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AlphaVision PC Type 12 Sign Installation Instructions

http://www.adaptivedisplays.com/support/alphavision

STEP 1: Read Safety information before starting, see page 5

STEP 2: Mechanical installation, see page 24

STEP 3: How many signs are installed?

ONE SIGN
Go to STEP 4

TWO OR MORE SIGNS

STEP 3a: Multiple or double-sided configuration?

Multiple

Follow the directions on page 23. Then go to STEP 5.

Double-sided

(Must be same sized)

- If you want to send a different message to each sign, follow the directions on page 21. Then go to STEP 5.
- If you want to send the same message to each sign, follow the directions on page page 22. Then go to STEP 5.

STEP 4: How will messages be sent from a computer to the sign(s)?

Method	Directions
Ethernet	Follow the directions on page 19. Then go to STEP 5.
Wired (RS232)	Follow the directions on page 20. Then go to STEP 5.

STEP 5: Electrical installation, page 34

STEP 6: Test the installation, page 41

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June 13, 2005

9711-2702F

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1 — Introduction

Purpose

This manual is intended as a guide for installation and setup of the sign, as well as for routine maintenance. There are no user serviceable parts inside the sign.

Revision history

Revision	Date	Notes
9711-2702	3/13/02	First release
9711-2702A	7/12/02	Second release
9711-2702B	8/2/02	Third release
9711-2702C	12/4/02	Fourth release
9711-2702D	01/15/03	Fifth release
9711-2702E	11/17/03	Sixth release
9711-2702F	6/13/2005	Safety warnings for high leakage currents added

Related documentation

Technical documentation can be found at Adaptive's web site: http://www.adaptivedisplays.com.

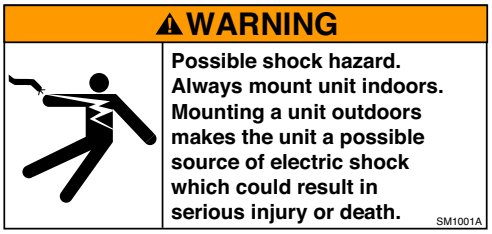
Part #	Manual title	Description
9711-2703	AlphaVision PC Sign Configuration Instructions	How to configure and download SCC protocol objects for screen types, such as ANDON screens.
9711-2708	AlphaVision PC Sign Unpacking Instructions	Includes information on how to unpack an AlphaVision PC sign.
TechMemo 00-0005	Preventing Electrostatic Discharge (ESD) Damage	Provides grounding procedures, lists work area guidelines, and explains ESD.
Arcom Control Systems Ltd.	SBC-GX1 Quick Start & Data Manual for Windows CE 3.0	Includes information about starting and using the SBC-GX1 single board computer in the sign with Windows CE 3.0.
Arcom Control Systems Ltd.	SBC-GX1 Technical Manual	Describes the operation of the SBC-GX1 single board computer in the sign.

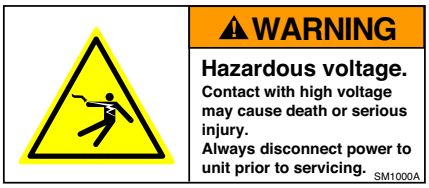
Safety information

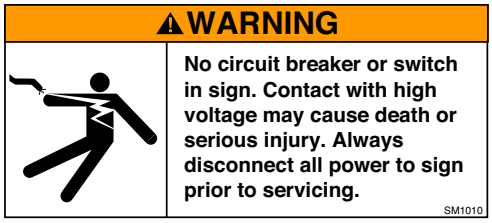
Equipment symbols

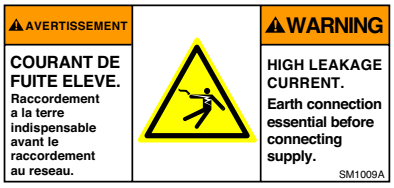
Chassis ground

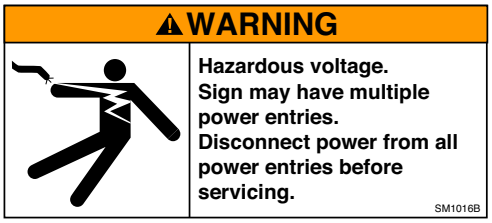
Warnings and cautions

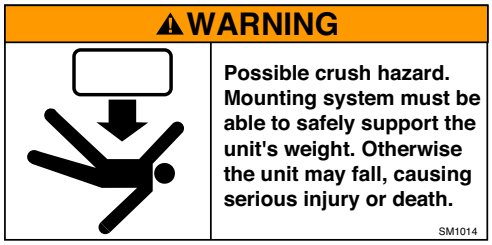












Preventing electrostatic discharge damage

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.

2 — Equipment overview

Overview

The AlphaVision PC sign has either an embedded computer (for process control) running Microsoft Windows CE, or an internal hard disk drive running Microsoft Windows 2000. This sign is for indoor use only.

Signs can be networked to other signs and to a computer network using:

- Ethernet (10BASE-T or 100BASE-T)
- RS232 (Windows CE only)

Protocol options (Windows CE only) include:

- Static Controls Corp. SCC protocol
- Alpha pixel protocol
- ActiveX

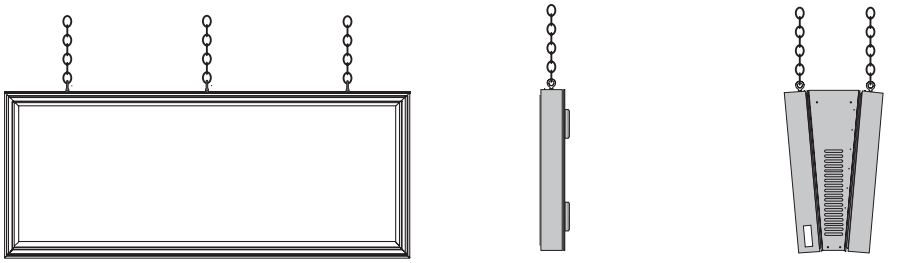
Other features include:

- Tri-color: red, green, amber
- Type 12 enclosure
- Built-in support for speaker output
- Front-serviceable
- 6-month battery-backup
- Time and date supported by a real-time clock
- Connections for auxiliary output, such as an alarm

Data — including messages, fonts and graphics — can be downloaded from a computer system to AlphaVision PC signs. Signs are addressed by IP address using Ethernet.

Signs can be installed single-sided (chain-hung or wall-mounted) or double-sided (chain-hung).

Double-sided signs can be hung vertically or at a 5° angle from vertical, and are set up to operate either together to display the same data (Master/Slave mode) or individually to display the same or independent data (Master/Master mode.) Master signs are identified by a nameplate (see Figure 8, “Nameplate,” on page 16).



Front view

Side view, single sign

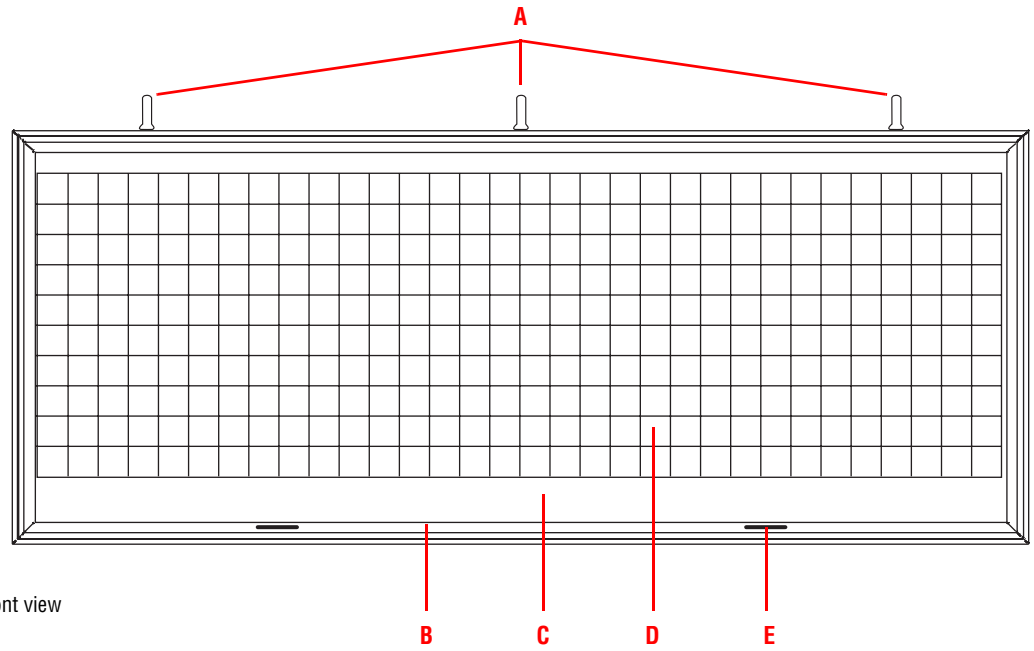
Side view, double-sided, 5° angle

Description

External views

Table 1: Front view of an AlphaVision PC sign

Shown below is a 256 x 80 LED matrix sign.
Other sign sizes are similar.

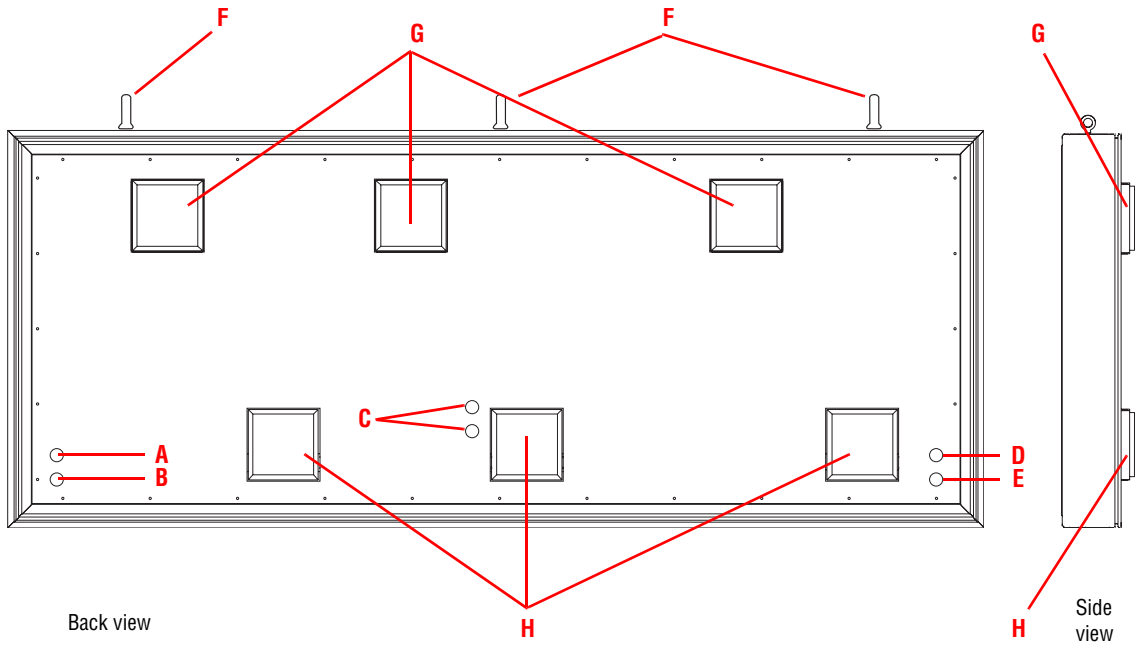


Front view

Item	Name	Description
A	Eyebolt	Used to lift and mount the sign.
B	Door	Provides access to internal sign components. Prop rods hold the open door in place.
C	Front lens	Polycarbonate lens cover in the door.
D	LED	Tri-color: red, green, amber.
E	Handle	Used to assist in opening the door.

Table 2: Back and side views of an AlphaVision PC sign

Shown below is a 256 x 80 LED matrix sign.
Other sign sizes are similar.

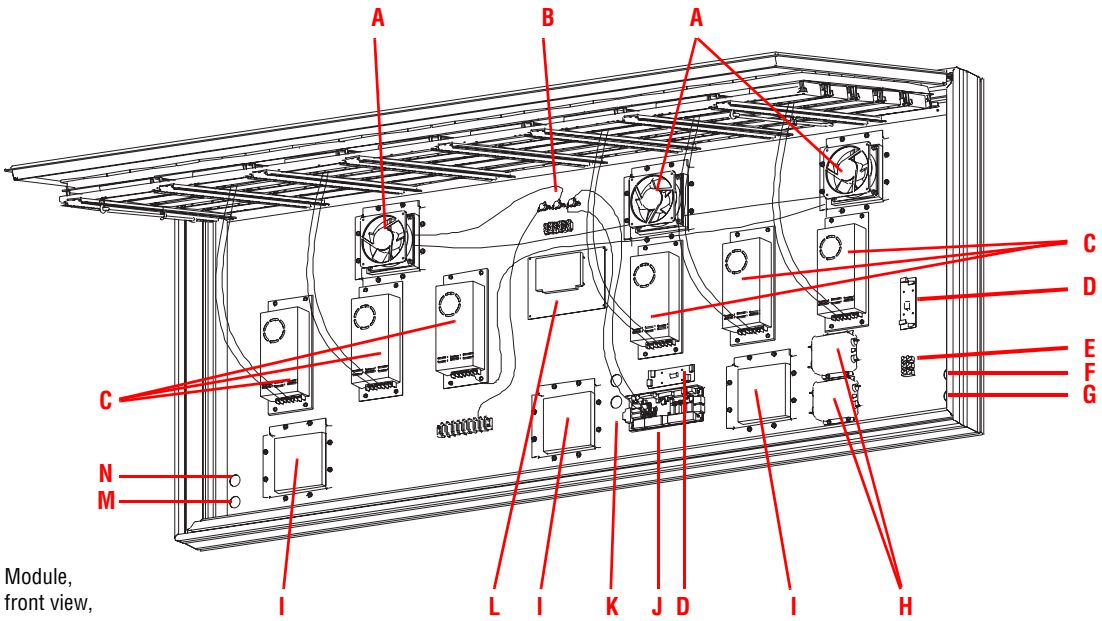


Item	Name	Description
A	Power line opening, recommended	Recommended access for electrical power. Wires from power supply terminal block(s) are run though this opening to a suitable power source. Must be sealed with metal weather-proof conduit during installation.
B	Serial/Ethernet line opening, recommended	Recommended access for Ethernet or other communication cables. Must be sealed with metal weather-proof conduit during installation.
C	Openings for factory-installed wiring	Do not use.
D	Power line opening, alternate	Alternate access for electrical power if recommended power line opening is not appropriate. Wires from power supply terminal block(s) are run though this opening to a suitable power source. Must be sealed with metal weather-proof conduit during installation.
E	Serial/Ethernet line opening, alternate	Alternate access for Ethernet or other communication cables if recommended serial/Ethernet line opening is not appropriate. Must be sealed with metal weather-proof conduit during installation.
F	Eyebolt	Used to lift and mount the sign.
G	Exhaust	Draws air through the sign. Includes filters and water- and dust-resistant louvers.
H	Vent	Allows air movement into the sign. Includes filters and covers.

Internal views

Table 3: Inside view of an AlphaVision PC sign

Shown below is a 256 x 80 LED matrix sign.
Other sign sizes are similar.



Module, front view, open

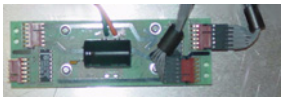
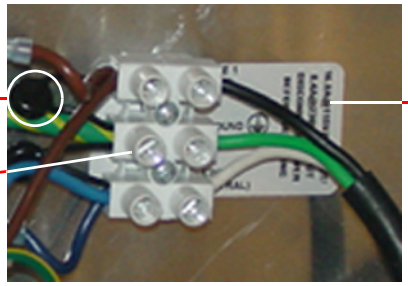
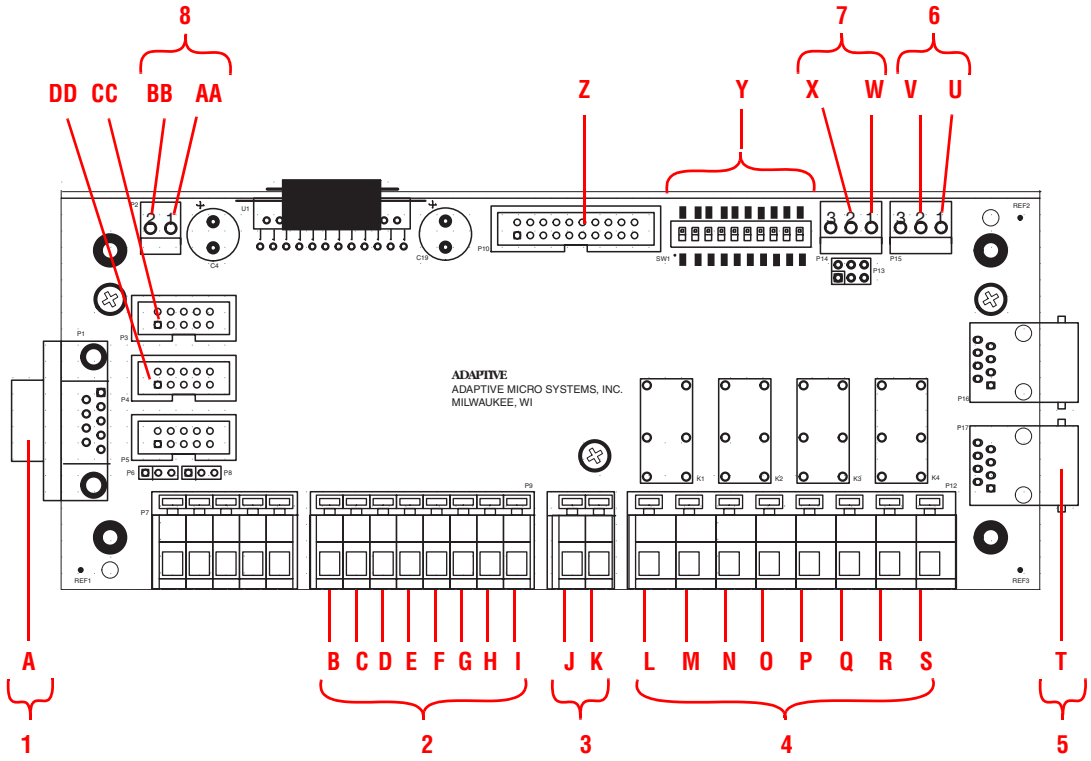
Item	Name	Description
A	Fan	Dissipates heat from sign. 12VDC
B	Thermostat, fans Thermostat, dimming (50%) Thermostat, over-temperature/ shutdown	Turns on fans when the temperature inside the sign rises to 120° F (49° C). Dims the LEDs to 50% when the temperature inside the sign rises to 130°F (54° C). Turns off all LEDs when the temperature inside the sign rises to 160°F (71° C).
C	Power supply	Provides power to a section of LEDs. Number of supplies varies.
D	Turbo loopback board	Provides power and signal to LED boards. 
E	Power supply terminal block	Used to connect the sign to an appropriate power source. (Up to 2 may be installed.) Includes surge suppressor transorb to protect the sign from electrical surges.  Surge suppressor transorb Power supply terminal block Power supply terminal block label

Table 3: Inside view of an AlphaVision PC sign

F	Power line opening, recommended	Recommended access for electrical power. Wires from power supply terminal block(s) are run though this opening to a suitable power source. Must be sealed with metal weather-proof conduit during installation.
G	Serial/Ethernet line opening, recommended	Recommended access for Ethernet or other communication cables. Must be sealed with metal weather-proof conduit during installation.
H	EMI filter	Filters electro-magnetic interference, or noise. (Not installed in slave signs.)
I	Vent opening	Fans pull air in through these openings.
J	Communications board	A one-point connection for RS232Ethernet, speakers, relays, and 5VDC peripherals. See page 11 for details. (May be installed in a slightly different location in the sign than shown here. Not installed in slave signs.)
K	Factory-installed wiring openings	Do not change wiring installed here.
L	Controller board	Controls sign operation. Not installed in slave signs. Turbo board is installed on top of Controller board. See Table 5 on page 13, Table 6 on page 14, and Table 7 on page 15 for details.
M	Power line opening, alternate	Alternate access for electrical power if recommended power line opening is not appropriate. Wires from power supply terminal block(s) are run though this opening to a suitable power source. Must be sealed with metal weather-proof conduit during installation.
N	Serial/Ethernet line opening, alternate	Alternate access for Ethernet or other communication cables if recommended serial/Ethernet line opening is not appropriate. Must be sealed with metal weather-proof conduit during installation.

Table 4: Communications board

The Communications board is installed in a single or Master sign only.



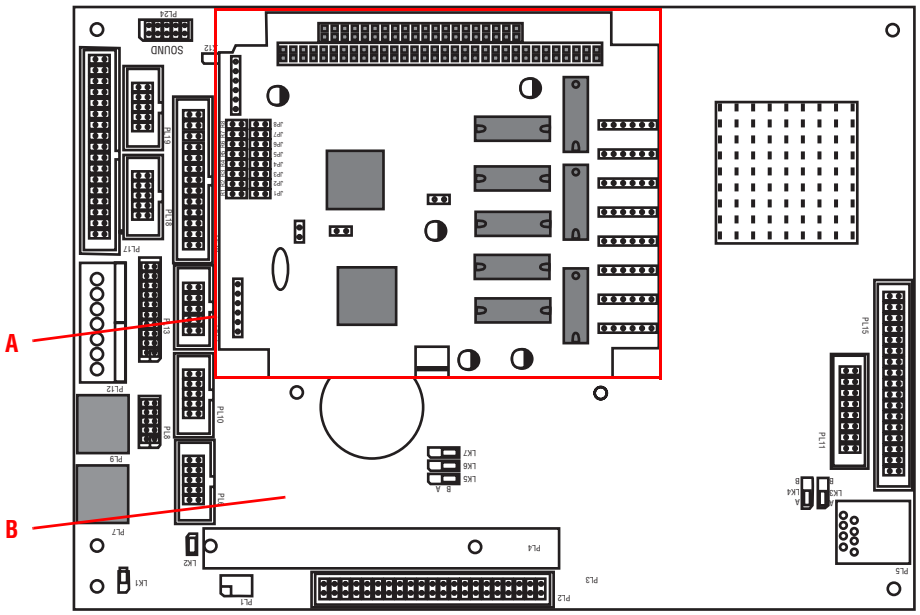
Unit	Unit description	Item	Item description
1	RS232 connection	A	DB9 male connector
2	Speaker outputs 4 associated outputs	B	Speaker 1: +
		C	Speaker 1: -
		D	Speaker 2: +
		E	Speaker 2: -
		F	Speaker 3: +
		G	Speaker 3: -
		H	Speaker 4: +
		I	Speaker 4: -
3	5 VDC output (250 ma maximum)	J	Output -
		K	Output +

Table 4: Communications board

4	Relay outputs 4 independent outputs for alarms, bells, stack lights, and so on. (4 amp each relay at 120V maximum)	L	Relay 1: A
		M	Relay 1: B
		N	Relay 2: A
		O	Relay 2: B
		P	Relay 3: A
		Q	Relay 3: B
		R	Relay 4: A
		S	Relay 4: B
5	Ethernet connection	T	Ethernet connector to network
6	Slave thermostat connections (if Slave exists)	U	Dimming thermostat
		V	Shutdown thermostat
7	Master thermostat connections	W	Dimming thermostat
		X	Shutdown thermostat
–	DIP switches	Y	Used for testing only.
–	GP I/O connection to Controller board	Z	Factory-installed.
8	12VDC input connections	AA	Input +
		BB	Input -
–	Sound connection to Controller board	CC	
–	COM1 RS232 connection to Controller board	DD	

Table 5: Controller board with Turbo board installed

The Controller board and Turbo board are installed in a single or Master sign only.



Item	Name	Description
A	Turbo board	See Table 7, “Turbo board,” on page 15.
B	Controller board	See Table 6, “Controller board,” on page 14.

Turbo board (newer model). See “Turbo board” on page 15.

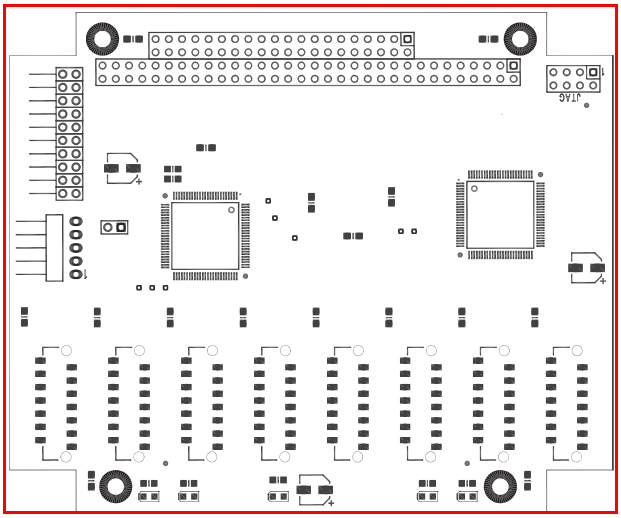
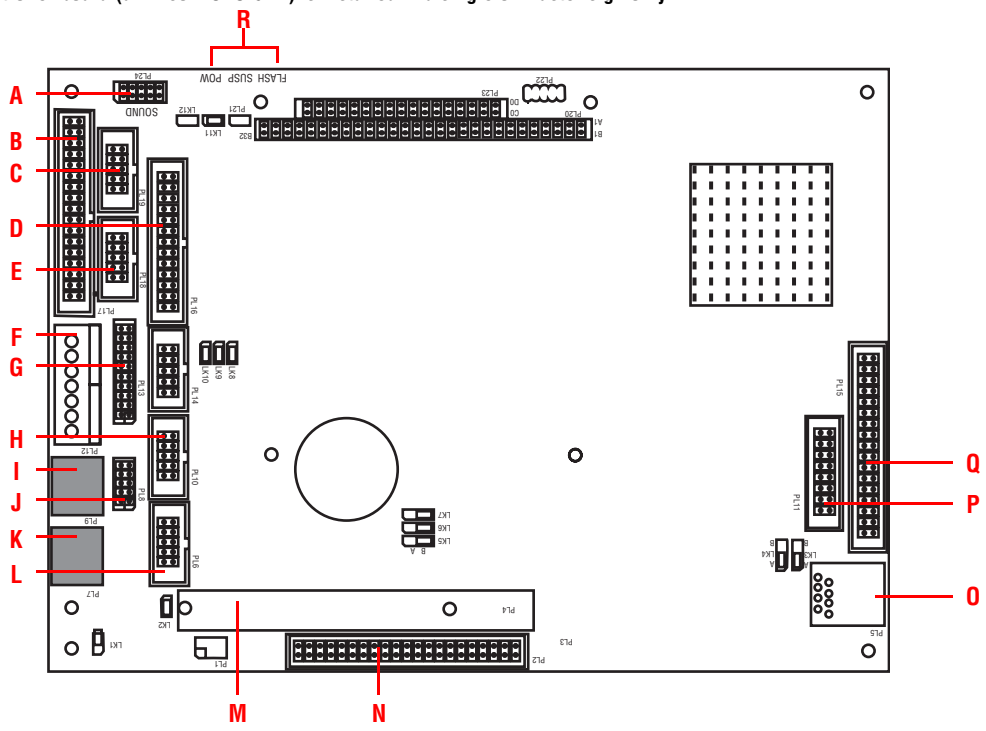


Table 6: Controller board

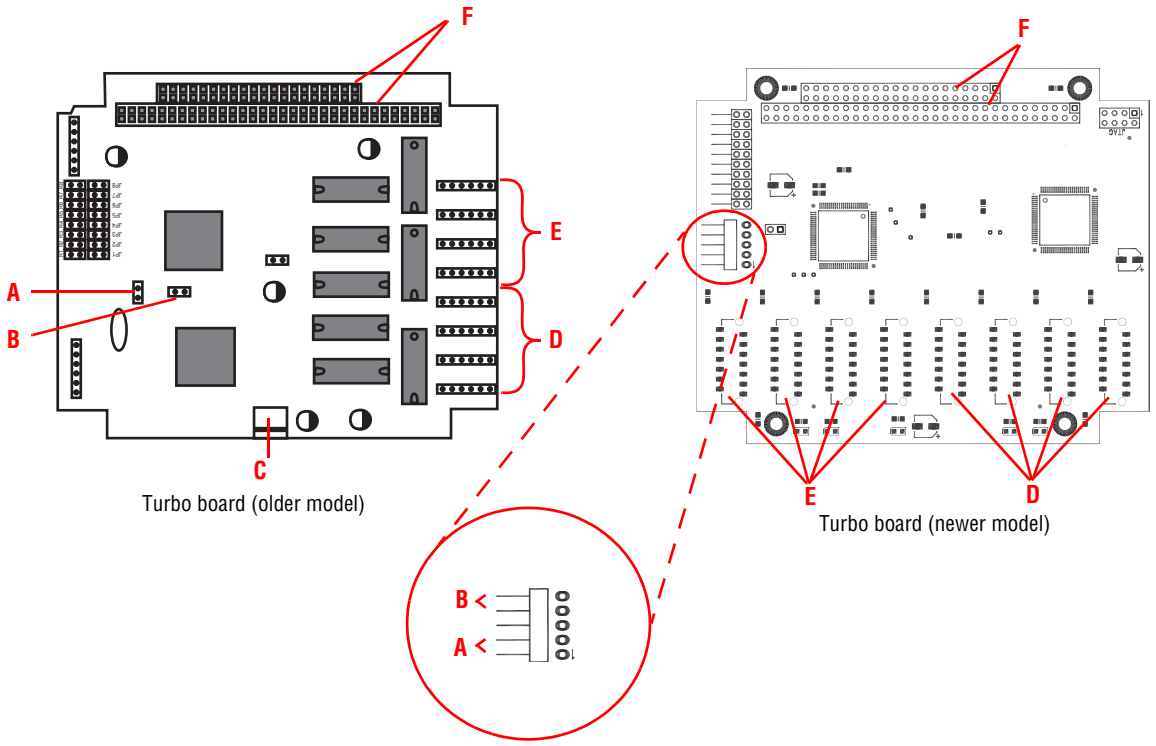
The Controller board (an Arcom SBC-GX1) is installed in a single or Master sign only.



Item	Name	Description
A	Sound connector	Connection to audio output.
B	Floppy drive connector	Not used.
C	COM1 RS232 connector	Not used.
D	LPT1 connector	Not used.
E	COM2 RS232 connector	Connection to COM2 RS232.
F	Power connector	Connection to power.
G	GP I/O connector	Connection to GP I/O.
H	COM4 RS232 connector	Not used.
I	Mouse connector	Not used.
J	USB connector	Not used.
K	Keyboard connector	Not used.
L	COM3 RS232 connector	Not used.
M	PCI connector	Not used.
N	IDE connector	Not used.
O	Ethernet connector	Connection to Ethernet.
P	VGA connector	Connection to VGA.
Q	LCD connector	Connection to LCD.
R	Status LEDs	Flash access — Red. Flashes when the flash array is accessed. Power — Green. On during normal operation. Off during suspend mode. Suspend — Yellow. On during suspend mode.

Table 7: Turbo board

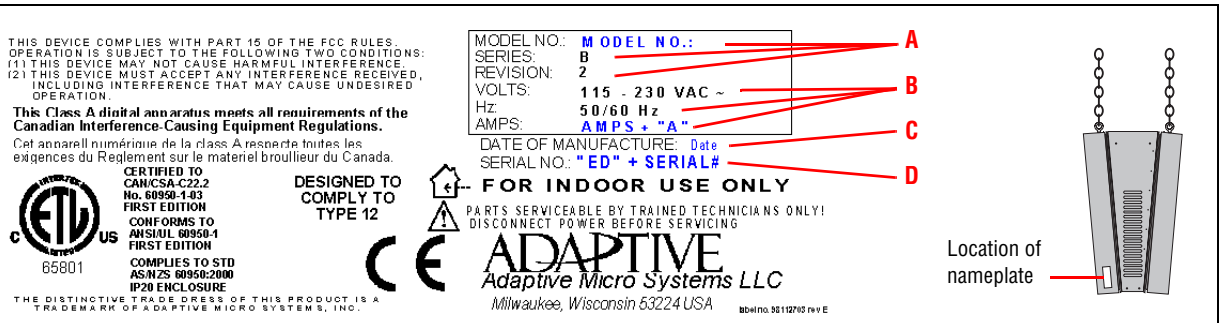
The Turbo board is installed on a Controller board in a single or Master sign only.



Item	Name	Description
A	Master shutdown thermostat connection	Connection for shutdown thermostat on single or Master sign.
B	Slave shutdown thermostat connection	Connection for shutdown thermostat on Slave sign, if existing. If no Slave sign, jumper is installed.
C	Turbo board power connection	Connection for 12V power to Turbo board. (Not used on newer model.)
D	Master Turbo cable connection	Connections for Turbo cables to Master sign.
E	Slave Turbo cable connection	Connections for Turbo cables to Slave sign, if existing.
F	Controller board connectors	Connect the Turbo board to the Controller board.

Equipment identification

Table 8: Nameplate



Item	Name	Description
A	Model number	XXXX-XXXXXXXX-MS Model series Matrix configuration: • F = Full matrix Sign pairing: • S = Single-sided • B = Double-sided Width (pixel columns) Height (pixel rows) Paired sign communication: • Blank = None (single-sided) • MM = Master/Master • MS = Master/Slave
B	Electrical information	Input voltage, frequency, and amperage. NOTE: Some models are 230V only.
C	Date of manufacture	Month, day, and year the sign was made.
D	Serial number	Consecutive, unique identification number.

EMI compliance

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with installation guidelines, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Temperature protection

Internal thermostats protect the sign from excessive heat.

- If the sign's internal temperature rises to or above 120° F (49° C), the fans are switched on by the fan thermostat. If the internal temperature drops to 90° F (32° C), then the fans are turned off.
- If the sign's internal temperature rises to or above 130° F (54° C), auto-dimming occurs. This means that the LED output from the sign is forced into a 50% reduced power mode, effectively dimming the brightness of LED output by about 50%. If the internal temperature falls to 100° F (38° C), then auto-dimming stops.
- If the sign's internal temperature rises to or above 160° F (71° C), the sign automatically shuts down to protect the sign against damage. If the internal temperature falls to 130° F (54° C) or less, the sign resumes operation in auto-dim mode (50% brightness) as described above.

3 — Networking signs

Overview

In order to display messages on an AlphaVision PC sign, the sign must be connected to a computer.

Computer-to-sign connection methods

There are two ways to connect an AlphaVision PC sign to a computer:

- Ethernet
- RS232 (Windows CE only)

NOTE: An RS232 connection cannot be used for distances longer than 50 feet.

Sign-to-sign connection methods

There are two ways to *interconnect* two or more AlphaVision PC signs:

- Ethernet (called "Master/Master")
- Turbo (called "Master/Slave")

NOTE: Whether the configuration is Master/Master or Master/Slave is software-driven.
NOTE: Only signs connected in a double-sided fashion can use Turbo.

Table 9: Recommended computer-to-sign connection

Networking method	One AlphaVision PC sign	Multiple AlphaVision PC signs
Ethernet	Yes	Yes
Turbo[1]	No	Yes[2]

NOTES:
[1] Turbo uses a special proprietary ribbon cable to connect one sign to another. In a Turbo network, there is a single Master sign and a single Slave sign.
[2] Used to connect two signs (a Master sign and a Slave sign) in a double-sided fashion. (A Slave sign has no Controller board.)

While two signs can be mounted together in a double-sided fashion, if they are not factory-wired together for networking as Master/Slave, then they each must be independently networked to a computer, having a Master/Master relationship.

- Master/Master: Signs connected this way can each display a unique message. Both signs must be connected to a computer which is used to create and send messages. (See "Computer-to-sign connection methods" on page 18.)
- Master/Slave: Signs connected this way display the same message at the same time. This is called simultaneous messaging and is often used when signs are mounted in a double-sided fashion. The Master sign must be connected to a computer. The computer is used to create and send messages to the Master sign, which sends the messages on to the Slave sign. (See "Computer-to-sign connection methods" on page 18.) The Slave sign is factory-wired using proprietary wiring.

Single sign network choices

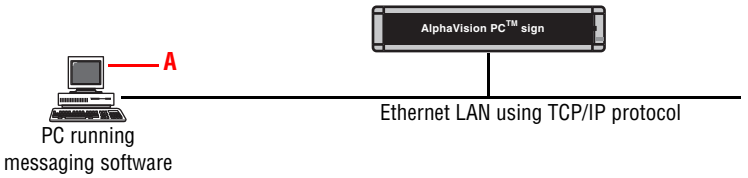
All network connections in the sign (Ethernet, RS232) are made at the Communications board. (See Table 4, “Communications board,” on page 11.)

Ethernet

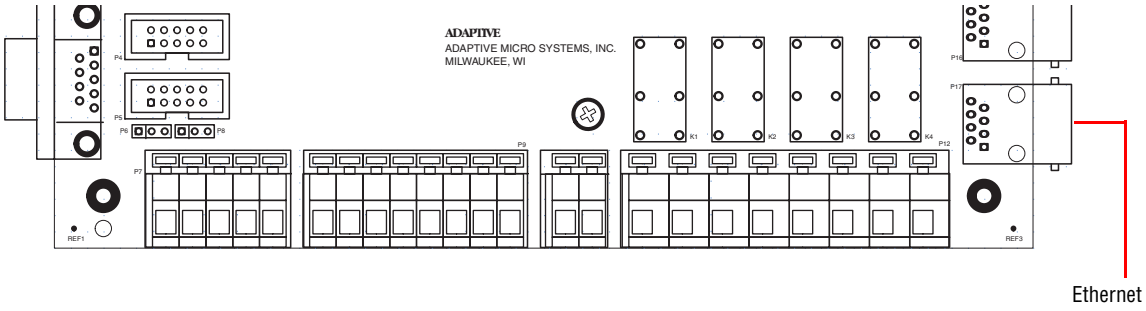
DESCRIPTION

- Can connect one or more signs.
- Uses either 10BASE-T or 100BASE-T standard TCP/IP cabling.
- Connects to the Communications board in the sign. (See Table 4, “Communications board,” on page 11.)
- Uses IP addressing to the sign.

CONNECTION



Item	Part #	Description
A	—	The PC must be connected to the Ethernet LAN with a network card.



See Table 4, “Communications board,” on page 11 for full detail.

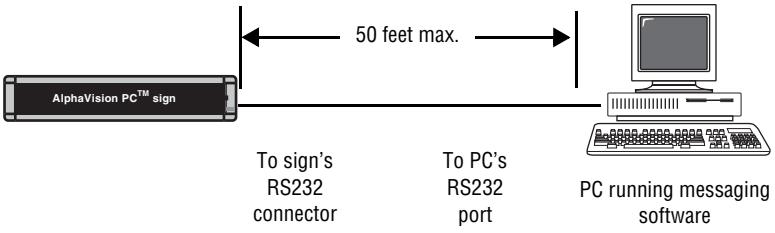
Figure 1: Connecting Ethernet wiring

RS232 (Windows CE option only)

DESCRIPTION

- Can only be used to connect one sign.
- Maximum connection distance is 50 feet.
- Connects to the Communications board in the sign. (See Table 4, “Communications board,” on page 11.)
- Communication parameters are 9600 baud, 8 bits, no parity, 1 stop bit, and COM1.
- Use a generic null modem cable with female DB9 connectors and pinouts as shown below.

CONNECTION



Pinouts for generic null modem cable:

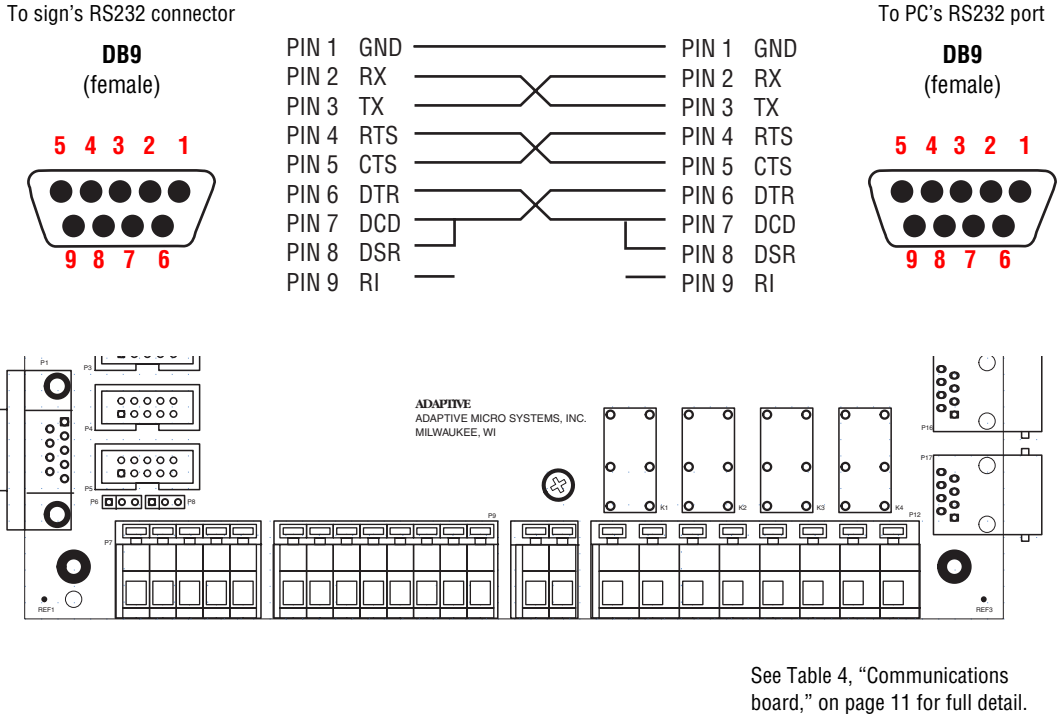


Figure 2: Connecting RS232 wiring

Double-sided sign network choices

Signs that are in a double-sided configuration are software-driven for a Master/Master or Master/Slave connection. It depends on the software loaded in the embedded controller on the Master sign.

Master/Master

DESCRIPTION

- A different message can be displayed on each sign. This differs from a Master-Slave connection in which the same message must be displayed on both signs.
- Connects to the Communications board in the sign. (See Table 4, “Communications board,” on page 11.)

CONNECTION

- See ”Ethernet” on page 19.
- See “RS232 (Windows CE option only)” on page 20.

Master/Slave

DESCRIPTION

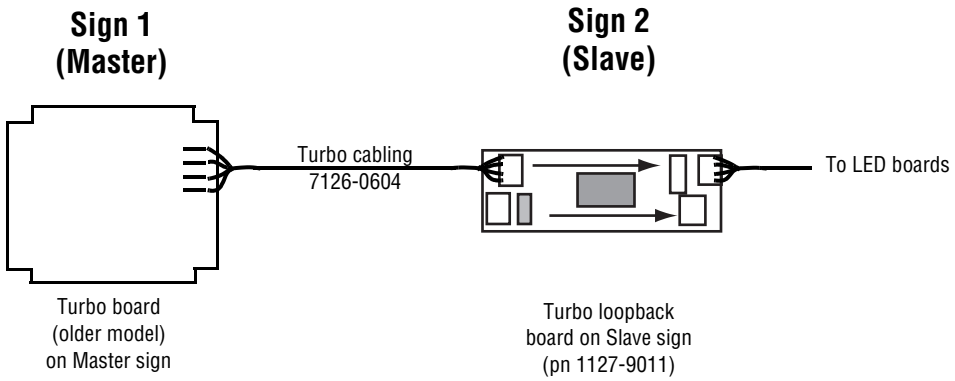
– The same message can be displayed on each sign.

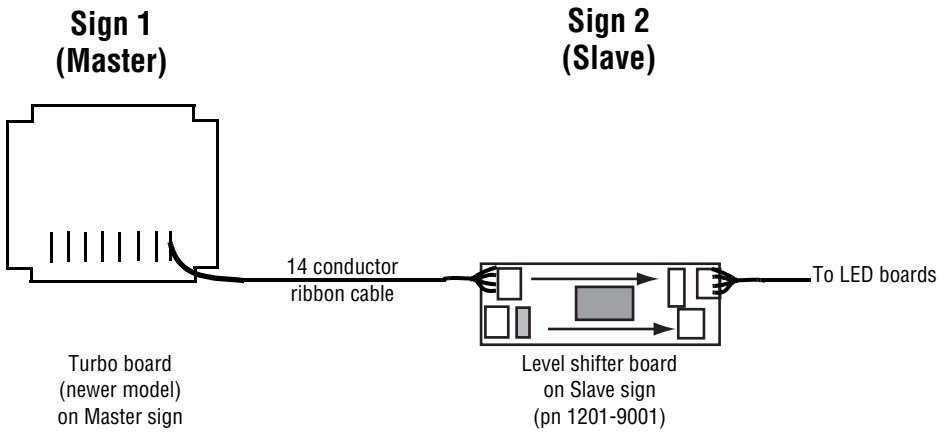
CONNECTION

– See "Ethernet" on page 19.
– See "RS232 (Windows CE option only)" on page 20.

SIGN-TO-SIGN CONNECTION

Wiring between these signs is factory-wired using Turbo cabling.





Multiple sign network choices

Multiple signs can be connected using Ethernet.

Ethernet

DESCRIPTION

- Can connect one or more signs.
- Use either 10BASE-T or 100BASE-T standard TCP/IP cabling.
- Connects to the Communications board in the sign. (See Table 4, “Communications board,” on page 11.)
- Uses IP addressing to the sign.
- A different message can be displayed on each sign.

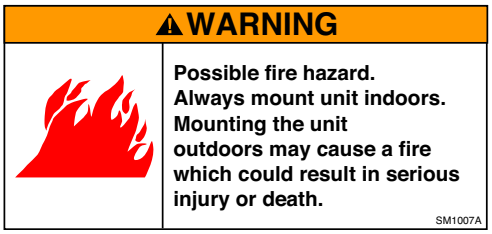
CONNECTION

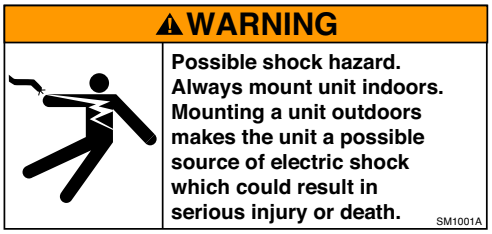
- See ”Ethernet” on page 19.

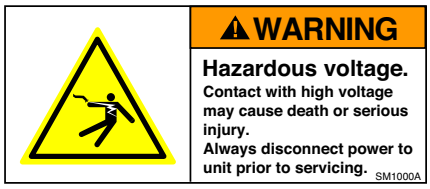
4 — Installation

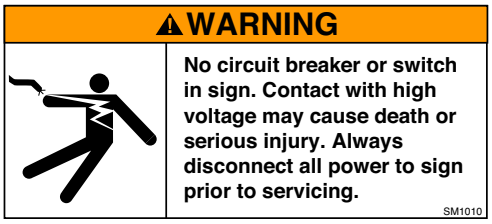
Mechanical installation

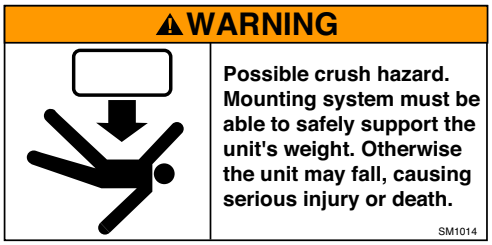
General warnings and cautions











Design of the support structure

Because every installation site is unique, the design of the support structure depends on the mounting methods, sign size, sign weight, and the specific location.

Follow these guidelines when installing a sign:

- Design of the support structure should only be done by a qualified individual. It is the installer's responsibility to ensure that the support structure and hardware are capable of safely supporting the sign and are in compliance with all applicable building codes.

  Adaptive is not responsible for installations or the structural integrity of support structures done by others.

- Mounting hardware is not supplied with the sign. Mounting hardware that is used to hang or suspend a sign must be capable of safely supporting the weight of the sign as listed in Table 12, "Physical and electrical specifications," on page 42.
- Only use the sign's eyebolts to hang the sign. *Mounting to any other parts of the sign will void the warranty.* (Brackets used to join signs in double-sided configurations are not load-bearing and are only used for stabilization.)

Environmental requirements

Care must be taken to observe these considerations when selecting a location for the AlphaVision PC signs:

- These signs are for *indoor use only* and should not be continuously exposed to direct sunlight, such as in a window.
- These signs should only be used in an environment where the temperature is between 32° and 122° Fahrenheit (0° and 50° Celsius.)
- These signs should only be used in an environment where non-condensing humidity does not exceed 95%.
- Allow clearances as shown below.

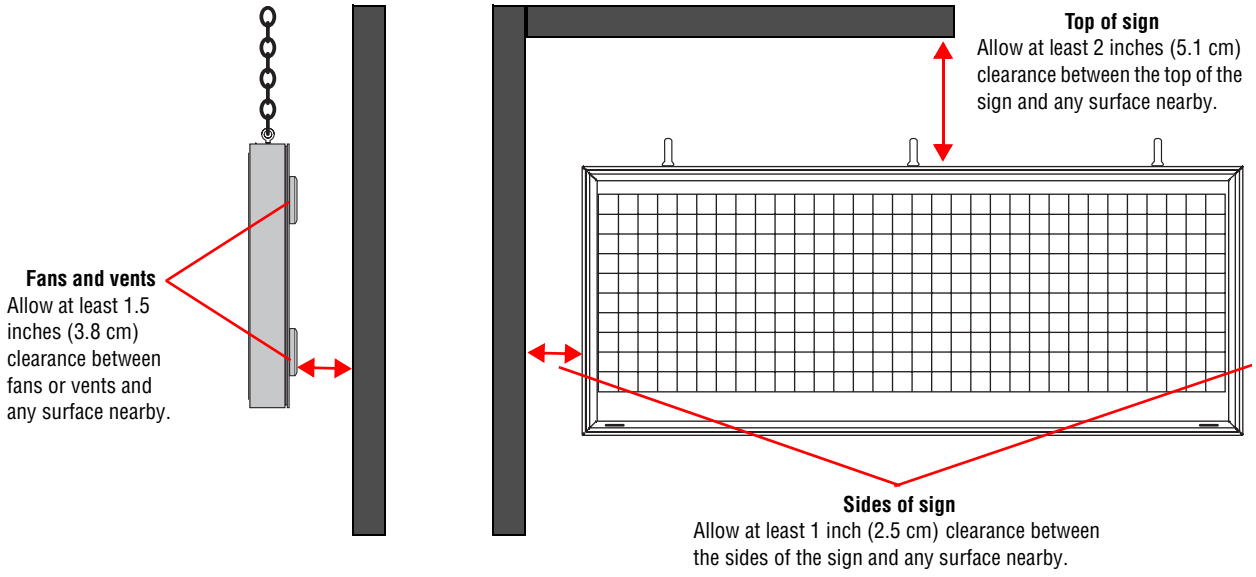


Figure 3: AlphaVision PC sign clearances

Lifting the sign

Observe these guidelines when lifting the sign.

- Use the eyebolts on the sign with lifting bars for lifting and hanging, as shown below.

NOTE: The eyebolts are *not* designed to withstand the side pressure of lifting in a Y-configuration. If a lifting bar is not used, the eyebolts may shear off, causing the sign to fall, with potential death or serious injury.

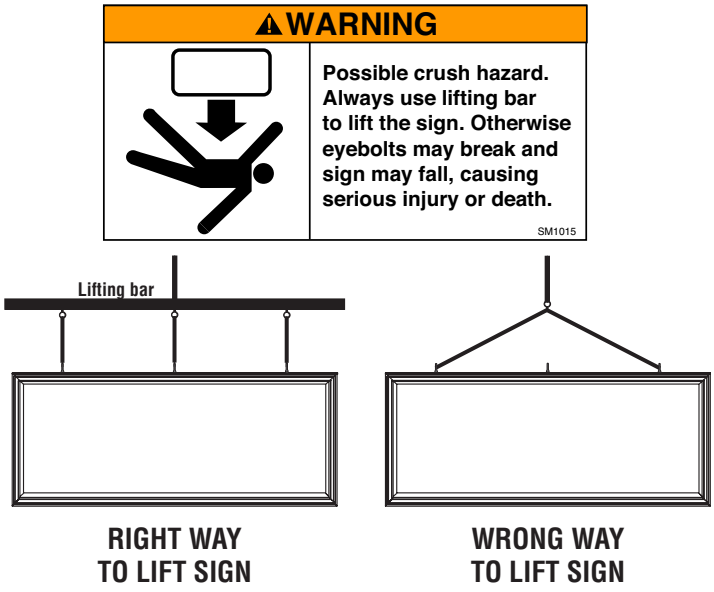


Figure 4: Using a lifting bar

- Use *only* the eyebolts on the sign for lifting. Double-sided signs must be lifted and hung using the eyebolts, not the cross-member that holds the signs together.

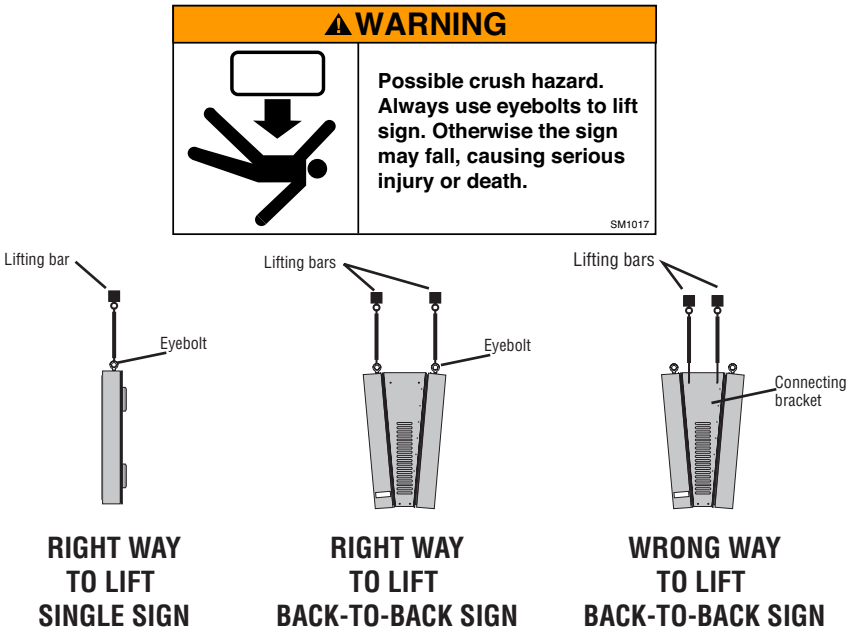


Figure 5: Using eyebolts

Mounting the sign overhead

1. Disconnect all power from the sign at the power source(s) to prevent electrical injury or damage.

2. If you are working with a single-sided sign, remove the factory-installed brackets from the top and bottom of the sign. A sign of up to 350 pounds will have four brackets (two along the top, two along the bottom) and a sign of more than 350 pounds will have five brackets (three along the top and two along the bottom).

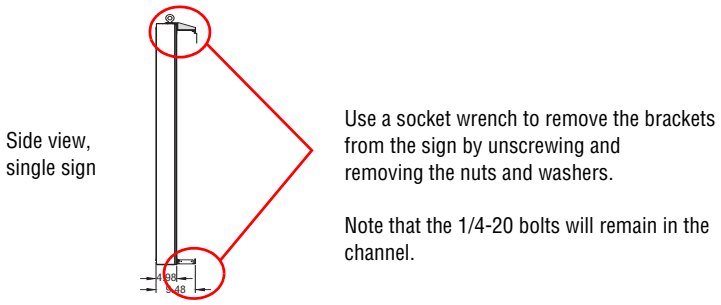


Figure 6: Removing the brackets on an AlphaVision PC sign

3. Hang the sign from chains (not supplied) using all appropriate eyebolts.

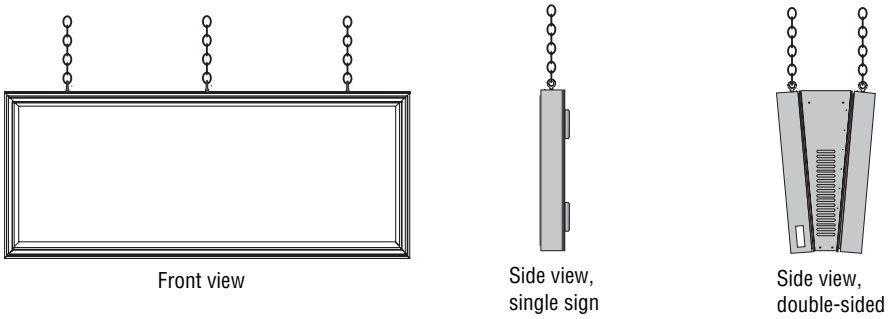
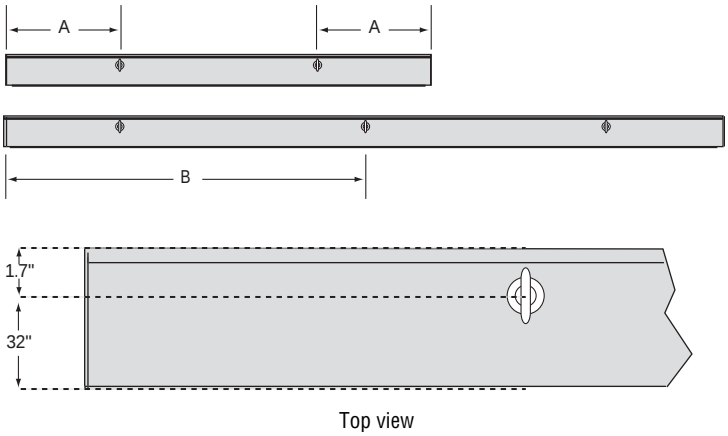


Figure 7: Overhead-mounting AlphaVision PC signs

See table below for dimensions of eyebolts from edges of sign. See Table 12, "Physical and electrical specifications," on page 42 for overall dimensions of the sign.



Top view

Figure 8: Dimensions for overhead mounting

Table 10: Dimensions for eyebolt locations

Model number	A	B		Model number	A	B
1127-FS160048	15.6" (39.6 cm)	n/a		1127-FS288048	22.3" (56.6 cm)	47.3" (120.1 cm)
1127-FS160064				1127-FS288064		
1127-FS160080				1127-FS288080		
1127-FS160096				1127-FS288096		
1127-FS160112				1127-FS288112		
1127-FS160128				1127-FS288128		
1127-FS160144				1127-FS288144		
1127-FS160160				1127-FS288160		
1127-FS160176				1127-FS288176		
1127-FB160192				1127-FB288192		

Table 10: Dimensions for eyebolt locations

Model number	A	B	Model number	A	B
1127-FS192048	7.9” (20.0 cm)	n/a	1127-FS320048	27.1” (68.8 cm)	52.1” (132.3 cm)
1127-FS192064			1127-FS320064		
1127-FS192080			1127-FS320080		
1127-FS192096			1127-FS320096		
1127-FS192112			1127-FS320112		
1127-FS192128			1127-FS320128		
1127-FS192144			1127-FS320144		
1127-FS192160			1127-FS320160		
1127-FS192176			1127-FS320176		
1127-FS192192			1127-FB320192		
1127-FS192208			1127-FS352048	31.9” (81.0 cm)	56.9” (144.5 cm)
1127-FS192224			1127-FS352064		
1127-FS192240			1127-FS352080		
1127-FS192256			1127-FS352096		
1127-FS224048	12.7” (32.2 cm)	37.7” (95.7 cm)	1127-FS352112		
1127-FS224064			1127-FS352128		
1127-FS224080			1127-FS352144		
1127-FS224096			1127-FS352160		
1127-FS224112			1127-FS352176		
1127-FS224128			1127-FB352192		
1127-FS224144			1127-FS384048	36.7” (93.2 cm)	61.7” (156.7 cm)
1127-FS224160			1127-FS384064		
1127-FS224176			1127-FS384080		
1127-FS224192			1127-FS384096		
1127-FS224208			1127-FS384112		
1127-FS224224			1127-FS384128		
1127-FS224240			1127-FS384144		
1127-FS224256			1127-FS384160		
			1127-FS384176		

Mounting the sign on a wall

1. Disconnect all power from the sign at the power source(s) to prevent electrical injury or damage.

2. Install wall brackets on the wall using 3/8″ bolts or similar fasteners (not supplied) appropriate for the mounting surface. Signs up to 350 pounds use two brackets. Signs over 350 pounds use three brackets.

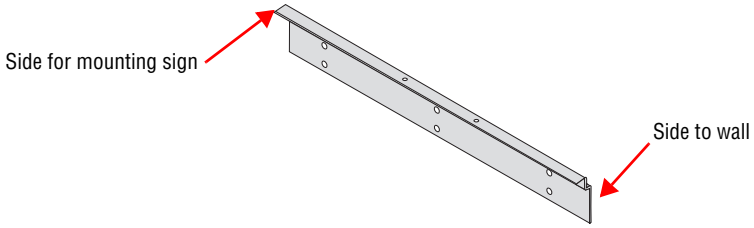


Figure 9: Wall bracket for wall mounting

NOTE: You do not need to install the sign brackets as they are factory-installed on the sign.

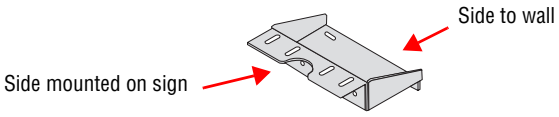


Figure 10: Sign bracket for wall mounting

3. Lift the sign by the eyebolts as described in ″Lifting the sign″ on page 25.

4. Hang the sign over the wall brackets.

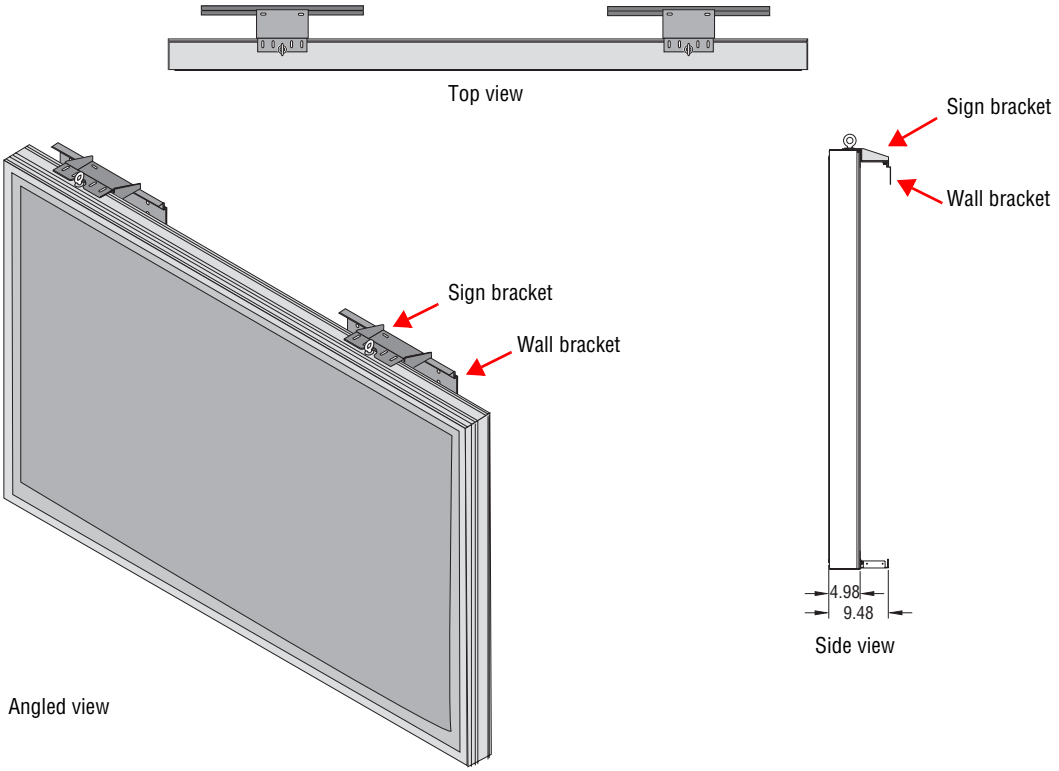


Figure 11: Wall-mounting the sign

NOTE: Brackets installed at the bottom of the sign are for spacing purposes only. These are *not* weight-bearing brackets and should only be used to keep the sign mounted in a vertical position.

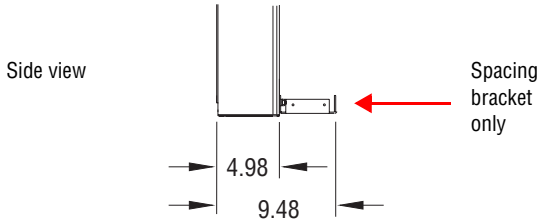


Figure 12: Bottom brackets on a wall-mounted AlphaVision PC sign

5. Screw 1/4-20 bolts and lock washers (provided) through the sign bracket and wall bracket and secure. Torque to 30 in-lbs.

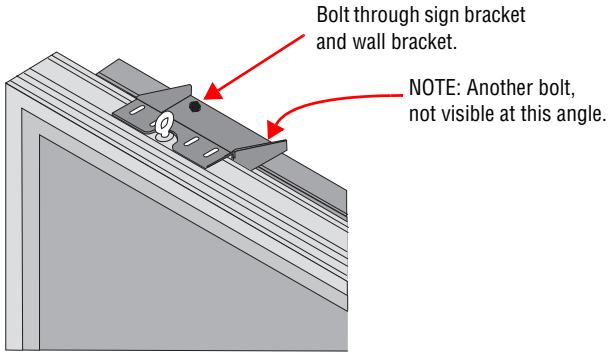


Figure 13: Bolts through sign bracket and wall bracket

Installation diagram

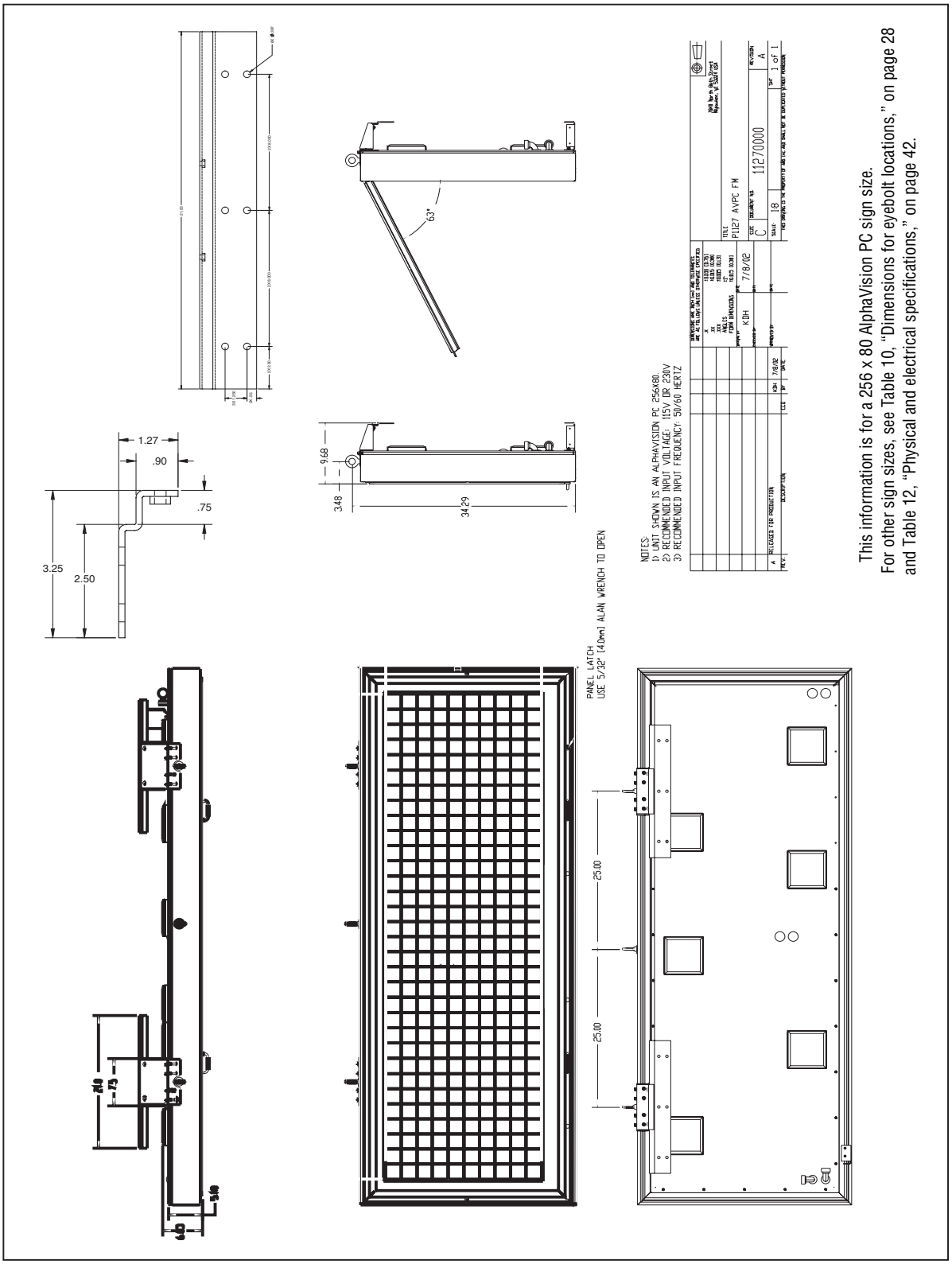


Figure 14: AlphaVision PC Installation diagram

Electrical installation

Guidelines for electrical installation

NOTE: Electrical installation should only be attempted by a qualified electrician. Electrical connection must comply with all applicable national and local codes.

- A two-pole disconnect device must be installed in the building wiring for each branch circuit supplying the sign.
- Use minimum 176° F copper wire only. Torque terminals to 10-17 inch/pounds.

  Utiliser uniquement un fil en cuivre pouvant supporter 80° C minimum. Serrer les bornes à 1,13 N/m – 1,92 N/m.
- Incoming power to a sign should be routed on a path separate from a sign's serial communication wires. Do NOT run the power and serial communication wires in the same conduit.
- This sign should *not* be connected to a ground fault interrupt (GFI) circuit.
- Where power and serial communications wires must cross, the intersection should be perpendicular.
- Inspect all internal sign cabling for proper connection and seating.
- All electrical conduit and fittings must be metal and watertight.
- Each and every input terminal block should be protected by a circuit breaker as follows:
  •When one input terminal block is used, it should be protected by a 40-amp circuit breaker.
  •When two input terminal blocks are used, they should *each* be protected by a 30-amp circuit breaker.
- Before power is applied, the installer must verify ground continuity between the metal case and any ground terminal block where the building's power connection is made.
- Electrical protection devices for signs with permanent connection using conduit and/or hard-wiring must include the following:

  English

  A readily-accessible disconnect device shall be installed in the fixed wiring supplying power to this equipment. The disconnect device shall have a contact separation of at least 3 mm.

  This equipment relies on protective devices in the building installation for protection for short circuit and/or overcurrent protection. Install this equipment only where these protective devices are present. The size and type of the protective devices shall be appropriate for the voltage and current ratings on this equipment.

  Français

  Un dispositif de déconnexion placé à un endroit pratique doit être installé sur le fil fixe qui alimente ce matériel. La distance des contacts de ce dispositif de déconnexion doit être de 3 mm minimum.

  Ce matériel s'appuie sur des dispositifs de protection dans l'installation du bâtiment pour se protéger des courts-circuits et/ou des surintensités. Installez ce matériel seulement là où de telles protections sont présentes. Le calibre et le type des protections doivent être adaptés à la tension et à l'intensité nominales du matériel.

  Deutsch

  In der Festverdrahtung muß eine leicht zugängliche Trennvorrichtung installiert werden, die dieses Gerät mit Strom versorgt. Die Trennvorrichtung muß eine Kontakttrennung von mindestens 3 mm aufweisen.

  Kurzschlußschutz und/oder Überstromschutz wird in diesem Gerät durch entsprechende Schutzvorrichtungen in der Gebäudeinstallation gewährleistet. Dieses Gerät nur dort installieren, wo diese Schutzvorrichtungen vorhanden sind. Größe und Art der Schutzvorrichtungen müssen den Spannungs- und Stromnennstärken dieses Geräts entsprechen.

  Italiano

  Un dispositivo di sconnessione prontamente accessibile dovrà essere installato nel cablaggio fissato

che fornisce corrente alla presente apparecchiatura. Il dispositivo di sconnessione dovrà avere una separazione di contatto di almeno 3 mm.

La presente apparecchiatura si affida a dispositivi di protezione nell'installazione da edificio per protezione da corto circuito e/o protezione da sovracorrente. Installare l'apparecchiatura solamente in punti dove sono presenti questi dispositivi di protezione. Le dimensioni e il tipo di dispositivo di protezione dovranno essere appropriati alla tensione e ai valori di corrente della presente apparecchiatura.

Español

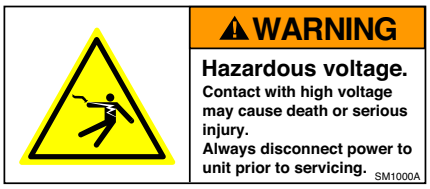
Se debe instalar en el cableado fijo que alimenta este equipo un dispositivo de desconexión fácilmente accesible. Dicho dispositivo tendrá una separación entre contactos de por lo menos 3 mm.

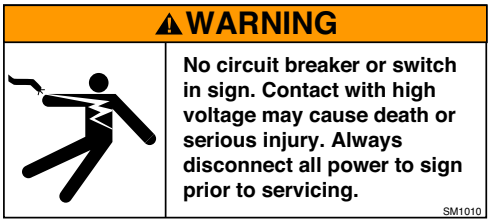
Este equipo depende del uso de dispositivos protectores en la instalación del edificio para protección en caso de cortocircuito y/o protección contra sobreintensidad. Instale este equipo únicamente en caso de disponer de dispositivos protectores. El tipo y tamaño de los dispositivos protectores deberán ser adecuados para los valores nominales de tensión y corriente de este equipo.

Opening the sign

To facilitate this process, one person at each side of the sign is recommended.

1. Disconnect all power from the sign at the power source(s).





2. Turn latches counter-clockwise to open the sign's front door.

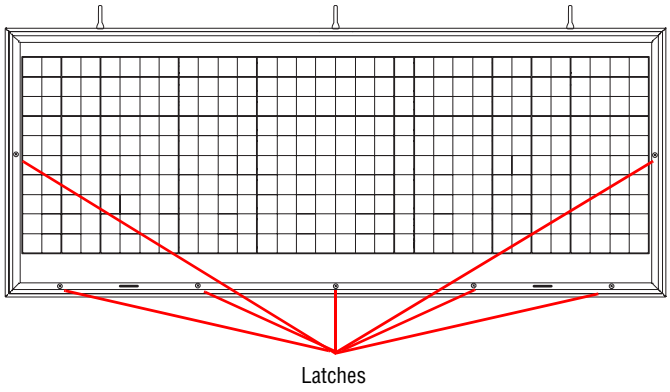


Figure 15: Front latches on sign door

3. Stand away from the front of the sign. Using the handles, lift the plexiglas door upward. (A wire lanyard is installed, but does not prevent the plex frame from opening too far. Be sure it does not catch on anything when opening the sign.)

   NOTE: For larger signs, two or more people may be needed to lift the door.

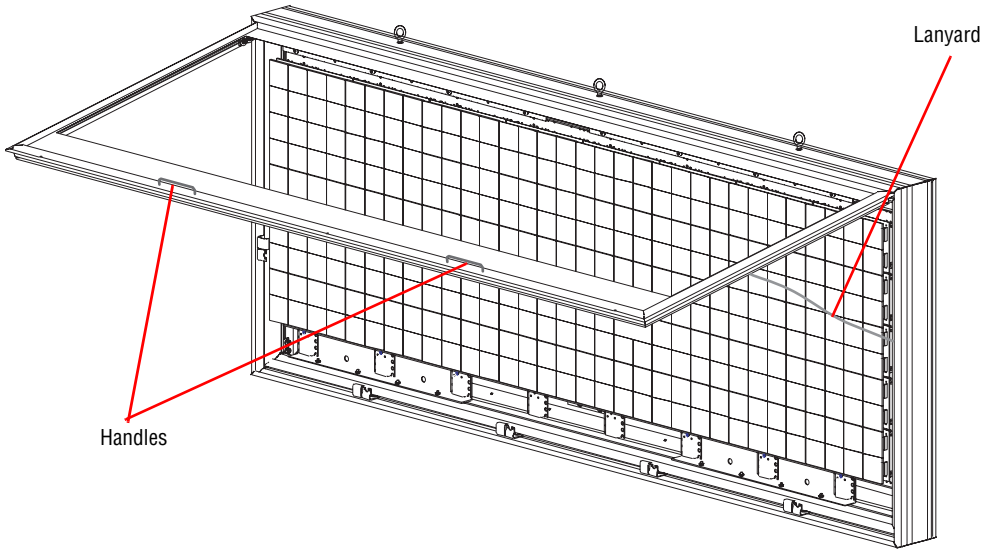


Figure 16: Opening/closing sign door

4. Insert prop rods into brackets at the bottom corners of the sign to support the door. Prop rods are stored inside the door along the bottom.

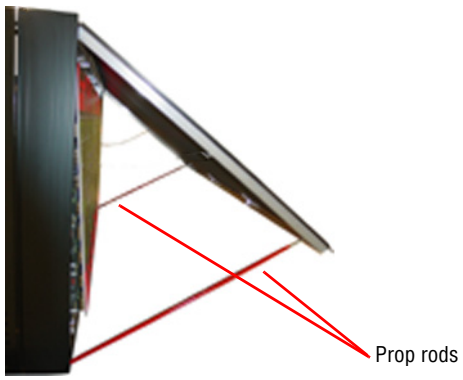


Figure 17: Lifting the sign door

Raising the LED boards

5. Remove the rail screws (circled below) where installed at the bottom of each internal vertical rail.

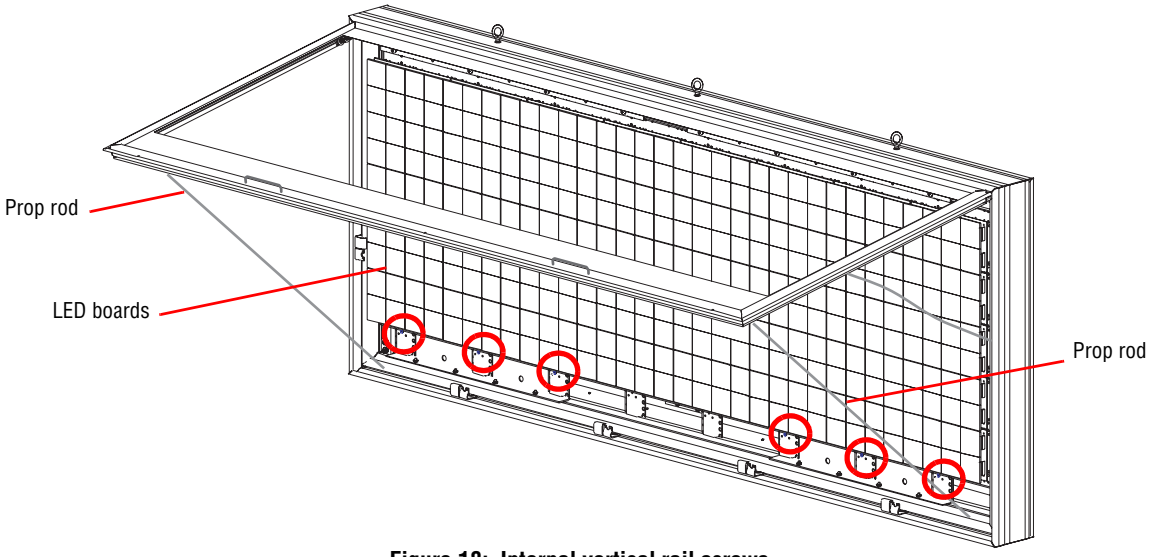


Figure 18: Internal vertical rail screws

6. Carefully lift the LED boards up by placing your hands underneath the mounting rail — not an LED board — as shown below.

NOTE: For larger signs, two or more people may be needed to lift the LED boards.

NOTE: Be sure to follow ESD prevention guidelines as described in "Technical documentation can be found at Adaptive's web site: http://www.adaptivedisplays.com." on page 4.

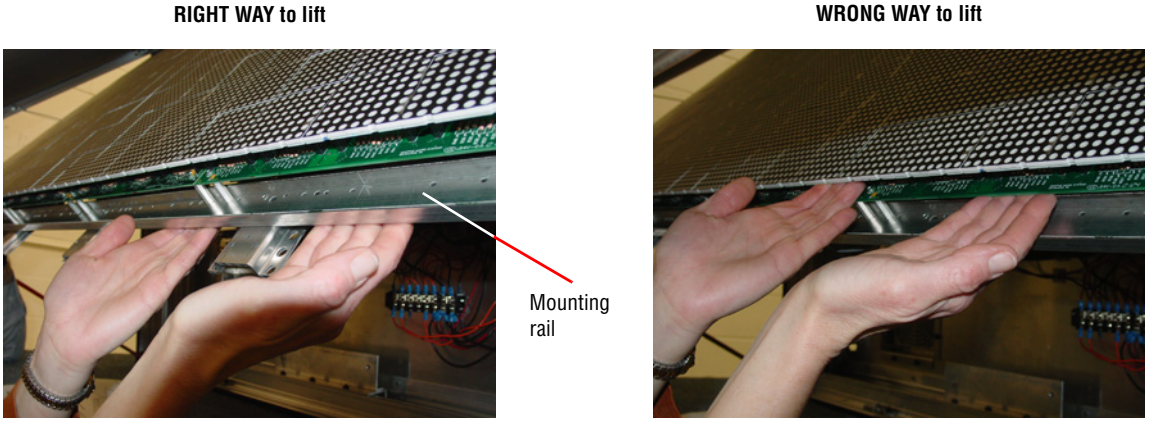


Figure 19: Lifting LED boards

7. Lower and fasten each prop rod to support the LED boards.

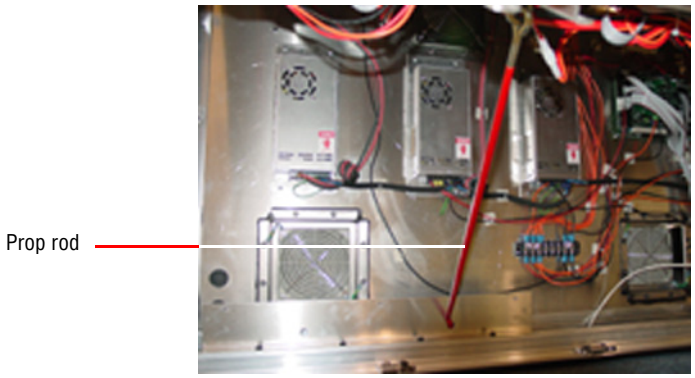
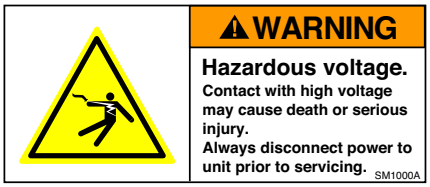


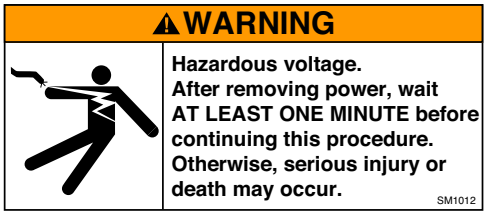
Figure 20: Installing prop rod under LED boards

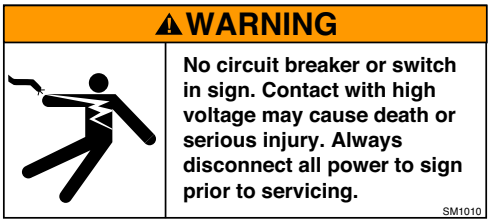
Installing signal wiring

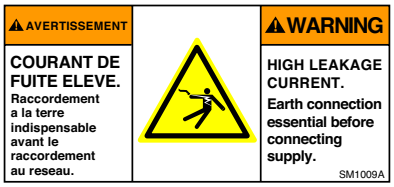
8. In order to display messages, a sign will need to communicate with a computer. This requires special wiring. See "3 — Networking signs" on page 18.

Making power connections





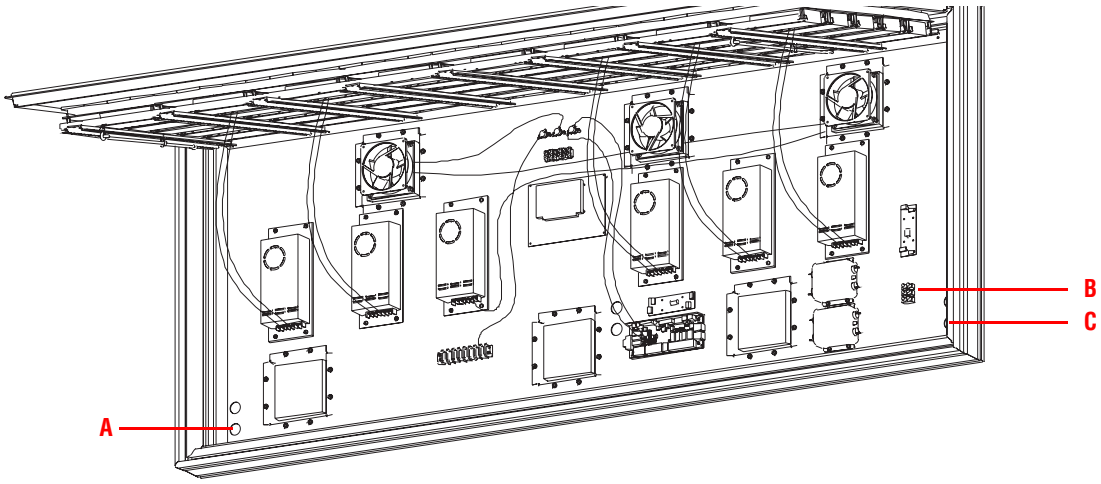




1. For proper current and wiring requirements for the sign, refer to the nameplate, as shown in Table 8, "Nameplate," on page 16, and the terminal block label, as shown in Table 3, "Inside view of an AlphaVision PC sign," on page 9. Both labels are found on a single or Master sign only, not on a Slave sign.

2. Connect the sign to an appropriate power source. Wire the same number of electrical circuits as the number of power terminal blocks. That is, if there is 1 power terminal block, then 1 electrical circuit must be wired. If there are 2 terminal blocks, then 2 electrical circuits must be wired. Refer to Table 12, “Physical and electrical specifications,” on page 42 and ”Mains power wiring” on page 46 for wiring specifics.

Table 11: Power connections



Module,
front view, open

Item	Description
A	Power line opening, alternate.
B	Power terminal block (1 or 2).
C	Power line opening, recommended.

3. The sign must be properly earth grounded. *The sign’s support structure should NOT be used as ground.*

Closing the sign

To facilitate this process, one person at each side of the sign is recommended.

4. Raise each prop rod for the LED boards and fasten under the LED boards. See Figure 20, “Installing prop rod under LED boards” above.

5. Lower the LED boards. See Figure 19, “Lifting LED boards,” on page 38.

6. Refasten screws to the internal vertical rails. See Figure 18, “Internal vertical rail screws,” on page 38.

7. Raise each prop rod for the door and fasten under the door. See Figure 17, “Lifting the sign door,” on page 37.

8. Lower the door. Be sure the wire lanyards do not get caught when closing the door.

9. Use the quarter-turn latches to close the sign’s door. See Figure 15, “Front latches on sign door,” on page 36.

Testing the installation

You will be able to determine whether you have successfully installed a sign by the power-up messages that appear when the sign is turned on.

NOTE: Note the sign’s IP address when the sign powers up because you will need it if you want to change it. (The default IP address of an AlphaVision PC is typically 207.67.12.237).

When you power up a sign that has been correctly installed, a “Loading” message appears diagonally down each driver board with one minutes after power is applied. Just before the actual application is started, the sign goes blank and then the sign type and the IP address appear in the bottom right-hand corner:

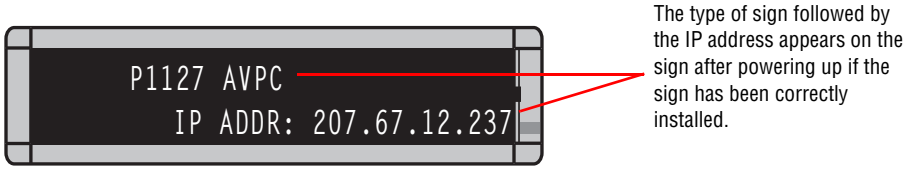


Figure 21: Determining whether the sign is successfully installed.

NOTE: Timing may vary depending on software installed.

9— Appendices

Technical specifications

Electrical rating: 100 – 240 VAC +/- 10% @ 50-60 Hz.

Display load: The total number of pixels (dots) which can be lit on the sign at any given time is limited, not to exceed 50% of full display (total pixels) for longer than a short period of time. While more than 50% of the total pixels can be lit for a short period of time, the sign will go into auto-dim and possibly shutdown mode if the internal temperature gets too hot. See "Temperature protection" on page 17.

Table 12: Physical and electrical specifications

Model number NOTE: XX denotes Master/Master or Master/Slave in double-sided configuration	LED columns	LED rows	Dimensions		Approximate total weight (lbs.)	Rated input voltage (Volts)	Rated input frequency (HZ)	Rated input current (A) 115 w/ audio capabilities	Rated input current (A) 230V w/ audio capabilities
			Approximate width (inches)	Approximate height (inches)					
1127-FS160048	160	48	56.47	23.41	107	115-230	50 / 60	8.40	4.20
1127-FB160048-XX	160	48	56.47	23.41	214	115-230	50 / 60	16.80	8.40
1127-FS160064	160	64	56.47	28.21	129	115-230	50 / 60	11.20	5.60
1127-FB160064-XX	160	64	56.47	28.21	258	115-230	50 / 60	22.40	11.20
1127-FS160080	160	80	56.47	33.01	151	115-230	50 / 60	14.00	7.00
1127-FB160080-XX	160	80	56.47	33.01	302	115-230	50 / 60	28.00	14.00
1127-FS160096	160	96	56.47	37.81	173	115-230	50 / 60	14.00	7.00
1127-FB160096-XX	160	96	56.47	37.81	346	115-230	50 / 60	28.00	14.00
1127-FS160112	160	112	56.47	42.61	195	115-230	50 / 60	16.80	8.40
1127-FB160112-XX	160	112	56.47	42.61	390	115-230	50 / 60	33.60	16.80
1127-FS160128	160	128	56.47	47.41	217	115-230	50 / 60	16.80	8.40
1127-FB160128-XX	160	128	56.47	47.41	434	115-230	50 / 60	33.60	16.80
1127-FS160144	160	144	56.47	52.21	239	115-230	50 / 60	19.60	9.80
1127-FB160144-XX	160	144	56.47	52.21	478	115-230	50 / 60	39.20	19.60
1127-FS160160	160	160	56.47	57.01	261	115-230	50 / 60	22.40	11.20
1127-FB160160-XX	160	160	56.47	57.01	522	115-230	50 / 60	44.80	22.40
1127-FS160176	160	176	56.47	61.81	283	115-230	50 / 60	22.40	11.20
1127-FB160176-XX	160	176	56.47	61.81	565	115-230	50 / 60	44.80	22.40
1127-FB160192	160	192	56.47	66.61	305	115-230	50 / 60	28.00	14.00
1127-FB160192-XX	160	192	56.47	66.61	609	115-230	50 / 60	53.20	28.00
1127-FS192048	192	48	66.07	23.41	125	115-230	50 / 60	11.20	5.60
1127-FB192048-XX	192	48	66.07	23.41	251	115-230	50 / 60	22.40	11.20
1127-FS192064	192	64	66.07	28.21	151	115-230	50 / 60	11.20	5.60
1127-FB192064-XX	192	64	66.07	28.21	302	115-230	50 / 60	22.40	11.20
1127-FS192080	192	80	66.07	33.01	177	115-230	50 / 60	14.00	7.00
1127-FB192080-XX	192	80	66.07	33.01	353	115-230	50 / 60	28.00	14.00
1127-FS192096	192	96	66.07	37.81	202	115-230	50 / 60	16.80	8.40
1127-FB192096-XX	192	96	66.07	37.81	405	115-230	50 / 60	33.60	16.80
1127-FS192112	192	112	66.07	42.61	228	115-230	50 / 60	19.60	9.80
1127-FB192112-XX	192	112	66.07	42.61	456	115-230	50 / 60	39.20	19.60
1127-FS192128	192	128	66.07	47.41	254	115-230	50 / 60	19.60	9.80
1127-FB192128-XX	192	128	66.07	47.41	507	115-230	50 / 60	39.20	19.60
1127-FS192144	192	144	66.07	52.21	279	115-230	50 / 60	22.40	11.20

Table 12: Physical and electrical specifications

Model number NOTE: XX denotes Master/Master or Master/Slave in double-sided configuration	LED columns	LED rows	Dimensions		Approximate total weight (lbs.)	Rated input voltage (Volts)	Rated input frequency (HZ)	Rated input current (A) 115 w/ audio capabilities	Rated input current (A) 230V w/ audio capabilities
			Approximate width (inches)	Approximate height (inches)					
1127-FB192144-XX	192	144	66.07	52.21	559	115-230	50 / 60	44.80	22.40
1127-FS192160	192	160	66.07	57.01	305	115-230	50 / 60	28.00	14.00
1127-FB192160-XX	192	160	66.07	57.01	610	115-230	50 / 60	53.20	28.00
1127-FS192176	192	176	66.07	61.81	331	115-230	50 / 60	N/A	15.40
1127-FB192176-XX	192	176	66.07	61.81	662	115-230	50 / 60	N/A	30.80
1127-FS192192	192	192	66.07	66.61	357	115-230	50 / 60	N/A	15.40
1127-FB192192-XX	192	192	66.07	66.61	713	115-230	50 / 60	N/A	30.80
1127-FS192208	192	208	66.07	71.41	382	230	50 / 60	N/A	16.80
1127-FB192208-XX	192	208	66.07	71.41	764	230	50 / 60	N/A	33.60
1127-FS192224	192	224	66.07	76.21	408	230	50 / 60	N/A	18.20
1127-FB192224-XX	192	224	66.07	76.21	816	230	50 / 60	N/A	36.40
1127-FS192240	192	240	66.07	81.01	434	230	50 / 60	N/A	19.60
1127-FB192240-XX	192	240	66.07	81.01	867	230	50 / 60	N/A	39.20
1127-FS192256	192	256	66.07	85.81	459	230	50 / 60	N/A	19.60
1127-FB192256-XX	192	256	66.07	85.81	919	230	50 / 60	N/A	39.20
1127-FS224048	224	48	75.67	23.41	144	115-230	50 / 60	11.20	5.60
1127-FB224048-XX	224	48	75.67	23.41	287	115-230	50 / 60	22.40	11.20
1127-FS224064	224	64	75.67	28.21	173	115-230	50 / 60	14.00	7.00
1127-FB224064-XX	224	64	75.67	28.21	346	115-230	50 / 60	28.00	14.00
1127-FS224080	224	80	75.67	33.01	202	115-230	50 / 60	16.80	8.40
1127-FB224080-XX	224	80	75.67	33.01	405	115-230	50 / 60	33.60	16.80
1127-FS224096	224	96	75.67	37.81	232	115-230	50 / 60	19.60	9.80
1127-FB224096-XX	224	96	75.67	37.81	464	115-230	50 / 60	39.20	19.60
1127-FS224112	224	112	75.67	42.61	261	115-230	50 / 60	22.40	11.20
1127-FB224112-XX	224	112	75.67	42.61	522	115-230	50 / 60	44.80	22.40
1127-FS224128	224	128	75.67	47.41	291	115-230	50 / 60	22.40	11.20
1127-FB224128-XX	224	128	75.67	47.41	581	115-230	50 / 60	44.80	22.40
1127-FS224144	224	144	75.67	52.21	320	115-230	50 / 60	28.00	14.00
1127-FB224144-XX	224	144	75.67	52.21	640	115-230	50 / 60	53.20	28.00
1127-FS224160	224	160	75.67	57.01	349	115-230	50 / 60	N/A	15.40
1127-FB224160-XX	224	160	75.67	57.01	699	115-230	50 / 60	N/A	30.80
1127-FS224176	224	176	75.67	61.81	379	230	50 / 60	N/A	16.80
1127-FB224176-XX	224	176	75.67	61.81	758	230	50 / 60	N/A	33.60
1127-FS224192	224	192	75.67	66.61	408	230	50 / 60	N/A	18.20
1127-FB224192-XX	224	192	75.67	66.61	817	230	50 / 60	N/A	36.40
1127-FS224208	224	208	75.67	71.41	438	230	50 / 60	N/A	19.60
1127-FB224208-XX	224	208	75.67	71.41	875	230	50 / 60	N/A	39.20
1127-FS224224	224	224	75.67	76.21	467	230	50 / 60	N/A	21.00
1127-FB224224-XX	224	224	75.67	76.21	934	230	50 / 60	N/A	42.00
1127-FS224240	224	240	75.67	81.01	497	230	50 / 60	N/A	22.40
1127-FB224240-XX	224	240	75.67	81.01	993	230	50 / 60	N/A	43.40
1127-FS224256	224	256	75.67	85.81	526	230	50 / 60	N/A	22.40
1127-FB224256-XX	224	256	75.67	85.81	1052	230	50 / 60	N/A	43.40
1127-FS256048	256	48	85.27	23.41	162	115-230	50 / 60	11.20	5.60
1127-FB256048-XX	256	48	85.27	23.41	323	115-230	50 / 60	22.40	11.20
1127-FS256064	256	64	85.27	28.21	195	115-230	50 / 60	14.00	7.00
1127-FB256064-XX	256	64	85.27	28.21	390	115-230	50 / 60	28.00	14.00

Table 12: Physical and electrical specifications

Model number NOTE: XX denotes Master/Master or Master/Slave in double-sided configuration	LED columns	LED rows	Dimensions		Approximate total weight (lbs.)	Rated input voltage (Volts)	Rated input frequency (HZ)	Rated input current (A) 115 w/ audio capabilities	Rated input current (A) 230V w/ audio capabilities
			Approximate width (inches)	Approximate height (inches)					
1127-FS256080	256	80	85.27	33.01	228	115-230	50 / 60	16.80	8.40
1127-FB256080-XX	256	80	85.27	33.01	456	115-230	50 / 60	33.60	16.80
1127-FS256096	256	96	85.27	37.81	261	115-230	50 / 60	19.60	9.80
1127-FB256096-XX	256	96	85.27	37.81	522	115-230	50 / 60	39.20	19.60
1127-FS256112	256	112	85.27	42.61	294	115-230	50 / 60	22.40	11.20
1127-FB256112-XX	256	112	85.27	42.61	589	115-230	50 / 60	44.80	22.40
1127-FS256128	256	128	85.27	47.41	327	115-230	50 / 60	28.00	14.00
1127-FB256128-XX	256	128	85.27	47.41	655	115-230	50 / 60	53.20	28.00
1127-FS256144	256	144	85.27	52.21	361	115-230	50 / 60	N/A	15.40
1127-FB256144-XX	256	144	85.27	52.21	721	115-230	50 / 60	N/A	30.80
1127-FS256160	256	160	85.27	57.01	394	230	50 / 60	N/A	16.80
1127-FB256160-XX	256	160	85.27	57.01	788	230	50 / 60	N/A	33.60
1127-FS256176	256	176	85.27	61.81	427	230	50 / 60	N/A	18.20
1127-FB256176-XX	256	176	85.27	61.81	854	230	50 / 60	N/A	36.40
1127-FB256192	256	192	85.27	66.61	460	230	50 / 60	N/A	39.20
1127-FB256192-XX	256	192	85.27	66.61	920	230	50 / 60	N/A	39.20
1127-FS288048	288	48	94.87	23.41	180	115-230	50 / 60	14.00	7.00
1127-FB288048-XX	288	48	94.87	23.41	360	115-230	50 / 60	28.00	14.00
1127-FS288064	288	64	94.87	28.21	217	115-230	50 / 60	16.80	8.40
1127-FB288064-XX	288	64	94.87	28.21	434	115-230	50 / 60	33.60	16.80
1127-FS288080	288	80	94.87	33.01	254	115-230	50 / 60	19.60	9.80
1127-FB288080-XX	288	80	94.87	33.01	507	115-230	50 / 60	39.20	19.60
1127-FS288096	288	96	94.87	37.81	291	115-230	50 / 60	22.40	11.20
1127-FB288096-XX	288	96	94.87	37.81	581	115-230	50 / 60	44.80	22.40
1127-FS288112	288	112	94.87	42.61	327	115-230	50 / 60	28.00	14.00
1127-FB288112-XX	288	112	94.87	42.61	655	115-230	50 / 60	53.20	28.00
1127-FS288128	288	128	94.87	47.41	364	115-230	50 / 60	N/A	15.40
1127-FB288128-XX	288	128	94.87	47.41	729	115-230	50 / 60	N/A	30.80
1127-FS288144	288	144	94.87	52.21	401	230	50 / 60	N/A	18.20
1127-FB288144-XX	288	144	94.87	52.21	802	230	50 / 60	N/A	36.40
1127-FS288160	288	160	94.87	57.01	438	230	50 / 60	N/A	19.60
1127-FB288160-XX	288	160	94.87	57.01	876	230	50 / 60	N/A	39.20
1127-FS288176	288	176	94.87	61.81	475	230	50 / 60	N/A	21.00
1127-FB288176-XX	288	176	94.87	61.81	950	230	50 / 60	N/A	42.00
1127-FB288192	288	192	94.87	66.61	512	230	50 / 60	N/A	44.80
1127-FB288192-XX	288	192	94.87	66.61	1024	230	50 / 60	N/A	44.80
1127-FS320048	320	48	104.47	23.41	198	115-230	50 / 60	14.00	7.00
1127-FB320048-XX	320	48	104.47	23.41	396	115-230	50 / 60	28.00	14.00
1127-FS320064	320	64	104.47	28.21	239	115-230	50 / 60	16.80	8.40
1127-FB320064-XX	320	64	104.47	28.21	478	115-230	50 / 60	33.60	16.80
1127-FS320080	320	80	104.47	33.01	279	115-230	50 / 60	22.40	11.20
1127-FB320080-XX	320	80	104.47	33.01	559	115-230	50 / 60	44.80	22.40
1127-FS320096	320	96	104.47	37.81	320	115-230	50 / 60	28.00	14.00
1127-FB320096-XX	320	96	104.47	37.81	640	115-230	50 / 60	53.20	28.00
1127-FS320112	320	112	104.47	42.61	361	115-230	50 / 60	N/A	15.40
1127-FB320112-XX	320	112	104.47	42.61	721	115-230	50 / 60	N/A	30.80
1127-FS320128	320	128	104.47	47.41	401	230	50 / 60	N/A	16.80

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Model number NOTE: XX denotes Master/Master or Master/Slave in double-sided configuration	LED columns	LED rows	Dimensions		Approximate total weight (lbs.)	Rated input voltage (Volts)	Rated input frequency (HZ)	Rated input current (A) 115 w/ audio capabilities	Rated input current (A) 230V w/ audio capabilities
			Approximate width (inches)	Approximate height (inches)					
1127-FB320128-XX	320	128	104.47	47.41	802	230	50 / 60	N/A	33.60
1127-FS320144	320	144	104.47	52.21	442	230	50 / 60	N/A	19.60
1127-FB320144-XX	320	144	104.47	52.21	884	230	50 / 60	N/A	39.20
1127-FS320160	320	160	104.47	57.01	482	230	50 / 60	N/A	21.00
1127-FB320160-XX	320	160	104.47	57.01	965	230	50 / 60	N/A	42.00
1127-FS320176	320	176	104.47	61.81	523	230	50 / 60	N/A	22.40
1127-FB320176-XX	320	176	104.47	61.81	1046	230	50 / 60	N/A	43.40
1127-FB320192	320	192	104.47	66.61	564	230	50 / 60	N/A	23.80
1127-FB320192-XX	320	192	104.47	66.61	1127	230	50 / 60	N/A	47.60
1127-FS352048	352	48	114.07	23.41	216	115-230	50 / 60	16.80	8.40
1127-FB352048-XX	352	48	114.07	23.41	433	115-230	50 / 60	33.60	16.80
1127-FS352064	352	64	114.07	28.21	261	115-230	50 / 60	19.60	9.80
1127-FB352064-XX	352	64	114.07	28.21	521	115-230	50 / 60	39.20	19.60
1127-FS352080	352	80	114.07	33.01	305	115-230	50 / 60	22.40	11.20
1127-FB352080-XX	352	80	114.07	33.01	610	115-230	50 / 60	44.80	22.40
1127-FS352096	352	96	114.07	37.81	349	115-230	50 / 60	N/A	15.40
1127-FB352096-XX	352	96	114.07	37.81	699	115-230	50 / 60	N/A	30.80
1127-FS352112	352	112	114.07	42.61	394	230	50 / 60	N/A	16.80
1127-FB352112-XX	352	112	114.07	42.61	787	230	50 / 60	N/A	33.60
1127-FS352128	352	128	114.07	47.41	438	230	50 / 60	N/A	18.20
1127-FB352128-XX	352	128	114.07	47.41	876	230	50 / 60	N/A	36.40
1127-FS352144	352	144	114.07	52.21	482	230	50 / 60	N/A	21.00
1127-FB352144-XX	352	144	114.07	52.21	965	230	50 / 60	N/A	42.00
1127-FS352160	352	160	114.07	57.01	527	230	50 / 60	N/A	22.40
1127-FB352160-XX	352	160	114.07	57.01	1054	230	50 / 60	N/A	43.40
1127-FS352176	352	176	114.07	61.81	571	230	50 / 60	N/A	25.20
1127-FB352176-XX	352	176	114.07	61.81	1142	230	50 / 60	N/A	49.00
1127-FB352192	352	192	114.07	66.61	615	230	50 / 60	N/A	26.60
1127-FB352192-XX	352	192	114.07	66.61	1231	230	50 / 60	N/A	53.20
1127-FS384048	384	48	123.67	23.41	235	115-230	50 / 60	16.80	8.40
1127-FB384048-XX	384	48	123.67	23.41	469	115-230	50 / 60	33.60	16.80
1127-FS384064	384	64	123.67	28.21	283	115-230	50 / 60	19.60	9.80
1127-FB384064-XX	384	64	123.67	28.21	565	115-230	50 / 60	39.20	19.60
1127-FS384080	384	80	123.67	33.01	331	115-230	50 / 60	28.00	14.00
1127-FB384080-XX	384	80	123.67	33.01	661	115-230	50 / 60	53.20	28.00
1127-FS384096	384	96	123.67	37.81	379	115-230	50 / 60	N/A	15.40
1127-FB384096-XX	384	96	123.67	37.81	758	115-230	50 / 60	N/A	30.80
1127-FS384112	384	112	123.67	42.61	427	230	50 / 60	N/A	18.20
1127-FB384112-XX	384	112	123.67	42.61	854	230	50 / 60	N/A	36.40
1127-FS384128	384	128	123.67	47.41	475	230	50 / 60	N/A	19.60
1127-FB384128-XX	384	128	123.67	47.41	950	230	50 / 60	N/A	39.20
1127-FS384144	384	144	123.67	52.21	523	230	50 / 60	N/A	22.40
1127-FB384144-XX	384	144	123.67	52.21	1046	230	50 / 60	N/A	43.40
1127-FS384160	384	160	123.67	57.01	571	230	50 / 60	N/A	23.80
1127-FB384160-XX	384	160	123.67	57.01	1142	230	50 / 60	N/A	46.20
1127-FS384176	384	176	123.67	61.81	619	230	50 / 60	N/A	26.60
1127-FB384176-XX	384	176	123.67	61.81	1238	230	50 / 60	N/A	51.80

Mains power wiring

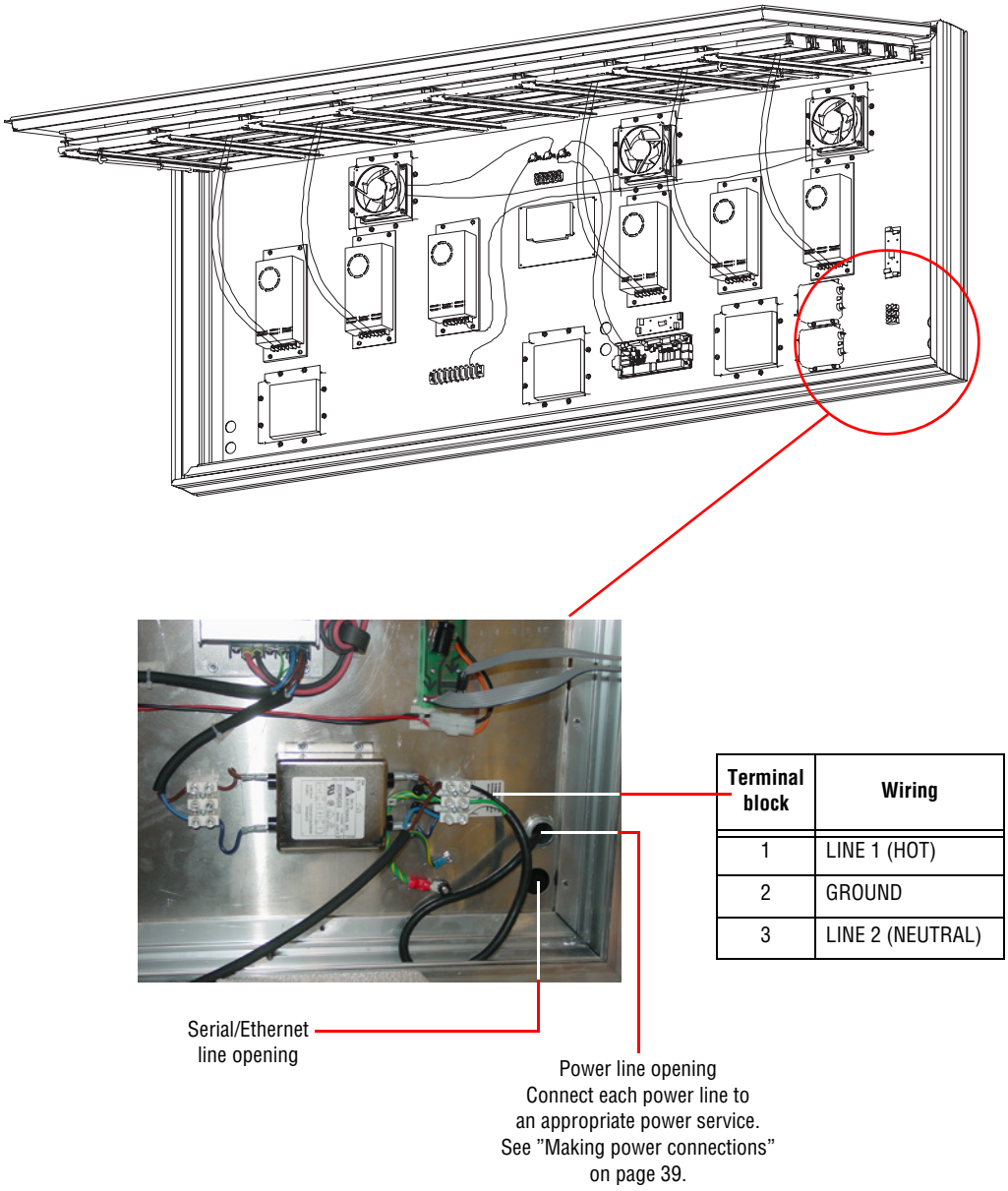


Figure 22: Mains power connection

Sign options

All peripheral connections are made at the Communications board. Note that power must be disconnected when opening a sign. See "General warnings and cautions" on page 24 for more information.

The peripheral connections are made using cage clamp terminal blocks. To use these, push the specific lever back and away from the terminal block using a screwdriver or similar small-ended tool. (Be careful not to let the tool slip off the lever and damage the circuit board.) While pressing the lever, insert the wire into the associated opening.

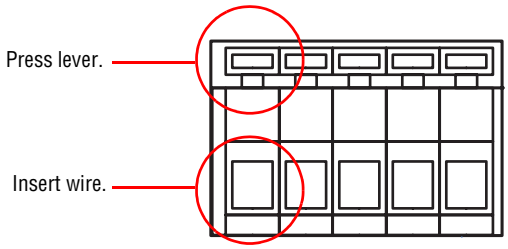


Figure 23: Using a cage clamp terminal block

Speaker outputs

The speakers use audio files. Connect up to four speaker outputs, with positive on the left and negative on the right for each speaker. Each speaker output is rated to 25 watts maximum. Each speaker should be 8 ohm impedance.

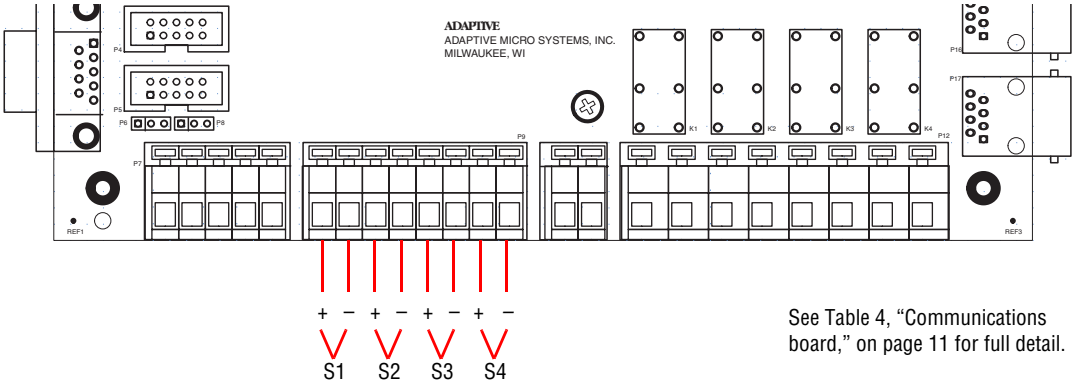


Figure 24: Connecting speaker output wiring

5 VDC output

This is general-purpose power out for 250 ma maximum accessories. Connect the pair of wires with positive on the right and negative on the left.

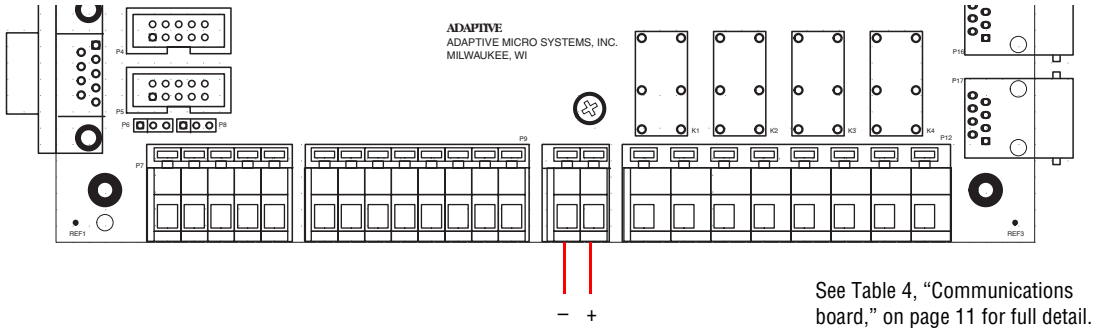


Figure 25: Connecting 5 VDC output wiring

Relay outputs

The relay contact outputs are for such accessories as alarms, bells, and stack lights. Connect as many as four pairs of relay outputs. Outputs are rated to 120 volt 4 amp maximum.

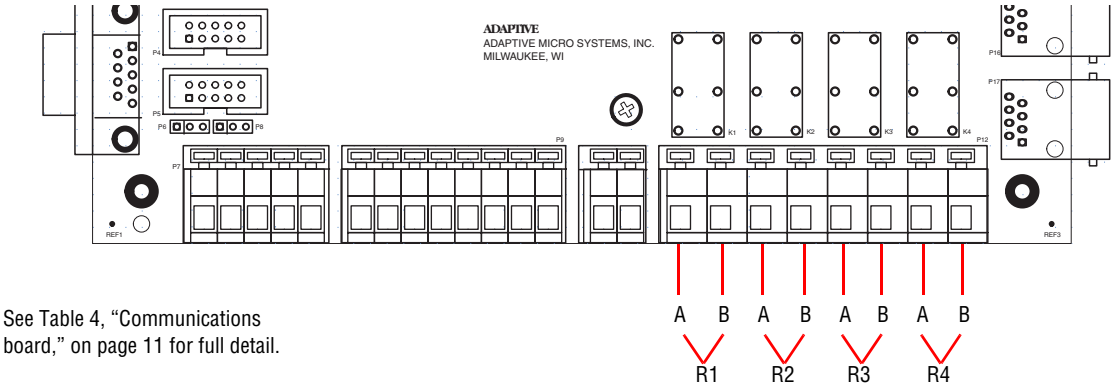


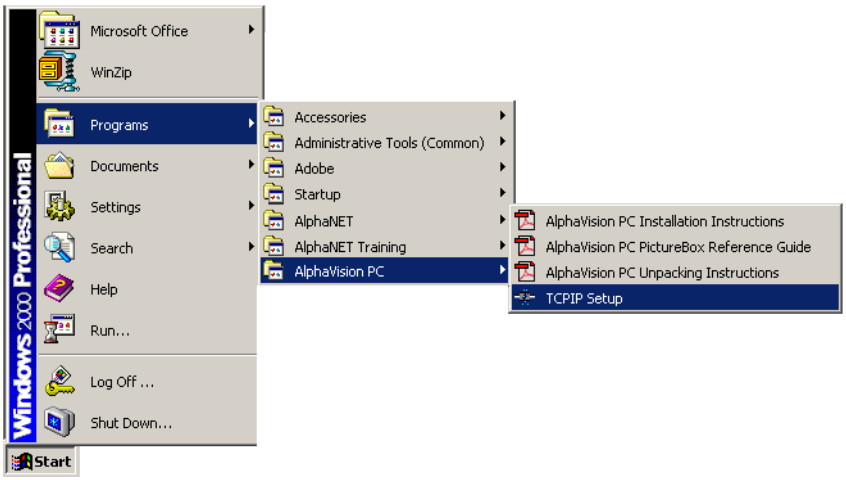
Figure 26: Connecting relay output wiring

Setting a sign's IP address

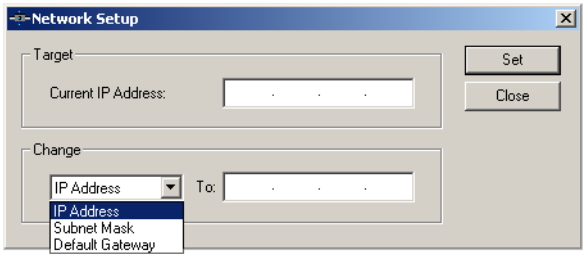
Assign an IP address to each sign on a network.

NOTE: This information is for the Windows CE option only. If you have Windows 2000, see "Set the sign's IP address" on page 52.

1. Ask your Systems Administrator for an available IP address.
2. Click *Start* and select *Programs>AlphaVision PC>TCPIP Setup*.



3. In the Target box, type the IP Address currently associated with the sign. All signs are set with an IP address of 207.67.12.237 and a subnet mask of 255.255.255.0.
4. In the Change box, type the sign's new IP Address.
5. Click *Set* to apply the change.
6. Restart the sign.



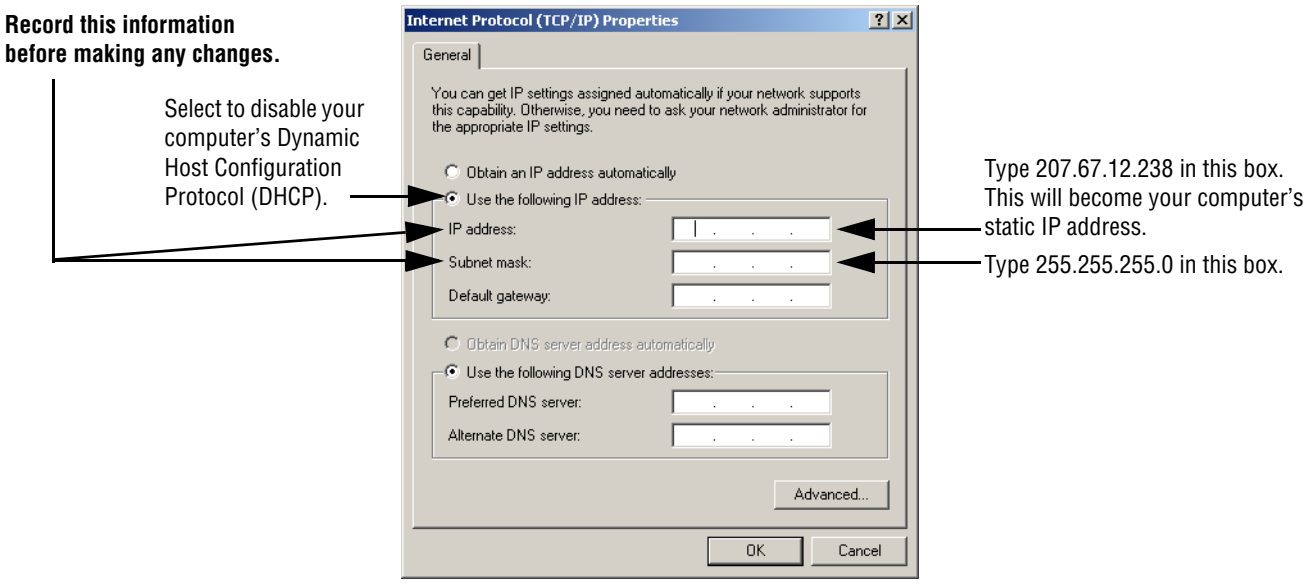
NOTE: You can also use the Network Setup box to change a sign's Subnet Mask and Default Gateway. Contact your Systems Administrator for the appropriate numbers.

NOTE: Depending on your system configuration, you may have to change IP address information on your computer. Refer to the section entitled "Changing your computer's IP address" on page 50. This typically requires assistance from your Systems Administrator.

NOTE: Depending on your computer settings and network hardware, you may have to connect directly to the sign using an ethernet crossover cable.

Changing your computer's IP address

1. **Record your computer's Internet Protocol (TCP/IP) settings before making any changes.**



2. Select *Use the following IP address*. This will disable your computer's Dynamic Host Configuration Protocol (DHCP).
3. Type 207.67.12.238 in the IP address box.
4. Type 255.255.255.0 in the Subnet mask box.
5. Click *OK*.
6. Restart your computer.
7. Assign an IP address to the sign. Refer to the section entitled "Setting a sign's IP address" on page 49.
8. Re-assign the Internet Protocol (TCP/IP) settings that you recorded in step 1.

Windows 2000 option

If you chose the Windows 2000 software option with your AlphaVision PC sign, an internal hard disk drive is installed, which allows you to use any Windows 2000 compatible software.

NOTE: The following software instructions were written for a Windows 2000 operating system. Path names, menu selections, window titles, and so on may appear slightly different in other operating systems.

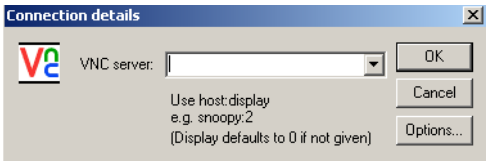
Install the VNC Viewer

The VNC Viewer provides access to the sign's hard drive.

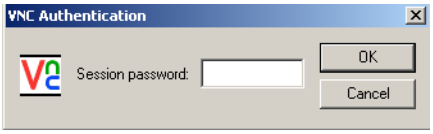
1. Install the VNC Viewer on your computer from the enclosed CD-ROM. You can also download it from the RealVNC Web site at http://www.realvnc.com.
2. Temporarily set the IP address on your computer to 207.67.12.238. See steps 1 through 6 in "Changing your computer's IP address" on page 50.

Run the VNC Viewer

3. Select *Start>Programs>RealVNC>VNC Viewer*. The *Connection details* window appears:



4. Type "207.67.12.237" in the *VNC server* line and click *OK*. The *VNC Authentication* window appears:



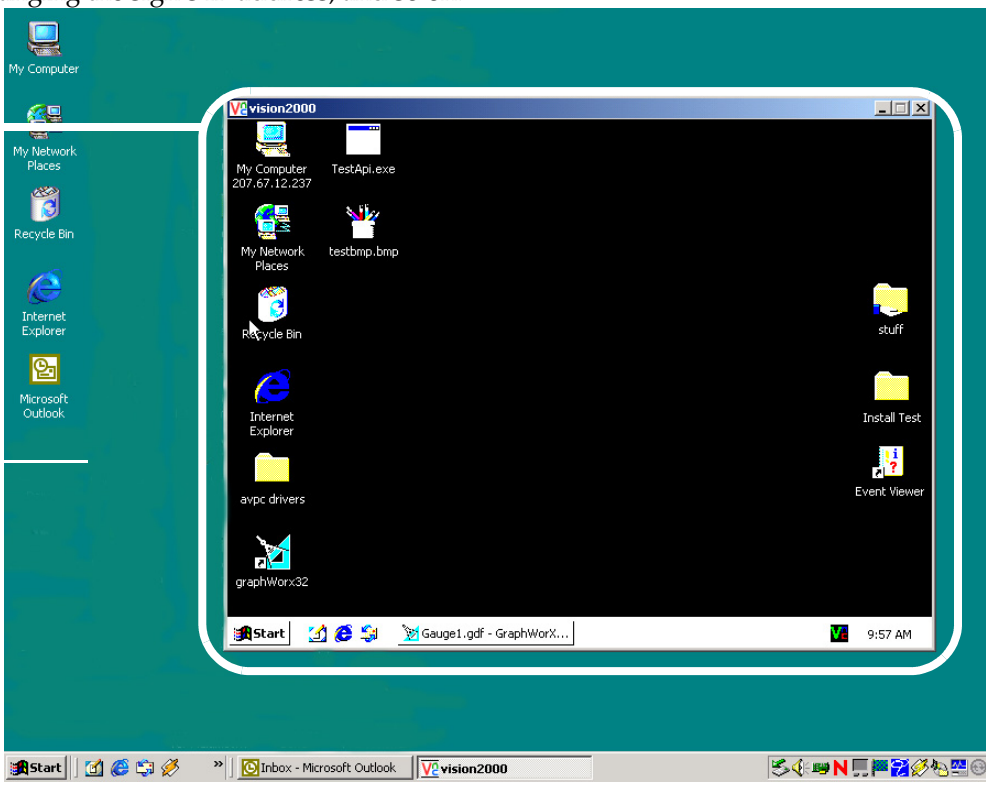
5. Type "password" in the *Session password* field and click *OK*.

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.

Note that you can work in both windows interchangeably, but be sure to keep track of the window on which you are currently working.



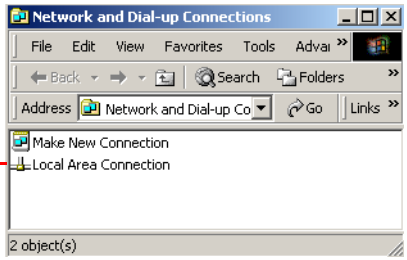
Set the sign's IP address

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

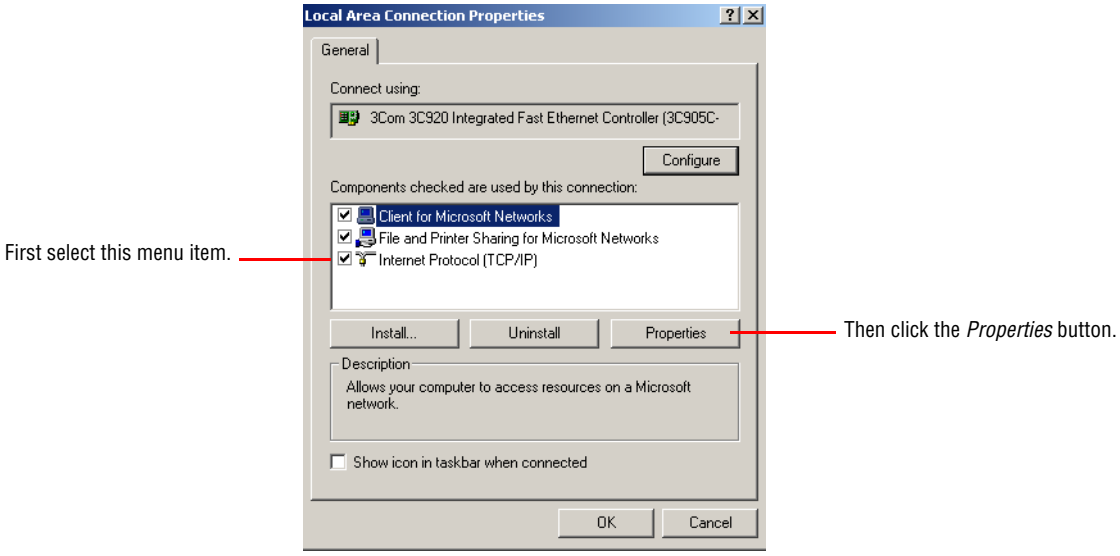
Right-click this icon on the sign's desktop and select *Properties*.

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

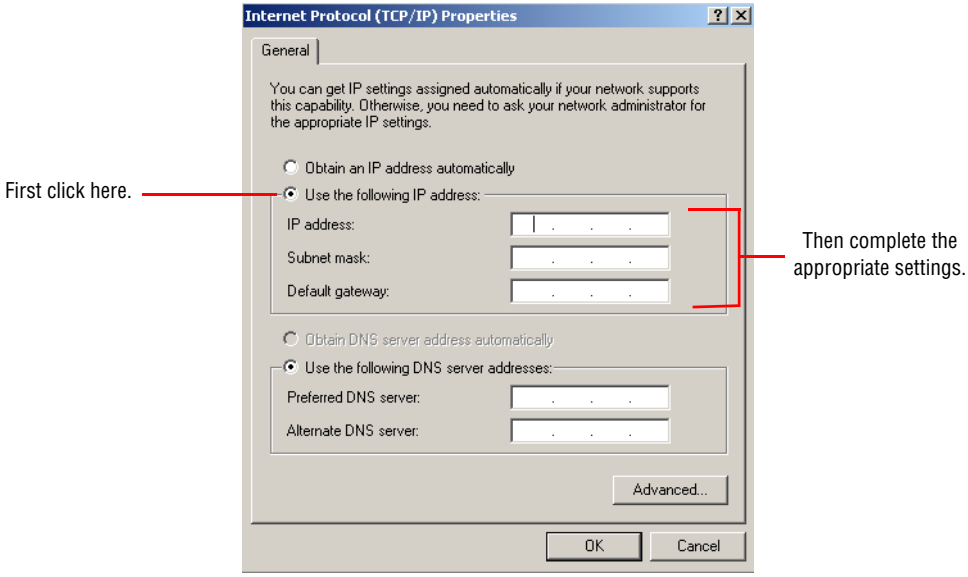
Right-click this menu item and select *Properties*.



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



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

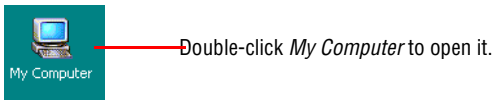


5. When finished, click *OK*.

Install software on the sign's hard drive

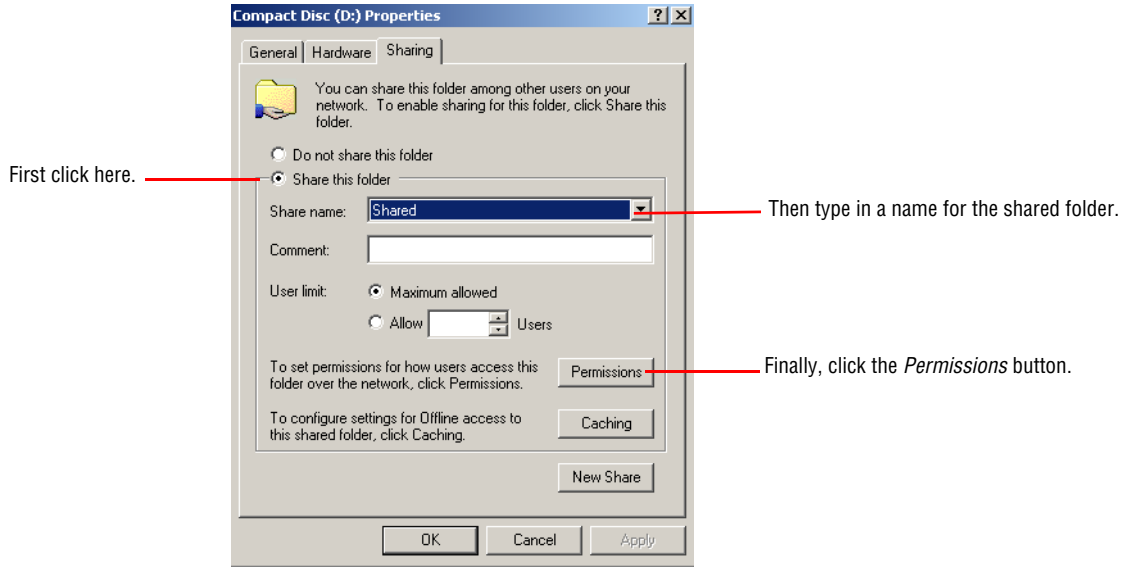
In order to install software on the sign's hard drive, you must first share your CD-ROM drive with it. (Note that there are several ways to get software installed on the sign; this is just one method.)

1. Open *My Computer* on your desktop.

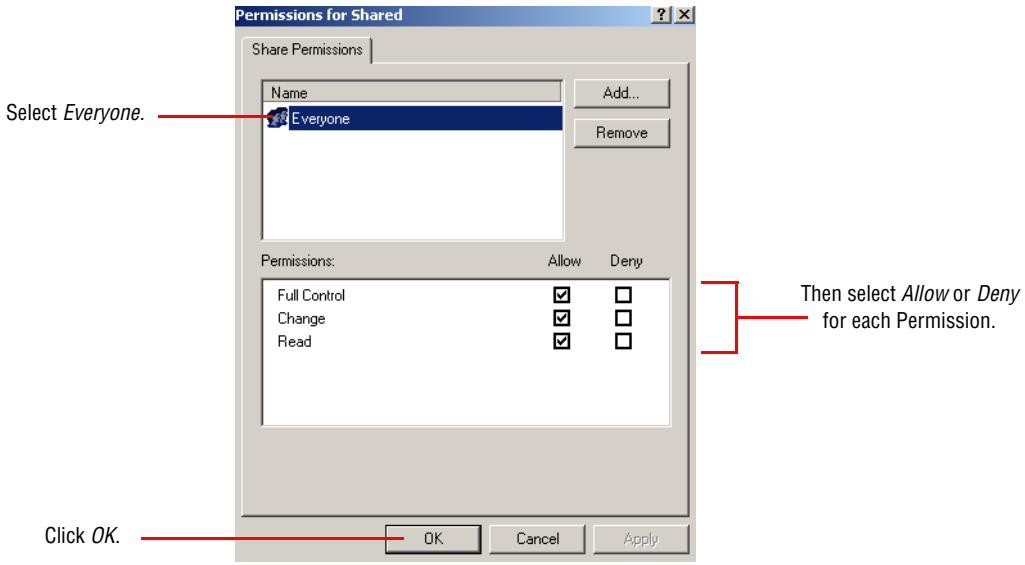


2. Right-click on the CD-ROM drive to be shared and select *Sharing...*

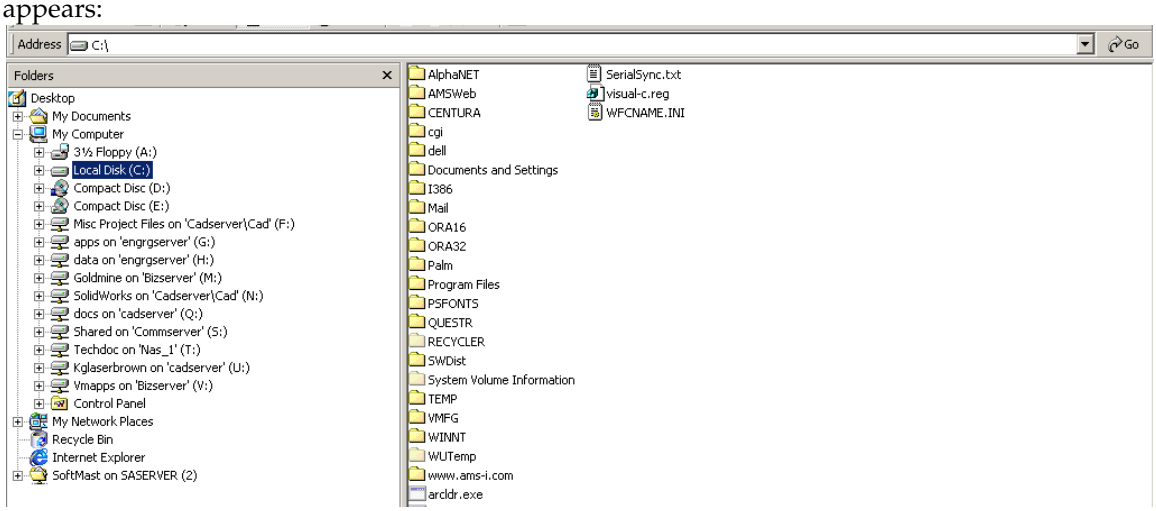
3. Click *Share this folder* and then type a *Share name*. Click the *Permissions* button.



4. Select *Everyone* and then complete the *Permissions* as appropriate. When finished, click *OK*.



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



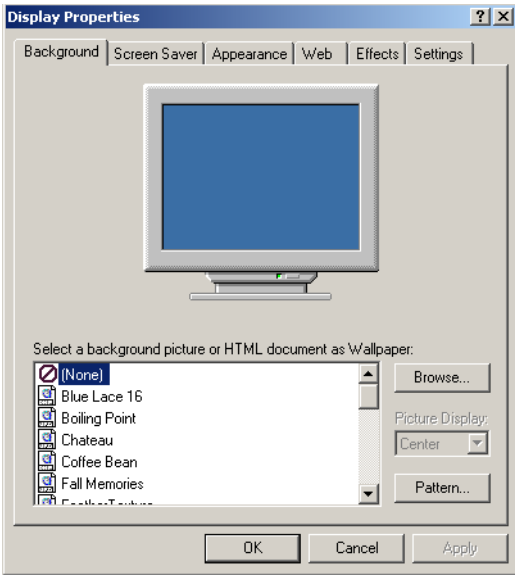
6. Select *My Network Places* in the left panel and then double-click *Entire Network* in the right panel.
7. Double-click the following in the right panel, in the order given:
   - *Microsoft Windows Network*
   - the network on which your computer resides
   - your computer (look for your name)
  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

At this point, you can install software on the sign's hard drive through your computer's CD-ROM drive.

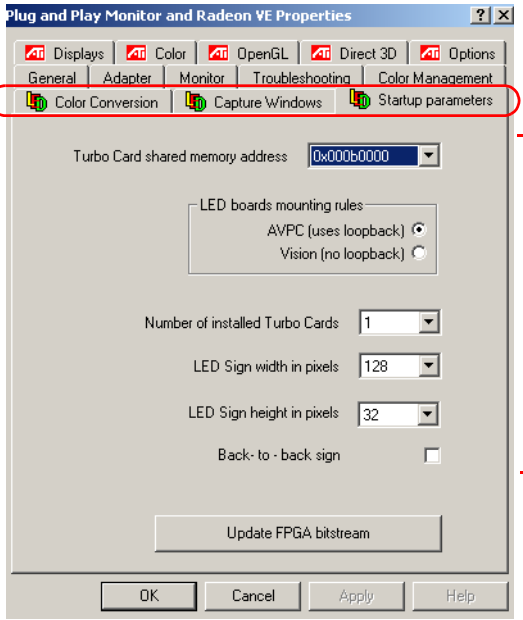
Configure the sign

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. Right-click the sign's desktop and select *Properties*. The *Display Properties* window appears:



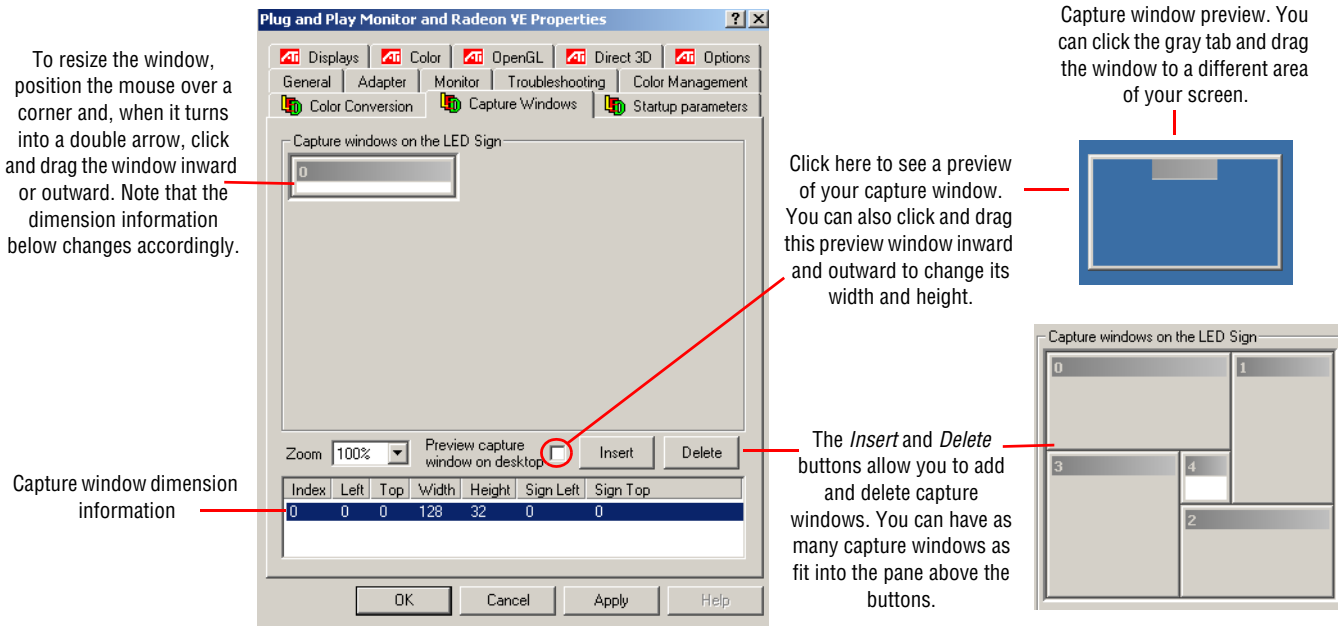
2. Click the *Settings* tab and then click the *Advanced* button. When the advanced properties window appears, click the *Startup parameters* tab and make the appropriate changes:



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

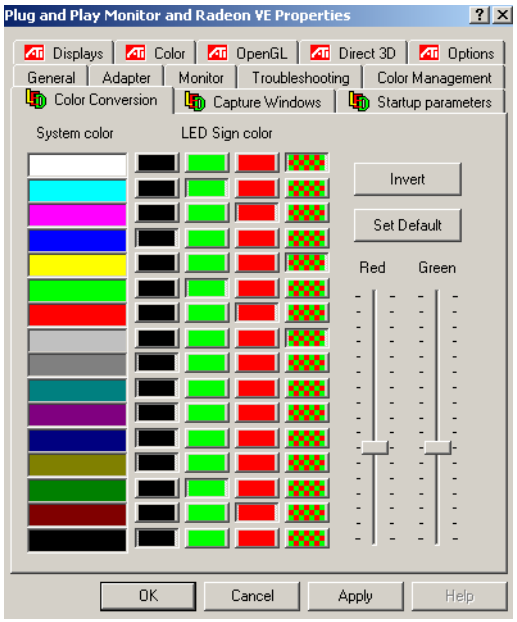
You can specify turbo card information, set the type and size of your sign, and indicate whether back-to-back mounting is used.

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



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

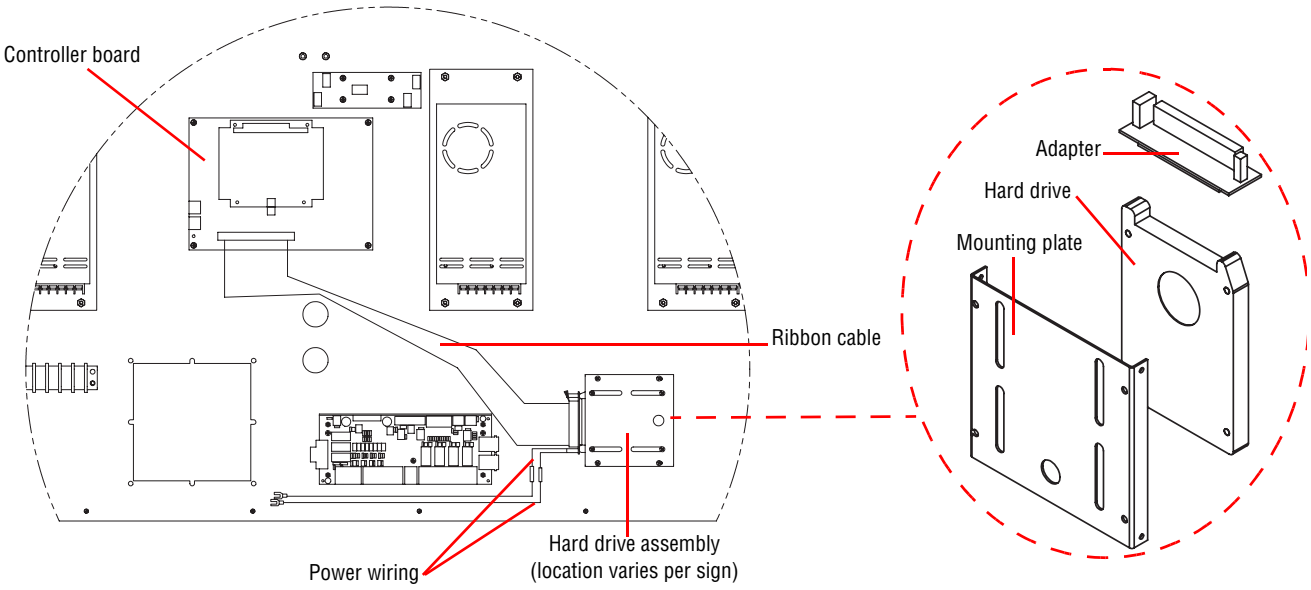
This setting defines how the colors of the 16-color Windows standard palette are converted into the four LED colors. For each of the 16 colors, you can specify the color to appear on the sign in its place.



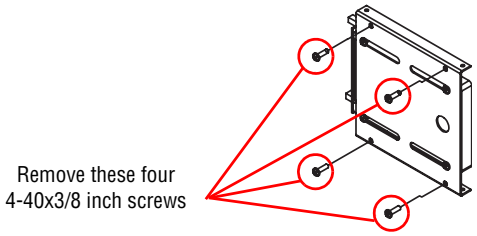
5. When changes are complete, click *OK*, then follow any prompts for restarting your system.

Remove the hard drive

NOTE: The hard drive may be damaged by electrostatic discharge (static electricity). To prevent this from happening, follow the guidelines in Adaptive TechMemo 00-0005, *"Preventing Electrostatic Discharge (ESD) Damage,"* available on our Web site at http://www.adaptivedisplays.com.



1. Follow the directions for "Opening the sign" on page 36 and "Raising the LED boards" on page 38.
2. Disconnect the power wiring from the adapter.
3. Disconnect the ribbon cable from the adapter.
4. Remove the four screws securing the hard drive and mounting plate to the sign:



Warning: Do not push on or squeeze the exposed hard drive.
Hold the hard drive by the sides of the mounting plate.

NOTE: To reattach the hard drive, use the screws above to mount the hard drive to the sign. Reconnect the ribbon cable and power wiring. To close the sign, follow the directions for "Closing the sign" on page 41.