



INFINITE RGB & GRAYSCALE SERIES

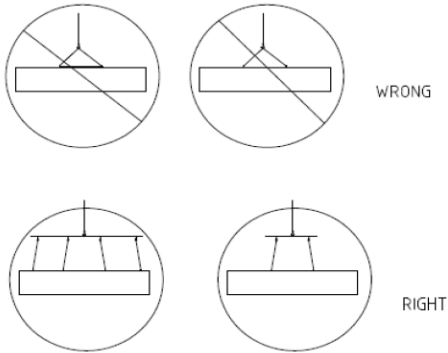
OPTV2SS
INTERNAL CONTROLLER

SETUP GUIDE

MAR. 2011



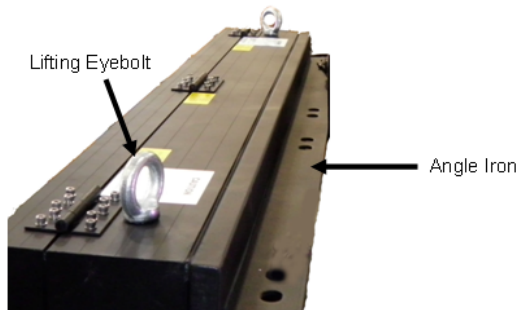
Step 1. Uncrating and Lifting



Open the crate from the top. Use crane or forklift to lift the display out of the crate. Always use ALL the lifting eyebolts provided for lifting.

Note that display is top heavy. Strap down the display before accessing the display or leaving it unattended.

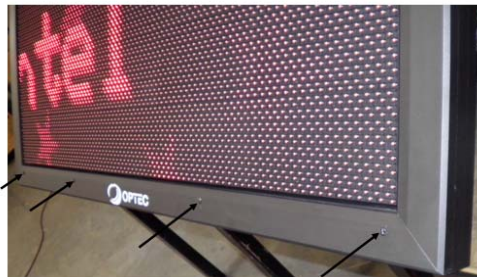
Step 2. Mounting the display



Mount the display. Angle iron brackets are provided on the back for mounting to a frame or stringers.

Make sure proper ventilation is provided to the display. Please reference ventilation requirement sheet enclosed in this setup guide.

Step 3. Opening the display



Top Hinge Bottom Open Cabinet

Locate the Allen screws at the bottom of the face panel. Use a 5/32 Allen driver to loosen the screws. Then pull the display panel outward.



Bottom Hinge Top Open Cabinet

Locate the Flat Head screws at the top of the face panel. Use a Flat Head screw driver to loosen the screws. Then pull the display panel outward.

Step 4. Connecting Power and Earth Ground

Electrical must be done through a certified electrician, and installed in accordance with the requirements of National Electrical Codes or local codes.



Route all electrical wires and cables inside properly sized conduits and attach to the elbows behind the display.



Splice the AC connection inside the display or connect AC to the breaker or terminal block.



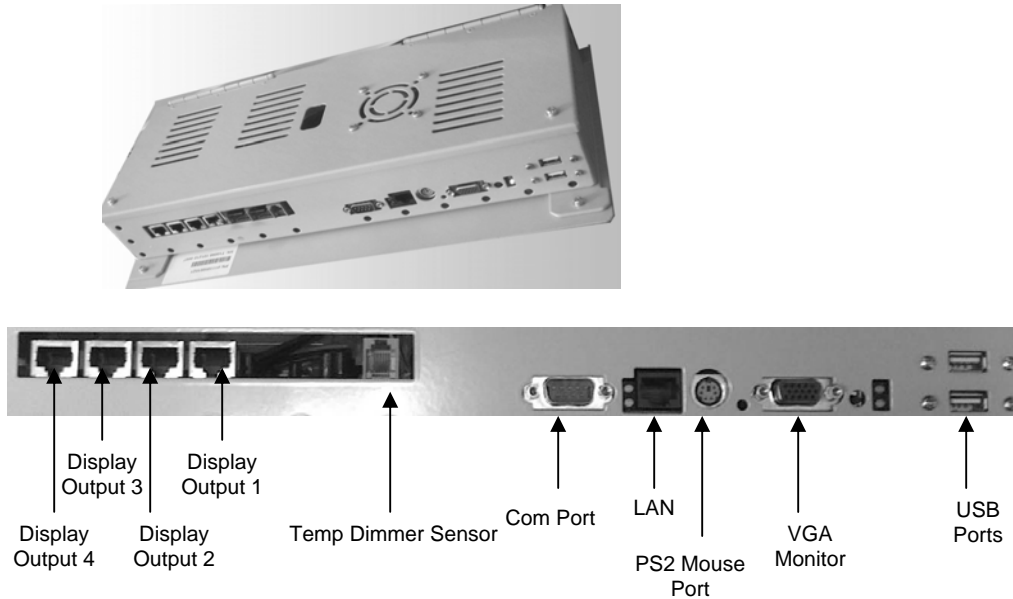
This sign is intended to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the display.

DISPLAY MUST BE PROPERLY GROUNDED TO AN EARTH GROUNDING ROD AT THE BASE OF THE SIGN WITH A #6 (MIN.) GROUNDING WIRE TO THE CHASSIS OF EACH SIGN FACE.

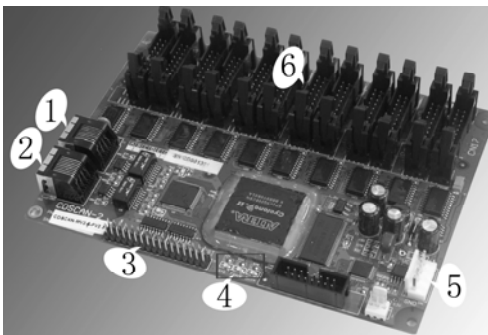
This sign is intended to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes.

Step 5. Data Connections

OPTV2SS IPC (Internal Controller) I/O ports:

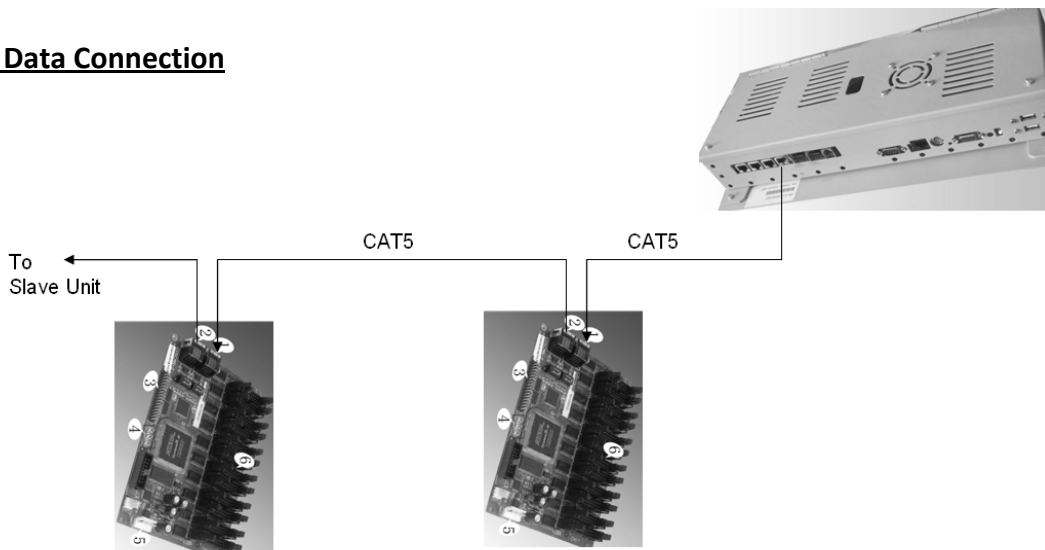


Scan board:



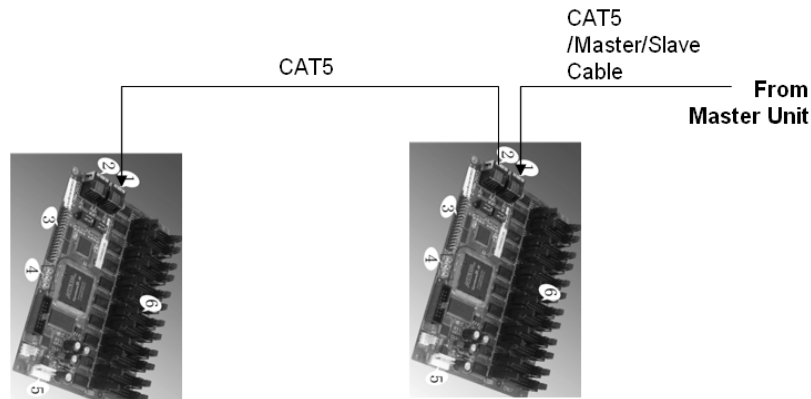
1. Primary Signal Port – Data Input from Controller “Display Output Port”, or from master unit.
2. Secondary Signal – Data Output to NEXT scan board, or to slave unit.
3. Jumpers (scan board position, and mode).
4. LED Indicators: (Blinking)
 - a. SYS – CPU on board is working
 - b. FRAME – Receiving Data
5. DC 5V
6. Ribbon cable connector to LED modules.

Typical Data Connection



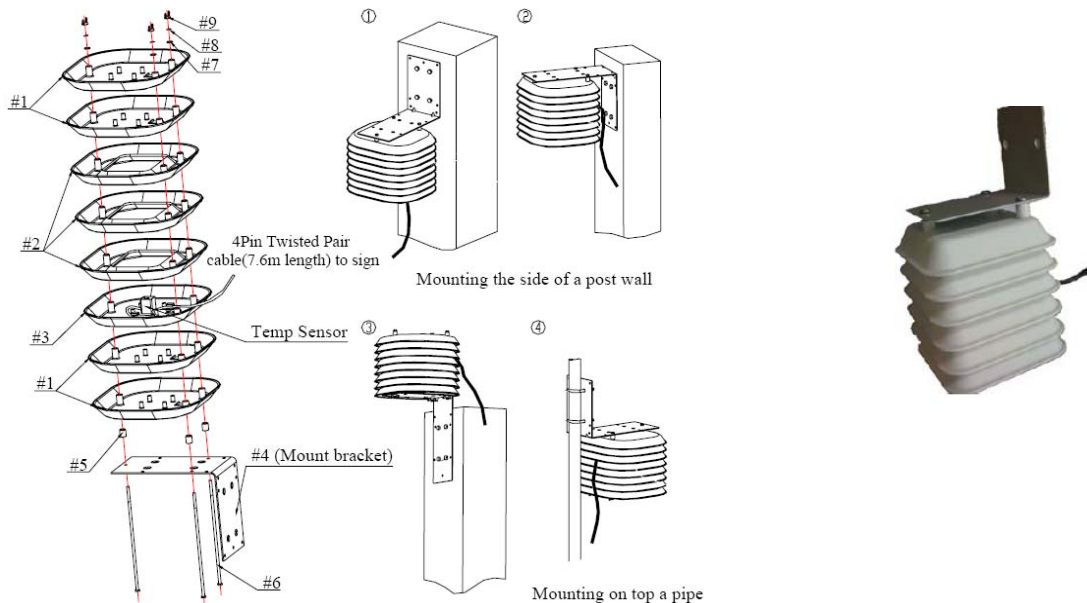
Master / Slave Connection

- Locate the **LAST** Scan Board (as shown in the image above) in the data chain (far left) inside the Master Unit and the **FIRST** Scan board (far right) inside the Slave Unit.
- Run Master Slave Cable through the conduit elbow behind the cabinet if it is not pre-attached.
- Connect Master Slave Cable to one of the (secondary) data ports on the **LAST** scan board (far left) in the data chain inside the Master Unit.
- Run Master Slave Cable through a properly sized conduit and attach conduit to the elbow on the Slave Unit.
- Connect Master Slave Cable to one of the (primary) data ports on the **FIRST** (far right) scan board inside the Slave Unit.



Temp Dimmer Sensor

- Assemble the radiation shield and Temp Dimmer Sensor. Radiation shield requires simple assembly of 8 layers of shell with Temp Dimmer Sensor as the 5th layer. See image below.



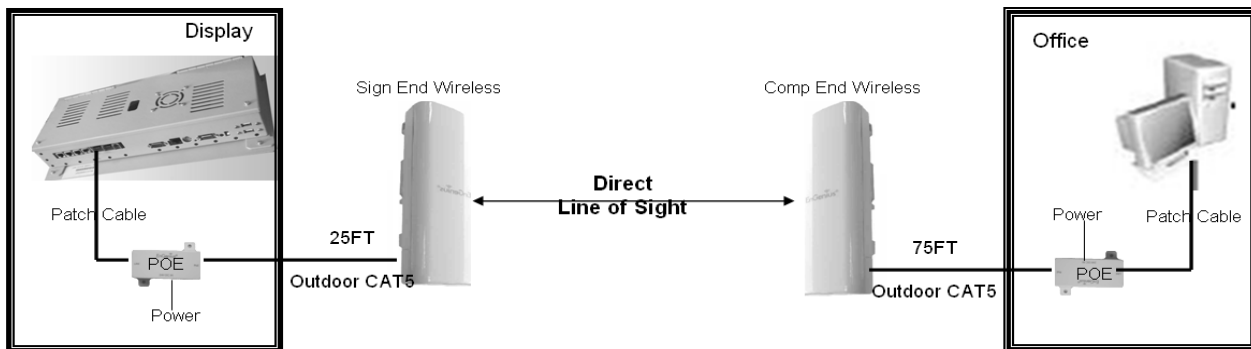
- Locate the Internal Controller and connect Temp Dimmer Sensor to the RJ11 phone jack.
- We recommend mount the sensor in a shaded area, away from heat source, with good air circulation around the sensor.

Step 6. Communication Connections

➤ Wireless Ethernet

Items provided by Optec

Image					
Item Name	WLAN	POE & Power	Outdoor Cable	Patch Cable	Mounting
Qty:	2	2 each	75F – 1; 25F – 1	2	2



A Clear Line of Sight is required between Sign End and Computer End Wireless Units.


Hardware Connections

- **Connecting Sign End Wireless –**
 - Typically the “POE” device is preinstalled inside the display. Simply connect the wireless unit to the POE port of the “POE” device inside the display using 25FT outdoor CAT5 cable provided.
 - Make sure wireless unit is installed facing the Computer End Wireless Unit. Use the directional mounting bracket provided for directional adjustments.
- **Connecting Computer End (User End) Wireless –**
 - Install the wireless unit to where it has direct line of sight to the Sign End Unit. Wireless Unit must be installed exterior to the building, NOT inside the building or behind the glass. Use the directional mounting bracket provided for directional adjustments.
 - Connect the 75FT outdoor CAT5 cable provided to the wireless unit and run the cable to the “POE” device.
 - Connect the patch CAT5 cable from the LAN port of the “POE” device to the LAN port of the User End Programming Computer.
 - Connect power to the “POE”.
 - Note that a Switching HUB is not required for Computer End Wireless Unit, unless it is to be on a Network.

***See IP configuration and Software Setup page to transmit message (Use Internet Setup).**

➤ **Ethernet**

Items Provided by Optec

Image	
Item	HUB
Qty:	1




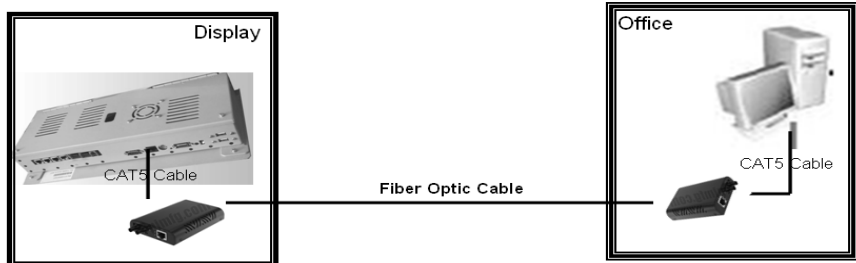
- Run the Ethernet CAT5 (in conduit or direct burial) from the office out to the display.
- Connect one end (CAT5 Cable) to the Controller LAN port inside the Display (Master Unit).
- Connect the other end (CAT5 Cable) to the programming computer.
- Always have separate conduits for AC and Data.

***See IP configuration and Software Setup page to transmit message (Use Internet Setup).**

➤ **Ethernet Fiber Optic Connection**

Items Provided by Optec

Image	
Item	Fiber Modem
Qty:	2



- **Multi-Mode 2 Strands Fiber Optic Cable with ST Connector is required. Cables are not provided by default.**

● **Connecting Sign End**

- Connect Fiber Optic Converter to the Controller LAN port with the short CAT5 cable provided.
- Feed the Fiber Optic Cable (ST connector) into the display cabinet through the conduit elbow.
- Connect the Optic Cable (ST connectors) to the Fiber Optic Converter. Record the color of each strand connected to "RX" and "TX" Port.
- Run cable in a conduit and feed to Computer End (office).
- Power up the converter

● **Connecting Computer End (User End)**

- Connect Fiber Optic Convert to PC with provided short CAT5 cable.
- Connect the strand connected to the "RX" on the display side to "TX" on the PC side.
- Connect the strand connected to the "TX" on the display side to "RX" on the PC side.
- Power up the converter

***See IP configuration and Software Setup page to transmit message (Use Internet Setup).**

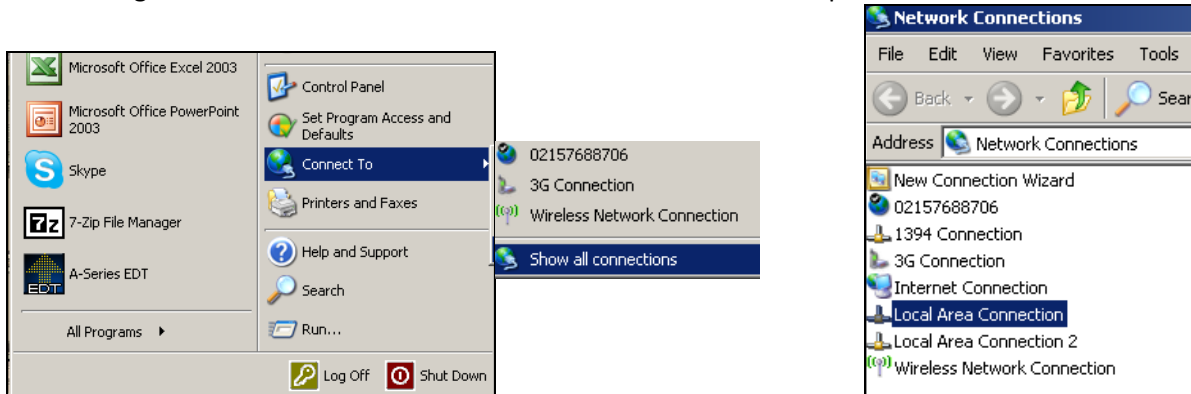
Programming PC IP Configurations

Default IP Settings

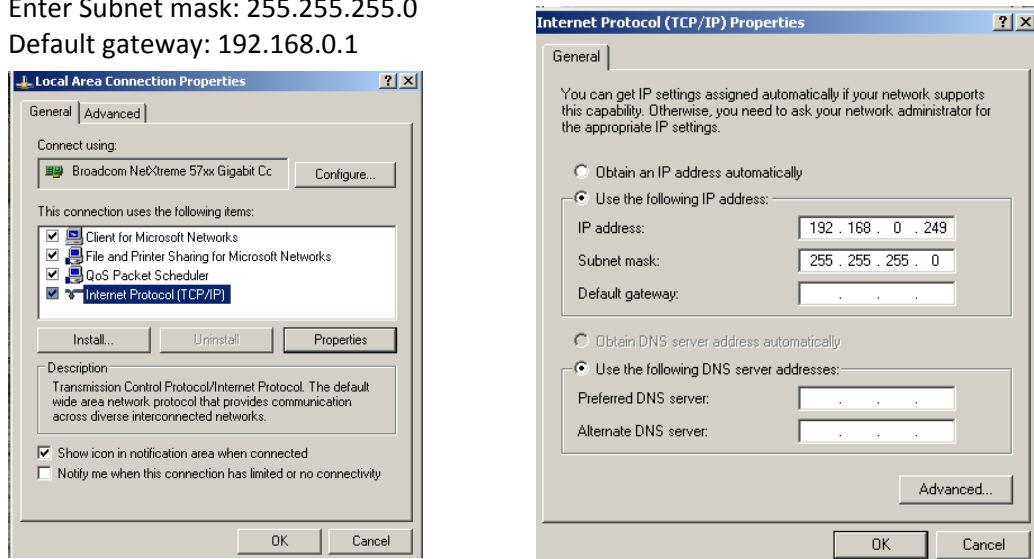
<p>Controller - IP: 192.168.0.218 Subnet: 255.255.255.0 Gateway: 192.168.0.1</p>	<p>Sign End Wireless - IP: 192.168.0.221 Subnet: 255.255.255.0 Gateway: 192.168.0.1</p>	<p>Comp End Wireless - IP: 192.168.0.220 Subnet: 255.255.255.0 Gateway: 192.168.0.1</p>	<p>UserEnd Computer - IP: 192.168.0.XXX Subnet: 255.255.255.0 Gateway: 192.168.0.1</p>
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• **Configuring User End Programming Computer d IP**

- Click on “START” on PC desktop → Select “Connect To” → “Show all connections”
- Right mouse click on “Local Area Connection” and select Properties



- Local Area Connection Properties → Select “Internet Protocol (TCP/IP) → Click “Properties”
- Internet Protocol (TCP/IP) Properties settings:
 - Select “Use the following IP address:”
 - Enter IP Address: 192.168.0.XXX (XXX can be any number from 0 to 255. Do NOT use the same numbers as the controller, Sign End and Comp End Wireless Units.)
 - Enter Subnet mask: 255.255.255.0
 - Default gateway: 192.168.0.1

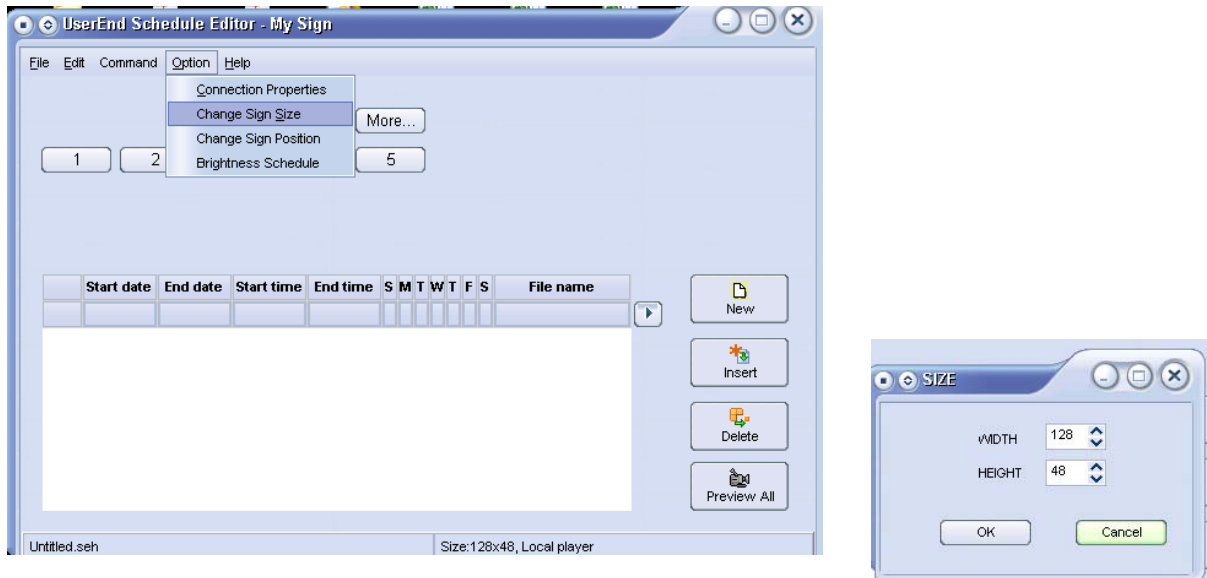


***See Software Setup page to transmit message (Use Internet Setup).**

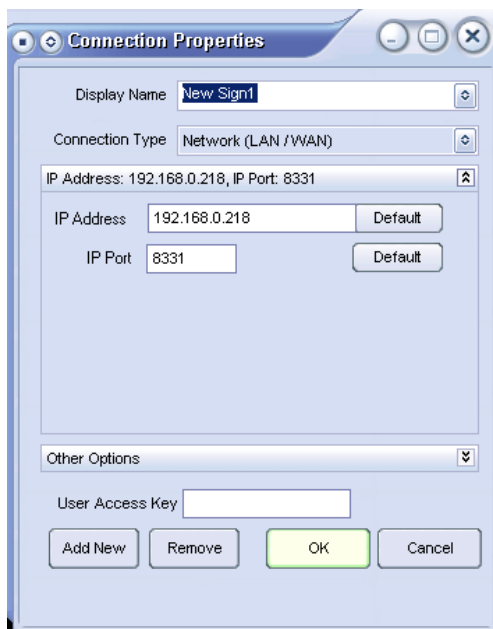
Step 7. Software Setup

- Run ME3 (Media Editor 3) Software CD
- Install MediaEditor 3
- Install UserEnd Schedule Editor
- Run UserEnd Schedule Editor
- Configure display setup (display resolution) and communication setup

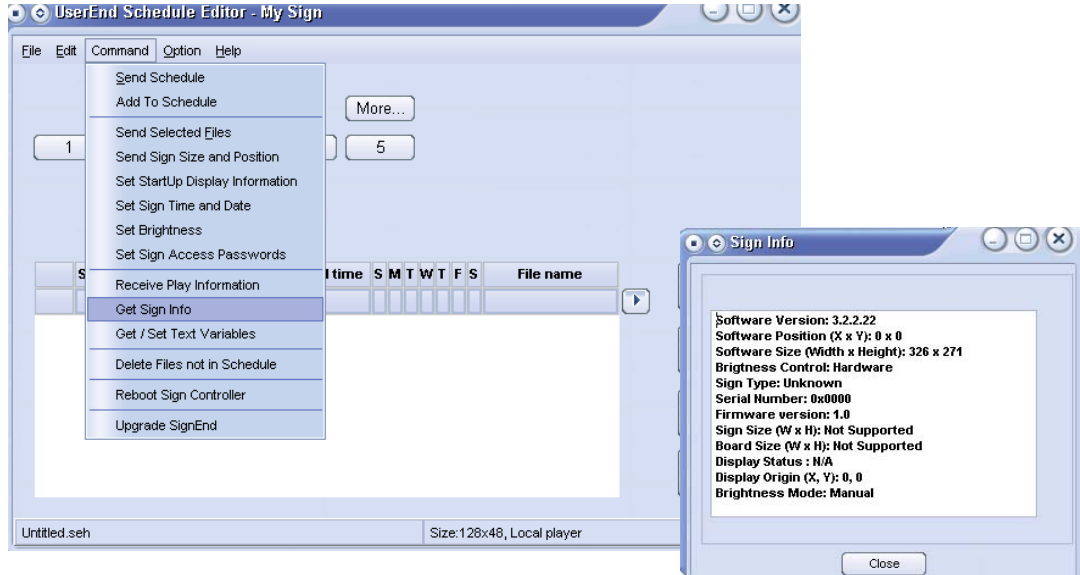
1. Display Setup: Option → Change Sign Size



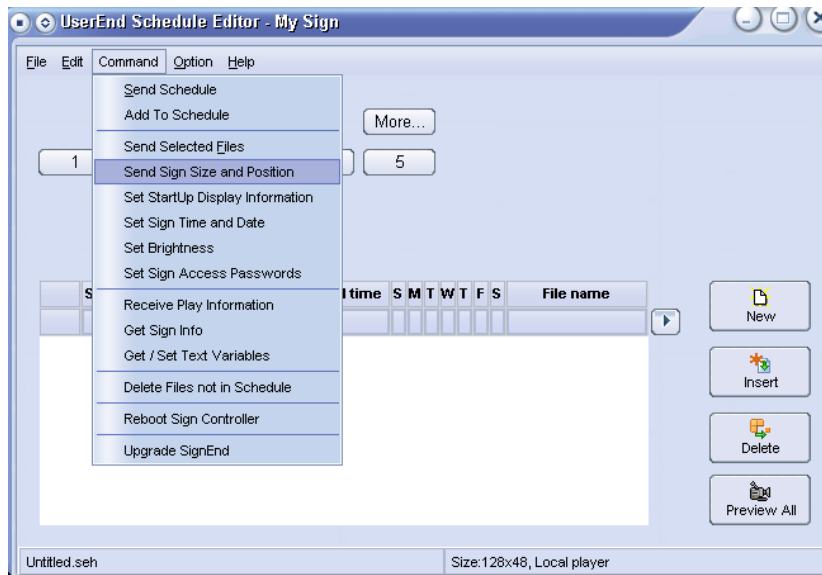
2. Add Display Name and Setup Communication: Option → Connection Properties
3. Add Display Name: → Select Connection Type - (Network (LAN/WAN) for all Ethernet communications → Add New → Enter IP Address (Controller IP if different from default).



4. Confirm communication between display and programming PC: Command → Get Sign Info.
 - If communication is established, Sign Info window will pop up and show firmware version, correct Sign Size, and etc.



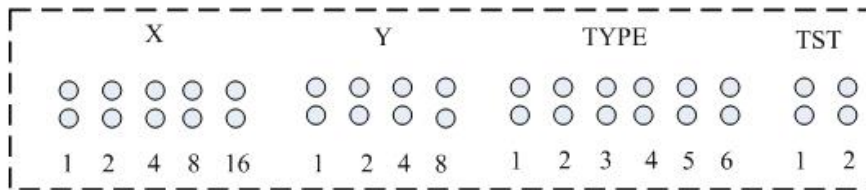
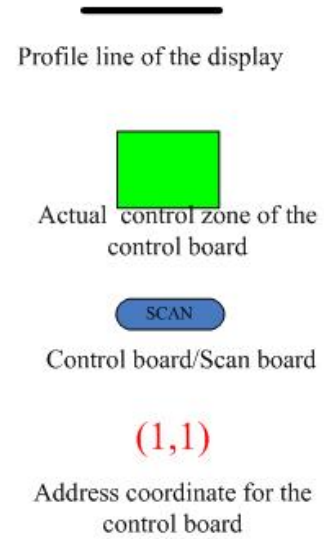
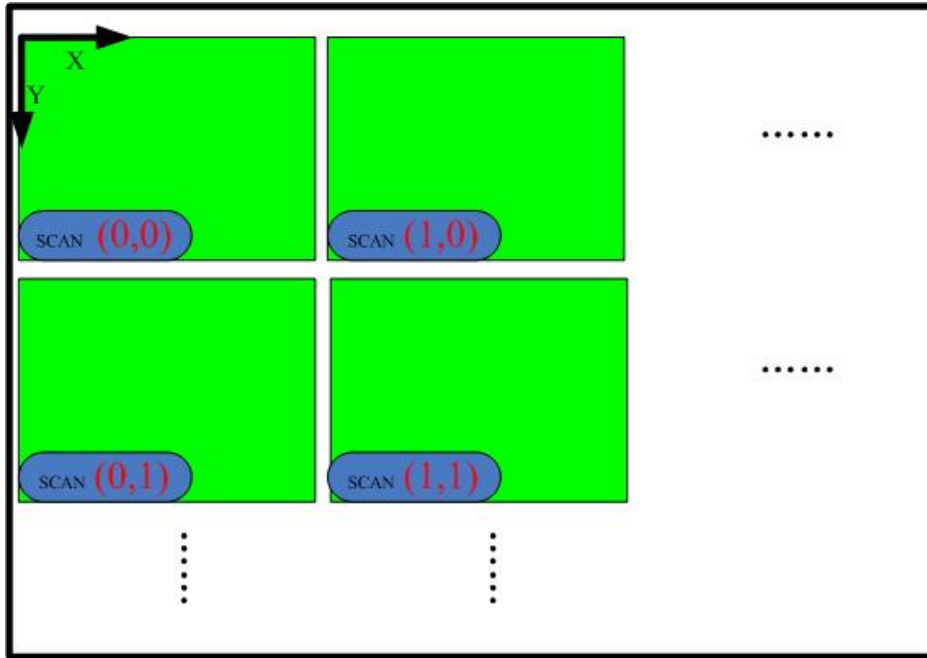
5. Send Sign Size to Display Controller: Command → Send Sign Size and Position (Make sure display has communication with programming PC or PC using to run this program).



6. Run Media Editor 3 and start creating your message. Always use UserEnd Editor to set and send schedules.

Scan Board Jumper Settings

Front View



- Notes:
- 1 Short circuit with the jumper is for 1, while getting rid of the jumper for 0;
 - 2 X, Y are binary codes, while LSB on left;
 - 3 TYPE settings: while the tile is of 8 column, it is 010011;
while the tile is of 16 column, it is 100011
 - 4 TST is for test purpose, user needs no settings.

Air Ventilation Requirements (Natural Convection):

DO

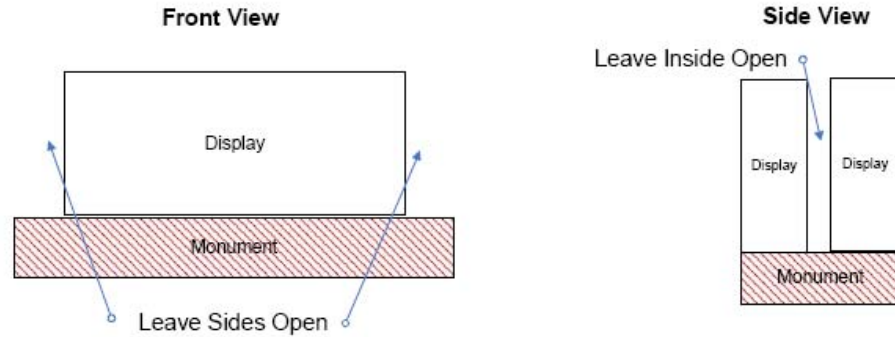
- DO Provide Outside Air To Reach Cabinet Air Input Vents
- DO Maintain Temperature inside sign -22 to +130 Degrees F
- DO Provide Sufficient Venting For Natural Convection If Skinned
- DO Inspect Vents Periodically to Ensure they are Clear/Open
- DO Keep inside cabinet temperature below 110 degrees F
- DO Maintain clearance above and below cabinet a min of 1.5"



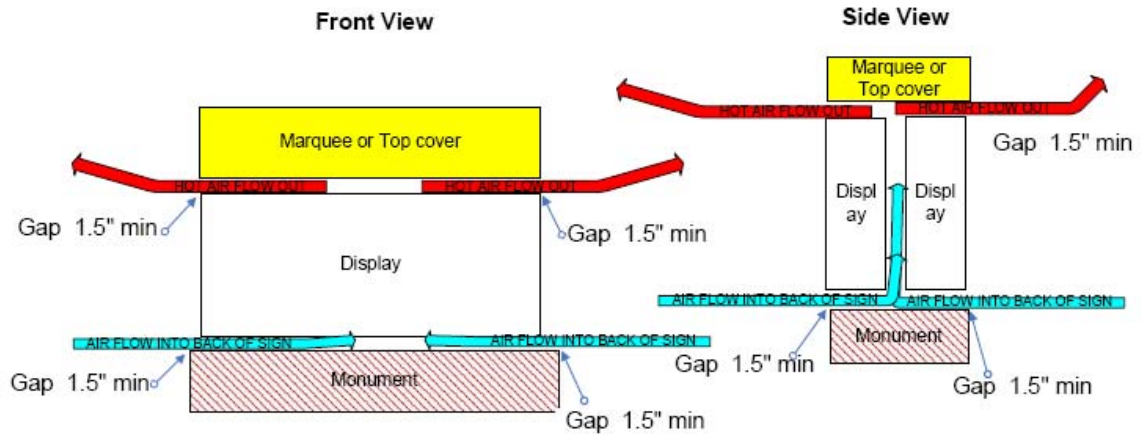
DON'T

- DON'T Block Cabinet Air Vents in back of Display
- DON'T Allow Temperature to Rise Above 110 degrees F

Natural Convection



Natural Convection II



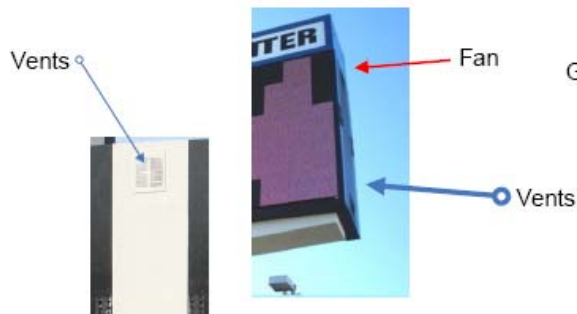
NOTE: THE WARRANTY DOES NOT COVER DAMAGES CAUSED BY IMPROPER VENTILATION

Air Ventilation Requirements (Force Air):

$$\text{FAN CFM} = 3.19 \times \text{Total Watts} / 20 \quad (\text{Min. 2 Fans})$$

DO

- DO Provide Sufficient Vents to allow outside air into a skinned/closed structure
- DO Provide Fans if necessary to push Hot Air out of closed Structures
- DO Maintain minimum of 1.5 inch clearance at bottom of enclosed sign
- DO Maintain Temperature inside sign between -22 to +130 Degrees F
- DO Keep Temperatures below 110 Degrees F inside cabinet
- DO Provide Axial Air Fans If Air Flow Restricted Inside Frame/Structure
- DO Provide Thermal Switches to turn on Fans at 90-105 degrees F

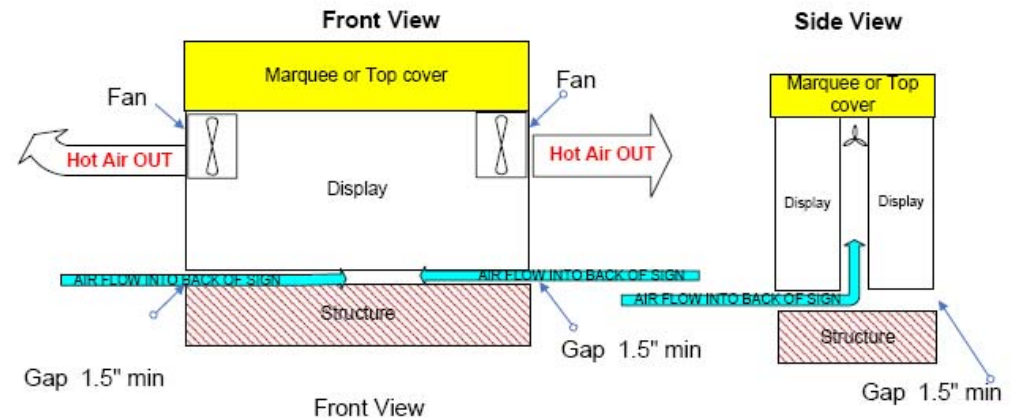


DON'T

- DON'T Block Cabinet Vents at back of Display
- DON'T Place cabinet against a wall without back side of cabinet open to outside air
- DON'T Allow Heat to Rise above 110 Degrees F inside cabinet
- DON'T Mount an ID Sign/Marquee Cover above or below the Optec LED Sign without 1.5" clearance needed for ventilation

NOTE: THE WARRANTY DOES NOT COVER DAMAGES CAUSED BY IMPROPER VENTILATION

Forced Air Circulation



Forced Air Circulation II

