Electronic Timing Official's Clinic Outline

Pre Clinic Checklist
- Gather and print current training materials
- Gather tools (pens/pencils, highlighters)
- Print sign-in form
- Familiarize yourself with the material that you are presenting. The following is a suggested script to aid you in your training.

Agenda
Introductions
> Thanks for attending (ask everyone to Sign-in)
> Hand out paperwork, pencils, highlighters
> Get to know each other: Name, club, why each person is attending, etc.)

These slides will serve as an outline for our training
We will look at the role of all Officials, specifically an ET Official and how to get certified.
We will talk about an ET job and their responsibilities
Finally, we will work some examples

Role of an Official
OSI Officiating Philosophy
As officials, we help conduct swim meets to maintain fair and equitable conditions of competition and promote uniformity in the sport so that no swimmer has an unfair advantage over another.
What Does That Mean?
- Success of every meet depends on the official's integrity, knowledge, concern and regard for the competitive interest of the swimmer
- One set of rules applies to all swimmers, no matter what their age or ability level
- Swimmers get the benefit of the doubt
- Demonstrate impartiality and professionalism on deck through uniform, posture, facial expressions, interaction with others on deck, and language. Officials should never draw attention to themselves through their actions or appearance; the swimmers should be the focus of everyone's attention

Professionalism on Deck
- Wear the standard official's uniform: white collared polo shirt, black shorts (mid-thigh or longer), black pants (or skirt for women), black shoes and socks. Pants or skirts are usually expected when working finals at a championship meet. Please do not wear jeans, tank tops, t-shirts, tight fitting (bicycle) or too short shorts, or clothes advertising any products including club logos. Don't wear clothing that draws attention to yourself.
- Certification badges are always worn when working at meets. The engraved nametags are worn in conjunction with, but not in place of, OSI certification badges.
- Sign in on the official's roster in the hospitality room and attend the official's meeting---please be on time to these meetings.

- Work as part of a team; a swim meet requires many types of officials: Referee, Starters, Stroke and Turn Judges, Administrative Officials and Electronic Timing Judges. Be in position, monitor breaks, and communicate.
- Document hours and expenses (travel, lodging, food) incurred as part of volunteering at sanctioned meets; they may be tax deductible.

Role of ET Official

OSI certifies ET Officials to be responsible for providing each swimmer with an accurate and valid **Official Time** so that "No swimmer shall be required to re-swim a race due to equipment failure which results in unrecorded or inaccurate time or place". (USA Swimming Rule 102.24.1D)
Ideally there should be three certified ET Officials at a meet to fill the 3 jobs(stations):
1. Correctly operates the timing system equipment (Colorado, Daktronics)
2. Correctly determine and document the Official Time
3. Accurately record and report scores and results

ET's are one of many meet officials:
- Be respectful while working alongside the officiating crew.
- Be aware of your surroundings and the race. (For example, do not interrupt the starter to get an OOF)
- Assist in training lane timers to ensure proper lane timing procedures.
- Assist AO in any other needed tasks.

Certification Process

Certification Steps
1. Attend an introductory ET clinic (can be done before or after registration)
2. Register with USA Swimming as a Non-Athlete member
3. Pass a background check
4. Complete Athlete Protection Training
5. Complete Concussion Training
6. Once your application has been processed/approved you will be notified. Create an account on Deck Pass and print your trainee credentials.
7. Acquire a uniform (black shorts/skirt, white polo, black tennis shoes)
8. Begin volunteering at meets
9. Complete Minimum Training Requirements (see below)
10. Forward Training Record and two positive Evaluations to the OSI Electronic Timing Chair for approval
11. Upon confirmation from Officials Chair, take and pass the online open book test

Minimum Training Requirements - ET Training Record (show a copy)
- Attend ET Clinic
- Complete a Deck tour with Referee☐should be at first meet
- Must work a minimum of 5 ET sessions
- At least 2 of the first 6 hours must be with a designated ET Trainer
- 2 sessions at sanctioned 12 & Under meet
- 1 session at a non-home meet
- 10 observed hours on Timing Console (become familiar with the difference between Colorado Data Systems and Daktronics Timing Consoles)
- 5 observed hours on Time verification/Paperwork
- 5 observed hours with the Hy-Tek operator
- Successfully complete a heat malfunction calculation by hand
- Get 2 positive Evaluations from 2 different certified ET Trainers from 2 different sessions.

Typical ET Setup
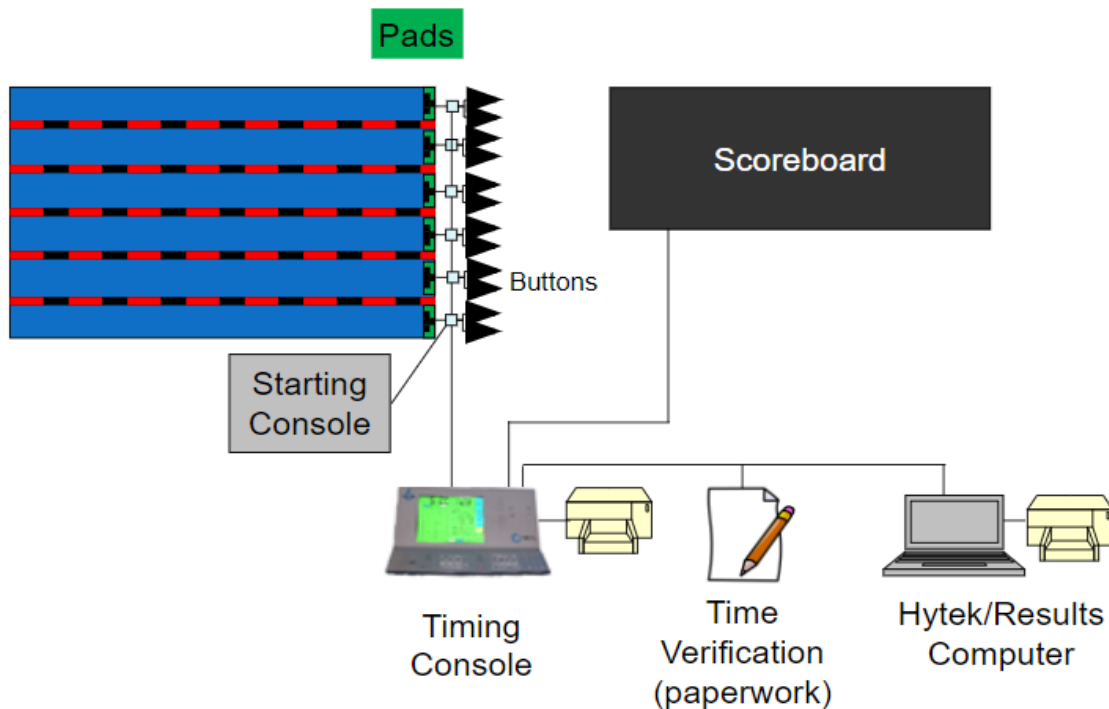
The electronic equipment consists of the following major components:
- Starting Console (microphone & strobe light)
- Timing Console + Printer
- Results Computer + Printer
- Pads
- Buttons
- Timing Cables connecting all the equipment
- Scoreboard

Timing Console (1ˢᵗ Station)

Here in Oregon, Colorado Timing Systems and Daktronics Systems are the standard timing equipment. The timing console is the core of the timing system, receiving signals from the starter, pads and buttons and sending times to the scoreboard, printer and results computer. The timing console should be located in a position where the operator can see the final (and intermediate) touches. ET's are expected to know how to set up and operate this equipment.

Setting up Timing Equipment

Be familiar with Colorado Timing System and Daktronics timing Systems.

    Detailed manuals for Colorado Timing Systems:
        https://coloradotime.com/manuals/System5swim-man.pdf
        https://www.coloradotime.com/manuals/System_6_Swimming_Manual_F890.pdf
    Detailed manuals for Daktronics Timing System:
        https://www.daktronics.com/en-us/support/controllers/OmniSport%202000
   OmniSport 2000 Timing Console and Pro Software Operation Manual (ED-13312) (14.4 MB)
        OmniSport 2000 Quick Reference Guide (ED-13584) (263 KB)
        OmniSport 2000 Pro Swimming Software Manual (DD3109473) (1.2 MB)

Before the meet, allow plenty of time for set up/testing to ensure all components are working properly [the home meet crew usually installs the equipment, but you should always look it over]. Verify the meet file setup—events entered, meters vs. yards, number of buttons, swimmer names(if applicable). Perform a test start(or several if needed) and then "reset" for the first race.
Colorado systems use softkeys to maneuver from screen to screen. Here is an overview:
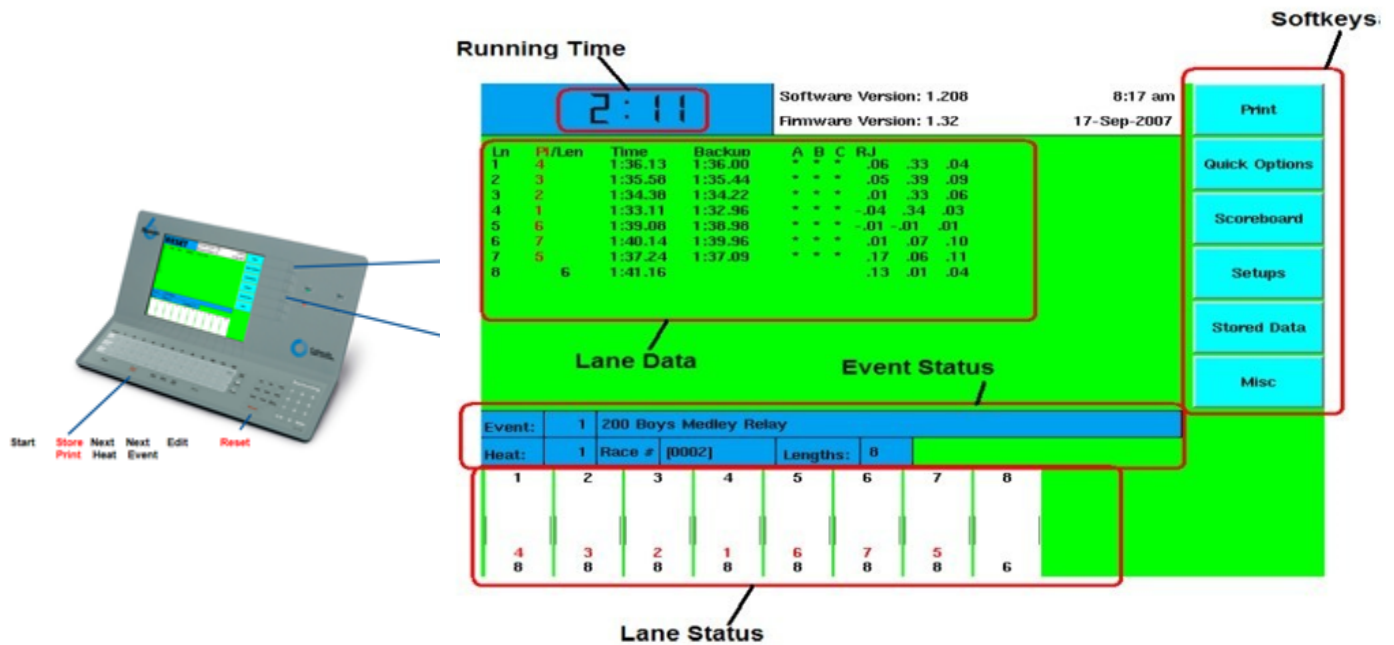
- Running Time is also where you would see "RESET"
- Lane Data shows pad and button touches
- Event Status tells you the Name of event, Event #, Heat # Race#and length of race
- Lane Status shows intermediate touches

Colorado 5 has similar soft key features

Daktronic has two components—OmniSport and a PC interface (laptop). The OmniSport uses soft keys similar to Colorado (can be used in an emergency) but because it is connected to a laptop, a mouse or touch screen is used to maneuver. The race information is identical to the Colorado with these added features:

1. Displays swimmer names & teams (as long as it is communicating with Hy-Tek)
2. Access stored races→ contains unlimited race/meet information (See Exhibit #1 for Race Log instructions)
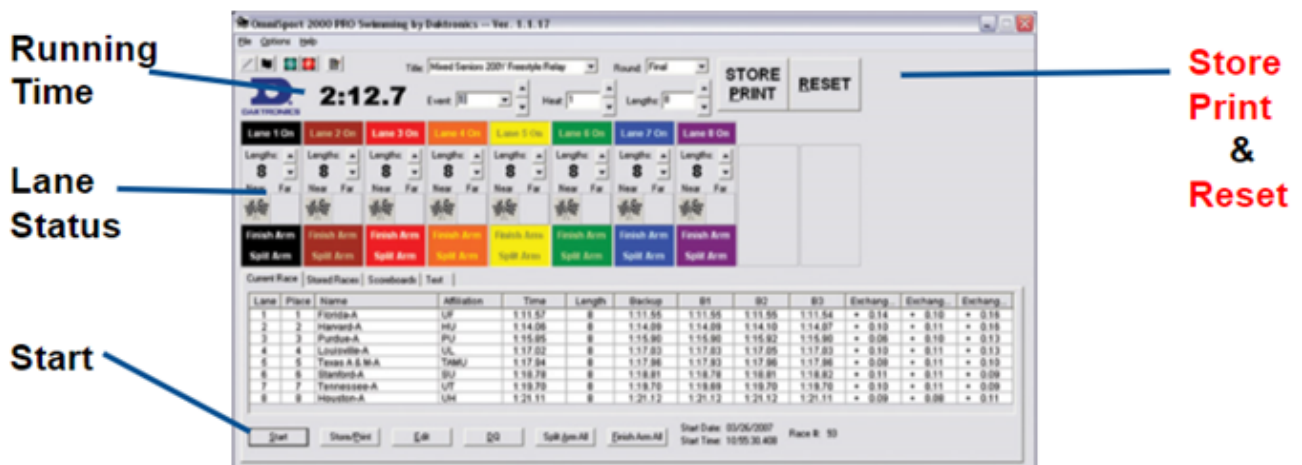
Operating Timing Equipment

- Always verify that you are running on the correct event and heat and you are "reset" for the start.
- Avoid making beeps or changes after the Starter calls for the swimmers (extra beeps may interfere with the start of race).
- The timing console should start running when the Starter unit sounds; if it fails, manually start it then blank the scoreboard. Document "manual start" on Console Heat Sheet.
- Check for swimmers and turn lanes on/off as needed
- Record "No Shows" on ET Console Heat Sheet with "NS" and strike through the name (if all swimmers are present mark heat with "F")
- Write race number on ET Console Heat Sheet
- Observe touches, adding, subtracting, or finish arming as necessary.
- Watch carefully during relay exchanges.
- Store-Print; Reset; Advance to Next Heat or Next Event in a timely manner

With practice, running the console becomes fairly automatic; however, it is very important that the console operator focus on the console and keeping the Heat Sheet up to date as far as No Shows, additions and combined heats are concerned. Many problems can arise at a meet. Some of the problems could be (but not limited to be) equipment or power failure, miscalculations because of missed touches in distance events, too many or not enough touches in relays or bad touches made by younger swimmers. Things can happen quickly. It is important to remain calm, stay focused, think fast, and document anything out of the ordinary.

Time Verification (2nd Station)

Timing System Designation

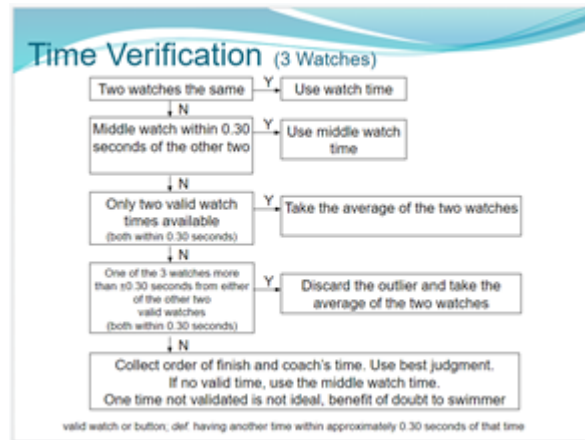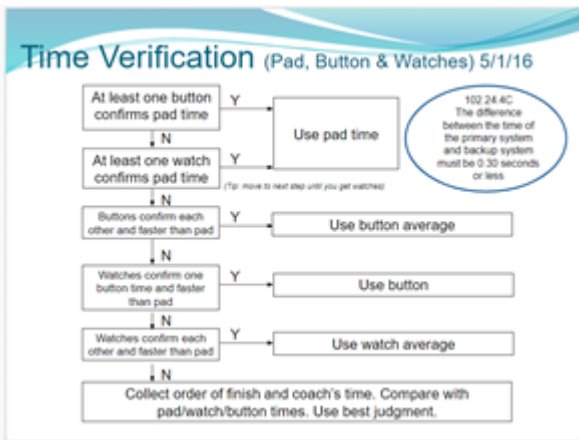Every race shall be timed with one or more of the following systems; listed in their preferred order of use:

1. Primary ☐ The most accurate timing system available. Could be automatic, semi-automatic or manual. Typically automatic PADS
2. Secondary☐ This is the back-up to the primary system, ie semi-automatic (BUTTONS) are "Secondary" if primary is automatic pads.
3. Tertiary ☐ At least one WATCH must be used as back-up for the automatic or semi-automatic system.

Determining the Official Time

- All timing systems, including manual watches, will be resolved and recorded to one one-hundredth of a second. (0.01 second). The digits representing thousandths shall be dropped with no rounding (102.24.1B)

  For example: 57.347 → 57.34

- When recorded by properly operating automatic timing equipment, the pad time shall be the official time (102.24.4A)
- A (lane) malfunction may have occurred it the difference between the time obtained by the primary system and the backup system(s) is approximately .30 second or greater (102.24.4C(1))
- Use the flowchart on the following slide to aid in determining the Official Time

Time Verification (Pad, Button & Watches) 5/1/16

At least one button confirms pad time — Y → Use pad time

N ↓

At least one watch confirms pad time — Y → (Tip: move to next step until you get watches)

N ↓

Buttons confirm each other and faster than pad — Y → Use button average

N ↓

Watches confirm one button time and faster than pad — Y → Use button

N ↓

Watches confirm each other and faster than pad — Y → Use watch average

N ↓

Collect order of finish and coach's time. Compare with pad/watch/button times. Use best judgment.

102.24.4C The difference between the time of the primary system and backup system must be 0.30 seconds or less

Time Verification (3 Watches)

Two watches the same — Y → Use watch time

N ↓

Middle watch within 0.30 seconds of the other two — Y → Use middle watch time

N ↓

Only two valid watch times available (both within 0.30 seconds) — Y → Take the average of the two watches

N ↓

One of the 3 watches more than ±0.30 seconds from either of the other two valid watches (both within 0.30 seconds) — Y → Discard the outlier and take the average of the two watches

N ↓

Collect order of finish and coach's time. Use best judgment. If no valid time, use the middle watch time. One time not validated is not ideal, benefit of doubt to swimmer

valid watch or button; def. having another time within approximately 0.30 seconds of that time

In 2016 a new USA Swimming rule eliminated the need for complicated calculations. Due diligence to provide the swimmer with the most accurate time available is still of paramount importance.
Keep these questions in mind:

1. Is the primary time invalid?
2. Is the use of the backup time appropriate?
3. Should a button or watch backup time be used, and which is the most accurate?
4. Is there a HEAT MALFUNCTION and have proper calculations according to Rule 102.24.4E been applied?

Further investigation (watch times and OOF) is needed when:
- Button times are slower than the pad time but button times confirm each other
- Times validated "just barely" by approximately 0.30 seconds

Documenting Official Time (Paperwork)
Console Printout

1→ Race History- records each time a pad is touched, source of split times

2→ Race Results by lane

3→ Race Results by place (OOF is used instead)

4→ Backup Times recorded by pushing buttons connected to pad on each lane

❶ =====> Race History <=============> NO NAME MEET <=============> Race [0030] <=====
Sunday 01-Aug-10 8:34:14 am
100 Mens 15-18 Freestyle Final
Event: 13 Heat: 1

|------------- (Lane Number
|-------- (Lengths
|--- (Time

4)	2	26.47	5)	2	26.50	3)	2	26.88	1)	2	27.00	7)	2	27.44
8)	2	27.71	6)	2	27.79	4)	4	55.27	5)	4	55.28	3)	4	55.83
7)	4	56.85	1)	4	56.95	8)	4	56.96	6)	4	57.55

RACE NUMBER

❷ =====> RACE SUMMARY <=============> NO NAME MEET <=============> Race [0030] <=====
Sunday 01-Aug-10 8:34:14 am
100 Mens 15-18 Freestyle Final
Event: 13 Heat: 1

----- BY LANE -----			----- BY PLACE ----- ❸		
Lane	Place	Time	Place	Lane	Time
1	5	56.95	1	4	55.28
3	3	55.83	2	5	55.28
4	1	55.27	3	3	55.83
5	2	55.27	4	7	56.85
6	7	57.55	5	1	56.95
7	4	56.85	6	8	56.96
8	6	56.96	7	6	57.55

❹
	Lane 1	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
Backup	56.90	55.71	55.26	55.23	57.56	56.87	56.89
Btn. A	58.35		55.28		57.53	56.86	56.92
Btn. B	56.90	55.71		55.25	57.59	56.87	
Btn. C		55.72	55.24	55.21		56.88	

*Note that no times are recorded for Lane 2 because there was no swimmer in Lane 2 in this heat, likely a "No Show" and should be confirmed with the console operator

Documenting Official Time (Paperwork)continued...
- Obtain heat printout from console operator
- Check correct race#, event#, heat# and highlight printout
- Confirm that each lane with a swimmer has a time
- Document any no-shows
- Document any DQ's
- Calculate official time. (Validate within .30 - use flowchart)
- Clearly identify official time with check mark and strike out invalid times
- Initial paperwork
- Pass paperwork to Hy-Tek station

Documenting Order of Finish (OOF)
OOF is an aid when no clear validation between pads, buttons, and watches is clear. Starters will provide the OOF, listing the lanes in the order that they arrived at the finish.
Document paperwork by writing "OOF" then the lane numbers provided by Starter.
EXAMPLE: OOF   4-3-2-5-6-1
In the following examples, when the Starter notations have lines or dashes, it suggests the Starter is unsure of place finish or it was too close to call for lanes 2,5,6:
43 - - - 1 ;   43 256 1 ;   43 256 1

Documenting DQ Slips
DQ Slips are swimmer disqualifications submitted to the Referee by a Stroke & Turn Official. It is important to verify and document accurately by following these steps:
1. Compare a DQ slip for correctness against the ET Console Heat Sheet
   a. Swimmer/Team Name
   b. Event / Heat / Lane
   c. Signed by Referee
2. If there are any discrepancies, send the DQ back to the Referee
3. Initial top corner of DQ slip
4. Strike out the swimmer's name on the ET Console Heat Sheet
5. Denote "DQ" along left side of strikeout
6. Write the lane(s) and name(s) of swimmers DQed on the Time Verification paperwork; strikeout lane/time
7. Attach DQ slip to back of paperwork, facing backwards - enables easy review and removal later if required

DQ slips are received at many times during the course of a meet. If they arrive after paperwork has been passed on to Hy-Tek, retrieve the paperwork and follow steps 1-7.
ET DQ Tip:
RED IS NOT REQUIRED. DQ notations that are written in red are not overlooked but are harder to erase in the case of an error.

Heat Malfunction
If the automatic system has had an early or late start (the manual "start" button has been pushed), ALL times will be inaccurate and will need to be adjusted. Print a worksheet, refer to the Rule Book (102.24.4E & Appendix 1), and follow these procedures:
1. Fill in ALL information available for all lanes swum....Pad Times, Button Times, Watch Times

2. Review/Reconcile Pad Times before adjustment calculations; (are Pad Times validated by buttons? note → only look at buttons for this step; if verified, write the time in Official Time Before Adjust column)
3. If the buttons don't verify the Pad Time, DO NOT use that lane in malfunction calculations
4. Calculate average Watch Times for all lanes where Watch Times verify each other
5. If the Watch Times don't verify each other, DO NOT use that lane in malfunction calculations
6. Calculate the difference between the Watch Times and Pad Times (Watch Minus Pad column)
7. Add "Watch Minus Pad" column for the Total Difference
8. Divide Total Difference by number of good lanes to get Average Difference
9. Add Average Difference to each verified Pad Time (Official Time Before Adjust) for the Official Time
10. Finish reconciling lanes not used in malfunction calculations
    a. For lanes needing to use Button Times, do a lane adjustment first (Avg Buttons if they verify each other) write the time in Official Time Before Adjust column, then adjust with Average Difference
    b. If nothing confirms, but Watch Times verify each other, use an Average Watch Time with NO adjustment
11. Be sure to check that the OOF (Order of Finish) remains the same for confirmation
12. The Referee/AO should always be informed of a heat malfunction and sign off on the mathematical calculations

Hy-Tek Meet Manager (3rd Station)

Hy-Tek Meet Manager is a meet management software used to set up and run swim meets.

- Set up meets
- Manage entries
- Seed races with swimmers
- Prints heat sheets & psych sheets
- Captures the times from the timing console
- Assimilates the results
- Scores the meet
- Prints awards labels

Before the meet starts, the following should be ready:
1. Download meet file from Hy-Tek to console
2. Print Console Heat Sheet - 1 event per page
3. Print and deliver Lane Timer Sheets
4. Print Heat Sheets / Sessions Reports as needed

During the meet, the Hy-Tek operator manages the race information. Stay current with the meet by "Getting Times" as soon as possible. You may need to toggle back and forth between heats and events. This step retrieves the race information from the console. If you do not "Get Times" you will not have the Race information and it will need to be input manually. Confirm and update Official Times, DQ's or any other changes. Communicate with the Referee for the close of each Event; results can then be posted.

At the end of the meet, keep console turned on until Hy-Tek operator confirms that ALL race information has been transferred

Screen shot of "Run" Menu:

The highlighted anomalies tell the Hy-Tek operator that an error has occurred and something needs to be fixed.

Other Official Times
Rule 102.24.1A - Official times may be achieved in:
- Any heat
- A swim off
- A lead-off leg in a relay
- A split time recorded from the official start to the completion on an initial distance with a legal finish within a longer event, provided the swimmer completes the event or the lead-off portion of the relay in compliance with applicable rules
- A time trial or a record attempt

Problem Solving
Communicate with your ET team, Referee and/or Meet Director if something has gone wrong so that the problem can be fixed quickly. Examples:
- Pad not working→ Swap out a backup pad (ask Referee to pause the meet between heats)
- Button not working→ Swap out backup button
- Printer not working
  - -Refill paper?
  - -Ink / Toner?
  - -Swap out different printer?
- Console not working→ Check all connections; set up 3 watches in each lane
- Hy-Tek not working→ Check all connections and cables; swap out cables or power cords
- Race logs are a handy tool if you missed a race due to connection failure between console and Hy-Tek (see Exhibit #1)

ET Tip:
To swap pads or buttons, ask Ref to pause the meet between heats even if the lane is not being used.

Worked Examples
- Sample #1 (ET Training Material)
- Sample #2 (ET Training Material)

Resources

Oregon Swimming, Inc (OSI) website:
       www.oregonswimming.org

The following training material and quick reference guides are available on the OSI website (OSI>Officials>Training)

- Time Reconciliation Flowchart
- Heat Malfunction Worksheet
- Exhibit #1 (Race log document under ET Training Material)
- This presentation is available for printing individual slides(ie: Documenting Official Time, Documenting DQ's)

USA Swimming website: www.usaswimming.org