INSTRUCTION MANUAL
4 UNIT AES SWITCH
MODEL R198

IF FOR SOME REASON YOU HAVE TO
RETURN THIS ITEM TO THE FACTORY
FOR ANY SERVICE OR REPAIR, YOU
MUST CONTACT CUSTOMER SERVICE
FOR AN **RMA** NUMBER AT (585) 765-2254

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Materials returned must have a Return Material Authorization number. To obtain an RMA number, contact our l Customer Service at 585-765-1155 or fax 585-765-9330. Customers have 30 days to determine that the product ordered fills their need and performs as described in Digital Alert Systems Inc. literature. Units returned for approved repair or credit must be in the original packaging including all parts and paperwork plus be in very good physical condition. If not, the customer is billed for the cost to refurbish the unit and for missing accessories and merchandise. No products may be returned for exchange or credit after 12 months of the shipment date. Digital Alert Systems Inc. reserves the right to repair or replace units under warranty.

GENERAL DESCRIPTION and APPLICATION

The Digital Alert Systems (DAS) Model R198 is a network controlled multichannel Analog to Digital converter and AES program switching system, used to insert EAS alerts into Broadcast Audio Streams.

The unit features an unbalanced analog mono audio master input or unbalanced stereo master input, and 4 independent AES program in's and out's. Each output can be seamlessly switched from its incoming AES stream to the Master input (converted to AES) via network control from the DASDEC EAS Controller.

A master GPI switch will switch all four channels at once, or individual switches are available at each channel connector for control.

The individual AES channels feature a fail-safe bypass to maintain signal integrity in the event of a power failure and can be configured for 32kHz, 44.1kHz or 48kHz sampling rates.

The R198 features a built-in web server and can be configured and operated from any standard web browser on any standard platform. No special software or cables necessary. The network interface follows the standard DAS R190A/R197A/V protocol for 10/100 base T Ethernet interfacing and can be networked to any Digital Alert Systems DASDEC for direct control over a networked connection.

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Specifications

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Audio Inputs:

- Two balanced stereo audio L & R inputs (master in) (non-looping) 600 ohm
  - · Left channel female XLR.
  - · Right channel male XLR.
  - · AES/EBU inputs are failsafe bypassed to outputs in the event of power failure.

Audio Outputs:
- Four (4) separate AES/EBU digital audio **(program in)** switched 110 ohm female XLR.
- Four (4) separate AES/EBU digital audio **(program out)** switched 110 ohm male XLR.
- Switch selectable sample rate of 32kHz, 44.1kHz or 48kHz.

Audio Frequency Response:

- 0 to 20 kHz, -3 dB

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Controls:

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LAN Interface: TCP/IP Ethernet

- Standard: One (1) 10/100 BASE-T RJ45
- Assignable IP addressing (unit ships fixed at 192.168.1.2)
- RJ45 connectors suited for wiring CAT 5 or above.

GPO's (General Purpose Outputs):
- Four (4) [One (1) per channel] Form C relays with Normally Open (NO) and Common (C) outputs rated .5A @ 200VDC.
- 10-pin detachable terminal strip per channel (Shared with GPI's).

GPI's (General Purpose Inputs)
- One (1) Master (switches all channels), 3-pin detachable terminal strip
- Four (4) independent contact closures, one for each AES section
- 10-pin detachable terminal strip per channel (Shared with GPO's).

Front Panel
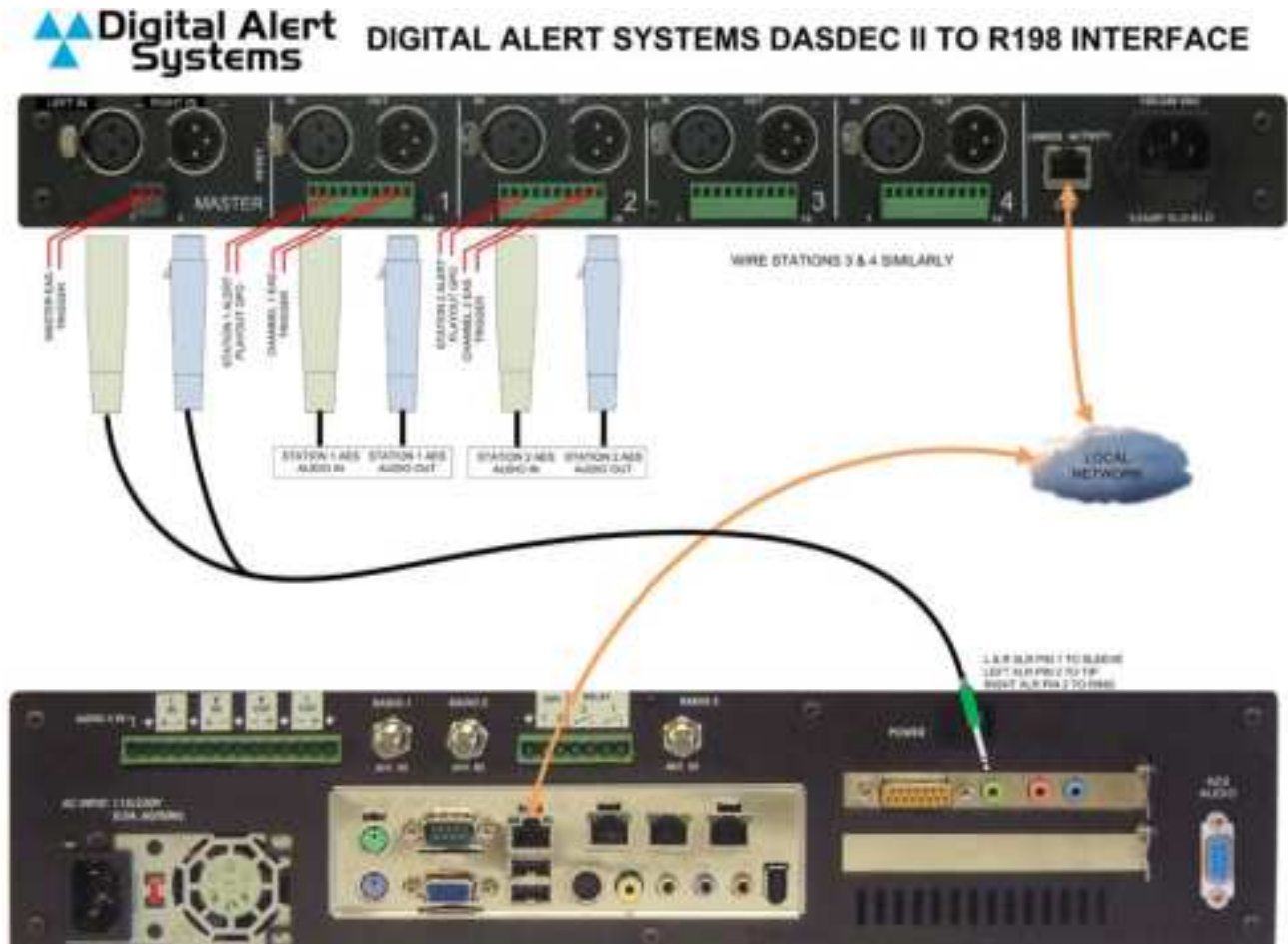- Green power status lamp.

Power Requirements
- Input 100 -240 VAC @ 0.5 amps (25 Watts)
- Standard IEC power cord.

Physical Attributes
- Dimensions: 19.0" W x 12.0" D x 1.75" H (1RU EIA rackmount).
- Weight: 7 lb., 3.175 kg

The R198 is housed in a 1RU rack mount chassis. Mounting hardware is supplied to install the unit.
Mount the unit and connect cabling as shown in the drawing below.

100 to 240 VAC power is input from the universal line in connection. The local ethernet cable RJ45
connector is plugged into the LAN socket.

The audio input is switched into the AES card, converted to an AES digital stream, and substituted for
the program digital stream via software command over the ethernet link from the DASDEC EAS
Controller.

The green LED on the front panel indicates power is ON in the unit.

Unbalanced monaural or left unbalanced stereo audio is input from the EAS source on pins 1 and 2 of the XLR female jack in the MASTER section as shown in Interface diagram on page 6. Right unbalanced stereo audio can be input from the EAS source on pins 1 and 2 of the XLR male jack in the Master section.

The AES digital stream is input to the female XLR jack and output from the male XLR jack for each of the sections labeled 1 through 4.

Shorting pins 1 and 2 of the 3-pin Master terminal strip will activate all four AES sections. Shorting pins 9 and 10 on the 10-pin terminal strip for each of the sections 1 through 4 will activate that AES section of the device.

Any of the four AES sections may also be activated through a browser that opens to the ethernet device in the unit, as referenced later in the manual.

On each of the four AES sections, a normally open dry contact closure is available on pins 2 and 3 of the 10-pin terminal strip. Refer to Interface diagram on page 6.

CONFIGURATION and ADJUSTMENT

Verify configuration before installing the unit in the rack.

Each AES channel is factory set to 48kHz. If any channel requires a different setting remove the chassis cover to access the AES boards

The AES signal sampling rate can be set by repositioning a jumper on header J4 on the AES circuit board as shown below.
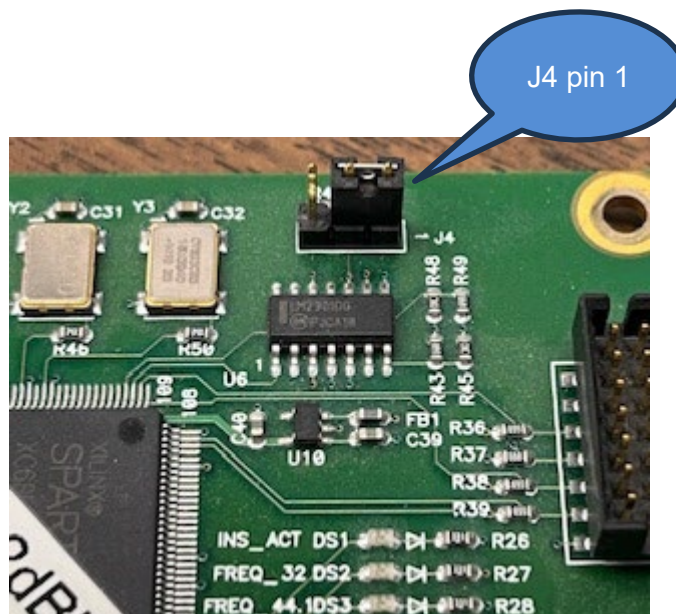
With no input to the AES board the jumper, J4 controls the board's sampling rate.
By default the jumper of J4 should be set to pins 1 & 2 (shown) which puts the board in 48kHz mode. DS2 of the AES board will be lit.

Remove the jumper completely. The board is now in 44.1kHz mode, and DS3 of the AES board will be lit.

Place the jumper on pins 2 & 3. The board is now in 32kHz mode, and DS4 of the AES board will be lit.

SETTING UP THE ETHERNET INTERFACE

Setting the IP address – The R198 comes with a default IP address of 192.168.1.2.
One of the following methods can be used to access the device:

Directly connecting a networked host computer
Connect a CAT-5 network crossover cable to the RJ45 port at the back of the R198 and to the RJ45 port of the network interface card (NIC) of a standalone PC or notebook computer. Configure the standalone PC to use the static IP address 192.168.1.3 with a net mask of 255.255.255.0. After the R198 powers up it can be accessed via a Web browser on the host computer.

Launch a Web browser application and direct the URL to **http:/192.168.1.2/** The R198 will provide a gateway page and quickly redirect to the R198 Home page.   To edit the R198A's IP address, type the following IP address; **http:/192.168.1.2/setup.html**.

**LAN connection with a networked host computer**
Connect a standard CAT-5 network cable from the RJ45 port at the back of the R198 into a routing hub or other network-switching device. You will likely need assistance from a network administrator to insure the R198's default network address of 192.168.1.2 will be visible on the network or will not clash with an existing node. Once the R198 is powered up it can be accessed via a Web browser from any remote computer on the LAN routed to see the address 192.168.1.2.

WHEN A SUCCESSFUL CONNECTION IS ESTABLISHED TO THE R198 THE FOLLOWING SETUP SCREEN WILL BE DISPLAYED THROUGH THE BROWSER:

Setup Configuration Setup mode of the R198 allows you to customize several settings. Some of the settings are the unit's IP address, Netmask, Gateway, network speed, mode, and passwords.

No username required to log into the Setup, and the default password is shown in bold between the quotes '**digital**'.
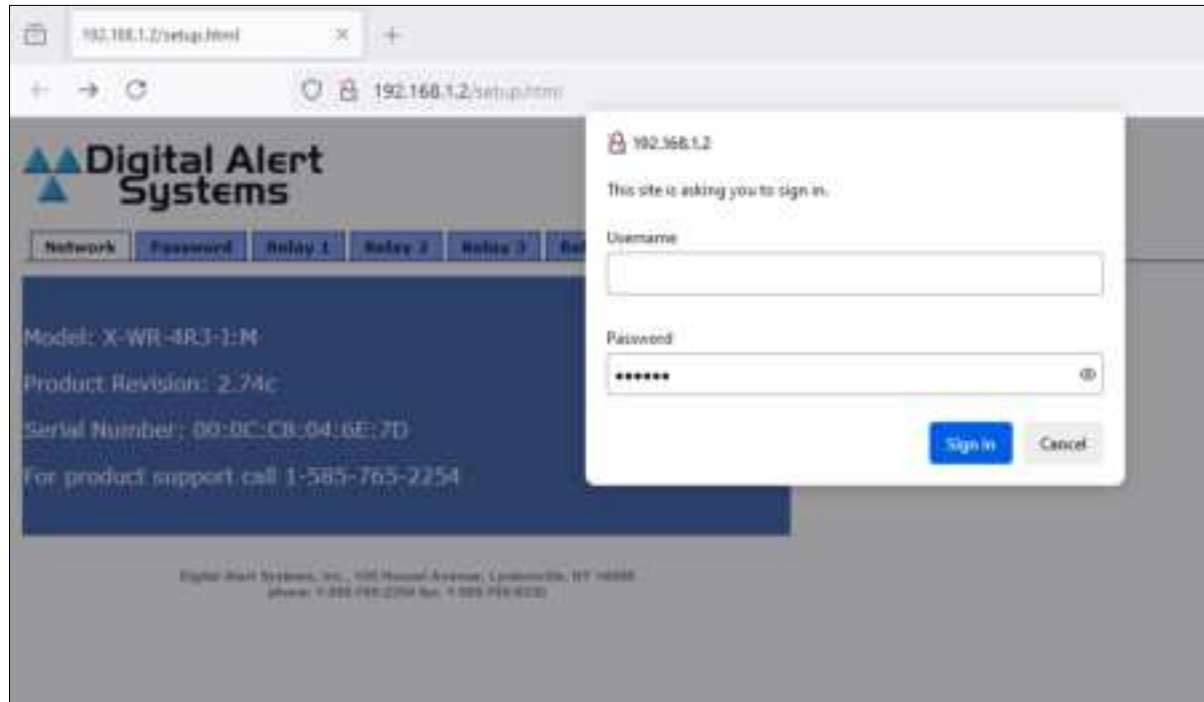
Changing the Network settings – Click on the Network tab. Enter the new network settings as desired. After reviewing and verifying your settings, click on '**Submit**'. These new changes will show up in the Network tab but *will not take effect until the power is removed and reapplied to the unit.*
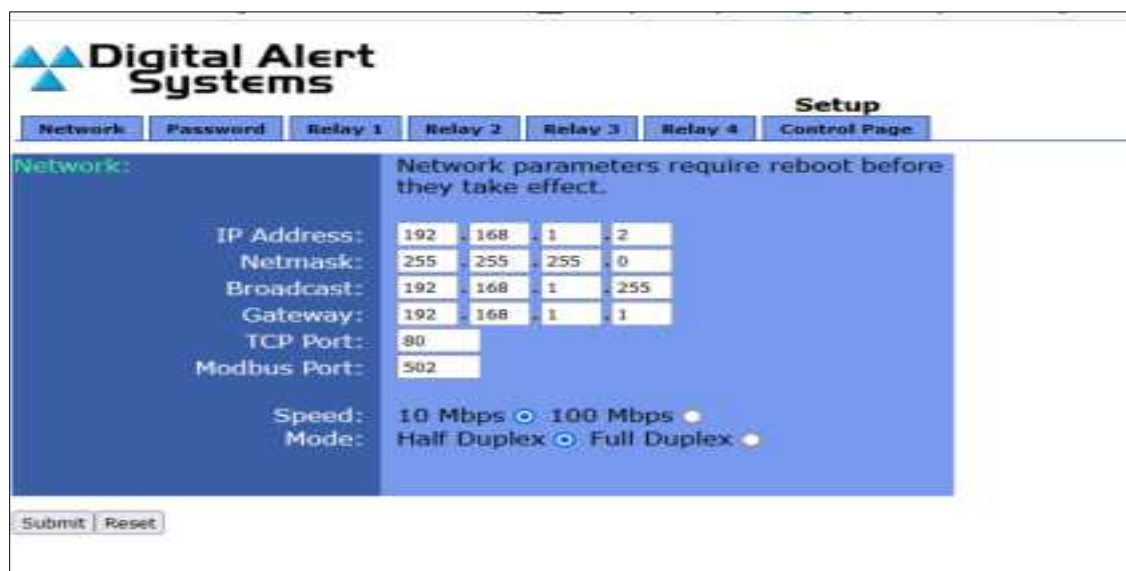
Permanent storage of IP change – To store the new Network settings into memory, remove power from the unit, wait approximately 10 seconds, and reconnect power to the unit.

Note: To reset the unit to the default Network settings, remove the power from the unit. Using a small probe, press and hold the Reset button on the back panel on the unit while reconnecting power to the unit. Keep the button depressed for 10 seconds after re-applying power, then release the Reset button. The unit will be reset to the default IP address of 192.168.1.2.

Caution: Pressing the reset switch will reset ALL user settings back to default. This includes network IP address and associated settings.

Password Settings – The R198 allows you to program a Setup and a Control password. The default Setup password is '**digital**', and the Control password is disabled. If changes are made to either the Setup or the Control password, you must click on the '**Submit**' button to store the change. Passwords may be up to 10 characters in length.

If the passwords are forgotten, the R198 can be set back to factory defaults by removing the power from the unit, pressing and holding, the Reset button on the back of the unit, and reconnecting the power to the unit while keeping the button depressed. After approximately 10 seconds you can release the Reset button and the unit will be reset to the default password of '**digital**' for Setup and no password for Control.

Caution: Pressing the reset switch will reset ALL user settings back to default. This includes network IP address and associated settings.