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# 1 Introduction

This manual explains the operation of the All Sport<sup>®</sup> CG (Character Generator) with HD (High Definition) video input and output. For additional information regarding safety, installation, operation, or service, refer to the telephone numbers listed in **Section 5: Daktronics Exchange and Repair & Return Programs (p.17)**.

## Important Safety Instructions

- Read and understand all instructions before beginning the installation process.
- Do not drop the control equipment or allow it to get wet.
- Do not disassemble control equipment; failure to follow this safeguard will make the warranty null and void.
- Always unplug the control equipment when it is not in use. Never yank the power cord to pull the plug from the outlet. Grasp the plug and pull to disconnect.
- Do not let any power cord touch hot surfaces or hang over the edge of a table that would damage or cut the cord.
- If an extension cord is necessary, a three-pronged, polarized cord should be used. Arrange the cord with care so that it will not be tripped over or pulled out.
- Inspect console for shipping damage such as rattles and dents, and verify that all equipment is included as itemized on the packing slip. Immediately report any problems to Daktronics; save all packing materials if exchange is necessary.

## Resources

Figure 1 illustrates a Daktronics drawing label. This manual refers to drawings by listing the last set of digits. In the example, the drawing would be referred to as **DWG-1007804**. All references to drawing numbers, appendices, figures, or other manuals are presented in bold typeface. Any drawings referenced in a section are listed at the beginning of it as shown below:

DAKTRONICS, INC. BROOKINGS, SD 57006			57006	THIS DRAWING ARE DO NOT REPRODUCE	RESSED AND DETAILS SHOWN ON CONFIDENTIAL AND PROPRIETARY. BY ANY MEANS WITHOUT THE CONSENT OF DAKTRONICS, INC.
DO NO	F SCALE D	RAWIN	G	COPYRIGHT 2	010 DAKTRONICS, INC.
PROJ: DAKTRONI	CS				
TITLE: SYSTEM RI	TTLE: SYSTEM RISER DIAGRAM				
DESIGN:			DRAWN: APAGE		DATE: 11 MAY 10
SCALE: NONE					
SHEET	REV		JOB NO:	FUNC-TYPE-SIZE	(100700)
200	02	C1	7581	F-01-D	(100/804)
					$\sum$

Drawing Number



#### **Reference Drawing:**

System Riser Diagram......DWG-1007804

Daktronics identifies manuals by the DD or ED number located on the cover page.

## **Control Consoles**

The All Sport CG HD may be used with an All Sport<sup>®</sup> controller. These consoles use keyboard overlays (sports inserts) to control numerous sports/events and scoreboard models. Refer to the following manuals for operating instructions:

- All Sport 5000 Series Control Console Operation Manual (ED-11976)
- All Sport 5500 Series Control Console Operation Manual (ED-16809)

These manuals are provided on a CD with the control console, and they are also available online at <u>www.daktronics.com/manuals</u>.

## System Overview

The All Sport CG HD is an interface that receives footage from a High Definition video camera and overlays game-in-progress (GIP) data from an All Sport controller onto the video footage. The result is game video with scoring and timing information always visible, whether the footage is sent to a recording device, broadcasted over closed circuit TV, or streamed live over the Internet.

The connection between the All Sport controller and the All Sport CG can be either wire or radio. The radio option allows for more flexibility and fewer physical connections (an All Sport CG with the radio option can still use a wire connection as a backup if desired).

#### **System Requirements**

The All Sport CG system requires the following additional components (sold separately):

- High Definition video camera or HDMI source -720p 60Hz (HDCP not supported); 16:9 Aspect Ratio
- All Sport 5000 or 5500 control console (optional, but recommended)
- Recording device or video capture card

# 2 Setup

Use the tables and figures below to identify the various jacks that are used to connect components to the All Sport CG:

Jack	Description		
VIDEO IN (HDMI)	Receives the HDMI video feed from camera or other source.		
VIDEO OUT (HDMI)	Sends the HDMI video feed with overlaid game-in-progress information to recording device.		

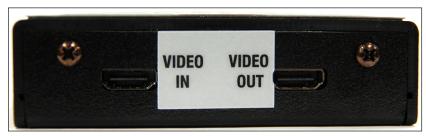


Figure 2: All Sport CG, Bottom View

Jack	Description
Antenna	<i>Radio Unit Only.</i> Receives game-in-progress information from the All Sport controller via wireless radio signal (both All Sport CG and control console must be equipped with optional radio kits).
<b>DATA</b> (DB9-M)	Receives the game-in-progress information from the All Sport controller via a direct wire connection.
CONTROL (DB9-F)	Receives firmware upgrade information; also used to output TV data feeds and upload custom graphics. Refer to <b>Appendix B</b> .
POWER	Receives power via power adapter.



Figure 3: All Sport CG, Top View

## **Power Connection**

The All Sport CG receives power from a standard 120 VAC outlet via a power adapter to the **POWER** jack on top of the All Sport CG. Plugging in and disconnecting the power adapter will power the unit on and off.

When first powered on, the unit performs the standard boot-up sequence shown below:



X.Y = Firmware Version Number

## Video Camera Connection

The connection between the camera or video source and the All Sport CG is always via wire. The video signal is carried via HDMI cable from the **VIDEO OUT** jack on the video camera to the **VIDEO IN** jack on the bottom of the All Sport CG.

**Note:** If the video camera only outputs an SDI signal, an SDI-to-HDMI converter is required between the video camera and the All Sport CG HDMI input (Daktronics part # A-3018).

## **Recording Device Connection**

The connection between the recording device and All Sport CG is always via wire. An HDMI cable sends the combined data via a connection from the **VIDEO OUT** jack on the bottom of the All Sport CG to the **VIDEO IN** jack on the recording device.

**Note:** If the recording device only has an SDI signal input, an HDMI-to-SDI converter is required between the recording device and the All Sport CG HDMI output (Daktronics part # A-3313901).

## All Sport Controller Connection

There are three ways to get scoring information into the All Sport CG (each method is also detailed in **DWG-3192029** located in **Appendix A**):

- Wire connection between the All Sport CG and the All Sport controller
- Wireless radio signal between the All Sport CG and the All Sport controller
- All Sport CG used manually (no All Sport controller required)

#### Wire Connection

For a wire connection, game-in-progress data is sent through a cable from the 1/4" phone jack (**J1**, **J2**, or **J3**) on the back of the All Sport 5000 or 5500 controller to the 9-pin **DATA** port on top of the All Sport CG.

### **Wireless Radio Connection**

When the wireless radio option is used, game-in-progress data is sent via radio signal from the All Sport 5000 or 5500 controller equipped with a radio transmitter to the All Sport CG with a radio receiver. The radio signal has a communication distance of up to 500' (152 m) indoor or 1500' (457 m) outdoor with a clear line of sight.

If an internal radio is detected when the All Sport CG is turned on, the operator will be prompted for a Broadcast Group. Enter the corresponding Broadcast Group setting from the All Sport controller, and then press **<ENTER \*/EDIT>**.

Next, a prompt will appear to enter the Channel Number. Enter the corresponding Channel Number setting from the All Sport controller, and then press **<ENTER \*/EDIT>**. BROADCAST GROUP FOR RADIO Ø\*

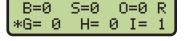
CHANNEL NUMBER FOR RADIO Ø\*

Refer to the appropriate All Sport controller operation manual listed in **Control Consoles** (p.1) for detailed instructions on selecting the proper Broadcast Group and Channel Number being used to control the scoreboard.

### Radio Connection Status

When a wireless All Sport CG is successfully connected to a console via radio, an "R" displays in the upper-right corner of the LCD.

If a wireless All Sport CG cannot find a radio with the specified Broadcast Group and Channel numbers, a "?" is shown in the upper-right corner of the LCD.



B=0	S=0	0=0	?
*G= 0	H=	0 I=	1

### No All Sport Connection

If no All Sport controller is available for use with the All Sport CG, such as for a road game, it's possible to operate in Manual Mode. Refer to **Manual Mode (p.8)**.

## Data Broadcast Unit

#### **Reference Drawings:**

Quick Install Guide: All Sport CG-HD	.DWG-3192029
Truck Dock Data Broadcast Schematic	. DWG-3642883
Schematic; Truck Dock Data Broadcast 1 RU Shelf	DWG-4252992

If the facility requires more than one TV feed output, the Data Broadcast Unit (Daktronics part # 0A-1196-0314/9) may be used. This 2RU rack-mount unit (**Figure 4**) provides up to 8 serial data outputs to third-party character generators. The All Sport CG slides out of the front for easy access to the keypad.



#### Figure 4: Data Broadcast Unit

Wired current loop signal from the All Sport terminates at the TB31 terminal block. Alternately, fiber optic signal from a current loop to fiber converter (*not provided by Daktronics*) may be terminated at the fiber to current loop converter. Refer to **Figure 5**.

The complete shelf assembly requires three separate power connections: 1) the 8-port broadcast unit, 2) the All Sport CG, and 3) the fiber to current loop converter.

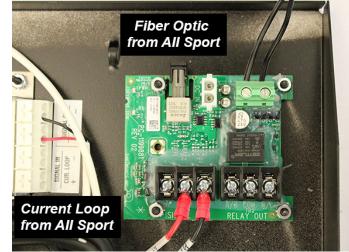


Figure 5: Data Broadcast Unit - All Sport Signal Connections

For more information about power/signal connections in and out of the Data Broadcast Unit, refer to **DWG-3192029** and **DWG-4252992**.

Note: For Data Broadcast Units built prior to June 2019, refer instead to DWG-3642883. (Daktronics part numbers 0A-1196-0279 and -0292)

# 3 Operation

There are two primary modes in which the All Sport CG can operate:

- Automatic Mode: Game data is received from the All Sport controller using a wire connection or wireless radio signal. Refer to All Sport Controller Connection (p.4).
- Manual Mode: Game data is generated using the keypad, without using an All Sport controller.

Some of the menu options can be adjusted in both modes, while others are for Manual mode only.

## Menu Options

- Press <MENU> to access the setup options.
- Use  $<\uparrow>$  and  $<\downarrow>$  to move between menu items.
- Press **<MENU>** again at any time to exit.

#### New Game

Press **<ENTER \*/EDIT>** to clear all of the information out of the current game.

NEW GAME ENTER TO MODIFY

Note: This action is only available in Manual mode and cannot be undone!

### Home and Guest Team Names

To enter team names, use the Alpha-Numeric insert printed on the back of the sport insert. Press **<ENTER \*/EDIT>** to modify the team name. The currently selected letter will flash. Use the keypad to type in a name or abbreviation for the team (up to 10 characters). After entering a team name, press **<ENTER \*/EDIT>** to save.



These menu items can be set in both Automatic and Manual modes.

**Note:** Team names must be configured on the All Sport CG when it is used in Manual mode. The All Sport 5000 and 5500 controllers can output team names as part of the data transferred to the All Sport CG.

#### Alpha-Numeric Keypad Insert

The All Sport CG has an alpha-numeric keypad insert used for entering team names.

Entering words is identical to that of a touchtone phone, with no letters on key 1, and the rest of the letters assigned in groups on keys 2–9. Press 0 to insert a space. When prompted to enter text, the LCD will display a flashing cursor. Type in the name and press **<ENTER \*/EDIT>** to save the changes. Other helpful hints:

- If a key is pressed too many times and a character is missed, simply keep pressing the key until it appears again.
- If an error is made when entering a character, press **<CLEAR>** or use **<>** to go back to the previous character.
- Pressing a different key for one of the other characters will immediately start entry at the next location.

## Operation

- To avoid waiting for the character to quit flashing to enter another from the same key, press <1> to immediately move to the next location.
- To edit a specific character, use  $<\uparrow>$  and  $<\downarrow>$  to move back and forth.

#### Select Sport

When using the All Sport CG in Manual mode, the current sport needs to be selected. Press **<ENTER \*/EDIT>** and press **<**^> and **<**<> to toggle between the available sports. Press **<ENTER \*/EDIT>** again to select a sport.

**Note:** The sport can only be selected in Manual mode. When connected to an All Sport controller, the sport is selected automatically (if it can be detected).

#### Select Mode

Press **<ENTER** \*/**EDIT>** and then press **<>** and **<>** to toggle between MANUAL and AUTOMATIC modes. Press **<ENTER** \*/**EDIT>** again to select a mode.

SELECT MODE ENTER TO MODIFY

SELECT SPORT

ENTER TO MODIFY

On power up, the All Sport CG will set the mode to Automatic if an All Sport controller is detected and the sport can be determined.

If the setup contains an All Sport controller, the mode needs to be set to Automatic in order to receive game data from the control console. When the All Sport CG is set to Automatic, the output data cannot be changed by using the keypad.

The mode needs to be set to Manual in order to operate the All Sport CG when a control console is not available. Also, the mode can be switched to Manual at any time to override and ignore the data from a connected controller.

## Select Input

Press **<ENTER** \*/**EDIT>** and then press **<** $\uparrow$ > and **<** $\downarrow$ > to toggle between WIRE and RADIO inputs. Press **<ENTER** \*/**EDIT>** again to select an input type.

SELECT INPUT ENTER TO MODIFY

On power up, the All Sport CG will set the Input to the source that first detects an All Sport.

**Note:** This menu item is only available for editing when the All Sport CG is in Automatic mode and an internal radio is detected.

## **Overlay Location**

By default, scoring information from the All Sport CG is displayed across the top of the video output. To change this location, press **<ENTER \*/EDIT>** and press **<**1> and **<**1> to toggle between Very Top, Top (default), Bottom, and Very Bottom. Press **<ENTER \*/EDIT>** again to save.

OVERLAY LOCATION ENTER TO MODIFY

## Automatic Mode

Operation of the All Sport CG is simple when connected to an All Sport controller. The All Sport CG receives game data via wire or wireless radio from the control console and overlays it onto the video feed in real time. The All Sport CG is automatically set to the same sport as the control console and all information is received directly from it.

When the All Sport CG is set to Automatic mode, it will search for a signal from the All Sport controller. If the controller is not connected, the LCD displays the message:



The only direct operation required is configuring the Broadcast Group and Channel Number for use with a radio control console. Refer to **All Sport Controller Connection (p.4)** and the appropriate All Sport controller operation manual for more information.

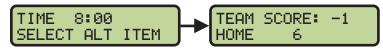
## Manual Mode

When using Manual mode, the All Sport CG does not have an external source for game data, so all information must be entered by hand with the keypad. The All Sport CG uses removable inserts to denote which button has what function for the particular sport mode. The buttons that apply to all sports include **<MENU>** and **<** $\uparrow$ **>** and **<** $\downarrow$ **>** navigation. Each sport also has buttons with specific functions as described in the following sections.

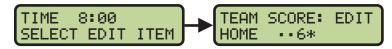
## Scoring

Each sport has two to six buttons on the keypad insert used for keeping score. Press these buttons to increment, or add to, the score by the value printed on the insert. TEAM SCORE: +1 HOME 7

To decrement, or subtract, points from the home team, press **<CLEAR/ALT>** then **<HOME SCORE +1/-1>**. To decrement points from the guest team, press **<CLEAR/ALT>** then **<GUEST SCORE +1/-1>**. Only one point can be subtracted from either team at a time.



Scores can be quickly set to any value by pressing **<ENTER\*/EDIT>** followed by any of the scoring buttons. Use the keypad to type in the value, and then press **<ENTER\*/EDIT>** again to save.



## Timing

Every sport besides baseball and tennis has a timing function. Press **<SET TIME\*>** and use the keypad to type in the value. Press **<ENTER\*/EDIT>** again to save.

TIME	EDIT	SET
CURR	• 8:1	90*

The clock can also be set to count up or count down (default). Press **<CLEAR/ALT>** followed by **<SET TIME\*>**, and then press **<1>** to count up or **<2>** to count down.



- To start the clock, press **<START/**<sup>></sup>.
- To stop the clock, press **<STOP/**↓>.

## Baseball

The following buttons and functions are unique to the baseball sport mode.

B=0 *G= 0	S=0	0=0	
*G= 0	H=	0 I=	1

#### **Baseball Scoring Output:**



#### Ball

- Press <BALL +1/-1> to increment the ball number.
- Press **<CLEAR/ALT>** followed by **<BALL +1/-1>** to decrement the ball number.
- Press **<ENTER\*/EDIT>** followed by **<BALL +1/-1>** to edit the ball number. Use the keypad to type in the value, and then press **<ENTER\*/EDIT>** again to save.
- Press **<CLEAR BALL & STRIKE>** to remove all ball (and strike) information.

#### Strike

- Press **<STRIKE +1/-1>** to increment the strike number.
- Press <CLEAR/ALT> followed by <STRIKE +1/-1> to decrement the strike number.
- Press **<ENTER\*/EDIT>** followed by **<STRIKE +1/-1>** to edit the strike number. Use the keypad to type in the value, and then press **<ENTER\*/EDIT>** again to save.
- Press <CLEAR BALL & STRIKE> to remove all strike (and ball) information.

#### Out

- Press **<OUT +1/-1>** to increment the out number.
- Press <CLEAR/ALT> followed by <OUT +1/-1> to decrement the out number.
- Press **<ENTER\*/EDIT>** followed by **<OUT +1/-1>** to edit the number of outs. Use the keypad to type in the value, and then press **<ENTER\*/EDIT>** again to save.

#### Runs

- Press <**GUEST RUNS +1/-1>** or <**HOME RUNS +1/-1>** to increment the number of runs for the respective team.
- Press **<CLEAR/ALT>** followed by **<GUEST RUNS +1/-1>** or **<HOME RUNS +1/-1>** to decrement the number of runs for the respective team.
- Press <ENTER\*/EDIT> followed by <GUEST RUNS +1/-1> or <HOME RUNS +1/-1> to edit the number of runs for the respective team. Use the keypad to type in the value, and then press <ENTER\*/EDIT> again to save.

#### Inning

- Press <INNING +1/-1> to increment the inning number.
- Press **<CLEAR/ALT>** followed by **<INNING +1/-1>** to decrement the inning number.
- Press **<ENTER\*/EDIT>** followed by **<INNING +1/-1>** to edit the inning number. Use the keypad to type in the value, and then press **<ENTER\*/EDIT>** again to save.

#### Operation 9

At Bat

• Press **<AT BAT>** to toggle between GUEST AT BAT and HOME AT BAT. The current team up to bat will have an asterisk (\*).



#### Batter Number

 Press <BATTER NUMBER> to edit the current batter. Use the keypad to type in the player's jersey number, and then press <ENTER\*/EDIT> to save.

BATTER EDIT

Hit

- Press **<HIT>** to toggle between HIT ON and HIT OFF.
- Press **<CLEAR HIT & ERROR>** to remove all hit (and error) information.

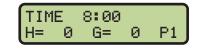
#### Error

- Press <ERROR> to indicate an error. Use the keypad to type in the player's position number, and then press <ENTER\*/EDIT> to save.
- Press <ERROR> again to toggle errors OFF.
- Press <CLEAR HIT & ERROR> to remove all error (and hit) information.

### Basketball

The following buttons and functions are unique to the basketball sport mode.





#### Basketball Scoring Output:



### Team Fouls

- Press <HOME FOULS +1/-1> or <GUEST FOULS +1/-1> to increment the number of team fouls for the respective team.
- Press **<CLEAR/ALT>** followed by **<HOME FOULS +1/-1>** or **<GUEST FOULS +1/-1>** to decrement the number of team fouls for the respective team.
- Press **<ENTER\*/EDIT>** followed by **<HOME FOULS +1/-1>** or **<GUEST FOULS +1/-1>** to edit the number of team fouls for the respective team. Use the keypad to type in the value, and then press **<ENTER\*/EDIT>** again to save.
- Press **<CLEAR TEAM FOULS>** followed by **<ENTER\*/EDIT>** to remove all team foul information for both the home and guest teams.



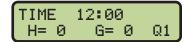
#### Period

- Press **<PERIOD +1/-1>** to increment the period number.
- Press <CLEAR/ALT> followed by <PERIOD +1/-1> to decrement the period number.
- Press **<ENTER\*/EDIT>** followed by **<PERIOD +1/-1>** to edit the period number. Use the keypad to type in the value, and then press **<ENTER\*/EDIT>** again to save.

Note: The shot clock only appears in AUTOMATIC MODE.

#### Football

The following buttons and functions are unique to the football sport mode.



#### Football Scoring Output:



#### Ball On

Press <BALL ON\*> to set the current yard line of the ball.
 Use the keypad to type in the value, and then press
 <ENTER\*/EDIT> to save.



TO GO: EDIT

• • \*

#### Down

- Press **<DOWN +1/-1>** to increment the down number.
- Press <CLEAR/ALT> followed by <DOWN +1/-1> to decrement the down number.
- Press **<ENTER\*/EDIT>** followed by **<DOWN +1/-1>** to edit the down number. Use the keypad to type in the value, and then press **<ENTER\*/EDIT>** again to save.

#### Yards To Go

 Press <YARDS TO GO\*> to edit the number of yards for a first down. Use the keypad to type in the value, and then press <ENTER\*/EDIT> to save.

#### Possession

 Press <CLEAR/ALT> followed by <HOME SCORE +6/POSS> or <GUEST SCORE +6/POSS> to set the possession for the respective team. Press the same button again to remove the possession.

#### Quarter

- Press <QUARTER +1/-1> to increment the quarter number.
- Press <CLEAR/ALT> followed by <QUARTER +1/-1> to decrement the quarter number.
- Press **<ENTER\*/EDIT>** followed by **<QUARTER +1/-1>** to edit the quarter number. Use the keypad to type in the value, and then press **<ENTER\*/EDIT>** again to save.

Note: The play clock only appears in AUTOMATIC MODE.

## Hockey/Lacrosse/Field Hockey

The following buttons and functions are unique to the hockey and lacrosse sport modes. This mode may also be used for scoring field hockey.

TIME	15:00	
H= 0	G= 0	P=1

#### Hockey/Lacrosse Scoring Output:



#### Shots On Goal

- Press either home or guest **<SHOTS ON GOAL +1/-1>** to increment the number of shots on goal for the respective team.
- Press **<CLEAR/ALT>** followed by either home or guest **<SHOTS ON GOAL +1/-1>** to decrement the number of shots on goal for the respective team.
- Press **<ENTER\*/EDIT>** followed by either home or guest **<SHOTS ON GOAL +1/-1>** to edit the number of shots on goal for the respective team. Use the keypad to type in the value, and then press **<ENTER\*/EDIT>** again to save.

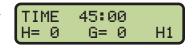
#### Period

- Press **<PERIOD +1/-1>** to increment the period number.
- Press **<CLEAR/ALT>** followed by **<PERIOD +1/-1>** to decrement the period number.
- Press **<ENTER\*/EDIT>** followed by **<PERIOD +1/-1>** to edit the period number. Use the keypad to type in the value, and then press **<ENTER\*/EDIT>** again to save.

Note: The shot clock only appears in AUTOMATIC MODE for lacrosse when using sport codes 4602, 4603, 4702, or 4703.

#### Soccer

The following buttons and functions are unique to the soccer sport mode.



#### Soccer Scoring Output:



#### Shots On Goal

- Press either home or guest **<SHOTS ON GOAL +1/-1>** to increment the number of shots on goal for the respective team.
- Press **<CLEAR/ALT>** followed by either home or guest **<SHOTS ON GOAL +1/-1>** to decrement the number of shots on goal for the respective team.
- Press **<ENTER\*/EDIT>** followed by either home or guest **<SHOTS ON GOAL +1/-1>** to edit the number of shots on goal for the respective team. Use the keypad to type in the value, and then press **<ENTER\*/EDIT>** again to save.

Half

- Press <HALF +1/-1> to increment the half number.
- Press <CLEAR/ALT> followed by <HALF +1/-1> to decrement the half number.
- Press **<ENTER\*/EDIT>** followed by **<HALF +1/-1>** to edit the half number. Use the keypad to type in the value, and then press **<ENTER\*/EDIT>** again to save.

#### Operation 12

### Tennis

The following buttons and functions are unique to the tennis sport mode.

#### TOP= 0 0 BOT= 0 0 C1

#### Tennis Scoring Output:



#### Serve

• Press **<SERVE>** in the appropriate TOP or BOTTOM key group to turn the serve on or off.



#### Point

- Press **<POINT/DEC>** in the appropriate TOP or BOTTOM key group to increment the number of points for the top or bottom.
- Press **<CLEAR/ALT>** followed by **<POINT/DEC>** in the appropriate TOP or BOTTOM key group to decrement the number of points for the top or bottom.
- Press <ENTER\*/EDIT> followed by <POINT/DEC> in the appropriate TOP or BOTTOM key
  group to edit the number of points for the top or bottom. Use the keypad to type in
  the value, and then press <ENTER\*/EDIT> again to save.

#### Games Won

- Press <GAMES WON +1/-1> in the appropriate TOP or BOTTOM key group to increment the number of games won for the top or bottom.
- GAMES WON- +1 SET 1 TOP 1
- Press <CLEAR/ALT> followed by <GAMES WON +1/-1> in the appropriate TOP or BOTTOM key group to decrement the number of games won for the top or bottom.
- Press <ENTER\*/EDIT> followed by <GAMES WON +1/-1> in the appropriate TOP or BOTTOM key group to edit the number of games won for the top or bottom. Use the keypad to type in the value, and then press <ENTER\*/EDIT> again to save.

#### Reset Game

• Press **<RESET GAME/MATCH>** followed by **<ENTER\*/EDIT>** to reset the scores for both sides in the current set.



#### Reset Match

• Press <CLEAR/ALT> followed by <RESET GAME/MATCH> followed by <ENTER\*/EDIT> to reset the scores and sets for both sides in the current match.



Tie Break

- Press **<TIE BREAK>** to enter the tie break mode. This mode allows for entering individual points one at a time.
- Use the **Reset Game** function to return to normal operation.

#### Deuce

• Press **<DUECE>** to quickly set both top and bottom point values to 40.

Set

- Press **<SET +1/-1>** to increment the set number.
- Press <CLEAR/ALT> followed by <SET +1/-1> to decrement the set number.
- Press **<ENTER\*/EDIT>** followed by **<SET +1/-1>** to edit the set number. Use the keypad to type in the value, and then press **<ENTER\*/EDIT>** again to save.

**Note:** The LCD shows the games won for up to 3 sets, but the All Sport CG is capable of scoring 5 sets in a match. After 3 sets, the current set number is visible only when adjusting the games won.

SELECT COURT

ENTER TO MODIFY

1:00

G= 0

S1

TIME H= 0

HOME SERVE

SETS WON: +1

1

ON

HOME

#### Select Court

When connected to DakTennis software, press **<MENU>** to access the Select Court setting. Use the keypad to type in the desired court number from 1 to 12, and then press **<ENTER\*/EDIT>** to save. The court number is displayed in the lower-right corner of the LCD.

#### Volleyball

The following buttons and functions are unique to the volleyball sport mode.

#### Volleyball Scoring Output:



#### Home/Guest Serve

• Press **<SERVE>** under the appropriate team to turn the serve on or off.

#### Sets Won

- Press **<SETS WON +1/-1>** under the appropriate team to increment the number of sets won.
- Press <CLEAR/ALT> followed by <SETS WON +1/-1> under the appropriate team to decrement the number of sets won.
- Press **<ENTER\*/EDIT>** followed by **<SETS WON +1/-1>** under the appropriate team to edit the number of sets won. Use the keypad to type in the value, and then press **<ENTER\*/EDIT>** again to save.

Set

- Press <SET +1/-1> to increment the set number.
- Press <CLEAR/ALT> followed by <SET +1/-1> to decrement the set number.
- Press **<ENTER\*/EDIT>** followed by **<SET +1/-1>** to edit the set number. Use the keypad to type in the value, and then press **<ENTER\*/EDIT>** again to save.



### Wrestling

The following buttons and functions are unique to the wrestling sport mode.

TIME	2:00	
H= 0	G= 0	P1

#### Wrestling Scoring Output:



#### Team Score

- Press <HOME TEAM +1/-1> or <GUEST TEAM +1/-1> to increment the team score for the respective team.
- Press <**CLEAR/ALT>** followed by <**HOME TEAM +1/-1>** or <**GUEST TEAM +1/-1>** to decrement the team score for the respective team.
- Press <ENTER\*/EDIT> followed by <HOME TEAM +1/-1> or <GUEST TEAM +1/-1> to edit the team score for the respective team. Use the keypad to type in the value, and then press <ENTER\*/EDIT> again to save.

#### Match Score

- Press <HOME MATCH +1/-1> or <GUEST MATCH +1/-1> to increment the match score for the respective team by 1.
- Press **<HOME MATCH +2/+3>** or **<GUEST MATCH +2/+3>** to increment the match score for the respective team by 2.
- Press **<CLEAR/ALT>** followed by **<HOME MATCH +2/+3>** or **<GUEST MATCH +2/ +3>** to increment the match score for the respective team by 3.
- Press **<CLEAR/ALT>** followed by **<HOME MATCH +1/-1>** or **<GUEST MATCH +1/-1>** to decrement the match score for the respective team.
- Press <ENTER\*/EDIT> followed by any <MATCH> key to edit the match score for the respective team. Use the keypad to type in the value, and then press <ENTER\*/EDIT> again to save.

#### Period

- Press <PERIOD +1/-1> to increment the period number.
- Press <CLEAR/ALT> followed by <PERIOD +1/-1> to decrement the period number.
- Press **<ENTER\*/EDIT>** followed by **<PERIOD +1/-1>** to edit the period number. Use the keypad to type in the value, and then press **<ENTER\*/EDIT>** again to save.

## 4 Troubleshooting

The Daktronics All Sport CG connects a control console and video equipment with a device used to record and display the information. To do this properly, the devices must be connected correctly.

A combination TV/recording device allows the operator to view the final output as it is recorded. By seeing the output on screen, the operator knows instantly if there is not a proper connection and what part of the system is not working.

Use the following suggestions to troubleshoot some of the more common problems that may occur with the All Sport CG system.

## Troubleshooting Table

Problem	Possible Solution
All Sport CG does not turn on.	• Ensure the power adapter is plugged into the wall outlet and connected to the All Sport CG.
	• Ensure the wall outlet has power (breaker is not off).
	Check the connection between the video source and the All Sport CG.
Video feed does not show on	• Check the connection between the All Sport CG and the recording device.
the output.	<ul> <li>Ensure the video input supports 720p (HDMI-to-DVI converters are not supported).</li> </ul>
	• Ensure the video equipment is ON and working. Refer to the video equipment user's manual for further troubleshooting.
Video does not record	• Ensure the recording device is ON and working. Refer to the recording device user's manual for further troubleshooting.
	• Ensure that the video media is not copy protected.
	Check the wired or wireless connection between the All Sport controller and the All Sport CG is in Automatic mode.
Game-in-progress information does not show on the output.	• Ensure All Sport CG is set to a sport whether in Manual or Automatic mode.
	• Ensure the All Sport controller is ON and a code number has been entered.

## **Replacement Parts**

Description	Part Number
Cable; 20', 9 pin-D-Female to 1/4" Phone	0A-1196-0146
SDI-to-HDMI Converter (Optional)	A-3018
HDMI-to-SDI Converter (Optional)	A-3313901
Power Supply; 18 VDC Wallpack, 6' Cord	A-3430138
Power Supply; 12 VDC Wallpack (International)	A-4252021
All Sport CG Inserts	LL-2612
Cable; 6' HDMI Male-to-Male	W-2316

# 5 Daktronics Exchange and Repair & Return Programs

## Exchange Program

The Daktronics Exchange Program is a service for quickly replacing key components in need of repair. If a component fails, Daktronics sends a replacement part to the customer who, in turn, returns the failed component to Daktronics. This decreases equipment downtime. Customers who follow the program guidelines explained below will receive this service.

Before contacting Daktronics, identify these important numbers:

Display Serial Number:

Display Model Number: \_\_\_\_\_

Job/Contract Number: \_\_\_\_\_

Date Manufactured/Installed: \_\_\_\_\_

#### Daktronics Customer ID Number: \_\_\_\_\_

To participate in the Exchange Program, follow these steps:

#### 1. Call Daktronics Customer Service.

United States & Canada: 1-800-DAK-TRON (325-8766)

Outside the U.S. & Canada: +1-605-275-1040

2. When the new exchange part is received, mail the old part to Daktronics.

If the replacement part fixes the problem, send in the problem part being replaced.

- **a.** Package the old part in the same shipping materials in which the replacement part arrived.
- **b.** Fill out and attach the enclosed UPS shipping document.
- c. Ship the part to Daktronics.

# 3. The defective or unused parts must be returned to Daktronics within 5 weeks of initial order shipment.

If any part is not returned within five (5) weeks, a non-refundable invoice will be presented to the customer for the costs of replenishing the exchange parts inventory with a new part. Daktronics reserves the right to refuse parts that have been damaged due to acts of nature or causes other than normal wear and tear.

## Repair & Return Program

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

#### 1. Call Daktronics Customer Service.

United States & Canada: 1-800-DAK-TRON (325-8766)

Outside the U.S. & Canada: +1-605-275-1040

#### 2. Receive a case number before shipping.

This expedites repair of the part.

#### 3. Package and pad the item carefully to prevent damage during shipment.

Electronic components, such as printed circuit boards, should be placed in an antistatic bag before boxing. Daktronics does not recommend using packing peanuts when shipping.

#### 4. Enclose:

- name
- address
- phone number
- the case number
- a clear description of symptoms

#### 5. Ship to:

Daktronics Customer Service

[Case #]

201 Daktronics Drive, Dock E

Brookings, SD 57006

## Daktronics Warranty & Limitation of Liability

The Daktronics Warranty & Limitation of Liability is located at the end of this manual. The Warranty is independent of Extended Service agreements and is the authority in matters of service, repair, and display operation.

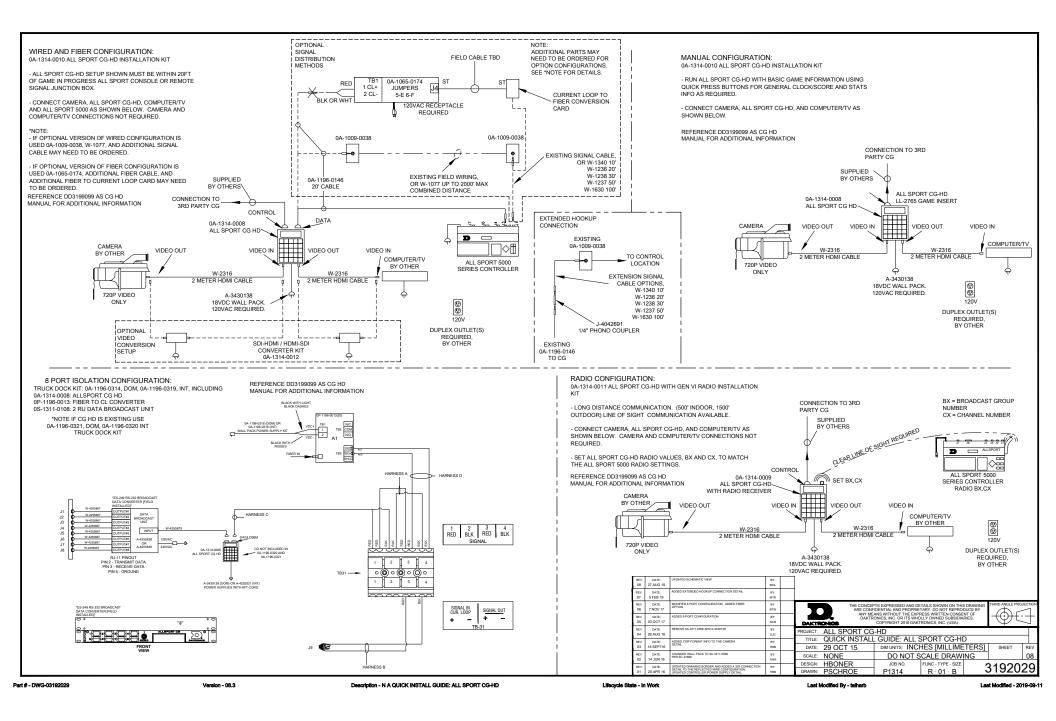
# A Reference Drawings

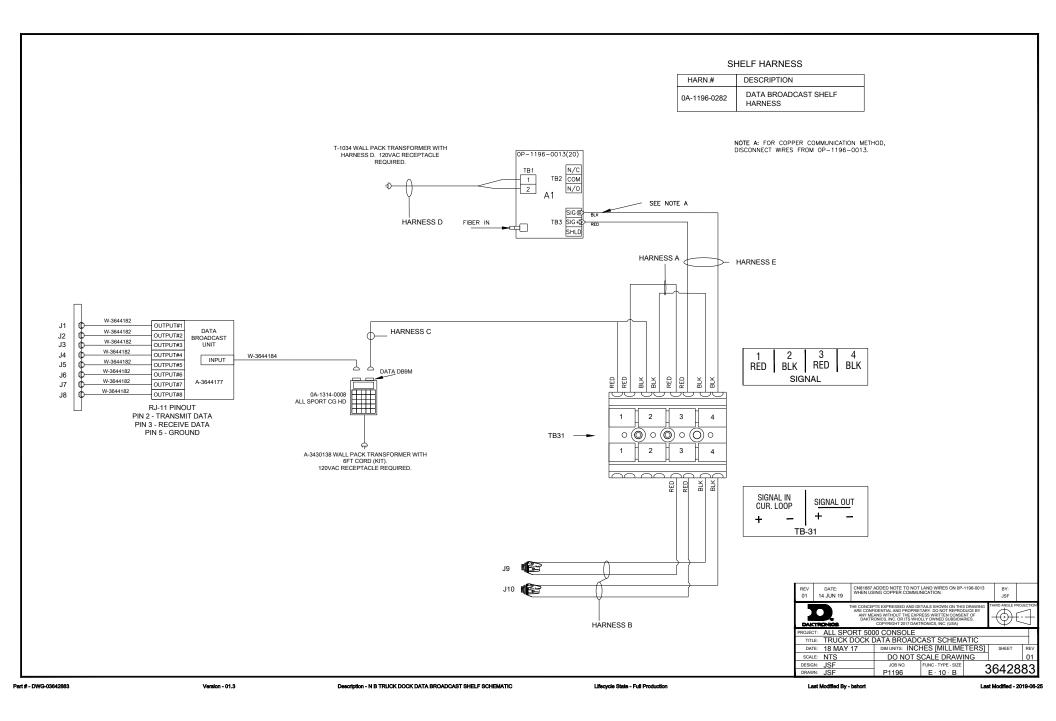
Refer to **Resources (p.1)** for information regarding how to read the drawing number. Any contract-specific drawings take precedence over the general drawings.

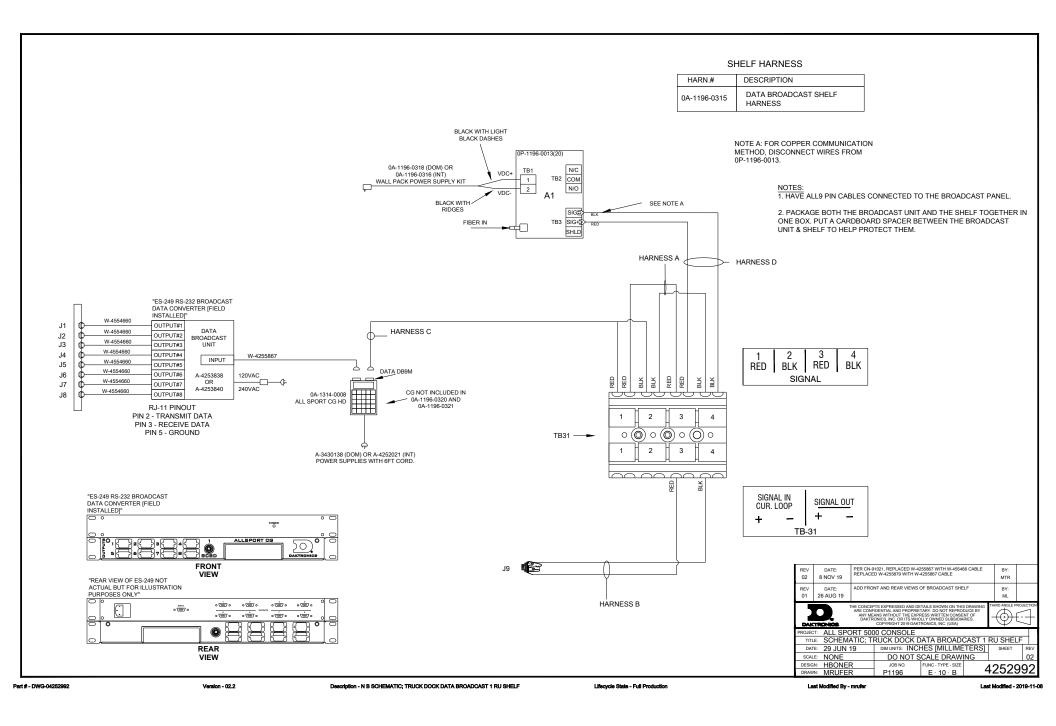
#### **Reference Drawings:**

Quick Install Guide: All Sport CG-HD	DWG-3192029
Truck Dock Data Broadcast Schematic	
Schematic; Truck Dock Data Broadcast 1 RU Shelf	DWG-4252992

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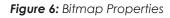
## **B** Uploading Bitmap Images to the All Sport CG

#### Requirements

- All Sport CG and power adapter
- Computer loaded with HyperTerminal, Tera Term, or similar application
- One open serial (COM) port (or USB-to-Serial adaptor and one open USB port)
- Serial cable with DB9 female to DB9 male (modem or straight-through cable)
- Bitmap File (.bmp) created using the parameters shown in **Figure 6** 
  - Go to Start > All Programs > Accessories > Paint.
  - Click the **Paint** button and select **Properties**.
  - Save the file as **24-bit Bitmap**.

#### TeraTerm Procedure

Image Properties x File Attributes Last Saved: 10/29/2015 2:22 PM Size on disk: 45.1KB Resolution: 72 DPI Units Colors Inches Black and white Centimeters Color <u>Pixels</u> Width: 240 Height: 48 <u>D</u>efault OK Cancel



- 1. Ensure the All Sport CG has been disconnected from the All Sport console. If there is a wireless radio connection, power off the All Sport console to ensure the devices do not automatically connect.
- 2. Connect the serial cable between a COM port on the computer (or USB-to-Serial adaptor) and the **CONTROL** port on the All Sport CG.
- Apply power to the All Sport CG using the supplied adapter and wait for "LOOKING FOR ALL SPORT" to appear on the LCD.
- Open Tera Term, and go to Setup > Serial Port Setup.
- 5. Set up the port as described below and as shown in Figure 7:
  - Port: the serial (COM) port that the All Sport CG is connected to
  - Baud rate: 115200
  - Data: 8 bit
  - Parity: none
  - Stop: 1 bit

Port: COM1 • 0K 115200 Baud rate: • Cancel Data: 8 bit • Parity: none Ŧ <u>H</u>elp Stop: 1 bit • Elow control: none Ŧ Transmit delay 0 msec/<u>c</u>har 0 msec/line

Figure 7: Tera Term Serial Port Setup

- Flow control: **none**
- Transmit delay: 0, 0

Click **OK** when finished.

6. Press [Enter] on the keyboard. "Unknown command" appears with "AllSportCG>" underneath to indicate proper connection of the computer and All Sport CG.

### Uploading Bitmap Images to the All Sport CG

- 7. Type in "#CB3" and press [Enter] on the keyboard to set the CG to 57600 baud rate. The CG will respond with "57600" and "AllSportCG>" underneath.
- 8. Go back to Setup > Serial Port Setup and select 57600 for the Baud rate.
- **9.** Press **[Enter]** on the keyboard, and the response "AllSportCG>" will appear. Now both devices are communicating on 57600 baud rate.
- **10.** Type in "BD" and press **[Enter]** on the keyboard. The message "Transfer file now" will appear.
- 11. Go to File > Transfer > XModem > Send.
- 12. Navigate to the bitmap image file created with the parameters shown in Figure 7 and click **Open**.
- **13.** Once the progress bar is complete, press **[Enter]** on the keyboard. "AllSportCG>" appears again to indicate the file transfer is complete.
- 14. Disconnect the serial cable from the All Sport CG and \*CYCLE POWER\* to return the device to normal operation and begin displaying the new graphic.

## C Daktronics Warranty & Limitation of Liability

This section includes the Daktronics Warranty & Limitation of Liability statement (SL-02374).

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## **DAKTRONICS** WARRANTY & LIMITATION OF LIABILITY

This Warranty and Limitation of Liability (the "Warranty") sets forth the warranty provided by Daktronics with respect to the Equipment. By accepting delivery of the Equipment, Purchaser and End User agree to be bound by and accept these terms and conditions. Unless otherwise defined herein, all terms within the Warranty shall have the same meaning and definition as provided elsewhere in the Agreement.

DAKTRONICS WILL ONLY BE OBLIGATED TO HONOR THE WARRANTY SET FORTH IN THESE TERMS AND CONDITIONS UPON RECEIPT OF FULL PAYMENT FOR THE EQUIPMENT

#### 1. Warranty Coverage.

A. Daktronics warrants to the original end user (the "End User", which may also be the Purchaser) that the Equipment will be free from Defects (as defined below) in materials and workmanship for a period of one (1) year (the "Warranty Period"). The Warranty Period shall commence on the earlier of: (i) four weeks from the date that the Equipment leaves Daktronics' facility; or (ii) Substantial Completion as defined herein. The Warranty Period shall expire on the first anniversary of the commencement date.

"Substantial Completion" means the operational availability of the Equipment to the End User in accordance with the Equipment's specifications, without regard to punch-list items, or other non-substantial items which do not affect the operation of the Equipment

- B. Daktronics' obligation under this Warranty is limited to, at Daktronics' option, replacing or repairing, any Equipment or part thereof that is found by Daktronics not to conform to the Equipment's specifications. Unless otherwise directed by Daktronics, any defective part or component shall be returned to Daktronics for repair or replacement. This Warranty does not include on-site labor charges to remove or install these components. Daktronics may, at its option, provide on-site warranty service. Daktronics shall have a reasonable period of time to make such replacements or repairs and all labor associated therewith shall be performed during regular working hours. Regular working hours are Monday through Friday between 8:00 a.m. and 5:00 p.m. at the location where labor is performed, excluding any holidays observed by Daktronics.
- C. Daktronics shall pay ground transportation charges for the return of any defective component of the Equipment. All such items shall be shipped by End User DDP Daktronics designated facility per Incoterms® 2020. If returned Equipment is repaired or replaced under the terms of this Warranty, Daktronics will prepay ground transportation charges back to End User and shall ship such items DDP End User's designated facility per Incoterms® 2020; otherwise, End User shall pay transportation charges to return the Equipment back to the End User and such Equipment shall be shipped Ex Works Daktronics designated facility per Incoterms® 2020. All returns must be pre-approved by Daktronics before shipment. Daktronics shall not be obligated to pay freight for any unapproved return. End User shall pay any upgraded or expedited transportation charges
- D. Any replacement parts or Equipment will be new or serviceably used, comparable in function and performance to the original part or Equipment and warranted for the remainder of the Warranty Period. Purchasing additional parts or Equipment from the Seller does not extend the Warranty Period.
- E. Defects shall be defined as follows. With regard to the Equipment (excepting LEDs), a "Defect" shall refer to a material variance from the design specifications that prohibit the Equipment from operating for its intended use. With respect to LEDs, "Defects" are defined as LED pixels that cease to emit light. Unless otherwise expressly provided, this Warranty does not impose any duty or liability upon Daktronics for partial LED pixel degradation. Notwithstanding the foregoing, in no event does this Warranty include LED pixel degradation caused by UV light. This Warranty does not provide for the replacement or installation of communication methods including but not limited to, wire, fiber optic cable, conduit, trenching, or for the purpose of overcoming local site interference radio equipment substitutions.

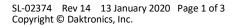
EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS WARRANTY, TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, DAKTRONICS DISCLAIMS ANY AND ALL OTHER PROMISES, REPRESENTATIONS AND WARRANTIES APPLICABLE TO THE EQUIPMENT AND REPLACES ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ACCURACY OR QUALITY OF DATA. OTHER ORAL OR WRITTEN INFORMATION OR ADVICE GIVEN BY DAKTRONICS, ITS AGENTS OR EMPLOYEES, SHALL NOT CREATE A WARRANTY OR IN ANY WAY INCREASE THE SCOPE OF THIS LIMITED WARRANTY.

THIS LIMITED WARRANTY IS NOT TRANSFERABLE.

#### 2. Exclusion from Warranty Coverage

This Warranty does not impose any duty or liability upon Daktronics for any:

- A. damage occurring at any time, during shipment of Equipment unless otherwise provided for in the Agreement. When returning Equipment to Daktronics for repair or replacement, End User assumes all risk of loss or damage, agrees to use any shipping containers that might be provided by Daktronics, and to ship the Equipment in the manner prescribed by Daktronics;
- **B.** damage caused by: (i)the improper handling, installation, adjustment, use, repair, or service of the Equipment, or (ii) any physical damage which includes, but is not limited to, missing, broken, or cracked components resulting from non-electrical causes;





## **DAKTRONICS** WARRANTY & LIMITATION OF LIABILITY

altered, scratched, or fractured electronic traces; missing or gauged solder pads; cuts or clipped wires; crushed, cracked, punctured, or bent circuit boards; or tampering with any electronic connections, provided that such damage is not caused by personnel of Daktronics or its authorized repair agents;

- C. damage caused by the failure to provide a continuously suitable environment, including, but not limited to: (i) neglect or misuse; (ii) improper power including, without limitation, a failure or sudden surge of electrical power; (iii) improper air conditioning, humidity control, or other environmental conditions outside of the Equipment's technical specifications such as extreme temperatures, corrosives and metallic pollutants; or (iv) any other cause other than ordinary use;
- **D.** damage caused by fire, flood, earthquake, water, wind, lightning or other natural disaster, strike, inability to obtain materials or utilities, war, terrorism, civil disturbance, or any other cause beyond Daktronics' reasonable control;
- E. failure to adjust, repair or replace any item of Equipment if it would be impractical for Daktronics personnel to do so because of connection of the Equipment by mechanical or electrical means to another device not supplied by Daktronics, or the existence of general environmental conditions at the site that pose a danger to Daktronics personnel;
- F. statements made about the product by any salesperson, dealer, distributor or agent, unless such statements are in a written document signed by an officer of Daktronics. Such statements as are not included in a signed writing do not constitute warranties, shall not be relied upon by End User and are not part of the contract of sale;
- **G.** damage arising from the use of Daktronics products in any application other than the commercial and industrial applications for which they are intended, unless, upon request, such use is specifically approved in writing by Daktronics;
- H. replenishment of spare parts. In the event the Equipment was purchased with a spare parts package, the parties acknowledge and agree that the spare parts package is designed to exhaust over the life of the Equipment, and as such, the replenishment of the spare parts package is not included in the scope of this Warranty;
- I. security or functionality of the End User's network or systems, or anti-virus software updates;
- J. performance of preventive maintenance;
- K. third-party systems and other ancillary equipment, including without limitation front-end video control systems, audio systems, video processors and players, HVAC equipment, batteries and LCD screens;
- L. incorporation of accessories, attachments, software or other devices not furnished by Daktronics; or
- M. paint or refinishing the Equipment or furnishing material for this purpose.

#### 3. Limitation of Liability

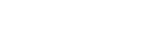
- A. Daktronics shall be under no obligation to furnish continued service under this Warranty if alterations are made to the Equipment without the prior written approval of Daktronics.
- B. It is specifically agreed that the price of the Equipment is based upon the following limitation of liability. In no event shall Daktronics (including its subsidiaries, affiliates, officers, directors, employees, or agents) be liable for any claims asserting or based on (a) loss of use of the facility or equipment; lost business, revenues, or profits; loss of goodwill; failure or increased cost of operations; loss, damage or corruption of data; loss resulting from system or service failure, malfunction, incompatibility, or breaches in system security; or (b) any special, consequential, incidental or exemplary damages arising out of or in any way connected with the Equipment or otherwise, including but not limited to damages for lost profits, cost of substitute or replacement equipment, down time, injury to property or any damages or sums paid to third parties, even if Daktronics has been advised of the possibility of such damages. The foregoing limitation of liability shall apply whether any claim is based upon principles of contract, tort or statutory duty, principles of indemnity or contribution, or otherwise
- C. In no event shall Daktronics be liable for loss, damage, or injury of any kind or nature arising out of or in connection with this Warranty in excess of the Purchase Price of the Equipment. The End User's remedy in any dispute under this Warranty shall be ultimately limited to the Purchase Price of the Equipment to the extent the Purchase Price has been paid.

#### 4. Assignment of Rights

A. The Warranty contained herein extends only to the End User (which may be the Purchaser) of the Equipment and no attempt to extend the Warranty to any subsequent user-transferee of the Equipment shall be valid or enforceable without the express written consent of Daktronics.

#### 5. Governing Law; Election of Remedies

- A. The rights and obligations of the parties under this Warranty shall not be governed by the provisions of the United Nations Convention on Contracts for the International Sales of Goods of 1980. The parties consent to the application of the laws of the State of South Dakota to govern, interpret, and enforce each of the parties' rights, duties, and obligations arising from, or relating in any manner to, the subject matter of this Warranty, without regard to conflict of law principles.
- B. Any dispute, controversy or claim arising from or related to this Warranty, the parties shall first attempt to settle through negotiations. In the event that no resolution is reached, then such dispute, controversy, or claim shall be resolved by final and binding arbitration under the Rules of Arbitration of the International Chamber of Commerce. The language of the arbitration



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## **DAKTRONICS** WARRANTY & LIMITATION OF LIABILITY

shall be English. The place of the arbitration shall be Sioux Falls, SD. A single arbitrator selected by the parties shall preside over the proceeding. If a single arbitrator cannot be agreed upon by the parties, each party shall select an arbitrator, and those arbitrators shall confer and agree on the appointed arbitrator to adjudicate the arbitration. The arbitrator shall have the power to grant any provisional or final remedy or relief that it deems appropriate, including conservatory measures and an award of attorneys' fees. The arbitrator shall make its decisions in accordance with applicable law. By agreeing to arbitration, the Parties do not intend to deprive any court of its jurisdiction to issue a pre-arbitral injunction, pre-arbitral attachment, or other order in aid of arbitration proceedings and the enforcement of any award. Without prejudice to such provisional remedies as may be available under the jurisdiction of a court, the arbitrator shall have full authority to grant provisional remedies and to direct the Parties to request that any court modify or vacate any temporary or preliminary relief issued by such court, and to award damages for the failure of any Party to respect the arbitrator's orders to that effect.

#### 6. Availability of Extended Service Agreement

A. For End User's protection, in addition to that afforded by the warranties set forth herein, End User may purchase extended warranty services to cover the Equipment. The Extended Service Agreement, available from Daktronics, provides for electronic parts repair and/or on-site labor for an extended period from the date of expiration of this warranty. Alternatively, an Extended Service Agreement may be purchased in conjunction with this Warranty for extended additional services. For further information, contact Daktronics Customer Service at 1-800-DAKTRONics (1-800-325-8766).

#### Additional Terms applicable to sales outside of the United States

The following additional terms apply only where the installation site of the Equipment is located outside of the United States of America.

 In the event that the installation site of the Equipment is in a country other than the U.S.A., then, notwithstanding Section 5 of the Warranty, where the selling entity is the entity listed in Column 1, then the governing law of this Warranty is the law of the jurisdiction listed in the corresponding row in Column 2 without regard to its conflict of law principles. Furthermore, if the selling entity is an entity listed in Column 1, then the place of arbitration is listed in the corresponding row in Column 3.

Column 1	Column 2	Column 3
(Selling Entity)	(Governing Law)	(Location of Arbitration)
Daktronics, Inc.	The state of Illinois	Chicago, IL, U.S.A.
Daktronics Canada, Inc.	The Province of Ontario, Canada	Toronto, Ontario, Canada
Daktronics UK Ltd.	England and Wales	Bristol, UK
Daktronics GmbH	The Federal Republic of Germany	Wiesbaden, Germany
Daktronics Hong Kong Limited	Hong Kong, Special Administrative Region of the P.R.C.	Hong Kong SAR
Daktronics Shanghai Co., Ltd.	The Peoples Republic of China	Shanghai, P.R.C.
Daktronics France, SARL	France	Paris, France
Daktronics Japan, Inc.	Japan	Tokyo, Japan
Daktronics International Limited	Macau, Special Administrative Region of the P.R.C.	Macau SAR
Daktronics Australia Pad Ltd	Australia	Sydney, Australia
Daktronics Singapore Pte. Ltd	Singapore	Singapore
Daktronics Brazil LTDA	Brazil	São Paulo, Brazil
Daktronics Spain S.L.U.	Spain	Madrid, Spain
Daktronics Belgium N. V	Belgium	Kruibeke, Belgium
Daktronics Ireland Co. Ltd.	Ireland	Dublin, Ireland



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