Colorado Timing System
Operator Training

Timing System Operator

Timing Equipment Operator — The Timing Equipment Operator shall be responsible for the automatic or semi-automatic timing equipment, including the electronic starting system and scoreboard (if used), and shall advise the Referee or Administrative Official of any system problems that might affect the accuracy of times or whenever the touchpad is observed to have failed to record the finish when the swimmer completed the race. The timing equipment should be placed so that the operator is able to observe the finish of each race.

USA Swimming 2014 Rules and Regulations 102.17.4

The Importance of Timing

- Swimmers are at the swim meet to swim for time.

- It is the duty of the officials to insure that the competition is conducted fairly and equitably.

- "No swimmer shall be required to reswim a race due to equipment failure which results in unrecorded or inaccurate time or place. It is the meet director's responsibility to provide the proper timing systems so that swimmers can expect to achieve official times that will satisfy the requirements of 102.24.1C". [102.24.1.D]

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Swim Meet Officials

The ETS Operator is a member of the team of officials conducting the swim meet. This team includes:

Referees

Starters

Chief Judges

Stroke & Turn Judges

 Administrative Official/Referee
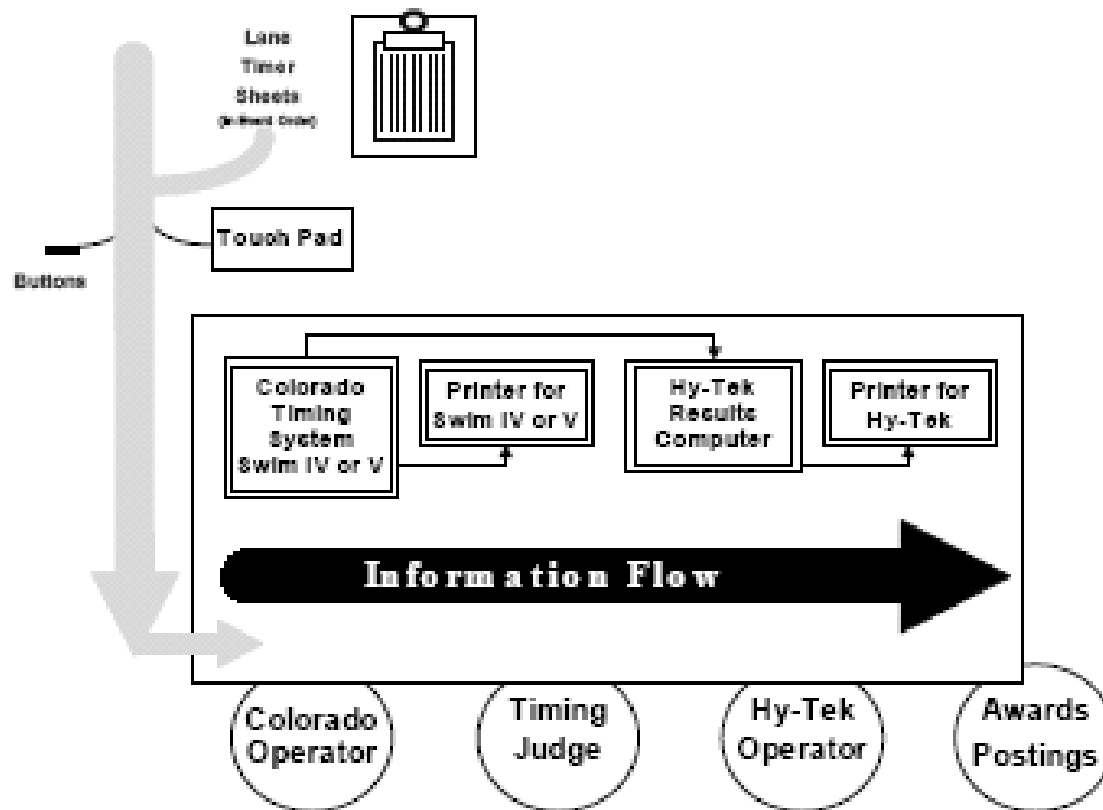
Timing Equipment Operator

Hy-Tek Computer Operator

Head Timer

Timers

Timing Information Flow

Results Flow Chart

USA Swimming Timing Rules

USA Swimming 2014 Rules and Regulations section 102.24 covers the rules and procedures for Timing

Timing Systems

102.24.2 Timing Systems — Every race in a swimming competition shall be timed with one or more of the following systems, listed in their preferred order of use:

A. Automatic — A timing system activated by a starting device and stopped at the finish by the swimmer touching the touchpad.

B. Semi-Automatic — A timing system activated by a starting device and stopped by buttons pushed by timers at the finish touch of the swimmer.

C. Manual — A timing system consisting of individual lane timers, each operating a manual watch that is both started and stopped by the timer as described in 102.17.3. Only hand-held, battery-powered, digital read-out type watches designed for timing purposes shall be used.

Timing System Designation

102.24.3 Timing System Designation — Timing systems shall be designated in the order in which results are used as follows:

A Primary System — The primary system shall determine the official time of each swimmer unless a comparison of the primary with secondary and/or tertiary system times indicates a malfunction of the primary system. A primary system shall always be in place and shall consist of one of the following, listed in their preferred order of use:

(1) Automatic Timing.

(2) Semi-Automatic, with three (3) or two (2) buttons per lane, each operated by a separate timer.

(3) Manual, with three (3) or two (2) watches per lane, each operated by a separate timer.

B Secondary System — If manually operated watches are not the primary system, a secondary system of precedence equal to or lower than the primary system must be used. The secondary system may be:

(1) Back-up timing cameras recording a minimum of 100 images per second. The cameras must be fully integrated with the timing system.

(2) Semi-Automatic with one (1), two (2), or three (3) buttons, each operated by a separate timer.

(3) Manual with one (1), two (2) or three (3) watches per lane, each operated by a separate timer.

C Tertiary System — Unless the primary system consists of manual watches or the secondary system includes at least one (1) manual watch per lane, a tertiary system of at least one (1) manual watch per lane shall be provided.

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Timing Resolution

102.24.1B Timing Resolution — All timing systems, including manual watches, shall have a resolution of one one-hundredth of a second (0.01 second). Times from all systems shall be recorded to hundredths of a second. The digits representing thousandths shall be dropped with no rounding.
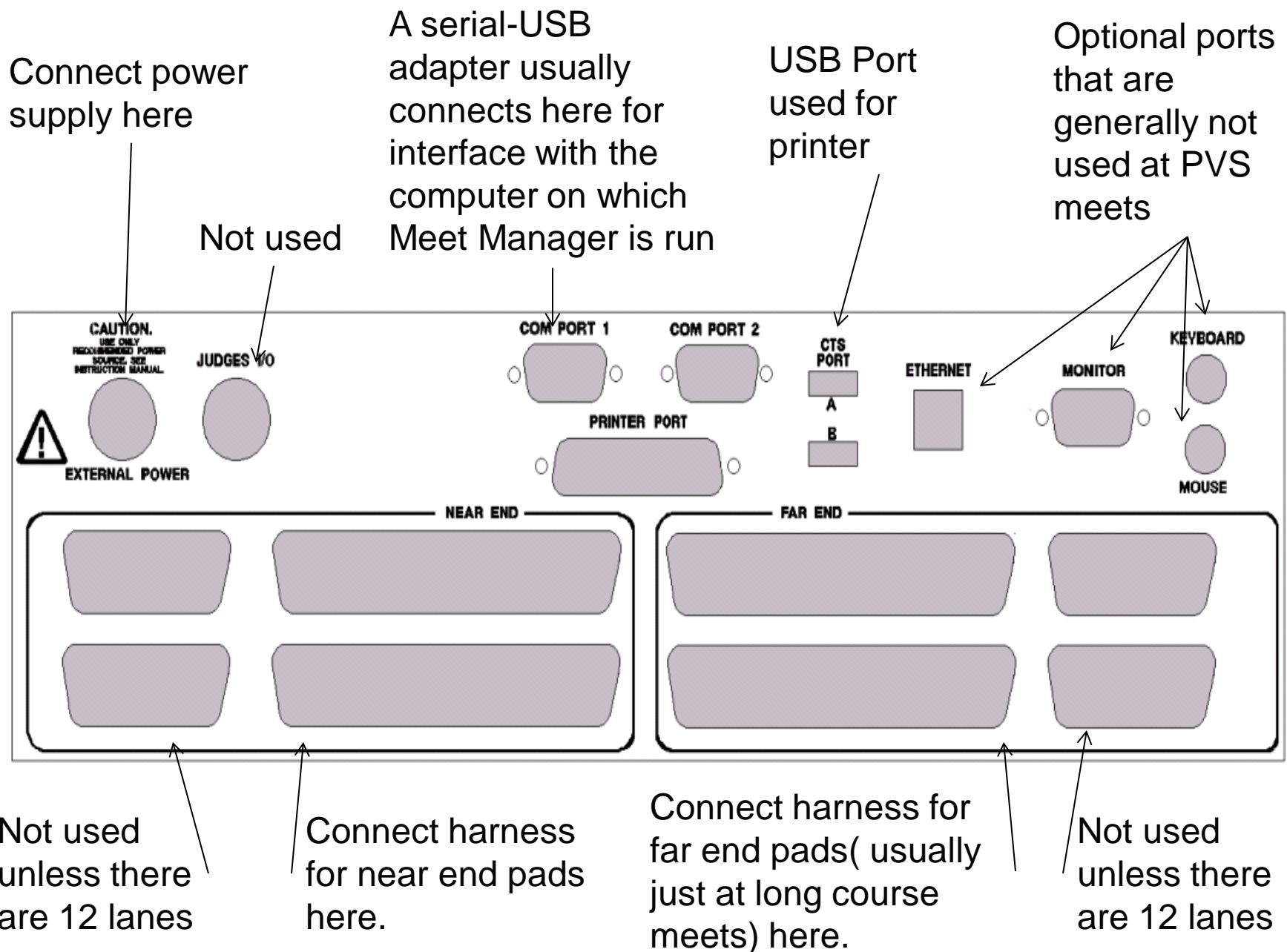
102.24.1C System Requirements for Specific Purposes
(1) Official times achieved using a timing system in accordance with 102.24.3 are valid for all entry time and recognition program purposes with the following exception: World, American, and U.S. Open Records can be established only when timed by an automatic timing system, a backup camera system, or semi-automatic system if the automatic system fails.
(2) A backup time adjusted for timing system differences as described in 102.24.4 may be used as an official time.

Colorado Timing System 6

Timing System Components

- CTS-6 (or other ETS)
- Cable Harness (connects all the components together)
- Starting System
- Touchpads (one per lane)
- Buttons (two or three per lane)
- Printer
- Scoreboard

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Connect power supply here

Not used

A serial-USB adapter usually connects here for interface with the computer on which Meet Manager is run

USB Port used for printer

Optional ports that are generally not used at PVS meets

CAUTION. USE ONLY RECOMMENDED POWER SOURCE. SEE INSTRUCTION MANUAL.

JUDGES I/O

COM PORT 1

COM PORT 2

CTS PORT

A

B

ETHERNET

KEYBOARD

MONITOR

EXTERNAL POWER

PRINTER PORT

MOUSE

NEAR END

FAR END

Not used unless there are 12 lanes

Connect harness for near end pads here.

Connect harness for far end pads(usually just at long course meets) here.

Not used unless there are 12 lanes

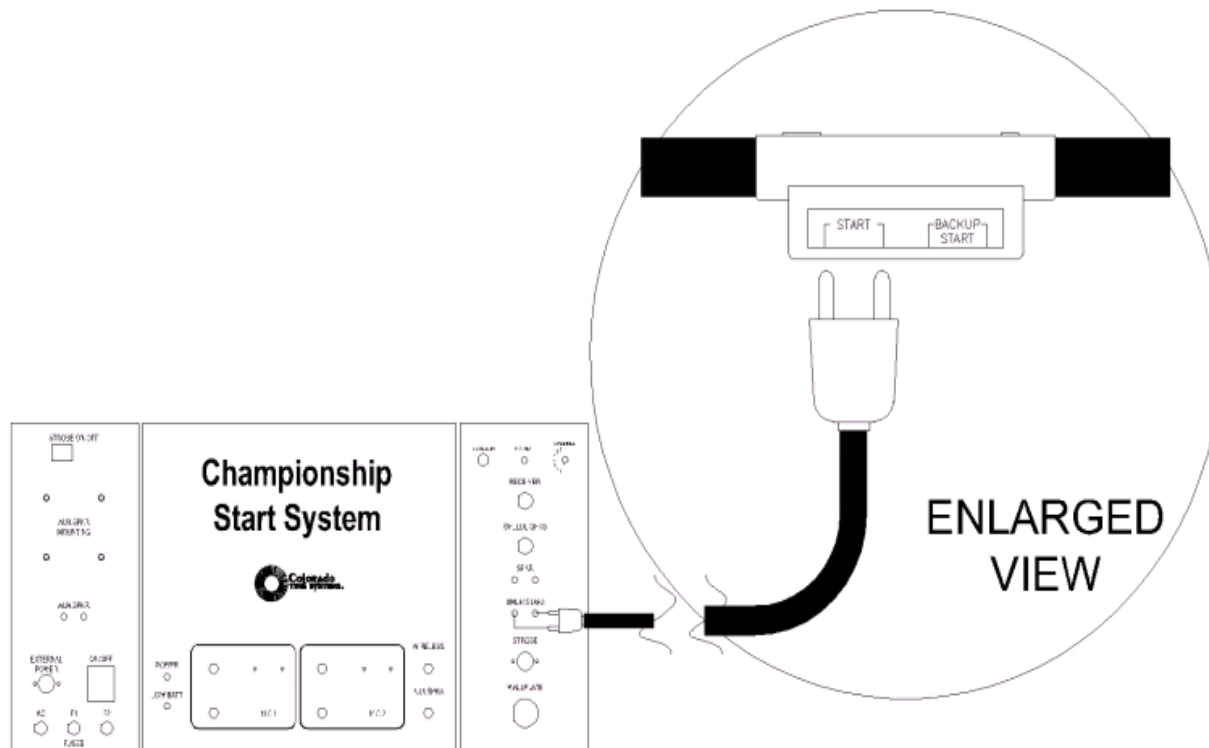# Connection to Starting System

Figure 2-A Start System Connections
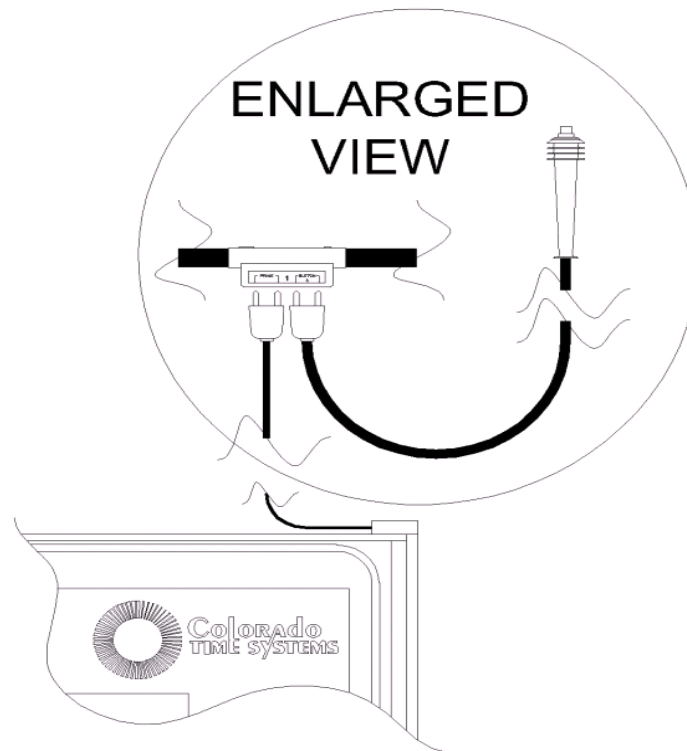
Touchpad/Button A Connection

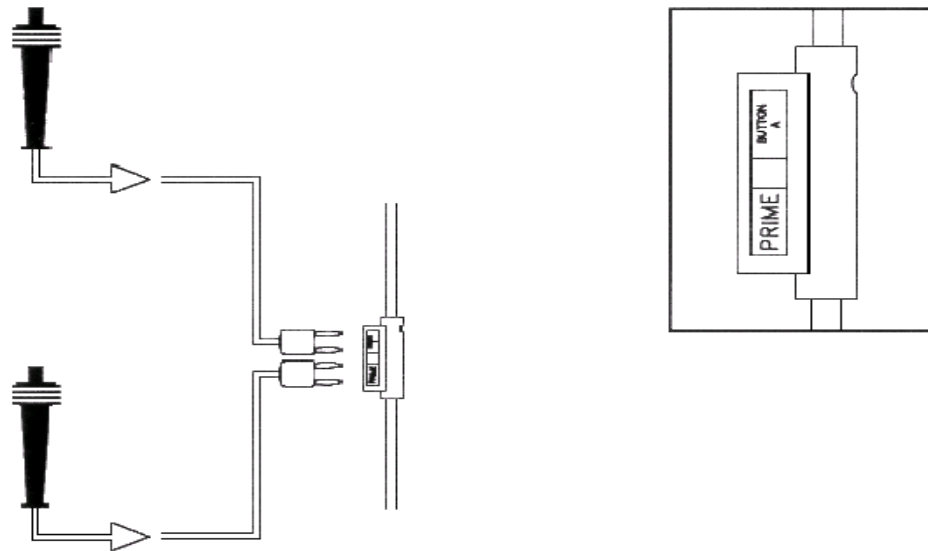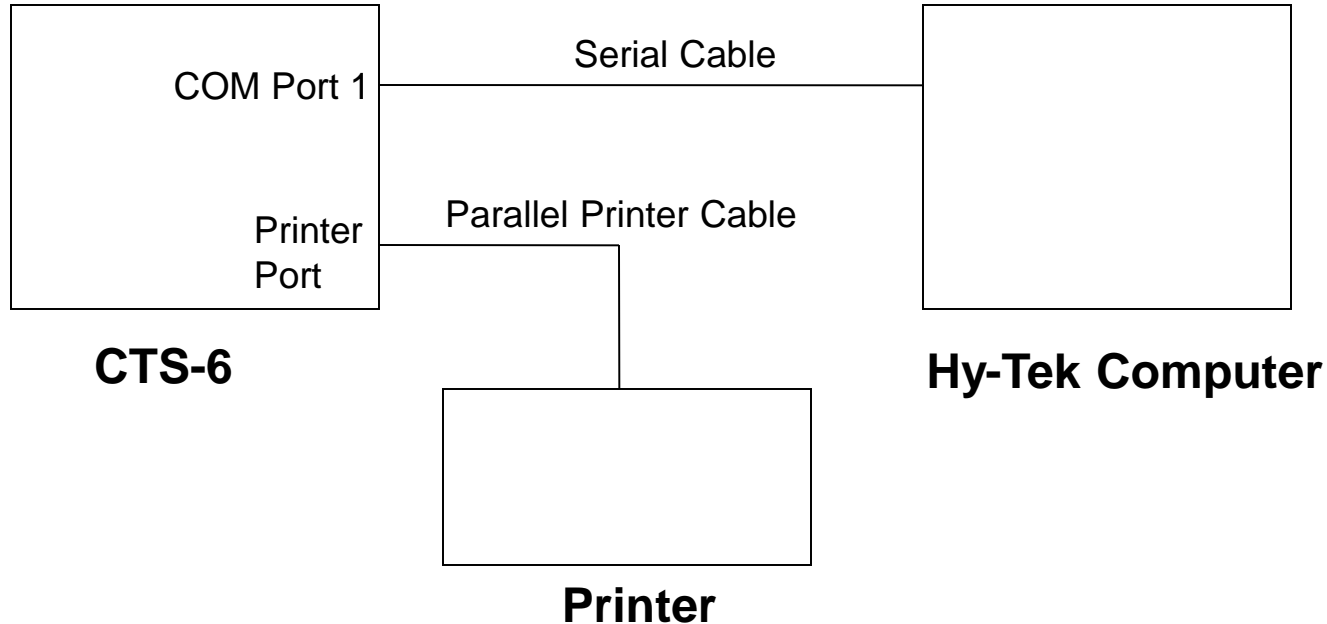Figure 2-B Touchpad/1-Button Backup Finish

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Buttons B and C Connection
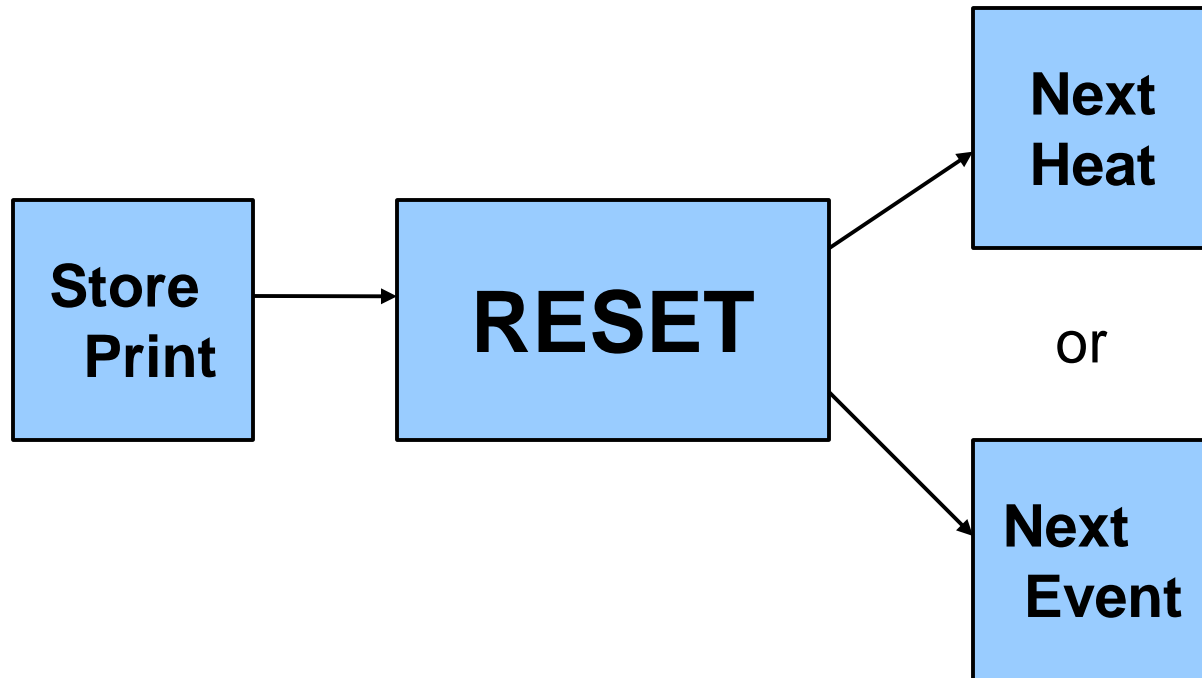

Figure 2-C Button Finish Connections

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CTS-6 Output Connections

COM Port 1 ———— Serial Cable ————

Parallel Printer Cable

Printer Port

CTS-6

Hy-Tek Computer

Printer

NOTE: The printer can also be connected to the CTS-6 using a USB cable.

CTS-6 Operation

Starting Up the CTS-6

Turn on the **POWER SWITCH** on the rear panel.

Upon being turned on the System 6 goes through a bootup process. After this is complete you are presented with a menu of options. The purpose of this menu is to start up a **SPORTS PROGRAM, SHUT DOWN** the timer, automatically **INSTALL** new software or firmware and do some **DIAGNOSTICS** on the timer.

Press the *Swimming* softkey. The Swimming program will load and is then ready to use.

CTS-6 Main Screen

Running Time

Softkeys

		Software Version: 1.208		8:17 am
2:11		Firmware Version: 1.32		17-Sep-2007

Ln	Pl/Len	Time	Backup	A	B	C	RJ		
1	4	1:36.13	1:36.00	*	*	*	.06	.33	.04
2	3	1:35.58	1:35.44	*	*	*	.05	.39	.09
3	2	1:34.38	1:34.22	*	*	*	.01	.33	.06
4	1	1:33.11	1:32.96	*	*	*	-.04	.34	.03
5	6	1:39.08	1:38.98	*	*	*	-.01	-.01	.01
6	7	1:40.14	1:39.96	*	*	*	.01	.07	.10
7	5	1:37.24	1:37.09	*	*	*	.17	.06	.11
8	6	1:41.16					.13	.01	.04

Print

Quick Options

Scoreboard

Setups

Stored Data

Misc

Lane Data

Event Status

Event:	1	200 Boys Medley Relay		
Heat:	1	Race # [0002]	Lengths:	8

1	2	3	4	5	6	7	8	
4	3	2	1	6	7	5		
8	8	8	8	8	8	8	6	

Lane Status

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CTS-6 Main Screen

- **Running Time**
  - Shows running time during the race
  - Will go blank when all active lanes are finished
  - Will show RESET when the timer is reset and ready for a start

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CTS-6 Main Screen

- **Lane Data**
  - Status of all the lanes
  - Shows no. lengths completed, finish place, buttons pressed "*"
  - Shows pad and backup times

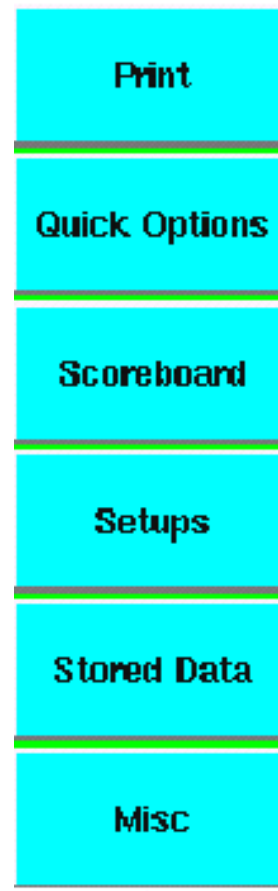# CTS-6 Main Screen

- **Event Status**
  - Shows information about the current or last race
  - Shows event, heat, description, no. lengths, race no., and whether that race is stored
  - Use this section before and after each start to verify the correct event/heat and race distance
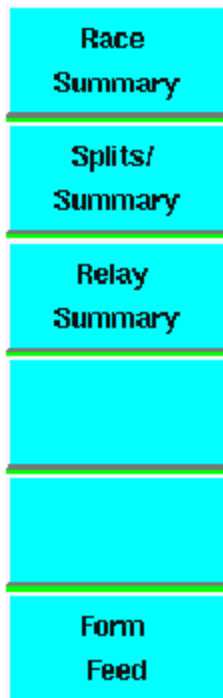 - Write the race number on your meet sheet

CTS-6 Main Screen

- **Lane Status**
  - Lane ON/OFF
  - Pad Status
    - Armed
    - Finish Armed
    - Finished
  - No. Lengths Completed

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CTS-6 Main Screen

- **Soft Keys**
  - Configuration
  - Operation

Print

Quick Options

Scoreboard

Setups

Stored Data

Misc

CTS-6 Console Softkeys

Race Summary
Splits/ Summary
Relay Summary
Form Feed

Print

PRINT	⬡

Summary

The Print softkey allows you to print additional printouts from the last stored race organized in a variety of ways. Each item is printed in the order in which you press the softkeys. Make sure your printer is on-line and loaded with paper before beginning. Print samples appear later in this chapter.

Operation

After pressing *Store/Print*, press the *Print* softkey to access the print menus. The softkeys that make up the first print menu are shown in Figure 4-C. You may press any combination of keys available.

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CTS-6 Console Softkeys

Softkey
Far End -> ON OFF
Display Lanes -> ON OFF
Backstroke Reaction ON
Post Race by Place
EVT/HT -> 0C HM/GST -> 0D

Quick Options

Far End

If using far end touchpads to record split times, use this softkey to turn the touch pads on and off.

Display Lanes

Function: Displays current race information on-screen. This includes lane numbers, places, split and final times, backup times, backup button status and relay judging times.

Operation: Press this softkey to toggle the display of current race information on-screen.

We don't use the other functions in PVS

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CTS-6 Console Softkeys

- **SCOREBOARD**
  - Scoreboard Blank
    - Toggles between ON, BLANK (display Time-of-Day) and TOTAL BLANK
  - Scoreboard On
  - Team Scores
    - If the scoreboard supports team scores, use this function to update them.
  - Record Times
    - If the scoreboard supports display of record times, use this function to enter the record for the current event

9/2014

CTS-6 Console Softkeys

- **Setups**
  - Important to check all setups before your session
  - Separate document describes typical setups for PVS meets. Exact setups will depend on the particular pool/scoreboard configuration

Saving Setups

- After making changes to any set up parameters, use the SAVE SETUP softkey to store the updated parameters in non-volatile memory.

- If you don't do this, the parameters you changed will revert to their previous values when the power to turned off and back on.

- NOTE: There is no way to print the setup information on the CTS-6.

CTS-6 Console Softkeys

- **Stored Data**
  - Provides access to race data from current and previous meets.
  - Use the "**Next Race**", "**Previous Race**", "**Next Event**", "**Previous Event**", "**Next Meet**", and "**Previous Meet**" keys to navigate to the desired data
  - Press "**Print Race**"
  - Press "**Race Summary**" then "**Form Feed**"

CTS-6 Console Softkeys

Pad Power On/Off
Shutdown
Change Sport
Colors
Create NEW Meet

Misc

Pad Power On/Off

Function: Turns off power to the pads until the next **start** is received.

Operation: This feature is used to reduce connector corrosion and extend touch pad life by removing the small amount of voltage from the touch pads. We recommend that you turn the Pad Power OFF during warmups when there are lots of hits on the pads. Power is automatically turned back on whenever the timer starts.

Shut Down

To properly turn off the System 6, be sure to return to this menu and press *Shut Down*. After the screen displays a dark gray background, it is safe to turn off the power to the System 6. It is also recommended to turn off power to the touchpads when they are not in use.

Colors

Function: Allows you to set the colors for your System 6 screen.

Operation: Press the appropriate softkey to set the background color, and softkey color. Pressing Default sets the background to Green and the softkeys to Aqua. Please note that the text will always be black, so it is wise to choose a somewhat lighter color for the background, and softkeys.

Create New Meet allows you to save the current meet and start a new one. When a new meet is created, all of the results are cleared from the screen and the event, heat and race numbers are all reset to 1.

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CTS-6 Console Keys
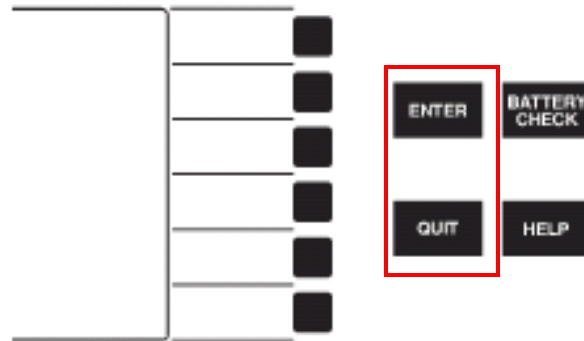
Enter
Function

ENTER — This key enters a numeric or other keyboard entry into the Swimming software.

Operation — After typing information on the keyboard or numeric keypad, press *enter* to accept the data. This key functions exactly the same as the *enter* key on the numeric keypad.

Quit
Function

QUIT — This key allows you to leave a function without saving data entered or to exit the current prompt when *enter* does not do so.
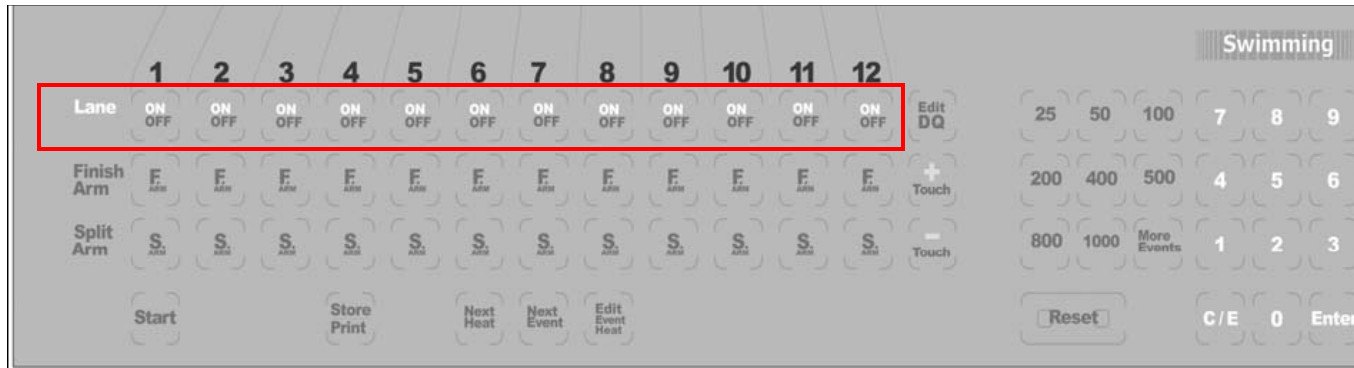
Operation — Press this key to exit a prompt after information has been entered. This key also allows you to cancel an operation that requires an entry without changing the current settings. No information is entered if you press *quit* before pressing *enter*.

CTS-6 Keyboard

CTS-6 Keyboard

Lane On-Off

Function

The *lane on-off* keys are located directly under the lane numbers on the Swimming keyboard. These keys toggle output to the scoreboard and display screen from each lane **ON** or **OFF** depending on current status.

Operation

If lane 10 is currently **off**, pressing the *on-off* key for lane 10 will turn the lane **on**. Data are still collected from a lane when it is turned off, including running time, splits and finish time. The data collected are not sent to the scoreboard unless the lane is turned on. When a lane is turned off, its number and its status are not displayed on the Swimming screen.

CTS-6 Keyboard

Finish Arm

Function

Press **F.Arm** to arm the touchpad in the selected lane for a finish touch. Use this key to arm a lane for a finish touch when the swimmer missed a split touch.

Operation

When you press this key, the Swimming display changes the lane status to waiting for a finish touch. The display also updates the number of lengths to indicate the final lap. If pressed by mistake, you must press the *-touch* key to return the lane to its prior state or the *split arm* key in that lane (see below for more information on the split arm keys).

Split Arm

Function

This key allows you to rearm a touchpad for a split touch after an invalid touch has occurred. It arms the pad immediately and subtracts 1 from the lengths swum.

Operation

For example, in a relay race, the relay swimmer stands on the pad before taking his or her mark. The pad registers a touch that is invalid. To rearm the pad for the proper split touch before the swimmer in the pool touches, press **S.Arm** in the affected lane.

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CTS-6 Keyboard

Start
Function

START

This key is used as the **backup start** in case the primary system fail.

Operation

Do not press this key before the primary start system has sounded. The *start* key also allows the timing operator to start swimmers when no other start system is used.

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CTS-6 Keyboard

Store/Print

Function

Stores the results of the race just completed in memory and prints the results. This indicates that the race is over. The *reset* key will do this function automatically for you.

At any time prior to printing, any or all lanes can be re-armed. This is very useful if you forget to change the race distance from a 50 to a 200 as a new event begins. The timer would think that the first split was the end of the race and would show a finish. As long as you have not hit *store/print* the clock is still running and you can merely hit the race distance key *200* and you are back in business.

Operation

Press this key at the end of each race to tell the Swimming software that the race is completed. The results of the current race are stored in memory and printed according to the print setup.

CTS-6 Keyboard
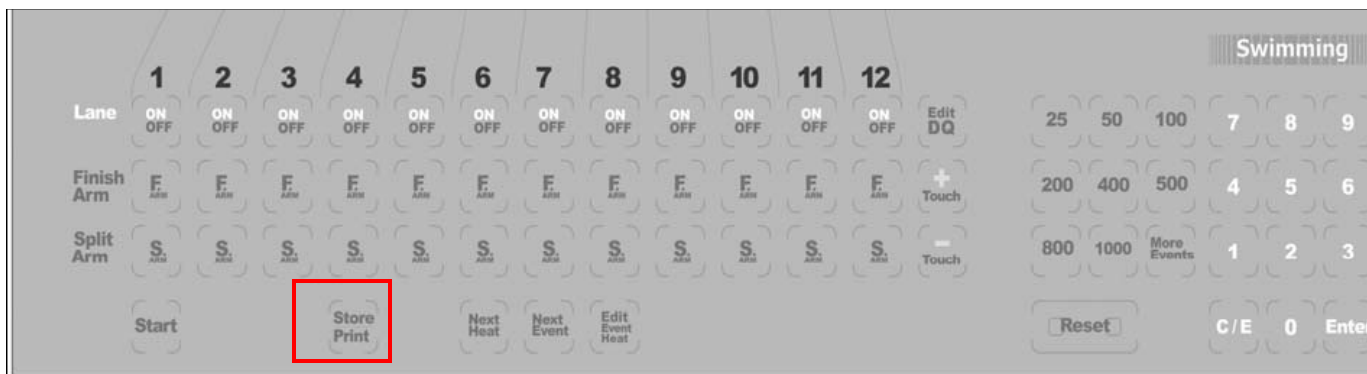
If you press this key before the timer thinks that all lanes have finished it will ignore you, and the Finish Arm indicator will keep flashing in the lane(s) in question. If a swimmer misses the touchpad BUT the backup buttons come in the timer will think that the race is over and we somehow missed the pad hit. In this case it will prompt you about using the backup time for the missed pad at the finish. If there was no swimmer in an unfinished lane, turn that lane off and press *store/print*.

If a timing problem occurs, a window appears on the display screen as indicated on page 4-2 which indicates the problem lane(s). The lane(s) in question have parentheses around the backup time. Press the *Use lnX Backup* softkey, or press *edit/DQ* to edit the time in a highlighted lane. Enter the lane number and select the correct time from the softkey, menu or enter a stopwatch time with the numeric keypad. Refer to Setups to select the kinds of timing discrepancies the Swimming software is to check.

CTS-6 Keyboard
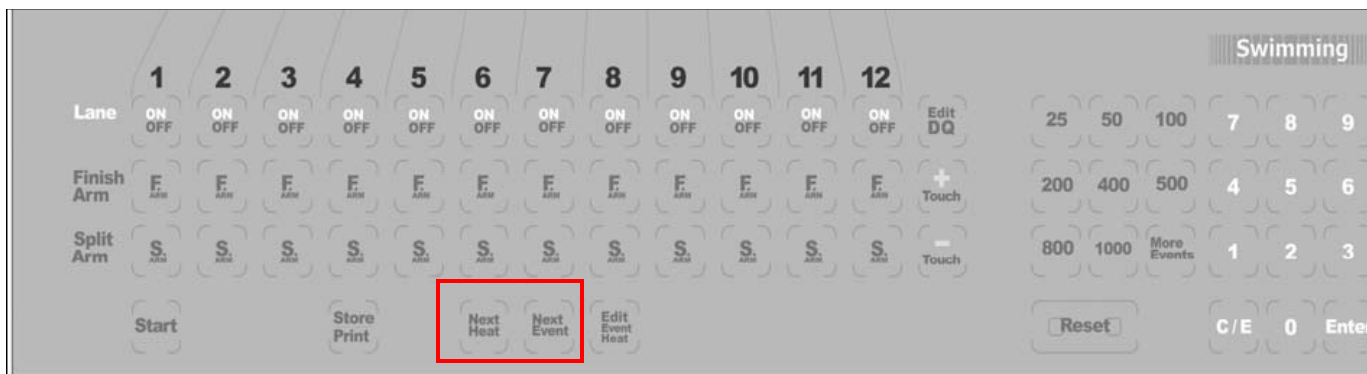
Next Heat
Function

Advances the Heat counter by one (1).

Operation

Press this key and the heat number advances by one (1).

Next Event
Function

Advances Event counter by one (1). When operating the Swimming software with a programmed event sequence, the race description corresponding to the new event number is automatically displayed. It also sets the Heat number to 1.

Operation

Press this key and the event number displayed on the screen advances by one (1). When using a programmed event sequence, the race distance and type are advanced by 1 and displayed on the screen. If you are not using a programmed event sequence, be sure to set the correct race distance before starting the next race.

CTS-6 Keyboard
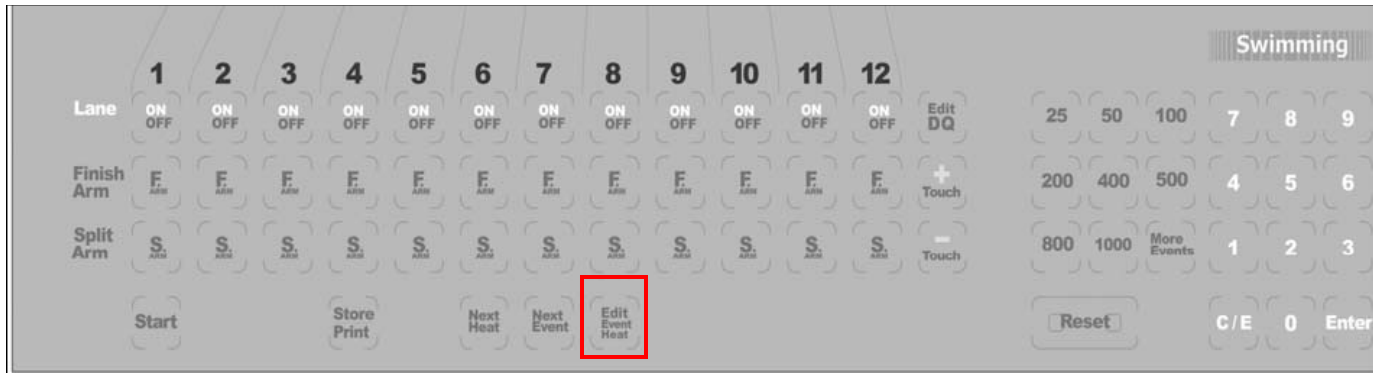
Edit Event/Heat

Function

This key allows you to edit the currently displayed event and heat numbers.

Operation

Press this key, type the desired event number with the numeric keypad and press *enter*. Then type the desired heat number and press *enter*.

CTS-6 Keyboard

+Touch

Function

+TOUCH

This key allows you to add a pad touch when the swimmer in a given lane missed a touch.

Operation

To add a pad touch to a selected lane, press this key, type the lane number using the numeric keypad and press *enter*. The display is immediately updated to indicate the added touch

Note:

A race cannot be finished from the keyboard. Therefore, this key is invalid on the finish lap.

-Touch

Function

-TOUCH

This key allows you to subtract a pad touch from the total in a given lane. Used when an invalid pad touch is recorded. For example, when a swimmer on the pool deck steps on the lip of a touchpad, triggering an invalid touch.

Operation

To remove a pad touch from a selected lane, press this key, type the lane number using the numeric keypad and press *enter*. The display screen is immediately updates to reflect the removed touch.

HINT: This function can also be done with the *Split Arm* key for each lane.

CTS-6 Keyboard

Events

EVENTS

25	50	100
200	400	500
800	1000	MORE EVENTS

Function These keys allow you to enter the race distance.

Operation Use the numbered keys in this category to set the race distance, either in yards or meters as you have defined in Setups. Press the key corresponding to the distance desired. The race distance displayed changes to match the new distance and the race status display is updated. Press *More Events* to display more event lengths on the softkey menu then press the softkey next to the desired race distance. Press the *Other Events* softkey to set a distance other than those specified on the key pad or the softkeys under *More Events*. You will be asked to type in the distance using the numeric keypad and then press *enter*.

CTS-6 Keyboard

Reset

Function

● RESET ●

This key clears the Swimming display and prepares it for the start of the next race. It performs a *store/print* for you if it has not already occurred.

Operation

The *reset* key is composed of two keys placed side-by-side. Both keys must be pressed simultaneously to reset the Swimming race display. Pressing these keys indicates that the race is over. The time is cleared for the top of the screen and the timer is ready for the start of the next race. As a safety measure if you press *reset* during a race you will told that the race is still going on and be asked if you really want to reset the timer.

Whenever you press *reset*, the race is over even if a swimmer has not finished. The race is stored showing results only for the lanes that were finished before *reset* was pressed.

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CTS-6 Keyboard

Numeric Keypad

Function — This key allows you to enter numbers in response to a variety of prompts. The numeric keypad is located on the right of the keyboard insert on the System 6 lower keyboard.

Operation — There are many instances during the operation of the Swimming software when it is necessary to enter numbers. Whenever a numeric entry is required, use the keypad to make the desired entry.

Enter
Function — This key enters the numeric or other keyboard entry into the Swimming software.

Operation — After a keyboard entry, press *enter* to accept the entry. This key is exactly the same as the *enter* key on the upper console.

C/E
Function — This key allows you to clear an existing entry or clear an entry made in error.

Operation — Press *c/e* to clear all data from a prompt line on the screen.

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Scoreboard

- Different facilities have different scoreboard setups. Usually, the facility staff, the meet manager or the PVS equipment manager will have set up the scoreboard.

- The scoreboard can be in one of three states:
  - ON
  - BLANK (showing the time)
  - TOTAL BLANK

- The scoreboard is usually set to BLANK during warm-ups. Don't forget to turn it back ON before the session begins.

Testing the System

- This testing should be done before every session, after you've verified the setups. **DO NOT WAIT FOR THE STARTER AND THE TIMERS TO TEST THE SYSTEM.**

- Set the CTS to an unused event number (e.g. 299) and set the length to a two-length event (e.g. 50Y or 100M).

- Use the Starting Unit to start the test.

- After the pad delay timeout period (normally 15 sec.) press both buttons then the pad in each lane in sequence.

- Check connections and re-test if necessary.

- Alert facility staff or the meet manager, and the referee if it appears that any non-functioning hardware needs to be replaced.

- After you have completed testing, set the CTS to the first event/heat number to be ready to start the session.

Timing a Race

- Ensure the CTS-6 is set for the correct Event/Heat using either:
  - **Event/Heat** key
  - **Next Heat** key
  - **Next Event** key
- The timer should start automatically from the signal from the starting system. If it does not start automatically
  - Press the **START** key to manually start the timer
  - Alert the Referee to the problem
- If there is a recall, do not press the **RESET** key until you are sure all swimmers have stopped swimming.
  - If the race was not stopped within 10 sec, the unit will mark that event and heat number as already used. In this case the event and heat numbers will not print on the result printout. You will need to write the event and heat numbers on the printout.

Timing a Race (Cont.)

- Once the race starts, write the "race number" from the console on your meet sheet.

- Turn off any lanes that have no swimmers by pressing the **LANE On-OFF** key below the lane number. If you do not have a good view of the pool, the referee or starter will report the unoccupied lanes to you.

- During the race, monitor the system to ensure all touches are recorded. For a missed pad or a touch not recorded, use the **+TOUCH** key to add the touch. Alternatively, if the swimmer is on the last length, you can use the **FINISH ARM** key for that lane.

- If an extra touch is recorded, you can adjust the number of lengths using the **–TOUCH** key or the **SPLIT ARM** key for that lane.

Timing a Race (Cont.)

- Monitor the final touches and the button presses on the Main Display screen.

- Note on you meet program any anomalies that you observe, such as missed pads or missed buttons. This information can help the Timing Judge. It also helps determine malfunctioning hardware.

- Once the last swimmer has finished by pressing the touch pad or two buttons are pressed, the clock in the upper left corner of the Main Display will stop.

- Press the **STORE/PRINT** key. This will store the results of the current race and send the results summary to the printer.

- Press the **RESET** key using two fingers. This prepares the CTS-6 for the next race. Any lanes that had been turned off will be automatically turned back on.

- Prepare for the next Heat or Next Event.

CTS-6 Printout

During the Race

(shows all the touches)

Race Number

Start Time Of Heat

```
====> RACE HISTORY <=============================================> Race 0021
                                                    Saturday 02-15-08  2:36.57 pm
:----------------< Lane Number
:     :------------< Lengths
:     :     :--------< Time
4)  02  29.92      5)  02  30.80      6)  02  33.00      7)  02  33.30      2)  02  34.08
8)  02  34.85      1)  02  35.05      1)  EARLY   .51    3)  02  35.27      4)  04  1:04.94
5)  04  1:07.65    7)  04  1:09.68    6)  04  1:10.07    2)  04  1:12.48    1)  04  1:13.73
3)  04  1:13.94    8)  04  1:14.91
```

	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
Button	~~34.54~~	1:12.50	1:13.29	1:04.86	1:07.73	1:10.16	1:09.92	1:14.84
Button	1:13.78	1:12.43	1:13.25	1:04.90	1:07.78	1:10.04	1:09.93	
BACKUP	~~.54.16~~	1:12.47	1:13.27	1:04.88	1:07.75	1:10.10	1:09.92	

```
=============================================================> Colorado Time Systems
```

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CTS-6 Printout

After Store/Print

(Race Summary)

Event/Heat Description

```
==> RACE SUMMARY <====================================================> Race [0003] <=====
                                                              Monday 17-Sep-07 10:23:52 am
200 Boys Medley Relay
Event: 1         Heat: 3
----- BY LANE -----              ----- BY PLACE ----
Lane Place Time      Backup      Place Lane  Time      Backup
1    1     1:35.94               1     1     1:35.94
2    2     1:36.68               2     2     1:36.68
3    4     1:38.14               3     4     1:37.63
4    3     1:37.63               4     3     1:38.14
5    5     1:38.62               5     5     1:38.62
6    6     1:39.10               6     6     1:39.10
7    7     1:39.53               7     7     1:39.53
8    8     1:39.95               8     8     1:39.95
```

Pad Times in Lane Order   **Pad Times in Place Order**

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Re-Printing a Previous Race

- Press the STORED DATA softkey.
- Use the Previous/Next softkeys to navigate to the race of interest.
- Press the PRINT RACE softkey.
- Using the softkeys, select:
  - RACE SUMMARY
  - FORM FEED (to finish the page)

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Shutting Down the CTS-6

DO NOT TURN THE SYSTEM OFF UNTIL YOU ARE SURE ALL THE TIMES HAVE BEEN RETRIEVED FROM THE CTS-6 BY THE HY-TEK OPERATOR

From the Main Display press the **MISC** softkey.

Then press the **SHUTDOWN** softkey.

After the screen displays a gray background with an arrow in the center, it is safe to turn off the power to the CTS-6

Troubleshooting

| Symptom	Action	Notes
Nothing Works Two problems may arise: First, no electricity; and, second, no battery backup	1. Check power On/Off switch. 2. Is Power Strip On? 3. If yes, and there is no power, check Colorado transformer. 4. If No, is extension cord power ON?	If power switch is On: Is it plugged in Colorado? Is it plugged into Power Strip?
Batteries Discharged	1. Press "Battery Check" button. 2. Check to see if there are batteries: Are there batteries? Are batteries installed in correct direction? 3. Replace dead batteries:	If no charge: Turn Colorado system upside down. Using a coin, turn the two black slot bolts, and take the lid off. Colorado requires: eight (8) "D" Cell Size; one (1) 9-volt battery (IV only).
Starting Console does not cause Colorado to start timing race.	1. Check Starter Cable is between Starting Console and Harness. 2. Examine Cable plugs: 3. Replace Cable.	Is cable present? Is cable plugged into socked marked "Start?" Is cable plugged into "NC" socket in starting console? Is one broken? Is corrosion on plugs? Scrap corrosion off.
Forgot to Store/Print before resetting CTS and another race has started.	1. Proceed with current race. 2. Have HyTek operator pull race results data.	Data should be stored when you hit reset (a nice Colorado feature). If race data is not Available, use manual watch time(s).

Troubleshooting

Symptom	Action	Notes
Did not advance CTS to next heat.	1. If next race has not yet been Store/Print, then advance to next heat. 2. Otherwise write the correct Event & Heat on Colorado print out.	You should have noticed the console blinking the Event & Heat.
Did not advance CTS to next event.	1. If next race has not yet been Store/Print, then advance to next event 2. Otherwise write the correct Event & Heat on Colorado print out.	There is no need to panic!
Next event was/is a different distance.	1. Advance to next event or edit Event/Heat to get to proper event. or 2. Press proper distance on console. After race is finished get to proper Event/Heat.	So long as you have not stored the race yet, you may still perform all of these actions.
I forgot to turn empty lanes off before pressing Store/Print.	1. If there are empty lanes you will get a warning message, just go ahead with the save. 2. See next situation.	Lane On/Off does not actually make the lane ignore pad & buttons, it simply means that when you Store/Print it is OK to have no results for this lane.
I forgot to turn lanes on for next race.	1. If there were swimmers in those lane(s), their times will be stored.	
Swimmer missed, or did not touch pad firmly during turn.	1. Press +Touch, then key in lane number of the missed pad touch. 2. If it is the last touch before finishing, press Finish Arm for that lane.	
Someone or thing causes another touch to be recorded for a lane.	1. Press –Touch, then key in lane number of the extra pad touch. 2. You could press Split Arm for that lane, this will remove one touch and immediately re-arm the pad.	This can be useful for relays, but the Split Arm key will only work if the pad is currently not armed.
360° Strobe light begins to blink.	1. The starter has been turned off and the strobe is still turned on. Turn the strobe off. 2. Batteries in the strobe are getting weak.	

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Other Electronic Timing Systems used in PVS

Colorado Timing System 5

Daktronics OmniSport 2000
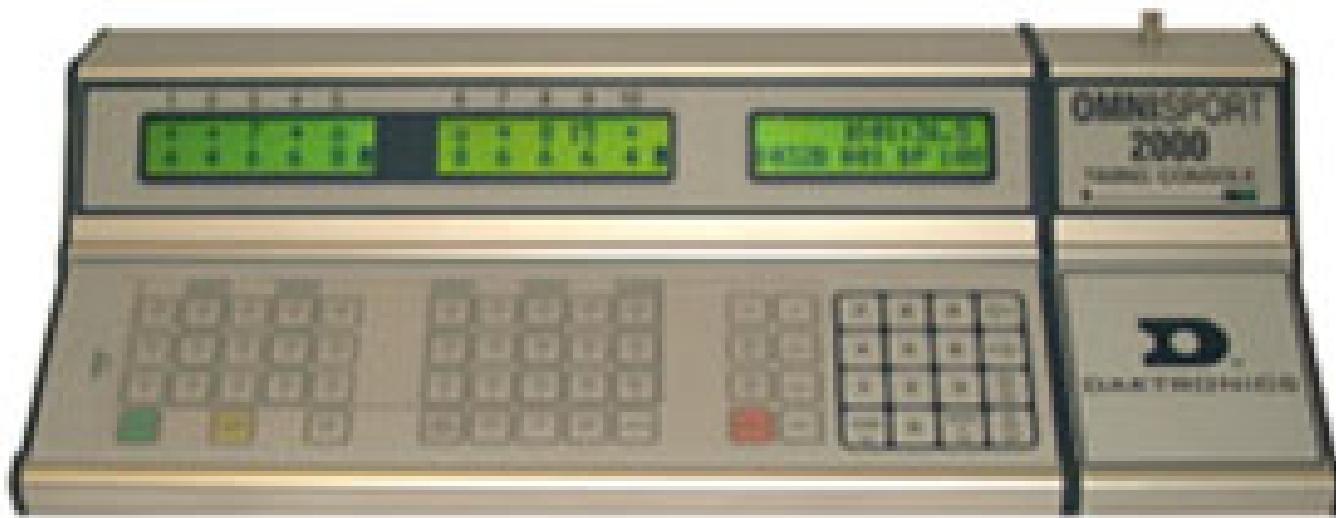
Used at the
Claude Moore Rec Center, and Georgetown Prep School

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Online Training Videos

http://www.pvswim.org/official/training/cts6-training.html

PVS Officials

CTS-6 Training Videos

This page contains links to some training videos about the operation and maintenance of the Colorado Timing System 6 (CTS-6). Most of them were produced by Colorado Time Systems. The CTS-6 User's Guide is a good reference to have handy as you are watching these videos. Comments about this page, or links to other CTS-6 training materials can be sent to thusson@comcast.net

CTS-6 Operations

The following videos are posted on YouTube. A brief description of each video is provided.

System 6 - Swimming Overview
This video is an introduction to the Colorado System 6 (CTS-6) and the Swimming application for the system.

System 6 - Sport Loader
This video is an introduction to the Sport Loader in the CTS-6. This is the application that comes up when you power on the system. From this application you can go to the Swimming application. Some diagnostics on the CTS-6 can also be run from the Sport Loader. Also, the Sport Loader is where you set-up for using a USB printer. Additional information can be found in the CTS-6 Sport Loader Manual.

System 6 - Swimming Setups Part 1
This is the first of three videos describing all the configuration options of the CTS-6. The Start/Finish, Hardware and Timing setups are covered in this video. You can also refer to the PVS Set-Ups for the CTS-6 Timing System

System 6 - Swimming Setups Part 2
This is the second of three videos describing all the configuration options of the CTS-6. The Pool, Scoreboard and Printer setups are covered in this video.

System 6 - Swimming Setups Part 3
This is the third of three videos describing all the configuration options of the CTS-6. The Event Sequence, Date/Time and Wireless setups are covered in this video.

System 6 - Running a Meet
This video reviews the process of running a meet. It includes helpful information about some of the various scenarios and problems that you may encounter, along with pointers to how to handle these situations.

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Other Resources

- **CTS-6 Setups for PVS**
  - http://www.pvswim.org/official/training/cts-6_setups.pdf

- **Configuring a Printer for CTS-6**
  - http://www.pvswim.org/official/training/CTS-6_Printer.pdf

- **CTS-6 User's Guide**
  - http://www.pvswim.org/official/training/System6swim-man.pdf