to reside at the rear of the modulator or processor. Power for the SW-2A is supplied from either a power cube or a rack mounted power supply. The video switch will select from a primary (program) or an auxiliary (EAS) source. The audio switch accommodates stereo program audio. The EAS audio can be substituted on either right or both channels. Video sensing, TTL, or both can trigger the SW-2A. The SW-2A incorporates Fail-Safe relays assuring uninterrupted program audio and video in event of a failure. *Full SW-2A specifications are located in Appendix A.*

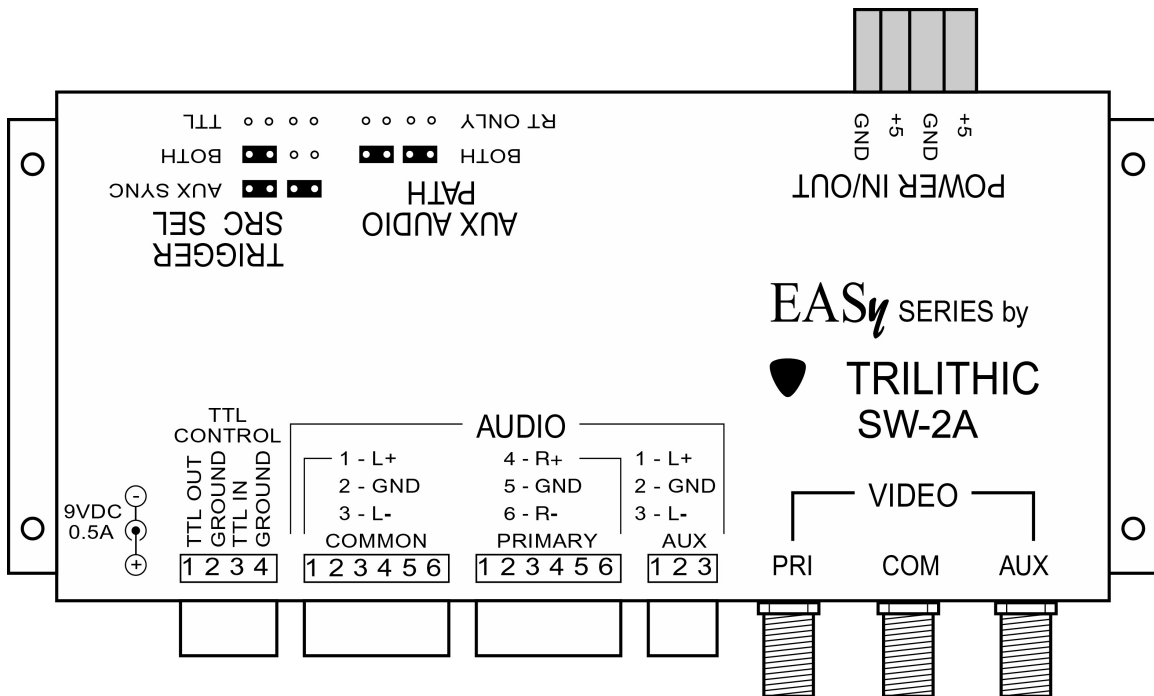


Figure 3 SW-2A Baseband Audio/Video Switch

### Trigger Source Select

The SW-2A can be activated by a user selectable source. Available trigger methods include:

- Externally applied TTL level.
- Presence of sync at the AUX port.
- Combination of TTL **and** presence of sync at the AUX port.

Selection of the trigger mode is accomplished with removable jumpers. The TTL is buffered through allowing for daisy-chaining multiple devices on a single TTL line.

## Auxiliary Audio Path Select

The auxiliary audio path can be selected to switch the AUX audio to both stereo channels or the right channel. When both channels are selected the mono (AUX) input is applied to both left and right channels. When RIGHT ONLY is selected the AUX audio is applied only to the right channel.

## Audio Switch

Stereo program audio is connected to the PRIMARY side of the audio switch. The COMMON port is connected to the audio IN on the modulator. Auxiliary (EAS) audio is then routed to AUX on the switch. Care should be taken to observe the proper channel and polarity of the program audio. If more than one SW2-A is to be used the auxiliary (EAS) audio will need to be split. This is accomplished with an audio distribution amplifier (ADA-16).

## Video Switch

Video is attached with the program source going to the PRImary on the video switch. The COMMon is then routed to the video IN on the modulator. Auxiliary (EAS) video is then attached to the AUX connector. If more than one SW2-A is to be used the auxiliary (EAS) video will need to be split. This is accomplished with a video distribution amplifier (VDA-16).

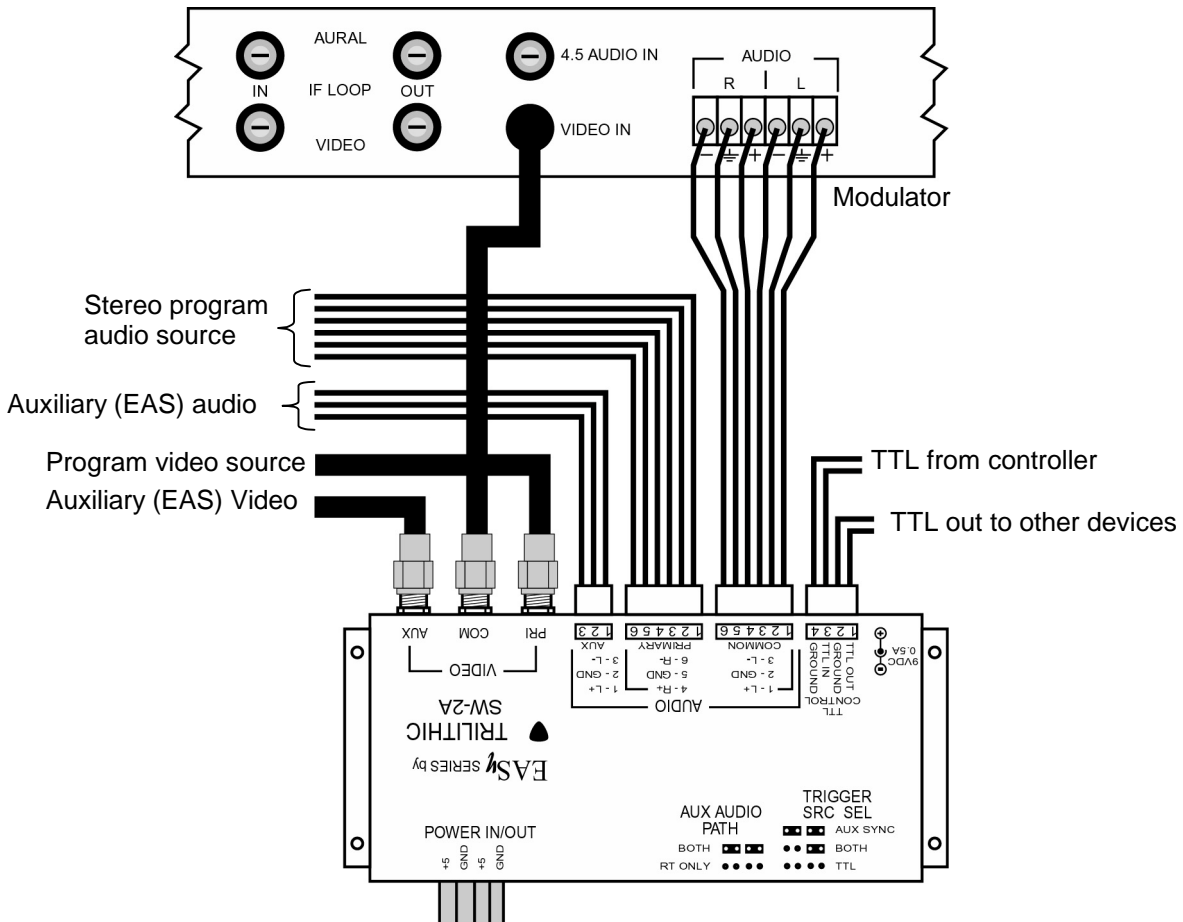
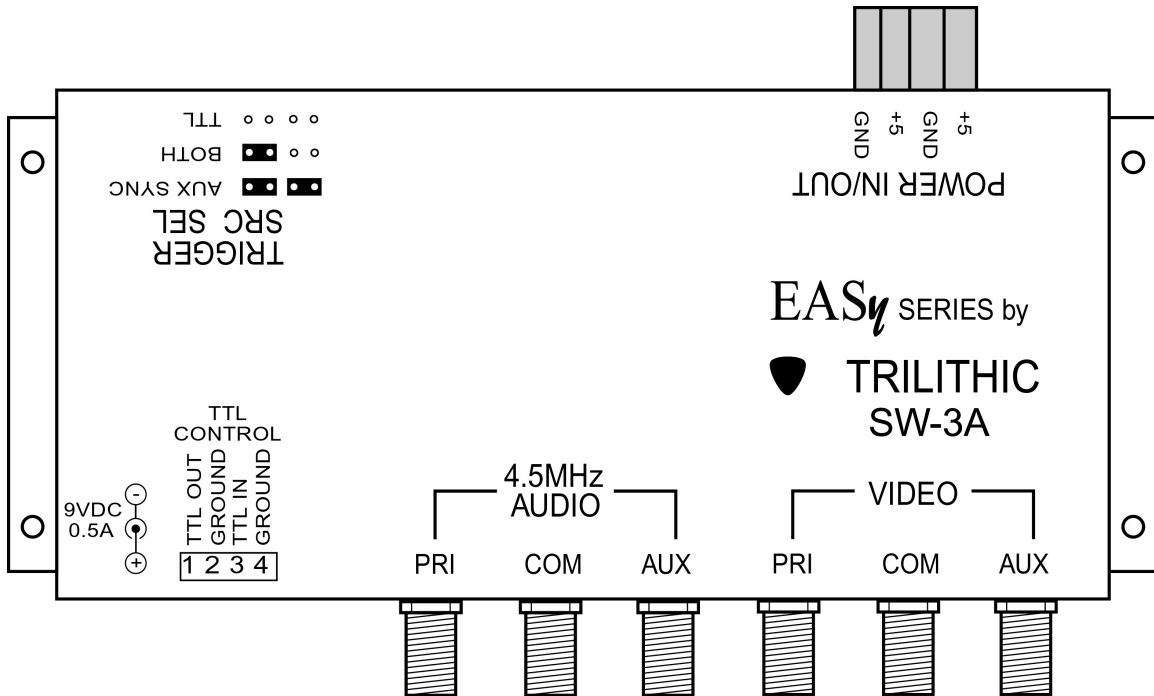


Figure 4 Typical SW-2A Audio/Video Baseband Installation

## **SW-3A Baseband Video/4.5MHz Audio Switch**

The SW-3A was designed to handle baseband video and 4.5 MHz video switching. The SW-3A switch is a compact module that was designed to reside at the rear of the modulator or processor. Power for the SW-3A is supplied from either a power cube or a rack mounted power supply. The video switch will select from a primary (program) or an auxiliary (EAS) source. The audio switch accommodates 4.5MHz program audio. The 4.5MHz audio switch can be also utilized for video, creating a dual video switch. Video sensing, TTL, or both can trigger the SW-3A. The SW-3A incorporates Fail-Safe relays assuring uninterrupted program audio and video in event of a failure. *Full SW-3A specifications are located in Appendix A.*



### **Trigger Source Select**

The SW-3A can be activated by a user selectable source. Available trigger methods include:

- Externally applied TTL level.
- Presence of sync at the AUX port.
- Combination of TTL **and** presence of sync at the VIDEO AUX port.

Selection of the trigger mode is accomplished with removable jumpers. The TTL is buffered through allowing for daisy-chaining multiple devices on a single TTL line.

### **Audio Switch**

4.5MHz program audio is connected to the PRImary side of the audio switch. The COMMon port is connected to the 4.5MHz audio IN on the modulator. Auxiliary (EAS) 4.5MHz audio is then routed to AUX on the switch. If more than one SW3-A is to be used the auxiliary (EAS) 4.5MHz audio will need to be split. This is accomplished with a video distribution amplifier (VDA-16).

## Video Switch

Video is attached with the program source going to the PRImary on the video switch. The COMMon is then routed to the video IN on the modulator. Auxiliary (EAS) video is then attached to the AUX connector. If more then one SW3-A is to be used the auxiliary (EAS) video will need to be split. This is accomplished with a video distribution amplifier (VDA-16).

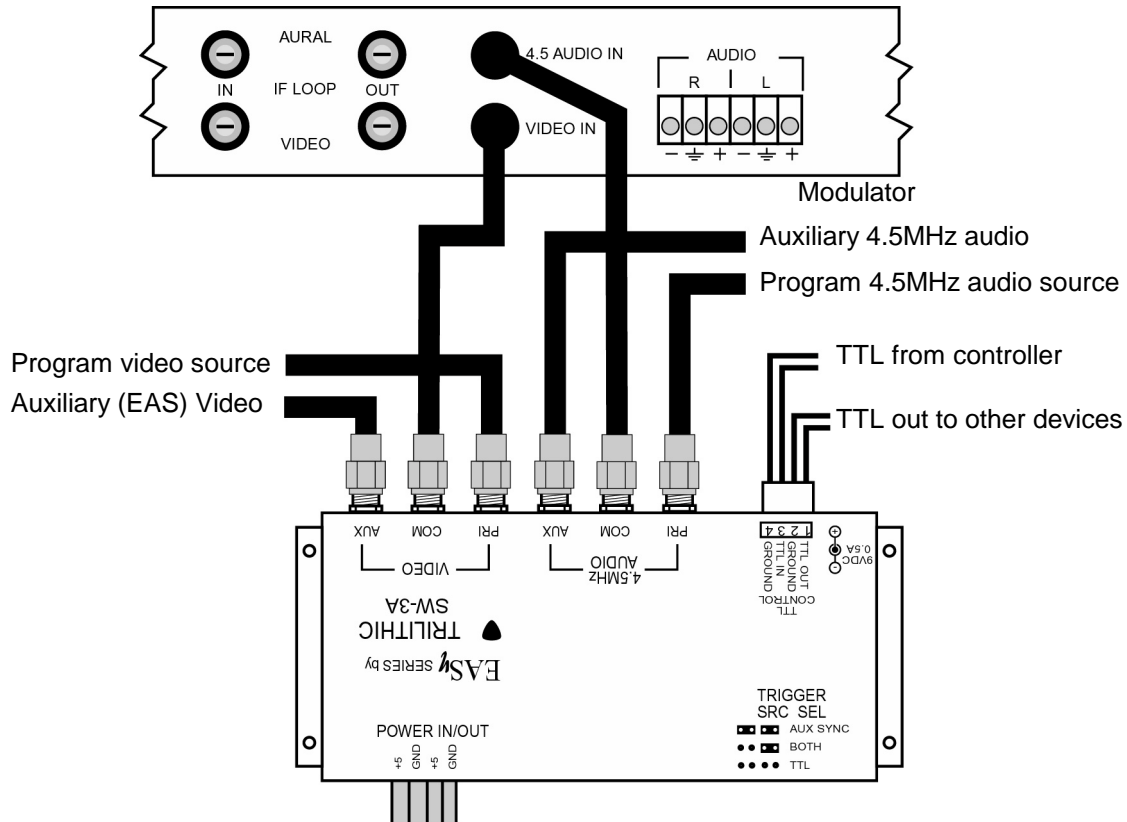


Figure 5 Typical SW-3A 4.5MHz Audio/Baseband Video Installation

## Video Distribution Amp (VDA-16A)

The video distribution amp allows you to split the video signal into 16 amplified outputs. The outputs can then be applied to the video switches and utilized for the EAS video.

## Audio Distribution Amp (ADA-16A)

The audio distribution amp allows you to split the audio signal into 16 balanced amplified outputs. The outputs can then be applied to the audio switches and utilized for the EAS audio.

## Appendices

### Appendix A - Specifications

## **Appendix A - Specifications**

### **SW-2A Baseband Audio/Video Switch**

Frequency Range	DC to 6 MHz Video DC to 200 kHz Audio
Impedance	75 Ohms Video
Flatness	Better than 0.1dB Video and Audio
Return Loss	33dB minimum
Insertion Loss	0.1dB maximum
Video Sensing Trigger	0.75 Vpp
Hysteresis	0.45 Vpp
Switching Speed	15 mS maximum
Control	Video Sensing, TTL, or Both
Number of Channels	1
Output Ports	Video and Stereo Audio
Power Requirements	9 VDC cube or +5 VDC @ 350mA
Dimensions	6.9" X 3" X 1.1"

### **SW-3A Baseband Video/4.5MHz Audio Switch**

Frequency Range	DC to 6 MHz
Impedance	75 Ohms Video
Flatness	Better than 0.1dB Video and Audio
Return Loss	33dB minimum
Insertion Loss	0.1dB maximum
Video Sensing Trigger	0.75 Vpp
Hysteresis	0.45 Vpp
Switching Speed	15 mS maximum
Control	Video Sensing, TTL, or Both
Number of Channels	1
Output Ports	Dual Video or Video and 4.5MHz Audio
Power Requirements	9 VDC cube or +5 VDC @ 250mA
Dimensions	6.9" X 3" X 1.1"







## Contact Information

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