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Adaptive Micro Systems LLC

120V and 230V Modem Upgrade Instructions for AlphaEclipse StreetSmart Signs

Introduction

This document explains how to install a 120V or 230V modem into the following AlphaEclipse StreetSmart signs: 17X, 35M, 35V and 35X

- For 120V modems, see page 2.
- For 230V modems, see page 11.

Safety

Revision history

Part #	Date	Notes
1179659501	April 17, 2006	First release.

Related documentation

Part #	Title
1179600101	AlphaEclipse StreetSmart Installation Manual
9708-8081G	AlphaNET User Manual

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120V modem upgrade instructions

Contents of the 120V modem upgrade kit (part number 1179200801)

Photo	Part number	Description
	10889301	56k modem and modem kit - includes plug-in power supply and modem-to-surge-suppressor phone cord.
	11709022	Surge suppressor
	10889205	Null modem cable, DB9 to DB25
	43100303	NEMA 1-15R receptacle
	43204023	Terminal
	61213006	Screw, black, 10-24 x .375” (quantity 1)
	61400003LF	Screw, zinc, 6-32 x 1/4” (quantity 2)
	65060004 and 65060005	Velcro
	68116039	Aluminum mounting bracket for power supply
	68116038	Aluminum supporting arm for power supply
	71160190 and 71160193	White and black bulk wire

Required materials not included in this kit

- 5/32″ hex screw tool
- wire crimping tool
- wire stripping tool
- phone cord to connect to telephone service

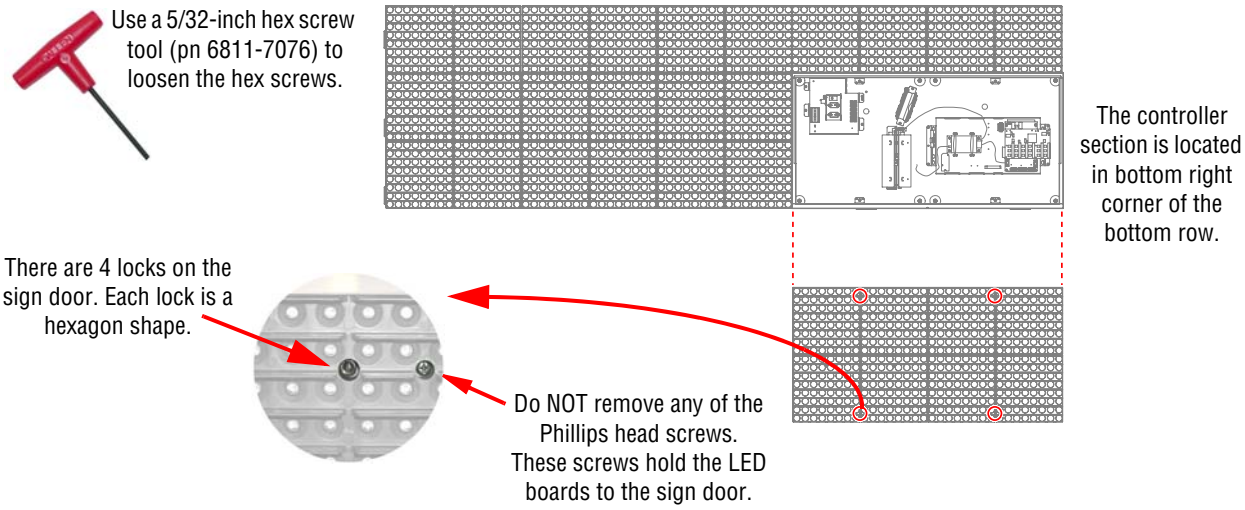
120V modem upgrade

Disconnect the main power to the sign

1. Disconnect the MAIN POWER to the sign. You must disconnect the main power before installing this upgrade. The power supply for the modem connects to a terminal block "upstream" of the internal power switch. Unless the main power is disconnected, this terminal block will contain hazardous voltage. DO NOT remove power to the sign by turning off the power switch inside the sign.

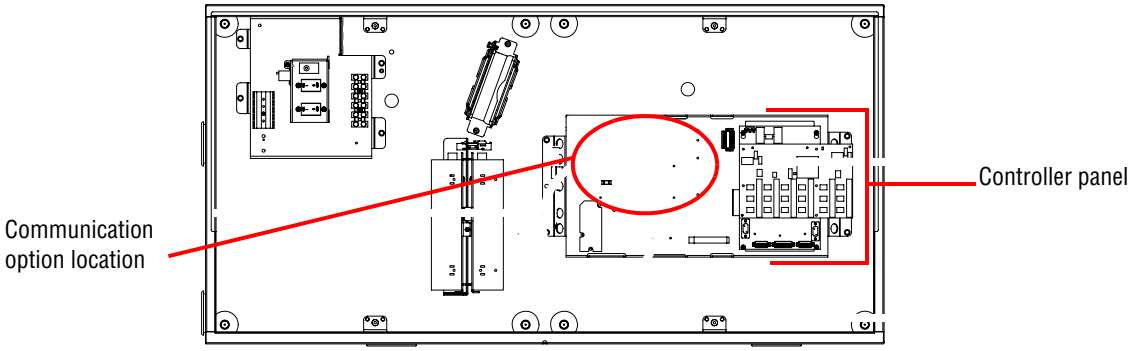
Open the sign

2. Loosen the four hex screws (circled below) on the controller section of the sign. Then pull the door toward you.



Remove the current communication option

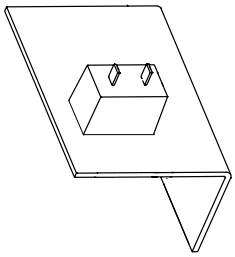
3. Locate the controller panel.



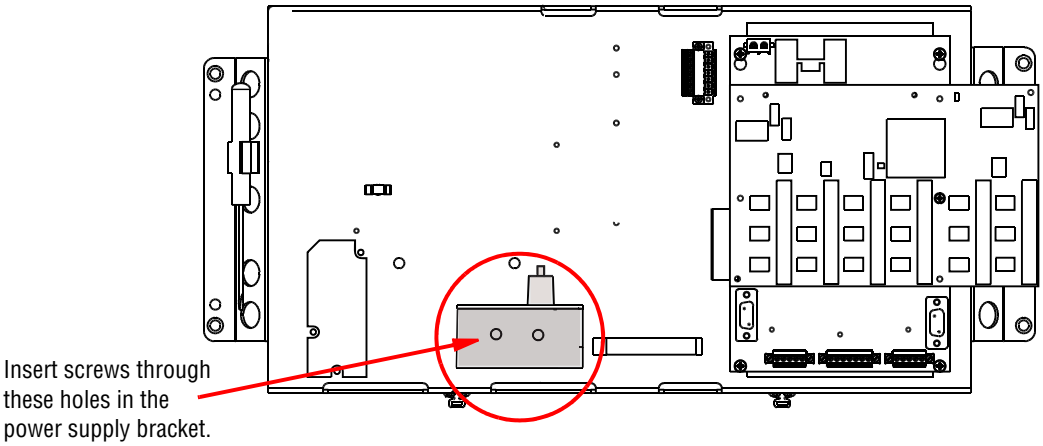
4. Remove the current communication option (modem, wireless transceiver, ethernet, etc.) if applicable.

Install the plug-in power supply

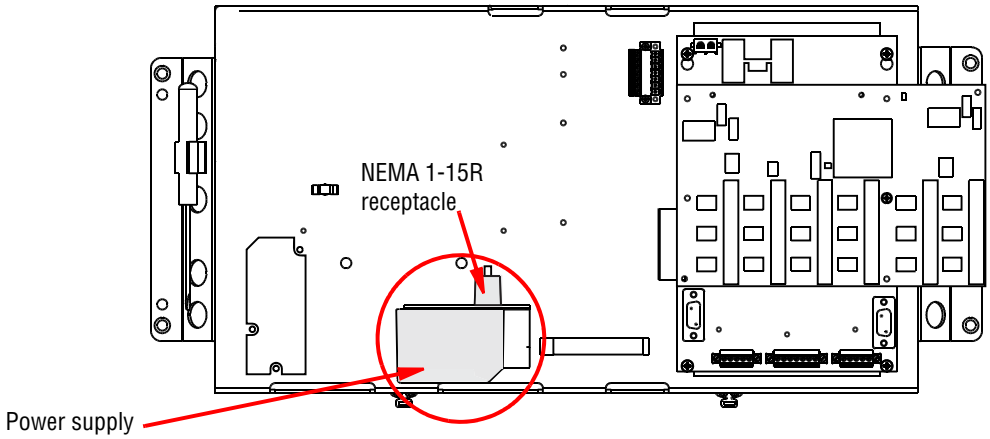
5. Insert the NEMA 1-15R receptacle (43100303) into the power supply bracket (68116039).



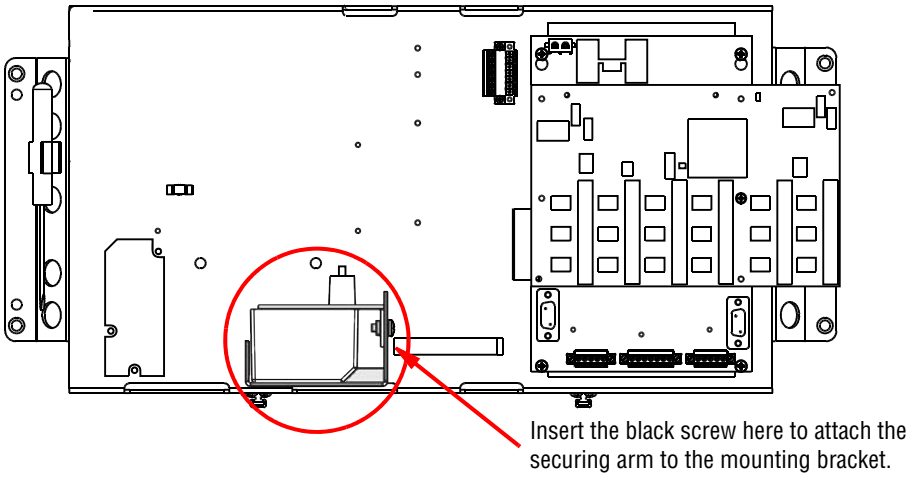
6. Use two zinc screws (61400003LF) to install the power supply bracket (68116039) with NEMA 1-15R receptacle, into the holes on the controller panel as shown below:



7. Place the plug-in power supply, included with the modem, into the power supply bracket. Plug the power supply into the NEMA 1-15R receptacle.

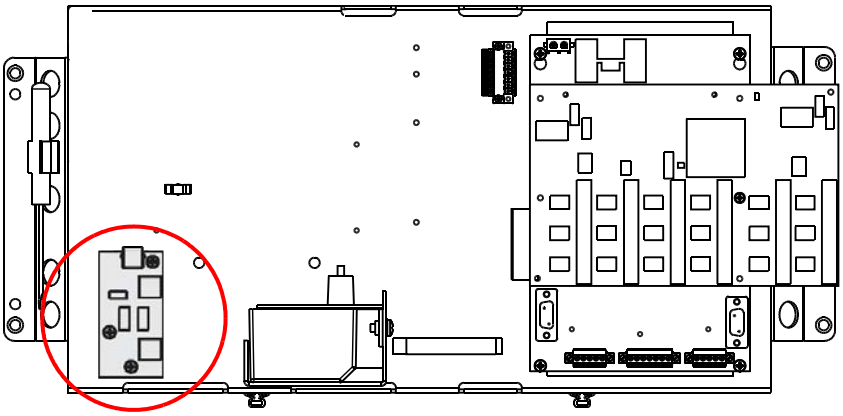


8. Place the securing arm (68116038) under the plug-in power supply and use the black screw (61213006) to attach the securing arm to the power supply bracket.



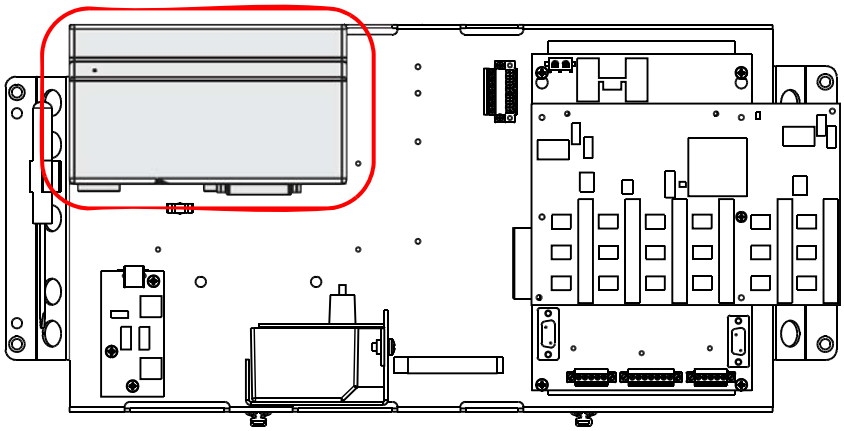
Install the surge suppressor

9. Using the screws included with the surge suppressor, attach the surge suppressor to the controller panel.



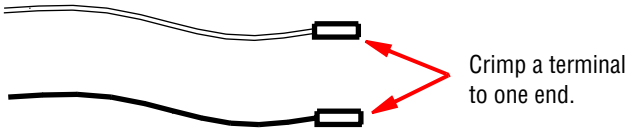
Install the modem

10. Apply the Velcro (65060004 and 65060005) to the back of the modem. Remove the protective backing from the other side of the Velcro. Press the modem into place, as shown below.

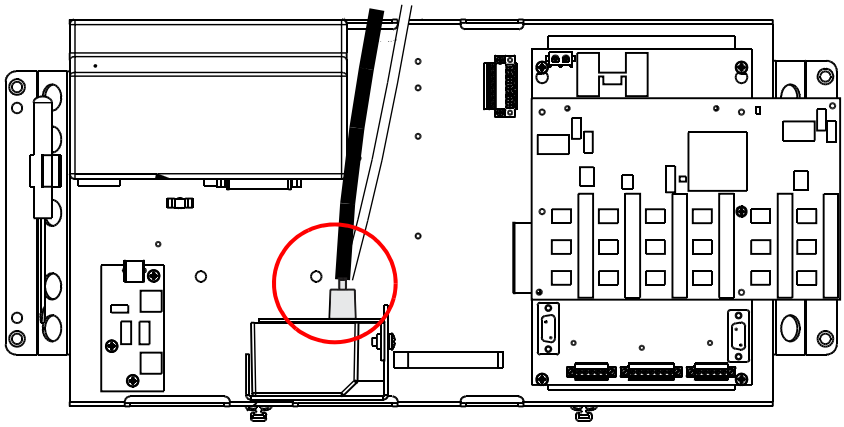


Connect the wires and cables

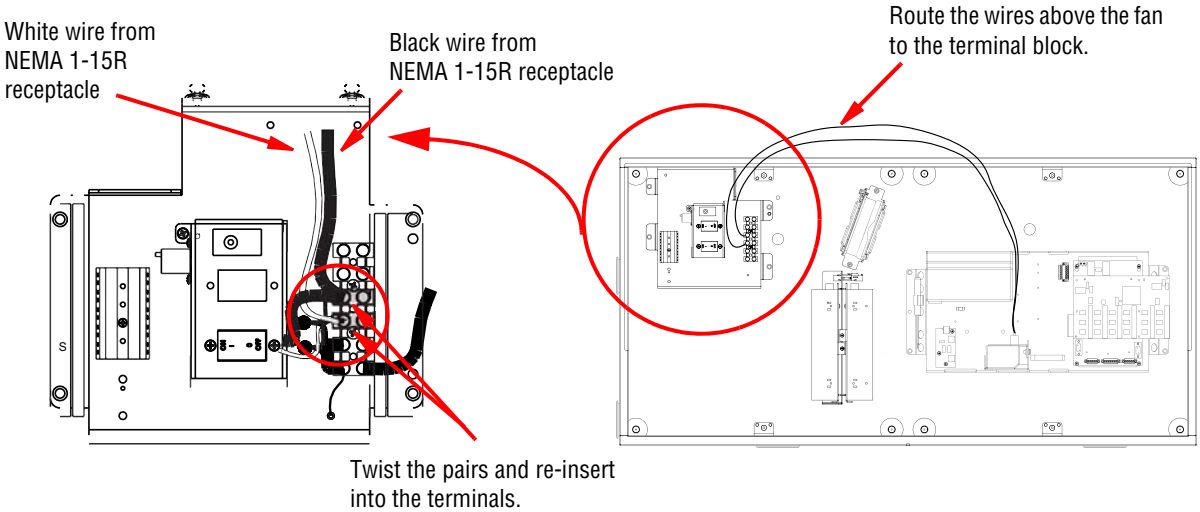
11. Strip 1/4" from one end of the black and one end of the white wires. Crimp a terminal (43204023) to the stripped end of each wire.



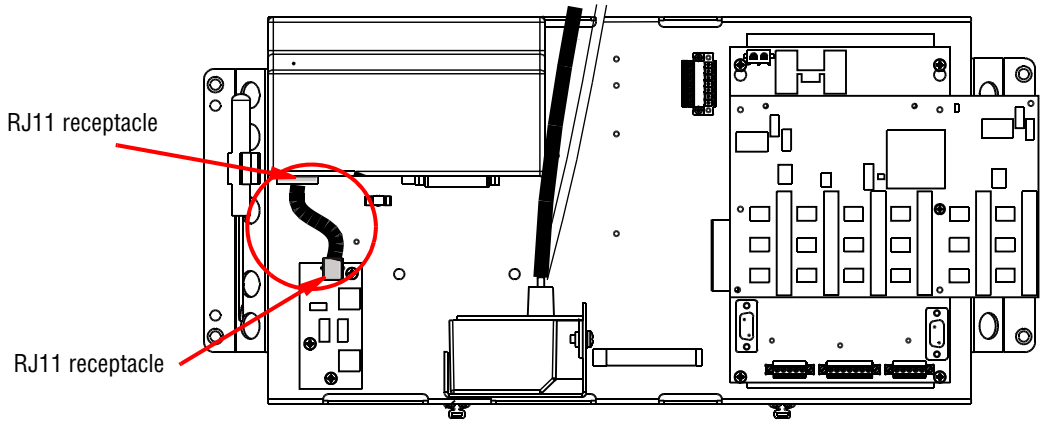
12. Attach the terminal end of the wires to the NEMA 1-15R receptacle. Attach the white wire to the silver contact. Attach the black wire to the brass contact.



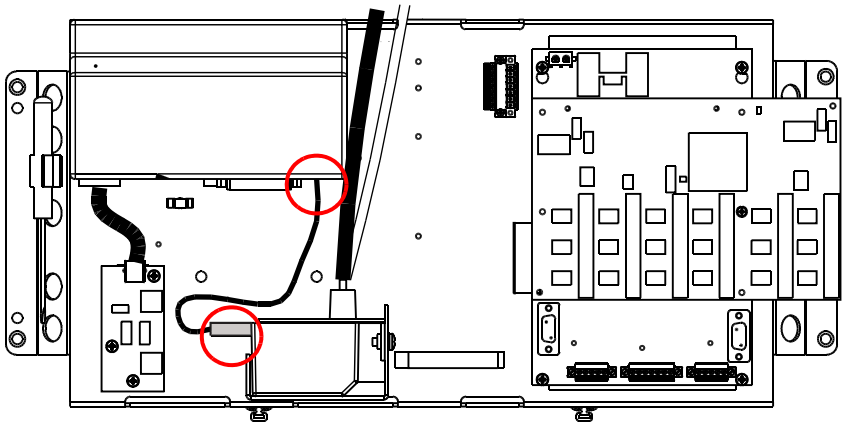
13. Route the black and white wires up and to the right of the modem as shown. Then, route the wires to the left, above the fan to the terminal block.
14. Cut the wires to length, long enough to reach the terminal block. Strip 3/8" from the end of each wire.
15. Loosen the screw on the left side of the terminal block holding the white wire. Remove the wire from the terminal block. Twist this wire with the stripped end of the white wire from the NEMA 1-15R receptacle. Insert the twisted pair into the terminal. Hold the wires in place and retighten the screw.
16. Loosen the screw on the left side of the terminal block holding the black wire. Remove the wire from the terminal block. Twist this wire with the stripped end of the black wire from the NEMA 1-15R receptacle. Insert the twisted pair into the terminal. Hold the wires in place and retighten the screw.



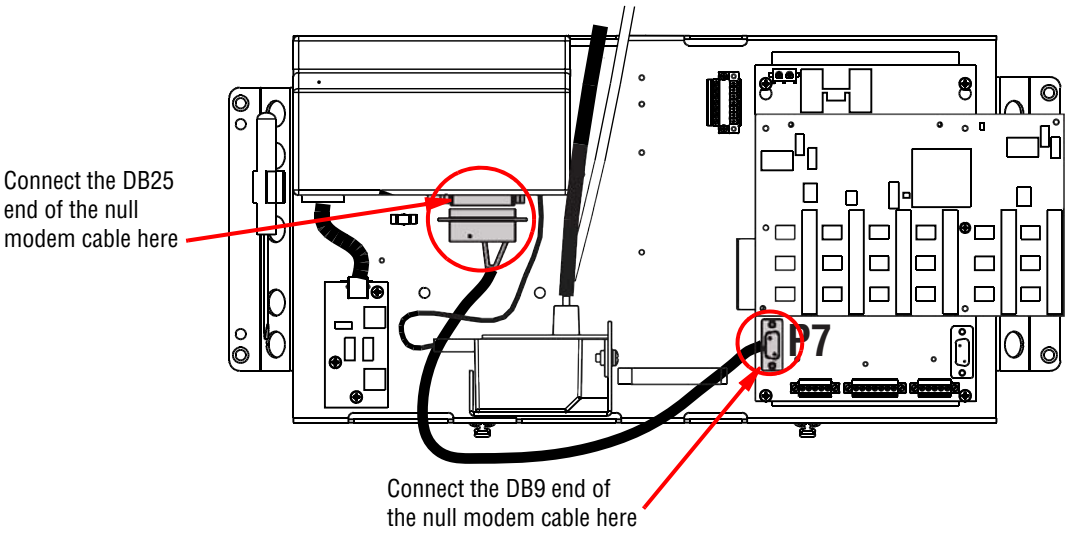
17. Plug one end of the phone cord, included with the modem, into the RJ11 receptacle located on the top side of the surge suppressor. Plug the other end into the RJ11 receptacle located on the bottom left of the modem.



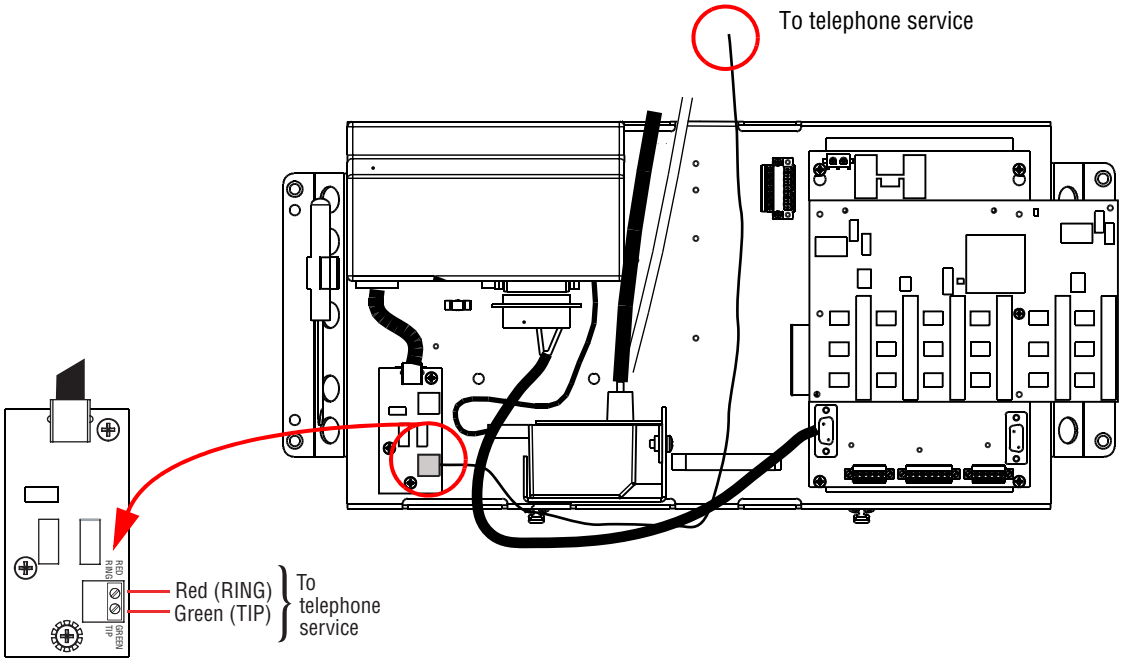
18. Plug the barrel-type connector from the power supply into the input power receptacle on the bottom right side of the modem.



19. Plug the DB25 end of the null modem cable (10889205) into the modem. Plug the DB9 end into the controller board as shown. Route the cable below the modem power supply.



20. Connect the telephone service to the terminal block on the surge supressor.



Re-apply power to the sign

21. Close the sign door.
22. Re-apply power to the sign.

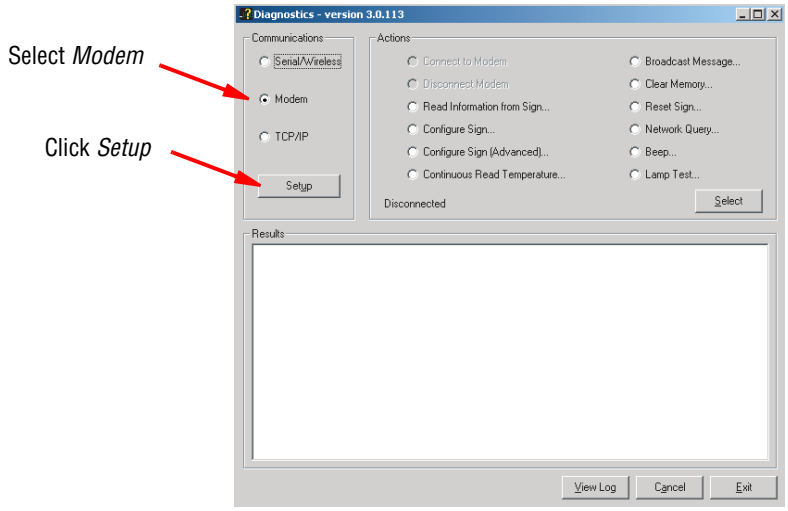
Test the installation

Before you begin

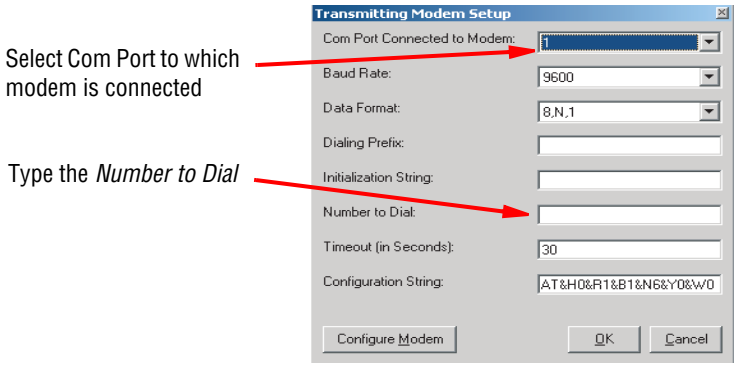
- Install the sending modem into the messaging computer.
- Know the com port to which the modem is connected.

Test the modem connection

1. On the messaging computer, launch the AlphaNET Diagnostics software thru the *Start* menu (*Start>Programs>AlphaNET>Diagnostics*).
2. In the *Communications* pane of the *Diagnostic* window, select *Modem*.
3. Click *Setup* to open the *Transmitting Modem Setup* window.



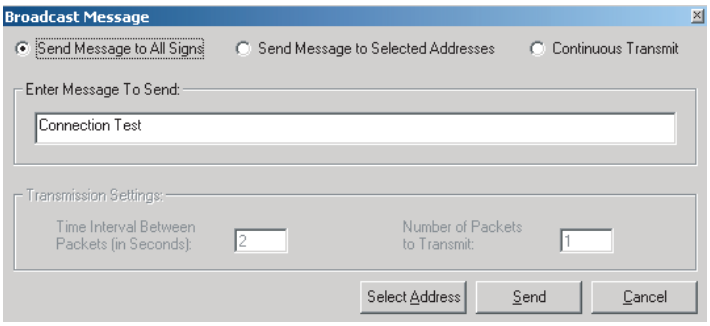
4. Type the *Number to Dial*, including a 1 or 9, if applicable. Click *OK*.



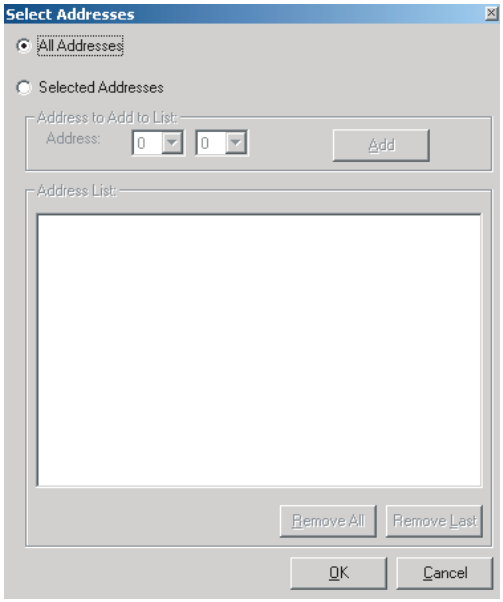
5. In the *Actions* pane of the *Diagnostics* window, select *Connect to Modem*.
6. When the modem connects, the bottom of the *Actions* pane will display *Connected*.

Send a broadcast message

7. In the *Actions* pane, select *Broadcast Message*.
8. In the *Broadcast Message* window, select *Send Message to All Signs*.
9. Type the message text.
10. Type the *Transmission Settings*.
11. Click *Select Addresses*.



12. In the *Select Addresses* window, select *Selected Addresses* and then use the *Address to Add to List* drop-down menu to specify the address of the receiving sign. Then click *Add*. Repeat for each sign address. Click *OK*.



13. Click *Send*.
14. Check the signs to confirm the message is displaying correctly.

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230V modem upgrade instructions

Contents of the 230V modem upgrade kit (part number 1179200901)

Photo	Part number	Description
	10889301	56k modem and modem kit - includes plug-in power supply and modem-to-surge-suppressor phone cord.
	11709022	Surge suppressor
	40334601	Transformer
	10889205	Null modem cable, DB9 to DB25
	43100303	NEMA 1-15R receptacle
	43204023	Small terminals - for connection with the NEMA 1-15R receptacle and the transformer (quantity - 8)
	43205003	Large terminal - for connection with the fuse holder (quantity - 4)
	48024001	Fuses (quantity - 2)

Photo	Part number	Description
	48034001	Fuse Holder
	61213006	Screw, black, 10-24 x .375” (quantity 1)
	61400003LF	Screw, zinc, 6-32 x 1/4” (quantity 6)
	68000002	Fuse cover
	65060004 and 65060005	Velcro
	68116039	Aluminum mounting bracket for power supply
	68116038	Aluminum supporting arm for power supply
	71160190 and 71160193	White and black bulk wire

Required materials not included in this kit

- 5/32″ hex screw tool
- wire crimping tool
- wire stripping tool
- phone cord to connect telephone service

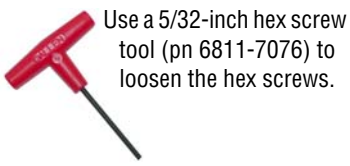
230V modem upgrade

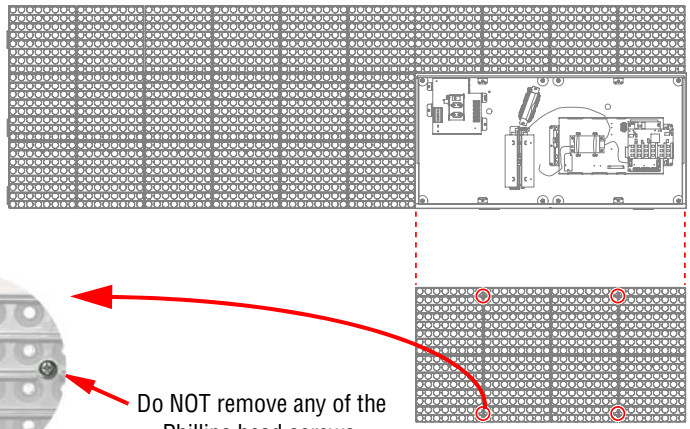
Disconnect the main power to the sign

1. Disconnect the MAIN POWER to the sign. You must disconnect the main power before installing this upgrade. The power supply for the modem connects to a terminal block "upstream" of the internal power switch. Unless the main power is disconnected, this terminal block will contain hazardous voltage. DO NOT remove power to the sign by turning off the power switch inside the sign.

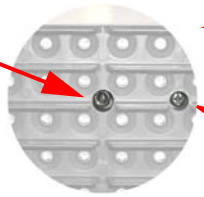
Open the sign

2. Loosen the four hex screws (circled below) on the controller section of the sign. Then pull the door toward you.


Use a 5/32-inch hex screw tool (pn 6811-7076) to loosen the hex screws.


The controller section is located in bottom right corner of the bottom row.

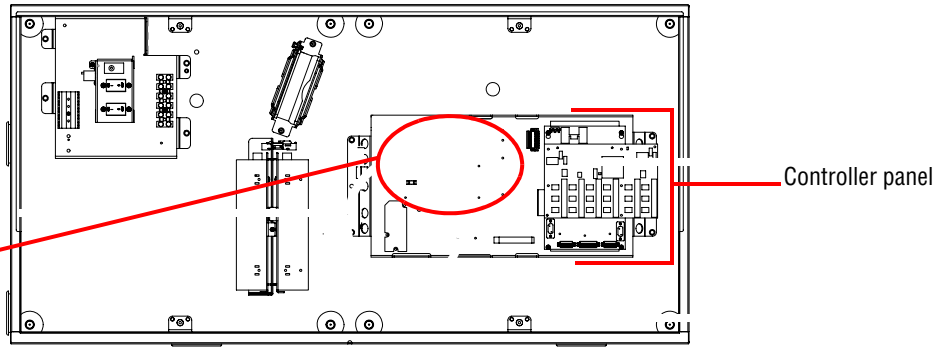
There are 4 locks on the sign door. Each lock is a hexagon shape.



Do NOT remove any of the Phillips head screws. These screws hold the LED boards to the sign door.

Remove the current communications option

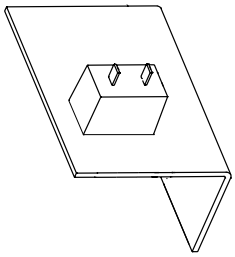
3. Locate the controller panel.



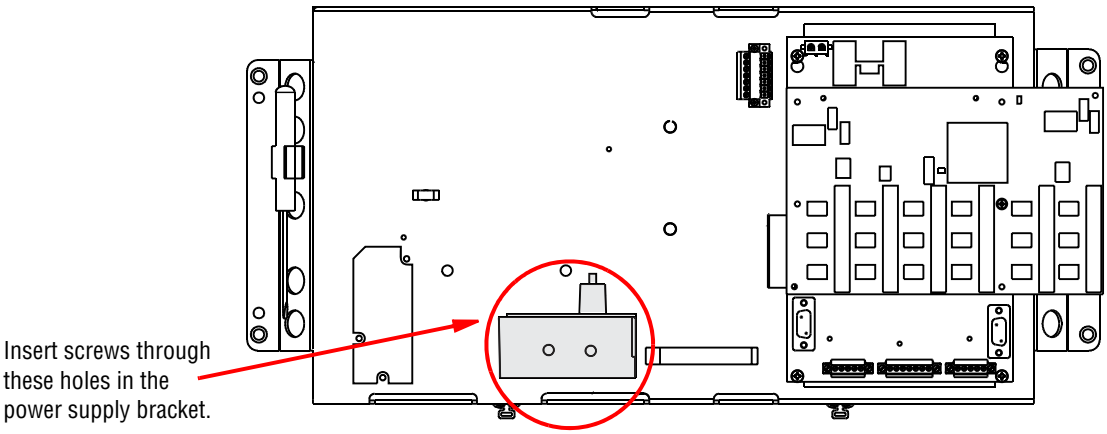
4. Remove the current communication option (modem, wireless transceiver, ethernet, etc.) if applicable.

Install the power supply bracket

5. Insert the NEMA 1-15R receptacle (43100303) into the power supply bracket (68116039).

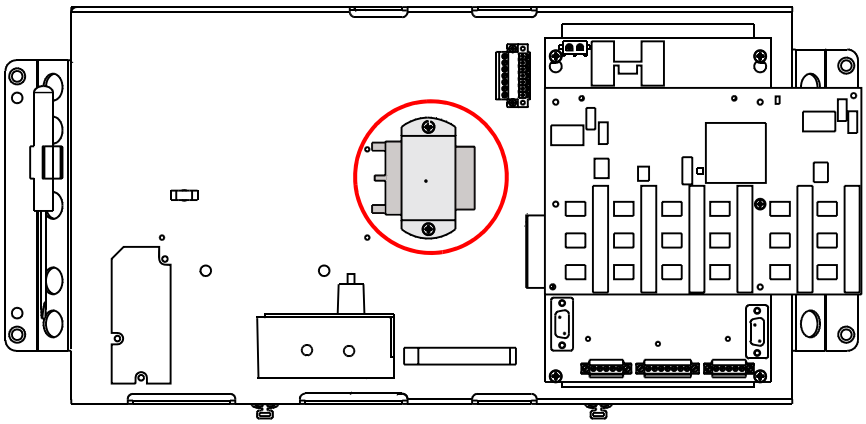


6. Use two zinc screws (61400003LF) to install the power supply bracket (68116039) with NEMA 1-15R receptacle into the holes on the controller panel as shown below:



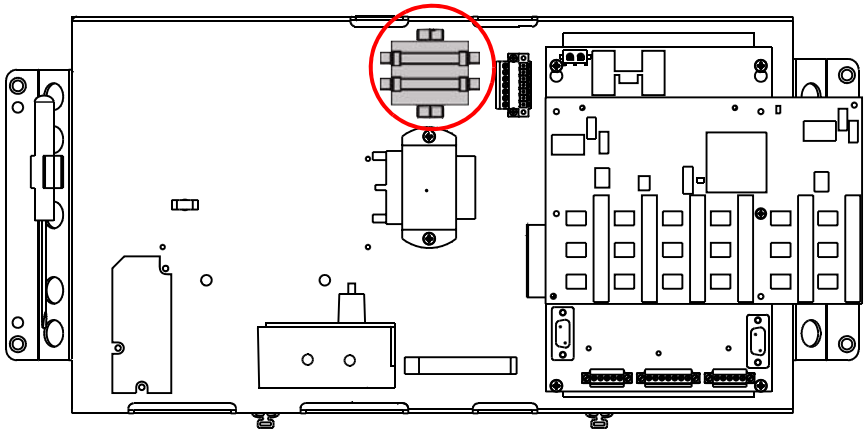
Install the transformer

7. Use two zinc screws (61400003LF) to install the transformer (40334601) as shown below.



Install the fuse holder and fuses

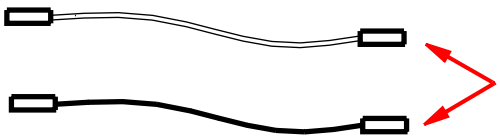
8. Use the remaining two zinc screws (61400003LF) to install the fuse holder.
9. Install the two fuses (48024001) in the fuse holder.



Connect the wires

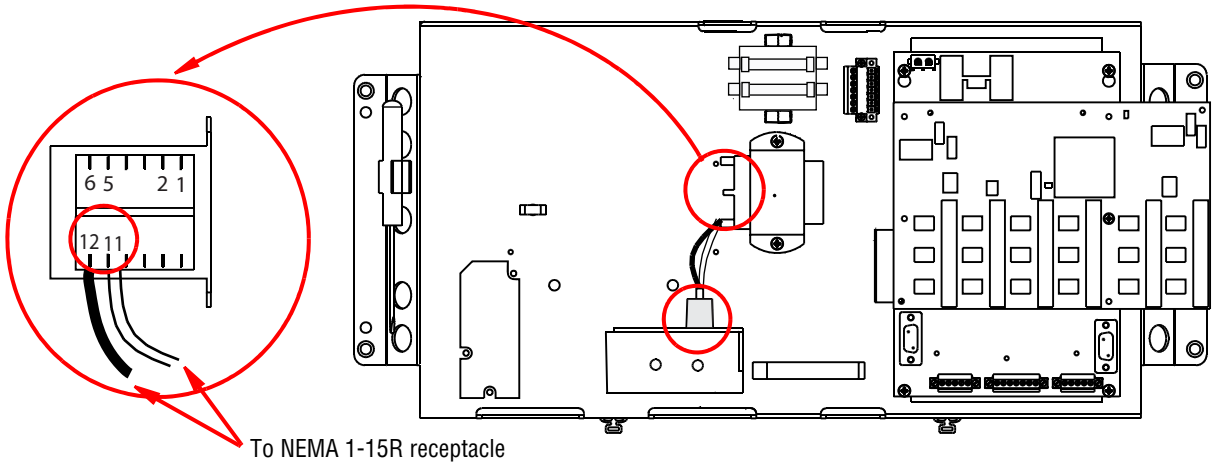
NEMA 1-15R receptacle to transformer

10. Cut a 3.5″ piece of wire from the bulk black and the white wires. Strip 1/4″ from the end of each wire. Crimp a small terminal (43204023) to both ends of each wire.



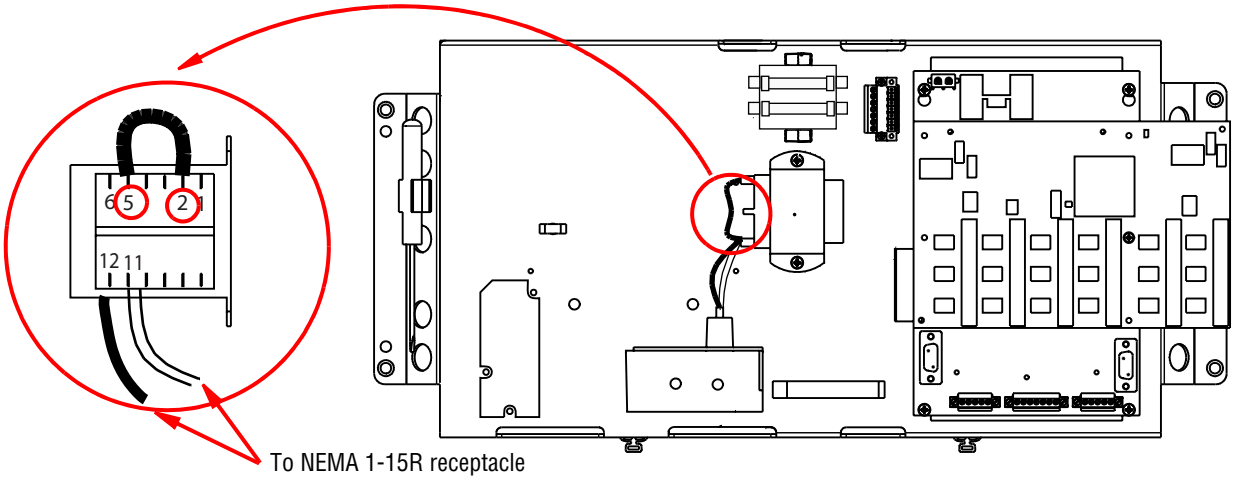
11. Attach one end of the white wire to the silver contact on the NEMA 1-15R receptacle. Attach the other end of the wire to terminal 11 on the transformer.

12. Attach one end of the black wire to the brass contact on the NEMA 1-15R receptacle. Attach the other end of the wire to terminal 12 on the transformer.



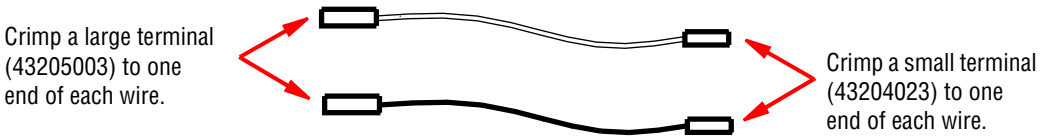
Transformer terminals 2 and 5

13. Cut a 1.5″ piece of wire from the bulk black wire. Strip 1/4″ from both ends of the wire. Crimp a small terminal (43204023) to both ends.
14. Attach one end of the 1.5″ black wire to terminal 5 on the transformer. Attach the other end to terminal 2.

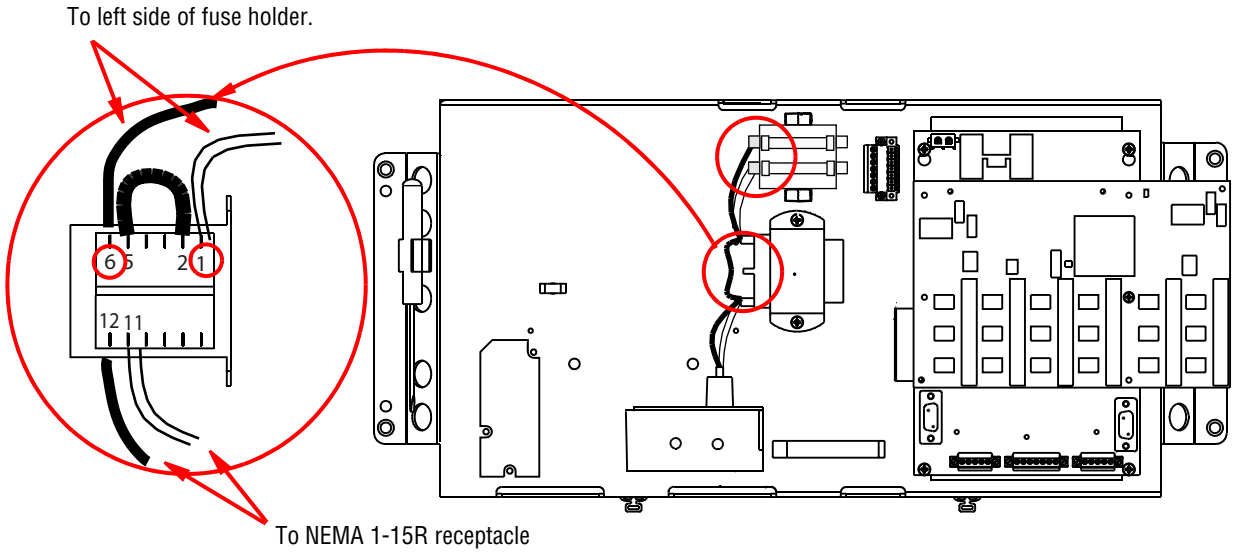


Transformer to fuse holder

15. Cut a 3″ piece of wire from the bulk white wire. Cut a 4″ piece from the bulk black wire. Strip 1/4″ from both ends of each wire. Crimp a small terminal (43204023) to one end of each wire. Crimp a large terminal (43205003) to the other end of each wire.

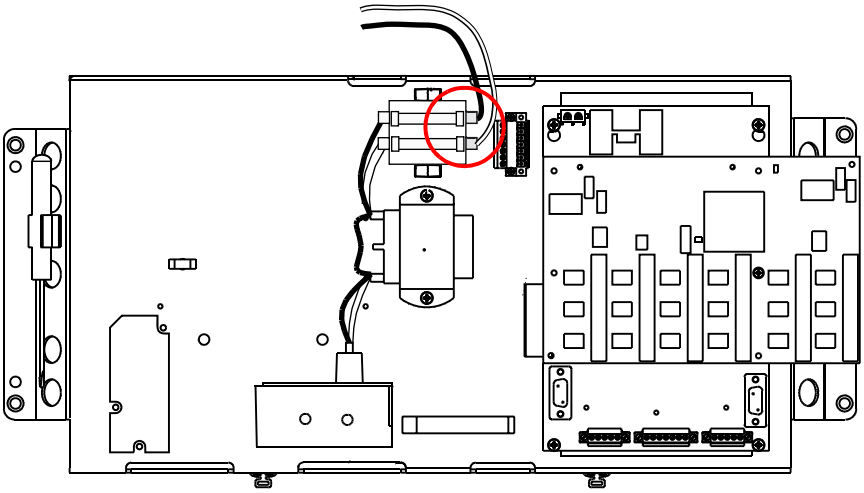


16. Attach the end of the white wire with the small terminal (43204023) to terminal 1 on the transformer. Attach the other end, with the large terminal (43205003) to the lower left terminal on the fuse holder.
17. Attach the end of the black wire with the small terminal (43204023) to terminal 6 on the transformer. Attach the other end, with the large terminal (43205003) to the upper left terminal on the fuse holder.

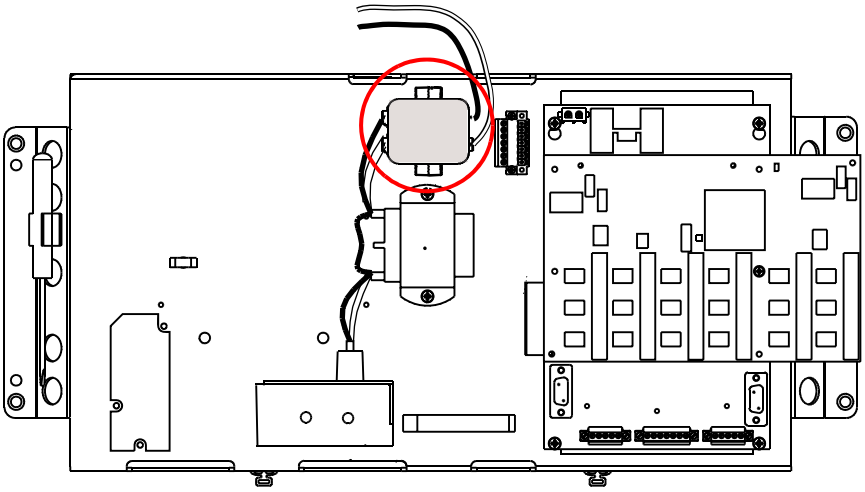


Fuse holder to terminal block

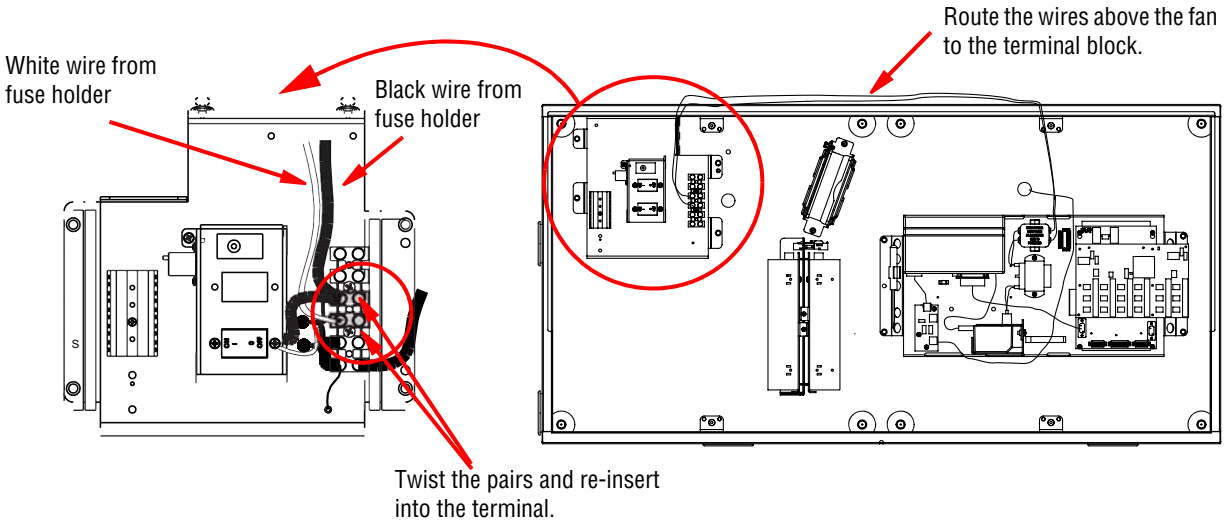
18. Strip 1/4″ from one end of each of the remaining black and white wires. Crimp a large terminal (43205003) to the stripped end of each wire.
19. Attach the terminal end of the white wire to the lower right terminal on the fuse holder.
20. Attach the terminal end of the black wire to the upper right terminal of the fuse holder.



21. Snap the fuse cover into place, over the fuses.

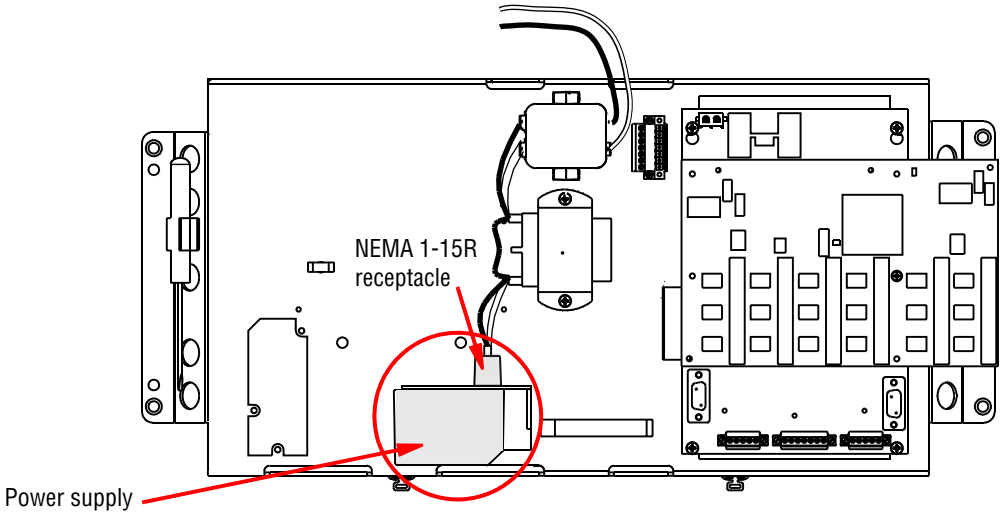


22. Route the black and white wires up and to left, above the fan to the terminal block.
23. Cut the wires to length, long enough to reach the terminal blocks. Strip 3/8" from the end of each wire.
24. Loosen the screw on the left side of the terminal block holding the white wire. Remove the white wire from the terminal block. Twist this wire with the stripped end of the white wire from the fuse holder. Insert the twisted pair into the terminal. Hold the wires in place and retighten the screw.
25. Loosen the screw on the left side of the terminal block holding the black wire. Remove the black wire from the terminal block. Twist this wire with the stripped end of the black wire from the fuse holder. Insert the twisted pair into the terminal. Hold the wires in place and retighten the screw.

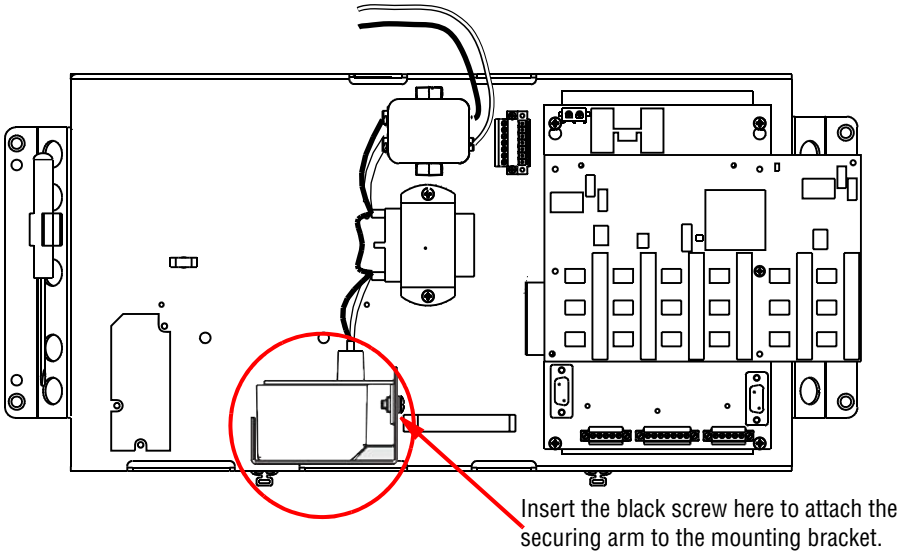


Install the plug-in power supply

26. Place the plug-in power supply, included with the modem, into the power supply bracket. Plug the power supply into the NEMA 1-15R receptacle.

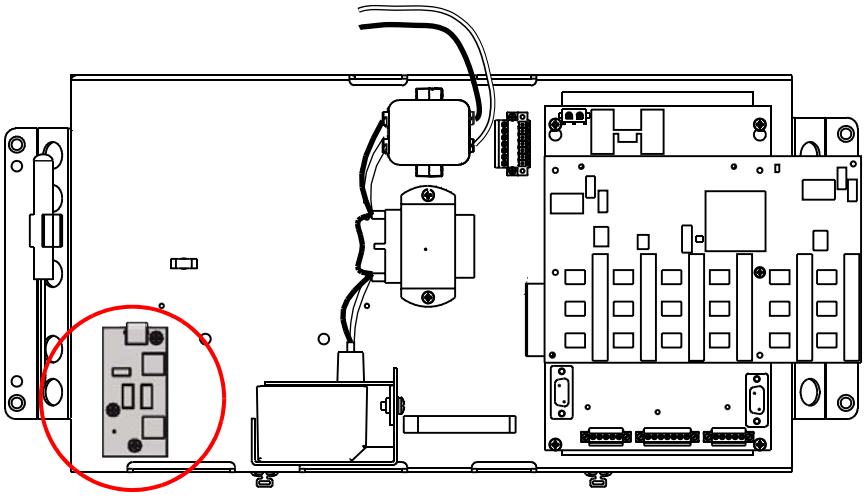


27. Place the securing arm (68116038) under the plug-in power supply and use the black screw (61213006) to attach the securing arm to the power supply bracket.



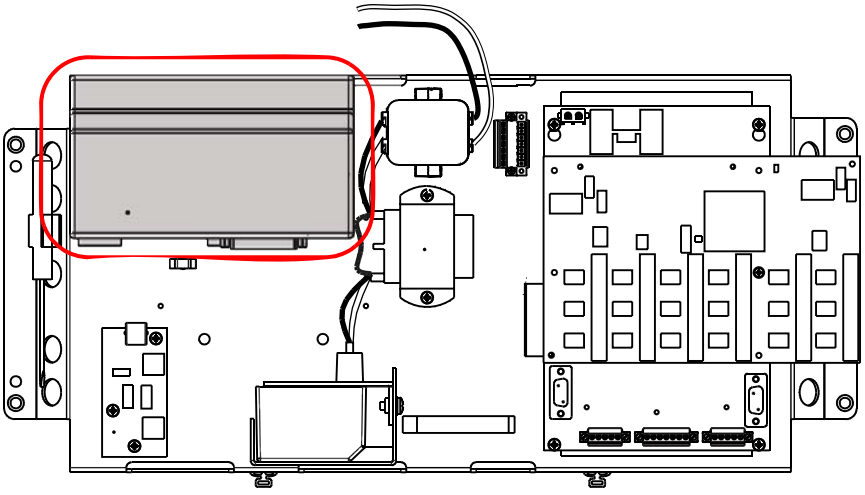
Install the surge suppressor

28. Using the screws included with the surge suppressor, attach the surge suppressor to the controller panel.



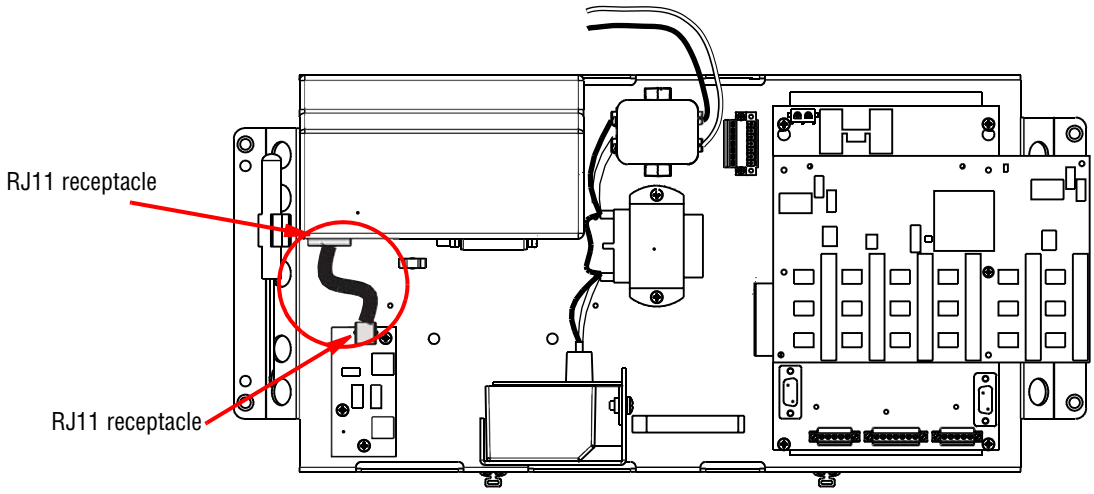
Install the modem

29. Apply the Velcro (65060004 and 65060005) to the back of the modem. Remove the protective backing from the other side of the Velcro. Press the modem into place, as shown below.

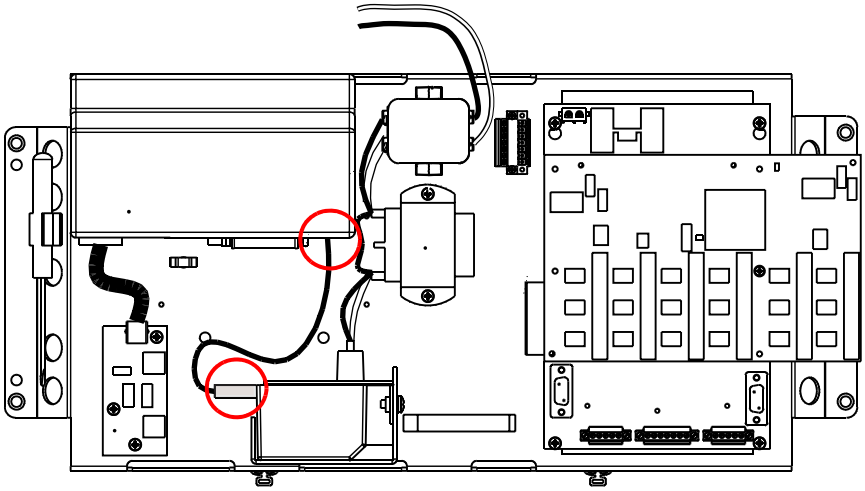


Connect the cables

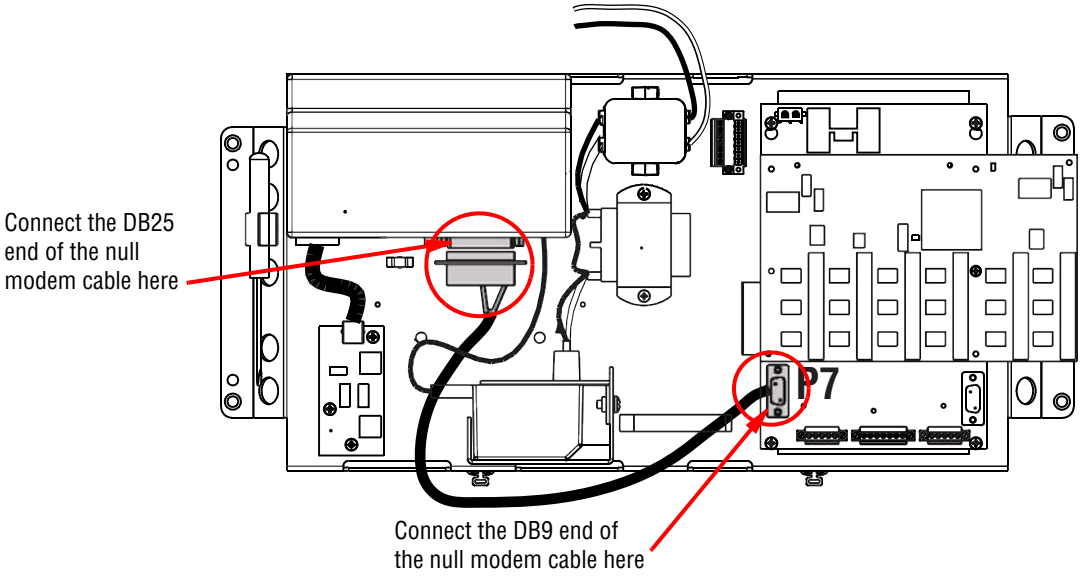
30. Plug one end of the phone cord, included with the modem, into the RJ11 receptacle located on the top side of the surge suppressor. Plug the other end into the RJ11 receptacle located on the bottom left of the modem.



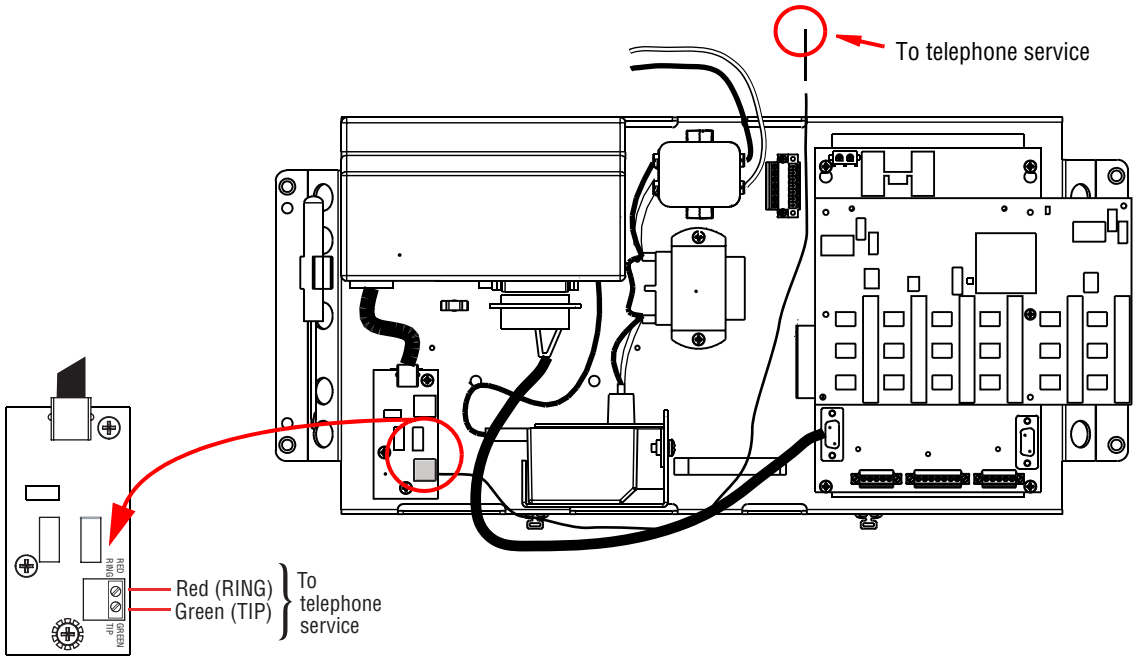
31. Plug the barrel-type connector from the power supply into the input power receptacle on the bottom right side of the modem.



32. Plug the DB25 end of the null modem cable (10889205) into the modem. Plug the DB9 end of the null modem cable into the controller board as shown. Route the cable below the modem power supply.



33. Connect the telephone service to the terminal block on the surge supressor.



Re-apply power to the sign

34. Close the sign door.
35. Re-apply power to the sign.

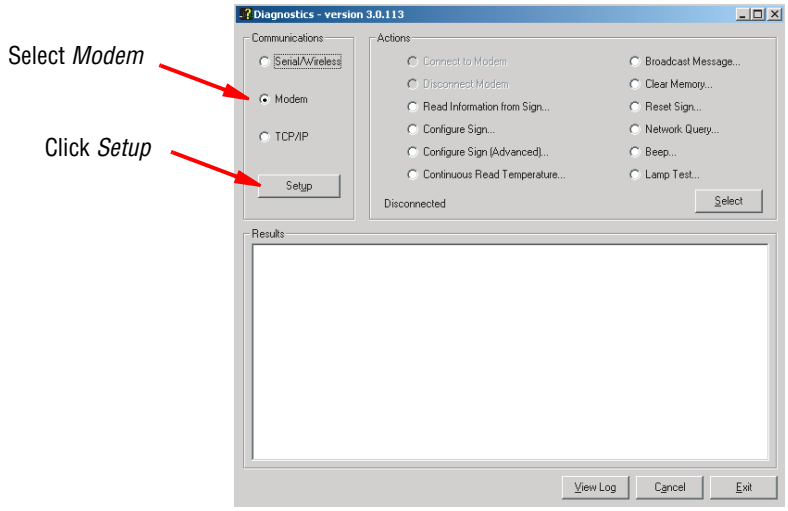
Test the installation

Before you begin

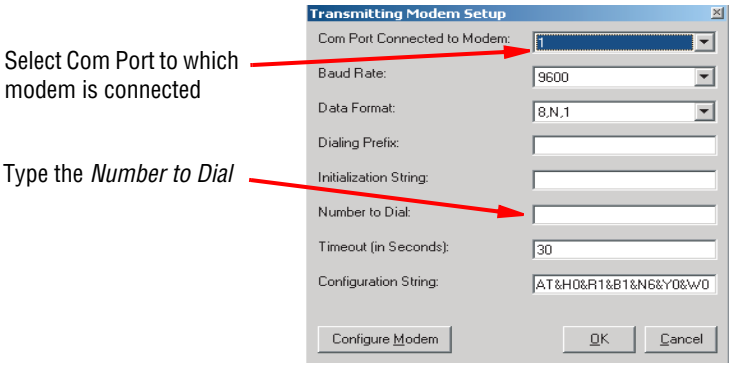
- Install the sending modem into the messaging computer.
- Know the com port to which the modem is connected.

Test the modem connection

1. On the messaging computer, launch the AlphaNET Diagnostics software thru the *Start* menu (*Start>Programs>AlphaNET>Diagnostics*).
2. In the *Communications* pane of the *Diagnostic* window, select *Modem*.
3. Click *Setup* to open the *Transmitting Modem Setup* window.



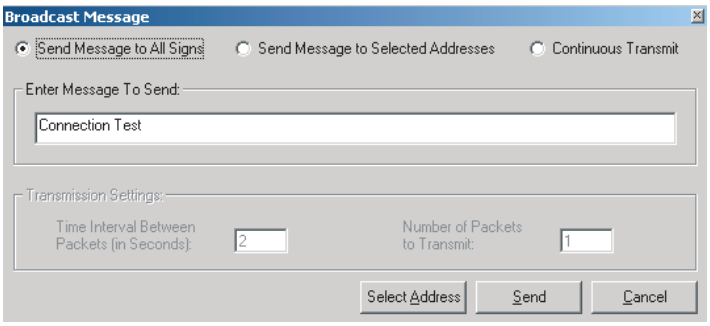
4. Type the *Number to Dial*, including a 1 or 9, if applicable. Click *OK*.



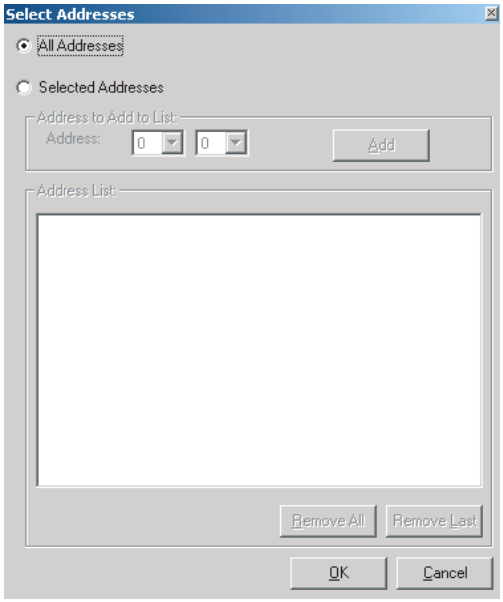
5. In the *Actions* pane of the *Diagnostics* window, select *Connect to Modem*.
6. When the modem connects, the bottom of the *Actions* pane will display *Connected*.

Send a broadcast message

7. In the *Actions* pane, select *Broadcast Message*.
8. In the *Broadcast Message* window, select *Send Message to All Signs*.
9. Type the message text.
10. Type the *Transmission Settings*.
11. Click *Select Addresses*.



12. In the *Select Addresses* window, select *Selected Addresses* and then use the *Address to Add to List* drop-down menu to specify the address of the receiving sign. Then click *Add*. Repeat for each sign address. Click *OK*.



13. Click *Send*.
14. Check the signs to confirm the message is displaying correctly.