# Aquatics Interface with Daktronics Matrix Displays

## Technical Guide

*DD1387596*                                    *Rev 2 – 16 April 2012*

# DAKTRONICS

# DAKTRONICS, INC.

# Table of Contents

# Section 1:   Introduction

This manual explains aquatics interfaces with Daktronics matrix displays and includes the following sections:

**Section 1:**   Covers the basic information about the program and this manual. Take time to read the introduction as it defines terms and explains concepts used throughout this manual.

**Section 2**:   Briefly explains the setup, configuration and connections involved with the OmniSport 2000 timing system.

**Section 3**:   Explains the setup, configuration and connections involved with a Colorado Timing Systems.

**Section 4**:   Describes the setup, configuration and connections involved with an Omega Timing Systems.

**Section 5**:   Illustrates how to create RTD sequences

**Section 6:**   Offers details about who to contact for help with an application and information about the Exchange Program and the Repair & Return Program.

**Appendix A**:   Contains drawings for system applications.

## 1.1   Manual Contents

This manual describes the data entries to send scoreboard data to a Daktronics system. Included are instructions for Hy-Tek, TimerInterface 2000, and SwimDive Request II when used with Daktronics, Omega, Colorado and generic timers. For other questions concerning this system, please contact Daktronics.

Listed below are a number of drawing types commonly used by Daktronics, along with the information that each is likely to provide. This manual may not contain all of these drawings.

*Figure 1* illustrates a Daktronics drawing label. The drawing number is located in the lower-right corner of a drawing. In the example, the drawing would be referred to as **Drawing A-69945**.

DAKTRONICS, INC.  BROOKINGS, SD 57006
PROJ: BASKETBALL
TITLE: SEGMENTATION, 7 SEG BAR DIGIT
DES. BY: BPETERSON     DRAWN BY: TNELSON     DATE: 8 JUL 02
APPR. BY: AVB
SCALE: 1 = 4
7087-P08A-69945

***Figure 1:*** *Daktronics Drawing Label*

Please list the model and serial number, and the date received in the blanks provided on the front page of this manual. When calling Daktronics customer service, have this information available to ensure the request is serviced as quickly as possible.

## 1.2 Software Conventions

The following terms are used to describe various mouse actions that can be used throughout this manual. These instructions are based on the standard, right-handed mouse configuration.

| | |
|---|---|
| **Bold** | Any item that requires direct action, such as clicking, pressing, selecting or formatting, appears in boldface. |
| *Italics* | Indicates an item visible on the screen or within a menu. No direct action will be taken on this item. ***Boldface Italics*** are used to reference other manuals, sections within this manual and figures. |
| **[X]** | Represents a keyboard key that needs to be pressed. |
| "Quotes" | Items that need to be typed, including folder and file names. |
| Click | Press and release the left mouse button. |
| Double-click | Press and release the left mouse button twice. |
| Right-click | Press and release the right mouse button. |
| **>** | A caret indicates to click or move to one menu item after the other, (ex. **File > Open**). |

Many OmniSport 2000 timer and Pro software options can be accessed with the keyboard as well as the mouse. Where applicable, both mouse and keyboard actions are given to perform a command. Many screen buttons have labels that have a letter underlined. Press the key on the keyboard that correlates with the underlined letter to activate that particular button. To activate secondary buttons, press the underlined key while holding **[Shift]**. To activate menu bar items from the keyboard, press the underlined key while holding **[Alt]**.

## 1.3 Timing Systems

The timing console determines how the system will be connected. Daktronics has developed standard interfaces for the Daktronics OmniSport 2000, CTS (4, 5, 6), Omega OSM6 and ARES 21. Which sport and the number of pools being used will determine how many inputs will be configured in the display control system.

The main questions are going to be:

- What type of timing system is being used?

- How many pools are there?

- Which sport is being timed?

## 1.4 Results Software

Information for this manual assumes Hy-Tek MEET MANAGER is being used. If a different program is being used instead of Hy-Tek, please consult the software provider and the local Daktronics representative.

### Hy-Tek Swim Meet Manager

Hy-Tek swimming software is used to display and edit events for a swimming meet, including seeding, meet program, scoring, reports, and diving events. Hy-Tek's MEET MANAGER software works with Daktronics equipment using two required add-ons and one optional add-on (see below). Existing applications of MEET MANAGER software can be updated to include both add-ons, see Hy-Tek's website at http://hy-tekltd.com/

- Timing Console INTERFACE is required to connect MEET MANAGER to timing consoles such as the OmniSport 2000, CTS System 6 or ARES 21 consoles.

- Alpha Scoreboard INTERFACE is required to send start lists, results by heat or event and scores to a matrix type display.

- Pro Network/Internet allows several Hy-Tek computers to be networked together. For larger meets where there is a second pool or the top 16 results are displayed, this is a necessary add-in.

## 1.5 Message Displays/Controllers

Daktronics message displays are either controlled by Daktronics Venus® 7000 or Venus® 1500 controller. Venus 1500 systems are more limited but are easier to operate and less expensive. In many cases if the customer has a Colorado Timing System (CTS) or Omega timing system it may cost less and make the system easier to operate if they update to an OmniSport 2000 timing system. Some programs used with message displays are SwimDive Request II and TimerInterface 2000.

### TimerInterface 2000

Daktronics TimerInterface 2000 software is an application that converts Omega Timing Systems or Colorado Timing Systems to RTD, which is information that is understood by a Daktronics matrix. For additional information, see **"Timer Interface Software Manual"** (**ED-12452**).

### SwimDive Request II

Daktronics SwimDive Request II is a program that allows the operator at the Venus 7000 or VPlay computer to request information from Hy-Tek's MEET MANAGER. Both MEET MANAGER and SwimDive can be configured to work with different timing systems and different types of scoreboard data. From the main menu click **Port**. A window labeled *SwimDive Setting* will open. About half-way down is a setting that is labeled *use with:*. Click the arrow to the right of the box to show the possible settings. As a tool to help configure the system look in the window directly under the *use with:* to read what the setting for the other pieces in the system needs to be for that configuration to work. Each different choice in the *use with:* will have a different system setting.

# Section 2: OmniSport 2000 Connections Setup

If getting the most out of a system while being easy to operate is important, the OmniSport 2000 timing system is the best choice. This section explains the setup of the OmniSport2000 timing console. Configuring Hy-Tek's MEET MANAGER to talk with the OmniSport 2000 and connect the OmniSport 2000 to the Venus 7000 or Venus 1500 controlled display. Refer to **DWG-0531161** for OmniSport 2000 system configurations.

**Reference Drawings**

**Note:** Actual Com Port numbers may vary depending on which Com Ports are available on the computer in use.

## 2.1 OmniSport 2000 Settings

If the OmniSport 2000 console is sending data to a Venus 7000 or Venus 1500 controlled display, the console will be configured the same regardless. Every OmniSport 2000 console has two connections, one to MEET MANAGER and one to the Venus 7000 or 1500 controlled display.

1. Turn on the OmniSport 2000 timer and enter the date and time and select **Swimming**.
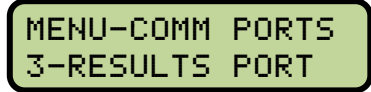
   **Note:** If the OmniSport 2000 Pro Swimming software is being used, skip to **Step 3**.

2. From the Main Menu on the OmniSport 2000 console, press **[4]** *Setup* **>** **[4]** *Comm Ports* **>** **[2]** *RTD Port*. Verify the right LCD on the LCD OmniSport 2000 console displays *RTD Port: RTD*. If not press **[→]** once for the RTD setting. After the console is set to RTD, press **[Enter].**
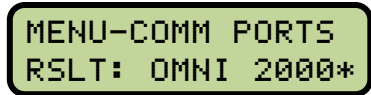
   ```
   MENU-COMM PORTS
   RTD PORT: RTD*
   ```

3. Line two on the right LCD screen will display *3-Results Port.* Press **[Enter].**

   ```
   MENU-COMM PORTS
   3-RESULTS PORT
   ```

4. Line two on the right LCD screen will display *RSLT: OMNI 2000.* If the LCD reads a different setting, press **[→]** until it reads *OMNI 2000* then press **[Enter].**

   ```
   MENU-COMM PORTS
   RSLT: OMNI 2000*
   ```

5. Connect a **serial cable** from *J6* (Results) on the back of the control console to a **Com Port** on the computer with Hy-Tek software.

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## 2.2 Hy-Tek MEET MANAGER Settings

Every OmniSport 2000 console connects to a separate computer running Hy-Tek MEET MANAGER. In special situations when more information is needed, an additional feed direct from Hy-Tek to the Venus 7000 computer may be set up. For Extended Requests refer to **DWG-531161** for these settings. In order to run more than one computer with Hy-Tek MEET MANAGER, the Pro Network/Internet option must be purchased.

Configuring the Timing Console Interface to the OmniSport 2000 console:

1. From the main menu of MEET MANAGER, select **Set-up > Timing Console INTERFACE** (*Figure 2*).

2. Next select **Daktronics OmniSport 2000** from the list and click **OK**.

Configure the Alpha Scoreboard INTERFACE to Daktronics:

1. From the main menu of MEET MANAGER, select **Set-up > Alpha Scoreboard INTERFACE**.
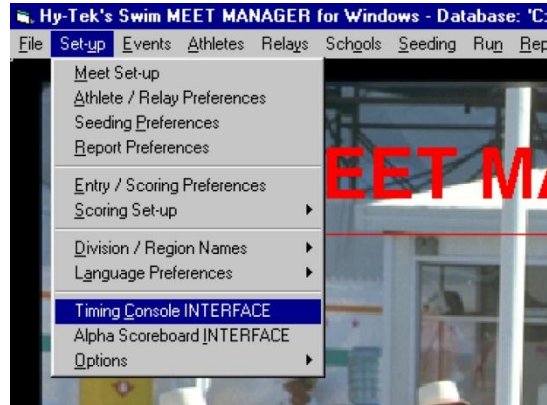
**Figure 2:** *Hy-Tek's Swim MEET MANAGER*

2. Next, select **Daktronics** from the list and click **OK.**

Configure the Com Port in MEET MANAGER to connect the OmniSport 2000:

1. From the Run menu of MEET MANAGER, select **Interfaces > Timer (Dak 2) >  Open / Close Serial Port for Dak 2** (*Figure 3*).
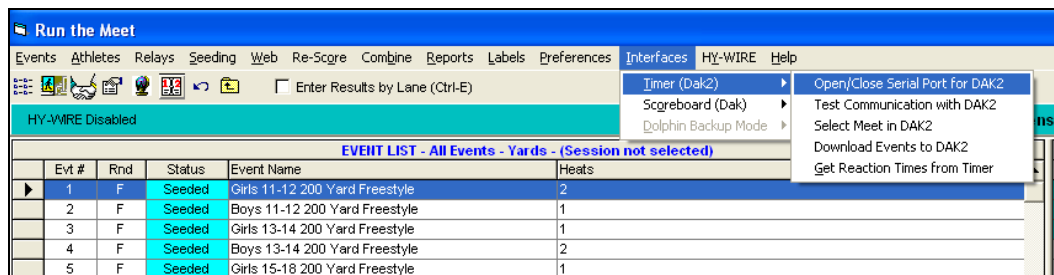
**Figure 3:** *Run the Meet*

2. Enter the Serial Com Port that will be used to connect MEET MANAGER to the OmniSport 2000 console then click **OK** (*Figure 4*).

3. As long as everything is connected and configured correctly, a window will appear displaying *Communications Passed*. If communication does not pass verify that the correct Com Port number was entered and the correct cable is connected to the OmniSport 2000 console and that it is powered on and in the *Swimming* mode.



*Figure 4: Select Serial Port for DAK2*

### Additional Hy-Tek for Extended Requests

In some instances, additional data may need to be posted without interrupting the current results. Setting up a direct connection through an additional Hy-Tek computer can achieve this. However, the connection from Hy-Tek to the Venus 7000 computer will be different. Instead of going through the OmniSport console, a null modem cable will connect a Com Port on the Hy-Tek computer to a Com Port on the Venus computer. Also, the Hy-Tek computers will be networked together and must have the Pro Network/Internet option. Refer to **DWG-531161** for the settings.

## 2.3  Venus 7000 Control System

Refer to **DWG-531161** for a general system layout with the OmniSport 2000 connected to a Venus 7000.

To set up the RTD inputs in the Venus 7000:

1. Click **Configure** from the Venus 7000 shell (*Figure 5*).

2. Click the **RTD Inputs** tab (*Figure 6*).

3. Double-click on the input needed to configure.



*Figure 5: Venus 7000 Shell*
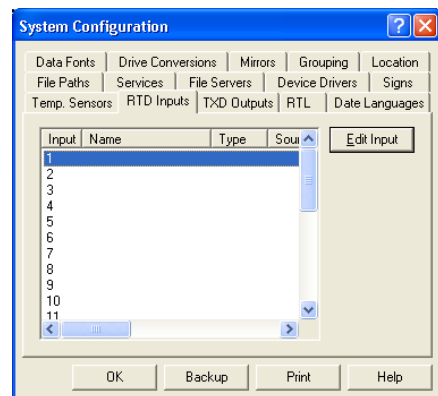


*Figure 6: System Configuration*

4. Refer to the settings in *Figure 7* for an OmniSport 2000 console input. The only settings that change between inputs are the *Source* and possibly the *Default Input Template*. If an input for the Extended Requests needs to be set up, refer to **DWG-531161**.

   An Input Template File (ITF) filters the data coming in on the input port and determines the start position and length of RTD fields in the data stream. To access and save the file, go to http://dakfiles.daktronics.com/downloads/Sports_Products/OmniSport%202000/ and right-click the appropriate sport (*Figure 8*). Click *Save Target As…* and save as type *Input Template* in the "D:\V7000" folder.
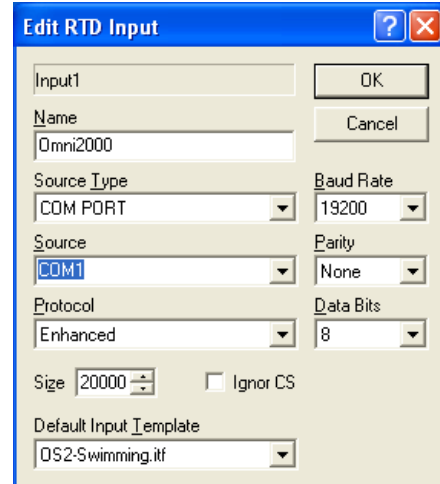


**Figure 7:** *Edit RTD Input*

- Connect the *J5* (RTD) connecter on the OmniSport 2000 console to the desired RTD input on the Venus 7000 computer. In some instances the OmniSport console may be sitting next to the Venus 7000 computer and a W-1267 (9-pin male to female) cable can be used between the OmniSport console and a Com Port on the Venus computer.
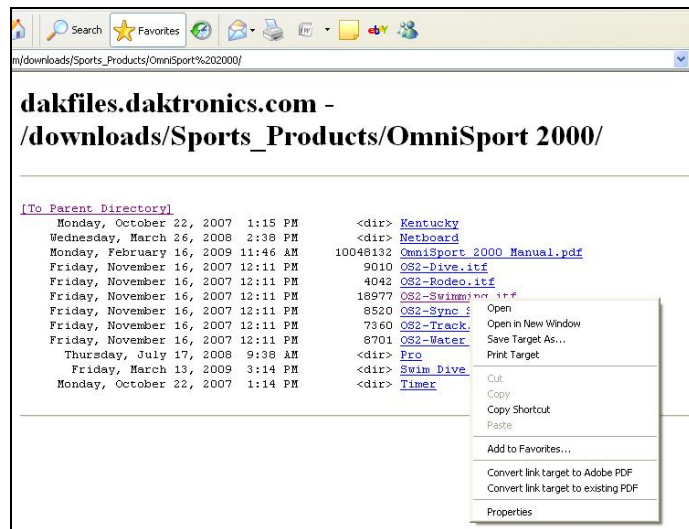


**Figure 8: Save V7000 ITF File**

- In other instances, the OmniSport 2000 console and Venus computer may have some distance between them. In this case the OmniSport console may plug into a wall plate (J-box) at its location. The wiring from the OmniSport console's wall plate then runs to a wall plate at the Venus 7000 controller location. Due to the distance, current loop communications should be used. Connect a signal converter to the wall plate at the Venus 7000 control location and connect the Com Port on the Venus computer to the signal converter.

5. Test communications.

   Click **Diagnostics** from the Venus 7000 shell, select the **RTD** tab. Select the Input just created and click **Template View**. On the OmniSport console, start the time and view the time running in *Template View*. If the running time does not appear, check the settings and cable connection.

4. To create the RTD display sequences, refer to **Section 5**.

### SwimDive Request II

1. From the main screen of the SwimDive Request II program (*Figure 9*), click the **Port** button near the bottom of the window to open the *SwimDive Setting* screen (*Figure 10*).

   - *Port Number:* is the Venus 7000 RTD input number the OmniSport 2000 console is connected to (refer to *Figure 6*).

   - *Port Name:* is any name for the selected port that makes sense to the user. Ex: *POOL 'A'*.

   - *Sign Service:* when the Venus 7000 controller and SwimDive Request II are on the same computer, type **". "** (period) If SwimDive Request II is on a computer other then Venus 7000 computer, type the name of the desired network sign service to connect.

   - *Use with* should display **OmniSport 2000**. If the system has been setup to have an additional Hy-Tek for extended Requests, see **DWG-531161** for the settings.

2. Test communications.
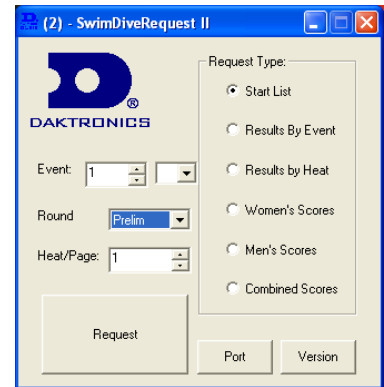
**Figure 9:** *SwimDive Request II*
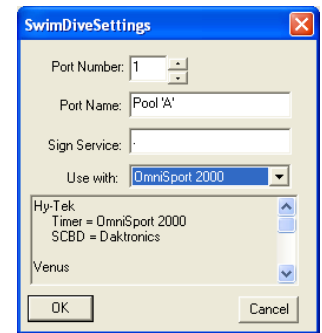
**Figure 10:** *SwimDive Settings*

From the Venus 7000 shell, click the **Diagnostics RTD** tab, select **Input** and click **Template View**. In SwimDive Request II, select **Start List** for Request Type and click **Request**. Information should come across in *Template View*. If not, check settings in the Venus 7000 computer and SwimDive Request II and check cable connections.

## 2.4 Venus 1500 Controlled Displays

The primary OmniSport 2000 console will be connected via current loop communications directly to TB1 pins 2 and 6 on the M2 or M3 Controller in the display. (M2 or M3 varies depending on the display model). Any additional OmniSport 2000 consoles will connect to the Ethernet network that is connected to the display. Refer to **DWG-262403** or **603918**.

**Figure 11:** *Venus 1500 ITFs*

### Input Template Files

An Input Template File (ITF) consists of multiple Real Time Data fields that select the start position and length of RTD fields in a data stream. To access and save these files, first go to http://dakfiles.daktronics.com/downloads/Sports_Products/OmniSport%202000/.
Right-click the appropriate sport (*Figure 8*), then Click *Save Target As…* and save as type *Input Template* in "C:\Program Files\Daktronics\Common\Input Templates" (*Figure 11*).

1. Using the *M2Config* application, verify the settings for ports 1-4. Select **Network > Configure Connection**. If there is a *Debug port setup*, make sure to delete it, as it will interfere with sending RTD.

   **Port 1**
   Type:       Direct
   Baud Rate:  (19,200 for Galaxy Displays)
               (115,200 for Galaxy Pro Displays)
   Number:     1
   Protocol:   Venus 1500

   **Port 2**
   Type:       TCP/IP
   Number:     3001
   Protocol:   Venus 1500

   **Port 3**
   Type:       UDP/IP
   Number:     3002
   Protocol:   Daktronics RTD

   **Port 4**
   Type:       Direct
   Number:     2
   Protocol:   Daktronics RTD
   Baud Rate:  19,200

2. Connect the OmniSport 2000 RTD port to the display.

3. Test the connection from the OmniSport 2000 to the scoreboard display running an RTD sequence showing the running time from the console. Refer to *Section 5.2* on how to make Venus 1500 sequences.

4. If nothing shows on the display, check:

   - Is the sequence playing created by using a custom ITF (OS2_swimming.ITF)?

   - Are the ports set up correctly for the display (see Step 3 above)?

   - Is it connected to the J5 (RTD) port on timing console?

   - Are the settings in the OmniSport 2000 console correct?

   - Does the wire terminate correctly in the J-box and on the display?

   - If the OmniSport 2000 console is connected via Ethernet, verify that everything is plugged in and set to the correct TCP/IP addresses.

# Section 3: Daktronics Matrix Displays with Colorado Timing Systems

This section assumes that the scoreboard output in the Colorado Timing System (CTS) timer is set to its default settings and that the CTS timer and Hy-Tek's MEET MANAGER are already communicating.

First the MEET MANAGER needs to be configured for communications to the Venus 7000 or Venus 1500 Real Time Data. After that there will be separate sub sections to configure the Venus 7000 or Venus 1500 controlled display.

**Reference Drawings:**

**Note:** Actual Com Port numbers may vary depending on which Com Ports are available on the computers used.

## 3.1 Hy-Tek's MEET MANAGER Settings

For each timing console that is timing a swimming event, there will be a computer running Hy-Tek's MEET MANAGER. Each computer will provide the start list, results and team scores for that pool. In special situations where more information is needed, an additional feed direct from a second Hy-Tek computer to the Venus 7000 computer may be set up for *Extended Requests.* Refer to **DWG-0539079** for these settings.

**Note:** In order to run more than one computer with Hy-Tek's MEET MANAGER, the MEET MANAGER must have the Pro Network / Internet option installed.

1.  Connect a null modem cable from the Hy-Tek computer to the Venus computer. If the distance is greater than 50-feet, signal converters will be required.

2.  From the main screen in Hy-Tek, select **Set-up > Alpha Scoreboard INTERFACE**. Select **Generic Serial** from the list and click **OK (***Figure 12***).**

3.  From the main menu in Hy-Tek, select **Run > Interface > Scoreboard (GENSER) > Configure Serial Port**.

*Figure 12: Scoreboard Vendor*

**4.** Enter the following information: *Baud Rate:* **9600**, *Parity:* **Even**, *Data Bits:* **7** and *Stop Bit:* **1** (*Figure 13*).

**5.** From the *Run* screen in Hy-Tek, select **Interfaces > Scoreboard (GENSER) > Open / Close Serial Port for GENSER.** (*Figure 14*)

**Note:** Actual Com Port numbers may vary depending on which Com Ports are available on the computers used.
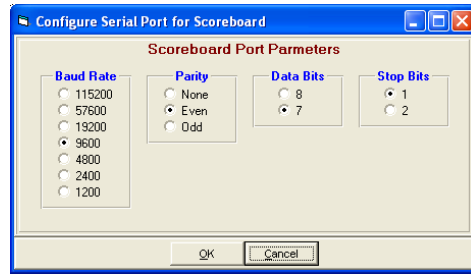


*Figure 13: Configure Serial Port for Scoreboard*

## 3.2    Venus 7000 Control System

Refer to **DWG-539079** for a general system layout with the CTS timer and Hy-Tek connected to a Venus 7000 control system.



*Figure 14: Select Serial Port for GENSER*

### Venus 7000 Settings
Configure the RTD inputs in the Venus 7000 computer from the Venus 7000 shell. Click **Configure** then select the **RTD Inputs** tab. Double-click on the desired Input to configure (*Figure 6*). Use the settings on **DWG-539079** to configure.

### SwimDive Request II
If more than one RTD input is being used for results, SwimDive Request II can be opened multiple times with the settings for each desired port (*Figure 15*).

**1.** *Port Number:* is the Venus 7000 RTD input that Hy-Tek is connected to.

**2.** *Port Name:* is any name for the selected port that makes sense to the user. Ex: *Pool A Results*.

**3.** *Sign Service:* is when the Venus 7000 and SwimDive Request II are on the same computer, type **"."** (period). If SwimDive Request II is on a computer other than Venus 7000, type the name of the desired network sign service to connect.
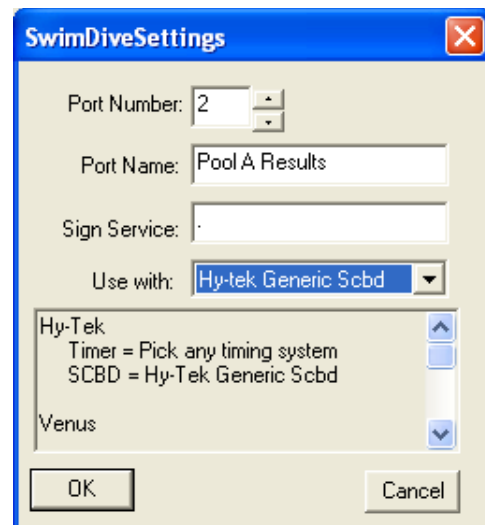


*Figure 15: SwimDive Settings*

**4.** *Use with:* should display **Hy-Tek Generic Scoreboard**. If the system has been set up to have an additional Hy-Tek for extended Requests see **DWG-539079** for the settings.

**5.** Test Communications.

From the Venus 7000 shell, click the **Diagnostics RTD** tab, select the **Input** created and click **Template View**. In SwimDive Request II, select **Start List** for Request Type and click **Request**. Information should come across in Template View. If not, check settings.

## TimerInterface 2000 Settings

**1.** On the main menu of the Timer Interface 2000 program (*Figure 16*), click **Add** under the *INPUTS:* section.

**2.** The *Configure Input:* window will open (*Figure 17*).

Under the *Select Timer:* select **Colorado Timer** (*Figure 18*). Under *Select Port:* click **Edit**.

**3.** The *Enter Port Parameters* window will open (*Figure 19*).

Type the name of the input. For example: *CTS #1*. Under *Port Type:* Select *COM Port* (*Figure 20*).

Select the *Port* that the timer is connected to and configure the settings as follows:
*Baud*: **9600**
*Parity*: **Even**
*Data Bits*: **8**
*Stop Bits*: **2**

**4.** Click **OK** and the note shown in *Figure 21* will appear. Click **OK**. After configuring an input, shut down the TimerInterface 2000 program and then re-start it for all of the settings to take effect.
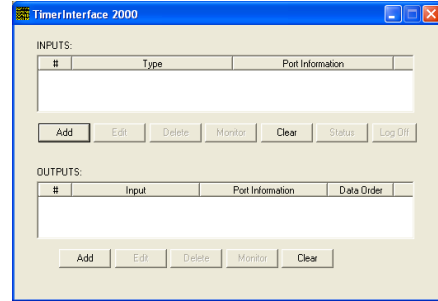
*Figure 16: TimerInterface 2000*
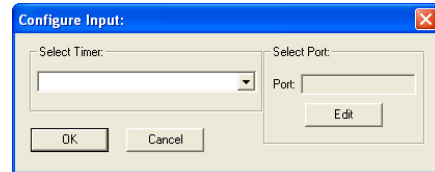
*Figure 17: Configure Input*
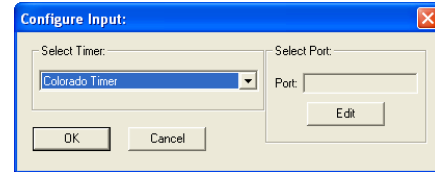
*Figure 18: Select Timer*
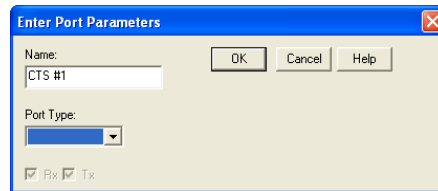
*Figure 19: Enter Port Parameters*
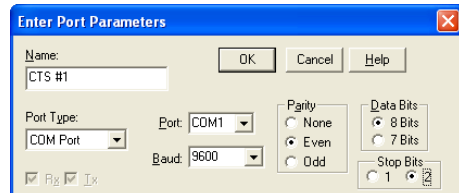
*Figure 20: Com Port Settings*
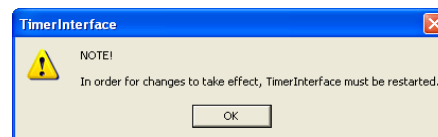
*Figure 21: Timer Interface Notification*

**5.** After opening the Timer Interface 2000 program again, click **Add** under the *OUTPUTS:* section (*Figure 22*).

**6.** The *Configure Output:* window will open (*Figure 23*).

Under *Select Input:* select the previously configured input to receive the data. (Example: 1:CTS #1 – Com1,9600,8,Even)

Under *Select Output Type:*, select **Venus 7000 Direct** then click **Edit** under *Select Port*.
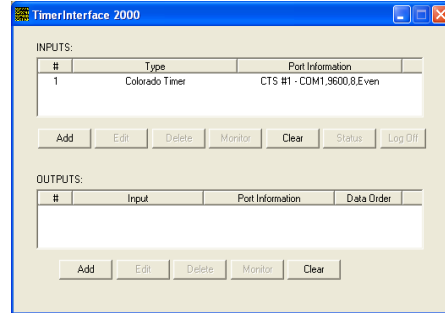


***Figure 22:*** *TimerInterface 2000 with Input*



***Figure 23:*** *Configure Output:*

**7.** Select the Venus 7000 RTD input port to send the data to and click **OK** (*Figure 24*).
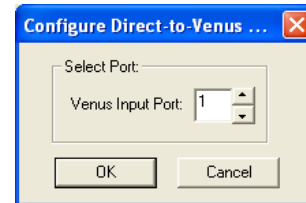
**8.** Click **OK** in *the Configure Output*: window to accept the new settings (*Figure 25*).

**9.** The note shown in *Figure 21* will appear. Click **OK**. After configuring an output, shut down the TimerInterface 2000 program and then re-start it for all of the settings to take effect.



***Figure 24:*** *Select Input*
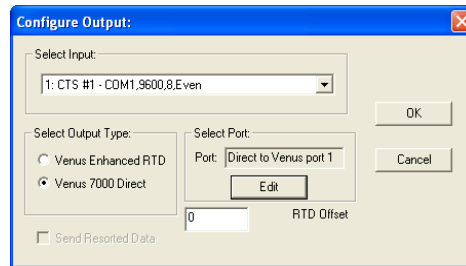


***Figure 25:*** *Complete Output Settings*

**10.** The TimerInterface 2000 screen shows each configured input and output (*Figure 26*).

For inputs from additional timing consoles, repeat steps 1-9, naming the next timer input *CTS #2* with the correct Com Port and RTD input settings. Refer to **DWG- 539079**.

**11.** For input settings when connecting a CTS System 6 to a Galaxy display via Ethernet and Show Control System, refer to **DWG- 1036117**.



***Figure 26:*** *TimerInterface with Input & Output*

## 3.3 Venus 1500 Control System

Refer to **DWG-604064** and **DWG-604462** for general system layouts with the CTS timer and Hy-Tek connected to a Venus 1500 controlled display.

### Venus 1500 Real Time



*Figure 27: Venus 1500 Shell*

1. Connect a 9-pin female to a 9-pin female null modem cable from the Hy-Tek computer to the Venus 1500 (V1500) computer.

2. Open *V1500 Real Time* by selecting **V1500 Real Time** icon from the Venus 1500 shell (*Figure 27*).

   **Note:** If the computer screen does not display the Venus 1500 Real Time icon, call Daktronics to request a USB software key contact Customer Support. Refer to **Section 6.**

   The Venus 1500 Real Time Main screen will appear (*Figure 28*).

3. Double-click on Input 2 and click **Configure**.

4. On the *Input Properties* screen (*Figure 31*) click **Configure**. From the Configure Input window (*Figure 29*) select **Serial Com Port** and type in a descriptive name (Ex: "Pool A Results") then click **OK**.

5. Select the Com Port number that the 9-pin cable is plugged into on the V1500 machine as the port number to edit. Refer to *Figure 30* for the appropriate Com Port settings, and click **OK** when finished.



*Figure 28: Venus 1500 Real Time*
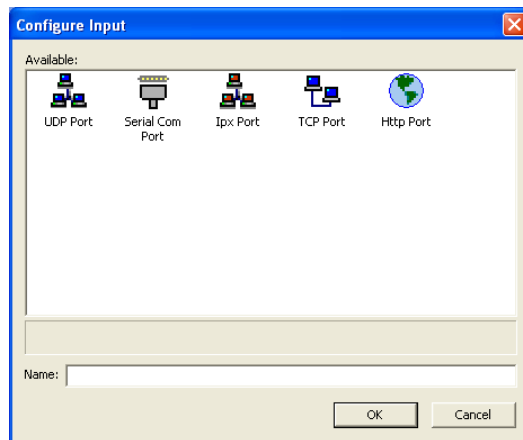


*Figure 29: Configure Input*
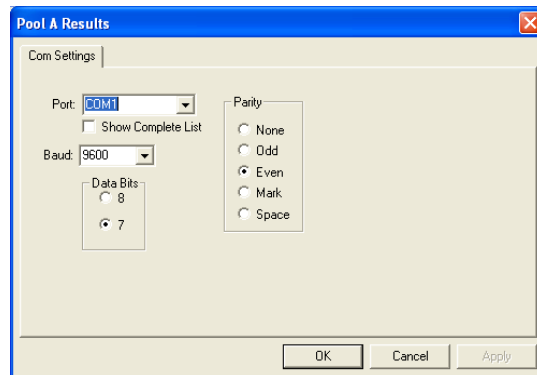


*Figure 30: Com Settings*

---

6.  Back on the *Input Properties* screen (***Figure 31***) click **ITF**.

    The *Select Input Template* window (***Figure 32***) will open. Click the drop down button in the upper right corner and click browse.

7.  Navigate to "C:\ProgramFiles\Daktronics\Common \Input\Templates" and select **HygenericStartResults.itf**. If this file does not show up on the list it will need to be copied into the directory. Click **OK**.
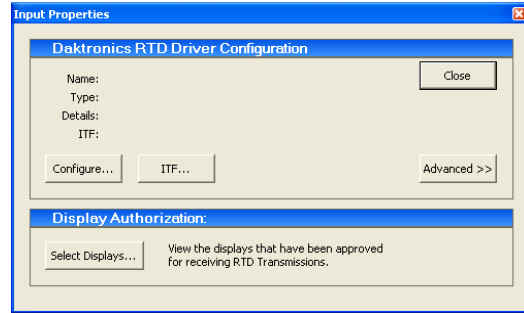


**Figure 31:** *Input Properties*

8.  From the *Input Properties* screen (***Figure 31***) click **Select Displays**. Select the display that the data will be displayed on. Click the arrow to move it into the column labeled *Authorized for RTD Input* then click **Close**.

9.  If there is a second Hy-Tek computer, repeat **Steps 1-7** but be sure to assign it to **Input 4.**

## Display RTD Inputs

Use *M2Config* to connect to the sign and verify the ports are set correctly.
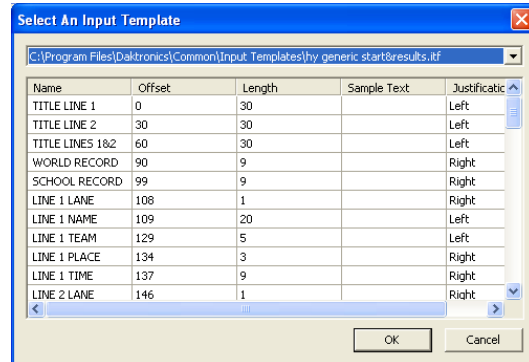


**Figure 32:** *Select An Input Template*

**Port 1**
Type:       Direct
Baud Rate:  (19,200 for Galaxy displays)
            **(**115,200 for Galaxy Pro displays)
Number:     1
Protocol:   Venus 1500

**Port 2**
Type:       TCP/IP
Number:     3001
Protocol:   Venus 1500

**Port 3**
Type:       UDP/IP
Number:     3002
Protocol:   Daktronics RTD

**Port 4**
Type:       Direct
Number:     2
Protocol:   Daktronics RTD
Baud Rate:  19,200

## Timer Interface 2000 Settings

1. From the main menu of the *Timer Interface 2000* program (*Figure 16*), click **Add** under the *INPUTS:* section.

   The *Configure Input:* window will open (*Figure 17*).

2. Under the *Select Timer:* select **Colorado Timer** *(Figure 18)*.

   Under *Select Port:* click **Edit**.

3. The *Enter Port Parameters* window will open *(Figure 19)*.

   Type the name of the input. For example, *CTS #1.*

   Under *Port Type:* Select *COM Port*.

   Select the Com Port that the timer is connected to and configure the **Baud** to **9600**, *Parity* to **Even**, *Data Bits* to **8** and *Stop Bits* to **2**.

4. Click **OK** and the note shown in *Figure 21* will appear. Click **OK**. After configuring an input, shut down the TimerInterface 2000 program and then re-start it for all of the settings to take effect.
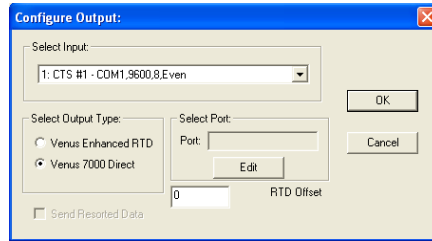
5. After opening the Timer Interface 2000 program again, click **Add** under the *OUTPUTS:* section (*Figure 22*).

6. The *Configure Output:* window will open (*Figure 33*).

   Under *Select Input:* select the previously configured input to receive the data. (Example: 1:CTS #1 – Com1,9600,8,Even)

   Under the *Select Output Type:* select **Venus Enhanced RTD**. Next, click **Edit** under *Select Port*.

7. The Enter Port Parameters window will open (*Figure 34*).

   Type the name of the output. (Example: CTS #1)
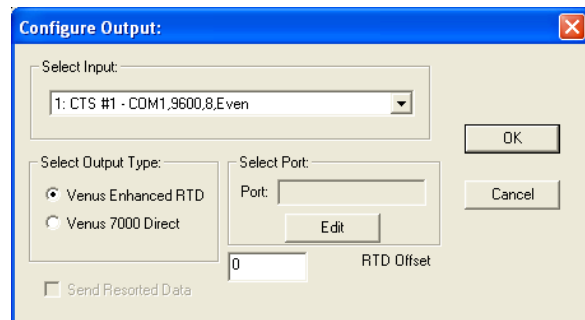


**Figure 33:** Configure Output:
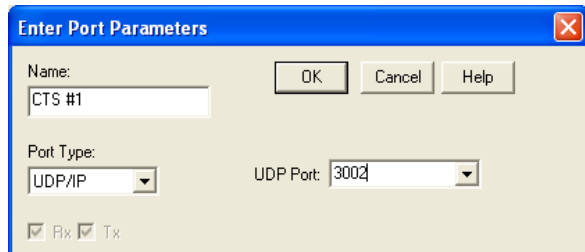


**Figure 34:** Enter Port Parameters

Under *Port Type:* select **UDP/IP**.

Under *UDP Port,* type in **3002**.

8.  Click **OK** in the *Configure Output*: window to accept the new settings (*Figure 35*).
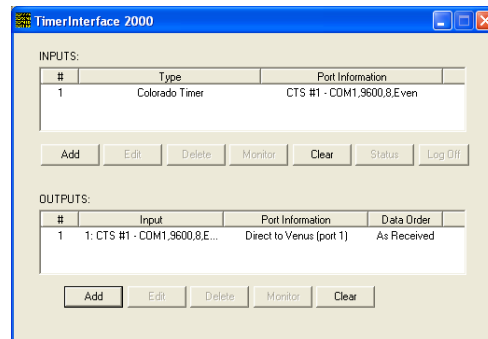
9.  The note shown in *Figure 21* will appear. Click **OK**. After configuring an output, shut down the TimerInterface 2000 program and then re-start it for all of the settings to take effect.

10. The TimerInterface 2000 screen shows each configured input and output (*Figure 36*).

11. To set up additional timing consoles, repeat step 1-10, naming the next timer input *CTS #2* and enter an offset value of **10000** for the *RTD Offset* in the output configuration (*Figure 33*).
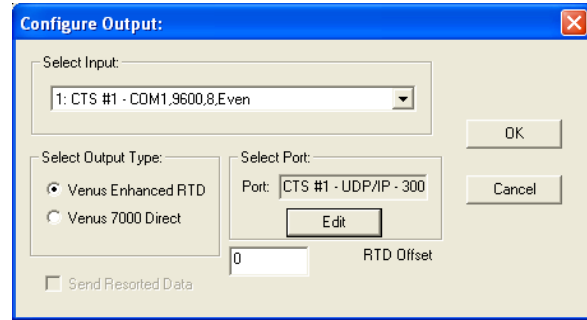


*Figure 35: Complete Output Settings*
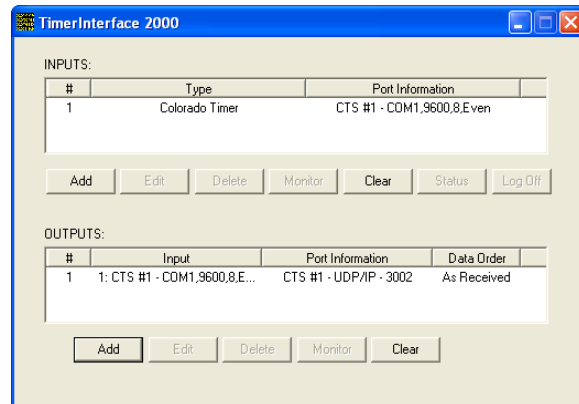


*Figure 36: TimerInterface 2000 Main Menu*

# Section 4: Daktronics Matrix Displays with Omega Timing Systems

When interfacing an Omega timing system to a Daktronics matrix scoreboard, the timer in use needs to be identified. The timing console can be an OSM6 or an ARES 21. If the console is an ARES 21 the next question is going to be if there is anything else connected to the scoreboard port and if yes, what is it?

In the following sections, use the questions above to identify how to connect and configure the equipment to show information on the Daktronics matrix display.

**Reference Drawing:**
      Omega Timing System Configurations..........................................................**Drawing C-536240**

**Note:** Actual Com Port numbers may vary depending on which Com Ports are available on the computers used.

## 4.1 Hy-Tek MEET MANAGER

For each timing console in use during a swimming event, there will be a computer running Hy-Tek MEET MANAGER. Each computer will provide the start list, results and team scores for that pool. In special situations where more information is needed, an additional feed direct from a second Hy-Tek computer to the Venus 7000 may be set up for *Extended Requests* Refer to **DWG-536240**.

In order to run more than one computer with Hy-Tek MEET MANAGER, the MEET MANAGER system must have the Pro Network / Internet option installed.

If the timing console being used is an ARES 21 with the scoreboard port set to Daktronics ERTD, refer to the following section. If the timing console is an OSM6 or ARES 21 with the scoreboard port set to UNT4 protocol, refer to the OSM6 or ARES 21 set to UNT4 section.

### Hy-Tek with the ARES 21 Set to Bi-directional

1. From the main menu of Hy-Tek MEET MANAGER, select **Set-up > Timing Console INTERFACE**. Select **ARES 21 Bi-Directional** from the list and click **OK**.

2. From the main menu select **Set-up > Alpha Scoreboard INTERFACE**. Select **Daktronics** from the list and click **OK.**

3. To test communications, select **Run** from the Hy-Tek main menu. Click **Interface > Timer Dak... > Open/Close Serial Port for Dak2**. Enter the Com Port number used to connect Hy-Tek to the control console and click **OK**. If everything is configured correctly a window will appear showing communications passed.

---

### OSM6 or ARES 21 Set to UNT4

1. Connect a null modem cable from the Hy-Tek computer to the Venus computer. If the distance is greater than 50-feet, a signal converter will be required.

2. From the main screen in Hy-Tek, select **Set-up > Alpha Scoreboard INTERFACE**. Select **Generic Serial** from the list and click **OK (*Figure 12*).**

3. From the main menu in Hy-Tek, select **Run > Interface > Scoreboard (GENSER) > Configure Serial Port**.

   Enter the following information: *Baud Rate:* **9600**, *Parity:* **Even**, *Data Bits:* **7** and *Stop Bit:* **1** (*Figure 13*).

4. From the *Run* screen in Hy-Tek, select **Interfaces > Scoreboard (GENSER) > Open / Close Serial Port for GENSER** (*Figure 14*).

## 4.2   Venus 7000 Settings

If the timing console being used is an ARES 21 with the scoreboard port set to ERTD protocol, refer to the following section. If the timing console is an OSM6 or ARES 21 set to UNT4 protocol, refer to the OSM6 or an ARES 21 set to UNT4 protocol section.

### Venus 7000 with ARES 21 Set to ERTD

Refer to **DWG-536240** for a general system layout with the Omega timers and Hy-Tek connected to a Venus 7000 control system. On the drawing there are two options for the timing consoles in the Pool A and Pool B sections. If the ARES 21 scoreboard output is set to ERTD, use Option 1 settings. SwimDive Request II is not available with this setup.

1. Configure the RTD inputs in the Venus 7000. From the Venus 7000 shell, click **Configure** and select the **RTD Inputs** tab. Double-click on the desired Input to configure. Use the settings as shown on **DWG-536240**.

2. Connect the ARES 21 SCBD port to the signal converter connected to the Venus RTD Input 1. It is recommended to use current loop communications between the ARES 21 and Venus 7000.

3. To test the system communication, select **Diagnostics** from the Venus 7000 shell. Click **RTD** and the RTD input then select **Template View**. On the Omega timer, start the time and the running time should come across in *Template View*. If not, check the settings and cable connection.

### Venus 7000 with an OSM6 or ARES 21 Set to UNT4 Protocol

Refer to **DWG-536240** for a general system layout with the Omega timers and Hy-Tek software connected to a Venus 7000 control system. On the drawing there are two options for the timing consoles in the Pool A and Pool B locations. If the timing console is an OSM6 or an ARES 21 with the scoreboard output set to UNT4, use the Option 2 settings.

To configure the RTD inputs in the Venus 7000 computer, click **Configure** from the Venus 7000 shell and select the **RTD Inputs** tab. Double-click the desired Input to configure. Refer to **DWG-0536240** for the appropriate input port settings.

## SwimDive Request II

If more than one RTD input is being used for results, SwimDive Request II can be opened multiple times with the settings for each desired port (*Figure 37*).

1.  *Port Number:* is the Venus 7000 RTD input that Hy-Tek is connected to.

2.  *Port Name*: any name for the selected port that makes sense to the user. Ex: *Pool A Results*.

3.  *Sign Service*: is when the Venus 7000 and SwimDive Request II are on the same computer, type "." (period). If SwimDive Request II is on a computer other than Venus 7000 computer, type the name of the desired network sign service to connect.
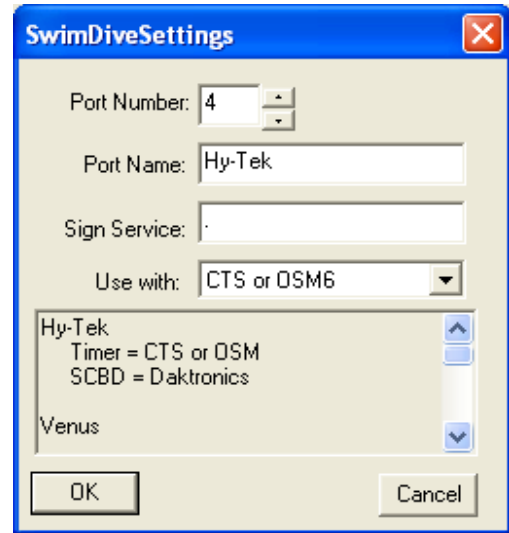

*Figure 37: Swim Dive Settings*

4.  *Use with*: instead of showing **Hy-Tek Generic Scbd**, the *Use with* drop down box should show **CST or OSM6** when using the Omega system. If the system has been set up with an additional Hy-Tek computer for Extended Requests, see **DWG-536240** for the settings.

5.  Test communications.

    From the Venus 7000 shell, click the **Diagnostics RTD** tab, select the **Input** created and click **Template View**. In SwimDive Request II, select **Start List** for Request Type and click **Request**. Information should come across in Template View. If not, check the settings.

## TimerInterface 2000 Settings

1.  From the main menu of the Timer Interface 2000 program (*Figure 16*), click **Add** under the *INPUTS:* section.

2.  The *Configure Input:* window will open (*Figure 17*).

    Under the *Select Timer:* select **Omega ARES, OSM6** (*Figure 38*). Under *Select Port:* click **Edit**.
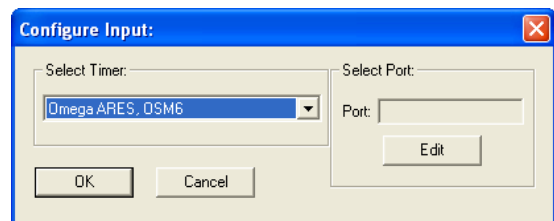

*Figure 38: Configure Input*

3. The *Enter Port* Parameters window will open (*Figure 39*).Type the name of the input, for example *Omega #1.*

   Under *Port Type:* select *COM Port.* Select the Com Port that the timer is connected to and configure the Baud to *9600*, Parity to *Even*, Data Bits to *7* and Stop Bits to *2* (*Figure 40*).

4. Click **OK** and the note shown in *Figure 21* will appear. Click **OK**. After configuring an input, shut down the TimerInterface 2000 program and then re-start it for all of the settings to take effect.

5. After opening the Timer Interface 2000 program again (*Figure 41*), click **Add** under the *OUTPUTS:* section.

6. The *Configure Output:* window will open (*Figure 42*).

   From the *Select Input:* section, select the input to get data from. (Example: 1: Omega #1 – Com 5,9600,7,Even)

   Under *Select Output Type:* select **Venus 7000 Direct**. Next, click on the **Edit** button under *Select Port*.

7. Use the spinner control to select the Venus 7000 RTD input to send data to and click **OK**.

8. Click **OK** in the *Configure Output:* window to accept the new settings.

9. The note shown in *Figure 21* will appear. Click **OK**. After configuring an output, shut down the TimerInterface 2000 program and then re-start it for all of the settings to take effect.
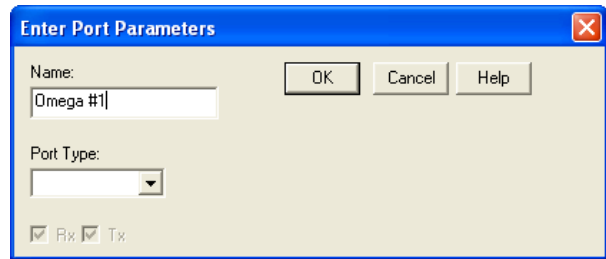


*Figure 39: Enter Port Parameters*
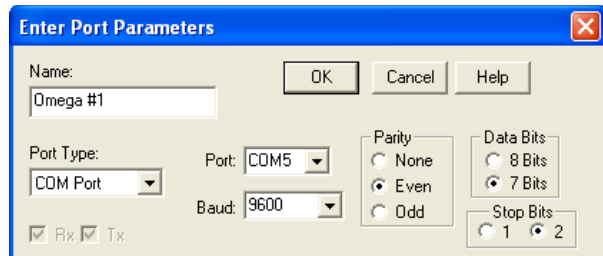


*Figure 40: Enter Port Parameters*
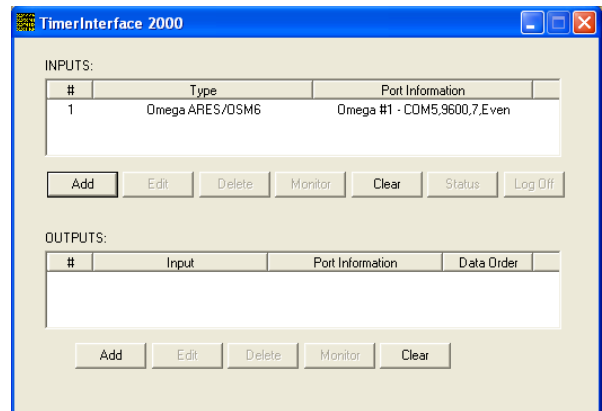


*Figure 41: TimerInterface 2000 with Input*
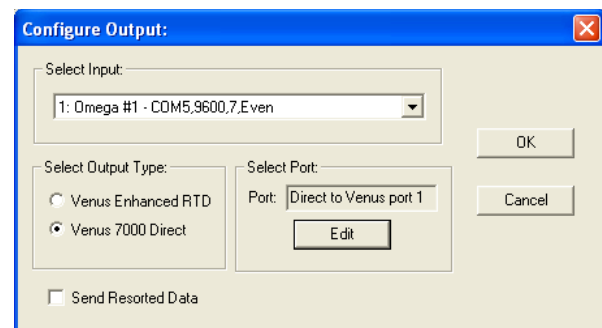


*Figure 42: Configure Output:*

**10.** The TimerInterface 2000 screen shows each configured input and output (*Figure 43*).

For inputs from additional timing consoles, repeat steps 1-9, naming the next timer *Omega* #2 with the correct com port and RTD input settings.  Refer to **DWG-536240**.
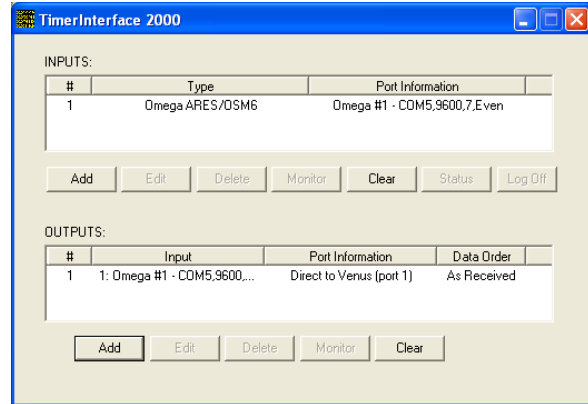


***Figure 43:*** *TimerInterface 2000*

# Section 5: How to Create RTD Sequences

## 5.1 Venus 7000

1. Refer to *Section 2.3* to verify the necessary Input Template Files are installed.

2. Open the V7 *Sequence Designer* and create a new sequence for the appropriate sign (**File → New**).


**Figure 44: Frame Properties**

3. Go to **Frame > Insert > Data Frame**.

4. In the *Frame Properties* window (*Figure 44*), select the **Data Field Parameters** tab. Make sure the *Field Type* is set to *RTD* then select a previously created *Input*, either for the timer or for the Hy-Tek computer.

5. Under *Field Name*, select from the list of available information. Use the *Row* and *Col* numbers (or click on the sequence) to adjust the position of the data field.


**Figure 45:** *V7 Swimming Sequence*

6. To add another data field, simply increment *Field* in the top left corner of the *Frame Properties* window.

   *Figure 45* shows a complete example of a Venus 7000 swimming sequence.

7. After creating all of the required fields for the data frame, click **OK**. The sequence now contains two frames: the original *Graphic Frame* and the new *Data Frame*; the first *Graphic Frame* must be deleted.


**Figure 46:** *Delete Frame*

   Go to **Frame > Delete** (or press **[Ctrl + Del]**). Then select the range **1 to 1** (*Figure 46*). Click **Delete Range** and then click **Close**. There should now only be one frame, the *Data Frame* and the RTD fields it contains.
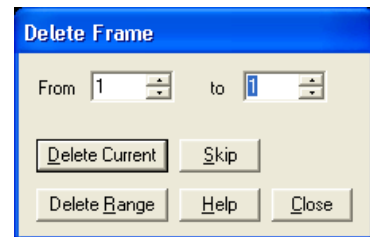
8. Click the preview button ▶ (or press **[F5]**). As long as the input source is powered on and in operation, the correct data should show up in the proper location on the sequence. Make any adjustments to the RTD fields or input connections as needed.

9. Save the sequence.

## 5.2 Venus 1500 Version 3.12

1. Begin by opening the *V1500 Message Studio* from the V1500 shell. Select **File > New** and select the sign for the new RTD sequence.

2. Next, a *Graphic Frame* must be added. To do this, select menu item **Frame >Add > Graphic**. *Graphic Frames* are preferred for RTD because they allow positioning of the RTD boxes exactly where the user desires.

   **Note:** In the *Sample Text* field, the user can enter the text that will help to identify the information to show on the frame. By default, the data fields show "*S's*" as sample text.

   The *Justify* option buttons will override the justification settings in the ITF file. This feature is available only when inserting an RTD field in a graphic frame for display with Version 3 controllers.

3. To add an RTD field, go to **Data Fields > Real Time Data**, or select the **RTD** icon from the left hand pane.

   Click anywhere in the *Graphic Frame* and an *RTD Field Properties* window will open.

4. At the top, click the drop-down list box and select a previously configured input. Alternately, select **Custom ITF** and then the browse button. Search for and select the correct ITF for the sport/interface and then click **OK**.
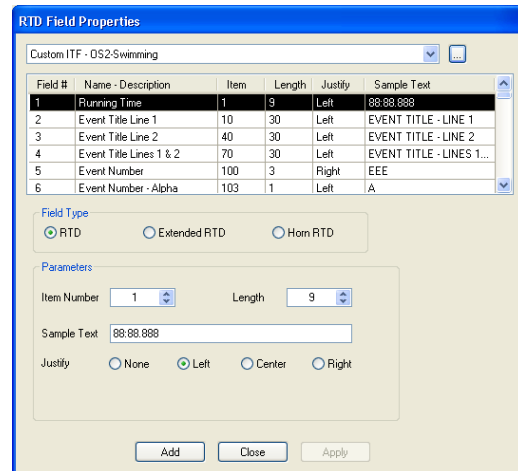
   After selecting an input or Custom ITF, a list of available data from the port will



**Figure 47:** *Add RTD Field*

populate (*Figure 47*). Once the desired field type and parameters are chosen, click **Add** to set the field to the frame. Then click **Close** and change the style and alignment of the field boxes inside the frame. The user can now preview the frame but only as long as the input source is powered on and in operation.

Refer to *Figure 48* as an example of a swimming sequence.

5. On the right there should be a story board with two frames, a blank *Text Frame* and a second *Graphic Frame* with RTD information. The first frame must be deleted in order for the sequence to display correctly. At the story board, right click on the blank **Text Frame > Delete Frame(s)**. There should only be one frame left: the *Graphic Frame* with RTD information.
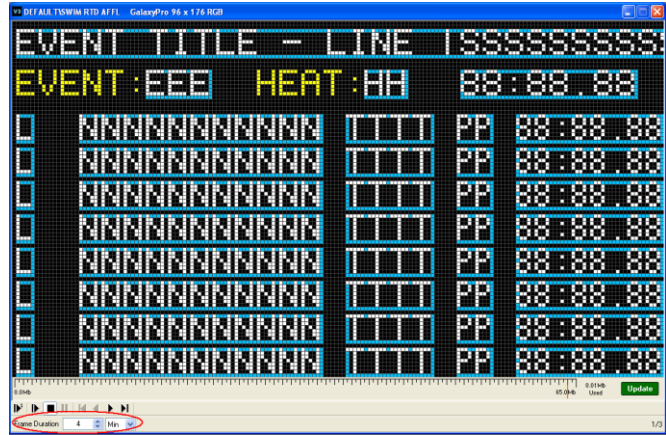


***Figure 48:** Swimming Sequence Example*

6. The frame duration should also be changed from a couple seconds to a couple hours; this ensures the running time will not skip. In the lower left hand corner of the frame, see where it says *Frame Duration*, change the **[Min]** to **[Hr]**.

7. To save the message:

   • Open the *File* menu and select **Save**.

   • In the **Save Message** dialog box, click on the plus sign next to the display type to open the library containing the folders.



***Figure 49:** Save Message*

   • Select the folder where the message will be saved in and type in the name, for example "OS_2000_Swim" (***Figure 49***).

   • Click **Save.**

# Section 6: Daktronics Exchange and Repair & Return Programs

## 6.1 Exchange Program

The Daktronics Exchange Program is a quick, economical service for replacing key components in need of repair. If a component fails, Daktronics sends a replacement part to the customer who, in turn, returns the failed component to Daktronics. This not only saves money but also decreases equipment downtime. Customers who follow the program guidelines explained below will receive this service.

### *Before Contacting Daktronics*
Identify these important numbers:

Display Serial Number: _____

Display Model Number:_____

Contract Number: _____

Date Installed: _____

Daktronics Customer ID Number: _____

To participate in the Exchange Program, follow these steps.

1. **Call Daktronics Customer Service.**

| Market Description | Customer Service Number |
|---|---|
| Schools (primary through community/junior colleges), religious organizations, municipal clubs and community centers | 877-605-1115 |
| Universities and professional sporting events, live events for auditoriums and arenas | 866-343-6018 |

2. **When the new exchange part is received, mail the old part to Daktronics.**
   If the replacement part fixes the problem, send in the problem part which is being replaced.
   a. Package the old part in the same shipping materials in which the replacement part arrived.
   b. Fill out and attach the enclosed UPS shipping document.
   c. Ship the part to Daktronics.

3. A charge will be made for the replacement part immediately, unless a qualifying service agreement is in place. In most circumstances, the replacement part will be invoiced at the time it is shipped.

   If the failed part or replacement part is not returned to Daktronics within 3 weeks of the ship date, Daktronics will assume that the customer is purchasing the replacement part and will send an invoice for the value of the new sale part.

If the part or parts are returned within 2 weeks of the second invoice date, Daktronics will credit the customer for the second invoice. If after 2 weeks Daktronics has still not received the parts back, the customer must pay the second invoice and will not be credited for the return of the failed part.

## Repair & Return Program

For items not subject to exchange, Daktronics offers a Repair & Return Program. To send a part for repair, follow these steps:

1. **Call or fax Daktronics Customer Service:**
   Refer to the appropriate market number in the chart listed on the previous page.

2. **Receive a Return Materials Authorization (RMA) number before shipping.**
   This expedites repair of the part.

3. **Package and pad the item carefully to prevent damage during shipment.**
   Electronic components, such as printed circuit boards, should be placed in an antistatic bag before boxing. Daktronics does not recommend using packing 'peanuts' when shipping.

4. **Enclose:**
   - name
   - address
   - phone number
   - the RMA number
   - a clear description of symptoms

### *Shipping Address*

Daktronics Customer Service
RMA #
201 Daktronics Drive, Dock E
Brookings, SD 57006

**Fax:** 605-697-4700

# Index

# Appendix A:    Reference Drawings

—REFER TO MANUAL DD-1387596 FOR MORE DETAILED INSTRUCTIONS.
—COM PORT NUMBERS MAY CHANGE DEPENDING ON COMPUTER SETUP

0A-1091-0227

0A-1240-0061

POOL 'A'

W-1267

PRINTER    COM1
           NETWORK
LAPTOP COMPUTER

HYTEK COMPUTER

BY OTHERS

W-1267

COM1    PRINTER
        NETWORK
LAPTOP COMPUTER

V1500/PRO
COMPUTER

J1  J2

**TB1 (OMNISPORT/RTD) PIN ID TABLE**

| PIN | FUNCTION |
|-----|----------|
| 2 | RTD CL TX-P(+) - RED |
| 6 | RTD CL TX-N(-) - BLK |

DIRECT TO TB1 PINS 2 & 6

GALAXY DISPLAY

J15-POWER J14-NEAR J12-START J11-FAR J10-NEAR J9-S-SWITCH J8-M-SWITCH J7-S-INPUT J6-RESULTS J5-RTD J4-E-PORT J3-SCBD J2-SCBD

LL-2549

OMNISPORT 2000

0A-1240-0002
SET RTD OFFSET IN OMNISPORT TO OK

W-1547

W-1547

ETHERNET ROUTER
4 PORT
A-2020

J2

W-1234

W-1384

J2

J32

0A-1177-1029
RJ45 J-BOX

**J2**

| 8-PIN RJ45 | |
|-----|-----|
| PIN# | WIRE COLOR |
| 1 | WHT/ORG |
| 2 | ORG |
| 3 | WHT/GRN |
| 4 | BLU |
| 5 | WHT/BLU |
| 6 | GRN |
| 7 | WHT/BRN |
| 8 | BRN |

NOTE:
SEE INSTALLATION MANUAL
FOR POWER REQUIREMENTS.

NOTE:
W-1384, CAT5E CABLE RUNS MUST
BE LESS THAN 250'.

— FOR RUNS GREATER THAN 250'
USE FIBER OPTIC CABLE OPTION.

POOL 'B'

ETHERNET ROUTER
4 PORT
A-2020

UDS-1100
0A-1177-0278

W-1384

J2

W-1547

0A-1374-0050

W-1547

W-1547

J2

W-1267

PRINTER    COM1
           NETWORK
LAPTOP COMPUTER

HYTEK COMPUTER

BY OTHERS

W-1267
W-1547

W-1267

NETWORK  PRINTER
COM1
LAPTOP COMPUTER

PRO SWIM
COMPUTER

J15-POWER J14-NEAR J12-START J11-FAR J10-NEAR J9-S-SWITCH J8-M-SWITCH J7-S-INPUT J6-RESULTS J5-RTD J4-E-PORT J3-SCBD J2-SCBD

LL-2549

OMNISPORT 2000

0A-1240-0002
SET RTD OFFSET IN OMNISPORT TO 5K

POOL 'A'
HY-TEK SETTINGS
TIMING CONSOLE INTERFACE: OMNISPORT 2000
ALPHA SCOREBOARD INTERFACE: DAKTRONICS
SERIAL COM PORT FOR DAK 2 TIMER: 1

OMNISPORT SETTINGS
RESULT PORT: OMNI 2000
RTD MATRIX:
    NUMBER OF LINES: (SET TO THE NUMBER
    OF LINES THAT WILL DISPLAY ON THE
SCOREBOARD)
RTD OFFSET: OK

POOL 'B'
HY-TEK SETTINGS
TIMING CONSOLE INTERFACE: OMNISPORT 2000
ALPHA SCOREBOARD INTERFACE: DAKTRONICS
SERIAL COM PORT FOR DAK 2 TIMER: 1

OMNISPORT SETTINGS
RESULT PORT: OMNI 2000
RTD MATRIX:
    NUMBER OF LINES: (SET TO THE NUMBER
    OF LINES THAT WILL DISPLAY ON THE
SCOREBOARD)
RTD OFFSET: 5K

DISPLAY (GALAXY/GALAXY PRO)

PORT 1:  TYPE: DIRECT
         PROTOCOL: VENUS 1500
         BAUD: 19200 — GALAXY
               115200 — GALAXY PRO
         NUMBER: 1

PORT 2:  TYPE: TCP/IP
         PROTOCOL: VENUS 1500
         PORT: 3001
         NUMBER: 1

PORT 3:  TYPE: UDP/IP
         PROTOCOL: DAKTRONICS RTD
         PORT: 3002
         NUMBER: 1

PORT 4   TYPE: DIRECT
         PROTOCOL: DAKTRONICS RTD
         BAUD: 19200
         NUMBER: 2

## ① POOL A

NETWORK BY OTHERS

PRINTER
NETWORK   COM1
LAPTOP COMPUTER
HYTEK COMPUTER BY OTHERS

W−1267

J13−POWER  J15−FAR  J14−NEAR  J12−START  J11−FAR  J10−NEAR  J9−S−SWITCH  J8−M−SWITCH  J7−S−INPUT  J6−RESULTS  J5−RTD  J4−E−PORT  J3−SCBD  J2−SCBD

W−1267

TO/FROM VENUS 7000
RTD INPUT 1
(SEE NOTE 'A')

LL−2549 SWIMMING
LL−2566 DIVING

OMNISPORT 2000

COM1   PRINTER
LAPTOP COMPUTER
PRO SWIM COMPUTER

(OPTIONAL)

## ② POOL B

NETWORK BY OTHERS

PRINTER
NETWORK   COM1
LAPTOP COMPUTER
HYTEK COMPUTER BY OTHERS

W−1267

J13−POWER  J15−FAR  J14−NEAR  J12−START  J11−FAR  J10−NEAR  J9−S−SWITCH  J8−M−SWITCH  J7−S−INPUT  J6−RESULTS  J5−RTD  J4−E−PORT  J3−SCBD  J2−SCBD

W−1267

TO/FROM VENUS 7000
RTD INPUT 2
(SEE NOTE 'A')

LL−2549 SWIMMING
LL−2566 DIVING

OMNISPORT 2000

COM1   PRINTER
LAPTOP COMPUTER
PRO SWIM COMPUTER

(OPTIONAL)

## ③ DIVING WELL

J13−POWER  J15−FAR  J14−NEAR  J12−START  J11−FAR  J10−NEAR  J9−S−SWITCH  J8−M−SWITCH  J7−S−INPUT  J6−RESULTS  J5−RTD  J4−E−PORT  J3−SCBD  J2−SCBD

W−1267

TO/FROM VENUS 7000
RTD INPUT 3
(SEE NOTE 'A')

LL−2549 SWIMMING
LL−2566 DIVING

OMNISPORT 2000

COM1   PRINTER
LAPTOP COMPUTER
PRO SWIM COMPUTER

(OPTIONAL)

## ④ ADDITIONAL HY−TEK FOR EXTENDED REQUESTS

NETWORK BY OTHERS

PRINTER
NETWORK   COM1
LAPTOP COMPUTER
HYTEK COMPUTER BY OTHERS

TO/FROM VENUS 7000
RTD INPUT 4

---

## NOTE 'A'

COMMUNICATION BETWEEN THE OMNISPORT 2000 AND THE VENUS 7000 IS RECOMMENDED TO BE CURRENT LOOP. FOR DISTANCES OVER 50FT, IT IS MANDATORY.

### ① POOL 'A'

**HY−TEK SETTINGS**
TIMING CONSOLE INTERFACE: OMNISPORT 2000
ALPHA SCOREBOARD INTERFACE: DAKTRONICS
SERIAL COM PORT FOR DAK 2 TIMER: 1

**VENUS 7000 SETTINGS**

| | |
|---|---|
| INPUT: 1 | BAUD: 19200 |
| NAME: POOL 'A' | PARITY: NONE |
| SOURCE TYPE: COM PORT | DATA BITS: 8 |
| SOURCE COM 5 | PROTOCOL: ENHANCED |
| DEFAULT INPUT TEMPLATE : OS2_SWIMMING | |

**SWIMDIVE REQUEST**
PORT NUMBER: 1
USE WITH: OMNISPORT 2000

### ② POOL 'B'

**HYTEK SETTINGS**
TIMING CONSOLE INTERFACE: OMNISPORT 2000
ALPHA SCOREBOARD INTERFACE: DAKTRONICS
SERIAL COM PORT FOR DAK 2 TIMER: 1

**VENUS 7000 SETTINGS**

| | |
|---|---|
| INPUT: 2 | BAUD: 19200 |
| NAME: POOL 'B' | PARITY: NONE |
| SOURCE TYPE: COM PORT | DATABITS: 8 |
| SOURCE: COM 6 | PROTOCOL: ENHANCED |
| DEFAULT INPUT TEMPLATE: OS2_SWIMMING | |

**SWIMDIVE REQUEST**
PORT NUMBER: 2
USE WITH OMNISPORT 2000

### ③ DIVE WELL

**VENUS 7000 SETTINGS**

| | |
|---|---|
| INPUT: 3 | BAUD: 19200 |
| NAME: DIVE WELL | PARITY: NONE |
| SOURCE TYPE: COM PORT | DATA BITS: 8 |
| SOURCE: COM 7 | PROTOCOL: ENHANCED |
| DEFAULT INPUT TEMPLATE: OS2_DIVE | |

### ④ OPTION #1

**HY−TEK SETTINGS**
TIMING CONSOLE INTERFACE: OMNISPORT 2000
ALPHA SCOREBOARD INTERFACE: DAKTRONICS
SERIAL COM PORT FOR DAK2 TIMER: 1

**VENUS 7000 SETTINGS**

| | |
|---|---|
| INPUT: 4 | BAUD: 9600 |
| NAME: EXTENDED REQUESTS | PARITY: EVEN |
| SOURCE TYPE: COM PORT | DATA BITS: 8 |
| SOURCE: COM 8 | PROTOCOL: ENHANCED |
| DEFAULT INPUT TEMPLATE: OS2_SWIMMING | SIZE: 5000 |

**SWIMDIVE REQUEST**
PORT NUMBER: 4
USE WITH: DIRECT HY−TEK

-------------------OR-------------------

### OPTION #2

**HY−TEK SETTINGS**
TIMING CONSOLE INTERFACE: OMNISPORT 2000
ALPHA SCOREBOARD INTERFACE: GENERIC SERIAL
SERIAL COM PORT FOR DAK2 TIMER: 0
SERIAL COM PORT FOR GENERIC SCOREBOARD: 1

SCOREBOARD PORT PARAMETERS:
BAUD: 9600
PARITY: EVEN
DATA BITS: 7
STOP BITS: 1

**VENUS 7000 SETTINGS**

| | |
|---|---|
| INPUT: 4 | BAUD: 9600 |
| NAME: EXTENDED REQUESTS | PARITY: EVEN |
| SOURCE TYPE: COM PORT | DATA BITS: 7 |
| SOURCE: COM 8 | PROTOCOL: STANDARD |
| SIZE: 5000 | |

DEFAULT INPUT TEMPLATE: HYGENERICSTARTRESULTS
ADDITIONAL ITF'S THAT WILL BE USED:
HYGENERICTEAMSCORES, HYGENERICCOMPLETERESULTS

**SWIMDIVE REQUEST**
PORT NUMBER: 4
USE WITH: HYTEK GENERIC SCOREBOARD

---

TYPICAL POOL SETUP

POOL 'B'    BULKHEAD    POOL 'A'

OMNI    OMNI

DIVING WELL

OMNI

CONTROL ROOM
VENUS

DAKTRONICS, INC.   BROOKINGS, SD 57006

PROJ: AQUATICS
TITLE: OMNI 2000 SYSTEM CONFIGURATIONS
DES. BY: LMUELLE    DRAWN BY: LMUELLE    DATE: 20 JUN 08
REVISION   APPR. BY:
01

| 01 | 07 AUG 08 | REVAMPED DRAWING | AMG | |
|---|---|---|---|---|
| REV. | DATE | DESCRIPTION | BY | APPR. |

SCALE: NONE    1056-R01B-531161

REFER TO MANUAL DD- 1387596 FOR MORE DETAILED INSTRUCTIONS.

① POOL A
OPTION 1



POOL A
OPTION 2



TO VENUS
RTD INPUT 1

TO VENUS
RTD INPUT 2

NETWORK
BY OTHERS

TO VENUS
RTD INPUT 1

② POOL B
OPTION 1



POOL B
OPTION 2



TO VENUS
RTD INPUT 3

TO VENUS
RTD INPUT 4

NETWORK
BY OTHERS

TO VENUS
RTD INPUT 2

③ DIVE WELL



TO VENUS
RTD INPUT 5

④ ADDITIONAL HYTEK
FOR EXTENDED REQUESTS



TO VENUS
RTD INPUT 6

NETWORK
BY OTHERS

TYPICAL POOL SETUP



---
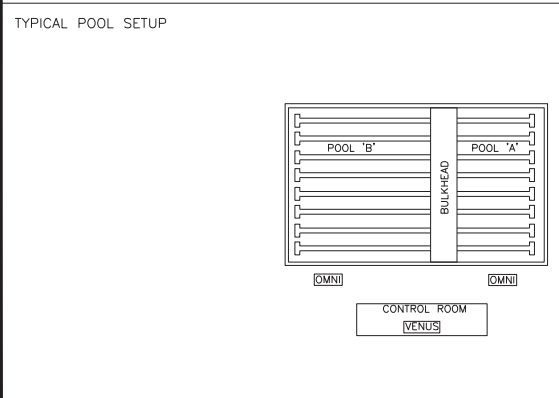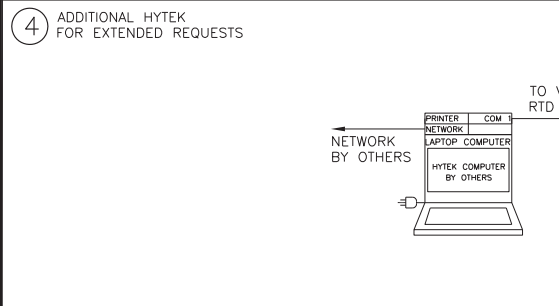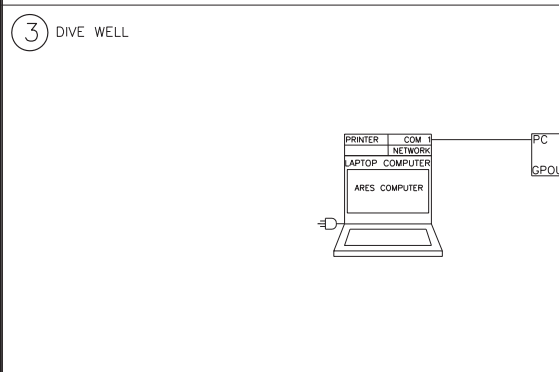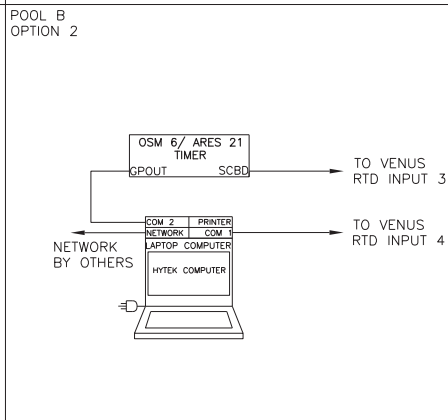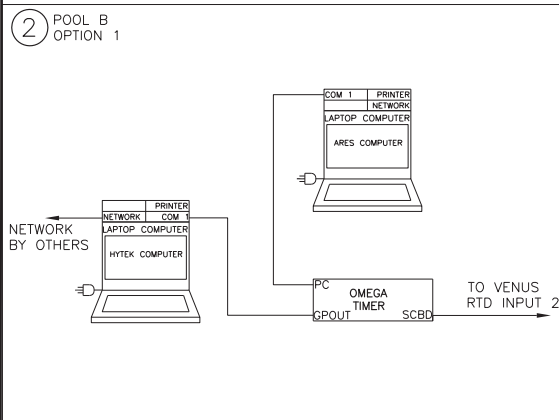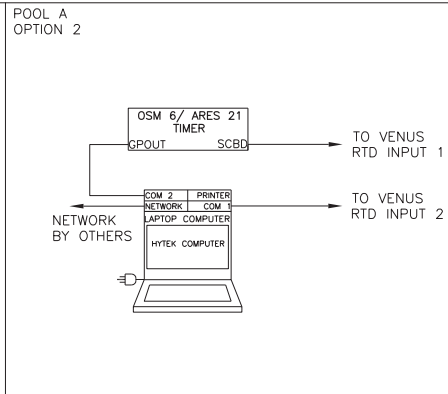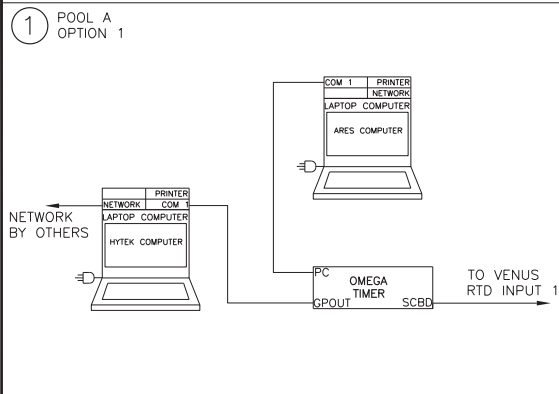
① POOL 'A'
OPTION 1 (ARES BI-DIRECTIONAL)
HY-TEK SETTINGS
TIMING CONSOLE INTERFACE: ARES 21 BI-DIRECTIONAL
ALPHA SCOREBOARD INTERFACE: DAKTRONICS

VENUS 7000 SETTINGS
INPUT: 1
NAME: POOL 'A'
SOURCE TYPE: COM PORT
SOURCE COM 5
BAUD 9600
PARITY: EVEN
DATA BITS: 8
PROTOCOL: ENHANCED
SIZE: 5000
DEFAULT INPUT TEMPLATE : OS6000 SWIM

———————————OR———————————

POOL 'A'
OPTION 2 (OSM 6 / ARES 21)
HY-TEK SETTINGS
TIMING CONSOLE INTERFACE: OMEGA OSM 6 / ARES 21
ALPHA SCOREBOARD INTERFACE: GENERIC SERIAL
SERIAL COM PORT FOR OSM 6: 1
SERIAL COM PORT FOR GENERIC SCOREBOARD: 2
    SCOREBOARD PORT PARAMETERS
    BAUD RATE: 9600
    PARITY: EVEN
    DATA BITS: 7
    STOP BITS: 1

VENUS 7000 SETTINGS
INPUT: 1
NAME: POOL A TIMER
SOURCE TYPE: API/OTHER
SOURCE: (BLANK)
PROTOCOL: ENHANCED
SIZE: 5000
DEFAULT ITEM TEMPLATE:

INPUT: 2
NAME: POOL A RESULTS
SOURCE TYPE: COM PORT
SOURCE: COM 6
BAUD RATE: 9600
PARITY: EVEN
DATA BITS: 7
PROTOCOL: STANDARD
SIZE: 5000
DEFAULT ITEM TEMPLATE: HYGENERICSTARTRESULTS
ADDITIONAL ITF'S THAT WILL BE USED:
HYGENERICTEAMSCORES, HYGENERICCOMPLETERESULTS

TIMER INTERFACE 2000
IINPUT #1
NAME: OMEGA #1
PORT TYPE: COM PORT
PORT: COM 5
BAUD: 9600
PARITY: EVEN
DATA BITS: 7
STOP BITS: 2

OUTPUT #1
SELECT INPUT: 1: OMEGA #1 — COM 1, 9600, EVEN, 8
SELECT OUTPUT TYPE: VENUS 7000 DIRECT
PORT: DIRECT TO VENUS PORT 1

SWIMDIVE REQUEST
PORT NUMBER: 2
USE WITH: HYTEK GENERIC SCOREBOARD

---

② POOL 'B'
OPTION 1
HY-TEK SETTINGS
TIMING CONSOLE INTERFACE:
ARES 21 BI-DIRECTIONAL
ALPHA SCOREBOARD INTERFACE: DAKTRONICS

VENUS 7000 SETTINGS
INPUT: 2
NAME: POOL 'A'
SOURCE TYPE: COM PORT
SOURCE COM 5
BAUD: 9600
PARITY: EVEN
DATA BITS: 8
PROTOCOL: ENHANCED
SIZE: 5000
DEFAULT INPUT TEMPLATE : OS6000 SWIM

———————————OR———————————

POOL 'B'
OPTION 2
HY-TEK SETTINGS
TIMING CONSOLE INTERFACE:
OMEGA OSM 6 / ARES 21
ALPHA SCOREBOARD INTERFACE: GENERIC SERIAL
SERIAL COM PORT FOR CTS_TIMER: 1
SERIAL COM PORT FOR GENERIC SCOREBOARD: 2
    SCOREBOARD PORT PARAMETERS
    BAUD RATE: 9600
    PARITY: EVEN
    DATA BITS: 7
    STOP BITS: 1

VENUS 7000 SETTINGS
INPUT: 3
NAME: POOL A TIMER
SOURCE TYPE: API/OTHER
SOURCE: (BLANK)
PROTOCOL: ENHANCED
SIZE: 5000
DEFAULT ITEM TEMPLATE:

INPUT: 4
NAME: POOL A RESULTS
SOURCE TYPE: COM PORT
SOURCE: COM 6
BAUD RATE: 9600
PARITY: EVEN
DATA BITS: 7
PROTOCOL: STANDARD
SIZE: 5000
DEFAULT ITEM TEMPLATE: HYGENERICSTARTRESULTS
ADDITIONAL ITF'S THAT WILL BE USED:
HYGENERICTEAMSCORES, HYGENERICCOMPLETERESULTS

TIMER INTERFACE 2000
IINPUT #1
NAME: OMEGA #1
PORT TYPE: COM PORT
PORT: COM 5
BAUD: 9600
PARITY: EVEN
DATA BITS: 7
STOP BITS: 2

OUTPUT #1
SELECT INPUT: 1: OMEGA #1 — COM 1, 9600, EVEN, 8
SELECT OUTPUT TYPE: VENUS 7000 DIRECT
PORT: DIRECT TO VENUS PORT 1

SWIMDIVE REQUEST
PORT NUMBER: 2
USE WITH: HYTEK GENERIC SCOREBOARD

---

③ DIVE WELL:

VENUS 7000 SETTINGS
INPUT: 5
NAME: DIVE WELL
SOURCE TYPE: COM PORT
SOURCE: COM 9
BAUD RATE: 9600
PARITY: EVEN
DATABITS: 8
PROTOCOL: ENHANCED
SIZE: 5000
DEFAULT INPUT TEMPLATE: OS6000DIVE

---

④ EXTENDED REQUESTS

OPTION #1
HY-TEK SETTINGS
TIMING CONSOLE INTERFACE: OMNISPORT 2000
ALPHA SCOREBOARD INTERFACE: DAKTRONICS
SERIAL COM PORT FOR DAK2 TIMER: 1

VENUS 7000 SETTINGS
INPUT: 6               BAUD: 9600
NAME: EXTENDED REQUESTS   PARITY: EVEN
SOURCE TYPE: COM PORT   DATA BITS: 8
SOURCE: COM 10         PROTOCOL: ENHANCED
DEFAULT INPUT TEMPLATE:   SIZE: 5000
OS2_SWIMMING

SWIMDIVE REQUEST
PORT NUMBER: 6
USE WITH: DIRECT HY-TEK

———————————OR———————————

OPTION #2
HY-TEK SETTINGS
TIMING CONSOLE INTERFACE: OMEGA OSM6/ARES21
ALPHA SCOREBOARD INTERFACE: GENERIC SERIAL
SERIAL COM PORT FOR OSM6 TIMER: 0
SERIAL COM PORT FOR GENERIC SCOREBOARD: 1

SCOREBOARD PORT PARAMETERS:
BAUD: 9600
PARITY: EVEN
DATA BITS: 7
STOP BITS: 1

VENUS 7000 SETTINGS
INPUT: 6               BAUD: 9600
NAME: EXTENDED REQUESTS   PARITY: EVEN
SOURCE TYPE: COM PORT   DATA BITS: 7
SOURCE: COM 8         PROTOCOL: STANDARD
SIZE: 5000
DEFAULT INPUT TEMPLATE: HYGENERICSTARTRESULTS
ADDITIONAL ITF'S THAT WILL BE USED:
HYGENERICTEAMSCORES, HYGENERICCOMPLETERESULTS

SWIMDIVE REQUEST
PORT NUMBER: 4
USE WITH: HYTEK GENERIC SCOREBOARD

---

| REV. | DATE | DESCRIPTION | BY | APPR. |
|---|---|---|---|---|
| 03 | 29 APR 09 | UPDATED NOTES | CME | |
| 02 | 23 JAN 09 | UPDATED LAYOUT | AMG | |
| 01 | 11 NOV 08 | UPDATED NOTES, CHANGED TO "C" SIZE | AMG | |

DAKTRONICS, INC.    BROOKINGS, SD 57006
PROJ: AQUATICS
TITLE: OMEGA TIMING SYSTEM CONFIGURATIONS
DES. BY: LMUELLE    DRAWN BY: LMUELLE    DATE: 23 JUN 08
REVISION    APPR. BY:
03    SCALE:    NONE

1056-R01C-536240

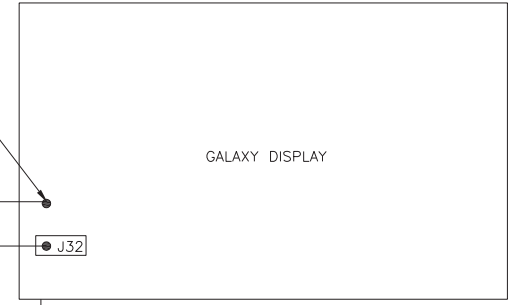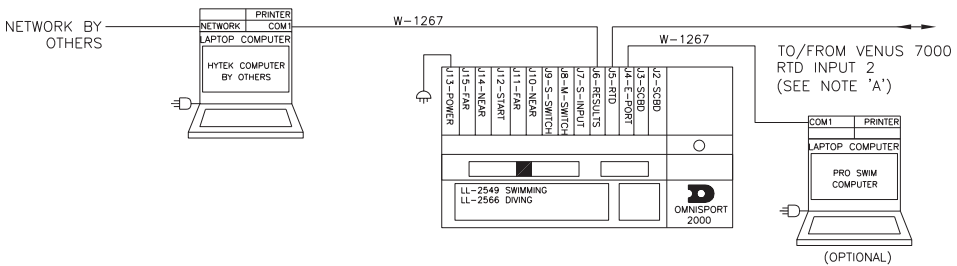−REFER TO MANUAL DD−1387596 FOR MORE DETAILED INSTRUCTIONS.
−COM PORT NUMBERS MAY CHANGE DEPENDING ON COMPUTER SETUP

### 1 POOL 'A'
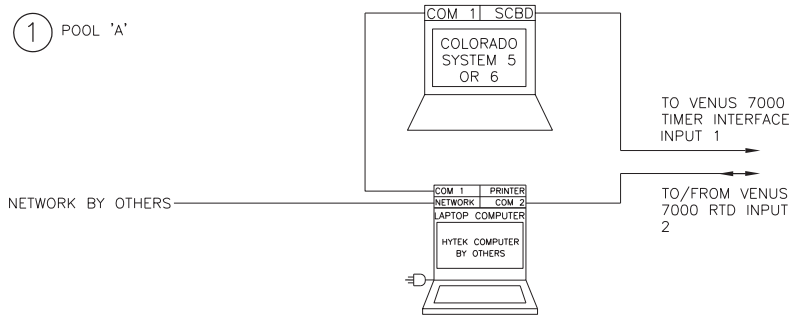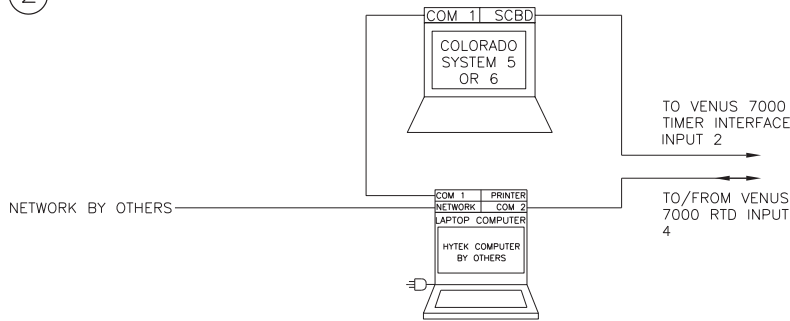
COM 1 | SCBD
COLORADO SYSTEM 5 OR 6

TO VENUS 7000 TIMER INTERFACE INPUT 1

NETWORK BY OTHERS

COM 1 | PRINTER
NETWORK | COM 2
LAPTOP COMPUTER
HYTEK COMPUTER BY OTHERS

TO/FROM VENUS 7000 RTD INPUT 2

### 2 POOL 'B'

COM 1 | SCBD
COLORADO SYSTEM 5 OR 6

TO VENUS 7000 TIMER INTERFACE INPUT 2

NETWORK BY OTHERS

COM 1 | PRINTER
NETWORK | COM 2
LAPTOP COMPUTER
HYTEK COMPUTER BY OTHERS

TO/FROM VENUS 7000 RTD INPUT 4

### 3 DIVE WELL

COM 1 | SCBD
COLORADO SYSTEM 5 OR 6

TO VENUS 7000 RTD INPUT 5

### 4 ADDITIONAL HY−TEK FOR EXTENDED REQUESTS

NETWORK BY OTHERS

PRINTER
NETWORK | COM
LAPTOP COMPUTER
HYTEK COMPUTER BY OTHERS

TO/FROM VENUS 7000 RTD INPUT 6

---

### ① POOL A

HY−TEK SETTINGS
TIMING CONSOLE INTERFACE: COLORADO TIMING SYSTEM (4,5,OR 6)
ALPHA SCOREBOARD INTERFACE: GENERIC SERIAL
SERIAL COM PORT FOR CTS_TIMER: 1
SERIAL COM PORT FOR GENSER
SCOREBOARD: 2
SCOREBOARD PORT PARAMETERS
BAUD RATE: 9600
PARITY: EVEN
DATA BITS: 7
STOP BITS: 1
VENUS 7000 SETTINGS
INPUT: 1
NAME: POOL A TIMER
SOURCE TYPE: API/OTHER
SOURCE: (BLANK)
PROTOCOL: ENHANCED
SIZE: 5000
DEFAULT INPUT TEMPLATE: CTS INTERFACE SWIMMING
INPUT: 2
NAME: POOL A RESULTS
SOURCE TYPE: COM PORT
SOURCE: COM 6
BAUD RATE: 9600
PARITY: EVEN
DATA BITS: 7
PROTOCOL: STANDARD
SIZE: 5000
DEFAULT ITEM TEMPLATE: HYGENERIC START RESULTS

ADDITIONAL ITF'S THAT WILL BE USED:
HYGENERIC TEAM SCORES
HYGENERIC COMPLETE RESULTS

TIMER INTERFACE 2000
IINPUT #1
NAME: CTS #1
PORT TYPE: COM PORT
PORT: COM 5
BAUD: 9600
PARITY: EVEN
DATA BITS: 8
STOP BITS: 2

OUTPUT #1
SELECT INPUT: 1: CTS #1 − COM 5, 9600, 8, EVEN
SELECT OUTPUT TYPE: VENUS 7000 DIRECT
PORT: DIRECT TO VENUS PORT 1

SWIMDIVE REQUEST
PORT NUMBER: 2
USE WITH: HYTEK GENERIC SCOREBOARD

### ② POOL B:

USE SAME SETTINGS AS POOL A EXCEPT:

VENUS 7000 SETTINGS
INPUT: 3
NAME: POOL B TIMER

INPUT: 4
NAME: POOL B RESULTS
SOURCE: COM 8

TIMER INTERFACE 2000
INPUT #2
NAME: CTS #2
PORT: COM 7
BAUD: 9600

PARITY: EVEN
DATA BITS: 8
STOP BITS: 2

OUTPUT #2
SELECT INPUT: 2
NAME: CTS #2 − COM 7, 9600, 8, EVEN
PORT: DIRECT TO VENUS PORT 3

SWIMDIVE REQUEST
PORT NUMBER: 4

### ③ DIVE WELL:

VENUS 7000 SETTINGS
INPUT: 5
NAME: DIVE WELL
SOURCE TYPE: API/OTHER
SOURCE: (BLANK)
PROTOCOL: ENHANCED
SIZE: 5000
DEFAULT INPUT TEMPLATE: CTS INTERFACE DIVE

TIMER INTERFACE 2000
INPUT: #3
NAME: CTS #3
PORT: COM 9
BAUD RATE: 9600
PARITY: EVEN
DATA BITS: 8
STOP BITS: 2

OUTPUT #3
SELECT INPUT: 3 − COM 9, 9600, 8, EVEN
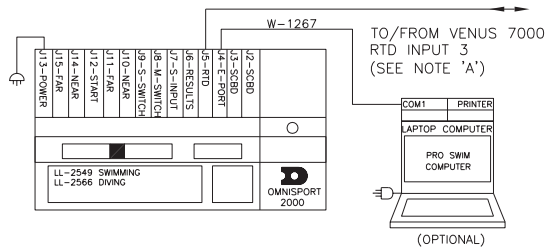NAME: CTS #3
PORT: DIRECT TO VENUS PORT 5

### ④ OPTION #1

HY−TEK SETTINGS
TIMING CONSOLE INTERFACE: OMNISPORT 2000
ALPHA SCOREBOARD INTERFACE: DAKTRONICS
SERIAL COM PORT FOR DAK2 TIMER: 1

VENUS 7000 SETTINGS
INPUT: 6
NAME: EXTENDED REQUESTS
SOURCE TYPE: COM PORT
SOURCE: COM 10
BAUD: 9600
PARITY: EVEN
DATA BITS: 8
PROTOCOL: ENHANCED
SIZE: 5000
DEFAULT INPUT TEMPLATE: OS2_SWIMMING

SWIMDIVE REQUEST
PORT NUMBER: 6
USE WITH: DIRECT HY−TEK

−OR−

### OPTION #2

HY−TEK SETTINGS
TIMING CONSOLE INTERFACE: COLORADO TIMING SYSTEM (4,5, OR 6)
ALPHA SCOREBOARD INTERFACE: GENERIC SERIAL
SERIAL COM PORT FOR CTS TIMER: 0
SERIAL COM PORT FOR GENERIC SCOREBOARD: 1

SCOREBOARD PORT PARAMETERS:
BAUD: 9600
PARITY: EVEN
DATA BITS: 7
STOP BITS: 1

VENUS 7000 SETTINGS
INPUT: 6
NAME: EXTENDED REQUESTS
SOURCE TYPE: COM PORT
SOURCE: COM 10
SIZE: 5000
BAUD: 9600
PARITY: EVEN
DATA BITS: 7
PROTOCOL: STANDARD

DEFAULT INPUT TEMPLATE: HYGENERICSTARTRESULTS
ADDITIONAL ITF'S THAT WILL BE USED:
HYGENERICTEAMSCORES,
HYGENERICCOMPLETERESULTS

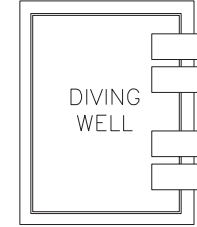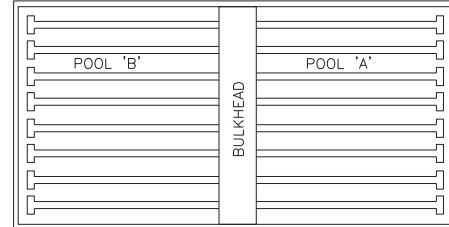SWIMDIVE REQUEST
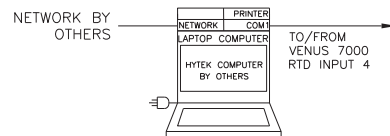PORT NUMBER: 6
USE WITH: HYTEK GENERIC SCOREBOARD

---

TYPICAL POOL SETUP

POOL 'B' | BULKHEAD | POOL 'A'
OMNI | OMNI

DIVING WELL
OMNI

CONTROL ROOM
VENUS

PROJ: AQUATICS
TITLE: COLORADO TIMING SYSTEM CONFIGURATIONS
DES. BY: LMUELLE     DRAWN BY: LMUELLE     DATE: 23 JUN 08
REVISION   APPR. BY:
02     SCALE: NONE     1056-R01B-539079

| REV. | DATE | DESCRIPTION | BY | APPR. |
|---|---|---|---|---|
| 01 | 8 SEPT 08 | REDID LAYOUT OF DWG, UPDATED NOTES | AMG | |
| 02 | 23 JAN 09 | UPDATED LAYOUT | AMG | |

-REFER TO MANUAL DD-1387596 FOR MORE DETAILED INSTRUCTIONS.
-COM PORT NUMBERS MAY CHANGE DEPENDING ON COMPUTER SETUP

POOL 'A'

PRINTER  COM1
NETWORK
LAPTOP COMPUTER
HYTEK COMPUTER
BY OTHERS

W-1267

0A-1240-0061

J15-POWER
J14-NEAR
J12-START
J11-FAR
J10-FAR
J9-M-SWITCH
J8-M-SWITCH
J7-S-INPUT
J6-RESULTS
J5-RTD
J4-E-PORT
J3-SCBD
J2-SCBD

LL-2549        OMNISPORT 2000

0A-1240-0002
SET RTD OFFSET IN OMNISPORT TO OK

W-1267

PRINTER
COM1  NETWORK
LAPTOP COMPUTER
V1500/PRO COMPUTER

W-1547

J2

ETHERNET ROUTER
4 PORT
A-2062

W-1547

0A-1125-0009 &
0A-1196-0131
6 POSITION SPLICE
BOX W/ SINGLE CL
TO FIBER CONVERTER

FIBER
CONVERTER
A-1778

W-1456

AF-3400 AND GALAXY PRO
USE 0A-1125-0011

AF-3500 AND NEW MODEL
SPORTSTAR
USE 0A-1125-0013

W-1077, FIELD TERMINATED
IN 1" CONDUIT
SEE DETAIL 'A'

GALAXY DISPLAY

J32

| TB1 (OMNISPORT/RTD) PIN ID TABLE | |
|---|---|
| PIN | FUNCTION |
| 2 | RTD CL TX-P(+) - RED |
| 6 | RTD CL TX-N(-) - BLK |

DIRECT TO TB1 PINS 2 & 6

NOTE:
SEE INSTALLATION MANUAL
FOR POWER REQUIREMENTS.

POOL 'B'

ETHERNET ROUTER
4 PORT
A-2062

W-1384

J2

UDS-1100
0A-1177-0278

W-1547

0A-1374-0050

W-1547

PRINTER  COM1
NETWORK
LAPTOP COMPUTER
HYTEK COMPUTER
BY OTHERS

W-1267
W-1547

J13-POWER
J14-NEAR
J12-START
J11-FAR
J10-NEAR
J9-S-SWITCH
J8-M-SWITCH
J7-S-INPUT
J6-RESULTS
J5-RTD
J4-E-PORT
J3-SCBD
J2-SCBD

LL-2549        OMNISPORT 2000

0A-1240-0002
SET RTD OFFSET IN OMNISPORT TO 5K

W-1267

NETWORK  PRINTER
COM1
LAPTOP COMPUTER
PRO SWIM COMPUTER

POOL 'A'
HY-TEK SETTINGS
TIMING CONSOLE INTERFACE: OMNISPORT 2000
ALPHA SCOREBOARD INTERFACE: DAKTRONICS
SERIAL COM PORT FOR DAK 2 TIMER: 1

OMNISPORT SETTINGS
RESULT PORT: OMNI 2000
RTD MATRIX:
     NUMBER OF LINES: (SET TO THE NUMBER
     OF LINES THAT WILL DISPLAY ON THE
SCOREBOARD)
RTD OFFSET: OK

POOL 'B'
HY-TEK SETTINGS
TIMING CONSOLE INTERFACE: OMNISPORT 2000
ALPHA SCOREBOARD INTERFACE: DAKTRONICS
SERIAL COM PORT FOR DAK 2 TIMER: 1

OMNISPORT SETTINGS
RESULT PORT: OMNI 2000
RTD MATRIX:
     NUMBER OF LINES: (SET TO THE NUMBER
     OF LINES THAT WILL DISPLAY ON THE
SCOREBOARD)
RTD OFFSET: 5K

DISPLAY (GALAXY/GALAXY PRO)

PORT 1:  TYPE: DIRECT
         PROTOCOL: VENUS 1500
         BAUD: 19200 - GALAXY
               115200 - GALAXY PRO
         NUMBER: 1

PORT 2:  TYPE: TCP/IP
         PROTOCOL: VENUS 1500
         PORT: 3001
         NUMBER: 1

PORT 3:  TYPE: UDP/IP
         PROTOCOL: DAKTRONICS RTD
         PORT: 3002
         NUMBER: 1

PORT 4   TYPE: DIRECT
         PROTOCOL: DAKTRONICS RTD
         BAUD: 19200
         NUMBER: 2

DETAIL 'A'

GALAXY DISPLAY

0A-1177-1029
RJ45 J-BOX

J2

| 8-PIN RJ45 | |
|---|---|
| PIN# | WIRE COLOR |
| 1 | WHT/ORG |
| 2 | ORG |
| 3 | WHT/GRN |
| 4 | BLU |
| 5 | WHT/BLU |
| 6 | GRN |
| 7 | WHT/BRN |
| 8 | BRN |

RED WIRE
TO TB3 SIG+

BLACK WIRE
TO TB3 SIG-

M2 OR M3
CONTROLLER

TB1

RED TO
TB1-2

BLACK TO
TB1-6

0A-1125-0011
OR
0A-1125-0013      W-1077 IN 1" CONDUIT

DAKTRONICS, INC.  BROOKINGS, SD 57006

PROJ: OMNISPORT
TITLE: OMNISPORT TO GALAXY VIA FIBER W/HYTEK, V1500, PRO
DES. BY: JWARNE    DRAWN BY: AGORDER    DATE: 06 AUG 08

| 01 | 23 JAN 09 | UPDATED LAYOUT, ADDED ETHERNET ROUTER AND J-BOXES. | AMG | |
|---|---|---|---|---|
| REV. | DATE | DESCRIPTION | BY | APPR. |

REVISION  APPR. BY:
01   SCALE: NONE

1056-R01B-603918

—REFER TO MANUAL DD−1387596 FOR MORE DETAILED INSTRUCTIONS.

—COM PORT NUMBERS MAY CHANGE DEPENDING ON COMPUTER SETUP

GALAXY DISPLAY

POOL 'A'

COM 1 | SCBD
COLORADO SYSTEM 5 OR 6
0A−1109−0040

W−1350

PRINTER | NETWORK
COM1 | COM2
W−1547
W−1350
LAPTOP COMPUTER
HYTEK COMPUTER
BY OTHERS

ETHERNET ROUTER 4 PORT A−2062

W−1547

W−1547 (POOL B)

A−1801
A−1801
USB | NETWORK
USB | USB
W−1547
V1500(VER 3.XX)/ TIMER INTERFACE (0A−1092−0048)
A−1801
USB | USB | A−1801

0A−1147−0011
USB V1500 RT KEY

J2

CAT5E (W−1384)

J2

J32

NOTE:
W−1384, CAT5E CABLE RUNS MUST BE LESS THAN 250'.
− FOR RUNS GREATER THAN 250' USE FIBER OPTIC CABLE OPTION.

NOTE:
SEE INSTALLATION MANUAL FOR POWER REQUIREMENTS.

REQUIRED WITH POOL 'B'
0A−1109−0040

W−1267
1801

J1

J4 | J2

REQUIRED WITH POOL 'B'

POOL 'B'

COM 1 | SCBD
COLORADO SYSTEM 5 OR 6
W−1236
0A−1091−0227
W−1234
J1

W−1350

PRINTER | NETWORK
COM1 | COM2
W−1547
W−1267
LAPTOP COMPUTER
HYTEK COMPUTER
BY OTHERS

J2

CAT5E (W−1384)

W−1264 | J3
W−1234

**V1500 RT SETTINGS**

INPUT: 2
PORT TYPE: SERIAL COM PORT
PORT: COM 5
BAUD RATE: 9600
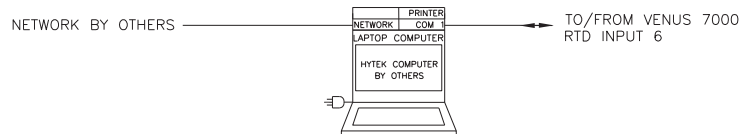PARITY: EVEN
DATA BITS: 7
STOP BITS: 1

INPUT: 4
PORT TYPE: SERIAL COM PORT
PORT: COM 6
BAUD RATE: 9600
PARITY: EVEN
DATA BITS: 7
STOP BITS: 1

**POOL 'A'**

HYTEK SETTINGS
TIMING CONSOLE INTERFACE: COLORADO TIMING SYSTEMS (4,5, OR 6)
ALPHA SCOREBOARD INTERFACE: GENERIC SERIAL
SERIAL COMPORT FOR CTS_TIMER: 1
SERIAL COMPORT FOR GENERIC SCOREBOARD: 2

SCOREBOARD PORT PARAMETERS
BAUD RATE: 9600
PARITY: EVEN
DATA BITS: 7
STOP BITS: 1

TIMER INTERFACE 2000
IINPUT #1
NAME: CTS #1
PORT TYPE: COM PORT
PORT: COM 7
BAUD: 9600
PARITY: EVEN
DATA BITS: 8
STOP BITS: 2

OUTPUT #1
SELECT INPUT: 1: CTS #1
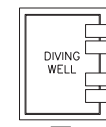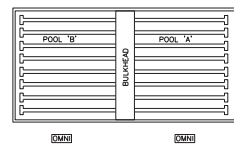SELECT OUTPUT TYPE: ENHANCED RTD
PORT TYPE: UDP
PORT: 3002

**POOL 'B'**

HYTEK SETTINGS
TIMING CONSOLE INTERFACE: COLORADO TIMING SYSTEMS (4,5, OR 6)
ALPHA SCOREBOARD INTERFACE: GENERIC SERIAL
SERIAL COMPORT FOR CTS_TIMER: 1
SERIAL COMPORT FOR GENERIC SCOREBOARD: 2

SCOREBOARD PORT PARAMETERS
BAUD RATE: 9600
PARITY: EVEN
DATA BITS: 7
STOP BITS: 1

TIMER INTERFACE 2000
IINPUT #2
NAME: CTS #2
PORT TYPE: COM PORT
PORT: COM 8
BAUD: 9600
PARITY: EVEN
DATA BITS: 8
STOP BITS: 2

OUTPUT #2
SELECT INPUT: 2: CTS #2
SELECT OUTPUT TYPE: ENHANCED RTD
PORT TYPE: UDP
PORT: 3002
OFFSET: 10000

**0A−1091−0227 ¼ PHONO J−BOX**

| | J1 | |
|---|---|---|
| | 1/4" PHONO | |
| PIN# | | WIRE COLOR |
| TIP | | RED |
| RING | | NOT USED |
| SHANK | | BLK |

**0A−1177−1029 RJ45 J−BOX**

| | J2 | |
|---|---|---|
| | 8−PIN RJ45 | |
| PIN# | | WIRE COLOR |
| 1 | | WHT/ORG |
| 2 | | ORG |
| 3 | | WHT/GRN |
| 4 | | BLU |
| 5 | | WHT/BLU |
| 6 | | GRN |
| 7 | | WHT/BRN |
| 8 | | BRN |

**0A−1240−0014 15 PIN J−BOX**

| | J3 & J4 | |
|---|---|---|
| | 15 PIN D | |
| J3 PIN# | WIRE COLOR | J4 PIN# |
| 9 | RED | 11 |
| 10 | BLACK | 12 |
| 11 | WHITE | 9 |
| 12 | GREEN | 10 |

| REV. | DATE | DESCRIPTION | BY | APPR. |
|---|---|---|---|---|
| 04 | 8 FEB 10 | CORRECTED TIMER INTERFACE PART # | AGG | |
| 03 | 21 MAY 09 | CHANGED V1500 RT SETTING TO INPUT 2 AND TIMER INTERFACE OUPUT #2 OFFSET TO 10000 | AGG | |
| 02 | 23 JAN 09 | UPDATED DESCRIPTIONS | AGG | |
| 01 | 17 DEC 08 | UPDATED TO SHOW EQUIPMENT FOR POOL 'B' | AGG | |

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OMNISPORT
TITLE: COLORADO TIMER TO GALAXY VIA WIRED ETHERNET
DES. BY: JWARNE    DRAWN BY: AGORDER    DATE: 07 AUG 08
REVISION: 04    APPR. BY:
SCALE: NONE
1056−R01B−604064

REFER TO MANUAL DD-1387596 FOR MORE DETAILED INSTRUCTIONS.

COM PORT NUMBERS MAY CHANGE DEPENDING ON COMPUTER SETUP

0A-1125-0009 6 POSITION SPLICE BOX
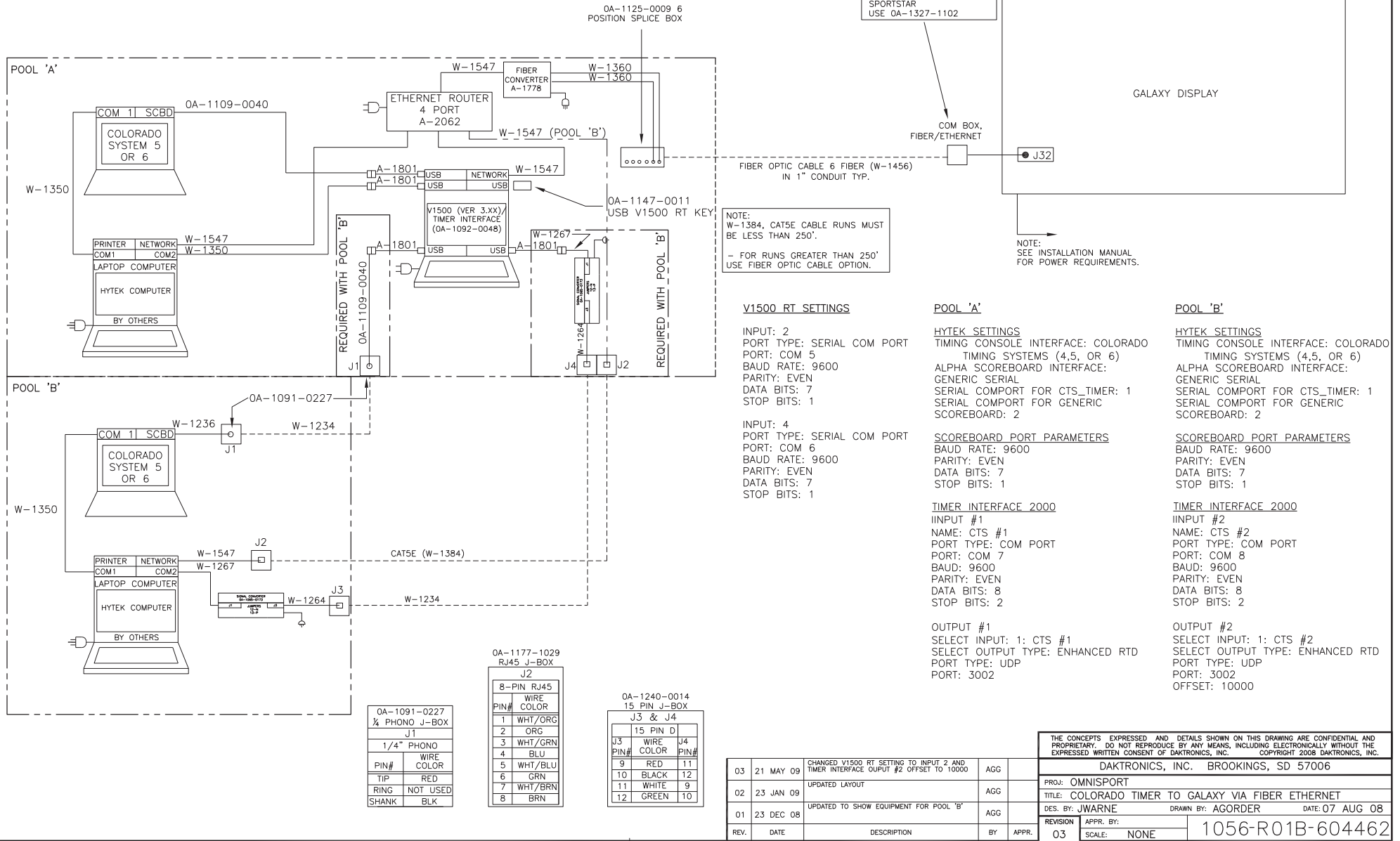
AF-3400 AND GALAXY PRO USE 0A-1229-0109

AF-3500 AND NEW MODEL SPORTSTAR USE 0A-1327-1102

GALAXY DISPLAY

POOL 'A'

COM 1 SCBD    0A-1109-0040

COLORADO SYSTEM 5 OR 6

W-1547

ETHERNET ROUTER 4 PORT A-2062

FIBER CONVERTER A-1778

W-1360
W-1360

W-1547 (POOL 'B')

W-1547

COM BOX, FIBER/ETHERNET

J32

W-1350

A-1801
A-1801

USB    NETWORK
USB    USB

FIBER OPTIC CABLE 6 FIBER (W-1456) IN 1" CONDUIT TYP.

V1500 (VER 3.XX) TIMER INTERFACE (0A-1092-0048)

0A-1147-0011 USB V1500 RT KEY

PRINTER  NETWORK
COM1     COM2

W-1547
W-1350

LAPTOP COMPUTER

A-1801    USB    USB    A-1801

W-1267

HYTEK COMPUTER

BY OTHERS

NOTE:
W-1384, CAT5E CABLE RUNS MUST BE LESS THAN 250'.
- FOR RUNS GREATER THAN 250' USE FIBER OPTIC CABLE OPTION.

NOTE:
SEE INSTALLATION MANUAL FOR POWER REQUIREMENTS.

REQUIRED WITH POOL 'B'    0A-1109-0040

REQUIRED WITH POOL 'B'

J1

J4    J2

POOL 'B'

COM 1 SCBD

W-1236    0A-1091-0227    W-1234

COLORADO SYSTEM 5 OR 6

J1

W-1350

PRINTER  NETWORK
COM1     COM2

W-1547    J2
W-1267

LAPTOP COMPUTER

SIGNAL CONVERTER    W-1264    J3

W-1234

CAT5E (W-1384)

HYTEK COMPUTER

BY OTHERS

## V1500 RT SETTINGS

INPUT: 2
PORT TYPE: SERIAL COM PORT
PORT: COM 5
BAUD RATE: 9600
PARITY: EVEN
DATA BITS: 7
STOP BITS: 1

INPUT: 4
PORT TYPE: SERIAL COM PORT
PORT: COM 6
BAUD RATE: 9600
PARITY: EVEN
DATA BITS: 7
STOP BITS: 1

## POOL 'A'

HYTEK SETTINGS
TIMING CONSOLE INTERFACE: COLORADO TIMING SYSTEMS (4,5, OR 6)
ALPHA SCOREBOARD INTERFACE: GENERIC SERIAL
SERIAL COMPORT FOR CTS_TIMER: 1
SERIAL COMPORT FOR GENERIC SCOREBOARD: 2

SCOREBOARD PORT PARAMETERS
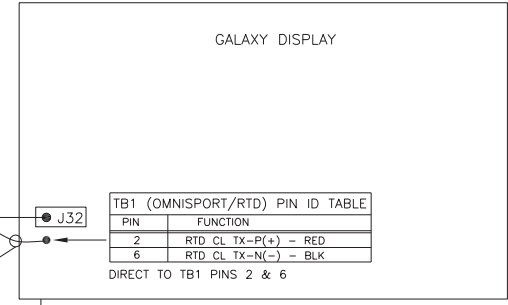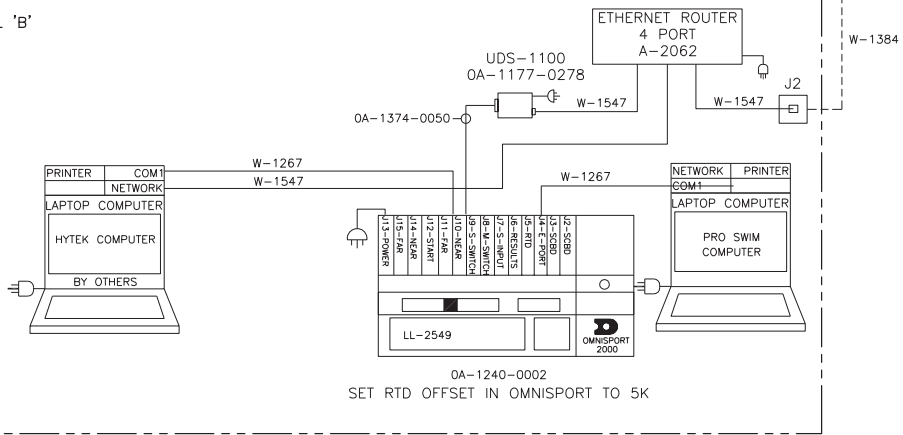BAUD RATE: 9600
PARITY: EVEN
DATA BITS: 7
STOP BITS: 1

TIMER INTERFACE 2000
IINPUT #1
NAME: CTS #1
PORT TYPE: COM PORT
PORT: COM 7
BAUD: 9600
PARITY: EVEN
DATA BITS: 8
STOP BITS: 2

OUTPUT #1
SELECT INPUT: 1: CTS #1
SELECT OUTPUT TYPE: ENHANCED RTD
PORT TYPE: UDP
PORT: 3002

## POOL 'B'

HYTEK SETTINGS
TIMING CONSOLE INTERFACE: COLORADO TIMING SYSTEMS (4,5, OR 6)
ALPHA SCOREBOARD INTERFACE: GENERIC SERIAL
SERIAL COMPORT FOR CTS_TIMER: 1
SERIAL COMPORT FOR GENERIC SCOREBOARD: 2

SCOREBOARD PORT PARAMETERS
BAUD RATE: 9600
PARITY: EVEN
DATA BITS: 7
STOP BITS: 1

TIMER INTERFACE 2000
IINPUT #2
NAME: CTS #2
PORT TYPE: COM PORT
PORT: COM 8
BAUD: 9600
PARITY: EVEN
DATA BITS: 8
STOP BITS: 2

OUTPUT #2
SELECT INPUT: 1: CTS #2
SELECT OUTPUT TYPE: ENHANCED RTD
PORT TYPE: UDP
PORT: 3002
OFFSET: 10000

0A-1091-0227
1/4 PHONO J-BOX

| J1 | |
|----|----|
| 1/4" PHONO | |
| PIN# | WIRE COLOR |
| TIP | RED |
| RING | NOT USED |
| SHANK | BLK |

0A-1177-1029
RJ45 J-BOX

| J2 | |
|----|----|
| 8-PIN RJ45 | |
| PIN# | WIRE COLOR |
| 1 | WHT/ORG |
| 2 | ORG |
| 3 | WHT/GRN |
| 4 | BLU |
| 5 | WHT/BLU |
| 6 | GRN |
| 7 | WHT/BRN |
| 8 | BRN |

0A-1240-0014
15 PIN J-BOX

| J3 & J4 | | |
|----|----|----|
| | 15 PIN D | |
| J3 PIN# | WIRE COLOR | J4 PIN# |
| 9 | RED | 11 |
| 10 | BLACK | 12 |
| 11 | WHITE | 9 |
| 12 | GREEN | 10 |

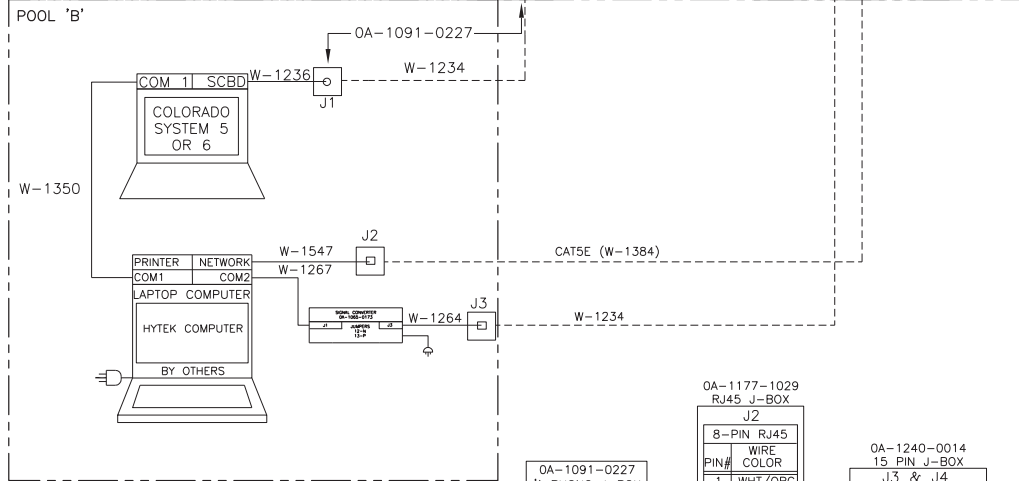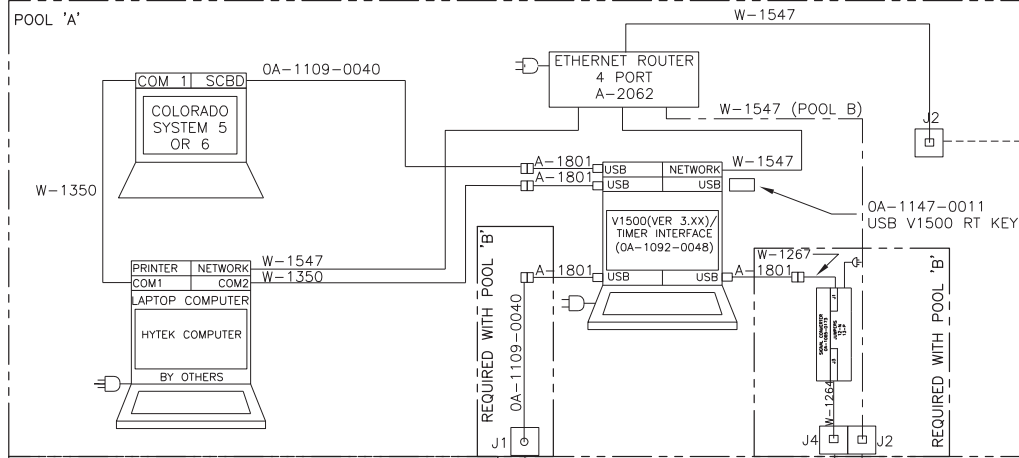| REV. | DATE | DESCRIPTION | BY | APPR. |
|----|----|----|----|----|
| 03 | 21 MAY 09 | CHANGED V1500 RT SETTING TO INPUT 2 AND TIMER INTERFACE OUPUT #2 OFFSET TO 10000 | AGG | |
| 02 | 23 JAN 09 | UPDATED LAYOUT | AGG | |
| 01 | 23 DEC 08 | UPDATED TO SHOW EQUIPMENT FOR POOL 'B' | AGG | |

DAKTRONICS, INC.  BROOKINGS, SD 57006
PROJ: OMNISPORT
TITLE: COLORADO TIMER TO GALAXY VIA FIBER ETHERNET
DES. BY: JWARNE    DRAWN BY: AGORDER    DATE: 07 AUG 08
REVISION    APPR. BY:
03    SCALE: NONE    1056-R01B-604462

# SERIAL CONNECTION METHOD

ALL EQUIPMENT IS SHOWN WITHIN 10 FT OF EACH OTHER

PRINTER | NETWORK
COM1 | USB
LAPTOP COMPUTER
HY-TEK COMPUTER
BY OTHERS

W-1350 (6FT) NULL MODOM

A-1801
USB TO SERIAL ADAPTOR

ETHERNET ROUTER 4 PORT
A-2520

W-1446 (30FT)

J2

CAT5E (W-1384)

GALAXY DISPLAY OR DMD DISPLAY CENTRAL NETWORK

W-1506 (5FT)

W-1506 (5FT)

SERIAL CABLE BY OTHERS

REFER TO DETAIL "A"

COM 2 / SCBD
COM 1

SC1 0A-1065-0173
JUMPERS 12-N 13-P 19-W
TB1 5+ 6-
RS232 TX/RX
J2 J1

A-2221 USB TO SERIAL ADAPTOR

USB | NETWORK
USB
COM

NUC COMPUTER 0A-2122-0101
SEE NOTE 2 FOR CONFIGURATION

DCS 0A-1453-0035

TIMER INTERFACE A-3309

NETWORK
USB
COM

SHOW CONTROL W/ DCS
0A-1403-1002

COLORADO SYSTEM 5 OR 6

120V AC OR 230V AC

IF APPLICABLE

EXISTING COLORADO J-BOX 1/4" MONO JACK

TO DAKTRONICS FIXED DIGIT DISPLAYS, SEE DWG-130979 FOR DETAILS

W-1267 (10FT) SERIAL CABLES

*OPTIONAL* SWIM/DIVE REQUEST 0A-1240-1021

ABOVE SOFTWARE ON SHOW CONTROL

**POOL 'A'**

HY-TEK SETTINGS
TIMING CONSOLE INTERFACE: COLORADO
TIMING SYSTEMS (4,5, OR 6)
ALPHA SCOREBOARD INTERFACE: "GENERIC"
CONNECTION METHOD: SERIAL PORT

SCOREBOARD PORT PARAMETERS - RUNSCREEN
OPEN/USE SERIAL PORT: COM X
CONFIGURE SERIAL PORT
BAUD RATE: 9600
PARITY: EVEN
DATA BITS: 7
STOP BITS: 1

TIMER INTERFACE 2000
INPUT #1
NAME: CTS TIMER POOL A
PORT TYPE: COM PORT
PORT: COM X
BAUD: 9600
PARITY: EVEN
DATA BITS: 8
STOP BITS: 1

OUTPUT #1
SELECT INPUT: "1: CTS TIMER POOL A-COM 5, 9600, EVEN, 8"
SELECT OUTPUT TYPE: "VENUS ENHANCED RTD"
PORT: UDP/IP "3002" (FOR GALAXY SYSTEMS)
PORT: UDP/IP "21000" (FOR DMP 8000 SYSTEMS)

DCS DIVING SETTINGS
PORT: 5
NAME: DIVING A
SOURCE TYPE: COM PORT
PORT: COM X
BAUD RATE: 9600
PARITY: EVEN
DATA BITS: 8
DEFAULT INPUT TEMPLATE: "OS2-DIVE"

PORT: 6
NAME: DIVING A - OUPUT
SOURCE TYPE: UDP
PORT: 21000

DCS SETTINGS
PORT: 1
NAME: CTS Timer Pool A
SOURCE TYPE: COM PORT
PORT: COM X
BAUD RATE: 9600
PARITY: EVEN
DATA BITS: 8
DEFAULT INPUT TEMPLATE: "CTS INTERFACE SWIMMING"

PORT: 2
NAME: Hy-tek A
SOURCE TYPE: COM PORT
BAUD: 9600
PARITY: EVEN
DATA BITS: 7
DEFAULT ITEM TEMPLATE: "HY-TEK GENERIC SCBD INTERFACE CONTIGUOUS"

PORT: 3
NAME: Output
SOURCE TYPE: UDP/IP
SOURCE: 3002 (FOR GALAXY SYSTEMS)
SOURCE: 20001 (FOR DMP 8000 SYSTEMS)
DEFAULT ITEM TEMPLATE: "HY-TEK GENERIC SCBD INTERFACE CONTIGUOUS"

NOTE: IMPORTANT TO MAKE SURE THIS NAME IS ENTERED EXACTLY AS SHOWN IN TEXT

DCS ACTIVE FILE SETTINGS
PORT 1
CTS TO HY-TEK-A-START LIST REQUEST
PORT 2
HY-TEK GENERIC RTD TO CONTIGUOUS RTD

SWIM/DIVE REQUEST
NAME: Hy-tek A
PORT NUMBER 2
SIGN SERVICE: DCS
USE WITH: "Hy-tek GENERIC SCBD"

# NETWORK CONNECTION METHOD - USE HY-TEK VERSION 5.0DB OR HIGHER

ALL EQUIPMENT IS SHOWN WITHIN 10 FT OF EACH OTHER

PRINTER | NETWORK
COM1 | USB
LAPTOP COMPUTER
HY-TEK COMPUTER
BY OTHERS

W-1547 (20FT)

ETHERNET ROUTER 4 PORT
A-2520

W-1446 (30FT)

J2

CAT5E (W-1384)

GALAXY DISPLAY OR DMD DISPLAY CENTRAL NETWORK

W-1446 (30FT)

SCV #1
LANTRONIX
10/100 -DHCP
SERIAL -19200

W-1249

W-1506 (5FT)

W-1506 (5FT)

SERIAL CABLE BY OTHERS

REFER TO DETAIL "A"

COM 2 / SCBD
COM 1

SC1 0A-1065-0173
JUMPERS 12-N 13-P 19-W
TB1 5+ 6-
RS232 TX/RX
J2 J1

A-2221 USB TO SERIAL ADAPTOR

USB | NETWORK
USB
COM

NUC COMPUTER 0A-2122-0101
SEE NOTE 2 FOR CONFIGURATION

DCS 0A-1453-0035

TIMER INTERFACE A-3309

NETWORK
USB
COM

SHOW CONTROL W/ DCS
0A-1403-1002

COLORADO SYSTEM 5 OR 6

120V AC OR 230V AC

IF APPLICABLE

REPLACE EXISTING COLORADO J-BOX 1/4" MONO JACK WITH DAKTRONICS J-BOX 0A-1009-0038 STEREO J-BOX

TO DAKTRONICS FIXED DIGIT DISPLAYS, SEE DWG-130979 FOR DETAILS

W-1267 (10FT)

*OPTIONAL* SWIM/DIVE REQUEST

ABOVE SOFTWARE ON SHOW CONTROL

**POOL 'A'**

HY-TEK SETTINGS
TIMING CONSOLE INTERFACE: COLORADO
TIMING SYSTEMS (4,5, OR 6)
ALPHA SCOREBOARD INTERFACE: "GENERIC"
CONNECTION METHOD: UDP ETHERNET

SCOREBOARD PORT PARAMETERS - RUNSCREEN
SET UDP PORT AND IP ADDRESS
PORT: 20001
IP: 192.168.0.122 *MUST MATCH COMPUTER RUNNING DCS SOFTWARE*

TIMER INTERFACE 2000
INPUT #1
NAME: CTS TIMER POOL A
PORT TYPE: COM PORT
PORT: COM X
BAUD: 9600
PARITY: EVEN
DATA BITS: 8
STOP BITS: 1

OUTPUT #1
SELECT INPUT: "1: CTS TIMER POOL A-COM 5, 9600, EVEN, 8"
SELECT OUTPUT TYPE: "VENUS ENHANCED RTD"
PORT: UDP/IP "3002" (FOR GALAXY SYSTEMS)
PORT: UDP/IP "21000" (FOR DMP 8000 SYSTEMS)

DIVING SERVER
IP ADDRESS: 0.0.1.0
GATEWAY: N
BITS FOR HOST: 0
SERVER IP: N
TELNET PASSWORD: N
DHCP DEVICE NAME: N

CHANNEL
BAUD RATE: 9600
I/F MODE: 4C
FLOW: 00
PORT NUMBER: 2100
CONNECT MODE: CC
DATAGRAM TYPE: 01
BROADBAST: Y
RENOTE PORT: 21000
PACT CNTROL: 00
SEND CHAR 1: 00
SEND CHAR 2: 00

DCS SETTINGS
PORT: 1
NAME: CTS Timer Pool A
SOURCE TYPE: COM PORT
PORT: COM X
BAUD RATE: 9600
PARITY: EVEN
DATA BITS: 8
DEFAULT INPUT TEMPLATE: "CTS INTERFACE SWIMMING"

PORT: 2
NAME: Hy-tek A
(DEFAULT SHOW CONTROL IP)
SOURCE TYPE: UDP/IP
SOURCE: 20001

PORT: 3
NAME: Output
SOURCE TYPE: UDP/IP
SOURCE: 3002 (FOR GALAXY SYSTEMS)
SOURCE: 20000 (FOR DMP 8000 SYSTEMS)
DEFAULT ITEM TEMPLATE: "HY-TEK GENERIC SCBD INTERFACE CONTIGUOUS"

NOTE: IMPORTANT TO MAKE SURE THIS NAME IS ENTERED EXACTLY AS SHOWN IN TEXT

DCS ACTIVE FILE SETTINGS
PORT 1
CTS TO HY-TEK-A-START LIST REQUEST
PORT 2
HY-TEK GENERIC RTD TO CONTIGUOUS RTD

SWIM/DIVE REQUEST
NAME: Hy-tek A
PORT NUMBER 2
SIGN SERVICE: DCS
USE WITH: "Hy-tek GENERIC SCBD"

# NOTES SECTION

-COM PORT NUMBERS MAY CHANGE DEPENDING ON COMPUTER SETUP

-THE ABOVE CONFIGURATION WILL AUTOMATICALLY SEND THE "START LIST" (SWIMMER NAMES) FROM HY-TEK TO THE DISPLAY. THE KEY STROKE THAT TRIGGER'S THIS, IS THE "NEXT EVENT" OR "NEXT HEAT" BUTTON ON THE CTS TIMER.

-TIMER INTERFACE AND DCS MUST BE OPENED BEFORE CTS SCBD SIGNAL CABLE IS PLUGGED IN. IF THE STARTUP IS NOT FOLLOWED, WINDOWS WILL DETECT THE SERIAL DEVICES AS A SERIAL MOUSE.

-OPTIONAL SWIM/DIVE REQUEST SOFTWARE CAN BE USED FOR ALL REQUESTS. FOR EXAMPLE, START LIST, EVENT RESULTS, TEAM SCORES.

-THIS CAN ALSO BE PUSHED FROM THE HY-TEK COMPUTER, USING THE "CNTRL+F" KEYS.

-THE FUNCTION KEY "LIST" IS FOUND IN HY-TEK, WHEN IN THE "RUN" SCREEN, UNDER "HELP/ SHORTCUTS".

-USE HY-TEK VERSION 5.0 DB OR HIGHER FOR NETWORK CONNECTION METHOD.

NOTE 2:

3 STEP PROCESS TO CONFIGURE A-4829592 FOUND IN 0A-2122-0101

1) NAVIGATE TO TIMERINTERFACE.EXE APPLICATION IN APPROPRIATE FOLDER AND RIGHT-CLICK, THEN SELECT CREATE SHORTCUT

2) MOVE OR COPY/PASTE SHORTCUT FILE INTO FOLLOWING FOLDER NAME:
C:\USER\USERNAME\APPDATA\ROAMING\MICROSOFT\WINDOWS\START MENU\PROGRAMS\STARTUP

3) REBOOT COMPUTER TO CONFIRM START OF TIMERINTERFACE

DIVING NOTES:

*SET CTS CONSOLE COM 2 TO DAK ERTD

*USE DAKTRONICS AQUATICS DIVE A PROFILE WHEN MAKING THE RTD SEQUENCE
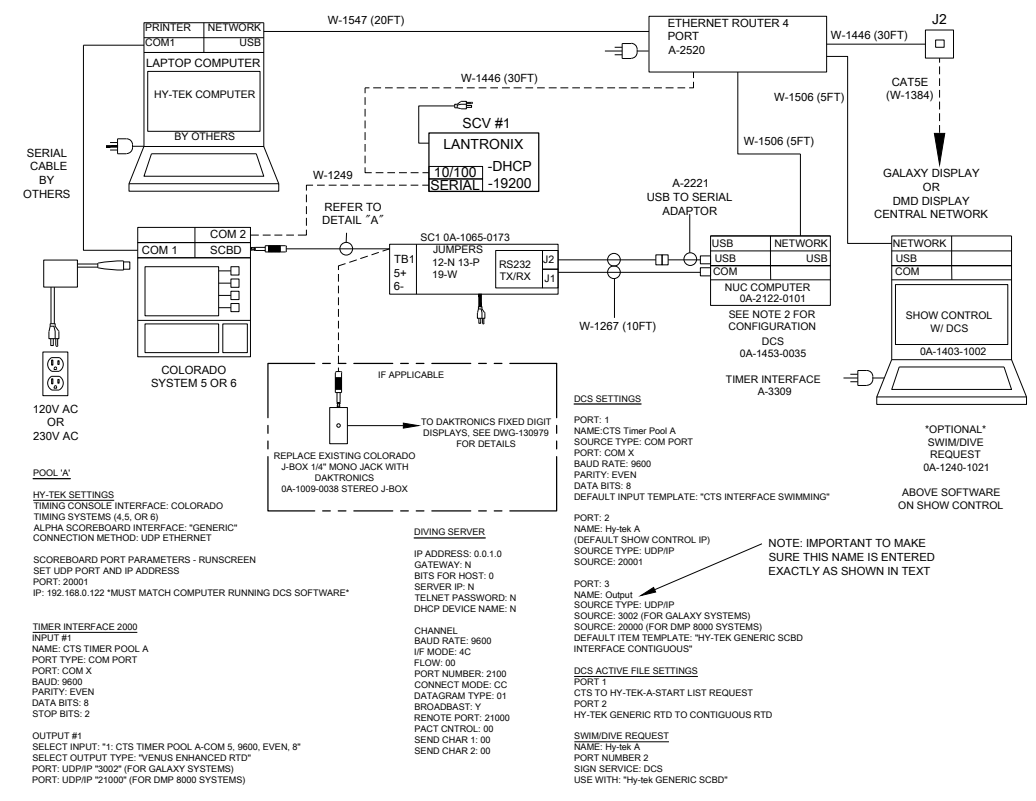
CABLE/RJ-45 J-BOX CONNECTION DETAIL

DETAIL "A":

| CTS 1/4" MONO OR DAK 1/4" STEREO | SIGNAL CONVERTER TB1 |
|---|---|
| TIP | PIN6 CL(-) |
| SHANK | PIN5 CL(+) |

J2  0A-1177-1029  RJ45 J-BOX
8-PIN RJ45

| PIN# | WIRE COLOR |
|---|---|
| 1 | WHT/ORG |
| 2 | ORG |
| 3 | WHT/GRN |
| 4 | BLU |
| 5 | WHT/BLU |
| 6 | GRN |
| 7 | WHT/BRN |
| 8 | BRN |

NOTE:
W-1384, CAT5E CABLE RUNS MUST BE LESS THAN 250'.

- FOR RUNS GREATER THAN 250' USE FIBER OPTIC CABLE OPTION.

| REV | DATE | | BY |
|---|---|---|---|
| 09 | 19 MAY 22 | ADDED NUC (A-4829592) DETAIL | MTR |
| 08 | 9 JAN 20 | ADDED DIVING SETTINGS AND SERVER NOTES | MTR |
| 07 | 13 SEP 18 | ADDED J-BOX DETAIL | MTR |
| 06 | 19 JUL 18 | UPDATED SERIAL ADAPTOR FROM A-2221 TO A-1801 AND UPDATED TIMER INTERFACE FROM 01-3309 TO A-3309 | DDM |

| REV | DATE | | BY |
|---|---|---|---|
| 05 | 18 NOV 16 | CHANGED LABELS ON CABLES | MCN |
| 04 | 22 FEB 16 | ADDED NOTE IN NOTE SECTION, UPDATED NOTES IN SERIAL & NETWORK CONNECTION METHODS DETAILS | MTR |
| 03 | 22 JAN 15 | ADDED NETWORK CONNECTION METHOD | MTR |
| 02 | 11 DEC 15 | UPDATE PORTS SETTINGS FOR VERSION 5.1 AND HIGHER | PJS |
| 01 | 09 NOV 11 | UPDATED NOTES AND ADD SERIAL CONVERTER, MODIFY WIRING OF CTS AND HY TECH COMPUTER | PJS |

THIRD ANGLE PROJECTION

PROJECT: OMNISPORT 2000
TITLE: COLORADO SYS 6 TO GLY/DMP8K VIA NET SHOW CENTRAL
DATE: 27 OCT 10
DIM UNITS: INCHES [MILLIMETERS]
SCALE: NONE
DO NOT SCALE DRAWING
SHEET REV: 09
DESIGN:
DRAWN: CENGELS
JOB NO. P1056
FUNC - TYPE - SIZE: R - 01 - B
1036117

1 USER WORKSTATIONS:
WITH 18" MONITOR TYPICAL,
SEE CONTRACT BOM FOR
PART NUMBERS

WORKSTATION #1
LCD MONITOR
KEYBOARD

SEE CONTRACT BOM
MONITOR
KEYBOARD
MOUSE
KVM RECEIVER
C A 1 5

***NOTE: THIS
EQUIPMENT WILL BE
INSTALLED ON SITE.***
(TYPICALLY ON FRONT
COUNTER)

5V POWER SUPPLY INCLUDED

CAT5 MAX SPECS
150FT @ 1280X1024
150FT @ 1600X1200
750FT W/P2-EUST

KVM #1
MONITOR
KEYBOARD
MOUSE
K V M
TYPICAL
2X8 KVM SWITCH
KVM2 EXT
CPU 1
CPU 2
CPU 3
CPU 4
CPU 5
CPU 6
CPU 7
CPU 8
KVM CABLE CPU1_MMK

NET#1
NET 1
NET 2
NET 3
NET 4
NET 5
NET 6
NET 7
NET 8
NET 9
NET 10
NET 11
NET 12
NET 13
NET 14
NET 15
NET 16
CAT5E CABLE CPU1_N
NETWORK SWITCH SEE RACK ASSEMBLY
NETWORK SYSTEM BY FACILITY
SCV #2

FPP 1
FIBER PATCH PANEL POSITION
FIBER COLORS
DESCRIPTION / FUNCTION
A1 BL MATRIX DISPLAY TX
A2 OR MATRIX DISPLAY RX
A3 GN
A4 BN
A5 SL OPTIONAL REMOTE POWER
A6 WT SPARE
A7
A8
A9
A10
A11
A12

DATA TO DISPLAY

TO MATRIX DISPLAY
REFER TO DWG-XXXXXXXX
LC

NOTE: CONFIGURE THE SOFTWARE SETTINGS PER THE
DEFINITION ON EACH SERIAL CABLE RUN AND THE
CONFIGURATION CHARTS ON THE RIGHT

CPU #1
DCS & TIMER INTERFACE 2000 SWIM/DIVE REQUEST SOFTWARE IS OPTIONAL
V7000MAIN-P
TEMP/PHOTO
COAX RX
FIBER RX
FIBER TX
COAX TX1
COAX TX2
VMAX4 CARD
OA-1278-0003
TEMP/PHOTO
COAX RX
FIBER RX
FIBER TX
COAX TX1
COAX TX2
VMAX4 CARD
OA-1278-0003

OTHER RACK EQUIPMENT MAYBE PURCHASED

NET1_2 → NETWORK
UPS1_US1 → COM 1
KVM1_1 → USB MON/KY/MS SERIAL

P1
P2
P3
P4
P5
P6
P7
P8
CABLE; 8 PORT SERIAL EXPANDER

SCV#1
SIGNAL CONVERTER SEE CONTRACT BOM
RS 232 RX/TX CONVERTER#1_1 CL RX CL TX
RS 232 RX/TX CONVERTER#1_2 CL RX CL TX
RS232 RX/TX CONVERTER#1_3 CL RX CL TX
RS232 TX

SEE DETAIL "A" BELOW

FOR THIS DATA FEED, SET
SOFTWARE PER "DIVING WELL
TIMER INTERFACE 2000, INPUT#3"

FOR THIS DATA FEED, SET
SOFTWARE PER "POOL A, DCS PORT
SETTING, PORT:1"

FOR THIS DATA FEED, SET
SOFTWARE PER "POOL A, TIMER
INTERFACE 2000, INPUT 1 &
OUTPUT 1"

DETAIL "A":
| CABLE FROM WALL PLATE | SIGNAL CONVERTER |
| --- | --- |
| TIP | CL- |
| SHANK | CL+ |

REFER TO MANUAL DD-1387596 FOR MORE DETAILED INSTRUCTIONS.
COM PORT NUMBERS MAY CHANGE DEPENDING ON COMPUTER SETUP

NOTE 'A'
COMMUNICATION BETWEEN THE TIMER AND THE VENUS 7000 IS RECOMMENDED
TO BE CURRENT LOOP. FOR DISTANCES OVER 50FT, IT IS MANDATORY.

1 POOL 'A'
COM 1 SCBD
COLORADO SYSTEM 6
DATA FOR DCS SOFTWARE AND
TIMER INTERFACE SOFTWARE
MONO CTS CABLE

CTS WALL PLATE BY OTHERS.
SCBD

CUSTOMER INSTALLED 1 PAIR CABLE

W-1267 SERIAL CABLE

COM 1 PRINTER
NETWORK COM 2
LAPTOP COMPUTER
HYTEK COMPUTER BY OTHERS

NETWORK BY OTHERS

DATA TO DCS SOFTWARE
W-1249 (6')

SCV #2
LANTRONIX
OA-1177-0290
SERIAL
POWER
10/100

NETWORK SYSTEM BY FACILITY
NET1_10

SETTINGS:
-9600 BAUD
-DHCP
-21000

2 DIVE WELL
COM 1 SCBD
COLORADO SYSTEM 5 OR 6
DATA FOR TIMER INTERFACE 2000,
INPUT 5
MONO CTS CABLE

CTS WALL PLATE BY OTHERS.
SCBD

CUSTOMER INSTALLED 1 PAIR CABLE

1 POOL A
HY-TEK SETTINGS
TIMING CONSOLE INTERFACE: COLORADO TIMING SYSTEM 6
ALPHA SCOREBOARD INTERFACE: GENERIC SERIAL
SERIAL COM PORT FOR CTS6 TIMER: __.
SERIAL COM PORT FOR GENSER: SCOREBOARD: __.
SCOREBOARD PORT PARAMETERS:
BAUD RATE: 9600
PARITY: EVEN
DATA BITS: 7
STOP BITS: 1

VENUS 7000 SETTINGS
INPUT:1
NAME: CTS TIMER POOL A
SOURCE TYPE: API/OTHER
SOURCE: (BLANK) PROTOCOL: ENHANCED
SIZE: 4096
DEFAULT INPUT TEMPLATE: CTS INTERFACE SWIMMING

INPUT: 2
NAME: HY-TEK RESULTS POOL A
SOURCE TYPE: UDP
SOURCE: 20,000 PROTOCOL: ENHANCED
SIZE: 9,728
DEFAULT ITEM TEMPLATE: HY-TEK GENERIC SCBD INTERFACE CONTINOUS

TIMER INTERFACE 2000
INPUT #1 NAME: CTS TIMER POOL A
PORT TYPE: COM PORT
PORT: COM 7
BAUD: 9600
PARITY: EVEN
DATA BITS: 8
STOP BITS: 2

OUTPUT #1 SELECT INPUT: "1: CTS TIMER POOL A - COM 7,
BAUD 9600, EVEN, 8"
SELECT OUTPUT TYPE: "VENUS 7000 DIRECT"
PORT: "DIRECT TO VENUS PORT 1"

NOTE: IMPORTANT TO MAKE SURE
ALL NAMES ARE ENTERED
EXACTLY AS SHOWN BELOW

DCS PORT SETTINGS
PORT: 1
NAME: CTS TIMER POOL A
SOURCE TYPE: COM 6
BAUD: 9600
PARITY: EVEN
DATA BITS: 8
DEFAULT INPUT TEMPLATE: CTS INTERFACE SWIMMING

PORT: 2
NAME: HY-TEK A
SOURCE TYPE: UDP/IP SOCKET
SOURCE: 21,000
DEFAULT ITEM TEMPLATE: HY-TEK GENERIC SCBD INTERFACE CONTINOUS

PORT: 3
NAME: OUTPUT
SOURCE TYPE: UDP/IP SOCKET
SOURCE: 20,000
DEFAULT ITEM TEMPLATE: HY-TEK GENERIC SCBD INTERFACE CONTINOUS

DCS ACTIVE FILE SETTINGS
PORT 1
CTS TO HY-TEK-A-START LIST REQUST
PORT 2
HY-TEK GENERIC RTD TO CONTINOUS RTD

SWIMDIVE REQUEST
PORT NUMBER: 2
SIGN SERVICE: DCS
USE WITH: HYTEK GENERIC SCOREBOARD

2 DIVE WELL:
VENUS 7000 SETTINGS
INPUT: 5
NAME: CTS DIVE A
SOURCE TYPE: API/OTHER
SOURCE: (BLANK)
PROTOCOL: ENHANCED
SIZE: 5000
DEFAULT INPUT TEMPLATE: CTS INTERFACE DIVE

TIMER INTERFACE 2000
INPUT: #3
NAME: CTS DIVE A
PORT: COM 5
BAUD RATE: 9600
PARITY: EVEN
DATA BITS: 8
STOP BITS: 2

OUTPUT #3
SELECT INPUT: "3 - COM 5, 9600, EVEN, 8"

SELECT OUTPUT TYPE: "VENUS 7000 DIRECT"
PORT: "DIRECT TO VENUS PORT 5"

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PROJ: AQUATICS
TITLE: COLORADO SYS 6 TO DMP-7000; WITH AUTO START LIST
DESIGN: CENGLES       DRAWN: JLAIRD       DATE: 14 NOV 11
SCALE: 1=1

| SHEET | REV | JOB NO. | FUNC-TYPE-SIZE | |
| --- | --- | --- | --- | --- |
| | 00 | P1056 | F-01-B | 1075312 |