Series 3000
Model R-197A/AV

Audio/Video Relay Panel
With Ethernet Interface

Instruction Manual

Digital Alert Systems

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Specifications

Power Requirement
  100-240VAC +/- 2%, 50/60Hz
  supplies +12V DC @ <300mA
  (UL approved wall supply included.)

Control Inputs

  Contact Closure to GND or logic input
  Absolute Maximum Input Voltage +12 VDC
  Logical High Input Voltage   +7 VDC
  Logical Low Input Voltage   +2 VDC

  Ethernet Input

  10/100 baseT with Embedded Server

 Audio Relays Contact Rating:
  30 VDC max; 1A max

 Video Relays Contact Rating:
 +60 dBmV RF, 0 to 1 GHz

  Physical
  1.75" H X 19" W X 7" D, 1 RU
  Weight 5 lbs.

  Accessories Included with Instrument
  Power Supply
  Mating connectors
  Mounting Kit
  Manual/Data Sheet on CD

General Description

In its simplest form, the R-197AV is nothing more than a multi-contact relay capable of switching away from signal A and connecting to signal B. There are 4 independent relay sections in each R-197AV. All sections of the relay are of the mechanical type with no active circuitry involved in the signal path.
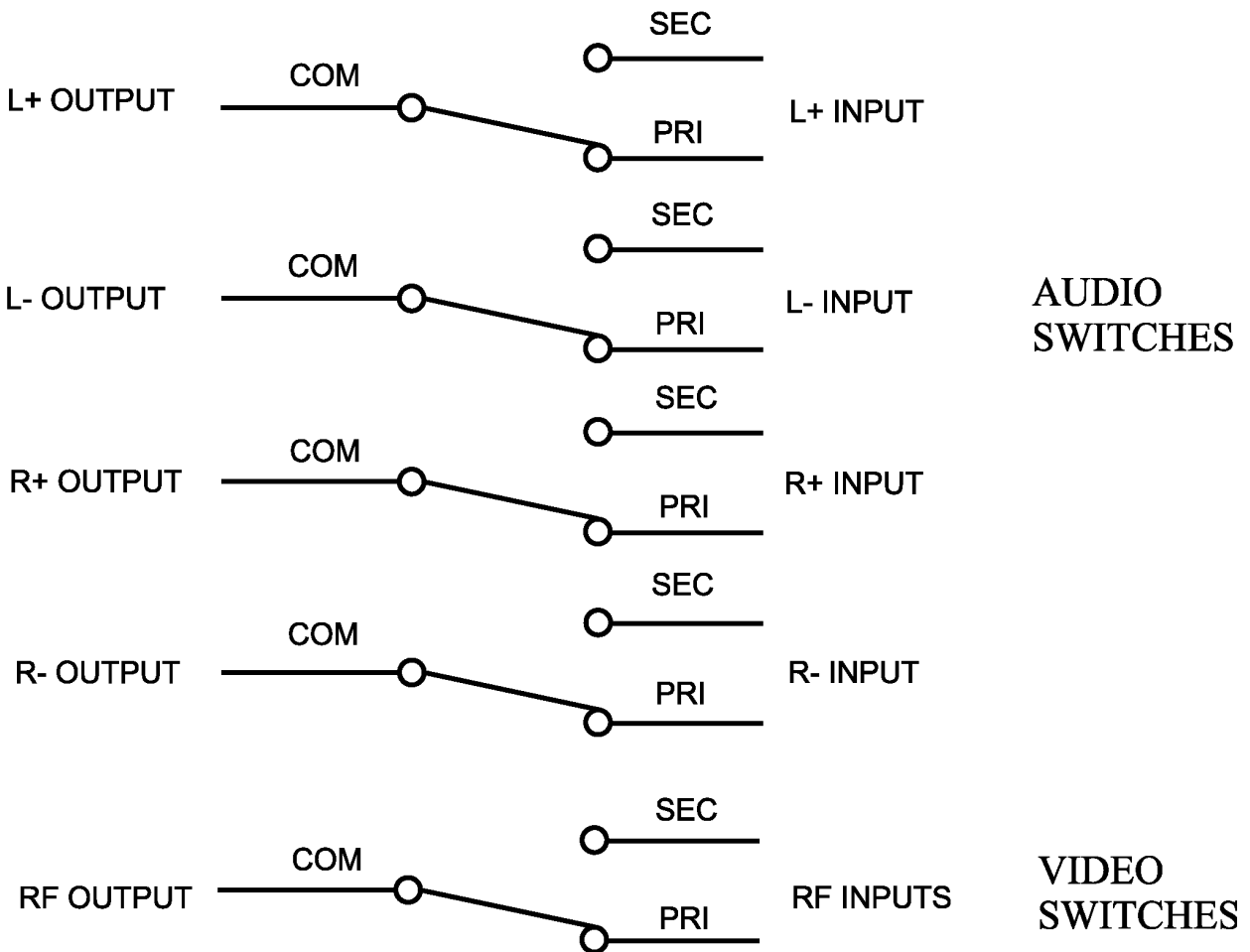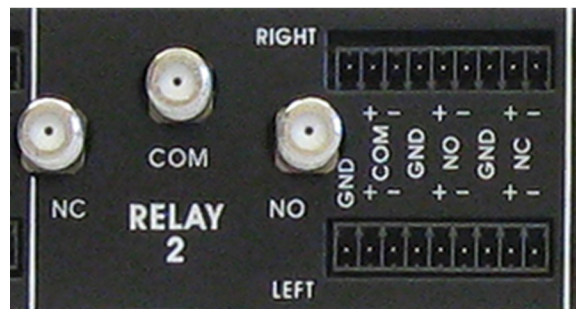
Front Panel View

Rear Panel View

Section View

General Instructions

Mounting:
The R-197AV requires a minimum of 1.75 vertical inches of space in a standard 19" wide EIA equipment rack. Slide the unit into the rack frame and secure it, using the 3000R/22M mounting hardware supplied with the unit.

Connections:
1. Connect the audio signals to screw terminals of the same switch group, ensuring that the left and right channels for the default audio are connected to the L NC + and -, and the R NC + and -, and the signals for the alternate signal are attached to the L NO + and - and the R NO + and - connectors. The L OUT + and - and the R OUT + and - are routed to the modulator or other destination of the audio signals.

   Connect the Video (or RF/IF) signals to the same switch group as their audio signals, with the default (or primary) signal connected to the NC 'F' connector, and the alternate signal is connected to the NO 'F' connector. The cable to the modulator (or combiner, etc.) is connected to the COM 'F' connector.

2. Connect the +12 VDC lead (white) from the power supply to the +12v terminal at the top of rear panel connector, and the black lead to the adjacent GND terminal. Refer to the diagram on page 9. Plug the power supply into a 90 - 240VAC power outlet, and the unit is ready to function.

3. To actuate a relay section with a contact closure, connect the contacts between each relay control input screw terminals (SW1–SW4) and ground (GND) screw terminal. Refer to the rear panel connections illustration and the applications section of this manual.

4. To actuate a relay via Ethernet control, enter the URL (IP address) of the device into the address bar of any browser, select "Switch Control", and click on the relay section to actuate (or in-actuate).

Operation:
When the contact closure for the appropriate Relay Unit is closed, the output (Com)connection is switched from the default input (NC) to the alternate input (NO).

Activation of any of the 4 relay sections may be accomplished by external contact closure, open collector transistor, web browser or logic signal. In most applications, the R-197AV is connected to another device that provides the activation signal. The most popular applications for controlling the R-197AV is LAN control. Devices, such as the One-NetSE™ or DASDEC-II™, may be used for controlling the R-197AV as long as they provide the proper signaling.

Please note: The contact closure input, if it is pulled to ground to switch to secondary, will supersede the ethernet control inputs if they are set to primary. However, if the contact closure inputs are set to primary, the ethernet control inputs may switch to secondary.

Application
General Switching

Control by LAN

Using local General Purpose Input devices such as a Digital Alert Systems Timer or host of other similar devices the R197AV can switch program audio/video to alternate channels for blackout switching, program isolation, or multichannel EAS program switching.

Over a network connection a Digital Alert Systems One-NetSE™or DASDEC-II™ can directly control EAS audio and other switching devices by each relay channel. Network settings are easy using any standard web browser and the built-in web server configuration page. No special software or cables are necessary.

The R-197AV can be easily controlled by anyone on the local network with a web browser. The unit has an included server, with a fixed IP address. The interface is self explanatory. Refer to LAN Setup for configuring this control function.

# This diagram shows the inputs/outputs of the R197A and the R197AV.
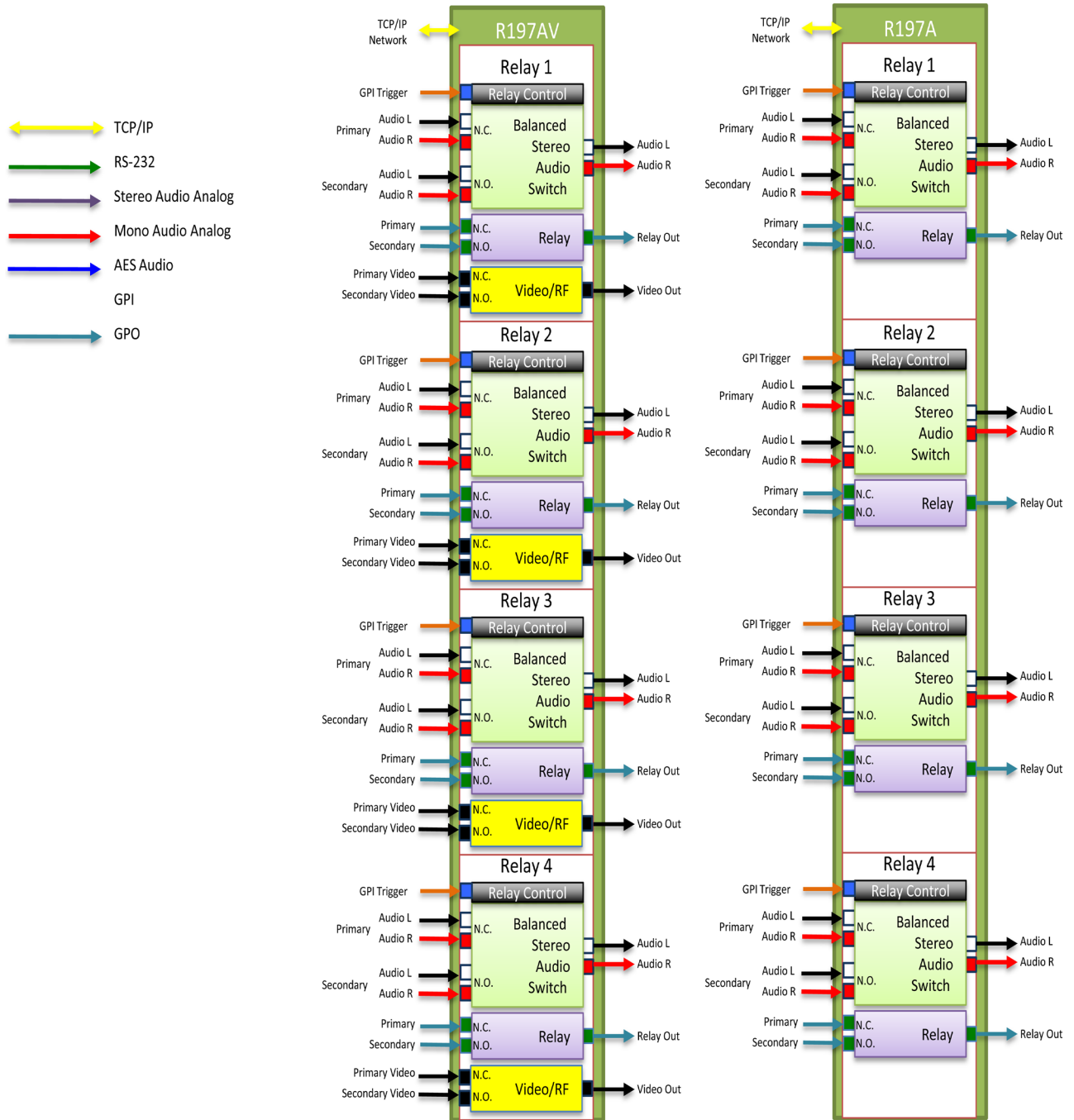
This diagram shows, more specifically, the input and outputs connections for the R197A and R197AV.
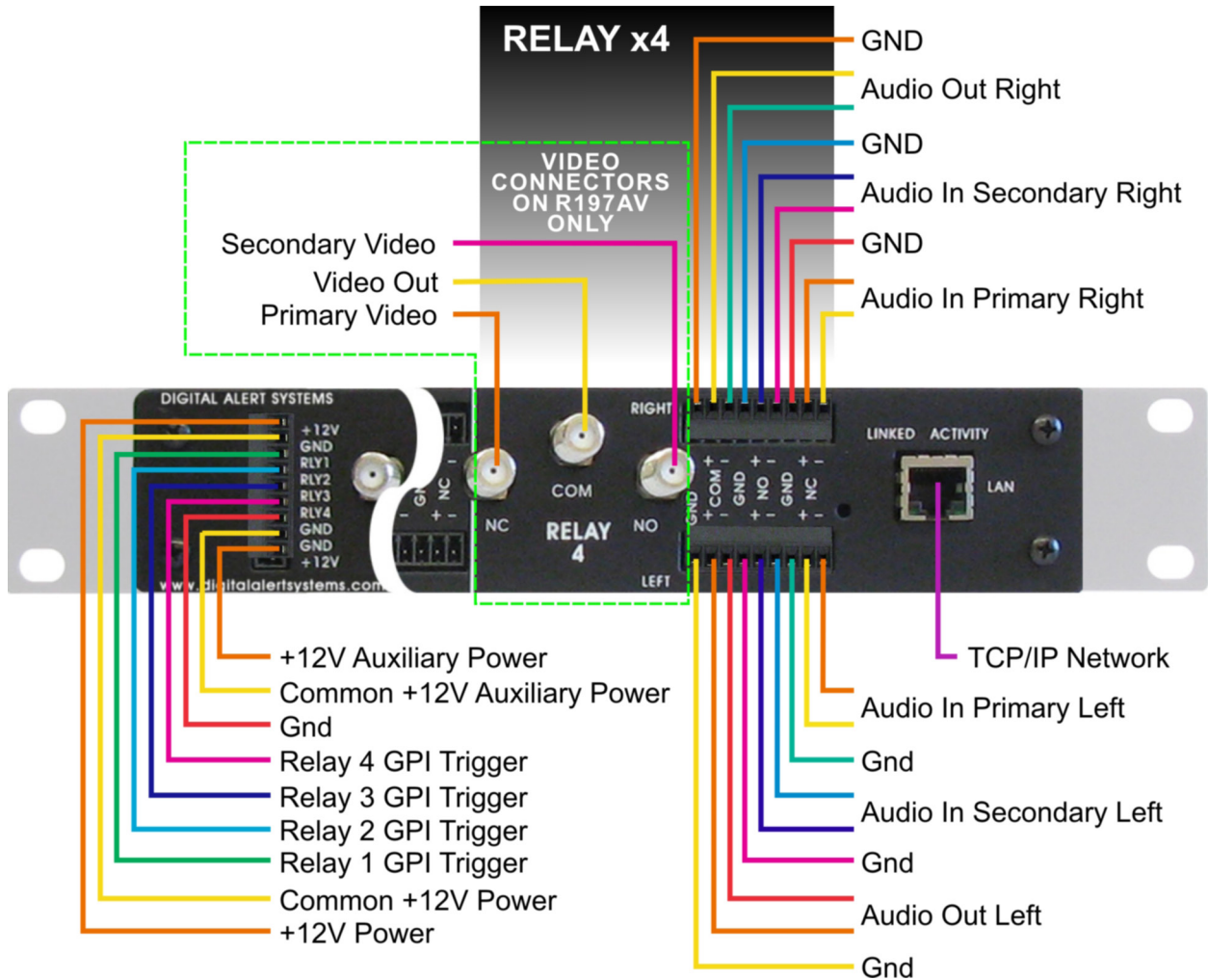
Ethernet Interface Setup

On the CD included with the unit is a program entitled Netburner IPSetup V2.5.

After ensuring that the R-197AV to be set up is powered up, and is connected to your computer, or to your network, open this program. [If connecting directly from your computer, use a crossover cable.]
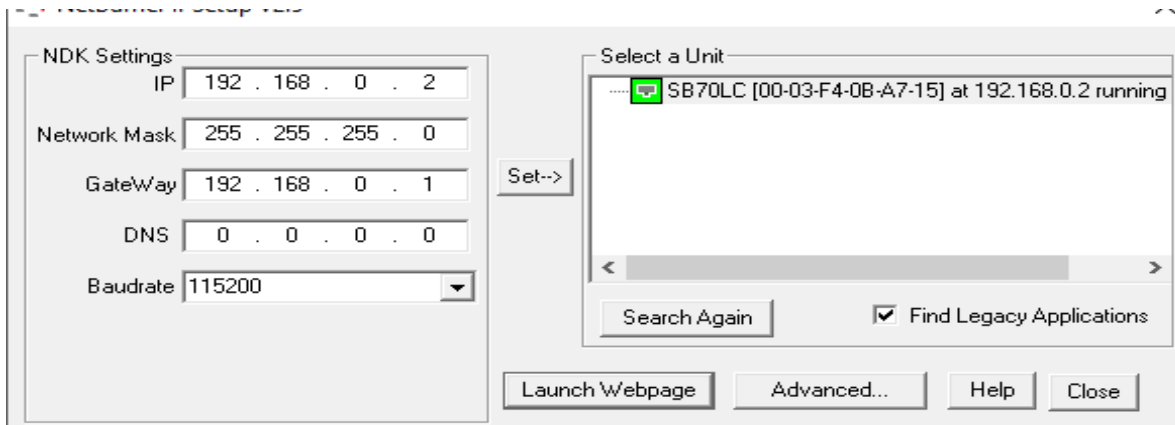
Notice that a netburner device has been detected.

If yours has not been set up, it will have a default of 192.168.0.2. This should be one of the choices shown. However, if the IP address has been changed for testing purposes, it may be another address such as 192.0.0.20.

To change this to the IP address you desire, merely type into the NDK Settings the address IP, the Gateway and the DNS on the left side to program this address, and then select the default address. Then click on Set, and the program will modify your device.

[Another way to modify the address of the server in the unit is to enter the present IP address in a browser window. Then go to "Setup" in the ensuing screen. If the unit asks for a password, enter r197set. Then enter the IP desired, the Gateway and the DNS to be used, click on Save and restart the device by turning the power on and off.]

Select Close to finish.

If you forget the IP address used for the unit, you must reset the unit to the default address.

To Reset: Remove power by unplugging the power connector. Using a paper clip, press and hold the reset button down, then re-apply power to the board. If the button is held down for at least 2 seconds, but less than 8 seconds, Relay1 turns on. Releasing the button during this time will reset the passwords to default: "r197c" for control, "r197set" for setup, and all settings in the unit will also be reset. If the button is held down between 8 - 29 seconds, Relay2 will turn on. Releasing the button during this time will reset the IP to default: 192.168.0.2, and the passwords and data will be reset as described before. (If you continue to hold the button down pass 30 seconds, NOTHING will be reset.)

Use the included Setup on the server IF you are directly connected to the unit.

If you are connected to the unit through a network, you must use the 'NetBurner ip setup' program supplied with your unit on the included CD. This program is also available on the NetBurner web page.
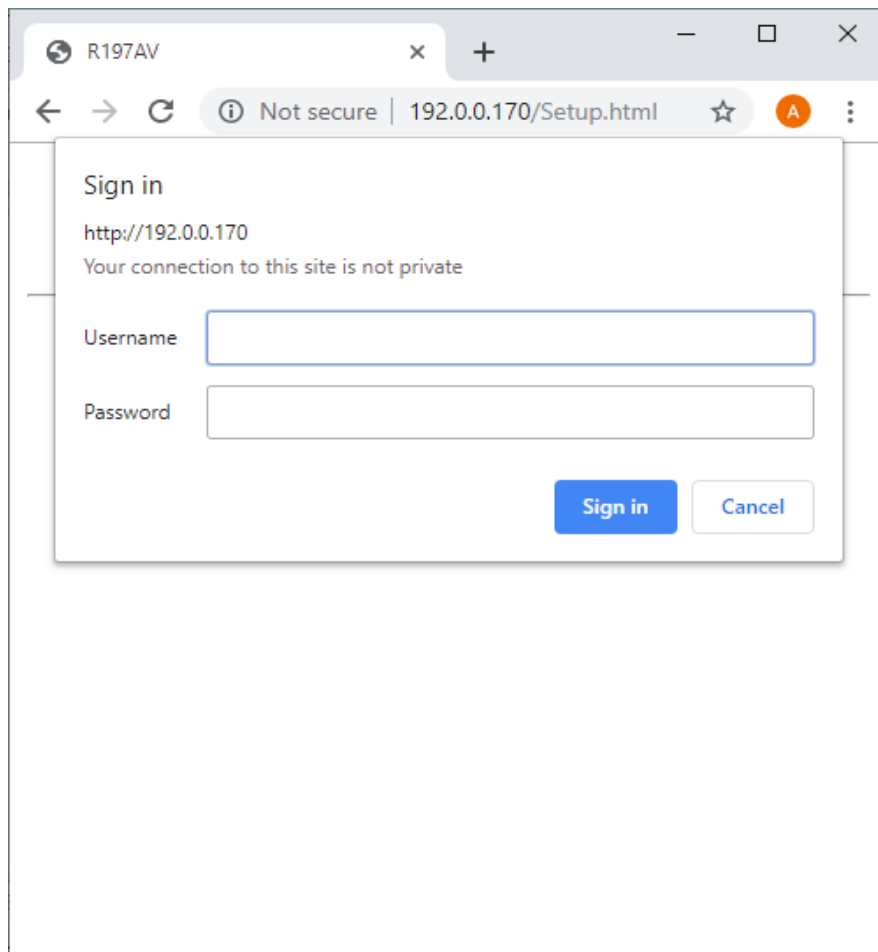
Once you have set the IP address for your unit, enter it into your browser, and
You will see the following screen:
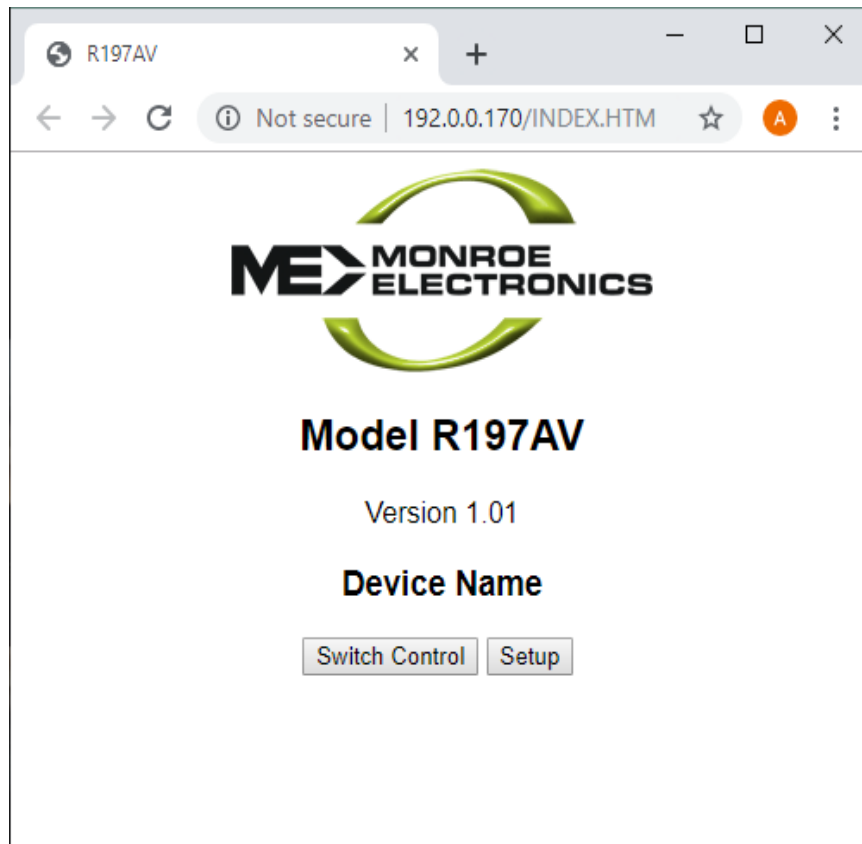
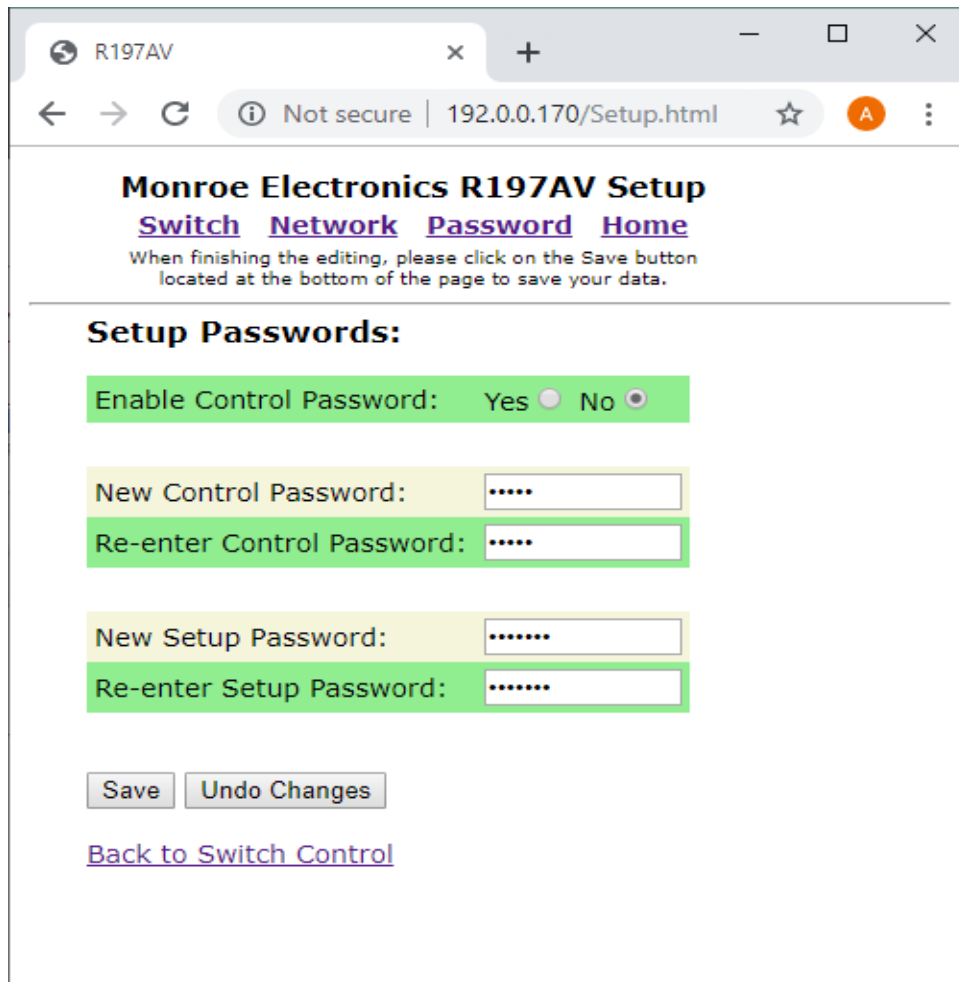To set the parameters in the R197AV, click on 'Setup", and the following screen will appear:
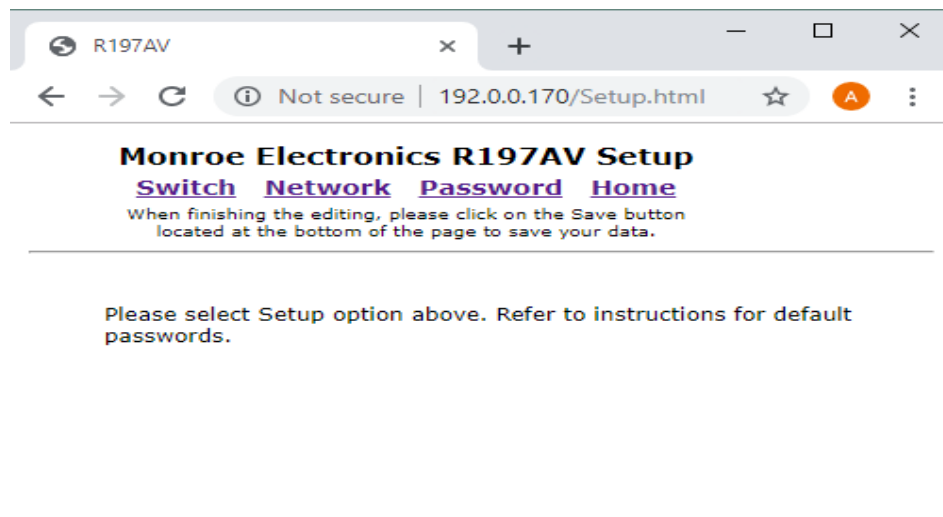
Select 'Password', the follwing screen appears:

The default password for the R197A is r197set, all lower case.
A User Name is not required.

After clicking 'Log In', the following screen appears:

Note that you may change, and enable if desired, the Control Password, and change the Setup Password here.

If you have made changes, click the Save button, and return to the setup screen.

Select the Switch link, we see this page. You may set labels for each device and each switch, but it is not required.
You may also configure each switch for latching – select none – or momentary, with the length of the closure selectable as shown.

Note also, that you may select the frequency of refreshing the switch control page on this Setup page.

To change the network settings after the initial setup of the IP address click on the 'Network' tab in setup.

Monroe Electronics R197AV Setup

Switch   Network   Password   Home

When finishing the editing, please click on the Save button
located at the bottom of the page to save your data.

Setup Network:

IP Address:	192	. 0	. 0	. 170
Netmask:	255	. 255	. 255	. 0
Gateway:	192	. 0	. 0	. 1

Save   Undo Changes

Back to Switch Control

Network parameters require reboot before they take effect

After completing the setup for the device, and installing it in the system, the bring up the Switch Control page, to view the screen below.

Note that manual control of the switch is accomplished by clicking on the round display button for each switch.

If the display button is unlit, the switch is in the primary mode.

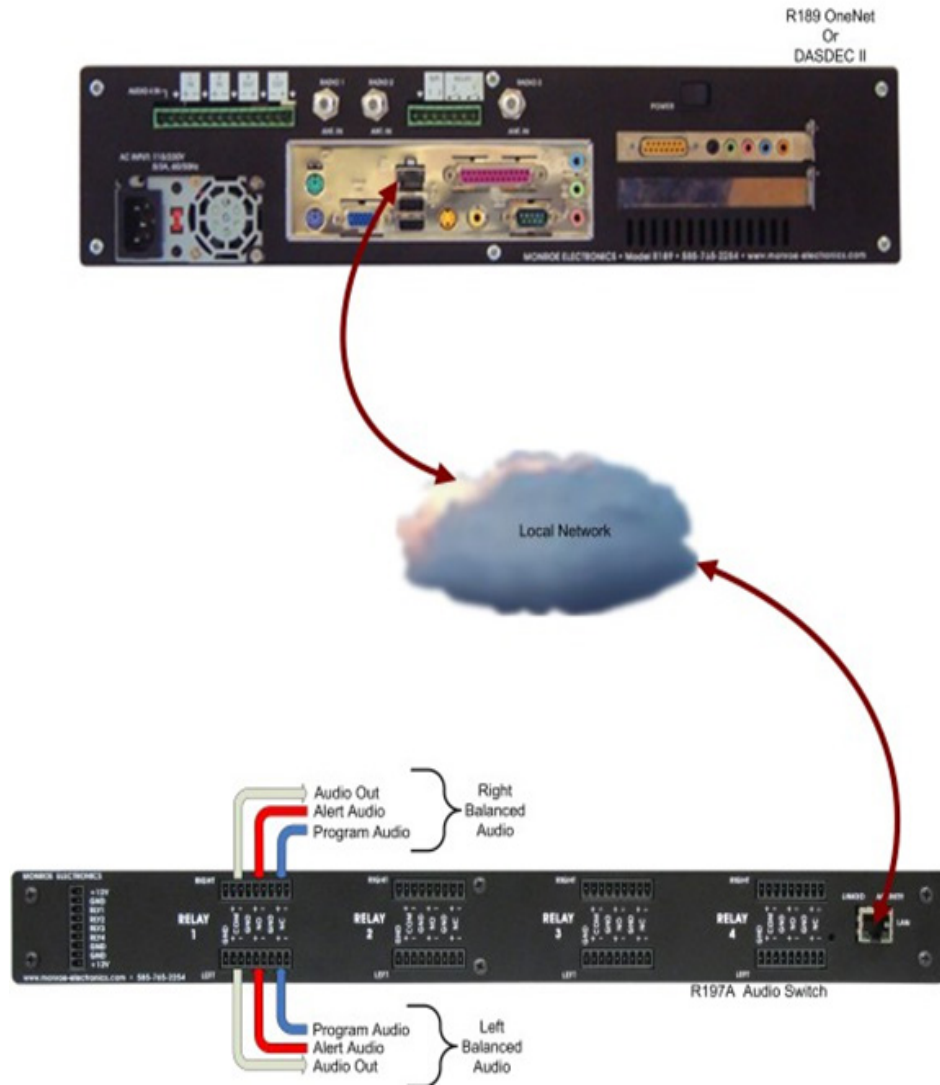If it is lit, the switch is in the secondary mode.

EAS Switching
(via DASDEC-II)

TYPICAL EAS APPLICATION FOR REMOTE AUDIO SWITCHING

EAS use with Digital Alert Systems DASDEC

Configuring the DASDEC-II

Each switch of the R197AV is network controlled by the DASDEC-II over a TCP/IP (Ethernet) connection. Each of the R197AV program switches is tied to a **Net GPIO relay control** setting in the DASDEC-II. Setting *NET GPIO Output Relay 1* will close the Channel 1 AES switch; *NET GPIO Output Relay 2* will close Channel 2 AES switch, etc. When any switch is closed the incoming analog audio to the Master input is digitized and output on each closed
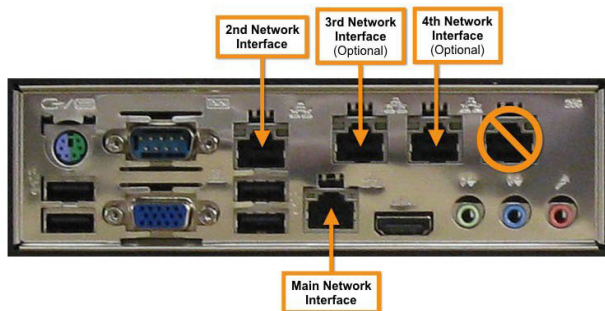
1. Once the R197AV is configured with the proper network settings connect it to a network where the DASDEC-II can "see" the device – i.e. the same network or, if the DASDEC-II has the EXP-3NICGIG Ethernet expansion directly (via a crossover cable to one of the expansion ports). Note the port numbers must match the configuration settings. Refer to the picture for port numbering.

2. Log onto the DASDEC-II box either remotely or locally from the web browser interface. The default is "Admin" as the User Name and "dasdec" as the password. (note: User Name and Password are case-sensive)

3. If the R197AV is on a common network (ie through an Ethernet switch to the DASDEC-II skip to **Step 12**. If the R197AV is connected to one of the other Ethernet ports 2 - 4 follow the steps below to ensure the network settings are correct.

4. Go to Setup > Network > Configuration

5. Enable the network inteface which is connected to the R197AV by selecting the box next to the **[number] Network Interface.**

6. If using the 2nd network interface select the **Static (Manually Configure)** radio button, otherwise continue to Step 7.

7. In the Manual Config Options box enter an IP Address that differs by at least one number in the last octet from the R197AV's IP address. As an example if the R197AV's IP address is 192.168.1.2 enter 192.168.1.3. Do not use the same IP numbers.

8. Enter enter the SAME Netmask number set in the R197AV.

9. You can ignore the host name.

10. Click Accept Changes /Restart Network further down the page. The DASDEC-II will restart with the new network settings.

11. Log in again

12. Go to **Setup > Net Alerts > Net GPIO**. Click on the Add NETGPIO Client Interface button as shown in **Figure** . A gray box will appear with additional information
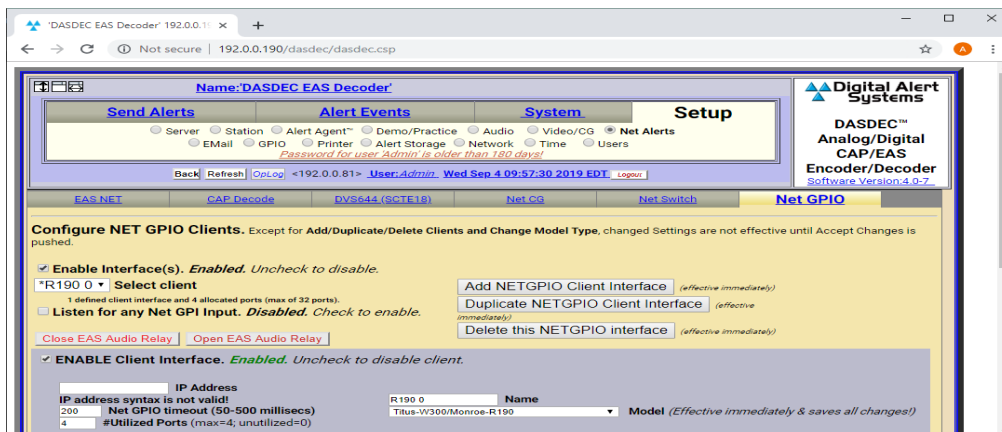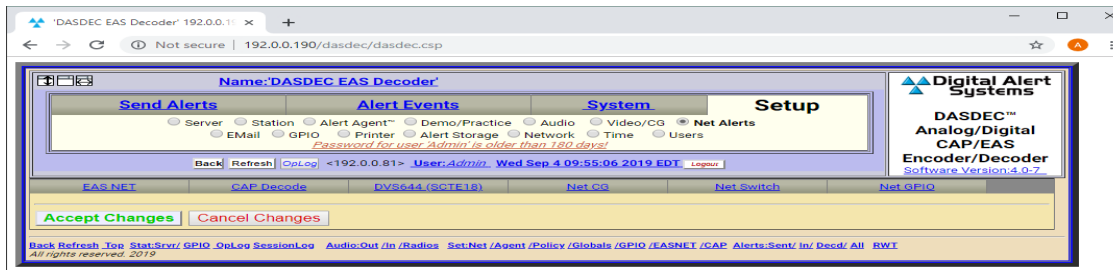
13. Turn on the client by selecting (clicking) in the box **ENABLE Client Interface** in the gray area. When activated additional parameters can be accessed and added as shown.

Reference source not found
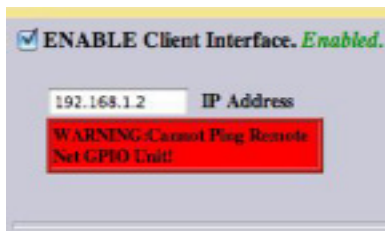
14. Put the IP address of the previously configured R197AV in the **IP Address box.** The DASDEC -II will immediately try to ping the device. If it cannot "find" the unit a red warning box (**Error: Reference source not found**) will be displayed. Enter the proper IP address to correct and the warning will disappear.

15. The *Name* box will default to NETGPIO x where "x" is the next number in the sequence. You can leave the current name or type a different name for this device. We'll use R197AV for this example. Once saved this name will appear in the pull down menu and on the station configuration table later.

16. Using the pull down menu next to *Model* select *WebRelay Quad/ Monroe-R190A/ R197*

17. If, *and only if,* the R197AV was configured with a "control" password type this in the box adjacent *Password.* NOTE: The control password is different from the configuration access password and is <<blank – no characters>> from the factory.

18. Using the pull down menu select *During EAS Audio Playout* under the *NET GPIO Output Relay 1*. After this is selected the FIPs and EAS filtering boxes will appear on to the right. Only very rare cases should these filters be used, so typically there is no need to modify these configurations

19. Repeat **Step 18** for each *NET GPIO Output Relay 2, 3 and 4*.

20. Click Accept Changes at the bottom of the screen.

Please refer to the DASDEC-II/OneNetSE User's Manual for remaining set up and function. Manual can be accessed on the Digital Alert Systems website.