ADAPTIVE®
Adaptive Micro Systems LLC

AlphaVision™ PC Type A, B, C, D, and F Sign User Manual

http://www.adaptivedisplays.com/gm/

STEP 1: Sign identification (page 17)

Sign type	Sign display size (pixels)
Type A	320 x 128
Type B	320 x 96
Type C	288 x 32
Type D	192 x 16
Type F	320 x 64

STEP 2: Safety information (page 5)

STEP 3: Mechanical installation (page 5)

STEP 4: Electrical installation (page 5)

STEP 5: Sign IP address setup . . .

— on Windows 2000 signs (Types A, B, and F) (page 6)

— on Windows CE signs (Type C and D) (page 9)

STEP 6: Troubleshooting (page 11)

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March 1, 2005 9711-2709F

Contents

Introduction

Purpose

This manual is intended as a guide for installation and setup of the sign, as well as for routine maintenance.

Revision history

Part number	Date	Notes
9711-2709	October 17, 2003	First release. Applies to only Type B signs.
9711-2709A	December 4, 2003	Expanded to apply to Type A, B, C, D, and E signs.
9711-2709B	March 2, 2004	Minor corrections.
9711-2709C	May 4, 2004	Expanded to apply to Type F signs. Added stacklight option.
9711-2709D	May 19, 2004	Removed Type E sign information.
9711-2709E	October 14, 2004	Added TuneBlaster 2 DIP switch picture to wiring drawing.
9711-2709F	March 1, 2005	Added Troubleshooting section.

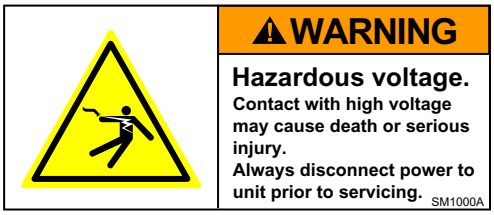
Related documentation

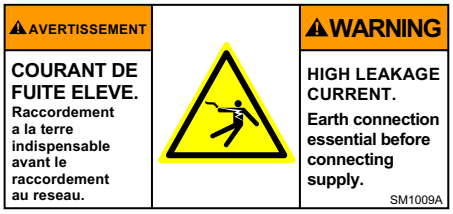
Sign Type	Single/ Double-sided	Part number	Title	Description
Type A (320 x 128)	Single	currently not available		
	Double	9712-7007	AlphaVision PC Type A, Double-Sided Signs Electrical Installation Guide	Describes the electro-mechanical installation of the double-sided Type A sign.
		9712-7008	AlphaVision PC Type A, Double-Sided Signs Mechanical Installation Guide	
Type B (320 x 96)	Single	9712-7013	AlphaVision PC Type B, Single-Sided Signs Electrical Installation Guide	Describes the electro-mechanical installation of the single-sided Type B sign.
		9712-7014	AlphaVision PC Type B, Single-Sided Signs Mechanical Installation Guide	
	Double	9712-7001	AlphaVision PC Type B, Double-Sided Signs Electrical Installation Guide	Describes the electro-mechanical installation of the double-sided Type B sign.
		9712-7002	AlphaVision PC Type B, Double-Sided Signs Mechanical Installation Guide	
Type C (288 x 32)	Single	9712-7005	AlphaVision PC Type C, Single-Sided Signs Electrical Installation Guide	Describes the electro-mechanical installation of the single-sided Type C sign.
		9712-7006	AlphaVision PC Type C, Single-Sided Signs Mechanical Installation Guide	
	Double	9712-7003	AlphaVision PC Type C, Double-Sided Signs Electrical Installation Guide	Describes the electro-mechanical installation of the double-sided Type C sign.
		9712-7004	AlphaVision PC Type C, Double-Sided Signs Mechanical Installation Guide	

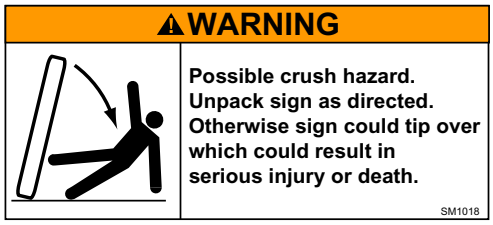
Sign Type	Single/ Double-sided	Part number	Title	Description
Type D (192 x 16)	Single	9711-2713	AlphaVision PC Type D, Single-Sided Signs Electrical Installation Guide	Describes the electro-mechanical installation of the single-sided Type D sign.
		9711-2712	AlphaVision PC Type D, Single-Sided Signs Mechanical Installation Guide	
	Double	9711-2711	AlphaVision PC Type D, Double-Sided Signs Electrical Installation Guide	Describes the electro-mechanical installation of the double-sided Type D sign.
		9711-2710	AlphaVision PC Type D, Double-Sided Signs Mechanical Installation Guide	
Type F (320 x 64)	Single	9711-3204	AlphaVision PC Type F, Single-Sided Signs Electrical Installation Guide	Describes the electro-mechanical installation of the single-sided Type F sign.
		9711-3203	AlphaVision PC Type F, Single-Sided Signs Mechanical Installation Guide	
	Double	9711-3202	AlphaVision PC Type F, Double-Sided Signs Electrical Installation Guide	Describes the electro-mechanical installation of the double-sided Type F sign.
		9711-3201	AlphaVision PC Type F, Double-Sided Signs Mechanical Installation Guide	
All types		TechMemo 00-0005	Preventing Electrostatic Discharge (ESD) Damage	Provides grounding procedures, lists work area guidelines, and explains ESD.

Safety information

Warnings and cautions







Controlling electrostatic discharge (ESD)

This equipment contains components that may be damaged by “static electricity”, or electrostatic discharge. To prevent this from happening, be sure to follow the guidelines in Adaptive Tech Memo 00-0005, *“Preventing Electrostatic Discharge (ESD) Damage,”* available on our Web site at http://www.adaptivedisplays.com.

Mechanical installation

See “Related documentation” on page 3.

Electrical installation

See “Related documentation” on page 3.

Setting an IP address on a Windows 2000 sign (Types A, B, and F)

NOTE: Another way to set a sign's IP address is described in "Attaching a monitor, keyboard, and mouse directly to a sign" on page 25.

Install VNC Viewer software on your computer

VNC Viewer is a software application that allows you to see and control the desktop of another computer that is running VNC Server software. To obtain this software, go to http://www.realvnc.com.

Windows 2000 AlphaVision PC signs are shipped with VNC Server installed.

Once you have VNC Viewer installed on your computer, you can control the Windows 2000 computer inside an AlphaVision PC sign. This will allow you to set the sign's IP address, run programs from the sign, and so on.

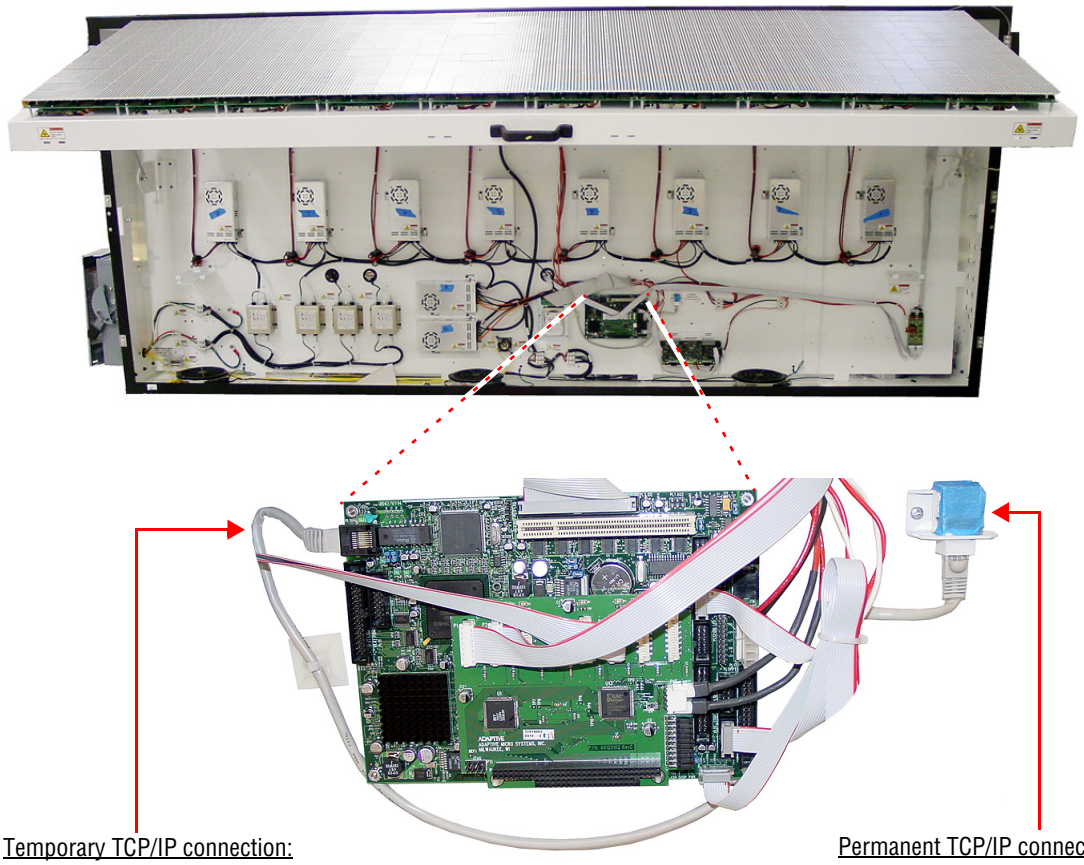
In order to use the VNC Viewer to control a sign, the sign must have an IP address — *and you must know what it is.*

Get a temporary IP address for the sign

AlphaVision PC signs are shipped with DHCP enabled. This means that a sign will *automatically* get an IP address once the sign is connected to a TCP/IP network. Later, this DHCP IP address can be changed to a *static* IP address.

1. Turn off the sign.
2. Connect the sign to a TCP/IP network using either a temporary or permanent connection shown below:

   NOTE: Your computer must be connected to this same TCP/IP network.



Temporary TCP/IP connection:
Disconnect this Ethernet cable.
Then connect the sign directly to a TCP/IP network.

Permanent TCP/IP connection:
Use this punchdown block to wire a permanent TCP/IP connection to the sign.

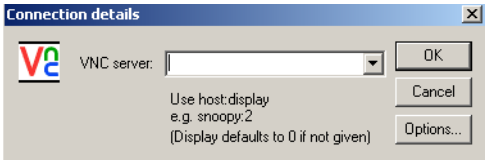
3. Apply power to the sign. Write down the IP address that appears on the sign. An example from a Type B sign is shown below:

```
IP Address: 207.12.27.1
Subnet Mask: 255.255.255.0
Gateway: 0.0.0.0
MAC Address: 00-80-66-05-1e-86
```

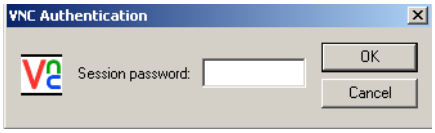
Assign a static IP address to the sign using VNC Viewer

Obtain a static IP address for the sign from your network administrator.

4. Select *Start* > *Programs* > *RealVNC* > *VNC Viewer*. After *VNC Server*, type the IP address that was displayed on the sign. Then click *OK*:



5. After *Session password*, type "dbadmin". Then click *OK*.

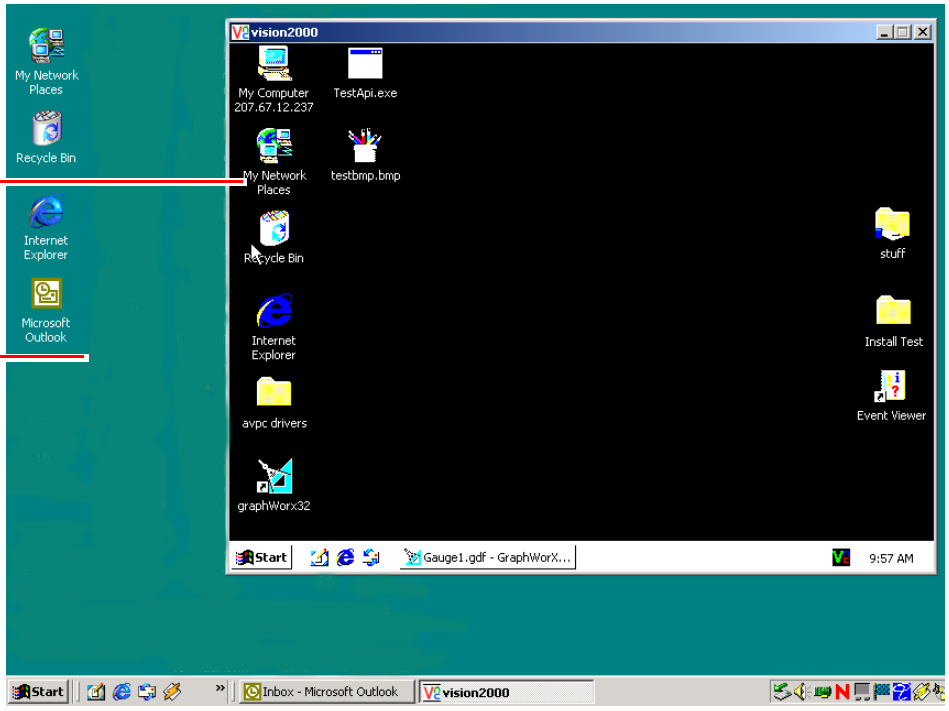


6. You are now connected to the sign's desktop. At this point, you can perform any Windows 2000 activity, such as setting the window area, changing the sign's IP address, and so on.

This is the *sign's* desktop. When you work in this window, you are working on the sign's hard drive.

This is *your* desktop. When you work in this window, you are working on your computer's hard drive.

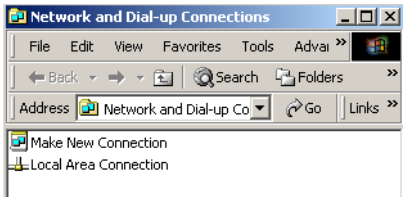
You can go back and forth between desktops — just be sure to keep track of which desktop window you are currently working.



7. Right-click *My Network Places* on the *sign's* desktop and select *Properties*.

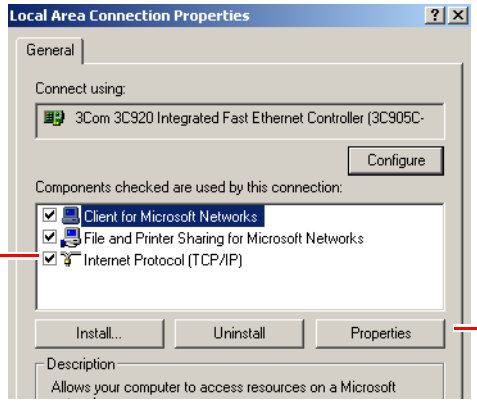
Right-click this icon on the sign's desktop and select *Properties*.

8. Right-click *Local Area Connection* and select *Properties*.



Right-click this menu item and select *Properties*.

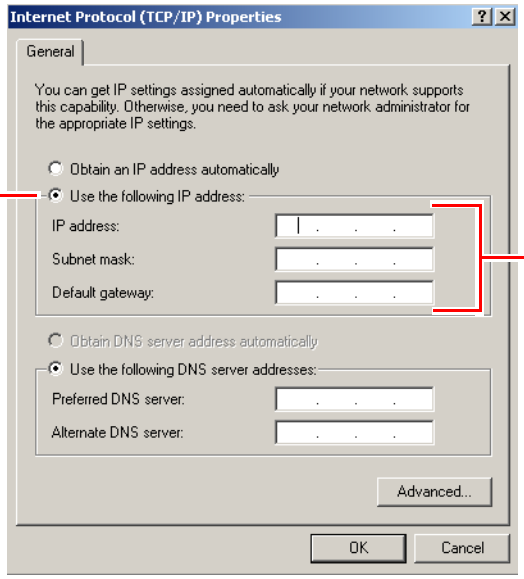
9. Select *Internet Protocol (TCP/IP)* and then click the *Properties* button.



First select this menu item.

Then click *Properties*.

10. Click *Use the following IP address* and then complete the appropriate settings.



First click here.

See your network administrator for these settings.

11. When finished, click *OK*.

Setting an IP address on a Windows CE sign (Type C and D)

NOTE: Another way to set a sign's IP address is described in "Attaching a monitor, keyboard, and mouse directly to a sign" on page 25.

Install Network Setup software on your computer

The Network Setup software allows you to change the IP address of a sign and is available from Adaptive Micro Systems. Go to http://www.adaptivedisplays.com/gm/. Click *Setup Utilities* > *type_C_D* > *setip.exe*.

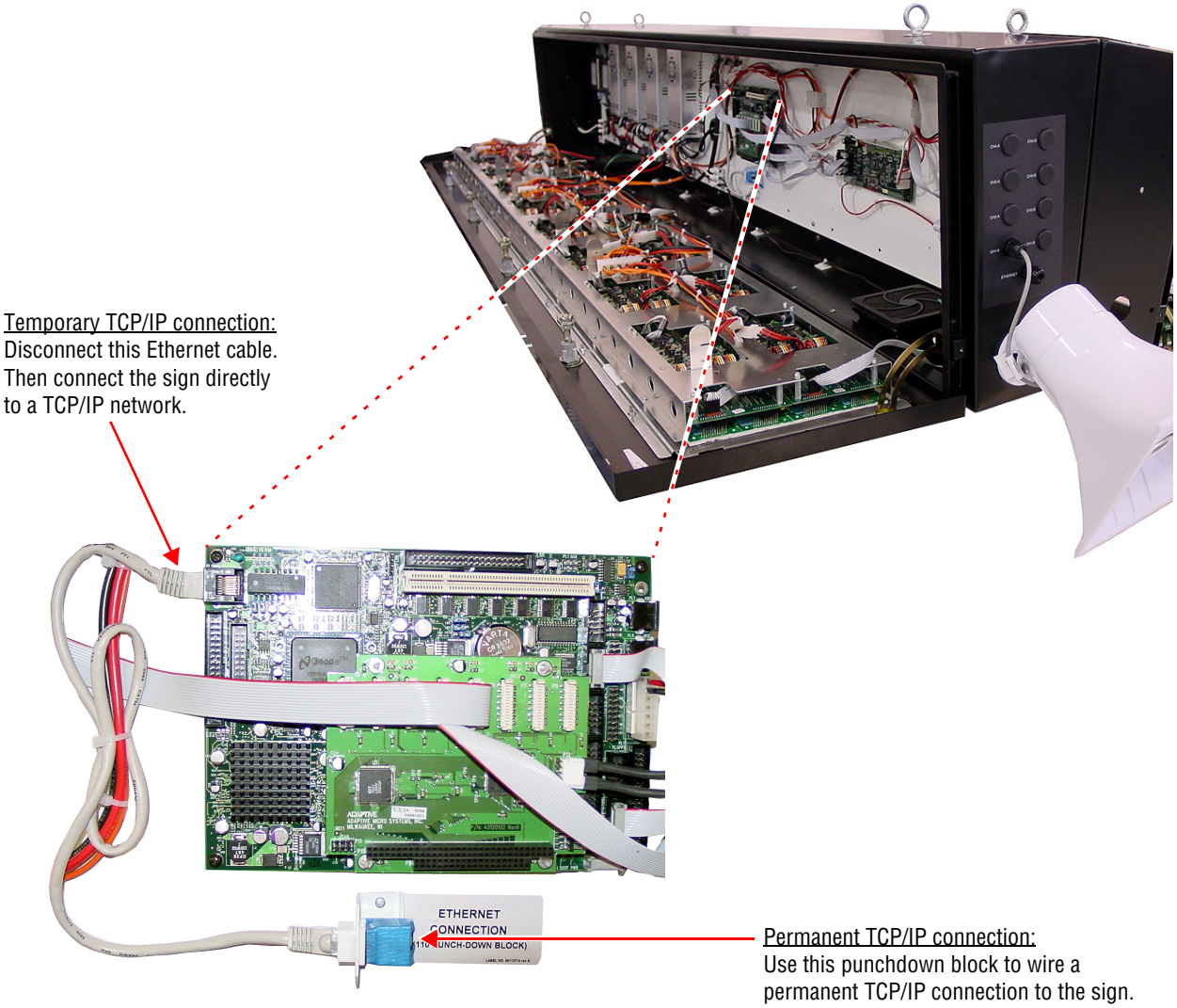
NOTE: You will need to know this site's user name and password.

Get a temporary IP address for the sign

AlphaVision PC signs are shipped with DHCP enabled. This means that a sign will *automatically* get an IP address once it is connected to a TCP/IP network. Later, you can change this DHCP IP address to a *static* IP address.

1. Turn off the sign.
2. Connect the sign to a TCP/IP network using either a temporary or permanent connection shown below:

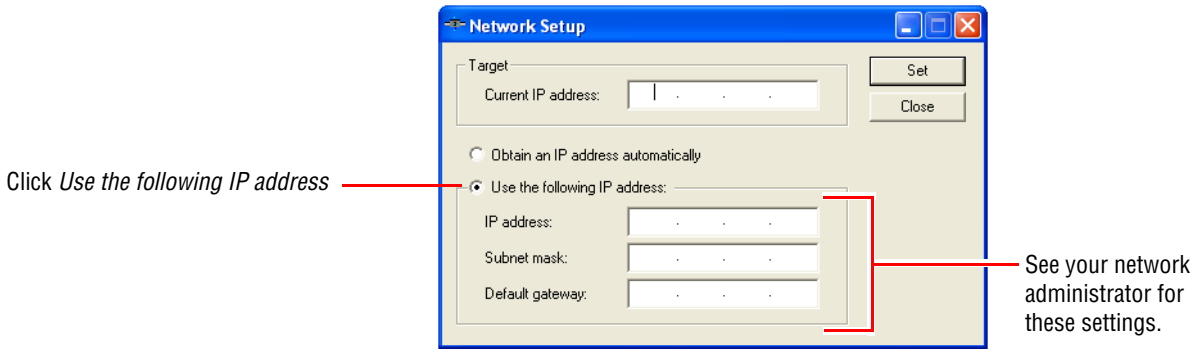
   NOTE: Your computer must be connected to this same TCP/IP network.



3. Apply power to the sign. Write down the IP address that appears on the sign. An example from a Type C sign is shown below:

Assign a static IP address to the sign using Network Setup

4. Start Network Setup. After *Current IP address,* type the IP address that was displayed on the sign. Then enter the new IP address:



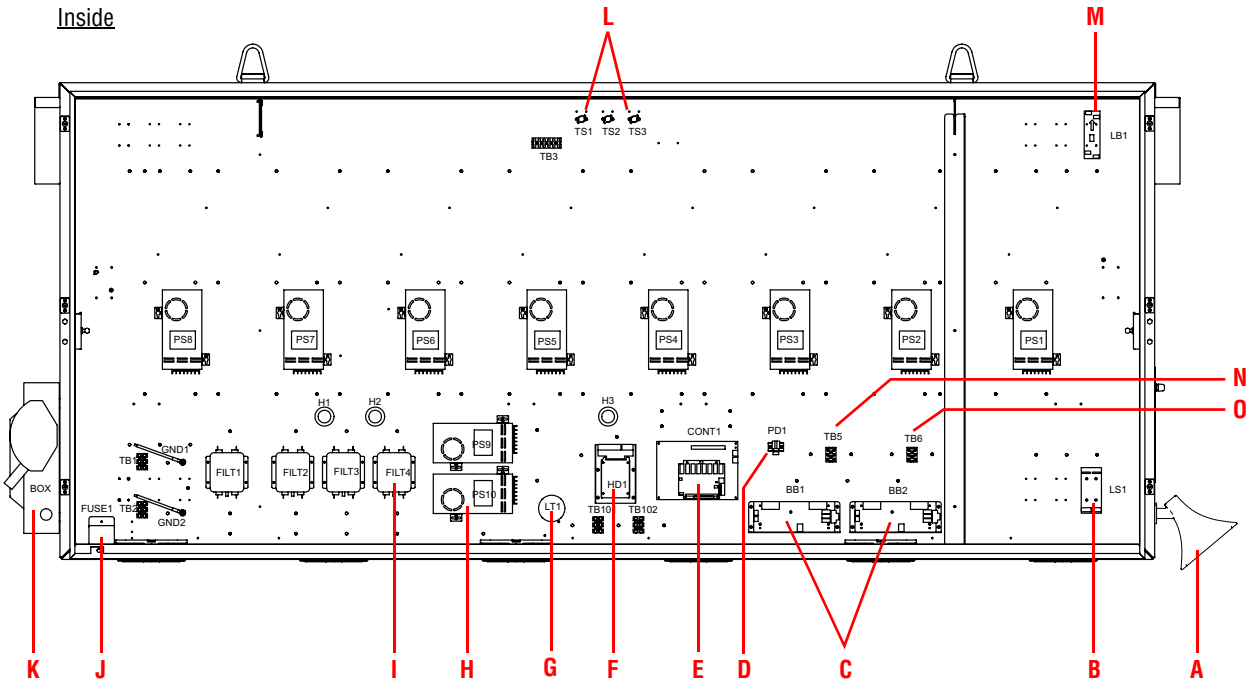
Troubleshooting

Major sign components

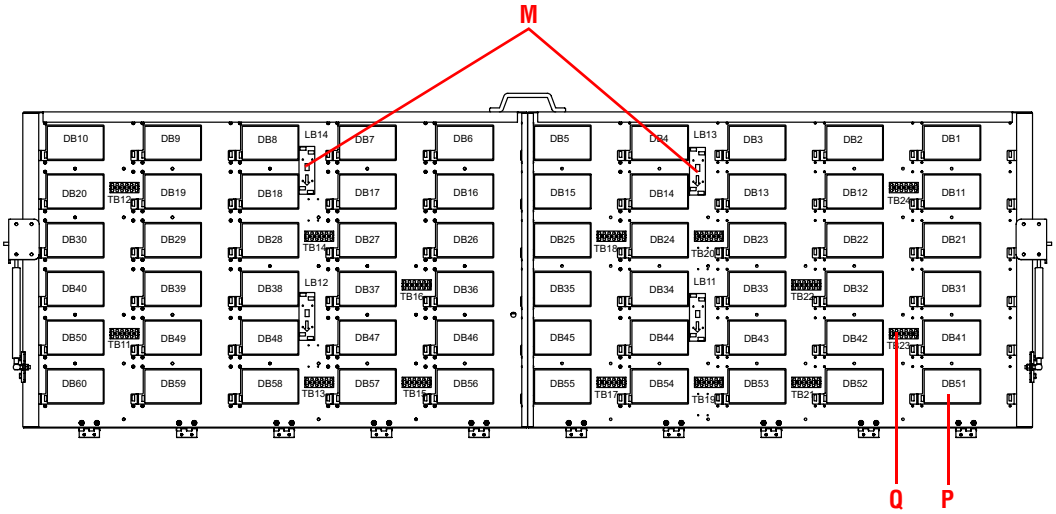
Table 1: Major sign components

Shown below is a Type B Master sign. Other sign sizes are similar.

Inside

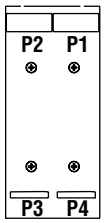
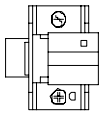
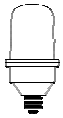
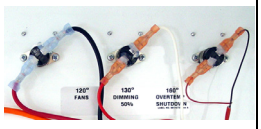
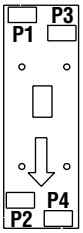
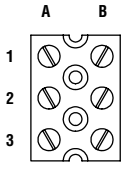


LED door underside



Item	Name	Description
A	Speaker (option)	Plays sounds from TuneBlaster sound board.

Table 1: Major sign components

B	Level Shifter board 	Changes 5V logic to 12V logic.
C	TuneBlaster sound board	Used to play sounds through up to 4 speakers per board. The TuneBlaster sound board is an option.
D	Modular network adapter 	Connects Ethernet adapter on the sign controller board to an external Ethernet network. A 110 punch-down tool is required to wire an external Ethernet connection to this adapter.
E	Controller board with turbo adapter board (on top)	The turbo adapter board is an interface between the controller board and the LED driver boards. One of two controller boards will be used: • Arcom SBC-GX1 embedded PC board with Geode 300MHz processor. • Advantech PCM-9579 embedded PC board with Celeron 650MHz processor.
F	Hard disk drive (not installed on Windows CE units)	Used to store operating system and programs.
G	Light 	Philips 371237 18W compact fluorescent bulb. Powered through fuses (item L).
H	Power supply	Supplies either 5V (Meanwell SP-200-5) or 12V (Meanwell SP-200-12) power to sign components.
I	EMI filter	Removes electromagnetic interference from incoming and outgoing AC power.
J	Fuses	Two, 1/4 x 1 1/4-inch, fast acting, 10A, 250V fuses.
K	Disconnect box	AC power switchbox.
L	Thermostats 	Control the following sign functions: • TS1 — At 120F, turns fans on. • TS2 — At 130F, dims the sign's LEDs. • TS3 — At 130F, turns sign off.
M	Loopback board 	Boosts signal strength.
N	TB5 DC terminal block 	5V and 12V wiring terminals.
O	TB6 DC terminal block	
P	LED driver board	
Q	Power distribution board	Supplies 5V and 12V to LED driver boards.

Problem/Solution chart

#	Problem	Recommended solution
1	On one side of the sign, half of the display (3 rows of LED driver boards) is a solid color, displaying garbage, or blank	1. Swap the cables on the Turbo board. • If the problem is on the sign's Master side, swap P1 and P2. • If the problem is on the sign's Slave side, swap P5 and P6. If the problem goes to the other half of the display, then the Turbo board is bad. 2. Swap the cables P1 and P2 on the Level Shifter board located on the bad side of the display. If the problem goes to the other half of the display, then the cable between the Turbo board and the Level Shifter board is bad. 3. Swap the cables P3 and P4 on the Level Shifter board located on the bad side of the display. If the problem goes to the other half of the display, then the Level Shifter board is bad. 4. Swap the cables P3 and P1 on the Loopback board located on the bad side of the display. If the problem goes to the other half of the display, then the cable between the Level Shifter board and the Loopback board is bad. 5. Swap the cables P4 and P2 on the Loopback board located on the bad side of the display. If the problem goes to the other half of the display, then the Loopback board is bad. 6. Swap the cables going from the Loopback board to the LED driver board at the LED driver board located on the bad side of the display. If the problem goes to the other half of the display, then the cable between the Loopback board and the LED driver board is bad.
2	On one side of the sign, half of the display (3 rows of LED driver boards) is blank.	1. Check the cable connections on the Turbo board. • The Master side must be plugged into P1 and P2. • The Slave side must be plugged into P5 and P6. 2. Check the power going to the first LED driver board in the chain to make sure it is getting both 5v and 12v. 3. Run through the steps for problem #1 above.
3	On one side of the sign, part of the display is displaying garbage.	1. Run through the steps from problem #1 above. 2. If the problem does not move, then check the terminal strips for loose wires
4	One side of the sign is blank.	1. Check the cable connections on the Turbo board. • The Master side must be plugged into P1 and P2. • The Slave side must be plugged into P5 and P6. 2. On the Turbo Card, swap P1 and P2 with P5 and P6. If the problem moves to the other side of the display, then the Turbo board is bad. 3. Check the 12v power supply and all of the 5v power supplies to make sure they are outputting the correct voltage. 4. Check the power going to the first LED driver board in the chain to make sure it is getting both 5v and 12v.

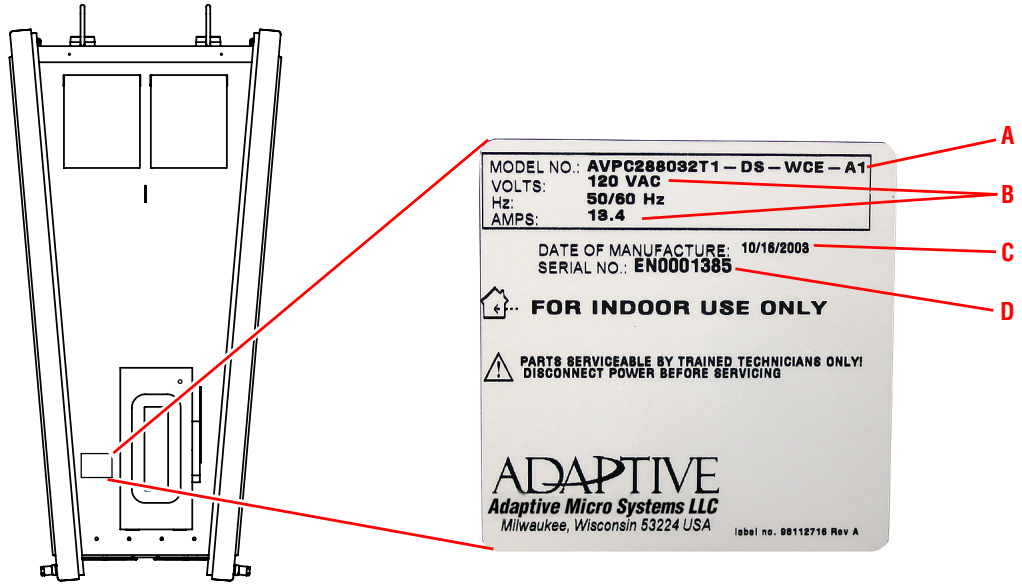
#	Problem	Recommended solution
5	The entire sign is blank.	1. Is it powered on? 2. Check the cable connections on the Turbo board. • The Master side must be plugged into P1 and P2. • The Slave side must be plugged into P5 and P6. 3. On the Turbo board, check the status LEDs: • D1 – Power • D3 – FPGA is loaded If D1 is on, but D3 is not, then there could be a fault with the controller board, Turbo board, or the hard drive. 4. Is the Controller's PWR LED on? 5. Do they still have communication to the display? Call Adaptive Tech Support
6	On one side of the sign, the top half of the display is showing the data for the bottom half of the display, and the bottom half of the display is showing the data for the top half of the display.	The cables on the Turbo board are swapped. Swap the cables on the Turbo board: • P1 and P2 if the problem is on the Master side. • P5 and P6 if the problem is on the Slave side.
7	A diagonal test pattern in a red, green, and amber sequence is running.	Hard drive is not functioning properly: 1. Check to make sure the hard drive IDE cable is connected to the controller board. 2. Check to make sure the voltage at the hard drive is 5 volts.
8	Display is cycling between diagonal lines, solid vertical columns, and the Ethernet information.	The Test Mode DIP Switch on the TuneBlaster board is set to ON. Switch DIP Switch #5 on the TuneBlaster board to OFF
9	A column of LEDs is out on one LED driver board.	Replace the LED cube on the driver board that has the failure. If the problem still persists, replace the entire LED driver board.
10	A row of LEDs is out on one LED driver board.	Replace the entire LED driver board.
11	There is a single LED out on one cube of an LED driver board.	Replace the cube containing the LED that is out.
12	There is a *ghosting column* of LEDs (a column of LEDs that is dimly on when it is supposed to be off).	Replace the cube that has the failure on it. If the problem still persists, replace the entire LED driver board.
13	There is a *shorted column* of LEDs (a column of LEDs that is on in addition to the column that is supposed to be on).	Replace the cube that has the failure on it. If the problem still persists, replace the entire LED driver board.
14	There is a *shorted row* of LEDs (a row of LEDs that is on in addition to the row that is supposed to be on).	Replace the cube that has the failure on it. If the problem still persists, replace the entire LED driver board.
15	An entire LED driver board is blank, but there is data on the drivers on both sides of the blank board.	Check the power going to the LED driver board. It may not be getting the 5 volts it needs. However, if the power is good, then replace the LED driver board.

#	Problem	Recommended solution
16	An entire LED driver board is blank and there is no data on the rest of the LED driver boards in the chain.	1. Use a long data cable to bypass the first blank LED driver board. If the data comes back on, then the bypassed LED driver board has a bad input. Replace the bypassed LED driver board. 2. If #1 doesn't fix the problem, then use a long data cable to bypass the LED driver board to the right of the first blank LED driver board. If the data comes back on, then the bypassed LED driver board has a bad output. Replace the bypassed LED driver board.
17	An entire LED driver board is dimly lit green. However, the rest of the LED driver boards in the chain are lit dimly green.	The data cable going into the first dimly lit green LED driver board was installed backwards
18	No network communication (only applies to Arcom embedded PC controller).	1. Open a Command Prompt. 2. Type "IPCONFIG". 3. If the returned result is 'No Interfaces Present', the BIOS reverted back to the factory default. 4. When the AVPC is powering up, press **DELETE** to get into the BIOS. 5. Use the arrow keys to move to *PNP/PCI CONFIGURATION*. Then press **ENTER**. 6. Use the arrow keys to move to *Resources Controlled By*. Verify that it is set to *Auto*. 7. Press **Page Down** to change the value to *Manual*. Verify that all are set to *PCI/ISA PnP*. 8. Use the arrow keys to move to *IRQ-5 assigned to*: Then press **Page Down** to change the value to *Legacy ISA*. 9. Use the arrow keys to move to *IRQ-10 assigned to*: Then press **Page Down** to change the value to *Legacy ISA*. 10. Use the arrow keys to move to *IRQ-11 assigned to*: Then press **Page Down** to change the value to *Legacy ISA*. 11. Press **ESC** to return to the main menu. 12. Use the arrow keys to move to *SAVE & EXIT SETUP*. Then press **ENTER.** 13. At the *SAVE to CMOS and EXIT* prompt, press **Y**. Then press **ENTER**. If the returned result displays the configured IP Address, check network cables and connections.

#	Problem	Recommended solution
19	No sound from sound card (TuneBlaster sound boards).	1. Check cable connections between the controller board and the TuneBlaster board(s). 2. Check the speaker wiring to the TuneBlaster board(s). 3. Are the TuneBlaster board(s) getting the required 12 volts? 4. (Only applies to Arcom embedded PC controller.) Open a Command Prompt. Type *IPCONFIG***.** If the returned result is *No Interfaces Present*, then the BIOS reverted back to the factory default. In this case, do the following: • When the AVPC is powering up, press **DELETE** to get into the BIOS. • Use the arrow keys to move to *PNP/PCI CONFIGURATION*. Then press **ENTER**. • Use the arrow keys to move to *Resources Controlled By:* Verify that it is set to *Auto*. • Press **Page Down** to change the value to *Manual***.** Verify that all are set to *PCI/ ISA PnP).* • Use the arrow keys to move to IRQ-5 assigned to*:* Then press **Page Down** to change the value to *Legacy ISA.* • Use the arrow keys to move to *IRQ-10 assigned to:* Then press **Page Down** to change the value to *Legacy ISA.* • Use the arrow keys to move to *IRQ-11 assigned to:* Then press **Page Down** to change the value to *Legacy ISA.* • Press **ESC** to return to the main menu. • Use the arrow keys to move to *SAVE & EXIT SETUP*. Then press **ENTER**. • At the *SAVE to CMOS and EXIT* prompt, press **Y** and then press **ENTER**. If the returned result displays the configured IP Address, the BIOS is okay. 5. Cycle power on the display. Does the sound card play its power-up tune? 6. If 1, 2, 3, and 4 are good, and 5 doesn't play a tune, then replace the sound card.

Appendix

Sign identification



Item	Name	Model number description
A	Model number	AVPC320096T1-DS-W2K-A4 Music channels: A1 = 1 music channel (up to 2 speakers) A4 = 4 music channels (up to 8 speakers) A8 = 8 music channels (up to 16 channels) Sign operating system: W2K = Windows 2000 WCE = Windows CE Sign type: DS = double-sided SS = single-sided GM model: T1 = GM NACCL 8-color model T2 = Updated Type B sign Sign display width and height (in pixels) 320128 = Type A (320 x 128) 320096 = Type B (320 x 96) 288032 = Type C (288 x 32) 192016 = Type D (192 x 16) 320064 = Type F (320 x 64) Sign model: AVPC = AlphaVision PC
B	Electrical information	Input voltage, frequency, and amperage.
C	Date of manufacture	Month, day, and year the sign was made.
D	Serial number	Consecutive, unique identification number.

Technical specifications

Model number (see "Sign identification" on page 17)	Type	Display size (pixels)	Sign operating system	Current[1]					Weight (approx pounds)	Dimensions[2] (L x H x W) (inches)
				Total (A)	Master sign		Slave sign			
					Max (A)	Fuse (A)	Max (A)	Fuse (A)		
AVPC320128T1-SS-W2K-A1	A	320 x 128	Windows 2000	26.30	26.30	35	—	—	900	125.59 x 53.2 x 23.64
AVPC320128T1-SS-W2K-A4				27.24	27.24	35	—	—		
AVPC320128T1-SS-W2K-A8				28.49	28.49	35	—	—		
AVPC320128T1-DS-W2K-A1				52.18	26.30	35	25.88	35	1000	125.59 x 53.2 x 25.37
AVPC320128T1-DS-W2K-A4				53.12	27.24	35	25.88	35		
AVPC320128T1-DS-W2K-A8				54.37	28.49	35	25.88	35		
AVPC320096T2-SS-W2K-A1	B	320 x 96	Windows 2000	20.52	20.52	30	—	—	650	125.8 x 43.7 x 23.2
AVPC320096T2-SS-W2K-A4				21.46	21.46	30	—	—		
AVPC320096T2-SS-W2K-A8				22.72	22.72	30	—	—		
AVPC320096T2-DS-W2K-A1				40.62	20.52	30	20.10	30	870	125.83 x 43.7 x 24.93[3]
AVPC320096T2-DS-W2K-A4				41.56	21.46	30	20.10	30		
AVPC320096T2-DS-W2K-A8				42.82	22.72	30	20.10	30		
AVPC288032T1-SS-WCE-A1	C	288 x 32	Windows CE	7.66	7.66	15	—	—	180	106.85 x 16.71 x 8.40
AVPC288032T1-SS-WCE-A4				8.60	8.60	15	—	—		
AVPC288032T1-DS-WCE-A1				13.44	13.44	20	—	—	350	106.85 x 16.71 x 16.85
AVPC288032T1-DS-WCE-A4				14.38	14.38	20	—	—		
AVPC192016T1-SS-WCE-A1	D	192x16	Windows CE	3.80	3.80	10	—	—	80	78.5 x 11.6 x 8.5
AVPC192016T1-SS-WCE-A4				4.74	4.74	10	—	—		
AVPC192016T1-DS-WCE-A1				5.73	5.73	10	—	—	160	78.5 x 11.6 x 17
AVPC192016T1-DS-WCE-A4				6.67	6.67	10	—	—		
AVPC320064T1-SS-W2K-A1	F	320 x 64	Windows 2000	13.5	13.5	17	—	—	550	125.83 x 34.1 x 21.5
AVPC320064T1-SS-W2K-A4				14.4	14.4	18	—	—		
AVPC320064T1-SS-W2K-A8				15.6	15.6	20	—	—		
AVPC320064T1-DS-W2K-A1				26.7	13.5	17	13.2	17	650	125.83 x 34.1 x 22.2
AVPC320064T1-DS-W2K-A4				27.6	14.4	18	13.2	17		
AVPC320064T1-DS-W2K-A8				28.8	15.6	20	13.2	17		

NOTES:

[1] Measurement conditions: amber match mode, lights on (if applicable), all speakers on, all fans on.

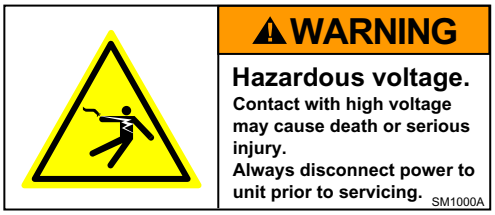
[2] All sign lengths include the added length of a speaker (approximately 12 inches). Type C signs ship with speakers attached. On all other sign types, speakers are optional.

[3] Early Type B signs were taller and heavier than the newer Type B signs. Early Type B signs had dimensions of 125.59 x 50.75 x 24.93 and weighed approximately 900 pounds.

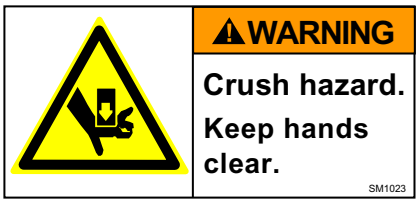
Installing a second TuneBlaster sound card

NOTE: This option is not available for all signs.

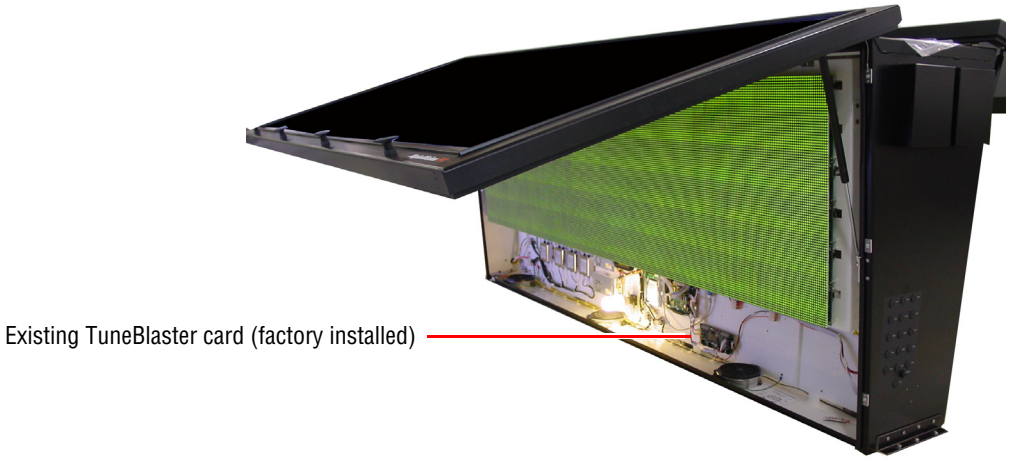
1. Remove power from the sign.



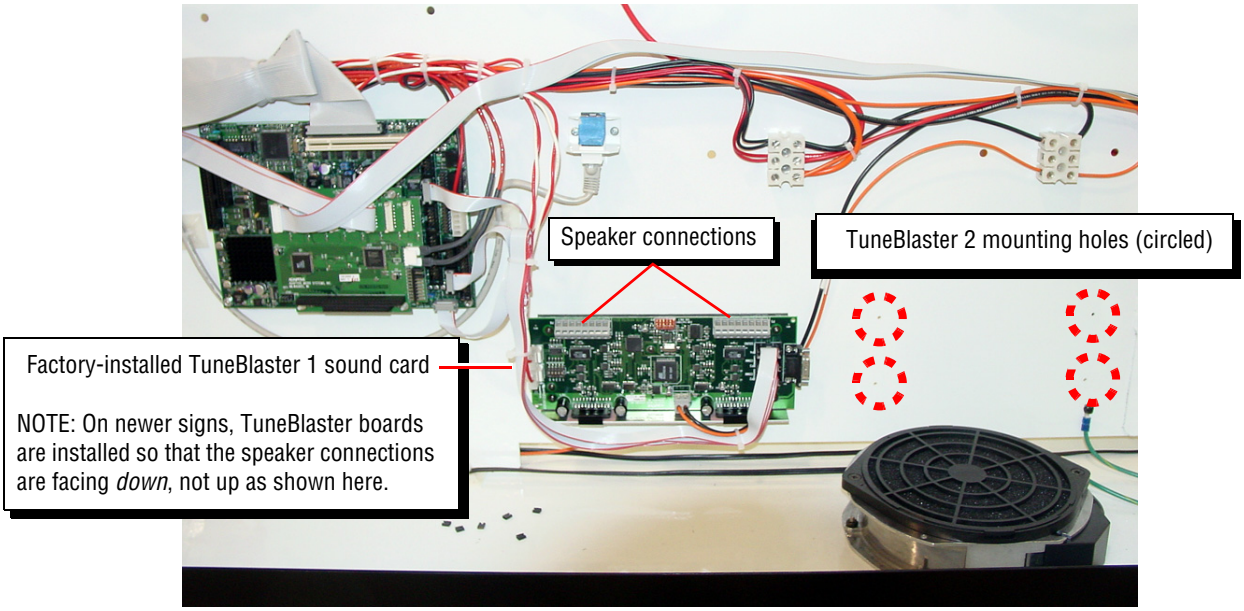
2. Open *both* sides of the sign.



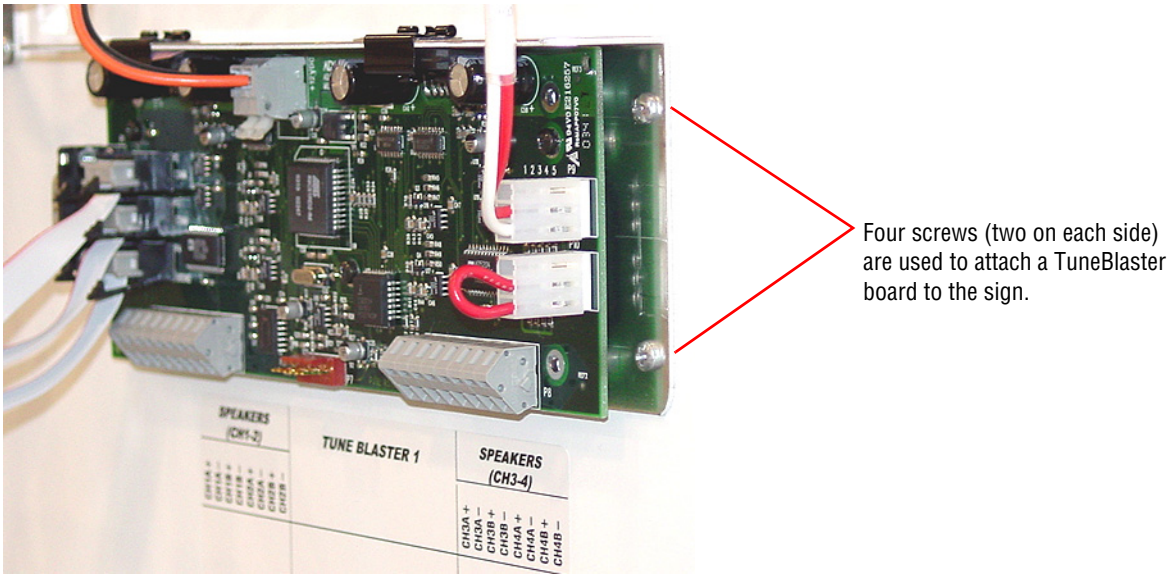
3. Locate the factory-installed TuneBlaster card:



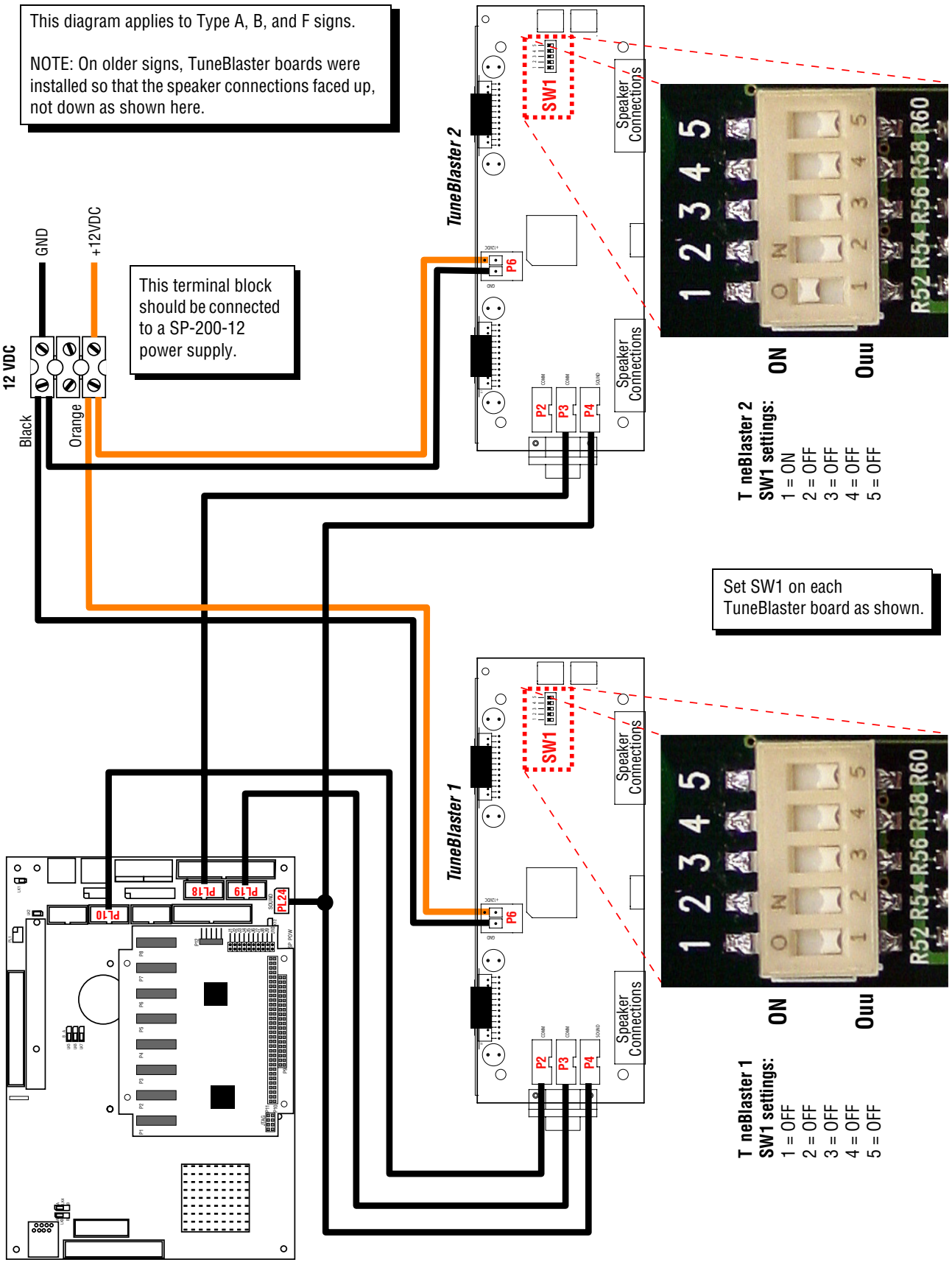
4. To the right of the factory-installed TuneBlaster sound card, locate the four (4) mounting holes.



5. Fasten the second TuneBlaster sound card to the sign using the four (4) mounting holes:



6. Connect the second TuneBlaster sound card as shown:



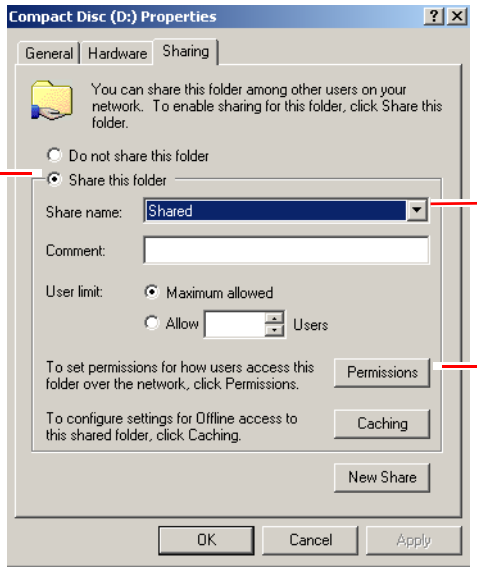
Installing software on a Windows 2000 sign's hard drive

In order to install software on the sign's hard drive, you must first share your CD-ROM drive with it. (Note that there are several ways to get software installed on the sign. This is just one method.)

1. If you have not already done so, install and start VNC Viewer software on your computer. See "Assign a static IP address to the sign using VNC Viewer" on page 7.
2. Open *My Computer* on your desktop.

Double-click *My Computer* to open it.

3. Right-click on the CD-ROM drive to be shared and select *Sharing...*
4. Click *Share this folder*. Then type a *Share name*. Click the *Permissions* button.

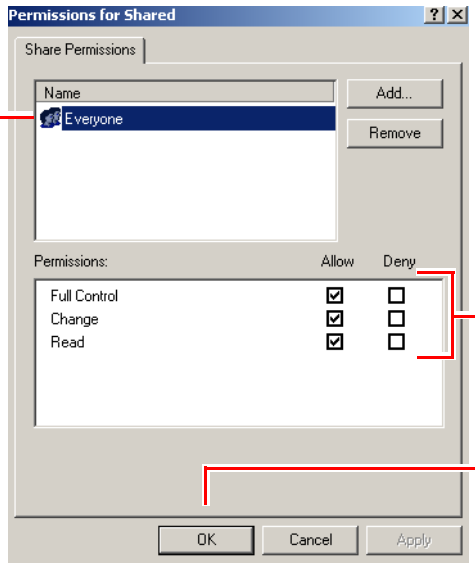


First click here.

Then type in a name for the shared folder.

Finally, click *Permissions*.

5. Select *Everyone*. Then complete the *Permissions* as appropriate. When finished, click *OK*.

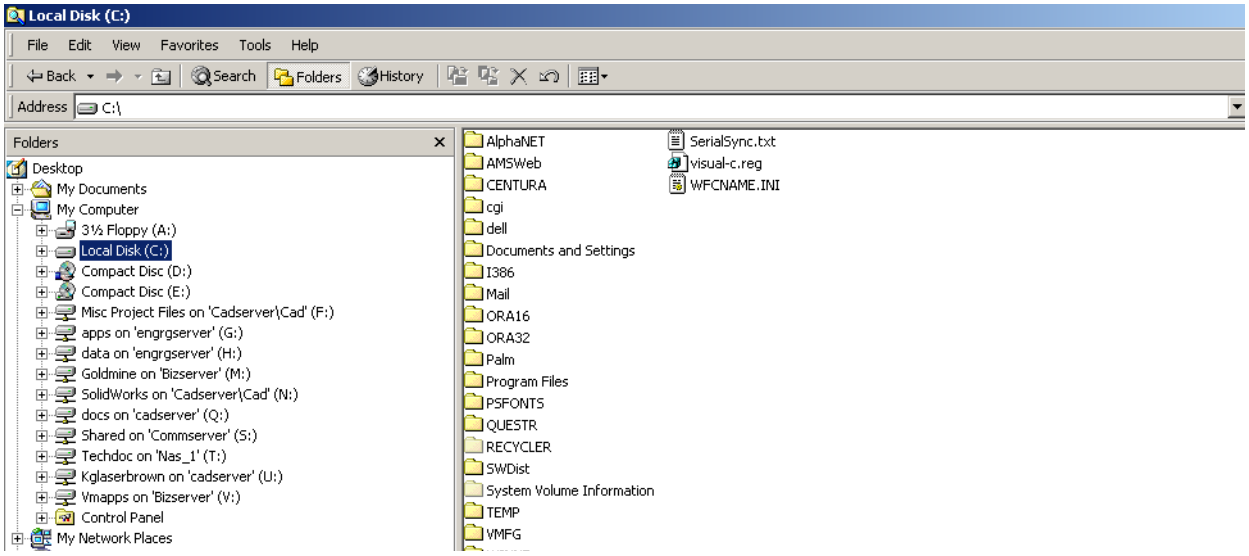


Select *Everyone*.

Then select *Allow* or *Deny* for each *Permission*.

Click *OK*.

6. On the sign's desktop, right-click the *Start* button and select *Explore*. The sign's hard drive directory appears:

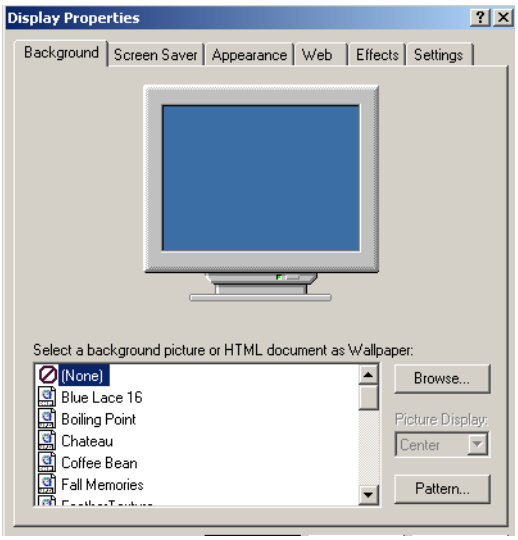


7. Select *My Network Places* in the left panel and then double-click *Entire Network* in the right panel.
8. Double-click the following in the right panel, in the order given:
   - Microsoft Windows Network
   - the network on which your computer resides
   - your computer (look for your name)
   - your computer's CD-ROM drive (look for the name you gave the shared file in step 3)
9. At this point, you can install software on the sign's hard drive through your computer's CD-ROM drive.

Configuring a Windows 2000 sign

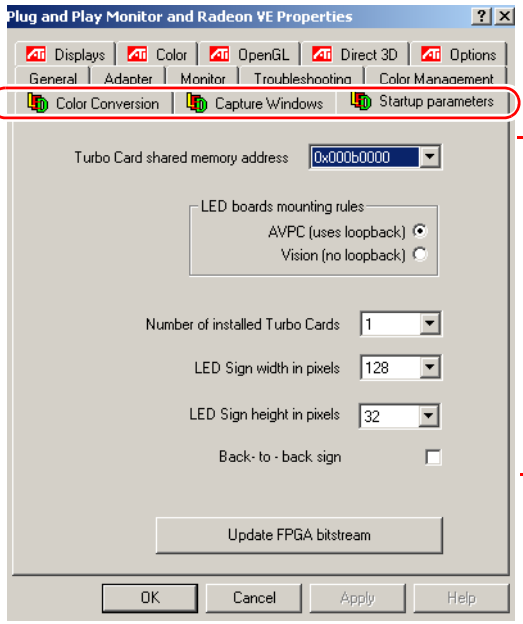
You can view and modify your sign's current settings, as well as see some of the changes before they are actually performed. Note that you will need to restart your computer after making any changes.

1. If you have not already done so, install and start VNC Viewer software on your computer. See "Install VNC Viewer software on your computer" on page 6 and "Get a temporary IP address for the sign" on page 6.
2. Right-click the sign's desktop and select *Properties*. The *Display Properties* window appears:



3. Click the *Settings* tab and then click the *Advanced* button. When the advanced properties window appears, click the *Startup parameters* tab and make the appropriate changes:

These are the properties of your sign with which you will be working.

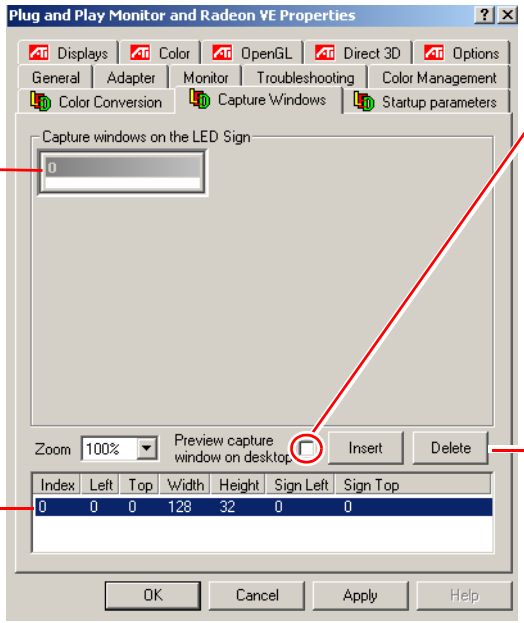


You can specify turbo card information, set the type and size of your sign, and indicate whether back-to-back mounting is used.

NOTE: These items are factory-set and changing them may adversely affect sign operation.

4. Click the *Capture Windows* tab and make the appropriate changes:

To resize the window, position the mouse over a corner and, when it turns into a double arrow, click and drag the window inward or outward. Note that the dimension information below changes accordingly.

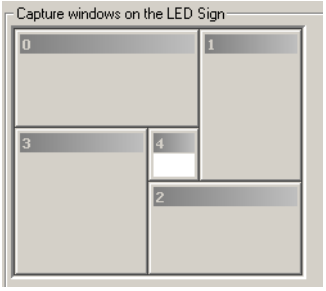


Capture window dimension information

Click here to see a preview of your capture window. You can also click and drag this preview window inward and outward to change its width and height.

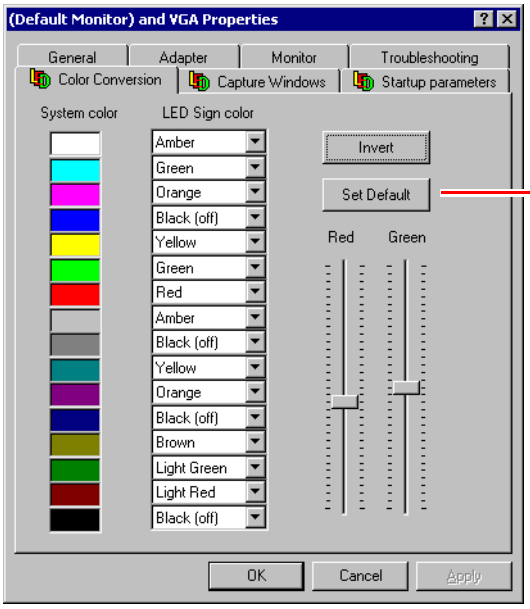
Capture window preview. You can click the gray tab and drag the window to a different area of your screen.

The *Insert* and *Delete* buttons allow you to add and delete capture windows. You can have up to 99 capture windows.



5. Click the *Color Conversions* tab and make the appropriate changes:

This setting defines how the colors of the 16-color Windows standard palette (*System color*) are converted into the eight LED colors (*LED Sign color*). For each of the 16 colors, you can specify the color to appear on the sign in its place.



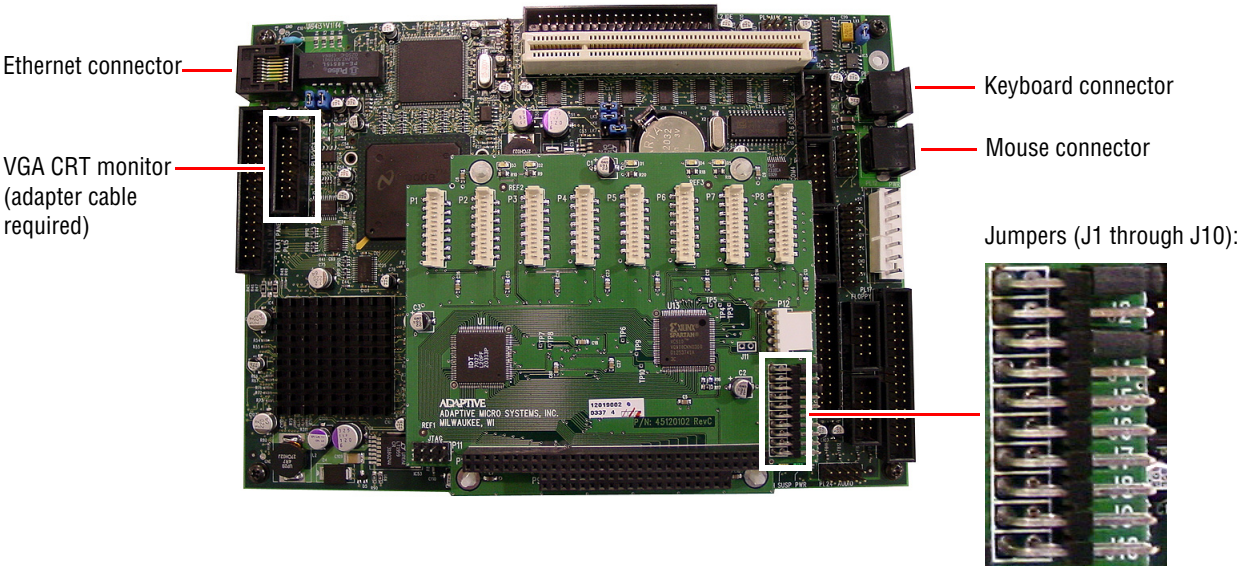
Returns the settings to their original values.

6. When changes are complete, click *OK*, then follow any prompts for restarting your system.

Attaching a monitor, keyboard, and mouse directly to a sign

1. Remove power from the sign.
2. Open the sign.

   NOTE: For a double-sided sign, just open the Master side.
3. Connect a VGA CRT monitor, computer keyboard and mouse to a sign's controller board as shown:



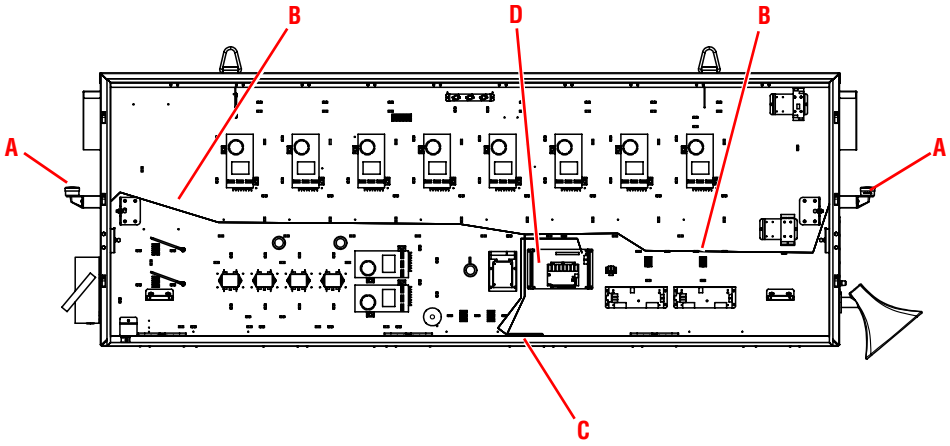
4. Apply power to the sign.

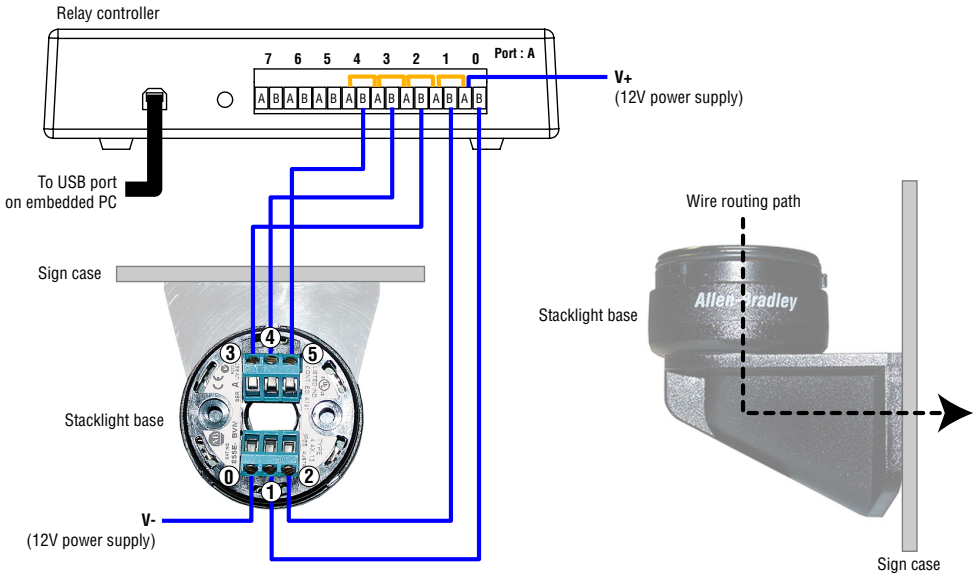
Dimming the sign

To dim the sign by 50%, turn off the sign and attach a jumper to J8 on a sign's controller board (see above).

Stacklight option

The 50 mm stacklight mount (item A below) can be attached to either the left or the right side of the sign:



Item	Name	Description
A	Stacklight mount (only on one side)	Up to 5 lights can be stacked on a 50 mm stacklight mount. 
B	Stacklight wiring path (only on one side)	
C	Relay control	
D	Embedded PC	