All Sport® 5100 Timer

_____

Operations Manual

ED-12501   *Rev 8 – 02 December 2003*

DAKTRONICS

D®
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Please fill in the information below for your display; use it for reference when calling Daktronics for assistance.

Display Serial No. _____

Display Model No. _____

Date Installed _____

DAKTRONICS, INC.

1. This page is for reproduction reference only and will not be included in the manual.

2. This manual is to be copied on FRONT AND BACK PAGES -8 ½ x 11 paper.

    Note: The cover page is blank on back. Section heading pages always start on a new page; never on the back of another page.

3. The following drawings are to be inserted in alphanumeric order in **Appendix A: Reference Drawings**.

    Print both A and B Drawings full size; print A drawings back-to-back.

    A Drawings

A-115078	**A-143770**
A-124632	**A-164750**
A-124690	**A-180514**
A-125290	**A-180521**
A-139243	**A-180566**
A-139244	**A-180922**
A-139347	**A-180923**
A-139399	**A-181729**
A-143444	**A-195690**
A-143453	

    B Drawings

B-123256	**B-145382**
B-139666	**B-145433**
B-144445	**B-164173**

4. Materials to be inserted in this manual include the following:

    Note 1: Appendices B, C, D, E, F and H are permanent, and materials are in place.

    Note 2: In Appendix G: Sport Code Labels, insert All Sport 5000 Sport Code Labels (LL-2458)

    Note 3: In Appendix I: Auto Racing Sport Codes, insert Drawing A-115078: Address Table, 1-128. Insert drawing after the first page of this appendix. **Note:** *This drawing is also in Appendix A.*

4. Use a blue window cover and a blue back.

5. Punch all pages, window cover and back cover along the left edge and bind.

6. Please direct questions and suggestions to Engineering Support.

Table of Contents

Section 1:   All Sport 5100 Operation

This manual explains the setup and operation of the *All Sport® 5100 Auto Racing Control Console*. For questions regarding the safety, installation, operation or service of this system, please refer to the telephone numbers listed on the cover page of this manual.

1.1   How To Use This Manual

Daktronics identifies manuals by their engineering document number, or ED number, which is located on the cover page. Any supplemental manuals referenced in this manual will be identified by their ED numbers. This manual, for example, would be referred to as **ED-12501**.

Daktronics sales literature is identified by an SL number in one of the lower corners of each page. Typically, the SL prefix, a zero and the last four digits of the number are used for identification, as in **SL02345**.

The box at right illustrates the Daktronics drawing numbering system. The drawing number is located in the lower-right corner of the drawing label (in the example, 7087-P08A-69945). Drawings in this manual are referenced by their last set of digits and the letter preceding them. In **Figure 1**, the drawing would be referred to as **Drawing A-69945**. Drawings are grouped and inserted in alphanumerical order in **Appendix A**.

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: BASKETBALL	
TITLE: SEGMENTATION, 7 SEG BAR DIGIT	
DES. BY: BPETERSON DRAWN BY: TNELSON DATE: 8 JUL 01	
APPR. BY: AVB	7087-P08A-69945
SCALE: 1 = 4	

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

1.2   Introduction

This section explains the operation of the All Sport 5100 Auto Racing Control Console, which is part of the Daktronics All Sport 5000 Series family of display controllers.

Important Safeguards

1. Read and understand these instructions before installing your console.

2. Do not drop the control console or allow it to get wet.

3. Do not let power cords touch hot surfaces or hang over the edge of a table or other surface where they might be damaged or cut.

4. If an extension cord is necessary, use a three-prong, polarized cord. Arrange the cord with care so that event personnel or spectators cannot trip over it or pull it out.

5. Always turn off and/or unplug the control equipment when it is not in use. Never yank a power cord to pull a plug from an outlet. To disconnect, grasp the *plug* firmly and pull.

6. To avoid electrical shock, do not disassemble the control equipment. Incorrect reassembly can cause electric shock to the operator, faulty operation, or permanent damage to the controller and display circuits.

1.3   Console Overview

The All Sport 5100 Auto Racing Controller is a state-of-the-art scoring and timing system.

The anodized aluminum console features a sealed, "snap-action" keyboard with changeable keyboard inserts to input race information and/or control the scoreboards. A 32-character, two-line liquid crystal display (LCD) prompts the user through the operation of the controller and provides vital feedback of race data.

The console operates on 120 V AC power (60 Hz, 6 watts maximum), and an internal battery backup assures that the event will be timed even if there is a power failure in the arena. (The console's auto-memory feature stores current event information in case of power failure, even without a battery.)

The LCD screen of the 5100 is backlit to provide optimum viewing of current event information, even in low-light areas, and an audible beep sounds to indicate when a command has been received.

***Figure 2:** All Sport 5000 Series Console*

Operation of the All Sport 5100 is simple. The user enters a four-digit code on power-up to indicate the operating mode for the race. Basic choices include **Manual** mode, which uses infrared photocells for timing, or **Automatic** mode, with AMB transponders for timing. The type of information that can be displayed is determined by the capabilities of the scoreboard. The All Sport can be used with numeric (digit-only) scoreboards, full matrix displays with alphanumeric character capabilities, or a combination of both.

The controller features timing settings from 1/10th to 1/100th of a second, and photocell timing permits selectable timing to 1/1000th of a second.

The console case is approximately 16.25" (413mm) long by 9" deep (229mm). Its maximum top height is 4.25" (114mm). The controller weighs 7.5 pounds.

As a safety feature, this product has a three-wire, ground-type plug equipped with a third (grounding) pin. This plug only fits into a grounding-type power outlet. (If you are unable to insert the plug into the outlet, contact a qualified electrician to replace the obsolete outlet.) Refer to the table on the following page for specific model descriptions.

Model	Description
5100	120 volt, standard programming
5120	230 volt, standard programming

Console event data may be transmitted through standard wire signal cabling or fiber-optic cable. A radio-control wireless model is also available.

The All Sport 5100 is ETL-listed to UL standards and is CSA-tested.

Inspect for Damage

When you first open your console packages, inspect for shipping damage such as dents or rattles. Verify that all equipment is included as itemized on the packing slip. Immediately report any deficiencies to Daktronics. Save all packing materials for shipping in case warranty repair or exchange becomes necessary.

1.4   Console Connectors

Reference Drawing:
Rear View, A/S 5100 Connector Assignments ....**Drawing A-124632**

Refer to **Drawing A-124632** in **Appendix A.**

1.5   Basic Console Operation

The console face consists of a two-line by 16-character LCD screen, sport-specific keyboard insert, numeric keypad, operation keys, main clock keys, and LEDs for status.

Throughout this manual the names or letters of *keys* on the keyboard are enclosed in angle brackets such as <**ENTER**>. All of the keys pertaining to a specific sport code insert are explained in detail in the section of the manual devoted to that specific application.

In addition, Quick Start References for keyboard operation are provided in **Appendix H**.

1.6   Sport Inserts

Sport inserts, sometimes called keypad inserts, are used to allow a single console to control multiple sports or different applications of the same sport. Select the proper insert from the chart in **Section 1.7**, and slide it into the insert opening on the left side of the console until it stops. To remove a sport insert, pull on the tab that extends from the left side of the console. The insert will slide out easily.

If an insert is lost or damaged, a copy of the insert drawing in **Appendix A** can be used until a replacement can be ordered.

Use the labels provided in **Appendix G** to attach the correct code number to each sport insert. Write the code number in the space provided in each section of this manual.

If you do not know the code number for your scoreboard, refer to **Appendix I**. If you do not know the model number of your scoreboard, refer to the installation and maintenance manual provided with the display.

1.7   Racing Insert Operation

A keypad insert identifies the action keys required in the normal course of a race or other sporting event. Each insert has a corresponding list of code numbers and display models. The code numbers configure the console to control the display specified by the model number. For example, Code 301 enables the console to control a CH-2001 display.

Code numbers also configure the console for a specific sport mode as shown on the sport insert. This enables the console to control the display as specified by the keys on the insert. The following table lists the codes available:

Code	Mode of Operation	Displays	Insert
300	Photocell All Sport 5100 Console Only	Oval track photocell code (CHTS-300 replacement)	0G-139347
301	Transponder interface	CH-2001, CH-2002, CH-700, positions 1-12	0G-139243
303	Photocell All Sport 5100 Console Only	Lane track photocell code CHTS-300 replacement	0G-139399
310	Photocell All Sport 5100 Console Only	Multiple-lane track timing code lane order	0G-143770
311	Photocell All Sport 5100 Console Only	Multiple-lane track timing code place order	0G-143770
320	Photocell All Sport 5100 Console Only	Water slide timing	0G-143770
333	Transponder interface	CH-14XX, CH-10XX, CH-8XX, CH- 16XX, pylon positions 1-45 for AR-XX scoreboards	0G-139243
336	Transponder interface	Alphanumeric car number RTD w/fixed-digit time (no fixed-digit car numbers)	0G-139243
401	Manual posting	CH-2001, CH-2002, CH-7001, positions 1-12	0G-139243
433	Manual posting	CH-14XX, CH-10XX, CH-8XX, CH- 16XX, pylon positions 1-45 for AR-XX scoreboards	0G-139243

(Continued on following page)

Code	Mode of Operation	Displays	Insert
555	Compulink Startrak	Compulink timer/display configuration	0G-164750
556	Chrondek C38/ Portatree	Chrondek C38/Portatree timer/display configuration	0G-164750
995	Manual posting	CH-14XX, CH-10XX, CH-8XX, CH- 16XX, pylon positions 1-45 for AR-XX scoreboards	0G-139244

In most cases, pressing a key immediately changes the display. Some control actions require pressing additional keys. Keys that require additional information are marked with a dot, "•". The additional information required is usually a number followed by the <**ENTER**> key.

Some keys contain a +**1** symbol. Pressing one of these keys once increments (increases) the value of the corresponding field by one. A key with a –**1** symbol decrements (decreases) by one.

Certain keys have been grouped together under the heading "Manual." These keys, in addition to the keys used in transponder mode, are used only when operating in **Manual** mode.

Other keys on the console include:

<**CLEAR**>Clears the LCD of numeric information. Serves as <**NO**> for
        input prompts.
<**ENTER***>Completes an action. The asterisk is a reminder that this key
        must be pressed when an asterisk appears on the LCD.
        Serves as <**YES**> for input prompts.
<**MENU**>Invokes sport-specific menu options.

1.8   Startup

When the LCD screen message appears as shown, the following actions may be selected:

LCD Display	Action
AS-5100 V1.4.1 **EO-11544**	The console performs a self-test when it is powered on. During the self-test, a message displays the version of the standard software loaded in the console. V = version number and revision number O = standard software number
PREV CODE NNNN **RESUME GAME?** NNNN = last code selected	When the self-test completes, a prompt displays the code number for the last event run. This is useful when power to the console is lost during an event. Press <**YES**> to resume the last event stored in memory. The console is now ready for operation. Press <**NO**> to start a new event or change to a different sport. The console will prompt for a new code number as shown below.
SELECT CODE **CODE NNNN** NNNN = last code selected	The **Select Code** prompt allows you to accept the last code selected (displayed on the second line) or enter a new code. To accept the code shown, press <**ENTER**>. To select a new sport code: 1. Get the code number from the sport insert or the section of the manual for that event. 2. Use the number keys to enter the new four-digit code. Press <**ENTER**>.
RADIO CHAN NN **ENTER OR CHANGE** NN = last radio channel used	If a new code is selected and the radio option is installed, the console prompts for a channel. When **Resume Game** is used, the last channel selected is used. Press <**ENTER**> to accept the channel number or enter a new channel number.

1.9 Setting Radio Channels

Reference Drawings:
Installation: Outdoor,
    Gen IV Radio Receiver..**Drawing A-180514**
Installation: Indoor,
    Gen IV Radio Receiver..**Drawing A-180521**
Channel Selection;
    Single Control Console, Gen IV ....**Drawing A-180566**
Channel Selection;
    Single Broadcast Group, Gen IV ....**Drawing A-180922**
Channel Selection;
    Multiple Broadcast Group, Gen IV.......................**Drawing A-180923**
Indoor LED Driver Update
    For Gen IV Radio Receiver ....**Drawing A-181729**

Refer to **Appendix A** for the Reference Drawings listed here.

The radio receiver units used in the scoreboards have a channel setting switch that can be set from 1 to 8 (channels 0, and 9-15 are not used.) A radio receiver will accept data from a console transmitter with the same channel (and broadcast group) setting.

The receivers also have a jumper that can be used to select broadcast group 1 or broadcast group 2. A "Broadcast Group" defines a group of radio receivers that in addition to "listening" to the channel selected on the channel switch will also "listen" for data broadcast on their broadcast channel. There are a total of two broadcast groups available.

Each radio receiver will accept data sent from the broadcast channel of its respective broadcast group. This is selected by setting the transmitter (console) radio to channel 0. Every radio receiver will also accept data sent from the "Master Broadcast" channel. This is selected when a transmitter (console) radio is set to Broadcast Group 0 (BCAST 0) and Channel 0.

The channel number and broadcast group set on the radio installed in each scoreboard can be verified by cycling power to the scoreboard. Approximately seven seconds after power up, the scoreboard will show the current channel in the scoreboard clock digits. A CXX will first be shown where XX is the current radio channel number. This will be followed by BXCY where X is the current broadcast group and Y is the current channel number within this broadcast group.

There are three different radio scenarios that can be accommodated.

1. Single Controller System:
    In a Single Controller system, all radio receivers and all scoreboards receive signal from the same All Sport console at all times. The default channel and broadcast group settings on the receiver are not typically modified. An example of this type of system is a typical high school football installation.

2. Multiple Controller System With a Single Broadcast Group:
    In a Multiple Controller system with a single broadcast group, there are additional All Sport Controllers for controlling multiple scoreboards.

There is never a scenario where groups of scoreboards that were run by individual controllers need to be run by a single controller. An example of this type of system is a softball complex with multiple fields and a scoreboard on each field.

3. Multiple Controller with Multiple Broadcast Groups:
In a Multiple Controller with Multiple Broadcast (Split Court Operation) system, there are additional All Sport Controllers that can control multiple scoreboards. The broadcast group jumper is used to select broadcast group 1 or 2. By changing All Sport settings to a Broadcast address, a single All Sport Controller can control all scoreboards or specific groups of scoreboards (defined by the broadcast group.) One example of this scenario is split court operation in Basketball installations, where scoreboards are used to score multiple games at once, but can be grouped together to show one game if necessary. Refer to drawings listed on the previous page for more information.

The All Sport Console will automatically detect when a radio transmitter is installed and will prompt the user for transmitter settings.

The All Sport Console will show the current transmitter radio status on the LCD when a code is entered. An overview of radio settings is shown below.

LCD Display	Action
RADIO SETTINGS *BCAST Y CHAN XX* The LCD will toggle these screens * = current edit item *ENTER TO ACCEPT* *CLEAR TO MODIFY* The bottom line shows the current setting *BCAST GROUP 1* *RADIO CHAN 01* The default setting is Broadcast 1 Channel 1	The LCD shows the current radio settings along with a prompt to accept or modify these values. If the radio settings are correct, press **<ENTER>.** If these values are incorrect, press **<CLEAR>** If <**CLEAR**> is pressed to modify the radio settings, the LCD at the left is shown, allowing edit of the Channel or Broadcast group setting. Edit the Broadcast Setting. Use the number keys to enter the desired broadcast group and press <**ENTER**> to accept. **Broadcast Group Setting** 0- Master Broadcast – All Receivers 1- Broadcast Group 1 2- Broadcast Group 2 The asterisk will move to the channel setting. Use the number keys to edit this value and press <**ENTER**> to accept. Edit the channel number to the desired value and press <**ENTER**> to accept.

(Continued on following page)

LCD Display	Action

	Channel Setting
	0- Broadcast Channel for this Broadcast Group
	       BCAST = 0 – Master Broadcast (all radios)
	       BCAST = 1 – Broadcast Group 1
	       BCAST = 2 – Broadcast Group 2
	1-4 Channels that may be used within Broadcast
	       groups 1 or 2 (BCAST = 1 or BCAST = 2.)
	5-8 Channels that may be used within Broadcast
	       group 1 only (BCAST = 1.)

Radio Channel Setting: Single Controller Systems

Typically all Single Controller systems will use the default setting BCAST = 1, CHAN = 1. All radio receivers must be set with a switch setting of 1 with the Broadcast 1 (BCAST 1) jumper set.

If you suspect interference from a nearby Daktronics system, press <CLEAR> at the "RADIO SETTINGS" prompt to change the channel number.

Typically all Multiple Controller systems will use channel 1 for the first controller. All other controllers will use sequential channel settings (2-8)

LCD Display	Action
RADIO SETTINGS *BCAST Y CHAN XX* The LCD will toggle these screens *ENTER TO ACCEPT* *CLEAR TO MODIFY* *BCAST GROUP 1* *RADIO CHAN 01* The bottom line shows default settings.	The LCD shows the current radio settings along with a prompt to accept or modify these values. If the radio settings are correct, press <**ENTER**>. If these values are incorrect, press <**CLEAR**> If <**CLEAR**> is pressed to modify the radio settings, the LCD at the left is shown, allowing edit of the Channel or Broadcast group setting. Edit the Broadcast Setting. Use the number keys to enter the desired broadcast group and press <**ENTER**> to accept.

LCD Display	Action
(Continue from previous page)	
	Broadcast Group Setting 1- Use this setting for all single controller systems. The asterisk will move to the channel setting. Use the number keys to edit this value and press <**ENTER**> to accept. Edit the channel number to the desired value and press <**ENTER**> to accept. **Channel Setting** 1-8 Channels that may be used with broadcast channel 1. The channel switch on the receiver must match this value and the Broadcast 2 (BCAST2) jumper must be removed.

Radio Channel Setting: Multiple Controller with Single Broadcast Group

Typically all multi-controller systems will use Broadcast 1 and Channel 1 for the first controller and Channels 2-8 for all remaining controllers. All radio receivers must be set with a switch setting corresponding to the console controlling the scoreboard and a Broadcast 1 (BCAST 1) jumper set.

If you suspect interference from a nearby Daktronics system, press <**CLEAR**> at the "RADIO SETTINGS" prompt to change the channel number.

Typically all Multiple Controller systems will use channel 1 for the first controller. All other controllers will use sequential channel settings (2-8)

LCD Display	Action
RADIO SETTINGS *BCAST Y CHAN XX* The LCD will toggle these screens *ENTER TO ACCEPT* *CLEAR TO MODIFY* * = current edit item *BCAST GROUP 1* *RADIO CHAN 01* The bottom line shows default settings.	The LCD shows the current radio settings along with a prompt to accept or modify these values. If the radio settings are correct, press <**ENTER**> If these values are incorrect, press <**CLEAR**> If <**CLEAR**> is pressed to modify the radio settings, the LCD at the left is shown, allowing edit of the Channel or Broadcast group setting. Edit the Broadcast Setting. Use the number keys to enter the desired broadcast group and press <**ENTER**> to accept. **Broadcast Group Setting** 1- Use this setting for all multiple controller with single broadcast group setups. The asterisk will move to the channel setting. Use the number keys to edit this value and press <**ENTER**> to accept. Edit the channel number to the desired value and press <**ENTER**> to accept. **Channel Setting** 1-8 Channels that may be used with broadcast channel 1. The channel switch on the receiver must match this value and the Broadcast 2 (BCAST2) jumper must be removed.

Radio Channel Setting: Multiple Controller with Multiple Broadcast Systems

Typically all multiple controller systems will use Broadcast Group 1 Channel 1 for the first controller in Broadcast Group 1 and Broadcast Group 2 Channel 1 for the first controller in Broadcast Group 2. All other consoles in each group are added sequentially, using channels 2-4.

LCD Display	Action

RADIO SETTINGS
BCAST Y   CHAN XX
 	
The LCD will toggle these screens
 	
ENTER TO ACCEPT
CLEAR TO MODIFY
 	
BCAST GROUP 1
RADIO CHAN 01
* = current edit item
 	
The bottom line shows default settings.
	The LCD shows the current radio settings along with a prompt to accept or modify these values.
	
	If the radio settings are correct, press <**ENTER**>
	
	If these values are incorrect, press <**CLEAR**>
	
	If <**CLEAR**> is pressed to modify the radio settings, the LCD at the left is shown, allowing edit of the Channel or Broadcast group setting.
	
	Edit the Broadcast Setting. Use the number keys to enter the desired broadcast group and press <**ENTER**> to accept.
	
	Broadcast Group Setting
	   0- Master Group – All receivers
	   1- Broadcast Group 1
	   2- Broadcast Group 2
	
	The asterisk will move to the channel setting. Use the number keys to edit this value and press <**ENTER**> to accept. Edit the channel number to the desired value and press <**ENTER**> to accept.
	
	Channel Setting
	 0- Broadcast Channel for this Broadcast Group.
	      BCAST = 0 – Master Broadcast (all radios)
	      BCAST = 1 – Broadcast Group 1
	      BCAST = 2 – Broadcast Group 2
	    1-5 Individual Channel within Broadcast Group 1 or 2
	    .

Section 2: Transponder Interface Operation

Sport Insert 0G-139243

Reference Drawing:
   Insert, Transponder Interface Code...**Drawing A-139243**

The sport insert drawing is located in **Appendix A**. The **Quick Start Reference** is located in **Appendix H**.

Refer to the information in **Sections 1.5 – 1.8** to start the console and to use the sport insert. Read the material carefully to fully understand the following operating instructions.

If an insert is lost or damaged, a copy of the insert drawing in **Appendix A** can be used until a replacement is ordered.

Use the labels provided in **Appendix G** to attach the correct code number label at the appropriate location on the sport insert. Write the code number in the boxes below:

Figure 3: *0G-139243*

Sport Insert Code (Code 300 is for All Sport 5100 consoles only)

If you do not know the code number for your scoreboard, refer to **Appendix I** in this manual. If you do not know the model number of your scoreboard, refer to the installation and maintenance manual provided with the scoreboard.

2.1   Transponder Interface Overview and Operation

Reference Drawings:
   Oval Track Timing System Layout...............................**Drawing B-139666**
   Insert, A/S 5000, Transponder Interface Code.............**Drawing A-139243**

Daktronics scoreboards and controllers interface to a combination of AMB Rmonitor and Daktronics results protocol. This protocol is available with a number of AMB results software products, the most common being RentiX and ChronX. RTS, RTSX and SimpliX currently do not offer a Daktronics scoreboard output and can only be used with the Daktronics AMB Interface for Windows® software. Daktronics AMB Interface for Windows must also be used if a version of ChronX earlier than 2.0 is in place.

Daktronics systems can include matrix displays controlled by a Venus® display controller, numeric or scoreboard-type displays, or a combination of both. The interface between AMB results software and Daktronics products depends on the type of display being used as well as the AMB software. Refer to the following chart to locate the desired interface application.

Display Type	Daktronics Controller(s)	AMB Software	Windows Interface Required?	Sales Literature Reference

▪ Matrix	▪ Venus series	▪ RTS
		▪ RTSX
		▪ ChronX
		  (any version)
		▪ SimpliX
			▪ Yes
			▪ Refer to
			  ED11053
				▪ SL03641

▪ Matrix
▪ Matrix and
  numeric
  (fixed digit)
	▪ Venus Series
	  and All Sport
	  5100
		▪ RentiX
		▪ ChronX
		  (V 2.0 or later)
			▪ No	▪ SL03541
				▪ SL04213

▪ Numeric
  (fixed digit)
	▪ All Sport
	  5100
		▪ RentiX,
		▪ ChronX
		  (V2.0 or later)
			▪ No	▪ SL03639
				▪ SL03640
				▪ SL04016

The following materials illustrate the hardware and software required for the different display applications. These sales reference materials are grouped and inserted in numerical order in **Appendix B**.

- **SL03639 –** Transponder Feed to Daktronics Pylon
- **SL03640 –** Transponder Feed to Daktronics LED Scoreboard
- **SL03641 –** Transponder Feed to Daktronics Matrix Scoreboard
- **SL04016 –** Transponder Feed to Daktronics Incandescent Fixed Digit Scoreboard
- **SL04213 –** Transponder Feed to Daktronics Matrix and Fixed Digit Time Scoreboard

Refer to **Drawing B-139666** in **Appendix A** for information on connections to the junction boxes, controllers and computers.

K **Note:** Third-party companies wishing to interface their software packages to Daktronics numeric scoreboards should refer to **Appendix E: Daktronics Racing Display Protocol**. This appendix lists the protocol required to feed results data through a Daktronics All Sport controller for presentation on a Daktronics numeric display. For information on interfacing to a Daktronics Venus controller, contact Daktronics, Inc.

Basic Operation for Transponder Interface
In most cases, the top line of the control console's LCD shows position, car number and lane number. The bottom line of the liquid crystal display shows the current lap and the letter "R" or "Q" to indicate if the console is in **Race** mode or **Qualify** mode.

A "QP" indicates that the console is in qualifying mode and set to show passing. The illustration below shows car number 15 in the third position, lane 12 on lap 13 in the race mode.

```
P- 3 # 15 L 12
CUR LAP 13  R
```
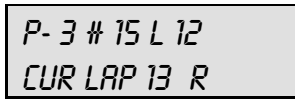
K **Note:** Make sure the console is in the correct mode, **Qualify** or **Race**. The console mode should match the mode of the timing system. In **Qualify** mode, the cars are displayed in order of lap times. In **Race** mode, the cars are displayed in order of race position.

2.2   Menu

The <**MENU**> key selects from a list of options specific to the racing sport. The up and down arrow keys <**↑>, <↓**> allow the user to scroll through the menu list. Pressing any key other than the <**YES**>, <**NO**> or arrow keys will exit the menu function.

K **Note:** Not all prompts must be answered. The following menu functions may be available:

New Race
When the LCD screen message appears as shown, the following actions may be selected:

LCD Display	Action
MENU-MAIN NEW RACE?	Press <**YES**> to clear all of the program data for the last race or the race in progress and begin running a new race. Press <**NO**> to resume the event in progress using the current data and to exit the menu. Press the down arrow key <**↓**> to scroll to the next selection.

New Code

When the LCD screen message appears as shown, the following actions may be selected:

LCD Display	Action
MENU-MAIN **NEW CODE?**	Press <**YES**> to begin selection of a new code from the **Enter Code** prompt. Press <**NO**> to resume the race in progress using the current data and to exit the menu. Press the down arrow key <↓> to scroll to the next selection
MENU- DIMMING **LEVEL (0-9): NN%** NN = current level $NONE$ = bright <**0**> 90% = <**1**> 80% = <**2**> 70% = <**3**> 60% = <**4**> 50% = <**5**> 40% = <**6**> 30% = <**7**> 20% = <**8**> 10% = <**9**>	Press <**0**> through <**9**>, or use the left or right arrow keys <←> <→>, to select the intensity for the digits on the scoreboard. Press <**NO**> to resume the game in progress using the current data, and exit the Menu. Press the down arrow key <↓> to scroll to the next selection. **Note:** Dim levels pertain to outdoor LED products. Incandescent and indoor LED products only support one level of dimming at 50%.

Race/Qualify Mode

LCD Display	Action
CURRENT MODE? *RACE←—→QUALIFY * = current setting	Press the left or right arrow keys <←>, <→> to select **Race** or **Qualify** mode. The **Race/ Qualify** setting selects the order of positions displayed. In **Race** mode, the competitors are listed in order of current race position. In **Qualify** mode, competitors are listed in order of fastest lap time. Make sure the console setting matches the current race status of the controlling software **K** **Note:** The **Race/Qualify** status is shown on the bottom line of the LCD as an "R" or "Q."

2.3   Edit Settings

LCD Display	Action
MENU- MAIN EDIT SETTINGS?	Press **<YES>** or the right or left arrow key <←>, <→> to select the **Settings** submenu and show the first prompt on the LCD. Press **<NO>** to resume the event in progress using the current data and to exit the menu. Press the down arrow key <↓> to scroll to the next selection. **K** **Note:** All settings pertain to the operation of the console in transponder interface codes. The **Settings** menu may be neglected if transponders are not used.

Blank with 1st Position

LCD Display	Action
BLANK ALL WHEN *1ST POS RCVD? N** * = current setting (Y/N)	Press <**YES**> yes to blank all positions (other than first place) when a first-place time is received from the transponder. All other positions will be displayed as they cross the loop. **K** **Note:** This setting is *NOT* applicable if the console is in **Qualify** mode *AND* set to show passing information.

Show Passing Lap Time

LCD Display	Action
SHOW PASSING LAP *TIME INFO? N** * = current setting (Y/N)	Press <**YES**> to show lap time information on the lap time section of the scoreboard when passing information is received from the transponder. **K** **Note:** Passing information will only be displayed if the console is in **Qualify** mode. This information will be displayed in the "Current Competitor" RTD item numbers and on fixed-digit, or numeric, time displays. For a more detailed explanation, refer to the All Sport 5100 Enhanced RTD item numbers in **Appendix D.**

Show First Pass

LCD Display	Action
SHOW FIRST PASS? Y* * = current setting (Y/N)	Press <**YES**> to show passing information with the first pass. Press <**NO**> to update the new passing competitor with the second pass. This setting can be used to configure the passing display to match the qualifying track setup. If the loop is located in such a way that a second car crosses it while the first car is finishing a qualifying lap, set the console to disregard the first pass by selecting "NO." Otherwise, if you want the display to update on the first pass of a competitor, select "YES." **K Note:** Passing information will only be displayed if the console is in **Qualify** mode.

Starting Position Displayed

LCD Display	Action
START POSITION DISPLAYED NN *NN* = current setting (Y/N)	This setting selects the starting position to be displayed in the variable-position car number location on a numeric or fixed-digit scoreboard. Enter a number between 1 and 45 and press <**ENTER**> to accept. **K Note:** Disregard this setting if your installation does not include a display showing variable-position car numbers.

Maximum Position Displayed

LCD Display	Action
MAX POSITION DISPLAYED NN *NN* = current setting (Y/N)	This setting selects the maximum position to be displayed in the variable-position car number location on a numeric or fixed-digit scoreboard. Enter a number between 1 and 45 and press **<ENTER>** to accept. **K** **Note:** Disregard this setting if your installation does not include a display showing variable position car numbers.

Position Display Time

LCD Display	Action
POSITION DISPLAY TIME NN *NN* = current setting (Y/N)	Enter the time (in seconds) for each position group to be displayed on the numeric or fixed-digit scoreboard before moving to the next group. **K** **Note:** Disregard this setting if your installation does not include a display showing variable-position car numbers.

Restart Position Display Cycle

LCD Display	Action
RESTART CYCLE AT START POS? N* *N** = current setting (Y/N)	Press **<YES>** to restart the position/car number cycle when the controller receives the position configured as the start position. Press **<NO>** to set the console for continuous cycle. **K** **Note:** Disregard this setting if your installation does not include a display showing variable-position car numbers.

2.4   Manual and Automatic Mode Keys

Current Position

LCD Display	Action
P-NN #XXX L-YYY *CUR POS NN** *NN* = current position *XXX* = car number *YYY* = lap number	Enter the desired position number and press **<ENTER>**. The car and lap number of the driver with the selected position will be displayed on the LCD.

Position -1, Position +1
<**POSITION -1**> displays the car and lap in the next lowest position on the LCD.
<**POSITION +1**> displays the car and lap in the next highest position on the LCD.

Red, Yellow, Green Status
<**RED**> turns on the red status light on the scoreboard.
<**YELLOW**> turns on the yellow status light on the scoreboard.
<**GREEN**> turns on the green status light on the scoreboard.

K Note: If status is available, the controller will automatically take the status information from the transponder interface. If this is the case, status received from the interface will override the selected status.

Black Flag

LCD Display	Action
BLACK FLAG *NN* *NN* = car number to black-flag	<**BLACK FLAG ●**> allows the operator to enter the number of the car that is being black-flagged.

< **DISPLAY BLACK FLAG** > displays on the scoreboard the number of the car that was black-flagged. This number will flash when displayed on the scoreboard.

Display Laps
Displays the current lap number of the leader on the scoreboard.

Display Time

Displays the current lap time of the leader on the scoreboard.

2.5   Manual Mode Keys

The following keys are used only when a manual code is selected.

Lap

<**CURRENT LAP**> allows the operator to enter the value of the current lap.
<**LAP-1**> decrements the lap number by one.
<**LAP +1**> increments the lap number by one.

Current Lap Time

LCD Display	Action
P-NN #XXX L-YYY *T HH:MM:SS.DCM* *NN* = current position *XX* = car number *YY* = lap number *HH:MM:SS.DCM* = current lap time	Enter the value of the current lap time to be displayed on the scoreboard. **K** **Note:** This time will be displayed in the current time position on the scoreboard. To set individual lap times, use the <**TIME ●** > key.

Car Number

LCD Display	Action
P-NN #-XXX L-YYY *NN CAR# XXX* *NN* = current position *XX* = car number *YY* = lap number	Enter the new car number for the selected position and press <**ENTER**>.

Lap Number

LCD Display	Action
P-NN #-XXX L-YYY *NN LAP# YYY* *NN* = current position *XX* = car number *YY* = lap number	Enter the new lap number for the selected position and press <**ENTER**>.

Time

LCD Display	Action
P-NN #-XXX L-YYY *NN HH:MM:SS.DCM* *NN* = current position *XX* = car number *YY* = lap number *HH:MM:SS.DCM* = current lap time	Enter the new lap time for the selected position and press <**ENTER**>.

2.6   Default Settings

Write the settings for this installation in the spaces (Custom 1, 2 and 3) provided.

Setting	Default	Custom 1	Custom 2	Custom 3
Race/Qualify Mode	Race			
Blank on 1st Position	No			
Show Passing Lap Times	No			
Start Position for Variable Position Pylon	16			

(Continued on following page)

Setting	Default	Custom 1	Custom 2	Custom 3
Max Position for Variable Position Pylon	45			
Cycle Time for Variable Position Pylon	3 seconds			
Restart when Starting Position Received (Variable Position Pylon)	No			

Section 3:   Oval Track Posting

Sport Insert 0G-139244

Reference Drawing:
Insert, A/S 5000 Oval Track Posting ....**Drawing A-139244**

The sport insert drawing is located in **Appendix A**. The **Quick Start Reference** is located in **Appendix H**.

Refer to the information in **Sections 1.5 – 1.8** to start the console and to use the sport insert. Read the material carefully to fully understand the following operating instructions.
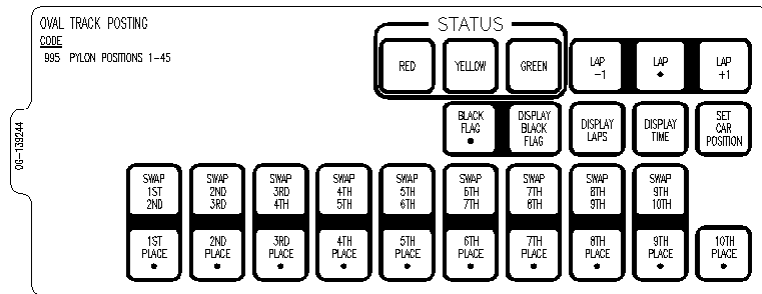
Figure 4: 0G-139244

If an insert is lost or damaged, a copy of the insert drawing in **Appendix A** can be used until a replacement can be ordered.

Use the labels provided in **Appendix G** to attach the correct code number label at the appropriate location on the sport insert. Write the code number in the boxes below:

Sport Insert Code

If you do not know the code number for your scoreboard, refer to **Appendix I** in this manual. If you do not know the model number of your scoreboard, refer to the installation and maintenance manual provided with the scoreboard.

3.1   Oval Track Posting Keys

Lap
<**LAP ●**> edits the lap number.
< **LAP -1**> decrements the lap by one.
< **LAP +1**> increments the lap by one.

Red, Yellow, Green Status
<**RED**> turns on the red status light on the scoreboard.
<**YELLOW**> turns on the yellow status light on the scoreboard.
<**GREEN**> turns on the green status light on the scoreboard.

Black Flag

LCD Display	Action
BLACK FLAG *NN* *NN* = car number to black flag	<**BLACK FLAG ●**> allows the operator to enter the number of the car that is being black-flagged.

Display Black Flag
<**DISPLAY BLACK FLAG**> shows on the scoreboard the number of the car that was black-flagged. This number will flash when displayed on the scoreboard.
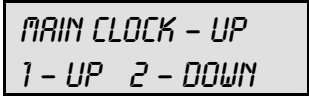
Display Laps
<**DISPLAY LAPS**> displays the current lap number on the scoreboard.
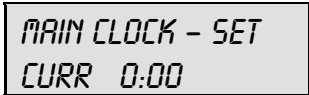
Display Time
<**DISPLAT TIME**> displays the time elapsed on the scoreboard.

Count Up/Down

LCD Display	Action
MAIN CLOCK – UP *1 – UP 2 – DOWN*	<**COUNT UP**>sets the main clock to count up or down. Press <**1**> or <**2**> and <**ENTER**>to change count modes. The controller LCD displays an up arrow <**↑**> if the clock is counting up, and a down arrow <**↓**> if the clock is counting down.

Set Main Clock

LCD Display	Action
MAIN CLOCK – SET *CURR 0:00*	<**SET MAIN CLOCK**> sets the time on the race clock.

Start/Stop

<**START**> starts the race clock.
<**STOP**> stops the race clock.

Swap Keys

<**SWAP X Y**> swaps the "X" car position with "Y" car position. This key is used when a car overtakes another to move up in position.

Example: <SWAP 1ST 2ND> allows you to swap first place to second place and vice-versa.

Place Keys

Press any of the place keys to enter the car number for places 1-15.

Set Car Position

<**SET CAR POSITION**> can be used to quickly enter the car numbers displayed for a series of race positions.

LCD Display	Action
POSITION 1* *POSITION Y* *CAR# NN* *NN* = current car number for position y	Press <**ENTER**> to start editing car numbers with position 1. Press the number keys to change the starting position to be edited. Enter the new car number for the specified position and press <**ENTER**>. The LCD will display the next position for editing. Press the up or down arrow keys <**↑**>, <**↓**> to move through the positions. Press the number keys at any time to edit the car number associated with the displayed position. Press <**ENTER**> twice to exit the **Set Car Position** function.

Section 4:   Oval and Lane Track Photocell Timing Operation

Sport Insert 0G-139347   **Oval Track Photocell Timing**
Sport Insert 0G-139399   **Lane Track Photocell Timing**

Reference Drawings:
Insert; A/S 5000 Oval Track Timing ....**Drawing A-139347**
Insert; A/S 5000 Lane Track Photocell Timing...............................**Drawing A-139399**

The sport insert drawings are located in **Appendix A**. The **Quick Start Reference** is located in **Appendix H**.

Refer to the information in **Sections 1.5 – 1.8** to start the console and to use the sport insert. Read the material carefully to fully understand the following operating instructions.

Figure 5: *0G-139347*

If an insert is lost or damaged, a copy of the insert drawing in **Appendix A** can be used until a replacement can be ordered.

Use the labels provided in **Appendix G** to attach the correct code number label at the appropriate location on the sport insert. Write the code number in the boxes below:
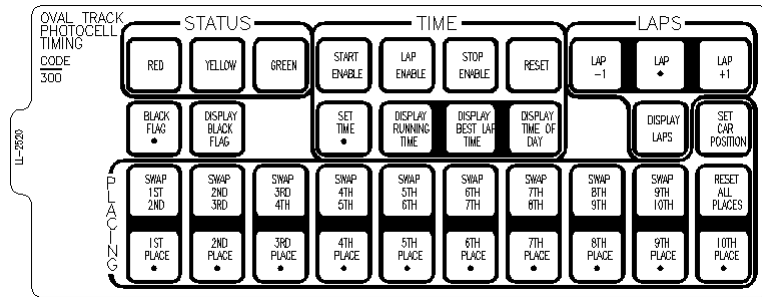
Figure 6*: 0G-139399*

Sport Insert Code (Codes 300 and 303 are for the All Sport 5100 console only)

If you do not know the code number for your scoreboard, refer to **Appendix I** in this manual. If you do not know the model number of your scoreboard, refer to the installation and maintenance manual provided with the scoreboard.

The oval track and lane track photocell timing codes are used to time race events where an AMB timing interface is *not* used. These codes are a replacement for the CHTS-300 timer.

4.1   Common Keys

The keys listed below are common to both the oval track and lane track codes.

Swap Keys
<**SWAP X Y**> swaps the X car position with Y car position. Used when a car overtakes another to move up in position.

Example: <**SWAP 1ST 2ND**> allows you to swap first place to second place and vice-versa.
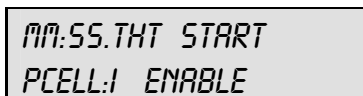
Place Keys
Press any of the place keys to enter the car number for places 1-10.

Reset All Places
Press <**RESET ALL PLACES**> and <**ENTER**> to clear all place numbers from the display and from the console memory.

4.2   Oval Track Timing Keys

The LCD view below shows the main menu for the oval track codes.

```
MM:SS.THT START
PCELL:I  ENABLE
```

The current time is shown in the upper left portion of the LCD. This time may be running time or lap time, depending on the current item displayed.

The photocell status is shown on the bottom line.
> "I" indicates that the photocell beam is aligned.
> "O" indicates that the photocell beam has been broken

The photocell status indicators are followed by a message displaying the current photocell
enable status:

- **Start Enable** indicates that the photocells are enabled for a start. The next time the photocell beam is broken, the photocell timer will be started.

- **Stop Enable** indicates that the photocells are enabled for a stop. The next time the photocell beam is broken, the photocell timer will be stopped.

● **Lap Enable** indicates that the photocells are enabled for a lap transition. The next time the photocell beam is broken, the lap time will be updated and displayed.

The **Oval Track Timing** mode uses photocell inputs and the All Sport 5100 Photocell Interface to time races. The function of the photocell inputs is controlled by the photocell enable keys.

Red, Yellow, Green Status
<**RED** > turns on the red status light on the scoreboard.
<**YELLOW**> turns on the yellow status light on the scoreboard.
<**GREEN**> turns on the green status light on the scoreboard.

Black Flag

LCD Display	Action
BLACK FLAG *NN* *NN* = car number to black flag	<**BLACK FLAG ●**> allows the operator to enter the number of the car that is being black-flagged.

Display Black Flag
<**DISPLAY BLACK FLAG**> displays on the scoreboard the number of the car that was black-flagged. This number will flash when displayed on the scoreboard.

Reset
Press <**RESET**> to reset the race timer. If the timer is currently running, the console will wait for an <**ENTER**> keypress to confirm the reset. Pressing the <**RESET**> key also clears the **Best Lap Time** in preparation for a new competitor.

Display Best Lap Time
Press <**DISPLAY BEST LAP TIME**> to display the fastest lap time for the current run.

K Note: The **Best Lap Time** value is cleared when the operator presses the <**RESET**> key.

Display Running Time
Press <**DISPLAY RUNNING TIME**> to display the current **Running Time** value.

Display Time of Day
Press <**DISPLAY TIME OF DAY**> to display the current **Time of Day** on the scoreboard. If the time has not been set, pressing this key will prompt for the **Time of Day** setting (see the **Time of Day** section under the <**MENU**> key.)

Set Time

LCD Display	Action
SET TIME MM:SS.THT*	Press <**SET TIME**> to modify the time value displayed on the scoreboard. The time modified depends on which time is currently displayed on the scoreboard (**Running Time**, **Lap Time**, **Best Lap Time** or **Time of Day**).

Start Enable, Lap Enable, Stop Enable

LCD Display	Action
START ENABLE?	Press <**START ENABLE**> and <**ENTER**> to **Start Enable** the photocell inputs. The timer will be started the next time the photocell beam is broken.
STOP ENABLE?	Press <**STOP ENABLE**> and <**ENTER**> to **Stop Enable** the photocell inputs. The timer will be stopped the next time the photocell beam is broken.
LAP ENABLE?	Press <**LAP ENABLE**> and <**ENTER**> to set the console to record a lap time with the next photocell beam crossing. **K** **Note:** Photocell inputs will only be active when enabled for start, stop or lap. If the photocell is not enabled for one of these functions, a car crossing the photocell beam will not affect the timer status. After a lap-enabled photocell crossing, the lap time will automatically appear on the display. To display **Running Time** again, press the <**DISPLAY RUNNING TIME**> key. To display the **Best Lap Time** for the current run, press <**DISPLAY BEST LAP TIME**>.

Laps

Press <**LAPS ●**> to edit the current lap number.
Press <**LAPS +1**> and <**LAPS -1**> to increment and decrement the total lap count.
Press <**DISPLAY LAPS**> to display the current lap on the scoreboard.

4.3 Lane Track Timing Keys

The LCD view below shows the main menu for the lane track codes.

```
MM:SS.THT
1-START:I STOP:I
```
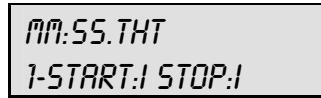
The current time is shown in the upper left portion of the LCD. This time may be **Running Time**, **Lap Time**, or **Best Lap Time** depending on the current item displayed.

The photocell status for each photocell group is shown on the bottom line.
   "I" indicates that the photocell beam is aligned.
   "O" indicates that the photocell beam has been broken

The number on the left side of the LCD indicates the group of photocells being used. There are two photocell start-stop pairs that may be used, and these operate either separately or together, based on the "Separate Lanes" setting.

Start
Press <**START**> to manually start the photocell timer.

Stop
Press <**STOP**> to manually stop the photocell timer.
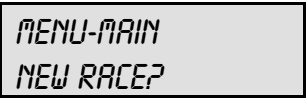
Reset
Press <**RESET**> to reset the race timer. If the timer is currently running, the console will wait for an <**ENTER**> keypress to confirm the reset.

4.4 Menu

The <**MENU**> key allows the user to select from a list of options specific for each sport. The up and down arrow keys <**↑**>**, <↓**> allow the user to scroll through the menu list. Pressing a key other than <**YES**>, **<NO**>, the arrow keys, and other allowed keys exit the menu function.

New Race

LCD Display	Action
```MENU-MAIN NEW RACE?```	Press <**YES**> to clear all of the program data for the last race and begin a new race. Press <**NO**> to resume the race in progress using the current data and to exit the menu. Press the down arrow key <**↓**> to scroll to the next selection.

New Code

LCD Display	Action
MENU-MAIN *NEW CODE?*	Press <**YES**> to begin selection of a new code from the **Enter Code** prompt. Press <**NO**> to resume the event in progress using the current data and to exit the menu. Press the down arrow key <↓> to scroll to the next selection.

Dimming Level

LCD Display	Action
MENU- DIMMING *LEVEL (0-9): NN%* *NN* = current level *NONE* = bright **<0>** *90%* = **<1>** *80%* = **<2>** *70%* = **<3>** *60%* = **<4>** *50%* = **<5>** *40%* = **<6>** *30%* = **<7>** *20%* = **<8>** *10%* = **<9>**	Press **<0>** through **<9>,** or use the left or right arrow keys <←> <→>, to select the intensity for the digits on the scoreboard. Press <**NO**> to resume the game in progress using the current data, and exit the Menu. Press the down arrow key <↓> to scroll to the next selection. **Note:** Dim levels pertain to outdoor LED products. Incandescent and indoor LED products only support one level of dimming at 50%.

Separate Photocell Lanes

LCD Display	Action
SEPARATE PCELL LANES? Y/N* *current setting	Press <**YES**> to separate the two-photocell start/stop inputs. When photocells are separated, a stop from one lane will not stop the opposite lane time. This setting can be used for a two-lane track where each lane races separately. Press <**NO**> if a single-lane track setup is used. Press the down arrow key <↓> to scroll to the next selection. **K** **Note:** This setting will only appear if the operator selects **Lane Track Timing** mode.

Time of Day

LCD Display	Action
MENU – TIME OF DAY 1*12. 2-24 HOUR	Press <**1**> or <**2**> to display the **Time of Day** in 12-hour (default) or 24-hour format. Press <**ENTER**> or the down arrow key <↓> to scroll to the next section.
MENU – TIME OF DAY TOD HH:MM:SS *HH:MM:SS* = current setting	Enter the **Time Of Day** in hours, minutes and seconds using the selected format on the number pad, and press <**ENTER**>. Press <**ENTER**> or the down arrow key <↓> to scroll to the next selection.

4.5   Photocell Timing Interface

Reference Drawings:
   AS 5100 Photocell Interface 25Pin PCB J-Box Pinout **Drawing A-143444**
   AS 5100 Photocell Interface J-Box Wiring .... **Drawing A-143453**

Photocell connections to the console are made using the AS5100 Photocell Timing Interface **(0A-1196-0058)**.

For most permanent installations, an external junction box will provide all photocell and scoreboard connections. Simply connect the 25-pin jack labeled "To J-Box" to the 25-pin connector on the J-box. Refer to **Drawings A-143444** and **A-143453** for detailed information regarding J-box wiring. For electrical isolation protection, disconnect this 25-pin cable after each racing event.

A common start input is available on jacks J44 (photocell XLR) and J42 (banana plug switch input). This input is used in multiple-lane track timing only. Refer to the **Section 5** for additional information on multiple-lane track timing.

Photocell Inputs

Use the XLR connectors on the rear plate of the photocell interface when there are no J-box connections at the track, or for a portable installation. Plug the individual lane start and stop photocells into the rear panel XLR connectors as labeled. Any of the Lane 1 or Lane 2 photocell inputs may be used with the oval track photocell timing code **(Code 300)**.

Switch Outputs

Connect the photocell interface to the All Sport 5100 console via a 15-pin cable (W-1264). Attach this cable to the connector labeled "To A/S 5100" on the rear panel of the photocell timing interface and J8 on the All Sport 5100.

Power Connections

A 120 V line connection powers the photocell interface. An internal 12 V battery is included for backup purposes only. If battery operation becomes necessary for portable operation or in an emergency, press the button labeled "Bat Op" while turning the power switch "ON."

The green LED on the front face of the enclosure indicates power to the photocell interface. The red LED indicates that the internal battery is being charged.

Section 5: Lane Timing/Water Slide Timing

Sport Insert 0G-143770

Reference Drawing:
Insert; A/S 5100 Lane Timer/Waterslide...................................**Drawing A-143770**

The sport insert drawings are located in **Appendix A**. The **Quick Start Reference** is located in **Appendix H**.

Refer to the information in **Sections 1.5 – 1.8** to start the console and to use the sport insert. Read the material carefully to fully understand the following operating instructions.
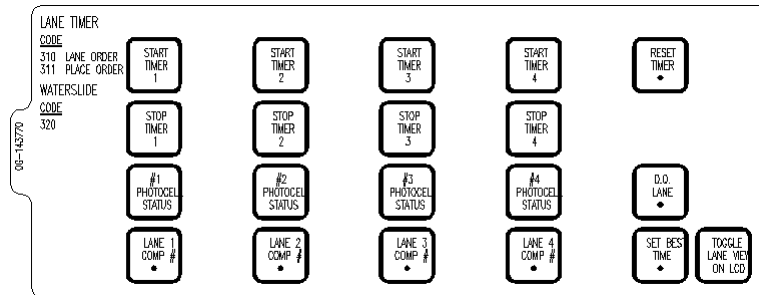
Figure 7: 0G-143770

If an insert is lost or damaged, a copy of the insert drawing in **Appendix A** can be used until a replacement can be ordered.

Use the labels provided in **Appendix G** to attach the correct code number label at the appropriate location on the sport insert. Write the code number in the boxes below:

Sport Insert Code (Codes 310, 311, and 320 are for the All Sport 5100 console only)

If you do not know the code number for your scoreboard, refer to **Appendix I** in this manual. If you do not know the model number of your scoreboard, refer to the installation and maintenance manual provided with the scoreboard.

5.1 Timer Information

Water Slide Timer Information
(Code 320) will run the timer as four independent timers for a water slide setup. Each timer requires a separate start and stop photocell input. Each timer operates independently of the others and will run automatically with no operator needed at the controller.

Lane Timing Information

Codes 310 and **311** will run the timer as four lane timers that can have a common start input or individual lane start inputs. All lanes require their own photocell stop inputs. The common start setup would be used for a "first to finish" race where there is a manual common start. The individual start inputs would be used where a "best time" for the track determines the winner. **Code 310** is for lane-order scoreboards, and **Code 311** is for place-order scoreboards.

5.2   Timing Key

Start Timer

<**START TIMER 1**>, <**START TIMER 2**>, <**START TIMER 3**> and <**START TIMER 4**> keys start their respective timers. These keys can be used with or instead of photocell start inputs to start the timer for each lane. These keys would typically be used only for testing the timer operation.

K **Note:** If the operator presses a <**START TIMER**> key after the timer is stopped, the timer will be reset to 0:00 before restarting.

Stop timer

<**STOP TIMER 1**>, <**STOP TIMER 2**>, <**STOP TIMER 3**> and <**STOP TIMER 4**> keys stop their respective timers. These keys can be used with or instead of photocell stop inputs to stop the timer for each lane. These keys would typically be used only for testing the timer operation.

Toggle Lane View on LCD

Pressing this key will change the lanes shown on the LCD from 1 and 2; to 3 and 4, or vice-versa. The LCD shows the lane number, time and photocell status, and the arming delay for the lane will show at the end of each line of the LCD. The illustration below shows a typical race setup on the LCD display and how information is presented as the toggle key is used.

LCD Lanes 1 and 2

1	:45.231	**C** I I
2	:42.643	**C** I I

Lane No.   Time   Photocell Status

LCD Lanes 3 and 4

3	:41.311	**C** I I
4	:44.646	**C** I I

Reset Timer (Lane Timing Mode)

LCD Display	Action
RESET *LANES? Y/N*	Pressing the <**RESET TIMER**> key will prompt with the **Reset Lanes** message. Press <**YES**> to reset or <**NO**> to leave the timers. **K** **Note:** This message will only display in **Lane Timing** mode.

Reset Timer (Water Slide Mode)

LCD Display	Action
RESET *SELECT LANE: 1**	Pressing the <**RESET TIMER**> key will prompt with the **Select Lane** message. Select the lane number (1-4) and press <**ENTER**> to reset that lane. **K** **Note:** This message will only display in **Water Slide** mode.

Timer Photocell Status

LCD Display	Action
PCELL STATUS N *START 1 STOP 1* *N* = selected timer photocell	Pressing the <**TIMER 1 PHOTOCELL STATUS** >, <**TIMER 2 PHOTOCELL STATUS**>, <**TIMER 3 PHOTOCELL STATUS**> or <**TIMER 4 PHOTOCELL STATUS**> displays the status of the selected timer start and stop photocell on the LCD. The photocell status can be determined as shown below: {{TABLE}} Pressing a <**TIMER PHOTOCELL STATUS**> key a second time will clear the photocell menu.

Inner table (within Action cell):

LCD Display	Photocell Status
1	Beam is aligned
0	Beam is broken

Set Best Time

LCD Display	Action
BEST TIME *MM:SS:THS*	<**SET BEST TIME•**> sets the current **Best Time** of all lanes and all races. The **Best Time** value is automatically updated on a timer stop if the timer value is less than the current **Best Time** value. Upon a **Best Time** update, the new value is flashed on the scoreboard for 10 seconds, if the scoreboard has been configured for overall best time. **K** **Note: Best Time** is kept either for all races or each race based on the **Select Best Time** setting. See the **Select Best Time** setting in **Section 5.4**
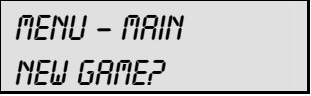
D.Q. Lane (Lane Timing Mode Only)

LCD Display	Action
DISQUALIFY *SELECT LANE: 1**	Pressing the <**DQ LANE**> key will first prompt for the lane to disqualify. Enter the lane number and press <**ENTER**>.
DISQUALIFY *1 – ON 2 – OFF*	The console will prompt to set the **DQ** status for the lane **On** or **Off**. Press <**1**> to set the lane **DQ ON**. Press <**2**> to set the **DQ OFF**. The console will re-rank the lanes according to the **D.Q.** status. The disqualified lanes will have no placing, and the time will display a "d" in the Seconds X10 digit. **K** **Note:** this function is not available in **Water Slide** mode.

5.3 Menu

The <**MENU**> key allows the user to select from a list of options specific for each sport. The up and down arrow keys <**↑**>, <**↓**> allow the user to scroll through the menu list. Pressing a key other than <**YES**> or <**NO**>, the arrow keys, and other allowed keys exit the menu.

New Game

LCD Display	Action
MENU – MAIN *NEW GAME?*	Press <**YES**> to clear all of the program data for the last race or the race in progress, and begin running the selected sport. Press <**NO**> to resume the race in progress using the current data and to exit the menu. Press the down arrow key <**↓**> to scroll to the next selection.

New Code

LCD Display	Action
MENU – MAIN *NEW CODE?*	Press <**YES**> to begin selection of a new code from the **Enter Code** prompt, clear all of the program data for the last race or the race in progress, and begin running the selected sport. Press <**NO**> to resume the race in progress using the current data and to exit the menu. Press the down arrow key <**↓**> to scroll to the next selection.

Dimming Level

LCD Display	Action
MENU- DIMMING LEVEL [0-9]: NN% *NN* = current level *NONE* = bright **<0>** *90%* = **<1>** *80%* = **<2>** *70%* = **<3>** *60%* = **<4>** *50%* = **<5>** *40%* = **<6>** *30%* = **<7>** *20%* = **<8>** *10%* = **<9>**	Press **<0>** through **<9>,** or use the left or right arrow keys <←> <→>, to select the intensity for the digits on the scoreboard. Press <**NO**> to resume the game in progress using the current data, and exit the Menu. Press the down arrow key <↓> to scroll to the next selection. **Note:** Dim levels pertain to outdoor LED products. Incandescent and indoor LED products only support one level of dimming at 50%.

Edit Settings

LCD Display	Action
MENU – MAIN EDIT SETTINGS?	Press <**YES**> to select the **Settings** submenu and show the first prompt on the LCD. Press <**NO**> to resume the event in progress using the current data and to exit the menu. Press the down arrow key <↓> to scroll to the next selection.

5.4   Settings

The following settings can be edited by the user when he or she selects **Edit Settings** from the main menu. Begin by pressing the <**YES**> key when the **Edit Settings** selection appears. This command allows the user to select from a list of options specific to each sport. The up and down arrow keys <↑**>, <**↓**>** allow the user to scroll through the menu list. Pressing a key other than <**YES**>, <**NO**>, the arrow keys, and other allowed keys exit the menu function.

Set Arming Delay

LCD Display	Action
PHOTOCELL ARMING TIME 0	The **Arming Delay** sets the minimum time for a stop on a timer after it has been started. The stop photocell will ignore all photocell stop inputs until the timer has reached the arming delay time. The operator can enter a maximum value of 9 seconds. Use this key to prevent an unwanted timer stop due to an accidental photocell break. **K Note:** Setting the **Photocell Arming Time** to 0 will set the stop photocell to be constantly armed.

Reset Clock Time

LCD Display	Action
RESET CLOCK TIME 0:00	The **Reset Clock Time** setting will cause the timer to reset when it reaches the reset clock value. The **Water Slide** mode will reset individual timers, and the **Lane Timer** mode will reset all timers when one timer reaches the value. This setting would be used to allow continued automatic operation if a timer stop input is not received during a race because of equipment failure. **K Note:** Set this time to 0:00 to have the timer run without being reset by a time value limit.

Set Hold Time

LCD Display	Action
``` DISPLAY HOLD TIME SS ```	The **Hold Time** sets the amount of time to hold the timer value on the scoreboard before an automatic reset to 0:00. The operator can enter a maximum hold time of 99 seconds. **K** **Note:** Set this time to 0 to set the display to hold the timer value until a reset or a new photocell start.

Timing Mode

LCD Display	Action
``` TIMING MODE 1 - 1ST TO FINISH ``` *1* = 1st to Finish *2* = Best Time	Enter the desired **Timing** mode to select how the lane times are ranked. Press <**1**> <**ENTER**> to select **1st to Finish**. The official timer values will be ranked by the order of finish. This is the common **Start** mode. Press <**2**> <**ENTER**> to select **Best Time**. The official timer values will be ranked by the best time order.

Timer Precision

LCD Display	Action
``` TIMER PRECISION 1 - HUNDREDTHS ``` *1* - hundredths *2* -- thousandths	At the **Timer Precision** selection, enter the desired precision level for use with the timer. Press <**1**> <**ENTER**> to time to 1/100th second. Press <**2**> <**ENTER**> to time to 1/1000th second.

Select Best Time

LCD Display	Action
SELECT BEST TIME *2 – OVERALL* *1* = Each Run *2* = Overall	At the **Select Best Time** option, enter the desired mode for **Best Time** selection. Press <**1**> <**ENTER**> to select a **Best Time** each run. Press <**2**> <**ENTER**> to select an **Overall Best Time** from all races.

Default Settings

Write the settings for this installation in the spaces (Custom) provided.

Setting	Default	Custom 1	Custom 2	Custom 3
Arming Delay	0			
Reset Clock Time	0			
Hold Time	0			
Timing Mode	First to finish			
Timer Precision	Thousandths			
Best Time Selection	Overall			

Section 6: Track Timing

Sport Insert: LL-2587 Code 8610

The Team Name insert and Block Diagram drawings are located in **Appendix A**.

Reference Drawings:

The sport insert drawing is located in **Appendix A**. The **Quick Start Reference** is located in **Appendix H**.

Refer to the information in **Section 1.5 – 1.8** to start the console and to use the sport insert. Read the material carefully to fully understand the following operating instructions.

If an insert is lost or damaged, a copy of the insert drawing in **Appendix A** can be used until a replacement is ordered.

LCD in LANE MODE

```
E 12 L P   12:34.56
H 2 1 1     1:12.43
```

LCD in PLACE MODE

```
E 12    P  12:34.56
H 2 1 1     1:12.43
```
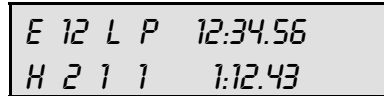
LCD in NON–LANE MODE

```
E 12 NON   12:34.56
H 2    1    1:12.43
```

Track Keys

Reset

LCD Display	Action
E 12 L P :0.00 RESET CLOCK Y/N? N = current setting USE MISSED START Y/N?	When **<RESET>** is pressed, the message "Reset Clock Y/N?" will appear on the bottom line of the LCD. Press **<ENTER>** to reset the main clock. Press <**CLEAR**> to abort the reset. **Note** • The **<RESET>** function will start cycling the finish times if all of the lanes have not finished. • The **<RESET>** function will detect a start input that occurred before the reset was done and ask if that start should be used. This is the Always Ready Start feature. Press **<YES>** to accept this start. Press **<NO>** to ignore this start input.

Lane Mode

LCD Display	Action
SELECT MODE LANE: Y/N?	Press **<LANE MODE>** to set the console to the Lane Mode of operation. Press **<YES>** to accept Lane Mode. Press **<NO>** to abort the mode selection. In Lane Mode the timing inputs are used to stop each lane's time.

Place Mode

LCD Display	Action
SELECT MODE *PLACE: Y/N?*	Press **<PLACE MODE>** to set the console to the Place Mode of operation. Press **<YES>** to accept Place Mode. Press **<NO>** to abort the mode selection. In Place Mode the timing inputs are used to stop the time for each place. Input 1 is used for Place 1, Input 2 is used for Place 2, etc.

Non–Lane Mode

LCD Display	Action
SELECT MODE *NON–LANE: Y/N?*	Press **<NON–LANE MODE>** to set the console to the Non–Lane Mode of operation. Press **<YES>** to accept Non–Lane Mode. Press **<NO>** to abort the mode selection. In Non–Lane Mode only timing input from Lane 1 will be used to register times. Each input on Lane 1 will save a time for a new place. The timer will save up to 50 places.

Home and Guest 1, 2 and 3 Score

The Home and Guest 1, 2, 3 Score keys are used to modify the value of home or guest team score.

LCD Display	Action
TEAM SCORE-EDIT *HOME NNN* *NNN* = current setting	Enter the new score for the particular team and press **<ENTER>**. The LCD shows which key was pressed and the new value for the team score of the corresponding team.

Event and Heat

LCD Display	Action
EVENT : EDIT *NNN* *NNN* = current setting	The LCD will display the current event or heat number. Enter the new value and press **<ENTER>**. Setting the event number will adjust the heat number to one.

Lane ON/OFF

These keys are used to turn their respective lanes ON or OFF. They are only active in the Lane Mode and when the timer is running. Pressing the key will set the lane OFF if it is ON or set it ON if it is OFF.

Lane Status

These keys cause the LCD to display the status of their respective lanes or of the place in Non–Lane Mode. The up and down arrow keys can also be used to change the lane number whose status is shown on the LCD.

Lane Place Order

This key changes the LCD to display the place number of Lanes 1 through 8. The place numbers display on the LCDs bottom line. A dash (–) displays if not yet finished, and a small "o" will display if the lane is OFF.

Edit

The **<EDIT>** key allows you to edit the time for a lane.

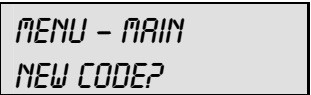| LCD Display	Action
TIME EDIT *LANE N#* *N* = lane number	Select the number of the lane to edit and press **<ENTER>**.
TIME EDIT *LANE 1 12:34.56**	When the LCD displays the lane time, the time can be edited to the desired value. Press **<ENTER>** when done.

6.1   Menu

The **<MENU>** key allows you to select from a list of options specific for each sport. The up and down arrow keys allow the user to scroll through the menu list. Exit the Menu function by pressing any key except the **<YES>**, **<NO>**, the arrow keys, and other allowed keys.

New Game

LCD Display	Action
MENU-MAIN NEW GAME?	Press **<YES>** to clear all of the program data for the last game played or the game in progress and begin running the selected sport. Press **<NO>** to resume the game in progress using the current data and exit the Menu. Press the down arrow key <↓> to scroll to the next selection.

New Code

LCD Display	Action
MENU-MAIN NEW CODE?	Press **<YES>** to begin selection of a new code from the ENTER CODE prompt. Press **<NO>** to resume the game in progress using the current data and exit the Menu. Press the down arrow key <↓> to scroll to the next selection.

Dim

LCD Display	Action
MENU- DIMMING LEVEL (0-9): NN% NN = current level NONE = bright **<0>** 90% = **<1>** 80% = **<2>** 70% = **<3>** 60% = **<4>** 50% = **<5>** 40% = **<6>** 30% = **<7>** 20% = **<8>** 10% = **<9>**	Press **<0>** through **<9>,** or use the left or right arrow keys <←> <→>, to select the intensity for the digits on the scoreboard. Press <**NO**> to resume the game in progress using the current data, and exit the Menu. Press the down arrow key <↓> to scroll to the next selection. **Note:** Dim levels pertain to outdoor LED products. Incandescent and indoor LED products only support one level of dimming at 50%.

Home Roster, Guest Roster

HOME ROSTER and **GUEST ROSTER** are entered in the same way. **HOME ROSTER** is used as an example.

LCD Display	Action
MENU-ROSTER SELECT HOME	Press **<YES>** or the left or right arrow keys <←> <→> to select the **Home or Guest Roster** submenu and show the first prompt on the LCD. Press **<NO>** to resume the game in progress using the current data and exit the Menu. Press the down arrow key <↓> to scroll to the next selection.
HOME-TEAM NAME AAAAAAAAAAAAA*	The TEAM NAME (LL-2441) insert must be installed to enter the Team Name Message Center (TNMC) settings. The TNMC is updated after each selection is completed. Use the **COLUMNS, ROWS** and **STROKE** keys to select the **WIDTH, HEIGHT** and **FONT** of the TNMC. The defaults are 48 columns, 8 rows and single stroke. Enter up to fifteen (15) characters for the team name and press **<ENTER>.** Reinstall the TRACK TIMING (LL-2587) insert to continue.

Display Menu

The **DISPLAY MENU** allows the user to start and edit the segment timer or to change the brightness of the scoreboard.

LCD Display	Action
MENU-MAIN ENTER DISPLAY MENU?	Press **<YES>** to select the Display submenu and show the first prompt on the LCD. Press the down arrow key <↓> to scroll to the next selection.

(Continued on following page)

LCD Display	Action
MENU-DISPLAY *BLANK SCBD?*	Press **<YES>** to blank the scoreboards. Press **<NO>** to strip this function.
PRESS ANY KEY TO *RETURN TO GAME*	This prompt displays if blank was selected and will wait for a key to be pressed to resume with the scoreboards on.

Edit Settings

LCD Display	Action
MENU-MAIN *EDIT SETTINGS?*	Press **<YES>** or left or right arrow keys <←> <→> to select the Settings submenu and show the first prompt on the LCD. Press **<NO>** to resume the game in progress using the current data and exit the Menu. Press the down arrow key <↓> to scroll to the next selection.

Time of Day

LCD Display	Action
MENU-MAIN *SELECT TOD?*	Press **<YES>** or the right arrow key <→> to select the Time of Day submenu and show the first prompt on the LCD. Press **<NO>** to resume the game in progress using the current data and exit the Menu.
MENU-TIME OF DAY *1*12, 2-24 HOUR*	Press **<1>** or **<2>** to display the time of day in 12 hour (default) or 24 hour format. Press **<ENTER>** or the down arrow key <↓> to scroll to the next selection.

Track Timing 6-7

LCD Display	Action
MENU-TIME OF DAY *TOD HH:MM:SS** *HH:MM:SS* = current setting	Enter the time of day in hours, minutes and seconds using the selected format on the number pad and press **<ENTER>**. Press **<ENTER>** or the down arrow <↓> to scroll to the next selection.
MENU-TIME OF DAY *1*GAME 2-TOD* * = current setting	Press **<1>** or **<2>** to display the game clock (default) or the time of day clock on the scoreboard. Press the down arrow key <↓> to exit the Menu and return to the game.
MENU-TIME OF DAY *BLANK GAME DATA?*	If *2-TOD* is selected, this message will be displayed. Press **<ENTER>** to blank all game data on the scoreboard except for the Time of Day digits.

6.2   Settings

You may edit the following settings when **EDIT SETTINGS** has been selected from the Main Menu.

Guest 2 and Guest 3

LCD Display	Action
GUEST 2,3 VALUE *SCORE←→EVNT/HT**	This setting determines the function of the Guest 2 and Guest 3 keys. When the value is set to **EVNT/HT**, the scoreboard will display event/heat information. When the value is set to **SCORE**, the scoreboard will display scores for guests 2 and 3 on the scoreboard. The current value is shown by the location of the asterisk. Press the left or right arrow key to change the value to score or event/heat respectively.

Lanes Used

LCD Display	Action
EDIT LANE *# = N* N = number of lanes	To set the number of lanes used, press a number key from 2 through 8 and press **<ENTER>**.

Timer Precision

LCD Display	Action
TIMER PRECISION *1- HUNDREDTHS*	This setting allows you to adjust the timer precision. Press **<1>** for hundredths or **<2>** for tenths, and then press **<ENTER>**

Cycle Hold Time

LCD Display	Action
DISPLAY HOLD *TIME NN** NN = hold time in seconds	This setting selects the amount of time that each lane's information is displayed on the single line display. Enter the time and press **<ENTER>.**

Default Settings
Write the settings for this installation in the space (Custom) provided.

Setting	Default	Custom 1	Custom 2	Custom 3
Guest 2,3 Score or Event/Heat	Event/Heat			
Number of Lanes	8			
Timer Precisions	Hundredths			
Cycle Hold Time	0			

Section 7:   Drag Racing Interface

Sport Insert 0G-164750

Reference Drawing:
Insert; Drag Race Interface ....**Drawing A-164750**

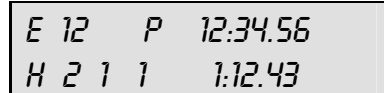The sport insert drawing is located in **Appendix A**. The **Quick Start Reference** is located in **Appendix H**.

Refer to the information in **Sections 1.5 – 1.8** to start the console and to use the sport insert. Read the material carefully } to fully understand the following operating instructions.
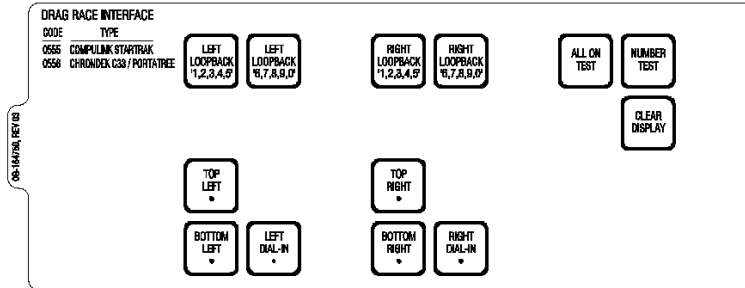
Figure 8: 0G-164750

If an insert is lost or damaged, a copy of the insert drawing in **Appendix A** can be used until a replacement is ordered.

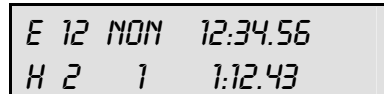Use the labels provided in **Appendix G** to attach the correct code number label at the appropriate location on the sport insert. Write the code number in the boxes below:

Sport Insert Code

If you do not know the code number for your scoreboard, refer to **Appendix I** in this manual. If you do not know the model number of your scoreboard, refer to the installation and maintenance manual provided with the scoreboard.

7.1   CompuLink™ Interface

Reference Drawings:
Insert; Drag Racing Interface .... **Drawing A-164750**
System Riser, CompuLink Scoreboard .... **Drawing B-164173**

The All Sport 5100 code for the CompuLink Interface is 555. The console receives signal input from the CompuLink Timer on pin 2 (+RX) and pin 7 (GRD) of J6 on the All Sport 5100 console.

Data Format: Baud Rate 9600; 1 Start Bit; 8 Data Bits, 2 Stop Bits, and No Parity. This application is intended to receive the CompuLink StarTrak data protocol.
`**Data Example:** Data in single quotes '1' represents Ascii data.

```
T - 12345    T - 12345
B - 56789    B - 56789
```

The data below will show 12345 on the top left display: 0x01,'D','1','1','2','3','4','5',0x03

The data below will show 56789 on the bottom left display:
0x01,'D','2','5','6','7','8','9',0x03

The data below will show 12345 on the top right display:
0x01,'D','3','1','2','3','4','5',0x03

The data below will show 56789 on the bottom right display:
0x01,'D','4','5','6','7','8','9',0x03

7.2   Chrondek C-33 Portatree Interface

Reference Drawing:
Insert; Drag Racing Interface .... **Drawing A-164750**
SYSTEM RISER DIAGRAM; PORTATREE INTERFACE**Drawing A-196027**

The All Sport 5100 code for the Chrondek C-33/Portatree Interface is 556. The console receives signal input from the Chrondek C-33 computer or Portatree Interface unit on pin 2 (+RX) and pin 7 (GRD) of J6 on the All Sport 5100 console.

Data Format: Baud Rate 9600; 1 Start Bit; 8 Data Bits, 2 Stop Bits, and Even Parity. This application is intended to receive the Chrondek C-33 or Portatree data protocol.

Data Example: Data in single quotes '1' represents Ascii data.

The data below will show 12345 and 56789 on the left display: 0x01, '18', '5', '6', '7', '8', '9', '1', '2', '3', '4', '5', '04'

```
T - 12345    T - 12345
B - 56789    B - 56789
```

The data below will show 12345 and 56789 on the right display:

0x02, '18', '5', '6', '7', '8', '9', '1', '2', '3', '4', '5', '04'

NOTE: '18', Byte 2, can also be as follows:

Bit Value		Description
MSB	80	Always 0
	40	Always 0
	20	Always 1
	10	Display Brightness: 0 = Bright, 1 Dim
	08	True Win: 0=Off, 1=On
	04	First to Finish: 0=Off, 1=On
	02	Break Out: 0=Off, 1=On
LSB	10	Foul: 0=Off, 1=On

Bits 08H, 04H, 02H, and 01H are included in the protocol for those scoreboards that have indicators for these items.

NOTE: '04', Byte 13, can also be as follows:

Bit Value		Description
MSB	80	Always 0
	40	Always 0
	20	Always 1
	10	Always 1
	08	Always 0
	04	ET Line Elapsed Time DP
	02	MPH Line Elapsed Time DP (Left DP)
LSB	01	MPH Line Speed DP (Right DP)

Bits 04H, 02H, 01H are included in the protocol for those scoreboards that have indicators for these items.

7.3 Test Mode

Reference Drawing:
Insert; CompuLink Interface ....**Drawing A-164750**

The console has built in test functions for the data input and the scoreboard output. These tests will help isolate system problems and verify proper operation.

To test the scoreboard output, press the <**ALL ON**> test and the <**NUMBER TEST**> keys. When pressed, these keys will put the specified pattern on the scoreboard.

To test the data input, use the <**LOOPBACK…**> test keys. Refer to **Drawing A-164750**. Pins 2 and 3 of J6 on the All Sport 5100 console will need to have an electrical connection made between them. To make this connection, place a bent paper clip or a similar wire from pin 2 to pin 3 of J6. When this is done, pressing any of the loopback keys will send that data out on pin 3 of J6 on the console. The data should show up on the scoreboard. If this test works, then the data input on the console is functional.

Score Test Keys

The <**ALL ON TEST**> key displays an all on pattern on the scoreboard when pressed.
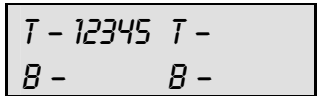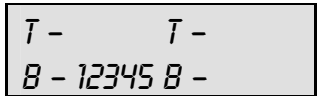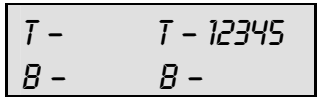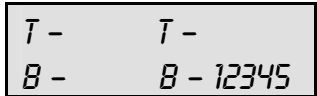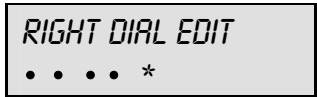
The <**NUMBER TEST**> key displays a number pattern test on the scoreboard when pressed.

The <**CLEAR DISPLAY**> key returns the scoreboard to normal display of data received when pressed.

Loopback Test Keys

The <**LOOPBACK…**> keys send test data for testing the data input of the console. <**LEFTLOOPBACK 12345**> and <**LEFTLOOPBACK67890**> sends data that will display on the both lines of the left lane display. <**RIGHTLOOPBACK 12345**> and <**RIGHTLOOPBACK 67890**> sends data that will display on the both lines of the right lane display.

Data Posting Keys

LCD Display	Action
T – 12345 T – B – B –	<**TOP LEFT ●**> allows the operator to enter a number for display on the top left display.
T – T – B – 12345 B –	<**BOTTOM LEFT ●**> allows the operator to enter a number for display on the bottom left display.
T – T – 12345 B – B –	<**TOP RIGHT ●**> allows the operator to enter a number for display on the top right display.
T – T – B – B – 12345	<**BOTTOM RIGHT ●**> allows the operator to enter a number for display on the top left display.
RIGHT DIAL EDIT ● ● ● ● *	The dial-in keys allow the operator to enter data for display on the dial-in scoreboards. Press <**RIGHT DIAL-IN ●**> to enter and display a value on the right dial-in scoreboard. Press <**LEFT DIAL-IN ●**> to enter and display a value on the left dial-in scoreboard.

7.4　Menu

The <**MENU**> key allows the user to select from a list of options specific for each sport. The up and down arrow keys <**↑**>, <**↓**> allow the user to scroll through the menu list. Pressing a key other than <**YES**> or <**NO**>, the arrow keys, and other allowed keys exit the menu.

New Game

LCD Display	Action
MENU – MAIN *NEW GAME?*	Press <**YES**> to clear all of the program data for the last race or the race in progress, and begin running the selected sport. Press <**NO**> to resume the race in progress using the current data and to exit the menu. Press the down arrow key <**↓**> to scroll to the next selection.

New Code

LCD Display	Action
MENU – MAIN *NEW CODE?*	Press <**YES**> to begin selection of a new code from the **Enter Code** prompt, clear all of the program data for the last race or the race in progress, and begin running the selected sport. Press <**NO**> to resume the race in progress using the current data and to exit the menu. Press the down arrow key <**↓**> to scroll to the next selection.

Dimming Level

LCD Display	Action
MENU- DIMMING LEVEL (0-9): NN% NN = current level NONE = bright **<0>** 90% = **<1>** 80% = **<2>** 70% = **<3>** 60% = **<4>** 50% = **<5>** 40% = **<6>** 30% = **<7>** 20% = **<8>** 10% = **<9>**	Press **<0>** through **<9>,** or use the left or right arrow keys <←> <→>, to select the intensity for the digits on the scoreboard. Press <**NO**> to resume the game in progress using the current data, and exit the Menu. Press the down arrow key <↓> to scroll to the next selection. **Note:** Dim levels pertain to outdoor LED products. Incandescent and indoor LED products only support one level of dimming at 50%.

Cycle Time

LCD Display	Action
CYCLE TIME TENTHS 30	This function allows the cycle time of single line displays to be set from 1.0 to 9.9 seconds. Press <**YES**> to accept the change and move on to the next menu item. Press the down arrow key <↓> to scroll to the next selection. Press <**NO**> to resume the event in progress using the current data and to exit the menu. Press the down arrow key <↓> to scroll to the next selection.

Monitor Port

LCD Display	Action
MENU – MAIN MONITOR PORT MONITOR PORT DATA –>	This function will show the data received on the serial port (pins 2,7 of J6) on the bottom line of the LCD. Press <**YES**> to view the data being received. Press <**YES**> again to end the monitor session and move on to the next menu selection. Press the down arrow key <↓> to scroll to the next selection. Press <**NO**> to resume the event in progress using the current data and to exit the menu.

Section 8: Getting Started/ Troubleshooting – AMB Timing Software Interface

8.1 Getting Started

Reference Drawing:

Drawing B-123256 illustrates typical All Sport cabling and connections for AMB applications.

Follow these steps in sequence to get started:
1. Turn on the All Sport 5000 series console.
2. Enter the correct code based on the Daktronics display.
3. Set the All Sport console to the correct mode by turning **Race** mode on or off.
4. If the transponder software is already started, update the console using the **Refresh** option. (Refer to **Transponder Software Information** in the following section.)

Between races:
1. Restart the All Sport 5000 series console using the <**MENU/NEW RACE**> option. This will blank the scoreboard.
2. Refresh the All Sport with race data using the methods listed under **Transponder Software Information** in **Section 6.2** below.

8.2 Transponder Software Information

Transponder interface codes are used to interface to transponder software such as RentiX or ChronX (version 2.0 or later), which provide Daktronics racing protocol. For a detailed description of Daktronics racing protocol, refer to **ED-11009**. The information listed below details the software- specific settings that can be used to configure the transponder software for connection to the All Sport 5100.

RentiX Settings
Use the **Settings/Display/Communications** menu to select the communications port used to connect to the All Sport 5100. The RS-232 port settings are as follows: 9600 Baud, 8 data bits, no parity, 1 stop bit.

Use the **Settings/Display/Miscellaneous** menu to select the Daktronics scoreboard protocol. Select both **Daktronics Racing** and **Daktronics Practice**. Set the number of **Score Lines** to the maximum number of competitors.

K **Note:** To refresh the console and scoreboards, select **Display/Refresh**. The **Refresh** command can be used when the console mode is changed (**Qualify** or **Race**) or when the All Sport 5100 is initially connected to the computer.

ChronX Settings

Use the **Options/Communication Settings/Scoreboard** menu to select the communications port used to connect to the All Sport 5100. The RS-232 port settings are as follows: 9600 Baud, 8 data bits, no parity, 1 stop bit.

Use the **Options/Communication Settings/Scoreboard/Daktronics Feed** tab to select Daktronics racing protocol. Select both **Qualifying Results** and **Race Results**. The **Number of Lines** should be the number of competitors in the race.

K **Note: These settings must be reapplied each time the software is restarted.**

To refresh the console and scoreboards, select **Scoreboard/Refresh**. The **Refresh** command can be used when the console mode is changed (**Qualify** or **Race**) or when the All Sport 5100 is initially connected to the computer.

For ChronX Release 2.0.5 or earlier, in order to display driver information on a matrix, the competitor registration number *must* be the same as the car number (or not specified.) This is an issue that will be corrected in later ChronX versions.

8.3 Troubleshooting

Symptom/Condition	Possible Cause/Corrective Action

Fixed-digit display is not updating	▪ Make sure the transponder software is currently running a race.
	▪ Use the **Refresh** command specified above for the transponder software, and verify position data is being received by watching the console LCD cycle through positions automatically.
	  ▪ If no position data is received, check connections between the All Sport 5100 and transponder computer. Also check the transponder software settings (see **Section 6.2: Transponder Software Information** immediately preceding this table).
	  ▪ If position data is received, check connections between the All Sport 5100 and display.

(Continued on followin page)

Symptom/Condition	Possible Cause/Corrective Action

Matrix display is not updating	■ Make sure the transponder software is currently running a race.
	■ Use the **Refresh** command specified above for the transponder software, and verify position data is being received by watching the console LCD cycle through positions automatically.
	    • If no position data is received, check connections between the All Sport 5100 and transponder computer. Also check the transponder software communication settings (see **Section 6.2: Transponder Software Information** immediately preceding this table).
	    • If position data is received, check connections between the All Sport 5100 and display.

Display information is incorrect	■ Restart the All Sport 5100 using the <**MENU/NEW RACE**> option. This will blank the scoreboard. ■ Follow the procedure in the **Transponder Settings** section preceding this table to refresh the console with race information. ■ Verify that the RTD sequence on the Venus controller includes correct fields (see **All Sport 5100 RTD Item Numbers** and specific controller documentation). ■ Verify all transponder software settings as listed in **Section 6.2: Transponder Software Information**.

Appendix A: Reference Drawings

A Drawings

B Drawings

Drawings Listed by Manual Section
Section 1: All Sport 5100 Operation

Section 2: Transponder Interface Operation

Section 3: Oval Track Posting

Section 4: Oval and Track Lane Photocell Timing Operation

Section 5: Lane Timing/Water Slide Timing

Section 6: Track Timing Interface

Section 7: CompuLink Interface

Section 8: Getting Started/Troubleshooting –
AMB Timing Software Interface

KEY: 0 = WIRE NOT CONNECTED   1 = WIRE IS CONNECTED

DECIMAL ADDRESS	PIN 12	PIN 11	PIN 9	PIN 8	PIN 6	PIN 5	PIN 3	PIN 2
1	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	1	0
3	0	0	0	0	0	0	1	1
4	0	0	0	0	0	1	0	0
5	0	0	0	0	0	1	0	1
6	0	0	0	0	0	1	1	0
7	0	0	0	0	0	1	1	1
8	0	0	0	0	1	0	0	0
9	0	0	0	0	1	0	0	1
10	0	0	0	0	1	0	1	0
11	0	0	0	0	1	0	1	1
12	0	0	0	0	1	1	0	0
13	0	0	0	0	1	1	0	1
14	0	0	0	0	1	1	1	0
15	0	0	0	0	1	1	1	1
16	0	0	0	1	0	0	0	0

DECIMAL ADDRESS	PIN 12	PIN 11	PIN 9	PIN 8	PIN 6	PIN 5	PIN 3	PIN 2
33	0	0	1	0	0	0	0	1
34	0	0	1	0	0	0	1	0
35	0	0	1	0	0	0	1	1
36	0	0	1	0	0	1	0	0
37	0	0	1	0	0	1	0	1
38	0	0	1	0	0	1	1	0
39	0	0	1	0	0	1	1	1
40	0	0	1	0	1	0	0	0
41	0	0	1	0	1	0	0	1
42	0	0	1	0	1	0	1	0
43	0	0	1	0	1	0	1	1
44	0	0	1	0	1	1	0	0
45	0	0	1	0	1	1	0	1
46	0	0	1	0	1	1	1	0
47	0	0	1	0	1	1	1	1
48	0	0	1	1	0	0	0	0

DECIMAL ADDRESS	PIN 12	PIN 11	PIN 9	PIN 8	PIN 6	PIN 5	PIN 3	PIN 2
65	0	1	0	0	0	0	0	1
66	0	1	0	0	0	0	1	0
67	0	1	0	0	0	0	1	1
68	0	1	0	0	0	1	0	0
69	0	1	0	0	0	1	0	1
70	0	1	0	0	0	1	1	0
71	0	1	0	0	0	1	1	1
72	0	1	0	0	1	0	0	0
73	0	1	0	0	1	0	0	1
74	0	1	0	0	1	0	1	0
75	0	1	0	0	1	0	1	1
76	0	1	0	0	1	1	0	0
77	0	1	0	0	1	1	0	1
78	0	1	0	0	1	1	1	0
79	0	1	0	0	1	1	1	1
80	0	1	0	1	0	0	0	0

DECIMAL ADDRESS	PIN 12	PIN 11	PIN 9	PIN 8	PIN 6	PIN 5	PIN 3	PIN 2
97	0	1	1	0	0	0	0	1
98	0	1	1	0	0	0	1	0
99	0	1	1	0	0	0	1	1
100	0	1	1	0	0	1	0	0
101	0	1	1	0	0	1	0	1
102	0	1	1	0	0	1	1	0
103	0	1	1	0	0	1	1	1
104	0	1	1	0	1	0	0	0
105	0	1	1	0	1	0	0	1
106	0	1	1	0	1	0	1	0
107	0	1	1	0	1	0	1	1
108	0	1	1	0	1	1	0	0
109	0	1	1	0	1	1	0	1
110	0	1	1	0	1	1	1	0
111	0	1	1	0	1	1	1	1
112	0	1	1	1	0	0	0	0

DECIMAL ADDRESS	PIN 12	PIN 11	PIN 9	PIN 8	PIN 6	PIN 5	PIN 3	PIN 2
17	0	0	0	1	0	0	0	1
18	0	0	0	1	0	0	1	0
19	0	0	0	1	0	0	1	1
20	0	0	0	1	0	1	0	0
21	0	0	0	1	0	1	0	1
22	0	0	0	1	0	1	1	0
23	0	0	0	1	0	1	1	1
24	0	0	0	1	1	0	0	0
25	0	0	0	1	1	0	0	1
26	0	0	0	1	1	0	1	0
27	0	0	0	1	1	0	1	1
28	0	0	0	1	1	1	0	0
29	0	0	0	1	1	1	0	1
30	0	0	0	1	1	1	1	0
31	0	0	0	1	1	1	1	1
32	0	0	1	0	0	0	0	0

DECIMAL ADDRESS	PIN 12	PIN 11	PIN 9	PIN 8	PIN 6	PIN 5	PIN 3	PIN 2
49	0	0	1	1	0	0	0	1
50	0	0	1	1	0	0	1	0
51	0	0	1	1	0	0	1	1
52	0	0	1	1	0	1	0	0
53	0	0	1	1	0	1	0	1
54	0	0	1	1	0	1	1	0
55	0	0	1	1	0	1	1	1
56	0	0	1	1	1	0	0	0
57	0	0	1	1	1	0	0	1
58	0	0	1	1	1	0	1	0
59	0	0	1	1	1	0	1	1
60	0	0	1	1	1	1	0	0
61	0	0	1	1	1	1	0	1
62	0	0	1	1	1	1	1	0
63	0	0	1	1	1	1	1	1
64	0	1	0	0	0	0	0	0

DECIMAL ADDRESS	PIN 12	PIN 11	PIN 9	PIN 8	PIN 6	PIN 5	PIN 3	PIN 2
81	0	1	0	1	0	0	0	1
82	0	1	0	1	0	0	1	0
83	0	1	0	1	0	0	1	1
84	0	1	0	1	0	1	0	0
85	0	1	0	1	0	1	0	1
86	0	1	0	1	0	1	1	0
87	0	1	0	1	0	1	1	1
88	0	1	0	1	1	0	0	0
89	0	1	0	1	1	0	0	1
90	0	1	0	1	1	0	1	0
91	0	1	0	1	1	0	1	1
92	0	1	0	1	1	1	0	0
93	0	1	0	1	1	1	0	1
94	0	1	0	1	1	1	1	0
95	0	1	0	1	1	1	1	1
96	0	1	1	0	0	0	0	0

DECIMAL ADDRESS	PIN 12	PIN 11	PIN 9	PIN 8	PIN 6	PIN 5	PIN 3	PIN 2
113	0	1	1	1	0	0	0	1
114	0	1	1	1	0	0	1	0
115	0	1	1	1	0	0	1	1
116	0	1	1	1	0	1	0	0
117	0	1	1	1	0	1	0	1
118	0	1	1	1	0	1	1	0
119	0	1	1	1	0	1	1	1
120	0	1	1	1	1	0	0	0
121	0	1	1	1	1	0	0	1
122	0	1	1	1	1	0	1	0
123	0	1	1	1	1	0	1	1
124	0	1	1	1	1	1	0	0
125	0	1	1	1	1	1	0	1
126	0	1	1	1	1	1	1	0
127	0	1	1	1	1	1	1	1
128	1	0	0	0	0	0	0	0

ADDRESS PLUG
WIRE SIDE

(pin layout wire side)
3 2 1
6 5 4
9 8 7
12 11 10

WIRING DIAGRAM
ADDRESS PLUG
WITH ALL WIRES
CONNECTED

1
2 BRN
3 RED
4
5 ORG
6 TAN
7
8 PNK
9 BLU
10
11 VIO
12 BLK

BOTTOM VIEW

(pin layout bottom view)
1 2 3
4 5 6
7 8 9
10 11 12

ALL SPORT 5100

LOOK HERE TO DETERMINE THE MODEL NUMBER AND POWER SPECIFICATIONS

DAKTRONICS, INC.
331 32ND AVE., P.O. BOX 5128
BROOKINGS, SD 57006
PHONE 877-605-1115
www.daktronics.com
MADE IN U.S.A.

allsport 5000 series CONTROL CONSOLE

ASSY NO.: 0A-1196-0002
SERIAL NO.: 1001
MFG. DATE: 01/01/00

MODEL NO.: ALL SPORT 5100
PRI. VOLTS: 120 VOLTS AC
SEC VOLTS: 10 V
MAX POWER: 5 WATTS

SCOREBOARD OUTPUTS — J1 J2 J3
MAIN CLOCK START/STOP/HORN SWITCH — J4
COMPUTER I/O PORT — J5
MAIN OUTPUT AND INPUT PORT — J6
SHOT CLOCK START/STOP/RESET SWITCH — J7
SWITCH INPUTS — J8
POWER ON/OFF — S1

P41
120V AC POWER IN

ALL SPORT 5120

DAKTRONICS, INC.
331 32ND AVE., P.O. BOX 5128
BROOKINGS, SD 57006
PHONE 877-605-1115
www.daktronics.com
MADE IN U.S.A.

allsport 5000 series CONTROL CONSOLE

ASSY NO.: 0A-1196-0006
SERIAL NO.: 1001
MFG. DATE: 01/01/00

MODEL NO.: ALL SPORT 5120
PRI. VOLTS: 230V AC
SEC. VOLTS: 10
MAX POWER: 5 WATTS

SCOREBOARD OUTPUTS — J1 J2 J3
MAIN CLOCK START/STOP/HORN SWITCH — J4
COMPUTER I/O PORT — J5
MAIN OUTPUT AND INPUT PORT — J6
SHOT CLOCK START/STOP/RESET SWITCH — J7
SWITCH INPUTS — J8
POWER ON/OFF — S1

J41
230V AC POWER IN

J1–J3 – OUTPUT #1–#3	
CONTACT	FUNCTION
TIP	CURRENT LOOP OUTPUT 1 +
RING	CURRENT LOOP OUTPUT 1 –
SHAFT	GND

J4 – START/STOP/HORN	
PIN #	FUNCTION
1	SWITCH INPUT 2 –
2	SWITCH INPUT 1 –
3	RELAY OUTPUT –
4	RELAY OUTPUT +
5	SWITCH INPUT 1 +
6	SWITCH INPUT 2 +

J5 – COMPUTER I/O	
PIN #	FUNCTION
1	NOT USED
2	RS-232 TX-P (PORT 4)
3	RS-232 RX-P (PORT 4)
4	NOT USED
5	CL TX-N (PORT 4)/RS232 COM
6	CL TX-P (PORT 4)
7	NOT USED
8	CL RX-P (PORT 4)
9	CL RX-N (PORT 4)

J7 – SHOT/PLAY CLOCK	
PIN #	FUNCTION
1	SWITCH INPUT 5 –
2	SWITCH INPUT 4 –
3	SWITCH INPUT 3 –
4	SWITCH INPUT 3 +
5	SWITCH INPUT 4 +
6	SWITCH INPUT 5 +

J6 – MAIN PORT	
PIN #	FUNCTION
1	EARTH
2	RS232 RECEIVE +
3	RS232 TRANSMIT +
4	NOT USED
5	NOT USED
6	NOT USED
7	C. L. OUTPUT 4 –/RS232 GND
8	SWITCH INPUT 1 +
9	CURRENT LOOP INPUT +
10	CURRENT LOOP INPUT –
11	RELAY OUTPUT +
12	RS485 +
13	RS485 –
14	CURRENT LOOP OUTPUT 1 +
15	CURRENT LOOP OUTPUT 1 –
16	CURRENT LOOP OUTPUT 2 +
17	CURRENT LOOP OUTPUT 2 –
18	CURRENT LOOP OUTPUT 3 +
19	CURRENT LOOP OUTPUT 3 –
20	NOT USED
21	SWITCH INPUT 1 –
22	CURRENT LOOP OUTPUT 4 +
23	RELAY OUTPUT --
24	10V AC/DC INPUT-P
25	10V AC/DC INPUT-N

ALL SPORT 5000 SERIES MODELS	
MODEL #	FUNCTION
5100	120V, STANDARD PROGRAMMING
5120	230V, STANDARD PROGRAMMING

J8 – SWITCH INPUT	
PIN #	FUNCTION
1	INPUT #1
2	INPUT #2
3	INPUT #3
4	INPUT #4
5	INPUT #5
6	INPUT #6
7	INPUT #7
8	INPUT #8
9	INPUT #9
10	INPUT-GND
11	RELAY COMMON
12	RELAY NORMALLY OPEN
13	RELAY NORMALLY CLOSED
14	CURRENT LOOP #1 OUT-P
15	CURRENT LOOP #1 OUT-GND

FOR STANDARD CODES, THESE FUNCTIONS ARE USUALLY ASSIGNED TO THE FOLLOWING TASKS:

FUNCTION	USUAL TASK
SW IN 1	MAIN CLOCK STOP/START
SW IN 2	MAIN CLOCK HORN
SW IN 3	NOT USED
SW IN 4	SHOT/PLAY CLOCK STOP
SW IN 5	SHOT/PLAY CLOCK RESET
SW OUT	CLOCK STOP OUT
CL OUT 1	SCOREBOARD OUTPUT
CL OUT 2	SCOREBOARD OUTPUT
CL OUT 3	SCOREBOARD OUTPUT
CL OUT 4	DATA STREAM

04	24 JUL 03	SWITCHED J5 PINS 8 AND 9	TLH	
3	12 JUL 01	CHANGED TO A 230V SYSTEM, WITH AN OP-1196-0006 NUMBER. ALSO ADDED DESCRIPTION OF "RS232 COM" ON PIN 5 OF J5	NW	
2	11 APR 01	UPDATED REAR VIEW	EB	
1	24 OCT 00	CHANGED 10 PIN TO 15 PIN D FEMALE	EB	
REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006
PROJ: ALL SPORT 5000 SERIES CONSOLES
TITLE: REAR VIEW, A/S 5100 CONNECTOR ASSIGNMENTS
DES. BY: EBRAVEK   DRAWN BY: EBRAVEK   DATE: 24 NOV 99
REVISION 04   APPR. BY: SCALE: 1=3
1196-R04A-124632

SCOREBOARD

POWER

POWER AND SIGNAL WIRES ARE
TERMINATED IN A POWER AND
SIGNAL TERM PANEL LOCATED
INSIDE OF THE SCOREBOARD
(LOCATION OF PANEL DEPENDS
UPON MODEL OF SCOREBOARD
REFER TO SCOREBOARD MANUAL
FOR MORE DETAILS)

SEE SCOREBOARD MANUAL
FOR SCOREBOARD POWER
REQUIREMENTS.

1/4" PHONE JACK J-BOX
0A-1009-0038-INDOOR OR
0A-1091-0227--OUTDOOR

SIGNAL CORD
W-1236, 20 FT
W-1237, 50 FT
W-1238, 30 FT
W-1340, 10 FT

RECOMMENDED SIGNAL CABLE
1 PAIR, 22 AWG CABLE WITH AN
OVERALL SHIELD. (DAK PART# W-1077)

120V AC

J1,J2
OR J3
J4

OUTDOOR SCOREBOARD SYSTEMS

MAIN CLOCK
START/STOP/HORN SWITCH
0A-1166-0003

ALL SPORT 3000 OR 5000 SERIES CONSOLE

SCOREBOARD

POWER

POWER AND SIGNAL WIRES ARE
TERMINATED IN A POWER AND
SIGNAL TERM PANEL LOCATED
INSIDE OF THE SCOREBOARD
(LOCATION OF PANEL DEPENDS
UPON MODEL OF SCOREBOARD
REFER TO SCOREBOARD MANUAL
FOR MORE DETAILS)

SEE SCOREBOARD MANUAL
FOR SCOREBOARD POWER
REQUIREMENTS.

RECOMMENDED SIGNAL CABLE
1 PAIR, 22 AWG CABLE WITH AN
OVERALL SHIELD. (DAK PART# W-1077)
(ONE CABLE FOR EACH SCOREBOARD)

PLAY
CLOCK

POWER

PLAY
CLOCK

POWER

1/4" PHONE JACK J-BOX
0A-1009-0038-INDOOR OR
0A-1091-0227-OUTDOOR

SIGNAL CORDS
W-1236, 20 FT
W-1237, 50 FT
W-1238, 30 FT
W-1340, 10 FT

J7

120V AC

J1,J2
OR J3
J4

PLAY CLOCK CONTROL
0A-1196-0031

FOOTBALL SYSTEM WITH PLAY CLOCKS

MAIN CLOCK
START/STOP/HORN SWITCH
0A-1166-0003

ALL SPORT 3000 OR
5000 SERIES CONSOLE

REV.	DATE	DESCRIPTION	BY	APPR.
03	17 JAN 02	CHANGED 0A-1166-4 TO 0A-1196-31	JJS	
02	11 MAY 00	CHANGED TO REPRESENT ALL OUTDOOR SPORTS	EB	
01	26 APR 00	ADDED A/S 3000	DKD	

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: ALL SPORT 5000

TITLE: BLOCK DIAGRAMS, A/S 3000 OR 5000 OUTDOOR SPORTS

DES. BY: DRAWN BY: E BRAVEK   DATE: 30 NOV 99

REVISION
03

APPR. BY:

SCALE: NONE

1196-R04A-124690

TEAM NAME

LL-2441

| SHIFT | P | - | SPACE |
| - | O | L | . |

FONT

DOUBLE STROKE	SINGLE STROKE
I	U
K	J
,	M

HEIGHT

8 ROWS	7 ROWS
Y	T
H	G
N	B

WIDTH

16 COLUMNS	32 COLUMNS	48 COLUMNS	64 COLUMNS
Q	W	E	R
A	S	D	F
Z	X	C	V
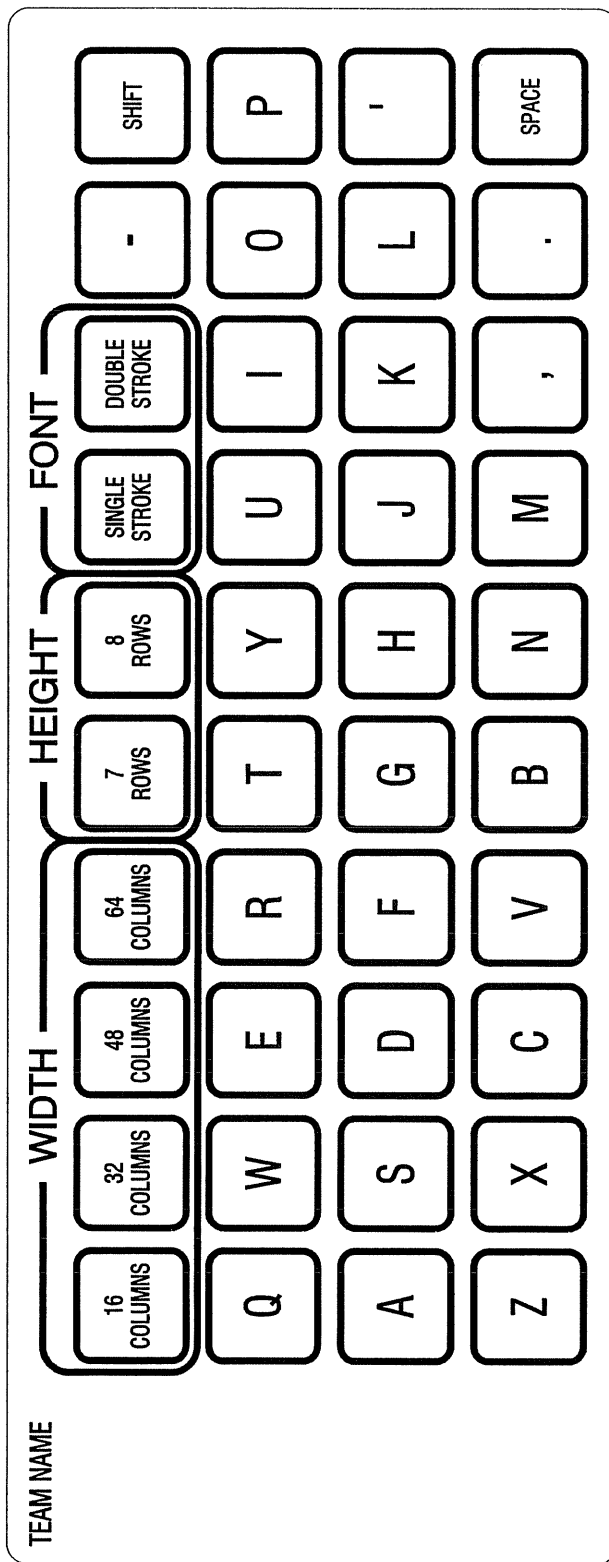
DAKTRONICS, INC.   BROOKINGS, SD 57006

PROJ: ALL SPORT 5000 SERIES CONSOLE
TITLE: INSERT; TEAM NAME
DES. BY: EB   DRAWN BY: E BRAVEK   DATE: 13 DEC 99
REVISION   APPR. BY:
SCALE: 1=1   1196-E07A-125290

| REV. | DATE | DESCRIPTION | BY | APPR. |

STATUS

| DISPLAY BLACK FLAG | DISPLAY LAPS | DISPLAY TIME | CURRENT LAP TIME • |

| BLACK FLAG • |

| RED | YELLOW | GREEN |

MANUAL

| LAP -1 | CURRENT LAP • | LAP +1 |

| CAR NUMBER • | LAP NUMBER • | TIME • |

| POSITION -1 | CURRENT POSITION • | POSITION +1 |

OG-139243

TRANSPONDER INTERFACE
CODES :

AMB	MANUAL	
301	401	POSITION 1-12
333	433	PYLON POSITION 1-45
334	433	ALPAHNUMERIC CAR X1
336		ALPHANUMERIC CAR NUMBER RTD
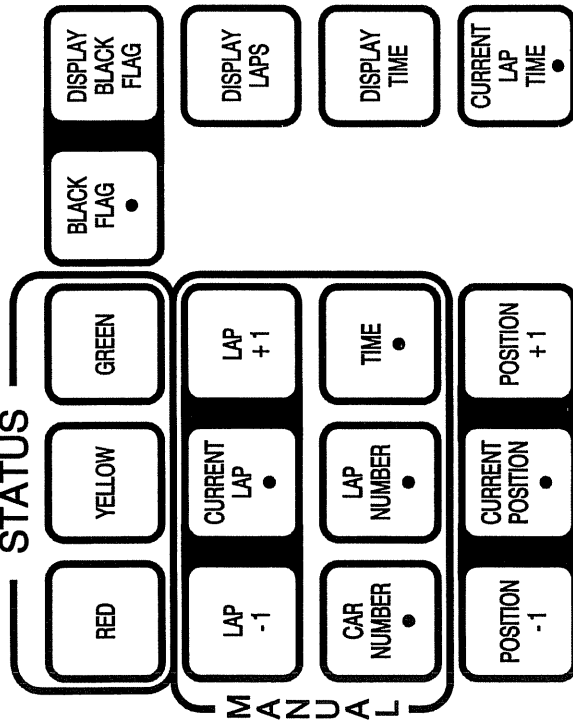
DAKTRONICS, INC.   BROOKINGS, SD 57006

PROJ:

TITLE: INSERT, A/S 5000, TRANSPONDER INTERFACE CODE

DES. BY: EB   DRAWN BY: EBRAVEK   DATE: 29 SEPT 00

REVISION | APPR. BY:

SCALE: 1=1   1196-E07A-139243

| 01 | 26 FEB 02 | ADDED ALPHANUMERIC CAR X1. | CJB | |
| REV. | DATE | DESCRIPTION | BY | APPR. |

OVAL TRACK POSTING

CODE

995   PYLON POSITIONS 1-45

STATUS

LAP +1	LAP •	LAP -1	GREEN	YELLOW	RED
SET CAR POSITION	DISPLAY TIME	DISPLAY LAPS	DISPLAY BLACK FLAG	BLACK FLAG •	

| 10TH PLACE • | SWAP 9TH 10TH / 9TH PLACE • | SWAP 8TH 9TH / 8TH PLACE • | SWAP 7TH 8TH / 7TH PLACE • | SWAP 6TH 7TH / 6TH PLACE • | SWAP 5TH 6TH / 5TH PLACE • | SWAP 4TH 5TH / 4TH PLACE • | SWAP 3RD 4TH / 3RD PLACE • | SWAP 2ND 3RD / 2ND PLACE • | SWAP 1ST 2ND / 1ST PLACE • |
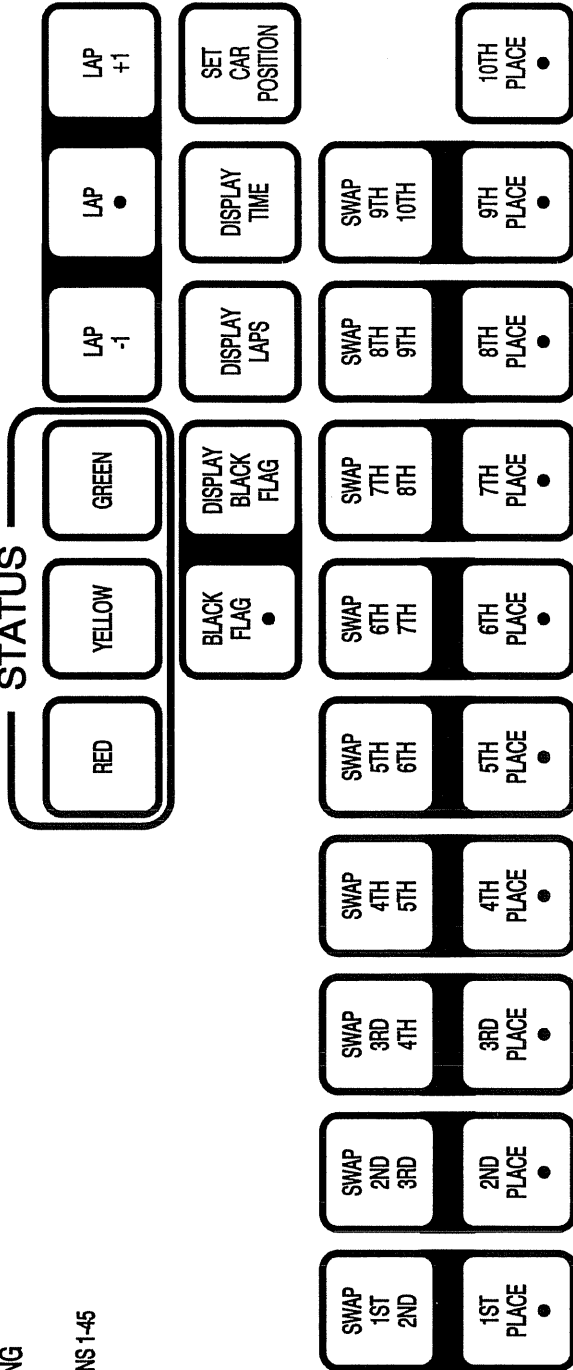
0G-139244

DAKTRONICS, INC.   BROOKINGS, SD 57006

PROJ:

TITLE: INSERT; A/S 5000 OVAL TRACK POSTING

DES. BY: EB   DRAWN BY: EBRAVEK   DATE: 29 SEPT 00

REVISION   APPR. BY:

SCALE: 1=1   1196-E07A-139244

REV.	DATE	DESCRIPTION	BY	APPR.

OVAL TRACK
PHOTOCELL
TIMING
CODE
300

LL-2520

LAPS

| LAP -1 | LAP • | LAP +1 |
| DISPLAY LAPS | SET CAR POSITION |

TIME

| START ENABLE | LAP ENABLE | STOP ENABLE | RESET |
| SET TIME • | DISPLAY RUNNING TIME | DISPLAY BEST LAP TIME | DISPLAY TIME OF DAY |

STATUS

| RED | YELLOW | GREEN |
| BLACK FLAG • | DISPLAY BLACK FLAG |

PLACING

| SWAP 1ST 2ND | SWAP 2ND 3RD | SWAP 3RD 4TH | SWAP 4TH 5TH | SWAP 5TH 6TH | SWAP 6TH 7TH | SWAP 7TH 8TH | SWAP 8TH 9TH | SWAP 9TH 10TH | RESET ALL PLACES |
| 1ST PLACE • | 2ND PLACE • | 3RD PLACE • | 4TH PLACE • | 5TH PLACE • | 6TH PLACE • | 7TH PLACE • | 8TH PLACE • | 9TH PLACE • | 10TH PLACE • |

DAKTRONICS, INC.   BROOKINGS, SD 57006

PROJ:

TITLE: INSERT; A/S 5000 OVAL TRACK TIMING

DES. BY: EB   DRAWN BY: N WRIEDT   DATE: 3 OCT 00

REVISION   APPR. BY:

SCALE: 1 = 1   1196-E07A-139347

REV.	DATE	DESCRIPTION	BY	APPR.
1	1 MAY 01	CHANGE OG-139347 TO LL--2520	EB	

LANE TRACK PHOTOCELL TIMING

CODE 303

PHOTO CELLS

TIME

DISPLAY TIME OF DAY

DISPLAY TIME

SET TIME

RESET

PLACING

SWAP 1ST 2ND
SWAP 2ND 3RD
SWAP 3RD 4TH
SWAP 4TH 5TH
SWAP 5TH 6TH
SWAP 6TH 7TH
SWAP 7TH 8TH
SWAP 8TH 9TH
SWAP 9TH 10TH
SET CAR POSITION

1ST PLACE
2ND PLACE
3RD PLACE
4TH PLACE
5TH PLACE
6TH PLACE
7TH PLACE
8TH PLACE
9TH PLACE
RESET ALL PLACES
10TH PLACE

OG-139399

REV.	DATE	DESCRIPTION	BY	APPR.
2	19 APR 01	CHANGED C FONT STYLE TO SWISS 721 CN BT, ROMANS.	NW	
1	14 MAR 01	CHANGED TEXT "TOD" TO "TIME OF DAY"	NW	

STRIP 1/4" OF INSULATION OFF OF EACH WIRE.

INSERT WIRE IN THE CORRECT POSITION.

USING A SMALL FLAT HEAD SCREW DRIVER TIGHTEN THE TERMINAL BLOCK TILL WIRE IS HELD IN PLACE.
MAKE SURE TO NOT HAVE ANY EXCESS UNINSULATED WIRE STICKING OUT OF TERMINAL. BLOCK POSITION

LANE 1 START/PHOTOCELL #1 SIGNAL PIN 1
PHOTOCELL #1 POWER PIN 2
PHOTOCELL #1 GND PIN 3
LANE 2 START/PHOTOCELL #2 SIGNAL PIN 4
PHOTOCELL #2 POWER PIN 5
PHOTOCELL #2 GND PIN 6
LANE 1 STOP/PHOTOCELL #3 SIGNAL PIN 7
PHOTOCELL #3 POWER PIN 8
PHOTOCELL #3 GND PIN 9
LANE 2 STOP/PHOTOCELL #4 SIGNAL PIN 10
PHOTOCELL #4 POWER PIN 11
PHOTOCELL #4 GND PIN 12
LANE 3 START/PHOTOCELL #5 SIGNAL PIN 13
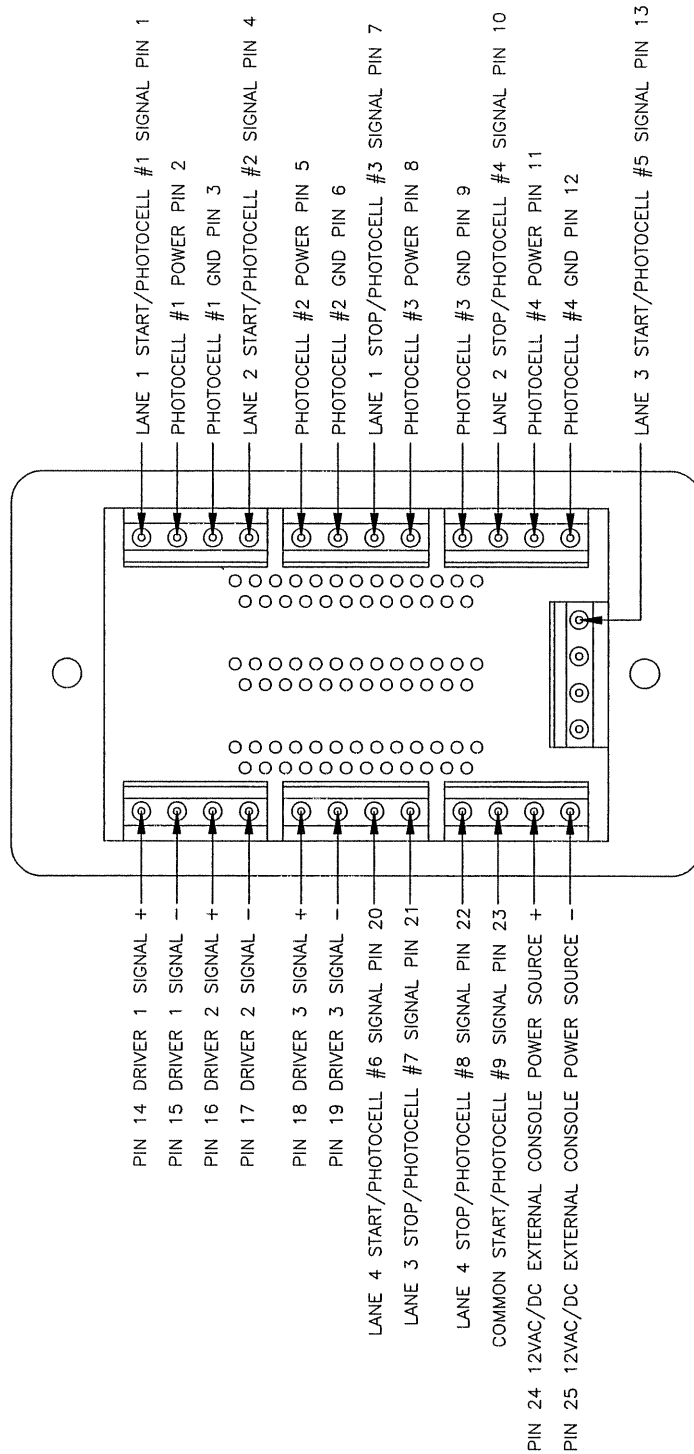
REAR VIEW OF J-BOX
FACEPLATE

PIN 14 DRIVER 1 SIGNAL +
PIN 15 DRIVER 1 SIGNAL −
PIN 16 DRIVER 2 SIGNAL +
PIN 17 DRIVER 2 SIGNAL −
PIN 18 DRIVER 3 SIGNAL +
PIN 19 DRIVER 3 SIGNAL −
LANE 4 START/PHOTOCELL #6 SIGNAL PIN 20
LANE 3 STOP/PHOTOCELL #7 SIGNAL PIN 21
LANE 4 STOP/PHOTOCELL #8 SIGNAL PIN 22
COMMON START/PHOTOCELL #9 SIGNAL PIN 23
PIN 24 12VAC/DC EXTERNAL CONSOLE POWER SOURCE +
PIN 25 12VAC/DC EXTERNAL CONSOLE POWER SOURCE −

NOTE: FOR J-BOX WIRING, SEE
DRAWING A-143453

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ:

TITLE: AS 5100 PHOTOCELL INTERFACE 25PIN PCB JBOX PINOUT

DES. BY: DWALKES   DRAWN BY: NWRIEDT   DATE: 23 JAN 01

REVISION   APPR. BY:

SCALE: 1=3   1196-R01A-143444

1	09 MAR 01	ADDED NOTE FOR J-BOX WIRING AND CHANGED TITLE TO READ AS 5100 INSTEAD OF AS 5000	NW	
REV.	DATE	DESCRIPTION	BY	APPR.

ALL SPORT 5100 PHOTOCELL INTERFACE
TIMER JUNCTION BOX WIRING

TYPICAL RETROREFLECTIVE PHOTOCELL
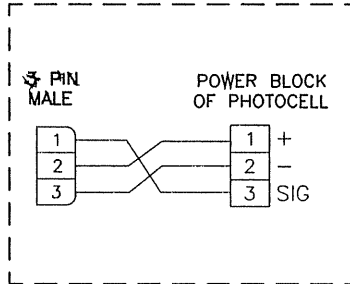
TYPICAL PHOTOCELL TRANSMITTER-RECEIVER PAIR

NOTE:
FOR JUNCTION BOX USING WIRE CONNECTIONS, REFER TO COLOR CODES BELOW.
FOR PCB JUNCTION BOX CONNECTIONS, USE NUMBERING SYSTEM ON TERMINAL BLOCK.

3 PIN MALE

POWER BLOCK OF PHOTOCELL

1		1	+
2		2	−
3		3	SIG

3 PIN MALE

1	WHT	RECEIVER A-1067-98
2	BRN	
3	BLU	
1		TRANSMITTER A-1067-97
2	BRN	
3	BLU	

3 PIN MALE

OR

TIMER J-BOX

TYPICAL PHOTOCELL JUNCTION BOX

3 PIN MALE

1	BLU	RECEIVER A-1067-58
2	RED	
3	BLK	
1		TRANSMITTER A-1067-57
2	RED	
3	BLK	

3 PIN MALE

J1 SPLICE FIELD CABLING SPLICE

3 PIN FEMALE

PHOTO 1-N	1	BLK		1
PWR 1-P	2	WHT		2
GND 1-N	3	RED		3
PHOTO 2-N	4	GRN		1
PWR 2-P	5	ORG		2
GND 2-N	6	BLU		3
PHOTO 3-N	7	WHT/BLK	
PWR 3-P	8	RED/BLK	
GND 3-N	9	GRN/BLK	
PHOTO 4-N	10	ORG/BLK	
PWR 4-P	11	BLU/BLK	
GND 4-N	12	BLK/WHT	
PHOTO 5-N	13		
1 SIG-P	14	RED/WHT	
1 SIG-N	15	GRN/WHT	
2 SIG-P	16	BLU/WHT	
2 SIG-N	17	BLK/RED	
3 SIG-P	18	WHT/RED	
3 SIG-N	19	ORG/RED	
PHOTO 6-N	20		
PHOTO 7-N	21		
PHOTO 8-N	22		
PHOTO 9-N	23		
12 VAC PWR	24		
12 VAC GND	25		

3 PIN FEMALE

25 PIN "D" FEMALE

DRIVER NO. 1

SIGNAL TB

| 1 | + |
| 2 | − |

DRIVER NO. 2

SIGNAL TB

| 1 | + |
| 2 | − |

TO PWR1-P
TO GND1-N

TO PWR2-P
TO GND2-N

TO PWR3-P
TO GND3-N

ET

SHIELD TYPICAL

TO PWR4-P
TO GND4-N

TO PWR4-P
TO GND4-N

(OPTIONAL)

120 VAC
TO
12 VAC
TRANSFORMER

| 1 | 09 MAR 01 | CHANGED ALL REFERENCES TO ALL SPORT 5000 TO ALL SPORT 5100 | NW | |
| REV. | DATE | DESCRIPTION | BY | APPR. |
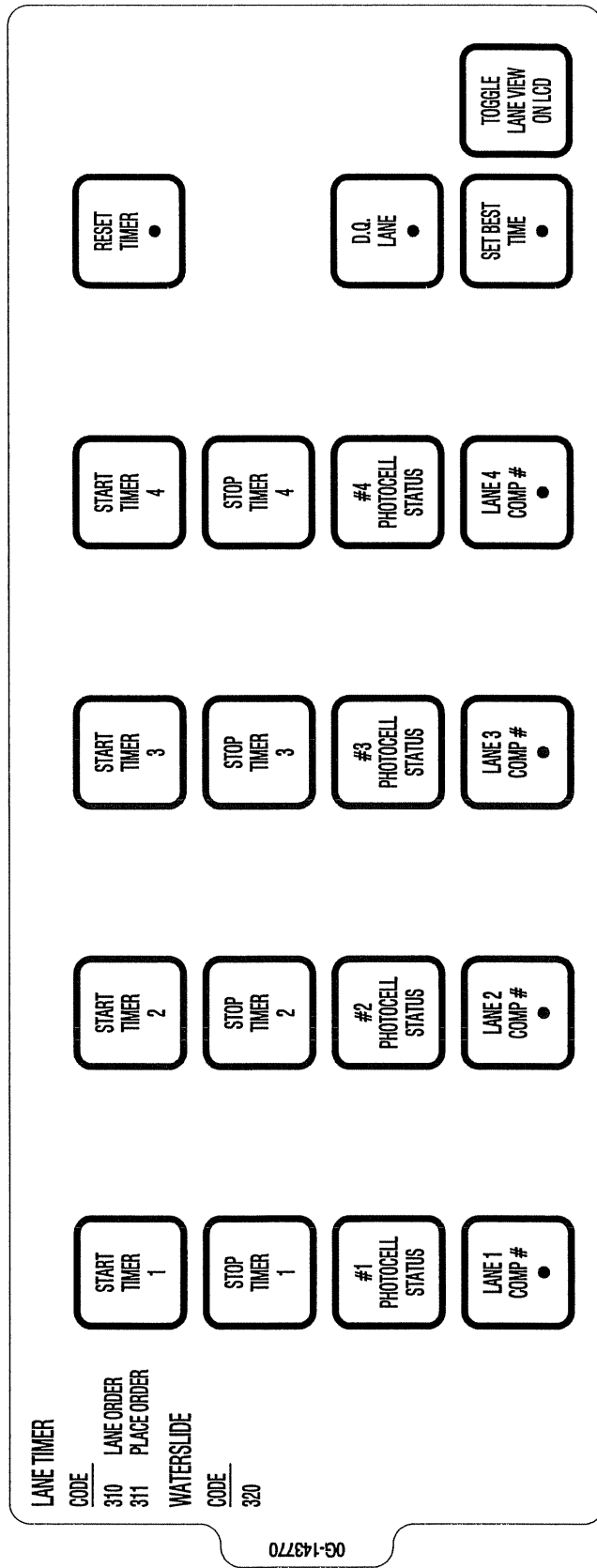
TOGGLE LANE VIEW ON LCD

RESET TIMER

D.Q. LANE

SET BEST TIME

START TIMER 4

STOP TIMER 4

#4 PHOTOCELL STATUS

LANE 4 COMP #

START TIMER 3

STOP TIMER 3

#3 PHOTOCELL STATUS

LANE 3 COMP #

START TIMER 2

STOP TIMER 2

#2 PHOTOCELL STATUS

LANE 2 COMP #

START TIMER 1

STOP TIMER 1

#1 PHOTOCELL STATUS

LANE 1 COMP #

LANE TIMER
CODE
310 LANE ORDER
311 PLACE ORDER

WATERSLIDE
CODE
320

OG-143770

REV.	DATE	DESCRIPTION	BY	APPR.
1	19 APR 01	CHANGED C FONT STYLE TO SWISS 721 CN BT, ROMANS.	NW	

NUMBER TEST

CLEAR DISPLAY

ALL ON TEST

RIGHT LOOPBACK '6,7,8,9,0'

RIGHT DIAL-IN

RIGHT LOOPBACK '1,2,3,4,5'

TOP RIGHT

BOTTOM RIGHT

LEFT LOOPBACK '6,7,8,9,0'

LEFT DIAL-IN

LEFT LOOPBACK '1,2,3,4,5'

TOP LEFT

BOTTOM LEFT
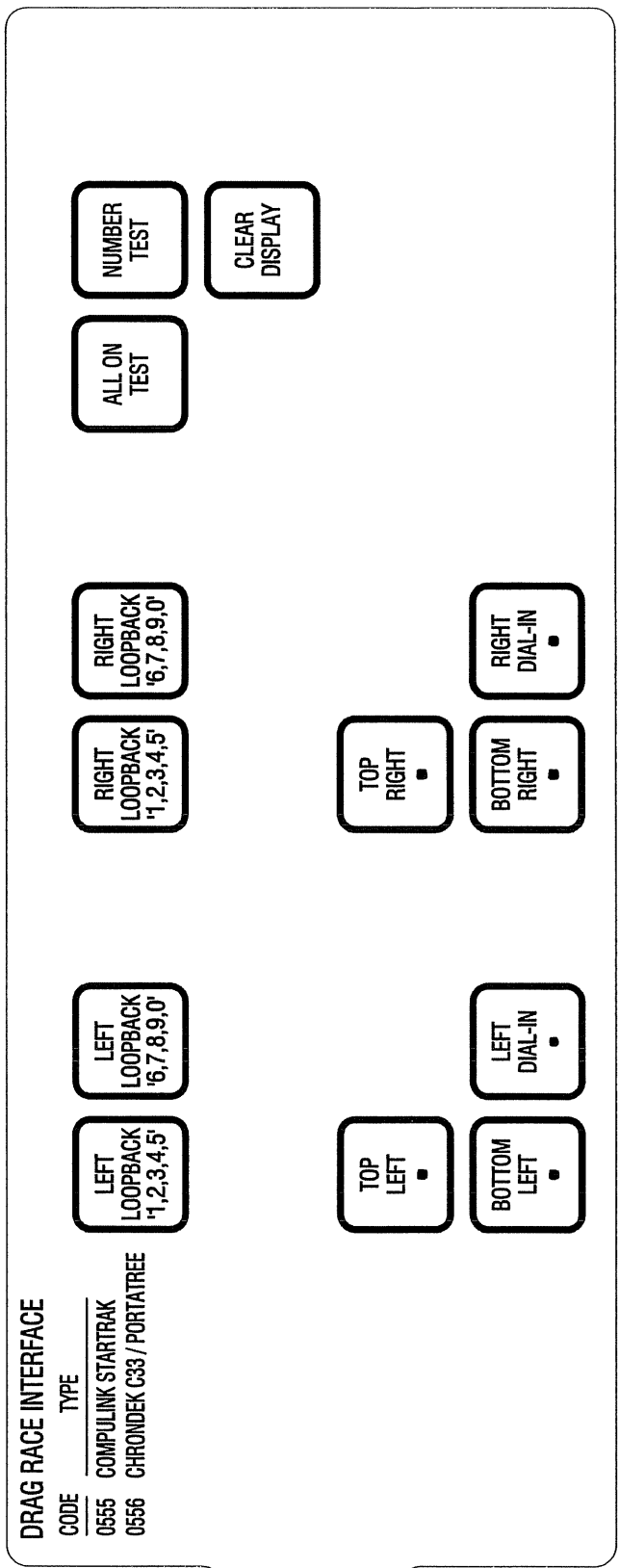
DRAG RACE INTERFACE

CODE	TYPE
0555	COMPULINK STARTRAK
0556	CHRONDEK C33 / PORTATREE

OG-164750, REV 03

03	11 JUL 03	CHANGED TITLE FROM "COMPULINK" TO DRAG RACE INTERFACE. ADDED CODE 0556. ADDED TYPE FIELD.	CJB	
02	25 JUN 02	CHANGED CODE FROM 555 TO 0555	JJS	
01	08APR02	CHANGED BOTTOM RIGHT-DI TO RIGHT DIAL-IN	JJS	
REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC.   BROOKINGS, SD 57006

PROJ:

TITLE: INSERT; DRAG RACE INTERFACE

DES. BY: DRAWN BY: JSPAHR   DATE: 28 MAR 02

REVISION   APPR. BY:

03   SCALE: 1 = 1   1196-E07A-164750

SETTING CHANNELS

NOTE:
IF ALL SCOREBOARDS ARE RUN FROM ONE CONSOLE AT ALL TIMES
PLEASE GO DIRECTLY TO THE INSTALLATION INSTRUCTIONS AT RIGHT.

STEP 1
OPEN RADIO RECEIVER BY REMOVING 4 SCREWS IN COVER.
STEP 2
USE A SMALL FLAT HEAD SCREWDRIVER TO CHANGE THE SWITCH TO
THE DESIRED CHANNEL NUMBER. SEE DETAIL "C" FOR LOCATION OF
CHANNEL SWITCH. REFER TO DRAWINGS A-180566, A-180922, AND
A-180923 FOR CHANNEL SETTING CRITERIA.
STEP 3
IF NECESSARY; CHANGE RADIO FROM BCAST1 TO BCAST2 BY MOVING
JUMPER ON J5 FROM "BCAST1" TO "BCAST2" POSITION. SEE DETAIL
"C" FOR LOCATION OF BCAST JUMPER (J5). REFER TO DRAWINGS
A-180566, A-180922, AND A-180923 FOR BCAST SELECTION CRITERIA.
STEP 4
NOTE THE CHANNEL NUMBER AND BCAST SETTING FOR THE RADIO
RECEIVER AND PUT COVER BACK ON. REFER TO THE SECTION AT
RIGHT FOR RADIO RECEIVER INSTALLATION.

DETAIL: C
CHANNEL SWITCH AND BCAST JUMPER LOCATIONS
FRONT VIEW OF RADIO RECEIVER; COVER REMOVED

NOTE:
THE 2 JUMPERS SHOWN IN THE
DOTTED BOX ARE NOT ACTUALLY
JUMPERS; THEY ARE DETAILS ON THE
PCB SHOWING HOW TO SET J5.

S1; CHANNEL SWITCH,
FACTORY SET TO "1"

J5; BCAST JUMPER,
FACTORY SET TO BCAST1

STEP 1
IF YOU WILL HAVE A SETUP OTHER THAN ALL SCOREBOARDS
BEING RUN WITH ONE CONTROLLER AT ALL TIMES PLEASE REFER
TO INSTRUCTIONS AT LEFT, OTHERWISE PROCEED TO STEP 2.
STEP 2
TURN POWER OFF TO THE SCOREBOARD. LOCATE POWER/SIGNAL
ACCESS DOOR AND OPEN. REMOVE COVER FROM DRIVER
ENCLOSURE.
STEP 3
FIND A LOCATION ON THE INSIDE OF THE POWER/SIGNAL ACCESS
DOOR SUCH THAT THE RADIO ENCLOSURE, ONCE MOUNTED, WILL
NOT INTERFERE WITH THE CLOSING OF THE DOOR. (REFER TO
YOUR SCOREBOARD'S INSTALLATION MANUAL TO DETERMINE THE
LOCATION OF THE POWER/SIGNAL ACCESS DOOR.)
STEP 4
CHECK FOR A PREDRILLED 9/32" HOLE IN THE FACE OF THE
POWER/SIGNAL ACCESS DOOR. IF THERE IS NO HOLE, DRILL A
9/32" HOLE THROUGH THE FACE OF THE DOOR. AS SHOWN IN
DETAIL "A".
STEP 5
ATTACH THE 2, 5" VELCRO STRIPS TO THE VELCRO ON THE
BACKSIDE OF THE RADIO RECEIVER ENCLOSURE. REMOVE THE
STICKY BACKING FROM THE VELCRO STRIPS AND PRESS THEM
INTO PLACE ON THE SCOREBOARD POWER/SIGNAL ACCESS DOOR
DIRECTLY ABOVE THE HOLE YOU DRILLED EARLIER.
STEP 6
FEED THE ANTENNA CABLE FROM THE RADIO RECEIVER THROUGH
THE 9/32"" HOLE AND ATTACH IT TO THE FACE OF THE
SCOREBOARD WITH THE SUPPLIED LOCK WASHER AND NUT.
MAKE SURE THAT THE ANTENNA CABLE IS COMING FROM THE
BOTTOM OF THE RADIO RECEIVER, AS SHOWN IN DETAIL "A". IF
THE RADIO RECEIVER IS INSTALLED WITH THE ANTENNA CABLE
POINTING TO THE TOP OR SIDE THE RECEIVER ENCLOSURE WILL
POSSIBLY FILL WITH WATER AND DESTROY THE RADIO.
STEP 7
ATTACH THE PROVIDED ANTENNA TO THE PREVIOUSLY MOUNTED
ANTENNA CABLE AND TIGHTEN. BE SURE TO HAVE THE ANTENNA
POINTING UP AS SHOWN IN DETAIL "A".
STEP 8
CONNECT THE HARNESS FROM THE RADIO RECEIVER TO THE 5
PIN JACK ON THE SIGNAL INPUT CARD LOCATED IN THE UPPER
LEFT HAND CORNER OF THE DRIVER ENCLOSURE AS SHOWN IN
DETAIL "B". DO NOT ATTEMPT TO PLUG THE RADIO INTO
ANYWHERE ELSE AS THIS MAY DESTROY THE RADIO.
IF YOU HAVE AN INCANDESCENT SCOREBOARD OR IF YOUR LED
SCOREBOARD DOESN'T HAVE A 5 PIN JACK ON THE SIGNAL
INPUT CARD PLEASE ORDER 0A-1110-0023, GEN I, II OUTDOOR
LED OR INCANDESCENT SCBD ADAPTER KIT.
STEP 9
REPLACE COVER OVER DRIVER ENCLOSURE AND CLOSE
POWER/SIGNAL ACCESS DOOR. THE RADIO RECEIVER IS NOW
READY FOR OPERATION.

DETAIL: A
MOUNTING THE RADIO RECEIVER ENCLOSURE
SCOREBOARD LEFT SIDE CUT AWAY VIEW

NOTE:
BE SURE TO
CHOOSE A LOCATION
ON THE INSIDE OF
THE POWER/SIGNAL
ENTRANCE DOOR
THAT WHEN THE
RADIO IS MOUNTED
INTERNALLY WILL NOT
INTERFERE
WITH ANYTHING.

INTERNALLY
MOUNTED DRIVER
ENCLOSURE.

SCOREBOARD
POWER/SIGNAL
ENTRANCE PANEL

RADIO RECEIVER

PRE ATTACHED
VELCRO
2, 5" UNATTACHED
PIECES OF VELCRO
AT-1020

TOOTH LOCK WASHER
NUT

EXTERNAL ANTENNA
ON OUTSIDE FACE
OF SCOREBOARD
A-1654

9/32" HOLE DRILLED
INTO SCOREBOARD
POWER/SIGNAL
ACCESS DOOR
ANTENNA CABLE;
MUST EXIT FROM
BELOW RECEIVER
BOX.
RADIO RECEIVER
POWER/SIGNAL
CABLE

DETAIL: B
CONNECTING THE RADIO RECEIVER WIRE HARNESS
FRONT VIEW OF DRIVER ENCLOSURE; LID REMOVED
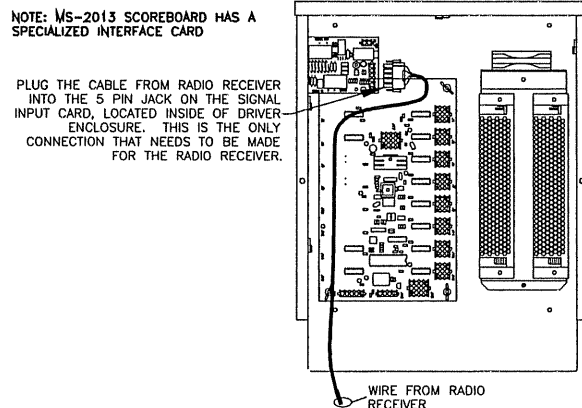
NOTE: MS-2013 SCOREBOARD HAS A
SPECIALIZED INTERFACE CARD

PLUG THE CABLE FROM RADIO RECEIVER
INTO THE 5 PIN JACK ON THE SIGNAL
INPUT CARD, LOCATED INSIDE OF DRIVER
ENCLOSURE. THIS IS THE ONLY
CONNECTION THAT NEEDS TO BE MADE
FOR THE RADIO RECEIVER.

WIRE FROM RADIO
RECEIVER

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ:

TITLE: INSTALLATION; OUTDOOR, GEN IV RADIO RECEIVER

DES. BY: CBRECZI   DRAWN BY: CBRECZI   DATE: 27 DEC 02

REVISION

APPR. BY:

SCALE: 1=1

1110-R01A-180514

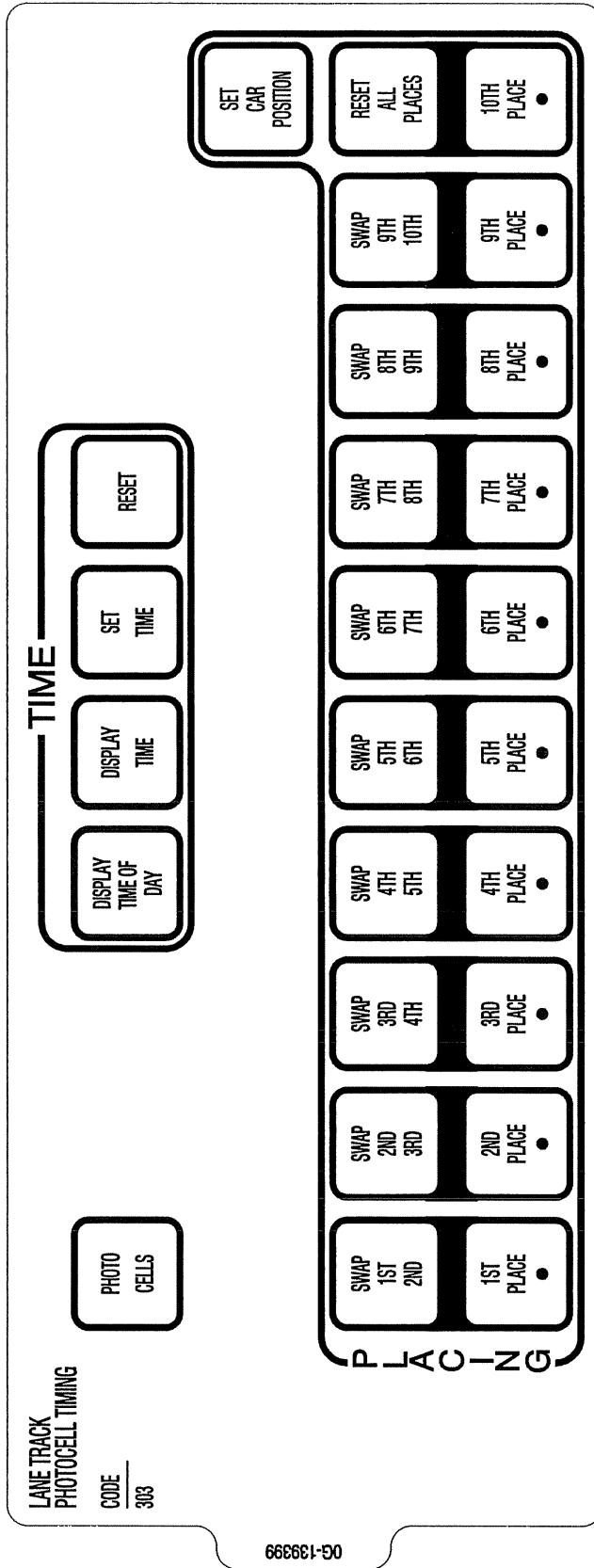| REV.	DATE	DESCRIPTION	BY	APPR.
1	16 MAY 03	ADDED NOTE MS- 2013 HAS A SPECIALIZED CARD	SAL	

SETTING CHANNELS

NOTE:
IF ALL SCOREBOARDS ARE RUN FROM ONE CONSOLE AT ALL TIMES PLEASE GO DIRECTLY TO THE INSTALLATION INSTRUCTIONS AT RIGHT.

STEP 1
OPEN RADIO RECEIVER BY REMOVING 4 SCREWS IN COVER.
STEP 2
USE A SMALL FLAT HEAD SCREWDRIVER TO CHANGE THE SWITCH TO THE DESIRED CHANNEL NUMBER. SEE DETAIL "C" FOR LOCATION OF CHANNEL SWITCH. REFER TO DRAWINGS A-180566, A-180922, AND A-180923 FOR CHANNEL SETTING CRITERIA.
STEP 3
IF NECESSARY; CHANGE RADIO FROM BCAST1 TO BCAST2 BY MOVING JUMPER ON J5 FROM THE "BCAST1" TO "BCAST2" POSITION. SEE DETAIL "C" FOR LOCATION OF BCAST JUMPER (J5). REFER TO DRAWINGS A-180566, A-180922, AND A-180923 FOR BCAST SELECTION CRITERIA.
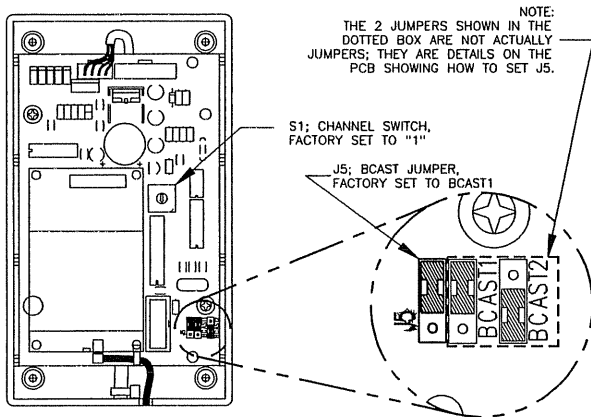STEP 4
NOTE THE CHANNEL NUMBER AND BCAST SETTING FOR THE RADIO RECEIVER AND PUT COVER BACK ON. REFER TO SECTION AT RIGHT FOR RADIO RECEIVER INSTALLATION.

DETAIL: C
CHANNEL SWITCH AND BCAST JUMPER LOCATIONS
FRONT VIEW OF RADIO RECEIVER; COVER REMOVED

NOTE:
THE 2 JUMPERS SHOWN IN THE DOTTED BOX ARE NOT ACTUALLY JUMPERS; THEY ARE DETAILS ON THE PCB SHOWING HOW TO SET J5.

S1; CHANNEL SWITCH, FACTORY SET TO "1"

J5; BCAST JUMPER, FACTORY SET TO BCAST1
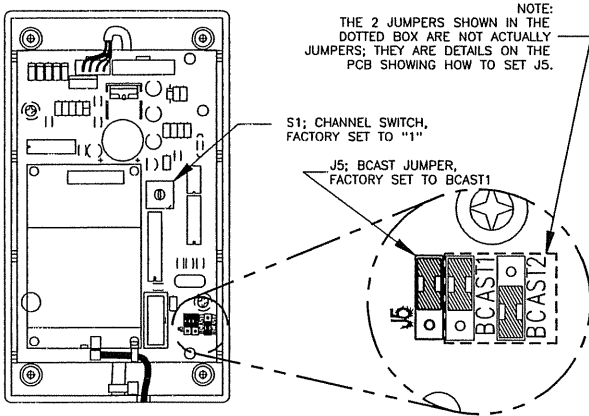
STEP 1
IF YOU WILL HAVE A SETUP OTHER THAN ALL SCOREBOARDS BEING RUN WITH ONE CONTROLLER AT ALL TIMES PLEASE REFER TO THE INSTRUCTIONS AT LEFT, OTHERWISE PROCEED TO STEP 2.

STEP 2
TURN POWER OFF TO THE SCOREBOARD. FIND A LOCATION ON THE INSIDE OF THE POWER/SIGNAL ACCESS DOOR, THAT THE RADIO ENCLOSURE, ONCE MOUNTED, WILL NOT INTERFERE WITH THE CLOSING OF THE DOOR. (REFER TO YOUR SCOREBOARD'S INSTALLATION MANUAL TO DETERMINE THE LOCATION OF THE POWER/SIGNAL ACCESS DOOR.) IF INSTALLING THE RADIO RECEIVER IN A SHOT CLOCK FIND A PLACE INSIDE OF THE SHOT CLOCK ON THE TOP OF THE SHOT CLOCK; MAKE SURE THAT THE LOCATION CHOSEN WON'T INTERFERE WITH THE FUTURE INSTALLATION OF A VHI.
STEP 3
CHECK FOR A PREDRILLED 9/32" HOLE IN THE FRONT POWER/SIGNAL ACCES DOOR (TOP OF SHOT CLOCK). IF THERE IS NO HOLE DRILL A 9/32" HOLE THROUGH THE FACE OF THE DOOR. AS SHOWN IN DETAIL "A".
STEP 4
ATTACH THE 2, 5" VELCRO STRIPS TO THE VELCRO ON THE BACKSIDE OF THE RADIO RECEIVER ENCLOSURE. REMOVE THE STICKY BACKING FROM THE VELCRO STRIPS AND PRESS THEM INTO PLACE ON THE SCOREBOARD POWER/SIGNAL ACCESS DOOR (TOP OF SHOT CLOCK) DIRECTLY ABOVE THE HOLE YOU DRILLED EARLIER.
STEP 5
FEED THE ANTENNA CABLE FROM THE RADIO RECEIVER THROUGH THE 9/32"" HOLE AND ATTACH IT TO THE FACE OF THE SCOREBOARD WITH THE SUPPLIED LOCK WASHER AND NUT.
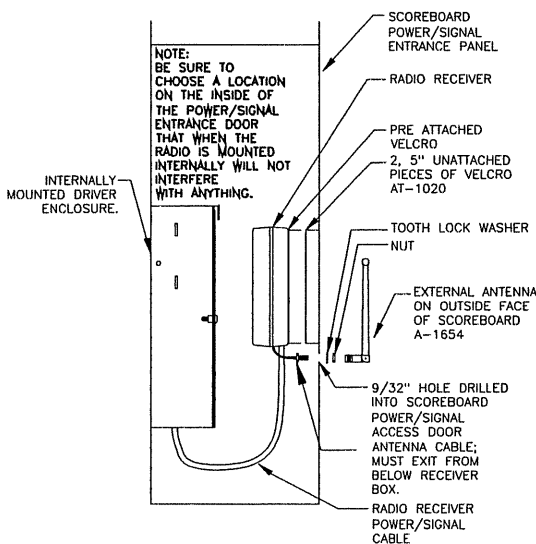STEP 6
ATTACH THE PROVIDED ANTENNA TO THE PREVIOUSLY MOUNTED ANTENNA CABLE AND TIGHTEN. BE SURE TO HAVE THE ANTENNA POINTING UP AS SHOWN IN DETAIL "A".
STEP 7
LOCATE THE 5 PIN JACK IN THE DRIVER TRAY HARNESS. CHECK TO SEE IF THERE IS A GRAY WIRE IN POSITION 3 OF J45. IF THERE IS A GRAY WIRE PLEASE REFER TO DRAWING A-181729. IF THERE IS A BROWN WIRE IN POSITION 3 OF J45 CONTINUE INSTALLATION.
PLUG THE 5 PIN MALE PLUG FROM THE RADIO RECEIVER INTO THE MATING 5 PIN JACK (J45) ON THE DRIVER PANEL AS SHOWN IN DETAIL "B".
STEP 8
CLOSE SCOREBOARD POWER/SIGNAL ACCESS DOOR. TURN POWER BACK ON TO SCOREBOARD. THE RADIO RECEIVER IS NOW READY FOR OPERATION.

DETAIL: A
MOUNTING THE RADIO RECEIVER ENCLOSURE
SCOREBOARD LEFT SIDE CUT AWAY VIEW

NOTE:
BE SURE TO CHOOSE A LOCATION ON THE INSIDE OF THE POWER/SIGNAL ENTRANCE DOOR THAT WHEN THE RADIO IS MOUNTED INTERNALLY WILL NOT INTERFERE WITH ANYTHING.

RADIO RECEIVER

SCOREBOARD POWER/SIGNAL ACCESS DOOR

PRE ATTACHED VELCRO

2, 5" UNATTACHED PIECES OF VELCRO (AT-1020)

TOOTH LOCK WASHER

NUT

EXTERNAL ANTENNA ON OUTSIDE FACE OF SCOREBOARD A-1654

9/32" HOLE DRILLED INTO SCOREBOARD POWER/SIGNAL ACCESS DOOR

RADIO RECEIVER POWER/SIGNAL CABLE

DETAIL: B
CONNECTING THE RADIO RECEIVER WIRE HARNESS
FRONT VIEW OF DRIVER TRAY

PLUG THE CABLE FROM THE RADIO RECEIVER INTO THE MATING 5 PIN JACK (LABELED AS J45) LOCATED IN THE WIRE HARNESS ATTACHED TO THE SCOREBOARD DRIVER TRAY.

NOTE: PLEASE CHECK FOR A GRAY WIRE IN POSITION 3 OF J45. IF THERE IS A GRAY WIRE IN POS. 3 PLEASE REFER TO DRAWING A-181729 FOR UPDATE INSTRUCTIONS. IF THERE IS A BROWN WIRE IN POS. 3 OF J45 CONTINUE INSTALLATION.

HARNESS FROM RADIO

NOTE:
SCOREBOARD ACCESS DOORS AND DRIVER TRAYS MAY VARY BETWEEN SCOREBOARD MODELS.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ:

TITLE: INSTALLATION; INDOOR, GEN IV RADIO RECEIVER

DES. BY: CBRECZI   DRAWN BY: CBRECZI   DATE: 30 DEC 02

REVISION 00   APPR. BY: SCALE: 1=1   1110-R01A-180521

REV.	DATE	DESCRIPTION	BY	APPR.

SCOREBOARD
WITH RADIO SET
TO J5 = BCAST1,
CHANNEL #1

SCOREBOARD #2

SCOREBOARD
WITH RADIO SET
TO J5 = BCAST1,
CHANNEL #1

SCOREBOARD #1

ONE CONSOLE WITH RADIO
SET TO BCAST = 1
CHANNEL 01
CONTROLLING ALL
SCOREBOARDS AT ONCE

BASIC SETUP: MULTIPLE SCOREBOARDS WITH ONE CONTROLLER AT
ALL TIMES.

SCOREBOARD RADIO RECEIVERS WILL COME FACTORY SET CORRECTLY;
J5 = BCAST1, CHANNEL = 1 (S1 = 1). ALL SCOREBOARD RADIO
RECEIVERS SHOULD BE SET THE SAME.

SET CONTROL CONSOLE TO BCAST = 1, CHANNEL = 01.

IF ANY SCOREBOARD FAILS TO OPERATE PROPERLY OPEN
SCOREBARD RADIO RECEIVER IN FAULTY SCOREBOARD(S) AND VERIFY
THAT J5 = BCAST1, AND CHANNEL = 1 (S1 = 1).

SCOREBOARD
WITH RADIO SET
TO J5 = BCAST1,
CHANNEL #1

SCOREBOARD #1

ONE CONSOLE WITH RADIO
SET TO BCAST = 1
CHANNEL 01
CONTROLLING ONE
SCOREBOARD ONLY

MOST BASIC SETUP: ONE SCOREBOARD AND ONE CONTROLLER AT
ALL TIMES.

SCOREBOARD RADIO RECEIVER WILL COME FACTORY SET CORRECTLY;
J5 = BCAST1, CHANNEL = 1 (S1 = 1).

SET CONTROL CONSOLE TO BCAST = 1, CHANNEL = 01.

IF SCOREBOARD FAILS TO OPERATE OPEN SCOREBARD RADIO
RECEIVER AND VERIFY THAT J5 = BCAST1 AND
CHANNEL = 1 (S1 = 1).

DAKTRONICS, INC.   BROOKINGS, SD 57006

PROJ:	
TITLE: CHANNEL SELECTION; SINGLE CONTROL CONSOLE, GEN IV	
DES. BY: CBRECZI	DRAWN BY: CBRECZI	DATE: 06 JAN 03

REV.	DATE	DESCRIPTION	BY	APPR.	REVISION	APPR. BY:	1110-R01A-180566
					00	SCALE: 1=1	

SCOREBOARD
WITH RADIO SET
TO J5 = BCAST1,
CHANNEL #4

SCOREBOARD #4

CONTROLLING
SCOREBOARD 4
INDEPENDENTLY

ONE CONSOLE WITH RADIO
SET TO BCAST = 1
CHANNEL 04
CONTROLLING
SCOREBOARD #4

SCOREBOARD
WITH RADIO SET
TO J5 = BCAST1,
CHANNEL #3

SCOREBOARD #3

CONTROLLING
SCOREBOARD 3
INDEPENDENTLY

ONE CONSOLE WITH RADIO
SET TO BCAST = 1
CHANNEL 03
CONTROLLING
SCOREBOARD #3

SCOREBOARD
WITH RADIO SET
TO J5 = BCAST1,
CHANNEL #2

SCOREBOARD #2

CONTROLLING
SCOREBOARD 2
INDEPENDENTLY

ONE CONSOLE WITH RADIO
SET TO BCAST = 1
CHANNEL 02
CONTROLLING
SCOREBOARD #2

SCOREBOARD
WITH RADIO SET
TO J5 = BCAST1,
CHANNEL #1

SCOREBOARD #1

CONTROLLING
SCOREBOARD 1
INDEPENDENTLY

ONE CONSOLE WITH RADIO
SET TO BCAST = 1
CHANNEL 01
CONTROLLING
SCOREBOARD #1

CONTROLLING
SCOREBOARDS 1, 2, 3, & 4
ALL FROM ONE CONTROL CONSOLE

ONE CONSOLE WITH RADIO
SET TO BCAST = 0
CHANNEL 00
CONTROLLING ALL
SCOREBOARDS

INTERMEDIATE SETUP: MULTIPLE SCOREBOARDS EACH RUN INDEPENDENTLY OR
ALL RUN FROM ONE CONTROLLER.

EACH SCOREBOARD RADIO RECEIVER WILL NEED TO BE SETUP:
SCOREBOARD #1; J5 = BCAST1, CHANNEL = 1 (S1 = 1).
SCOREBOARD #2; J5 = BCAST1, CHANNEL = 2 (S1 = 2).
SCOREBOARD #3; J5 = BCAST1, CHANNEL = 3 (S1 = 3)
UP TO 8 SCOREBOARDS CAN BE SETUP IN THIS METHOD; S1 ON THE
SCOREBOARD RADIO RECEIVER CAN BE SET TO 1 THRU 8.

FOR INDIVIDUAL CONTROL SET THE CONTROL CONSOLE TO BCAST = 1, AND
THE CHANNEL TO THE CHANNEL NUMBER OF THE SCOREBOARD YOU WOULD
LIKE TO CONTROL. EX. TO CONTROL JUST SCOREBOARD #3 SET THE
CONSOLE TO BCAST = 1, CHANNEL = 03.

FOR CONTROL OF ALL SCOREBOARDS AT ONCE SET THE CONTROL CONSOLE
TO BCAST = 0, CHANNEL = 00.

DAKTRONICS, INC.   BROOKINGS, SD 57006

PROJ:

TITLE: CHANNEL SELECTION; SINGLE BROADCAST GROUP, GEN IV

DES. BY: CBRECZI   DRAWN BY: CBRECZI   DATE: 06 JAN 03

REVISION
00

APPR. BY:

SCALE: 1 = 1

1110-R01A-180922

REV.	DATE	DESCRIPTION	BY	APPR.

SCOREBOARD WITH RADIO SET TO J5 = BCAST1, CHANNEL #1

SCOREBOARD #1

CONTROLLING SCOREBOARD 1 INDEPENDENTLY

ONE CONSOLE WITH RADIO SET TO BCAST = 1 CHANNEL 01 CONTROLLING SCOREBOARD #1

SCOREBOARD WITH RADIO SET TO J5 = BCAST1, CHANNEL #2

SCOREBOARD #2

CONTROLLING SCOREBOARD 2 INDEPENDENTLY

ONE CONSOLE WITH RADIO SET TO BCAST = 1 CHANNEL 02 CONTROLLING SCOREBOARD #2

SCOREBOARD WITH RADIO SET TO J5 = BCAST2, CHANNEL #1

SCOREBOARD #3

CONTROLLING SCOREBOARD 3 INDEPENDENTLY

ONE CONSOLE WITH RADIO SET TO BCAST = 2 CHANNEL 01 CONTROLLING SCOREBOARD #3

SCOREBOARD WITH RADIO SET TO J5 = BCAST2, CHANNEL #2

SCOREBOARD #4

CONTROLLING SCOREBOARD 4 INDEPENDENTLY

ONE CONSOLE WITH RADIO SET TO BCAST = 2 CHANNEL 02 CONTROLLING SCOREBOARD #4

CONTROLLING SCOREBOARD 1 & 2 AS A BROADCAST GROUP (BCAST = 1)

ONE CONSOLE WITH RADIO SET TO BCAST = 1 CHANNEL 00 CONTROLLING SCOREBOARD #1 & 2

CONTROLLING SCOREBOARD 3 & 4 AS A BROADCAST GROUP (BCAST = 2)

ONE CONSOLE WITH RADIO SET TO BCAST = 2 CHANNEL 00 CONTROLLING SCOREBOARD #3 & 4

CONTROLLING SCOREBOARDS 1, 2, 3, & 4 ALL FROM ONE CONTROL CONSOLE

ONE CONSOLE WITH RADIO SET TO BCAST = 0 CHANNEL 00 CONTROLLING ALL SCOREBOARDS

ADVANCED SETUP: MULTIPLE SCOREBOARDS EACH RUN INDEPENDENTLY, OR SPLIT INTO GROUPS, OR ALL RUN FROM ONE CONTROLLER.

A TYPICAL SCENARIO FOR THIS SETUP IS A BASKETBALL COURT THAT CAN BE RUN IN FULL COURT, HALF COURT, OR QUARTER COURT SETUP. THE INFORMATION BELOW WILL APPLY TO ANY SPORT OR SET OF SCOREBOARDS THAT NEED TO HAVE MULTIPLE CONTROL OPTIONS.

EACH SCOREBOARD RADIO RECEIVER WILL NEED TO BE SETUP; YOU CAN HAVE UP TO 4 CHANNELS IN EACH BCAST GROUP; CHANNEL 1 THRU 4. REFER TO DRAWING 1110-R01A-180514 OR 1110-R01A-180521 FOR CHANNEL SETTING INSTRUCTIONS.

FOR ALL SCOREBOARDS IN ONE GROUP, SET J5 = BCAST1. THEN SET THE CHANNEL # OF EACH SCOREBOARD TO A DIFFERENT CHANNEL NUMBER FROM 1 THRU 4. THIS WILL BE BROADCAST GROUP 1 (BCAST = 1).

FOR ALL SCOREBOARD IN THE OTHER GROUP SET J5 = BCAST2. THEN SET THE CHANNEL # OF EACH SCOREBOARD TO A DIFFERENT CHANNEL NUMBER FROM 1 UP TO 4. THIS WILL BE BROADCAST GROUP 2 (BCAST = 2).

TO RUN ALL SCOREBOARDS AT ONCE; SET THE CONTROL CONSOLE TO BCAST = 0, CHANNEL = 00.

TO RUN ALL SCOREBOARDS IN BROADCAST GROUP 1 AT ONCE SET THE CONTROL CONSOLE TO BCAST = 1, CHANNEL = 00 TO RUN ALL SCOREBOARD IN BROADCAST GROUP 2, CHANNEL = 00.

TO RUN EACH SCOREBOARD INDEPENDENTLY SET THE CONTROL CONSOLE TO THE APPROPRIATE BROADCAST GROUP (BCAST = 1 OR 2), AND THEN SET THE CHANNEL TO THE SCOREBOARD CHANNEL. EX. TO RUN SCOREBOARD #3 IN THE SETUP ILLUSTRATED ABOVE, SET THE CONTROL CONSOLE TO BCAST = 2, CHANNEL = 01.

DAKTRONICS, INC.   BROOKINGS, SD 57006

PROJ:

TITLE: CHANNEL SELECTION; MULTIPLE BROADCAST GROUP, GEN IV

DES. BY: CBRECZI   DRAWN BY: CBRECZI   DATE: 06 JAN 03

REVISION 00   APPR. BY: SCALE: 1=1   1110-R01A-180923

REV.   DATE   DESCRIPTION   BY   APPR.

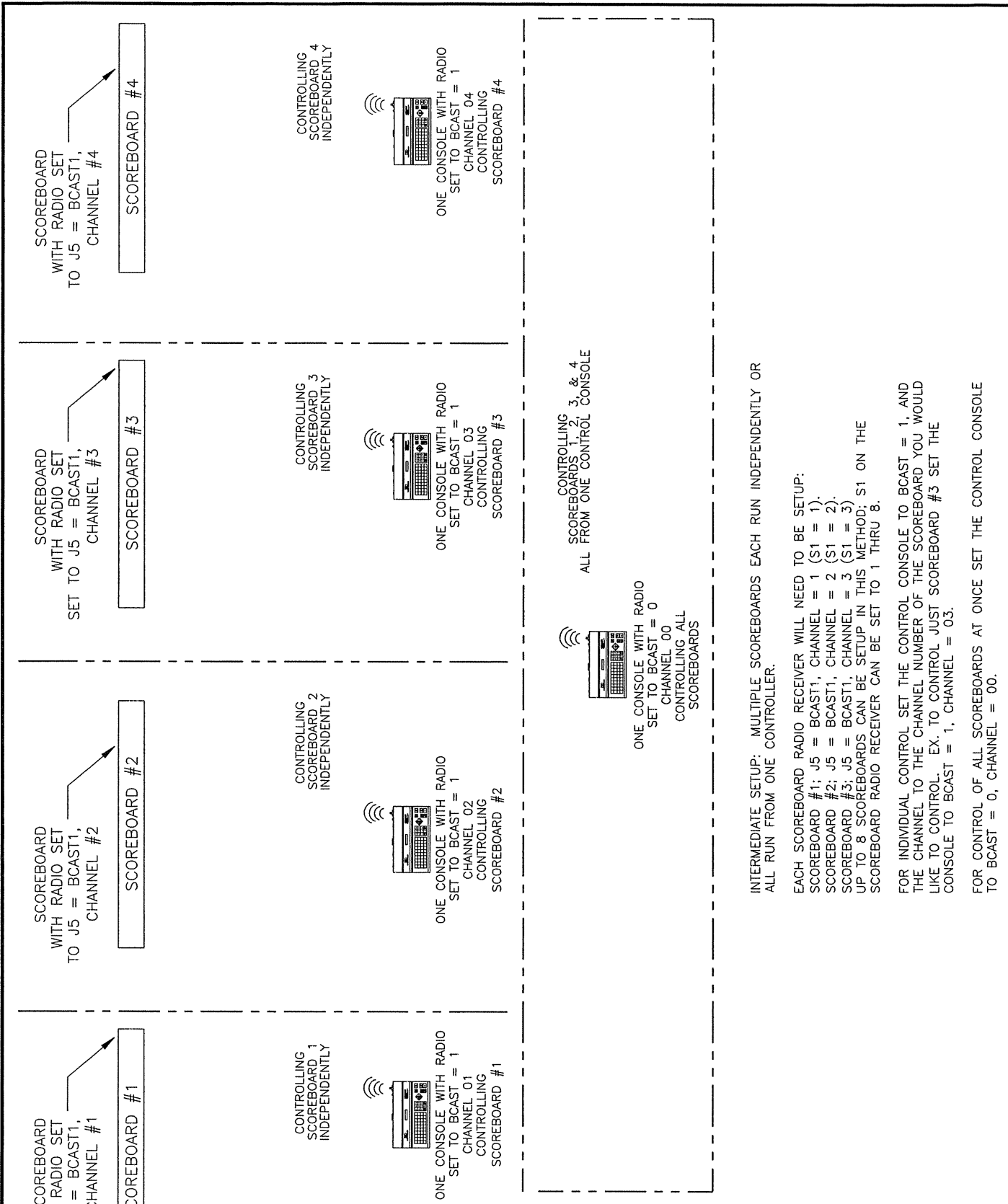UPDATING THE INDOOR LED DRIVER TRAY FOR GEN IV RADIO RECEIVERS:

—TURN POWER OFF TO THE DISPLAY

—LOCATE THE 5 PIN JACK LABELED AS J45

—CHECK TO SEE IF A GRAY WIRE IS IN POSITION 3 OF J45.

—IF A BROWN WIRE IS IN POSTION 3 OF J45 NO UPDATE IS NEEDED; PLEASE REFER TO DIRECTIONS ON DRAWING A—180521 FOR RADIO RECEIVER INSTALLATION.

—IF A GRAY WIRE IS IN POSITION 3 OF J45 TRACE THE WIRE BACK TO THE TRANSFORMER IT ORIGINATES FROM.

—UNPLUG THE WIRE FROM THE TRANSFORMER.

—USING A PAIR OF WIRE CUTTERS REMOVE THE QUICK DISCONNECT TERMINAL FROM THE END OF THE WIRE JUST UNPLUGGED FROM THE TRANSFORMER.

—USING A SCOTCH—LOK RATED FOR 18 AWG WIRE CONNECT THE GRY WIRE JUST DISCONNECTED TO THE BROWN WIRE COMING OFF THE SAME TRANSFORMER.

—PLEASE REFER TO SCHEMATIC VIEWS BELOW FOR PROPER WIRING.

—ONCE THIS UPDATE IS DONE PLEASE REFER TO DRAWING A—180521 TO COMPLETE RADIO RECEIVER INSTALLATION.
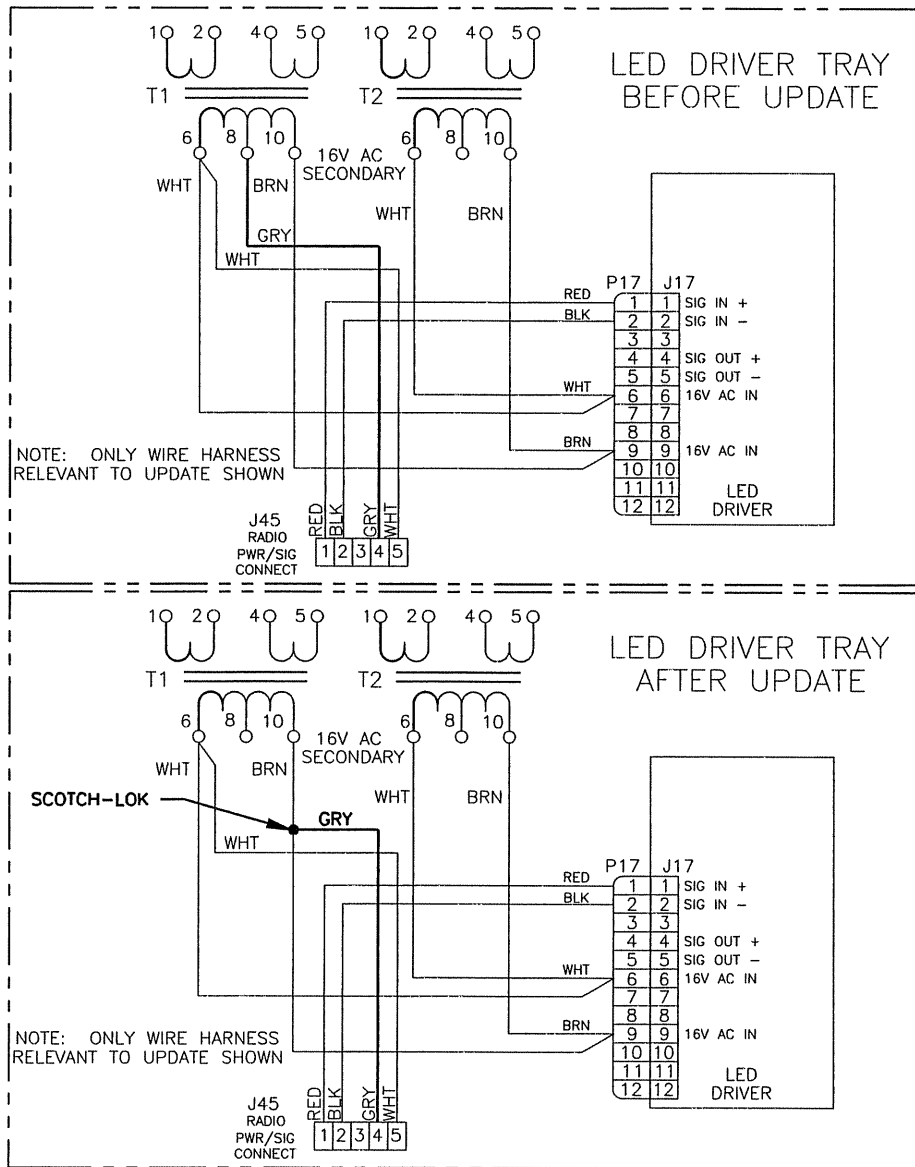
LED DRIVER TRAY BEFORE UPDATE

LED DRIVER TRAY AFTER UPDATE

NOTE: ONLY WIRE HARNESS RELEVANT TO UPDATE SHOWN

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ:

TITLE: INDOOR LED DRIVER UPDATE FOR GEN IV RADIO RECEIVER

DES. BY: CBRECZI   DRAWN BY: CBRECZI   DATE: 17 JAN 03

REVISION   APPR. BY:

SCALE: 1=1   1110-R03A-181729

REV. | DATE | DESCRIPTION | BY | APPR.

BACKGROUND IS DARK GRAY

TRACK TIMING
CODE
8610

LL-2587, REV 00

DISPLAY ON/OFF
EDIT
RESET

LANE PLACE ORDER

LANE 8 ON/OFF   LANE 8 STATUS
LANE 7 ON/OFF   LANE 7 STATUS
LANE 6 ON/OFF   LANE 6 STATUS
LANE 5 ON/OFF   LANE 5 STATUS
LANE 4 ON/OFF   LANE 4 STATUS
LANE 3 ON/OFF   LANE 3 STATUS
LANE 2 ON/OFF   LANE 2 STATUS
LANE 1 ON/OFF   LANE 1 STATUS

NON-LANE MODE
PLACE MODE
LANE MODE

RECORD
HEAT
EVENT

GUEST 3 SCORE
GUEST 2 SCORE
GUEST 1 SCORE
HOME SCORE
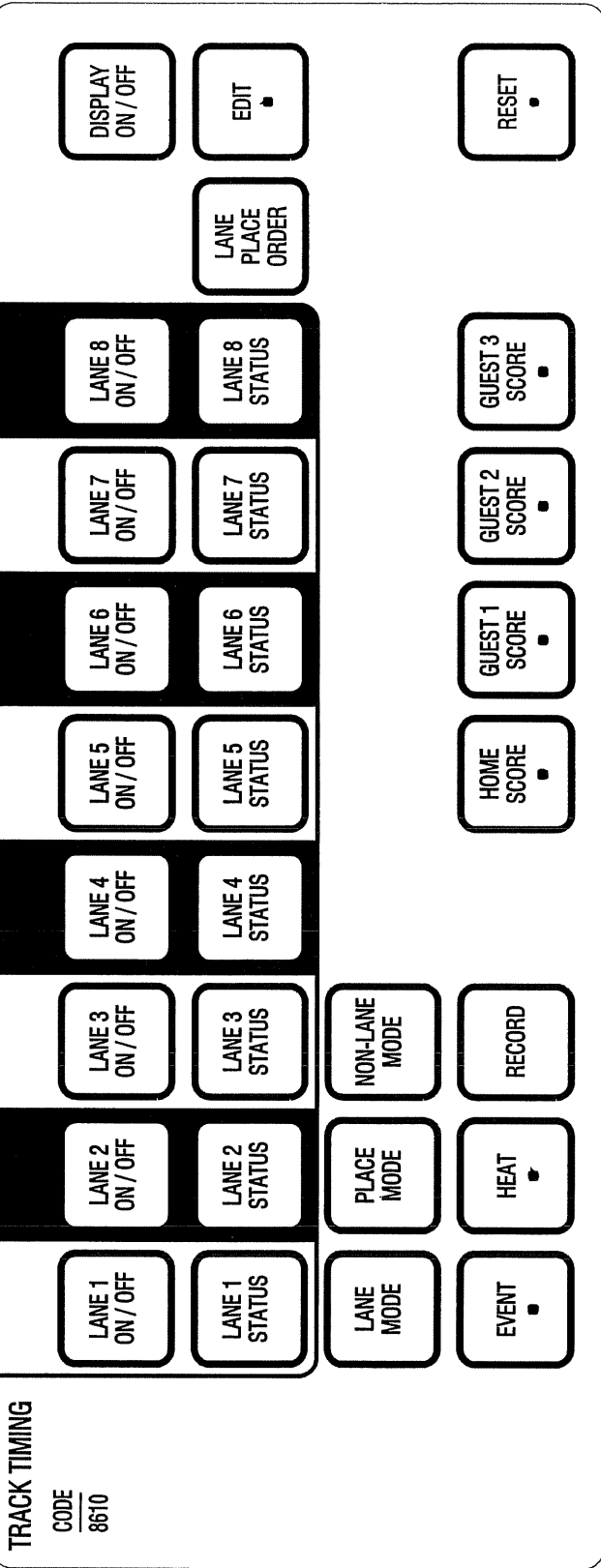
MATERIAL IS 10-MIL CLEAR POLYCARBONATE WITH SMOOTH FINISH.

"HOME", STRIPE, AND KEY OUTLINES IN HOME AREA ARE GREEN TO MATCH PMS # 355

"GUEST", STRIPE, AND KEY OUTLINES IN GUEST AREA ARE RED TO MATCH PMS # 179

ALL TEXT INSIDE OF KEYS AND ALL REMAINING COPY IS BLACK.

BACKGROUND IS GRAY TO MATCH PMS NO. 428.

BACKGROUND AREAS SHOWN DARKER ARE DARK GRAY TO MATCH PMS # 430

COPY IS PRINTED ON THE BACK SIDE.

OUTLINE IS DIE CUT PER DRAWING 1166-V07B-85697

DAKTRONICS, INC.   BROOKINGS, SD 57006

PROJ:

TITLE: INSERT; LL-2587, A/S5000 TRACK TIMING

DES. BY: CBRECZI   DRAWN BY: CBRECZI   DATE: 26 AUG 03

REVISION 00
APPR. BY:
SCALE: 1 = 1

1196-V02A-195690

REV.	DATE	DESCRIPTION	BY	APPR.

TYPICAL FOR ALL 25, 15, 9 & MIC HOODS:

RUBBER BOOT

PT−1008 HEAT SHRINK

LL−2416 LABEL
(LABEL PER NOTE BY PLUG)

2"   1"

OA−1196−0045

W−1077 @ 10'   W−1077 @ 10'   W−1077 @ 10'

FROM AMB   INTERFACE COMPUTER   A/S CONSOLE   VENUS

P1
DB9F   P2
DB9F   P3
DB25M   P4
DB9F

HE
1183
@1   HE
1203
@1   J
1144
@1

HE
1183
@1   HE
1203
@1   J
1144
@1

P
1117
@1   HE
1182
@1   HE
1183
@1

HE
1183
@1   HE
1203
@1   J
1144
@1

OA−1196−0046

W−1077 @ 10'   W−1077 @ 10'

VENUS   A/S CONSOLE   FROM AMB

P1
DB9F   P2
DB25M   P3
DB9F

HE
1183
@1   HE
1203
@1   J
1144
@1

HE
1183
@1   HE
1182
@1   P
1117
@1

HE
1183
@1   HE
1203
@1   J
1144
@1

WIRING TABLE

FROM	WIRE COLOR	FROM	WIRE COLOR	FROM	WIRE COLOR	FROM
		P2−3	RED	P3−2		
P1−3	RED	P2−2		P3−3	RED	P4−2
P1−5	BLACK	P2−5	BLACK	P3−7	BLACK	P4−5

WIRING TABLE

FROM	WIRE COLOR	FROM	WIRE COLOR	TO
		P2−2	RED	P3−3
P1−2	RED	P2−3		
P1−5	BLACK	P2−7	BLACK	P3−5

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: ALLSPORT 5000
TITLE: AMB INTERFACE CABLES

DES. BY: DRAWN BY: RASMUS   DATE: 30 AUG 00
REVISION   APPR. BY:
SCALE: 1=1   1196-R01B-123256

01	25JAN02	CHANGED PART NUMBER FROM HE−1182 TO HE−1203	NMB	
REV.	DATE	DESCRIPTION	BY	APPR.

SETUP #1 PHOTOCELL TIMING: MANUAL POSTING TO NUMERIC SCOREBOARD

CONTROL ROOM J-BOX 0A-1067-0056

TO FIELD EQUIPMENT

15DB MALE TO FEMALE W-1264

25DB MALE TO MALE W-1247

W-1364 TO PHOTOCELL RECEIVER
W-1364 TO PHOTOCELL TRANSMITTER
W-1077 TO SCOREBOARD

J8 J7 J6 J5 J4 J3 J1

D   ALLSPORT 5100

OG-139243
CODE: 336

0A-1196-0002
TIMER INTERFACE/MANUAL TIMER

DB15 DB25

AS5100 PHOTOCELL INTERFACE
0A-1196-0058

FOR WIRING INFO, PLEASE REFER TO DWG. A-143444 FOR SPECIFIC PINOUTS ON J-BOX.

SETUP #2 AUTOMATIC UPDATE FROM AMB TO NUMERIC SCOREBOARD

* IF THE 15 PIN CABLE BETWEEN THE AS5100 AND PHOTOCELL INTERFACE WAS CONNECTED, THAT WOULD NOT CAUSE A PROBLEM.

* IF THE 25 PIN CABLE, BETWEEN THE PHOTOCELL INTERFACE AND J-BOX WAS CONNECTED, THAT WOULD NOT CAUSE A PROBLEM.

COLOR MONITOR

TRANSPONDER COMPUTER

BY OTHER

COM2

9DB FEMALE TO MALE WITH ONLY RX
0A-1196-0082

AS5100 PHOTOCELL INTERFACE
0A-1196-0058

W-1264   W-1247

DB15   DB25

J8 J7 J6 J5 J4 J3 J1

D   ALLSPORT 5100

OG-139243
CODE: 336

0A-1196-0002
TIMER INTERFACE/MANUAL TIMER

1/4" MALE TO MALE PHONO
W-1236 ADDITIONAL

CONTROL ROOM J-BOX 0A-1067-0056

TO FIELD EQUIPMENT

W-1364 TO PHOTOCELL RECEIVER
W-1364 TO PHOTOCELL TRANSMITTER
W-1077 TO SCOREBOARD

SCBD DATA

FOR WIRING INFO, PLEASE REFER TO DWG. A-143444 FOR SPECIFIC PINOUTS ON J-BOX.

1/4" PHONO JACK J-BOX
0A-1009-0038

OR

SETUP #3 AUTOMATIC UPDATE FROM AMB TO NUMERIC SCOREBOARD

* SETUP #2 WILL PROVIDE A DIRECT CONNECTION FROM THE AS5100 TO THE J-BOX, SO THAT THE PHOTOCELL INTERFACE DOES NOT NEED TO BE CONNECTED TO POWER.

COLOR MONITOR

TRANSPONDER COMPUTER

BY OTHER

COM2

9DB FEMALE TO MALE WITH ONLY RX
0A-1196-0082

15DB MALE TO FEMALE W-1264

25DB MALE TO MALE W-1247

J8 J7 J6 J5 J4 J3 J1

D   ALLSPORT 5100

OG-139243
CODE: 336

0A-1196-0002
TIMER INTERFACE/MANUAL TIMER

DB15 DB25

AS5100 PHOTOCELL INTERFACE
0A-1196-0058

CONTROL ROOM J-BOX 0A-1067-0056

TO FIELD EQUIPMENT

W-1364 TO PHOTOCELL RECEIVER
W-1364 TO PHOTOCELL TRANSMITTER
W-1077 TO SCOREBOARD

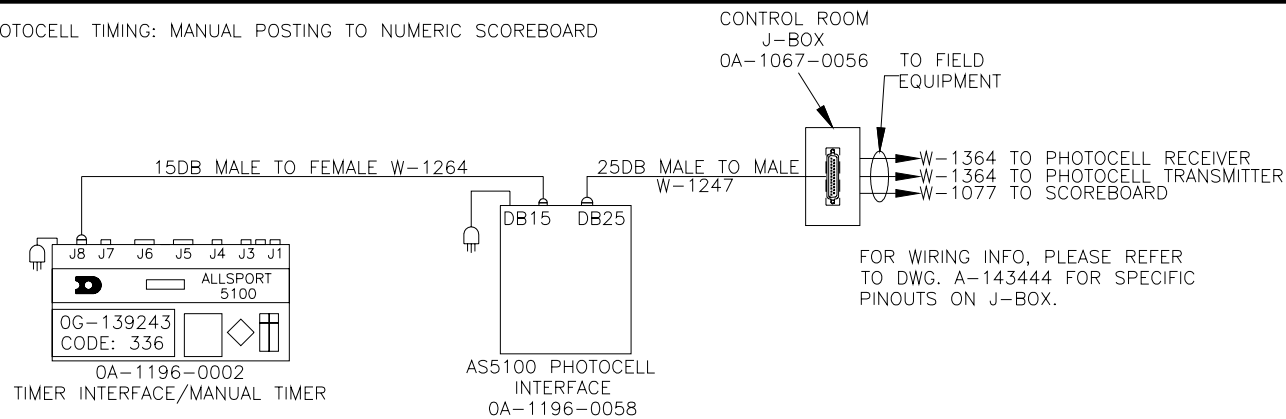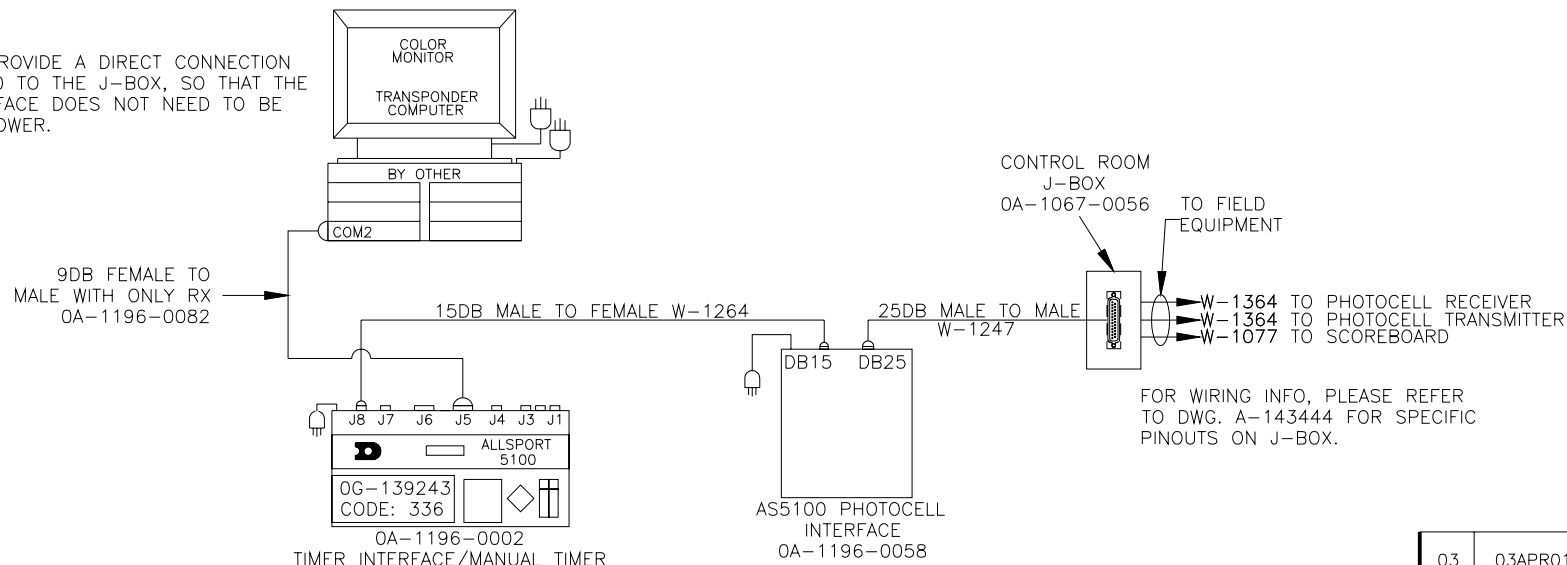FOR WIRING INFO, PLEASE REFER TO DWG. A-143444 FOR SPECIFIC PINOUTS ON J-BOX.

W-1077 FROM CONTROL ROOM J-BOX
W-1364 FROM CONTROL ROOM J-BOX
W-1364 FROM CONTROL ROOM J-BOX

J-BOX, 2x4 RECEPTACLE TYP @ 4

PHOTO RECEIVER NO. 1

TOWER 25DB J-BOX WIRING 0A-1067-0056		
PIN#	WIRE COLOR	FUNCTION
1	BLUE	RECEIVER SIGNAL+
2	RED	12VDC +
3	BLACK	GROUND −
HOOD	SHIELD	CONNECTED
4	BLUE	N.C.
5	RED	12VDC +
6	BLACK	GROUND −
HOOD	SHIELD	CONNECTED

NOTE: ALL SHIELDS MUST BE TIED TO J-BOX OR J-BOX HOOD FOR PROPER CIRCUIT PROTECTION.

RECEIVER J-BOX WIRING 0A-1067-0055		
PIN#	WIRE COLOR	FUNCTION
1	BLUE	SIGNAL +
2	RED	12VDC +
3	BLACK	GROUND −
−	SHIELD	N.C.

TRANSMITTER J-BOX WIRING 0A-1067-0055		
PIN#	WIRE COLOR	FUNCTION
1	BLUE	N.C.
2	RED	12VDC+
3	BLACK	GROUND −
−	SHIELD	N.C.

TYPICAL SETUP FOR OVAL TRACK TIMING

SEE NOTES BELOW FOR 2-DIGIT LAP COUNTER

CABLE IN CONDUIT UNDER TRACK

PHOTO TRANSMITTER NO. 1

DISPLAY SIGNAL CABLE 1 PAIR, 22 AWG W-1077

DISPLAY
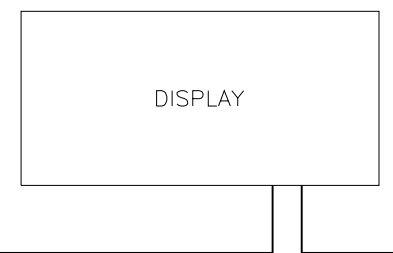
120/240 VAC

NOTES

1.) OVAL TRACK TIMING USES ONLY RECEIVER NO.1 AND TRANSMITTER NO. 1, OR RETROREFLECTIVE PHOTOCELL AND REFLECTIVE BLOCK.

2.) 2-DIGIT LAP COUNTER DOES NOT USE ANY PHOTOCELLS.

3.) ALL FIELD CABLING MUST BE IN CONDUIT. CONDUIT AND LABOR TO INSTALL BY OTHER.

DAKTRONICS, INC.   BROOKINGS, SD 57006

PROJ:

TITLE: OVAL TRACK TIMING SYSTEM LAYOUT, NUMERIC DISPLAYS

DES. BY: HBONER   DRAWN BY: HBONER   DATE: 09 OCT 00

REVISION 06

APPR. BY:

SCALE: 1=1

1067-R01B-139666

06	30 JUN 03	MOVED J6 CONNECTIONS TO J5. UPDATED A/S 5100 DETAILS. ADDED PLUGS TO ENDS OF SIGNAL LINES.	TLH	MWM
05	05FEB02	CHANGED CABLE PACKET TO 0A-1196-0082 AND SIGNAL CONNECTIONS ON SETUP #2 & #3	THS	
04	18AUG01	REDESIGNED DRAWING TO ONLY SHOW NUMERIC DISPLAYS.	GWS	JWARNE
03	03APR01	CHANGED DESCRIPTION	JDB	
02	28FEB01	CHANGED NOTE ADDED SOME DESCRIPTIONS	JDB	
01	01FEB01	UPDATED CONTROL ROOM CABLING	HBB	
REV.	DATE	DESCRIPTION	BY	APPR.

MANUAL CONTROL

DISPLAY

W-1117 FOR NUMERIC SCOREBOARD OR W-1376 FOR MATRIX DISPLAY FROM CONTROL ROOM

J-BOX, 2x4 RECEPTACLE
TYP @ 4 (0A-1067-0055)

LANE 1 PHOTO
START RECEIVER

W-1364@5 FROM CONTROL ROOM J-BOX

LANE 1 PHOTO
FINISH RECEIVER

RECEIVER J-BOX WIRING
0A-1067-0055

PIN#	WIRE COLOR	FUNCTION
1	BLUE	SIGNAL +
2	RED	12VDC +
3	BLACK	GROUND –
–	SHIELD	N.C.

CABLE IN CONDUIT
UNDER TRACK

TRANSMITTER J-BOX WIRING
0A-1067-0055

PIN#	WIRE COLOR	FUNCTION
1	BLUE	N.C.
2	RED	12VDC+
3	BLACK	GROUND –
–	SHIELD	N.C.

LANE 1

LANE 1 PHOTO
START
TRANSMITTER

LANE 1 PHOTO
FINISH
TRANSMITTER

LANE 2 PHOTO
START RECEIVER

RECEIVER J-BOX WIRING
0A-1067-0055

PIN#	WIRE COLOR	FUNCTION
1	BLUE	SIGNAL +
2	RED	12VDC +
3	BLACK	GROUND –
–	SHIELD	N.C.

0A-1067-0097
@ 4 FOR 2 LANES

LANE 2 PHOTO
FINISH RECEIVER

LANE 2

TRANSMITTER J-BOX WIRING
0A-1067-0055

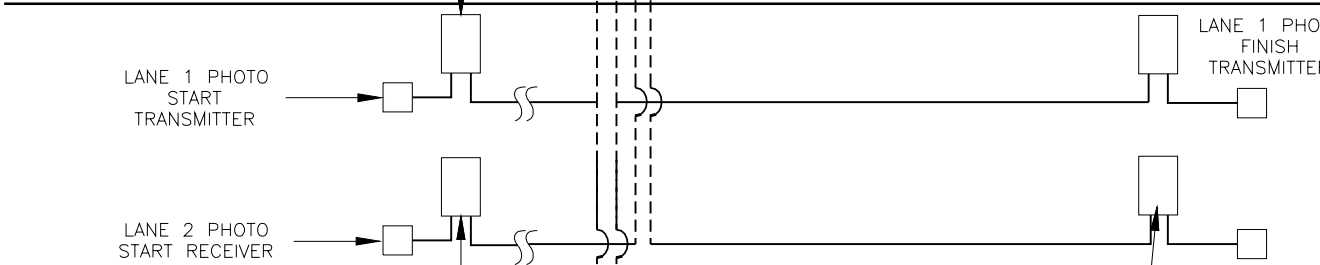| PIN#	WIRE COLOR	FUNCTION
1	BLUE	N.C.
2	RED	12VDC+
3	BLACK	GROUND –
–	SHIELD	N.C.

0A-1067-0097
@ 4 FOR 2 LANES

LANE 2 PHOTO
START
TRANSMITTER

LANE 2 PHOTO
FINISH
TRANSMITTER

NOTES:
1. FOR MORE THAN 2 LANES, RETROREFLECTIVE OR BATTERY POWERED PHOTOCELLS MUST BE USED.
   ONLY 2 CONNECTIONS REQUIRED INSTEAD OF FOUR.
2. POWER FOR ALL TRANSMITTERS CAN BE TAKEN FROM POWER PINS ON 0A-1067-0056 J-BOX.
3. ALL FIELD CABLING MUST BE IN CONDUIT. CONDUIT AND LABOR TO INSTALL BY OTHER.

W-1364 LANE 1 START PHOTOCELL RECEIVER
W-1364 LANE 1 FINISH PHOTOCELL RECEIVER
W-1364 LANE 2 START PHOTOCELL RECEIVER
W-1364 LANE 2 FINISH PHOTOCELL RECEIVER
W-1364 PHOTOCELL TRANSMITTERS
W-1117 SIGNAL TO SCOREBOARD

W-1247
25DB 20FT
CABLE

25DB

AS 5100
PHOTOCELL
INTERFACE
0A-1196-0058

15DB

15DB CABLE, 10 FT.
W-1264

J8

ALLSPORT 5100

0A-1196-0002
PHOTOCELL TIMER

PHOTOCELL TIMING
TO NUMERIC SCOREBOARD

CONTROL ROOM
J-BOX
0A-1067-0056

FOR WIRING INFO, PLEASE REFER
TO DWG. A-143444 FOR SPECIFIC
PINOUTS ON J-BOX.

CONTROL LOCATION
STANDARD SETUP
WITH MATRIX V1500
CONTROL

COLOR
MONITOR

V1500
COMPUTER

MOUSE

25DB TO 9DB
ADAPTER MAY
OR MAY NOT BE USED
A-1603

SIGNAL CONVERTER
0A-1127-0239

TX
RX

W-1249
25DB TO 9DB CABLE, 6 FT.

TO BE DETERMINED

| COM1 | PS2 |
| LPT1 | COM2 |

W-1376 FIBER OPTIC CABLE TO MATRIX

25DB TO
9DB 6FT.
CABLE

W-1364 LANE 1 START PHOTOCELL RECEIVER
W-1364 LANE 1 FINISH PHOTOCELL RECEIVER
W-1364 LANE 2 START PHOTOCELL RECEIVER
W-1364 LANE 2 FINISH PHOTOCELL RECEIVER
W-1364 PHOTOCELL TRANSMITTERS
W-1117 SIGNAL TO SCOREBOARD

W-1247
25DB 20FT
CABLE

25DB

AS 5100
PHOTOCELL
INTERFACE
0A-1196-0058

15DB

15DB CABLE, 10 FT.
W-1264

J8 J6

ALLSPORT 5100

0A-1196-0002
PHOTOCELL TIMER

CONTROL ROOM
J-BOX
0A-1067-0056

FOR WIRING INFO, PLEASE REFER
TO DWG. A-143444 FOR SPECIFIC
PINOUTS ON J-BOX.

CONTROL LOCATION
STANDARD SETUP
WITH MATRIX V7000
CONTROL

A-1350
COLOR
MONITOR

V7000LE OR V7000
COMPUTER

MOUSE

BY DAKTRONICS

LPT1	PS2
COM2	COM1
VMAX	

W-1376 FIBER OPTIC CABLE TO MATRIX

25DB TO
9DB 6FT.
CABLE

W-1364 LANE 1 START PHOTOCELL RECEIVER
W-1364 LANE 1 FINISH PHOTOCELL RECEIVER
W-1364 LANE 2 START PHOTOCELL RECEIVER
W-1364 LANE 2 FINISH PHOTOCELL RECEIVER
W-1364 PHOTOCELL TRANSMITTERS
W-1117 SIGNAL TO SCOREBOARD

W-1247
25DB 20FT
CABLE

25DB

AS 5100
PHOTOCELL
INTERFACE
0A-1196-0058

15DB

15DB CABLE, 10 FT.
W-1264

J8 J6

ALLSPORT 5100

0A-1196-0002
PHOTOCELL TIMER

CONTROL ROOM
J-BOX
0A-1067-0056

FOR WIRING INFO, PLEASE REFER
TO DWG. A-143444 FOR SPECIFIC
PINOUTS ON J-BOX.

**TIMER OVERLAY CODES
AND FUNCTIONS
FOR ALL SPORT 5100**

OVERLAY	CODE	FUNCTION
0G-139399	303	CHTS-300 REPLACEMENT
0G-143770	310	MULTIPLE LANE-LANE ORDER
	311	MULTIPLE LANE-PLACE ORDER

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ:

TITLE: PERMANENT LANE TRACK TIMING SYSTEM LAYOUT

DES. BY:

DRAWN BY: JDB

DATE: 09 FEB 01

REVISION

APPR. BY:

SCALE: 1:1

1067-R01B-144445

		REDESIGNED DRAWING TO SHOW A CLEARER VIEW OF COMPONENTS		
1	19AUG01		GWS	JWARNE
REV.	DATE	DESCRIPTION	BY	APPR.

MANUAL CONTROL

DISPLAY

W-1117 FOR NUMERIC SCOREBOARD OR W-1376 FOR MATRIX DISPLAY FROM CONTROL ROOM

LANE 1 FINISH RETROREFLECTIVE PHOTOCELL 0A-1067-0154

J-BOX, 2x4 RECEPTACLE TYP @ 4 (0A-1067-0055)

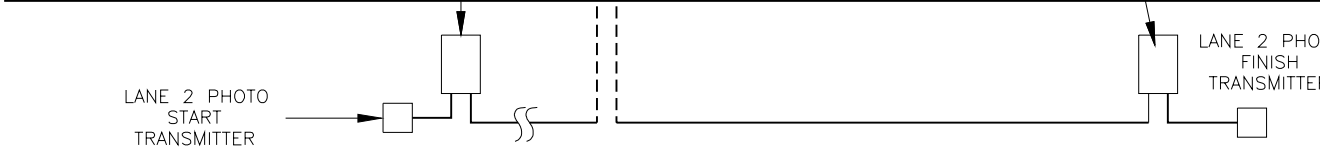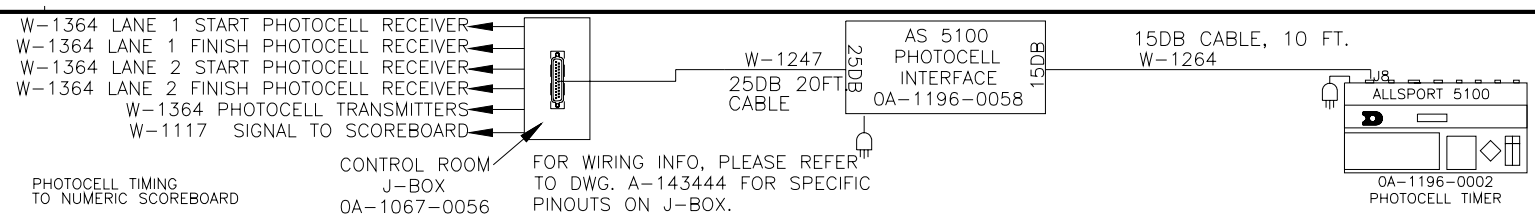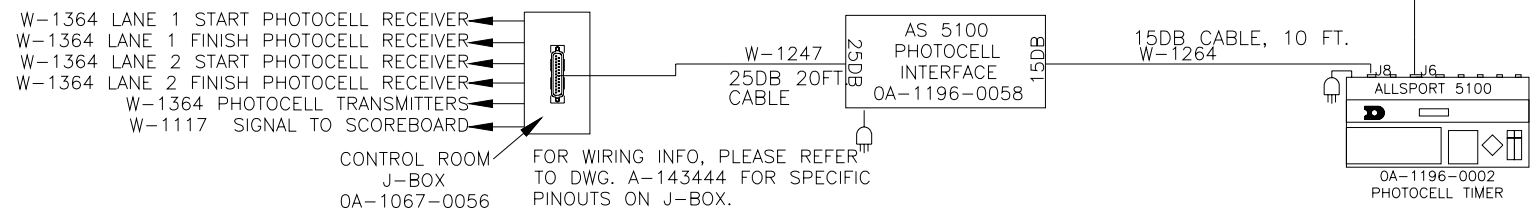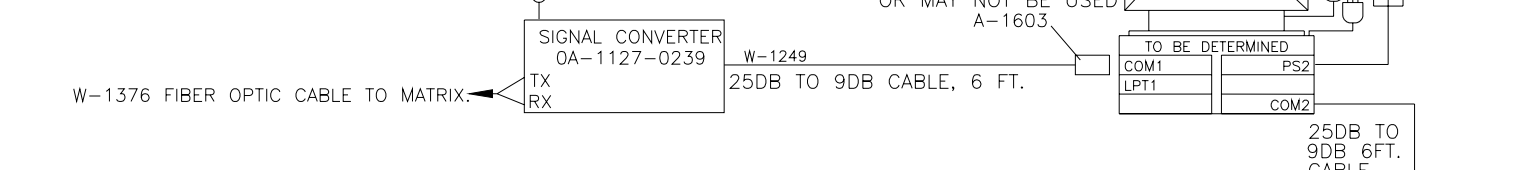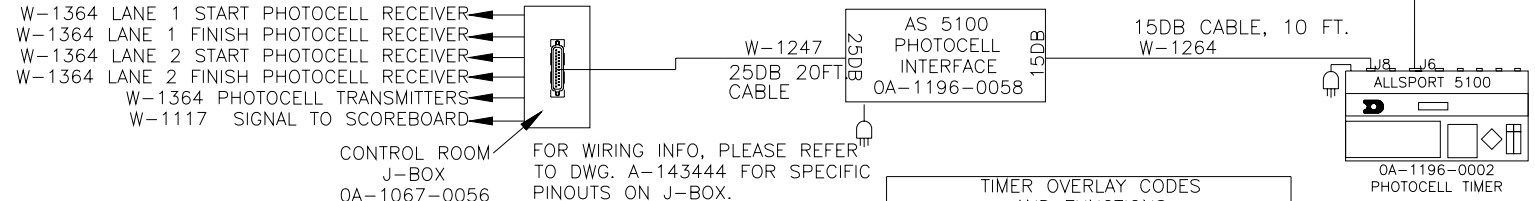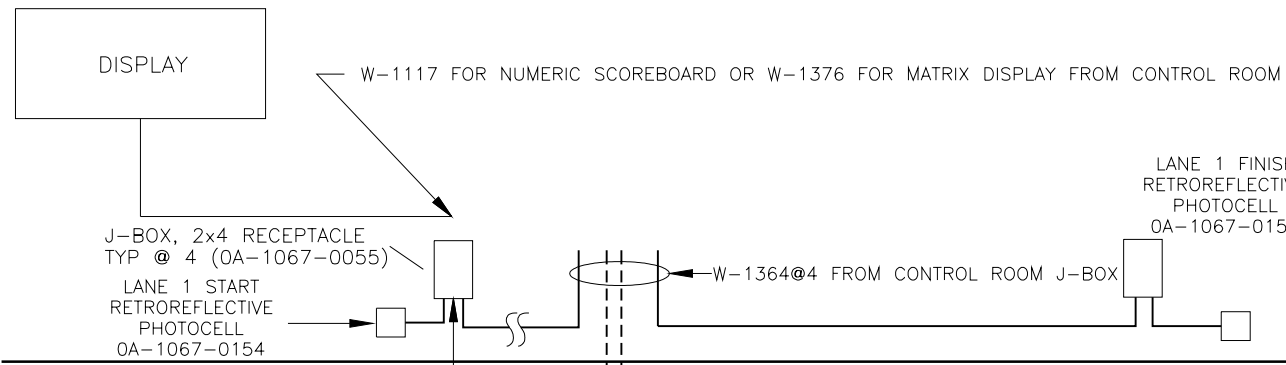W-1364@4 FROM CONTROL ROOM J-BOX

LANE 1 START RETROREFLECTIVE PHOTOCELL 0A-1067-0154

RECEIVER J-BOX WIRING 0A-1067-0055

PIN#	WIRE COLOR	FUNCTION
1	BLUE	SIGNAL +
2	RED	12VDC +
3	BLACK	GROUND −
−	SHIELD	N.C.

LANE 1

CABLE IN CONDUIT UNDER TRACK

REFLECTOR BLOCK 0A-1067-0111

REFLECTOR BLOCK 0A-1067-0111

LANE 2 FINISH RETROREFLECTIVE PHOTOCELL 0A-1067-0154

LANE 2 START RETROREFLECTIVE PHOTOCELL 0A-1067-0154

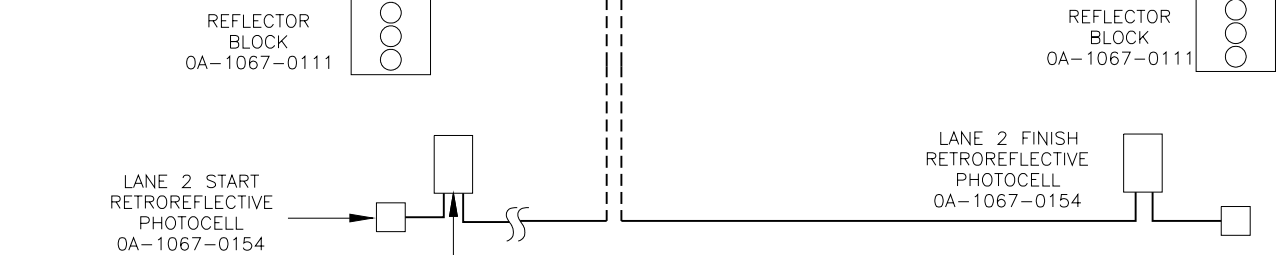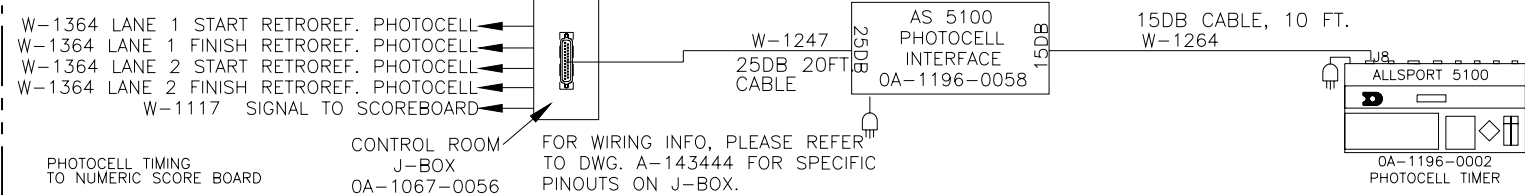**RECEIVER J-BOX WIRING 0A-1067-0055**

PIN#	WIRE COLOR	FUNCTION
1	BLUE	SIGNAL +
2	RED	12VDC +
3	BLACK	GROUND −
−	SHIELD	N.C.

LANE 2

REFLECTOR BLOCK 0A-1067-0111

REFLECTOR BLOCK 0A-1067-0111

W-1364 LANE 1 START RETROREF. PHOTOCELL
W-1364 LANE 1 FINISH RETROREF. PHOTOCELL
W-1364 LANE 2 START RETROREF. PHOTOCELL
W-1364 LANE 2 FINISH RETROREF. PHOTOCELL
W-1117 SIGNAL TO SCOREBOARD

W-1247 25DB 20FT CABLE

25DB

AS 5100 PHOTOCELL INTERFACE 0A-1196-0058

15DB

15DB CABLE, 10 FT. W-1264

J/8

ALLSPORT 5100
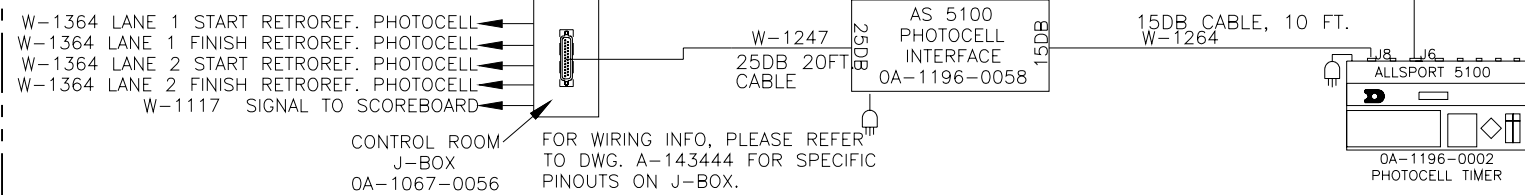
0A-1196-0002 PHOTOCELL TIMER

PHOTOCELL TIMING TO NUMERIC SCORE BOARD

CONTROL ROOM J-BOX 0A-1067-0056

FOR WIRING INFO, PLEASE REFER TO DWG. A-143444 FOR SPECIFIC PINOUTS ON J-BOX.

CONTROL LOCATION STANDARD SETUP WITH MATRIX V1500 CONTROL

COLOR MONITOR

MOUSE

V1500 COMPUTER

25DB TO 9DB ADAPTER MAY OR MAY NOT BE USED A-1603

TO BE DETERMINED

COM1		PS2
LPT1		
		COM2

SIGNAL CONVERTER 0A-1127-0239

TX
RX

W-1249 25DB TO 9DB CABLE, 6 FT.

W-1376 FIBER OPTIC CABLE TO MATRIX.

25DB TO 9DB 6FT. CABLE

W-1364 LANE 1 START RETROREF. PHOTOCELL
W-1364 LANE 1 FINISH RETROREF. PHOTOCELL
W-1364 LANE 2 START RETROREF. PHOTOCELL
W-1364 LANE 2 FINISH RETROREF. PHOTOCELL
W-1117 SIGNAL TO SCOREBOARD

W-1247 25DB 20FT CABLE

25DB

AS 5100 PHOTOCELL INTERFACE 0A-1196-0058

15DB

15DB CABLE, 10 FT. W-1264

J/8 J/6

ALLSPORT 5100

0A-1196-0002 PHOTOCELL TIMER

CONTROL ROOM J-BOX 0A-1067-0056

FOR WIRING INFO, PLEASE REFER TO DWG. A-143444 FOR SPECIFIC PINOUTS ON J-BOX.

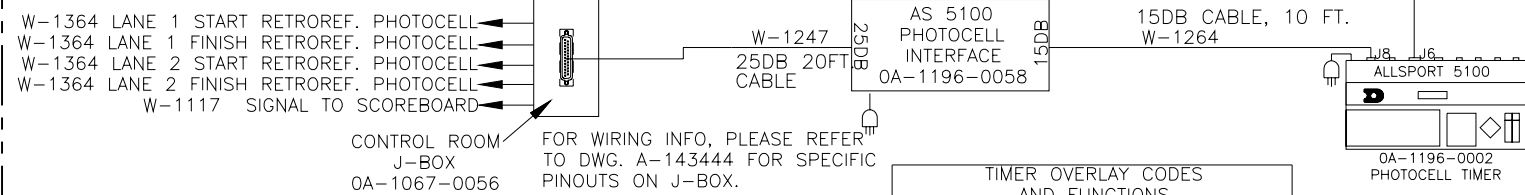
CONTROL LOCATION STANDARD SETUP WITH MATRIX V7000 CONTROL

A-1350 COLOR MONITOR

MOUSE

V7000LE OR V7000 COMPUTER

BY DAKTRONICS

LPT1		PS2
COM2		
VMAX		COM1

W-1376 FIBER OPTIC CABLE TO MATRIX.

25DB TO 9DB 6FT. CABLE

W-1364 LANE 1 START RETROREF. PHOTOCELL
W-1364 LANE 1 FINISH RETROREF. PHOTOCELL
W-1364 LANE 2 START RETROREF. PHOTOCELL
W-1364 LANE 2 FINISH RETROREF. PHOTOCELL
W-1117 SIGNAL TO SCOREBOARD

W-1247 25DB 20FT CABLE

25DB

AS 5100 PHOTOCELL INTERFACE 0A-1196-0058

15DB

15DB CABLE, 10 FT. W-1264

J/8 J/6

ALLSPORT 5100

0A-1196-0002 PHOTOCELL TIMER

CONTROL ROOM J-BOX 0A-1067-0056

FOR WIRING INFO, PLEASE REFER TO DWG. A-143444 FOR SPECIFIC PINOUTS ON J-BOX.

TIMER OVERLAY CODES AND FUNCTIONS FOR ALLSPORT 5100

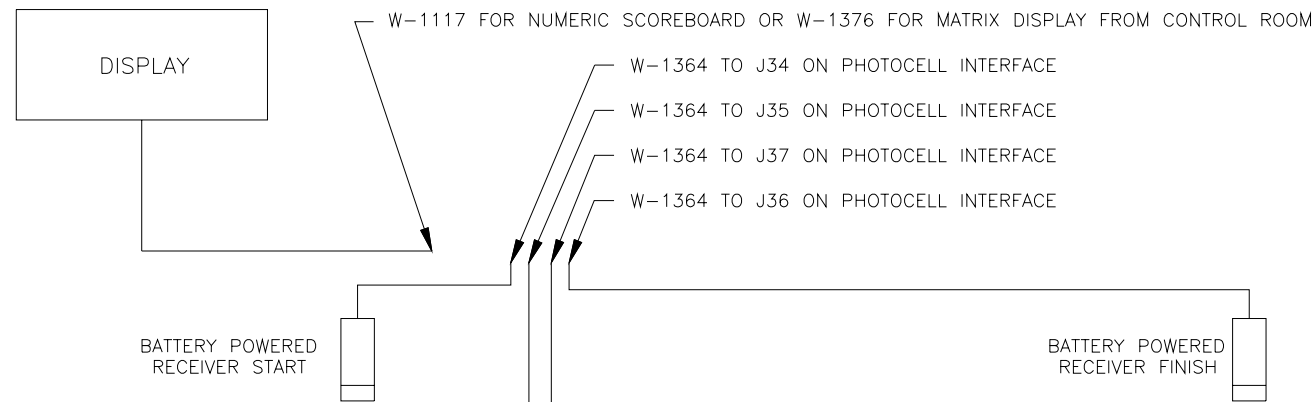| OVERLAY	CODE	FUNCTION
0G-139399	303	CHTS−300 REPLACEMENT
0G-143770	310	MULTIPLE LANE−LANE ORDER
	311	MULTIPLE LANE− PLACE ORDER

NOTES:
1. FOR MORE THAN 2 LANES, ADD 2 RETROREFLECTIVE PHOTOCELLS AND 2 REFLECTOR BLOCKS PER EXTRA LANE.
2. ALL FIELD CABLING MUST BE IN CONDUIT. CONDUIT AND LABOR TO INSTALL BY OTHER.
3. ALL SHIELDS MUST BE TIED TO J-BOX OR J-BOX HOOD FOR PROPER CIRCUIT PROTECTION.

MANUAL CONTROL

DISPLAY

W-1117 FOR NUMERIC SCOREBOARD OR W-1376 FOR MATRIX DISPLAY FROM CONTROL ROOM

W-1364 TO J34 ON PHOTOCELL INTERFACE

W-1364 TO J35 ON PHOTOCELL INTERFACE

W-1364 TO J37 ON PHOTOCELL INTERFACE

W-1364 TO J36 ON PHOTOCELL INTERFACE

BATTERY POWERED
RECEIVER START

BATTERY POWERED
RECEIVER FINISH

LANE 1

CABLE IN CONDUIT
UNDER TRACK

BATTERY POWERED
TRANSMITTER START

BATTERY POWERED
TRANSMITTER FINISH

BATTERY POWERED
RECEIVER START

BATTERY POWERED
RECEIVER FINISH

LANE 2

BATTERY POWERED
TRANSMITTER START

BATTERY POWERED
TRANSMITTER FINISH
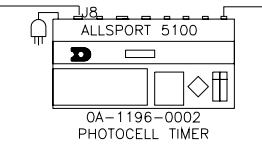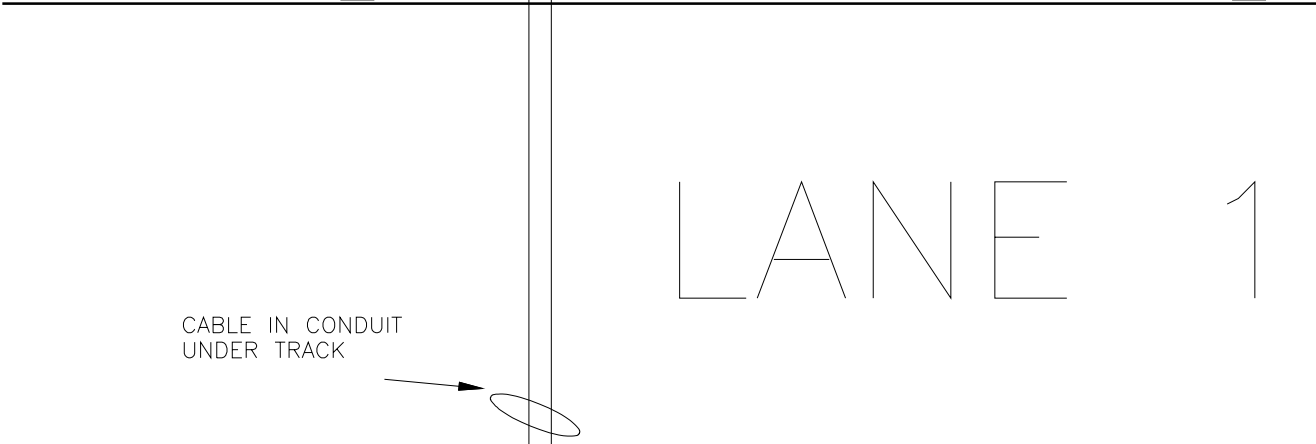
PHOTOCELL TIMING
TO NUMERIC SCOREBOARD

W-1364 LANE 1 START PHOTOCELL RECEIVER → J34   AS 5100
W-1364 LANE 1 FINISH PHOTOCELL RECEIVER → J36   PHOTOCELL
W-1364 LANE 2 START PHOTOCELL RECEIVER → J35   INTERFACE
W-1364 LANE 2 FINISH PHOTOCELL RECEIVER → J37   0A-1196-0058

15DB CABLE, 10 FT.
W-1264

J8

ALLSPORT 5100

0A-1196-0002
PHOTOCELL TIMER

W-1117 SIGNAL TO SCOREBOARD ◄

CONTROL LOCATION
STANDARD SETUP
WITH MATRIX V1500
CONTROL

COLOR
MONITOR

V1500
COMPUTER

MOUSE

25DB TO 9DB
ADAPTER MAY
OR MAY NOT BE USED
A-1603

SIGNAL CONVERTER
0A-1127-0239
TX
RX

W-1249

25DB TO 9DB CABLE, 6 FT.

TO BE DETERMINED
COM1   PS2
LPT1
COM2

W-1376 FIBER OPTIC CABLE TO MATRIX

25DB TO
9DB 6FT.
CABLE

W-1364 LANE 1 START PHOTOCELL RECEIVER → J34   AS 5100
W-1364 LANE 1 FINISH PHOTOCELL RECEIVER → J36   PHOTOCELL
W-1364 LANE 2 START PHOTOCELL RECEIVER → J35   INTERFACE
W-1364 LANE 2 FINISH PHOTOCELL RECEIVER → J37   0A-1196-0058

15DB CABLE, 10 FT.
W-1264

J8   J6

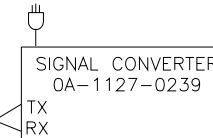ALLSPORT 5100

0A-1196-0002
PHOTOCELL TIMER

CONTROL LOCATION
STANDARD SETUP
WITH MATRIX V7000
CONTROL

A-1350
COLOR
MONITOR

V7000LE OR V7000
COMPUTER

MOUSE

BY DAKTRONICS
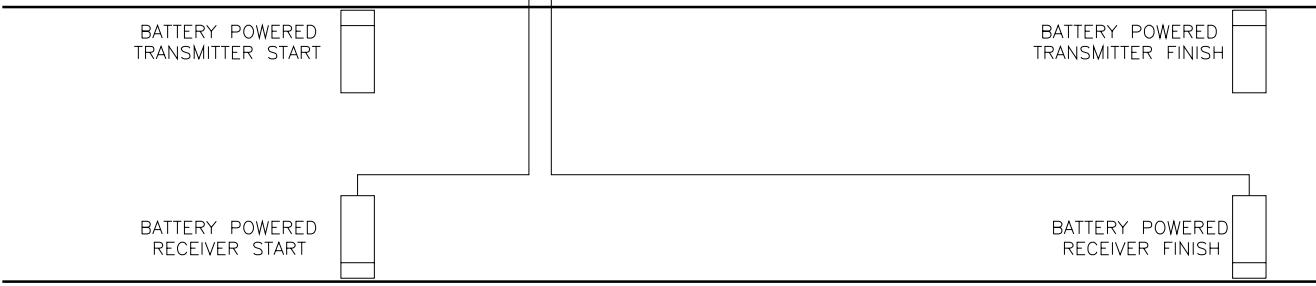LPT1   PS2
COM2
VMAX   COM1

W-1376 FIBER OPTIC CABLE TO MATRIX ◄

25DB TO
9DB 6FT.
CABLE

W-1364 LANE 1 START PHOTOCELL RECEIVER → J34   AS 5100
W-1364 LANE 1 FINISH PHOTOCELL RECEIVER → J36   PHOTOCELL
W-1364 LANE 2 START PHOTOCELL RECEIVER → J35   INTERFACE
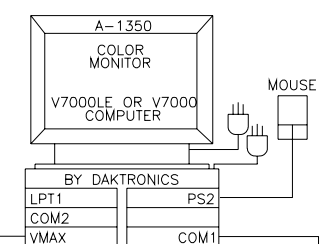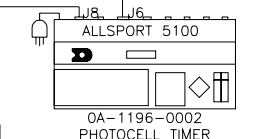W-1364 LANE 2 FINISH PHOTOCELL RECEIVER → J37   0A-1196-0058

15DB CABLE, 10 FT.
W-1264

J8   J6

ALLSPORT 5100

0A-1196-0002
PHOTOCELL TIMER

TIMER OVERLAY CODES
AND FUNCTIONS
FOR ALLSPORT 5100

OVERLAY	CODE	FUNCTION
0G-139399	303	CHTS-300 REPLACEMENT
0G-143770	310	MULTIPLE LANE-LANE ORDER
	311	MULTIPLE LANE-PLACE ORDER

NOTES:
1. FOR MORE THAN 2 LANES, ADD 2 BATTERY POWERED TRANSMITTERS AND RECEIVERS PER LANE.
2. ALL FIELD CABLING MUST BE IN CONDUIT. CONDUIT AND LABOR TO INSTALL BY OTHER.
3. FOR INFO. ON CONNECTING MORE THAN 2 LANES, PLEASE REFER TO DWG. B-139246 ON WHICH PHOTOCELL INTERFACE
JACKS TO CONNECT TO.

DAKTRONICS, INC.   BROOKINGS, SD 57006

PROJ:

TITLE: PORTABLE LANE TRACK TIMING SYSTEM LAYOUT

| 1 | 20AUG01 | REDESIGNED DRAWING TO SHOW A CLEAR VIEW OF COMPONENTS | GWS | JWARNE |
| REV. | DATE | DESCRIPTION | BY | APPR. |

DES. BY:

DRAWN BY: JDB   DATE: 02 MAR 01

REVISION   APPR. BY:

SCALE: 1:1   1067-R01B-145433

NOTES:

THIS IS NOT A SCALED DRAWING AND SHOULD BE USED FOR POWER AND SIGNAL REQUIREMENTS ONLY.

IT IS THE RESPONSIBILITY OF THE ELECTRICAL INSTALLATION CONTRACTOR TO ENSURE THAT ALL ELECTRICAL WORK PERFORMED ON SITE MEETS OR EXCEEDS ALL LOCAL AND NATIONAL ELECTRIC CODES.

ALL DISPLAYS MUST BE GROUNDED PER ARTICLE 250 AND 600 OF THE NATIONAL ELECTRIC CODE.

IT IS THE RESPONSIBILITY OF THE SIGNAL CABLE INSTALLATION CONTRACTOR TO LABEL ALL SIGNAL CABLE RUNS AS TO ORIGIN AND DESTINATION.

REMOTE CONTROL OF POWER TO ALL DISPLAYS IS NOT PROVIDED BY DAKTRONICS.

DUE TO THE INRUSH CURRENT (MOMENTARY SURGE) CREATED BY THE DISPLAY ON START-UP, THE POWER OVER CURRENT DEVICE(S) MAY HAVE TO BE OVERSIZED AND OR USE HIGH-MAGNETIC (HID) BREAKERS OR TIME DELAY FUSES TO HANDLE THE MOMENTARY SURGE.
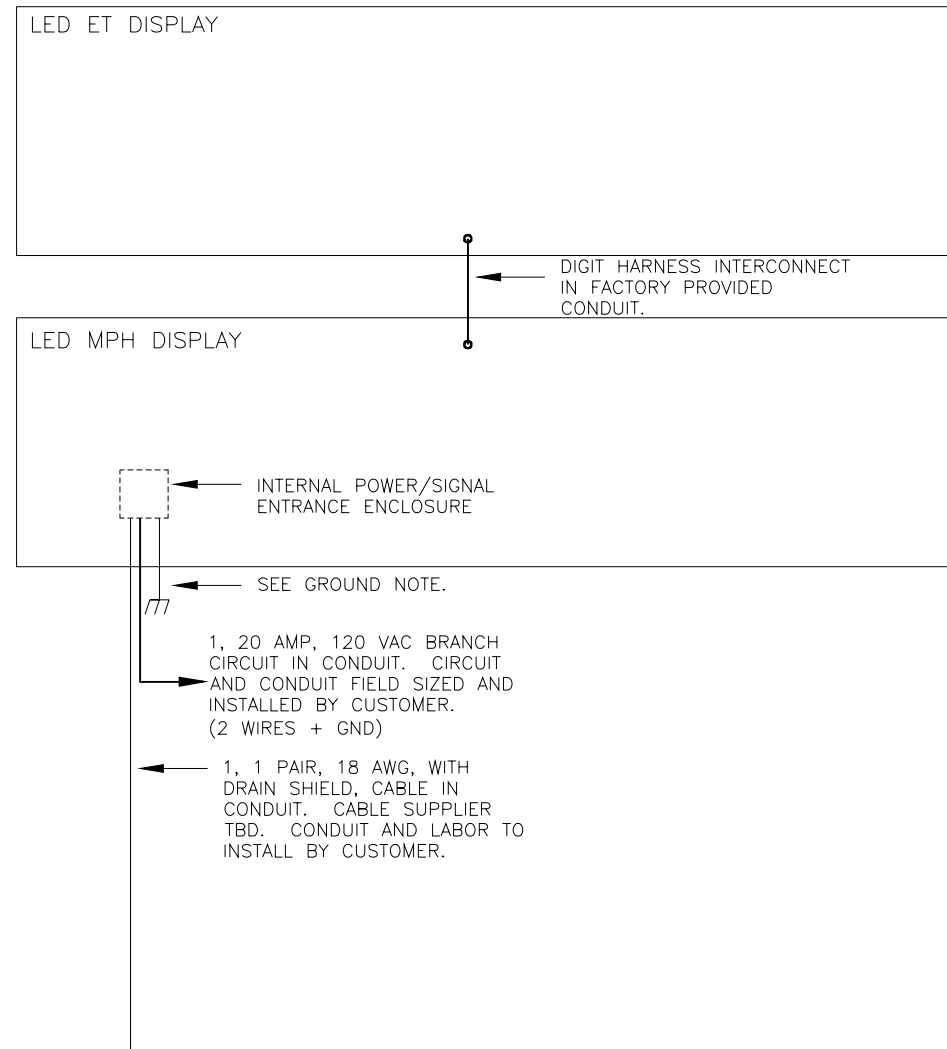
THE OVER CURRENT PROTECTION DEVICE NEEDS TO BE MATCHED TO THE FAULT CURRENT THAT IS AVAILABLE IN THE POWER DELIVERY CIRCUIT. TO DETERMINE THE AVAILABLE FAULT CURRENT OF CIRCUIT AN ONSITE FAULT CURRENT SURVEY MAY NEED TO BE PERFORMED AT YOUR SITE BY QUALIFIED PERSONNEL.

THE NEC (NATIONAL ELECTRIC CODE) REQUIRES THE AIC (AMPERE INTERRUPTING CAPACITY) RATING OF THE ELECTRICAL EQUIPMENT IN A CIRCUIT MATCH THE AVAILABLE FAULT CURRENT AVAILABLE IN THE ELECTRICAL CIRCUIT. IF THE AVAILABLE FAULT CURRENT IN THE ELECTRICAL SYSTEM EXCEEDS 10,000 AMPS A DAKTRONICS REPRESENTATIVE SHOULD BE CONTACTED.
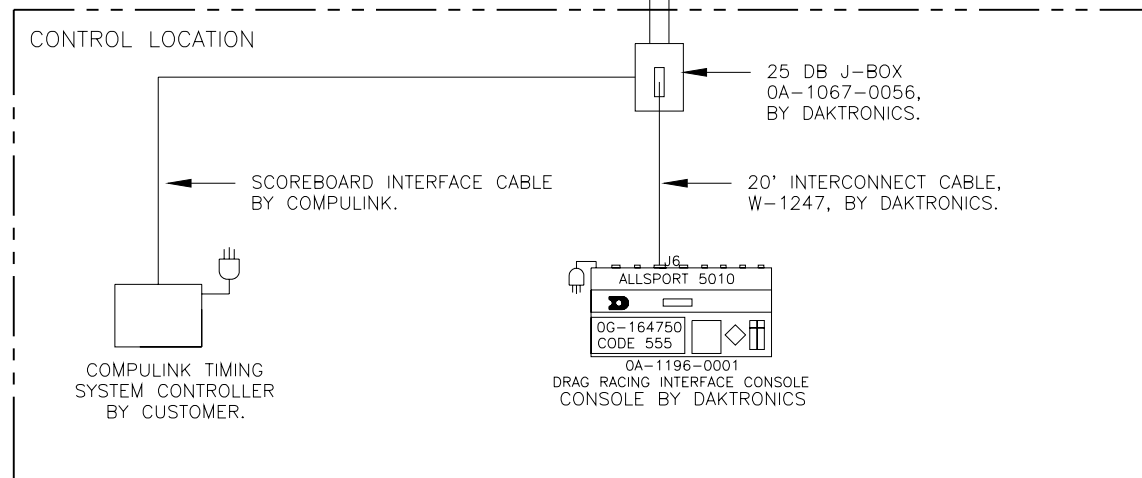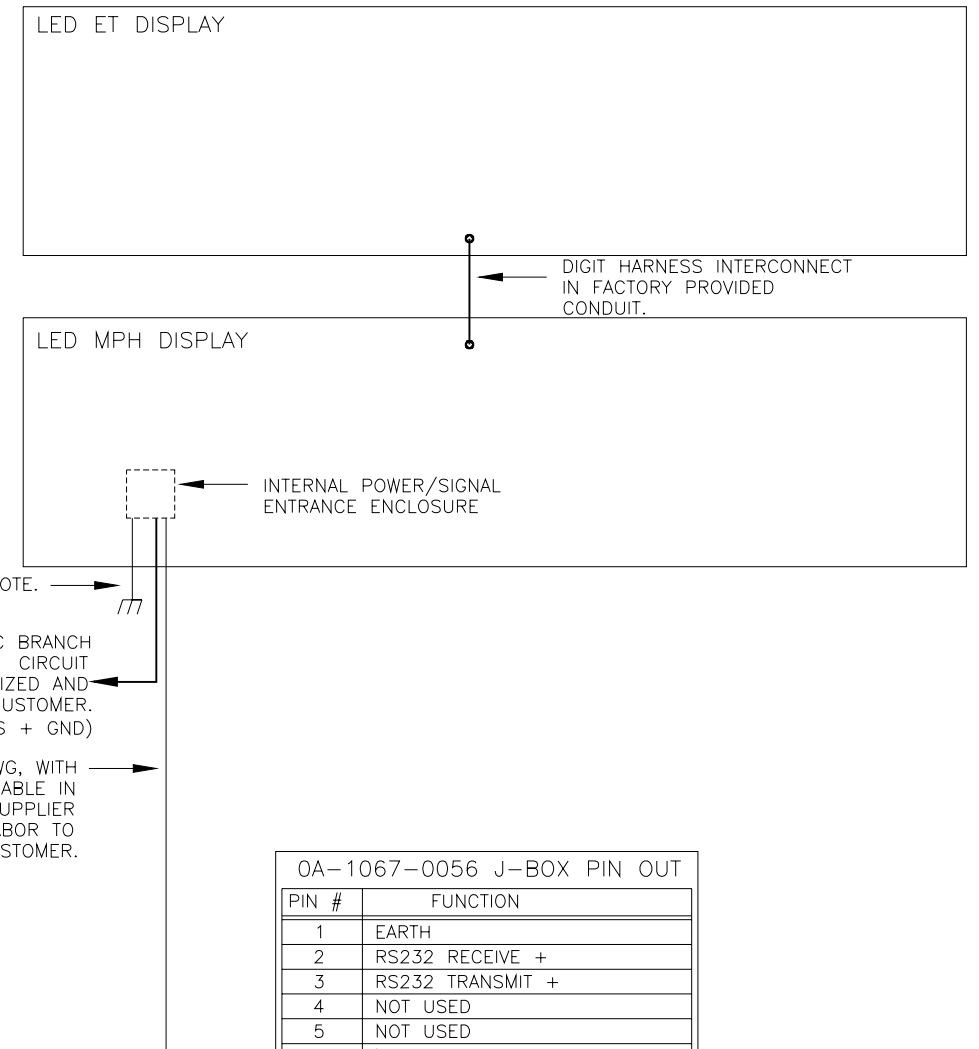
BECAUSE EACH INSTALLATION IS UNIQUE, DAKTRONICS INC. OFFERS THESE INSTRUCTIONS AS GUIDELINES ONLY. DAKTRONICS, INC. ASSUMES NO LIABILITY IF INSTALLATION STEPS HAVE BEEN OMITTED OR OTHER NECESSARY PROCEDURES ARE NOT INCLUDED IN THIS SYSTEM RISER DIAGRAM.

DAKTRONICS IS NOT RESPONSIBLE FOR THE QUALITY OF THE POWER DELIVERY SYSTEM TO THE DISPLAY. IT IS THE CUSTOMER'S INDIVIDUAL RESPONSIBILITY TO ENSURE THAT THE PROPER SAFETY MEASURES HAVE BEEN TAKEN; THAT POWER AND SIGNAL WIRING IN THE DISPLAY SYSTEM ARE IN COMPLIANCE WITH LOCAL, STATE AND NATIONAL ELECTRICAL CODES; AND THAT CORRECT CABLING PROCEDURES FOR THE SPECIFIC INSTALLATION HAVE BEEN DETERMINED AND FOLLOWED.

RIGHT LANE

LED ET DISPLAY

DIGIT HARNESS INTERCONNECT IN FACTORY PROVIDED CONDUIT.

LED MPH DISPLAY

INTERNAL POWER/SIGNAL ENTRANCE ENCLOSURE

SEE GROUND NOTE.

1, 20 AMP, 120 VAC BRANCH CIRCUIT IN CONDUIT. CIRCUIT AND CONDUIT FIELD SIZED AND INSTALLED BY CUSTOMER. (2 WIRES + GND)

1, 1 PAIR, 18 AWG, WITH DRAIN SHIELD, CABLE IN CONDUIT. CABLE SUPPLIER TBD. CONDUIT AND LABOR TO INSTALL BY CUSTOMER.

LEFT LANE

LED ET DISPLAY

DIGIT HARNESS INTERCONNECT IN FACTORY PROVIDED CONDUIT.

LED MPH DISPLAY

INTERNAL POWER/SIGNAL ENTRANCE ENCLOSURE

SEE GROUND NOTE.

1, 20 AMP, 120 VAC BRANCH CIRCUIT IN CONDUIT. CIRCUIT AND CONDUIT FIELD SIZED AND INSTALLED BY CUSTOMER. (2 WIRES + GND)

1, 1 PAIR, 18 AWG, WITH DRAIN SHIELD, CABLE IN CONDUIT. CABLE SUPPLIER TBD. CONDUIT AND LABOR TO INSTALL BY CUSTOMER.

CONTROL LOCATION

SCOREBOARD INTERFACE CABLE BY COMPULINK.

25 DB J-BOX OA-1067-0056, BY DAKTRONICS.

20' INTERCONNECT CABLE, W-1247, BY DAKTRONICS.

ALLSPORT 5010

OG-164750 CODE 555

OA-1196-0001 DRAG RACING INTERFACE CONSOLE CONSOLE BY DAKTRONICS

COMPULINK TIMING SYSTEM CONTROLLER BY CUSTOMER.

OA-1067-0056 J-BOX PIN OUT	
PIN #	FUNCTION
1	EARTH
2	RS232 RECEIVE +
3	RS232 TRANSMIT +
4	NOT USED
5	NOT USED
6	NOT USED
7	C. L. OUTPUT 4 -/RS232 GND
8	SWITCH INPUT 1 +
9	CURRENT LOOP INPUT +
10	CURRENT LOOP INPUT −
11	RELAY OUTPUT +
12	RS485 +
13	RS485 −
14	CURRENT LOOP OUTPUT 1 +
15	CURRENT LOOP OUTPUT 1 −
16	CURRENT LOOP OUTPUT 2 +
17	CURRENT LOOP OUTPUT 2 −
18	CURRENT LOOP OUTPUT 3 +
19	CURRENT LOOP OUTPUT 3 −
20	NOT USED
21	SWITCH INPUT 1 −
22	CURRENT LOOP OUTPUT 4 +
23	RELAY OUTPUT −
24	10V AC/DC INPUT-P
25	10V AC/DC INPUT-N

WIRE BOTH DISPLAYS TO THIS OUTPUT

WIRING DIAGRAM ADDRESS PLUG WITH ALL WIRES CONNECTED
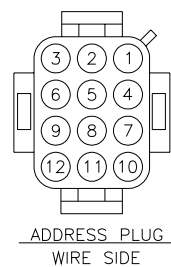
ADDRESS PLUG WIRE SIDE

1	BRN
2	RED
3	
4	ORG
5	TAN
6	
7	
8	PNK
9	BLU
10	
11	VIO
12	BLK

	PIN 12	PIN 11	PIN 9	PIN 8	PIN 6	PIN 5	PIN 3	PIN 2	
11	0	0	0	0	1	0	1	1	LEFT DOUBLE LINE (ADDRESS 11)
12	0	0	0	0	1	1	0	0	RIGHT DOUBLE LINE (ADDRESS 12)
13	0	0	0	0	1	1	0	1	LEFT SINGLE LINE (ADDRESS 13)
14	0	0	0	0	1	1	1	0	RIGHT SINGLE LINE (ADDRESS 14)

REV.	DATE	DESCRIPTION	BY	APPR.
3	12 JUN 02	ADDED CODE NUMBER AND INSERT NUMBER TO THE ALLSPORT 5010.	NMB	
02	17APR02	ADDED ADDRESS PLUG, SCHEMATIC AND ADDRESS TABLE.	NMB	
1	15 MAR 02	UPDATED WITH MULTI-TAP J-BOX FOR EASIER INTERFACE WIRING.	HBB	

DAKTRONICS, INC. BROOKINGS, SD 57006
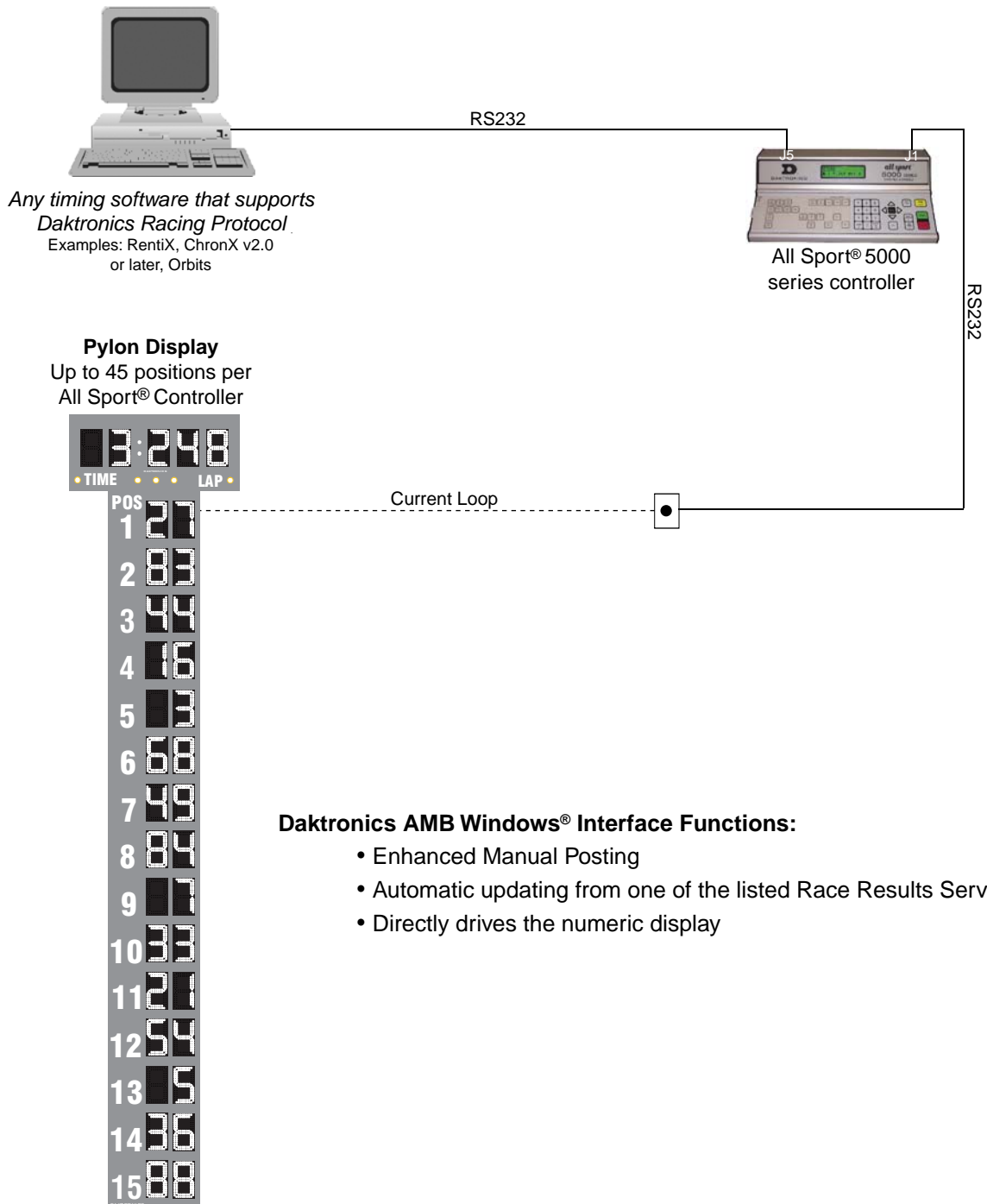
PROJ: SCOREBOARD INTERFACE

TITLE: SYSTEM RISER, COMPULINK SCOREBOARD INT., A/S 5000

DES. BY: HBONER   DRAWN BY: HBONER   DATE: 14 MAR 02

REVISION 03

APPR. BY:

SCALE: 1=1

1067-R01B-164173

Appendix B: Transponder Reference Materials

Transponder Feed to Daktronics Super Speedway Vertical Pylon

System Block Diagram

RS232

Any timing software that supports Daktronics Racing Protocol
Examples: RentiX, ChronX v2.0 or later, Orbits

All Sport® 5000 series controller

RS232

Pylon Display
Up to 45 positions per All Sport® Controller

Current Loop

Daktronics AMB Windows® Interface Functions:

- Enhanced Manual Posting
- Automatic updating from one of the listed Race Results Services
- Directly drives the numeric display

For additional information on Daktronics scoring/timing products, call 605-697-4330 or 800-325-8766.

All Sport® is a registered trademark of Daktronics, Inc.   Windows® is a registered trademark of Microsoft Corp.

SL082603-03639 Page 1 of 1 COPYRIGHT© 2001-2003 DAKTRONICS, INC.

DAKTRONICS, INC

331 32nd Avenue, PO Box 5128, Brookings, SD 57006
Phone: 800-325-8766 or 605-697-4300 Fax: 605-697-4700
www.daktronics.com E-mail: sales@daktronics.com

For faster service call the appropriate Sales group toll-free:
800-DAKTRONICS (800-325-8766) General Sales
888-DAK SCORE (888-325-7267) High School/Park & Rec Sales
888-DAK SIGN (888-325-7446) Commercial Sales
800-558-9526 Business Communications Sales
888-DAK TIME (888-325-8463) College/University Sales
888-CHRONDEK (888-247-6633) Auto Racing Sales

Transponder Feed to Daktronics Go Kart Numeric Scoreboards

System Block Diagram

RS232

Automatic timing system software (by others) and Daktronics scoreboard output interface

*Daktronics does not supply or service automatic timing system equipment and software. Examples: RentiX, ChronX v2.0 or later, Orbitz

J5   J1

All Sport® 5100

Current Loop

● J-box
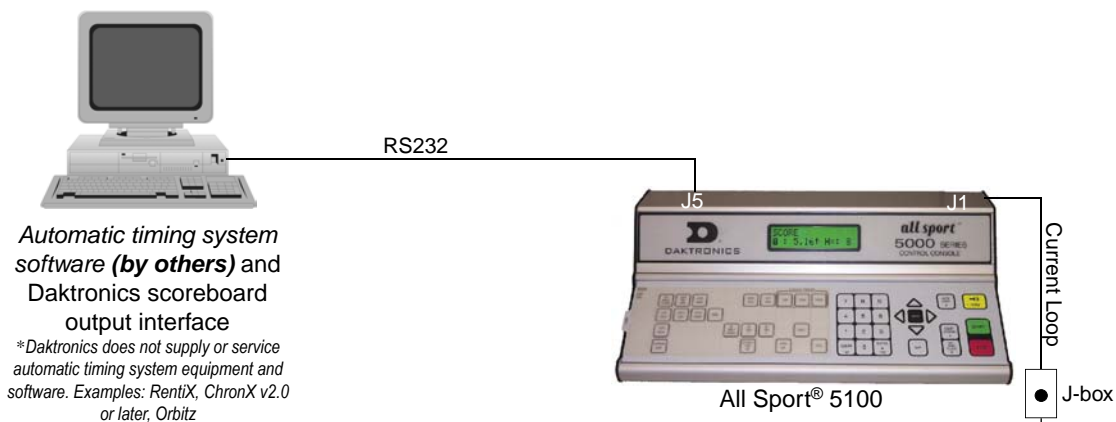
Numeric Display
Maximum number of positions available is 12

POS	KART	LAP	TIME
1st	28	10	14.023
2nd	63	10	15.075
3rd	88	10	15.676

All Sport® 5100 functions:

- Interface to automatic timing system programs **(by others)** that support Daktronics protocol
- Manual posting and lap incrementing for races without automatic timing system
- Qualifying timing utilizing optional photocell package

For additional information on Daktronics scoring/timing products, call 605-697-4330 or 800-325-8766.

All Sport® is a registered trademark of Daktronics.

DAKTRONICS, INC

Transponder Feed to Daktronics Matrix Displays

System Block Diagram

RS232

**One of the following Race
Results Services (By Others)**
Currently limited to:
AMB - RMonitor Protocol
CART - Multiloop Protocol V1.2.2
Formula One - Protocol V1.2

Venus® 1500 or Venus® 7000
& Daktronics AMB
Windows® Interface
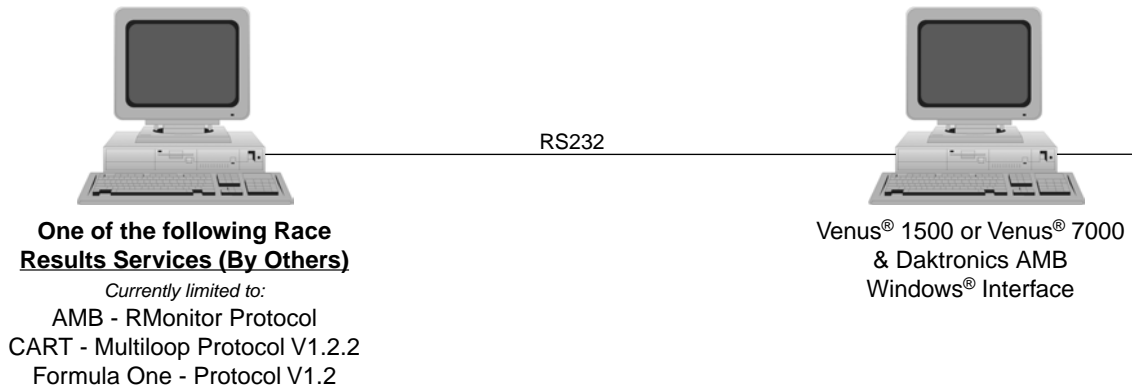
```
POS NO  DRIVER      LAP TIME
1 29  Long        31.297
2 22  Hand        31.342
3  8  Strohm      31.380
 36 Miller      32.927
```

Matrix Display
Many sizes are available, call for more information

Daktronics AMB Windows® Interface Functions:
- Enhanced Manual Posting
- Automatic updating from one of the listed Race Results Services

For additional information on Daktronics scoring/timing products, call 605-697-4330 or 800-325-8766.

SL060203-03641 Page 1 of 1 COPYRIGHT© 2001-2003 DAKTRONICS, INC.

DAKTRONICS, INC

For faster service call the appropriate Sales group toll-free:
800-DAKTRONICS (800-325-8766) General Sales
888-DAK SCORE (888-325-7267) High School/Park & Rec Sales
888-DAK SIGN (888-325-7446) Commercial Sales
800-558-9526 Business Communications Sales
888-DAK TIME (888-325-8463) College/University Sales
888-CHRONDEK (888-247-6633) Auto Racing Sales

Transponder Feed to Daktronics Numeric (Fixed Digit) Horizontal Scoreboards

System Block Diagram

Optional Photocell Package

Photocells

J-box Receiver   Transmitter J-box

25 Pin J-box

Photocell
Interface

RS232

*Automatic timing system
software (by others)* and
Daktronics scoreboard
output interface

**Daktronics does not supply or service
automatic timing system equipment and
software. Examples: RentiX, ChronX v2.0
or later, Orbitz*

Current Loop

J5   J8   J1

All Sport® 5100

J-box
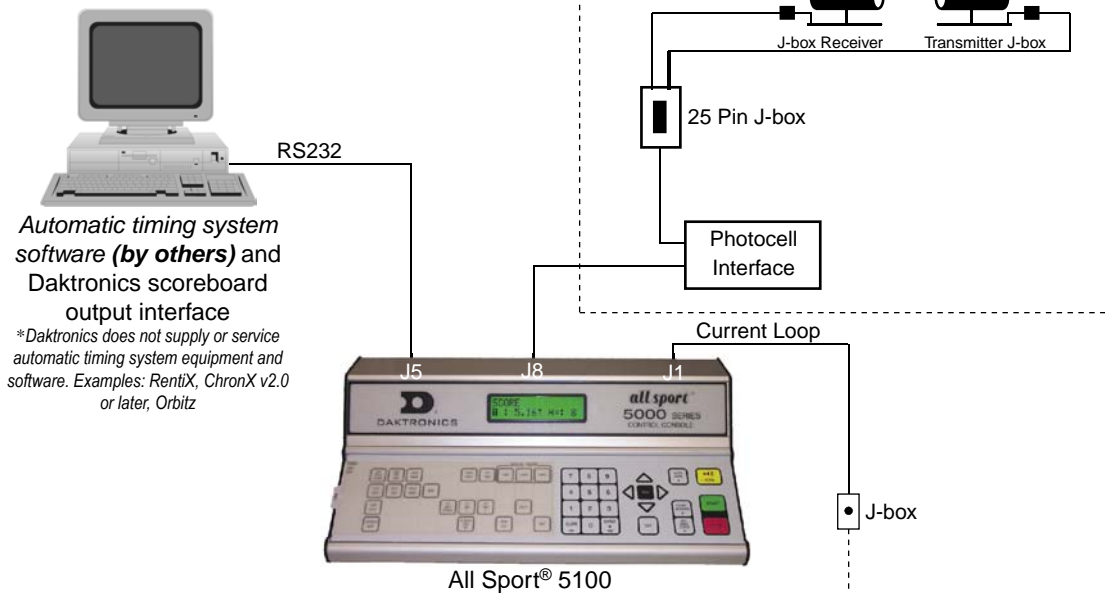
Numeric Display
Displays track status, posting time
and qualifying time or lap count.

LAP •
TIME •

34:672 • • •

1ST 2ND 3RD 4TH 5TH
24   99   83   94   10

All Sport® 5100 functions:

- Interface to automatic timing system programs **(by others)** that support Daktronics protocol
- Manual posting and lap incrementing for races without automatic timing system
- Qualifying timing utilizing optional photocell package

For additional information on Daktronics scoring/timing products, call 605-697-4330 or 800-3258-8766.

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Transponder Feed to Daktronics Alpha-Numeric Scoreboards

System Block Diagram

RS232

RS232

*Automatic timing system software **(by others)** and* Daktronics scoreboard output interface
*Daktronics does not supply or service automatic timing system equipment and software. Examples: RentiX, ChronX v2.0 or later, Orbitz

Venus® 1500 computer receiving All Sport® 5100 enhanced RTD

Current Loop

J5   J6   J1

SCORE
H I 5,161 Rnt 0.

all sport®
5000 SERIES
CONTROL CONSOLE

DAKTRONICS

All Sport® 5100

Numeric Display
Displays track status and qualifying time or lap count.

ID/LOGO PANEL

SPONSOR PANEL

06:32 4

SPONSOR PANEL

●TIME   ● ● ●   LAP●

1ST	2ND	3RD	4TH	5TH
23	15	11K	5B	83

Matrix Display

All Sport® 5100 functions:
- Interface to automatic timing system programs **(by others)** that support Daktronics protocol
- Manual posting and lap incrementing for races without automatic timing system
- Qualifying time utilizing optional photocell package

Venus® 1500 functions:
- Post car numbers from the AS5100 to the matrix display
- Run sequences/animations on the matrix display

For additional information on Daktronics scoring/timing products, call 605-697-4330 or 800-3258-8766.

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DAKTRONICS, INC

For faster service call the appropriate Sales group toll-free:
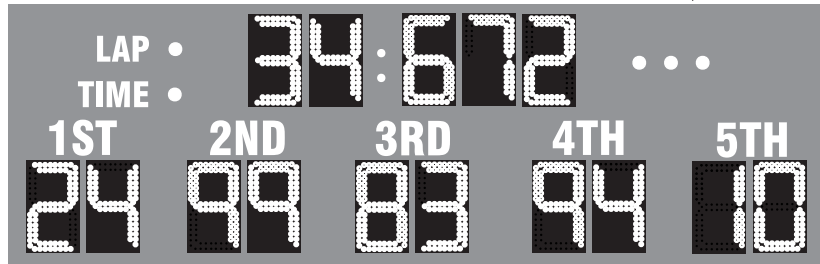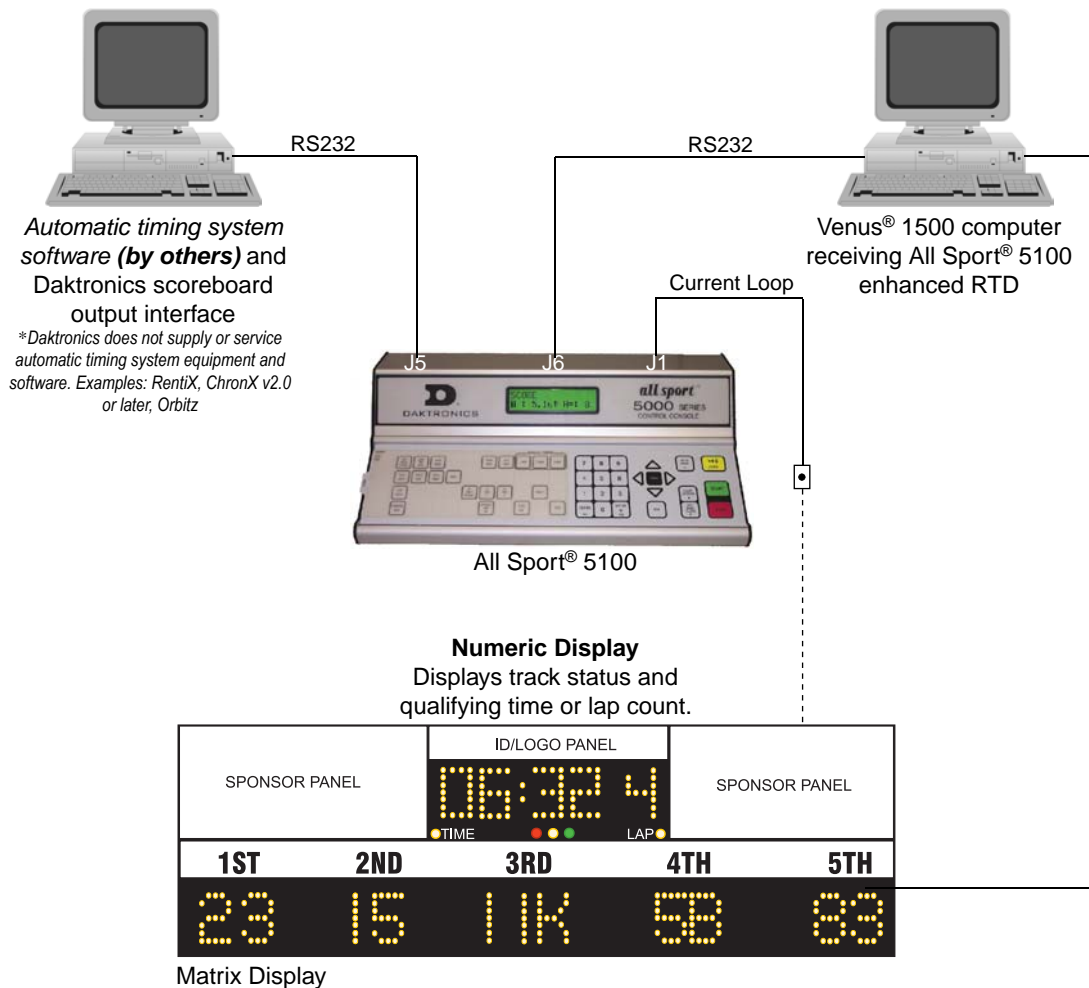**800-DAKTRONICS** (800-325-8766) General Sales
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Appendix C: All Sport 5100 Reference Materials

All Sport® 5100

Motorsports Racing Timer

Easy-to-use Prompting Display

With its large 32-character liquid crystal display (LCD), the easy-to-use All Sport® 5100 controller prompts the user and provides vital feedback. The LCD verifies information available for display on optional scoreboards or for announcement on PA system. Information is easy to read in bright sunlight. The LCD is backlit with LEDs to allow for readability in dark areas as well. A beep sounds to indicate when a command has been received.

Large, easy-to-read backlit screen!


```
P- 1   #- 18   L- 20
CUR LAP     20     R
```

1st Position Automatic Input Screen
(image shown above, not to scale)

Durable Aluminum Case

The All Sport 5100 aluminum case is the toughest line of defense against drops, high and low temperatures, and static electricity. The console's "snap-action" keyboard is sealed, making it resistant to moisture and spills.

Versatility

The All Sport 5100 console uses changeable keyboard overlays to display race information and/or control of optional scoreboards. The operator simply enters a four-digit code upon power-up to indicate the mode in which the race will be run. Basic choices are: **Manual Mode** (using infrared photocells for timing) or **Automatic Mode** (with use of AMB transponders for timing). Information that can be displayed is determined by the physical capacity of the scoreboard. Scoreboards are either numeric, alphanumeric, or a combination of both.

In **Manual Mode** the system is capable of displaying:
  • Current positions of top racers
  • Green/yellow/red flag status
  • Lap number (count up or count down clock is not selected)
  • Time of race (count up or count down clock in lieu of lap counter)
  • Lap timer (during qualifying) to 1/1000-of-a-second using infrared photocells
  • Best lap time (during qualifying
  • Time of day
  • Final leader places
  • Black flagged (disqualified) cars

In **Automatic Mode** the system provides:
  • Automatic information feed to scoreboard from AMB ChronX (ver. 2.0 or greater) software
  • Real-time data output to matrix message centers (car numbers, driver names, lap times, etc.)
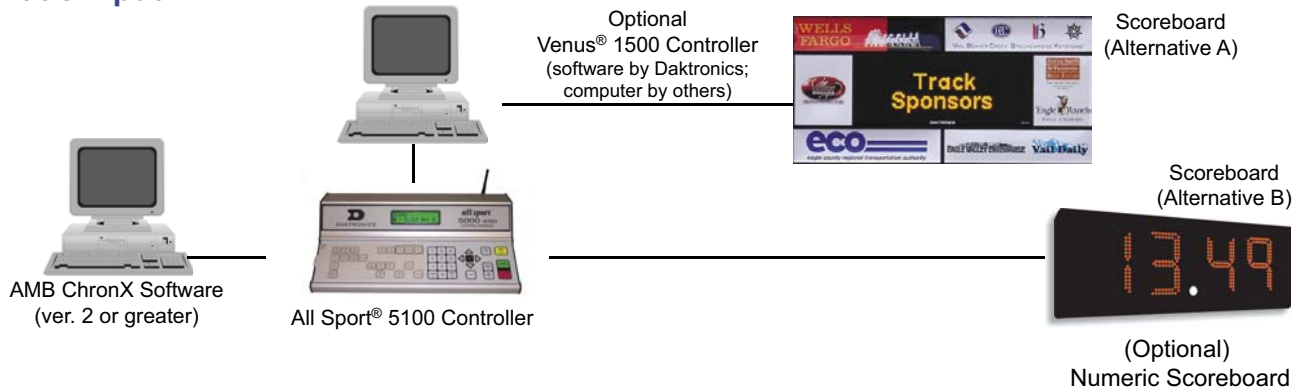
SL092104-04357 Page 1 of 2

DAKTRONICS, INC

331 32nd Ave, PO Box 5128, Brookings, SD 57006
Phone: 800-325-8766 or 605-697-4300 Fax: 605-697-4700
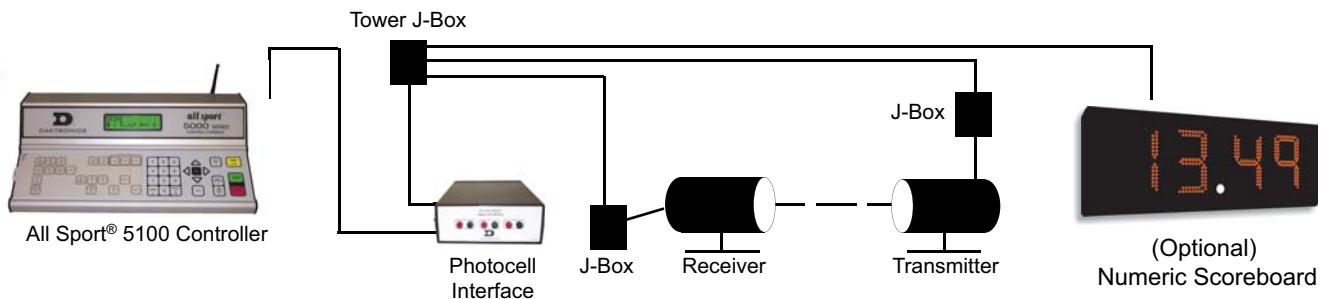www.daktronics.com E-mail: sales@daktronics.com

Automatic Input:

Optional
Venus® 1500 Controller
(software by Daktronics;
computer by others)

Scoreboard
(Alternative A)

Track Sponsors

AMB ChronX Software
(ver. 2 or greater)

All Sport® 5100 Controller

Scoreboard
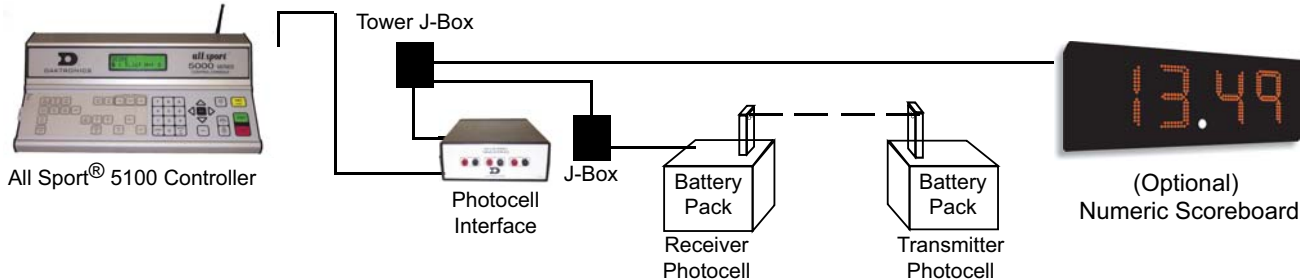(Alternative B)

13.49

(Optional)
Numeric Scoreboard

Manual Input/Standard Operation:

Oval Track Configuration: This setup requires one (1) photocell pair to display laps and lap times. The system can also display green, yellow or red flag status, disqualified cars, current position and time-of-day (depending upon scoreboard model). Photocells are powered by the photocell interface. Receiver and transmitter can be up to 150 feet apart.

Tower J-Box

J-Box

All Sport® 5100 Controller

Photocell
Interface

J-Box

Receiver

Transmitter

13.49

(Optional)
Numeric Scoreboard

Manual Input/Battery Powered Operation:

Oval Track Configuration: This setup requires one (1) photocell pair to display laps and lap times. The system can also display green, yellow or red flag status, disqualified cars, current position and time-of-day (depending upon scoreboard model). Receiver and transmitter are powered by built-in rechargeable batteries, with an external 120 V AC, 20 VA charger. Photocells are powered by the photocell interface. Receiver and transmitter can be up to 150 feet apart.

Tower J-Box

All Sport® 5100 Controller

Photocell
Interface

J-Box

Battery
Pack

Receiver
Photocell

Battery
Pack

Transmitter
Photocell

13.49

(Optional)
Numeric Scoreboard

Manual Input/Retro-reflective Operation:

Oval Track Configuration: This setup requires one (1) retro-reflective photocell and one (1) foam block to display laps and lap times. The system can also display green, yellow or red flag status, disqualified cars, current position and time-of-day (depending upon scoreboard model). Retro-reflective photocell is powered by the photocell interface. Photocell can be up to 75 feet from foam block.

Tower J-Box

All Sport® 5100 Controller

Photocell
Interface

J-Box

Combo Transmit/
Receiver Photocell

Foam
Block

13.49

(Optional)
Numeric Scoreboard
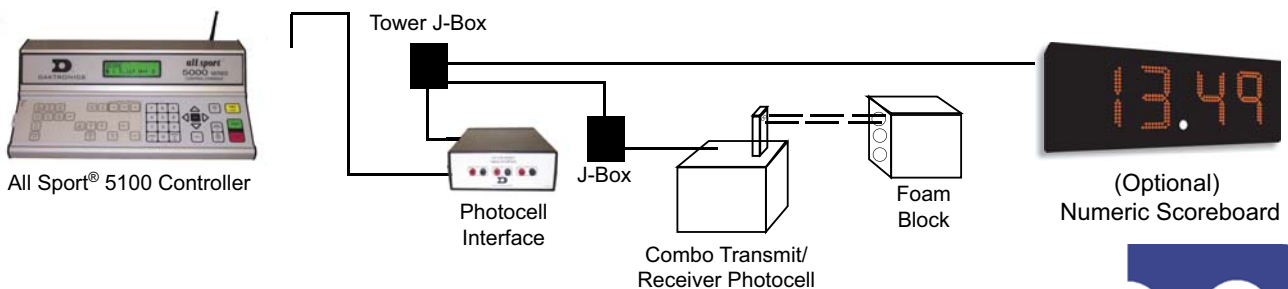
DAKTRONICS®

Appendix D: All Sport 5100 Racing RTD Items

The All Sport 5100 Enhanced RTD port, located on the back of the control console, can be used to display race information on a matrix scoreboard, which is controlled by a Daktronics Venus system. The item numbers listed in the tables that follow can be used to create an RTD sequence to display selected race information. Consult the literature provided with your particular Venus display system to create the RTD sequence using the Enhanced RTD output table.

All Sport 5100 Enhanced RTD

Notes on Enhanced RTD:

- The "Current" RTD items are used to display the first place competitor information unless the console is set to show passing in **Qualify** mode. In this case, the passing competitor information will be found in these locations.

- All car number items will be displayed as numeric values only unless the alphanumeric RTD Code is selected (336). Use this code when alphanumeric car numbers will be displayed on a matrix display.

- The "Current Running Time" and "Best Lap Time" areas are used only when the console is operating with external photocell timers (oval track and lane track photocell codes.)

  - Communication port parameters are 9600 baud, 8 data bits, no parity, 1 stop bit.

- Current Lap#/Lap Time/Black Flag items are used to display information selected by the console operator using the **<DISPLAY>** keys. Item values for each display selection are shown in the table below.

Current Lap #/Lap Time/Black Flag RTD Item: Display Mode Options

Item No.	Laps	Lap Time/ Best Lap Time	Black Flag	Time of Day
242	BLANK	Hours x10	BLANK	BLANK
243	BLANK	Hours x1	BLANK	BLANK
244	BLANK	Colon	BLANK	BLANK
245	BLANK	Minutes x10	BLANK	BLANK
246	BLANK	Minutes x1	BLANK	BLANK
247	BLANK	Colon	BLANK	BLANK
248	BLANK	Seconds x10	BLANK	Hours x10
249	BLANK	Seconds x1	BLANK	Hours x1
250	BLANK	Decimal Point	BLANK	Colon

(Continued on following page)

Item No.	Laps	Lap Time/ Best Lap Time	Black Flag	Time of Day
251	Lap x100	Seconds x0.1	Black Flag x10	Minutes x10
252	Lap x 10	Seconds x0.01	Black Flag x1	Minutes x1
253	Lap x1	Seconds x0.001	BLANK	BLANK

All Sport 5100 Racing RTD Item Numbers

Codes: 300 – 303
333 – 433
995

Field #	Description	Length	Justify	Item
1	Reserved	39	R	1
2	Time of Day (hh:mm:ss)	8	L	10
3	Reserved	153	R	48
4	Current Driver Name	12	L	201
5	Current Lap #	5	R	213
6	Current Car #	3	R	218
7	Current Position	2	R	221
8	Current Speed xxx.xxx	7	R	223
9	Current Lap Time	12	R	230
10	Current Lap # / Lap Time / Black Flag (see preceding table)	12	R	242
11	Lap Indicator	1	R	254
12	Time Indicator	1	R	255
13	Black Flag Indicator	1	R	256
14	Black Flag Car #	3	R	257
15	'Red' Status	1	R	260
16	'Yellow' Status	1	R	261
17	'Green' Status	1	R	262
18	Current Running Time (Photocell Operation)	12	R	263
19	Best Lap Time (Photocell Operation)	12	R	275
20	Pos 1 Car #	3	R	287
21	Pos 2 Car #	3	R	290
22	Pos 3 Car #	3	R	293
23	Pos 4 Car #	3	R	296
24	Pos 5 Car #	3	R	299
25	Pos 6 Car #	3	R	302
26	Pos 7 Car #	3	R	305
27	Pos 8 Car #	3	R	308
28	Pos 9 Car #	3	R	311
	(Continued on following page)			

Field #	Description	Length	Justify	Item
29	Pos 10 Car #	3	R	314
30	Pos 11 Car #	3	R	317
31	Pos 12 Car #	3	R	320
32	Pos 13 Car #	3	R	323
33	Pos 14 Car #	3	R	326
34	Pos 15 Car #	3	R	329
35	Pos 16 Car #	3	R	332
36	Pos 17 Car #	3	R	335
37	Pos 18 Car #	3	R	338
38	Pos 19 Car #	3	R	341
39	Pos 20 Car #	3	R	344
40	Pos 21 Car #	3	R	347
41	Pos 22 Car #	3	R	350
42	Pos 23 Car #	3	R	353
43	Pos 24 Car #	3	R	356
44	Pos 25 Car #	3	R	359
45	Pos 26 Car #	3	R	362
46	Pos 27 Car #	3	R	365
47	Pos 28 Car #	3	R	368
48	Pos 29 Car #	3	R	371
49	Pos 30 Car #	3	R	374
50	Pos 31 Car #	3	R	377
51	Pos 32 Car #	3	R	380
52	Pos 33 Car #	3	R	383
53	Pos 34 Car #	3	R	386
54	Pos 35 Car #	3	R	389
55	Pos 36 Car #	3	R	392
56	Pos 37 Car #	3	R	395
57	Pos 38 Car #	3	R	398
58	Pos 39 Car #	3	R	401
59	Pos 40 Car #	3	R	404
60	Pos 41 Car #	3	R	407
61	Pos 42 Car #	3	R	410
62	Pos 43 Car #	3	R	413
63	Pos 44 Car #	3	R	416
64	Pos 45 Car #	3	R	419
65	Reserved positions	45	N	422
66	Pos 1 Pos #	2	R	467
67	Pos 1 Lap #	5	R	469
68	Pos 1 Time hh:mm:ss.dcm	12	R	474

Field #	Description	Length	Justify	Item
69	Pos 1 Speed xxx.xxx	7	R	486
70	Pos 1 Driver Name	12	L	493
71	Pos 2 Pos #	2	R	505
72	Pos 2 Lap #	5	R	507
73	Pos 2 Time hh:mm:ss.dcm	12	R	512
74	Pos 2 Speed xxx.xxx	7	R	524
75	Pos 2 Driver Name	12	L	531
76	Pos 3 Pos #	2	R	543
77	Pos 3 Lap #	5	R	545
78	Pos 3 Time hh:mm:ss.dcm	12	R	550
79	Pos 3 Speed xxx.xxx	7	R	562
80	Pos 3 Driver Name	12	L	569
81	Pos 4 Pos #	2	R	581
82	Pos 4 Lap #	5	R	583
83	Pos 4 Time hh:mm:ss.dcm	2	R	588
84	Pos 4 Speed xxx.xxx	7	R	600
85	Pos 4 Driver Name	12	L	607
86	Pos 5 Pos #	2	R	619
87	Pos 5 Lap #	5	R	621
88	Pos 5 Time hh:mm:ss.dcm	12	R	626
89	Pos 5 Speed xxx.xxx	7	N	638
90	Pos 5 Driver Name	12	L	645
91	Pos 6 Pos #	2	R	657
92	Pos 6 Lap #	5	R	659
93	Pos 6 Time hh:mm:ss.dcm	12	R	664
94	Pos 6 Speed xxx.xxx	7	R	676
95	Pos 6 Driver Name	12	L	683
96	Pos 7 Pos #	2	R	695
97	Pos 7 Lap #	5	R	697
98	Pos 7 Time hh:mm:ss.dcm	12	R	702
99	Pos 7 Speed xxx.xxx	7	R	714
100	Pos 7 Driver Name	12	L	721
101	Pos 8 Pos #	2	R	733
102	Pos 8 Lap #	5	R	735
103	Pos 8 Time hh:mm:ss.dcm	12	R	740
104	Pos 8 Speed xxx.xxx	7	R	752
105	Pos 8 Driver Name	12	L	759
106	Pos 9 Pos #	2	R	771
107	Pos 9 Lap #	5	R	773
108	Pos 9 Time hh:mm:ss.dcm	12	R	778
109	Pos 9 Speed xxx.xxx	7	R	790

Field #	Description	Length	Justify	Item
110	Pos 9 Driver Name	12	L	797
111	Pos 10 Pos #	2	R	809
112	Pos 10 Lap #	5	R	811
113	Pos 10 Time hh:mm:ss.dcm	12	R	816
114	Pos 10 Speed xxx.xxx	7	R	828
115	Pos 10 Driver Name	12	L	835
116	Pos 11 Pos #	2	R	847
117	Pos 11 Lap #	5	R	849
118	Pos 11 Time hh:mm:ss.dcm	12	R	854
119	Pos 11 Speed xxx.xxx	7	R	866
121	Pos 12 Pos #	2	R	885
122	Pos 12 Lap #	5	R	887
123	Pos 12 Time hh:mm:ss.dcm	12	R	892
124	Pos 12 Speed xxx.xxx	7	R	904
125	Pos 12 Driver Name	12	L	911
126	#1 Variable Position Number	2	R	923
127	#1 Variable Car Number	3	R	925
128	#2 Variable Position Number	2	R	928
129	#2 Variable Car Number	3	R	930
130	#3 Variable Position Number (future)	2	R	933
131	#3 Variable Car Number (future)	3	R	935
132	#4 Variable Position Number (future)	2	R	938
133	#4 Variable Car Number (future)	3	R	940
134	#5 Variable Position Number (future)	2	R	943
135	#5 Variable Car Number (future)	3	R	945

8.4   All Sport 5100 Lane Timer RTD Item Numbers

Codes: 310 – 311
320

Field #	Description	Length	Item	Justify
1	Main Clock Time (mm:ss/ss.t)	5	1	L
2	Main Clock Time (mm:ss.t)	8	6	L
3	Main Clock/Time Out/TOD (mm:ss/ss.t)	5	14	L
4	Main Clock/Time Out/TOD (mm:ss.t)	8	19	L
5	Main Clock =0 (' ' or 'z')	1	27	L
6	Main Clock Stopped (' ' or 's')	1	28	L
7	Main Clock/Time Out Horn (' ' or 'h')	1	29	L
8	Main Clock Horn (' ' or 'h')	1	30	L
9	Time Out Horn (' ' or 'h')	1	31	L
10	Time Out Time (mm:ss)	8	32	L

Field #	Description	Length	Item	Justify
11	Time of Day (hh:mm:ss)	8	40	L
12	Home Team Name	20	48	L
13	Guest Team Name	20	68	L
14	Home Team Abbreviation (Future)	10	88	L
15	Guest Team Abbreviation (Future)	10	98	L
16	Home Team Score	4	108	R
17	Guest Team Score	4	112	R
18	Home Time Outs Left - Full	2	116	R
19	Home Time Outs Left - Partial	2	118	R
20	Home Time Outs Left - Television (Future)	2	120	R
21	Home Time Outs Left - Total	2	122	R
22	Guest Time Outs Left - Full	2	124	R
23	Guest Time Outs Left - Partial	2	126	R
24	Guest Time Outs Left - Television (Future)	2	128	R
25	Guest Time Outs Left - Total	2	130	R
26	Home Time Out Indicator (' ' or '<')	1	132	L
27	Home Time Out Text (' ' or 'TIME')	4	133	L
28	Guest Time Out Indicator (' ' or '>')	1	137	L
29	Guest Time Out Text (' ' or 'TIME')	4	138	L
30	Quarter	2	142	R
31	Quarter Text ('1st ', 'OT ', 'OT/2') (Future)	4	144	L
32	Quarter Description ('End of 1st ') (Future)	12	148	L
33	Internal Relay (' ' or 'z', 's', 'h')	1	160	L
34	Ad Panel / Caption Power ('c')	1	161	L
35	Ad Panel / Caption #1 (' ' or 'c')	1	162	L
36	Ad Panel / Caption #2 (' ' or 'c')	1	163	L
37	Ad Panel / Caption #3 (' ' or 'c') (Future)	1	164	L
38	Ad Panel / Caption #4 (' ' or 'c') (Future)	1	165	L
39	Reserved for Future Use	35	166	R
40	Best Time (Photocell Operation)	9	201	R
41	Lane 1 Position #	3	210	R
42	Lane 2 Position #	3	213	R
43	Lane 3 Position #	3	216	R
44	Lane 4 Position #	3	219	R
45	Pos 1 Lane-Car #	3	222	R
46	Pos 2 Lane-Car #	3	225	R
47	Pos 3 Lane-Car #	3	228	R
48	Pos 4 Lane-Car #	3	231	R
49	Lane 1 Total Time mm:ss.dcm	9	234	R
50	Lane 1 Elapsed Time mm:ss.dcm (future)	9	243	R
51	Lane 1 Reaction Time mm:ss.dcm (future)	9	252	R
52	Lane 2 Total Time mm:ss.dcm	9	261	R
53	Lane 2 Elapsed Time mm:ss.dcm (future)	9	270	R

Field #	Description	Length	Item	Justify
54	Lane 2 Reaction Time mm:ss.dcm (future)	9	279	R
55	Lane 3 Total Time mm:ss.dcm	9	288	R
56	Lane 3 Elapsed Time mm:ss.dcm (future)	9	297	R
57	Lane 3 Reaction Time mm:ss.dcm (future)	9	306	R
58	Lane 4 Total Time mm:ss.dcm	9	315	R
59	Lane 4 Elapsed Time mm:ss.dcm (future)	9	324	R
60	Lane 4 Reaction Time mm:ss.dcm (future)	9	333	R
61	Pos 1 Total Time mm:ss.dcm	9	342	R
62	Pos 1 Elapsed Time mm:ss.dcm (future)	9	351	R
63	Pos 1 Reaction Time mm:ss.dcm (future)	9	360	R
64	Pos 2 Total Time mm:ss.dcm	9	369	R
65	Pos 2 Elapsed Time mm:ss.dcm (future)	9	378	R
66	Pos 2 Reaction Time mm:ss.dcm (future)	9	387	R
67	Pos 3 Total Time mm:ss.dcm	9	396	R
68	Pos 3 Elapsed Time mm:ss.dcm (future)	9	405	R
69	Pos 3 Reaction Time mm:ss.dcm (future)	9	414	R
70	Pos 4 Total Time mm:ss.dcm	9	423	R
71	Pos 4 Elapsed Time mm:ss.dcm (future)	9	432	R
72	Pos 4 Reaction Time mm:ss.dcm (future)	9	441	R
73	Lane 1 DQ status 'D' or ' '	1	450	R
74	Lane 2 DQ status 'D' or ' '	1	451	R
75	Lane 3 DQ status 'D' or ' '	1	452	R
76	Lane 4 DQ status 'D' or ' '	1	453	R

Appendix E: Daktronics Racing Display Protocol

The following material explains the protocol required to interface to Daktronics racing displays: baud rate 9,600, 8 data bits, and no parity (RS-232).

Race Mode

Field	Name	Type	Value
$SR	Record Type		
,	Field Separator	Comma	2C Hex
Pos	Position in Race Sort Mode	Numeric	0-999
,	Field Separator	Comma	2C Hex
Nr	Competitor	Alphanumeric	"0-ZZZ"
,	Field Separator	Comma	2C Hex
Lap	Number of Laps	Numeric	0-99999
,	Field Separator	Comma	2C Hex
Lap Time	Current Lap Time	Alphanumeric	"HH:MM:SS.DCM"
,	Field Separator	Comma	2C Hex
Speed	Speed of Lap in 1/1000 Miles	Numeric	0-999999
CR/LF	Carriage Return and Line Feed		0D Hex 0A Hex

Example:
    $SR,Pos,Nr,Lap,LapTime,Speed<CR/LF>
    $SR,3,"22",14,"00:02:03.826",56789<CR/LF>

Practice Mode

Field	Name	Type	Value
$SP	Record Type		
,	Field Separator	Comma	2C Hex
Pos	Position in Practice Sort Mode	Numeric	0-999
,	Field Separator	Comma	2C Hex
Nr	Competitor	Alphanumeric	"0-ZZZ"
,	Field Separator	Comma	2C Hex
Lap	Lap of the Fastest Lap Time	Numeric	0-99999
,	Field Separator	Comma	2C Hex
Lap Time	Fastest Lap Time	Alphanumeric	"HH:MM:SS.DCM"
,	Field Separator	Comma	2C Hex
Speed	Speed of Fastest Lap in 1/1000 Miles	Numeric	0-999999
CR/LF			0D Hex 0A Hex

Example:
$SP,Pos,Nr,Lap,LapTime,Speed<CR/LF>
$SP,3,"22",14,"00:02:03.826",56789<CR/LF>

The format of each packet is identical. The two packets only differ in the "SR" and "SP" record type identifiers and the content of the data. If the timing/results system is configured to **Race** mode, send the packet with the information defined for **Race** mode. If the timing/results system is configured for **Practice** mode, send the packet with the information defined for **Practice** mode. Daktronics systems will not display race *and* practice information at the same time; the Daktronics displays will show *either* race information or practice information.

Appendix F: Rmonitor-Supported Protocol Packets

In addition to the Daktronics Racing Protocol packets specified in the previous **Appendices**, the All Sport 5100 supports the Rmonitor packets listed below. All currently unused fields are marked as "NOT USED" in the **Status** column of the packet tables and shown in italics. Unused fields *must* be sent in the format shown in the **Example** column of the table. These unused fields can contain zero or blanked information if not used by the controlling software.

Rmonitor-Supported Packets		
Type	**Description**	**Sent**
$A	Competitor information	Start of race
$COMP	Competitor information	Start of race
$F	Race status	Continuously during race
$J	Passing information	On each passing of the loop

$A Competitor Records
$A,"RegNr","Nr",Trannr,"FirstName","LastName","Nationality","Classnr" <CR/LF>

$A Records – Rmonitor Protocol				
Field	**Data**	**Description**	**Example**	**Status**
1	$A	Record type	$A	Supported
2	Regnr	Registration number, alphanumeric "xxxxxxxx" 8 chars	"12A"	Supported
3	CompNr	Competitor (car/motorbike/kart number), alphanumeric "xxx" 3 chars	"12A"	Supported
5	*Trannr*	*Transponder number*		*Not used*
5	*FirstName*	*First name of competitor, alphanumeric "xxxxxxxxx" 9 chars*		*Not used*
6	LastName	Family name of competitor, alphanumeric "xxxxxxxxxxx" 30 chars (any more than 12 are disregarded)	"Jones"	Supported
7	*Nat*	*Nationality or club name "xxx" 3 chars*		*Not used*
8	*Classnr*	*Class number, numeric 1-99*		*Not used*

$COMP Competitor Records

$COMP,”RegNr”,”CompNr”,ClassNr,”FirstName”,”LastName”,”Nationality”,”
AddData”<CR/LF>

$COMP Records - Rmonitor Protocol

Field	Data	Description	Example	Status
1	$COMP	Record type	$COMP	Supported
2	Regnr	Registration number, alphanumeric "xxxxxxxx" 8 chars	"12A"	Supported
3	CompNr	Competitor (car/motorbike/kart number), alphanumeric "xxx" 3 chars	"12A"	Supported
5	*ClassNr*	*Class number, numeric*		*Not used*
5	*FirstName*	*First name of competitor, alphanumeric "xxxxxxxxx" 9 chars*		*Not used*
6	LastName	Family name of competitor, alphanumeric "xxxxxxxxxxx" 30 chars (any more than 12 are disregarded)	"Jones"	Supported
7	*Nat*	*Nationality or club name "xxx" 3 chars*		*Not used*
8	*AddData*	*Additional data "xxxxxxxxxxxxxxxxxxx" 20 chars*		*Not used*

Example:
    $COMP,”12A”,”12A”,*12,”Bob“,*”Jones”*,”USA“,” “*<CR/LF>

$F Packets – General Race Information

$F,*LapsToGo,”TimeToGo”,”TimeOfDay”,”RaceTime”,*”Flagstatus”<CR/LF>

$F Records - Rmonitor Protocol

Field	Data	Description	Example	Status
1	$F	Record type	$F	Supported
2	*LapsToGo*	*Number of Laps to go (0-999)*		*Not used*
3	*TimeToGo*	*Time to go, alphanumeric"HH:MM:SS"*		*Not used*
5	*TimeOfDay*	*System time of day "HH:MM:SS"*		*Not used*
5	*RaceTime*	*Time from start of race "HH:MM:SS"*		*Not used*
6	Flagstatus	Status of race, green, yellow, or red flag (All text 6 characters, with trailing spaces)	"GREEN" "YELLOW" "RED"	Supported

Example:
> $F,*0,"12:34:56","12:34:56","12:34:56","RED   "<CR/LF>*

$J Packets – Passing Information

$J,"Regnr","Laptime","TotalTime"<CR/LF>

$J Records – Rmonitor Protocol

Field	Data	Description	Example	Status
1	$F	Record type	$J	Supported
2	*LapsToGo*	Registration number, alphanumeric "xxxxxxxx" 8 chars	"12A"	Supported
3	*TimeToGo*	Current lap time, alphanumeric "HH:MM:SS.DDD"	"12:34:56.789"	Supported
5	*TimeOfDay*	*Total time, alphanumeric "HH:MM:SS.DDD"*		*Not Used*

Example:
> $J,"12A","12:34:56.789"*,"00:00:00.000"*<CR/LF>

Notes: Rmonitor and Daktronics Protocol

The All Sport 5100 uses a table generated by either $A or $COMP packets to show competitor data on matrix displays via the RS-232 Enhanced RTD feed. The car number and registration number fields are used to display driver names for positions 1-12 (refer to **Appendix D** in this manual:
All Sport 5100 Racing RTD Items.)

The registration number found in the $J packet is used to display the current qualifying driver name and car number when the console is set to show passing competitor data in **Qualifying** mode. In most cases, the registration number will be the same as the car number.

The status indicators (red, yellow, and green) are set automatically, using information from the $F packet "Flagstatus" field. The status received will override the status manually set on the console.

Appendix G: Sport Code Labels

Appendix H: All Sport 5100 Quick Start Reference

Transponder Interface

Note: This guide is used only with **Overlay 0G-139243**.

Startup

- Turn the power switch "ON"
- At the **Resume Game? Y/N** prompt:

    ▪ Press <**ENTER /YES**> to resume race where last shut off;
    - or -
    ▪ Press <**CLEAR/ NO**> to enter a new code number (or start a new race with the same code number).

Status

- <**RED**>, <**YELLOW**> and <**GREEN**> keys are used to set the current race status. This status will be overwritten by the status selected on the transponder computer.

Black Flag

- <**BLACK FLAG**> sets the competitor number to black flag.
- <**DISPLAY BLACK FLAG**> flashes the current black flag competitor in the Current Lap Time/Black Flag/Lap Number digits on the scoreboard.

Display Laps

- <**DISPLAY LAPS**> displays the current lap count in the Current Lap Time/Black Flag/Lap Number combination digits on the scoreboard.

Display Time

- <**DISPLAY TIME**> displays the current lap time in the Current Lap Time/Black Flag/Lap Number combination digits on the scoreboard.

Current Lap Time

- <**CURRENT LAP TIME**> sets or modifies the current lap time shown on the scoreboard. This value will be overwritten by a value received from the transponder computer.

Position

- <**CURRENT POSITION**> sets the current position information displayed on the LCD. This key does not modify information shown on the scoreboard.

- <**POSITION+1**> shows the next position information on the LCD. This key does not modify information shown on the scoreboard.
- <**POSITION-1**> shows the previous position information on the LCD. This key does not modify information shown on the scoreboard.

The following keys are used only with manual codes

Current Lap

- <**CURRENT LAP**> sets the current lap (leaders lap) of the race. This value can be displayed on the combination Current Lap Time/Black Flag/Lap Number combination digits by pressing the <**DISPLAY LAPS**> key.
- <**LAP+1**> increments the current lap. This value can be displayed on the combination Current Lap Time/Black Flag/Lap Number combination digits by pressing the <**DISPLAY LAPS**> key.
- <**LAP-1**> decrements the current lap. This value can be displayed on the combination Current Lap Time/Black Flag/Lap Number combination digits by pressing the <**DISPLAY LAPS**> key.

Car Number

- <**CAR NUMBER**> sets the current car number for the position shown on the LCD.

Lap Number

- <**LAP NUMBER**> sets the current lap number for the position shown on the LCD.

Time

- <**TIME**> sets the current lap time for the position shown on the LCD.

Oval Track Posting

Note: This guide is used only with **Overlay 0G-139244**.

Startup

- Turn the power switch "ON."
- At the **Resume Game? Y/N** prompt:
  - Press <**ENTER /YES**> to resume race where last shut off;
  - or -
  - Press <**CLEAR/NO**> to enter a new code number (or start a new race with the same code number.)

Status

- <**RED**>, <**YELLOW**> and <**GREEN**> keys are used to set the current race status.

Black Flag

- <**BLACK FLAG**> sets the competitor number to black flag.
- <**DISPLAY BLACK FLAG**> flashes the current black flag competitor in the Current Lap Time/Black Flag/Lap Number digits on the scoreboard.

Display Laps

- <**DISPLAY LAPS**> displays the current lap count in the Current Lap Time/Black Flag/Lap Number combination digits on the scoreboard.

Display Time

- <**DISPLAY TIME**> displays the current lap time in the Current Lap Time/Black Flag/Lap Number combination digits on the scoreboard.

Lap

- <**LAP**> sets the current lap (leaders lap) of the race. This number can be displayed on the combination Current Lap Time/Black Flag/Lap Number combination digits by pressing the <**DISPLAY LAPS**> key.
- <**LAP+1**> increments the current lap. This value can be displayed on the combination Current Lap Time/Black Flag/Lap Number combination digits by pressing the <**DISPLAY LAPS**> key.
- <**LAP-1**> decrements the current lap. This value can be displayed on the combination Current Lap Time/Black Flag/Lap Number combination digits by pressing the <**DISPLAY LAPS**> key.

Position

- **\<SET CAR POSITION\>** can be used to rapidly set the car numbers corresponding to a series of race positions. Enter the first position to change and **\<ENTER\>**, followed by the new car number for that position. Each press of the **\<ENTER\>** key selects the next position for editing. Press **\<ENTER\>** a second time to exit the function.

- **\<1ST PLACE\>**, **\<2ND PLACE\>**, (etc.) keys are used to set the car number associated with the selected place.

- **\<SWAP 1ST 2ND\>**, **\<SWAP 2ND 3RD\>**, (etc.) keys are used to swap the car numbers in the places listed on the key. This key can be used when one car passes another.

Oval Track Photocell Timing

Note: This guide is used only with **Overlay 0G-139347**.

Startup

- Turn the power switch "ON."
- At the **Resume Game? Y/N** prompt:
    - Press <**ENTER /YES**> to resume race where last shut off;
    - or -
    - Press <**CLEAR/NO**> to enter a new code number (or start a new race with the same code number.)

Status

- <**RED**>, <**YELLOW**> and <**GREEN**> keys are used to set the current race status.

Black Flag

- <**BLACK FLAG**> sets the competitor number to black flag.
- <**DISPLAY BLACK FLAG**> flashes the current black flag competitor in the Current Lap Time/Black Flag/Lap Number digits on the scoreboard.

Laps

- < **LAP**> sets the current lap (leaders lap) of the race. This value can be displayed on the combination Current Lap Time/Black Flag/Lap Number combination digits by pressing the <**DISPLAY LAPS**> key.
- <**LAP+1**> increments the current lap. This value can be displayed on the combination Current Lap Time/Black Flag/Lap Number combination digits by pressing the <**DISPLAY LAPS**> key.
- <**LAP-1**> decrements the current lap. This value can be displayed on the combination Current Lap Time/Black Flag/Lap Number combination digits by pressing the <**DISPLAY LAPS**> key.
- <**DISPLAY LAPS**> displays the current lap count in the Current Lap Time/Black Flag/Lap Number combination digits on the scoreboard.

Enable Keys

- <**START ENABLE**> sets the console to start the race timer with the next photocell beam cross. The LCD displays the text, "Start Enable." The <**START ENABLE**> key is disabled when the race timer is running.
- <**LAP ENABLE**> sets the console to reset the lap timer and display the time for the current lap with the next photocell beam cross. The timer will then begin timing a new lap. The LCD displays the text, "Lap Enable." The <**LAP ENABLE**> key is disabled when the race timer is stopped.
- <**STOP ENABLE**> sets the console to stop the race timer with the next photocell beam cross.

Display Time Keys

- <**DISPLAY RUNNING TIME**> displays the current running time on the scoreboard in the Current Lap Time/Black Flag/Lap Number combination digits.
- <**DISPLAY BEST LAP TIME**> displays the best lap time for the current car (since the last reset) on the scoreboard in the Current Lap Time/Black Flag/Lap Number combination digits.
- <**DISPLAY TIME OF DAY**> displays the current time of day. If the time of day has not been set previously, the console will prompt for the current time of day setting.

Set Time

- <**SET TIME**> is used to set the current time displayed on the scoreboard (determined by the <**DISPLAY TIME**> keys.) If time is not displayed on the scoreboard, <**SET TIME**> sets the current race time. This key is disabled if the scoreboard timer is running.

Reset

- <**RESET**> resets the race timer and best lap time value for a new competitor.

Position

- <**SET CAR POSITION**> can be used to rapidly set the car numbers corresponding to a series of race positions. Enter the first position to change and <**ENTER**>, followed by the new car number for that position. Each press of the <**ENTER**> key selects the next position for editing. Press <**ENTER**> a second time to exit the function.
- <**1ST PLACE**>, <**2ND PLACE**>, (etc.) keys are used to set the car number associated with the selected place.
- <**SWAP 1ST 2ND**>, <**SWAP 2ND 3RD**>, (etc.) keys are used to swap the car numbers in the places listed on the key. This key can be used when one car passes another.

Single-Lane Track Photocell Timing

Note: This guide is used only with **Overlay 0G-139399**.

Startup

- Turn the power switch "ON."
- At the **Resume Game? Y/N** prompt:
    - Press <**ENTER /YES**> to resume race where last shut off;
    - or -
    - Press <**CLEAR/NO**> to enter a new code number (or start a new race with the same code number).

Photocells

- <**PHOTOCELLS**> displays the status of all photocell inputs on the LCD. This key can be used when aligning photocells.

Display Time Keys

- <**DISPLAY TIME**> displays the race time on the scoreboard in the Current Time/Time of Day combination digits.
- <**DISPLAY TIME OF DAY**> displays the current time of day. If the time of day has not been set previously, the console will prompt for the current time of day setting.

Set Time

- <**SET TIME**> is used to set the race time. This key is disabled if the race timer is running.

Reset

- <**RESET**> resets the race timer for a new competitor.

Placing

- <**SET CAR POSITION**> can be used to rapidly set the car numbers corresponding to a series of race places. Enter the first place to change and <**ENTER**>, followed by the new car number for that place. Each press of the <**ENTER**> key selects the next place for editing. Press <**ENTER**> a second time to exit the function.
- <**1ST PLACE**>, <**2ND PLACE**>, (etc.) keys are used to set the car number associated with the selected place.
- <**SWAP 1ST 2ND**>, <**SWAP 2ND 3RD**>, (etc.) keys are used to swap the car numbers in the places listed on the key. This key can be used when one competitor moves ahead of another in place order.
- <**RESET ALL PLACES**> resets all places to blank competitor numbers.

Multiple-Lane Photocell Timing

Note: This guide is used only with **Overlay 0G-143770**.

Startup

- Turn the power switch "ON."
- At the **Resume Game? Y/N** prompt:

▪ Press <**ENTER /YES**> to resume race where last shut off;
- or -
▪ Press <**CLEAR/NO**> to enter a new code number (or start a new race with the same code number).

Start Timer

- <**START TIMER**> starts the timer for the selected lane. This key is used only as a backup or test key.

Stop Timer

- <**STOP TIMER**> stops the timer for the selected lane. This key is used as a backup or test key.

Photocell Status

- <**PHOTOCELLS**> displays the status of all photocell inputs on the LCD. This key can be used when aligning photocells.

Reset Timer

- <**RESET TIMER**> resets the timers for all lanes in **Lane Timer** mode and clears the competitor number. In **Water Slide Timer** mode, only the lane number selected will be reset.

Comp #

- <**COMP #**> sets the current competitor number for the lanes 1 through 4.

Set Best Time

- <**SET BEST TIME**> is used to set the **Best Recorded Time** value.

Toggle Lane View On LCD

- <**TOGGLE LANE VIEW**> is used to select which lanes are shown on the LCD. Each keypress will toggle between lanes 1 and 2 or 3 and 4.

D.Q. Lane

- <**D.Q. LANE**> is used to disqualify a lane from the race. This key is only used in the **Lane Timer** mode.

Track Timing

Note: This guide is used only with **Insert LL–2587**.

Startup

- Turn the power switch "ON."
- At the **Resume Game? Y/N** prompt:

  - Press <**ENTER /YES**> to resume race where last shut off;
  - or -
  - Press <**CLEAR/NO**> to enter a new code number (or start a new race with the same code number).

Start

- <**START**> starts the timer for the selected lane. This key is used only as a backup or test key.

Lane ON/OFF

- Lane ON/OFF turns a lane OFF if ON, or ON if OFF. The LCD will display the status.

Lane Status

- <**LANE**> displays the status of the selected lane on the LCD.

Reset Timer

- <**RESET TIMER**> resets the timer and prepares the timer for the next race.

Home Guest 1,2,3 Score

- **<HOME> <GUEST 1> <GUEST 2><GUEST 3>** sets the score for the respective key.

Event, Heat

- <**EVENT**><**HEAT**> are used to set the event and heat values.

Display ON/OFF

- **<DISPLAY ON/OFF>** turns the scoreboards OFF if ON, or ON if OFF

Edit

- <**EDIT**> is used to edit the time of a lane. The time can only be edited if the timer is not reset.

Toggle Lane View On LCD

- <**TOGGLE LANE VIEW**> is used to select which lanes are shown on the LCD. Each keypress will toggle between lanes 1 and 2 or 3 and 4.

D.Q. Lane

- <**D.Q. LANE**> is used to disqualify a lane from the race. This key is only used in the **Lane Timer** mode.

Appendix I: Auto Racing Sport Codes

Scoreboard Model	Address	AMB Transponder	Manual	Oval Track Photo-cell Timing	Oval Track Posting	Lane Track Photo-cell
AR-2401	11	333	433	300	995	303
AR-2402	11	333	433	300	995	303
AR-2403	11	333, 336	433	300	995	303
AR-2404	11	333, 336	433	300	995	303
AR-2421	11	333	433	300	995	303
AR-2422	11	333	433	300	995	303
AR-2423	11, 12	333	433	300	995	303
AR-2424	11, 12, 13	333	433	300	995	303
AR-2425	11	333	433	300	995	303
AR-3604	11	333, 336	433	300	995	303
AR-3622-72	11	333	433	300	995	303
AR-3623-72	11, 12	333	433	300	995	303
AR-3624-72	11, 12, 13	333	433	300	995	303
CH-3001	11	333	433	300	995	303
CH-3002	11	333	433	300	995	303
CH-3003	11, 12	333	433	300	995	303
CH-3004	11, 12, 13	333	433	300	995	303
CH-2001/ CH-7001	11, 12, 13	301	401	---	---	---
CH-2002/ CH-7002	11, 12, 13	301	401	---	---	---
CH-2003/ CH-7003	11, 12, 13, 14, 15, 16	301	401	---	---	---
CH-2004/ CH-7004	14, 15, 16	301	401	---	---	---