



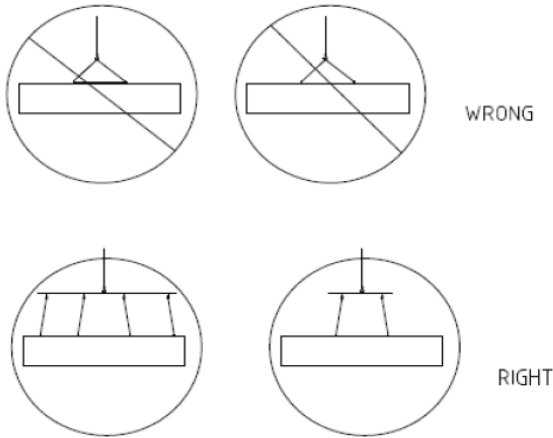
IMPACT CT & GT SERIES

SETUP GUIDE

MAR. 2011



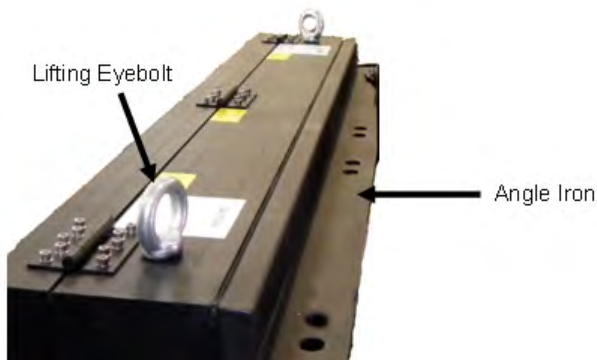
Step 1. Uncrating and Lifting



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



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.

Step 4. Connecting Power and Earth Ground

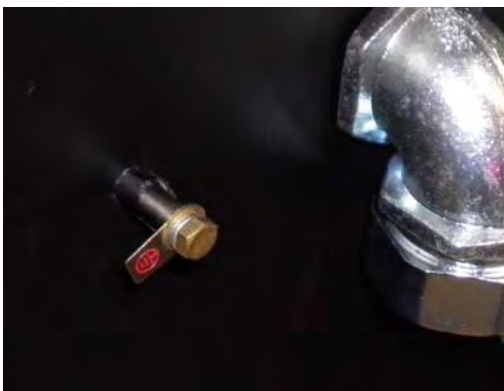
Electrical must be done through a certified electrician, and installed in accordance with the requirements of National Electrical Codes or local codes.



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.



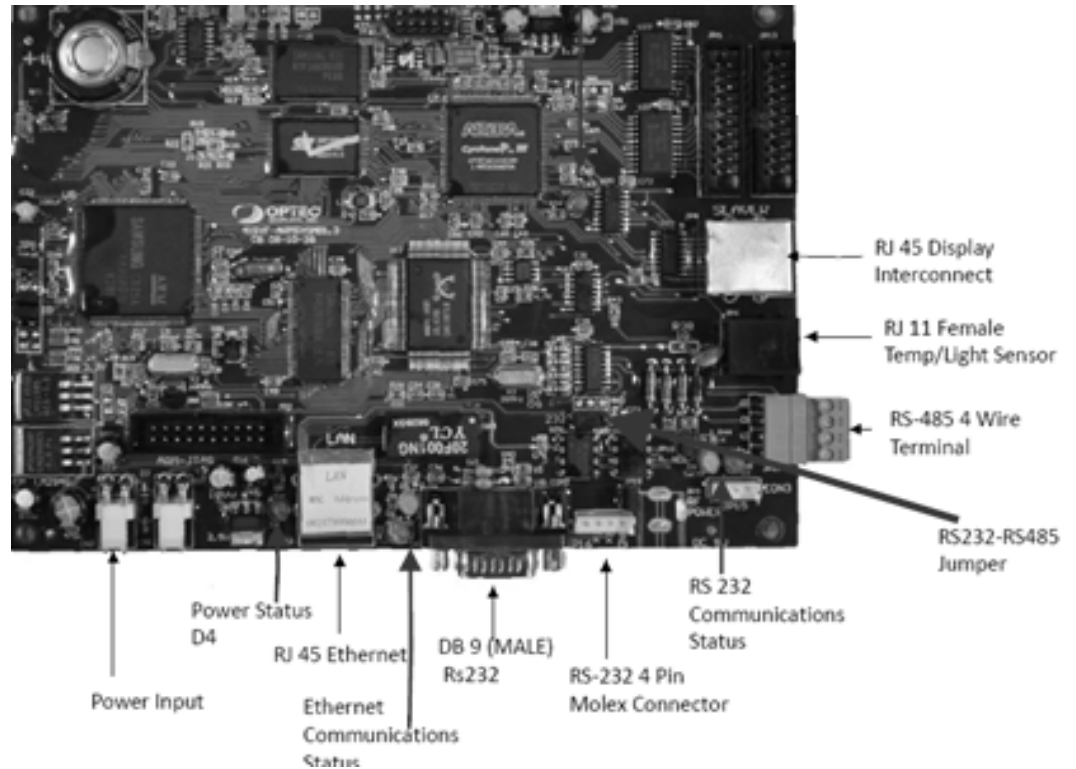
This sign is intended to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the display.

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.

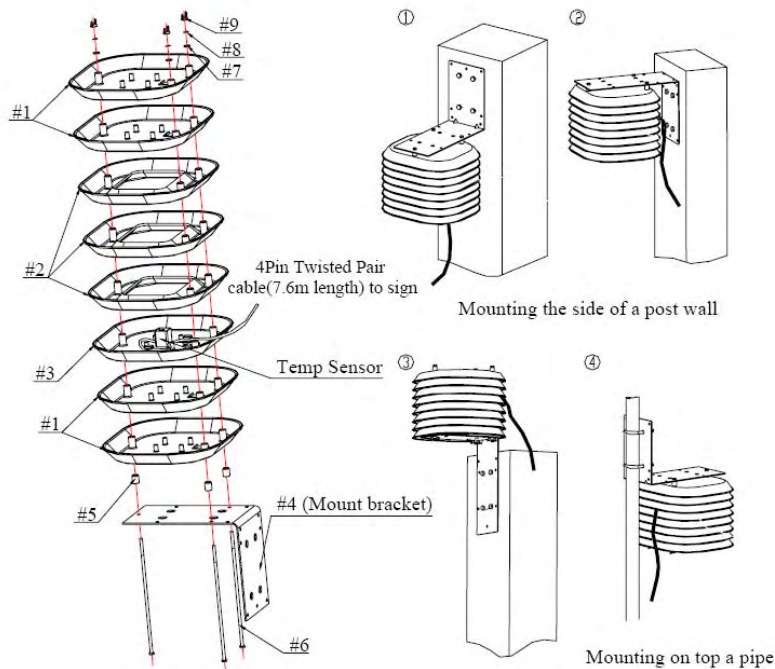
Step 5. Data Connections

Main Board I/O ports:



Temp Dimmer Sensor

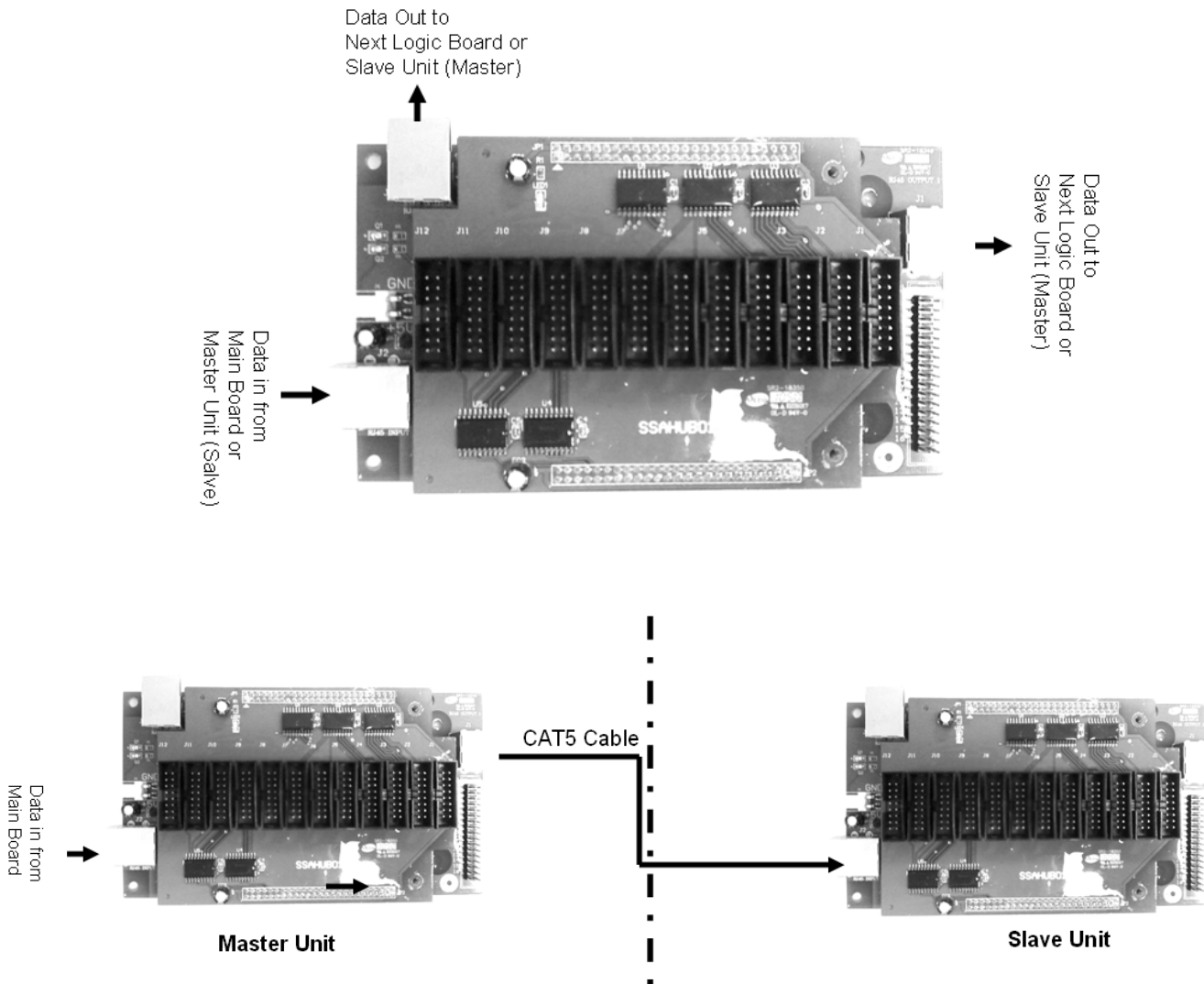
- Assemble the radiation shield and Temp Dimmer Sensor. Radiation shield requires simple assembly of 8 layers of shell with Temp Dimmer Sensor as the 5th layer. See image below.



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

Master / Slave Connection

- Locate the U Logic Board (as shown in the image below) inside the Master Unit and 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 “Data Out” port 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 the “Data IN” port inside the Slave Unit

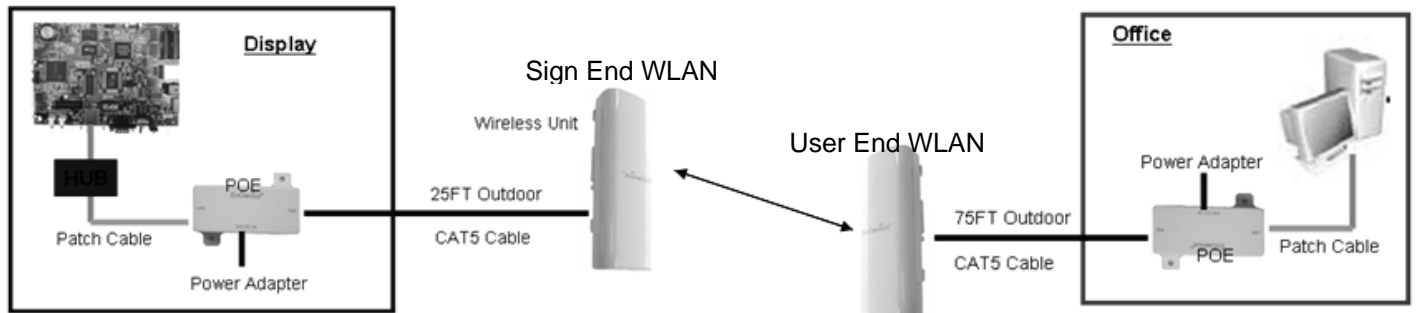


Step 6. Communication Connections

➤ Wireless Ethernet

Items provided by Optec

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



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

Hardware Connections

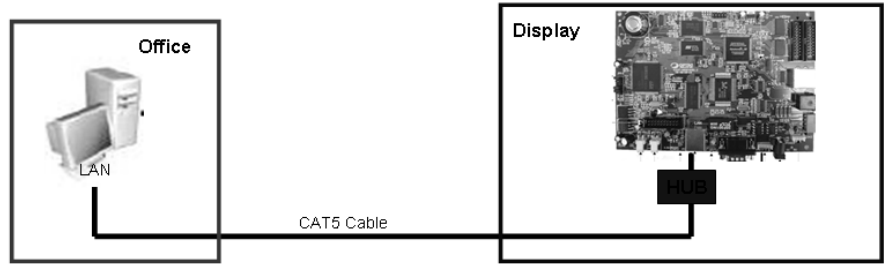
- **Connecting Sign End Wireless –**
 - Typically the “POE” device is preinstalled inside the display. Simply connect the wireless unit to the POE port of the “POE” device inside the display using 25FT outdoor CAT5 cable provided.
 - Make sure wireless unit is installed facing the Computer End Wireless 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 (preinstalled)



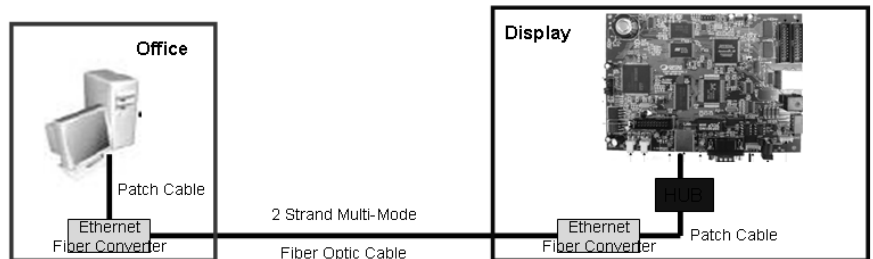
- Run the Ethernet CAT5 (in conduit or direct burial) from the office out to the display.
- Connect one end (CAT5 Cable) to the HUB inside the Display (Master Unit).
- Connect the other end (CAT5 Cable) to the programming computer.
- Always have separate conduits for AC and Data.

***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	Hub
Qty:	2	1 (Preinstalled)



- **Multi-Mode 2 Strands Fiber Optic Cable with ST Connector is required. Cables are not provided by default.**
- **Connecting Sign End**
 - Connect Fiber Optic Convert to the HUB 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

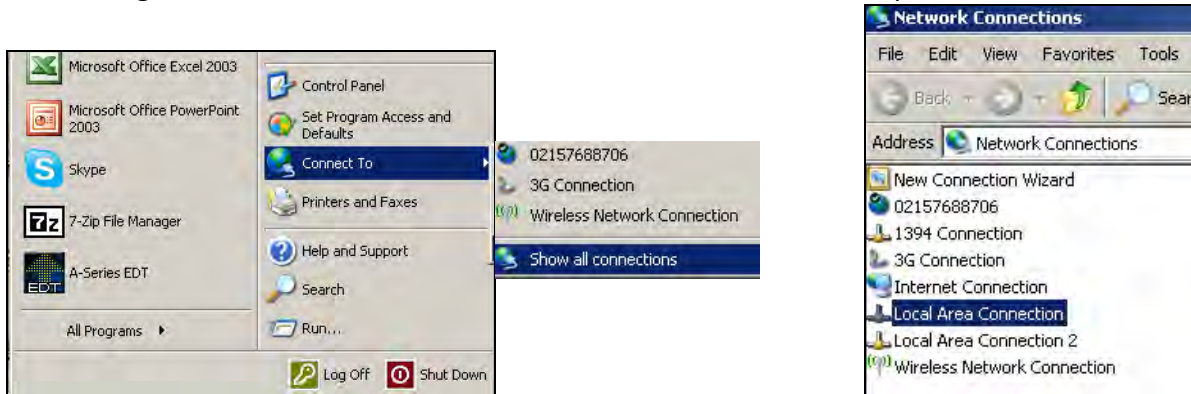
***See IP configuration and Software Setup page to transmit message (Use Internet Setup).**

Programming PC IP Configurations

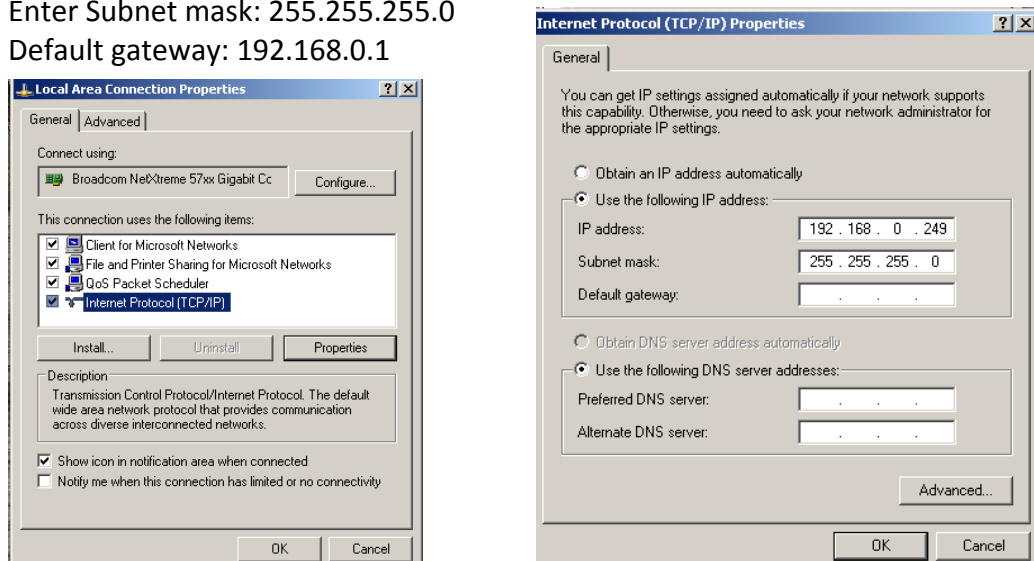
Default IP Settings

<p>Controller - IP: 192.168.0.250 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

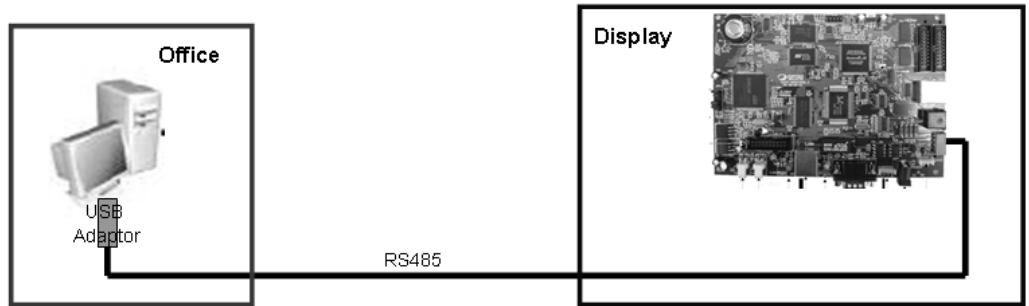


***See Software Setup page to transmit message (Use Internet Setup).**

➤ **RS485 Connection**

Items Provided by Optec

Image	
Item	USB Adaptor
Qty:	1



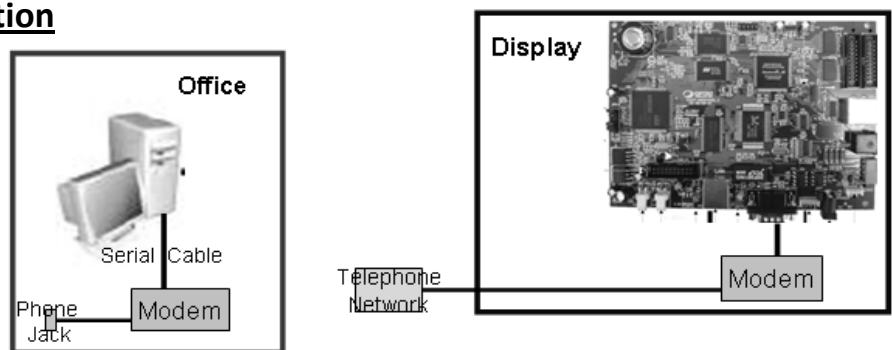
- **RS485 Cable is required. Cable is NOT provided by default.**
- **Connecting Sign End**
 - Terminate each of the 4 color coded wires from the RS485 cable to the terminal block on the Main Board. Match the appropriate color cods printed on the Main Board.
 - Make sure the RS232/RS485 jumper is on RS485.
 - Run cable in a separate conduit (not with AC) and feed the cable to the office.
- **Connecting Computer End (User End)**
 - Terminate each of the 4 color coded wires from the RS485 cable to the terminal block on the USB to RS485 adaptor. Match the appropriate color to the codes printed on the circuit board.
 - Connect the USB Adaptor to an available USB port on the PC.
 - Install USB Adaptor Driver.

***See Software Setup page to transmit message (RS232/485 Setup).**

➤ **Telephone Modem Connection**

Item Provided by Optec

Image	
Item	Phone Modem & Cables
Qty:	2



- **Connecting Sign End**
 - Feed the telephone cable from the telephone network to the phone modem (Line Jack) inside the display.
 - If modem is not preinstalled already, connect the serial cable from the phone modem to the 9Pin DB9 connector on the main board. Connect AC power.
- **Connecting Computer End (User End)**
 - Connect modem to PC with the serial cable provided. Connect AC power adapter to a standard 110/120V wall outlet.
 - Connect telephone cable from “Line” Jack on phone modem to existing telephone Jack.

***See Software Setup page to transmit message (Telephone Modem Setup).**

Step 7. Software Setup

User End Content Management Computer (Minimum Requirement)

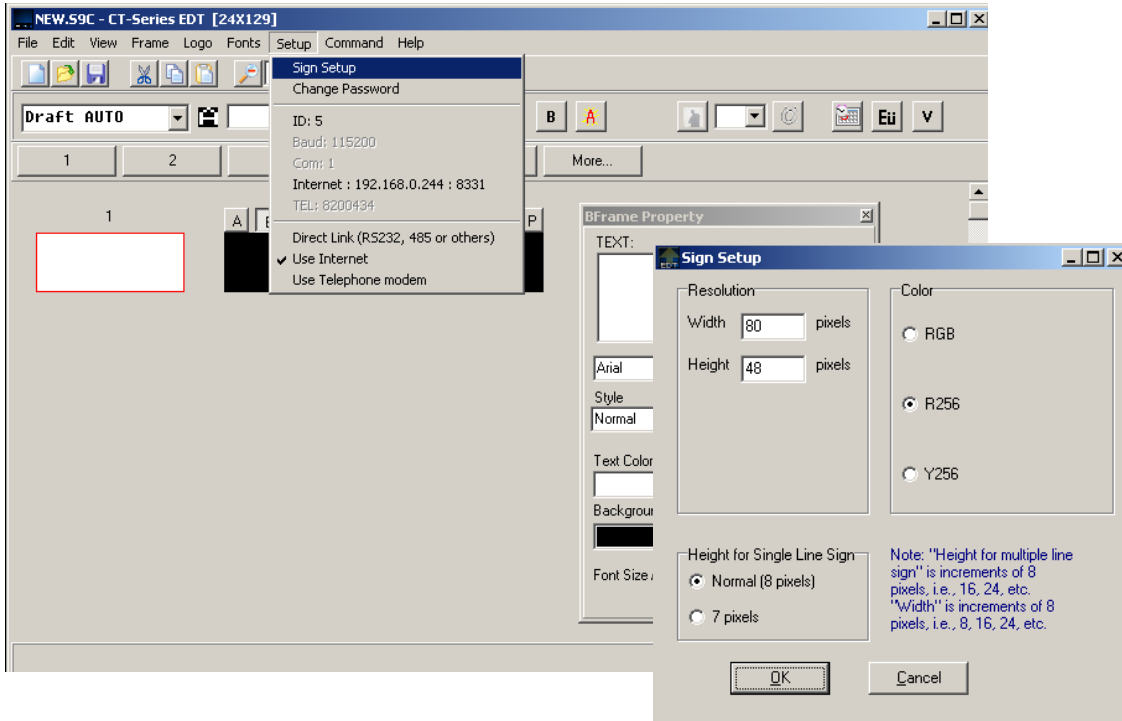
Windows XP:
Service Pack 3
512MB Memory
1 Ghz Processor
7 GB free hard drive space
Built in Ethernet RJ-45 (NIC) - 10/100 Base T
CD-ROM/DVD
USB ports

Windows Vista:
Service Pack 2
512MB RAM (32bit home basic) or 1 GB RAM (64-bit Premium)
1Ghz Processor
7 GB free hard drive space
Built in Ethernet RJ-45 (NIC) - 10/100 Base T
CD-ROM/DVD
USB ports

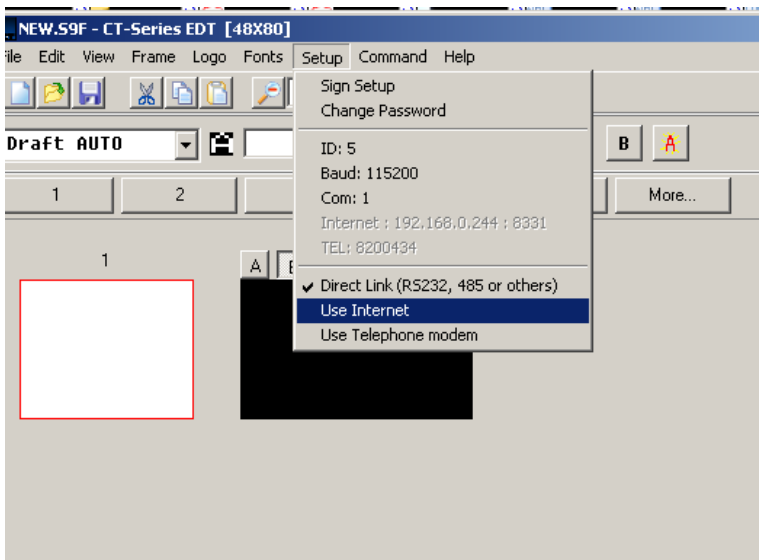
Windows 7:
1 GB RAM (32-bit) or 2 GB RAM (64-bit)
1 Ghz Processor
7 GB free hard drive space
Built in Ethernet RJ-45 (NIC) - 10/100 Base T
CD-ROM/DVD
USB ports

- Install Iris Software Suite
- Run Iris Message Composer
- Configure display setup (display resolution and color) and communication setup

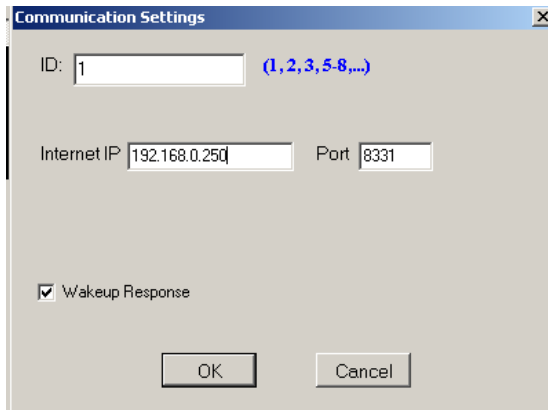
1. Display Setup: Menu → Setup → Sign Setup



2. Communication Setup: Menu → Setup → Select communication method (Direct Link; Internet; Telephone Modem). Different communication method will bring up different settings.

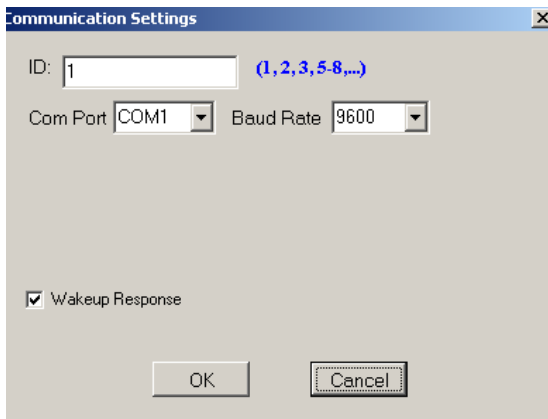


- “Use Internet” Settings. Select this for Wireless Ethernet, Ethernet, and Fiber Optic Modem.



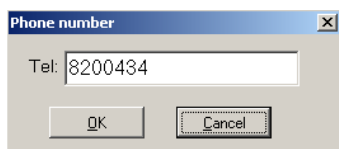
- It requires an ID number (hard ID on the main board. See Product Profile for more info. Default = 1)
- IP Address of the Main Board. (default 192.168.0.250)
- Port (default 8331)

- “Direct Link (RS232, 485 or Other)” Setting. Select this for RS232 or 485 communication method.

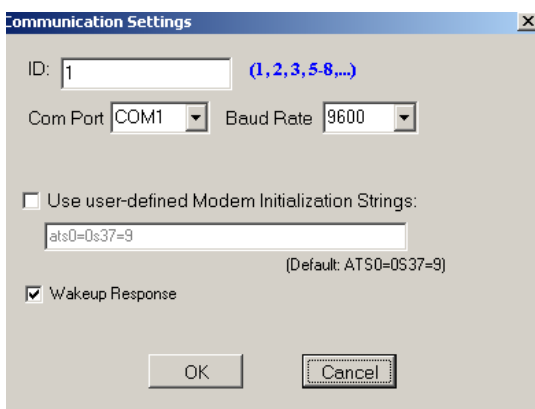


- It requires an ID number (hard ID on the main board. See Product Profile for more info. Default = 1)
- Com Port (the com port assigned to RS232 /serial port on the User Programming PC)
- Baud Rate (jumper settings on the main board. See Product Profile for more info. Default = 9600).

- Use Telephone Modem. Select this for Telephone modem communication method.



- It requires the phone number of the display.

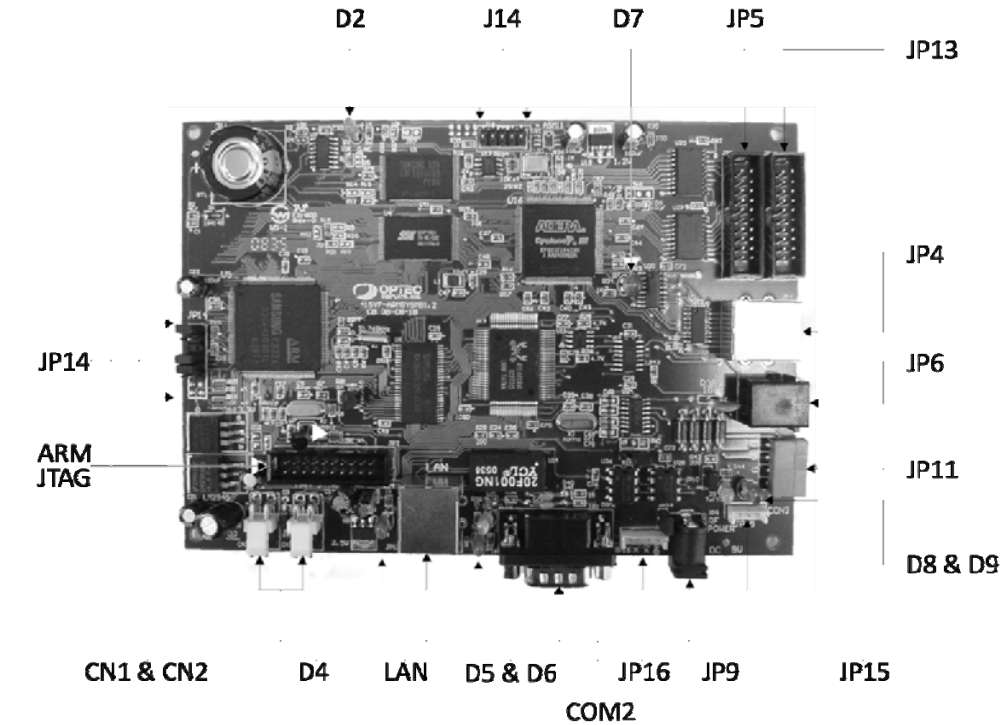


- ID number (hard ID on the main board. See Product Profile for more info. Default = 1)
- Com Port (the port assigned to phone modem (serial port) on the User Programming computer).
- Baud Rate ((jumper settings on the main board. See Product Profile for more info. Default = 9600).
- Uncheck “Use user-defined Modem initialization strings” unless instructed by Optec Displays Inc.

Jumper Settings

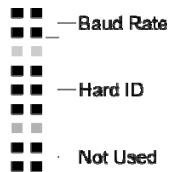
Main Board ID and Serial Baud Rate

Note: Power cycling the main board is required for jumper settings to take effect.



JP14

Diagram



Baud Rate

- 2,400 bps
- 9,600 bps
- 19,200 bps
- 115,200 bps

Hard ID

- Hard ID = 1
- Hard ID = 2
- Hard ID = 3
- Hard ID = 4
- Hard ID = 5
- Hard ID = 6
- Hard ID = 7

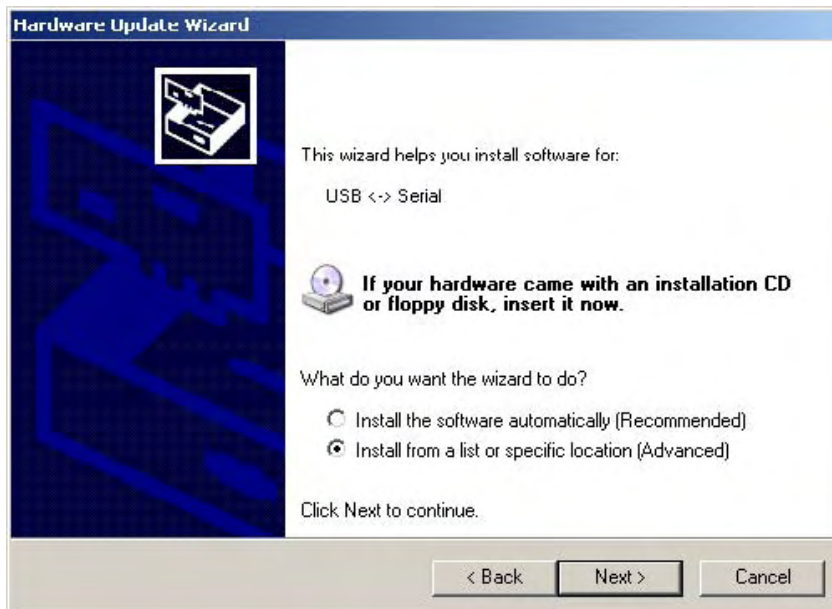
Installing RS485 USB Adapter and Driver

Step 1. Plug in your USB device into any USB port. Make sure the WinEDT CD-ROM is in the drive. (Note: You do not need to open any file in the driver's folder)

Step 2. Found new hardware wizard will pop up automatically. Select "Yes, now and every time I connect a device". Click "Next" (Note: if this wizard does not pop up, it may be an indication that the computer is not detecting the device. Go to step 7)



Step 3. Click on "Next" again to let window install automatically.



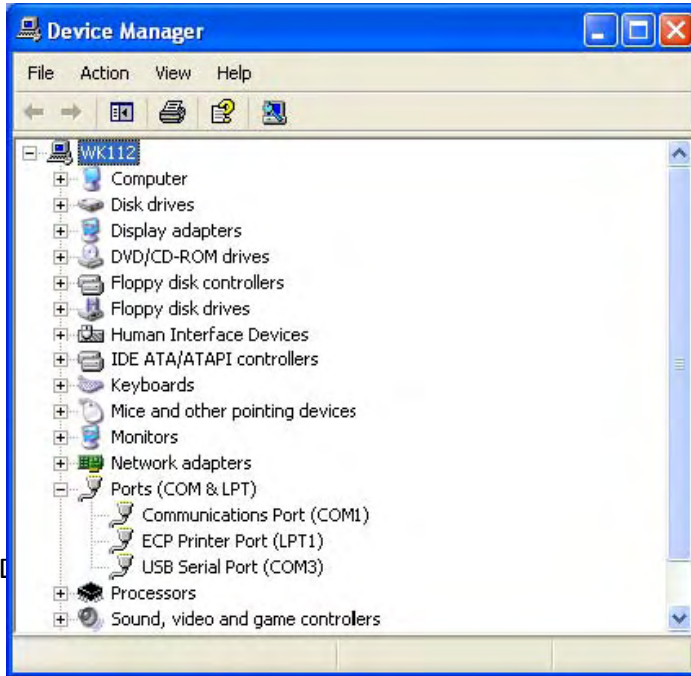
Step 4. Check “Include this location in the search”, and click on browse to point to the CD-ROM Drive. Then click on “Next”, If driver is not located, use browse and navigate to the CD-ROM and locate the folder called “USB Drivers”.



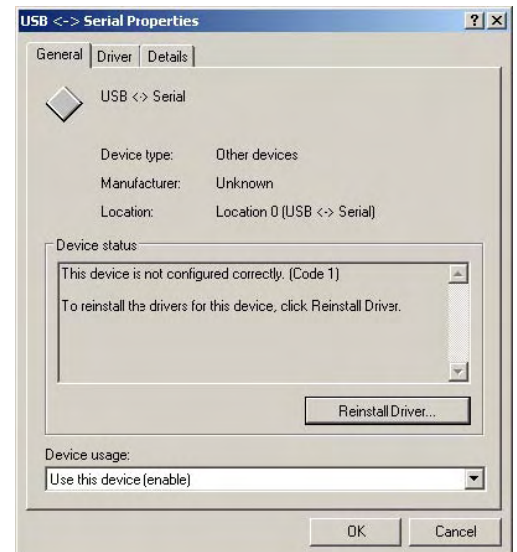
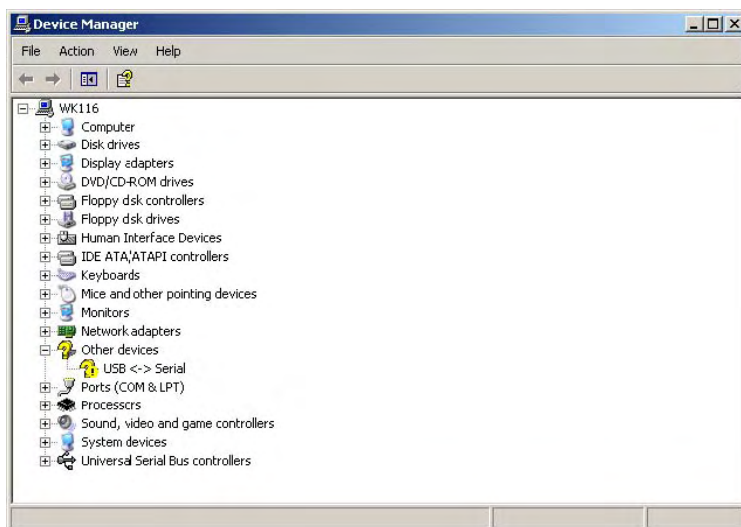
Step 5. Click on Finish.



Step 6. Once the driver is installed, you need to find the com port for the USB device. Right click on My Computer > go to Properties > Click on Hardware tab if it's Windows XP > click on Device Manager > search for Ports > click on the (+) sign next the ports. You should see USB-Serial Port (Com#) or similar device name



Step 7. In Device Manager, if the driver is not properly installed, the device may be shown under a different category (It could be under Ports, Other devices, or Universal Serial Bus controllers) with a yellow question mark or exclamation mark next to it.



Click on "Reinstall Driver", it'll take you to the Found New Hardware Wizard to install driver again.

Air Ventilation Requirements (Natural Convection):

DO

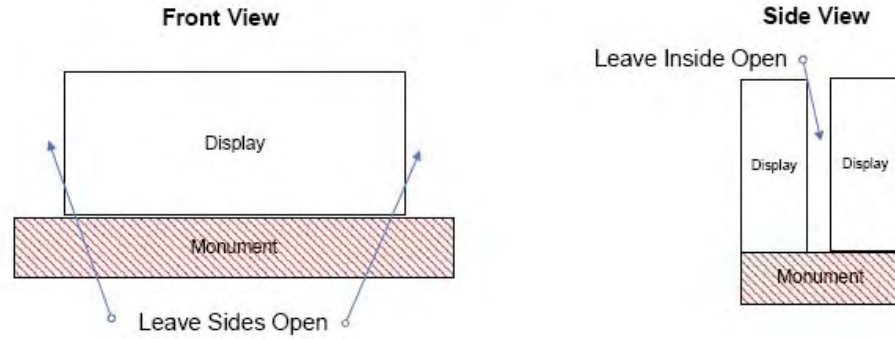
- DO Provide Outside Air To Reach Cabinet Air Input Vents
- DO Maintain Temperature inside sign -22 to +130 Degrees F
- DO Provide Sufficient Venting For Natural Convection If Skinned
- DO Inspect Vents Periodically to Ensure they are Clear/Open
- DO Keep inside cabinet temperature below 110 degrees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



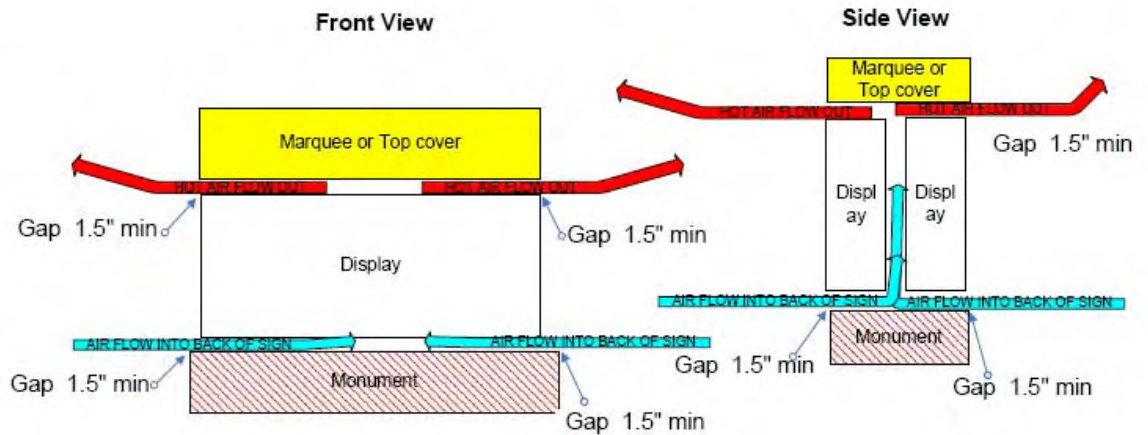
DON'T

- 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



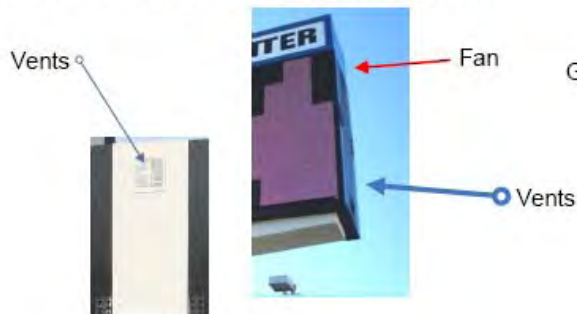
NOTE: THE WARRANTY DOES NOT COVER DAMAGES CAUSED BY IMPROPER VENTILATION

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

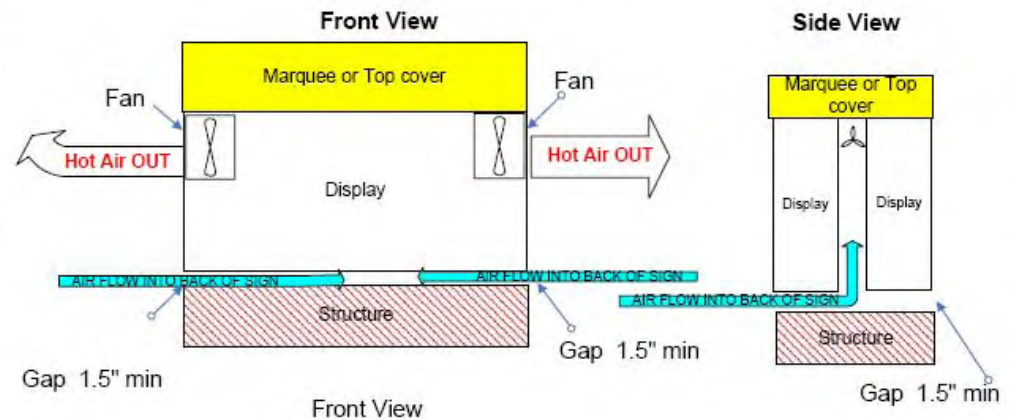


DON'T

- 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

