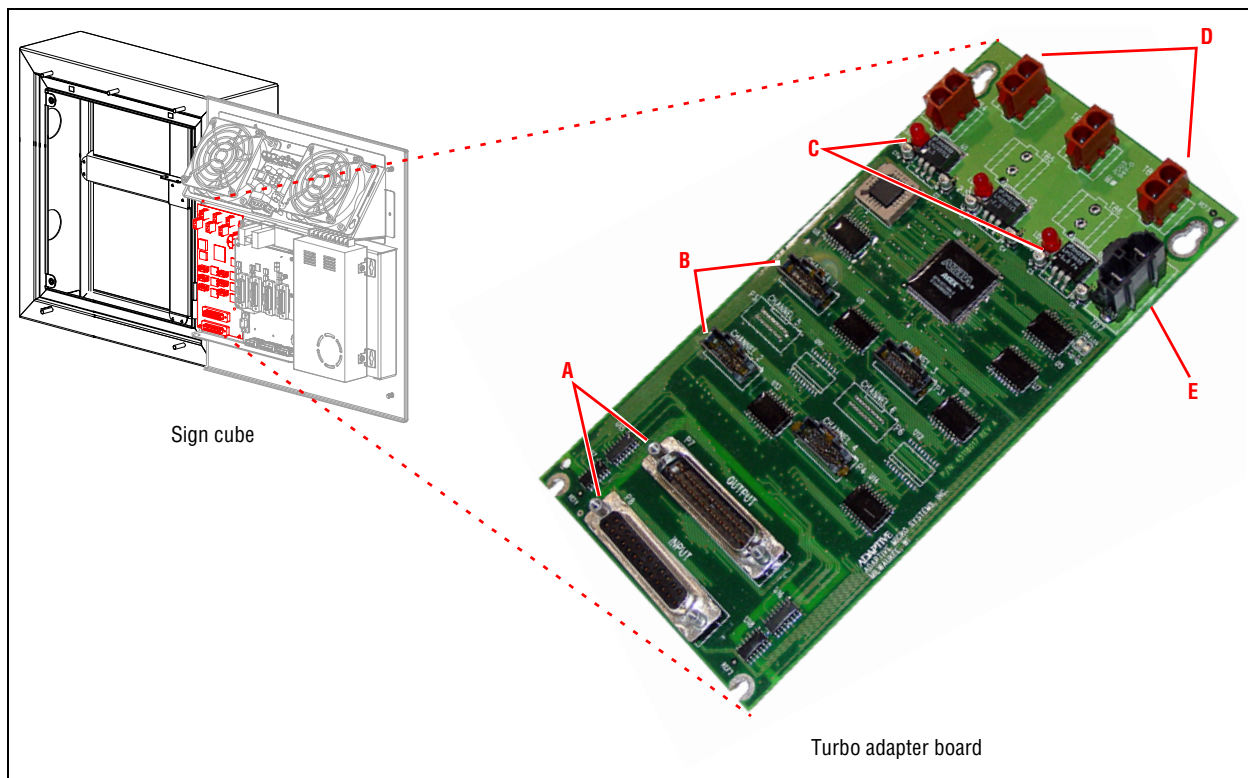


Turbo Adapter Board (pn 1180-9024SP)

1.1 Description

This board supplies data and power to each of the four LED driver boards in a cube. There is one turbo adapter board in each sign cube.




Item	PCB Label	Description
A	P8 INPUT	Communications data plug (1) from previous cube's turbo adapter board or (2) from controller board.
	P7 OUTPUT	Communications data plug to (1) the next cube's turbo adapter board or (2) an RS485 terminator.
B	CHANNEL 1 CHANNEL 2 CHANNEL 3 CHANNEL 4	Data line to each LED driver board in a cube CHANNEL 1 connects to top left LED driver board. See "LED driver board names" on page 2. CHANNEL 2 connects to top right LED driver board. See "LED driver board names" on page 2. CHANNEL 3 connects to bottom left LED driver board. See "LED driver board names" on page 2. CHANNEL 4 connects to bottom right LED driver board. See "LED driver board names" on page 2.
C	LD1 3.3V LD2 2.5V LD3 5.0V	When LED is lit, 3.3V is supplied to the board. When LED is lit, 2.5V is supplied to the board. When LED is lit, 5.0V is supplied to the board.
D	TB1 TB2 TB3 TB4	Power line to each LED driver board in a cube TB1 connects to top left LED driver board. See "LED driver board names" on page 2. TB2 connects to top right LED driver board. See "LED driver board names" on page 2. TB3 connects to bottom left LED driver board. See "LED driver board names" on page 2. TB4 connects to bottom right LED driver board. See "LED driver board names" on page 2.
E	TB7	Connects to cube power supply.

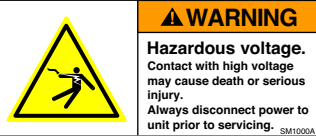
1.2 Installation

1 Prevent electrostatic discharge (ESD) or “static” damage to the replacement part.

- For safe handling of ESD-sensitive parts, see TechMemo #00-0005.

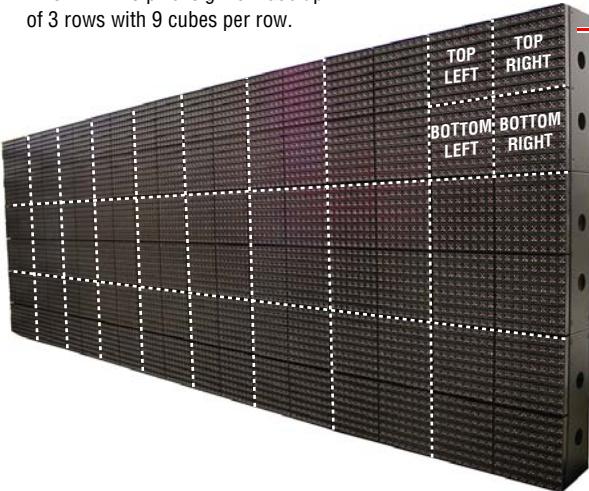


2 Remove power from the sign.

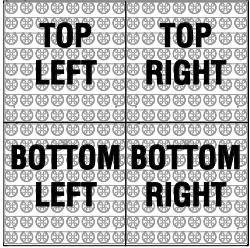


3 Locate the cube that contains the existing turbo adapter board.

This 144 x 48 pixel sign is made up of 3 rows with 9 cubes per row.




Each cube is 16 x 16 pixels and has 4 LED boards, named as shown:



FRONT VIEW
LED driver board names


There is a turbo adapter board in each cube.

4 To access the turbo adapter board, open the back of the cube:



To open the back of a cube:

- Use a 5/32-inch hex tool to loosen each of the two door screws.

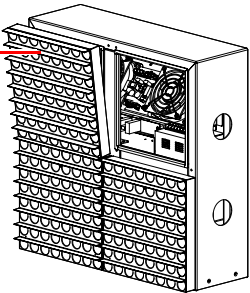


If it is not possible to open the back of the cube, remove all four LED driver boards from the front of the cube:

To remove an LED driver board:

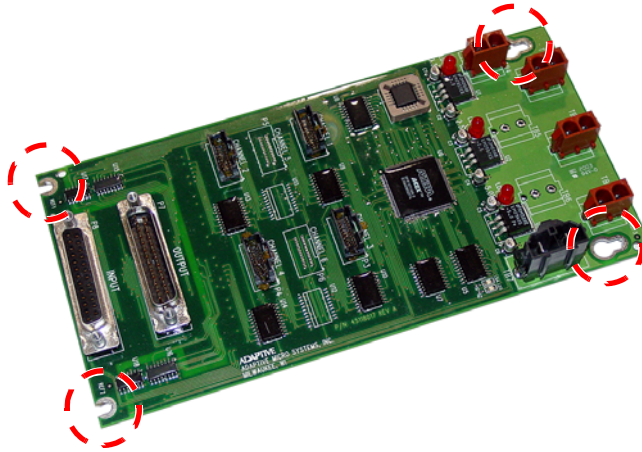
- Insert a 5/32-inch hex tool into the latch at the upper center of each board.
- Turn the hex tool counterclockwise.
- Lift the board up and then pull it back.
- Remove the data and power connectors from the back of the LED driver board.

NOTE: Each LED driver board must be put back in its *original* location. LED driver boards are not interchangeable.



5 Remove all connectors from the turbo adapter board.

6 Loosen, but do *not* remove, the four screws (circled below) on the turbo adapter board. Push the board up and lift up to remove it.



7 Place the new turbo adapter board over the four screws and pull the board down. Then tighten each screw.

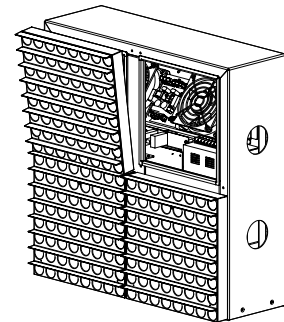
8 Reattach all connectors to the new turbo adapter board.

9 If you opened the back of the sign, close the door and tighten each latch.
If you removed LED driver boards, reattach each driver board:

To reattach an LED driver board:

NOTE: Remember to put the each LED driver board back where it was originally.

- Place the bottom of the LED driver board in the cube opening so that the board can swing freely.
- Reattach the data and power cables.
- Press down on the LED driver board and swing the board up into the cube until it snaps in place.
- Insert a 5/32-inch hex tool into the latch at the upper center of the board.
- Turn the hex tool clockwise.





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December 5, 2003

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