

# **Timing and Scoring Dual Meets**

SVY Swimming

6-22-07

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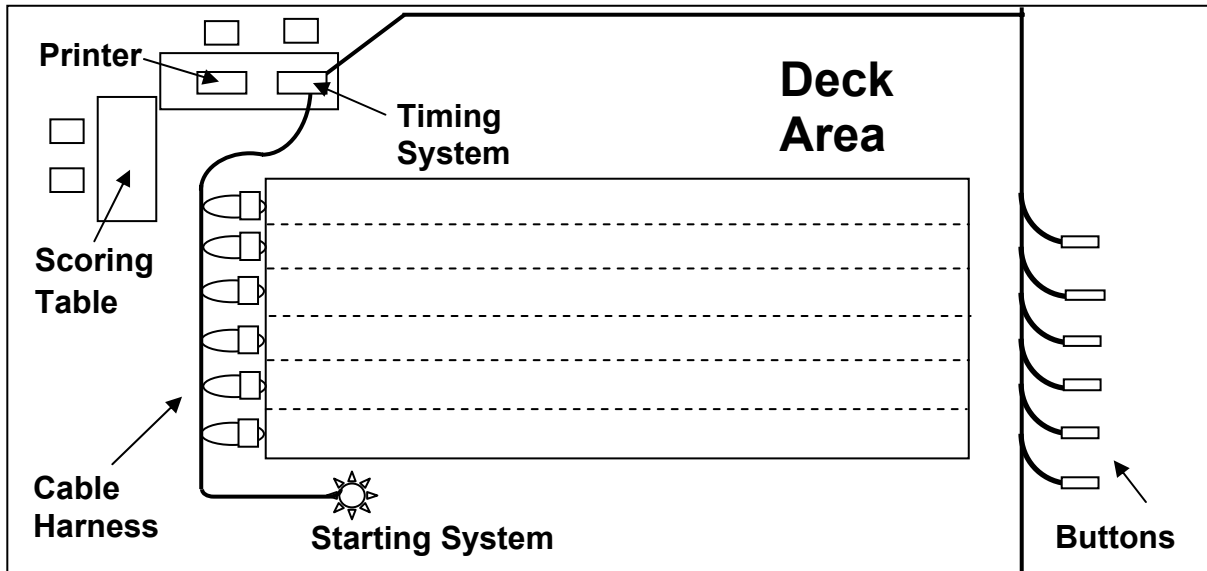
# Introduction

This document contains a description of how to time and score a dual meet using the Colorado Timing System with touch pads, one button at the starting end and two buttons at the far end.

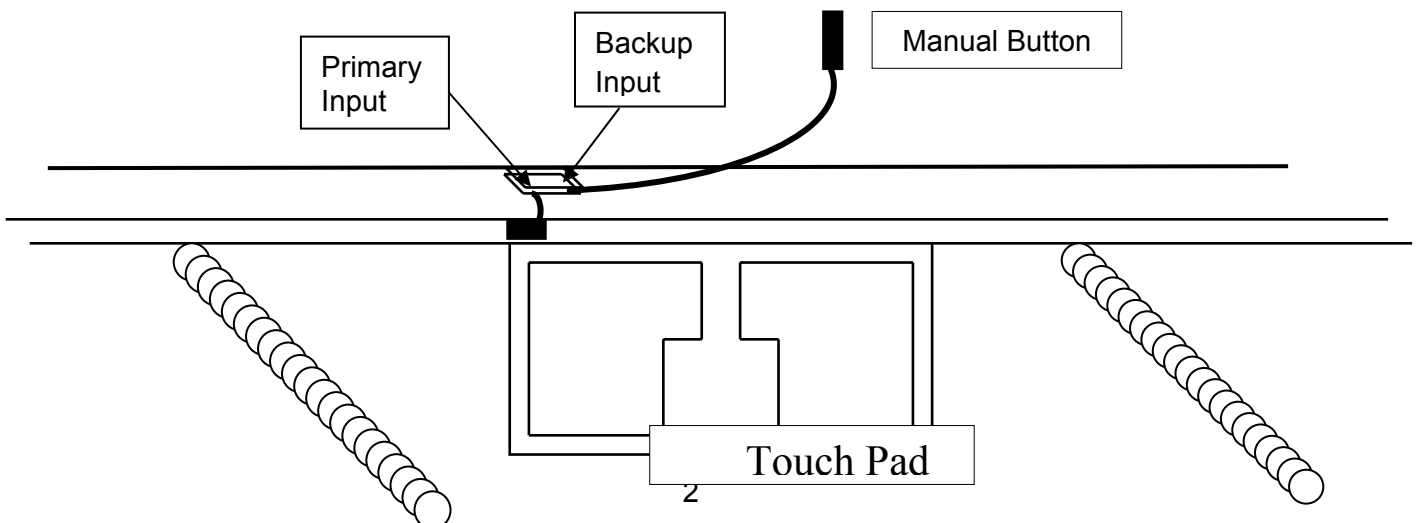
The primary jobs to run a dual meet are as follows:

- **Team Coordinator** –Before the meet, combine the meet line-up from both the teams and make copies to pass out to the scorers, officials and coaches. Make sure all volunteers for the day are there. Hand out the watches to the timers. Set up 6 clipboards for timers with lane cards.
- **Timers** – There are 2 timers per lane.
  - One timer operates the button and a stopwatch. The button time is the primary backup time that is used if the swimmer misses the touch pad. The watch times are used to resolve discrepancies between the pad and button time or if the timing system fails.
  - The second timer uses a stopwatch. They also record the swimmers name at the start of the heat and the times from the two stopwatches at the end of the heat. They hand the lane cards with the recorded times to the runner after each heat
  - Both timers use stopwatches and buttons for the 8&Under 25 yd events. Both buttons must be pressed for the time to record in the timing system. One timer still has to write the swimmer's name and the two watch times on the lane card.
  - During the relays, the timers must make sure that each of the first 3 swimmers get out of the pool right away so they don't set off the touch pad before for the next relay leg finishes.
- **Referee** – holds the timers and officials meeting before the meet starts. The referee explains the watch and button procedures to the timers before the meet starts.
  - The button should be pressed, not flicked
  - Both buttons must be used at the 25-yard end or the time will not be recorded
- **Starter** – Responsible for giving swimmers a fair start. The starter uses the starting system to start the race which automatically starts the timing system.
- **Finish Judge (Across the Board)** – Records the order of finish for each race. Only first heats are judged. The order of finish is NOT needed for second (unofficial) heats since place is not recorded.
- **Stroke and Turn Official** – Determines if the swimmers correctly executes the stroke and turns for the race. Fills out a DQ form for incorrect swims and hands it to the Timing Judge.
- **Equipment Setup Crew** – Sets up the touch pads, buttons and starting system. Sets up the tables and chairs for the scoring table. See the "[Equipment Setup](#)" section for more detail.
- **Colorado Operator**– Sets up and operates the Colorado Timing System. Saves and prints the results of each race (e.g. each heat is considered a race). See related sections in this document.
- **Timing Judge** – Removes the race summary printed at the end of the heat and resolves discrepancies between the pad time and the button time. The printout is then passed to the scorer along with the DQ slips, if any, received from the referee. See the "[Timing Judge](#)" section for more detail.
- **Scorer** – records the official time on the score sheet and keeps a running total of the score. Compares their score with the scorer from opposite team for accuracy. See the "[Scoring](#)" section.
- **Runner** – collects the lane cards and the order of finish sheets from the finish judge at the end of each race. Puts the lane cards in order by time. Hands the lane cards to the Timing Judge.
- **Food Sales & Refreshments** (winter home meets) – Make arrangements to have refreshments for the swimmers for both dual meet teams for after the meet. Refreshments can be granola bars, donuts, bagels, etc. Save receipts for any purchased items. In addition, arrangements can optionally be done to purchase and sell pizza, bagels and other food items as a concession.
- **8 & U Marshal** – Takes the 8 and under swimmers to the starting blocks for their race.

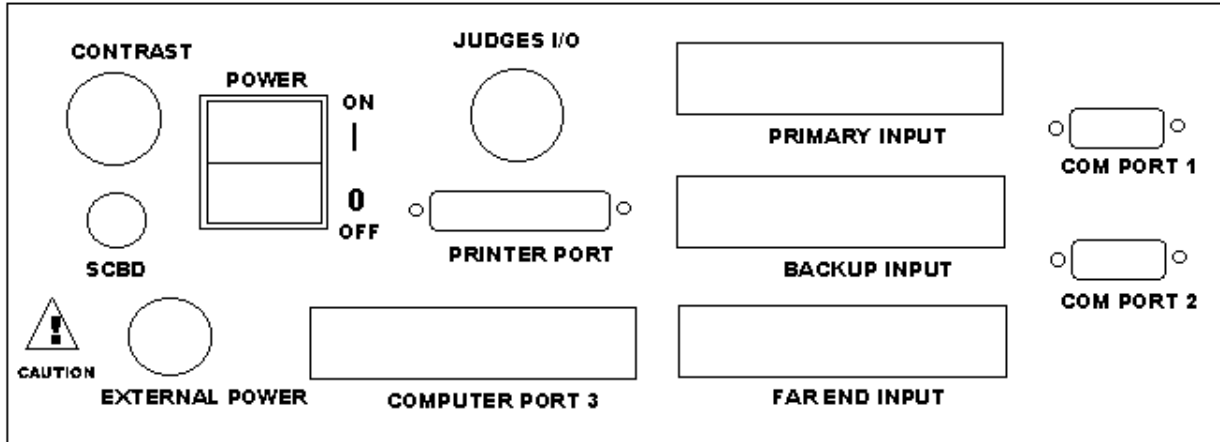
## Setting Up the Equipment (Done by Set-up Crew)



- Arrive at least 20 min before warm-up starts. The pads need to be in before warm-ups.
- Set up the tables and chairs for the scorers and timing system.
- Get touch pads, cable harness and buttons. In Hillsborough they are located in the room by the hot tub. In Bridgewater the touch pads are on the deck in the far corner and the cables are in the cabinet in the balcony.
- Get Starting System (from the swim team office, Room 2, in Hillsborough or in the life guard room on deck in Bridgewater). The starting system should be charging from the night before.
- Loop the cable harness around each starting block. Lane 1 on the cable harness goes with lane 1 on the pool in Bridgewater. Lane 1 on the cable harness goes with lane 6 on the pool in Hillsborough. Connect the Starting System to one end of the cable harness.
- Put in 1 touch pad per lane. Plastic strips with velcro hold the pad in place. Plug the touch pad into the “Primary Input” in the cable harness. Plug one button per lane into the “Backup Input”.
- In Hillsborough, the 25-yard cable harness is suspended with a wire cable. Lane 1 on harness goes with lane 6. Tighten the end with pliers so it doesn’t sag. Attach 2 buttons per lane.
- In Bridgewater, the 25-yard end cable just lays on the deck. Lane 1 on the harness goes with Lane 1 on the pool.
- The 25-yard end harness is connected to a long extension cable and then to the timing system.
- At end of the meet put everything away. Rinse off the pads and buttons if possible.



# Connecting and Testing the Colorado System



Colorado System Rear Panel Layout

## Colorado System and Printer

- Get printer, paper, Colorado System and extension cord.
- Connect cable harness at the starting end to Primary Input on the back of Colorado System. Connect the cable harness at the 25-yard end to the extension harness and then to the Backup Input.
- Connect printer cable to printer port on the back of Colorado System. Put paper in printer. Turn on printer.
- Connect scoreboard cable into the port marked "SCBD" on the back of Colorado System.
- Plug in Colorado System. (In Hillsborough, if there is no power, turn on the circuit breaker located in the sprinkler room around the corner from the bulletin board, check the switch box to make sure the power switch for the scoreboard is "ON" (flipped to the left). It's the switch on the bottom right and clearly marked.)

## Turn on Colorado System and Select Correct Meet

There are several different event sequences stored in the Colorado System. To select the one for the meet:

- Turn on Colorado System. If it performs a self-test, press **SPORTS MENU**.
- Press the **SWIMMING and DIVING** soft key.
- Press **SETUP**
- Press the **DOWN** soft key until the arrow points to "EVENT SEQUENCE"
  - If the little arrow is already pointing to the correct meet, Press **QUIT**
  - To select a different meet,
    1. Find the number next to the appropriate meet.
    2. Press that number on the Key Pad (bottom right of the counsel)
    3. Press **QUIT**.
    4. Verify the first event shown on the window is the first event for the meet. (e.g., 10&U 100 IM)

**NOTE:** If you turn the timing system off you will need to re-select the meet the next time you turn it back on.

<u>SETUPS</u>	<u>CHOICE</u>	<u>OPTIONS</u>
Start	1	None
Finish/Buttons	2	First Half
Hardware	> 3	Second Half
Splits	4	High School
Timing	5	Time Trials
Pool	6	Wednesday (Hurricanes)
Scoreboard	7	Saturday (Hurricanes)
Printer	8	open
>>> Event Sequence	9	open
Time/Date	0	View/Edit Selected Sequence

Event Sequences are pre-loaded and should not need to be modified. Instructions to create and modify event sequences are found in the following:

- Instructions to create or edit Event Sequences can be found in the Colorado System V System Manual, page 4-27.
- Event sequences may also be downloaded from Meet Manager to sequence 9. The instructions are described in the Meet Manager User Guide.







### Test a Race After Warm-ups

- Press **EDIT HEAT/EVENT**. Type “99” (for event #), press **Enter**, type “1” (for heat), press **Enter**. (you just need to use an event you know isn’t in the meet)
- Press **50** to set the test race to 50 yards. No other information is needed, just press **QUIT**.
- Press **DISPLAY** to show the Display Menu. This Display Menu shows the pad time when the pad is touched and a small triangle when the button is pressed.
- Start the Colorado System using the Starting System and wait about 20 seconds.
- Then press each pad and button as close together as possible so they both get recorded. For each lane, make sure the Display Menu shows the time when the pad was touched and the triangle when the button was pressed. Change the button if one is not working.
- Make sure the scoreboard is functioning as the pad is pressed.
- Press **STORE/PRINT** to send the results to the printer then press **RESET**
- Press **QUIT** if discrepancies appear.
- Press **NEXT HEAT** then repeat the test for the buttons at the 25-yard end.
- Edit the Event and Heat back to Event 1, Heat 1 to get ready for the first race.

### Turn on the Scoreboard (if scoreboard is blank)

If the scoreboard is already on, no need to do this step.

- Press the Score Board soft key to display the scoreboard status.
- Press **SCBD ON** to turn the scoreboard back on. This is the setting needed to run the meet.

STEP DATA	
CLEAR LANES	
SCBD BLANK	
SCBD ON	
TEAM SCORES	
RECORD TIME	

# How to Run a Race (Quick Reference)

## Before the Race Starts

- Press **DISPLAY** to turn the Display Menu on
- Turn all lanes on
- Check Heat and Event

## The Race

- The race starts automatically when the starter starts the race
- Turn off lanes that have no swimmers
- Re-arm pads or add and subtract touches for missed or extra touches.
- Watch for all lanes to finish.

## After the Race

- Press **STORE/PRINT**
- If discrepancies are displayed,
  - Select backups and then press **OK TO PRINT**, or
  - Just press **QUIT** if no backups are selected.
- Press **RESET** with two fingers on the two white dots
- Press **NEXT HEAT** or **NEXT EVENT** to get ready for the next race.

## Finish Buttons

When the timers change ends of the pool...

- Press **QUIT** to close the Display panel
- Press **SETUP**
- Press the **UP** soft key to “Finish Buttons”
  - For 25-yard races,
    - Press **3** (Two Buttons, Prime Finish)
    - Press **QUIT**
  - For all other races,
    - Press **1, 5** and **9** (Pad, One Button backup, Compare Pad-Button Difference)
    - Press **QUIT**
- Press **DISPLAY** to bring back the Display panel

# Order of Events for Winter Dual Meets

## Schedule of Events 1st Half Schedule 1

1	10 & U	100	IM
2	11-12	100	IM
3	13-14	200	IM
4	15-18	200	IM
5	8 & U	25	Free
6	9-10	50	Free
7	11-12	50	Free
8	13-14	100	Free
9	15-18	100	Free
10	8 & U	25	Breast
11	9-10	50	Breast
12	11-12	50	Breast
13	13-14	100	Breast
14	15-18	200	Breast
15	8 & U	25	Back
16	9-10	50	Back
17	11-12	50	Back
18	13-14	100	Back
19	15-18	200	Back
20	8 & U	25	Fly
21	9-10	50	Fly
22	11-12	50	Fly
23	13-14	100	Fly
24	15-18	100	Fly
25	8 & U	100	Free Relay
26	9-10	200	Free Relay
27	11-12	200	Free Relay
28	13-14	200	Free Relay
29	15-18	200	Free Relay

## Schedule 2

The following events are shorter:

14	15-18	100	Breast
19	15-18	100	Back

## Schedule of Events 2nd Half Schedule 1

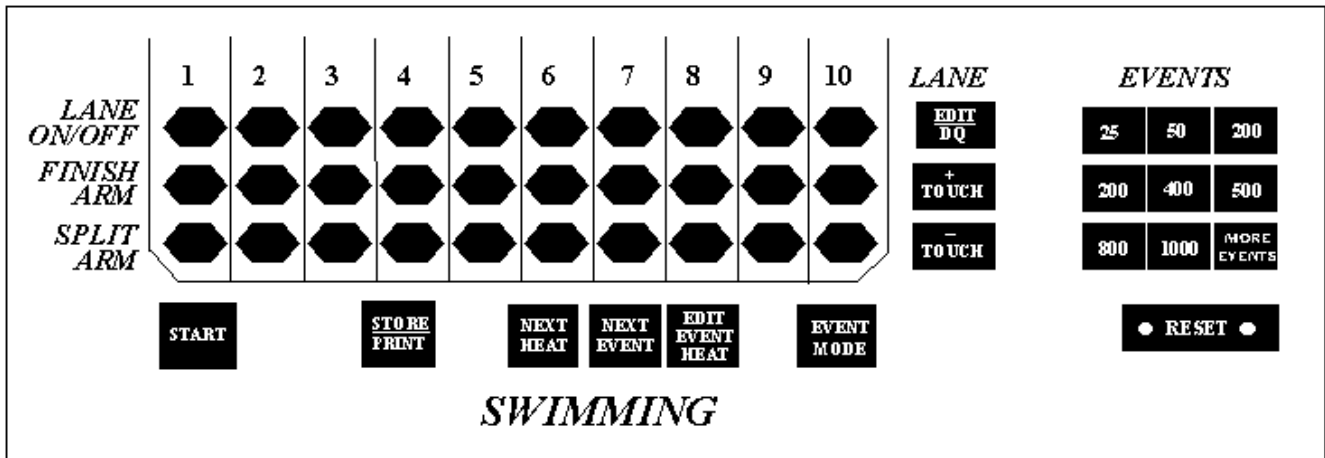
1	10 & U	100	IM
2	11-12	200	IM
3	13-14	200	IM
4	15-18	200	IM
5	8 & U	50	Free
6	9-10	100	Free
7	11-12	100	Free
8	13-14	200	Free
9	15-18	200	Free
10	8 & U	25	Breast
11	9-10	50	Breast
12	11-12	50	Breast
13	13-14	100	Breast
14	15-18	100	Breast
15	8 & U	25	Back
16	9-10	50	Back
17	11-12	50	Back
18	13-14	100	Back
19	15-18	100	Back
20	8 & U	25	Fly
21	9-10	50	Fly
22	11-12	50	Fly
23	13-14	100	Fly
24	15-18	200	Fly
25	8 & U	100	Medley Relay
26	9-10	200	Medley Relay
27	11-12	200	Medley Relay
28	13-14	200	Medley Relay
29	15-18	200	Medley Relay

## Schedule 2

The following events are shorter:

2	11-12	100	IM
24	15-18	100	Fly

## How to Run a Race



- A race is considered one heat in an event. Before the race begins,
  - Turn on all 6 lanes by pressing the **LANE ON/OFF** key below the lane number.
  - Make sure the Event and Heat are correct.
- The race is started automatically by the starting system
  - After the race starts, turn off any lanes that have no swimmers
  - "Pad Armed: Finish/Split" lane indicators will flash when the last lap is swum.
  - If a lane shows a finish before the swimmer has completed the race (may happen on relays),
    - press **FINISH ARM** for that lane.
  - If a lane shows an extra intermediate touch recorded (may happen on relays),
    - deduct a touch by pressing the **-TOUCH** key, enter the lane number and press **ENTER**.
  - If a lane does not register an intermediate touch,
    - Press **FINISH ARM** if the swimmer is on the last two laps of the race
    - Press **SPLIT ARM** if the swimmer has more than two laps left in the race, or
    - Add a touch by pressing the **+TOUCH** key
  - As swimmers touch the pads, their lanes will show **Finish**.
    - If a swimmer has finished but did not touch the pad the lane will not show **Finish**. Turn the lane off. The button time will be printed. Inform timing judge to use backup time.
    - If neither the pad nor the button worked, turn the lane off and inform timing judge to use the watch time.
- Press the **STORE/PRINT** key.
  - If the lane and button are more than 0.3 secs apart, a timing correction screen will appear.
    - Press **QUIT** to let the timing judge resolve the discrepancies, or
    - Press the **USE\_LNx BACKUP** for each lane where you saw the swimmer miss the pad. Then Press **OK TO PRINT** to send the results to the printer.
      - If the backup time was chosen, the time will be printed with an "\*".
      - If the backup was not chosen, the backup time will be printed in brackets < > next to the pad time. Let the Timing Judge compare the watch time to decide which time to use.
- Press **RESET** with two fingers. Make sure this is done before the start of the next race.
- Press **NEXT HEAT** or **NEXT EVENT** to get ready for the next race.

## Edit a Heat or Event

The Event and Heat may be changed before or after the race has started. To edit an event/heat, press **EDIT EVENT/HEAT**

- Enter the Event # you want and press the **ENTER** key.
- Enter the Heat # you want and press the **ENTER** key.

## False Starts

- If there is a False Start, press **RESET** after you are sure every swimmer has been recalled and has stopped swimming.
- Leave the Event and Heat the same.
- Press **OK**.

## Finish Buttons

The finish buttons need to be changed for 25-yard races with two button finishes. They need to be changed back for races the finish with the touch pads.

- Press **QUIT** to close the Display panel
- Press **SETUP**
- Press the **UP** softkey to **Finish Buttons**
- For 25-yard races,
  - Press **3** (Two Buttons, Prime Finish)
  - Press **QUIT**
- For races the finish with pads,
  - Press **1, 5** and **9** (Pad, One Button backup, Compare Pad-Button Difference)
  - Press **QUIT**
- Press **Display** to bring back the Display panel

<u>SETUPS</u>	<u>CHOICE</u>	<u>OPTIONS</u>	
Start	> 1	Pad	(Prime Finish)
>>> Finish/Buttons	2	One Button	(Prime Finish)
Hardware	3	Two Buttons	(Prime Finish)
Splits	4	Three Buttons	(Prime Finish)
Timing	> 5	One Button	(Backup Finish)
Pool	6	Two Buttons	(Backup Finish)
Scoreboard	7	Three Buttons	(Backup Finish)
Printer	8	Compare Button Early to Pad	
Event Sequence	> 9	Compare Pad-Button Difference	
Time/Date			

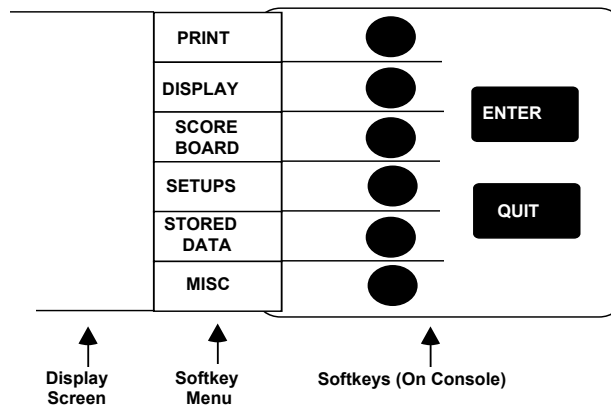
## Printing Relay Splits

After the last race is printed, print the relay splits for the coach. Optionally print a second copy for the visiting coach. (**Note:** You can also use this method to re-print results from a previous race.)

- Press the **STORED DATA** soft key. The results of the last race are displayed.
- Now use the **PREVIOUS RACE** soft key to go back to Event 26 (9-10 200 yard relay). For the summer league, go back to Event 29 (9-12 200 yard relay)
- Press the **MORE** soft key twice
- Press the **PRINT MEET** soft key
- Select **YES** to print the rest of the meet. All the races starting with the current one selected will be printed.
- Select **SPLITS/SUMMARY** (or **RACE SUMMARY** if re-printing a race)
- Make sure the scorer has the first leg of the relays recorded.
- Then give the reports to the coach.

## Display Options

The display panel should be turned on during a race to monitor the pad and button touches. To view the Display panel, press the **DISPLAY** soft key. Press the **QUIT** key to remove the display



## Cleaning the Contacts

Corrosion can develop on the button ends and on the contacts on the cables. Before the beginning of each season the contacts should be cleaned. Both Y's have a bottle of Lime Away and Q-tips to clean off the corrosion. Clean the buttons, pads and cables where they connect. Also clean the ends of each cable harness.

# Timing Judge

The Timing Judge’s job is to take the printed results from each race off the printer and determine the official time. The official time may optionally be recorded on the Lane Cards.

## Races that use the Touch Pads

1. Get the Lane Cards from the runner. Get the printout for the race from the printer.
2. Check the printout for discrepancies between the pad and the button.
  - A discrepancy will show up if the pad time is more than 0.3 secs different than the button time.
  - The pad time is listed first. If the pad was never touched, the pad time will not be shown.
  - The button time is listed second in brackets “< >” if there was a discrepancy for a lane.
3. For each discrepancy,
  - Check the watch time against the pad time and the button time. Circle the one closest to the watch times. (Usually the button time is the one to use because most discrepancies are caused by the swimmer touching the pad too lightly.)
  - Correct the place order on the printout of the race if the button time is chosen. (Note: the timing system is used to determine the order of finish not the finish judges.)
4. If the Colorado Operator selected a backup time for a swimmer, the button time will appear with an “\*”. The pad time (or primary time) will not be printed.
5. Give the lane cards and printout to the scorer. **Note:** DQs do not get a place

**NOTE:** The Timing Judge may write the place and official time on the lane cards to help the scorer. Otherwise, the scorer can record the time and place directly from the printout.

## Example:

Colorado Time Systems  
Girls 100 IM  
Event: 1    Heat: 1

-----	By Lane		-----	-----	By Place		-----
Lane	Place	Time		Place	Lane	Time	
1	3	1:18.38 *		1	4	1:12.84	
2	4	1:18.90	<1:18.24>	2	3	1:13.82 *	
3	2	1:13.82 *		<del>3</del> 4	1	1:18.38	
4	1	1:12.84		<del>4</del> 3	2	<del>1:18.90</del>	<1:18.24>
5	5	1:21.01		5	5	1:21.01	
6	6	1:25.48		6	6	1:25.48	

- The printout displays the race By Lane and By Place
- Resolve the discrepancy in Lane 2.
  - For example, if the watch times show 1:18.21 and 1:18.25, the backup button should be used as the official time, which moves Lane 2 to 3<sup>rd</sup> place. Circle the backup time (1:18.24) and cross out 1:18.90. Correct the place for lane 1 and 2.
- Lane 3 also had a discrepancy between the pad time and the backup button time. But the Colorado operator selected to use the backup button which is indicated with the “\*”.
- In the other lanes the pad time and backup button were within 0.3 secs.
- The time and place for each lane may be written on the lane cards to help the scorer.

## Races that use 2 Buttons

1. Get the Lane Cards from the runner and the printed times for the race from the printer.
  - The printout shows the average of the 2 buttons.
  - Discrepancies are not used with two buttons.
2. If the averaged time is not on the printout, then average the watch times recorded on the lane card.
3. The order of finish is determined by the finish judges. (first heats only)
4. Write the averaged time and place on the lane cards. Places are not recorded for additional heats.
5. Write "DQ" on the lane card for any disqualifications. DQ's do not get a place.

## Races that use Watches

1. Get the Lane Cards from the runner.
2. For each card,
  - If there are only two watch times, find the average, write it on the card and circle it.
  - If there are three watch times, just circle the middle time.
  - Write the place on the lane cards (Heat 1 only). The order of finish is determined by the finish judges.
  - Write "DQ" on the lane card for any disqualifications. DQ's do not get a place.
  - Only the first heat needs to have the order of finish recorded. Second heats or unofficial heats do not need the order of finish. Just record the times for the unofficial heats.

## Determining Order of Finish

The rule for determining the order of finish is described in Section E in Appendix III of the Northern New Jersey YMCA Swim League Constitution. The rule is summarized below:

- When fully automatic judging and timing equipment (touch pads) is in use and functioning as the primary judging and timing system, the order of finish and the official times will be determined using such automatic equipment.
- When semi-automatic timing equipment (buttons) or manual timing (watches) is being used as the primary judging and timing system, the order of finish determined by the place judges will be the official order of finish if they agree on all places. If they do not agree on all places, then the modified ballot system will be used to determine the official order of finish. In either case, a swimmer with a faster time may be awarded an official order of finish that is lower than the time would indicate; this is appropriate.

# Scoring

## Before the Meet – Setting up the Meet Sheet

The score sheets from both teams with the lineup need to be combined, copied and distributed to the scorers, coaches and officials. This can be done by the team coordinator or scorer.

1. Before the meet starts, get the box of supplies for the scoring table.
2. Get the meet sheet from both coaches.
3. Using scissors and tape, combine the two score sheets together lining up each event. Extra heats may, but do not have to, be combined. Put an “\*” next to each event with an extra heat.
4. Make a master copy page by page. Then run the master copy thru the copier to collate and staple 10 copies. (2 for scorers, 1 for Colorado operator, 4 for officials and 3-4 for coaches)

## Recording the Scores

1. Take the Lane Cards and printout from the Timing Judge.
2. Use the times on the printout from the timing system. These are the official times. Watch times are averaged only when the timing system is not used, for example, sometimes the 8 & unders.
3. For each lane,
  - Record the time
  - Record the place (Only needed for first heats)
  - Award the points. (Only needed for first heats. Not needed for 8 & Unders in the winter)
  - Notify the Timing Judge if you think there may be an error in the official time or place.
  - Tally the running total.
4. Staple the Lane Cards to the printout. Then pass it to the ribbon writer (summer league only)

## Awarding Points

- Points are awarded to 8 & Unders in the summer league but not in the winter.
- Points are awarded to 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> to the first heat only as follows:

Individual Events	Relays (Winter)	Relays (Summer)
1 <sup>st</sup> place – 5 points	1 <sup>st</sup> place – 7 points	1 <sup>st</sup> place – 7 points
2 <sup>nd</sup> place – 3 points		2 <sup>nd</sup> place – 4 points
3 <sup>rd</sup> place – 1 point		3 <sup>rd</sup> place – 2 points

- If the same team gets 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> in an individual event, the 3<sup>rd</sup> place swimmer receives no points and the 4<sup>th</sup> place swimmer on the other team (if there is one and they did not get DQ'd) gets 1 point. Ribbons (summer league only) are awarded to the first three places.
- In the winter, once a team reaches 105 points, that team no longer receives any more points. The other team receives all remaining points earned. In the summer league, a team continues to receive the points they earn even after they reach 105 points and have won the meet.

## At the End of the Meet

- Get both coaches, Referee and both Stroke and Turn judges to sign both meet sheets
- Get the splits for relays and record the lead off split for the 200 yard relays.
- Each scorer should give their meet sheet to their respective coaches. (and for publicity if asked)
- Collect the supplies and put away the scoring supply box
- Stack race results with lane cards in the lateral file (second to last drawer) next to the girl's locker room (Hillsborough) or the cabinet in the party room (Bridgewater).

## Colorado System V Setups

The setups described in this section are for running the Colorado Timing System with touch pads and one button. This section is for reference only. Setups DO NOT need to be changed except for the Finish Buttons and Event Sequence described in earlier sections of this manual.

To print the setups:

- ◆ From the Main Menu press the **SETUPS** soft key.
- ◆ Press the **Down** soft key twice to move the selection to the Printer Setup Menu
- ◆ Press **PRINT SETUPS**

### Set-Up Options

Press the **SET-UPS** soft button from Main Menu. The display will now show three soft buttons: **UP**, **DOWN** and **RECORD SET-UPS**.

- ◆ Press the **DOWN** soft button to display each setup option.
- ◆ Use the number keypad to select individual options.

1. **Start** – select **1 - Automatic** to automatically pick up the starting signal from the starter system.

<u>SETUPS</u>	<u>CHOICE</u>	<u>OPTIONS</u>
>>> Start	1	Automatic
Finish/Buttons	2	Manual
Hardware		
Splits		
Timing		
Pool		
Scoreboard		
Printer		
Event Sequence		
Time/Date		

2. **Finish/Buttons** directs the timing system where to pick up the finish.

For **Races that end at the Blocks** – select **1, 5** and **9**. Pad (Prime Finish) and One Button (Backup Finish) and Compare Pad-Button Difference

For **25-yard Races that end at the Far End** – select **3**, Two Buttons (Prime Finish) and no other selections. At the 25-yard end the “A” button is plugged into Prime on the cable harness, the “B” button into Backup on the harness.

<u>SETUPS</u>	<u>CHOICE</u>	<u>OPTIONS</u>
Start	>...1	Pad (Prime Finish)
>>> Finish/Buttons	2	One Button (Prime Finish)
Hardware	3	Two Buttons (Prime Finish)
Splits	4	Three Buttons (Prime Finish)
Timing	> 5	One Button (Backup Finish)
Pool	6	Two Buttons (Backup Finish)
Scoreboard	7	Three Buttons (Backup Finish)
Printer	8	Compare Button Early to Pad
Event Sequence	> 9	Compare Pad-Button Difference
Time/Date		

3. **Hardware Setup**

- Set speaker volume to 3 (highest level). This is the “beep” heard when the pad or button is touched.
- Never select Low Swimming I/O Voltage.
- Select Allow Remote Setup

<u>SETUPS</u>	<u>CHOICE</u>	<u>OPTIONS</u>
Start	1	Speaker Volume (0 to 3) = 3
Finish/Buttons	2	Low Swimming I/O Voltage
>>> Hardware	> 3	Allow Remote Setup
Splits	4	Relay Judging using Buttons
Timing		
Pool		
Scoreboard		
Printer		
Event Sequence		
Time/Date		

4. **Splits** - Select both options. They are Print Cumulative Splits and Print Splits by Lap.

<u>SETUPS</u>	<u>CHOICE</u>	<u>OPTIONS</u>
Start	> 1	Print Cumulative Splits
Finish/Buttons	> 2	Print Splits by Lap
Hardware		
>>> Splits		
Timing		
Pool		
Scoreboard		
Printer		
Event Sequence		
Time/Date		

5. **Timing** – controls variable timing functions

- Select **1)** Timing Accuracy = .01 seconds
- Set **3)** Near End Pad Split Delay to 15 seconds. This prevents the pad from being armed until 15 seconds after a touch. It allows a relay swimmer to exit the water.
- Select **5)** Display Time Warning Messages.
- Set **6)** Pad Delay at Start to 15 seconds, to allow enough time for the previous swimmer to exit the pool for overhead starts.

<u>SETUPS</u>	<u>CHOICE</u>	<u>OPTIONS</u>
Start	> 1	Timing Accuracy = .01 sec.
Finish/Buttons	2	Timing Accuracy = .001 sec.
Hardware	3	Near-End Pad Split Delay = 15 Sec.
Splits	4	Far-End pad Split Delay = 15 Sec.
>>> Timing	> 5	Display Time Warning Messages
Pool	6	Pad Delay at Start = 15 sec.
Scoreboard	7	Scoreboard Length Count Down
Printer	8	Screen Length Count Down
Event Sequence		
Time/Date		

6. **Pool**

- Select Lanes Normal for Bridgewater and Lanes Reversed at Hillsborough. Lanes Reversed means that Lane 6 is closest to the Colorado Timing Unit. Normal is used when Lane 1 the closest Lane to the Colorado Timing Unit.
- Set Lanes in Pool to 6
- Select Short Course Pool (25 Yards).
- Select race distance units as Yards at Hillsborough and Meters at Bridgewater.

<u>SETUPS</u>	<u>CHOICE</u>	<u>OPTIONS</u>
Start	1	Lanes Normal (ex. 1 – 6) (at Bridgewater))
Finish/Buttons	> 2	Lanes Reversed (ex. 6 – 1) (at Hillsborough)
Hardware	3	Lanes in Pool = 6
Splits	4	Far-End Split
Timing	> 5	Short Course Pool
>>> Pool	6	Long Course Pool
Scoreboard	> 7	Race Distance Units – Yards (at Hillsborough)
Printer	8	Race Distance Units – Meters (at Bridgewater)
Event Sequence		
Time/Date		

7. **Scoreboard** - Select High Speed (Data Transmission) and Display Results in Lane Order. The time to step a one-line scoreboard should be 2 seconds, one line scoreboard sequence time should be 3 seconds. Don't change any other options.

<u>SETUPS</u>	<u>CHOICE</u>	<u>OPTIONS</u>
Start	> 1	High Speed (Data Transmission)
Finish/Buttons	2	Self Test
Hardware Setup	3	Define Module(s)
Splits	4	Blank Module(s)
Timing	5	Four-Line Scoreboard
Pool	6	Times to Step One-Line Scb = 2
>>> Scoreboard	7	One-Line Scb Sequence Time = 3
Printer	8	One-Line Scb Sequence List
Event Sequence	> 9	Display Results in Lane Order
Time/Date	0	Display Results in Place Order

8. **Printer**

- Select **1)** Printer as User Defined. Select **6)** Pica as the Type Size. Select **0)** Always Print on Store/Print Key. The Line per Inch should be set to 8. You can adjust these and the printer settings as needed to get correct print outs.
- Under **3)** Store/Print Format you should have Race Summary & Form Feed **ONLY**.

<u>SETUPS</u>	<u>CHOICE</u>	<u>OPTIONS</u>
Start	> 1	Printer = User defined
Finish/Buttons	2	User Defined Printer Control Codes
Hardware	3	Store/Print Format
Splits	4	View/Edit Sponsor's Messages
Timing	5	Page Length = 280mm 11in
Pool	> 6	Pica
Scoreboard	7	Elite
>>> Printer	8	Condensed
Event Sequence	9	Print 8 Lines per Inch
Time/Date	> 0	Always Print on Store/Print Key

12. **Event Sequence** – The Event Sequence must be selected for each meet.

Event Sequences are pre-set before the meet and only the administrator should create meet sequences.

- To create an event sequence, set up the meet in Meet Manager and then download the events to the counsel. The instructions are described in the Meet Manager User Guide.
- To create or edit Event Sequences manually, see the Colorado System V System Manual, page 4-27.

<u>SETUPS</u>	<u>CHOICE</u>	<u>OPTIONS</u>
Start	1	None
Finish/Buttons	2	Dual Meet First Half
Hardware	> 3	Dual Meet Second Half
Splits	4	High School
Timing	5	Time Trials
Pool	6	Wednesday Meets
Scoreboard	7	Saturday Meets
Printer	8	open
>>> Event Sequence	9	open
Time/Date	0	View/Edit Selected Sequence

13. **Time/Day** - If the date and/or the time are not correct, these may be reset by using the options under this menu.

<u>SETUPS</u>	<u>CHOICE</u>	<u>OPTIONS</u>
Start	1	Set Time of Day
Finish/Buttons	2	Set Day of Week
Hardware	3	Set Date
Splits	> 4	12 Hour Clock
Timing	5	24 Hour Clock
Pool		
Scoreboard		
Printer		
Event Sequence		
>>> Time/Date		

14. To save changes to your settings, press the **RECORD SET-UPS** soft key. If you make changes and turn the timing system off without pressing **RECORD SET-UPS** your changes will not be saved.

15. To exit from set-up, press the **QUIT** soft key

# Trouble Shooting

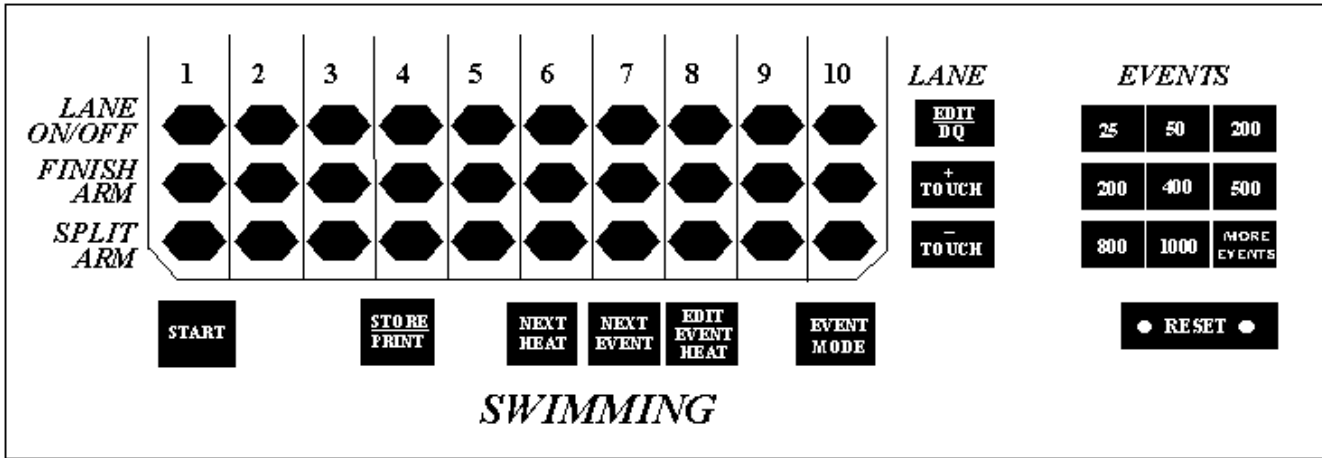
This section helps you solve common Colorado Timing System 5 system problems quickly. Locate the difficulty you are experiencing in the Symptom column and then follow the recommendations in the Action column one at a time, in the order they appear. If the problem you are experiencing is not listed or the recommended remedies do not have the desired effect, write a summary of the problem and all steps you have taken to correct it and call Colorado Time Systems' customer service department toll-free at 1-800-CTS-0653, Monday through Friday, 9:00 AM to 7:00 PM eastern time.

<b>Symptom</b>	<b>Action</b>	<b>Notes</b>
<p><b>Nothing Works</b> Two problems may arise: First, no electricity; and, second, no battery backup</p>	<ol style="list-style-type: none"> <li>1. Check power On/Off switch.</li> <li>2. Is Power Strip On?</li> <li>3. If yes, and there is no power, check Colorado transformer.</li> <li>4. If No, is extension cord power ON?</li> </ol>	<p>If power switch is On:  Is it plugged in Colorado? Is it plugged into Power Strip?</p>
<p><b>Batteries Discharged</b></p>	<ol style="list-style-type: none"> <li>1. Press "Battery Check" button.</li> <li>2. Check to see if there are batteries:  Are there batteries? Are batteries installed in correct direction?</li> <li>3. Replace dead batteries:</li> </ol>	<p>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).</p>
<p><b>Starting Console does not cause Colorado to start timing race.</b></p>	<ol style="list-style-type: none"> <li>1. Check Starter Cable is between Starting Console and Harness.</li> <li>2. Examine Cable plugs:</li> <li>3. Replace Cable.</li> </ol>	<p>Is cable present? Is cable plugged into socket marked "Start?"  Is cable plugged into "NC" socket in starting console?  Is one broken?  Is corrosion on plugs? Scrap corrosion off.</p>
<p><b>Forgot to Store/Print before resetting CTS and another race has started.</b></p>	<ol style="list-style-type: none"> <li>1. Proceed with current race.</li> <li>2. Have HyTek operator pull race results data.</li> </ol>	<p>Data should be stored when you hit reset (a nice Colorado feature). If race data is not Available, use manual watch time(s).</p>

Symptom	Action	Notes
<b>Did not advance CTS to next heat.</b>	<ol style="list-style-type: none"> <li>1. If next race has not yet been Store/Print, then advance to next heat.</li> <li>2. Otherwise write the correct Event &amp; Heat on Colorado print out.</li> </ol>	You should have noticed the console blinking the Event & Heat.
<b>Did not advance CTS to next event.</b>	<ul style="list-style-type: none"> <li>• If next race has not yet been Store/Print, then advance to next event</li> <li>• Otherwise write the correct Event &amp; Heat on Colorado print out.</li> </ul>	There is no need to panic!
<b>Next event was/is a different distance.</b>	<ol style="list-style-type: none"> <li>1. Advance to next event or edit Event/Heat to get to proper event. or</li> <li>2. Press proper distance on console. After race is finished get to proper Event/Heat.</li> </ol>	So long as you have not stored the race yet, you may still perform all of these actions.
<b>I forgot to turn empty lanes off before pressing Store/Print.</b>	<ol style="list-style-type: none"> <li>1. If there are empty lanes you will get a warning message, just go ahead with the save.</li> <li>2. See next situation.</li> </ol>	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.
<b>I forgot to turn lanes on for next race.</b>	<ol style="list-style-type: none"> <li>1. If there were swimmers in those lane(s), their times will be stored.</li> </ol>	
<b>Swimmer missed, or did not touch pad firmly during turn.</b>	<ol style="list-style-type: none"> <li>1. Press +Touch, then key in lane number of the missed pad touch.</li> <li>2. If it is the last touch before finishing, press Finish Arm for that lane.</li> </ol>	
<b>Someone or thing causes another touch to be recorded for a lane.</b>	<ol style="list-style-type: none"> <li>1. Press –Touch, then key in lane number of the extra pad touch.</li> <li>2. You could press Split Arm for that lane, this will remove one touch and <b>immediately</b> re-arm the pad.</li> </ol>	This can be useful for relays, but the Split Arm key will only work if the pad is currently not armed.
<b>360° Strobe light begins to blink.</b>	<ol style="list-style-type: none"> <li>1. The starter has been turned off and the strobe is still turned on. Turn the strobe off.</li> <li>2. Batteries in the strobe are getting weak.</li> </ol>	

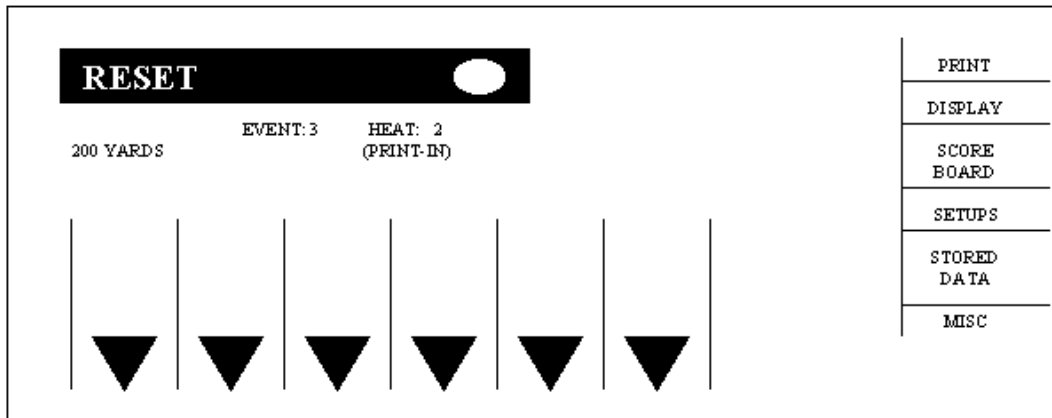
# Running a Race – Tutorial

This tutorial is a hypothetical 200-yard freestyle relay – Event 3, Heat 2.



## At the Beginning of the Race

Since we are only using 6 of 10 lanes in the pool for this race, press lane on/off keys for lanes 7 through 10. The active lane indicator disappears in each of the lanes turned off. The display screen is updated to reflect the data entered.

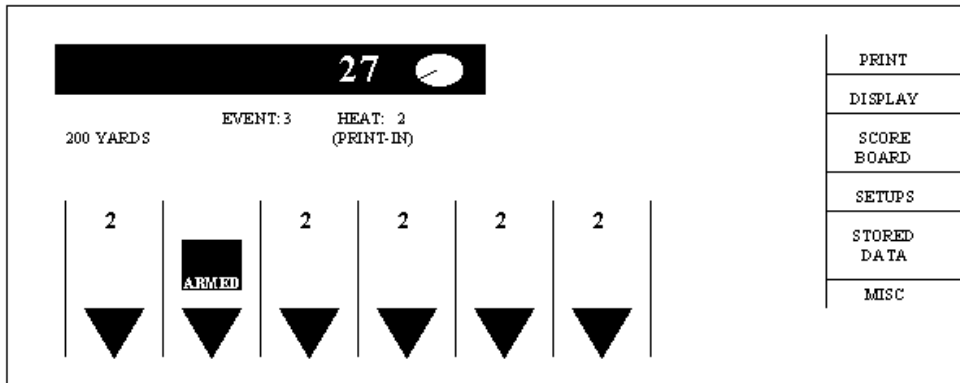


The Swimming software is in reset state and is ready to begin timing a race. The horn sounds, the timer starts simultaneously and the swimmers are in the pool. Do not press the start key on the Swimming keyboard. All 6 touch pads are inactive for 15 seconds after the start, a feature which allows backstroke starts without interfering with race timing. As soon as the touch pads are ready to receive a touch, the pad status display indicates armed.

The swimmers have made their turn at the far end of the pool and come in to touch at the near end. The swimmer in lane 3 touches first. When the Swimming software receives the touch pulse, it beeps and displays the number of complete lengths completed in that lane. The pad status indicator in lane 3 goes blank for 15 seconds to indicate the pad split delay time. During this time, the pad will not accept a touch. The System 5 beeps as each swimmer touches a pad.

## Using the +Touch Key

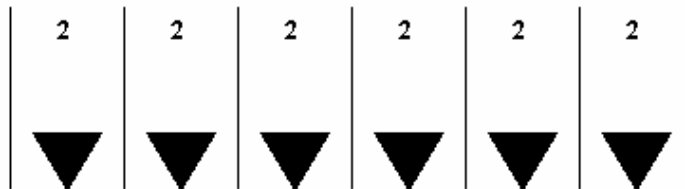
As the operator, you notice that the second swimmer in lane 2 has started, but the Swimming display does not indicate that the first swimmer in that lane touched the pad. Notice that there is no length display in lane 2 as in other lanes.



As sometimes happens, the first swimmer touched the wall beside the pad, which is a legal touch under swimming rules, but the Swimming software cannot register this as a touch.

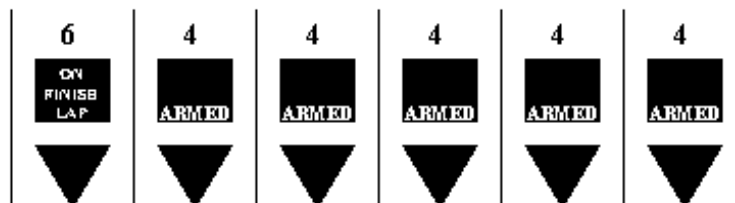
To correct the missed pad touch, press the +touch key. The small window appears on the display screen prompting you to enter the lane number to which the touch should be added. Use the numeric keypad to type 2 and press enter.

The display screen now shows that 2 lengths have been completed in lane 2. The split time is not accurate, but all following split times, the finish time and place pick will be correct. Notice that it is not possible to finish a race using the +touch key. Races must be finished from the touchpads or backup buttons.

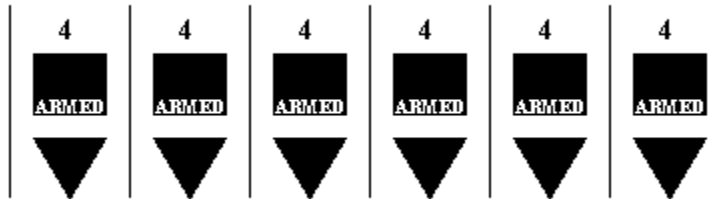


## Using the Split Arm

The next situation that arises involves the second swimmer in lane 1. This swimmer is slow getting out of the pool and steps on the touchpad after its split delay time of 15 seconds is up. The pad is armed at that point and when the swimmer stands on it, a touch pulse is sent to the System 5. The display screen now shows lane 1 having completed 6 lengths and on the finish lap.

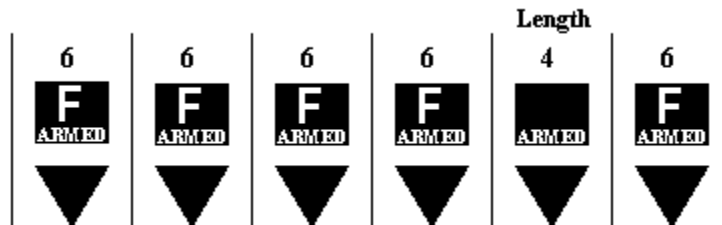


To correct this situation, you must press **SPLIT ARM** while the pad is still in its split delay, that is, while it still displays the message, on finish lap. Notice that the pad status display in lane 1 returns to armed status and the lengths completed is revised to indicate the accurate number, in this case 4.

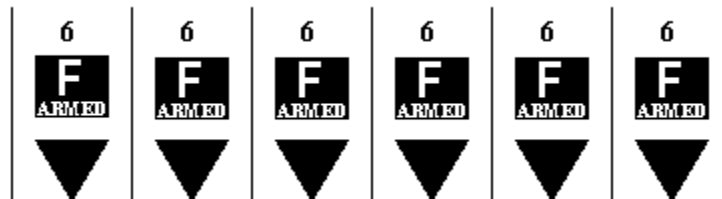


### Using the Finish Arm

All swimmers touch at the end of the third leg of this race and the final leg swimmers are in the pool. As the swimmers turn at the far end of the pool, you notice that lane 5 did not register a pad touch. Its length count shows 4, its pad display is not **F Armed** and the warning message **Length** is flashing over the lane indicator.

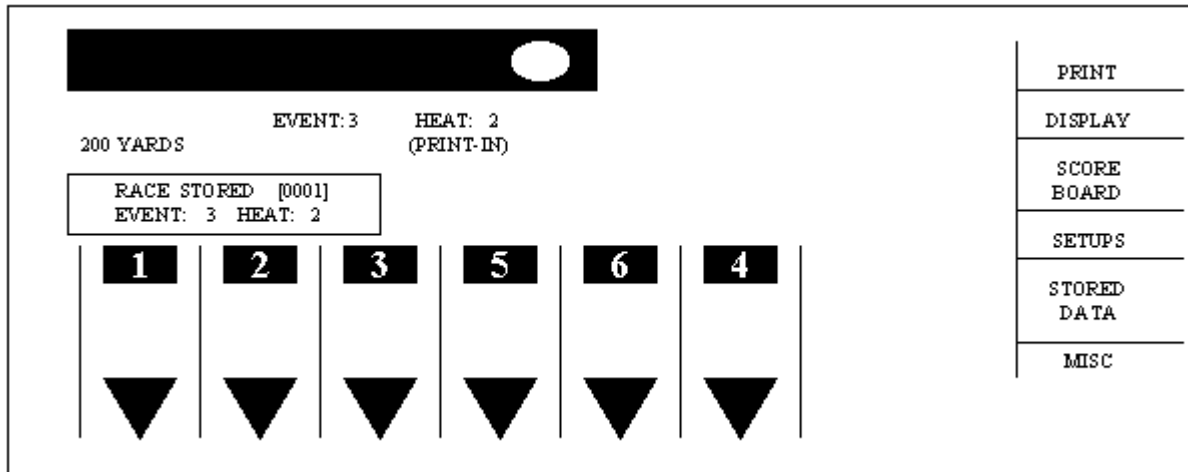


To prepare the lane for the upcoming finish touch, press the **FINISH ARM** key in lane 5. The length counter now displays 6 and the pad status display indicates that the pad is **F Armed**. The final split time is not accurate, but as demonstrated with the pad touch missed earlier in the race, the finish time and place pick will be accurate.



## Finishing the Race

All swimmers touch their pads successfully at the finish. The System 5 beeps as each swimmer finishes and displays the place picks in high- lighted numbers above each lane. As soon as the race is over, press the **STORE/PRINT** key. As its name indicates, this key stores the race results in memory. A message appears on the display screen confirming that the results have been stored and printing of results begins immediately. If your printer does not respond within one second of pressing the **STORE/PRINT** key, make sure it is turned on and that it is on-line. Notice when timing races, in “print-in” or “title event” mode that the event and heat numbers are printed on the results printout.



Finally; press **RESET** key with two fingers to prepare for the next race. After pressing **RESET**, you can advance to the next heat or next event for the start of the next race.