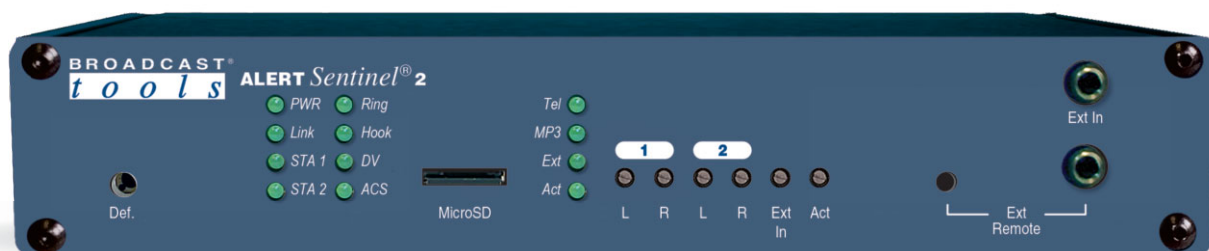


BROADCAST[®]
t o o l s **INC.**
PROBLEM SOLVED

Installation and Operation Manual



Alert Sentinel 2 **Two Station Analog Alert Switcher/Monitor**

Firmware Version 1.19 or greater

Manual Revised 8/17/2026

If you need a firmware upgrade, contact Broadcast Tools®

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

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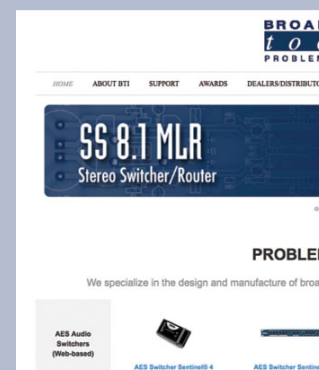
Visit www.broadcasttools.com for important product update information.

Table of Contents

Section Title	Page #
Introduction.....	3
Safety Information	3
Who to Contact for Help	3
Product Overview.....	4
Features/Benefits.....	4
Applications	4
Inspection	5
Installation.....	5
Surge Protection	5
Mounting.....	5
UPS Standby Power	5
Power 1/Power 2.....	5
USB and Ethernet Connections	5
Telephone Line Connection	6
Station Audion In/Out.....	6
RJ45 Audio Pinout	7
Remote Control Inputs	7
External Audio Inputs and Relay Outputs	8
Connecting the Alert Sentinel 2	9
LED Indicators and Front Panel Controls	10
Configuration	11
USB-Serial and Ethernet Terminal.....	11
Jumpers Settings.....	11
Voice Messages and MP3 Playback	13
Programming Setup Menu	14
Operation.....	15
POTS Telephone Operation	15
DTMF Control Commands.....	15
ASCII/HEX Control Commands	16
Ethernet Setup.....	18
Ethernet “Quick Start” Guide.....	19
Connecting via Ethernet	21
Changing network settings	22
Specifications	24
Warranty	25
Front and rear panel drawings	Appendix
Connector layout.....	Appendix

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CONTENTS

INTRODUCTION

Thank you for your purchase of a Broadcast Tools® Alert Sentinel 2 is a two-station analog audio switcher and telephone auto-coupler designed to be used for remote weather alerts/public service alerts or live/sports broadcasts. 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® Alert Sentinel 2.

SAFETY INFORMATION

Only qualified technical personnel should install the Alert Sentinel 2. Any attempt to install this device by a person who is not technically qualified could result in hazardous conditions to the installer or other personnel or damage to the Alert Sentinel 2 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 Alert Sentinel 2. 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:

Broadcast Tools, Inc.

131 State Street
Sedro-Woolley, WA 98284-1503 USA
Voice: 360.854.9559
Fax: 866.783.1742

Internet Home Page: www.broadcasttools.com
E-mail: support@broadcasttools.com

THANK YOU FOR CHOOSING
BROADCAST TOOLS® BRAND PRODUCTS!

Broadcast Tools is a Veteran Owned Business



Designed , Manufactured, and Supported in Washington 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.

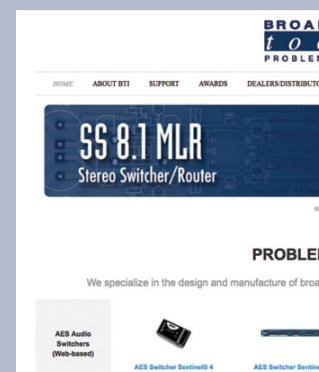


NOTE:

This manual should be read thoroughly before installation and operation.

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Product Overview

The Broadcast Tools Alert Sentinel 2 is a two-station stereo analog alert monitor/switcher designed to allow the insertion of alert audio into broadcast program signal paths following in the footsteps of the Broadcast Tools STA-III WX. Perfect for remote weather alerts, remote broadcasts, live sports, or backup audio playback.

It features a POTS telephone hybrid interface and a balanced analog input compatible with a studio console, codec, or 2-way radio, as well as an internal microSD-based MP3/WAV audio player for playing pre-recorded messages or multiple messages from a folder. Control with DTMF commands via its POTS telephone interface or external console/remote audio input, contact closure, USB serial commands, or TCP/UDP Ethernet commands.

Features/Benefits

- Live or pre-recorded alert audio insertion for up to two stations. Insertion can occur simultaneously on one or more station outputs, but alerts cannot be overlapped.
- Internal microSD-based MP3/WAV audio player for playing individual pre-recorded messages or multiple messages from a folder.
- POTS telephone hybrid interface compatible with VoIP FXS/ATAs*.
- Phone interface control via DTMF commands.
- External console/remote audio input controlled via DTMF commands
- Transparent signal switching via sealed mechanical relays utilizing 2-form-C bifurcated-crossbar silver alloy contacts with gold overlay.
- SPST status relay outputs with LED indicators.
- Remote control via DTMF, USB serial and TCP/UDP Ethernet commands, or contact closure inputs.
- RJ45 station audio input and output jacks simplify wiring and service.
- Removable euro-block style screw terminal connectors for station audio, status relays and contact closure inputs.
- Fully RFI-proofed.
- Dual (2x) power input jacks allow for redundant power with an optional second power supply.
- Surge protected universal switching 12VDC desktop power supply with IEC AC inlet included.
- Up to two units may be mounted on the optional RA-1 rack shelf. Desktop and wall mounting is also possible.

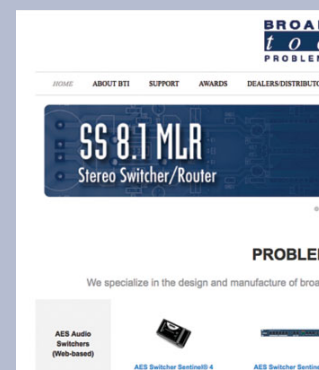
*Tested with Ooma® and Grandstream® ATA.

Applications

Audio insertion switching including remote weather alerts, remote broadcasts, or live sports. Pre-recorded message playback from built-in MP3 audio file player.

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Installation

Inspection

Please examine your Alert Sentinel 2 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 Alert Sentinel 2, a modular RJ11 phone cable, a USB A/B cable, a BLUE straight-through CAT 5 cable, a GRAY crossover CAT 5 cable, and a 12VDC universal desktop power supply with IEC AC inlet, US IEC cable included. Manuals can be downloaded from our web site.

Mounting

Mount the Alert Sentinel 2 where it will be visible and rear panel accessible. The Alert Sentinel 2 may be set on a desktop, mounted on a wall or optional RA-1 rack shelf for mounting up to two units in 1-RU using supplied hardware.

Surge Protection

The Alert Sentinel 2 has built-in resistance to voltage changes; we recommend that you use a power surge protector or line conditioner on the incoming AC and phone line. Lightning strikes and/or other high voltage surges may damage your Alert Sentinel 2 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 Alert Sentinel 2 to a UPS standby power system. A UPS, like the BE600M1 from APC helps to minimize the risk to the Alert Sentinel 2 and provides power during a power outage.

Chassis Ground (Chs Gnd)

Tie to station ground system. Located on Top TB-1 terminal block connector.

Power 1/Power 2, 12 VDC Connectors

The Alert Sentinel 2 has two power input jacks labelled “Power 1” and “Power 2” allowing for optional redundant power supplies. Connect the supplied universal AC input 12 VDC @ 2.5 Amp switching desktop power supply’s connector into the power receptacle on the rear panel of the Alert Sentinel 2. When ready, plug the power supply into the appropriate AC receptacle. A domestic US IEC power cable is included with the power supply.

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

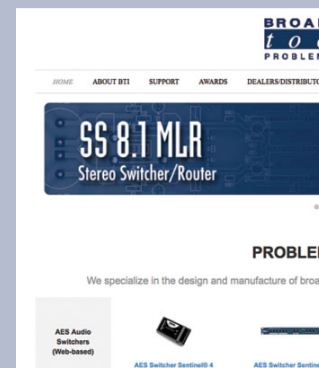
USB Port

This type B USB port is used to connect the Alert Sentinel 2 to a computer’s USB port using the included USB A/B cable. When you first plug the ALERT SENTINEL 2 into your PC, it should automatically install the correct FTDI USB Serial “Virtual COM port” driver which will allow you to access the Alert Sentinel on a COM port. If the Alert Sentinel is being used for Ethernet operation this should remain disconnected, and the drivers are not necessary.

NOTE: If the Alert Sentinel 2’s FTDI USB Serial “Virtual COM port” drivers do not automatically install they may be downloaded by clicking on the “setup executable” link found here: <http://www.ftdichip.com/Drivers/VCP.htm>

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INSTALLATION

NET/LAN Ethernet Port:

This 10/100 Ethernet port is used to connect the Alert Sentinel 2 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.

Telephone Line Connection

Line Jack: RJ-11 phone jack used to connect to a POTS telephone line or VoIP FXS/ATA. (Tested with Ooma[®] and Grandstream[®] ATA.)

Cable Preparation

The Alert Sentinel 2 interfaces 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. Verify that no bare wires are exposed.

CAUTION! Installation of the Alert Sentinel 2 in high RF environments should be performed with care. The station ground should be connected to the designated “Chs Gnd” ground terminal.

Station Audio Input and Output Connections

The Alert Sentinel 2 interfaces to external equipment pluggable screw terminal blocks and RJ45 audio jacks for audio signals, and removable euro-block screw terminals for control.

The terminals blocks accommodate wire sizes from 16 - 28 AWG solid or stranded. 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. Verify that no bare wires are exposed.

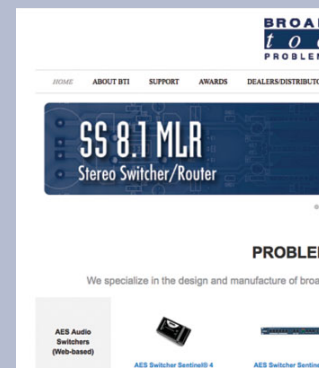
Alert Audio Output Levels: Each station’s alert audio output level can be adjusted using the front panel left/right audio level trimmers. Normal program audio is routed though the Alert Sentinel transparently without level adjustment.

Station Inputs and Outputs (RJ45 and Terminal Block)

Station 1 In (Top row, TB3)					Station 2 In (Top row, TB2)		Station 2 Out (Bottom row, TB2)				
1L-	1L+	Gnd	1R-	1R+	STA1 IN	STA2 IN	2L-	2L+	Gnd	2R-	2R+
O1L	O1L+	Gnd	O1R-	O1R+	STA1 OUT	STA2 OUT	O2L	O2L+	Gnd	O2R-	O2R+
-							-				
Station 1 Out (Bottom row, TB3)											

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RJ45 Audio Connectors

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

RJ45 Pinout:

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

CAUTION! Installation of the Alert Sentinel 2 in high RF environments should be performed with care. The station ground should be connected to the designated chassis ground “CG” ground terminal.

Remote Control Inputs

(Bottom row, TB1)

Remote Control Inputs

RMT	RMT2	RMT3	RMT4	RMT5	RMT6	RMT7	GND
1							

The Alert Sentinel 2 has eight remote control inputs for interfacing with external equipment. The inputs accept contact closures, open collectors, or TTL/CMOS input logic levels. Each input is pulled high (5-volts) through a 22K resistor and is considered active/on when pulled low to ground.

RMT 1-7: User programmable remote-control inputs located on TB-1 bottom terminal block connector. Monetary or sustained operation, see Programming section of the manual for more information.

EXT Remote (RMT8): User programmable remote-control input (recessed switch SW3 and J6 top 3.5mm TRS jack) located on the front panel. The input is pulled high (5-volts) through a 22K resistor and is considered active/on when pulled low to ground. Sustained closure triggers both stations to external audio by default, see Programming section of the manual for more information.

Front Panel: EXT Remote Control In, RMT8 (3.5mm TRS)

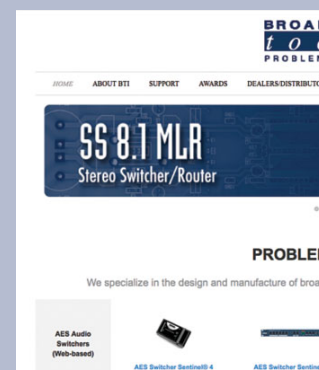
(J06 Top)

Tip = EXT/RMT8 In	Ring = n/c	Sleeve = GND
Tip = EXT Left + In	Ring = EXT Right + In	Sleeve = GND

Front Panel: External Audio In (Unbalanced 3.5mm TRS)

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INSTALLATION

External (EXT) Audio Input

External Audio can be connected to the unbalanced stereo front panel EXT audio input (3.5mm TRS) or to the balanced mono rear panel audio input (EIN- / EIN+). Stereo audio is summed to mono. Input audio levels can be adjusted using the External Input Audio Level trimmer.

Relay Outputs

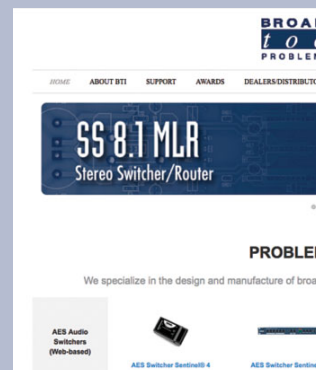
The Alert Sentinel 2 has two SPST normally open relay outputs for interfacing with external equipment. Relay 1 (K1) closes when Station 1 is active, and relay 2 (K2) closes when Station 2 is active.

(Top row, TB-1)

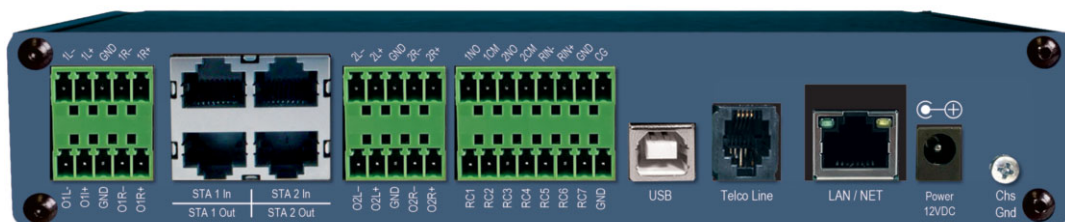
1 NO Station 1 Normally Open	1 CM Station 1 Common	2 NO Station 2 Normally Open	2 CM Station 2 Common	EIN- Ext Audio In -	EIN- Ext Audio In +	GND Ground	CG Chassis Ground
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Connecting the Alert Sentinel 2



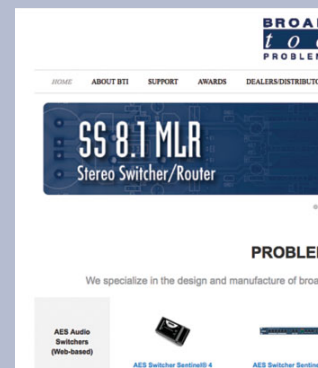
The Alert Sentinel 2 gives you access to three potential alert audio sources: POTS telephone hybrid, external line in, or the internal MP3/WAV player. When dialed in via telephone you have access to the hybrid audio and MP3 player audio via DTMF commands. Alternatively, the external input can accept DTMF commands giving you access to the external audio source (PC, codec, radio etc) and MP3 player audio via DTMF commands. When controlling via commands or contact closures you have access to the external line in audio or the internal MP3/WAV player.

1. Connect alert audio sources: the Alert Sentinel 2 has the following options for alert audio: POTS telephone, external audio (from a console, computer card, codec, or radio link), and/or MP3/WAV audio files saved to the microSD card. If you plan to use MP3/WAV audio playback, prepare and load recorded alert audio files onto the microSD card following the instructions on the “Voice Messages and Recorded Alert Audio” section of this manual.
2. Control methods: the Alert Sentinel 2 has the following options for control: DTMF tone commands via telephone or external audio, remote control contact closures, and string commands via USB serial or TCP/UDP Ethernet.
3. Connect the supplied 12 VDC wall power supply to the 12 VDC “Power 1” and if using a second redundant power supply connect it to the “Power 2” power jack on the rear panel of the Alert Sentinel 2
4. Configure the Alert Sentinel 2: use the USB/Ethernet programming setup menu to access/configure the following settings: DTMF Unlock/Access Code, DTMF Lock/Hang-up code, POTS ring count, POTS hang-up time, station remote control input setup, and MP3 audio playback setup.
5. Connect your station audio: the Alert Sentinel 2 has built-in switching for two stations. Connect the first station’s program audio source to the “Station 1 In” and its program audio destination to the “Station 1 Out.” Do the same for the second station with the Station 2 In/Out connections (if using).

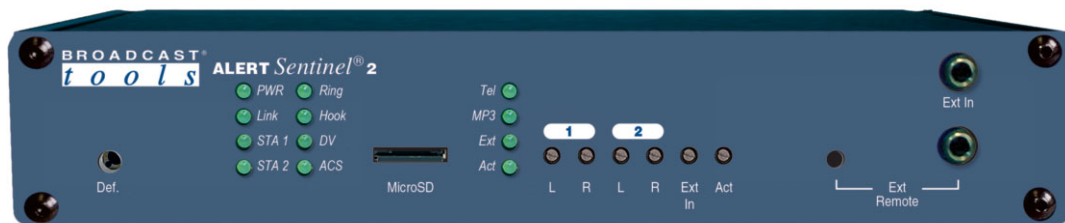
The Alert Sentinel 2 is designed to supplement emergency communications/remote broadcasts, not replace them; it should be placed in the station’s program signal path before the station’s emergency alert system (EAS) insertion point.

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Before you start using the Alert Sentinel 2 please familiarize yourself with the front panel controls and indicators.



Front Panel LED Indicators

- “Power” LED: Lit when power is applied. (Green)
- “Link” LED: Lit when a TCP Ethernet session is active. (Green)
- “STA1” LED: Lit when Station 1 audio is active. (Green)
- “STA2” LED: Lit when Station 2 audio is active. (Green)
- “Ring” LED: Lights when ringing is detected on the phone line. (Green)
- “Hook” LED: Lit when the STA has seized the telephone line (Off-Hook). (Green)
- “DV” LED: Lights when a valid DTMF tone is detected on the phone line. (Green)
- “ACS” LED: Lit when a valid DTMF unlock/access code entered. Flashes when a valid Data Unlock code is entered. (Green)
- “Tel” LED: Lit when phone line audio is active. (Green)
- “MP3” LED: Lit when MP3 player audio is active. (Green)
- “EXT” LED: Lit when external audio is active. (Green)
- “Act” LED: Lit when audio activity sensor is active. (Green)

Front Panel Controls/Connections

microSD Card Slot (latching): a microSD card is included for default and user supplied message/audio recordings.

Station 1 Left/Right Output Level Control: This control adjusts the station 1 alert audio output level. Turn clockwise to increase the volume.

Station 2 Left/Right Output Level Control: This control adjusts the station 2 alert audio output level. Turn clockwise to increase the volume.

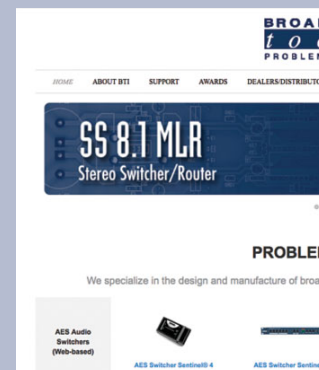
External Input Level Control: This control adjusts the external input audio level. Turn clockwise to increase the volume.

Act Level Control: This control adjusts the audio activity sensor level. Turn clockwise to increase the volume.

EXT RMT Switch (External Remote/RMT 8): User programmable remote-control input 8 (recessed switch SW3 and J6 top 3.5mm TRS jack) is located on the front panel. Sustained closure triggers both stations to external audio by default, see Programming section of the manual for more information.

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INSTALLATION

Configuration

The Alert Sentinel 2 can be connected to your computer by one of two interfaces: USB serial, or TCP/UDP Ethernet. Below are connection and configuration instructions for each interface.

NOTE: Step by step “COM” port HyperTerminal setup instructions are available on-line at www.broadcasttools.com under “Downloads”.

Configuration via the USB Port.

1. Connect the supplied USB A/B cable from the “USB” jack on the Alert Sentinel 2 to an available USB port on your PC. When you first plug the Alert Sentinel 2 into your PC, it should automatically install the correct FTDI USB Serial “Virtual COM port” driver which will allow you to access the Alert Sentinel 2 on a COM port. Once you've installed the driver, the Alert Sentinel 2 will be listed as “USB Serial Port” in device manager.

NOTE: If the Alert Sentinel 2's FTDI USB Serial “Virtual COM port” drivers do not automatically install they may be downloaded by clicking on the “setup executable” link found here: <http://www.ftdichip.com/Drivers/VCP.htm>

2. Start a serial terminal application like Tera Term, PuTTY or HyperTerminal configured for the USB COM port the Alert Sentinel 2 is assigned to at 9600 baud,8,N, 1, flow control to NONE, Emulation set to ANSI, and local character echo enabled.
3. Connect the supplied 12 VDC power supply connector into the Alert Sentinel 2's power jack labeled “Power 1”, then plug the power supply in to a power source. Verify that the green “PWR” LED is lit. If using the optional redundant second power supply plug it into the “Power 2” jack. Send the Data Unlock Code, the front panel ACS LED will flash to indicate accepted access, then send the control/configuration command. Like “p” to bring up the programming menu.

Configuration via Ethernet

See the “Ethernet Setup and Operation” section of this manual for instructions.

Jumper Settings

JP8: DTMF Tone detection jumper (Guard time)

The Alert Sentinel 2 is equipped with a 4-position jumper, labeled “JP8” on its circuit board. This is used to adjust how quickly DTMF tones are detected. The settings are as follows:

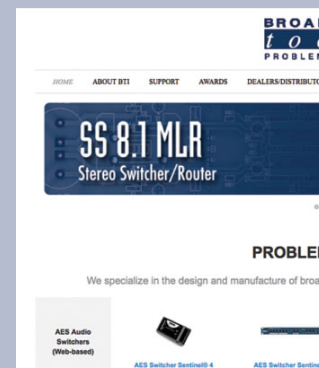
Fast = 50ms ON / 50ms OFF

Medium = 100ms ON / 100ms OFF

Slow = 150ms ON / 150ms OFF.

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CONFIGURATION

Voice Messages and Recorded Alert Audio

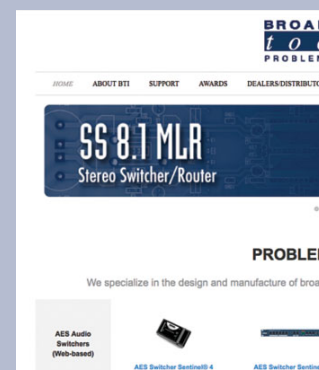
The Alert Sentinel 2 uses a flash-based MP3 playback system for telephone voice messages and custom alert messages. Custom voice messages must be properly named and formatted and then copied to the Alert Sentinel's microSD (TF) card. The MP3 playback system supports sample rates of 8KHz, 11.025KHz, 12KHz, 16KHz, 22.05KHz, 24KHz, 32KHz, 44.1KHz, 48KHz. The default messages are 11.025KHz sample rate, mono, 48kbps, MP3 which provide suitable quality for telephone playback. Supports FAT16, FAT32 file system, maximum size: 32GB. A microSD card pre-programmed with default voice messages is included with and is already installed when you purchase it. The following steps are required to customize the Alert Sentinel's voice messages:

- 1 – Power down the Alert Sentinel 2.
- 2 – Locate the card slot labelled “microSD” on the front panel and remove the microSD/TF card from its carrier by pressing in on the card causing it to unlatch from the carrier.
- 3 – Mount the microSD card on your PC and copy your custom voice message MP3 files into the directory labelled “01” following the MP3 File Names listed in the table below. For example, the Greeting message's file name should be “010_AS2_Greeting.mp3” and must start with “010”. Don't use special characters in the file names and make sure you remove the default message before replacing it with a custom message. Additional folders can be added for folder playback of multiple files. For example, if you want to trigger folder playback, create a folder named “02” and add files to it.
- 4 – Return the microSD card to the carrier on the front panel and re-power the Alert Sentinel.

Message	MP3 File Name	Folder	Address	Hex	Seconds
Access Accepted	005_Access.mp3	01	05	\01 \05	5
Greeting Message	010_AS2_Greeting.mp3	01	10	\01 \0A	10
External Audio	080_External Audio.mp3	01	80	\01 \50	5
Station 1	081_Station_1.mp3	01	81	\01 \51	5
Station 2	082_Station_2.mp3	01	82	\01 \52	5
External Audio Off	083_EXT_OFF.mp3	01	83	\01 \53	5
Active Now	084_Active_Now.mp3	01	84	\01 \54	5
Custom Message 0	048.mp3	01	48	\01 \30	
Custom Message 1	049.mp3	01	49	\01 \31	
Custom Message 2	050.mp3	01	50	\01 \32	
Custom Message 3	051.mp3	01	51	\01 \33	
Custom Message 4	052.mp3	01	52	\01 \34	
Custom Message 5	053.mp3	01	53	\01 \35	
Custom Message 6	054.mp3	01	54	\01 \36	
...	...	...	...		
Custom Message 9	057.mp3	01	57	\01 \39	

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CONFIGURATION

To enter the programming menu, use the USB-serial or Ethernet interface to send the Data Unlock code as one packet (123456789012345 by default), then send: P<cr>

BTI AS-2 PGM MENU Kv1.19

- 1 - DTMF Unlock Code
 - 2 - DTMF Lock Code
 - 3 - Ring Count
 - 4 - Hang-Up Time
 - 5 - Data Unlock Code
 - 6 - Data Lock Code
 - 7 - Inputs: STN-CTL
 - 8 - Inputs: MP3
- ENTER 1-8:

Default Settings:

- 1 – DTMF Unlock Code (15 digits maximum): 123
- 2 – DTMF Lock Code (hang-up): *99
- 3 – Ring Count (auto-answer after): 1
- 4 – Hang-Up Time (minutes): 3
- 5 – Data Unlock Code (15 ASCII characters): 123456789012345
- 6 – Data Lock Code (15 ASCII characters, except P and *): 543210987654321
- 7 – Inputs: STN-CTL (Station Remote Control Setup)**

Choose menu option 7 to configure the station remote control inputs:

Current Station Control Settings:

- 1-2/0
- 2-3/0
- 3-1/0
- 4-1/0
- 5-3/0
- 6-0/0
- 7-0/0
- 8-6/0

Set Inputs for Station Control for IN1-8:

Enter 1-8 Followed 0-8. 0=Both Stns Off, 1=Stn1 On, 2=Stn2 On, 3=Both On, 4=Stn1-EXT, 5=Stn2-EXT, 6=Both EXT, 7=EXT Audio Off, 8=No Change
Enter Action for On followed by Action for Off

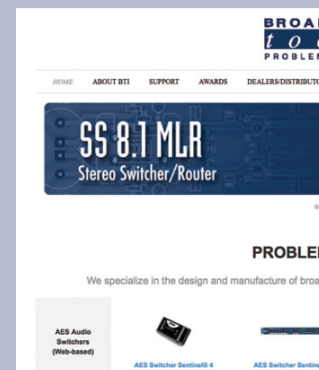
1. To configure the station remote control inputs on the Alert Sentinel, type the remote-control input number, 1 through 8, a “-” (dash) will be displayed after the number is entered along with a new line.
 2. Enter the number for the Action you want to happen when the remote-control input turns on first, then you will see a “/” forward slash after which enter the number for the Action you want to happen when the remote-control input turns off. Press “Enter” to save the setting.
- To exit the Station Remote Control Setup menu, press the ESC key. To exit the programming setup menu press the ESC again. The menu will exit automatically after 60 seconds of inactivity.

Remote Control Input Actions:

- 0 = Stations 1 and 2 Off
- 1 = Station 1 On
- 2 = Station 2 On
- 3 = Stations 1 and 2 On
- 4 = Station 1 On with External Audio
- 5 = Station 2 On with External Audio
- 6 = Stations 1 and 2 On with External Au
- 7 = External Audio Off
- 8 = No change

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CONFIGURATION

Example #1: Use Remote Control Input 8 (EXT) to turn External Audio for Stations 1 and 2 On/Off. 8-6/0

ON = Stations 1 and 2 On with External Audio (6)

OFF = Stations 1 and 2 Off (0)

Example #2: Use Remote Control Input 1 to turn Station 2 On for MP3/WAV playback. 1-2/0

ON = Station 2 On (2)

OFF = Stations 1 and 2 Off (0)

8 – Inputs: MP3 (Audio Playback Setup)

The Alert Sentinel 2 has eight MP3/WAV audio playback slots (1-8) which can be triggered via their respective remote-control inputs (RMT1-8.) Each slot can be configured to play a single MP3 file, a folder of files, or up to eight files in succession, allowing you to create a playlist. Alternatively, playback of individual MP3s can be triggered via DTMF command or USB/Ethernet string commands.

Current MP3 Files to Play:

1-048/MMM

2-049/MMM

3-050/RRR

4-051/052/EEE

5-FFF/002/012/RRR/

6-

7-

8-

Enter 1-8 Followed by up to 8 MP3 files to play. Must be 001-253, EEE=Ext
MMM=Stn Relays Off, RRR=Repeat MP3's. FFF=File Play (Folder) (Last MP3)
Enter 000 to play none. End with a <CR>, ESC to Cancel

MP3 Actions

001-253 = Play file number xxx from folder 01.

Examples: 048 plays file 048 from folder 01. 051/052 plays file 051 followed by file 052. Adding /MMM afterwards causes the relays to turn off automatically after playback ends.

FFF/xxx/xxx = Play folder xxx ending with file number xxx.

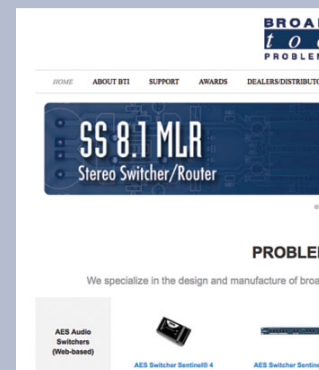
Example: FFF/002/012 plays from folder 02, ending with file 012, so files 001-012 are played.

EEE = Trigger external audio input

MMM = Turn station relays off, ends playback/external audio.

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CONFIGURATION

Dial-in (POTS) Telephone Operation

Make sure the Alert Sentinel 2 is connected to power, a POTS telephone line, and station audio. When the Alert Sentinel 2 is called, it will automatically answer after a user-defined number of rings (1 by default) each ring will light the Ring LED. When it answers, the Hook LED will come on and you will hear the greeting message and be asked to enter the security access code, which is “123” by default. Once a valid security code is entered “Access Accepted” Message will play and the access LED on the front panel will turn on. See the “DTMF Control Commands” section of this manual for more information about controlling the Alert Sentinel over the phone.

DTMF Control Commands

The Alert Sentinel 2 accepts DTMF control commands via its telephone interface as well as via its external audio input allowing dial-in telephone control or control via external/remote audio feed from a PC, codec, or backhaul.

Note: when using the dial-in telephone interface the telephone hybrid is the alert audio source. When using DTMF commands via the external audio input then external audio input is the alert audio source.

Access/Unlock Code = 123 (factory default)

3690 = Enables the alert audio to go live on stations 1 and 2.
Note: Switches on falling edge of the last tone, to eliminate the last tone from airing.

3691 = Enables the alert audio to go live on station 1 only.
Note: Switches on falling edge of the last tone, to eliminate the last tone from airing.

3692 = Enables the alert audio to go live on station 2 only.
Note: Switches on falling edge of the last tone, to eliminate the last tone from airing.

= Hold to disengage the alert audio and put the normal radio station program audio back to air.

147xxx = Play message from folder 01 at address xxx (001-255) on stations 1 and 2.
Example: 147049
Plays custom message 1 (address 049) on stations 1 and 2.

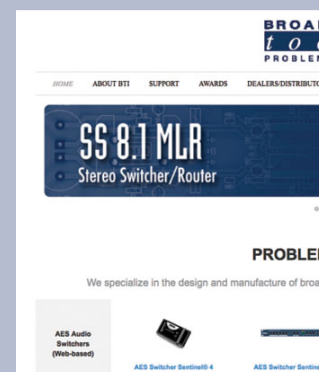
148xxx = Play message from folder 01 at address xxx (001-255) on station 1.
Example: 148049
Plays custom message 1 (address 049) on station 1.

149xxx = Play message from folder 01 at address xxx (001-255) on station 2.
Example: 149057
Plays custom message 9 (address 057) on station 2.

Hang-up/Lock Code = *99 (factory default)

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Example: DTMF Audio Command Automation Playlist

Access the Alert Sentinel, activate both stations, and feed external audio, then hang-up.

1. Play the DTMF access code: 123
2. Wait 2 seconds. Pause/silence for access accepted acknowledgment.
3. Play the DTMF command for both stations prefixed with an asterisk: *3690
4. Play the external alert audio or live feed. A weather alert, for example.
5. Play disengage tone # for 1 second. Only 100ms or so make it to air
6. Play the lock/hangup code: *99

ASCII/HEX terminal commands

The Alert Sentinel 2 accepts ASCII string commands via its USB serial interface and via its TCP/UDP Ethernet interface allowing control from a local computer or remote control via Ethernet.

Before accepting commands, a valid data unlock code must be received as a single packet. The default data unlock code is: 123456789012345. To end the control session, send the data lock code as one packet, which is 543210987654321 by default.

P<cr> = Activate programming setup menu.

*0U<cr> = Send firmware name/version as a response.

*0Zx<cr> = Echo character x to control port - for debugging command strings.

*01A<cr> = Activate Station 1

*01M<cr> = Mute Station 1 (return to normal station audio)

*02A<cr> = Activate Station 2

*02M<cr> = Mute Station 2 (return to normal station audio)

*Mxx<cr> = Play individual MP3 message from folder x. xx = custom message number, two hex characters – the first digit is the folder number. The second digit is the file number 0x01 – 0xFF. Sending *M(0x01)(0x0A) it will play message 010 or hex 0x0A from folder 01 (1). See table on page 12.

Example: *M11<cr>

Plays custom message 1 (folder 1, address 048, number 01.)

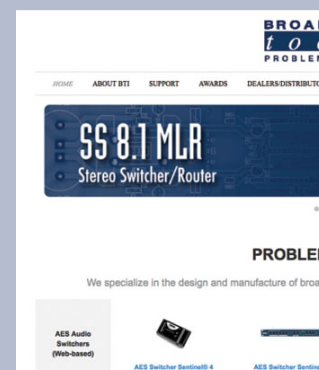
Example: *M21<cr>

Plays custom message 1 (folder 2, address 048, number 01.)

*Fxx<cr> = Play multiple MP3 messages from folder x ending with file x. xx = two hex characters – the first digit is the folder number. The second digit is the file number of the last file to play 0x01 – 0xFF. To play files 001 through 250 in folder 2 send: *F(0x02)(0xFA)

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OPERATION

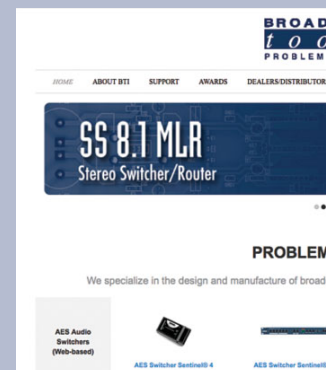
Example: ASCII Command Automation Playlist

Unlock, activate Station 1 and play message 048, lock:

1. Send the data unlock code.
2. Send *01A to switch Station 1
3. Wait 1 second
4. Send *M11 to play MP3 file 048, when the file ends it automatically switches back.
5. Send the data lock code.

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Ethernet Setup and Operation

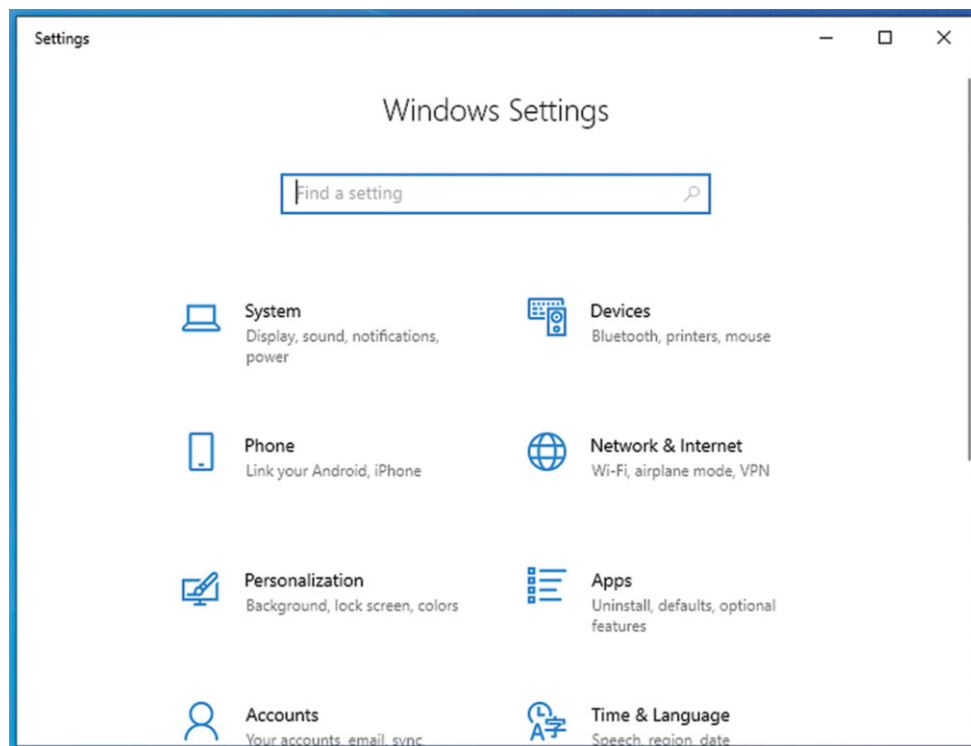
Ethernet “Quick Start” Guide

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!

CAUTION! Network scanning utilities such as Nmap, Tenable Nessus®, and Rapid Fire Tools can disrupt the operation of your Ethernet enabled device. Please remove the device’s IP address from the scanner or whitelist it.

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® 11/10 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.



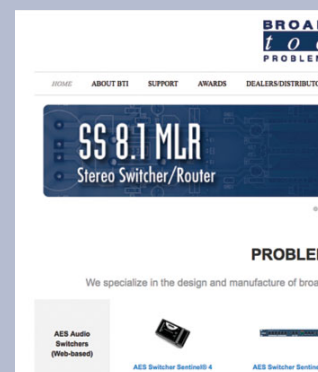
*Windows is a registered trademark of Microsoft Corporation



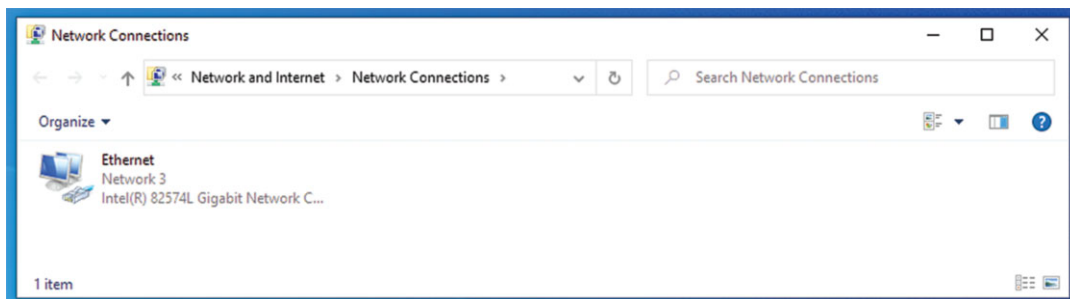
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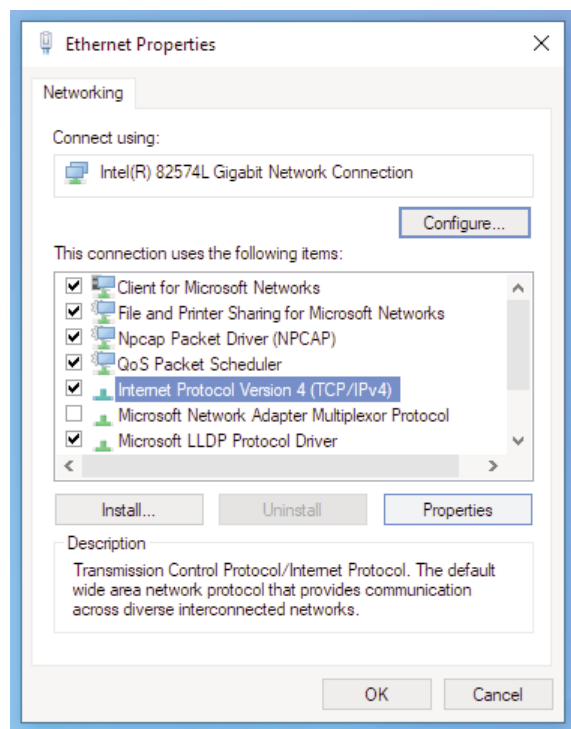
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Step 2: Under Advanced Network Settings click Change adapter settings. The Network Connections windows will pop up, as shown below.

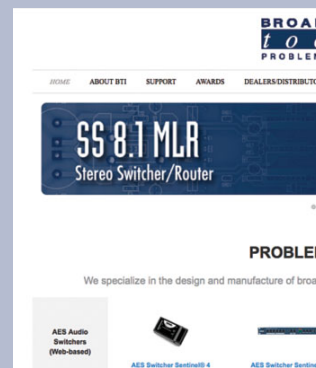


Step 3: Right click on the icon labeled Local Area Connection or Ethernet. A menu will appear. Select the option at the bottom of the menu labeled Properties. The Ethernet Properties window will appear.

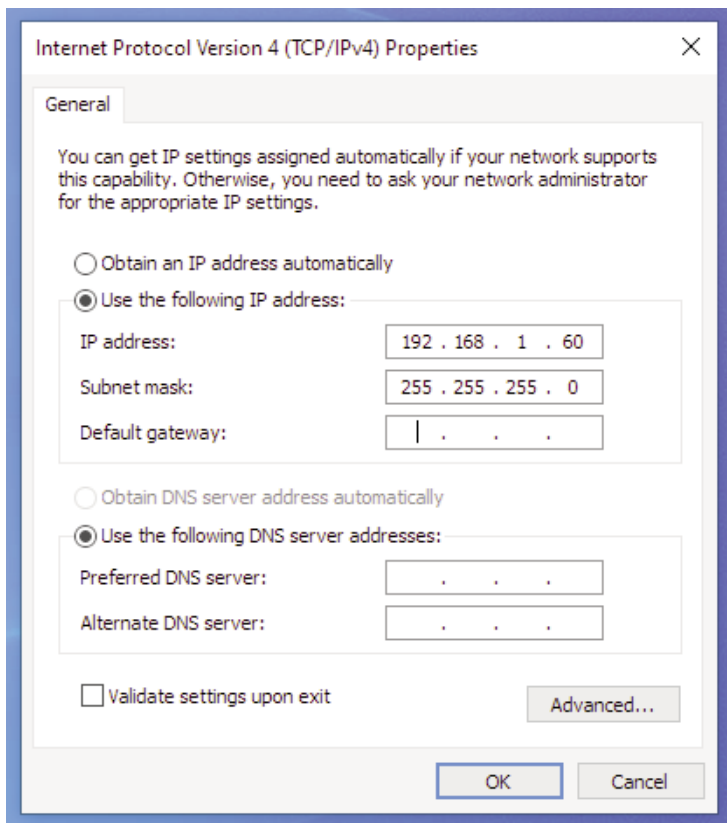


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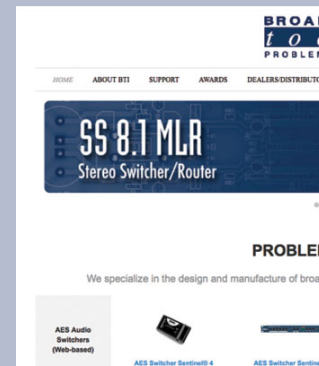
Step 4: On the Local Area Connection Properties page, double click on Internet Protocol (TCP/IPv4) to display properties.



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.

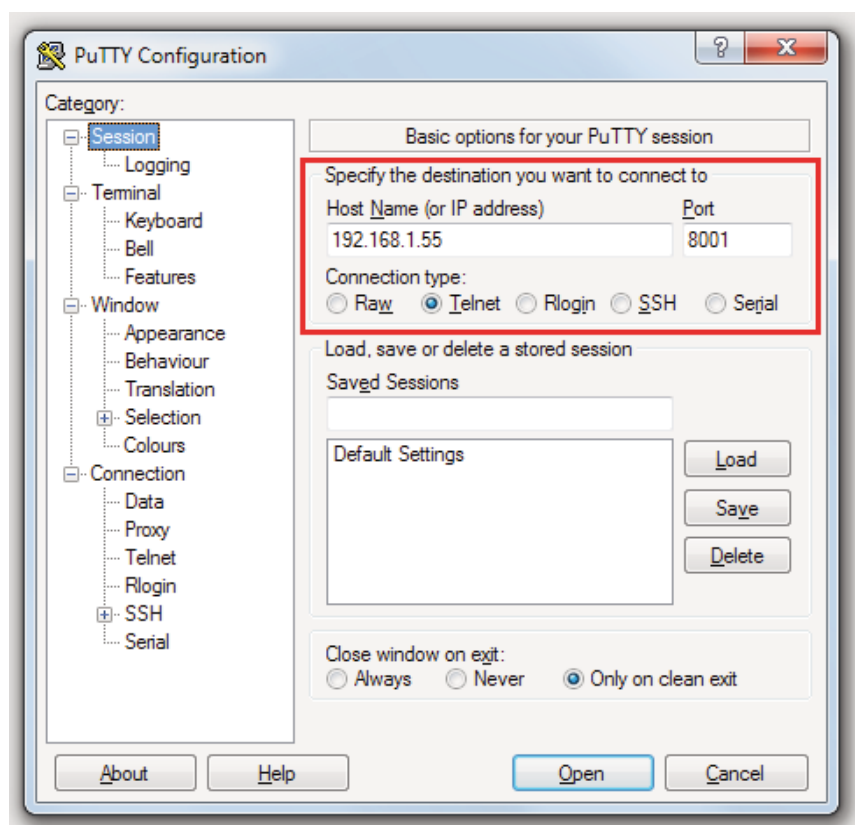
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Connecting via the Ethernet “LAN/NET” port:

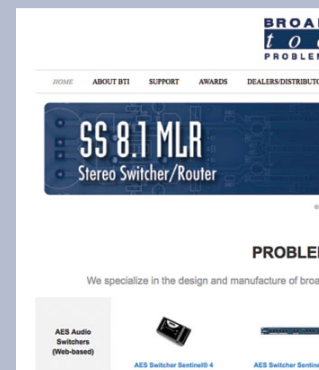
1. Connect the supplied GRAY colored XOVER cable between the PC’s Ethernet port and the products “LAN/NET” network RJ45 jack.
2. Connect the included power supply to the Alert Sentinel 2. Verify that the green PWR LED is lit and the green “LINK” LED to the left of the “LAN/NET” Network RJ45 jack is illuminated.
3. Open terminal application PuTTY configured for a Telnet connection type to host 192.168.1.55 port 8001.

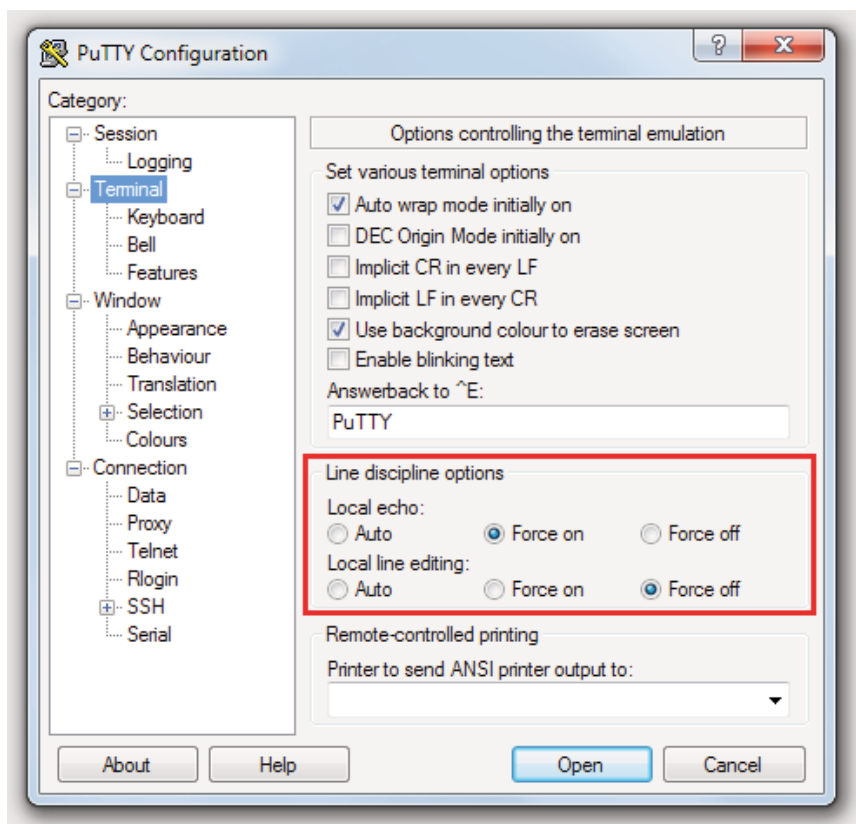


4. In PuTTY configuration > Terminal > Line discipline options set Local echo “Force on” and Local line editing to “Force off”.

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5. Click okay to connect to the Alert Sentinel 2 and send the data unlock code as one packet then type “P” into the terminal window and press return to enter programming mode. See: “Programming” section of this manual.

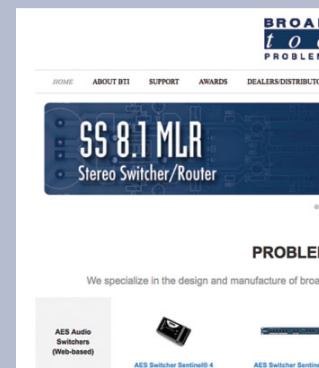
Changing network settings on the Ethernet “LAN/NET” port:

NOTE: We recommend using Chrome, Firefox, or Safari for as your browser. Edge and IE are NOT supported.

1. Connect the supplied GRAY colored crossover (XOVER) Ethernet cable between the PC’s Ethernet port and the products “LAN/NET” network RJ45 jack.
2. Connect the included power supply to the Alert Sentinel 2. 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 a web browser window and navigate to the Alert Sentinel’s default IP address: <http://192.168.1.55>
4. When prompted to login, use the default login and password. Login: admin
Password: 1234
5. To change the network settings, choose “Local IP Config” from the side bar:

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Current Status	parameter			
Local IP Config	IP type: Static IP DNS type: Manual Static IP: 192 . 168 . 1 . 55 Submask: 255 . 255 . 255 . 0 Gateway: 192 . 168 . 1 . 1 DNS Server: 8 . 8 . 8 . 8			
Serial Port				
Expand Function				
Misc Config				
Reboot				
Save Cancel				

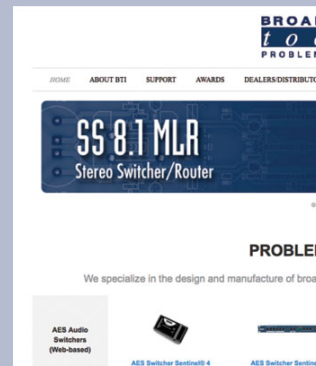
6. The default work mode is TCP Server, TCP Client, UDP Server and UDP Client are also available. To change the TCP port choose “Serial Port” from the side bar and change the “Local Port Number” setting:

Current Status	parameter	
Local IP Config	Baud Rate: 9600 bps(600~460.8K) Data Size: 8 bit Parity: None Stop Bits: 1 bit	
Serial Port	Local Port Number: 8001 (1~65535) Remote Port Number: 8234 (1~65535) Work Mode: TCP Server Remote Server Addr: 192.168.1.57 [192.168.0.201] RESET: ☐ LINK: ☐ INDEX: ☐ Similar RFC2217: ☒	
Expand Function		
Misc Config		
Reboot		
Save Cancel		

7. 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 I/O:	Balanced Analog Stereo RJ45 audio jacks and pluggable terminal block wired in parallel. Any input level and impedance can be used. Output levels, impedance, distortion, noise, and balancing will match that of the selected input.
Switching Method:	Passive. Sealed mechanical relays utilizing 2-form-C bifurcated-crossbar silver alloy contacts with gold overlay
Logic:	Flash microprocessor, non-volatile memory, DTMF transceiver.

Relays: Relays, two SPST, normally open. 30 VDC @ 1 amp maximum.

CAUTION! For safety, do NOT connect 120 Volt circuits to the relays.

Interfacing: Station Audio I/O: Balanced RJ45 connectors. Normally closed pass-thru audio path. External Audio Input, and remote control: Plug-in euro-block screw terminals and 3.5mm TRS jacks.
USB Serial: USB Type B, 9600 baud, 8,N,1.
Ethernet: RJ45 jack, 10/100 base-T.

Power Supply: 12 VDC @ 2.5 amp power supply (CE/UL/ETL). 2.1mm ID x 5.5mm OD coaxial connector, center positive. Surge protected, universal (100 - 240 vac / 50/60 Hz) with IEC input, domestic AC cord included. Dual coaxial power input jacks for optional redundant power.

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.

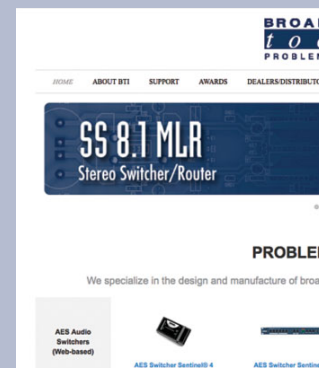
Size: 8.50" x 7.10" x 1.576" (WDH) aluminum extrusion chassis with (4) #6-32 screw thread mounting holes for optional RA-1 rack shelf.

Weight: 2.0 lbs.

Options: *RA-1 rack shelf, holds two units (1-RU), filler panel supplied.
*Second 12 VDC power supply for redundancy.

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Component Layout

