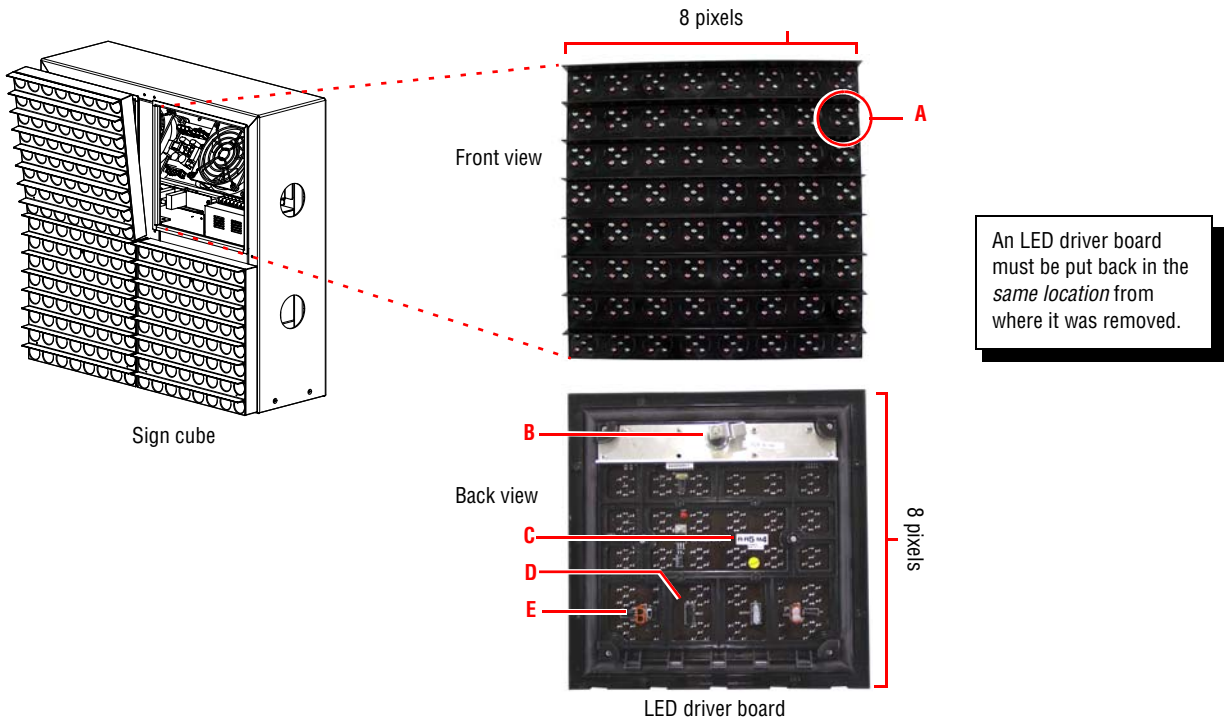
RGB LED Driver Board (pn 1180-9019SP)

1.1 Description

This board is made up of clusters of LEDs, called pixels. Each pixel can display a number of colors that are created by using combinations of the two red, two green, and one blue LED in each pixel. There are four LED boards in each sign cube.



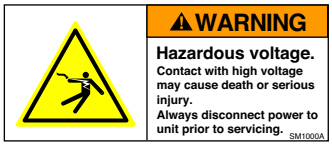
Item	PCB Label	Description
A	—	LED pixel. Each pixel is made up of two red, two green, and one blue LED. Each LED driver board is 8 x 8 pixels.
B	—	Latch used to remove or attach the LED driver board to the sign.
C	—	BIN label. See “1.3 RGB LED driver board binning label” on page 4.
D	P6 INPUT	Data connector — connects to CHANNEL 1, 2, 3, or 4 on the turbo adapter board in the cube: • TOP LEFT LED driver board connects to CHANNEL 1. See “LED driver board names” on page 2. • TOP RIGHT LED driver board connects to CHANNEL 2. See “LED driver board names” on page 2. • BOTTOM LEFT LED driver board connects to CHANNEL 3. See “LED driver board names” on page 2. • BOTTOM RIGHT LED driver board connects to CHANNEL 4. See “LED driver board names” on page 2.
E	P4	Power connector — connects to TB1, 2, 3, or 4 on the turbo adapter board in the cube: • TOP LEFT LED driver board connects to TB1. See “LED driver board names” on page 2. • TOP RIGHT LED driver board connects to TB2. See “LED driver board names” on page 2. • BOTTOM LEFT LED driver board connects to TB3. See “LED driver board names” on page 2. • BOTTOM RIGHT LED driver board connects to TB4. See “LED driver board names” on page 2.

1.2 Installation

1 **Prevent electrostatic discharge (ESD) or "static" damage to the replacement part.**

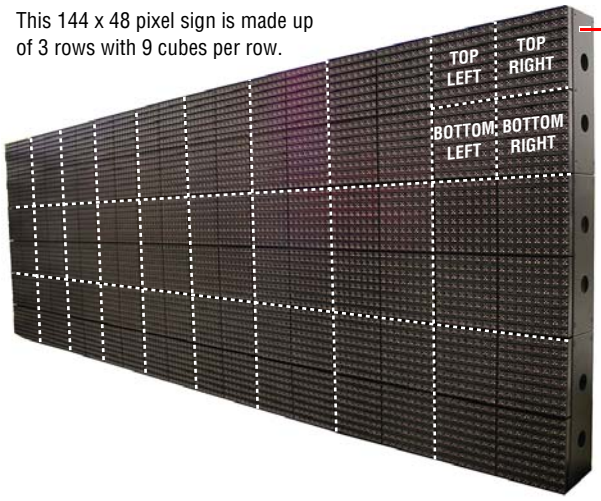
- For safe handling of ESD-sensitive parts, see TechMemo #00-0005.

2 **Remove power from the sign.**

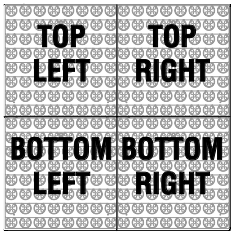


3 **Locate the cube that contains the LED driver board which will be replaced.**

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



Each cube has 4 LED boards, named as shown:

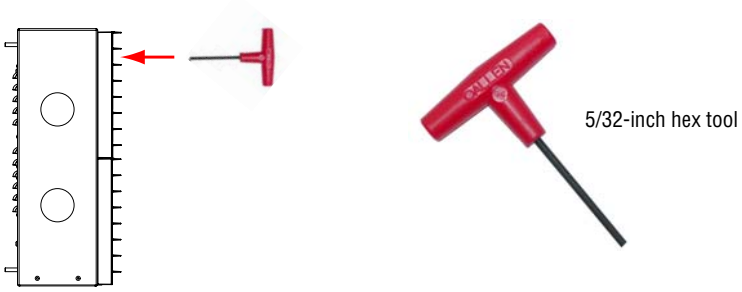


FRONT VIEW

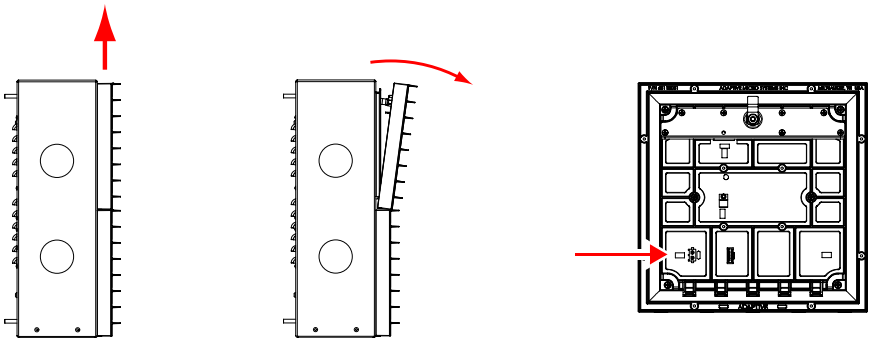
LED driver board names

4 **Remove the existing LED driver board:**

- Insert the 5/32-inch hex tool into the opening near the top of the LED driver board. Turn the tool counterclockwise 180°:

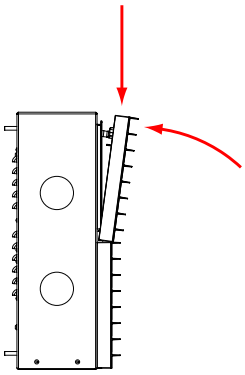


- Lift the board up and pull it back. Then remove the two cables from the back:



5 **Connect the replacement LED driver board to the sign.**

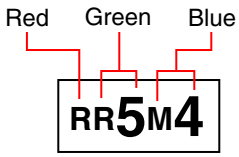
- Reconnect the two cables to the back of the board.
- Place the LED driver board under the opening where the old board was removed.
- Move the board up and then push it down until it snaps into place:



- Insert the 5/32-inch hex tool into the opening near the top of the LED driver board. Turn the tool clockwise 180°.

6 **Apply power to the sign.**

1.3 RGB LED driver board binning label

 RGB bin label	**Intensity (mCd)**	**Color wavelength (nm)**
Red LEDs	R = 1500 to 1900 S = 1900 to 2500	—
Green LEDs	R = 1500 to 1900 S = 1900 to 2500	5 = 530 to 535 6 = 535 to 540
Blue LED	L = 1500 to 1900 M = 1900 to 2500	4 = 472 to 476 5 = 476 to 480

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