

Deck Clock

User Guide



**Colorado
TIME SYSTEMS**

A **PLAYCORE** Company

F985 Rev. 202007

Manufacturer:

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Product Identification

Product: Multisport Deck Clock
Model Numbers: MS-0043, MS-0044, MS-0045

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

Deck clocks feature a sturdy, ruggedized polyethylene indoor/outdoor enclosure that is water and sun resistant, and corrosion free. The portable clocks have batteries, battery charging circuits and battery charging indicators. An ambient light sensor detects external light and shadows and adjusts the brightness of the digits for optimal intensity. The built-in handle allows for easy carrying from point to point. The clocks are cleverly designed to prevent tipping.

When wirelessly controlled, the unit is controlled by a certified radio with an internal antenna which is protected from damage. Deck clocks can receive scoreboard data from a wireless tabletop controller, a wireless handheld controller, or a sports timer (System 6 or System 5) running Water Polo. When they receive scoreboard data, deck clocks display game time on the 5-inch digits and shot time on the 10-inch digits. When they are not receiving scoreboard data, they display time of day (hours and minutes on the 5-inch digits, and seconds on the 10-inch digits). In time of day mode, they make excellent pace clocks, automatically synchronizing wirelessly with each other and CTS's slim pace clocks and scoreboards set to the same channel and PAN ID.

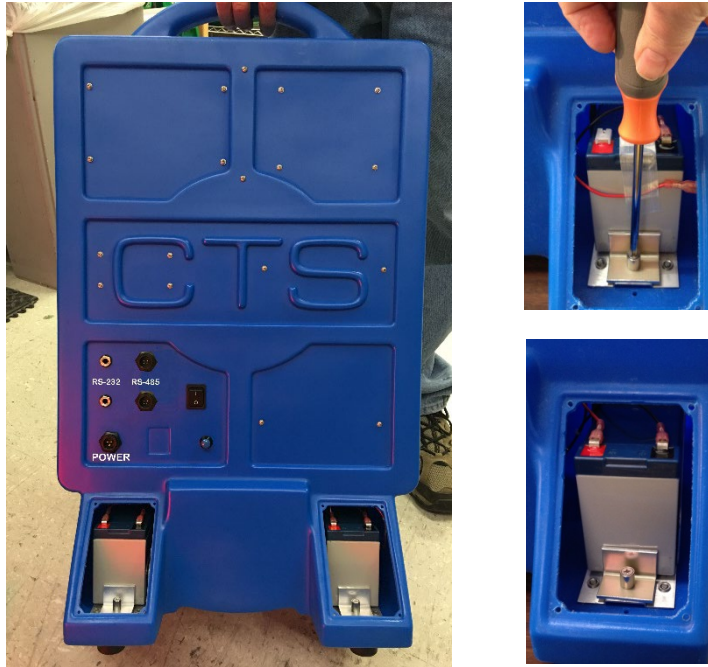
The internal, protected horn creates multiple customizable sounds with different tones and volumes selectable through the tabletop controller. This allows the same physical horn to serve multiple functions (e.g., both game horn and shot clock horn) and have different sounds for each function.

Prior to First Use

Deck clocks are shipped with the batteries disconnected. Before using the clock, connect and charge the batteries.

Tool required: #2 Phillips head screwdriver

1. Make sure the deck clock is disconnected from AC power and that the power switch is turned off.



2. With clock standing on its feet, remove the screws from the battery covers using a Phillips head screwdriver. Remove the battery covers and place them and the screws in a safe place.
 3. Start with either of the clock's feet. Unscrew the retaining bracket and remove it.
 4. Slide the battery out slightly. Remove the tape holding the red battery cable. Remove the small plastic cover over the red battery terminal.
 5. Connect the red battery cable to the red terminal. Discard the tape and the plastic terminal cover.
 6. Slide the battery back in, and secure it in place with the retaining bracket. Replace the battery cover.
 7. Repeat steps 3-6 for second battery.
 8. Plug clock in to AC power for at least 8 hours to fully charge the batteries.
- Keep the clock plugged into AC power during storage.

Operating Instructions

In order to receive data from a wireless controller, a clock must be set to the same Channel and PAN as the controller. Additionally, the clock'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 clocks/scoreboards are set to have the same Channel, PAN, and Module, they will show the same data. If two controllers are set to the same Channel, PAN, and Module, erroneous data will be displayed on the clock(s)/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 module, channel and PAN, use the clock's push button, as described below. You can also set them by changing the switch settings on the clock's control board, as described on page 7.

Synchronizing clocks

To set multiple clocks to the same time, they must be set to the same channel and PAN (see below).

Initial Set Up

1. Choose a centrally located clock or scoreboard to designate as Leader
2. Configure Leader and set time
3. Designate all other clocks as Follower
4. Do not set more than one clock as leader; if you do, follower clocks will not behave correctly.

Configuring

Hold the push button for 2 seconds and release to cause the clock to enter the menu. The clock enters Menu 1, as described below. Once in the menu, hold the button for one second to advance to the next menu item. If you continue to hold, the clock will step through the menu options every second. Release the button when you are in the menu option you wish to set.

Menu 1: Leader or Follower

Displays FOLL and alternates to Lead with each button click. When the choice you want is displayed, press and hold the button for one second to advance to the next menu.

Once a clock is designated Leader, the next three menus allow you to set 12 or 24 hour clock format, hours and minutes. Clocks that are designated as Followers do not have these options.

Menu 2: 12 or 24 hour clock format

Displays __ 12 and alternates to __ 24 with each button click. This must be set individually for each clock. When the choice you want is displayed, press and hold the button for one second to advance to the next menu.

Menu 3: Hours

With each button click the clock will increment through the hours 1-12 or 1-24, depending on the previous menu setting. For the 12 hour format, at 12 the decimal of the fourth digit from the left will light or go out. Lit indicates p.m. and unlit indicates a.m. When the choice you want is displayed, press and hold the button for one second to advance to the next menu.

Menu 4: Minutes

Displays __:28. Each click increments by one minute. When the choice you want is displayed, press and hold the button for one second to advance to the next menu.

To change their time, turn all of the clocks on, and set the time on the Leader clock. As soon as time is changed on that clock and you have exited the menu, it will send the selected settings to the Follower clocks.

Setting intensity, channel, PAN and module address

Other settings including intensity (brightness of the digits), channel, address and PAN must be set individually for each clock to accommodate clocks in different environments (shade and sun, for example).

Menu 5: Time shifting

Set the four smaller digits on the top row of the clock to display hours and minutes or minutes and seconds. With each button click, displays HH:__ and alternates to __:SS (which looks like __:55). HH will display hours and minutes (HH:MM) with seconds displayed on the two larger digits. MM will display minutes and seconds (MM:SS) with the two larger digits blank. This must be set individually for each clock. When the choice you want is displayed, press and hold the button for one second to advance to the next menu.

Menu 6: Digit intensity

Displays _int. Intensity switches from low to medium to high to AL (ambient light) with each button click. This must be set individually for each clock. When the choice you want is displayed, press and hold the button for one second to advance to the next menu.

Menu 7: Set Channel

C and the channel number are displayed; 0 – 11 are available. Advancing past 11 will show "--" which indicates that the wireless is turned off. Advance one more to 0. This must be set individually for each clock. When the choice you want is displayed, press and hold the button for one second to advance to the next menu.

Menu 8: Set PAN

P and the PAN are displayed; 0 – 15 are available. Advancing past 15 will cycle around to 0. This must be set individually for each clock. When the choice you want is displayed, press and hold the button for one second to advance to the next menu.

Menu 9: Set Module (Address)

A and the module address are displayed; 1 – 6 are available. Advancing past 6 will cycle around to 0. This must be set individually for each clock. When the choice you want is displayed, press and hold the button for one second to exit the menu.

Exit the menu holding the push button for one second after the module address is set. The clock will display the time of day that you have set. The settings you have chosen are not saved until you exit the menu.

Batteries

When used indoors and away from water, the clock can be run either on battery or AC power.

When used outdoors or near a pool deck or other water, the clock must be run from battery power only.

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.

Recharge batteries for a minimum of 8 hours immediately after each use and make sure that the clock is switched off when not in use. To recharge your batteries, simply plug the clock in to AC power. The clock should only be charged indoors and away from water. The battery indicators will glow green while the batteries are charging. When the batteries are fully charged, the clock goes to trickle charge to keep them full. **You can extend the life of the batteries by keeping the clock plugged in while in storage.**

Displaying Data on the Clock

The clock can display data it receives from a tabletop controller, a handheld controller, or from a sports console such as the System 6. It can also display time of day, synchronized with other scoreboards and clocks set to the same wireless channel and PAN.

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 turn off the ambient light sensor and set a specific intensity on the clock with the tabletop controller.

The clock will display game time and shot time as sent from the 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 clock you want to control with it. The clock will display game time and shot time as sent from the controller. Follow the general instructions for all sports.

Sports Timer

The deck clock can display game time and shot time from a CTS System 6 or System 5 sports timer running Water Polo. You can also turn off the ambient light sensor and set a specific intensity on the clock with the System 6.

For information to display correctly on the deck clock, two 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

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.

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

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.

Gen7 Timer

Follow the instructions in the Gen7 Swimming user manual to set the Gen7 timer to the same channel, and PAN as the clock(s) and scoreboard(s) you want to control with it. The clock will display time of day as sent from the Gen7 timer.

Changing Module, Channel and PAN at the control board

The most convenient way to change the clock's module, channel and PAN is with the push button (see page 4). You can also change them by changing the switch settings on the clock's control board, as described here.

1. Make certain the unit is disconnected from AC power.
2. Remove the 9 screws from the weather cover with a Phillips head screwdriver. Remove the weather cover, and set it and the screws in a safe place.
3. Remove the large digit on the left. Using a Phillips head screwdriver, unscrew the retaining screws and set them in a safe place. Carefully lean the digit against the enclosure.
4. 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.

00010	08	00001	10	00011	18		
10000	01	10010	09	10001	11	10011	19
01000	02	01010	0A	01001	12	01011	1A
11000	03	11010	0B	11001	13	11011	1B
00100	04	00110	0C	00101	14	00111	1C
10100	05	10110	0D	10101	15	10111	1D
01100	06	01110	0E	01101	16	01111	1E
11100	07	11110	0F	11101	17	11111	1F (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

0000	0	0010	4	0001	8	0011	12
1000	1	1010	5	1001	9	1011	13
0100	2	0110	6	0101	10	0111	14
1100	3	1110	7	1101	11	1111	15

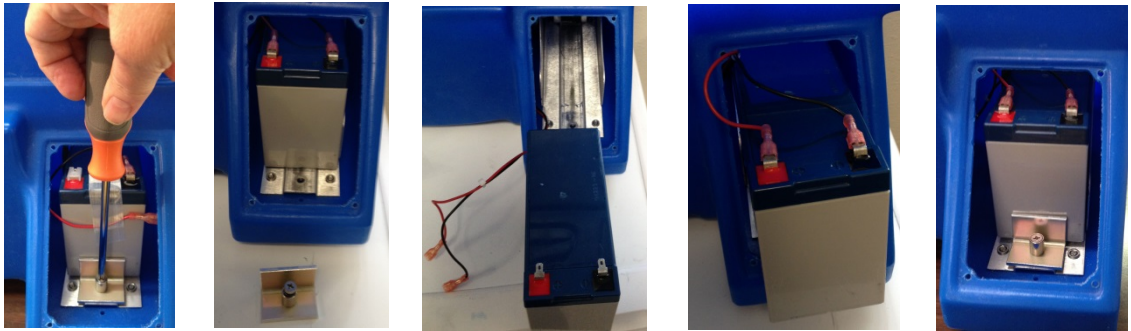
5. Reattach the digit and replace the weather cover.

Replacing batteries

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. The deck clocks take 2 batteries, which should both be replaced at the same time. These are available from Colorado Time Systems (part number R-420-003).

Tool required: #2 Phillips head screwdriver

1. Make sure the deck clock is disconnected from AC power and that the power switch is turned off.
2. With clock standing on its feet, remove the screws from the battery covers using a Phillips head screwdriver. Remove the battery covers and place them and the screws in a safe place.
3. Start with either of the clock's feet. Unscrew the retaining bracket and remove it.



4. Slide the battery out, tipping the clock if necessary.
5. Disconnect battery cables from battery. **Take care not to short the battery terminals**, for example by touching both of them with a screwdriver.
6. Connect battery cable to the new battery: red to red and black to black
7. Slide the battery back in, and secure it in place with the retaining bracket.
8. Leave the clock unplugged from AC power. Turn on the clock with the power switch, and verify that the digits light. Turn off the clock.
9. Repeat steps 3-8 for second battery.
10. Replace battery covers.
11. Properly dispose of the spent batteries.
12. Plug clock in to AC power for at least 8 hours to fully charge the batteries.

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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