

Introduction

This document explains how to install an RF900 wireless transceiver into the following AlphaEclipse StreetSmart signs:

- For 17X signs see “AlphaEclipse StreetSmart 17X sign upgrade” on page 4.
- For 35M signs and 35V signs see “AlphaEclipse StreetSmart 35M and 35V sign upgrade” on page 8.
- For 35X signs see “AlphaEclipse StreetSmart 35X sign upgrade” on page 12.

Safety



Revision history

Part #	Date	Notes
1179659401	March 28, 2006	First release.

Related documentation

Part #	Title
1179600101	AlphaEclipse StreetSmart Installation Manual
9712-1103A	Alpha RF900 Wireless Transceiver Instructions for Outdoor Signs

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Due to continuing product innovation, specifications in this manual are subject to change without notice.

Required material






Photo	Part number	Description
	12111111 (Contained in kit 11759605)	RF900 wireless RadioLinux transceiver
	1179123201	Power cable for 35M and 35V
	1179123301	Power cable for 17X
	1179123401	Power cable for 35X
	65060004 65060005	Velcro tape
	63100008	Tie wraps
	63101057	Tie wrap holders
	11609009A	20' coaxial cable

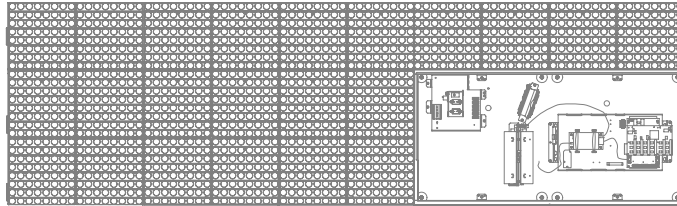
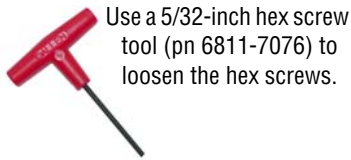
Photo	Part number	Description
	11609008A	2' coaxial cable
	10889204	Serial cable
	10889040	USB to RS232 converter cable
	10888634	DB9 to DB9 RS232 cable
	40151101	AC to DC converter
	68116117	Antenna mounting hardware
	12119201	Antenna

AlphaEclipse StreetSmart 17X sign upgrade

1. Remove power from the sign.

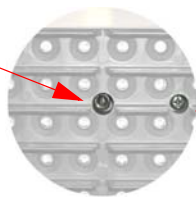


2. Loosen the four hex screws (circled below) on the controller section of the sign. Then pull the door toward you.

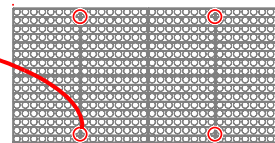


The controller section is located in bottom right corner of the bottom row.

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



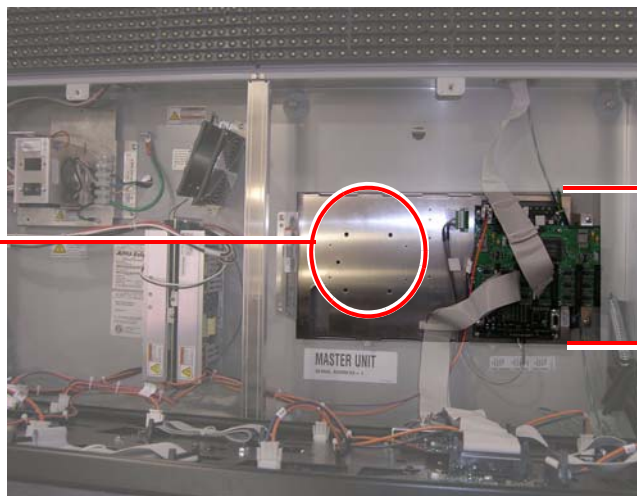
Do NOT remove any of the Phillips head screws. These screws hold the LED boards to the sign door.



3. Locate the controller panel.

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

Communication option location

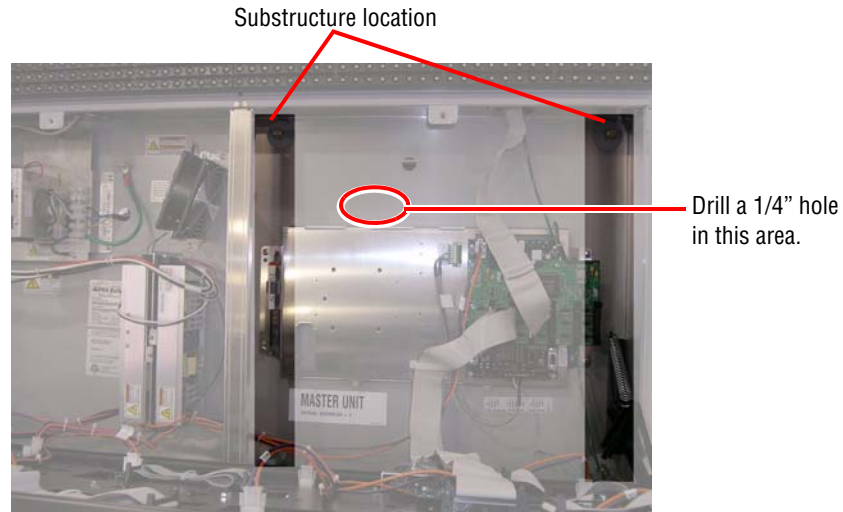


Controller panel

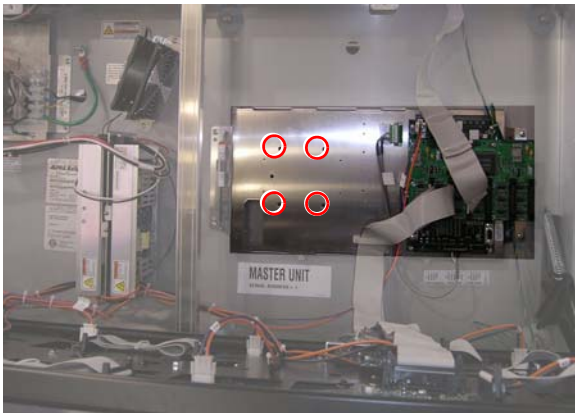
4. Drill a 1/4" hole (circled below) above the controller panel.

NOTE: Do not drill into the substructure (indicated below).

NOTE: When you have finished drilling, remove all metal shavings from the case with a vacuum. Metal shavings can damage electrical circuitry in the sign. Protect all circuitry before drilling.



5. Insert the plastic tie wrap holders into the holes (circled below) on the controller panel.



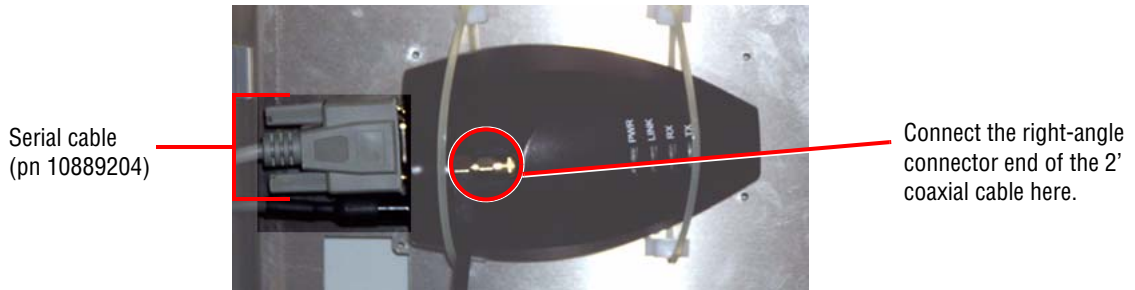
Location of tie wrap holders on a sign with a 6-channel daughter card.



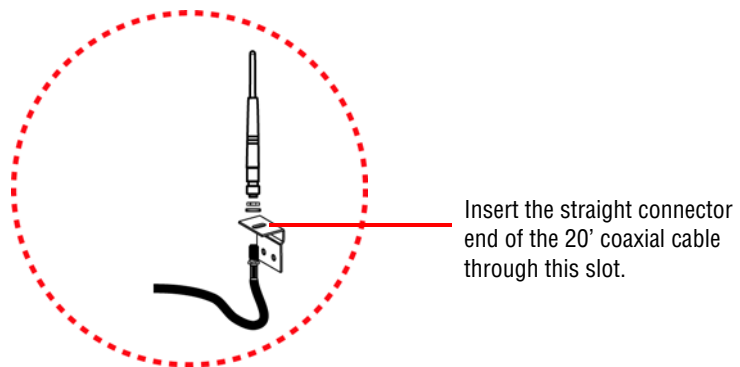
Location of tie wrap holders on a sign with a 12-channel daughter card.

6. Attach the Velcro tape to the back of the RF900 wireless transceiver. Remove the protective backing from the Velcro tape.
7. Place the RF900 wireless transceiver between the tie wrap holders on the controller panel.
8. Thread the tie wraps through the tie wrap holders. Tighten the tie wraps to secure the RF900 wireless transceiver to the controller plate.

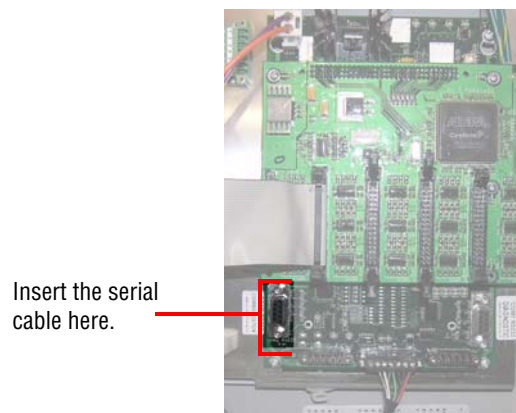
9. Insert one end of the serial cable and the right-angle connector end of the 2' coaxial cable into the RF900 wireless transceiver.



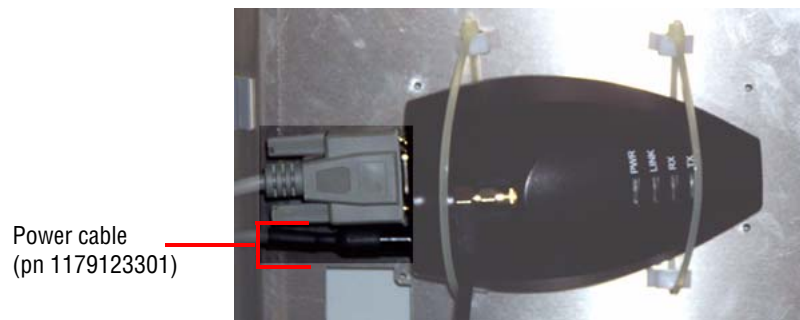
10. Remove the nut and washer from the straight connector end of the 2' coaxial cable. Insert the cable through the hole you drilled in step 4. Reattach the nut and washer to the end of the coaxial cable that is sticking through the back of the sign. Tighten against the back of the sign.
11. Attach the right-angle connector end of the 20' coaxial cable to the 2' coaxial cable.
12. Install the antenna bracket in an appropriate location.
NOTE: Do not attach the mounting hardware directly to the sign.
13. Remove the washer and nut from the straight connector end of the 20' coaxial cable.
14. Insert the 20' coaxial cable into the slot on the antenna mounting hardware.



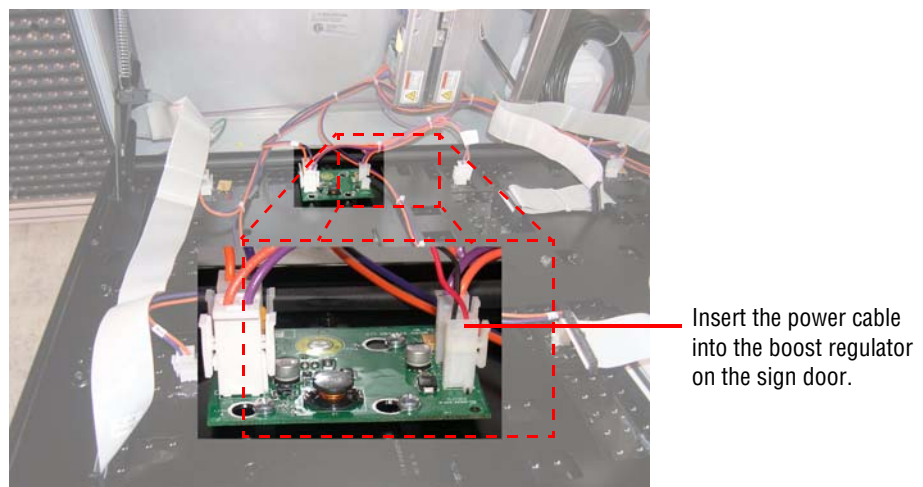
15. Reattach the washer and nut.
16. Attach the antenna.
17. Insert the other end of the serial cable into the COM0 RS232 port on the controller.



18. Insert the barrel-connector end of the power cable into the RF900 wireless transceiver.



19. Insert the other end of the power cable into the boost regulator.



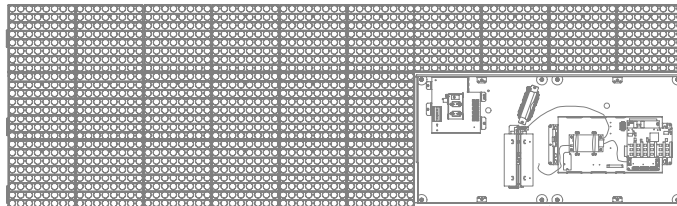
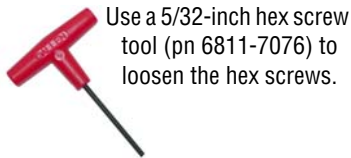
20. Close the sign door.
21. Reapply power to the sign.

AlphaEclipse StreetSmart 35M and 35V sign upgrade

1. Remove power from the sign.

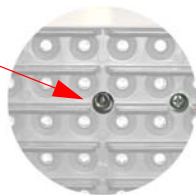


2. Loosen the four hex screws (shown below) on the controller section of the sign. Then pull the door towards you.

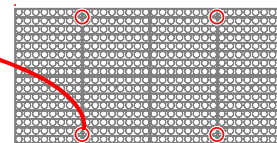


The controller section is located in bottom right corner of the bottom row.

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

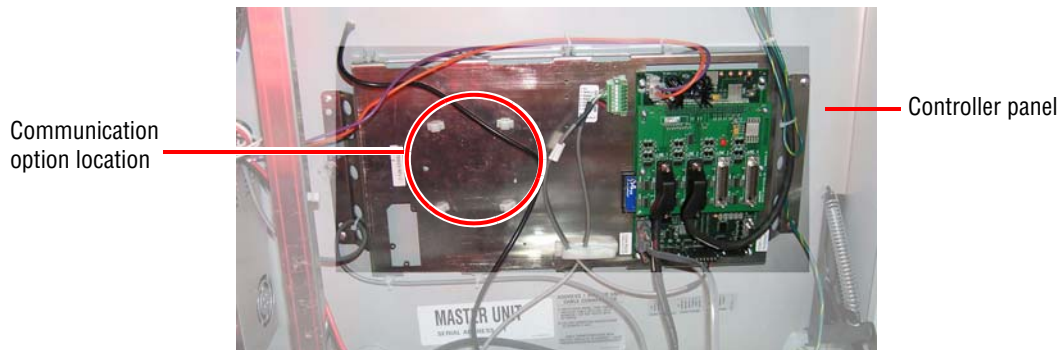


Do NOT remove any of the Phillips head screws. These screws hold the LED boards to the sign door.



3. Locate the controller panel.

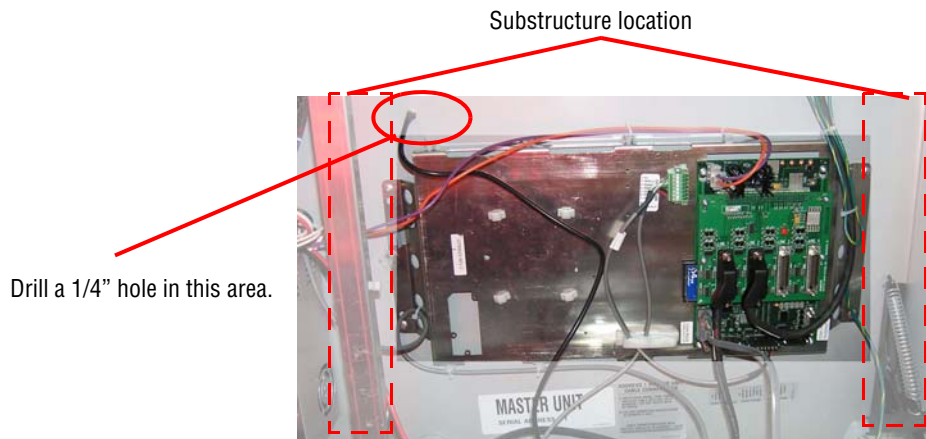
NOTE: Remove the current communication option (modem, wireless transceiver, ethernet, etc.), if applicable.



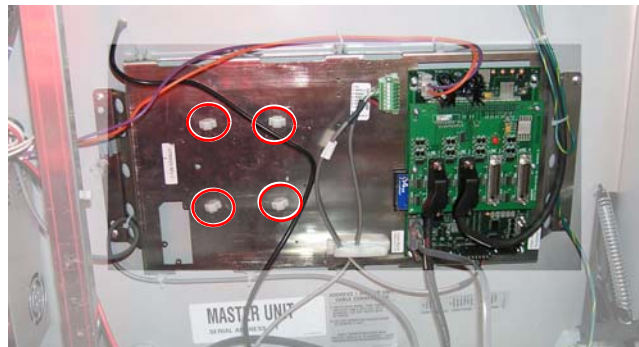
4. Drill a 1/4" hole (circled below) above the controller panel.

NOTE: Do not drill into the substructure (indicated below).

NOTE: When you have finished drilling, remove all metal shavings from the case with a vacuum. Metal shavings can damage electrical circuitry in the sign. Protect all circuitry before drilling.

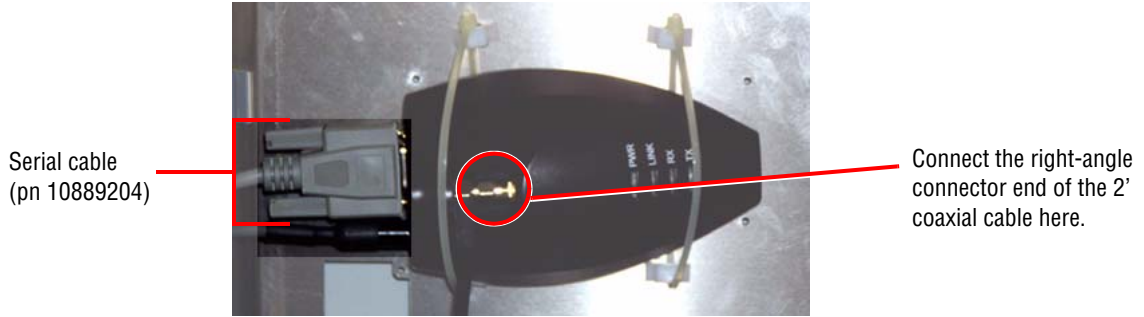


5. Insert the plastic tie wrap holders into the holes (circled below) on the controller panel.

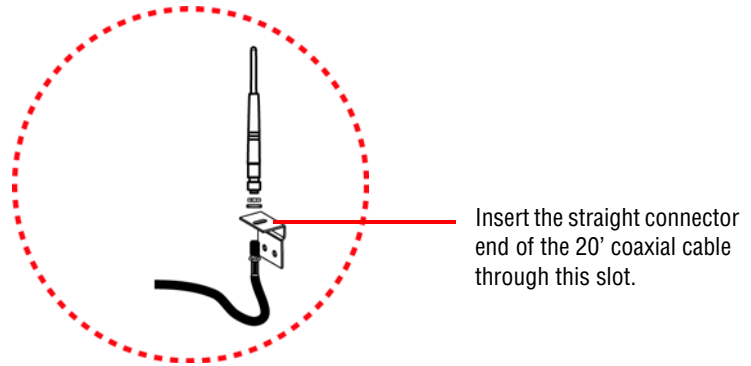


6. Attach the Velcro tape to the back of the RF900 wireless transceiver. Remove the protective backing from the Velcro tape.
7. Place the RF900 wireless transceiver between the tie wrap holders on the controller panel.
8. Thread the tie wraps through the tie wrap holders. Tighten the tie wraps to secure the RF900 wireless transceiver to the controller plate.

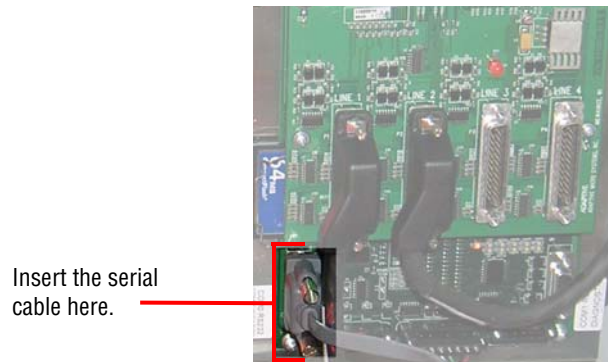
- 9. Insert one end of the serial cable and the right-angle connector end of the 2' coaxial cable into the RF900 wireless transceiver.



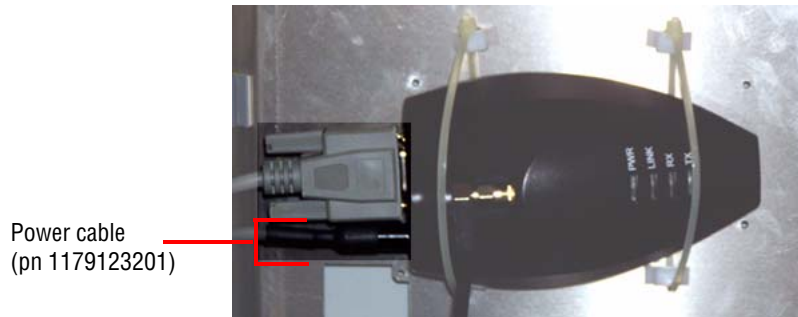
- 10. Remove the nut and washer from the straight connector end of the 2' coaxial cable. Insert the cable through the hole you drilled in step 4. Reattach the nut and washer to the end of the coaxial cable that is sticking through the back of the sign. Tighten against the back of the sign.
- 11. Attach the right-angle connector end of the 20' coaxial cable to the 2' coaxial cable.
- 12. Install the antenna bracket in an appropriate location.
NOTE: Do not attach the mounting hardware directly to the sign.
- 13. Remove the washer and nut from the straight connector end of the 20' coaxial cable.
- 14. Insert the 20' coaxial cable into the slot on the antenna mounting hardware.



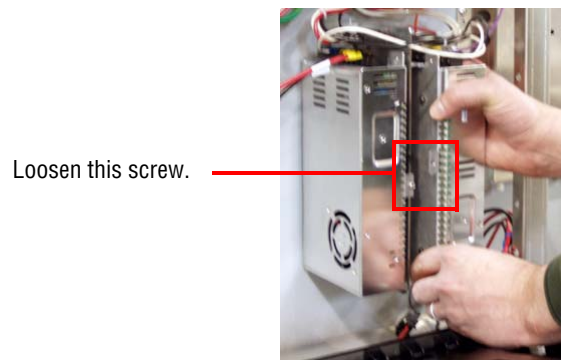
- 15. Replace the washer and nut.
- 16. Attach the antenna.
- 17. Insert the other end of the serial cable into the COM0 RS232 port on the controller .



18. Insert the barrel-connector end of the power cable into the RF900 wireless transceiver.



19. Loosen the phillips screw attaching the first (right) power supply to the mounting bracket.



20. Gently pull the power supply toward you until the screw terminals on the top of the unit are accessible.
21. Remove the plastic shield covering the screw terminals.
22. Insert the wires on the other end of the power cable into the power supply.



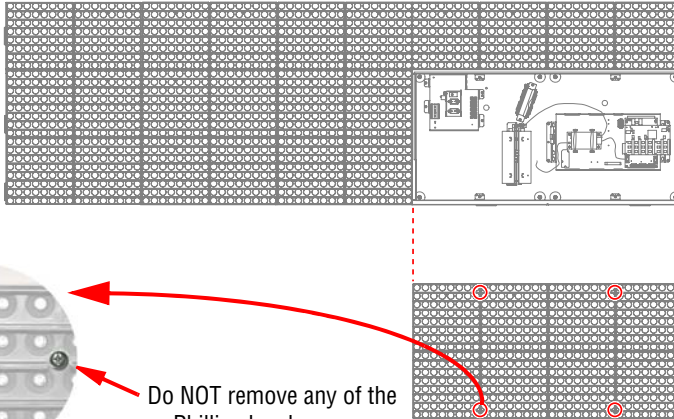
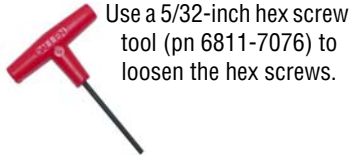
23. Replace the plastic cover over the screw terminals.
24. Attach the power supply to the mounting bracket.
25. Insert and tighten the screw.
26. Close the sign door.
27. Reapply power to the sign.

AlphaEclipse StreetSmart 35X sign upgrade

1. Remove power from the sign.

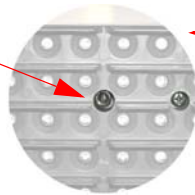


2. Loosen the four hex screws (circled below) on the controller section of the sign. Then pull the door toward you.



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

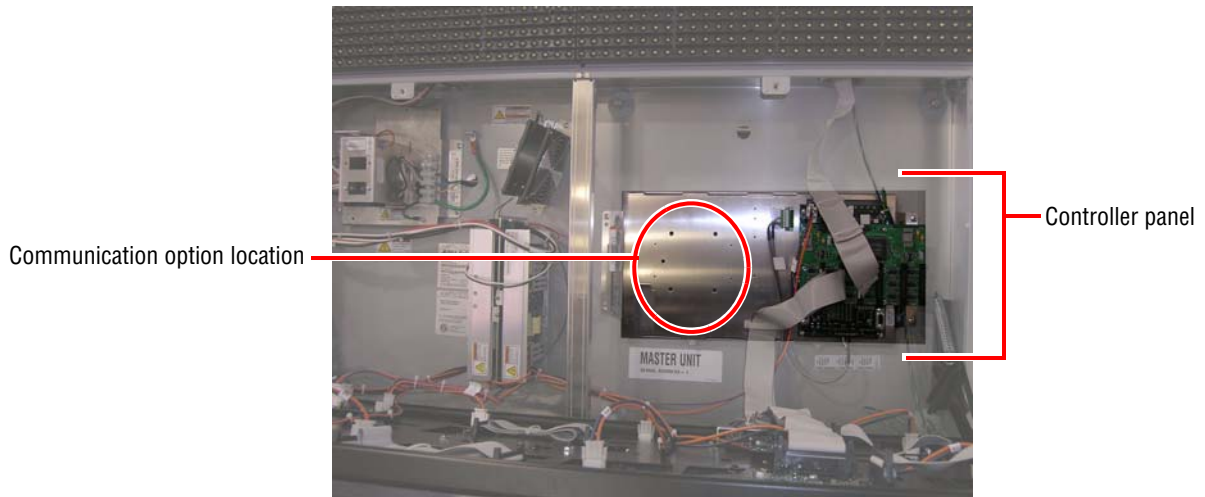
There are 4 locks on the sign door. Each lock is a hexagon shape.



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

3. Locate the controller panel.

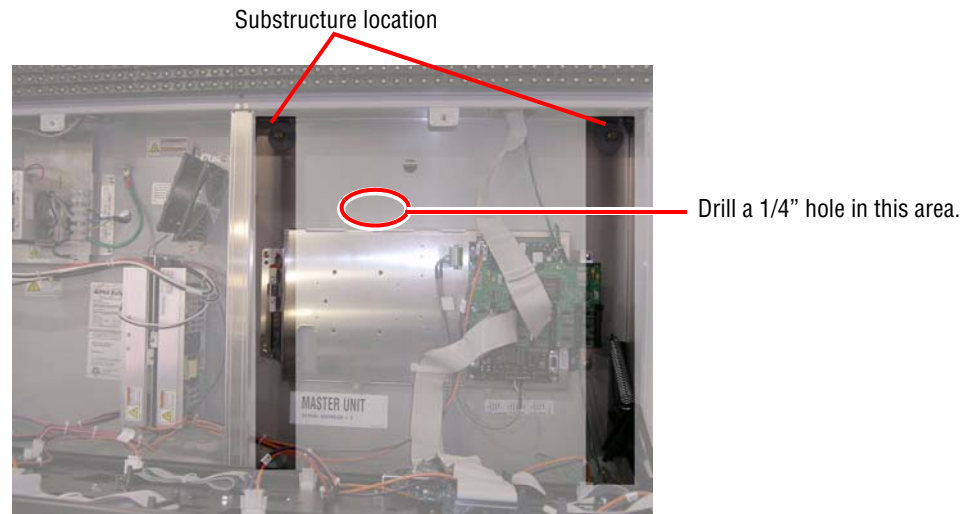
NOTE: Remove the current communication option, if applicable.



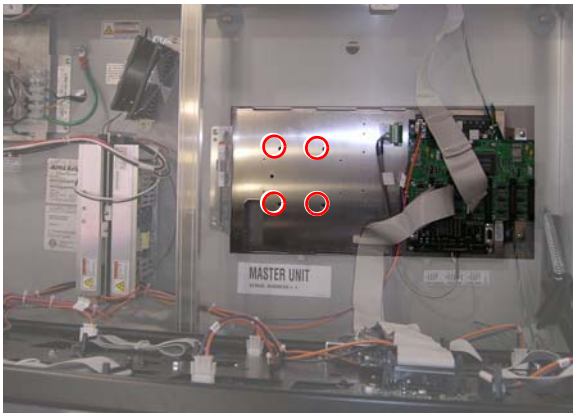
4. Drill a 1/4" hole (circled below) above the controller panel.

NOTE: Do not drill into the substructure (indicated below).

NOTE: When you have finished drilling, remove all metal shavings from the case with a vacuum. Metal shavings can damage electrical circuitry in the sign. Protect all circuitry before drilling.



5. Insert the plastic tie wrap holders into the holes (circled below) on the controller panel.



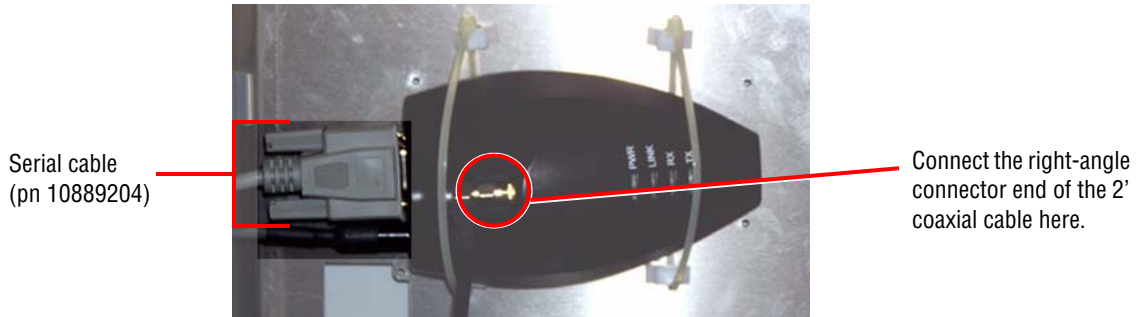
Location of tie wrap holders on a sign with a 6-channel daughter card.



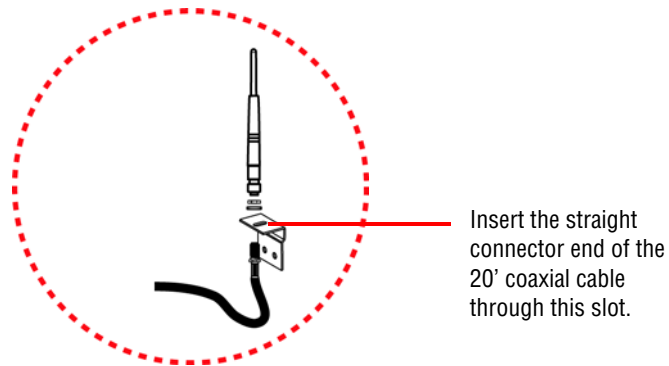
Location of tie wrap holders on a sign with a 12-channel daughter card.

6. Attach the Velcro tape to the back of the RF900 wireless transceiver. Remove the protective backing from the Velcro tape.
7. Place the RF900 wireless transceiver between the tie wrap holders on the controller panel.
8. Thread the tie wraps through the tie wrap holders. Tighten the tie wraps to secure the RF900 wireless transceiver to the controller plate.

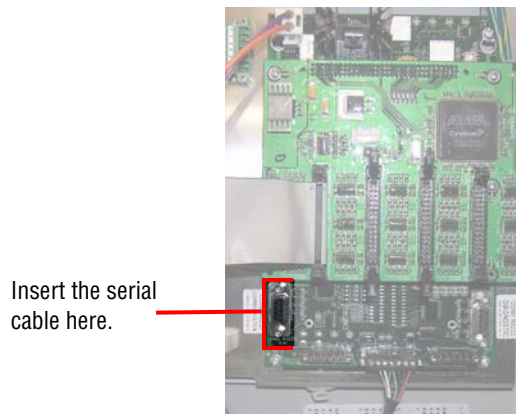
9. Insert one end of the serial cable and the right-angle connector end of the 2' coaxial cable into the RF900 wireless transceiver.



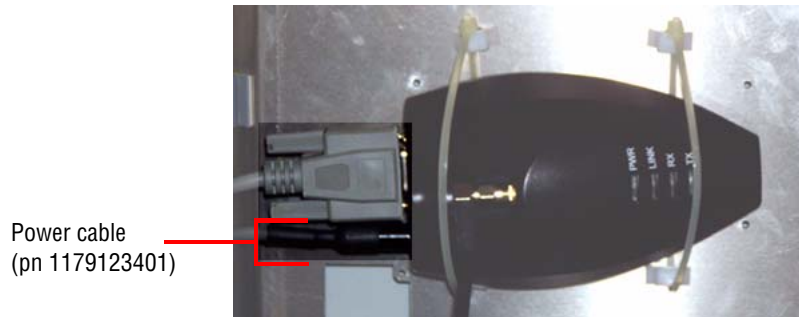
10. Remove the nut and washer from the straight connector end of the 2' coaxial cable. Insert the cable through the hole you drilled in step 4. Reattach the nut and washer to the end of the coaxial cable that is sticking through the back of the sign. Tighten against the back of the sign.
11. Attach the right-angle connector end of the 20' coaxial cable to the 2' coaxial cable.
12. Install the antenna bracket in an appropriate location.
NOTE: Do not attach the mounting hardware directly to the sign.
13. Remove the washer and nut from the straight connector end of the 20' coaxial cable.
14. Insert the 20' coaxial cable into the slot on the antenna mounting hardware.



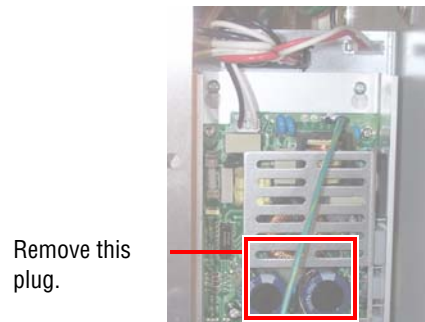
15. Replace the washer and nut.
16. Attach the antenna to the 20' coaxial cable.
17. Insert the other end of the serial cable into the COM0 RS232 port on the controller.



- 18. Insert the barrel-connector end of the power cable into the RF900 wireless transceiver.



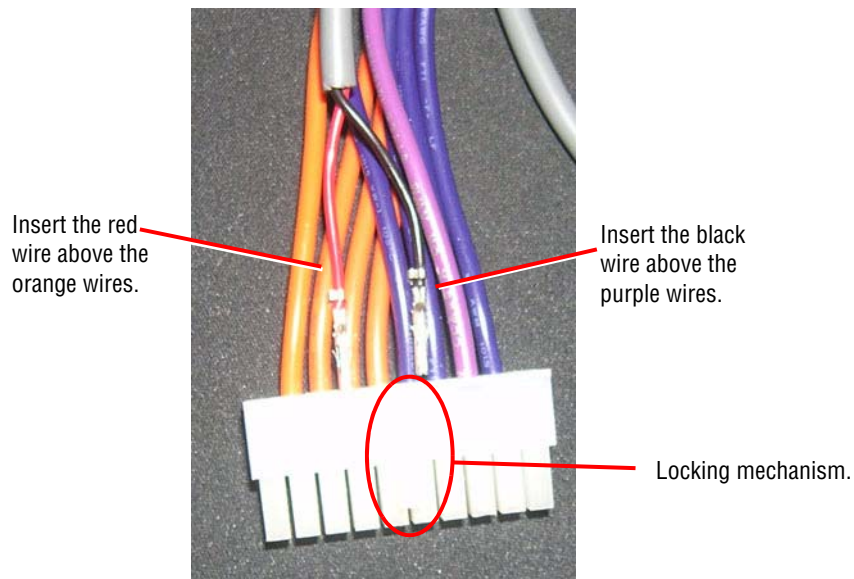
- 19. Remove the plug from the power supply.



- 20. Insert the red and black wires on the other end of the power cable into the plug. (shown below).

NOTE: Make sure that the crimped side is facing the locking mechanism on the plug.

NOTE: Insert the wires. Then, lightly tug them to make sure they are properly inserted. If the wires pull out, they were not inserted correctly. Re-insert the wires



- 21. Re-insert the plug into the power supply.
- 22. Close the sign door.
- 23. Reapply power to the sign.

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