

Superior Swim Timing

**2019**

# **SST Operation Manual**

Installation, Operation and support of the SST USB swim timer

**Superior Swim Timing**  
[www.ssttiming.com](http://www.ssttiming.com)

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## Quick Start Guide

| Active/Hy-Tek Meet Manager Instructions          |   |
|--|---|
| <b>1. Create a New Folder for the Meet</b>       | Result files will be written to the meet folder. You do not want to overwrite results from a prior meet.  |
| <b>2. Create the Meet In Meet Manager</b>        | Use the Meet Manager instructions for creating a meet.  |
| <b>3. Create the event schedule file.</b>        | 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.   |
| <b>4. Create the Start List Scoreboard Files</b> | After seeding the meet, go to the FILE menu., Select Export   Start Lists For Scoreboard   Start Lists For CTS. Save the files in the above folder. Note, you will need to define a session in the meet to use this feature. Alternatively, if you have the Alpha Scoreboard option, select the Network File Sharing in the scoreboard setup. Next go to Interfaces Scoreboard  and Create the Start List file. |

| TeamUnify TouchPad Instructions                          |  |
|--|--|
| <b>1. Create A New Folder For The Meet</b>               | Result files will be written to the meet specific folder.  |
| <b>2. Create The Meet In TouchPad</b>                    | Use the TouchPad instructions for creating a meet. Save the meet database in the new folder.   |
| <b>3. Create the event schedule file and Start List.</b> | Go to   Entering Meet results and select Superior Swim Timing under Type of Electronic Timer. On the next screen click Set File Path and select the location of the meet database. Then click Save Start List and Save Event List. |

| <b>SST Instructions</b>                              |   |
|--|---|
| <b>1. Plug the SST Timing Box into the computer.</b> | Make sure the timing cable is not in a location where it can get wet or accidentally pulled out of the computer.  |
| <b>2. Lay out the Harness</b>                        | Configure SST so that the lane mapping matches the harness to pool lanes. (step 7).   |
| <b>3. Connect the pads and/or buttons</b>            | Plug in the pad and/or buttons into the harness(s). If using the waterproof connectors, make sure the connection is locked.   |
| <b>4. Connect the Electronic Starter</b>             | If an electronic starter is not available, use one of the extra buttons as the starter. Make sure you are connected to the normally open “NO” connection on the starter.  |
| <b>5. Connect the Harness To The SST Timing Box.</b> |   |
| <b>6. Start SST Timing Program</b>                   | Double-click the SST icon on the desktop to start SST.  |
| <b>7. Verify SST Timing Configuration</b>            | 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.   |
| <b>8. Configure Scoreboard</b>                       | If you are using a projection scoreboard go to the Projection tab. Select the scaling, colors, etc. If you are using a serial scoreboard click on the Serial Scoreboard tab. Make all appropriate selections including mapping the of the swim lanes to the scoreboard. Next select the appropriate COM port and click OPEN. If a serial scoreboard is being used go to the serial scoreboard tab, select the proper port and click Open. |
| <b>9. Open Events Schedule File</b>                  | From the timing console window, go to FILE   OPEN SCHEDULE FILE, navigate to the meet folder and select GENERIC.SCH. Or open the serial connection.   |
| <b>10. Test Starter and Buttons</b>                  | Put the SST console in test mode by going to HELP   TEST MODE. Have someone go to each lane, press and hold the pad/buttons. Exit test mode by going to HELP   TEST MODE. Perform a test start. Alternatively you can see the START in test mode.   |

## What is new in Version 7

- **Event/Heat Changeable After a Race Starts**—The event and/or heat may be changed up to the first touch when using pads. When using buttons, changes may be made any time until the first button push. [Refer to page 23](#)
- **Enhanced Time Adjustments**—A new configuration option allows adjusted times to be sent to the scoreboard and your meet management software, or the adjusted times may only be sent to the scoreboard. [Refer to page 24](#)
- **“USE” Backup Time Button**—SST now includes a button on each lane to use the backup time for display or as the official time depending on the time adjustments configuration. [Refer to page 26](#)
- **Pad Delay Changeable During a Race**—The pad delay may be changed any time during a race. [Refer to page 25](#)
- **New Purple Lane Color To Highlight Missing Pad Times**—Quickly identify lanes that have a backup time but do not have a pad time. [Refer to page 26](#)
- **Earlier Backup Button Activation**—Backup buttons are now activated after the initial pad delay instead of waiting until the final lap. [Refer to page 25](#)
- **FINA Lane Numbering Support** —The lane number may be changed to start with “0” per FINA requirements, or any number based on pool configuration. [Refer to page 17](#)
- **Meet and Lane Statistics**—View statistics for the entire session, individual lanes and session timeline. [Refer to page 30](#)
- **Serial Scoreboard Close Option** — Serial scoreboard port may now be closed and re-opened without exiting SST. [Refer to page 21](#)
- **Enhanced Pace Clock Projection Layout**—Ads may now be displayed with the pace clock on the projection scoreboard. Create a slideshow of advertisements or messages using the Pace Clock projection layout. [Refer to page 19](#)
- **Team Scores Support**—Team scores may now be entered and then displayed on the serial scoreboard. [Refer to page 28](#)
- **Configuration Options Available During the Race**—The configuration window is now available during a race to allow changes to lane mapping, scoreboard layouts, etc.
- **New Default Location for the Race Results Files**— [Refer to page 13](#)



## Welcome

Thank you for purchasing the 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 is compatible with all versions. To use the SST timer you need **“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.

### TeamUnify TouchPad Meet Management Interface

SST is compatible with TeamUnify’s TouchPad Meet Management software. In TouchPad the user generates the “Start List” and “Event List” from the Enter Results screen. These would provide the same information and benefits as described above in the Hy-Tek information.

### Interface for other Meet Management Software

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

## Computer Requirements

### Operating Systems

The SST software has been tested on Windows 7, 8, 8.1 and 10. Windows 10 (64 bit) is the preferred operating system as most other Windows version are EOL. The SST application is written in Java and has also been tested on Mac OSX and Ubuntu Linux, we suggest you contact us about any known limitations of running on these platforms.

### Computer requirements

As the latest secure Java versions are only available for 64 bit computers and all new and most computers over the past 5 years are 64 bit, we highly recommend this as we will have to end support for prior version as they will no longer have Java support and security updates.

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 serial interface ports with a Daktronics deck cable, the 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 are not critical to the operation. SST should perform reliably on just about any reasonably current laptop, again, preferably 64 bit. Two important considerations are whether or not you will be running the meet management software and/or a scoreboard on the same laptop. The following specifications are useful if you will be purchasing a new laptop for use.

## Minimum Requirements

We recommend a computer with at least a dual core processor. If you are running Hy-Tek's Meet Manager or TeamUnify's TouchPad on the same computer, be sure to use a PC that meets the vendor's specifications. Touch screen is 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.

One USB port for SST, two if you will also be running a serial scoreboard. An additional serial port will be needed if a serial scoreboard will be used. A scoreboard adapter may be purchased from SST to support this function. The 4 connector box has an integrated high power serial adapter so a second port is not required.

If you will be using the Projector scoreboard output, your 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. You will also need an appropriate video output connection to run an external display. This is typically an HDMI output. Older computers may have a 15 pin VGA connector. Also supported are DVI, USB-C, etc. The important point is that the laptop screen and external monitor MUST be separate displays that you can individually set the screen resolution and content. When the second screen or projector is plugged in you have to set the laptop to extend your display, not duplicate.

If you elect to use the projection scoreboard, SST will auto-size the display for 6, 8 and 10 lane pools with the projectors resolution. NOTE! It is highly recommended that you test your computer with the desired projector and interface (VGA, HDMI, etc.) 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 you may need a special HDMI cable or extender.

The projection display can also be scaled. Please refer to the configuration section later in this manual.

## SST Software Installation

To install the SST software, just run the setup.exe file. You can download the installation program for the latest version from:

<ftp://SSTSetup:SSTsetup1!@ftp.superiorswimtiming.com/setup.exe>

The SST software package includes the appropriate Java runtime software. If you do not have the correct version of Java installed you may get a "Java" error. If you get that error follow the link below to install the 64 bit version of Java:

<http://www.java.com/en/download/manual.jsp>

Next click on "Windows Offline (64-bit)".

If you are using the SST High Power serial port, you may also need to load the appropriate FTDI serial port drivers available at: NOTE this is NOT required for the 4 connector box.

[FTP://USBdriver:SSTUSBdriver1!@ftp.superiorswimtiming.com/CDM20828\\_Setup.exe](FTP://USBdriver:SSTUSBdriver1!@ftp.superiorswimtiming.com/CDM20828_Setup.exe)

## Timing Hardware

SST offers four different options for the timing box

### **Single Timing box for SST or CTS harnesses only. (No longer for sale, but fully supported)**

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

### **Three Connector Timing box for SST or CTS harnesses only. (No longer for sale, but fully supported)**

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

A2 - For a Colorado Time "B" harness if it is 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).

### **Four Connector Timing box for SST or CTS harnesses only.**

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

Near/Far B - For an SST Harness or Colorado Time "A" harness OR a Colorado Time "B" used for backup button(s).

**Daktronics Timing Box** – Can connect to 2 Daktronics harnesses, 3 SST harnesses or 3 Colorado Time harnesses or any combination of the three.

#### 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 you are using Colorado Time in-deck wiring and are connecting to a wall plate connects the cable from the wall plate to this connector.

A2 - For a Colorado Time "B" harness if it is 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).

## 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.**

When the SST Timer is plugged in for the first time, pre Windows 10 versions will need to load the driver to make it operational and will ask for a driver location. The software install creates a file in the directory "C:\Program Files\Superior Swim Timing\SST Timer\config". Select "sst.inf" which is the driver file. On Windows 7 the computer usually initially reports that the search for a device driver failed. You should then click the START button, then on the "Devices and Printers" item on the right side of the menu. You will see a "Superior Swim Timing" device under "Unspecified". Double clicking on the device will bring up the "Properties" menu. This menu has two tabs, click on the "Hardware" tab. Click on the "Properties" button and this will bring up another window. You then need to click on the "Driver" tab. Click on the "Update Driver" button and then "Browse my computer for driver software". Click on the "Browse" button and select the "C:\Program Files\Superior Swim Timing\SST Timer\config" folder. Click on "Next" and the driver software should install. You can then Apply or OK the open windows.

With Windows 10 you do not need to install a driver. The SST Timer cable shows up as a COM port automatically. HOWEVER: The first time you plug in the timer make sure the computer has an Internet connection. Windows will automatically install the driver but it must access the Internet to obtain the driver.

The SST Timer should now appear as a COM port in the "Devices and Printers" window.

**NOTE! - If you are running Windows 8 and you get a "digital signature" error, go to the following web page for instructions:**

<http://www.howtogeek.com/167723/how-to-disable-driver-signature-verification-on-64-bit-windows-8.1-so-that-you-can-install-unsigned-drivers/>

If you have a USB serial adapter for the scoreboard you should install it now along with its driver software. It 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 voltage output than the commercially available adapters. It matches the output that comes out of the consoles that SST replaces. The non SST adapters may have problems communicating over long distances or if the cable to the scoreboard is deteriorated or damaged. If you do use the SST USB to Serial adapter you will need to install the device driver.

This driver can be downloaded at:

[FTP://USBdriver:SSTUSBdriver1!@ftp.superiorswimtiming.com/CDM20828\\_Setup.exe](FTP://USBdriver:SSTUSBdriver1!@ftp.superiorswimtiming.com/CDM20828_Setup.exe)

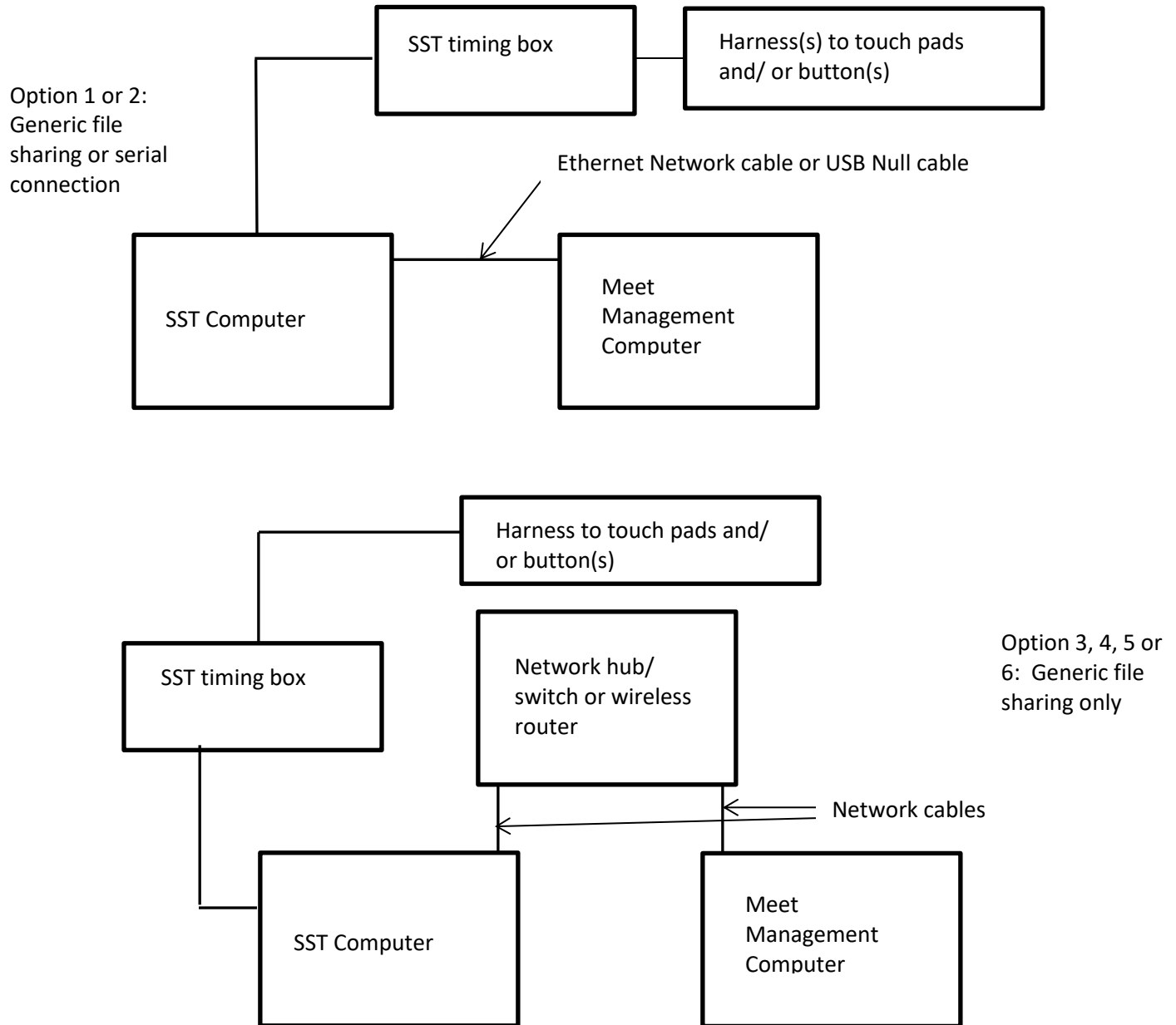
or

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

SST is compatible with the Colorado Timing harness cable, the Daktronics harness cable, and the SST Waterproof harness cable.

## SST Configurations

Below are diagrams of the recommended configurations:



### **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)**

With this configuration shared folder can be created on either the SST laptop or the MM laptop. This can be done in multiple ways.

1. Serial interface
2. Ethernet cable between 2 computers.
3. Ethernet switch

4. Wired/Wi-Fi router
5. Facility Wi-Fi connection (if trusted and reliable)
6. Wi-Fi ad hoc network
7. Bluetooth network

## 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 you will not have to move the results. If you store the results on the meet management computer and you lose the network, the results will be stored on the SST computer in the “Documents\SST\logs folder”. There will be a folder in this location with the current date and time. In this case you will need to move the results to the folder on the Meet Manager computer that has the results. REMEMBER... You never lose results. The meet can continue to run.

## 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 it shares that directory with the other meet management computers. The SST laptop would also connect to the network and share the same directory.

## Create a Folder for Each Meet (Serial Interface or Generic File Sharing)

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. Please follow the links below based on your operating system. In all cases make sure you allow “full access” or “read/write” for the folder.

Windows 7 and Windows 10

<https://www.youtube.com/watch?v=AG10Hilr9kw>

This is an excellent tutorial.

## Loss of Communications between SST and the Meet Management Computer

If the SST computer can no longer communicate with the meet management computer, the results files are written to the SST computer in the “Documents\SST\logs folder” directory. 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. The main thing to remember is that results are not lost.

## Connecting SST With Meet Management 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

There are two ways to use this connection method. In both cases the user would select the Colorado 5 or 6 interface in their meet manager software.

In order to communicate between the two computers there needs to be a physical serial port or networked virtual COM port. The following two options discuss methods that can be used to achieve this.

### USB/USB null cable

**NOTE: DO NOT use just a USB “A” to USB “A” adapter cable. It must be a USB Null modem cable. Using a USB “A” to USB “A” adapter could damage your computer.**

SST has tested the FTDI Null modem cable

<http://www.ftdichip.com/Products/Cables/USBtoUSB.htm>

Available from Digikey, Allied Electronics or Amazon

[http://www.digikey.com/product-search/en?KeyWords=768-1076-ND&WT.z\\_header=search\\_go](http://www.digikey.com/product-search/en?KeyWords=768-1076-ND&WT.z_header=search_go)

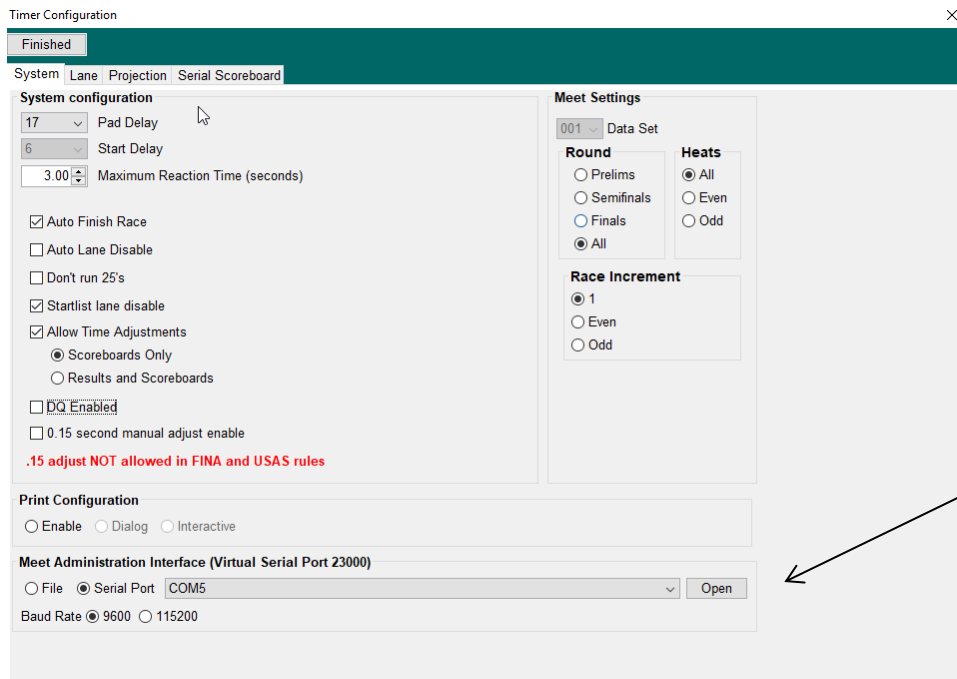
<http://www.alliedelec.com/search/productdetail.aspx?SKU=70069427>

Obtain a USB/USB null modem cable and follow any instructions for installing drivers (as required by the vendor). You should now have COMx ports 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.

Note: Make sure the USB null cable is connected or the Virtual Com Port software is started on the meet management computer before starting SST.



## All Serial Communication

For any serial communication mode you need to set the pool length at the bottom of the page.

### RS232 or USB Null Modem

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

### VCP Configuration

The Virtual Com Port is always operational on port 23000. Simply finish the SST configuration and click on the "Finished" button.

### Meet Management Computer Setup

In the meet management software, use the normal procedure that you would use for connecting to a Colorado 5 or 6 timing console including opening and testing the serial port. Then download the events to SST and you are ready to run the meet.

### 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.

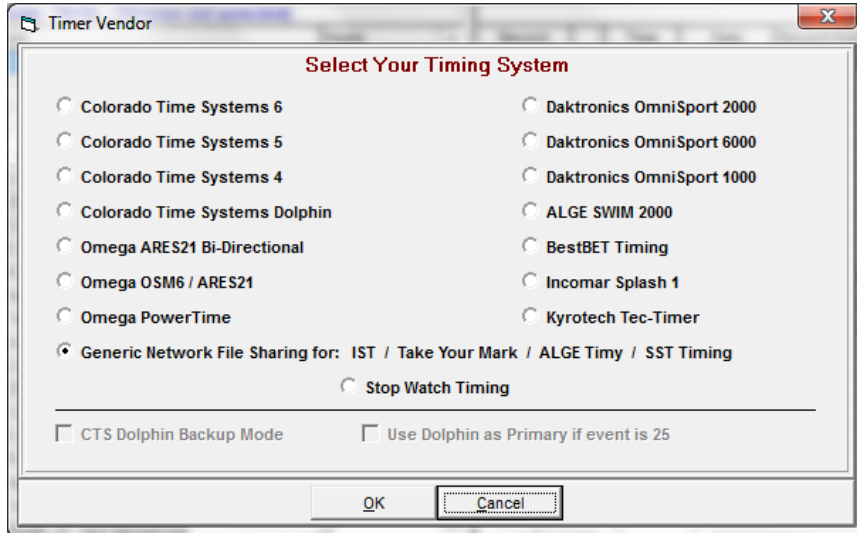


## SST Meet Manager Connection Using Generic File Sharing

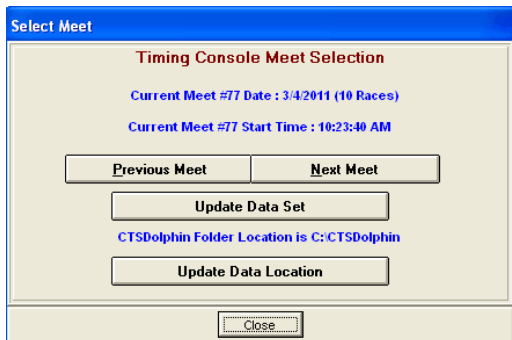
### Hy-Tek Meet Manager Setup

#### Meet Manager Operations

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

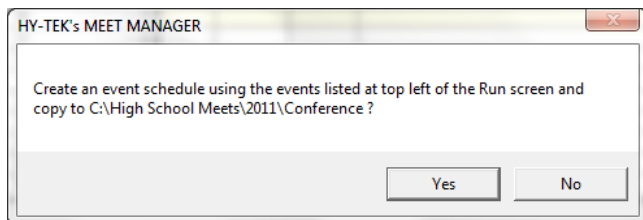


Next, enter the run mode of Meet Manager. Click on Interfaces, Timer (GNET) Pool 1 (or 2), and then Select Data Set Stored from GNET.



Next, click Update Data Location and use the next window to navigate to the results folder that was created for this meet. Click Open.

If you are running one or more sessions, select the session that you will be running. 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". 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. You will use this file to configure the meet in SST.

If you have the Alpha Scoreboard option and want to create the StartList file, you must select "Network file Sharing" on the scoreboard setup page.

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

**NOTE! - Meet Manager versions 4 and later allow you to select the storage directory for the files. We still suggest having a separate directory for each meet and storing all files for that meet in the same directory.**

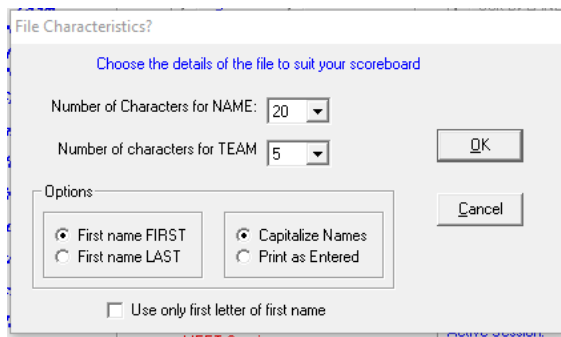
Next, create the scoreboard files. In Meet Manager click on "File", "Export", "Start Lists for Scoreboard" and then "Start Lists for CTS" and save them to the same folder as the generic.sch file is located. We recommend using these files instead of the Startlist file created for the Alpha Scoreboard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

## TeamUnify TouchPad Setup

Click on Enter Results and then Timer Settings. From the "Type of Electronic Timer" dropdown, select Superior Swim Timing. The next screen that will be displayed is the entry screen. Click on "Set File Path". Answer the question about pads at both ends and then navigate to the results folder that was created.

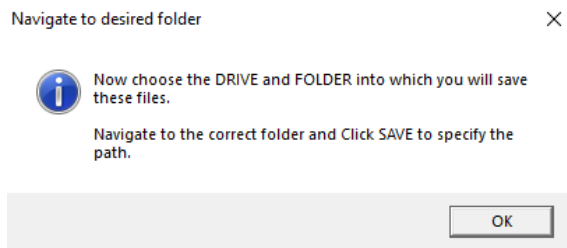
Next Click on "Save Event List". This will create the order of events that SST will use.

Click on "Save Start List". Alternatively Scoreboard files can be created. To create scoreboard files go back to the TouchPad main screen and click on "Heat Sheets". Select "CTS Scrbd File" from the list on the left of the pop-up box. The following box will be displayed:



Verify the options and click OK.

The following box will then be displayed:

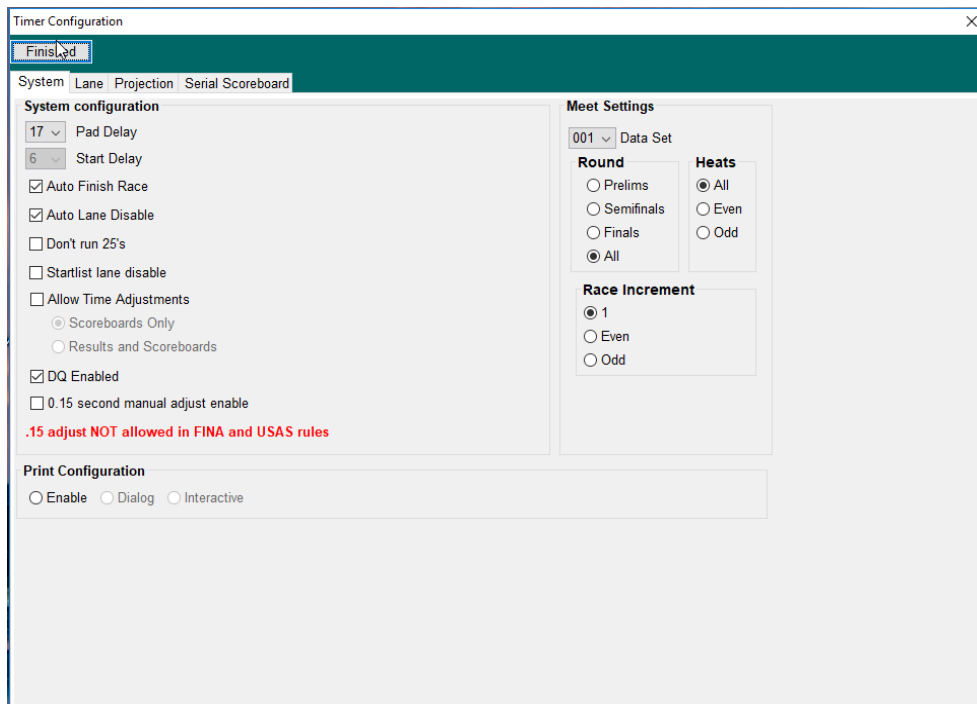


Click OK and then use the next box to navigate to the meet results folder.

## SST Software Operation

To start the software, either click on the “SST Timer” icon on the desktop or under Start-> All Programs-> SST Timer-> SST Timer.

The following Configuration window will appear. This may take a few seconds the first time you run the program. The configuration display contains numerous tabs. It will initially open to the same tab that was last selected.



## Startup – Timer Configuration

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

### System Tab

#### *Pad Delay*

This dropdown allows you 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. Typical delay is 17 seconds.

#### *Start Delay*

It is only used if you are using far end pads as the delay for the first turn is usually much shorter than you want to set the Pad Delay to.

#### *Auto Finish Race*

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

#### *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 it 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.

### ***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 backup button, wireless watch (if used) or a manually entered time.

### ***DQ Enabled***

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 finish place will be 0.

### ***Print Configuration***

SST comes with an option to print results after each race. Enabling the printer creates typically a one page summary of the race results. Long events with multiple splits may require more than one page. The Dialog option allows the user to choose the printer, set properties, or cancel the print request. Interactive will ask additional print questions.

### ***Race Increment***

Race increment refers to the race number which is a unique number identifying a completed race. This option helps if you are running 2 courses at the same time. You can have one course create even race numbers and the other course create odd race numbers.

## **Meet Manager Configuration**

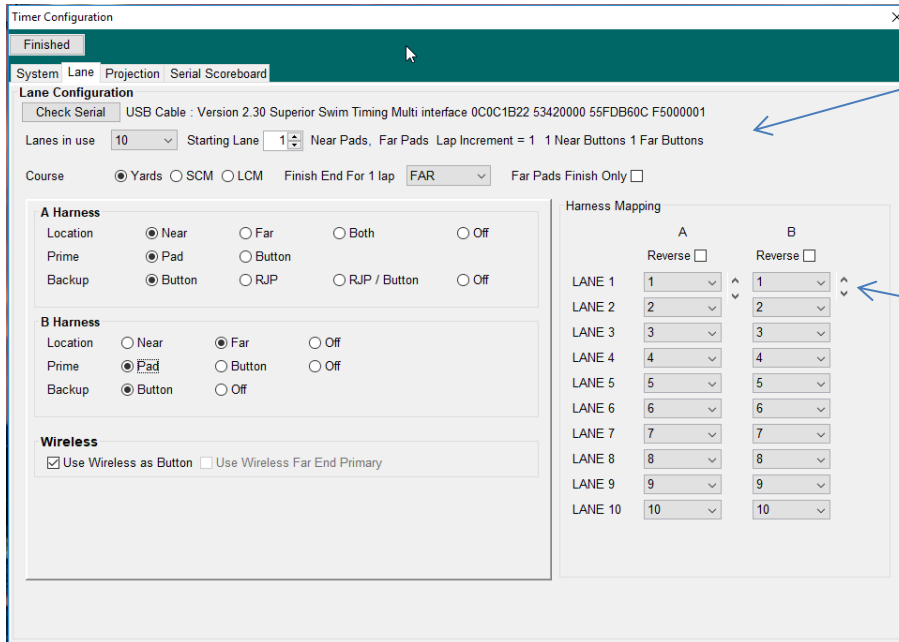
### ***Data Set***

Hy-Tek Meet Manager has an option when using the generic file interface to select from multiple instances of a meet and uses a Data Set (meet number) to differentiate. The dataset is part of the unique identifier for the meet or session along with the race number, event, and heat. You can use a different dataset for separate meets if the meet files are in the same folder, for separate sessions of the same meet, or if you are running multiple courses simultaneously in a networked environment. If this is the first time you are running in MM then the default data set should be 001. The dataset selected in MM must match the dataset selected in the SST Configuration screen. Refer to Item 1 of the "What do I do if" section of this manual.

### ***Prelims / Semifinals / Finals / All***

Select the round that you are running. This setting will filter the event list to the selected round. If you have a session that is mixed preliminary, semifinal, and final events, select All.

## Lane Configuration



This area confirms the number of harnesses, the pad and button configuration and the lap increment. Lap increment will be 2 if far end pads are not used. 1 if they are used.

Use this slide to shift lanes

Figure 1 - Three Connector Timer

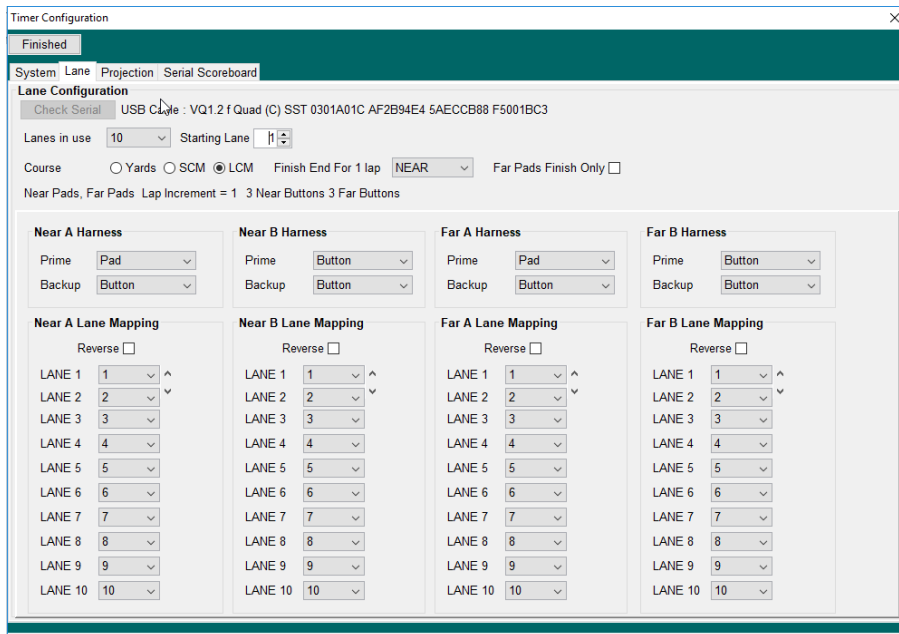


Figure 2 - Four Connector Timer

### Lanes in use

This dropdown menu allows you 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 (Only active when you have a multiple harness timing box)***

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. This option is not available if the far end harness is plugged into the A2 connector on the timer.

***Finish End For One Length Race***

If you will be using the far harness for splits and/or finishes, you can 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 you use a second A cable for the far end.

***Harness A & B Location (SST and CTS harnesses only)***

The option lets the user select where each harness will be located and what its function will be. For harness “A” the selections are: Near, far or both. For harness “B” the options are: off, near or far.

**A Harness/B Harness**

Select the function for each of the connections on the harnesses being used.

The following are the options for each harness and connection:

**Harness “A”**

Prime: Pad  
Button

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

**Harness”B”**

Prime: Off  
Pad  
Button

Backup: Off  
Button

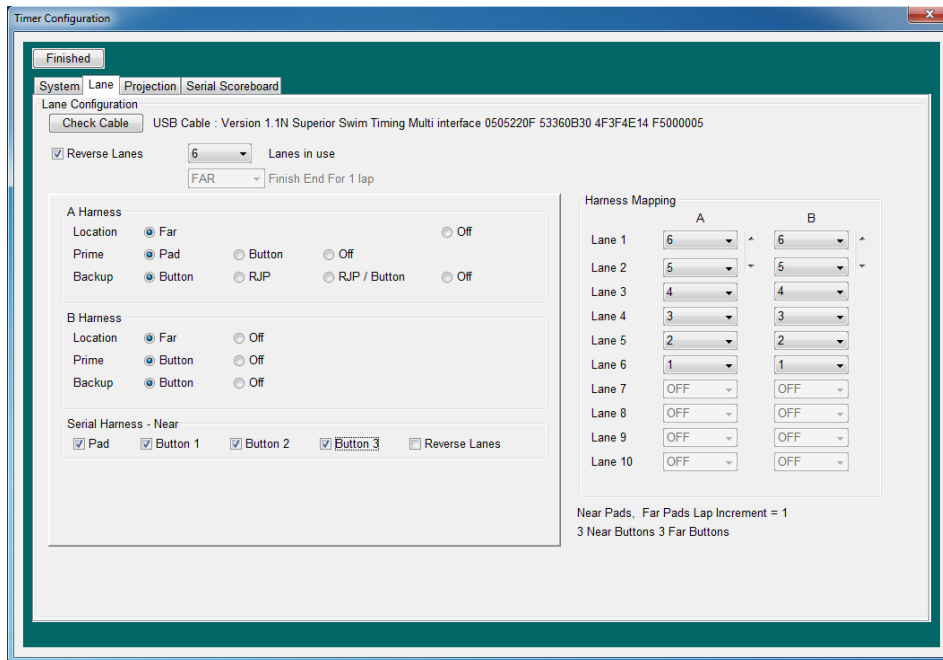
***Harness Mapping (SST and CTS harnesses only)***

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 have an 8 lane harness with a six lane pool but you want to reverse and shift the cable to lane configuration, you would 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 you are shifting lanes, for example harness lane 3 is pool lane 1 and harness lane 4 is pool lane 2, etc., you can use the slide to the right of the harness instead of having to change the lanes in each drop down box.

***Reverse Lanes (SST and CTS harnesses only)***

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.

If you have a Daktronics harness connected to the timing box the lane configuration page will look like this:



For Daktronics, the pad/button configuration is set using the check boxes under the “Serial Harness” section at the bottom.

### Projection Scoreboard Configuration

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.

In each case you can adjust the colors and other options such as splits and name display. You must click the “Open” button before you leave the page.

There are 4 projection display options:

## Scrolling

Times are located on the left side next to the lane number.



SST Dynamic Scoreboard

**12:34:51** NEXT 1-H2 GIRLS 8&U 100 IM  
FINISH ORDER

**E1-H2 GIRLS 8&U 100 IM**

| LN | PL | NAME                      |
|----|----|---------------------------|
| 1. |    | FSST MADRID, GENEVA D     |
| 2. |    | FSST DEVOE, JACQUELYN D   |
| 3. |    | FSST SANDERS, MARGARET W  |
| 4. |    | ETST DAVIS, BEVERLY M     |
| 5. |    | ETST WILLIAMSON, HELENE R |
| 6. |    | ETST FRITZ, JEAN C        |

## Hi-Res Video

Times are located on the right side of the screen.

SST High Resolution Scoreboard

2/12/18 SUPERIOR SWIM TIMING 12:36:29

Meet Name  
GIRLS 8&U 100 IM

| EVENT | 1  | HEAT | 2                    | FINISH |      |
|-------|----|------|----------------------|--------|------|
| LN    | PL | TEAM | NAME                 | SPLIT  | TIME |
| 1.    |    | FSST | MADRID, GENEVA D     |        |      |
| 2.    |    | FSST | DEVOE, JACQUELYN D   |        |      |
| 3.    |    | FSST | SANDERS, MARGARET W  |        |      |
| 4.    |    | ETST | DAVIS, BEVERLY M     |        |      |
| 5.    |    | ETST | WILLIAMSON, HELENE R |        |      |
| 6.    |    | ETST | FRITZ, JEAN C        |        |      |

## Lo-Res Video

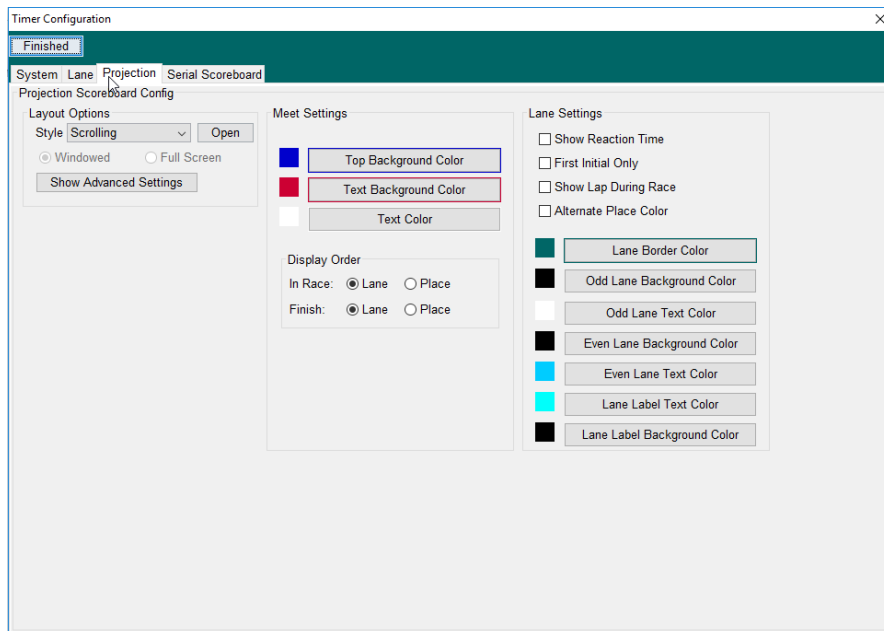
The Lo-Res layout is typically used with LED boards that have low pixel resolution.

| EVENT 1          |                     | HEAT 2 |  |
|------------------|---------------------|--------|--|
| GIRLS 8&U 100 IM |                     |        |  |
| 1.               | MADRID, GENEVA D    | FSST   |  |
| 2.               | DEVOE, JACQUELY...  | FSST   |  |
| 3.               | SANDERS, MARGA...   | FSST   |  |
| 4.               | DAVIS, BEVERLY M    | ETST   |  |
| 5.               | WILLIAMSON, HELE... | ETST   |  |
| 6.               | FRITZ, JEAN C       | ETST   |  |

## Pace Clock

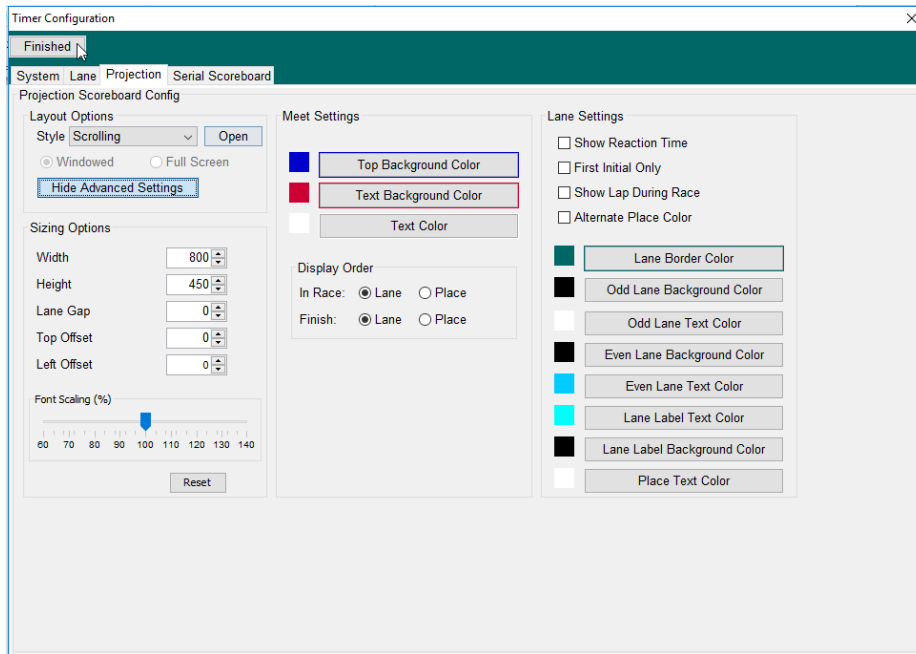
Shows the current time for use during warm-ups and practice. The user can also include scrolling ads in this option. Just put the ad files in the "Documents\SST\ads" folder. These can be JPEG, MPG, Power Point, etc. Also, when the Pace Clock option is selected, the image display time is selectable.





The projection scoreboard can be displayed in a window or full screen. If the external display will only be used for the scoreboard, select the Full Screen option, otherwise select Windowed. If in Full Screen mode and the external monitor is unplugged, different versions of Windows may react differently including putting the scoreboard up on the console monitor full screen with no way to get rid of it. Other versions may just put a small black icon in the lower left and you can restore the monitor when it is plugged back in by clicking on the icon. The full screen option is only available with the external monitor in extended mode and before a projection board has been opened. For example you cannot open a board in windowed mode and then go back and change it to full screen. To do this you must exit SST and restart.

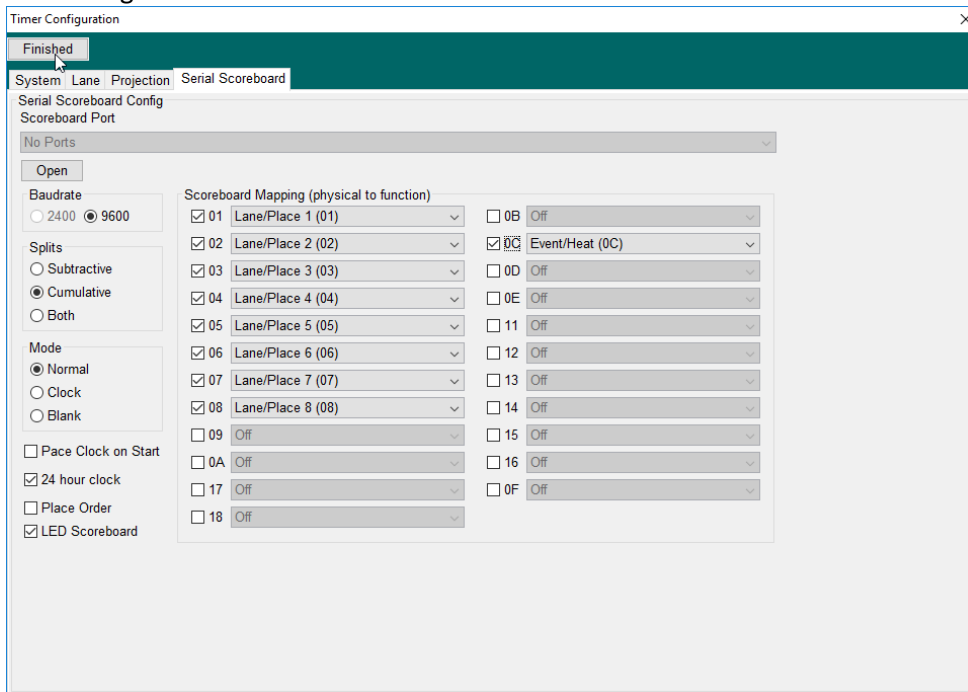
If you have a video wall type of scoreboard you may need to make modifications to the size of the display. To do this, click on the "Show Advanced Settings" button. See below. Use the sizing options to adjust the display for your scoreboard.



- Width- Changes with width of the display
- Height- Changes the height of the display
- Lane gape- 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

## Serial Scoreboard Configuration

This configuration is for the CTS serial scoreboard.



This section allows you to specify which serial scoreboards you have connected based on the address of the scoreboard. When a serial scoreboard is powered on it usually displays its address. Typically 01 through 0A, 17, and 18 are lanes 1 through 12. Scoreboard 0F is typically used for a single line scoreboard. Refer to the scoreboard manufacturer's documentation for more information.

If you have a Serial port available for the scoreboard, it will display next to the Scoreboard port. Simply click on the "OPEN "button. The scoreboard should initialize and blink, then start the appropriate function. If, when you click the drop down arrow, more than one port is listed, go to the Device Manager of your 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.

NOTE: When you open the port the button the wording on the button will change to "Close". If you chose the wrong port just click "Close", select the correct port and then click "Open". You do **not** have to shut down SST and restart it.

Select the baud rate of the serial connection. The default is 9600 that will most likely be the one you need. Older scoreboards use 2400 baud.

"Splits" let you select Subtractive or Cumulative splits to be displayed on the scoreboard.

"Normal", "Clock" or "Blank" refers to what is currently being displayed on the scoreboard. "Normal" is the state you would select while running a meet. "Clock" could be used during warm-ups to display the clock only. "Blank" turns all displays off on the scoreboard.

"Pace Clock On Start" displays the current time of day with seconds. This can be used as a pace clock during warm-ups.

In this section you can also select what format the clock will display when there is no race running (Both on the scoreboard and the SST console). Checked and it will display the 24 hour format. Unchecked and it will use the 12-hour format.

Place Order forces the results to display by place order instead of lane number.

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

### *In Race: Rotate/Place order*

If you have fewer scoreboard lanes selected than pool lanes in use you can select what will be displayed during a race. If you select "Rotate" it will display the lane by lane number and "rotate" through the lanes after the race completes. For example, if you have 4 scoreboards and 8 lanes it will display the results for lanes 1-4, then 5-8 then 1-4, etc. If you select "Place order" it will display the first 4 touches (splits). At the end of the race it will revert to lane order. Place order will automatically be selected when there are fewer scoreboard lines than lanes in the pool.

### *Scoreboard Mapping*

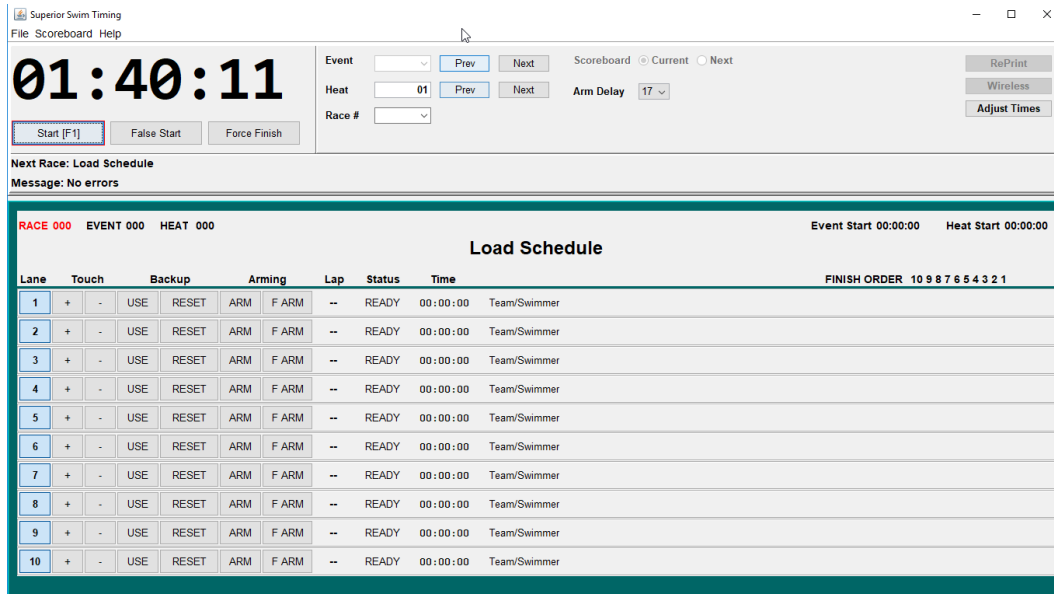
Scoreboard Mapping allows you to map the physical scoreboard to the function that is wished to be displayed.

### **Finished**

Click this button when you are finished with the configuration. You 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 window does not know of any events



## Load Schedule File

Click the "File" menu and then the "Open Schedule File" item. This will bring up a window to allow you 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, you should not move it to any other directory to run the race or MM will not be able to get times.

In Active/Hy-Tek's Meet Manager 4.0 or later, there is now an option to select the location of the race files. We still suggest using a separate directory for each meet and keeping the files together.

The SST software will also look for a startlist.slx file in the same directory if you have generated that file. The startlist.slx files tell SST the number of heats in each event and the names/teams of the competitors in each heat.

If you don't have the Alpha Scoreboard option in Active/Hy-Tek's Meet Manager you 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. You will then be asked to select a session. SST will now read these files the same way it would the startlist file. It now knows all the information that the startlist.slx files gives SST. TeamUnify's TouchPad also gives you the ability to create the startlist file.

SST software now knows about the meet events and, if the scoreboard file exist, the heats and swimmers. It will also adjust the screen to the number of lanes in use.

## 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:

| Event | Gender | Age Group | Distance | Stroke | Round | Description                 |
|-------|--------|-----------|----------|--------|-------|-----------------------------|
| 1     | Girls  | 8 & Under | 100      | IM     | Final | Girls 8 & Under 100 Yard IM |
| 2     | Boys   | 8 & Under | 100      | IM     | Final | Boys 8 & Under 100 Yard IM  |
| 3     | Girls  | 9-10      | 100      | IM     | Final | Girls 9-10 100 Yard IM      |
| 4     | Boys   | 9-10      | 100      | IM     | Final | Boys 9-10 100 Yard IM       |
| 5     | Girls  | 11-12     | 100      | IM     | Final | Girls 11-12 100 Yard IM     |
| 6     | Boys   | 11-12     | 100      | IM     | Final | Boys 11-12 100 Yard IM      |
| 7     | Girls  | 13-14     | 200      | IM     | Final | Girls 13-14 200 Yard IM     |
| 8     | Boys   | 13-14     | 200      | IM     | Final | Boys 13-14 200 Yard IM      |
| 9     | Girls  | 15-16     | 200      | IM     | Final | Girls 15-16 200 Yard IM     |
| 10    | Boys   | 15-16     | 200      | IM     | Final | Boys 15-16 200 Yard IM      |

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

### File Menu Options

**New Schedule** – Removes all existing event, 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 you 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 you 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 that although you can type in an event number that already exists, you will not be able to save the schedule with 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

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

### Edit an Existing Schedule

- Select OPEN SCHEDULE FILE from the FILE menu option
- Browse to a folder containing the schedule file to edit.
- Select the file
- Click Open
- Change events as needed
- Click the Save button. You can overwrite the existing file or enter a new file name.

### 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.

## Running the Meet

### 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.Hundreths 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.

### 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, you MUST have a Pad hit in all enabled lanes. You cannot use a + touch 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.

### Next Event (number) Next/ Prev

Selects the event for the next race. You 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. **Note: SST now allows the operator to change the event or heat after the start of the race. You can make the change 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. Note: SST now allows you to change the event or heat after the start of the race. You can make the change up to the first pad touch when using pads or up to the first button press when using only buttons.**

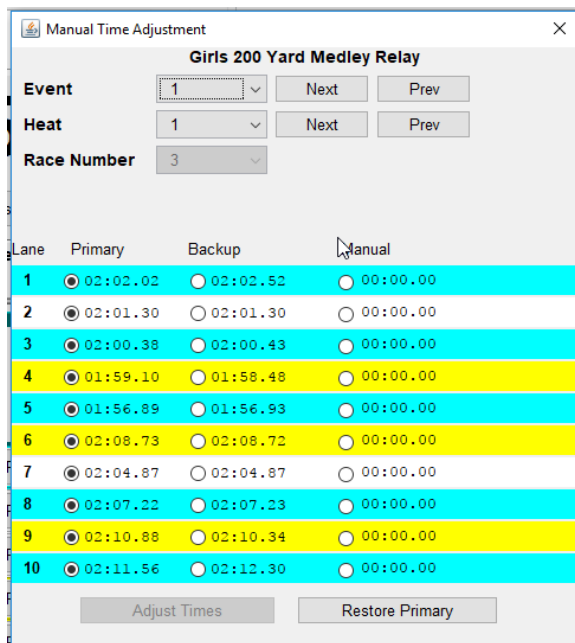
### Reprint

Click the “Reprint” button and you get the following pop-up:



### 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.



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 MM results files are written. You can print this file any time in the future. The file can typically be opened in your default browser by clicking on it in your 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 you to change the configured arm delay in case you have a faster than expected race coming up. This may only be changed at any time. You can use the ARM and FARM buttons in case a lane will not be armed in time.

### Next Race:

This line shows the description of the NEXT scheduled race.

### Scoreboard Current/Next

When using the projection 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 you can display the names and other information for the upcoming race.

## Race Window

The Race Window displays information about the currently running or just finished 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 configurations/database mismatch or a networking error. The errors displayed are self-explanatory.

## Race Number/ Event / Heat

Displays the current Event/Heat in the Race Window. Also displays the race number. This is a sequential number that can be used in meet manager in certain circumstances.

## 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.

## Event Name

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

## 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 you must hit the "Force Finish" button.

## USE

This will send the button time to the scoreboard in the event that there is no pad time on this lane.

## 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.

## State

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

|               |   |
|---------------|---|
| 1. 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. |
| 2. DELAY      | Pads are not active and touches are not counted. This allows the swimmer to leave the pool in relays, guarding against accidental touches.                      |
| 3. ARMEDL     | Armed Lap. The next touch will be counted as an intermediate lap split time.  |
| 4. FINAL      | Delay state for the final lap.  |
| 5. ARMEDF     | Armed Final. The next touch will be end the race for the lane.  |
| 6. Place      | After the lane finishes the race, the number of finish order will display instead of the status.  |

## Backup Times

The area after the State 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.

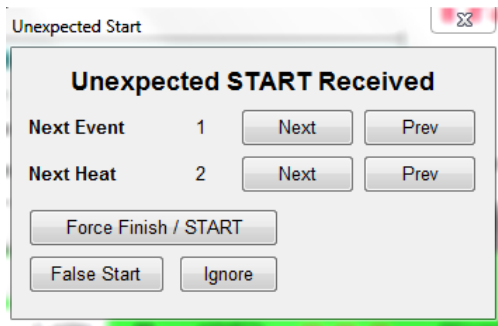
|            |   |
|------------|---|
| Light Grey | Lane is active (on), but delayed. The touch pad and buttons will not respond.   |
| Green      | Lane is active. Touch pads will respond to splits. Buttons will respond at any time.  |
| White      | Lane has finished the race. The pad time and the 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 the 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  |

## 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 meet projected meet "time line".

## 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 you would 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 you 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 your meet management software based on USA Swimming 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.

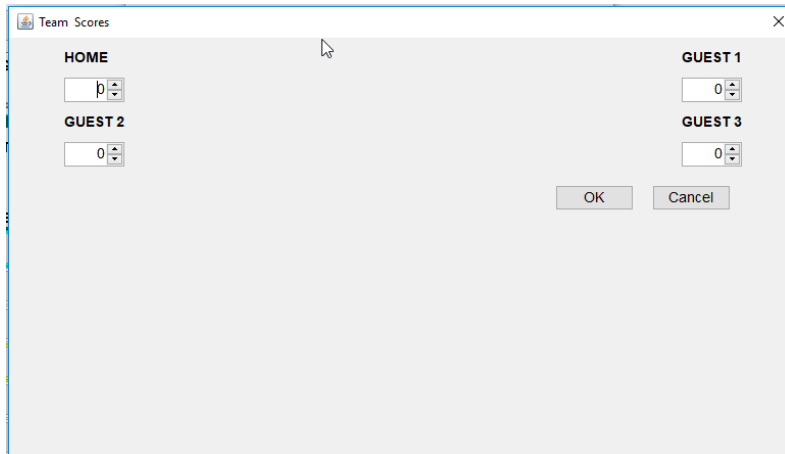
If two buttons only are used, the finals time and both button times are passed to the meet management software unless the difference of the button times exceeds 0.3 seconds. If they are more than .3 seconds apart, SST does not send a finals time and just sends the button times.

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 the 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.

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



This mode allows you to simulate starts and pads and button hits. It 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 you 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.

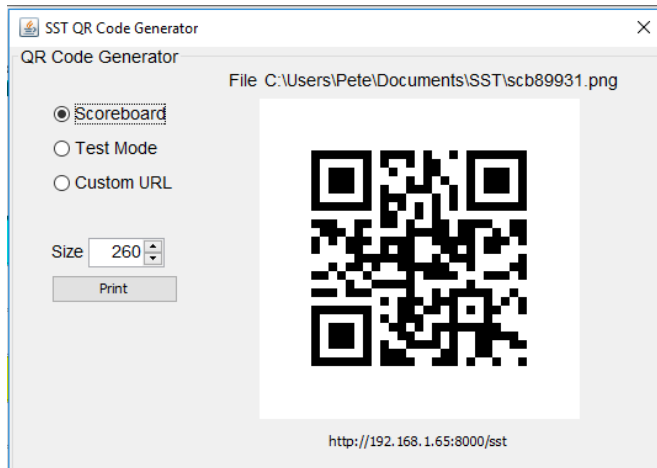
## Mobile (Web Page) Scoreboard

The Mobile Scoreboard allows spectators to see the same information that is displayed on the scoreboard on their wireless devices. This is helpful if you don't have a scoreboard of if you have 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 have 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 "Help" and then "QR Codes". This will bring up the following page:



You can use this to print out a QR code that your 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 you have set up.

## Wireless (WiFi) Stopwatches

The iOS version of the SST Stopwatch app is available on the itunes store.

<https://itunes.apple.com/us/app/sst-stopwatch/id1035125066?mt=8>

We are currently working on an Android version of this app and other apps we hope to have available soon.

Currently the Stopwatch can be used for backup times both manual and semi-automatic using the adjust times screen. The times from the stopwatch are also in the HTML printout for the heat. We are adding support to use the wireless stopwatches as primary for near and/or far end times.



To use the stopwatches, both the console and all stopwatch devices must be on the same WiFi network. We strongly suggest using a waterproof case for the device. We suggest that timers using their iPhones turn on airplane mode so they are not distracted by phone calls while timing, then turn on WiFi only to connect.

Once you have the console open AND you have a schedule opened, the console will start accepting connections from the stopwatch devices and automatically assign them a lane and watch number as they are found. You can open up the wireless screen by clicking on that button on the console and then move the watch to a different lane/watch and also disable it if the timer is no longer working the race.

The app should have a screen that shows it has connected to the console, it will have an assigned lane/watch number and will show the swimmer and event that is current.

The stopwatch app has both a manual and a semi-automatic timer. The timer should use the watch as a regular stopwatch and start it when the race is started (Flash or sound). The manual time is what is displayed on the screen. There is also an auto-started time that is started by the console when it receives a start signal. Both timers will stop when the stop button is pushed.

If you want to be able to adjust times, on the SST system configuration screen check the box that allows the time adjust function. Then after the race you can click on the adjust times button and select the pad, button, semi-auto or manual stopwatch times and save them.

The times also are available on the HTML printout in the meet directory.

## Meet Statistics

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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    |

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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      |

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## 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    |

## Questions

1. Does the SST timer use the computer clock for a reference?  
A – No, enclosed in the SST Timer box is a high performance timing chip.
2. Is the USB Timer adapter waterproof?  
A – NO, the unit should be kept on the timing table with the computer and not on the pool deck.
3. Will it work with my cable?  
A – The SST Timer cable is compatible with the SST and CTS A cable . The multi-cable Adapter works with SST, CTS and Daktronics cable. Cables to other built in or cable systems can be provided.

## 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

Scoreboard Interface – Computer Serial Port (built in or USB serial adapter), DB9 to ¼” jack may be required. Contact Superior Swim Timing to obtain this cable.

## Troubleshooting

Note: For additional information please refer to the Knowledge Base which can be accessed at [www.ssttiming.com](http://www.ssttiming.com) at the top of the page.

### What to do if any of the following happens:

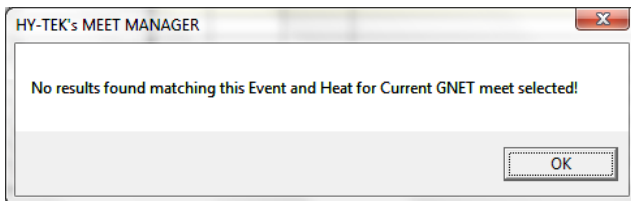
1. I have loaded SST but when I click on the desktop icon, nothing happens:

Make sure the SST device driver is installed. Refer to page 7 (Hardware Setup) of this manual.

2. When I start SST I enter the Demonstration mode.

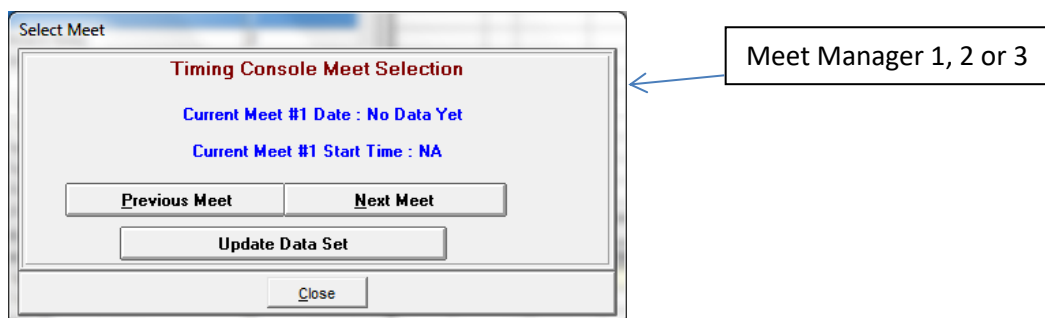
Make sure the SST Timing box is plugged in.

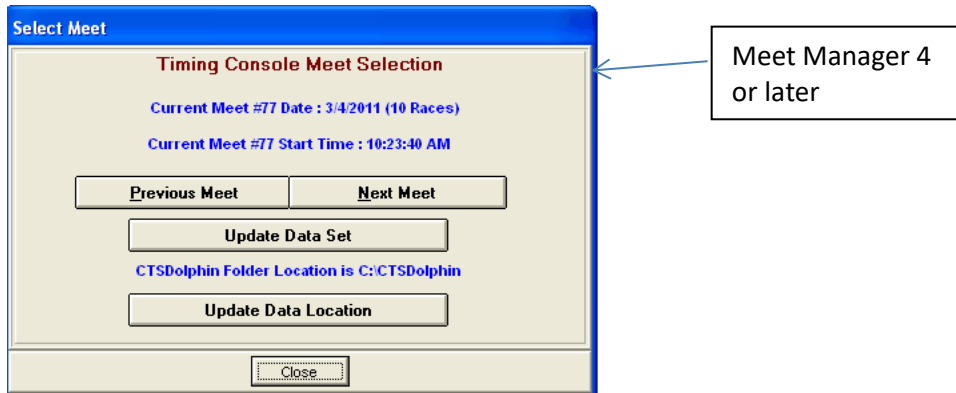
3. If you get the following error when you try to "Get Times" in meet manager:



If this happens, first check to make sure that you are using the correct file location. Open Windows Explorer and navigate to the directory that the Meet Manager file is located. You can determine this 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 page 10 "Meet Manager Operations").

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". You will get the following pop-up:





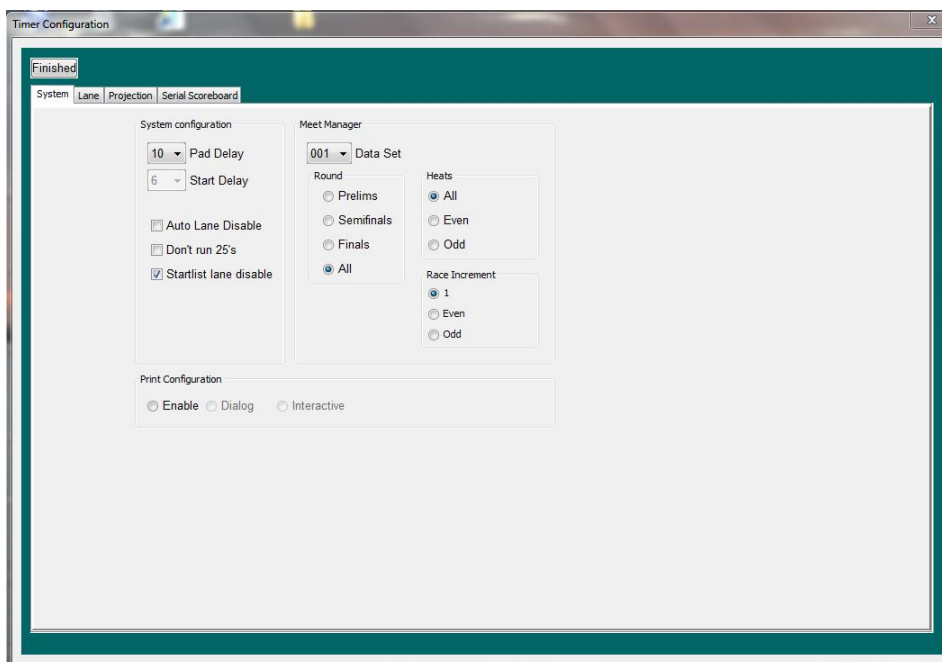
Make sure the Current Meet number is the same as the dataset selected on the SST Configuration window (See Meet Manager Configuration – Dataset). Generally this is dataset 1. If the meet number is not available, click the Update Data Set button. The Current Meet number should change to match the one selected in SST.

In Meet Manager 4 or later you may also need to click the “Update Data Location” and insure that that is pointing at the directory with the result files as well.

**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.**

4. If you get preliminary times when running semi or final times:

Exit SST and re-launch SST. The configuration window will come up.



On the above configuration screen 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. You should now get the correct times for all future races.

5. What do I do if there is a false start:

Just click the "False Start" button on the SST console and the race will be ignored.

6. What do I do if the race has finished but not all of the pads were hit:

If the swimmer or timer is still in the water and you can communicate with them request 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. It will end the race and be ready for the next race. If you miss the chance to Force Finish and the referee starts the next race, you will receive the Unexpected Start window. Click the Force Finish button to save the results from the prior race and SST will pick up the next race when it started.

7. What do I do if a pad is inadvertently hit for the last swimmer before that swimmer touches the pad?

SST gives the operator 10 seconds to recognize that. Just hit the "F Arm" button and the lane will be reactivated.

8. What do I do if I get a "digital signature" error when I am loading the driver on a Windows 8 computer?

Go to the following web site for instructions:

<http://www.howtogeek.com/167723/how-to-disable-driver-signature-verification-on-64-bit-windows-8.1-so-that-you-can-install-unsigned-drivers/>

9. What do I do if the SST computer and the meet management computer are no longer communicating during the meet?

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.**

10. SST stops timing an event when it is only half finished.

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.

11. What if I start get "unexpected start" dialog when the swimmers are finishing the race?

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. You will typically not be able to start a race if this is the problem. The other possibility is that you are using a starter with a “Normally Closed” start. If you go in to “Test Mode” and the START is active next to the TEST MODE text and disappears when you hit start, this is the problem. Switch to the Normally Open output on the starter.

## Support

Please email [support@ssttiming.com](mailto: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 your 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.