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|---|---|
| **PRIORITY:** | Normal |
| **DATE:** | March 6, 2000 |
| **TITLE:** | ALPHA 220C Disassembly and EPROM or Dip Switch Address Changes |
| **ECO REFERENCE:** | |
| **PRODUCT(S) AFFECTED:** | ALPHA 220C |
| **SUMMARY:** | Some signs shipped prior to January 1, 2000 may require a simple modification to keep an unintended disconnection from occurring during disassembly. When EPROM or dip switch address changes are necessary, be sure to follow the same disassembly procedure. |

## Introduction

The controller board assembly in an ALPHA 220C sign can be internally disconnected if the sign is disassembled incorrectly. Take time now to partially disassemble your sign(s) and correct the problem permanently.

A five-minute modification to reinforce the connecting point between the two halves of the controller board assembly is all that is required. Signs shipped before January 1, 2000 should be disassembled and inspected in order to determine if reinforcement is necessary.

If you are taking apart your sign for the first time, to make a dip switch address change or to upgrade EPROM firmware, observe all of the same assembly/disassembly steps.

## Required materials

| Quantity | Description |
|---|---|
| 2 | .0625 inch (1/16th) or narrower width plastic cable-straps ("zip-ties") |
| 1 | small phillips head screw-driver |
| * 1 | If required, appropriate EPROM chip for required firmware change. Call Customer Service (800-558-7022) for more information and specific part number. |

# Modification instructions

1. Be sure to remove power from the sign before you begin work.

2. Remove the two screws holding the power supply and disconnect power connector. (Don't lose 2 star washers under the screws.)

⚠ **WARNING**

**Hazardous voltage. Contact with high voltage may cause death or serious injury. Always disconnect power to sign prior to servicing**
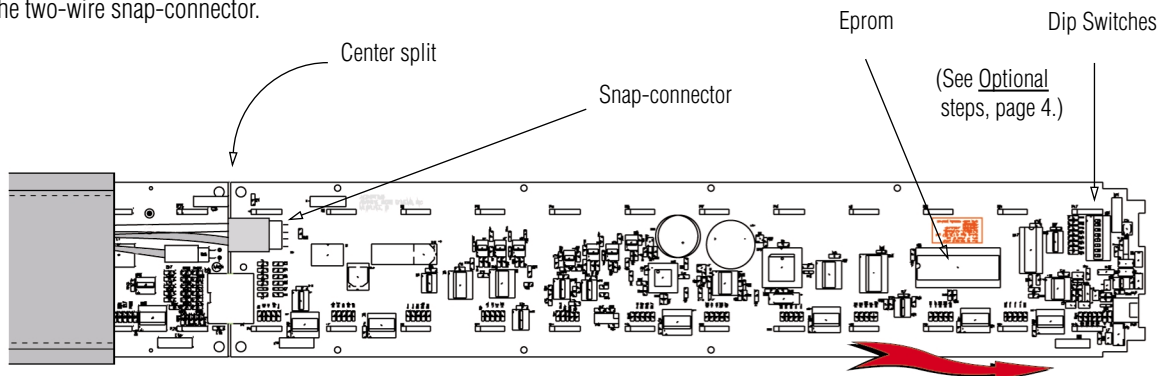
star washer
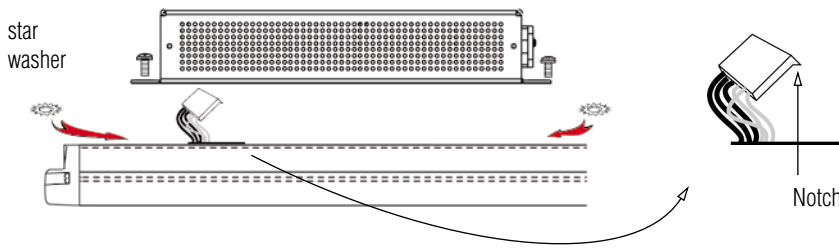
NOTE: Push plug through hole in the back of the case prior to pulling controller board out the right side. Replug to power supply with the notch facing inward, toward center of the power enclosure.

Notch

3. Loosen *all 4* end cap fasteners. Remove the two fasteners from the right end cap and pull it away from the case.

NOTE: You can disconnect the controller board assembly– and disable the sign!– if the 2 screws on the *l e f t* end cap aren't loosened.
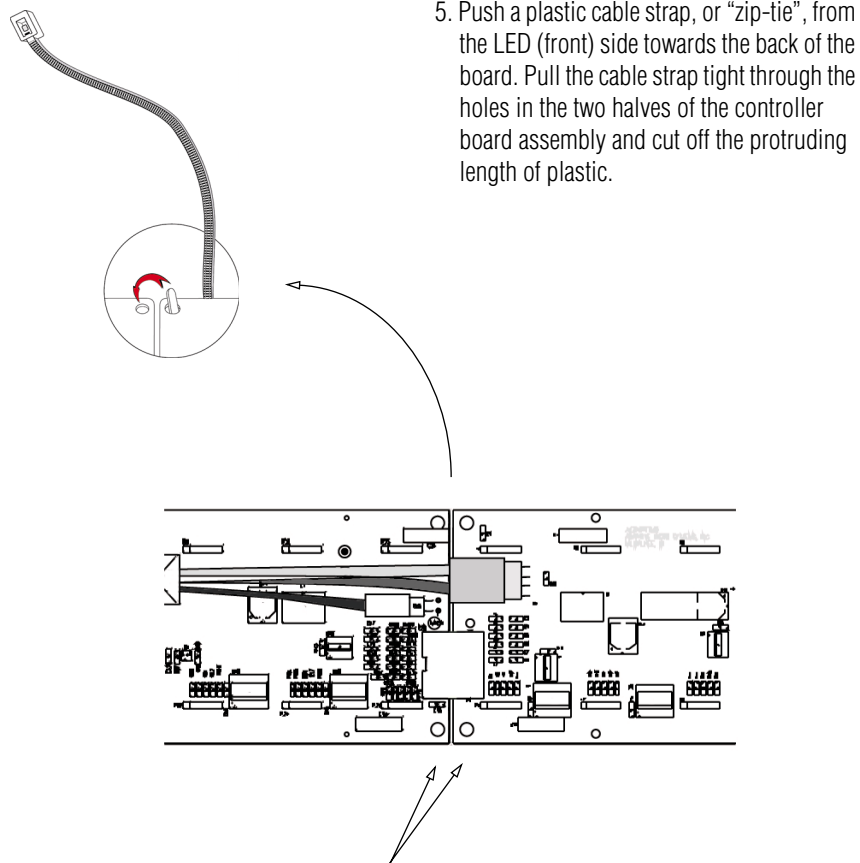
right end cap

left end cap
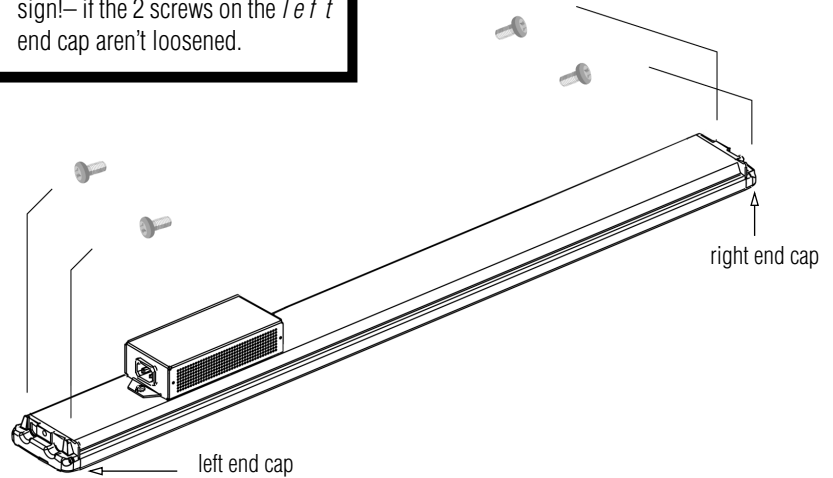
4. Carefully withdraw the controller board from the right side of the sign. Look for the center split between the two halves of the controller board assembly, with the two-wire snap-connector.

Eprom

Dip Switches

(See Optional steps, page 4.)

Center split

Snap-connector

5. Push a plastic cable strap, or "zip-tie", from the LED (front) side towards the back of the board. Pull the cable strap tight through the holes in the two halves of the controller board assembly and cut off the protruding length of plastic.

6. Reinforce both the top and bottom sets of holes.

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**NOTE:  *Controlling electrostatic discharge damage***

ALPHA signs contain components, such as EPROMS, that may be damaged by electrostatic discharge. To keep that from happening, follow these guidelines:

- Discharge any static charge you may have built up before touching static-sensitive devices– touch something metal *before* putting your hand on sensitive components.
- Wear a grounded, anti-static wristband or heel strap.
- Use only properly grounded soldering and test equipment.
- Do your work on a static-free surface.
- Never slide static-sensitive devices across *any* type of surface– friction creates static.
- Store static-sensitive assemblies in an anti-static container.
- Always turn off power before removing or inserting an EPROM.
- Do NOT touch EPROM leads– *ever.* If they become bent, use a tool to straighten them.
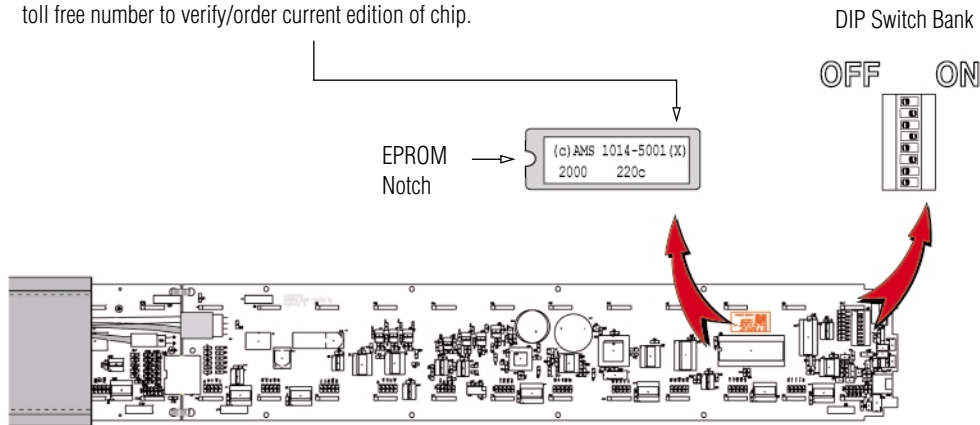
# Modification instructions (continued)

7. (<u>Optional</u>) If you are updating your firmware EPROM:

    Make sure the replacement chip is installed with the notch facing the same way.

NOTE: If the chip is difficult to remove, pry up one end very slightly, then try to lift the opposite end about the same amount. If you use a tool make sure you pry under the chip– don't pull the socket out of the circuit board!

EPROM part number. The letter in parentheses at the end of the number indicates the version. Call Adaptive's toll free number to verify/order current edition of chip.

8. (<u>Optional</u>) If you have a network of several signs:

    You may choose to permanently identify the serial address of each sign by setting DIP Switches to individual combinations, allowing specific signs to be targeted with a distinct message.

- Setting addresses through these switches prevents settings from being lost, during temporary interruptions of power, or other conditions that would cause software to reset.

- The table below references switch settings to addresses.

DIP Switch Bank

OFF    ON

EPROM Notch → `(c) AMS 1014-5001(X)` `2000    220c`



NOTE: Default setting for the bank of DIP switches from the factory is 00 (all set to OFF, or 0) to allow sending the same message to all signs of a network simultaneously.

- You can mix 00 (default OFF) addresses and individual addresses in a single network. For example, in a 6 sign network, if you want three of the signs to always have the same display set a total of 4 addresses– 3 at 00 and 3 with individual settings.

- The illustration below shows an address set to 02– DIPswitch 2 ON, all others OFF. (See Table, left.)

ON
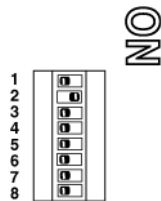


9. Push the controller board carefully back into the case, reconnect power supply, replace end cap, retighten *all 4* screws.

| Serial address (in decimal) | DIP switch (1 = ON, 0 = OFF) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| 00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 02 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 03 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 04 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 05 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 06 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 07 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 08 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 09 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 10 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 11 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 12– 255 | For other combinations (Call Customer Service for address info.) | | | | | | | |

# Further information

For ordering and technical questions, contact Customer Service at 1-800-558-7022