

# Daktronics T-7000 Series Touchpads

## Installation & Maintenance Manual

DD1953274

Rev 1 – 4 March 2011

# DAKTRONICS

Models	
T-7060	FT-7150
T-7078	FT-7190
T-7096	FT-7190T
	FT-7240T



Please fill in the information below to use for reference when calling Daktronics for assistance.

**Touchpad 1**

Date \_\_\_\_\_

Serial # \_\_\_\_\_

**Touchpad 11**

Date \_\_\_\_\_

Serial # \_\_\_\_\_

**Touchpad 2**

Date \_\_\_\_\_

Serial # \_\_\_\_\_

**Touchpad 12**

Date \_\_\_\_\_

Serial # \_\_\_\_\_

**Touchpad 3**

Date \_\_\_\_\_

Serial # \_\_\_\_\_

**Touchpad 13**

Date \_\_\_\_\_

Serial # \_\_\_\_\_

**Touchpad 4**

Date \_\_\_\_\_

Serial # \_\_\_\_\_

**Touchpad 14**

Date \_\_\_\_\_

Serial # \_\_\_\_\_

**Touchpad 5**

Date \_\_\_\_\_

Serial # \_\_\_\_\_

**Touchpad 15**

Date \_\_\_\_\_

Serial # \_\_\_\_\_

**Touchpad 6**

Date \_\_\_\_\_

Serial # \_\_\_\_\_

**Touchpad 16**

Date \_\_\_\_\_

Serial # \_\_\_\_\_

**Touchpad 7**

Date \_\_\_\_\_

Serial # \_\_\_\_\_

**Touchpad 17**

Date \_\_\_\_\_

Serial # \_\_\_\_\_

**Touchpad 8**

Date \_\_\_\_\_

Serial # \_\_\_\_\_

**Touchpad 18**

Date \_\_\_\_\_

Serial # \_\_\_\_\_

**Touchpad 9**

Date \_\_\_\_\_

Serial # \_\_\_\_\_

**Touchpad 19**

Date \_\_\_\_\_

Serial # \_\_\_\_\_

**Touchpad 10**

Date \_\_\_\_\_

Serial # \_\_\_\_\_

**Touchpad 20**

Date \_\_\_\_\_

Serial # \_\_\_\_\_

## DAKTRONICS, INC.

Copyright © 2011

All rights reserved. While every precaution has been taken in the preparation of this manual, the publisher assumes no responsibility for errors or omissions. No part of this book covered by the copyrights hereon may be reproduced or copied in any form or by any means – graphic, electronic, or mechanical, including photocopying, taping, or information storage and retrieval systems – without written permission of the publisher.

*OmniSport® is a trademark of Daktronics, Inc. All other trademarks in this manual are the property of their respective owners.*



# Table of Contents

---

<b>Section 1:</b>	<b>Introduction .....</b>	<b>1</b>
1.1	Controllers.....	1
1.2	Touchpad Identification.....	1
	Specifications .....	2
1.3	Resources.....	2
<b>Section 2:</b>	<b>Mechanical Installation .....</b>	<b>3</b>
2.1	Touchpad Installation.....	3
<b>Section 3:</b>	<b>Connections.....</b>	<b>5</b>
3.1	Deck Cabling and Lane Modules.....	5
3.2	Functional Test .....	6
<b>Section 4:</b>	<b>Maintenance &amp; Troubleshooting.....</b>	<b>7</b>
4.1	Basic Maintenance of Timing System.....	7
4.2	Touchpad Cleaning.....	7
4.3	Inspection Procedure .....	8
4.4	Advanced Touchpad Troubleshooting .....	8
4.5	Side & Bottom Vinyl Edge Cover Replacement .....	11
4.6	Cable Replacement.....	14
4.7	Replacement Parts.....	18
4.8	Aquatics Systems Warranty and Limitation of Liability .....	18
<b>Section 5:</b>	<b>Contact Information .....</b>	<b>19</b>
<b>Appendix A:</b>	<b>Aquatics Systems Warranty and Limitation of Liability.....</b>	<b>21</b>



# Section 1: Introduction

---

This manual explains the installation of Daktronics T-7000 series touchpads and provides details for maintenance and troubleshooting. For additional information regarding the safety, installation, operation, or service of this system, refer to the contact information listed in **Section 5**.

This manual is not specific to a particular installation. Project-specific information takes precedence over any other general information found in this manual.

Please read and understand all instructions before beginning the installation process.

## 1.1 Controllers

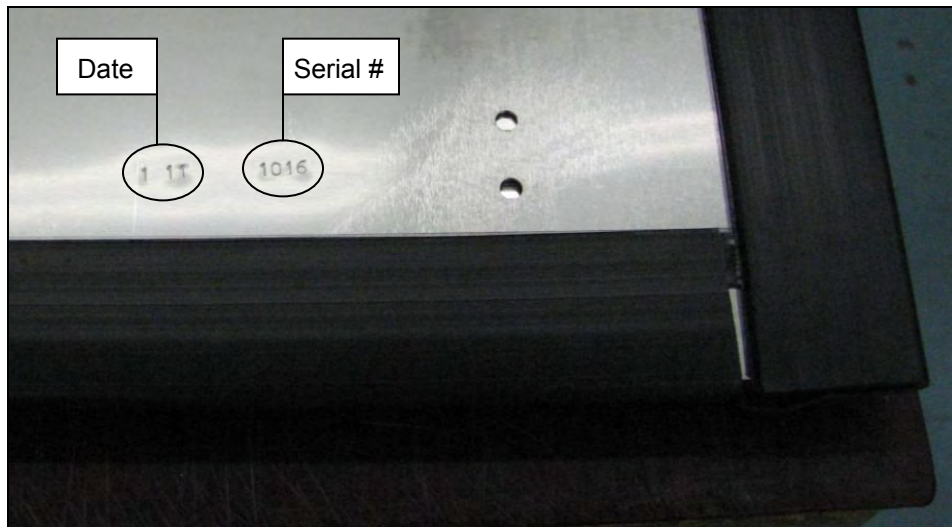
Daktronics touchpads are typically used with an OmniSport® 2000 timing system. The OmniSport 2000 timer uses keyboard overlays (sport inserts) to control numerous sports and scoreboard models. Refer to the following manual for operating instructions:

- **OmniSport 2000 Timing Console Operations Manual (ED-13312)**

This control console manual is available online at [www.daktronics.com/manuals](http://www.daktronics.com/manuals).

## 1.2 Touchpad Identification

A date (month / year) and serial number can be found stamped in the lower-right corner of the rear of the touchpad as shown in **Figure 1**.



*Figure 1: ID Stamp*

Please list the date and serial number for each touchpad in the system in the blanks provided on the second page of this manual. When calling Daktronics customer service, please have this information available to ensure the request is serviced as quickly as possible.

## Specifications

Model	Dimensions: Height, Width, Depth (of top flange)	Weight
<b>T-7060</b>	H 1'-10", W 5'-0", D 2.8" (559 mm, 1524 mm, 71 mm)	28.25 lb (12.8 kg)
<b>T-7078</b>	H 1'-10", W 6'-6", D 2.8" (559 mm, 1981 mm, 71 mm)	37.5 lb (17 kg)
<b>T-7096</b>	H 2'-0", W 8'-0", D 2.8" (610 mm, 2438 mm, 71 mm)	50 lb (22.7 kg)
<b>FT-7150</b>	H 3'-0", W 5'-0", D 2" (914 mm, 1524 mm, 51 mm)	44.7 lb (20.3 kg)
<b>FT-7190</b>	H 3'-0", W 6'-3", D 2" (914 mm, 1905 mm, 51 mm)	56.8 lb (25.8 kg)
<b>FT-7190T</b>	H 3'-0", W 6'-3", D 3.9" (914 mm, 1905 mm, 99 mm)	57 lb (25.9 kg)
<b>FT-7240T</b>	H 3'-0", W 7'-11", D 3.9" (914 mm, 2413 mm, 99 mm)	72.5 lb (32.9 kg)

**Note:** All touchpad models have a thickness of 0.3" (8 mm).

## 1.3 Resources

Daktronics identifies manuals by the DD or ED number located on the cover page of each manual. For example, this manual would be referred to as **DD1953274**.

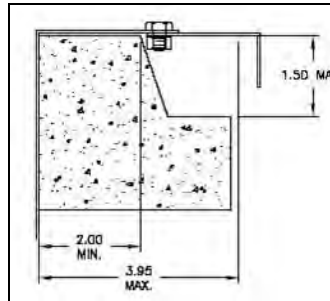


## Section 2: Mechanical Installation

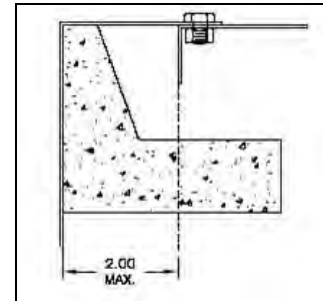
### 2.1 Touchpad Installation

1. Before the meet, install the touchpads in the pool. With one person on each end of the touchpad, carefully lower the touchpad into the pool. Center the touchpad in the lane. Secure the supplied adjustable bracket to the pool gutter. If the pool does not have a gutter, secure the touchpad by running a cord through the holes on top of the touchpad and tying it to the starting block.

2. The universal bracket adjusts to both a narrow or wider gutter lip. (**Figure 2** and **Figure 3**).



**Figure 2:** Universal Bracket for Wider Gutter Lip



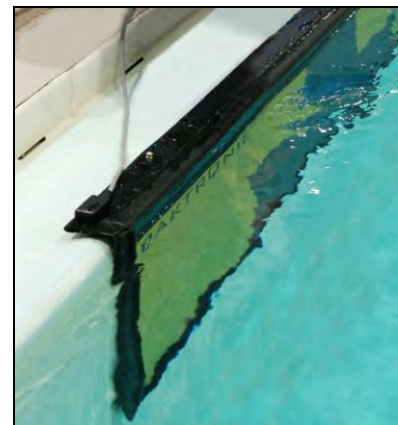
**Figure 3:** Universal Bracket for Narrow Gutter Lip

3. Use a 7/16" socket wrench to secure the brackets in place on the touchpad (**Figure 4**).
4. A Daktronics touchpad is designed to fill with water to aid in its stabilization. When properly installed, the touchpad should “hug” the pool wall (**Figure 5**).
5. Connect the touchpads to the lane modules or deck plates. Read and follow instructions in **Section 3**.

**Do not allow swimmers to use paddles, fins or kick boards with touchpads in the pool!**



**Figure 4:** Securing the Bracket

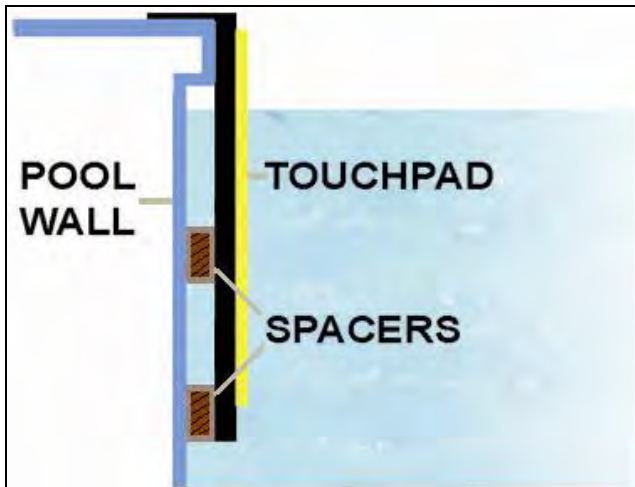


**Figure 5:** Touchpad Next to Wall

If the pool wall has obstructions or the gutter protrudes from the wall, use spacers (PVC board may be cut in strips) to create a stable support for the touchpad (**Figure 6**). Spacer size is determined by the height and the extra depth required. Use 3M™ VHB™ Tape 5930 (Daktronics part number AT-1089 [ $\frac{3}{4}$ "]) to adhere the spacers to the touchpad.

**Ensure the spacers do not cover the drainage holes on the back of the touchpad!**

**Note:** Daktronics does not provide these spacers.



**Figure 6:** Touchpad with Spacers

For more information on the care and maintenance of touchpads, refer to **Section 4**.

## Section 3: Connections

### 3.1 Deck Cabling and Lane Modules

Always place cables and equipment in areas of minimal traffic. Cover wires and cables with a mat to prevent accidents. **Figure 7** illustrates an important detail to always remember when plugging dual banana connectors. **The GND (ground) tab on the plug must line up with the black female jack for the timing system to work.**

If some touchpads are connected backwards and some connected correctly, it may cause touchpads to register times when the pad has not been touched.



**Figure 7:** Insert GND Side to Black Female Jack

- For an **On-Deck System**, connect the plug from the touchpad to the **TOUCHPAD** jack on a lane module (**Figure 8**).

After the system has been completely set up, test each touchpad (refer to **Section 3.2**).



**Figure 8:** Daktronics Lane Module

- For an **In-Deck System**, connect the plug from the touchpad into the **TP** jack on the lane deck plate (**Figure 9**).

After the system has been completely set up, test each touchpad (refer to **Section 3.2**).



**Figure 9:** Individual Lane Deck Plate

For more information about any additional input device connections and connecting to the OmniSport 2000 timer, refer to the **OmniSport 2000 Timing Console Operations Manual (ED-13312)**.

This control console manual is available online at [www.daktronics.com/manuals](http://www.daktronics.com/manuals).

## 3.2 Functional Test

1. Plug the touchpad into the touchpad input on the lane module or deck plate. Make sure that the GND tab on the touchpad connector is lined up with the black jack on the lane module/deck plate touchpad input.
2. Make sure that the lane modules/deck plates are connected to the OmniSport 2000 console and the console is powered on.
3. Enter the swimming mode of the OmniSport 2000 console and select Menu 5, then 2 to display the lane data test menu. When the touchpad is pressed, a "T" should flash for 2 seconds in the lane corresponding to the touchpad.
4. With the touchpad hanging in place on the pool wall, bend down and with an open hand, touch the touchpad with just finger tips. Do this by brining the hand in with the same amount of energy a swimmer in the water would have. If this is done too lightly, or too slowly, expect that a touch may not register. Also, because the touchpad needs to charge back up, count "1001, 1002, 1003" before touching again.
5. Watching the lane data test screen, repeat this test across the entire touchpad surface, from left to right and top to bottom. This will ensure that there are no dead spots in the touchpad.

## Section 4: Maintenance & Troubleshooting

---

### **IMPORTANT NOTES:**

1. Always disconnect the touchpad, remove it from the water, and allow it to dry before doing any repair work.
2. Disconnect touchpad and remove it from water when not in use.

### 4.1 Basic Maintenance of Timing System

After each meet, it is crucial to follow these basic maintenance procedures to ensure the longevity of the timing equipment.

- Turn off the power to all equipment associated with the system.
- When the system is set up for an event, touchpads should be removed from the water every 48 hours, inspected, and allowed to dry for 6 hours.
  - Inspect the cable and connector for nicks, cuts, and corrosion. Use the brush provided in the maintenance kit to remove any corrosion from the banana connections. After cleaning, apply silicone grease to the connectors. Replace cable if necessary (refer to **Section 4.6**).
  - Verify that all edge protectors are securely in place. Replace edge protectors if necessary (refer to **Section 4.5**).
  - Verify the boot along the top front bend is not cut.
  - Refer to **Section 4.3** for additional inspection procedures.
- At the end of each meet, remove the touchpads from the pool, place them onto their storage cart (**Figure 10**). Store touchpads in a room outside of the pool environment and chemicals. Recommended temperatures in storage area should range between 33°F and 90° F (55° C and 32.2° C) with adequate fresh air circulation.



*Figure 10: Touchpad cart*

### 4.2 Touchpad Cleaning

After each meet, rinse the touchpad with non-chlorinated tap water. If possible the touchpad should be submerged in a tank of fresh water, otherwise use a hose or pour buckets of water onto the touchpad.

- DO NOT use a pressure washer.
- DO NOT use treated pool water.

### 4.3 Inspection Procedure

Visually inspect:

- Banana plug for corrosion – if corrosion is found, refer to **Section 4.6**
- Cable for cuts – if cuts are found, refer to **Section 4.6**
- All edge protectors are securely in place
- Rubber boot across the top of the touchpad is not ripped/torn and is adhered in place
- Non-slip surface on the face of the touchpad is not cut, torn or peeling
- The touchpad is not delaminating. This will be evident if the face of the touchpad looks like it is ballooning, with big bubbles (6 + inches in diameter) or when pressed, it is loose.
- For sharp edges; remove any sharp edges with a file
- Touchpad brackets are adjusted correctly for the gutter type
- Touchpad is flat against the pool wall, with no water inlets or other obstructions between the touchpad and the wall

### 4.4 Advanced Touchpad Troubleshooting

1. Plug the touchpad into the touchpad input on the lane module or deck plate. Make sure that the GND tab on the touchpad connector is lined up with the black jack on the lane module/deck plate touchpad input.
2. Make sure that the lane modules/deck plates are connected to the OmniSport 2000 console and that the console is powered on and in swimming mode.
3. Using a DC voltmeter, connect the red probe to the positive connector of the touchpad, and connect the black probe to the GND connector of the touchpad.
  - With the touchpad installed and not being pressed, 0.25 V DC should be measured.
  - When the touchpad is pressed, the voltage should drop to approximately 0 V DC.
  - When the press is released, the voltage should start climbing for approximately 1.5 - 3 seconds and level out at 0.25 V DC again.

If the readings are different from those described above, use the following table to determine the possible cause and solution. If a problem occurs that is not listed or that cannot be resolved, contact Daktronics using the information provided in **Section 5**.

Problem	Possible Cause	Solution/Items to Check
Voltage measured on the banana plug of the touchpad cable when it is plugged into the lane module or deck plate is <b>0 V DC</b> or close to it	Bad connection between the banana plug and the lane module (on-deck) or deck plate (in-deck)	<ol style="list-style-type: none"> <li>1) Clean both the male banana plug on the touchpad cable and the female jack on the lane module or deck plate.</li> <li>2) Using a small straight screw driver, bow out the center of each of the 4 leafs on the male banana pin so that it provides more pressure on the contact when the banana plug is inserted into the lane module or deck plate (see <b>Figure 11</b>).</li> <li>3) If cleaning the connections doesn't resolve the problem, check the next Possible Cause.</li> </ol>

Problem	Possible Cause	Solution/Items to Check
	<p><b>On-deck:</b> Bad lane module input</p>	<ol style="list-style-type: none"> <li>1) Disconnect the touchpad from the lane module and clean the connections if not already performed.</li> <li>2) Measure the voltage between the red and black connectors on the TOUCHPAD input of the lane module: <ul style="list-style-type: none"> <li>• If the voltage is <b>0 V DC</b>, the touchpad input on the lane module is probably bad. Swap the module with one known to work correctly to verify. Contact Daktronics to order a replacement lane module if needed.</li> <li>• If the voltage is <b>0.25 V DC</b>, it is probably a shorted touchpad. Refer to Possible Cause: Shorted Touchpad.</li> </ul> </li> </ol>
	<p><b>In-deck:</b> High resistance in the cable between the deck plate and lane interface, the termination of the cable to the green phoenix connector, the mating of the green phoenix connector onto the lane interface, or a bad touchpad input on the lane interface</p>	<ul style="list-style-type: none"> <li>• With the touchpad <i>connected</i>, use a voltmeter to measure V DC on pins 1 and 5 of the green phoenix connector. If the reading is <b>0.25 V DC</b> at the lane interface and <b>0 V DC</b> at the deck plate, there is a break or high resistance in the cabling or termination of the cable to the phoenix connector.</li> <li>• With the touchpad <i>disconnected</i>, use a voltmeter to measure V DC on pins 1 and 5 of the green phoenix connector. If the reading is <b>0 V DC</b> or close to it, it is probably corrosion between the green phoenix connector and the lane interface, or a bad touchpad input on the lane interface.</li> <li>• In either instance, contact Daktronics using the information provided in <b>Section 5</b>.</li> </ul>
	<p>Shorted Touchpad</p>	<p>If a shorted touchpad is suspected, Contact Daktronics using the information provided in <b>Section 5</b>.</p>

Problem	Possible Cause	Solution/Items to Check
<p>Touchpad is not registering a touch, and the voltage stays at <b>0.25 V DC</b> when the touchpad is pressed</p>	<p>Bad touchpad cable</p>	<ol style="list-style-type: none"> <li>1) Unplug the touchpad from the lane module/deck plate.</li> <li>2) Set the meter to continuity.</li> <li>3) Touch the red probe of the meter to the GND tab of the touchpad connector, and touch the black probe of the meter to the back sheet of the touchpad. The meter should read <b>0 ohms</b>. If it is open, the cable is bad.</li> <li>4) Next touch the red probe against the positive connector of the touchpad and touch the black probe to the center sheet of the touchpad (accessed through one of the drain holes on the back side of the touchpad). The meter should read <b>0 ohms</b>. If there is no continuity, the cable is bad.</li> <li>5) Refer to <b>Section 4.6</b> to replace the bad touchpad cable.</li> </ol>



**Figure 11:** *Bowing Banana Plug Pins*



## 4.5 Side & Bottom Vinyl Edge Cover Replacement

1. Remove any remaining tape/adhesive residue from front and back surfaces of touchpad.

**Note:** Stretch the tape along its length to easily remove (**Figure 12**).



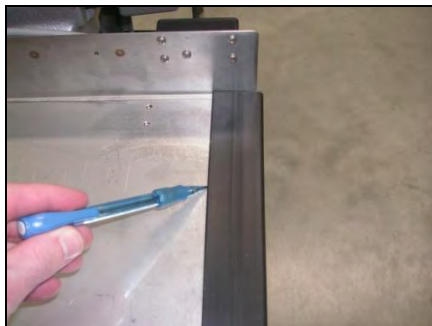
**Figure 12:** Removing Old Tape

2. Clean areas where tape was removed with 70/30 Isopropyl alcohol (**Figure 13**).



**Figure 13:** Cleaning Edge Protector

3. Snap a new vinyl edge cover onto the touchpad.
  - a. Using the vinyl edge cover as a guide, use a pencil to make a reference mark along the entire length of the back of the touchpad (**Figure 14**). This will be used as a reference for applying new tape on the back surface.
  - b. Remove the vinyl edge cover from the touchpad for now.



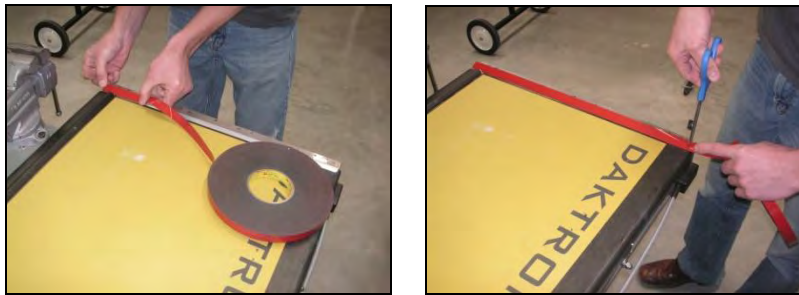
**Figure 14:** Marking Touchpad

4. Apply supplied double-sided tape to back surface of touchpad along the line that was just made and cut to length. *Ensure the tape is lined up between the pencil line and the outside edge of the touchpad (Figure 15).*



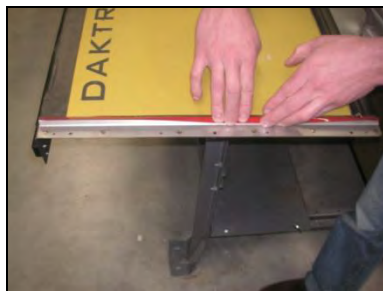
**Figure 15:** Applying & Cutting New Tape (Rear)

5. Apply supplied double-sided tape to front surface of touchpad on the raised portion of the stainless steel edge protector and cut to length (Figure 16).



**Figure 16:** Applying & Cutting New Tape (Front)

6. Fold tape over the raised portion of stainless steel edge protector (Figure 17).



**Figure 17:** Folding Tape Over Edge Protector

7. Apply firm finger pressure to the tape on both front and back surfaces across entire length to ensure proper adhesion (Figure 18).



**Figure 18:** Securing Tape

- Partially peel back tape liner on both front and back surfaces and fold over towards the center of the touchpad (**Figure 19**).



**Figure 19:** *Partially-Peeled Tape Liner*

- Clean the inside of the vinyl edge cover with 70/30 Isopropyl alcohol (**Figure 20**). Allow the vinyl edge cover to dry before proceeding.



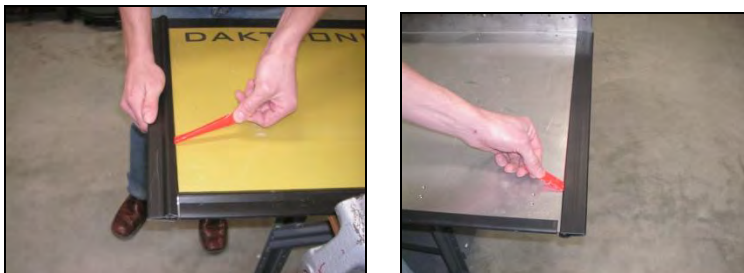
**Figure 20:** *Cleaning Vinyl Edge Cover*

- Place the vinyl edge cover back on the touchpad by first inserting the corner on the touchpad, and then continue pushing along its length (**Figure 21**).



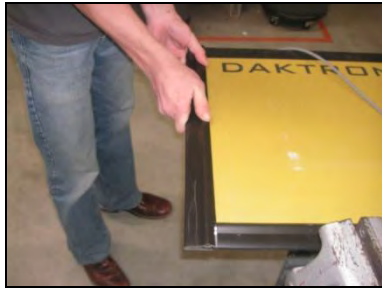
**Figure 21:** *Applying Vinyl Edge Cover*

- Once the vinyl edge cover is fully seated on the touchpad, peel off the remaining tape liner on both front and back surfaces (**Figure 22**).



**Figure 22:** *Removing Tape Liner*

12. After tape liner has been completely removed, apply firm finger pressure to both the front and back surfaces of the vinyl edge cover to ensure proper adhesion (**Figure 23**).



**Figure 23:** Securing Vinyl Edge Cover

13. Repeat steps 1-12 for all vinyl edge covers that need replacing.

## 4.6 Cable Replacement

If the control cable develops cuts or it has been determined that it has gone bad, it must be replaced. Follow the steps below.

1. When viewing the touchpad from the rear, locate the black box on the right-hand side where the input cable is connected. On the underside of this box are 5 screws (**Figure 24**).



**Figure 24:** Top & Bottom Rear View of Touchpad

2. Use a screwdriver to remove the **4 corner screws only** (**Figure 25**).



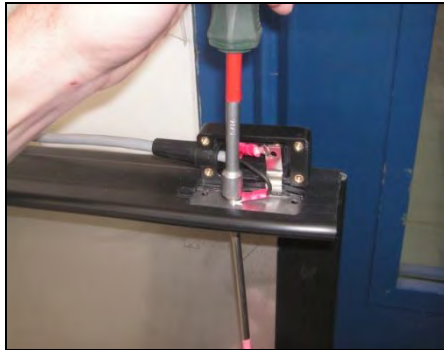
**Figure 25:** Removing Four Corner Screws

- Carefully turn and lift the box away from the touchpad (**Figure 26**).



**Figure 26:** *Lifting Box Away from Touchpad*

- The remaining screw on the underside of the touchpad is securing the black (ground) wire. Remove this wire using a screwdriver and ¼" nut driver (**Figure 27**).



**Figure 27:** *Removing Black (Ground) Wire*

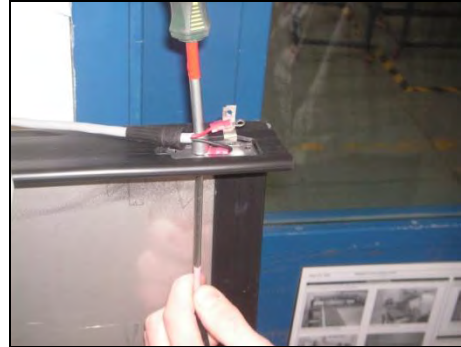
- Remove the red (positive) wire from the metal tab with a screwdriver; the box and cable will be free from the touchpad (**Figure 28**).

**Note:** Be careful once the box is removed as the exposed stainless steel tabs can be sharp.



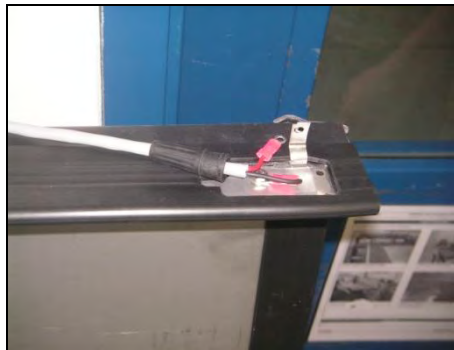
**Figure 28:** *Removing Red (Positive) Wire*

6. Attach the black (ground) wire from the replacement cable first.
  - a. Hang the cable off the right side of the touchpad.
  - b. Push the grounding screw up from the bottom side of the touchpad.
  - c. Place the black (ground) wire terminal ring over the screw, followed by the lock washer and nut.
  - d. Tighten with a screwdriver and ¼" nut driver (**Figure 29**).



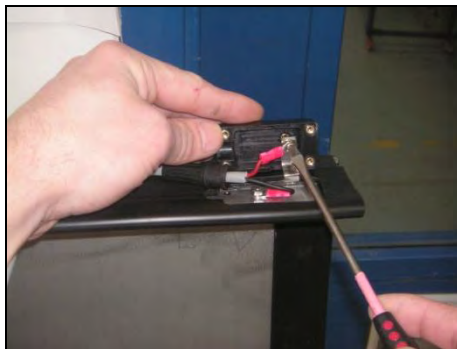
**Figure 29:** Attaching Black (Ground) Wire

- e. Swing the cable over to the left side of the touchpad so that the black (ground) wire is now bent in half (**Figure 30**).



**Figure 30:** Proper Cable Position

7. Place the box back on top of the touchpad. Bring the screw through the red (positive) wire terminal ring, then the metal tabs, and secure to the box (**Figure 31**).



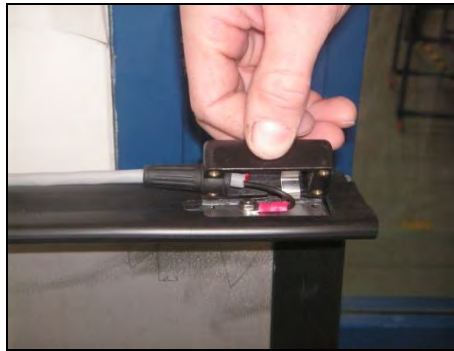
**Figure 31:** Attaching Red (Positive) Wire

8. Slide the rubber boot on the cable up into position and ensure the groove in the boot is firmly seated into the rounded collar of the box (**Figure 32**).



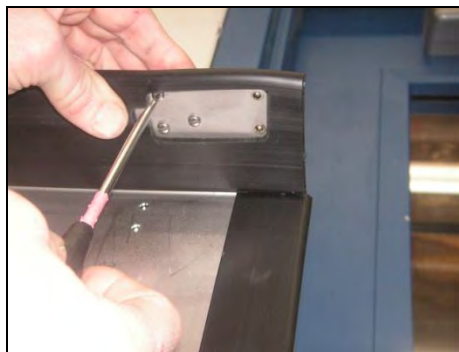
**Figure 32:** Proper Rubber Boot Position

9. Fold the box down onto the metal surface of the touchpad (**Figure 33**).



**Figure 33:** Folding Box into Position

10. On the underside of the box, start the two left screws first, and then start the two right screws. Tighten the screws in the same order (**Figure 34**).



**Figure 34:** Securing Box to Touchpad

## 4.7 Replacement Parts

Refer to the following table for replacement touchpad parts:

Description	Daktronics Part #
Touchpad Cable Replacement Kit	0A-1040-0115
OmniSport 2000 Maintenance Kit	0A-1240-0003
Side/Bottom Edge Cover Replacement; T-7060	0A-1040-0117
Side/Bottom Edge Cover Replacement; T-7078	0A-1040-0118
Side/Bottom Edge Cover Replacement; T-7096	0A-1040-0119
Side/Bottom Edge Cover Replacement; FT-7150	0A-1040-0120
Side/Bottom Edge Cover Replacement; FT-7190	0A-1040-0121
Side/Bottom Edge Cover Replacement; FT-7240	0A-1040-0122
Tape, VHB, 5930, ¼"	AT-1087
Tape, VHB, 5930, ½"	AT-1088
Tape, VHB, 5930, ¾"	AT-1089

## 4.8 Aquatics Systems Warranty and Limitation of Liability

The Daktronics Aquatics Systems Warranty and Limitation of Liability is located in **Appendix A**. The Warranty is independent of Extended Service agreements and is the authority in matters of service, repair, and equipment operation.



## Section 5: Contact Information

---

If there are any questions or concerns about the touchpad or any part of the timing system, please contact Daktronics Customer Service.

**Note:** Be sure to fill out the information on the second page of this manual for each touchpad prior to contacting Daktronics.

**Mail:** Daktronics, Inc., Customer Service  
201 Daktronics Drive  
P.O. Box 5128  
Brookings, SD 57006

**Phone:** 1-800-DAKTRONICS (1-800-325-8766)

**Fax:** 1-605-697-4700

**Email:** [helpdesk@daktronics.com](mailto:helpdesk@daktronics.com)



## **Appendix A: Aquatics Systems Warranty and Limitation of Liability**

---



## AQUATICS SYSTEMS - SCOREBOARDS AND TIMING EQUIPMENT WARRANTY AND 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 agrees to be bound by and accept these terms and conditions. All defined 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. Except as otherwise provided herein, Daktronics warrants to the original end-user that the Equipment will be free from Defects (as defined below) in materials and workmanship for a period of two (2) years for timing equipment and permanently mounted scoreboards and one (1) year for portable scoreboards and clocks. This Warranty 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.

"Substantial Completion" means the operational availability of the Equipment to the Purchaser 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. Batteries, battery-packs, battery recharging equipment, solar panels, pushbuttons, speakers, test meters, data cables and handheld control consoles/units are warranted for one (1) year from date of shipment from Daktronics' facility.

C. Where a third party's equipment or software is supplied, such manufacturer's warranty and warranty period shall apply in place of the above, and Seller hereby assigns to Purchaser all of the rights under transferable third party warranties for such equipment and/or software.

D. Daktronics' obligations under this Warranty are limited to replacing or repairing any electronics component 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 in accordance with paragraph E. This Warranty does not include on-site labor charges to remove or install these components.

E. Purchaser shall pay ground transportation charges for the return of any defective component of the Equipment to Daktronics. If returned Equipment is repaired or replaced under the terms of this Warranty, Daktronics will prepay ground transportation charges back to Purchaser; otherwise, Purchaser shall pay transportation charges to return the Equipment back to the Purchaser. All returns must be pre-approved by Daktronics before shipment. Daktronics shall not be obligated to pay freight for any unapproved return. Purchaser shall pay any upgraded or expedited transportation charges.

F. 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 this Warranty. Purchasing additional parts or Equipment from Daktronics does not extend this Warranty.

G. 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 prohibits the Equipment from operating for its intended use. With respect to LEDs, "Defects" are defined as LED pixels that cease to emit light. This Warranty does not impose any duty or liability upon Daktronics for partial LED pixel degradation. Nor does this Warranty provide for the replacement or installation of communication methods including but not limited to, wire, fiber optic cable, conduit, trenching, or radio equipment substitutions (for the purpose of overcoming local site interference).

H. THIS WARRANTY IS THE ONLY WARRANTY APPLICABLE TO THE EQUIPMENT AND REPLACES ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. SPECIFICALLY, EXCEPT AS PROVIDED HEREIN, THE SELLER UNDERTAKES NO RESPONSIBILITY FOR THE QUALITY OF THE EQUIPMENT OR THAT THE EQUIPMENT WILL BE FIT FOR ANY PARTICULAR PURPOSE FOR WHICH PURCHASER MAY BE BUYING THE EQUIPMENT. ANY IMPLIED WARRANTY IS LIMITED IN DURATION TO THIS WARRANTY PERIOD. NO ORAL OR WRITTEN INFORMATION, OR ADVICE GIVEN BY THE COMPANY, ITS AGENTS OR EMPLOYEES, SHALL CREATE OR IN ANY WAY INCREASE THE SCOPE OF THIS WARRANTY.

### 2. Exclusions from Warranty Coverage

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

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, Purchaser assumes all risk of loss or damage, and 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 the unauthorized adjustment, repair or service of the Equipment by anyone other than 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) a failure or sudden surge of electrical power, (iii) improper air conditioning or humidity control, or (iv) any other cause other than ordinary use;

D. Damage caused by fire, flood, earthquake, water, wind, lightning strike or other natural disaster, inability to obtain materials or utilities, war, terrorism, civil disturbance or any other cause beyond Daktronics' reasonable control;

E. Any statements made about the product by salesmen, dealers, distributors or agents, 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 and shall not be relied upon by Purchaser and are not part of the contract of sale;

F. 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; or

G. Any performance of preventive maintenance.

### 3. Limitation of Liability

Daktronics shall be under no obligation to furnish continued service under this Warranty if: (i) the Equipment is not installed in accordance with the Equipment's manual, including, but not limited to the earth grounding requirements, (ii) alterations are made to the Equipment without the prior written approval of Daktronics, or (iii) if the equipment is moved from its location of initial installation or reinstalled without the prior written approval of Daktronics, unless the displays were designed by Daktronics to be mobile.

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 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, lost data, injury to property or any damages or sums paid by Purchaser 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.

In no event shall Daktronics be liable to Purchaser or any other party 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 actually delivered to and paid for by the Purchaser. The Purchaser'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. Dispute Resolution

Any dispute between the parties will be resolved exclusively and finally by arbitration administered in accordance with the rules of the American Arbitration Association ("AAA"), except as otherwise provided below. The arbitration will be conducted before a single arbitrator. The arbitration shall be held in Sioux Falls, South Dakota. Any decision rendered in such arbitration proceedings will be final and binding on each of the parties, and judgment may be entered thereon in any court of competent jurisdiction. This arbitration agreement is made pursuant to a transaction involving interstate commerce, and shall be governed by the Federal Arbitration Act.

### 5. Governing Law

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. Both parties consent to the application of the laws of the State of South Dakota to govern, interpret, and enforce all of Purchaser and Daktronics 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.

### 6. Availability of Extended Service Agreement

For Purchaser's protection, in addition to that afforded by this Warranty set forth herein, Purchaser may purchase extended 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 1-877-605-1116.