

Integrated Wireless Mini Scoreboards

for Team Sports

2.4 GHz Wireless



User Guide



Manufacturer:

Everlast Climbing Industries, Inc.
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Product Identification

Product: Multisport Mini Scoreboards
Model Numbers: MS-0055 through MS-0080

Power Specification

150W power supply: 100-240V, 50/60Hz, max 2A

Information in this manual is subject to change without notice. Pictures and illustrations may not accurately depict your version. Please check our website for the most current information; our user manuals are available online in the customer service section of our website.

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Product Overview

Integrated Wireless Mini Scoreboards for Team Sports (2.4 GHz wireless) display score, period, game time and shot clock time, making them suitable for a variety of sports.

Some versions run from AC power only, and do not have batteries. Other versions have batteries, battery charging circuits and battery charging indicators. The scoreboards can be mounted to the wall or to a variety of moveable structures which can be ordered separately from Colorado Time Systems.

The unit is controlled by a certified radio with an internal patch antenna which is protected from damage. They can also be controlled with wired data from CTS sports consoles. The clocks feature an indoor/outdoor metal enclosure and plastic weather covers over the digits.

An optional external horn serves multiple functions (e.g., both game horn and shot clock horn), with different sounds for each function. The horn sounds can be customized with different tones and volumes through the tabletop controller.

Installation

Setting Module, Channel and PAN

In order to receive wireless data, a scoreboard must be set to the same Channel and PAN as the controller or wireless scoreboard adapter that is sending it data. Additionally, if using a controller, the scoreboard's Module number must be selected as active in the appropriate menu of the controller (see controller manual for more information). If two or more scoreboards are set to have the same Channel, PAN, and Module, those scoreboards will show the same data. If two controllers are set to the same Channel, PAN, and Module, erroneous data will be displayed on the scoreboard(s).

If you have more than one scoreboard and are using the tabletop controller, map out your scoreboard strategy, and set the channel, PAN and module for each board accordingly. For expanded examples of how to do this, refer to our website www.coloradotime.com.

The default factory settings are Channel 4, PAN 0 and Module Address 1.

To set the scoreboard's module, channel and PAN:

Tools needed: Philips screwdriver

1. Make certain the unit is turned off and disconnected from AC power. You will be removing several items from your scoreboard. Keep them in a safe place for re-installation.

2. Unscrew the three screws from one end of the scoreboard – it does not matter whether you choose the left end of the board or the right end.
3. Remove the end bracket.
4. Slide the weather cover out of the scoreboard.



Note: When removing digits, do not grasp them by the LEDs; instead reach under the edge of the digit and pull up gently.

5. The circuit board is in the lower right of the scoreboard, as shown. Unscrew the digit over this location (typically the rightmost digit on the bottom row of digits) and lift it from the rail. Carefully lean the digit against the enclosure. Leave the other end of its cable connected to the scoreboard.
6. Set the module, channel and PAN using the dip switches on the circuit board immediately behind the digit you removed:



DIP switch settings (Off = 0, On = 1)

Module: Switches 1-5 of S1. 01 to 1E are valid.

| | | | | |
|-----------|-----|---------------|---------------|-----------------------------------|
| 1 0 0 0 0 | 0 1 | 0 0 0 1 0 8 | 0 0 0 0 1 1 0 | 0 0 0 1 1 1 8 |
| 0 1 0 0 0 | 0 2 | 0 1 0 1 0 0 A | 0 1 0 0 1 1 2 | 0 1 0 1 1 1 A |
| 1 1 0 0 0 | 0 3 | 1 1 0 1 0 0 B | 1 1 0 0 1 1 3 | 1 1 0 1 1 1 B |
| 0 0 1 0 0 | 0 4 | 0 0 1 1 0 0 C | 0 0 1 0 1 1 4 | 0 0 1 1 1 1 C |
| 1 0 1 0 0 | 0 5 | 1 0 1 1 0 0 D | 1 0 1 0 1 1 5 | 1 0 1 1 1 1 D |
| 0 1 1 0 0 | 0 6 | 0 1 1 1 0 0 E | 0 1 1 0 1 1 6 | 0 1 1 1 1 1 E |
| 1 1 1 0 0 | 0 7 | 1 1 1 1 0 0 F | 1 1 1 0 1 1 7 | 1 1 1 1 1 1 F (this is test mode) |

NOTE: switches 6-8 of S1, next to the Module switches, should not be changed.

Doing so will cause the display to cease functioning properly.

Channels: Switches 1-4 of S2. 0 to 11 are valid

PAN ID: Switches 5-8 of S2. 0 to 15 are valid

| | | | |
|-----------|-----------|------------|------------|
| 0 0 0 0 0 | 0 0 1 0 4 | 0 0 0 1 8 | 0 0 1 1 12 |
| 1 0 0 0 1 | 1 0 1 0 5 | 1 0 0 1 9 | 1 0 1 1 13 |
| 0 1 0 0 2 | 0 1 1 0 6 | 0 1 0 1 10 | 0 1 1 1 14 |
| 1 1 0 0 3 | 1 1 1 0 7 | 1 1 0 1 11 | 1 1 1 1 15 |

7. Reattach the digit and replace the weather cover and end bracket.

Horn

A horn is available separately. Mount it on top of the scoreboard near the left (as you face the board) in the four mounting holes, using the hardware that came with your horn. The washer goes between the screw head and the horn. Swivel the horn forwards and backwards to gain easier access to the screw holes. Plug the horn cable into the horn jacks on the left end of the scoreboard.



Mounting Options

The Multisport Mini Scoreboards are designed with a variety of mounting options. Please go to the section for the mounting option you are using.

Short Legs

Tools needed: adjustable wrench or 7/16" nut driver

The short legs kit includes legs and hardware to attach them. Attach the legs with the hardware included to the threaded mounting holes in the bottom of the scoreboard.

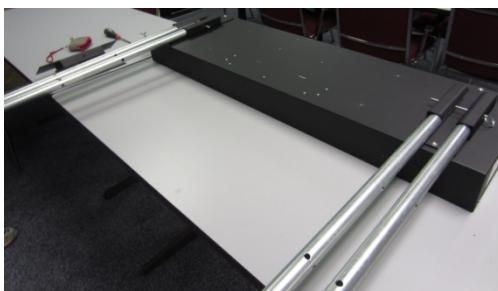
Stands

If you purchased a stand kit for your mini scoreboard, attach it as follows. All the parts you need, as well as the 4mm hex wrench, are included with your stand kit.

1. Attach the brackets to the back of the scoreboards with the M6x12 button-head cap screws and the split washers. The washer goes between the screw and the bracket. Tighten with the hex wrench.



2. Lay the scoreboard on a table and slide the pipe stands in so that on each side, one foot is facing the front of the board and one is facing the back, as shown. Insert the speed pins to hold the stands in place.
3. Turn the scoreboard right side up to rest on the stand.



DO NOT use stands in situations with high winds.

Caddy

If you purchased a caddy for your mini scoreboard, follow the instructions that came with the caddy to attach the scoreboard to the caddy.

Wall Mount

If you purchased a wall mount kit for your scoreboard, follow the instructions that came with it to mount the scoreboard. A copy is also available on our website.

Determine the location for the display. It is the owner's responsibility to choose a location where the wall composition or mounting structure can support the weight of the display, which is approximately 25 pounds (11.3 Kg). Installation must meet all national and local codes.

Scoreboard cables must be supported a minimum of every 6 feet when not in conduit. When conduit is used, the conduit must be secured every 3 feet at minimum.

Scoreboard cables must not be spliced in either indoor or outdoor applications. If using wired data make sure there are no sharp bends in the cable. A bend in RS-485 cables must have a minimum bend radius of 1.2" and a bend in RS-232 cables must have a minimum bend radius of 1.0".

Connect the wall-mounted scoreboard to standard outlet (120V or 230V) 9 feet from right end of display with the supplied power cord. The display is grounded through the power connection. For an outdoor installation, the receptacle must be outdoor-rated.

Operating Instructions

Controllers and Timers

The scoreboard can display data it receives from a tabletop controller, a handheld controller, or from a sports console such as the System 6.

Tabletop controller

Follow the instructions on the tabletop controller quick reference sheet to set the tabletop controller to the same channel, PAN and module as the scoreboard(s) you want to control with it.

You can also set the scoreboard's intensity with the tabletop controller.

Follow the instructions on the quick reference sheet for the specific sport you are displaying.

Handheld controller

Follow the instructions in the handheld controller manual to set the handheld controller to the same channel, PAN and module as the scoreboard you want to control with it. Then follow the instructions for sending data to the scoreboard.

Sports Timer

The mini scoreboard can display Water Polo data from a CTS System 6 or System 5 sports timer. You can also set the scoreboard's intensity with the System 6.

For information to display correctly on the mini scoreboard, four of the sports timer's scoreboard channels **must** be set to the factory default scoreboard channels.

Specifically:

Channel 1 displayed on Module 1

Channel 2 displayed on Module 3

Channel 5 displayed on Module 0D

Channel 12 displayed on Module 5 (only applies to System 6; not available on System 5)

You can easily set all scoreboard channels to the factory defaults through the Scoreboard menu, Define Module submenu, by choosing Default Scbds. Refer to your System 6 or System 5 Water Polo manual for more information.

On a System 6, also go to the Game Setups menu, Scoreboard Time Display submenu, and choose "Don't Show Running Tents" instead of "Show Running Tents."

Connect your Sports Console to the scoreboard in one of two ways:

1. Directly with data cables (R-xxDC)
2. Connect the Sports Console to a 2.4 GHz wireless adapter (WA-2) and follow the instructions in the WA-2 user manual to set it to the same channel and PAN as the scoreboard(s) you want to control. Be sure to set the dip switch for Sports Console to Multisport Scoreboard.

Synchronizing Time of Day

To set multiple scoreboards to the same time, they must be set to the same channel and PAN (See page 1).

Designating Leader/Follower with WTTC, WA-3 or WA-2

1. Connect a WTTC, WA-3 or WA-2 to your computer using a USB cable.
2. Make sure the Channel and PAN are set to match your scoreboards
 - a. WA-3 or WA-2: use the dipswitches on the device
 - b. WTTC: use the on-screen menu. After checking /setting the Channel and PAN and saving any changes, turn the unit off and then on again and leave it at the Sport Selection menu.
3. From your computer, open the MultiSport Firmware Reprogramming tool.
 - a. If you do not have this tool, download it from the CTS website at <https://www.coloradotime.com/support-overview/installation-methods>. Choose the MultiSport tab and download MultiSport Display Firmware.
4. Click “Scan for Devices”
5. Select your attached WTTC or WA-3/WA-2 (WA-3 will be listed as WA2)
6. Click “Get Sub-Devices”
7. Select the scoreboard you wish to set as leader.
 - a. Click the “Enable (as Leader)” button at the bottom of the screen.
 - b. The scoreboard will display **LEAD** for a few seconds
8. One by one, select the scoreboards you wish to set as follower.
 - a. Click the “Enable (as Follower)” button at the bottom of the screen.
 - b. The scoreboard will display **FOLL** for a few seconds
9. Close the software and disconnect your WTTC, WA-3 or WA-2.

Setting Time of Day and Changing Channel with Wireless Tabletop Controller (WTTC)

For tabletop controller (WTTC), enter any sport and press the Menu button. Select “Set Time”. Time of Day from WTTC will override the time on the leader and all follower clocks and scoreboards.

To change the channel and PAN, select “Scoreboard Options” in the Menu. When finished, press Clear to exit the menu.

Setting Time of Day and Changing Channel with Wireless Handheld Controller (WHC)

For handheld controller (WHC), enter the Menu and select “Time of Day”. Time of Day from WHC will override the time on the leader and all follower clocks and scoreboards.

To change the channel and PAN, select “Connections”

Time of Day from a Sports Console (Gen 7, System 6, System 5)

Gen7 timers will receive time of day from the attached laptop and transmit that time to leader clocks(scoreboards) that are turned on and on the same channel and PAN. You can also manually send time of day from the scoreboard settings screen. The leader will update the followers.

System 6 and System 5 sports consoles will send time of day to leader clocks(scoreboards) connected to them via RS-232 or wirelessly from WA-3/WA-2 on the same channel and PAN. The leader will then update the followers.

Batteries

When used indoors and away from water, the mini scoreboard can be run either on AC power or on batteries if the unit has them.

When used outdoors or near a pool deck or other water, the mini scoreboard must be run from battery power only. Fully charged batteries will run the scoreboard for about 8 hours at full intensity; longer when the digit intensity is lower.

If the batteries are discharged too far, the scoreboard will automatically shut down to prevent immediate damage. Running on low voltages greatly stresses lead acid batteries and shortens their functional life.

You can extend the life of the batteries by recharging them for a minimum of 12 hours immediately after each use and by making sure that the scoreboard is switched off when not in use. To recharge your batteries, simply plug the scoreboard in to AC power. The scoreboard should only be charged indoors and away from water. The battery indicator on the right end of the scoreboard will glow green while the batteries are charging. When the batteries are fully charged, the scoreboard goes to trickle charge to keep them full.

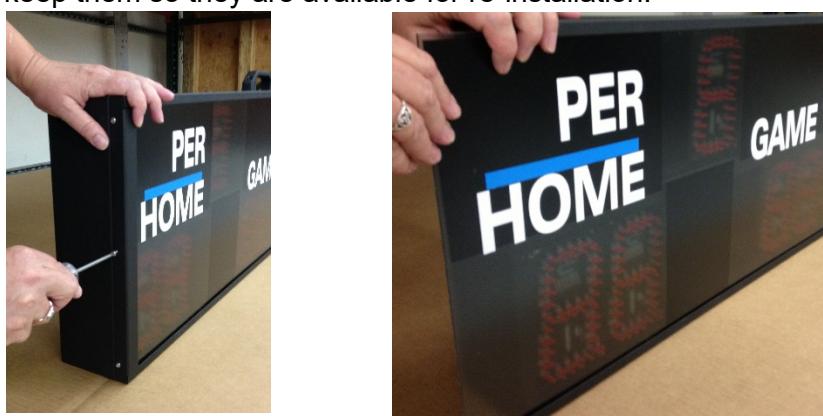
Battery replacement

Eventually, your batteries will fail to hold a charge and will need to be replaced. Batteries can only be replaced with Powersonic PS1270 UL recognized (MH20845) gel cell batteries. These scoreboards take 2 batteries, which should both be replaced at the same time. These are available from Colorado Time Systems (part number R-420-003).

Tools needed: 3/8" nut driver
Phillips screwdriver

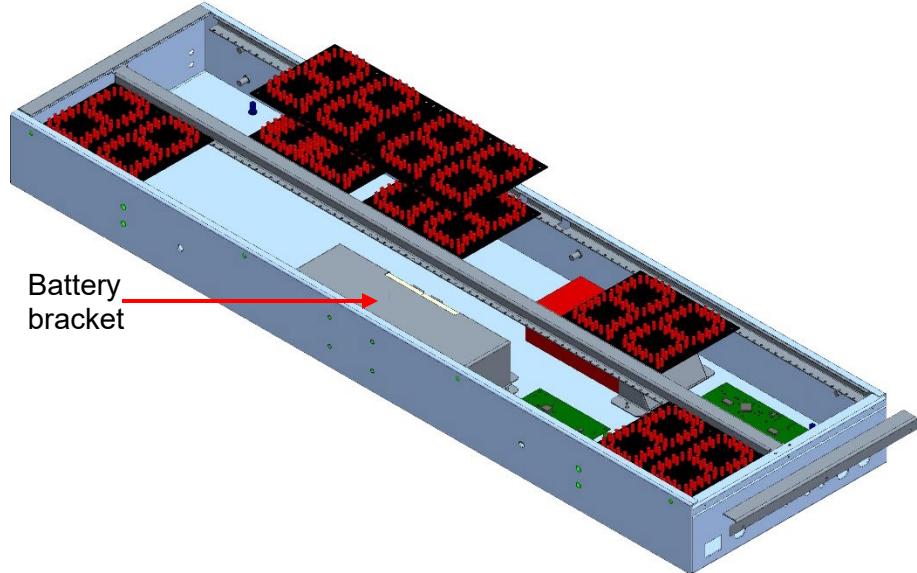
IMPORTANT! Turn off the scoreboard and disconnect it from AC power.

1. You will be removing several items from your scoreboard. Find a safe place to keep them so they are available for re-installation.

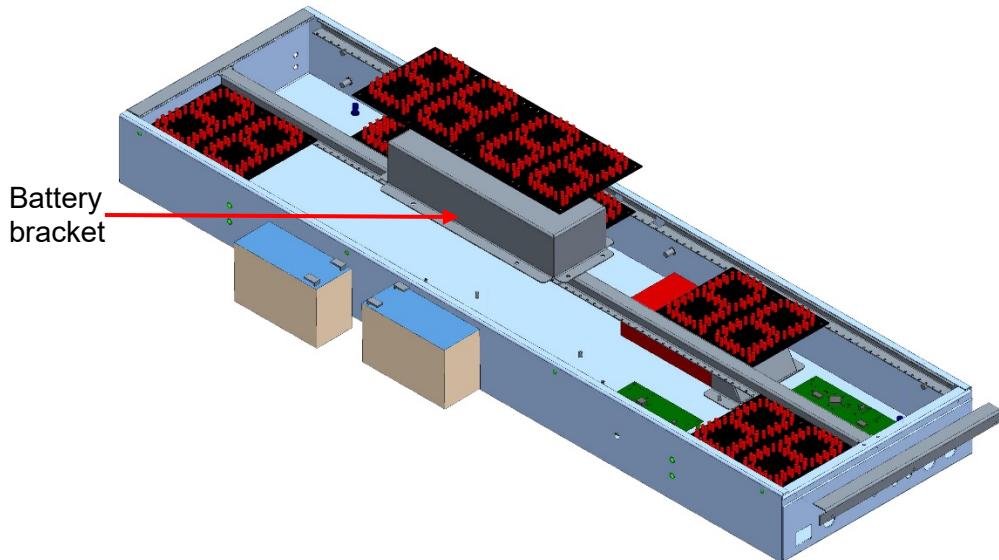


2. Remove the three screws holding the end bracket from one end of the scoreboard. It does not matter which end you choose.
3. Remove the end bracket.
4. Slide the weather cover out of the scoreboard.

5. Remove the screws securing the four center digits and colon.
6. Remove the four center digits and colon to reveal the batteries. When removing digits, do not grasp them by the LEDs; instead reach under the edge of the digit and pull up gently. Leaving the digits connected to the scoreboard, carefully lean the digit against the enclosure.



7. Remove the eight kepnuts that are holding the battery bracket in place.
8. Unhook the battery terminals, ensuring the connections do not touch each other.
9. Remove the batteries.



10. Put the new batteries in place, connecting the red wire to the positive red terminal, the black wire to the negative black terminal on each battery. DO NOT cross these wires or allow them to touch each other.
11. Put the battery bracket back into place, replace and tighten the kepnuts.
12. Replace the digits, weather cover and end cap.

Standards followed

UL 48

Issue:2011/09/02 Ed:15 Rev:2012/05/04 UL Standard for Safety Electric Signs

CAN/CSA C22.2#207

Issue:1989/01/01 Portable and Stationary Electric Signs and Displays General Instruction No 1: 1989/10/01 - (R2008)

FCC 47CFR 15B cIB

Issued: 2015/10/01 Title 47 CFR Part 15 Subpart B Unintentional Radiators Class A Verification

ICES 003

Issue:2004/01/01 Issue No.4 Interference-Causing Equipment Standard, Digital Apparatus



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