

# **Nevco**

## **Indoor LED Scoreboard**

### **Installation Manual**



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

## 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

- ❑ Refer to installation prints for detailed dimensions and power requirements.
- ❑ For boards shipped in multiple sections:
  - Place the top section on the bottom section over-lapping the top face in front of the bottom face.
  - Open the “Period” door by removing two Phillips screws.
  - Locate the 3/8”-16 bolts shipped in the accessory package.
  - Install the three bolts through the inside of the top section into the threaded inserts located on the top of the bottom section using the 3/8” flat washers.
  - Tighten until the sections are fully seated together. *Over-tightening can damage the scoreboard.*
  - Pull the wires through the 2” grommet and connect to the ILM as labeled.
- ❑ 3/8”-16 threaded inserts are installed in the top of the board. A 3/8”-16 eyebolt can be threaded into the inserts to aid in lifting for mounting. The eyebolts can be removed after lifting or left in for a suspension mount.
- ❑ Mount the board securely using the pre-punched 1/2” holes in the top flange. For multi-section boards also secure the bottom flange.
- ❑ Alternate 1/2” holes may be drilled in the flange for flexible placement of the mounting hardware.
- ❑ Shot clocks do not have the mounting flange, but can alternatively be mounted by the use of an SBSK package.
- ❑ Always use good mechanical practices when mounting the scoreboard.

### 3. Electrical Connections

#### *Power Service*

- ❑ Consult the table on the installation print 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.
- ❑ The person performing the installation should be familiar with National and local electric codes.
- ❑ A standard IEC US grounded power cord is shipped with the board for attaching power.
- ❑ The power connection is low-profile to allow for flush mounting of signs and message centers.

#### *Signal Connections*

- ❑ Refer to wireless receiver installation prints for receiver mounting and connections.
- ❑ Connect the coax input to the BNC marked “Input”.
- ❑ A right angle BNC adapter can be used to allow for flush mounting of signs and message centers.
- ❑ The BNC marked “Output” can be used to drive other scoreboards sharing the same display data.

This allows scoreboards to be daisy-chained together, or the output can be used to supply signal to accessories such as a shot clock or end of period indicator. By adding a “T” connector at this location, two accessories can be connected at once with up to 1000<sup>ft.</sup> of coax each.

### 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.

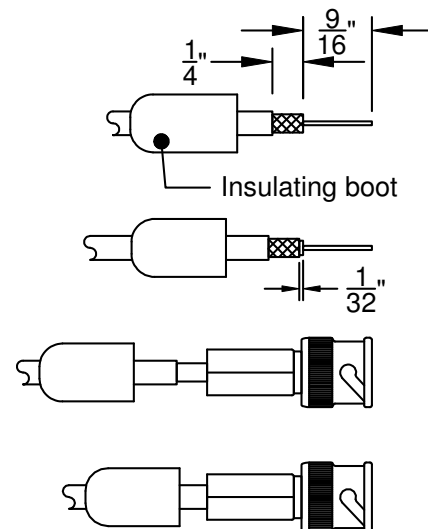
If the wiring is buried above the freeze line, bury the cable with sand to provide drainage and prevent damage from shifting soil.

#### **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.

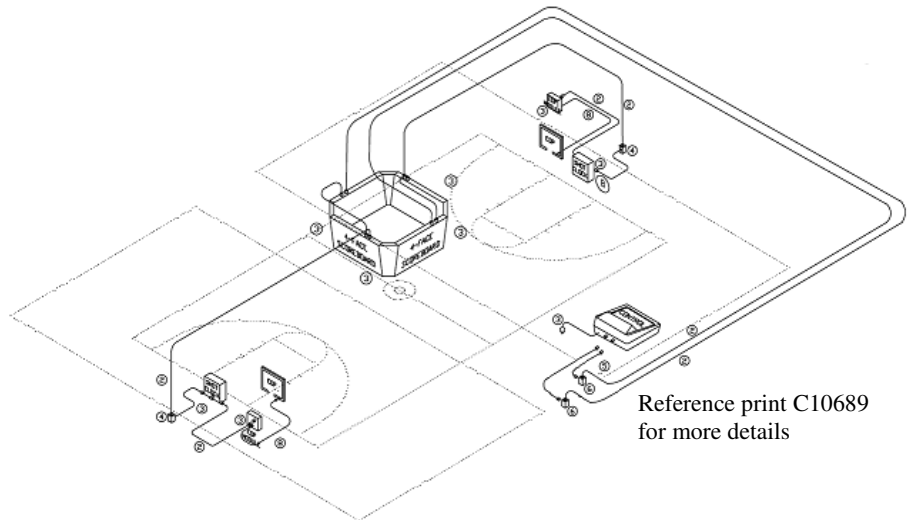


## 4. Scoreboard Systems

To install a system of scoreboard displays, controls and accessories follow these guidelines. Check the website Nevco.com or contact your local sales rep to obtain other system drawings.

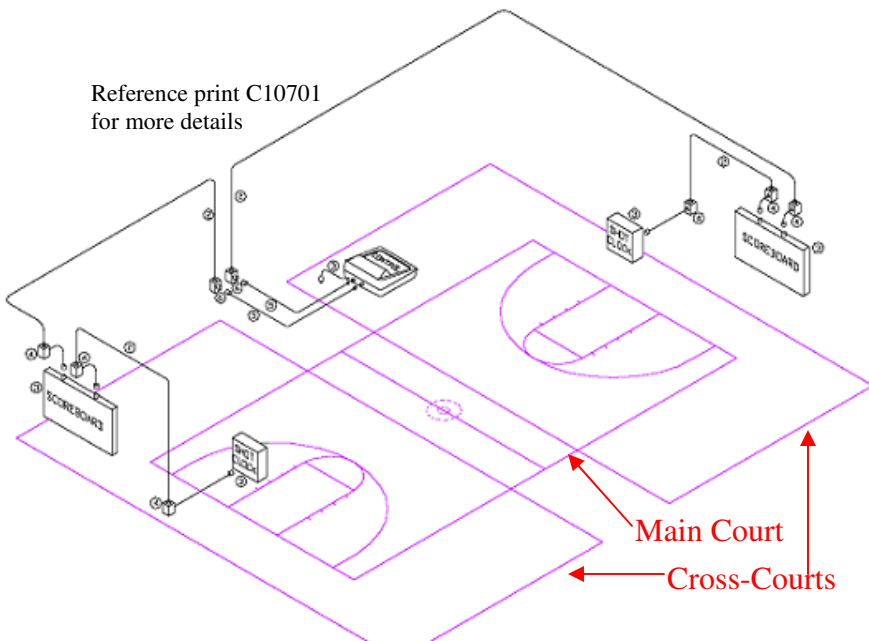
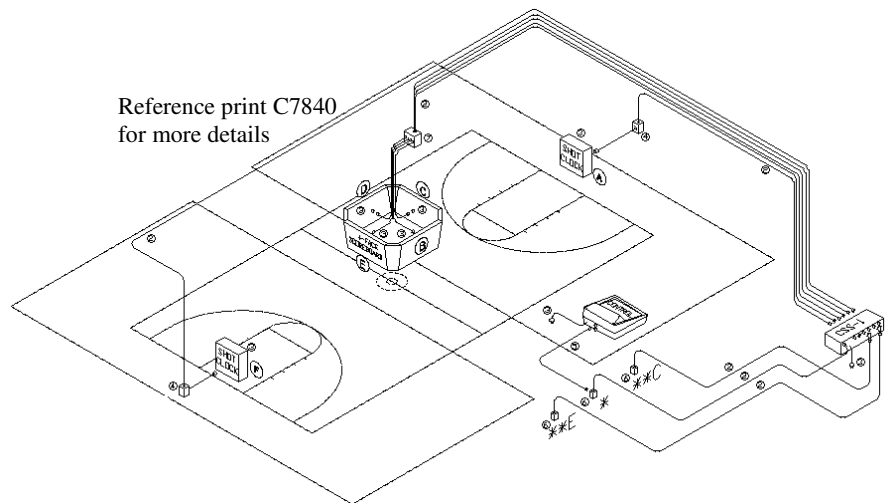
### *Daisy Chaining*

When all or “groups” of scoreboards in the facility are to operate together, installation time and costs can be saved by daisy chaining the coax cable from scoreboard to scoreboard. The diagram to the right shows this operation.



### *Independent Operation*

When the scoreboards are to be operated together, but at other times separated and operated independently, alternate control points or cable selection switch (CSS) units must be used. The diagram to the right shows this operation.



### *Mixed Operation*

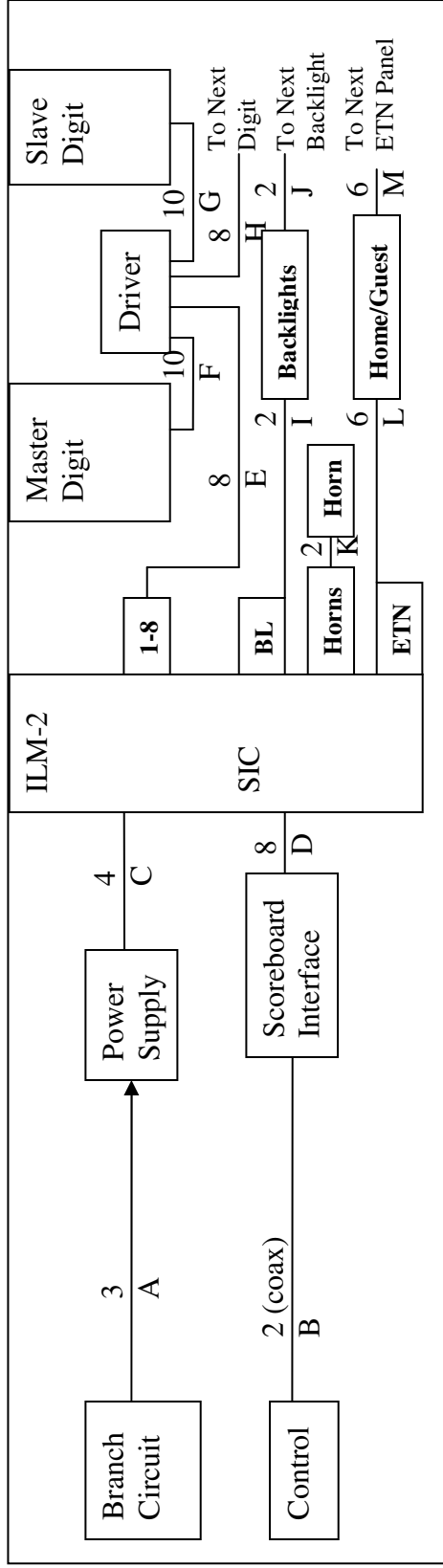
When independent operation is required, daisy chaining can still be used to save cost on installation. The diagram to the left shows this operation.

### *Wireless Operation*

Wireless systems provide the maximum flexibility by allowing the operator the ability to program groups of receivers. A single receiver can drive multiple displays. See manual for the wireless device for more information.

Plug a control into both jacks for Main Court “All-on” operation (shown) or plug two controls into each jack for independent cross-court operation (not shown).

## WIRED TROUBLESHOOTING GUIDE



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

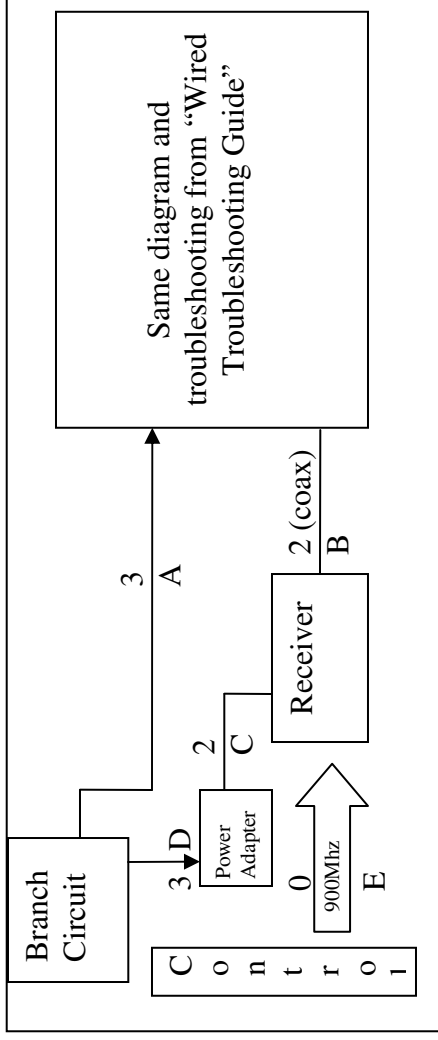
**NOTE:** The number that appears above a letter refers to the number of wires or conductors in the cable.

Situation	Symptom	Connection	Solution
The Scoreboard has no digits illuminated	When power is first applied the timer section does not rotate through a test pattern	A	Check branch circuit breaker and power connections
	When power is first applied the timer section rotates through a test pattern, but then the display goes out.	C	Check connection on ILM and power supply terminal screws
Some digits not illuminated, or non-working accessory	Only one digit	E	Check connection to first digit in timer section
	Horn	B	Check Coax connections. Plug control directly into the top of the board to eliminate installed coax cable. If that works, the cable run or terminations are bad. Try the 301 Model code, see control users manual on testing.
	Backlight channels	D	Check connections on inside of board at the SIC and at the ILM
	All or partial ETN's not working	F / G / H	Check 10-pin connection on Driver card and 2-pin on single segments
		K	Check 2-pin connection on ILM and at horn (2 horns ea.)
		I / J	Check 2-pin connection on ILM and at backlight. Check instructions to see if the backlights are supposed to be ON.
		L / M	Check 6-pin connection from ILM to ETN and between ETN panels

## Wireless Troubleshooting Guide

The figure to the right lists connections (A – E) useful to troubleshooting. The chart below lists the problem that can be identified should any connection be faulty. Check the control and service manual for more detailed information.

**NOTE:** The number that appears above a letter refers to the number of wires or conductors in the cable.



Situation	Symptom	Connection	Solution	
The Scoreboard has no digits illuminated	When power is first applied to the board the timer section does not rotate through a test pattern	A	Check branch circuit breaker and power connections	
	When power is first applied the timer section rotates through a test pattern, but then the display goes out.	Other	See “Wired Troubleshooting Guide”	
	Receiver has No LEDs illuminated during first 5 seconds after power up	B	Check Coax connections. Plug control directly into the top of the board. Try the 301 Model code, see control users manual on testing.	
	Receiver LED Not ON solid		A	Check branch circuit breaker and power connections
			D	If the duplex receptacle has power, but the adapter LED is OFF, replace adapter
Some digits not illuminated, or non-working accessory		C	Ensure DC plug is fully seated in receiver DC jack and making good connection	
			Replace Receiver	
		E	Follow control troubleshooting procedures, wrong wireless group, etc. Receiver should be in clear line of sight from control.	
	See “Wired Troubleshooting Guide”	Other	See “Wired Troubleshooting Guide”	



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## NEVCO GUARANTEE

To view or receive the most recent copy of the Guarantee, please visit our website, [www.nevco.com](http://www.nevco.com) or call 1-618-664-0360

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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 brouiller du Canada.