



SUPERIOR SWIM TIMING

SST OPERATION MANUAL

Installation, Operation and Support of the SST Swim Timing Console
Superior Swim Timing
www.ssttiming.com

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All occurrences of "Colorado", "Colorado Timing", and "CTS" refer to Colorado Timing Systems™

QUICK START GUIDE

Active/Hy-Tek Meet Manager Instructions	
1. Create a New Folder for the meet	Results files will be written to the meet folder. That keeps results separate from a previous meet.
2. Create the meet in Meet Manager	Use meet manager instructions to create your meet.
3. Create the event schedule file	From the RUN menu create the generic file or connect the serial connection. Save this file in the folder created above. If the serial interface is being used this is not required. RUN Menu > Interface > Select data set > Update Data Location > Select meet folder RUN Menu > Interfaces > Download events to GNET
4. Create the Startlist Scoreboard Files	After seeding the meet go to the FILE menu. Select Export > Startlists for Scoreboard > Startlists for CTS > Navigate to the Meet Folder Above Alternatively, if you have the Alpha Scoreboard option, select the Network File Sharing in the scoreboard setup. Next go to Interfaces > Scoreboard > Create the startlist file

SST Instructions	
1. Plug the SST Timing Box into the computer	Make sure the timing box is not in a location where it can get wet or be pulled from the computer.
2. Lay out the harness	Configure SST so that the lane mapping matches the harness to the pool lanes. (Step 7)
3. Connect the pads and/or buttons	Plug in the pad and/or buttons into the harness(s).
4. Connect the Electronic Starter	If an electronic starter is not available, use one of the extra buttons as the starter.
5. Connect the Harness to the SST Timing Box	Ensure that the harness is plugged into appropriate location (Near represents the harness at the side of start location, Far represents the harness location at the opposite of the start. Typically the turn end). Make sure pads (if used) are plugged into the Prime input. Buttons are plugged into Backup.
6. Start the SST Timing Program	Double-click the SST icon on the desktop to start SST.
7. Verify the SST Timing Configuration	On the Lane tab, set the number of lanes used for the meet. If the harness is reversed, click the Reverse Lanes checkbox. Make the appropriate selections based on the pad/button configuration. Go through the rest of the configuration tabs and verify that they are set per the meet requirements. Click the Finish button.

8. Configure Scoreboard	If using a projection scoreboard go to the Projection tab. For a serial scoreboard, click on the Serial Scoreboard tab. Make all appropriate selections including mapping the swim lanes to the scoreboard. Next select the appropriate COM port and click OPEN.
9. Open Events Schedule File	From the timing console window, go to FILE > OPEN SCHEDULE FILE > navigate to the meet folder and select GENERIC.SCH
10. Test Starter and Buttons	Put the SST console in test mode by going to HELP > TEST MODE. Have someone go to each lane, press and <u>hold</u> the pad/buttons. Exit test mode by going to HELP > TEST MODE. Perform a test start.

WELCOME

Thank you for purchasing Superior Swim Timing (SST). This device brings modern electronics and clock reference technology to give you superior performance at a reasonable cost.

HY-TEK MEET MANAGER INTERFACE

SST is designed to be used in conjunction with the Hy-Tek Meet Manager (MM) software and other meet management software such as SwimCloud. This manual mainly describes the procedures for using Hy-Tek Meet Manager. Please contact the meet manager vendor of your choice for interfacing with SST.

To use the SST timer, make sure you have "The Timing Console INTERFACE" for Meet Manager. SST is capable of reading the "Start Lists for Scoreboard (CTS)" files that are generated by the base Meet Manager offering. While not required, SST software is also capable of reading the files generated by the "Alpha Scoreboard INTERFACE to Display Names/Results". In either case the names of the swimmers can be displayed on the SST console and the projection scoreboard. These files also tell SST how many heats are in each event, allowing SST to automatically move to the next as well as the next event. Refer to the Hy-Tek documentation for more information on how to create these files.

INTERFACE FOR OTHER MEET MANAGEMENT SOFTWARE

Refer to the section titled SST Hardware Configurations (Serial Interface Option).

COMPUTER REQUIREMENTS

Operating Systems

Windows 11 is the preferred operating system for the SST software.

Computer Requirements

We recommend that a laptop computer be used to run the SST software. Since SST is powered by the USB port on the laptop, the battery of the laptop provides a built-in battery backup in the event of a power outage during a race. SST is

designed to draw very little power to operate and should not affect the battery life of the laptop.

When using the SST timer that is compatible with Daktronics deck harness the timing box will require an SST provided power supply that powers the deck cable exclusively.

Since all the timing is done in the SST interface box, the computer capabilities do not affect the timer's accuracy. SST should perform reliably on just about any reasonably current laptop.

Minimum Requirements

It is recommended that a computer with at least a dual core processor be used. If the meet manager program will be on the same computer, be sure to use a PC that meets the vendor's specifications. Touch screens are beneficial but not necessary.

1 GB RAM is the minimum required to run SST. 2 GB of RAM is recommended. The SST software requires 360 MB of hard drive space.

If a projection scoreboard will be used, the laptop should be able to run two independent monitors. Most Windows based laptops support this although some lower end models can only output one screen in mirrored mode. An HDMI output is required for this function. The important point is that the laptop screen and external monitor **MUST** be separate displays so that the screen resolution and content can be set separately. When the second screen or projector is plugged in, set the laptop to extend your display, not duplicate.

If a projection scoreboard is used, SST will auto-size the display for 6, 8 and 10 lane pools with the projector's resolution.

****NOTE**** It is highly recommended that the computer be tested with the desired projector and interface as there can be interfacing issues and it is best to find them before you commit to buying a projector or laptop. Depending on the timer location and the projector an HDMI cable extender may be required. The projection display can also be scaled. Please refer to the configuration section later in this manual.

Technical Specifications

Operating temp 0 to 40 C

Power Supply – USB powered 5V @ 500 mA max (All buttons pushed), 7 mA typical

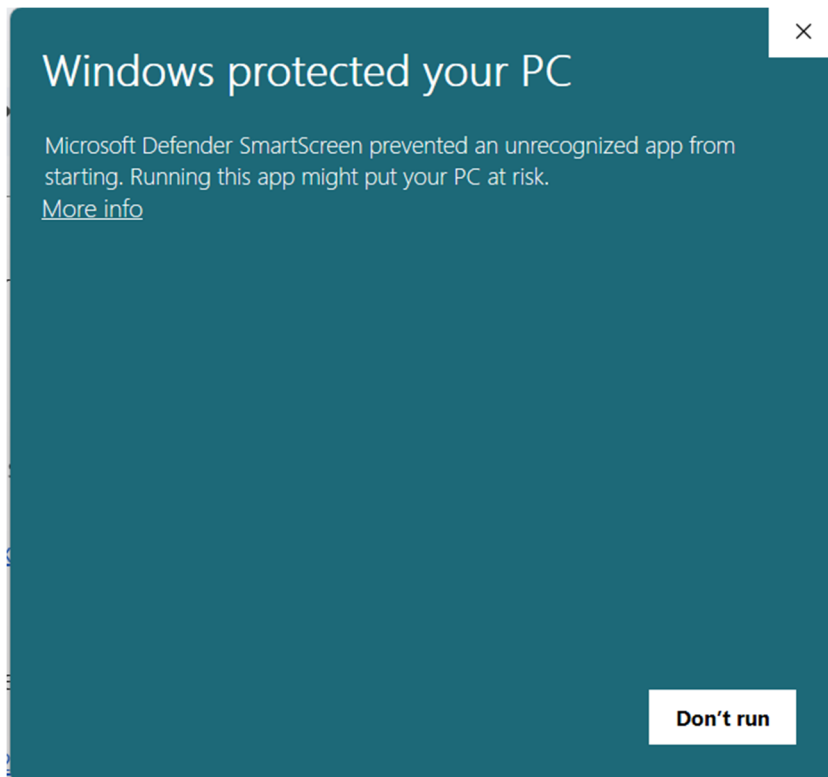
PC interface – Virtual Serial Port

SST SOFTWARE INSTALLATION

To install the SST software, just run the setup.exe file. The software can be downloaded from:

<https://softwareupdate.ssttiming.com/Setup.exe>

If, during installation you get the following screen:



Click More Info and then Run Anyway.
Then click "Next" and "Next" and finally "Install"

A shortcut icon will be placed on the computer desktop for launching the SST software and for the instruction manual.

TIMING HARDWARE

Four Connector Timing box for SST or CTS harnesses only



Near A (Typically the start end)

For SST or Colorado prime harness. Connect a pad and one button or 2 buttons.

Near B

For SST or Colorado backup harness. Connect backup buttons 2 and, if used, button 3.

Far A (Typically the turn end)

For SST or Colorado prime harness. Connect a pad and one button or 2 buttons.

Far B

For SST or Colorado backup harness. Connect backup buttons 2 and, if used, button 3.

Daktronics Timing Box



Functions the same as the 4 connector box (that supports SST and CTS harnesses) with the additional functionality of supporting near and far Daktronics harness as well as a start input.

HARDWARE SETUP

****NOTE** – The USB timer module is NOT waterproof. It should be placed on the table with the computer and not on the pool deck.**

****NOTE** – The USB timer module uses a locking USB connector. This ensures that the timer is not inadvertently unplugged during a meet. To remove, simply squeeze the sides of the connector.**

SST and Meet Management Software on the same computer

SST and the meet management software can be run on the same computer. However, that is not the recommended configuration from an administration standpoint. There should be one person watching the timing console and pool and another person resolving timing issues, entering DQ's and printing reports.

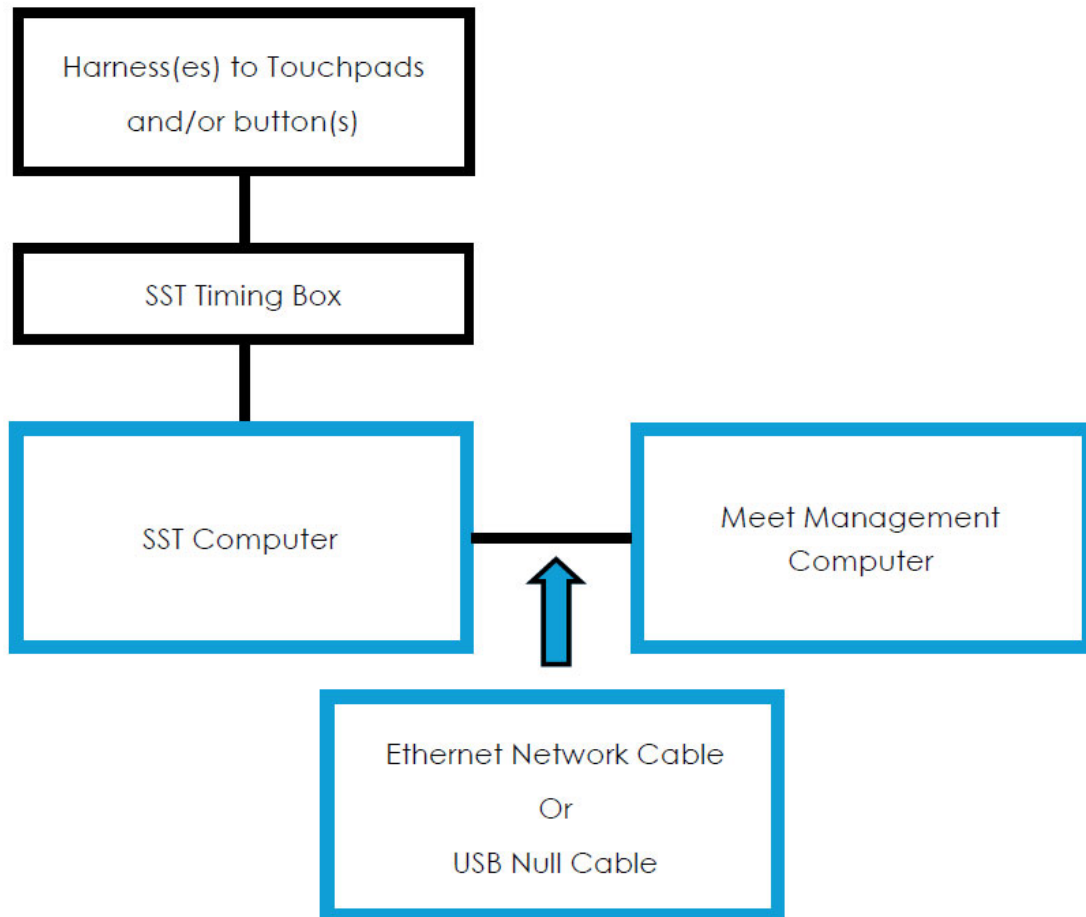
SST and Meet Management Software on different computers

(Recommended Configuration - See Diagrams Below)

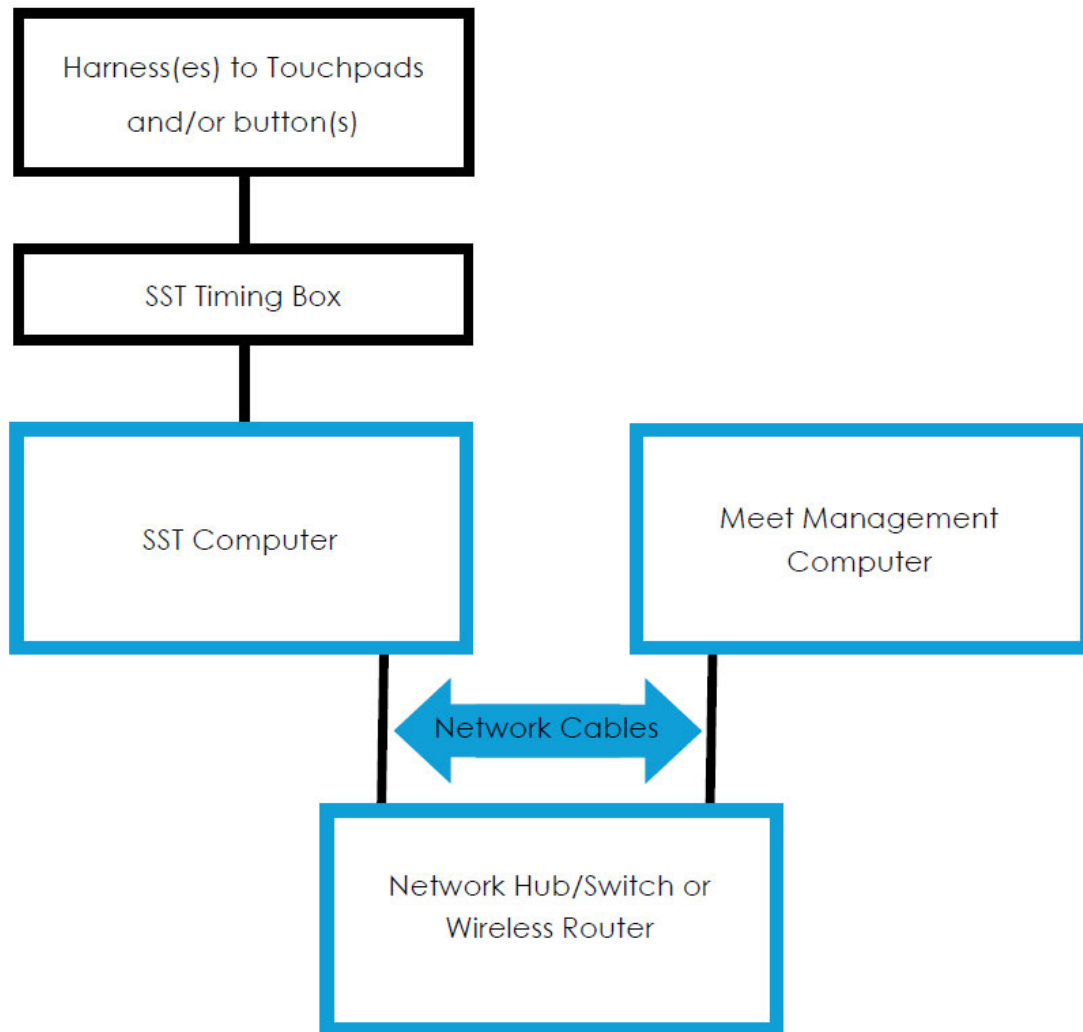
There are numerous ways of connecting the two computers:

1. Serial interface
2. Ethernet cable between 2 computers.
3. Ethernet switch Page 13
4. Wired/Wi-Fi router
5. Facility Wi-Fi connection (if trusted and reliable)
6. Wi-Fi ad hoc network

Option 1 or 2: Generic File Sharing Or Serial Connection



Option 3, 4, 5, or 6: Generic File Sharing ONLY



LOCATION OF SST RESULTS FOLDER

SST results files can be saved to the SST computer or the meet management computer. We recommend saving them to the SST computer. The reason for this is that if the two computers lose connection, because of network problems, the results will still be saved to the same location. With this configuration when the network is reconnected the results files will not need to be moved.

REMEMBER: Results are never lost. The meet can continue to run. See section titled Loss of Network Communication for more information.

SST AND NETWORKED MEET MANAGEMENT SOFTWARE

When using the networked version of meet management software there is usually a central management computer that has the meet management database and meet manager shares that directory with the other meet management computers. The SST laptop would also connect to the network and share the same directory.

We highly recommend that a folder be created for each meet. This will allow all meet data to be kept separate. Doing this will provide a permanent record of the meet results and give the user the ability of re-importing the times at any time in the future in case of a meet management database problem. SST also creates an HTML file after each race and saves it to the same folder. This file can be opened and printed any time in the future.

SHARING FOLDERS

When running meet manager on a separate computer, a “shared” folder will need to be created. In all cases make sure to allow “full access” or “read/write” for the folder. An option to this is to use the SST Gateway. (See page 59)

LOSS OF NETWORK COMMUNICATION

If the SST computer can no longer communicate with the meet management computer, the results files are written to the SST computer. If the results were being written to the SST computer, they will continue to be written to the same location. If they were written to the meet management computer, they will now be saved in the “C:\Users\“local user”\AppData\Local\SST\logs” directory on the SST computer. When the network communication is restored, the files can be moved

to the meet management computer. As an option, the files can be moved by using a USB memory stick.

REMEMBER: Results are never lost. The meet can continue to run.

CONNECTING SST WITH MEET MANAGEMTN SOFTWARE

There are two ways to connect SST with the meet management software:

1. Serial communications via a USB null cable
2. Generic File Sharing via a computer network connection

SST & Meet Manager Connection Using the Serial Interface Option

The user would select the Colorado 6 interface in their meet manager software.

In order to communicate between the two computers there needs to be a USB to USB Null Modem Cable.

SST has tested the FTDI Null modem cable

<https://ftdichip.com/products/usb-nmc-2-5m/>

Similar devices are available from Allied Electronics or Amazon and other sources.

Obtain a USB/USB null modem cable and follow any instructions for installing drivers (as required by the vendor). There should now be COMx port on both SST and the meet management computers available.

SST Timing Setup

Start SST and in the configuration section click on the "System" tab. The following screen will appear.

Timer Configuration

Finished | System | Lane | Serial Scoreboard | Projection

Console Options

17 Pad Delay 6 Start Delay

1.25 Maximum Reaction Time (seconds)

☒ Auto Finish Race 8 Finish Delay (seconds)

☐ Auto Lane Arm

☐ Auto Lane Disable

☐ Don't run 25's

☒ Startlist lane disable

☐ Descending Lap Count

☐ Allow Time Adjustments

☒ Scoreboards Only

☐ Results and Scoreboards

☐ Auto Advance Scoreboard 10 Advance Delay (seconds)

☒ DQ Enabled

☐ 0.15 second manual adjust enable

.15 adjust NOT allowed in World Aquatics and USAS rules

Meet Settings

Session Number 1 Session Name

Round Filter

☐ Prelims

☐ Semifinals

☐ Finals

☒ All

Heats Filter

☒ All

☐ Even

☐ Odd

Race Increment

☒ 1

☐ Even

☐ Odd

Sound

☒ Speaker Beep

☐ MIDI

Scoreboard Server

☒ Scoreboard Server Enabled

Broadcast Port 53535

Connection Port 53536

Print Options

☐ Enable ☐ Dialog ☐ Interactive

Meet Administration Interface (Virtual Serial Port 23000)

☐ Text File

☐ SST Server IP Address 000.000.000.000 Port 32259 Test

☒ Serial Port COM16 Open

Baud Rate ☒ 9600 ☐ 115200

****NOTE**** Make sure the USB null cable is connected before starting SST.

RS232 or USB Null Modem

1. Set any other configuration settings that are required for the meet.
2. Select the "Serial Port" radio button.
3. Check the appropriate baud rate that the meet management computer will use.
4. Select the meet management COM port and click "Open".
5. Click on the "Finished" button.

Meet Management Computer Setup

In the meet management software, use the normal procedure that would be used for connecting to a Colorado 6 timing console including opening and testing the serial port. Then download the events to SST and the meet can be started.

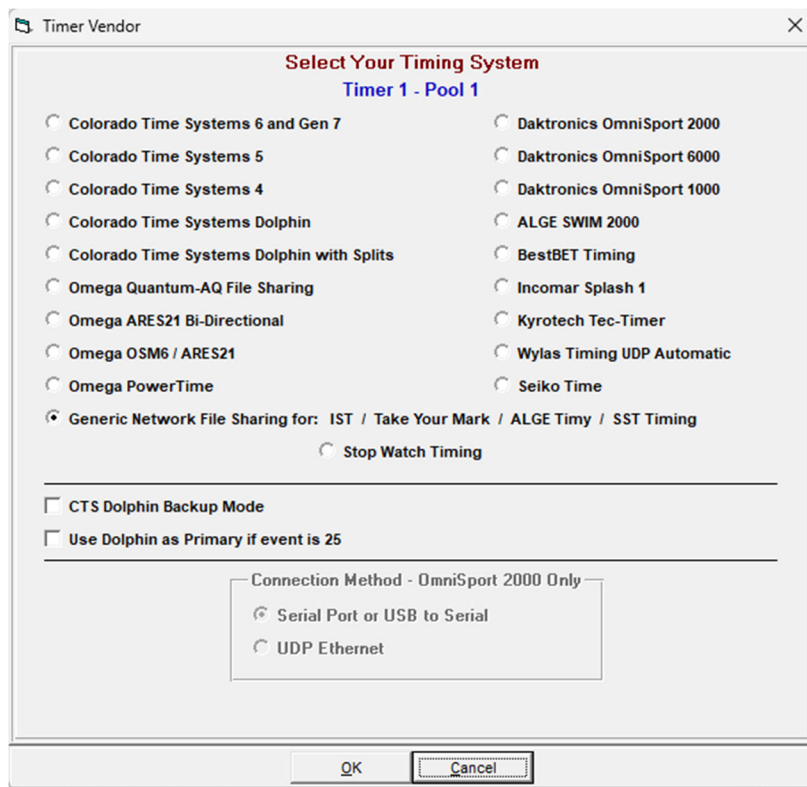
Setting Session Folder

From the SST console click "File" and "Set Session Folder". Navigate to the folder that was created for this specific meet and click "Open". This will be the location where the results files are saved. The scoreboard files should also be saved to this location.

SST MEET MANAGER CONNECTION USING GENERIC FILE SHARING

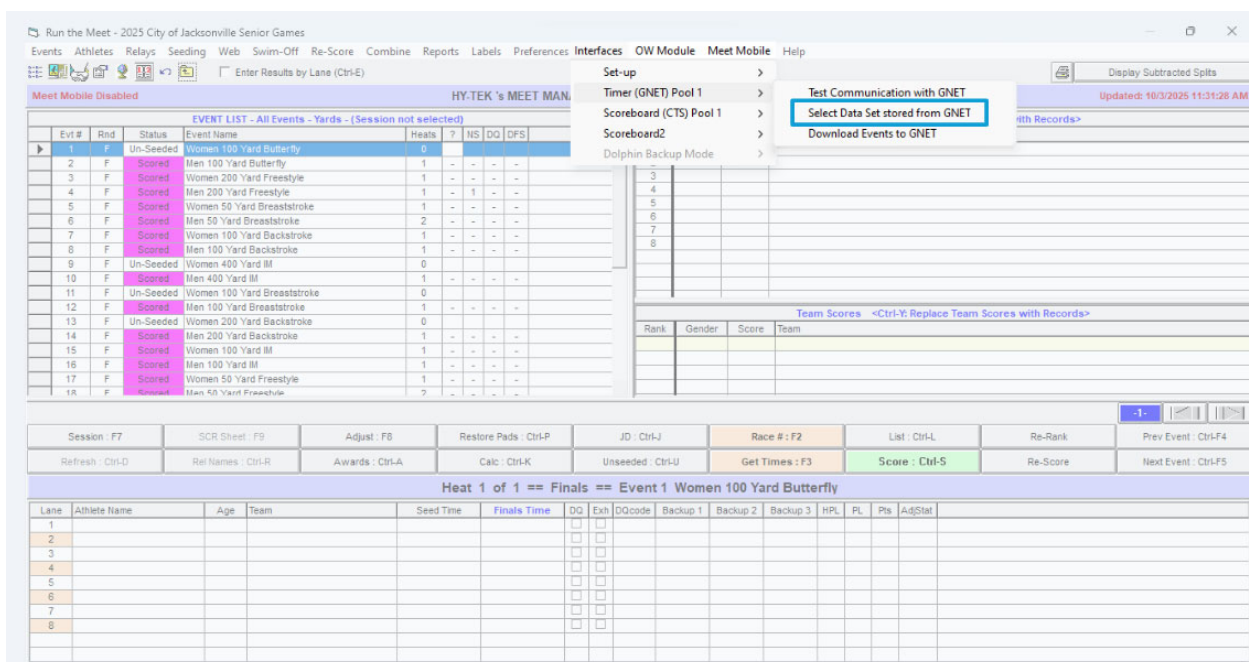
Meet Manager Operations

In Meet Manager Set-up MM for Generic File Sharing timer and for file based scoreboard if using that option. Open the Run window, Click "Set-up" and "Timing Console Interface". The following box will appear. Select "Generic Network File Sharing....". Afterward click "OK" to exit.

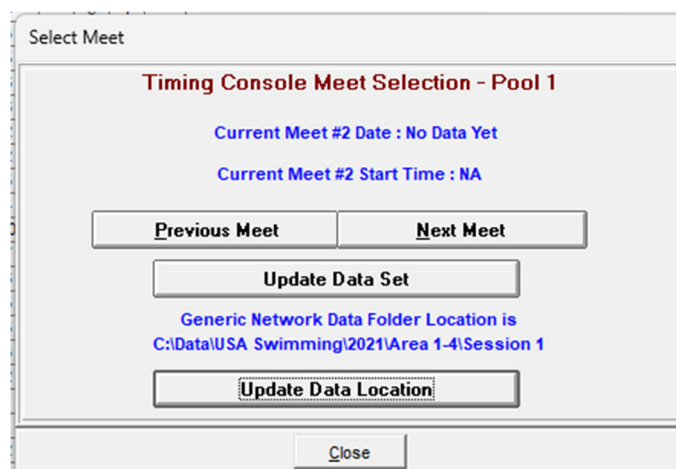


****NOTE** The Timing Console Interface option must be purchased from Active/Hy-Tek in order to use this option.**

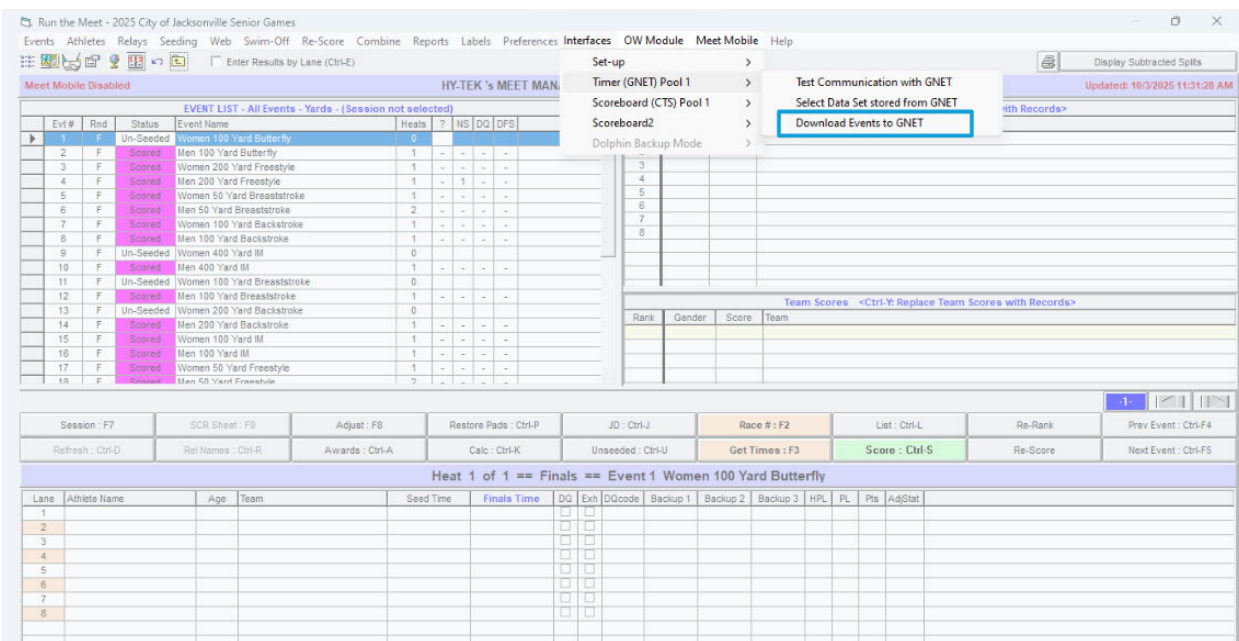
Next, enter the RUN mode of Meet Manager. Click on Interfaces, Timer (GNET) Pool 1 (or 2), and then Select Data Set Stored from GNET.



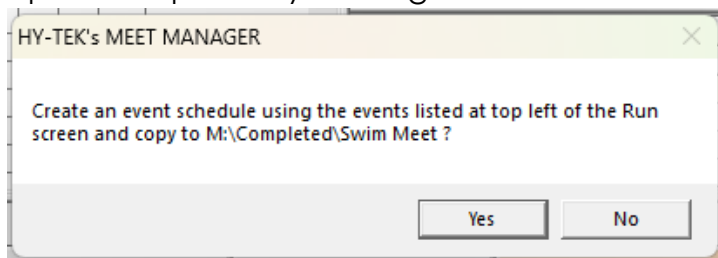
Next, from the Run screen, click Interfaces, Timer (GNET), Select Data Set stored from GNET. Click Update Data Location and use the next window to navigate to the results folder that was created for this meet. Click Open.



If running one or more sessions, select the session that is currently being swum. The schedule file that will be created in the next step will be based on the event order shown in the upper left section of the Run screen. Now click on "Interfaces", "Timer (GNET) Pool 1 (or 2)" and then "Download Events to GNET".



Upon completion you will get a box similar to the following:



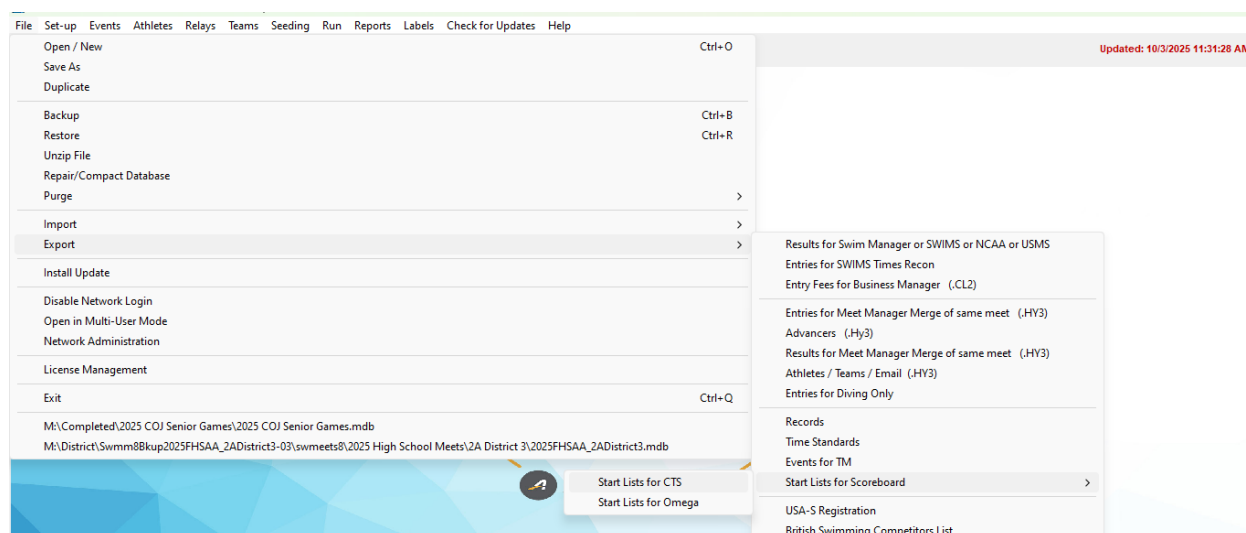
IMPORTANT: This is where the "generic.sch" file will be written. Take note of the directory that the file is being saved to. It should be the same directory that was created for this meet. Click "OK" and then "OK" again to the next box. This file will be used to configure the meet in SST.

If the Alpha Scoreboard option is being used, create the StartList file. Select "Network file Sharing" on the scoreboard setup page.

****NOTE** - The meet management database, generic.sch file and startlist.slx (if used) or scoreboard (.scb) must be in the same location. The results files will be written to this location.**

Next, create the scoreboard files. In Meet Manager click on "File", "Export", "Start Lists for Scoreboard" and then "Start Lists for CTS" and save them to the same folder as the generic.sch file is located. We recommend using these files instead of the Startlist file created for the Alpha Scoreboard option. That is because when

you are in Meet Manager and you make any changes to events not yet swum you just need to recreate the scoreboard files and SST will automatically pick up the changes. **IMPORTANT:** A session must be configured in order to create these files. If you are using the Startlist file and recreate the Alpha scoreboard file, you can select “reload scoreboard file” under the File menu of the SST Console.



SST SOFTWARE OPERATION

To start the software, either click on the “SST Console” icon on the desktop or under Start > All Programs > SST Timer > SST Timer. The following Configuration window will appear. The configuration display contains numerous tabs. SST will initially open to the same tab that was last selected with the previously selected settings. Previous settings will be saved.

Startup - Timer Configuration

The Configuration has multiple tabs to configure the timer for the pool and scoreboard and preferences.

System Tab

The screenshot shows the 'Timer Configuration' window with the 'System' tab selected. The interface is divided into several sections: 'Console Options', 'Meet Settings', 'Print Options', and 'Meet Administration Interface'. The 'Console Options' section includes settings for Pad Delay (8), Start Delay (6), Maximum Reaction Time (2.00), and various checkboxes for race rules. The 'Meet Settings' section includes Session Number (1), Session Name, Round Filter (All), Heats Filter (All), Race Increment (1), Sound (Speaker Beep), and Scoreboard Server settings. The 'Print Options' section has radio buttons for Enable, Dialog, and Interactive. The 'Meet Administration Interface' section has radio buttons for Text File, SST Server, and Serial Port, along with IP Address, Port, Baud Rate, and Test/Open buttons.

Timer Configuration

Finished

System Lane Serial Scoreboard Projection

Console Options

8 Pad Delay 6 Start Delay

2.00 Maximum Reaction Time (seconds)

☒ Auto Finish Race ☐ Auto Lane Arm

☐ Auto Lane Disable

☐ Don't run 25's

☒ Startlist lane disable

☐ Descending Lap Count

☒ Allow Time Adjustments

☒ Scoreboards Only

☐ Results and Scoreboards

☐ Auto Advance Scoreboard 10 Advance Delay (seconds)

☒ DQ Enabled

☐ 0.15 second manual adjust enable

.15 adjust NOT allowed in World Aquatics and USAS rules

Meet Settings

Session Number 1 Session Name

Round Filter

☐ Prelims

☐ Semifinals

☐ Finals

☒ All

Heats Filter

☒ All

☐ Even

☐ Odd

Race Increment

☒ 1

☐ Even

☐ Odd

Sound

☒ Speaker Beep

☐ MIDI

Scoreboard Server

☒ Scoreboard Server Enabled

Broadcast Port 53535

Connection Port 53537

Print Options

☐ Enable ☐ Dialog ☐ Interactive

Meet Administration Interface (Virtual Serial Port 23000)

☒ Text File

☐ SST Server IP Address 192.168.4.64 Port 49160 Test Server 192.168.4.64 cannot be found.

☐ Serial Port COM4 Open

Baud Rate ☒ 9600 ☐ 115200

Pad Delay

This dropdown allows the user to set the amount of time a pad is inoperative after a touch or after a start. This delay allows a relay swimmer to exit the pool without triggering the pad. Typically, the delay is 17 seconds.

Start Delay

This function is only used if using far end pads as the delay for the first turn is usually much shorter than what is set the Pad Delay to.

Maximum Reaction Time

Maximum reaction time allows the user to adjust the amount of time that the system is looking for reactions before and after starts or before and after pad touches. Constraints to this setting help avoid external influence like athletes stretching or hitting blocks.

Auto Finish Race

Normally SST will automatically close a race 8 seconds after the last swimmer finishes. If this option is *NOT* selected SST will force the operator to manually finish the race instead of having SST automatically doing it. In both cases, SST will advance to the next scheduled race if the start list files are in use.

Finish Delay

This selection allows the user to customize how many seconds before the auto-finish occurs. If left unchecked, the SST operator will be required to manually finish each race before moving on to the next.

Auto Lane Arm

This feature will automatically arm a lane if a lane has been turned off but a touch is recorded. SST will turn the lane on, arm the lane, and record all the times for that lane.

Auto Lane Disable

This feature will automatically disable a lane if a lane has had no (zero) pad hits while any other lane has had two pad hits. If the lane gets auto-disabled it can be easily re-enabled on the console by clicking the lane number or “+ touch” button. This function is not applicable on 50's (in a 25 pool) or 100's (in a 50 pool) as there will never be 2 touches. In this case the lanes can be manually disabled by clicking the lane number button. NOTE: If, at any time, the operator turns on a disabled lane, the “Auto Lane Disable” feature will be turned off.

Don't run 25's

This is a convenience feature when one lap races (25's in a short course or 50's in a long course pool) are run from the near end of the pool and stopwatch timing is used at the far end instead of pads and/or buttons. When selected, SST will automatically advance to the next scheduled race at the start of the race, but SST will not start the timer or create an output file with times.

Startlist Lane Disable

When a Startlist scoreboard or CTS scoreboard files have been loaded, SST will automatically turn off empty lanes if this option is selected. Lanes may be turned on by clicking the lane number button.

Descending Lap Count

This is an option to switch from the default ascending lap count. Many use this specifically for distance events.

Allow Time Adjustments

Not all swim organizations allow this function. But, if allowed, will give the operator the ability to modify the times being sent to the scoreboard or the scoreboard *and* meet management software. The operator can select from the backup button, wireless watch (if used) or a manually entered time.

Auto Advance Scoreboard

This option automatically advances the serial and projection scoreboards to the next race so that swimmers' names will be displayed on the scoreboard before the race. The amount of time the previous race results are displayed is adjustable.

DQ Enable

The option will put a "DQ" button on the console. When the DQ button is clicked a DQ flag will be sent to the meet management software for that lane and the finish place will be 0.

0.15 second manual adjust enable

This option will adjust button times by subtracting .15 from each time. The purpose is to compensate for the human reaction time.

HOWEVER. This is not allowed by USA Swimming or World Aquatics.

Print Options

SST comes with an option to print results after each race.

Enable

Creates roughly a one page summary of the race results. Long events with multiple splits may require more than one page.

Meet Settings

Each of these options is related to the meet manager configurations and should match the meet setup information.

Session Number and Name

A way to customize the data collected to coordinate with the sessions set up in the meet management software. Using separate data sets is a way to distinguish between separate meets within the same folder, separate sessions of the same meet or if running multiple courses of the same meet in a networked environment.

Round Filter

Select the round that is being run. This setting will filter the event list to the selected round. If a session contains a mix of preliminary, semifinal, and final events, select All.

Heats Filter

The user can choose to run even only or odd only heats. If running all heats, select All.

Race Increment

The user can choose to run even only or odd only race numbers. This is beneficial for running two courses at an event.

Sound

Choose between using a speaker beep or use MIDI sounds for the start signal and pad touches. In a future release we will have the option to select different sounds based on near and far pad touches and other inputs.

Scoreboard Server Enabled

Check this option to start the scoreboard server. The scoreboard server will broadcast connection information via UDP across the network using the Broadcast Port, and it will accept TCP connections from external scoreboards on the Connection Port. External scoreboards will receive real-time race information.

(See addendum B for technical information)

Meet Administration Interface

The user can choose to run the generic.sch file from a text file, SST server or Serial Port.

Lane Tab (without Daktronics support)

(See addendum A for earlier timer configurations)

Timer Configuration X

Finished | System | Lane | Serial Scoreboard | Projection

Lane Configuration

Check Serial USB Cable : VQ4.00 f 67 (C) SST 1401402A AFC91C89 63D73B14 F5001BC1

Lanes in use: Starting Lane: Far Pad, Finish Only: ☐

Course: ☒ Yards ☐ SCM ☐ LCM Finish End For 1 Length:

Pad Mode: Near Pads, No Far Cable Lap Increment = 2: 1 Near Buttons 0 Far Buttons

Near A Harness		Near B Harness		Far A Harness		Far B Harness	
Prime	Pad	Prime	Off	Prime	Off	Prime	Off
Backup	Button	Backup	Off	Backup	Off	Backup	Off

Lane Mapping		Lane Mapping		Lane Mapping		Lane Mapping	
Reverse	☐	Reverse	☐	Reverse	☐	Reverse	☐
Lane 1	1	Lane 1	Off	Lane 1	Off	Lane 1	Off
Lane 2	2	Lane 2	Off	Lane 2	Off	Lane 2	Off
Lane 3	3	Lane 3	Off	Lane 3	Off	Lane 3	Off
Lane 4	4	Lane 4	Off	Lane 4	Off	Lane 4	Off
Lane 5	5	Lane 5	Off	Lane 5	Off	Lane 5	Off
Lane 6	6	Lane 6	Off	Lane 6	Off	Lane 6	Off
Lane 7	Off	Lane 7	Off	Lane 7	Off	Lane 7	Off
Lane 8	Off	Lane 8	Off	Lane 8	Off	Lane 8	Off
Lane 9	Off	Lane 9	Off	Lane 9	Off	Lane 9	Off
Lane 10	Off	Lane 10	Off	Lane 10	Off	Lane 10	Off

Lanes in Use

This dropdown menu allows the user to select the number of lanes being used.

Starting Lane

This allows the user to select the starting lane number. For example, FINA generally requires a 10 lane pool to be numbered "0" to "9".

Course

Select the pool length.

Far Pads Finish Only

This option is only active when using a timer that supports a far-end harness and the far-end harness is configured to use pads as the primary input.

Click this box if there is a harness with pads at the far end of the pool and they will be used for the finish of one lap events only, such as 25's in a short course or 50's in a long course pool. Far-end splits will not be recorded. This option is not available if the far end harness is plugged into the A2 connector on a 3-port timer.

Finish End for One Length Race

If using the far harness for splits and/or finishes, use the drop-down box to select which end of the pool will be the finish end for one lap races.

****NOTE**** This is not enabled when using a second A cable for the far end on the 3 connector timing box.

Harness A & B Location (SST & CTS Harness Only)

The option lets the user select where each harness will be located and what its function will be.

Below are the options:

Near A

Prime

Pad

Button

Backup

Off

Button

RJP (Relay Judging Platform)

RJP/Button

Near B

Prime

Off or Button

Backup

Off or Button (If button must have button in prime)

Far A

Prime

Pad

- Button
- Backup
 - Off
 - Button
 - RJP (Relay Judging Platform)
 - RJP/Button
- Far B
 - Prime
 - Off or Button
 - Backup
 - Off or Button (If button must have button in prime)

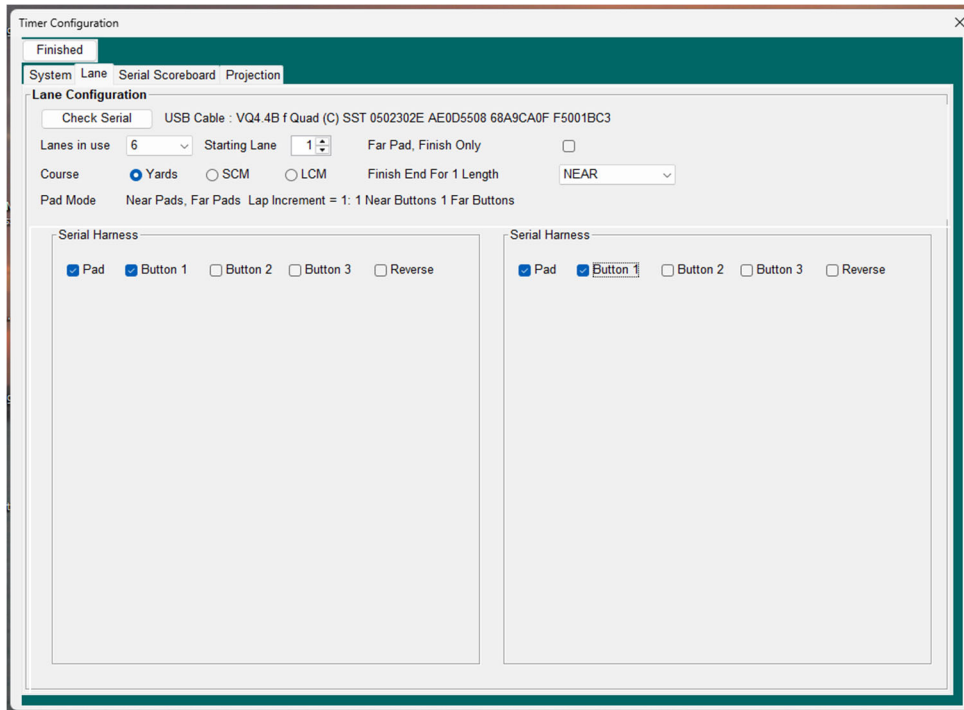
Harness Mapping (SST & CTS Harness Only)

This section lists the pool lanes on the left. The right side has drop-down boxes that allows the user to select the cable position for that lane. For example, if you are using an 8 lane harness with a six lane pool but want to reverse and shift the cable to lane configuration, select "Reverse Lanes" (above) and then select cable position 8 for pool lane 1, cable position 7 for lane 2, etc. down to cable position 3 to lane 6. If shifting lanes, for example harness lane 3 is pool lane 1 and harness lane 4 is pool lane 2, etc., use the slide to the right of the harness instead of having to change the lanes in each drop down box.

Reverse Lanes

Clicking this button reverses the lane numbers FOR THE NUMBER OF LANES SELECTED. For example, if using an 8 lane cable, but only have 6 lanes in the pool, the SST Timer will use the lane 6 connector for lane 1, lane 5 for 2, etc.

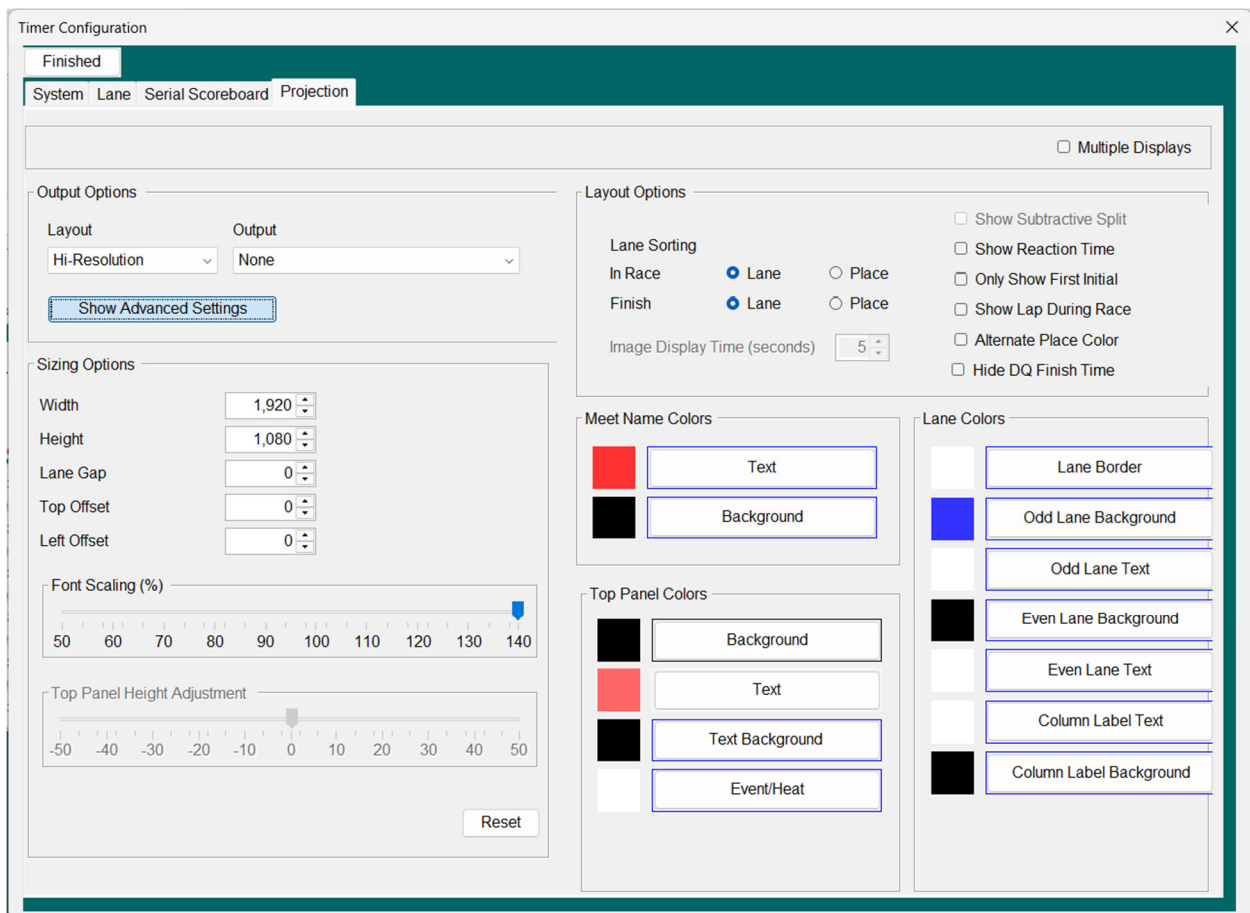
Lane Tab (with Daktronics support)



This screen lets the user select the configuration for the lanes including reversing. Make sure you have the external power supply plugged in.

Projection Tab

SST comes with a built-in projection scoreboard that displays a scoreboard on an external display. The external display could be a large monitor, projected on the wall with a projector or a video LED wall.



Output Options

SST offers 5 output options.

Scrolling

- As times come in, the swimmer names will move to the right. Times are located on the left side next to the lane number.

SST Dynamic Scoreboard

12:14:01

NEXT E1-H1 GIRLS 8&U 100 IM

FINISH ORDER

E1-H1 GIRLS 8&U 100 IM

LANE	PLACE	NAME
1.		
2.		ETST CARR, THERESA V
3.		FSST BRYANT, CELIA D
4.		FSST DAVIS, MAVIS L
5.		
6.		

Hi-Resolution

- b. Times are located on the right side of the screen. Each lane displays a subtractive and cumulative split.



SST High Resolution Scoreboard

×

10/28/25

SUPERIOR SWIM TIMING

12:16:57

Session Name

GIRLS 8&U 100 IM

EVENT

1

HEAT

1

FINISH ORDER

LN

PL

TEAM

NAME

SPLIT

TIME

1.

2.

ETST

CARR, THERESA V

3.

FSST

BRYANT, CELIA D

4.

FSST

DAVIS, MAVIS L

5.

6.

Lo-Resolution

- c. The Lo-Res layout is typically used with LED boards that have low pixel resolution. Splits are limited to either subtractive or cumulative.

EVENT 1		HEAT 1
GIRLS 8&U 100 IM		
1.		
2.	CARR, THERES...	ETST
3.	BRYANT, CELIA D	FSST
4.	DAVIS, MAVIS L	FSST
5.		
6.		

Portrait

- d. The portrait layout is designed to maximize space for scoreboards that are narrow. Names display at the start of the race for 10 seconds before switching to a running clock.

EVENT 1	
HEAT 1	
GIRLS 8&U 100 IM	
1	
2	CARR, THERESA V
3	BRYANT, CELIA D
4	DAVIS, MAVIS L
5	
6	

Pace Clock

- e. Shows the current time for use during warm-ups and practice. The user can also include scrolling ads in this option. Click on the "Advanced tab" and there is a link to the folder where you place the ad files. Supported file types are JPEG, BMP, and PNG. Also, when the Pace Clock option is selected, the image display time is selectable.



SST Pace Clock



Advanced Settings

Outputs can be fully customized by using the advanced settings options.

Width - Changes with width of the display

Height - Changes the height of the display

Lane gap - Changes the height of the horizontal line between lanes

Top Offset - Moves the entire display down

Left Offset - Moves the display to the right

Font Scaling - Adjusts the size of the font on a percentage basis

Layout Options

Lanes can be sorted by either lane or place. The user can customize both in race and for the finish. Also customize if the projections show reaction times, lap numbers, swimmers full name or first initial or alternate place color.

Meet Name Colors

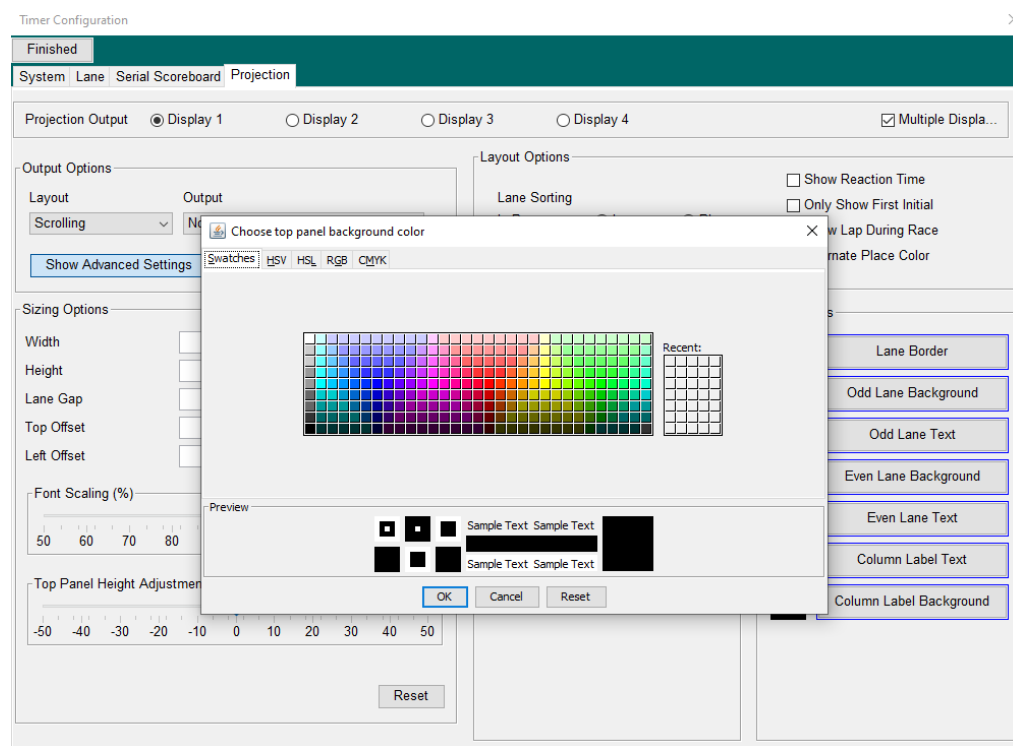
Colors can be customized for the text and background of the meet name in the projection scoreboard.

Top Panel Colors

Colors can be customized for the text, text background and overall background of the top panel in the projection scoreboard.

Lane Colors

The user can fully customize the appearance of the lanes on the projection scoreboard.



Multiple Displays

If there are multiple external displays or if multiple scoreboard windows are needed, click the Multiple Displays checkbox in the upper right corner to enable up to four displays. Each display can be fully configured separately.

Serial Scoreboard Tab

This section allows the user to select and configure the supported serial scoreboards.

Scoreboard Type

The user can select from the supported scoreboard types. Currently, Colorado Timing System Serial LED, Colorado Timing System DisplayLink+, Daktronics RTD Omnisport 2000, and Daktronics Serial (multi-drop) are supported.

The screenshot shows the 'Timer Configuration' window with the 'Serial Scoreboard' tab selected. The window has a dark teal header with tabs for 'System', 'Lane', 'Serial Scoreboard', and 'Projection'. The 'Serial Configuration' section includes a 'Scoreboard Type' dropdown menu with a list of options: 'Colorado Timing System Serial LED', 'Colorado Timing System DisplayLink+', 'Daktronics RTD Omnisport 2000', and 'Daktronics Serial Omnisport 2000'. Below this is a 'Port Configuration' section with a 'Port' dropdown and an 'SST Timer' checkbox. The 'Splits' section has radio buttons for 'Subtractive' and 'Cumulative', with 'Cumulative' selected. It also has input fields for 'Split Delay (sec.)' (10.0) and 'Loop Delay (sec.)' (5.0). The 'Clock Settings' section has checkboxes for 'Display Time Of Day', '24 Hour Clock', and 'LED Scoreboard'. The 'Display Order' section has radio buttons for 'Lane Order' and 'Place Order'. The 'Other Options' section has checkboxes for 'Show Reaction Times' and 'Swap Lane/Place'. The 'Scoreboard Mapping' section has a table with 18 rows, each with a checkbox, a lane/place identifier, and a dropdown menu. The first 10 rows are checked and show lane/place identifiers (01 to 0A). The last 8 rows are unchecked and show 'Off' (0B to 0F). The '0B' row is also mapped to 'Lap Count/Record (0B)'.

Checkbox	Identifier	Dropdown
☒	01	Lane/Place 1 (01)
☒	02	Lane/Place 2 (02)
☒	03	Lane/Place 3 (03)
☒	04	Lane/Place 4 (04)
☒	05	Lane/Place 5 (05)
☒	06	Lane/Place 6 (06)
☒	07	Lane/Place 7 (07)
☒	08	Lane/Place 8 (08)
☒	09	Lane/Place 9 (09)
☒	0A	Lane/Place 10 (0A)
☐	17	Off
☐	18	Off
☒	0B	Lap Count/Record (0B)
☐	0C	Off
☒	0D	Team Scores H-G1-G2 (0D)
☐	0E	Off
☐	11	Off
☐	12	Off
☐	13	Off
☐	14	Off
☐	15	Off
☐	16	Off
☐	0F	Off

Port

The available options for the port will be set after selecting the scoreboard type. All the scoreboard types support a serial communication port. SST will generate a list of available communication (COM) ports. If the SST timer has a built-in ¼ inch cable connector, "SST Timer" will be the default port.

If the timer does not have a scoreboard output or a separate scoreboard adapter is used, the adapter will create a COM port. Go to the Device Manager of the computer and click on "Ports (COM & LPT)". The USB to serial device will be listed and it will tell you which port it is connected to. Select this port in the SST configuration page.

The Daktronics RTD (Real Time Data) scoreboard also supports network protocols. The UDP and TCP protocol options will be added to the list when this scoreboard type is selected. If the UDP or TCP protocol is selected, the port will require additional configuration. See the "Port Configuration" section below.

Open/Close

After selecting the scoreboard type and port, click the Open button to start sending information to the scoreboard. After clicking open, the label on the button will change to Close, and all the active scoreboard panels will clear. Prior to the first race, SST will send the time of day to lane 1 if the "Display Time Of Day" option is checked.

Port Configuration

SST will set the serial port configuration settings to the default values for the selected scoreboard type. Making changes is generally not necessary. However, custom scoreboards may use different settings.

Depending on the scoreboard type and communication method, the port configuration will look like one of the following images. The configuration section is accessible by clicking the blue "Port" label.

Serial Protocol

All the scoreboard types support a standard serial communications (COM) protocol. The COM port can be customized by setting the baud rate, data bits, parity, and stop bits. These settings must match the settings on the scoreboard.

The screenshot shows the 'Serial Configuration' window in the SST software. The 'Scoreboard Type' is set to 'Colorado Timing System Serial LED'. Under 'Port Configuration', the 'Port' is 'COM4', 'Baud Rate' is '9600', 'Data Bits' is '8' (selected), 'Parity' is 'Even' (selected), and 'Stop Bits' is '1' (selected). An 'Open' button is visible.

****NOTE**:** “SST Timer” may be a serial port option if your timer has a built-in ¼ inch cable connector. However, older versions of the timer’s firmware does not support changes to the port settings. The port configuration is always 9600/8/E/1. If you have an older timer and your scoreboard is Daktronics, or if you need different settings for your custom scoreboard, please contact SST Support.

Network Protocol

In addition to supporting serial communications, the Daktronics RTD (Real Time Data) scoreboard supports network communications sent either by the UDP or TCP Protocol. The scoreboard software will determine which method to use. SST will set the port number to the default value usually used by the RTD scoreboard software. The IP address must be set to the address assigned to the scoreboard computer. Both the SST and the scoreboard computers must be on the same network.

The screenshot shows the 'Network Configuration' window in the SST software. The 'Scoreboard Type' is set to 'Daktronics RTD Omnisport 2000'. Under 'Port Configuration', the 'Port' is 'UDP Protocol'. Below this, in the 'Protocol Settings' section, the 'IP Address' is 'localhost' and the 'Port' is '3001'. An 'Open' button is visible.

Splits

The user can choose to display splits as either subtractive (lap time) or cumulative (total time).

Split Delay

The split delay is the amount of time in seconds the split will display before returning to the running clock.

Loop Delay

Loop delay is the time for the single line scoreboard to scroll through the final results or for the full scoreboard to scroll through final results when there are fewer scoreboards than lanes.

Clock Settings

The current time of day is displayed in several places on the scoreboard:

- On any board that has the Time Of Day assigned.
- As a value displayed when rotating through race results on a single-line scoreboard.
- On Lane 1 prior to the start of the first race.

To prevent the time from displaying on lane 1 prior to the start of the first race, uncheck the Display Time Of Day checkbox.

The 24-Hour Clock option will display all times in 24-hour format when checked. When this option is not checked, all times will display in AM/PM format.

The LED Scoreboard option will update every tenth of a second, if unchecked the running time will update every second for older flap type scoreboards.

Display Order

Display order by lane is the default when the scoreboard lane count is at least the pool lane count. If the board lanes are less, then SST will default to place order. The preferred selection is place order when there are fewer boards than lanes. The top splits will appear during the race. After the race, the results will cycle through in place order. The order can be changed to lane order. However, only the lanes will appear in order up to the number of boards. No other lanes will appear until after the race. The results will cycle through in lane order.

Show Reaction Times

Show Reaction Times will display start reaction times on the serial scoreboard. The time will display for the number of seconds of the Split Delay setting before

returning to the running clock. Start reaction times are available for backstroke events when using touchpads and for all other events when using a relay-judging platform. The option to display the reaction times is only available when the display order is set to Lane Order and the number of lane boards matches the number of pool lanes.

Swap Lane/Place

Some boards will show place followed by lane number. This is common when there are fewer boards than lanes. CTS and Daktronics both swap the lane and place when there are fewer boards than lanes.

Scoreboard Mapping

The output for the serial scoreboard follows the Colorado Timing scoreboard layout. In addition to sending splits, times and places to lanes, there are other options available such as event/heat, order of finish, and team scores. All of the output options can be enabled or disabled. They can also be assigned to different boards. For example, if you have an unused board that usually displays times for lane 9, you can assign the order of finish to that board.

The scoreboard mapping allows assignment of different values to physical boards. When a board channel is turned on, it will default to the value normally displayed on that board. Use the drop-down list to assign a different value.

****NOTE**:** The Colorado Timing DisplayLink+ scoreboard type does not support scoreboard mapping since all data is sent to the standard channels. The templates designed for the scoreboard software will determine how the information is displayed.

****NOTE**:** The physical channels listed on the Serial Scoreboard page are automatically re-mapped to the supported channels for the Daktronics serial scoreboard.

FINISHED

Click this button when finished with the configuration. The user may return to the configuration options from the console by selected FILE - CONFIGURATION.

CONSOLE

Once the configuration screen is closed the console window will open. At this point, the console does not know the schedule of events.

The screenshot shows the 'Superior Swim Timing' console window. At the top left, a large digital clock displays '13:08:41'. Below the clock are buttons for 'Start [F1]', 'False Start', and 'Force Finish'. To the right of the clock are controls for 'Event', 'Heat', and 'Race #' with 'Prev' and 'Next' buttons. Further right are 'Scoreboard' options (Current, Next) and an 'Arm Delay' dropdown set to '17'. A 'RePrint' button is on the far right. Below these controls, a status bar shows 'Next Race: Load Schedule' and 'Message: No errors'. The main section is titled 'Load Schedule' and contains a table with 6 lanes. The table has columns for Lane, DQ, Touch, Backup, Arming, Lap, Status, Time, and FINISH ORDER. All lanes are currently in a 'READY' status.

Lane	DQ	Touch	Backup	Arming	Lap	Status	Time	FINISH ORDER
1	DQ	+	-	RESET	ARM	F ARM	--	READY 00:00:00
2	DQ	+	-	RESET	ARM	F ARM	--	READY 00:00:00
3	DQ	+	-	RESET	ARM	F ARM	--	READY 00:00:00
4	DQ	+	-	RESET	ARM	F ARM	--	READY 00:00:00
5	DQ	+	-	RESET	ARM	F ARM	--	READY 00:00:00
6	DQ	+	-	RESET	ARM	F ARM	--	READY 00:00:00

Load Schedule File

If using the generic.sch file, click the "File" menu and then the "Open Schedule File". This will bring up a window to allow the User to browse to the location of the Meet Manager generic.sch file. This is the file that was created above under "Meet Manager Operations" Since this is where the SST software will write the output files. If using the SST Gateway click "File" and "Set Session Folder". Then select the folder location created on the SST computer.

The SST software will also look for the scoreboard files in the same directory if those files were generated. These files tell SST the number of heats in each event and the names/teams of the competitors in each heat. If the startlist.slx file was created instead of the scoreboard file, SST will load that file.

If there is no Alpha Scoreboard option in Active/Hy-Tek's Meet Manager, the user can use the scoreboard files. Click on "File", "Export", "Start Lists for Scoreboard" then "Start lists for CTS". Next, select the folder where the generic.sch is located. Then select a session. SST will now read these files the same way it would read the startlist file. SST now knows all the information that the startlist.slx files give SST. SST software now knows about the meet events and, if the scoreboard file exists, the heats and swimmers. SST will also adjust the screen to the number of lanes in use.

If using the SST Gateway this will state "Request Schedule File".

RUNNING THE MEET

Superior Swim Timing
File Scoreboard Tools Help

14:09:17

Event Prev Next Scoreboard ☒ Current ☐ Next RePrint

Heat Prev Next Arm Delay

Race #

Start [F1] False Start Force Finish

Next Race: Event 1, Heat 1 Girls Open 100 Yard Freestyle
Message: No errors

RACE --- EVENT 1 HEAT 01										Event Start 00:00:00 Heat Start 00:00:00	
Girls Open 100 Yard Freestyle											
Lane	DQ	Touch	Backup	Arming		Lap	Status	Time	FINISH ORDER		
1	DQ	+	-	RESET	ARM	F ARM	--	READY	00:00:00		
2	DQ	+	-	RESET	ARM	F ARM	--	READY	00:00:00		
3	DQ	+	-	RESET	ARM	F ARM	--	READY	00:00:00		
4	DQ	+	-	RESET	ARM	F ARM	--	READY	00:00:00		
5	DQ	+	-	RESET	ARM	F ARM	--	READY	00:00:00		
6	DQ	+	-	RESET	ARM	F ARM	--	READY	00:00:00		

Clock

This frame shows a Time Of Day clock when a race is not being run. During a race, the current race time in Minutes:Seconds. will be displayed. If the race should be longer than an hour, the time display will change to Hour:Minutes:seconds.

False Start

Clicking this button will reset the start and ignore the race. The race number, event, or heat will not advance. The "Force Finish" button might say "Finish Race" if the auto-finish race is not turned on.

Manual Start (F1)

This will signal the SST Timer to create a start in case a start signal is not received from the starter console or there is no starter console. You can also force a start by just hitting the "F1" key on the computer keyboard.

Force Finish

Once a race is in progress, this will force the race to end and output whatever data is collected to the results file for Meet Manager. **This may be necessary when running without the Alpha scoreboard option to be able to move to the Next Event before the next start. In order to end a race, there MUST have a Pad hit in all enabled lanes. A + touch cannot be used to end a race. SST will typically put up an "Unexpected Start" dialog window when a start occurs before the prior race is finished. This can also be used to force finish the previous race if necessary. The next race will automatically be listed if the previous race was still running but completed, then the operator should only need to click Force Finish/Start.**

Next Event (number) Next/ Prev

Selects the event for the next race. The user can also select the event using the drop-down list of events. When the event number changes, the heat number will automatically be set to 1. SST allows the operator to change the event or heat after the start of the race. The change can be made up to the first pad touch when using pads or up to the first button press when using only buttons.

Next Heat (number) Next/ Prev

Selects the heat number for the next race.

****Note**** The heat number advances automatically with the start of a new race. SST allows the user to change the event or heat after the start of the race. This change can be made up to the first pad touch when using pads or up to the first button press when using only buttons.

Reprint

Click the "Reprint" button and the following pop-up will be displayed:

Reprint Race ×

Print Race Results

Girls Open 100 Yard Freestyle

Event Next Prev

Heat Next Prev

Race

Print

Adjust Times

If this option is selected in the configuration section, the operator can adjust the times that are sent to the scoreboard or the scoreboard and the meet management software. The user may choose to use the backup time or enter a custom time manually.

Manual Time Adjustment ×

Girls 200 Yard Medley Relay

Event Next Prev

Heat Next Prev

Race Number

Lane	Primary	Backup	Manual
1	☒ 02:02.02	☐ 02:02.52	☐ 00:00.00
2	☒ 02:01.30	☐ 02:01.30	☐ 00:00.00
3	☒ 02:00.38	☐ 02:00.43	☐ 00:00.00
4	☒ 01:59.10	☐ 01:58.48	☐ 00:00.00
5	☒ 01:56.89	☐ 01:56.93	☐ 00:00.00
6	☒ 02:08.73	☐ 02:08.72	☐ 00:00.00
7	☒ 02:04.87	☐ 02:04.87	☐ 00:00.00
8	☒ 02:07.22	☐ 02:07.23	☐ 00:00.00
9	☒ 02:10.88	☐ 02:10.34	☐ 00:00.00
10	☒ 02:11.56	☐ 02:12.30	☐ 00:00.00

Adjust Times

Restore Primary

The system automatically ends a race when all the pads have been hit with the proper lap count or if the operator clicks the Force Finish button. When a race ends, SST creates a results file for Meet Manager and prints the results if printing is selected in the configuration. If the operator wishes to reprint or print (if the print option was not selected on the configuration screen) he or she selects the event

and heat and then clicks "Print". As with the automatic print option the report will be printed on the Windows default printer.

****NOTE****: SST also creates an HTML file after every race and writes that file to the same directory that the meet manager results files are written. This file can be printed any time in the future. The file can typically be opened in the default browser by clicking on it in file manager. Below is a typical file name:

Event 001-01F (Race 0001).html

The 001 is the event number

The 01 is the heat number

The F is for the Finals round.

The 0001 is the race number

Arm Delay

This allows the user to change the configured arm delay in case there is a faster than expected race coming up. This may be changed at any time. The user may use the ARM and FARM buttons in case a lane will not be armed in time.

Scoreboard Current/Next

When using the projection scoreboard or serial scoreboard, the user can change from displaying the current race to displaying the next race. This is especially useful when swimming championship races. Once the prior race has been completed the user can display the names and other information for the upcoming race. When selected the next race will automatically display

Race Window

The Race Window displays information about the currently running or just finished race.

Next Race: Event 1, Heat 1 of 4 Girls 8 & Under 100 Yard IM

Message: No errors

RACE ---

EVENT 1

HEAT 01

Event Start 00:00:00Heat Start 00:00:00

Girls 8 & Under 100 Yard IM

Lane	DQ	Touch	Backup	Arming		Lap	Status	Time		FINISH ORDER
1	DQ	+	-	RESET	ARM F ARM	--	READY	00:00:00	NO SWIMMER	
2	DQ	+	-	RESET	ARM F ARM	--	READY	00:00:00	CARR, THERESA V (ETST)	
3	DQ	+	-	RESET	ARM F ARM	--	READY	00:00:00	BRYANT, CELIA D (FSST)	
4	DQ	+	-	RESET	ARM F ARM	--	READY	00:00:00	DAVIS, MAVIS L (FSST)	
5	DQ	+	-	RESET	ARM F ARM	--	READY	00:00:00	NO SWIMMER	
6	DQ	+	-	RESET	ARM F ARM	--	READY	00:00:00	NO SWIMMER	

Next Race

This line shows the description of the NEXT scheduled race.

Message

This line is used to alert the operator to any issues that need to be addressed. They may have to do with a pool configuration/database mismatch or a networking error. The errors displayed are self-explanatory.

Race Number

A sequential number that can be used in Meet Manager. This number often coordinates with the data for results.

Event / Heat

Displays the current Event / Heat in the Race Window

Event Start / Heat Start

Displays the event and heat start time (in 12 or 24 hour format based on selection in the configuration screen). This will help the officials compare the actual meet against the projected meet "timeline".

Event Name

This is the description of the race that is in progress or just finished.

Finish Order

This will display the Finish Order of the race by lane. If a lane is disqualified or a backup time is selected by the button, this field will adjust.

Lane

This displays the lane number. Click this button to toggle the lane status between enabled and disabled.

DQ

This sets the lane to a Disqualified state and sends that information to Meet Manager. A lane marked as disqualified will appear with a place of 0 on the scoreboard.

Touch + / - (Pad Mode Only)

Clicking on these buttons will add or subtract a touch from the lane. The + touch can NOT be used to finish a race. The pad must be hit or the operator must hit the "Force Finish" button.

USE

This will send the button time to the scoreboard in the event that there is no pad or soft touch time on this lane. This does not affect the time that is sent to the meet management program.

RESET

Clicking on this will clear an accidental button push. This is applicable when pads and buttons are used or when buttons only are used. ****Note**** Buttons are activated once the pad delay at the start of the race has timed out.

ARM (Pad Mode Only)

Regardless of the Pad Delay setting this will allow a Pad to be Armed to receive a touch.

F ARM (Pad Mode Only)

Regardless of the Pad Delay or Lap count this will make the next touch finish the race for that lane. This can also be used to re-arm a lane that was incorrectly finished.

Lap

This is a lap/touch count. This will advance by 1 or 2 depending on if far pads are being used.

Time

Displays the cumulative split for a race, or the final time after final touch for the lane. When using pads, the final time will be the pad time. When using buttons only, the final time will be determined based on the number of buttons used. If one button, that time will be used. If two buttons the average of the buttons will be used. If three buttons, then the middle time will be used unless 2 of the buttons match.

Status

The following is a list of the lane states that can happen during a race:

DELAY REAC	On backstroke or Medley Relays, this will show how fast the swimmer left the pad after the start. The pads are in a "DELAY" state and touches are not recorded.
DELAY	Pads are not active and touches are not counted. This allows the swimmer to leave the pool in relays, guarding against accidental touches.
Relay Exchange time	Will be displayed if RJP are being used. Reaction times will show "False start" if the time is less than 0.
ARMEDL	Armed Lap. The next touch will be counted as an intermediate lap split time.
FINAL	Delay state for the final lap.
ARMEDF	Armed Final. The next touch will end the race for the lane.
Place	After the lane finishes the race, the number of finish order will display instead of the status.

Backup Times

The area after the status will display any times recorded by backup buttons at the end of a race.

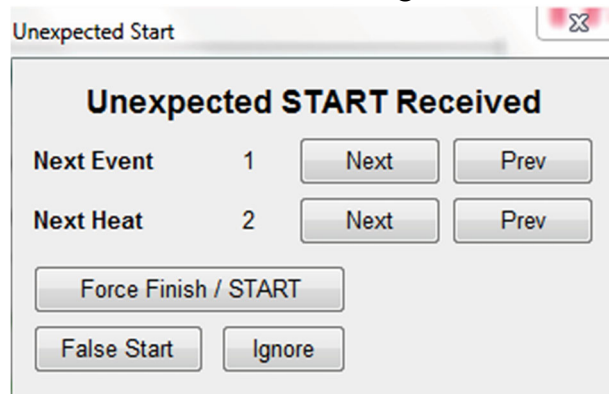
Lane Colors

SST uses lane colors to help the operator easily identify the status of a lane.

Light Grey	Lane is active (on), but delayed. The touch pad and buttons will not respond.
Green	Lane is active. Touch pads will respond to splits. Buttons will respond at any time.
White	Lane has finished the race. The pad time and the backup button time are within 0.3 seconds.
Blue	Lane has finished the race. The pad time is more than 0.3 seconds faster than the backup button time.
Yellow	Lane has finished the race. The pad time is more than 0.3 seconds slower than the backup button time.
Orange	Indicates a lane is expecting a touch but has not received one. This could happen if the swimmer missed the pad or is lagging significantly behind.
Dark Grey	Lane is disabled (off).
Purple	No pad touch

Unexpected START Received

If a start is received during a race the following box will appear:



If this happens as a function of using the start horn to indicate the "bell" lap for a long race, just click the "Ignore" button.

If this happens because the previous race was not finished in SST (for example, a pad was not hit at the finish) then the operator would select the next event and heat and click the "Force Finish/Start" button. SST remembers the actual start for this next race. During this time SST is tracking both races.

Times Passed to a Meet Management Program

SST passes times to the meet management software based on USA Swimming and World Aquatics rules. The following describes how this is implemented:

If pad and button(s) are used, all times will be passed on with the pad time being sent as the finals time.

If two buttons only are used, the finals time and both button times are passed to the meet management software unless the difference of the button times exceeds 0.3 seconds. If they are more than .3 seconds apart, SST does not send a finals time and just sends the button times.

When three buttons are used, if two of the buttons exactly match, then that time is used as the finals time. If none of the buttons exactly match, but the difference between the fastest and slowest time is less than 0.3 seconds, then the median time is used. If the difference between the high and low button times is greater than 0.3 seconds, SST will not pass the finals time to the meet management software except when two of the buttons exactly match. In that case the third button is ignored. In all cases all three button times will be passed on.

NOTE: For the purposes of the SST console and the scoreboard, SST will create a finals time in all cases. If pads are used, that will be displayed as the final time. In the case of two buttons, SST will use the average of the two buttons. In the case of three buttons, SST will use the median time. These times are not official times. The official time will be determined by the Admin Official after the times are imported into the meet management software.

An exception to this is the final time may not be the pad time if Allow Time Adjustments is on and results are included.

TEAM SCORES

Click on "Scoreboard" and "Team Scores". The following box will appear:

Enter the team scores into the appropriate fields and click OK. The scores will now appear on the serial scoreboard.

TRAINING MODE

If the user starts SST without the SST timer plugged into the computer, SST will start in the “Training Mode”. After exiting the configuration screen, the following box will appear along with the SST operator interface window:

This mode allows the user to simulate starts and pads and button hits. Training mode is a great tool for familiarizing yourself with SST prior to the start of the meet.

TEST MODE

SST provides a Test Mode to allow the user to test the start signal, pads and buttons without starting an actual race. To enter Test Mode, to go **HELP > TEST MODE**.

When the console is in test mode, the status of TEST MODE will display as the next race. The pad status will display on the projection scoreboard as well so that a single operator can test the configuration.

- A signal sent through the Primary Start will show START next to the TEST MODE status for the next race.

- A signal sent through the Backup Start will show BACKUP START next to the TEST MODE status for the next race.
- In Pad + Button mode, the word PAD will display in the TIME column of the lane as long as the pad is pressed.
- In all modes, the button identifier will display while a button is depressed. The display may be BUTTON0, BUTTON1, or BUTTON2.

MOBILE (WEB PAGE) SCOREBOARD

The Mobile Scoreboard allows spectators to see the same information that is displayed on the scoreboard on their wireless devices. This is helpful if there is no scoreboard or if there is a satellite area for spectators where they can't see the scoreboard.

1. Set up a wireless network attached to the SST computer. One way to do this is to use a wireless router to connect the SST and meet management computer together.
2. Have the spectators connect to the wireless network that was set up in #1 above.
3. Using their web browser, the spectators go to "http://(IP address of the SST computer):8000/SST". A way of making this easy for the spectators is to create a QR code with this information that they can scan when they enter the facility. There is a QR code generator included in SST. Please refer to the paragraph below.

QR Code Generator

Click on "Tools" and then "QR Codes". This will bring up the following page:



Use this to print out a QR code that the spectators can scan so that they can easily access the wireless scoreboard on their personal devices. As mentioned above, just tell them to make sure they are connected to the wireless network that has been have set up.

EVENT MANAGER

The Event Manager provides a way to create event schedules to use with SST.

From the SST Timing Console, go to Tools > Event Manager. The following window will appear:

The Event Manager window is titled "Event Manager" and includes a close button (X) in the top right corner. It features a menu bar with "File" and a toolbar with icons for Add, Insert, Delete, Sort, Renumber, Save, and Print. On the right side of the toolbar are navigation buttons: First, Previous, Next, and Last.

The main configuration area is divided into several sections:

- Event:** A text box for "Number" with the value "1" entered.
- Type:** Radio buttons for "Individual" (selected) and "Relay".
- Gender:** A section with a checked "Alternate" checkbox and radio buttons for "Girls" (selected), "Boys", "Women", "Men", and "Mixed".
- Age Group:** Radio buttons for "6 & Under", "8 & Under", "10 & Under", "7-8", "9-10", "11-12", "13-14", "15 & Over", "15-16", "15-18", "17-18", "Senior", "Open" (selected), and "Custom" (with an empty text box).
- Distance:** Radio buttons for "25", "50", "100" (selected), "200", "400", "500", "800", "1000", "1500", "1650", and "Custom" (with a text box containing "100").
- Stroke:** Radio buttons for "Backstroke", "Breaststroke", "Medley", "Custom" (with an empty text box), "Butterfly", and "Freestyle" (selected).
- Pool:** A section with "Course" (selected) and "Far Pads" (with an unchecked checkbox).
- Round:** Radio buttons for "Preliminary", "Semifinal", and "Final" (selected).

At the bottom, there is a table with the following columns: Event, Gender, Age Group, Distance, Stroke, Round, and Description.

Event	Gender	Age Group	Distance	Stroke	Round	Description
1	Girls	Open	100	Freestyle	Final	Girls Open 100 Yard Freestyle

If a schedule has already been loaded into the SST Console, the Event Manager will load all the events from the console. If a schedule has not been loaded, a single event will be added with default settings.

File Menu Options

New Schedule – Removes all existing events and then adds one event using the default selections.

Open Schedule File – Opens a file selection prompt. Select an existing event schedule (.SCH) file.

Load Console Schedule – If the SST Console already has a schedule loaded, the events can be loaded into the Event Manager. ****NOTE****: The Pool options of Course and Far Pads will not be available when editing a loaded event schedule.

Save As... - Opens a File Save window to allow the user to enter the name and location of the event schedule file.

Exit – Closes the Event Manager. If the Event Manager is reopened, the list of events will be the same as when the window was closed.

Toolbar Options

Add --- Adds a new event line to the end of the schedule with the following selections:

- The event number will be one more than the highest event number in the list.
- If the Alternate option is checked, the gender will change between Girls/Boys or Women/Men. If the gender is Mixed, it will remain Mixed for the new event.
- The Age Group, Distance, Stroke, and Round will be set to the last values set. ****NOTE****: These may not be the same values as the currently selected row.

Insert – Inserts a new event immediately before the selected row. If multiple rows are selected, the row is inserted before the first selected row. The new event will default to the following selections:

- The event number will be one more than the highest event number in the list.
- If the Alternate option is checked, the gender will change between Girls/Boys or Women/Men. If the gender is Mixed, it will remain Mixed for the new event.
- The Age Group, Distance, Stroke, and Round will be set to the last values selected. Note, these may not be the same values as the currently selected row.
-

Delete – Removes the currently selected row from the list. If multiple rows have been selected, all selected rows will be removed.

Sort – Re-orders the events in event number order.

Renumber – Renumbers the selected events starting with the event number of the first event. For example, the first event number in the list could be changed to 10. After selecting all of the rows, Renumber will change the event numbers starting with 10.

Save – Opens a File Save window to allow the user to select a location and file name for the event schedule. If the console does not already have an event schedule loaded, the schedule in the event manager will be loaded into the console, and the selected folder will become the folder for the results.

Event Settings

Event - Type in an event number and an optional letter. ****NOTE****: although you can type in an event number that already exists, you will not be able to save the schedule with a duplicate event number.

Type - Select Individual or Relay

Gender - Select the gender for the event. If the Alternate checkbox is checked, newly added events will alternate between GIRLS/BOYS and WOMEN/MEN.

Age Group - Select one of the pre-defined age groups for the event. If a custom age is required, select Custom and type in the age group. If no age group is required, select Custom and leave the custom age group blank.

Distance - Select one of the pre-defined distances for the event. If a custom distance is required, select Custom and type in a distance.

Stroke - Select one of the pre-defined strokes for the event. If a custom stroke is required, select Custom and type in the stroke name.

Round - Select Preliminary, Semifinal or Final.

Creating A New Schedule

1. Select NEW SCHEDULE from the FILE menu option
2. Change the values assigned to match the first event.

3. Click the ADD button to add a new event.
 - The event number will be one more than the highest event number in the list.
 - If the Alternate option is checked, the gender will change between Girls/Boys or Women/Men. If the gender is Mixed, it will remain Mixed for the new event.
 - The Age Group, Distance, Stroke, and Round will be set to the last values selected.
4. Click the SAVE button when finished.
 - Select a location to save the event schedule.
 - Enter a file name for the schedule.
 - Click Save.
 - If a schedule has not been loaded into the console, the new file will be loaded with the location set as the results folder.

Editing an Existing Schedule

1. Select OPEN SCHEDULE FILE from the FILE menu option.
2. Browse to a folder containing the schedule file to edit.
3. Select the file.
4. Click Open.
5. Change events as needed.
6. Click the Save button. The existing file can be overwritten, or a new file name can be entered.

Selecting Multiple Events

Several features of the Event Manager require selecting multiple events. A selected event will be highlighted.

- To select all events, click on any event in the list at the bottom, and then press CTRL-A.
- To select individual events, hold the CTRL key down while clicking on each individual event.
- To select a range of events, click on the starting event, hold the SHIFT key down, and then click the last event. All events between will highlight.

Updating Multiple Events

Multiple events can be changed at the same time by selecting the events and then changing the value. The values that can be updated are Age Group, Distance, Individual/Relay, Stroke, Gender, and Round.

MEET STATISTICS

When SST closes, the meet statistics will be written to an HTML file in the same folder as the results.

SESSION STATISTICS

Measure	Value
Start Time	04:25:32
End Time	07:13:20
Duration	02:47:48
Total Starts	41
Completed Races	38
False Starts	3
Avg Race Time	00:03:37
Avg Time Between Races	44.47

LANE STATISTICS

Measure	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
Total Races	22	29	32	33	32	33	28	20
Flagged Races	6	6	2	5	8	7	2	2
Flagged Race Pct	27.27%	20.69%	6.25%	15.15%	25.00%	21.21%	7.14%	10.00%
Late Pads	0	3	1	2	3	4	1	1
Late Pad Pct	0.00%	10.34%	3.12%	6.06%	9.38%	12.12%	3.57%	5.00%
Late Backups	4	3	1	1	3	3	0	1
Late Backup Pct	18.18%	10.34%	3.12%	3.03%	9.38%	9.09%	0.00%	5.00%
Missed Pads	4	2	1	1	2	2	1	1
Missed Pad Pct	18.18%	6.90%	3.12%	3.03%	6.25%	6.06%	3.57%	5.00%
Missed Bl	2	0	0	2	2	0	1	0
Missed Bl Pct	9.09%	0.00%	0.00%	6.06%	6.25%	0.00%	3.57%	0.00%
Avg Backup Variance	0.08	0.64	0.11	0.27	1.19	0.61	0.88	0.17
Pad/Bl Match	0	0	0	0	1	2	0	0

SESSION TIMELINE

Delay	Start Time	Duration	Race Number	Event	Heat	Event Description
	04:25:32	00:00:00	FALSE START	1	1	Mixed 1650 Yard Freestyle
00:05:55	04:31:27	00:00:00	FALSE START	1	1	Mixed 1650 Yard Freestyle
00:00:47	04:32:15	00:00:29	FALSE START	1	3	Mixed 1650 Yard Freestyle
00:01:02	04:33:46	00:19:22	001	1	1	Mixed 1650 Yard Freestyle
23:59:52	04:53:01	00:23:37	002	1	2	Mixed 1650 Yard Freestyle
23:59:39	05:16:17	00:02:20	003	1	3	Mixed 1650 Yard Freestyle
00:00:44	05:19:22	00:02:25	004	2	2	Mixed 200 Yard IM
00:00:14	05:22:02	00:03:43	005	2	3	Mixed 200 Yard IM
00:00:10	05:25:56	00:00:56	006	3	1	Mixed 100 Yard Freestyle
00:00:13	05:27:06	00:01:04	007	3	2	Mixed 100 Yard Freestyle
00:00:11	05:28:21	00:01:08	008	3	3	Mixed 100 Yard Freestyle
00:00:11	05:29:41	00:01:06	009	3	4	Mixed 100 Yard Freestyle
00:00:11	05:30:59	00:02:42	010	4	1	Mixed 200 Yard Breaststroke
00:00:06	05:33:47	00:03:25	011	4	2	Mixed 200 Yard Breaststroke
00:00:01	05:37:15	00:02:56	012	4	3	Mixed 200 Yard Breaststroke
00:00:16	05:40:27	00:02:28	013	5	1	Mixed 200 Yard Backstroke
00:00:19	05:43:15	00:02:46	014	5	2	Mixed 200 Yard Backstroke
00:00:12	05:46:14	00:02:24	015	6	1	Mixed 200 Yard Butterfly
00:00:07	05:48:47	00:02:46	016	6	2	Mixed 200 Yard Butterfly
00:07:08	05:58:41	00:00:26	017	7	1	Mixed 50 Yard Freestyle
00:00:20	05:59:28	00:00:29	018	7	2	Mixed 50 Yard Freestyle
00:00:17	06:00:15	00:00:40	019	7	3	Mixed 50 Yard Freestyle
00:00:27	06:01:23	00:05:53	020	8	1	Mixed 500 Yard Freestyle
00:00:03	06:07:19	00:07:18	021	8	2	Mixed 500 Yard Freestyle
00:01:14	06:15:53	00:01:16	022	9	1	Mixed 100 Yard Backstroke
00:00:12	06:17:22	00:01:12	023	9	2	Mixed 100 Yard Backstroke
00:00:25	06:19:00	00:01:39	024	9	3	Mixed 100 Yard Backstroke
00:00:15	06:20:55	00:01:02	025	10	1	Mixed 100 Yard Butterfly
00:00:17	06:22:14	00:01:04	026	10	2	Mixed 100 Yard Butterfly
00:00:17	06:23:36	00:01:16	027	10	3	Mixed 100 Yard Butterfly

SST GATEWAY INTERFACE

The SST Gateway is a web service created as an alternative interface option between the SST Timing Console and the meet management software. The interface still uses text files to communicate. The web service controls the transfer of the files between the two computers, so no network share is required.

The two computers must be on the same network with the same subnet. Provided there are no firewall or security issues, the SST Timing Console will automatically discover and connect to the SST Gateway.

Install the SST Gateway

1. Download the SST Gateway installer

<https://softwareupdate.ssttiming.com/SSTGateway.exe>

2. Install the SST Gateway by double-clicking on SSTGATEWAY.EXE or right-click on the file name and select Open. If you are not an administrator of the computer, you may be prompted to enter administrator credentials to start the installation.

ACTIVE/HY-TEK MEET MANAGER SETUP

1. Create a new folder on the Meet Manager computer for the meet.
2. Create a meet in Meet Manager. The database should be in the new meet folder.
3. Under the new meet folder, create a results folder. We recommend a separate results folder for each session of the meet.
4. Configure Meet Manager to use the Generic Network File interface.
 - a. From the RUN menu, go to INTERFACES | SETUP | TIMING CONSOLE INTERFACE.
 - b. Select "Generic Network File Sharing For: IST / Take Your Mark / ALGE Timy / SST Timing."
 - c. Click the OK button
5. Set the Dataset Location
 - a. From the RUN menu, go to INTERFACES | TIMER (GNET) | SELECT DATASET STORED FROM GNET.
 - b. Click UPDATE DATA LOCATION
 - c. Browse to the Results folder created in step 3.
 - d. Click the OPEN button
 - e. Verify the dataset location is correct. The selected path is directly above the UPDATE DATA LOCATION button.
 - f. Verify the current meet number is #1. The meet number is displayed above the PREVIOUS MEET/NEXT MEET buttons. If the meet number is not #1, use the Previous Meet or Next Meet button to change to Current Meet #1.
 - g. Click the CLOSE button
6. Export the event schedule
 - a. Select the active session in the RUN screen (F7). If a session does not exist, you will need to create one.
 - b. From the RUN menu, go to INTERFACES | TIMER (GNET) | DOWNLOAD EVENTS TO GNET
 - c. Verify the location is correct on the popup window and click the YES button.
7. Export the Startlist Scoreboard Files
 - a. Close the RUN screen.
 - b. Go to FILE | EXPORT | START LISTS FOR SCOREBOARD | START LISTS FOR CTS

- c. Browse to the results folder created in step 3.
- d. Verify the path is correct at the top of the window.
- e. Click the OK Button
- f. Select the session. If a session does not exist, you must create one.
- g. Click the OK Button.

LAUNCH SST GATEWAY

1. Double click the SSTGateway icon on the desktop.
 - a. The SST Gateway window will appear.
 - b. The message on the gateway should be
 - i. Application Started
 - ii. Broadcasting port 49160
 - iii. SST Gateway started on IP <ipaddress>, Port 49160
 - iv. Login attempt from 127.0.0.1
 - c. If "Failed to bind to 0.0.0.0/0.0.0.0:49160" appears as a message, either the SST Gateway is already running or port 49160 is unavailable on the computer. See the Troubleshooting section for help.
2. Change the results folder.
 - a. The Select Session Folder box will automatically appear. If it does not appear click on the CHANGE button.
 - b. Navigate to the results folder created for Meet Manager.
 - c. Click the OPEN Button
 - d. Verify the selected results folder is the same as the folder configured in Meet Manager.
3. Minimize the SST Gateway
 - a. Either click the Minimize button or the Close button on the window. This will minimize the SST Gateway into the system tray.

Connecting the SST Console

The SST Gateway is equipped with an auto-discovery mechanism. If the two computers are on the same network and there is no firewall blocking the active port, the SST Timing Console should immediately see the SST Gateway and connect. Note: The SST Server will only be available when an SST Timer is plugged into the computer.

1. From the Configuration window, go to the System tab
2. In the Meet Administration Interface section, select SST Server.
 - a. If the server was already found, this option will be selected.

3. Enter the IP Address of the Meet Manager computer.
 - a. If the SST Timing Console already found the SST Gateway, the IP Address will be filled in.
 - b. If the IP address is not filled in, you can find the IP Address of the
 - c. other computer in the messages on the SST Gateway.
4. Click the TEST button to connect to the SST Gateway
 - a. SUCCESS will appear if the SST Timing Console connected to the SST Gateway.
 - b. Any other message will be an error with the connection.

Loading the Event Schedule

1. If you have not already done so, complete the Meet Manager steps for exporting the event schedule and start list files on the meet manager computer.
2. Create a folder on the SST Computer for the results. We recommend a separate folder for each session of the meet.
3. Set the session folder from the SST Timing Console
 - a. Go to FILE | SET SESSION FOLDER
 - b. Browse to the results folder created in step 1.
 - c. Click the Open button.
 - i. If the SST Timing console is connected to the SST Gateway and the SST Gateway is pointed to a folder that contains the event schedule file, the event schedule will load automatically.
 - ii. If the start list files are available, the names of the swimmers will appear on the timing console.
 - iii. Any errors such as "file not found" will be displayed on the timing console.

Closing the SST Gateway

As a safety precaution, the Close button on the SST Gateway window has been disabled. The gateway must be closed using a menu option.

1. If the SST Gateway is minimized, locate and click on the SST Gateway icon on the task bar.
2. Click the OPTIONS menu on the SST Gateway Window
3. Select the Exit menu item

Gateway Troubleshooting

SST Gateway says "Failed to bind to 0.0.0.0/0.0.0.0:49160"

This message means the SST Gateway cannot use port 49160. The most likely cause of this is the SST Gateway is already running.

1. Look at the task bar to see if the SST Gateway is already running.
2. On the SST Gateway showing the error message, go to OPTIONS | EXIT to close the application.

If this does not solve the problem, then another application is probably using port 49160.

1. On the SST Gateway, go to OPTIONS | SHOW ADVANCED
2. Click the STOP button
3. Change the port from 49160 to a different value between 1024 and 65535.
4. Click the Start button.

SST Timing Console Does Not Connect To SST Gateway

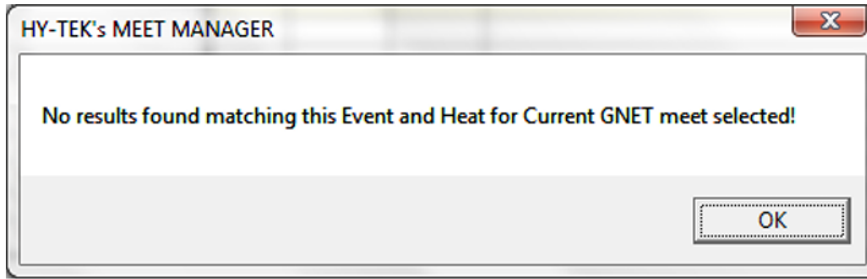
1. Verify the SST Gateway is running on the Meet Manager computer.
2. If the SST Gateway displays the message, STOPPED, follow the instructions for troubleshooting “!STOPPED”
3. Verify the IP Address displayed on the SST Gateway is the same as the Server IP Address in configuration of the SST Timing Console.
4. Verify the port displayed on the SST Gateway is the same as the Server port in configuration of the SST Timing Console.
5. As a last resort, shut down any security software to see if that fixes the problem. If it does, port 49160 may need to be opened in the security software.

TROUBLESHOOTING

For additional information please refer to the Knowledge Base which can be accessed at www.ssttiming.com at the top of the page.

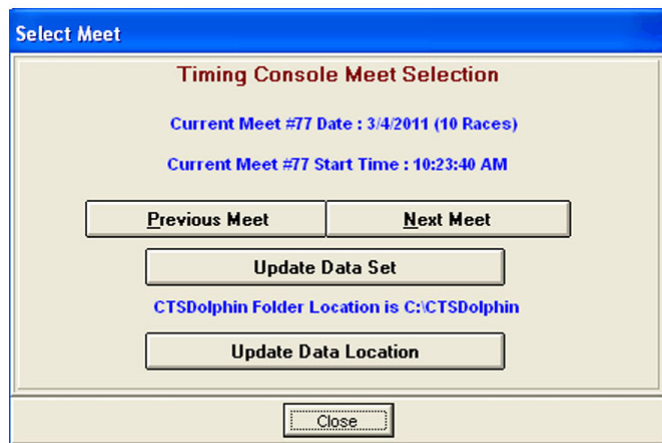
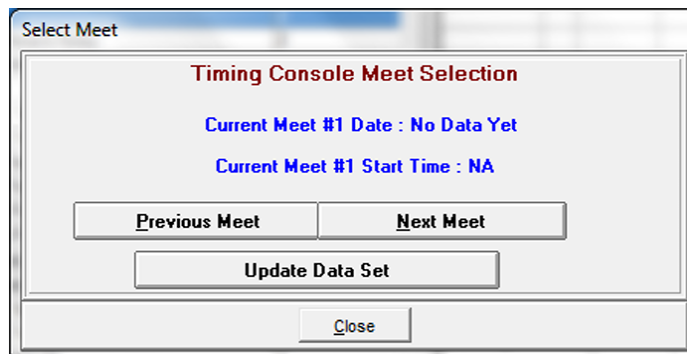
What to do if:

1. When I start SST, I enter Demonstration Mode.
 - a. Make sure the SST Timing box is plugged in and recognized by your computer.
2. When I try to "Get Times" in meet manager I get this error.



- a. If this happens, first check to make sure that the correct file location is being used. Open Windows Explorer and navigate to the directory that the Meet Manager file is located. This can be determined by going back to the main Meet Manager screen. The file path is shown on the very top line of this page. Make sure that the "generic.sch" file is located there. If not, go back to the Meet Manager Run screen and recreate the file. Refer to "Meet Manager Operations" in this Manual.

If this does not fix the problem, go to the Meet Manager "Run" screen and click on "Interfaces", "Timer (GNET)" and then "Select data set stored from GNET". The following pop-up will be displayed:



Make sure the Current Meet number is the same as the dataset selected on the SST Configuration window (See Meet Manager

Configuration – Dataset). Generally, this is dataset 1. If the meet number is not available, click the Update Data Set button. The Current Meet number should change to match the one selected in SST.

****NOTE**** The generic.sch file, scoreboard files and startlist.slx (if used) must be in the same location. The results files will be written to this location.

3. I get preliminary times when running semi or final times:
 - a. Exit SST and re-launch SST. The configuration window will come up. change the "Data Set" from the current number to one number higher. For example, change from "001" to "002". Select all other options on this screen and click "Finish" to go back to the operator display. The correct times should now be imported.
4. I have a false start.
 - a. Just click the "False Start" button on the SST console and the race will be ignored.
5. The race is finished, but not all the pads were hit.
 - a. If the swimmer or timer is still in the water and the operator can communicate with them, requesting that they hit the pad again is the preferred option since this will preserve button times that can be used as a backup in meet manager.

Just click the "Force Finish" button on the SST console. SST will end the race and be ready for the next race. If the operator misses the chance to Force Finish and the referee starts the next race, the Unexpected Start window will be displayed. Click the Force Finish button to save the results from the prior race and SST will pick up the next race when it started.

6. A pad is inadvertently hit for the last swimmer before that swimmer touches the pad?
 - a. SST gives the operator 8 (configurable) seconds to recognize that. Just hit the "F Arm" button and the lane will be reactivated.
7. The SST computer and the meet management computer are no longer communicating during the meet?

- a. If the SST computer can no longer communicate to the meet management computer the results files are written to the SST computer in the "Documents\SST\logs" folder directory. There will be a folder in this location with the current date and time. When the communications comes back the files can be moved to the meet management computer. As an option the files can be moved by using a USB memory stick. The main thing to remember is that results are not lost.
- 8. SST stops timing an event when the race is only half finished.
 - a. This will happen if there are far end splits being used and the meet management software is not set for timing devices (pads and/or buttons) at both ends of the pools. If this happens, make the change in the meet management program and re-create the schedule file. Then restart SST and load the new schedule file.
- 9. I get "unexpected start" dialog when the swimmers are finishing the race?
 - a. This happens typically if the Start cable is shorted and this is usually the case if it starts happening after multiple races have been run without a problem. The starter will typically not be able to start a race if this is the problem. The other possibility is that a starter is being used with a "Normally Closed" start. If you go into "Test Mode" and the START is active next to the TEST MODE text and disappears when the start is initiated, this is the problem. Switch to the Normally Open output on the starter.

SUPPORT

Please email support@ssttiming.com for support.

(855) SWIMSST – (855) 794-6778

The software logs errors in text files in the Documents\SST\logs folder directory. There will be a folder in this location with the current date and time. If the software does not start please check the error files and output files in that directory and have them available to contact Superior Swim Timing for support.

SST PRODUCT WARRANTY

a. Seller's hardware Products are warranted against defects in workmanship and materials for a period of twelve (12) months from the date of shipment, unless otherwise provided by Seller in writing, provided the Product remains unmodified and is operated under normal and proper conditions. Software patches, bug fixes, updates or workarounds do not extend the original warranty period. Accessories, such as cables and adapters are warranted for a period of ninety (90) days from date of shipment by Seller.

b. Products may be serviced or manufactured with parts, components, or subassemblies that originate from returned products and that have been tested as meeting applicable specifications for equivalent new material and Products.

c. The sole obligation of Seller for defective hardware Products is limited to repair or replacement (at Seller's option) on a "return to service depot" basis with prior Seller authorization. Customer is responsible for shipment to the Seller and assumes all costs and risks associated with this transportation. Return shipment to the Customer will be at Seller's expense using standard return shipping, US Priority mail or equivalent. If faster shipping is requested then the customer shall pay the difference. Customer shall be responsible for return shipment charges for Product returned where Seller determines there is no defect ("No Defect Found"), or for Product returned that Seller determines is not eligible for warranty repair. No charge will be made to Buyer for replacement parts for warranty repairs. Seller's sole obligation for software that when properly installed and used does not substantially conform to the published specifications in effect when the software is first shipped by Seller, is to use commercially reasonable efforts to correct any reproducible material non conformity (as determined by Seller at its sole discretion) by providing Buyer with: (a) telephone or e-mail access to report nonconformance so that Seller can verify reproducibility; (b) a software patch or bug-fix, if available, or a workaround to bypass the issue, if available; and (c) where applicable, replacement of damaged or defective external media, such as a USB flash drive, on which the software was originally delivered. Seller does not warrant that the use of the software will be uninterrupted, error-free, free of security vulnerabilities, or that the software will meet Buyer's particular requirements. Purchaser's sole and exclusive remedy for breach of this warranty is, at Seller's option, to receive (i) suitably modified software, or part thereof, or (ii) comparable replacement software or part thereof.

d. The above warranty provisions shall not apply to any hardware or software Product (including Core Product software) (i) which has been repaired, tampered with, altered or modified, except by Seller; (ii) in which the defects or damage to such Product result from normal wear and tear, misuse, negligence, improper storage, water or other liquids, or failure to perform operator handling and scheduled maintenance instructions supplied by Seller; or (iii) which has been subjected to unusual physical or electrical stress, abuse, or accident, or forces or exposure beyond normal use within the specified operational and environmental parameters set forth in the applicable Product specification.

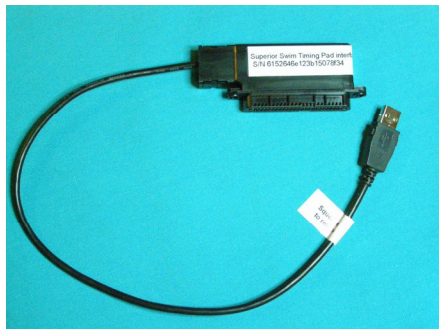
e. EXCEPT FOR THE WARRANTY OF TITLE AND THE EXPRESS WARRANTIES STATED ABOVE, SELLER DISCLAIMS ALL WARRANTIES ON PRODUCTS FURNISHED HEREUNDER, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE. THE REMEDY SET FORTH IN THIS SECTION IS BUYER'S SOLE AND EXCLUSIVE REMEDY FOR WARRANTY CLAIMS, AND IS EXPRESSLY IN LIEU OF ALL OTHER REMEDIES THAT MAY BE AVAILABLE TO BUYER AT LAW OR IN EQUITY.

Addendum A

Legacy Equipment

Single Timing cable for SST or CTS harnesses only

(No longer for sale, but fully supported)



For an SST Harness or Colorado Time "A" harness used for prime pad and/or button(s). If Colorado Timing in-deck wiring is used, connect the cable from the wall plate to this connector.

Timer Configuration

Finished | System | Lane | Serial Scoreboard | Projection

Lane Configuration

Check Serial | USB Cable : Version 5.0 4/25/2015 Superior Swim Timing Pad interface 003937333638150...

Lanes in use: 6 | Starting Lane: 1 | Far Pad, Finish Only: ☐

Course: ☒ Yards ☐ SCM ☐ LCM | Finish End For 1 Length: NEAR

Pad Mode: Near Pads, No Far Cable | Lap Increment = 2: 0 Near Buttons 0 Far Buttons

A Harness

Location: ☒ Near ☐ Far ☐ Both ☐ Off

Prime: ☒ Pad ☐ Button

Backup: ☐ Button ☐ RJP ☐ Button / RJP ☒ Off

Harness Mapping

A

Reverse ☐

Lane 1	1
Lane 2	2
Lane 3	3
Lane 4	4
Lane 5	5
Lane 6	6
Lane 7	OFF
Lane 8	OFF
Lane 9	OFF
Lane 10	OFF

Reverse Lanes

Clicking this button reverses the lane numbers FOR THE NUMBER OF LANES SELECTED. For example, if you are using an 8-lane cable, but only have 6 lanes in your pool. The SST Timer will use the lane 6 connector for lane 1, lane 5 for 2, etc.

Lanes in use

This dropdown menu allows you to select the number of lanes being used.

Prime:	Pad Button
Backup:	Off Button RJP (Relay Judging Platform) RJP/BTN (Relay Judging Platform and Button)

Three Connector Timing box for SST or CTS harnesses only.

(No longer for sale, but fully supported)



Timer Configuration

Finished

System Lane Projection Serial Scoreboard

Lane Configuration

Check Serial USB Cable : Version 2.30 Superior Swim Timing Multi interface 0C0C1B22 53420000 55FDB60C F5000001

Lanes in use 10 Starting Lane 1 Near Pads, Far Pads Lap Increment = 1 1 Near Buttons 1 Far Buttons

Course ☒ Yards ☐ SCM ☐ LCM Finish End For 1 lap FAR Far Pads Finish Only ☐

A Harness

Location ☒ Near ☐ Far ☐ Both ☐ Off

Prime ☒ Pad ☐ Button

Backup ☒ Button ☐ RJP ☐ RJP / Button ☐ Off

B Harness

Location ☐ Near ☒ Far ☐ Off

Prime ☒ Pad ☐ Button ☐ Off

Backup ☒ Button ☐ Off

Wireless

☒ Use Wireless as Button ☐ Use Wireless Far End Primary

Harness Mapping

	A		B
	Reverse ☐		Reverse ☐
LANE 1	1	1	1
LANE 2	2	2	2
LANE 3	3	3	3
LANE 4	4	4	4
LANE 5	5	5	5
LANE 6	6	6	6
LANE 7	7	7	7
LANE 8	8	8	8
LANE 9	9	9	9
LANE 10	10	10	10

A1 - For an SST Harness or Colorado Time "A" harness used for prime pad and/or button(s). If Colorado Timing in-deck wiring is used, connect the cable from the wall plate to this connector.

A2 - For a Colorado Time "B" harness if used for backup buttons or far end pad and/or button(s). This can also be used for an SST or Colorado A harness for far end prime pad and/or button(s). When used in this mode the independent lane mapping and reversal are not available and both harnesses must be mapped identically.

B - For an SST harness that is used for additional backup buttons or far end pad and/or button(s). This connector can also be used for a Colorado Time "B" harness that is being used for prime pad and/or button(s).

Daktronics Timing Box (First generation)



Timer Configuration

Finished

System Lane Projection Serial Scoreboard

Lane Configuration

Check Cable USB Cable : Version 1.1N Superior Swim Timing Multi interface 0505220F 53360B30 4F3F4E14 F5000005

☒ Reverse Lanes 6 Lanes in use FAR Finish End For 1 lap

A Harness

Location ☒ Far ☐ Off

Prime ☒ Pad ☐ Button ☐ Off

Backup ☒ Button ☐ RJP ☐ RJP / Button ☐ Off

B Harness

Location ☒ Far ☐ Off

Prime ☒ Button ☐ Off

Backup ☒ Button ☐ Off

Serial Harness - Near

☒ Pad ☒ Button 1 ☒ Button 2 ☒ Button 3 ☐ Reverse Lanes

Harness Mapping

	A	B
Lane 1	6	6
Lane 2	5	5
Lane 3	4	4
Lane 4	3	3
Lane 5	2	2
Lane 6	1	1
Lane 7	OFF	OFF
Lane 8	OFF	OFF
Lane 9	OFF	OFF
Lane 10	OFF	OFF

Near Pads, Far Pads Lap Increment = 1
3 Near Buttons 3 Far Buttons

Connectors on Multiple Harness box
Near-Far - Daktronics harness connectors

A1 - For an SST Harness or Colorado Time "A" harness used for prime pad and/or button(s). If Colorado Timing in-deck wiring is used, connect the cable from the wall plate to this connector.

A2 - For a Colorado Time "B" harness if being used for backup buttons or far end pad and/or button(s). This can also be used for an SST or Colorado A harness for far end prime pad and/or button(s). When used in this mode the independent lane mapping and reversal are not available and both harnesses must be mapped identically.

B - For an SST harness that is used for additional backup buttons or far end pad and/or button(s). This connector can also be used for a Colorado Time "B" harness that is being used for prime pad and/or button(s)

Serial Scoreboard Adapter

If you have a USB serial adapter (earlier timers) for the scoreboard, you should install it now along with its driver software. The adapter should also show up as a COM port in the "Devices and Printers" window

****NOTE**:** It is highly recommended that you use the USB to Serial adapter offered by Superior Swim Timing. The adapter offered by Superior Swim Timing has a higher power output than the commercially available adapters. Note: This is not applicable for the 4 connector timer boxes. That timer has the scoreboard driver built into it.

If you have the separate scoreboard adapter below is a link to the driver software:

<http://www.ftdichip.com/FTDrivers.htm>

ADDENDUM B

SCOREBOARD SERVER TECHNICAL INFORMATION

The scoreboard server is a service that sends real-time race information over the network. The scoreboard clients must be designed to read the messages and update their display.

DEVELOPER NOTES

- A message will be sent via UDP protocol to allow the client to automatically establish connection. Provided there are no security issues, the client should be able to receive the message and use the information in the message to establish a TCP connection.
- All TCP messages start with SOH (0x01) and end with EOT (0x04). The UDP message does not use these values.
- Messages are sent as needed. They are not repeatedly sent.
- Lanes are identified with two values. The first value is an index that is the same regardless of how the lanes are numbered. Index 0 is the first lane. The maximum lane index is 9. The second value is the displayed lane number.

UDP BROADCAST

The SST timing console will immediately start broadcasting a message over UDP. The default port is 53535, but this can be changed in the SST Configuration. The message is sent every 5 seconds continuously until the scoreboard server is stopped or the SST console application is terminated.

KEY	TYPE	VALUE
msg	String	MessageID. The key value will always be SSTBROADCAST
tcpport	Integer	The tcp port to use to establish the TCP connection. The default is 53536. This value is configurable
ipList	String Array	An array of IP addresses reported by the host computer to be used with the tcp port to establish a tcp connection. Currently, only IP4 is supported. IP6 may be added soon,

Example:

```
{
  "msg" : "SSTBROADCAST",
  "tcpport" : 53536,
  "ipList" : [
    "192.168.6.224",
    "192.168.137.1"
  ]
}
```

TIME OF DAY

The current time on the host computer will be sent every second as way to confirm the connection is still active.

KEY	TYPE	VALUE
msg	String	Message ID. The key value will always be TOD
localTime	String	The current time on the host computer
timeZone	String	The time zone assigned to the host computer.

Example:

```
{
  "msg" : "TOD",
  "localtime" : "06:59:19",
  "timezone" : "America/New_York"
}
```

POOL CONFIGURATION

Once a TCP connection has been accepted, a message containing the pool configuration is sent. This message may be resent whenever a key value changes.

KEY	TYPE	VALUE
msg	String	Message ID. The value will always be CFG
course	String	The value may be YARDS, SCM, or LCM.
laneCount	Integer	The number of lanes in use.
startingLane	Integer	The display value of the first lane. Usually this will be 0 or 1.

ascendingLapCount	Boolean	Identifies if the scoreboard should display lap counts in ascending or descending order. The lap count value for the split message is always sent in ascending order. The client will need to calculate the value using the total number of splits.
nearPad	Boolean	Logical value that identifies if pads are in use on the near end of the pool. If no pads are in use, there will only be a final time.
nearButtonCount	Integer	The number of expected backup buttons on the near side of the pool.
farPad	Boolean	Logical value that identifies if far pads are in use. If pads are in use on the near and far end of the pool, the lap count will be 1.
farButtonCount	Integer	The number of expected buttons on the far end of the pool.
sessionName	String	The name of the session.
startDelay	Integer	The number of seconds after the start the far-end pads are armed.
splitDelay	Integer	The time in milliseconds start reaction and splits are displayed.
reactionWindow	Integer	The time in milliseconds before and after the start SST considers input for reaction times.

Example:

```
{
  "msg": "CFG",
  "course": "YARDS",
  "laneCount": 6,
  "startingLane": 1,
  "ascendingLapCount": true,
  "nearPad": true,
  "nearButtonCount": 1,
  "farPad": false,
  "farButtonCount": 0,
  "sessionName": "Session Name",
  "startDelay": 6,
  "splitDelay": 10000,
  "reactionWindow": 1250
}
```

RACE START

A message will be sent to identify the start of the races.

KEY	TYPE	VALUE
msg	String	The value will always be START
raceIndex	Integer	Index number of the start. Each start will have a unique index.
raceNumber	Integer	The race number assigned. Each completed race will have a unique race number.
eventNumber	String	The event number of the current race consisting of a number and a possible character.
heat	Integer	The heat number of the current race.
getReactionTime	Integer	Identifies if reaction times and/or relay exchange times are captured for this race. • 0 = No reaction time • 1 = Start reaction for backstroke. • 2 = RJP start reaction for all other events and relay exchange times. • 3 = Start reaction for backstroke AND RJP exchange times.
splitCount	Integer	The total number of splits expected to complete the distance
length	Integer	The total lengths required to complete the distance.
eventName	String	Description of the event.
startTime	String	The start time of the race.
getReactionTime	Integer	Identifies if start/exchange reaction times will be captured for the event. 0 = No. 1 = Backstroke. 2 = RJP. 3 = Both.

Example:

```
{  
  "msg": "START",  
  "raceIndex": 0,  
  "raceNumber": 60,  
  "eventNumber": "1",  
  "heat": 1,  
  "splitCount": 2,  
  "getReactionTime" : 0,
```

```

    "length": 4,
    "eventName": "Girls 8 & Under 100 Yard IM",
    "startTime": "07:50:58"
}

```

RUNNING CLOCK

The running clock time is sent every tenth of a second during a race. It will stop when the race finishes or if there is a false start.

KEY	TYPE	VALUE
msg	String	The key value will always be RUNNINGCLOCK
time	String	The running clock value as a string. During a race, the seconds will only go out to 1/10 of a second. When the running clock stops, a single message is sent with a time of "00:00:00.00"

Example:

```

{
    "msg": "RUNNINGCLOCK",
    "time": "00:00:00.3"
}

```

START LIST

The start list message contains the race information and the list of swimmers in the race. If the schedule has already been loaded when the client connects, the message for the first race will be sent at connection. If the schedule has not been loaded, the message for the first race will be sent when the schedule loads. During the meet, the message will either be sent when the scoreboard advances to the next race or at the start of the race.

Race Object

KEY	TYPE	VALUE
msg	String	The key value will always be RACE
eventName	String	Description of the event.
eventNumber	String	The event number assigned in the event schedule.
heat	Integer	The heat number assigned to the race.
splitCount	Integer	The number of splits required to complete the race.
length	Integer	The number of pool lengths required to complete the race.

startlist	Object Array	An object array containing the swimmer information for each lane.
-----------	--------------	---

Lane Object

KEY	TYPE	VALUE
index	Integer	The index assigned to the lane. The first lane will be 0. The last lane will be 0 + lane count – 1.
lane	Integer	The display lane number. This will usually be 0 or 1.
fullName	String	The full name of the swimmer.
lastName	String	The last name of the swimmer. If the swimmer's full name starts with the first name, this value will be the swimmer's full name. If the event is a relay this will be the relay team name.
firstName	String	The first name of the swimmer. If the swimmer's name starts with the first name, this value will be blank.
longClub	String	The long name of the swim club.
shortClub	String	The abbreviation of the swim club.
exhibition	Boolean	Identifies the swimmer as exhibition.

Example:

```
{
  "msg": "RACE",
  "eventName": "Girls 8 & Under 100 Yard IM",
  "eventNumber": "1",
  "heat": 1,
  "splitCount": 2,
  "length": 4,
  "distance": 100,
  "startlist": [
    {
      "index": 0,
      "lane": 1
      "fullName": "",
      "lastName": "",
      "firstName": "",
      "longClub": "",
      "shortClub": "",
      "exhibition": false
    },
    {
```

```

        "index": 1,
        "lane": 2,
        "fullName": "CARR, THERESA V",
        "lastName": "CARR",
        "firstName": "THERESA V",
        "longClub": "",
        "shortClub": "ETST",
        "exhibition": false
    }
}

```

FALSE START

This message is sent if the current race is terminated with a false start.

KEY	TYPE	VALUE
msg	String	Message ID. The value will always be FALSESTART.
raceIndex	Integer	Unique identifier of the started race.
raceNumber	Integer	Unique Identifier of a completed race.
eventName	String	The description of the event.
eventNumber	String	ID of the event assigned to the race.
heat	Integer	Heat number assigned to the race.

Example:

```

{
    "msg": "FALSESTART",
    "raceIndex": 0,
    "raceNumber": 60,
    "eventName": "Girls 8 & Under 100 Yard IM",
    "eventNumber": "1",
    "heat": 1
}

```

TOUCH MESSAGES

Touch messages identify any change to a lane such as disabled, splits, final time, disqualification, and reaction time. The message will have additional key values to identify the purpose of the message. Use the additional values to determine the correct action.

The message type (key = msg) will always be TOUCH.

The touch type (key = touchType) identifies the purpose of the touch message. Valid values are

- S = Status Change. Use the status type to determine which lane property changed.
- RX = Reaction Time.
- I = Intermediate Split.
- F = Final Time

If the touch type is a status change, the status type (key = statusType) identifies which lane property changed:

- LANESTATUS = Lane enabled/disabled.
- LAPCHANGE = Change in the lap count for a lane.
- DSQ = Swimmer disqualified

If the touch type is a reaction time, the status type (key = statusType) identifies the type of reaction.

- STARTREACTION = Reaction time at the start of the race.
- EXCHANGE = Reaction time for the relay exchange.

LANE ENABLED/DISABLED

A touch message is sent whenever a lane is enabled or disabled. If the Start List Lane Disable option is active, the message will be sent at the start of the race to disable any lanes without a swimmer. During a race, the message will be sent when the lane status is toggled between on and off.

KEY	TYPE	VALUE
msg	String	Message ID. The value will be TOUCH.
touchType	String	The purpose of the TOUCH message. The Value will be S for Status Change.
statusType	String	The lane property that needs changed. The value will be LANESTATUS.
index	Integer	The lane index number. 0 will be the first lane.
lane	Integer	The displayed lane number.
statusValue	String	The new value of the changed property. The value will be ON for enabled, and OFF for disabled

Example:

```
{  
    "msg": "TOUCH",  
    "touchType": "S",
```

```

    "statusType": "LANESTATUS",
    "index": 0,
    "lane": 1,
    "statusValue": "OFF"
}

```

LAP ADJUSTMENT

A touch message is sent whenever the lap count for a lane is manually adjusted by the console operator.

KEY	TYPE	VALUE
msg	String	Message ID. The value is TOUCH
touchType	String	Type of the touch message. The value is S for Status Change
statusType	String	The type of status change. The value is LAPCHANGE
index	Integer	The index of the lane. The first lane is index 0.
lane	Integer	The display lane number. This is usually 0 or 1.
statusValue	Integer	The new lap count.
distance	Integer	The new distance.

Example:

```

{
    "msg": "TOUCH",
    "touchType": "S",
    "statusType": "LAPCHANGE",
    "index": 3,
    "lane": 4,
    "statusValue": 2,
    "lapCount": 2,
    "distance": 50
}

```

START REACTION

A start reaction message is sent for all events that start with backstroke. If relay judging platforms are in use, the start reaction message will be sent for all other events. The messages will be sent once the start reaction window closes.

KEY	TYPE	VALUE
msg	String	Message ID. The value will always be TOUCH

touchType	String	Type of the touch message. The value will always be RX
statusType	String	The type of reaction. The value will be STARTREACTION
raceIndex	Integer	Unique number for the race start.
raceNumber	Integer	Unique number for the completed race.
eventNumber	String	ID of the event assigned to the race.
heat	Integer	Heat number assigned to the race.
index	Integer	Lane index. The first lane is index 0.
lane	Integer	The displayed lane number.
rxTime	Double	The reaction time in seconds.
rxString	String	The reaction time displayed as a string.

Example:

```
{
  "msg": "TOUCH",
  "touchType": "RX",
  "statusType": "STARTREACTION",
  "raceIndex": 0,
  "raceNumber": 61,
  "eventNumber": "1",
  "heat": 1,
  "index": 2,
  "lane": 3,
  "rxTime": 0.64,
  "rxString": ":00.64"
}
```

RELAY EXCHANGE

If SST is configured to use relay judging platforms, a message for exchange reactions will be sent.

KEY	TYPE	VALUE
msg	String	Message ID. The value will always be TOUCH
touchType	String	Type of the touch message. The value will always be RX
statusType	String	The type of reaction. The value will be EXCHANGE
raceIndex	Integer	Unique number for the race start.
raceNumber	Integer	Unique number for the completed race.

eventNumber	String	ID of the event assigned to the race.
heat	Integer	Heat number assigned to the race.
index	Integer	Lane index. The first lane is index 0.
lane	Integer	The displayed lane number.
exchange	Integer	The exchange number. The reaction time for the second swimmer would be exchange 1.
rxTime	Double	The reaction time in seconds.
rxString	String	The reaction time displayed as a string.

Example:

```
{
    "msg": "TOUCH",
    "touchType": "RX",
    "statusType": "EXCHANGE",
    "raceIndex": 0,
    "raceNumber": 61,
    "eventNumber": "1",
    "heat": 1,
    "index": 2,
    "lane": 3,
    "exchange": 2,
    "rxTime": 0.64,
    "rxString": ":00.64"
}
```

DISQUALIFICATION

A disqualification message is sent when the disqualification flag is turned on or off.

KEY	TYPE	VALUE
msg	String	Message ID. The value will always be TOUCH
touchType	String	The type of touch message. The value is S for Status Change
statusType	String	The status to update. The value will be DSQ
index	Integer	The index of the lane. The first lane is index 0.
lane	Integer	The displayed lane number.
statusValue	Boolean	True is disqualified.

Example:

```
{
    "msg": "TOUCH",
```

```

    "touchType": "S",
    "statusType": "LANESTATUS",
    "index": 4,
    "lane": 5,
    "statusValue": true
}

```

INTERMEDIATE SPLIT

Intermediate split messages are sent when pads are in use, and the race distance requires more than one split. The final split is a separate message.

KEY	TYPE	VALUE
msg	String	Message ID. The value will always be TOUCH
touchType	String	The type of the touch message. The value will be I for Intermediate Split.
Index	Integer	The index number of the lane. The first lane is index 0.
lane	Integer	The displayed lane number.
lap	Integer	The lap count of the split. The lap count will always be ascending.
distance	Integer	The distance completed.
splitTime	Double	The subtractive split represented in number of seconds.
splitString	String	The subtractive split represented as a string.
cumulativeTime	Double	The cumulative split represented in number of seconds.
cumulativeString	String	The cumulative split represented as a string.

Example:

```

{
    "msg": "TOUCH",
    "touchType": "I",
    "index": 3,
    "lane": 4,
    "lap": 2,
    "distance": 50,
    "splitTime": 38.85,
    "splitString": ":38.85",
    "cumulativeTime": 38.85,
    "cumulativeString": ":38.85"
}

```

}

FINAL SPLIT

A final touch message is sent for each lane that completes a race. Completion can be triggered by pad touch on the final split, a button time if pads are not used, or by accepting the backup time.

KEY	TYPE	VALUE
msg	String	Message ID. The value is TOUCH
touchType	String	The touch type. The value is F for Final.
index	Integer	The lane index. The first lane is index 0.
lane	Integer	The displayed lane number.
lap	Integer	The lap count for the split.
distance	Integer	The total distance completed for the split.
place	Integer	The place
splitTime	Double	The subtractive split in number of seconds.
splitString	String	The subtractive split represented as a string.
cumulativeTime	Double	The final time in number of seconds.
cumulativeString	String	The final time represented as a string.
dq	Boolean	Disqualification flag. True = disqualified

Example:

```
{
    "msg": "TOUCH",
    "touchType": "F",
    "index": 2,
    "lane": 3,
    "lap": 8,
    "distance": 200,
    "place": 2,
    "splitTime": 21.72,
    "splitString": ":21.72",
    "cumulativeTime": 112.1,
    "cumulativeString": "01:52.10",
    "dq": false
}
```

RESULTS

A final message is sent once the race is completed. Results are in place order.

Race Object

KEY	TYPE	VALUE
msg	String	Message ID. The value will always be FINISH
raceIndex	Integer	A unique identifier for the race start.
raceNumber	Integer	A unique identifier for the completed race.
eventName	String	The description of the event.
eventNumber	String	The ID assigned to the event.
heat	Integer	The heat number assigned to the race.
splitCount	Integer	The number of splits expected
length	Integer	The total number of pool lengths.
startTime	String	The start time of the race represented as a string
endTime	String	The completion time of day of the race represented as a string
results	Object Array	An array of lane objects order by place.

Lane Object

KEY	TYPE	VALUE
index	Integer	Lane index. The first lane is index 0.
lane	Integer	Displayed lane number.
place	Integer	Place
longClub	String	Full club name
shortClub	String	Club abbreviation
lastName	String	Swimmer's last name
firstName	String	Swimmer's first name. This is only available if the full name is formatted as Last, First.
exhibition	Boolean	True if the swimmer is exhibition
finalTime	Double	Final time in seconds
backupTime	Double	Calculated backup time in seconds, if applicable
button1	Double	Button 1 time in seconds, if applicable
button2	Double	Button 2 time in seconds, if applicable
button3	Double	Button 3 time in seconds, if applicable
reactionTime	Double	Reaction time in seconds
falseStart	Boolean	True if the reaction time is less than 0.
watchUsed	Boolean	True if wireless watch times were used for the final time
backupUsed	Boolean	True if the calculated backup time was used for the final time.

dq	Boolean	True if the swimmer was disqualified
manualUsed	Boolean	True if a manual time was used for the final time.
relayRjp	Double Array	Array of relay exchange reaction times. Size = 3

Example:

```
{
  "msg": "FINISH",
  "raceIndex": 4,
  "raceNumber": 61,
  "eventName": "Girls 200 Yard Medley Relay",
  "eventNumber": "1",
  "heat": 1,
  "splitCount": 4,
  "length": 8,
  "startTime": "09:58:28",
  "endTime": "10:00:34",
  "results": [
    {
      "index": 3,
      "lane": 4,
      "place": 1,
      "longClub": "",
      "shortClub": "",
      "lastName": "FLHP A",
      "firstName": "",
      "exhibition": false,
      "finalTime": 109.69,
      "backupTime": 109.79,
      "button1": 109.79,
      "button2": 109.8,
      "reactionTime": 0,
      "falseStart": false,
      "watchUsed": false,
      "backupUsed": false,
      "dq": false,
      "manualUsed": false,
      "relayRJP": [
        0,
```

```

                                0,
                                0
                            ]
    },
    {
        "index": 2,
        "lane": 3,
        "place": 2,
        "longClub": "",
        "shortClub": "",
        "lastName": "DELD B",
        "firstName": "",
        "exhibition": false,
        "finalTime": 112.1,
        "backupTime": 111.36,
        "button1": 111.41,
        "button2": 111.31,
        "reactionTime": 0,
        "falseStart": false,
        "watchUsed": false,
        "backupUsed": false,
        "dq": false,
        "manualUsed": false,
        "relayRJP": [
            0,
            0,
            0
        ]
    }
]
}

```

TEAM SCORES

A message containing the scores for the home team and up to three guest teams is sent whenever the scores are entered/edited in the SST Console.

KEY	TYPE	VALUE
msg	String	Message ID. The value will be "TEAMSCORES"
home	Number	Home score. Maximum 1 decimal place
guest1	Number	Guest team 1 score. Maximum 1 decimal place
guest2	Number	Guest team 2 score. Maximum 1 decimal place
guest3	Number	Guest team 3 score. Maximum 1 decimal place

Example:

```
{
  "msg" : "TEAMSCORES",
  "home" : 99.5,
  "guest1" : 142,
  "guest2" : 71.5,
  "guest3" : 0
}
```