Colorado Time Systems
A PLAYCORE Company

GEN7 LEGACY ARCHITECTURAL GUIDELINES









www.coloradotime.com

Table of Contents

Swim Timing 3

Start Systems 4

Touchpads 6

Relay Judging Platforms 8

Scoreboards and Video Displays 10

Numeric LED Scoreboards 11

In-Deck

Deck Plates 15

Wall Plates 18

Pool Layout Drawings 19

Lane Connections 23

Diving 24

Water Polo 25

Aquatic Venue Site Worksheet 26

Swim Timing System

Function & Placement in the Aquatic Timing/Scoring System

The Gen7 Legacy Timer is the intelligence behind swim timing and scoring. In- and on-deck facilities can place the timer at the timing table for a meet. In-deck facilities have the option to place the timer at the timing table, or in a secure office space and connect to the timing system via an office wallplate.

It coordinates information from the:

- Start system
- Touchpads
- Relay judging platforms
- Backup buttons

It sends information to
- Scoreboards
- Meet management software
- Printer





Timer

Gen7 Legacy Features:

- Intuitive software interface
- Facility network connectivity
- Integrated pre-meet diagnostic screen to check system health
- Flexible user interface options (laptop or tablet to timer)
- Race finish safeguard
- In- and on-deck compatibility
- Enhanced split handling
- Start reaction display
- Automatic lane arming
- Cumulative/subtractive splits
- Manual arm/finish arm
- Relay judging
- Declare start/finish end
- Scoreboard cycling
- Intelligent button time handling
- Interface to 3rd party meet management software
- Indicate disqualified, no show, and exhibition swimmers
- User selectable resolution; timing to 1/100th or 1/1000th of a second
- Basic pace clock functionality
- FCC, cULus, RoHS Certifications*Gen7 Legacy*

Dimensions (H x W x D):	Weight:
4.8 x 14.0 x 13.0 inches	11 lbs
(12.2 x 35.6 x 33.0 cm)	(5.0 kg)
Gen7 Timer Carrying Case:	
9.8 x 21.8 x 14.5 inches	11.0 lbs
(24.8 x 55.2 x 36.8 cm)	(2.8 kg)

Start System

Function & Placement in the Aquatic Timing/Scoring System

The Start System produces a start tone and visual signal to begin a swim race. Depending on the model, it can also perform other functions for competition and training. The start system is a portable unit that needs to be physically connected at one of three locations.



Championship Elite Start System



Infinity Pro Start System

Connection points:

- a deck plate at one side of the starting end, either at lane 1 or at the last lane (6, 8, 10, or 12)
- the cable harness
- a wall plate

Dimensions & Details

Dimensions (H x W x D):	Weight:	Power:
Championship Elite Start System 6.5” x 6.5” x 14.0” (16.5cm x 16.5cm x 35.6cm)	19.6 lbs (8.9kg)	Operates on battery only. 24 VDC @ 2.5A power adapter
Infinity Pro Start System x 7.75 x 14.25 inches (24.8cm x 19.7cm x 36.2cm)	11 lbs (5.0kg)	Operates on battery only.

Comparing Championship Elite Start and Infinity Pro

	Championship Elite	Infinity Pro
strobe	360 degrees	360 degrees
horn	built in	built in
PA capabilities	yes	yes
auxiliary speakers	2	1
block speakers	up to 12	no
mounting options	tabletop tripod flagpole mount	tabletop tripod flagpole mount
support for speedlights	yes	no
support for deckside start indicators	yes	no
support for external visual indicators	yes up to 13	yes up to 1
microphone options	wired	wired
portability	yes	yes
power	110/240 VAC	rechargeable battery only

Accessories Available

Championship Elite Start System

- Speaker options: one built-in speaker included. Additional speakers can be added:
  - on the other side of the pool
  - for the backstroke pole
  - under each starting block
  - underwater, for underwater recall of false starts and for tremendous training opportunities
- Visual start signals: one internal strobe light included.
  - additional strobe lights can be added with an EVI or EVI package
  - Speedlights are LEDs along the front of a relay judging platform that flash simultaneously with the start tone and strobe light.
  - Deckside start indicator is an LED on the relay judging platform connector block that flashes simultaneously with the start system and speedlights for a visual cue to the backup timer
  - Optional Visual Start Signaling provides a clear start sequence for all athletes
- Mounting options: tabletop, tripod, or flag pole
- Microphones: One wired microphone included.
  - Independent volume control for both the microphone and start volume tone.



Championship Elite Start System



Infinity Pro Start System

Infinity Pro Start System

- Speaker options: one built-in speaker included
  - one additional speaker can be added
- Visual start signals: one built-in strobe light included.
  - one additional strobe light can be added
- Mounting options: tabletop, flag pole, or tripod
- Microphones: one wired microphone included
  - Independent volume control for both the microphone and start volume tone
- Battery and charger: one internal battery that will recharge when the unit is plugged in and not operating is included

Touchpads

Function

The main function of touchpads is to accurately record the swimmers' finish times at the end of a race. The Gen7 Legacy Timer electronically compares this time with the touches in other lanes to determine the order of finish. Touchpads and the timing console can be used to determine a swimmer's official time in an event, and to record splits mid-race at the end of a length or lap.

Touchpads are also used for electronic relay judging, in conjunction with relay judging platforms (RJPs). The touchpad records the incoming swimmer's touch, and the RJP records the departure of the next swimmer in the relay. The timing console compares these times to assist officials in judging relay exchanges. Touchpads are also used in many training situations.

Colorado Time Systems' patented touchpads are the favorite in the industry because of their accuracy and consistency in recording touches, as well as their excellent surface texture. Touchpads are available with AquaGrip ® or standard surface. Dependable, internally sealed switches record even the lightest swimmers' touch on the fully active face, giving an accurate finish every time with no dead spots.



When selecting touchpad sizes, consider the number of lane lines to be used between each lane, which reduces the width of usable lane. Each pad should run most of the width of the usable lane.



AquaGrip ® Touchpad

Placement in the Aquatic Timing/Scoring System

Touchpads go in the pool at the finish/split end(s) of each lane. Consider touchpad placement when designing the pool and do not place pool features such as lights and water inlets on the pool wall where touchpads will hang during training or competition.

The touchpads connect to the timing system through a deck plate near each starting block, a connection hub mounted underneath each block, or to a cable harness.

Colorado Time Systems' touchpads can be left in the water for the duration of a competition to avoid re-measuring the pool.

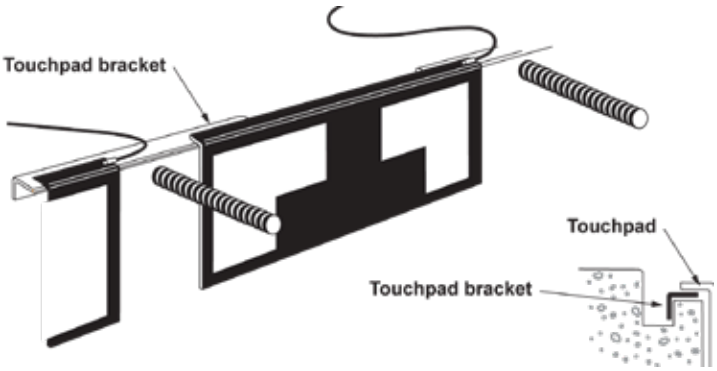
Dimensions & Details

Touchpad	Dimensions (L x H x D)
U.S. 60-inch	60 x 22 inches (152.4 x 55.8 cm) 7
U.S. 78-inch	8 x 22 inches (198.1 x 55.8 cm)
Custom	c ustom width between 60 and 96 inches
FINA 195 cm	195 x 90 cm (76.8 x 35.5 inches)

Touchpads
continued

For Guttered Pools

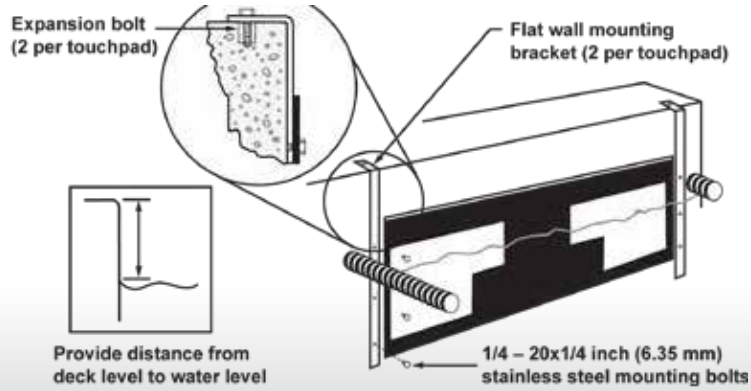
Polycarbonate and Velcro spacer brackets are placed between touchpads to prevent side-to-side movement and to attach the touchpads to the pool gutter. Spacer brackets are customized to each individual pool gutter design. Supply a drawing of the pool gutter profile with dimensions. A to-scale Auto CAD drawing is preferred.



For Flat Wall Pools

Stainless steel brackets are attached to each end of the touchpad and mounted to the pool deck with anchor bolts. Brackets are customized to the individual pool. Supply a drawing of the pool edge profile with dimensions, including the distance from deck level to water level. A to-scale Auto CAD drawing is preferred.

NOTE: For many international style pools, a gutter hung FINA touchpad may be used in lieu of a flat wall type touchpad.



Accessories Available

Touchpad Caddy

Touchpads are precision electronic instruments, and should be protected with a touchpad caddy that provides safe storage and a convenient means to transport touchpads to the pool deck.

Touchpads must be stored away from direct sunlight when out of the water. Secure storage that meets this requirement should be designed.



Gutter Hung Touchpad Caddy

Dimensions (L x H x D):	Weight:
Caddy for standard pads: 82 x 47 x 22 inches (208.3 x 119.4 x 55.9 cm)	105 lbs (47.6kg)
Caddy for 96" pads: 102 x 60 x 22 inches (259 x 152.4 x 55.9 cm)	150 lbs (68kg)
100.5 (255.3	

Touchpad Test Meter Is used to check the sensitivity to touch within a touchpad. To make adjustments to a touchpad, a vacuum pump will also be needed. The test meter can also be used to test a cable harness, deck plate, under-block connection hub, or pushbutton.

Vacuum Pump Is used to add or release air from a touchpad to adjust the sensitivity to touch. A test meter should be used in conjunction with the vacuum pump.

Relay Judging

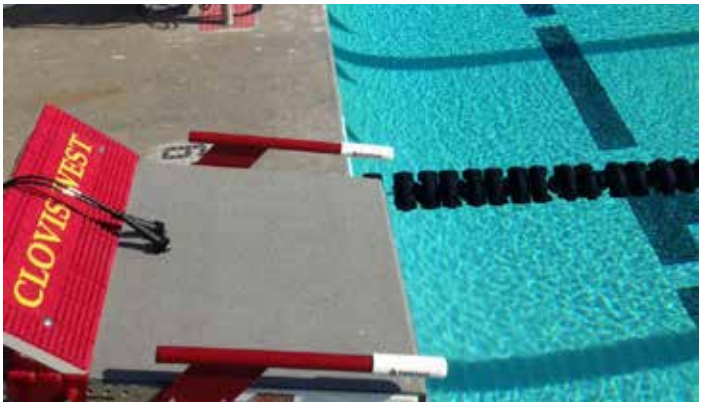
Function

The primary function of relay judging platforms is to judge relay exchanges. They work in conjunction with the touchpads and Gen7 Legacy Timer. The relay judging platform records the departure of the swimmer leaving the platform, and the timing console automatically compares this time with the incoming swimmer's finish on the touchpad.

Speedlights: LEDs across the front of RJPs flash simultaneously with the start tone and strobe light. All swimmers benefit from the visual signal, which they can easily see without altering their race-ready posture.

Colorado Time Systems' Relay Judging Platform (RJP) technology is the most accurate way to judge relay exchanges. The RJP will record the necessary information to judge a relay exchange to 1/100th of a second.

In addition to judging relay exchanges in competition, they also have many uses in training, including helping athletes improve their start reaction and relay exchange times.



Deckside Start Indicator: An LED is integrated into the connector block on the deck side. The LED flashes simultaneously with the start signal and speedlights to give the deckside backup timers a visual cue, and increase the accuracy of backup times.

Dual Connector Blocks: Connector blocks on both sides of the RJP offer flexibility and convenience - connect to either side and customize to your facility.

Simplified Connection: A single connector runs parallel to the RJP to reduce the risk of accidental disconnect when swimmers are stepping up to the block.

Accessories Available

RJP Caddy: available for RJPs that are either 20" wide (up to 24" long) or 24" wide (up to 32" long)

Championship Elite Start System: needed to flash the speedlights and deckside start indicators on RJPs

Relay Judging
continued

Placement in the Aquatic Timing/Scoring System

Relay Judging Platforms attach to the starting blocks. They connect to the timing system through a deck plate near each starting block, a deck plate underneath each block, or to a cable harness.

Dimensions & Details

Standard Relay Judging Platforms are available in widths of 20” (50.8cm) or 24” (60.9cm) with lengths up to 32” (81.3cm).

Custom sizes are also available. An RJP mounted on a starting block adds .3 inches (.76cm) to the height above the water.



Scoreboards

Function

Colorado Time Systems provides scoreboard displays to enhance the audience's experience, highlight sponsors, display advertising, and showcase athletes.

Our solutions include full-color video displays, and a variety of numeric scoreboards.

LED Numeric Only

- available with red or amber LED digits
- LED colors can be alternated for visibility and team designation
- available for indoor or outdoor facilities



Full Color Video Displays

Video displays can be used as a standalone unit or combined with numeric scoreboards for added impact. Video boards can display full-color scoring data, text, graphics, animations, live video, video replays, and more.

Key features:

- Indoor or outdoor
- Modular design
- Conformal coated
- SMD technology
- Pixel pitches from 2.5mm
- Video and camera ready
- DisplayLink+ software
- Versatile and powerful display controller



Placement in the Aquatic Timing/ Scoring System

Scoreboards connect to the timing system via a data junction box located at the scoreboard, which has in-wall or external cabling to the wall plate at the timing location. Most numeric LED scoreboards can also connect via wireless scoreboard adapter.

Dimensions & Details

Specifications vary depending on the needs of the facility; contact a Colorado Time Systems sales representative for more information about options for a particular project.

Scoreboards: Numeric LED

Dimensions & Details

Numeric LED Scoreboard Modules:	
Length: 97.675 inches (.m)	**Depth:** 4 inches (10.2cm)
Height: 14 inches (35.6cm)	**Weight:** 40 lbs (18.1kg)

Accessories Available

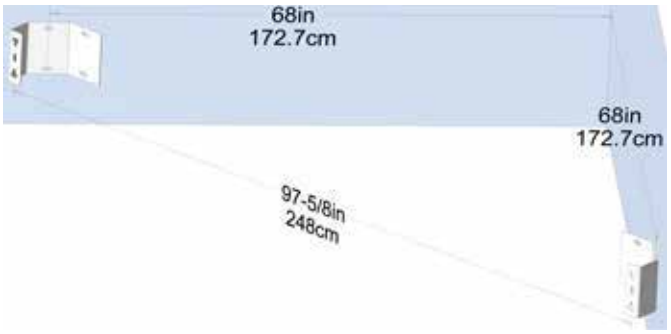
- sign panels for facility/team name and/or sponsors
- wireless scoreboard adapter

Scoreboard Mounting

LED numeric scoreboards are designed to be wall mounted. Mounting is simplified by the use of factory-provided wall mounting brackets and slotted strut galvanized steel channel pre-cut to your installation requirements.

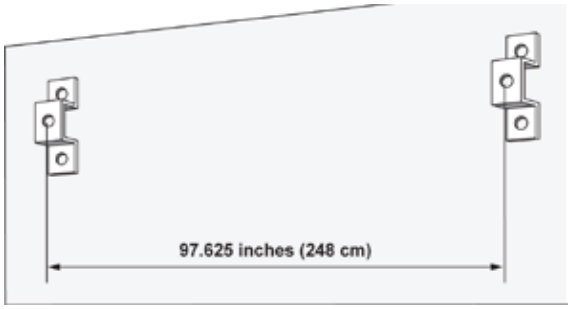
The scoreboards may be corner mounted in a single scoreboard width vertical column using our standard corner mounting brackets. If the scoreboards must be mounted in a corner in a double width configuration, a special mounting framework will be required. Consult your sales representative for more information.

Scoreboard Attachment to 45 °Corner Mount Wall



The scoreboards may be mounted on a flat wall in a variety of horizontal or vertical configurations using the flat wall mounting brackets pictured below.

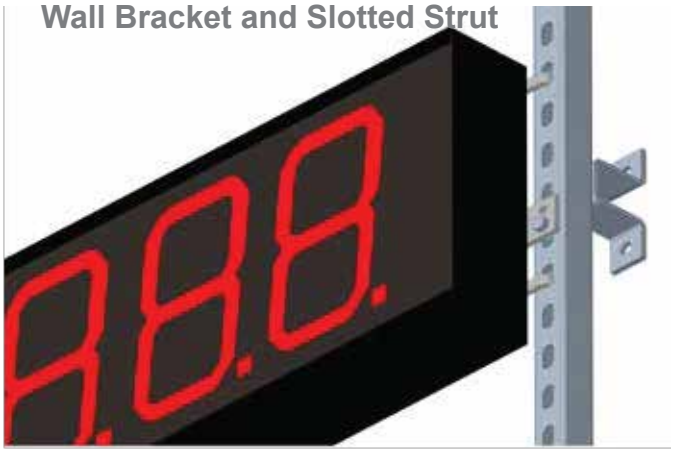
Flat Wall Mounting Brackets



Scoreboard Attachment to Corner Brackets and Slotted Strut



Scoreboard Attachment to Flat Wall Bracket and Slotted Strut



NOTE: Maximum 66 inch (167.6 cm) vertical spacing between brackets

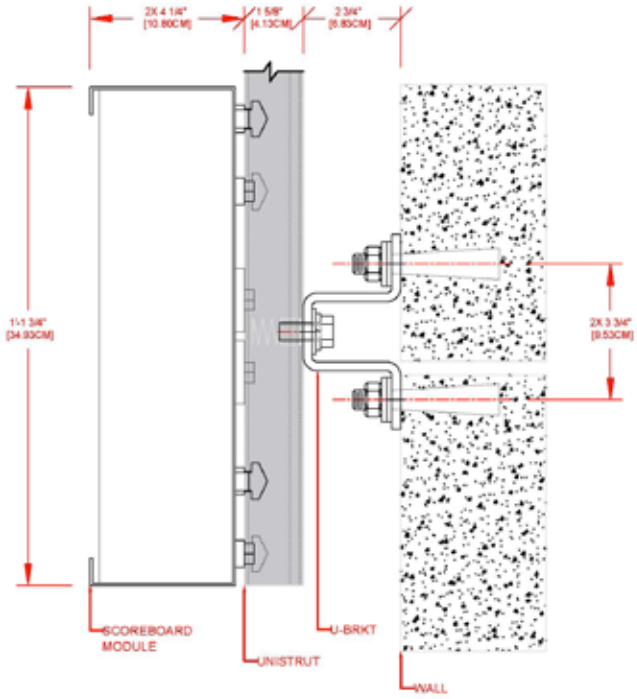
Scoreboards: Numeric LED
continued

If your facility will not accommodate a wall-mounted scoreboard, the scoreboard can be mounted on a freestanding structure. The design of these structures is the responsibility of the architect. Colorado Time Systems will provide information on the scoreboard module length, width, height, and weight. The architect is responsible for providing lightning protection for outdoor structures.

Side View of Scoreboard Mounting Concept

Mounting is accomplished in three steps:

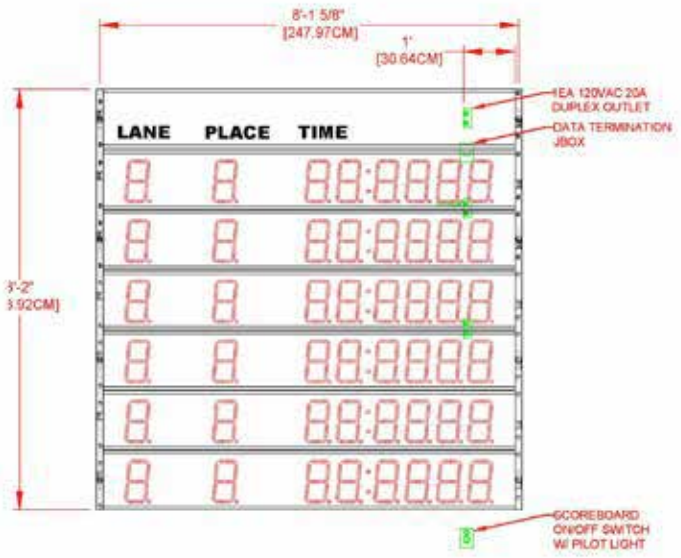
- wall brackets attached to wall using expansion bolts
- slotted strut attached to wall brackets using standard slotted strut hardware
- scoreboard modules attached directly to holes in slotted strut face



Total wall to face of scoreboard dimension is about 8.5 inches (21cm).

NOTE: Scoreboards can be recessed into the wall so the face is flush with the wall around it. However, space must be available to remove the weather cover for servicing the digits or control board. Consult your sales representative when planning for a recessed scoreboard.

All electrical wiring must be carried out in accordance with the applicable national, state, and local electrical codes. A qualified electrician should do all electrical wiring.



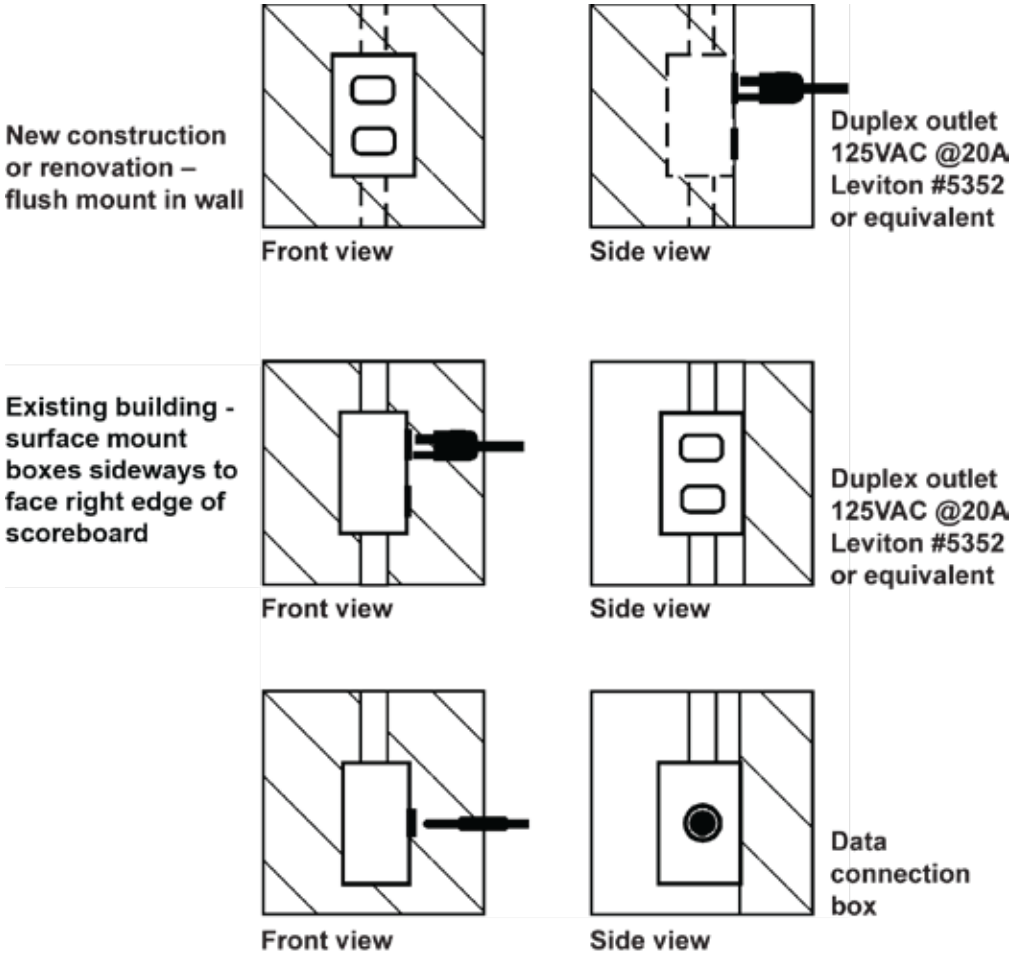
Location of electrical outlets

For every two lines of scoreboard, provide a duplex electrical outlet as indicated in the six-line example above. Following this recommendation makes for a clean wiring layout.

Scoreboards: Numeric LED
continued

Mounting of electrical outlets

Mount the duplex electrical outlets as shown below. If your pool is under construction or renovation, flush mounting with the wiring inside the walls is the recommended method. Otherwise, surface mounting of conduit and outlets is acceptable. Note the orientation of the outlet boxes if surface mounted as shown below.

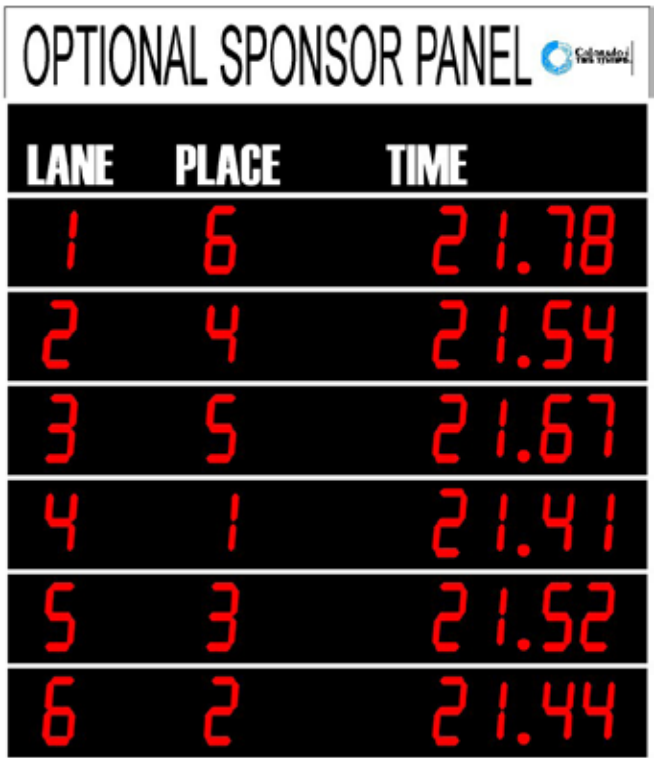


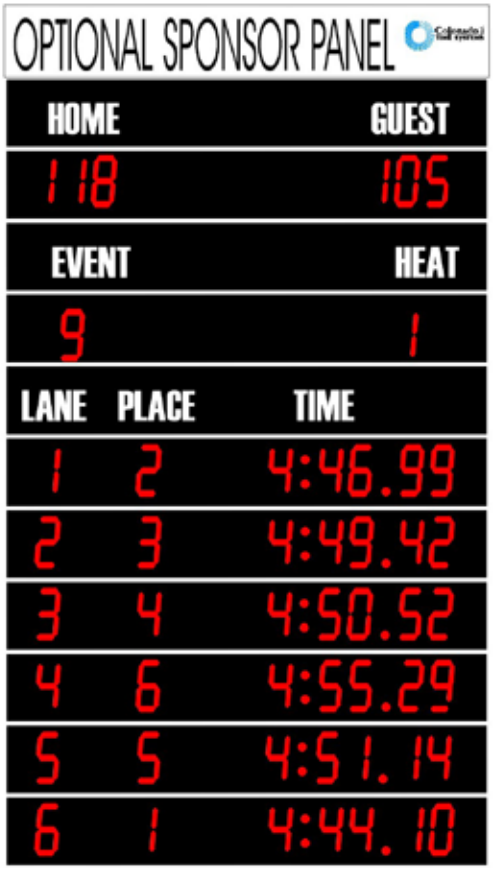
For outdoor scoreboards exposed to the weather, use wire receptacles mounted in accordance with National Electric Code or appropriate national and local codes for the country of installation.

The scoreboard data connection box is a contractor-provided standard single gang box with blank cover. Data connectors and wiring are provided by Colorado Time Systems. A 1-inch (2.5cm) conduit must run between this box and the wall box at the timing location.

NOTE: 220~240V scoreboards are available for international use.

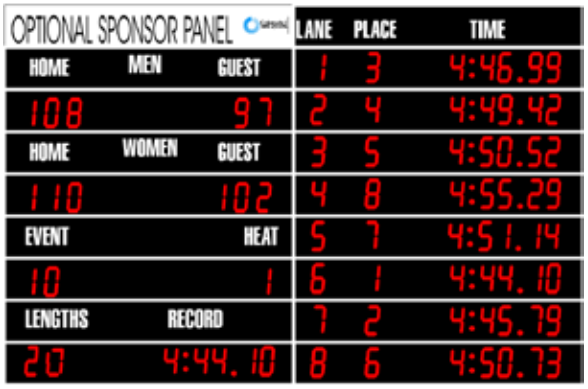
Sample Numeric LED Scoreboard Configurations







This illustrates a side by side configuration with two white artwork panels



Deck Plates

Placement in the Aquatic Timing/Scoring System

Deck plates are mounted in the pool deck at each starting block. They serve as the connection point between the in-deck cabling and the equipment used in competition at the start and finish ends of the pool.

The deck plate at each lane can accommodate a touchpad, backup buttons, relay judging platform and individual start tone speaker. The deck plates at the outside lanes are also wired for the start system to be connected.

Pools that use on-deck cable harnesses do not need deck plates.

Dimensions & Details

Titanium deckplates (U.S. Patent No. 8,602,815) are a rugged in-deck solution featuring titanium jacks to keep corrosion from pool water chemicals like chlorines and bromines at bay. Titanium deckplates' domed topography protects banana plugs, and the peaks and valleys let the water flow off; dramatically limiting corrosion through electrolysis.



Each deck plate comes completely wired with a maximum of 200 feet (61m) of cable; potted and ready to install. The potting collar fits inside a 4 x 4 x 6 inch (10.2 x 10.2 x 15.2cm) PVC box. The deck plate is attached directly to the tile with stainless steel screws. It is critical that the tile or other finished floor is completed and level with the PVC box top edges (+/- .25 inch [.64cm]).



Deck Plates
continued

Deck Plate Location and Installation

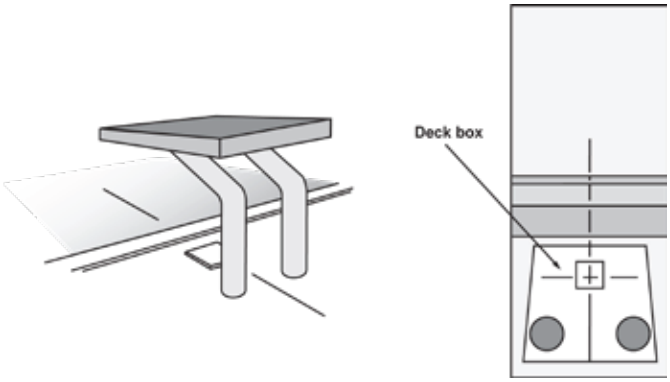
Consider pool deck traffic when planning the location of deck boxes, to which the deck plates are mounted. Cables will be connected to the deck plate during the competition:

- touchpads, backup buttons and RJPs will be connected

For safety reasons, deck boxes should be placed beneath the starting platform, between the pool end wall and the starting block leg(s).

Leave at least a 3-inch clearance perimiter around the entire deck box to accommodate the deck plate.

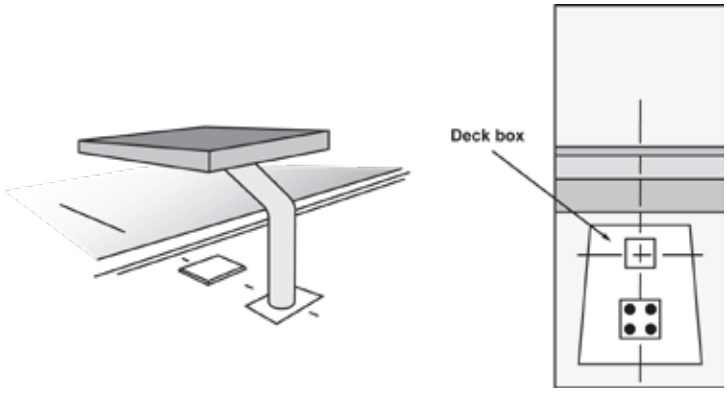
For Starting Blocks with Two Legs:



Place the deck box at the intersection of lines centered between the legs of the starting block and centered between the pool edge and the legs of the block.

Leave at least a 3-inch clearance perimeter around the entire deck box to accommodate the deck plate.

For Starting Blocks with a Single Leg:

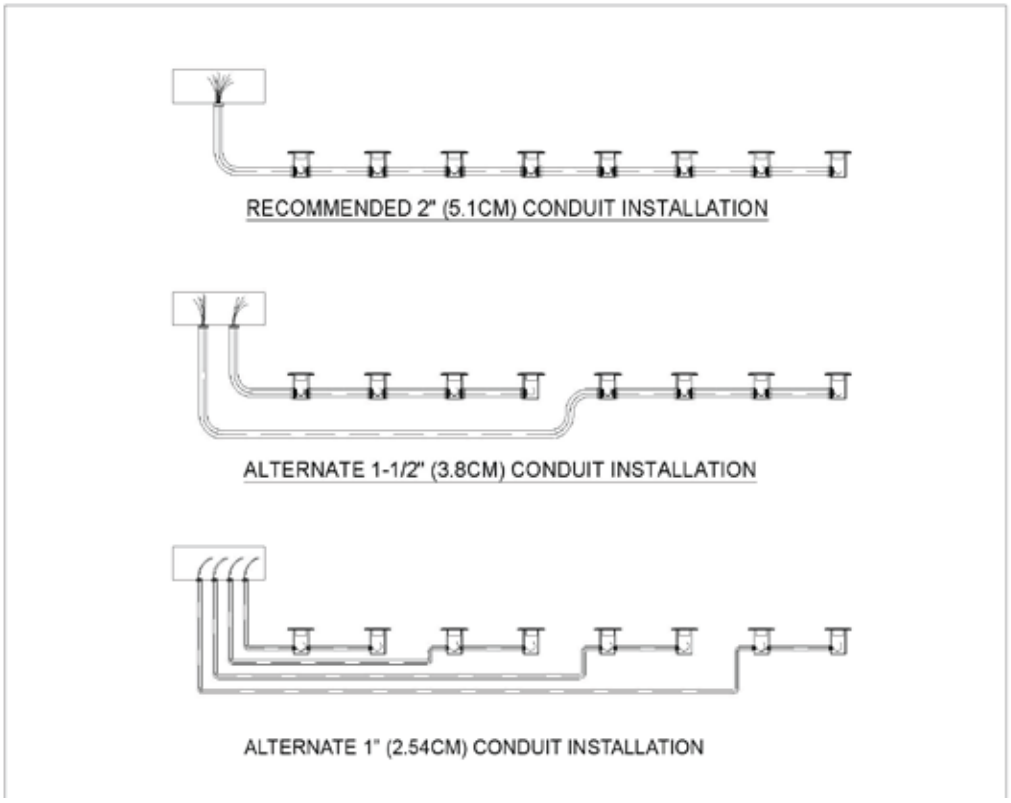


Place the deck box in line with the starting block mounting plate and centered between the pool edge and the leg of the starting block.

Leave at least a 3-inch clearance perimeter around the entire deck box to accommodate the deck plate.

Deck Plates
continued

Once you have determined the preliminary location of your conduit runs, please send pool drawings too Colorado Time Systems for review and redlining by our Project Management team.



Pull wires

We require that all vacant conduits be supplied with pull wires.

In-deck wiring

All in-deck wiring should be located in PVC conduit, deck boxes and pull boxes. The in-deck wiring is limited to less than 5V and is grounded in the timer.

Bulkheads and deck plates

If a bulkhead or bulkheads will be installed in the pool, it is essential that the consultant or architect ensure that the bulkhead manufacturer installs conduit runs and provisions for the installation of deck boxes and connection boxes. It is very difficult to add this to a bulkhead once it is under construction. Cable trays may be used in lieu of conduit and deck boxes, but the cable trays must be above the water level. Please contact your sales representative to discuss this critical item.

Do not connect more than 12 deck boxes per run of 2” (5.1cm) conduit.
Do not connect more than four deck boxes per run of 1.5” (3.8cm) conduit.
Do not connect more than two deck boxes per run of 1” (2.54 cm) conduit.

Conduit drainage is strongly recommended.

Wall Plates

Function & Placement in the Aquatic Timing/Scoring System

Wall plates are mounted on the facility wall. They serve as the connection point between the cabling that runs in the conduit under the deck to the deck boxes, the scoreboard, timing console, start system, start speaker and microphone, and judging terminals.



Dimensions & Details

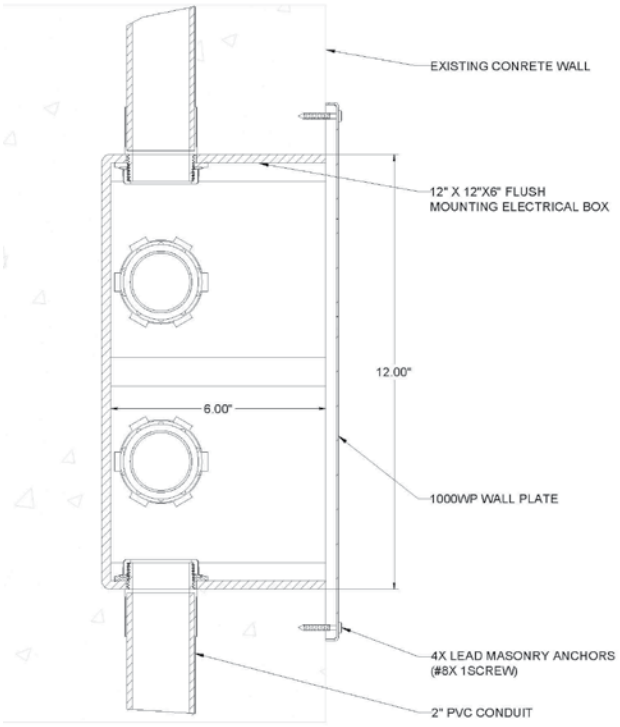
Colorado Time Systems' wall plate is a standard 15 x 15 x .25 inch (38.1 x 38.1 x .64cm) aluminum panel. It comes complete with all wiring and terminal connections required. It is designed to be used with a contractor-supplied 12 x 12 x 6 inch (30.5 x 30.5 x 15.2cm) wall junction box. When allowed by applicable national and local electrical codes, we prefer a PVC box rather than a steel unit for ease of installation.

Wall plates should be mounted 18 to 36 inches (45.7 to 91.4cm) above finished floor level when installed on interior pool walls. Wall plates must be flush with the face or other mounting wall or recessed into it; they should not extend beyond the mounting wall surface.

For outdoor pools, wall plates should be mounted 18 to 36 inches (45.7 to 91.4cm) above the pool deck, mounted into a contractor-provided 12 x 12 x 6 inch (30.5 x 30.5 x 15.2cm) PVC box.

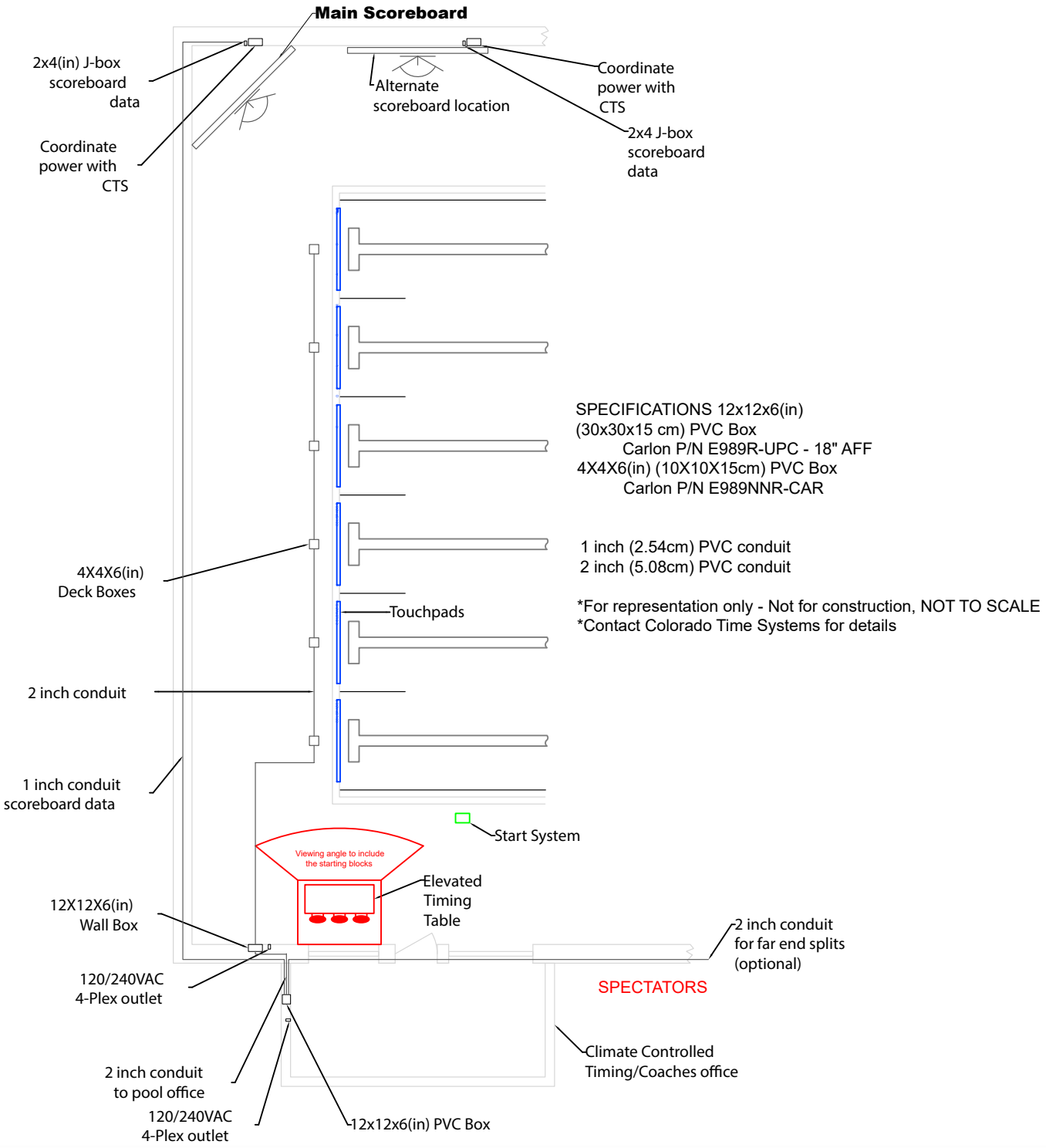
Wall plate covers are available to protect wall plates from the elements & tampering.

Wall plate cover is 16 x 16 x 2 inches (40.6 x 40.6 x 5.1cm). Opening inside for wall plate is 13.5 x 11.5 inches (34.3 x 29.2cm).



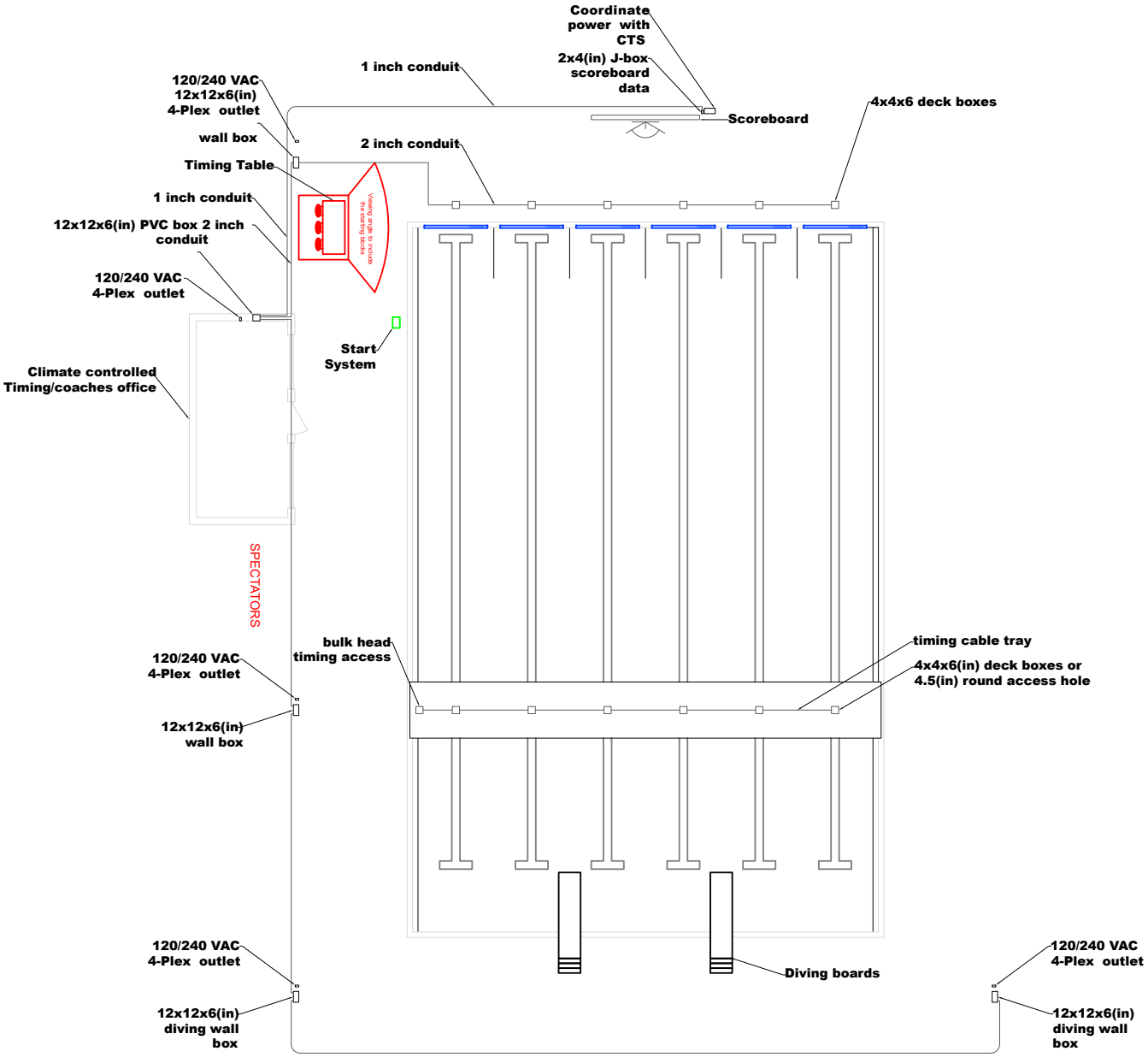
Pool Layout

Typical 25 yd/25m Pool Layout for Swimming - Starting End Detail



Pool Layout

Typical 25 yd/25m Pool Layout for Swimming - Starting End Detail



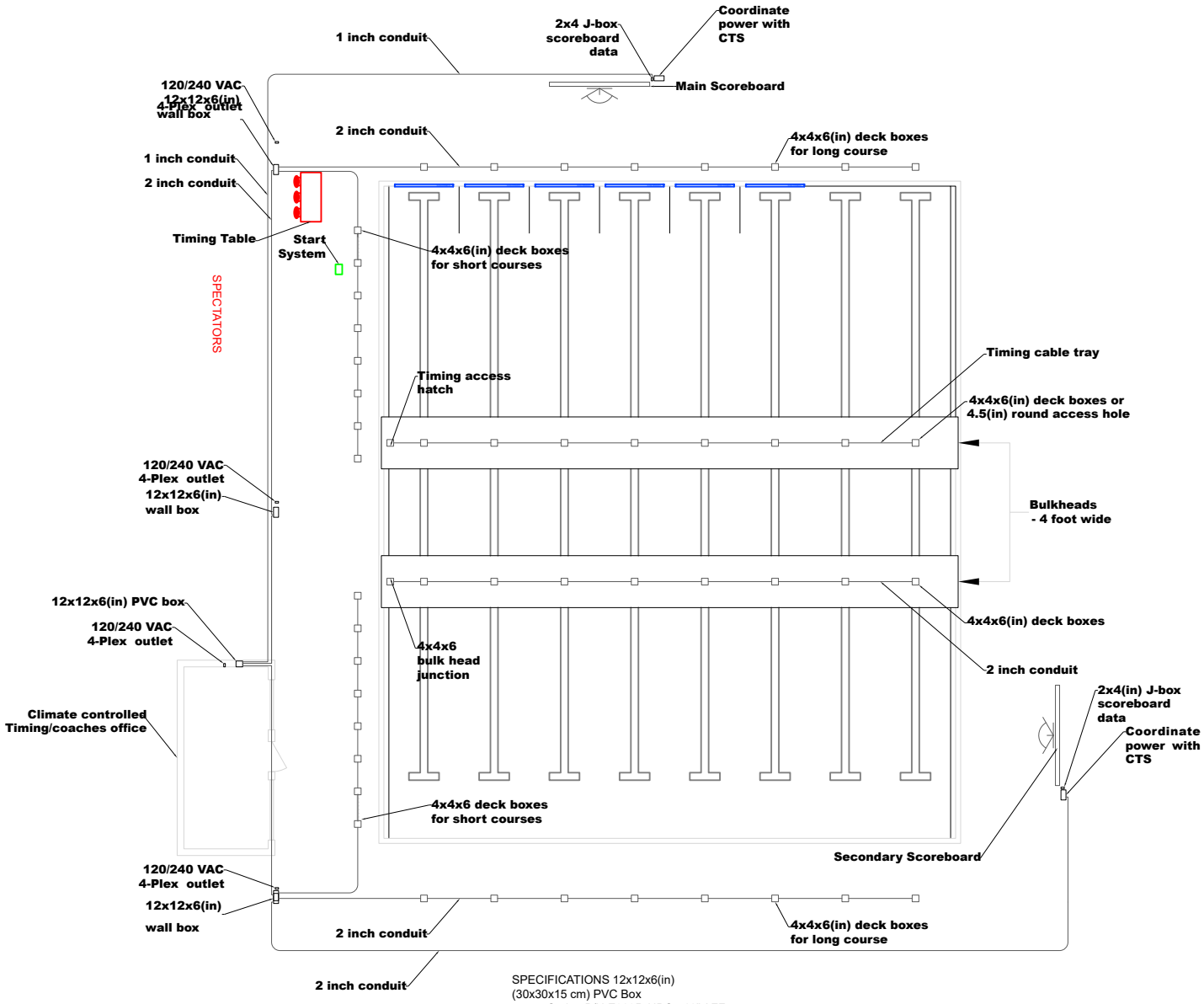
SPECIFICATIONS 12x12x6(in)
(30x30x15 cm) PVC Box
Carlon P/N E989R-UPC - 18" AFF
4X4X6(in) (10X10X15 cm) PVC Box
Carlon P/N E989NNR-CAR

1 inch (2.54cm) PVC conduit
2 inch (5.08cm) PVC conduit

*For representation only - Not for construction,
*Contact Colorado Time Systems for details

Pool Layout

Typical 50m Setup - Wall Plates for Swimming



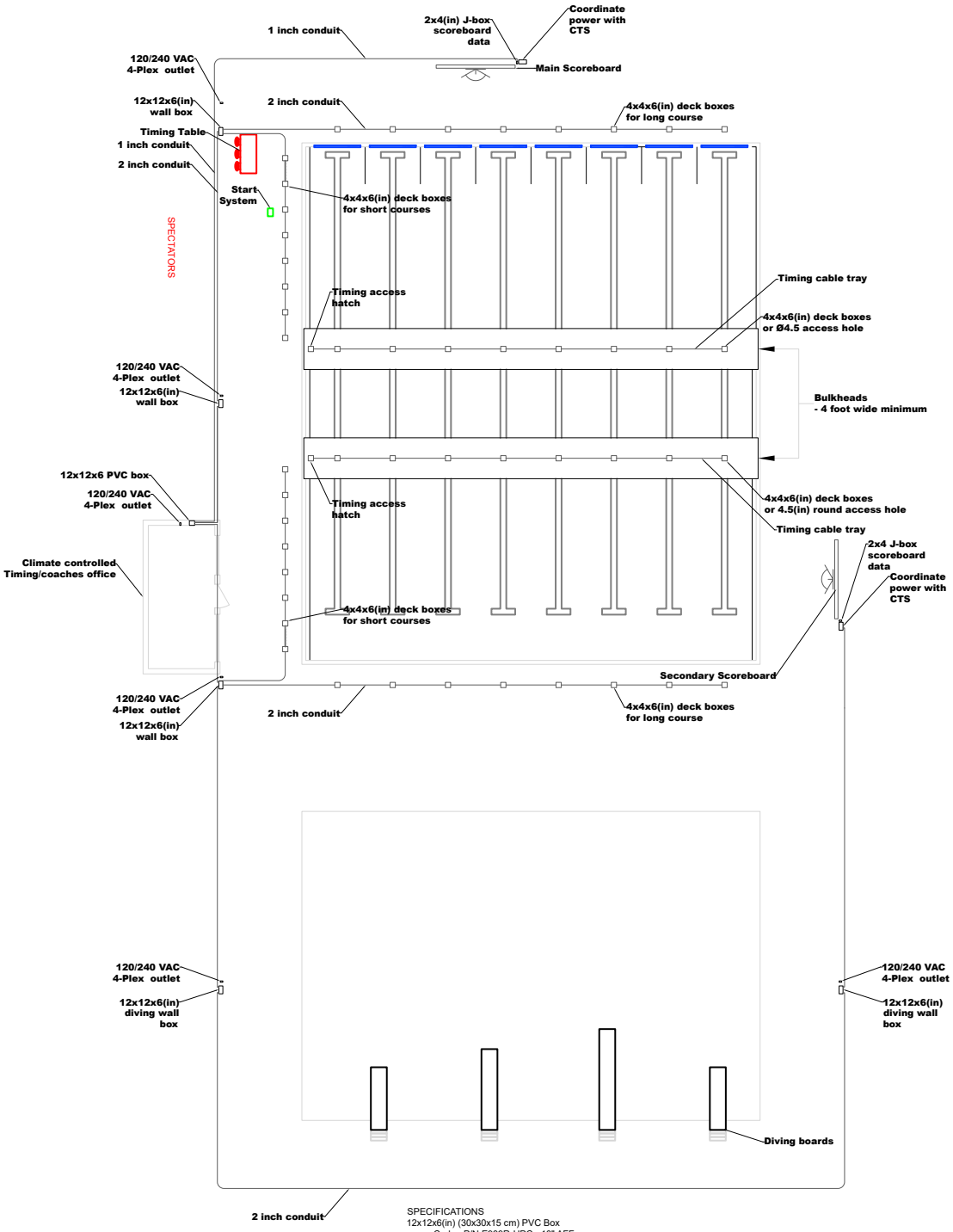
SPECIFICATIONS 12x12x6(in)
(30x30x15 cm) PVC Box
Carlon P/N E989R-UPC - 18" AFF
4X4X6(in) (10X10X15 cm) PVC Box
Carlon P/N E989NNR-CAR

1 inch (2.54cm) PVC conduit
2 inch (5.08cm) PVC conduit

*For representation only - Not for construction, NOT TO SCALE
*Contact Colorado Time Systems for details

Pool Layout

Typical 50m Setup with Diving Well - Wall Plates for Swimming and Diving



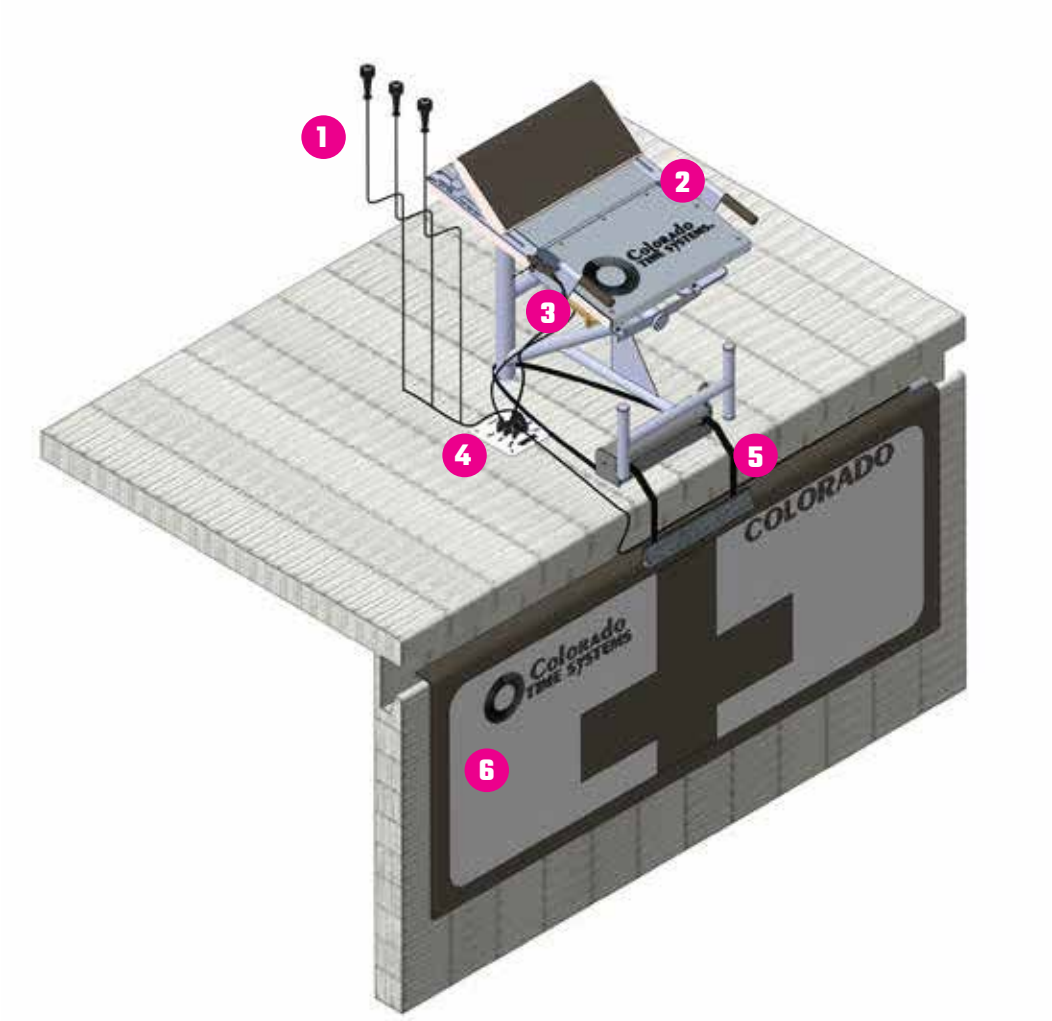
SPECIFICATIONS
12x12x6(in) (30x30x15 cm) PVC Box
Carlon P/N E989R-UPC - 18" AFF
4X4X6(in) (10X10X15CM) PVC Box
Carlon P/N E989NNR-CAR

1 inch (2.54cm) PVC conduit
2 inch (5.08cm) PVC conduit

*For representation only - Not for construction, NOT TO SCALE
*Contact Colorado Time Systems for details

Pool Layout

Lane Connections



1 Pushbuttons - P/N PB-6
2 Relay Judging Platforms - P/N RJPLD-xx
3 Lane speakers - P/N SP-6/45
4 In-deck titanium deckplates
5 Backstroke Start Device
6 AquaGrip touchpads - part numbers vary depending on lane width

Gen7 Diving

Function & Placement in the Aquatic Timing/Scoring System

Gen7 Diving is a standalone system that does not require an interface to the Gen7 Legacy Timer. This software-based, wired solution complies with all World Aquatics and USA Diving regulations and interfaces with most meet management programs.

Gen7 wired judging terminals display diver's name, team, country, judging terminal #, dive and degree of difficulty.

Each backlit LCD display is suitable for use both indoors and outdoors with sunlight readability.

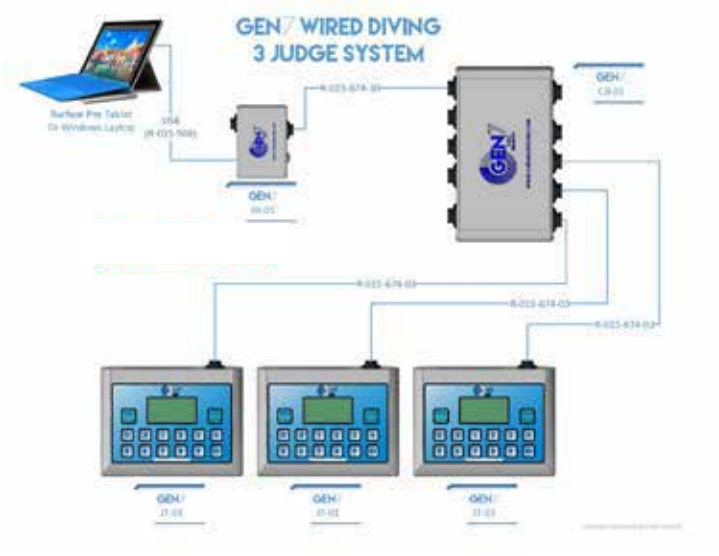
This is a portable system that can be placed anywhere around the diving well, with cable options up to 246 ft (75m).

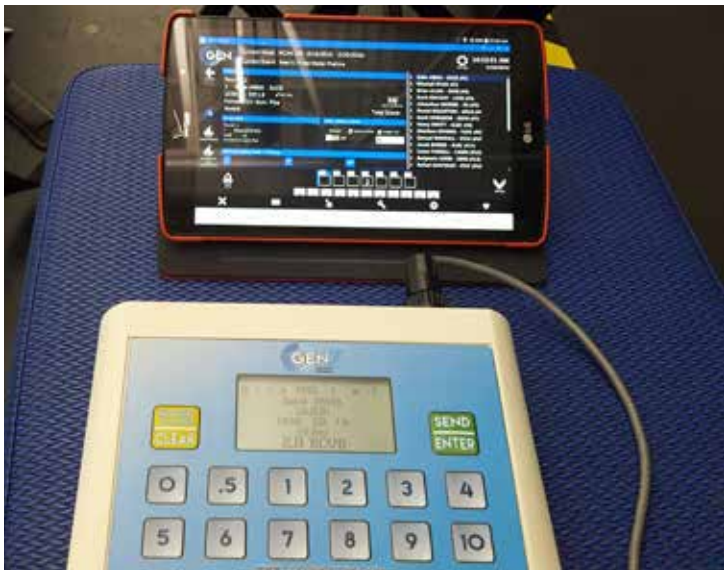
Scoring data can be sent wired or wirelessly to most any CTS scoreboard.

Gen7 Diving Package Options:

Part Number	# of Judges	Synchronized Events	Simultaneous Events
JSYS-3	3	N	N
JSYS-5	5	N	N
JSYS-7	7	N	N
JSYS-11	11	Y	N
JSYS-15	15	Y	Y

Gen7 Diving is scalable, and easily tailored to your facility to accommodate your meet needs. Whether you need a system for 3-, 5-, 7-, 11-, or 15 judges, setting up and running your meets has never been easier. Each system includes the required number judging terminals, judging terminal breakout box(es), computer interface hub, Gen7 Diving Software, and all of the necessary cables.





Water Polo

Function & Placement in the Aquatic Timing/Scoring System

The wireless water polo tabletop controller features integrated 2.4GHz wireless technology with an operating distance up to 1,000 ft.

The wireless tabletop controller (WTTC) can transmit scoring date to most any CTS scoreboard with wired or wireless connectivity.

This is a portable system that can be placed anywhere on the pool deck.



Shot Clocks

Portable pace clocks also act as shot clocks for water polo. The 2.4GHz wireless deck clocks integrate seamlessly with the WTTC and feature ruggedized polyethylene enclosures that are water and sun resistant; and the integrated horn produces unique game and shot tones.





Scoreboards

Numeric and video displays are scoreboard options for your water polo facility.





Aquatics Venue Site Worksheet

Tools needed: Camera, tape measure, and screw driver

Customer:

Facility Name:

Address:

Contact Name/Title:

Phone: Fax: Email:

Facility Information

Are drawings available? YES NO

Is this an indoor or outdoor facility: INDOOR OUTDOOR

What competitions does this facility support?

SWIMMING DIVING WATER POLO

OTHER (PROVIDE DETAILS)

What level(s) of competitions does this facility host?

CLUB LEVEL HIGH SCHOOL COLLEGE NATIONAL

WORLD SPORTS OTHER:

Aquatics Venue Site Worksheet
continued

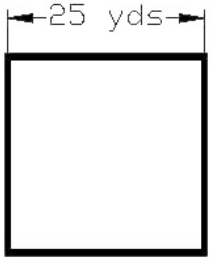
Pool Configuration

What is the pool configuration? (Select the sample that best fits, or add the correct layout).
Please indicate start end(s): A B C D E F G

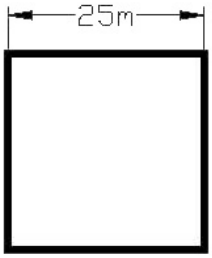
Start end: Top Bottom Left Right

Short course:

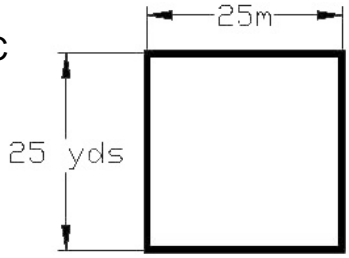
A



B

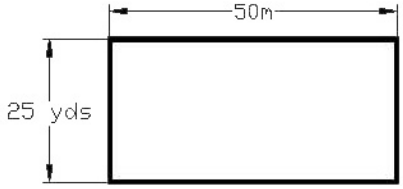


C

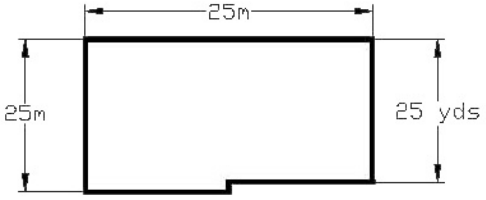


Short course and long course:

D

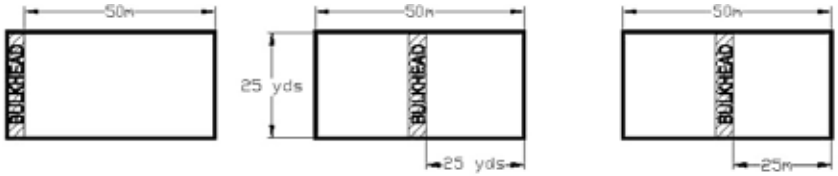


E



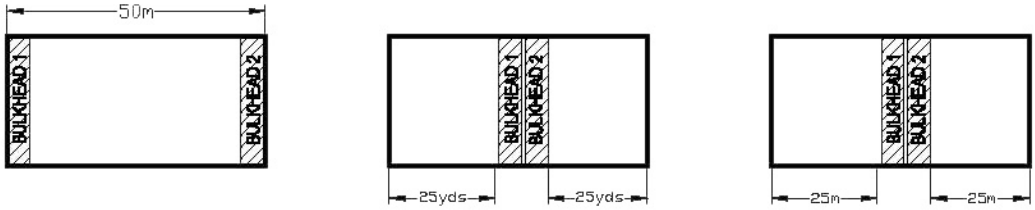
50 meter with single, movable bulkhead:

F



50 meter with two movable bulkheads:

G



Aquatics Venue Site Worksheet
continued

How many lanes are used for competition?
(Please note if different pool setups have different numbers of lanes)

What are the lane widths?
(Please note if different pool setups have different lane widths, and verify that all lines in a pool configuration have the same width lanes.)

Are the gutter and pool wall flat and free of any obstructions such as lights, jets, lane lines, lane line attachments and/or protruding tiles or gutters?
(If not, explain and illustrate)

Gutter Profile

(Select the diagram that best depicts your pool gutter) Measure, and document the requested dimensions and note the water level.

Diagram# Measurements: X Y Z

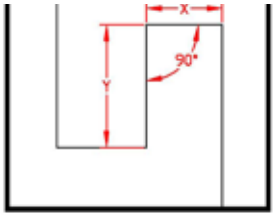


DIAGRAM 1.
NEED X,Y

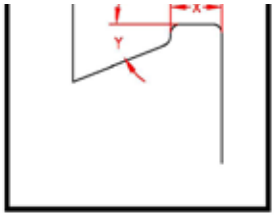


DIAGRAM 2.
NEED X,Y

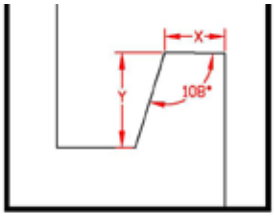


DIAGRAM 3.
NEED X,Y

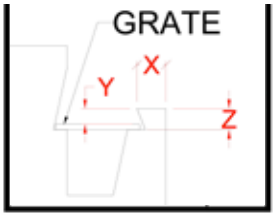


DIAGRAM 4.
NEED X,Y,Z

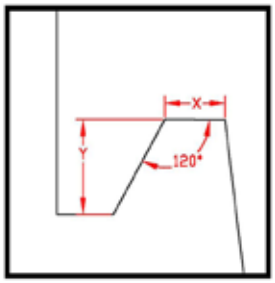


DIAGRAM 5.
NEED X,Y

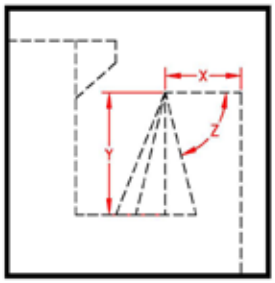


DIAGRAM 6.
NEED X,Y,Z

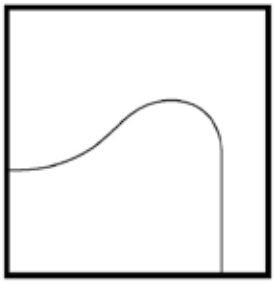


DIAGRAM 7.
NEED ACTUAL SIZE
DRAWING OF BULL NOSE

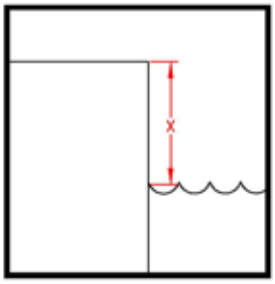


DIAGRAM 8.
NEED X

NOTE: If your gutter profile is not depicted above, include a sketch with dimensions, noting water level.

Aquatics Venue Site Worksheet
Continued

Existing Timing Equipment
(if there is no existing equipment, skip this section)

Equipment	Type of Info	Details	Qty	Age
Start System	Model			
Timing Console	Model			
Touchpads	Manufacturer			
	Size			
	Mounted at end of pool or bulkhead? Notch-cut?			
Relay Judging Platforms	Manufacturer and size			
Cabling	In-deck? # of wall plates, deck plates, connections and functions for each			
	On-deck? What cables? Lengths and functions of each			
Scoreboard	Manufacturer			
	Description, format (LED video, LED numeric, light-reflective, etc), size			

Aquatics Venue Site Worksheet
continued

Existing Timing Equipment (continued)

Equipment	Type of Info	Details	Qty	Age
Pace Clocks	Manufacturer, format, size(s)			
Underwater Speaker	Manufacturer, what drives it			
Multifunction Training	Manufacturer, format, what functions			
i.e. Pace Clock Pro				
Misc./Other				

Bulkheads

Are there bulkheads? YES NO If yes, how many?

If so, are they movable? YES NO

Who is the bulkhead manufacturer?

Will touchpads be mounted to a bulkhead? YES NO

Size of space for touchpads, if on bulkhead:

Will the bulkhead cabling be on-deck or in-deck?

Aquatics Venue Site Worksheet
continued

On-deck cabling requirement (if on-deck cabling will not be used, skip this section)

Select the length of the extension from start system to timing console:

25’ (7.6m) 50’ (15.2m) 164’ (50m) 200’ (60.9m)

Are there lane speakers? YES NO

Is there a speaker mounted to the backstroke pole? YES NO

Select the touchpad size used at the near end:

60” (152.4cm) 78” (198.12cm) 90” (228.0cm) 96” (245.84cm)

188.5cm 240cm other none

Select the number of Pushbuttons required for each lane at the near end:

1 2 3 none

Is the distance from the timing console to the closest lane at the near end greater than 40’ (12.1m)?
YES NO

If yes, select the extension length required:

25’ (7.6m) 50’ (15.2m) 100’ (30.4m) 200’ (60.9m)

Aquatics Venue Site Worksheet
continued

On-deck cabling requirement (continued)

Select the touchpad size used at the far end:

60” (152.4cm) 78” (198.12cm) 90” (228.0cm) 96” (245.84cm)

188.5cm 240cm other none

If touchpads or buttons are used at the far end, select the length of cable to cover the distance from the timing console to the closest lane at the far end:

25’ (7.6m) 50’ (15.2m) 100’ (30.4m) 200’ (60.9m)

Select the number of Pushbuttons required for each lane at the far end:

1 2 3 none

Relay Judging Platforms

Specify manufacturer and model of current starting blocks, as well as size of block top (if any):

What is the material of the block top? PVC STAINLESS STEEL FIBERGLASS OTHER

Are you planning on updating your starting blocks or tops soon? YES NO If YES, please let us know your timeline.

Aquatics Venue Site Worksheet
continued

Existing in-deck wiring
if in-deck wiring does not exist, skip this section)

How old are the cabling and deck plates?

How well is it working?

If drawings are available, ensure they are up to date and include all of this information:
- Wall plates: locations, size and function (include setup/sport configurations to be used at each box)
- Deck plates: locations, manufacturers' part number (ie. Carlon E989NNR-4" x 4" x 6", Carlon E987 4" x 4" x 4", Scepter JB446 4" x 4" x 6", or other)
- Conduit runs and sizes

If drawings are not available, make a sketch of the pool detailing all of the above information.

New construction in-deck wiring
(if there will not be in-deck wiring, skip this section)

CTS experts are available to assist in creating drawings for bid proposal, equipment specification, and construction process.

If drawings are available, ensure they are up to date and include all of this information:
- Wall plates: locations, size and function (include setup/sport configurations to be used at each box)
- Deck plates: locations, manufacturers' part number (ie. Carlon E989NNR-4" x 4" x 6", Carlon E987 4" x 4" x 4", Scepter JB446 4" x 4" x 6", or other)
- Conduit runs and sizes

If drawings are not available, make a sketch of the pool detailing all of the above information.

Pace Clocks

How many permanent pace clocks are required?

How many portable clocks are required?

Aquatics Venue Site Worksheet
continued

Diving

Highest number of judges for a single event:

Highest number of events to be run simultaneously:

Do you need the ability to split a panel of judges across both sides of the pool?

YES NO

Do you want the cabling to be in-deck or on-deck? IN-DECK ON-DECK

Please include a sketch/sketches of the pool set up for a diving meet, including the following information:

- Where do you place your scoring table?
- How far from the scoring table to the judges?
- If in-deck, where do you want your wall plate?

Water Polo

Does the facility need water polo shot clocks? YES NO

If yes, how many? 2 4

Please include a sketch of the pool set up for a water polo match.

Aquatics Venue Site Worksheet
continued

Numeric Scoreboards

The electronics of all CTS displays are conformal coated to protect against the aquatic environment.

How many lanes/places should show on the scoreboard at one time? (If the number of lines of scoreboard is fewer than the number of lanes in the pool, the results will cycle through the available

1 2 3 4 5 6 7 8 9 10 11 12

If this is a multi-line scoreboard, do you want it in a **vertical** format (all lanes stacked up on top of each other), or a **horizontal** format (the first half of the lanes on the left and the second half on the right)?

VERTICAL HORIZONTAL

Which of the following additional modules are needed? (please check all that apply)

- ☐ Facility name panel
- ☐ Advertising panel(s) (if multiple, indicate quantity)
- ☐ Swimming
  - ☐ Home/guest score
  - ☐ Guest 2/Guest 3 score
  - ☐ Event/Heat
  - ☐ Lengths/Record
- ☐ Diving
  - ☐ Degree of difficulty/award
  - ☐ Degree of difficulty/round/award
  - ☐ Leader board
- ☐ Water Polo
  - ☐ Period/shot
  - ☐ Score/game time

If you have a scoreboard layout plan, please provide a sketch.

Aquatics Venue Site Worksheet
continued

Video Display

The electronics of all CTS displays are conformal coated to protect against the aquatic environment.

What type of air handling is in or planned for the facility? ACTIVE or PASSIVE

Please select one: INDOOR or OUTDOOR

How many lines of information does it need to show? (recommend a minimum of the number of lanes in the pool plus two - one for the name of the event, and one for event number/heat/record time)

8 10 12 14 other:

What will the board be mounted on? (wall material or structure material)

Is there a space requirement that the display needs to fit within? YES
NO If yes, please indicate requirement:

What is the viewing distance? Maximum: Minimum:

Will any kind of video feed go to the display? YES NO

What is the available power for the scoreboard? # of circuits: Amperage:

Is there a climate-controlled room that the controller will be placed in?

YES NO

Do you have conduit running to the display location?

YES NO

Please provide a facility layout plan showing the scoreboard and an elevation drawing if available. Otherwise, please contact projectmanagement@coloradotime.com.

Aquatics Venue Site Worksheet
continued

List of photos to take:

In many cases, you may need to take several photos of an area to fully show the situation

- Pool overview

- Lane lines
- Starting blocks & location(s)
- Deck plates/deck plate locations (individual lanes, start locations, bulkhead connections, etc.)
- Wall plates/wall plate locations
- Location(s) for start system
- Location(s) for timing console
- Any existing timing equipment
- Current connections for timing system or scoreboard, if applicable
- Gutter
- Bulkhead(s), including gutter, deck plates, areas for touchpads, etc.
- Scoreboard location(s)
- Diving well
- Water polo field of play

Please send the following (as applicable) to projectmanagement@coloradotime.com:

- Copy of this completed document
- Sketch and description of gutter/pool wall obstructions
- Gutter profile drawing(s) with dimensions and angles
- In-deck wiring drawing
- Sketch(es) of your pool as set up for each sport
- Scoreboard layout sketch

Checklist

General

- Review “Official Swimming Pool Design Compendium” for applicable rules and regulations for type of pool under construction
- Send pool layout to Colorado Time Systems for review and redlining
- Complete and submit Aquatics Venue Site Worksheet

Touchpads

- Lane width and lane line usage considered before selecting a touchpad width
- 1:1 pool gutter diagram or end wall configuration forwarded to Colorado Time Systems to determine touchpad bracket requirements
- If touchpads will be hung from bulkhead, bulkhead edge configuration forwarded to Colorado Time Systems to determine touchpad bracket requirements

Individual deck box installation

- Confirm starting block manufacturer with make and model identified. Contact Colorado Time Systems for exact placement of deck boxes
- Conduit, deck boxes, pull box and wall box specifications given to contractor
- Deck box inside dimensions are critical (4 x 4 x 6 inches or 10.2 x 10.2 x 15.2cm). Pull wires are required

Electrical installation

- Electrical installation in compliance with National Electric Code
- Minimum of one 125VAC (GFI) fourplex outlet on its own circuit specified for the timing area
- Power requirements forwarded to the electrical contractor

Scoreboard installation

- Scoreboard positioned in view of timing operators
- Vertical/horizontal dimensions and viewing angles confirmed with Colorado Time Systems prior to finalizing plans
- Mounting method confirmed with Colorado Time Systems (type of brackets, load, indoor vs. outdoor, etc.)
- If GFCI outlets/circuits are required, contact CTS prior to finalizing plans
- Confirm air handling system

Timing area

- Timing console location allows an unrestricted view of the scoreboard and starting blocks
- If planning a timing booth, include a door in a location that allows immediate access to the pool deck by the timing operators. A large window should be provided for good visibility
- Wall plate is located in immediate vicinity of timing area

Bulkheads

- Bulkhead manufacturer is identified. Architect to specify location of conduit, deck boxes and connection boxes for installation by bulkhead manufacturer. Access must be provided to the connection boxes via a hinged lid or other method
- Bulkhead mechanical drawings, including access, provided to Colorado Time Systems



www.coloradotime.com | info@coloradotime.com

1551 E 11th St., Loveland, CO 80537 800-279-0111 | +1(970)667-1000 | +1(970)667-5876 (fax)

Reach out to us today to help plan your project

All content © 2026 Colorado Time Systems