



AquaSync is designed to bring real-time timing and scoring data directly into your livestream.

By combining data from DisplayLink Plus with NDI® video technology, AquaSync acts as the bridge between your timing system and your livestream, allowing viewers to see accurate, real-time information on screen.

AquaSync takes live timing and scoring data from DisplayLink Plus and converts it into professional, broadcast-ready graphic overlays that integrate seamlessly with industry-standard streaming software such as OBS or vMix running on either the DisplayLink Plus computer or on a separate computer on the same local network with no additional hardware required.

Key Concepts:

If you are new to live streaming, the terms below will help:

- **Overlay:** Graphics shown on top of video (for example: lane names, times, scores)
- **Renderer:** An AquaSync output that generates one overlay type (for example: Swimming Basic Grid)
- **NDI®:** A method for sending video sources between applications over a local network
- **Broadcast / Streaming Software:** Software used to combine cameras and graphics into a livestream. AquaSync works with any software that accepts NDI inputs.

Most users will only need to run one renderer at a time. AquaSync supports multiple simultaneous renderers for advanced setups.

System Requirements:

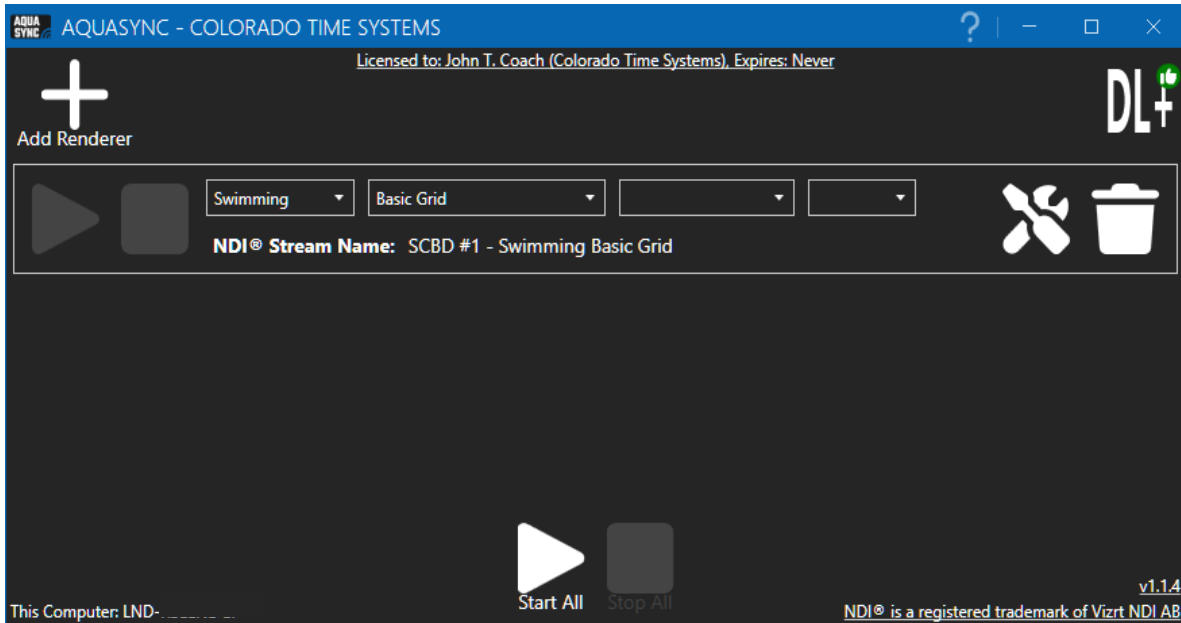
- Windows 11 Computer
- DisplayLink Plus (v4.7.0 or higher)
- CTS Timing System
 - Gen7 Swimming (v2022.0 or higher)
 - OR
 - System6
- Streaming Software compatible with NDI® inputs
- Local network connection (wired recommended)

Installation

Follow the steps in the order listed to correctly install everything required to begin using AquaSync:
Note: Installation instructions assume existing installation of compatible streaming software.

1. Install AquaSync
 - a. AquaSync must be installed on the same computer as DisplayLink Plus
<https://www.coloradotime.com/aquasync-download>
2. Update to DisplayLink Plus v4.7.0 or higher
 - a. This must be installed on the same computer as AquaSync
64-Bit (MIC, Yaham, InfiLED):
https://www.coloradotime.com/hubfs/Downloads/DLPlus/InstallDisplayLinkPlus64_4.7.0.zip
32-Bit (Olympex):
https://www.coloradotime.com/hubfs/Downloads/DLPlus/InstallDisplayLinkPlus_4.6.0.zip
3. Timing System:
 - a. Gen7: update to v2022.0 or greater
<https://coloradotime.com/support/software-downloads#gen7>
 - b. Sys6: No update required
4. OBS Users Only: install DistroAV (OBS plugin)
 - a. This plugin adds NDI® support
<https://github.com/DistroAV/DistroAV/releases/download/6.1.1/distroav-6.1.1-windows-x64-Installer.exe>

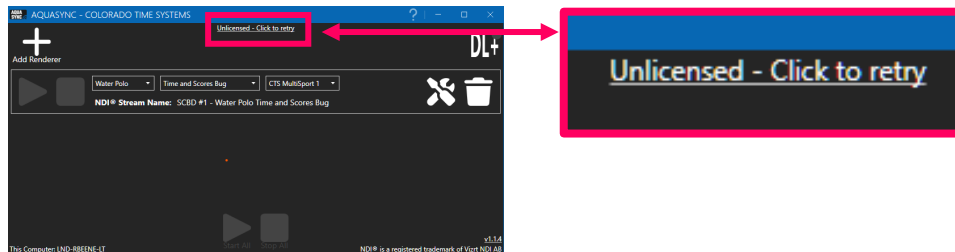
Setup:



Start Up:


Start AquaSync. This will open a new tab in your default browser asking you to log in to the licensing server.

- If the licensing server login tab does not automatically open, click the **Unlicensed - click to retry** button at the top of the main screen.

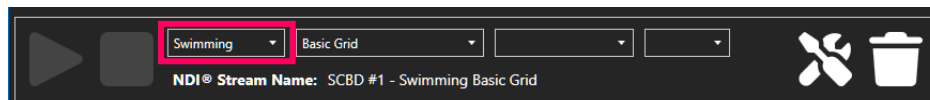


Once logged in to the licensing server, navigate back to AquaSync.

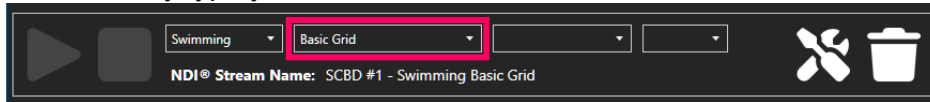
Renderer Setup:

On initial launch a default renderer will be available on the main screen. To add additional renderers, click the  button.

- Select which Sport you are running. Either Swimming, Diving, or Water Polo.



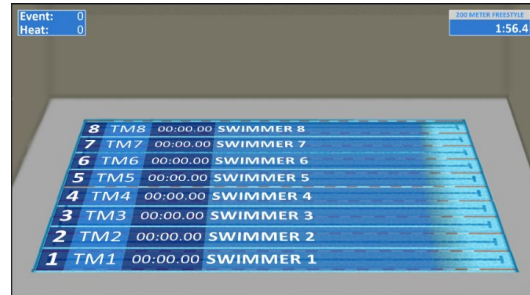
- Select which overlay type you wish to create



- Swimming:
 - Basic Grid – a simple grid of lane information with event information above
 - HD Lane Graphics – project lane data on to the top of the pool.
 - Requires a stationary camera placed in line with the start end of the pool



Basic Grid



HD Lane Graphics

- Diving:
 - Awards and Results – Displays Round number, event name, judges' awards, and dive results.
 - Leaderboard – Displays the current leaderboard



Awards and Results



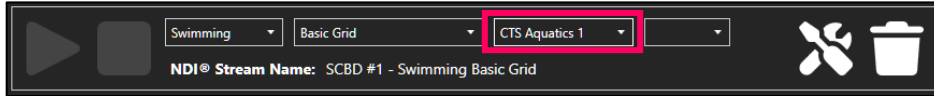
Leaderboards

- Water Polo:
 - Time and Scores (Bug) – Displays time, scores, and penalties (could not get to work)

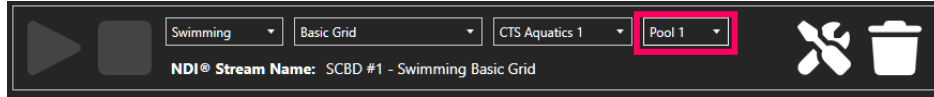


Time and Scores (Bug)

- Select DisplayLink Plus input to match the renderer with (Ex: CTS Aquatics 1).



- Select which timer to match the renderer with (Ex: Pool 1. All Sys6 users must choose Pool 1)



- If DisplayLink Plus is not already running, click the DL+ button to start DisplayLink Plus.
 - The green Thumbs-Up will appear when the data pipe with DL+ has been established.





Connection established





Connection unestablished

- No changes to DisplayLink Plus settings are required. The data pipe to supply data to AquaSync is automatically created and maintained without user intervention.

Starting and Stopping Renderers:

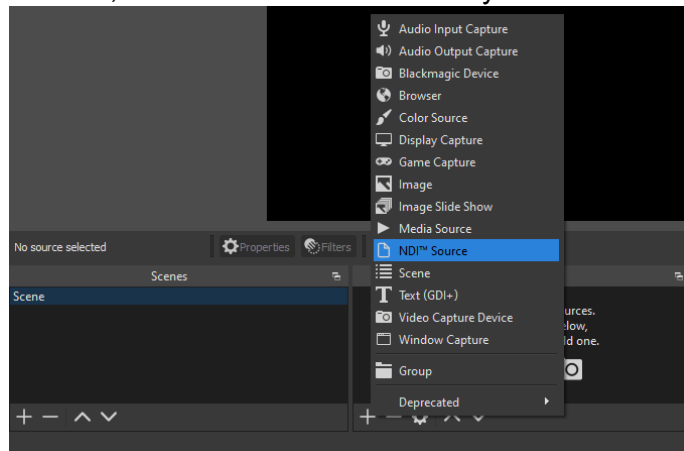
In AquaSync, click either the  button for a specific renderer to start that renderer, or click the **Start All**  button to start all renderers(s).

To stop a renderer, click the  button for the specific renderer, or click the **Stop All**  button to stop all renderers.

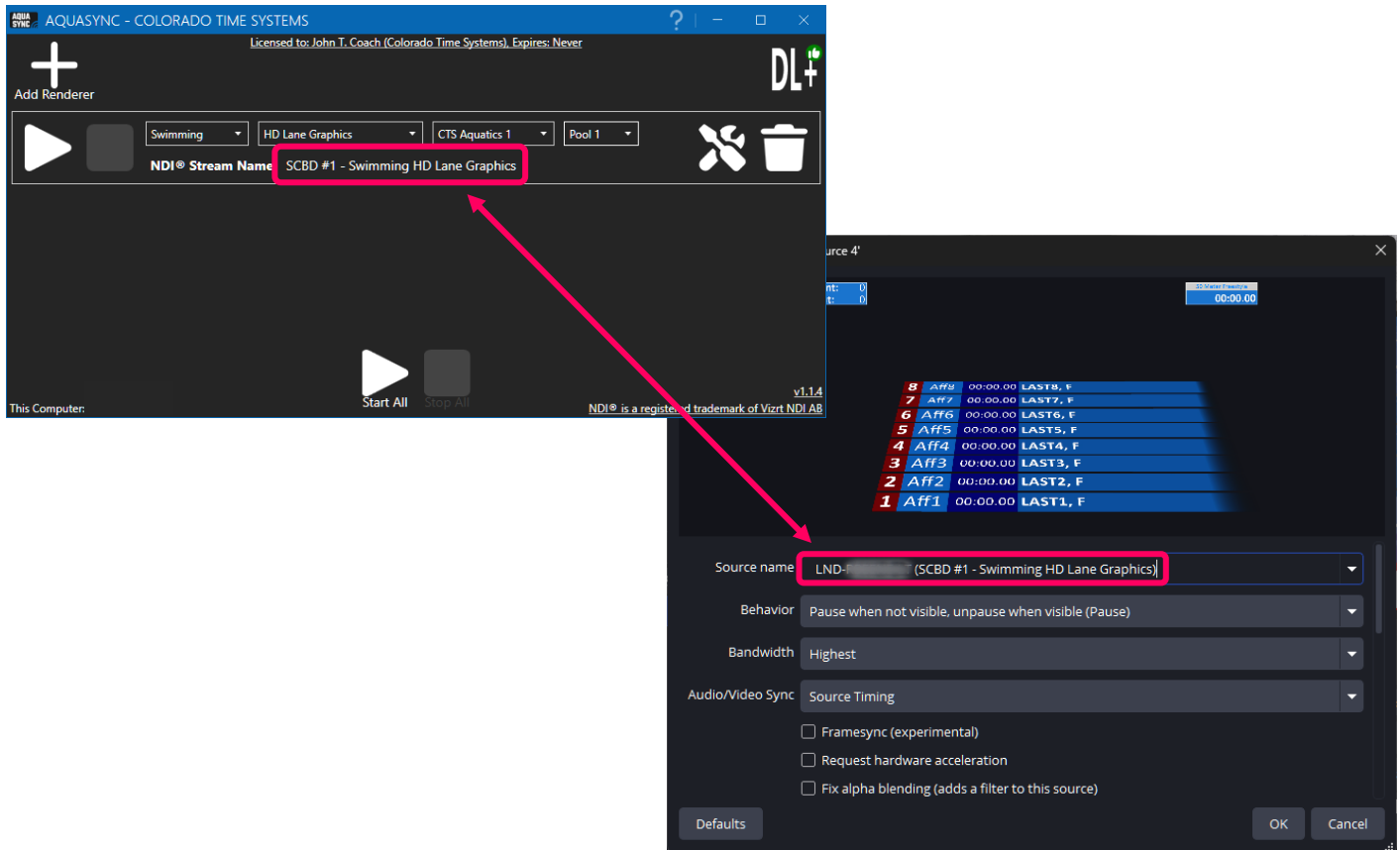
Adding AquaSync to Streaming Software:

(Note: OBS 32.1.0 shown for example purposes. Process to add AquaSync overlays to your streaming software may vary from what is shown.)

- In your streaming software, add a new “NDI Source” to your scene.



- Select the Source Name that matches what is shown in the AquaSync interface. Ex: SCBD #1 - Swimming HD Lane Graphics as shown on the main screen example below.
 - Depending on your streaming software, the name of your computer may be included in the source name.



- Once selected, position the NDI Source above your camera layer in the source panel of your streaming software.
 - If you change the type of overlay, you will need to remove and re-set up the NDI Source in your streaming software.

Renderers and Options

Click the Settings button  to adjust renderer options

Swimming:

Basic Grid

This is a simple grid showing lane, name, team, lap split, time, and place for each lane in the pool. Event and Heat number as well as running time are also displayed.

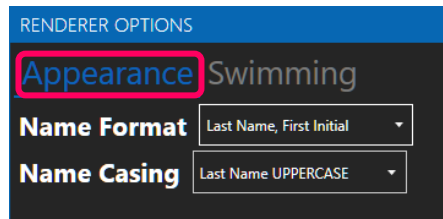


STATE CHAMPIONSHIPS					
Event:	Heat:	50 METER FREESTYLE			
1	LAST1, F	ARI1	00:00	00:00:00	1
2	LAST2, F	ARI2	00:00	00:00:00	2
3	LAST3, F	ARI3	00:00	00:00:00	3
4	LAST4, F	ARI4	00:00	00:00:00	4
5	LAST5, F	ARI5	00:00	00:00:00	5
6	LAST6, F	ARI6	00:00	00:00:00	6
7	LAST7, F	ARI7	00:00	00:00:00	7
8	LAST8, F	ARI8	00:00	00:00:00	8

Basic Grid

Options

- **Appearance:**



RENDERER OPTIONS

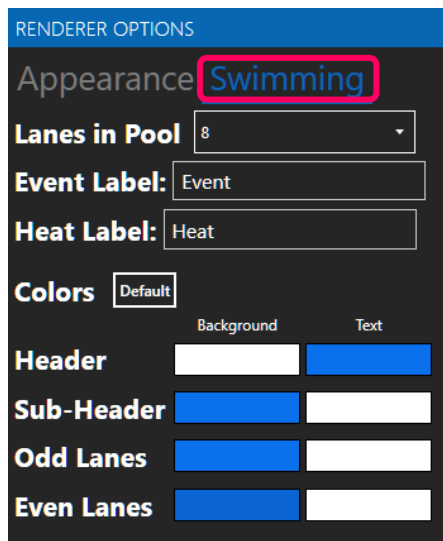
Appearance Swimming

Name Format Last Name, First Initial

Name Casing Last Name UPPERCASE

- **Name Format** – various options
- **Name Casing** – various options

- **Swimming:**



RENDERER OPTIONS

Appearance **Swimming**

Lanes in Pool 8

Event Label: Event

Heat Label: Heat

Colors Default

	Background	Text
Header	<input type="text"/>	<input type="text"/>
Sub-Header	<input type="text"/>	<input type="text"/>
Odd Lanes	<input type="text"/>	<input type="text"/>
Even Lanes	<input type="text"/>	<input type="text"/>

- **Lane in Pool** – 6, 8, or 10
- **Event Label and Heat Label** – allows you to abbreviate or translate the words Event and Heat
- **Colors** – Color picker with support for Hex and RGB Values for background and text overlay elements.
- **Default** – reset colors to default colors.

HD Lane Graphics

These high-quality graphics superimpose data “onto” the lanes of the pool. Start lists are shown when the event/heat change. Splits are shown whenever a swimmer touches the wall and disappears after a set amount of time. Finish times are displayed until the next race.

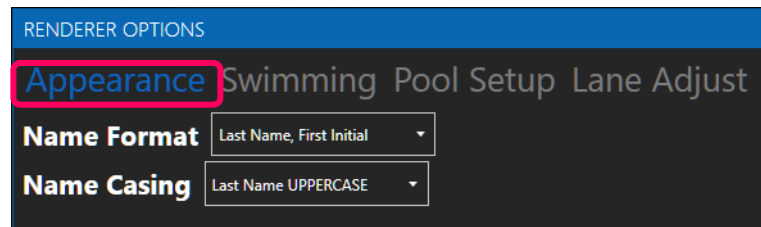
For these graphics to render correctly, you must have a stationary and solidly mounted camera in line with the start end of the pool.



HD Lane Graphics

Options

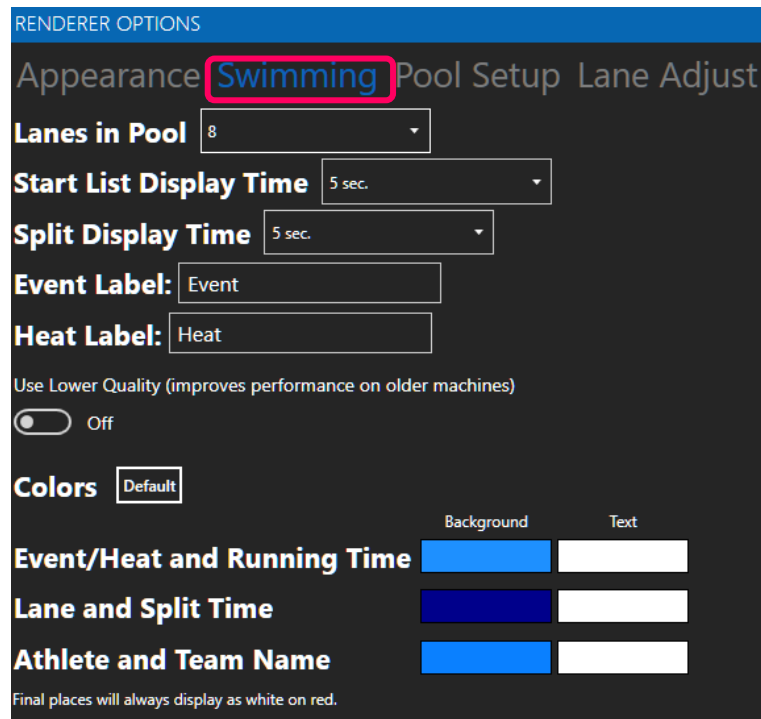
- **Appearance:**



The screenshot shows the 'RENDERER OPTIONS' menu with 'Appearance' selected. Below it, there are two dropdown menus: 'Name Format' set to 'Last Name, First Initial' and 'Name Casing' set to 'Last Name UPPERCASE'.

- **Name Format** – Various options
- **Name Casing** – Various options

- **Swimming:**



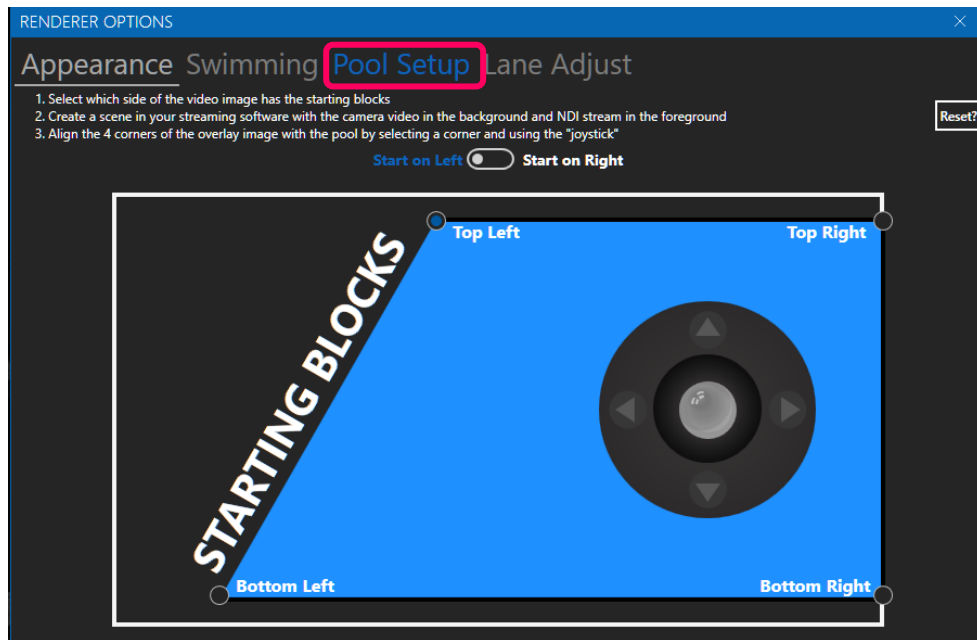
The screenshot shows the 'RENDERER OPTIONS' menu with 'Swimming' selected. The settings include:

- Lanes in Pool:** 8
- Start List Display Time:** 5 sec.
- Split Display Time:** 5 sec.
- Event Label:** Event
- Heat Label:** Heat
- Use Lower Quality (improves performance on older machines):** Off
- Colors:** Default
- Event/Heat and Running Time:** Background (blue), Text (white)
- Lane and Split Time:** Background (dark blue), Text (white)
- Athlete and Team Name:** Background (blue), Text (white)

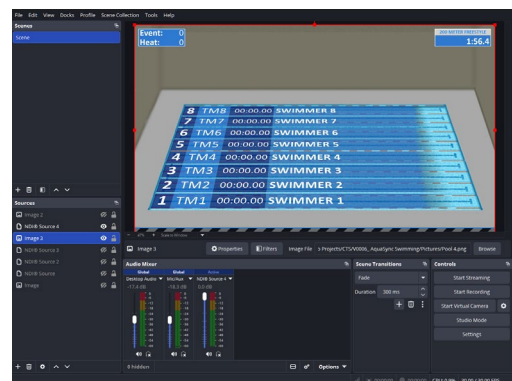
 A note at the bottom states: 'Final places will always display as white on red.'

- **Lanes in Pool** – 6, 8, or 10
- **Start List Display Time** – Sets the number of seconds the start list will stay visible after the start of a race.
- **Split Display Time** – Sets the number of seconds after a split the time will stay visible.

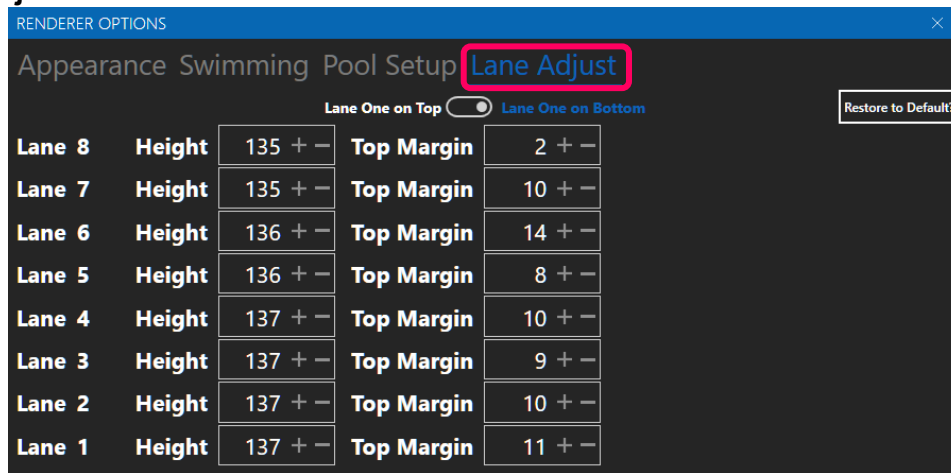
- **Event Label and Heat Label** – Allows you to abbreviate or translate the words Event and Heat.
- **Use Lower Quality** – Reduces the rendering resolution and adjusts some of the graphics to improve performance on older machines. This option should only be enabled if you see degraded performance. You can only change this option when the renderer is not running. After toggling this option, you will need to resize the overlay in your streaming software.
- **Colors** – Color picker with support for Hex and RGB Values for background and text overlay elements.
- **Default** – Reset colors to default colors.
- **Pool Setup:**



- **Start on Left or Start on Right** – Select which side of the image the starting blocks are on.
- **Pool Corners** – Use the joystick control to move the four corners of the pool outline. The goal is to have the pool outline in the overlay match the physical pool boundaries in your video stream. You can also use the arrow keys on your keyboard to make fine-grained adjustments. Be sure to have your NDI source visible in your streaming software while adjusting.



- **Reset** – Reset corners to the default positions.
- **Lane Adjust:**




- **Lane One on Top or Lane One on Bottom** – Select which side of the pool lane one is on.
- **Adjust height and gap for each lane.** These values exist to compensate for lens warping that can occur with wide-angle shots. They take a bit of finesse. Begin by adjusting the top and bottom lanes first which should get the overlay on the lanes very close. Getting the perfect fit takes a bit of patience. If a perfect fit is not required, polished acceptable results can be achieved with relative ease. Be sure to have your NDI source visible in your streaming software while adjusting.
- **Reset to Default** – Reset lane parameters back to the default settings.

Diving:

Awards and Results

Awards and Results – Displays Round number, event name, judges' awards, and dive results.

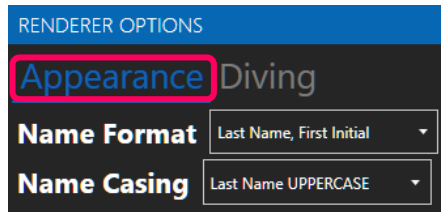


#7	DIVER NAME	TEAM	TOTAL: 147.95
ROUND: 5 of 6		DIVE: 5337D	DIFF: 3.5
REVERSE 1½ SOMERSAULTS 3¼ TWISTS FREE			

Awards and Results

Options

- **Appearance:**



RENDERER OPTIONS

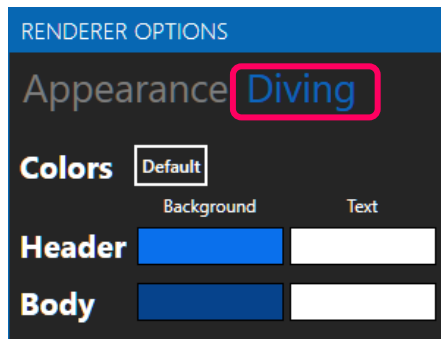
Appearance **Diving**

Name Format Last Name, First Initial

Name Casing Last Name UPPERCASE

- **Name Format** – Various options
- **Name Casing** – Various options

- **Diving:**



RENDERER OPTIONS

Appearance **Diving**

Colors Default

Background Text

Header [Color Picker] [Color Picker]

Body [Color Picker] [Color Picker]

- **Colors** – Color picker with support for Hex and RGB Values for background and text overlay elements.
- **Default** – Reset colors to default colors.

Leaderboard

Displays top ten divers with their team affiliation sorted by their score.

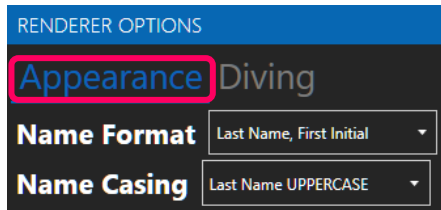


WOMENS 3M FINALS SCORED			
Current Standings			
1	YOUNG, JUDITH	SNW	313.60
2	GONZALES, FRANCES	ORV	294.55
3	LEE, NANCY	CTN	292.15
4	WOOD, DEBRA	IDR	281.15
5	COX, AMY	YWC	281.50
6	PEREZ, MICHELLE	ZER	277.15
7	GARCIA, CHERYL	SNW	224.80
8	TURNER, THERESA	HBO	219.25
9	THOMAS, GLORIA	YEZ	212.25
10	LEE, JOAN	SNW	208.20

Leaderboards

Options

- **Appearance:**



RENDERER OPTIONS

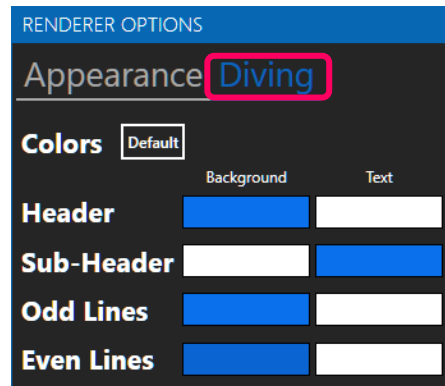
Appearance **Diving**

Name Format Last Name, First Initial

Name Casing Last Name UPPERCASE

- **Name Format** – Various options
- **Name Casing** – Various options

- **Diving:**



RENDERER OPTIONS

Appearance **Diving**

Colors Default

	Background	Text
Header	[Color Picker]	[Color Picker]
Sub-Header	[Color Picker]	[Color Picker]
Odd Lines	[Color Picker]	[Color Picker]
Even Lines	[Color Picker]	[Color Picker]

- **Colors** – Color picker with support for Hex and RGB Values for background and text overlay elements.
- **Default** – Reset colors to default colors.

Water Polo

Time and Scores (Bug)

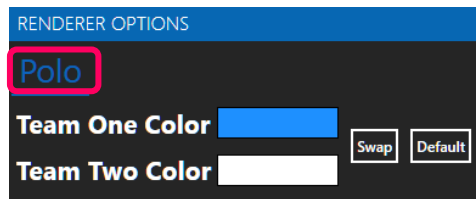
Displays game time, timeouts, score, and exclusions.



Time and Scores (Bug)

Options

- **Polo:**



- **Team One Color** – Various options. Color picker with support for Hex and RGB Values for on-screen rectangle representing team one cap color.
- **Team Two Color** – Various options. Color picker with support for Hex and RGB Values for on-screen rectangle representing team two cap color
- **Swap** – Swap Team One and Team Two colors
- **Default** – reset colors to default colors.

Operation

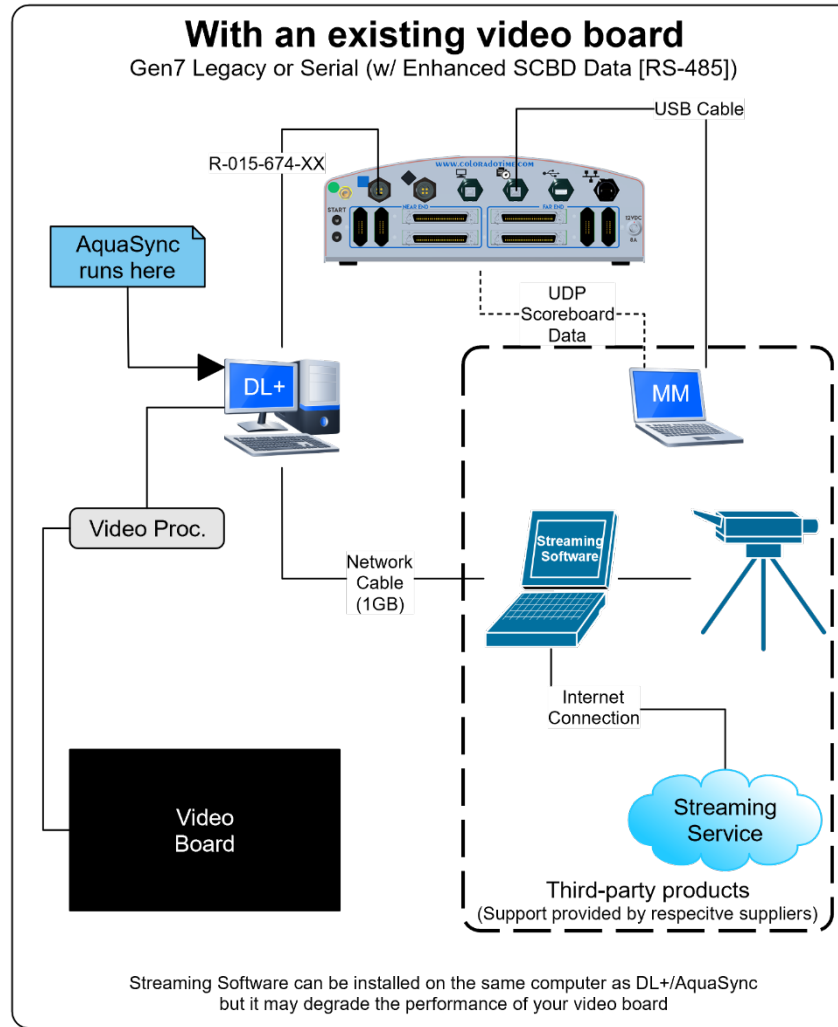
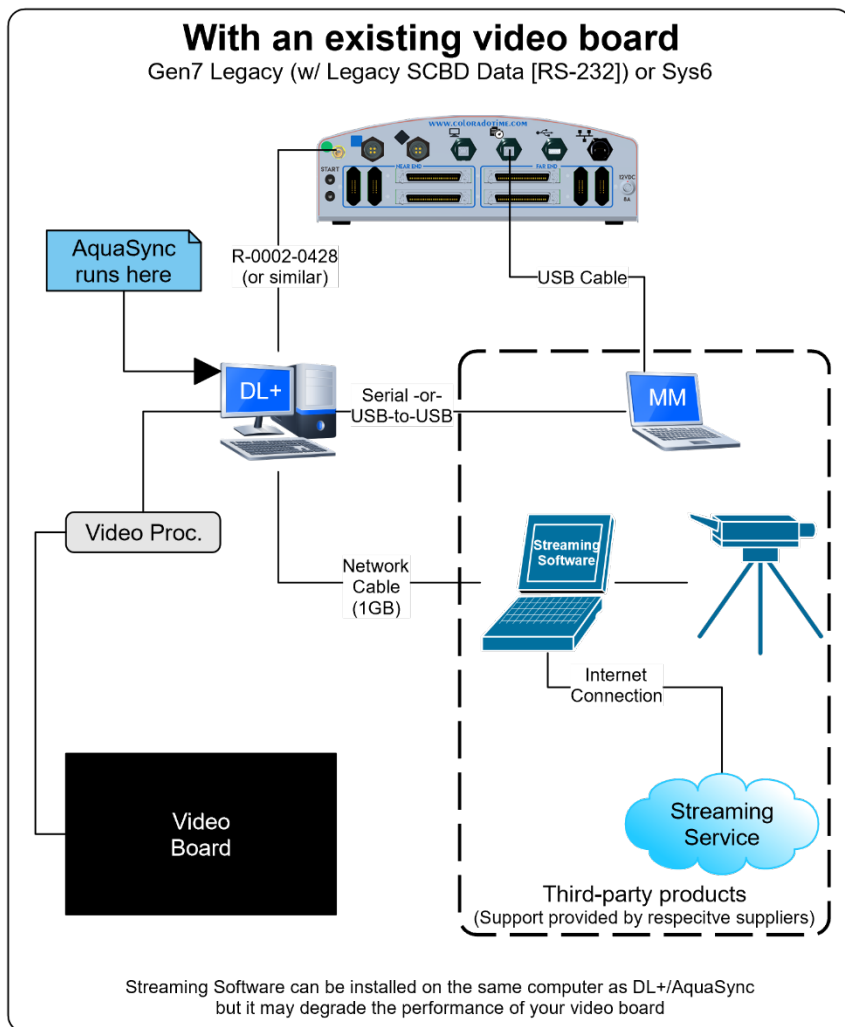
- Start and stop a renderer using the respective buttons.
- Swimming
 - Start Lists will display whenever the event/heat is changed while a race is reset.
 - Splits will display for each touch. Finish times will display after a touch when the lane is finish armed.
- Diving
 - Diver and dive information will show before the dive is scored
 - Judges Awards and totals will show after the dive is scored
 - Leaderboard will update automatically
- Water Polo
 - Game Time, Shot Time, Period and Team Scores will always be displayed
 - Exclusion timers will appear when they are active

Note: Be sure to run a test event to check data to AquaSync before starting your livestream. (Ex: Manually start a race; score one dive; start water polo clock)

Troubleshooting

- My renderer is running but streaming software does not find it
 - Make sure you have the correct name selected in the NDI Source Properties in your streaming software.
 - Make sure the computer running your streaming software and the computer running AquaSync are on the same network. Also check that your network is set to “Private” or “Domain” not “Public”
- My lanes don’t line up
 - Use the Pool Setup and Lane Adjust Tabs to customize the lanes to fit your video image
- DisplayLink Plus is running but the green thumbs up icon is not present.
 - If there is an orange exclamation point icon where the green thumbs icon would be, your version of DisplayLink Plus is an earlier version than v4.7.0. Update DisplayLink Plus to v4.7.0 or higher.
 - If the grey X icon is present where the green thumbs up icon would be, restart AquaSync and DisplayLink Plus. If problem persists, contact Customer Support.

AquaSync Connections



Recommended Camera Position

HD Lane Graphics: For best results when using HD Lane Graphics, an elevated stationary camera aligned with the start end of the pool is required.

