

# **Nevco Scoreboard Company**

## **Outdoor LED Scoreboard**

### **Installation Manual**



*Scoreboards · Message Centers*  
*Video Displays*

**Since 1934**

**Retain this manual in your permanent file.**

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## Installation Instructions

Installation consists of three steps, Unpacking the Equipment, Scoreboard mounting, and Electrical Connections. Be sure to read and understand all of the instructions before installing the equipment. Consult the “installer’s troubleshooting guide” following this section for verifications each step has been installed and is working correctly.

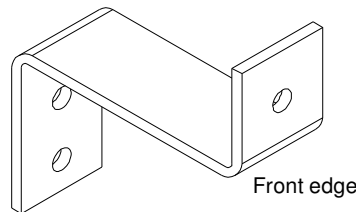
### 1. Unpacking the Equipment

- Inspect the shipping container for damage. If any damage can be seen, contact the carrier immediately.
- Carefully remove all equipment from its packing carton. **Do not** pry against the scoreboard in any way.

### 2. Scoreboard Mounting

**Note:** For scoreboards that are shipped in more than one section, doors on the back of the scoreboard provide access to cables that must be connected and routed between sections during installation.

- Refer to installation prints for mounting method, mounting centers, power service location, and cable routings.
- A wide flanged steel support system recommended by Nevco on the installation print, can tolerate a nominal 90-mph wind loading. This may not be adequate for some locales. Nevco strongly encourages you to check local codes before beginning the installation. You may wish to contact a local engineer, architect, or sign installer for assistance. Your Nevco Sales Representative may be able to assist you in finding professional installers who are familiar with this type of equipment.



**S Bracket**

- Before mounting the supplied **S** brackets to the beams, measure the slot locations on the scoreboard. Manufacturing tolerances, temperatures and other variables may affect the actual slot location.
- Mount an **S** bracket to each beam where the bottom edge of the scoreboard will rest with two 5/8” bolts.
- After the bottom **S** brackets are secured, position the scoreboard by aligning the holes in the front edge of the **S** brackets with the 1-1/2-in. x 11/16-in. slots on the face of the scoreboard.
- Install the top **S** brackets securely against the top of the scoreboard, aligning the **S** bracket holes with the scoreboard slots.
- When all **S** brackets are in place, insert a 5/8-in. bolt through the front of the **S** brackets, scoreboard, and wide flange beam. Secure the bolt with a flat washer and locking nut.

**Note:** A self-locking nut must be used to prevent loosening. Do not over-tighten this bolt.

Always use good mechanical practices when mounting the scoreboard:

- The distance between the mounting posts must be maintained within a tolerance of  $\pm 0.5$  in. so that the mounting devices can be properly secured.
- Use only plated fastening devices to prevent rust or corrosion.

## Assembling Sectional Scoreboard

**For scoreboards with multiple bottom sections**, slide the pieces together aligning the pre-drilled holes. Fasten sections with the sheet metal screws provided.

**Note:** The screws are shipped in the accessory package with the **S** brackets.

Position the top section(s) in place above the bottom section(s). Fasten sections with the sheet metal screws provided.

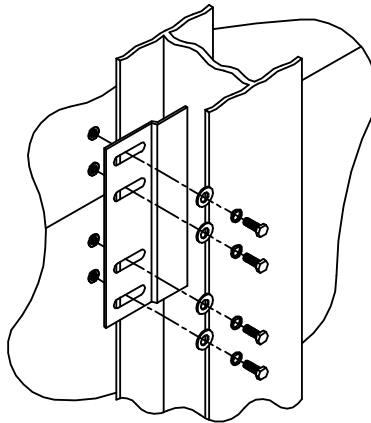
Locate and remove the access doors on the back of the scoreboard. Make sure all cables are connected as necessary at cabinet joints.

Check all electronic devices for loose connectors. See Installation Print for detail.

## J-TYPE MOUNTING BRACKET

Use the included **J**-type mounting brackets to secure the scoreboard to the posts at the section joints.

**Note:** These mounting brackets should be used on the section joints, even if you do not use the posts that Nevco specifies.



## Rain Tight Enclosure Box

**For scoreboards that will be operated wirelessly**, a rain tight enclosure box must be mounted on one of the posts holding the scoreboard. This rain tight box houses the wireless receiver and must be mounted on the same side of the post as the scoreboard (facing the operator's control) and must have power supplied to it (See drawing).

### 3. Electrical Connections

- Refer to installation prints for illustration of electrical connections.

#### *Power Service*

- *This sign is intended to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.*
- Consult *table 1* for power requirements for your scoreboard model. Provide for a 40% safety factor to guard against tripping of the circuit breaker under low line conditions.
- Be sure to include any lighted signs, and message centers when sizing the supply wiring necessary to support the circuit load.
- A disconnect switch should be lockable or within sight of the sign per NEC article 600.
- Two holes in the back of the scoreboard provide an entrance point for the power and the coax signal cable. These holes are plugged at the factory and you may make your own entry points if desired; take care not to drill into or damage any of the internal components of the scoreboard. A removable panel on the front of the scoreboard opposite the holes in the back allows access to an Electrical Enclosure box. Remove the front of the Electrical Enclosure box to gain access to the power splice box where the scoreboard power connections are made. The coax signal cable terminates on a BNC connector on the bottom of the Electrical Enclosure box.
- The rain tight enclosure box, mounted on one of the scoreboard posts, houses the receiver in a wireless scoreboard system and will need power to it. See drawings for more details.
- Electronic Team Names, if present, require separate power to be run to them. In the case of multi-section scoreboards, power must be run to Home and Guest. Power entrance labels on the back of the scoreboard identify the default locations.

| Model # | Current @ 120V | Current @ 240V | With ETN @ 120V | With ETN @ 240V |
|---------|----------------|----------------|-----------------|-----------------|
| 1500    | 0.7 A          | 0.4 A          | 1.2 A           | 0.6 A           |
| 1503    | 5.1 A          | 2.6 A          | 5.8 A           | 2.9 A           |
| 1506    | 3.1 A          | 1.6 A          | 3.8 A           | 1.9 A           |
| 1508    | 2.0 A          | 1.0 A          | 2.5 A           | 1.3 A           |
| 1510    | 0.7 A          | 0.4 A          | N/A             | N/A             |
| 1515    | 1.3 A          | 0.6 A          | 1.8 A           | 0.9 A           |
| 1520    | 0.9 A          | 0.4 A          | N/A             | N/A             |
| 1525    | 1.0 A          | 0.5 A          | N/A             | N/A             |
| 1530    | 2.2 A          | 1.1 A          | 2.9 A           | 1.5 A           |
| 1535    | 1.2 A          | 0.6 A          | 1.7 A           | 0.9 A           |
| 1550    | 0.4 A          | 0.2 A          | N/A             | N/A             |
| 3500    | 2.5 A          | 1.2 A          | 3.2 A           | 1.6 A           |
| 3502    | 1.3 A          | 0.7 A          | 1.8 A           | 0.9 A           |
| 3504    | 3.3 A          | 1.6 A          | 4.0 A           | 2.0 A           |
| 3514    | 2.8 A          | 1.4 A          | 3.5 A           | 1.8 A           |
| 3515    | 2.8 A          | 1.4 A          | 3.5 A           | 1.8 A           |
| 3516    | 4.7 A          | 2.3 A          | 6.1 A           | 3.1 A           |
| 3520    | 3.3 A          | 1.6 A          | 4.0 A           | 2.0 A           |
| 3525    | 2.7 A          | 1.4 A          | 3.4 A           | 1.7 A           |
| 3534    | 3.0 A          | 1.5 A          | 3.7 A           | 1.9 A           |
| 3550    | 0.8 A          | 0.4 A          | N/A             | N/A             |
| 3555    | 1.8 A          | 0.9 A          | 2.3 A           | 1.2 A           |
| 5525    | 2.8 A          | 1.4 A          | N/A             | N/A             |
| 7504    | 3.4 A          | 1.7 A          | 4.1 A           | 2.1 A           |
| 7505    | 4.3 A          | 2.2 A          | 5.0 A           | 2.5 A           |
| 7516    | 5.0 A          | 2.5 A          | 6.4 A           | 3.2 A           |
| 7520    | 3.4 A          | 1.7 A          | 4.1 A           | 2.1 A           |
| 7524    | 3.0 A          | 1.5 A          | 3.7 A           | 1.9 A           |
| 7525    | 4.0 A          | 2.0 A          | 4.7 A           | 2.4 A           |
| 7530    | 3.3 A          | 1.6 A          | 4.0 A           | 2.0 A           |
| 9505    | 0.4 A          | 0.2 A          | N/A             | N/A             |
| 9550    | 2.9 A          | 1.5 A          | 3.6 A           | 1.8 A           |
| 9560    | 1.6 A          | 0.8 A          | N/A             | N/A             |
| DGT5    | 0.6 A          | 0.3 A          | N/A             | N/A             |
| PSD     | 0.6 A          | 0.3 A          | N/A             | N/A             |

*Table 1*

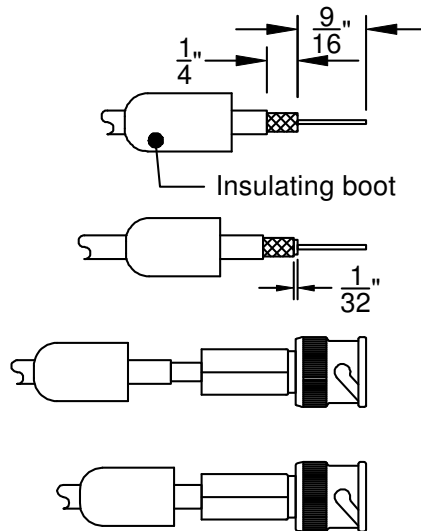
## 2-Wire Coax Cable (RG58/U)

All 2-WIRE cable ordered from Nevco is direct burial type. It has a minimum dielectric strength of 300V, and conforms to UL standard 1365.

If the wiring is buried above the freeze line, bury the cable with sand to provide drainage and prevent damage from shifting soil.

### Installing Cable Connectors

The 2-WIRE cable that comes with your scoreboard does not have connectors attached.

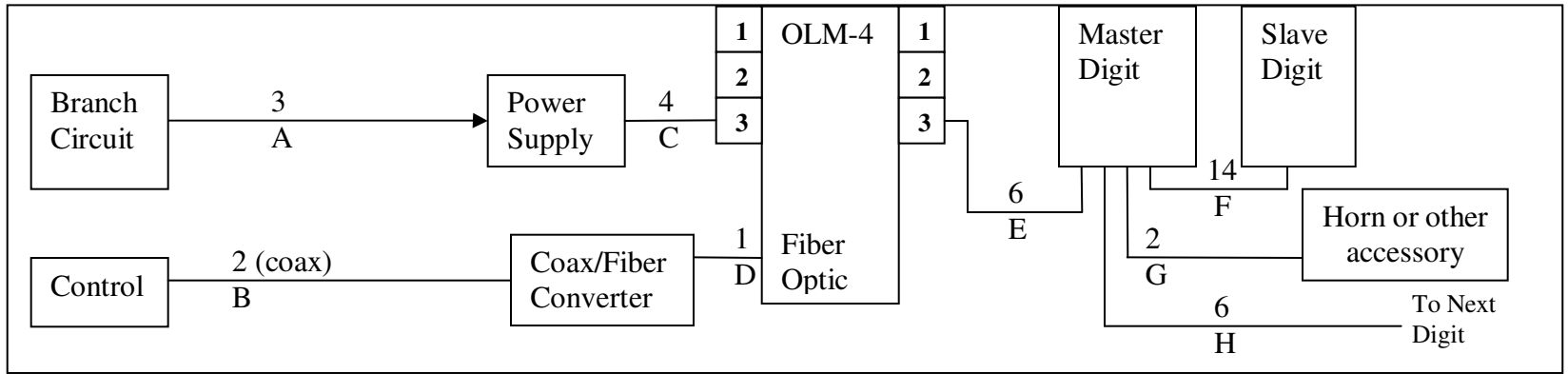


To install connectors on each end of the cable:

- ❑ Slide the insulating boot onto the cable and trim the cable as shown.
- ❑ Twist the outer braid in a **clockwise** direction so that at least 1/32 in. of the inner dielectric is bared and the braid is left flat. Be sure no strands of the outer braid are touching the center conductor.
- ❑ Insert the center conductor into the back of the connector, feeding it into the guide hole.
- ❑ Push the cable as far as possible into the connector.
- ❑ Screw the connector onto the cable in a clockwise direction until the connector stops turning.
- ❑ Slip the insulating boot over the back of the connector.

## WIRED INSTALLER'S TROUBLESHOOTING GUIDE

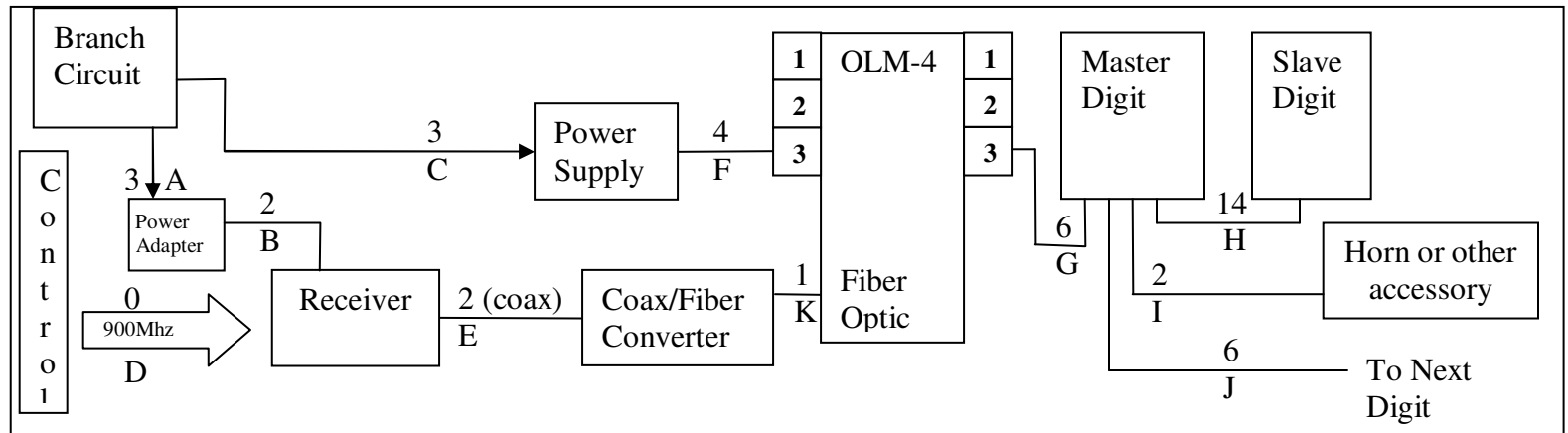
The figure to the right labels the connections made by the installer from A – H. The chart below lists the problem that can be identified should each connection be faulty. Check the control and service manual for more detailed information.



| Situation   | Symptom  | Connection   | Solution   |
|---|--|--|--|
| The Scoreboard has no digits illuminated              | The fans on the ALL power supplies are not running                                     | A  | Check branch circuit breaker, connections, and disconnect switch external to scoreboard  |
|   |  |  | Check connections in disconnect box (power hookup)   |
|   |  |  | Check Power Switch on disconnect box inside scoreboard   |
|   |  |  | Replace Power supply   |
|   | Unplug fiber optic from OLM-4 (blue connector); a red light is not seen inside the end | B  | Check Coax connections. Plug control directly into coax/fiber converter to eliminate buried coax cable. If that works, the cable run or terminations are bad. Try the 301 Model code, see control users manual on testing. |
|   |  |  | Replace coax/fiber converter.  |
|   |  |  | D  |
|   | OLM-4 display not illuminated  | C  | If only 1 power supply, cable must be plugged into port 3 to power OLM-4   |
|   |  |  | Check connections on cable   |
|   |  |  | Replace OLM-4  |
| OLM-4 left decimal place is OFF                       |  |  | Press Mode (leftmost) OLM button   |
| All of the above is not the case                      | E  | Check 6-pin connection to 1 <sup>st</sup> digit.                               |  |
|   |  | Reprogram and/or Replace 1 <sup>st</sup> digit driver card. See service manual |  |
| Some digits not illuminated, or non-working accessory | Only one digit   | F  | Check 14-pin connection on Driver card and 2-pin on segments   |
|   | Horn, colon, decimal, possession indicator, etc.                                       | G  | Check 2-pin connection on Driver card and on accessory   |
|   | More than one Digit, starts at one point in cabling                                    | H  | Check 6-pin connection from working driver card to next digit driver card  |

# Wireless Troubleshooting Guide

The figure to the right labels the connections made by the installer (A – E) and other internal connections (F – K) useful to troubleshooting. The chart below lists the problem that can be identified should each connection be faulty. Check the control and service manual for more detailed information.



| Situation   | Symptom  | Connection   | Solution   |  |
|---|--|--|--|--|
| The Scoreboard has no digits illuminated              | The fans on the ALL power supplies are not running   | C  | Check branch circuit breaker, connections, and disconnect switch external to scoreboard                    |  |
|   |  |  | Check connections in disconnect box (power hookup)   |  |
|   |  |  | Check Power Switch on disconnect box inside scoreboard   |  |
|   |  |  | Replace Power supply   |  |
|   | Receiver has No LEDs illuminated during first 5 seconds after power up   | A  | Check branch circuit breaker, connections, duplex receptacle, and disconnect switch external to scoreboard |  |
|   |  |  | If the duplex receptacle has power, but the adapter LED is OFF, replace adapter                            |  |
|   |  |  | Replace Receiver   |  |
|   | Receiver LED Not ON solid  | B  | Ensure DC plug is fully seated in receiver DC jack and making good connection                              |  |
|   |  |  | Replace Receiver   |  |
|   | OLM-4 left decimal place is ON solid or Unplug fiber optic from OLM-4 (blue connector); a red light is not seen inside the end | D  | Follow control troubleshooting procedures, wrong wireless group, etc.                                      |  |
|   |  |  | E  | Receiver should be in clear line of sight from control.  |
|   |  |  |  | Check Coax connections. Plug control directly into coax/fiber converter to eliminate buried coax cable. If that works, the cable run or terminations are bad. Try the 301 Model code, see control users manual on testing. |
| OLM-4 display not illuminated                         | K  | Replace coax/fiber converter.  |  |  |
|   |  | Ensure fiber optic link is not kinked and is seated well into plug             |  |  |
| OLM-4 left decimal place is OFF                       | F  | If only 1 power supply, cable must be plugged into port 3 to power OLM-4       |  |  |
|   |  | Check connections on cable   |  |  |
| All of the above is not the case                      | G  | Replace OLM-4  |  |  |
|   |  | Press Mode (leftmost) OLM button   |  |  |
| Some digits not illuminated, or non-working accessory | H  | Check 6-pin connection to 1 <sup>st</sup> digit.                               |  |  |
|   |  | Reprogram and/or Replace 1 <sup>st</sup> digit driver card. See service manual |  |  |
|   |  | Check 14-pin connection on Driver card and 2-pin on segments                   |  |  |
| Only one digit  | I  | Check 2-pin connection on Driver card and on accessory                         |  |  |
|   |  | Check 2-pin connection on Driver card and on accessory                         |  |  |
| More than one Digit, starts at one point in cabling   | J  | Check 6-pin connection from working driver card to next digit driver card      |  |  |



## **NEVCO SCOREBOARD COMPANY GUARANTEE**

**Scoreboards · Message Centers  
Video Displays**

Nevco scoreboards, marquees and message centers are guaranteed for a period of (5) years\* from the date of invoice against defects in workmanship or material and will be replaced or repaired without cost to the owner provided the equipment or parts (which includes LED segments) are returned postage-paid to the Nevco factory. Shipping back to the owner will be surface postage prepaid except if air or special method of return is specified, then shipping will be freight collect. Incandescent lamp bulbs are excluded from this guarantee. Nevco Scoreboard Company will pay no charges for time or materials used by others in making repairs or corrections. Guarantee shall be void if: any alteration or service, other than unplugging modules or controls, is performed without Nevco factory authorization; or if the equipment has been connected to incorrect power, or is improperly grounded or improperly installed. Equipment which is subjected to accident, neglect, abuse, misuse or other natural disasters, including but not limited to: fire, wind, lightning, flood is not covered by this guarantee.

\*Wireless components and the UltraScore portable scoreboard carry a two year guarantee.

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Orillia, ON L3V 7C1 Canada**

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Fax: 705-325-8891  
Website: [www.nevco.com](http://www.nevco.com)  
Email: [info@nevco.com](mailto:info@nevco.com)

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This class A digital apparatus meets all requirements of the Canadian Interference- Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouleur du Canada.

# Service Request

Scoreboard Serial # \_\_\_\_\_

Service: Module(s) Serial # \_\_\_\_\_

Service: Control(s) Serial # \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Parts Request

|    | Quantity | Part No. | Description |
|----|----------|----------|-------------|
| 1. | _____    | _____    | _____       |
| 2. | _____    | _____    | _____       |
| 3. | _____    | _____    | _____       |
| 4. | _____    | _____    | _____       |
| 5. | _____    | _____    | _____       |

# Contact, Shipping, and Billing Information

Person to Contact: \_\_\_\_\_ Phone # \_\_\_\_\_

E-Mail: \_\_\_\_\_

Ship To: \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Ship Via \_\_\_\_\_

Bill To: \_\_\_\_\_ Purchase Order # \_\_\_\_\_

P.O. Box # \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

We will contact you with the amount of your purchase before charging your account.

Charge To: \_\_\_\_\_  
Name exactly as it appears on credit card \_\_\_\_\_ Signature \_\_\_\_\_

Credit Card: American Express MasterCard VISA

\_\_\_\_\_  
Credit Card Account Number Expiration Date: \_\_\_\_/\_\_\_\_  
Month Year

Make a copy of this form to order parts needed and/or to return with item to be serviced.