BROADCAST tools® INC

PROBLEM SOLVED

Installation and Operation Manual

MSRP-3 AES
Multi-Station AES Digital EAS Relay Panel

Firmware Version 1.00 and above
Manual update: 06/27/2025
If you need a firmware upgrade, contact Broadcast Tools®

NOTE: We recommend the use of Chrome, Firefox or Safari as your browser.

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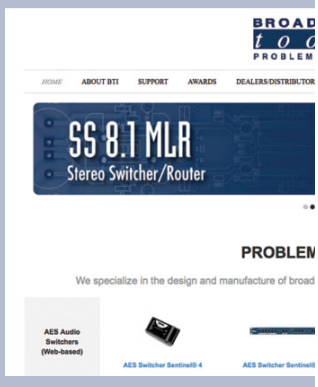

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INTRODUCTION

Thank you for your purchase of a Broadcast Tools® MSRP-3 AES three station analog EAS switcher (referred to as the MSRP-3 AES throughout this manual). We're confident that this product will give you many years of dependable service. This manual is intended to give you all the information needed to install and operate the Broadcast Tools® MSRP-3 AES.

SAFETY INFORMATION

Only qualified technical personnel should install the MSRP-3 AES. Any attempt to install this device by a person who is not technically qualified could result in hazardous conditions for the installer or other personnel or damage to the MSRP-3 AES or other equipment. Please ensure that proper safety precautions have been taken before installing this device. If you are unfamiliar with this type of equipment, please contact a properly qualified engineer to handle the installation, and setup of the MSRP-3 AES. Broadcast Tools, Inc., is unable to support NON-Broadcast Tools software, hardware, or NON-Broadcast Tools computer/hardware/software problems. If you experience these problems, please research your hardware/software instruction manuals, or contact the manufacturers technical support department.

WHO TO CONTACT FOR HELP

If you have any questions regarding your product or you need assistance, please contact your distributor from whom you purchased this equipment. If you would like more information about BROADCAST TOOLS® products, you may reach us at:

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BROADCAST TOOLS® BRAND PRODUCTS!

Broadcast Tools is a Veteran Owned Business

Designed, Assembled and Supported in WA State, USA

CAUTION!

Broadcast Tools® Products, as with any electronic device, can fail without warning. Do not use this product in applications where a life threatening condition could result due to failure.

NOTE:

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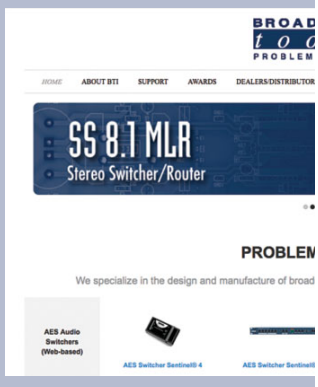

Product Overview

The Broadcast Tools MSRP-3 AES is a three station AES/EBU digital EAS relay/switcher following in the footsteps of the original Multi-Station Relay Panel (MSRP) designed by Broadcast Tools for the Sage ENDEC in 1996, and the Broadcast Tools ADCS-III. The MSRP-3 AES provides additional digital alert audio distribution and transparent audio interrupt switching for EAS encoders. Used in conjunction with the single switched audio interrupt relay built into the ENDEC, DASDEC, and other EAS encoders, the MSRP-3 AES will provide interruption switching for three AES digital audio paths. Each alert insertion can occur simultaneously on one or more station outputs, but alerts cannot be overlapped.

The MSPR-3 AES features a universal encoder audio input that can be configured as an AES digital audio input or an analog input feeding an internal analog to digital converter (ADC) input with word clock. The ADC input accepts balanced mono analog audio; the ADC may be bypassed and switched to an AES digital input. Standard pinout RJ45 station audio AES input and AES output jacks make installation with Cat5 or Cat6 patch cables plug and play. Control is via RS-232 serial port, TCP/UDP Ethernet port, or contact closure inputs. Includes test and station SPST relay outputs. A dedicated AES output provides encoder audio for additional devices.

Features/Benefits

- EAS alert insertion for up to three stations. Insertion can occur simultaneously on one or more station outputs, but alerts cannot be overlapped
- Front panel test switches (recessed), jumper defeatable.
- Encoder audio input switchable between balanced analog feeding the ADC or AES digital input.
- Built-in 24-bit analog to digital converter (ADC) configurable via DIP switches for sample rates of 44.1 or 48kHz, or external word clock.
- Multi-turn front panel level adjustment trimmer for ADC encoder analog audio input.
- Dedicated AES transformer isolated output provides encoder audio for additional devices on a terminal block connector.
- Transparent signal switching via sealed mechanical relays utilizing 2-form-C bifurcated–crossbar silver alloy contacts with gold overlay.
- RJ45 station audio input and output jacks simplify wiring and service.
- SPST status relay outputs with LED indicators.
- Remote control via RS-232 serial and TCP/UDP Ethernet commands or contact closure inputs.
- Removable euro-block style screw terminal connectors for universal analog/AES encoder input, a dedicated AES output, status relays, and contact closure inputs.
- Fully RFI proofed.
- Supplied, surge protected 12 Volt DC only 2.5-amp desktop power supply. 2.1mm ID x 5.5mm OD coaxial connector, center positive. Universal CE (100 - 240 vac / 50/60 Hz) with IEC input plug with domestic AC power cord.
- Up to two units may be mounted on the optional RA-1 rack shelf. Desktops and wall mounting are also possible.

Applications

Multi-station digital audio EAS insertion switching, or other AES/EBU digital audio insertion switching.

Inspection

Please examine your MSRP-3 AES carefully for any damage that may have been sustained during shipping. If any damage is present, please notify the shipper immediately and retain the packaging for inspection by the shipper. The package contains the MSRP-3 AES, a modular cable with 9-pin "S9" female D-sub adapter, a BLUE straight-through CAT 5 cable, a GRAY crossover CAT 5 cable, and a 12VDC universal desktop power supply with IEC AC inlet. Manuals can be downloaded from our web site.

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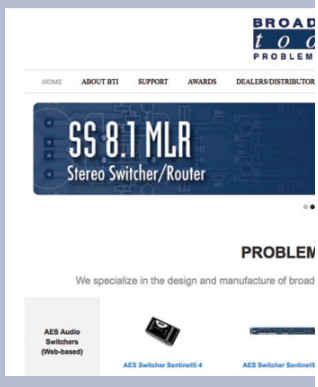

Installation

Surge Protection

The MSRP-3 AES has built-in resistance to voltage changes; we recommend that you use a power surge protector or line conditioner on the incoming AC line. Lightning strikes and/or other high voltage surges may damage your MSRP-3 AES and connected equipment if it is not properly protected. For lightning protection devices, check out www.polyphaser.com and www.itwlinx.com.

UPS Standby Power System

We recommend that you connect your MSRP-3 AES to a UPS standby power system. A UPS, like the BE600M1 from APC helps to minimize the risk to the MSRP-3 AES and provides power during a power outage.

Power

Insert the universal AC input 12 VDC @ 2.5 Amp switching power supplies connector into the power receptacle labelled "PWR" on the rear panel of the MSRP-3 AES. When ready, plug the power supply into the appropriate AC receptacle.

CAUTION! Only use the power supply provided with this product.

Chassis Ground screw (CHS GND)

The #4-40 sized chassis ground screw should be tied to the station (house) or system ground.

Station Selection and TEST recessed push buttons with LED Indicators
Each of the station switches can be tested via its recessed front panel push buttons labelled "STA2", "STA3", "STA4". Simultaneous switching for all three stations can be tested using the "TEST" push button. The user is required to hold down the desired station or test push button to activate. The front panel switches may be disabled via internal jumper.

LED indicators

- "PWR" LED: Illuminates when power is applied and blinks when serial data is active. (Green)
- "LINK" LED: Lit when a TCP client is connected to the server on the Ethernet interface (Green).
- "Act" LED: Lit when AES/EBU digital clock is detected on the encoder input.

"ADC" LED: Lit when SW9 is in the "OUT" position, feeding analog encoder audio to the internal ADC. When in the "IN" position the internal ADC is bypassed and the input accepts AES digital audio instead of analog audio.

- "Station (Test, 2-4") LEDs: illuminate when the station or test is active/switched to the encoder input. (Green)

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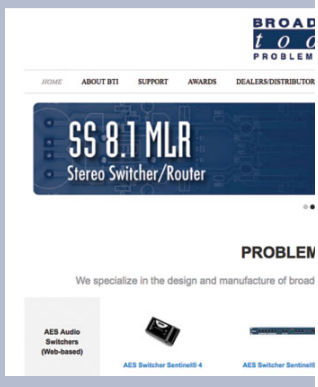

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I/O Connections

The rear panel contains all the input, output, and remote-control connectors. The multi-drop serial port is equipped with a modular RJ-11 jack and an "S9" modular to DB9 adapter/cable, and an RJ-45 NET/LAN Ethernet Port.

Universal Encoder Audio Input (3-position TB)

MSRP-3 AES provides a switchable alert/encoder audio input that feeds the three station relays and a dedicated AES output on the "AES OUT" 3-position pluggable screw terminal block connector.

When the front panel switch SW9 is in the OUT/"AES In" position the "IN" 3-position pluggable screw terminal block connector acts as an AES/EBU digital input directly feeding the MSRP-3 AES's digital audio distribution system. Please use 110-ohm cable that is qualified for AES/EBU digital audio signals

When the front panel switch SW9 is in the IN/"ADC In" position the "IN" 3-position pluggable screw terminal block connector acts as a balanced mono analog audio input which feeds both channels of an internal stereo analog to digital to converter (ADC). In this configuration the output of the ADC is routed to the MSRP-3 AES's digital audio distribution system.

For a balanced AES/EBU digital audio source like the Digital Audio Out XLR from the ENDEC, DASDEC, and other EAS encoders make sure SW9 is in the OUT/"AES In" position and connect XLR pin 1/cable shield to Ground (GND), XLR pin 2 to IN+ and XLR pin 3 to IN-.

For a balanced analog audio source like the Main/Alert Audio Out XLR from the ENDEC, DASDEC, and other EAS encoders make sure SW9 is in the IN/"ADC In" position and connect XLR pin 1/cable shield to Ground (GND), XLR pin 2 to IN+ and XLR pin 3 to IN-.

For unbalanced analog sources like the Speaker Line Out, Output from the ENDEC, DASDEC, and other EAS encoders make sure SW9 is in the IN/"ADC In" position, connect Line Out to IN+, and install a jumper between the "-" input and Ground (GND).

J6 Top

IN+	IN-	Gnd
AES OUT+	AES OUT-	Gnd

J6 Bottom

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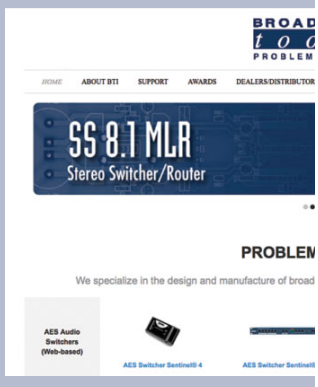

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Word Clock BNC Input (ADC only)

J8 is a balanced word clock BNC input for the internal analog to digital converter (ADC.) It accepts all standard digital audio sample rates from 32 to 96kHz. The ADC input must be configured for External Clock to activate this input.

ADC Input Options Switch (rear panel)

SW8-1 OFF/up: 44.1 kHz ADC sample rate (factory default).
ON/down: 48 kHz ADC sample rate.

SW8-2 OFF/up: External Clock
ON/down: Internal Clock (factory default).

SW8-3 OFF/up: External clock range: 30 to 59 kHz.
ON/down: External clock range: 44.1 to 96 kHz (factory default).

SW8-4 Unused

Station AES/EBU Digital Audio Inputs and Outputs (RJ45)

STA2 IN (Station 2 AES In)
STA2 OUT (Station 2 AES Out)

STA3 IN (Station 3 AES In)
STA3 OUT (Station 3 AES Out)

STA4 IN (Station 4 AES In)
STA4 OUT (Station 4 AES Out)

The station input and output RJ45 jacks conform to the RJ45 analog audio wiring standards.
Please use shielded twisted pair Cat5e or Cat6 cables and connectors (STP).

RJ45 Pinout:

Function:	**Wire Pair:**	**RJ45 Pins:**
AES+	White/Orange	1
AES-	Orange/White	2
n/c	White/Green	3
n/c	Green/White	6
n/c	White/Blue	5
DC GND	Blue/White	4
n/c	White/Brown	7
n/c	Brown/White	8
GND	Shield	Shield

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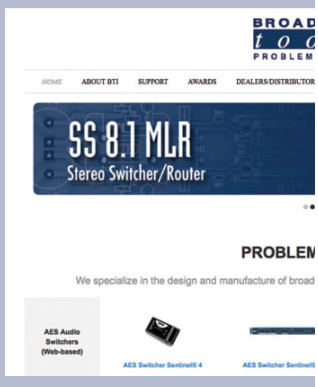

Remote Control Inputs

The MSRP-3 AES can interface to external equipment through removable euro-block screw terminals. The terminals accommodate wire sizes from 16 - 28 AWG solid or stranded wire. Before installing a wire, remove the euro-block screw terminal plug and turn each capture screw fully counterclockwise. Strip each conductor to a length of 0.25" and insert the conductor fully into the terminal. Turn the capture screw fully clockwise to secure the conductor.

The MSRP-3 AES's four remote-control inputs accept sustained contact closures, open collector, or 5-volt TTL/CMOS input logic levels.

Station Test In	Station 2 Activate In	Station 3 Activate In	Station 4 Activate In	Test Relay (K1) N.O.	Test Relay (K1) Common

The remote-control inputs are triggered by sustained closure to ground (low.) For example, holding the "TEST" input to ground would activate the TEST function switching all three stations to the encoder audio.

Relay Outputs

The MSRP-3 AES has four normally open (N.O.) relay outputs that are used to indicate switching state and test stations. K1 indicates for the Test feature. K2 indicates Station 2, K3 for Station 3, and K4 for Station 4. The status relay output for the selected channel will connect to the relay common providing a return for an LED indicator, TTL/CMOS logic, or relay.

K2 Relay N.O.	K3 Relay N.O.	K4 Relay N.O.	Relay K 2, K3, K4, Common.	GND (DC Ground)	CHS GND (Chassis Ground)

RS-232 Serial Port (RJ-11 Jack):

This RJ-11 jack is used to connect MSRP-3 AES to a serial port on the ENDEC, DASDEC, and other EAS encoders for RS-232 serial operation using the included reverse modular cable with 9-pin "S9" female D-sub adapter.

CAUTION!

Installation of the MSRP-3 AES in high RF environments should be performed with care. The station ground should be connected to the designated chassis ground terminal using a 20 to 24-gauge wire.

NOTE:

For wiring information, refer to the grids in this section of the manual, the silk-screen text on the rear panel of the product or the fractional schematic in the appendix.

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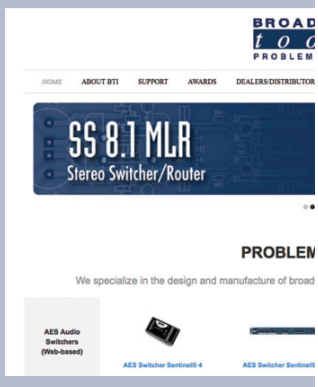

NET/LAN Ethernet Port:

This 10/100 Ethernet port is used to connect the MSRP-3 AES to a computer for configuration and control via telnet/TCP, or UDP socket connections. See the "Ethernet" and "Programming" sections of this manual for more information.

Resetting Ethernet Settings to Defaults

Network Defaults may be restored by depressing the recessed front panel Def. (Defaults) push button, applying power to the unit, and holding down the push button for five seconds after power up.

Configuration Jumpers:

JP2: Front Panel Controls Enable/Disable
Enabled = Front panel control enabled. Jumper installed on pins 1&2 (Factory default)
Disabled = Front panel controls disabled. Jumper installed on pin 2&3.

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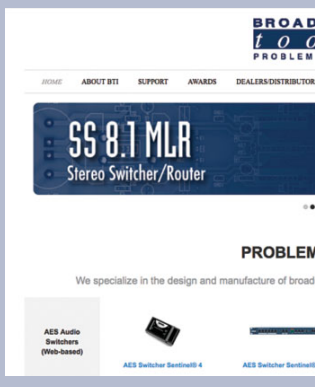

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To completely install the MSRP-3 AES you must perform the following steps:

1) Connect the ENDEC, DASDEC, and other EAS encoder's alert audio output to the MSRP-3 AES's Encoder Audio Input, using one of the following alert audio sources: Digital Audio Out (AES/EBU Digital), Main/Alert Audio Out (Balanced Analog), or Speaker Line Out (Unbalanced Analog)
2) Choose a control method for the ENDEC, DASDEC, and other EAS encoders to control the MSRP-3 AES. For example, connecting the MSRP-3 AES's RS-232 serial port to COM4 or COM5 on the ENDEC using the S9 modular adapter and the reverse modular cord. Or connecting and configuring the MSRP-3 AES's Ethernet port for the same LAN as the ENDEC.
3) Assign the chosen ENDEC, DASDEC, and other EAS encoders. serial port to the "RELAY" device on the ENDEC, DASDEC, and other EAS encoders.
4) Configure multiple station support on the ENDEC, DASDEC, and other EAS encoders. (see the ENDEC, DASDEC, and other EAS encoder manual or Multi-station Manual Supplement for details).
5) Connect the station's program audio to the Station IN/OUT RJ45 AES/EBU digital audio jacks so that the MSRP-3 AES can perform EAS insertion switching.
6) Connect the 12 VDC power supply to the MSRP-3 AES.
7) Test EAS alert insertion using the ENDEC, DASDEC, and other EAS encoder.

We recommend that you bench test and become familiar with the operation of the unit before permanent installation.

NOTE:

The MSRP-3 AES is designed to be rack mounted in a standard 19" rack with the optional RA-1 rack shelf with filler panel if only one MSRP-3 AES is used. It should be mounted in an area that is accessible from the rear and preferably away from sources of heat.

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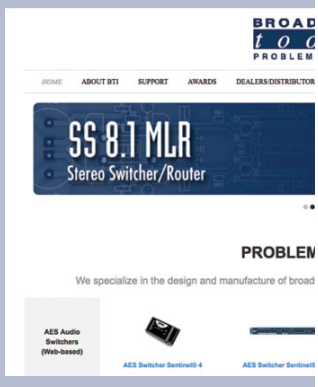

Audio Connections

The MSRP-3 AES and ENDEC, DASDEC, and other EAS encoders provide alert audio and interrupt switching as shown in the following two figures. Figure 1 shows how to use the ENDEC's internal switcher for one station and how to feed unbalanced audio to the MSRP-3 AES for three additional stations. Figure 2 shows how to use the ENDEC to provide balanced AES output to the MSRP-3 AES, using only the MSRP-3 AES to provide interrupt switching for three stations.

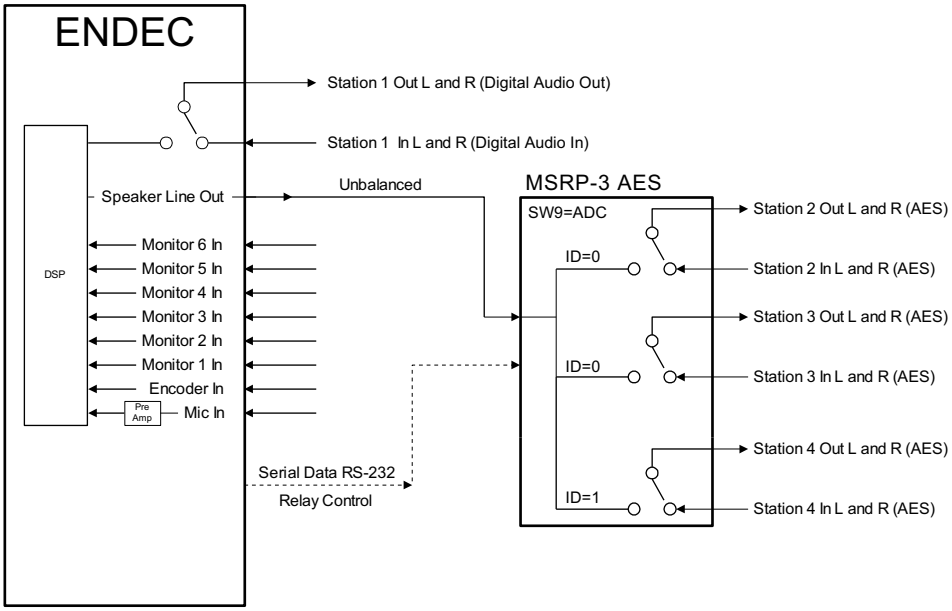

Figure 1. Multi-station configuration using the ENDEC, DASDEC, and other EAS encoders interrupt relay and unbalanced distribution audio.

The station digital audio inputs and outputs on the MSRP-3 AES are made using standard pinout RJ45 audio jacks. The MSRP-3 AES interfaces to the ENDEC, DASDEC, and other EAS encoders alert audio output through removable euroblock screw terminals. The terminals accommodate wire sizes from 16 - 28 AWG solid or stranded wire. Before installing a wire, remove the euroblock screw terminal plug and turn each capture screw fully counterclockwise. Strip each conductor to a length of 0.25" and insert the conductor fully into the terminal. Turn the capture screw fully clockwise to secure the conductor. Verify that no bare wires are exposed. Connections may be made to the + and - inputs and outputs for balanced operation. In no case should either the + or - outputs be connected to ground.

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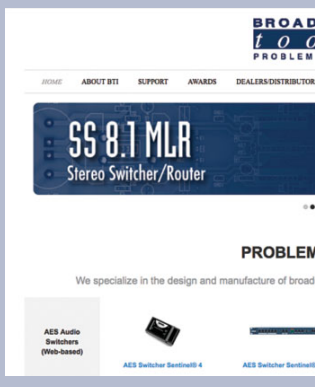

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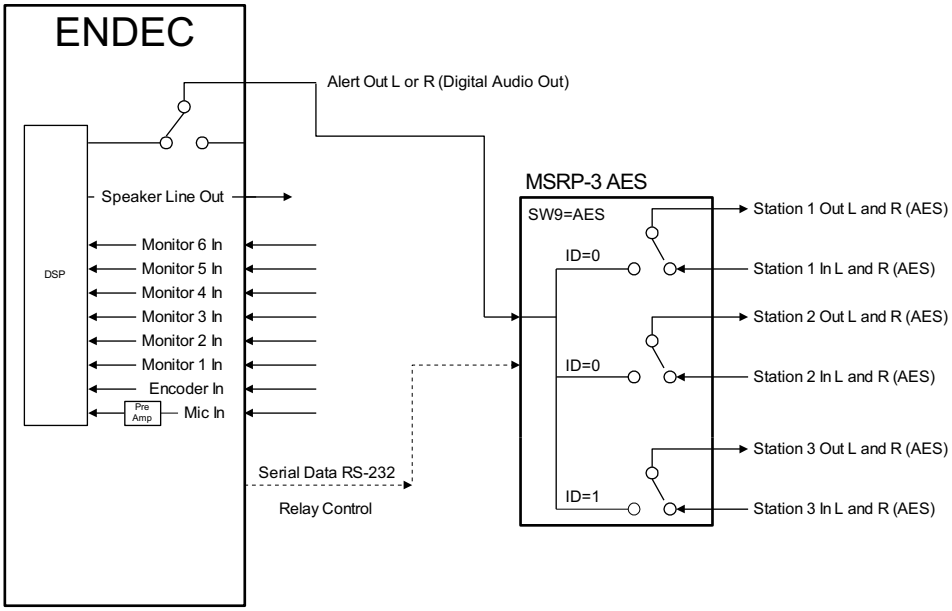

Figure 2. Multi-station configuration using ENDEC, DASDEC, and other EAS encoders to provide AES/EBU digital audio source and the MRSP-3 AES for program interruption.

Connect each station as follows:

Station 2 AES IN (RJ45)	Station 2 AES Out (RJ45)
Station 3 AES IN (RJ45)	Station 3 AES Out (RJ45)
Station 4 AES IN (RJ45)	Station 4 AES Out (RJ45)
ENDEC, DASDEC, and other EAS encoders Digital Audio Out	IN+, IN-, GND (Alert Audio Input)
Ground	GND

If you wish to unbalanced Speaker Line output from the ENDEC, DASDEC, and other EAS encoders as shown in Figure 1, connecting the ENDEC, DASDEC, and other EAS encoders line out to IN+ and install a wire jumper between the "-" input and Ground (GND) on the MSRP-3 AES. Alternatively, you can use the Digital Audio Out XLR Output from the ENDEC, DASDEC, and other EAS encoders as shown inf Figure 2, connecting XLR pin 2 to IN+ and XLR pin 3 to IN-

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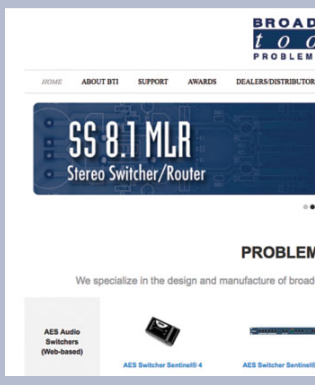

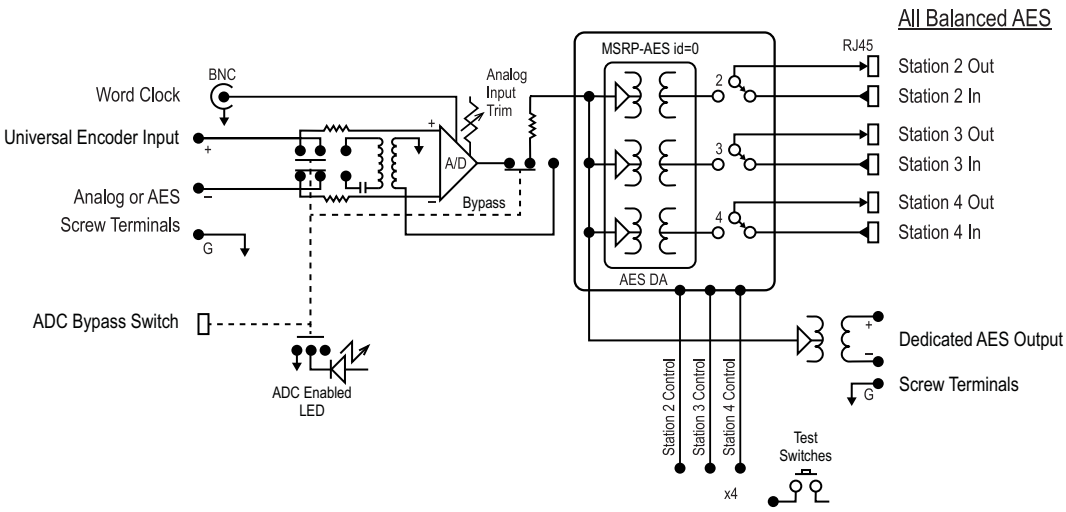

Figure 3. Universal AES/Analog (ADC) Encoder Audio Input and AES distribution/insertion switching.

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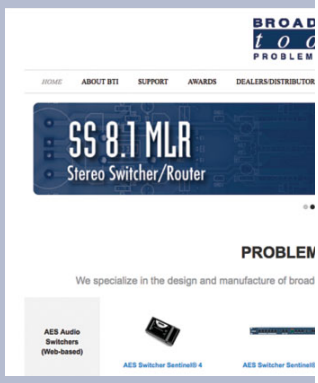

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Data Connections

The MSRP-3 AES can be controlled via string commands on its RS-232 serial interface or its Ethernet interface, which is configured as a TCP Server. Use the provided modular/9 pin D-sub connector adaptor and line cord (S-9) to connect the MSRP-3 AES's serial connector (J2) to an ENDEC, DASDEC, and other EAS encoders serial port. Use either COM4 or COM5 (1200 baud ports) set to "REALY" on the ENDEC using ENDECSetD application or the menu.devices.port.device type.relay1 command.

The pin out of the adapter is shown below.

RJ-11 Adapter Pin	DB-9 Pin	Use (ENDEC, DASDEC, and other EAS encoders. Point of view)
1	3	RS-232 Transmit
		RS-232 Receive
3	5	Ground

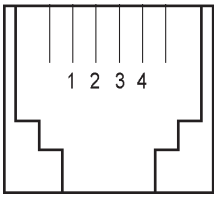

Figure 4. Modular Jack Pin Numbers.

Use only the modular cord that is supplied with the MSRP-3 AES or a replacement that reverses like Monoprice UPC # 844660009290

The MSRP-3 AES J2 pin out is shown below.

MSRP-3 AES RJ-11 Pin	Signal Name (MSRP-3 AES point of view)
2	Ground
4	RS-232 Receive
3	RS-232 Transmit

Audio Levels/Sample Rate

The MSRP-3 AES will passively route the station AES program audio signals without affecting its AES audio level or sample rate.

When the front panel switch SW9 is in the OUT/"AES In" position. The "IN" 3-position pluggable screw terminal block connector acts as an AES/EBU digital audio input directly feeding the MSRP-3 AES's digital audio distribution system. The "AES In" signal's audio level and sample rate are determined by the alert audio source, typically the Digital Audio Out on the ENDEC, DASDEC or other EAS encoder, and not affected by the MSRP-3 AES.

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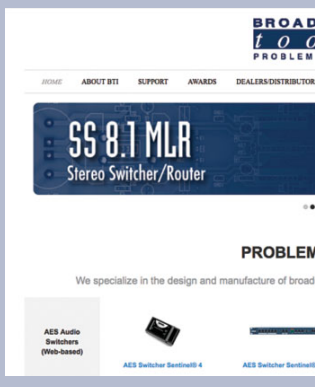

When the front panel switch SW9 is in the IN/"ADC In" position the "IN" 3-position pluggable screw terminal block connector acts as a balanced mono analog audio input which feeds both channels of an internal stereo analog to digital to converter (ADC). In this configuration the output of the ADC is routed to the MSRP-3 AES's digital audio distribution system. The sample rate for the ADC's alert audio output is set via the rear panel SW8 dip-switch.

Once the input and output connections have been made, the ADC input level may be set. The MSRP-3 AES is a factory set for unity gain. The output level of the ENDEC, DASDEC, and other EAS encoder (input to MSRP-3 AES encoder IN+ and IN-) should be in the range of -15 dBm to +4dBu. In its factory configuration a +4 dBu analog input provides -20dBfs AES output when adjusted with the front panel trimmer. If an additional level adjustment is needed, feed a test tone into the ADC input and adjust the encoder input level trimmer labeled "ADC Level" while the front panel test switch.

On the ENDEC, you can use the menu.monitor source.attn tone1 menu option to provide a two-tone test signal.

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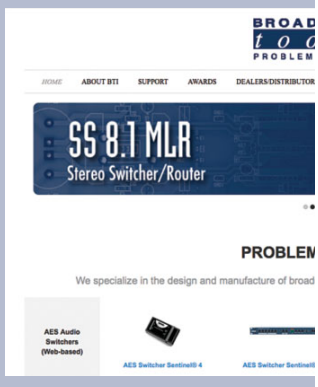

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Command Reference

1200 baud 8, N, 1.
* = Beginning of string
u = unit ID (stations 2 & 3 = 0, station 4 = 1) (0-1)
# = Selection of relay(s) to control. Comma separated or individual (1-4)
$ = M to MUTE and A to ACTIVATE
<cr> = Carriage return

*0U will cause the switcher to send its firmware name/version as a response.
*0Zx Echo character x to control port - for debugging command strings.

ID 0, Relays 1 & 2 = Station 2
ID 0, Relays 3 & 4 = Station 3
ID 1, Relays 1 & 2 = Station 4

Formatting example: *u#,#,$<cr>

Functional example *01,2,3,4,A<cr>
ID 0, Activate Station 2, Station 3
We're doubling up relays for backward compatibility, so sending *01,3,A<cr> or *02,4,A<cr> should produce the same result.

Functional example *01,2,3,4,M<cr>
ID 0, Mute Station 2, Station 3

Functional example *01,2,3,4,A<cr>*11,2A<cr>
ID 0, Activate Station 2, Station 3, ID 1, Activate Station 4

Individual commands

*01A<cr> = Activate Station 2
*01M<cr> = Mute Station 2
*02A<cr> = Activate Station 2
*02M<cr> = Mute Station 2
*03A<cr> = Activate Station 3
*03M<cr> = Mute Station 3
*04A<cr> = Activate Station 3
*04M<cr> = Mute Station 3
*11A<cr> = Activate Station 4
*11M<cr> = Mute Station 4
*12A<cr> = Activate Station 4
*12M<cr> = Mute Station 4

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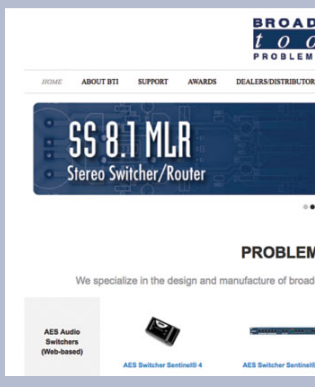

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Ethernet Setup and Operation

Ethernet "Quick Start" Guide

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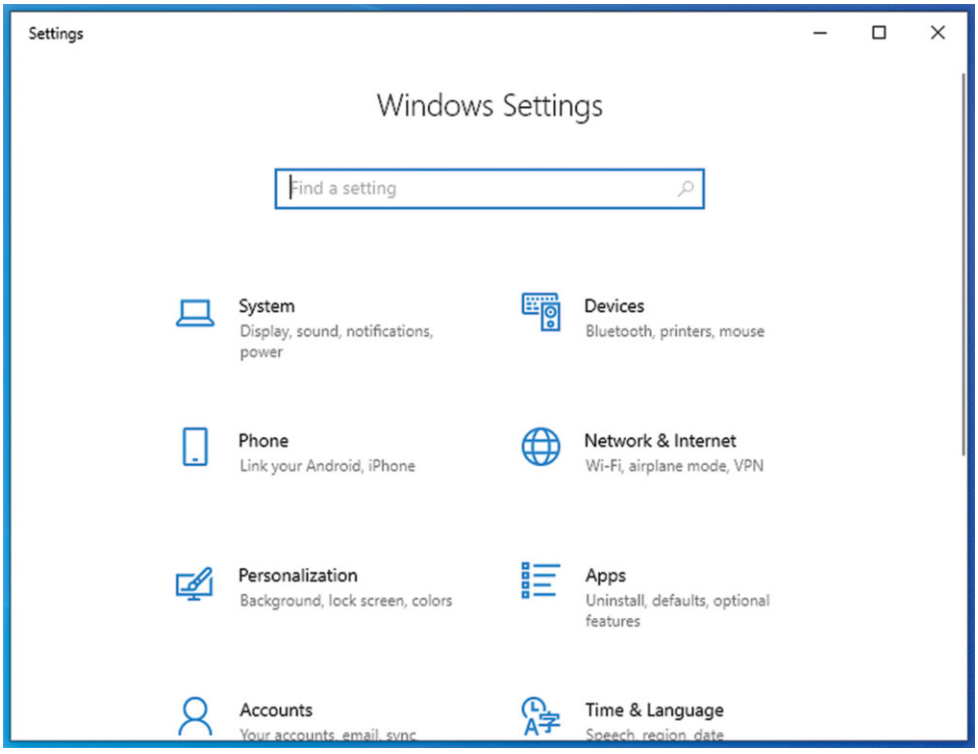
CAUTION! If you are not familiar with Ethernet-enabled equipment, it may be useful to contact your IT department, network administrator or network consultant for assistance. Assigning an IP address already in use by another device may cause problems with your network!

Instructions for changing the IP address of the computer that will be used for the configuration of this product are given here. Note that these instructions are specifically for computers with the Windows 10 operating system but will also work with Windows 7. For setup using other operating systems, refer to the appropriate OS user's manual.

Step 1: Open the control panel by clicking on the Start Menu, click on Settings, then click on Network & Internet.



NOTE:

We recommend the use of Chrome, Firefox, or Safari as your browser.

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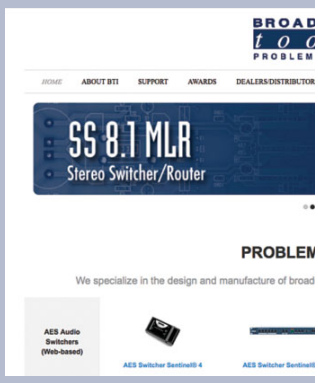
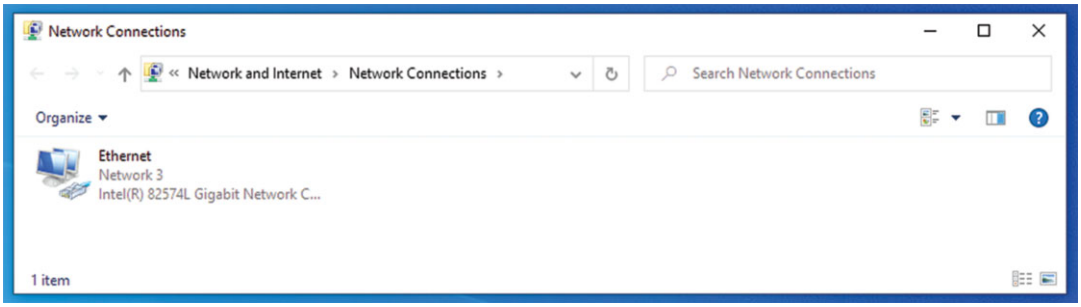
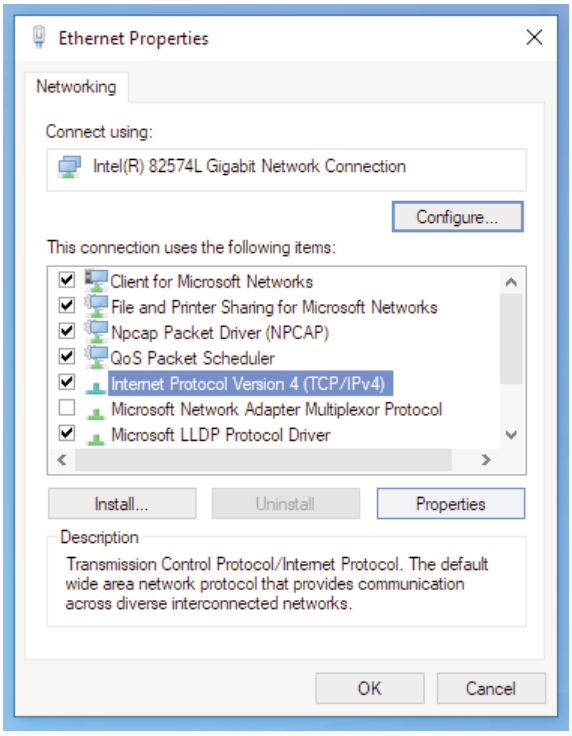


Ethernet "Quick Start" Guide (Optional Ethernet Interface)

Step 2: Under Advanced Network Settings click Change adapter settings. The Network Connections windows will pop up, as shown below.



Step 3: Right click on the icon labeled Local Area Connection or Ethernet. A menu will appear. Select the option at the bottom of the menu labeled Properties. The Ethernet Properties window will appear.



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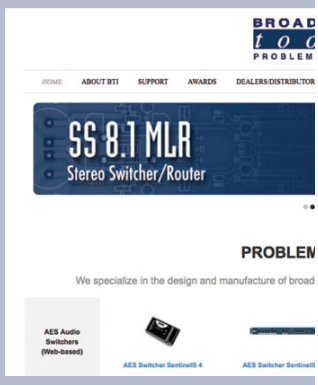
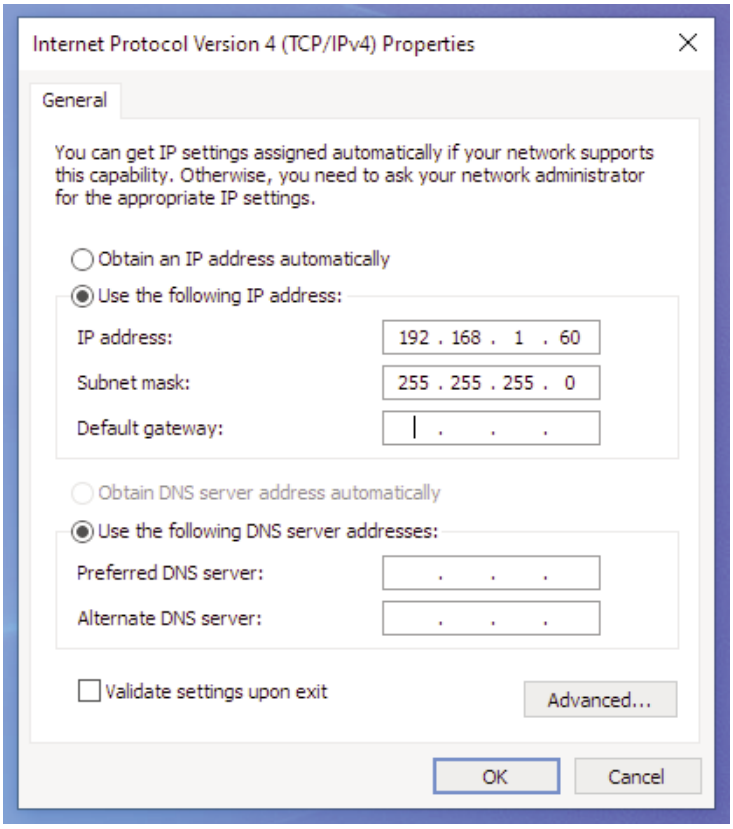


Ethernet "Quick Start" Guide

Step 4: On the Local Area Connection Properties page, double click on Internet Protocol (TCP/IPv4) to display properties.



Step 5: Before making any changes to the network settings, write down the current settings (or screen capture the page and print) so that they can be restored once the unit is configured. Next, select the radio button labeled "Use the following IP address" and type in the IP address 192.168.1.60. Type in the subnet mask of 255.255.255.0. Leave the default gateway field blank. Click OK to apply the new settings.

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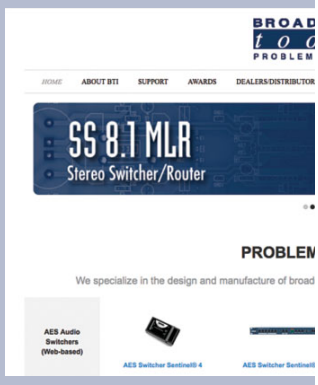

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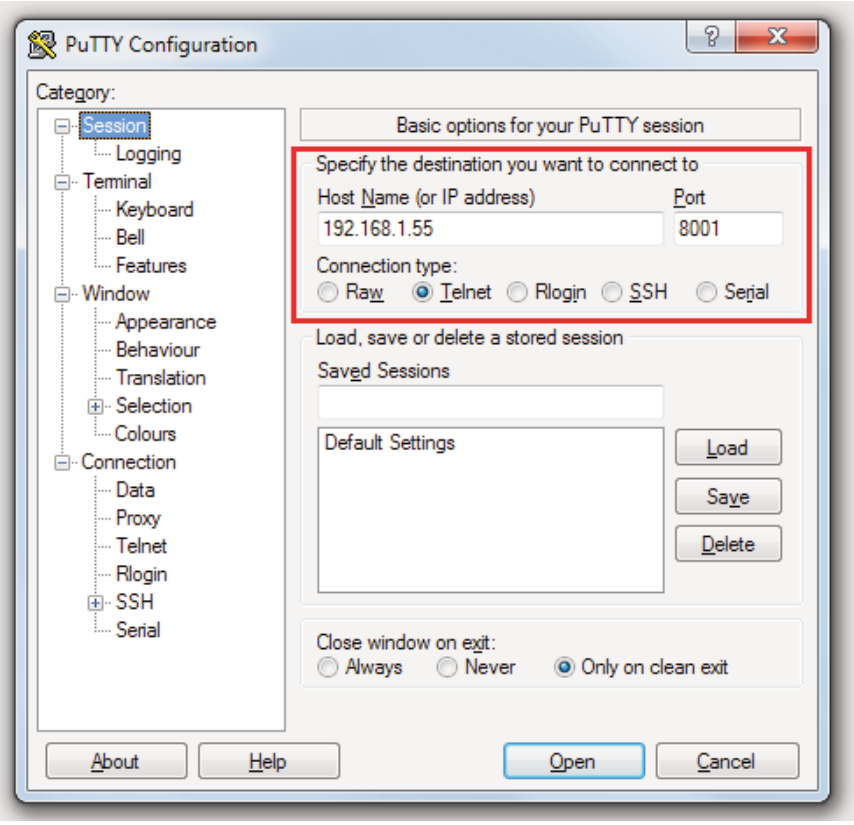
Ethernet Setup and Operation

Connecting via the Ethernet "LAN/NET" port:

1. Connect the supplied GRAY colored XOVER cable between the PC's Ethernet port and the products "NET/LAN/" network RJ45 jack.

2. Connect the included power supply to the MSRP-3 AES. Verify that the green PWR LED is lit and the green "LINK" LED to the left of the "LAN/NET" Network RJ45 jack is illuminated.

3. Open terminal application PuTTY configured for a Telnet connection type to host 192.168.1.55 port 8001.



4. In PuTTY configuration > Terminal > Line discipline options set Local echo "Force on" and Local line editing to "Force off".

5. Click okay to connect to the MSRP-3 AES and type *0u into the terminal window and press return to verify connectivity.

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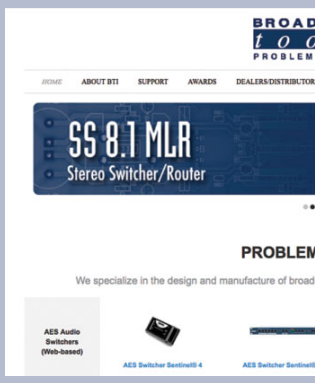

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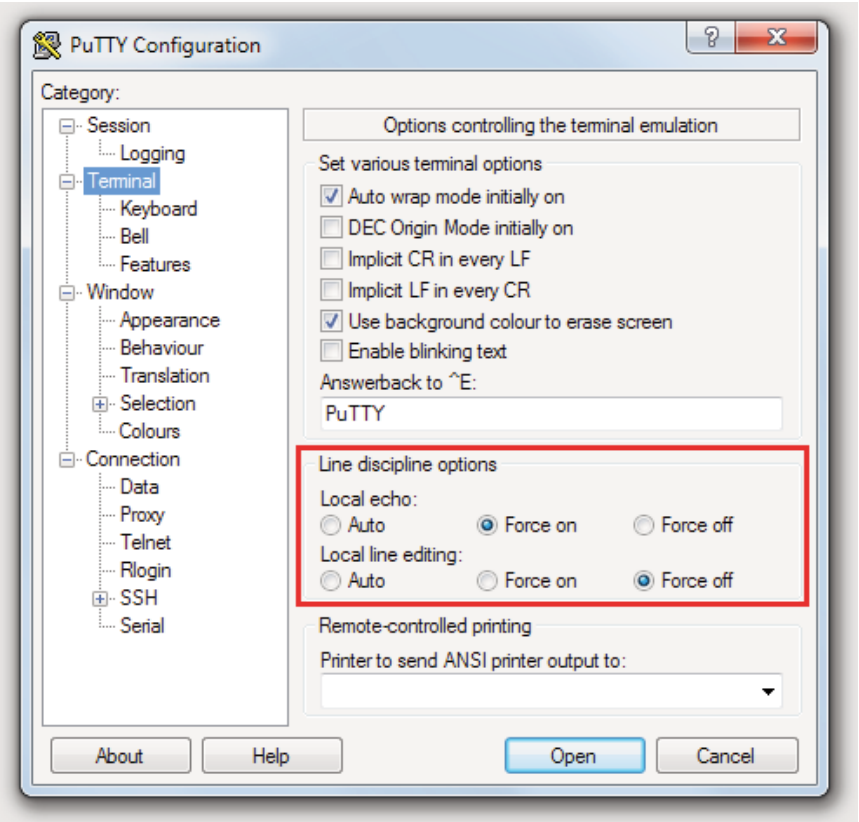
Ethernet Setup and Operation

Changing network settings on the Ethernet "NET/LAN" port:



1. Connect the supplied GRAY colored XOVER cable between the PC's Ethernet port and the products "NET/LAN" network RJ45 jack.

2. Connect the included power supply to the MSRP-3 AES. Verify that the green PWR LED is lit and the green "LINK" LED to the left of the "NET/LAN" Network RJ45 jack is illuminated.

Open a web browser window and navigate to the MSRP-3 AES's default IP address: http://192.168.1.55

NOTE:

We recommend the use of Chrome, Firefox, or Safari for as your browser.

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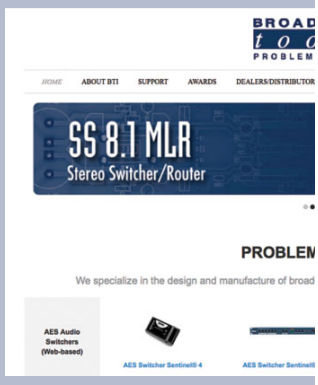

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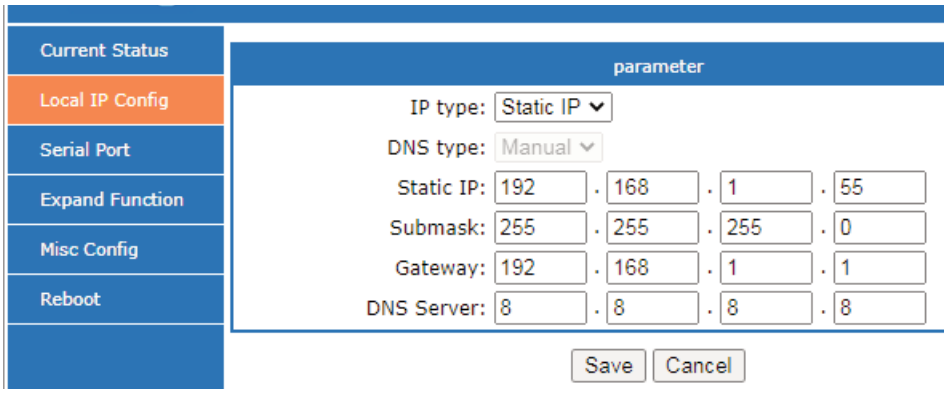
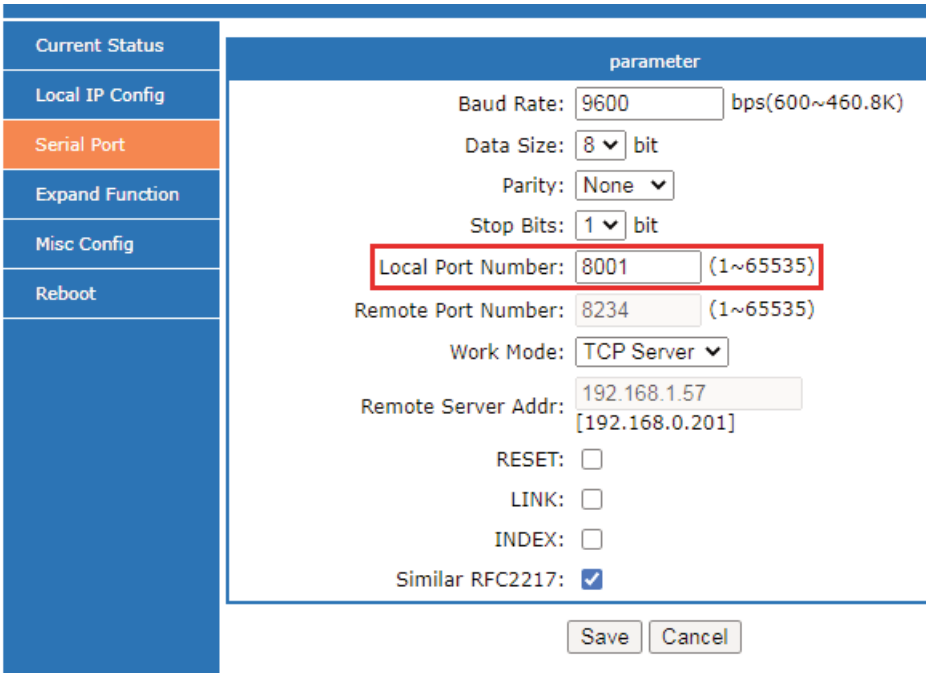
3. When prompted to login, use the default login and password.
   Login: admin Password: 1234

4. To change the network settings, choose “Local IP Config” from the side bar:



5. The default work mode is TCP Server, TCP Client, UDP Server and UDP Client are also available. To change the TCP port choose “Serial Port” from the side bar and change the “Local Port Number” setting:



6. To save changes click “Save” then when prompted click "Restart Module” and “Ok” to reboot the web server module and allow the changes to take effect.

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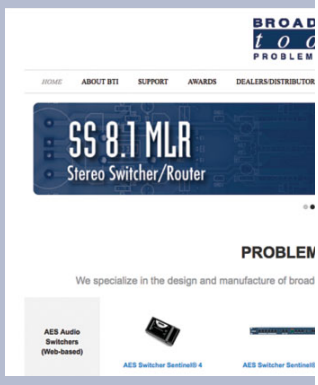

Specifications

Station Inputs/Outputs:	Station In/Out: Balanced AES/EBU digital RJ45 audio jacks. Output levels, impedance, distortion, noise, and balancing will match that of the selected input.
EAS Encoder Input:	Analog monaural input ADC Configuration: +4dBu analog input provides -20dBfs AES output. when adjusted with the front panel trimmer. ADC Bypass Configuration: 110-ohm transformer isolated AES/EBU input.
Digital Audio Sample Rates:	With AES encoder/alert input: 32khz, 44.1khz, or 48khz. Auto-detected. With internal alert audio ADC: 44.1khz, 48khz, or external word-clock (switch selectable.)
Switching Method:	Passive. Sealed relays utilizing 1 x 2-form-C bifurcated-crossbar silver alloy with gold overlay contacts.
Logic:	Flash microprocessor with non-volatile memory. `
Operation Control:	Front Panel: Recessed, defeatable momentary switches. Remote: Sustained, compatible with 5 volts CMOS/TTL logic, open collector or contact closures to ground. Serial: RS-232 1200 baud, 8, N,1. RJ-11/6P4C reversed modular cable & "S9" female 9-pin D-Sub adapter supplied. 10/100 Ethernet RJ45 – IPv4, TCP Server/Client, UDP Server/Client
Status:	Front Panel: LED Indicators. Remote: Four SPST relays. 1-amp @ 30 VDC maximum.
Interfacing:	Station Audio I/O: Balanced RJ45 connectors. Normally closed pass-thru audio path. Encoder Audio Input, and remote control: Plug-in euroblock screw terminals. Mating connectors supplied. Serial: RJ-11 jack. Reversed RJ11 modular cable/female "S9" 9-pin D-Sub adapter supplied. Ethernet: RJ45 jack, 10/100 base-T.
Power Supply:	Surge protected universal switching 12 VDC @ 2.5A desktop power supply with IEC AC inlet included. CE. (Includes domestic IEC AC power cord).
Operating Environment:	32°F/0°C-122°F/50°C; 0%-95% non-condensing relative humidity; 10,000ft/3048m.
Declaration of Conformity:	Email support@broadcasttools.com for more information.
Physical Dimensions:	8.50" x 7.10" x 1.576" (WDH) aluminum extrusion chassis with (4) #6-32 screw thread mounting holes for optional RA-1 rack shelf
Weight:	2.0 lb.
Shipping Weight:	3.0 lb.
Options:	RA-1 rack shelf, holds two units (1-RU), filler panel supplied.

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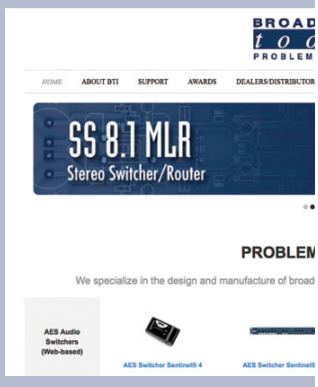

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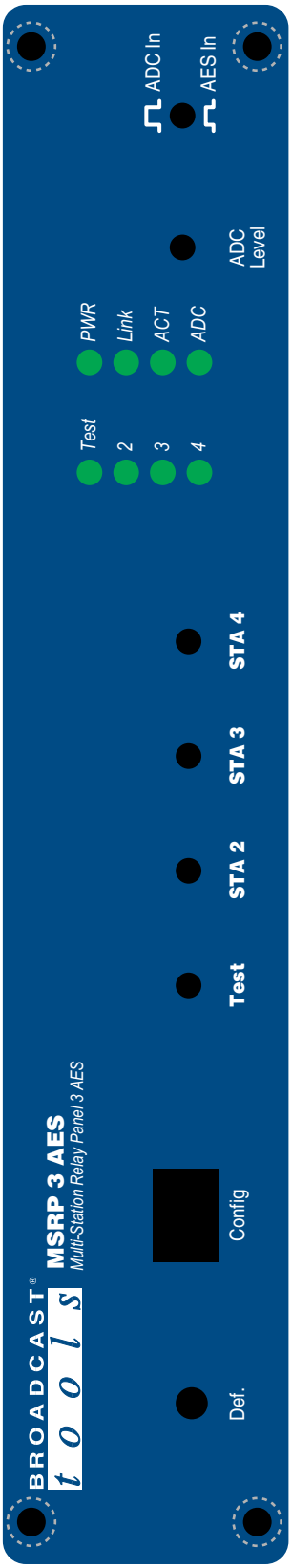
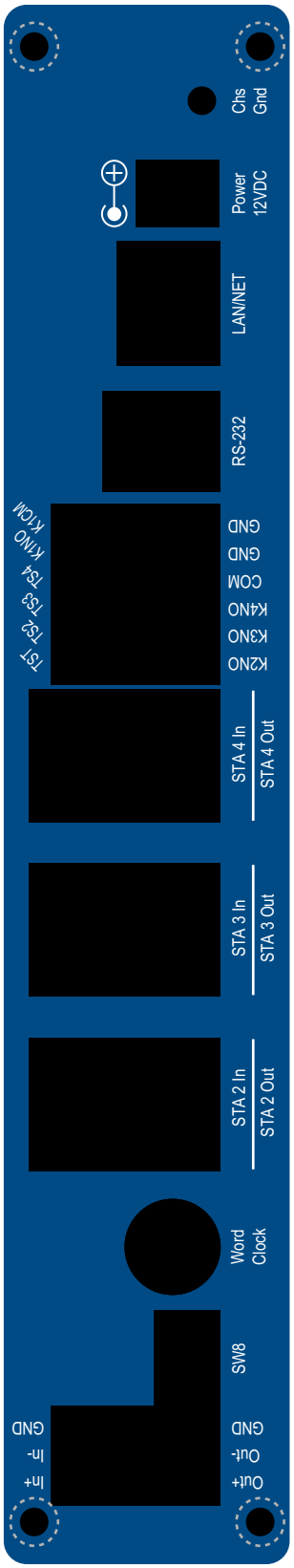
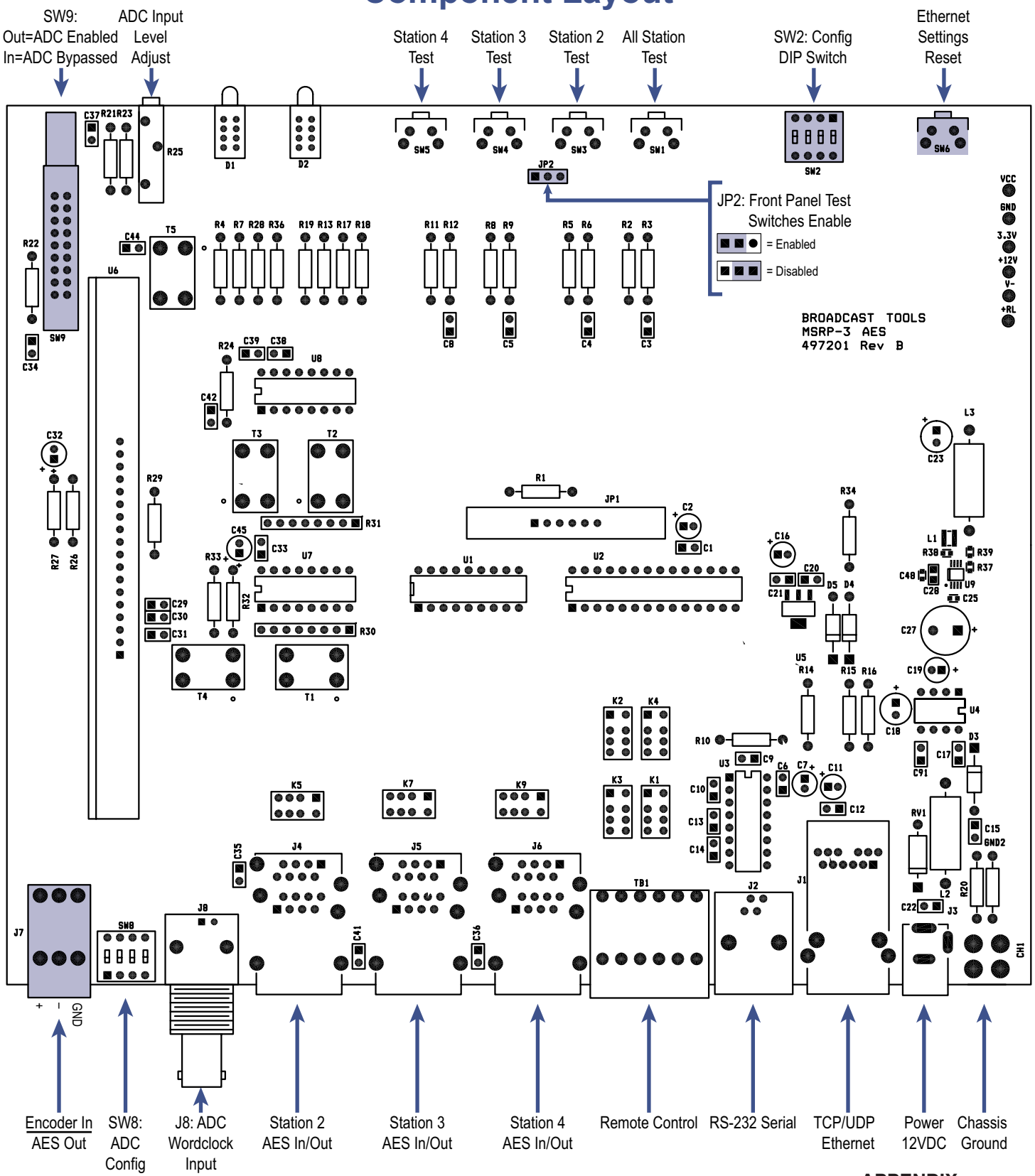

BROADCAST tools
MSRP 3 AES
Multi-Station Relay Panel / 3 AES
Def.
Config
Test
STA 2
STA 3
STA 4
Test
2
3
4
PWR
Link
ACT
ADC
ADC Level
ADC In
AES In


In+
In-
GND
Out+
Out-
GND
SW8
Word Clock
STA 2 In
STA 2 Out
STA 3 In
STA 3 Out
STA 4 In
STA 4 Out
TST
TS2
TS3
TS4
K1NO
K1COM
K2NO
K3NO
K4NO
COM
GND
GND
RS-232
LAN/NET
Power 12VDC
Chs Gnd

Component Layout



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