

# Sage EAS AES Converter/Switch

## Manual

### Important Notice

The product described in this document has been discontinued for many years, and is no longer available for purchase. It is no longer serviced by Sage or Harris. The information provided in this document is provided "as is" without warranty of any kind, either expressed or implied. We do not make any warranties or representations as to its accuracy or completeness. We assume no liability or responsibility for any errors or omissions in the content of this document. Your use of the contents of this document is at your own risk.

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# SAGE ENDEC

## EAS-AES Converter / Switch

### Installation and Set-up Manual

#### Product Description

The SAGE EAS-AES Converter/Switch provides professional quality 24-bit A/D conversion, along with AES path insertion and interruption functions. The EAS-AES Converter/Switch may be configured as a standalone high quality A/D converter or used to insert stereo analog inputs into an AES stream via remote control, making it a perfect companion for analog EAS encoders/decoders such as the SAGE ENDEC. The front panel is equipped with Left and Right Analog Input Gain trimmers, Audio Present and Clipping LED indicators. Front panel LED indicators are also provided for Remote Active, Input Selected and Power.

Your SAGE EAS-AES Converter/Switch is equipped with a relay bypass; if power is removed from the unit, the AES stream continues un-interrupted. The A/D converter provides a broadcast standard 44.1kHz sample rate making it perfect for broadcast radio and TV applications. 32kHz and 48kHz sample rates may also be selected using internal configuration jumpers.

#### Installation

Please examine your SAGE EAS-AES Converter/Switch carefully for any damage that may have been sustained during shipping. If any is noted, please notify the shipper immediately and retain the packaging for inspection. The package contains the SAGE EAS-AES Converter/Switch unit, one 24VDC @ 600 mA external power supply and this manual. Please read this manual carefully before installation and operation. Only qualified personnel should install Harris Corporation products. **Do not use this product in any application where a life threatening condition could result due to its failure.**

Installation of the SAGE EAS-AES Converter/Switch in high RF environments should be performed with care. Shielded cable is suggested for all audio connections. All shields should be tied to the "G" or ground connector pins. It is recommended that all cables connected to the SAGE EAS-AES Converter/Switch be looped through ferrite cores to suppress RF. Power line surge protection with RF filtering is also suggested for the external power supply.

To gain access to the SAGE EAS-AES Converter/Switch unit's internal configuration jumpers, disconnect power and remove the six Philips screws that secure the cover. When configuration is completed, reinstall the cover with the 6 screws and re-connect the power.

The SAGE EAS-AES Converter/Switch can be rack-mounted using the optional 21075-501 Rack Mounting Shelf and 21098-501 1/2RU Blank Panel.



## Internal Configuration Jumpers

Refer to the following table when configuring your SAGE EAS-AES Converter/Switch using the internal configuration jumpers JM1 through JM7. To gain access to the configuration jumpers, disconnect power and remove the six Philips screws that secure the cover. When configuration is completed, reinstall the cover with the 6 screws and re-connect the power.

Un-balanced Analog XLR Inputs

Jumper JM1 grounds the Left XLR inverting input.  
Jumper JM2 grounds the Right XLR inverting input.  
**JM1 and JM2 are open when shipped from the factory.**

32kHz Sample Rate

Jumper JM3, JM4 and JM5 should be in the 32 position.  
Jumper JM6 and JM7 should be in the 32/48 position.

44.1kHz Sample Rate

**44.1kHz is the factory default selection.**  
Jumper JM3, JM4 and JM5 should be in the 44/48 position.  
Jumper JM6 and JM7 should be in the 44 position.

48kHz Sample Rate

**44.1kHz is the factory default selection.**  
Jumper JM3, JM4 and JM5 should be in the 44/48 position.  
Jumper JM6 and JM7 should be in the 32/48 position.

## Rear Panel Connections

Refer to the following table when making the rear panel connections on your SAGE EAS-AES Converter/Switch.

L/R Analog Inputs

Hi Z, active balanced on XLR connectors. Pin 1 is for ground or shield, pin 2 is high or non-inverted, and pin 3 is low or inverted.

Un-balanced analog on L and R terminals of the plug-in Euroblock connector; G is for un-balanced shield.

Connect your source equipment to the appropriate left and right analog inputs.

For monaural sources, tie the left and right inputs together. Be sure to observe correct phasing.

AES Input

Main AES source input on XLR.

Connect your main AES source equipment to this XLR connector. When used as an EAS insert switcher, this would normally be the feed from your source equipment.

AES Output

AES output on XLR has either AES input audio or A-D derived AES output from L/R analog input. Selected input is indicated on front panel.



## Remote Control Input Configuration

The rear panel remote control input of your SAGE EAS-AES Converter/Switch can be configured as a 1A dry contact relay closure on Euroblock connector A or wet via an opto-isolated +5-24VDC input (5VDC at 6mA) on Euroblock connector B. Only one remote control input should be configured at any time.

Refer to the following table when configuring the remote control input.

### Connector A Dry - Contact Relay

Pins A1 and A3 are open to select AES input. Relay is normally open and with no power applied.

To select Analog Inputs, short pins A1 and A3.

### Connector B Wet - +5-24VDC Input

No input on opto-isolated pin B1 selects AES input.  
+5-24VDC input on opto-isolated pin B1 selects Analog input.

B2 and B3 should be connected to remote ground.



## Front Panel Controls and Indications

### Power

Insert the output plug of external power supply power into the Power jack on the SAGE EAS-AES Converter/Switch. Insert the AC plug of external power supply power into an AC outlet. Verify that the front panel Power LED is illuminated.

### Analog Input Present

Left and Right Present LEDs begin to illuminate with -28dBm input. LEDs are fully illuminated at -24dBm.

### Analog Input Clipping

Left and Right Clipping LEDs begin to illuminate with +18dBm input. LEDs are fully illuminated at +20dBm.

### Analog Input Gain

With a nominal +4dBm analog input, adjust these controls to set the desired AES output level when the Analog Input is selected via remote control.

### Remote Active

Indicates that the remote control input on the rear panel has selected the Analog Input. Analog Input LED will also be illuminated.

### Digital Input

Indicates that the remote control input on the rear panel has selected the Digital Input.

## Specifications

Analog Input Level	-10dBu to +24dBu +4dBu analog input provides -20dBfs AES output
Analog Input Z	10K $\Omega$ balanced
Frequency Response	10 – 20kHz, +/-0.5dB
Distortion	< .02% THD / IMD
Noise	< -90dB EIN
AES Output Impedance	110 $\Omega$ , balanced from analog / A-D input. Passive when AES input is active.
Power Requirements	24VDC, 600 mA, wall transformer, supplied.
Size and Weight	1/2 rack space; 5.0 lbs. shipping weight
Options	21075-501 Rack Mounting Shelf; 21098-501 1/2RU Blank Panel 220 VAC 50-60Hz CE-approved External Power Supply

### **Harris Limited Warranty - US Warranty Only**

Warranty service for this unit will be administered by Harris Corporation in accordance with this warranty statement.

Harris warrants to the original purchaser that this product and the components thereof will be free from defects in workmanship and materials for a period of one year from the date of purchase. Harris will, without charge, repair or replace, at its option, defective product or component parts upon prepaid delivery to its service department, accompanied by proof of purchase date in the form of a valid sales receipt. This warranty does not apply in the event of misuse or abuse of the product or as a result of unauthorized alteration or repairs. This warranty is void if the serial number is altered, defaced, or removed. Harris shall not be liable for any consequential damages, including without limitation damages resulting from loss of use. This warranty gives you specific rights and you may also have other rights which vary from state to state. The following information is provided in the unlikely event that your unit must be returned for service.

1. Be sure the unit is the cause of the problem. Check to make sure the unit has power supplied, all cables are connected correctly and the cables themselves are in working condition.
2. If you find the unit to be at fault, write down a description of the problem including how and when the problem occurs, and then contact Harris for a Return Authorization (RA) number.
3. Pack the unit in its original carton or a reasonable substitute. Put the packaged unit in another box for shipping. Print the RA number clearly under the address. Include with your unit a return shipping address (we cannot ship to a P.O. Box), a copy of your purchase receipt, a daytime phone number, and the description of the problem

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Manual Revision A

# Sage EAS-AES Converter / Switch

## Functional Block Diagram

