

PC-2001
PACE CLOCK SYSTEM
DISPLAY MANUAL
P1153

ED-13737
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FCC Statement

Supplier Declaration of Conformity (SDoC)

This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

Warning: The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.

Industry Canada Regulatory Information

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

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DAKTRONICS

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1 Introduction

This manual explains the installation and maintenance of Daktronics PC-2001 portable pace clock display. For additional information regarding safety, installation, operation, or service, refer to the telephone numbers listed in **Section 6: Daktronics Exchange and Repair & Return Programs (p.21)**. This manual is not specific to a particular installation. Project-specific information takes precedence over general information found in this manual.

Important Safety Instructions

- Read and understand all instructions before using the display.
- Do not drop the device or immerse it in water.
- This device may be used outdoors temporarily, but it is not to be permanently mounted outdoors or left in wet weather.
- This device shall not be exposed to dripping or splashing, and no objects filled with liquid shall be placed upon it.

WARNING! To reduce the risk of fire or electric shock, do not expose this device to rain or moisture.

- Operate the device with the built-in rechargeable battery. A completely charged battery will provide at least 10 hours of operation. Use 120 V power only when the battery's power is low.

CAUTION! DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE.

WARNING! Do not expose batteries to excessive heat, such as direct sunlight or open fire.

- Do not run the display's battery dead. Charge it for 24 hours before putting it away.
- Do not let the power cord touch hot surfaces or hang over the edge of a table, which could damage or cut the cord.
- If an extension cord is necessary, use a three-pronged polarized cord. Arrange the cord with care so that no one will trip over or pull it out.
- Before using an extension cord, inspect the cable thoroughly and verify its compliance with the local electric codes.
- Always turn off and 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.
- To avoid electrical shock, do not disassemble the control equipment or the driver modules. Incorrect reassembly can cause electric shock and faulty operation or permanent damage to the circuits.

WARNING! To prevent injury, the display must be securely attached to a wall in accordance with installation instructions.

Specifications Label

Power specifications as well as serial and model number information can be found on an ID label on the display, similar to the one shown in **Figure 1**.

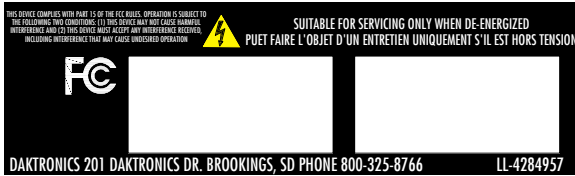
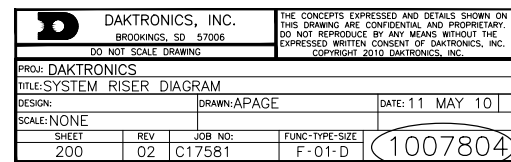


Figure 1: Specifications Label

Please have the assembly number, model number, and the date manufactured on hand when calling Daktronics customer service to ensure the request is serviced as quickly as possible. Knowing the facility name and/or job number will also be helpful.

Resources

Figure 2 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:



Drawing Number

Figure 2: Drawing Label

Reference Drawing:

System Riser Diagram **DWG-1007804**

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

Daktronics Nomenclature

Most display components have a white label that lists the part number (**Figure 3**). Part numbers will also appear on certain drawings. If a component is not found in the **Replacement Parts (p.20)**, use the label to order a replacement. Refer to **Section 6: Daktronics Exchange and Repair & Return Programs (p.21)** if replacing or repairing any display component.

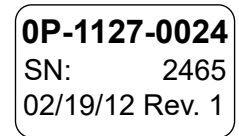


Figure 3: Part Label

| Main Component Labels | |
|--|--------------|
| Part Type | Part Number |
| Individual circuit board | 0P-XXXX-XXXX |
| Assembly; a collection of circuit boards | 0A-XXXX-XXXX |
| Wire or cable | W-XXXX |
| Fuse | F-XXXX |
| Transformer | T-XXXX |
| Metal part | 0M-XXXXXXX |
| Fabricated metal assembly | 0S-XXXXXXX |
| Specially ordered part | PR-XXXXX-X |

| Accessory Labels | |
|---|-------|
| Component | Label |
| Termination block for power or signal cable | TBXX |
| Grounding point | EXX |
| Power or signal jack | JXX |
| Power or signal plug for the opposite jack | PXX |

Display Overview

The PC-2001 is a portable timing system with 11 programmable functions. Though external power and signal can be applied, the control and power systems are entirely self-contained. Refer to **Section 4: Controls and Timing Functions (p.10)** for descriptions of the PC-2001 control capabilities.

Manufactured in two models, the outdoor version of the timing display is designated as PC-2001-11, while the indoor unit is designated PC-2001-13.

The timing display is powered by 12 V batteries. Detachable power cord/transformer assemblies also permit operation of the PC-2001 with 120 or 240 VAC. The unit draws 1 A of power. The enclosed batteries (two in the outdoor model and one in the indoor display) are rechargeable and have a built-in charger.

Product Safety Approval

Both models of the PC-2001 are ETL-listed, tested to CSA standards and CE-labeled for indoor use. Contact Daktronics with any questions regarding the testing procedures.

2 Mechanical Installation

This section describes the mounting details of the PC-2001. Use this section when mounting a display to a wall or on the tripod kit. Other mounting methods can be used, but Daktronics engineers do not recommend those not documented here. Daktronics is not responsible for mounting the display.

Note: Daktronics assumes no liability for any installation derived from the information provided in this manual or installations designed and installed by others.

Wall Mounting

The PC-2001 mounts to a wall using an optional mounting bracket (Daktronics part # 0M-173125). This bracket then attaches to two wall anchors. A qualified engineer must specify the anchor type according to national and local building codes.

Note: Do not attempt to permanently suspend the PC-2001 by its carrying handle. Also, do not permanently mount outdoor displays or leave in wet weather.

Before beginning installation, place the bracket against the mounting surface, level it, and then mark the surface through the anchor holes on the bracket with a marker or heavy pencil. Drill holes in the wall and install anchors at the marked locations. Minimum steel anchor size is 3/16" diameter (4.7 mm).

Note: Due to the variety of wall materials used in sports facilities, Daktronics cannot anticipate every user's installation needs or provide mounting hardware suitable for every installation. Choose a method of installation that will safely support the display's weight.

Refer to **Figure 4** for display mounting instructions:

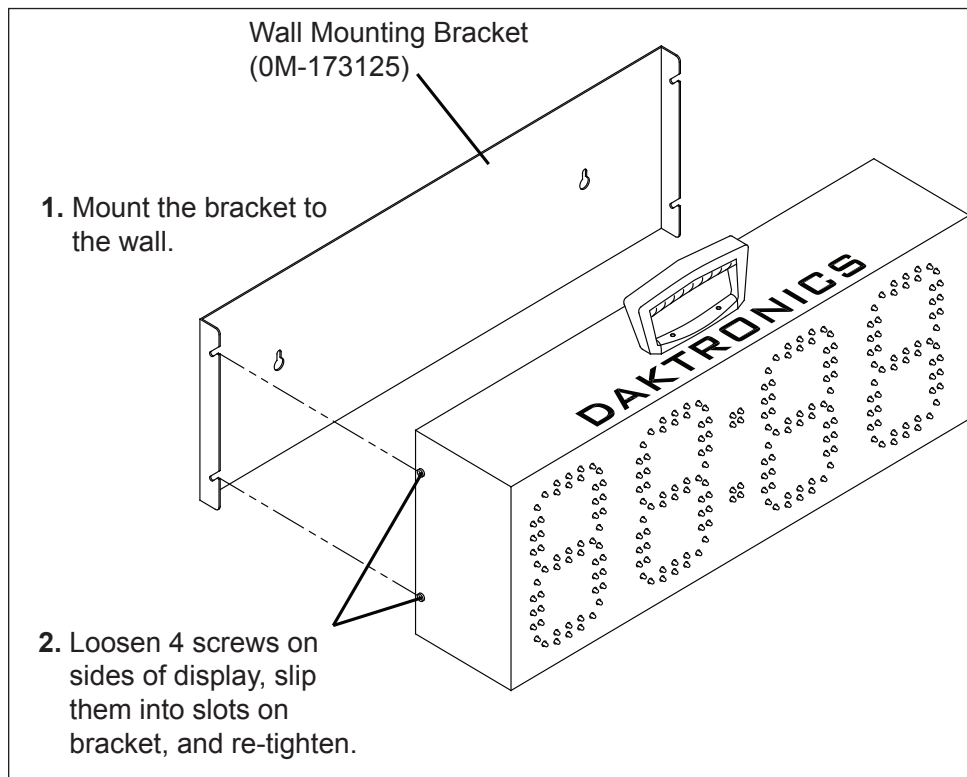


Figure 4: Wall Mounting Kit Installation

Tripod Mounting

Mounting the display to a tripod requires the optional tripod mounting kit (Daktronics part # 0A-1153-0325). A camera tripod is not sturdy enough to safely support the display and will not attach to the display or adapter plate. An appropriate "speaker stand" tripod is available from Daktronics (part # A-1580).

Refer to **Figure 5** for instructions on preparing the display for mounting:

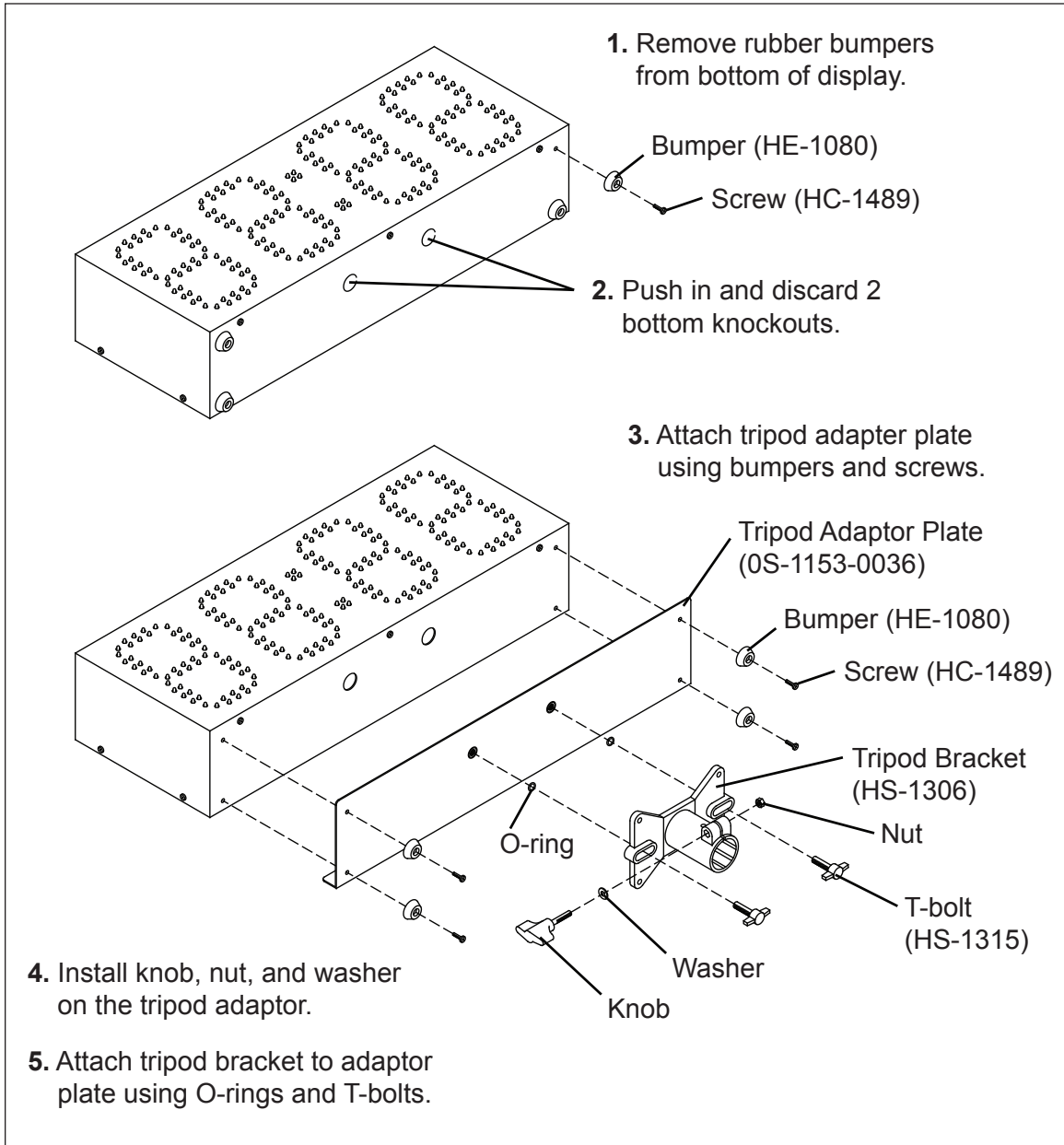


Figure 5: Tripod Mounting Kit Installation

3 Electrical Installation

Power

The PC-2001 contains internal batteries for power but can receive external power through a detachable transformer cord (**Figure 6**).

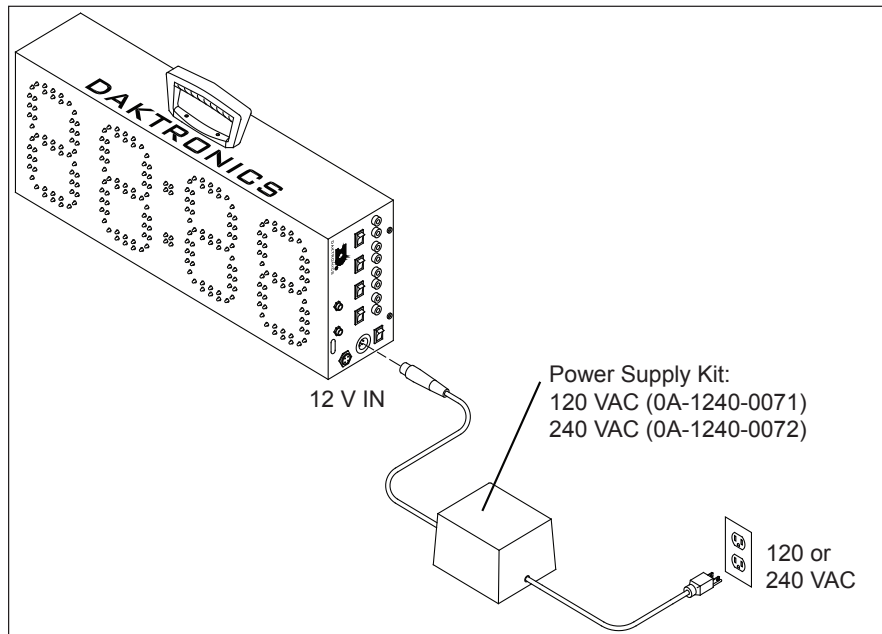


Figure 6: Transformer Connection

The primary purpose of the transformer is to charge the internal battery, but the display can still be operated while the battery is charging. The transformer and cord can remain plugged into the power source indefinitely with no damage to the timer or its battery.

The indoor version (PC-2001-13) has one battery, while the outdoor version (PC-2001-11) has two batteries. On a full charge, each battery should last approximately 10 hours before recharge is necessary. To recharge the system, simply plug the power cable into a grounded power receptacle. The recharging unit will not overcharge the batteries. Indicator lights on the side control panel show when the unit is charging and when it is fully charged (refer to **Figure 11**).

Auto Off

The PC-2001 features an Auto Off function, which will automatically turn the unit off in response to two conditions:

1. **Idle Timeout** – If the display is not plugged into a transformer, and not in program 8 or 9 (time of day), and has been idle for 1 hour (not counting, no switch activity, no signal input), the display will sound the horn and flash the digits 10 times before turning itself off. Pressing any switch will reset the one hour timer.
2. **Low Battery** – This feature prevents the PC-2001 from running its battery completely dead and damaging the battery. When the battery has dropped below a minimum level, the unit will begin sounding the horn once per second as a warning. If the unit is not plugged into the transformer for recharging within about one minute, the unit will automatically turn off.

To turn the PC-2001 back on after an Auto Off has occurred, turn the power switch off, wait a few minutes, and then turn it back on. In the case of a low battery, be sure to plug the display into a charger before continuing use.

Wired Signal Connection

The PC-2001 is designed as a standalone timer with no need for signal cable from control consoles. However, it is still possible to connect signal in from Daktronics All Sport® scoring consoles and OmniSport® 2000 timing consoles, and signal out to multiple displays. For signal cable, Daktronics recommends, as a minimum, single-pair, shielded cable, 22 AWG (Daktronics part # W-1077). Two-pair shielded cable (part # W-1614) is preferred.

Wireless Signal Connection

The PC-2001 is capable of being controlled via wireless signal. The wireless radio system requires a Daktronics All Sport® scoring console or OmniSport® 2000 timing console equipped with radio transmitter as well as a radio receiver mounted inside the display.

The optional radio receiver is installed on the left side of the display cabinet (as viewed from the front).

1. Power off the display.
2. Turn the display around so that you are looking at the rear.
3. Using a Phillips screwdriver, remove the 10 outer screws to separate the front and rear panels of the display.
4. CAREFULLY lay the front panel flat to expose the internal components.
5. Connect the 6-pin power/signal cable from the radio receiver unit (**A**) into the mating 6-pin radio adapter cable (**B**) connected to the **J2 RADIO JACK** on the left side of the driver printed circuit board (PCB). Refer to **Figure 7**.

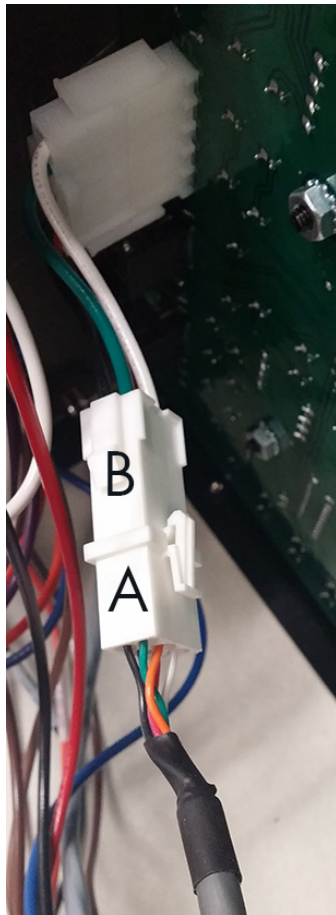


Figure 7: Radio Connection

6. Remove the plastic strips from the adhesive-backed hook-and-loop fasteners on the back of the radio receiver unit, and stick the unit to the inside right side of the cabinet. Note that the radio receiver unit will be upside down. Refer to **Figure 8**.

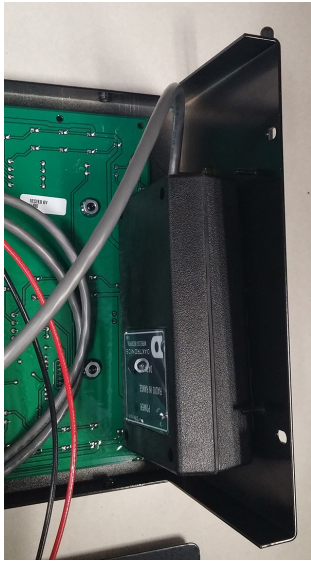


Figure 8: Radio Mounting

7. Route the brass antenna connector through the “D” hole in the side of the display cabinet. Slip on the washer and nut on the outside of the display, and then tighten the nut using a 5/16 wrench. Screw the black antenna onto the brass connector. Refer to **Figure 9**.

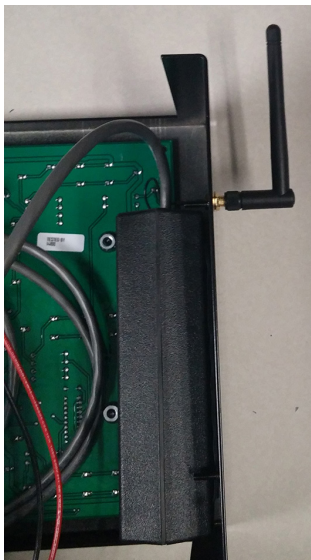


Figure 9: Radio Antenna

8. CAREFULLY close the front and rear panels. Ensure that no wires are pinched between the metal panels.
9. Reinsert/tighten the 10 Phillips screws.
10. During operation, ensure the radio antenna stays pointed straight up.

For more information about the wireless radio control option, refer to the **Gen VI Radio Installation Manual (DD2362277)**, provided with the receiver unit and available online at www.daktronics.com/manuals.

Radio Settings

With a radio receiver installed in the display, watch for the radio Broadcast settings ("b1") and Channel settings ("C1") during the Power-On Self Test (POST).

These values must match the settings in the control console:



```
RADIO SETTINGS
BCAST 1  CHAN 01
```

If the radio receiver channel and broadcast settings match those set in the console but the console does not control the display, there may be radio interference. This can occur when a nearby display also uses radio control. In this case, change the settings of the wireless radio receiver inside the display and in the console as described in the radio control manuals.

4 Controls and Timing Functions

System Setup

System setup information for each of the programs is shown in **Figure 10**. This chart is also printed on a vinyl quick reference decal on the rear of the display case.

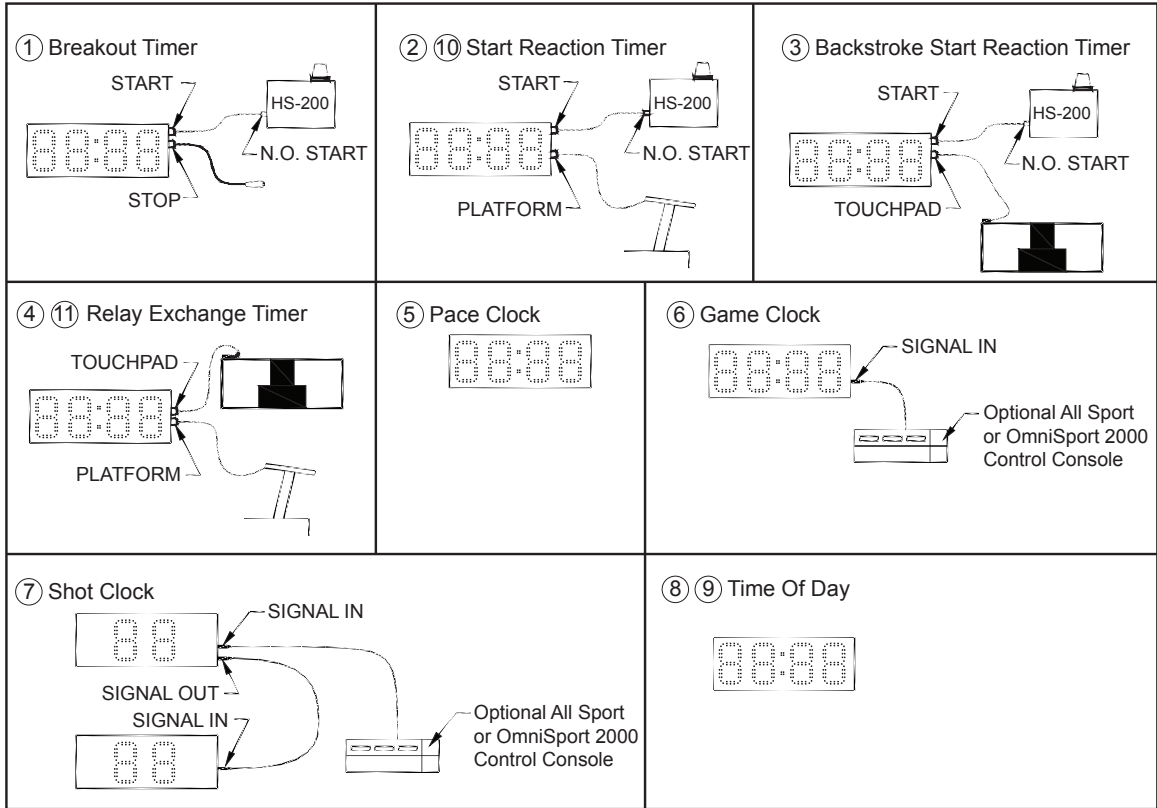


Figure 10: PC-2001 Programs and System Connections

Program Selection

The PC-2001 display is programmable for 11 different timing programs. The operator selects each program and makes settings for the functions using the switches on the right side of the display. **Figure 11** shows the PC-2001 control panel and programming connections.

To select a program:

1. Press and hold **<RESET>** for 2 seconds. The display will show PR## (program number) and then the preset time.
2. While holding **<RESET>**, press and release **<HORN>** to increment the program number by one. Program numbers are as follows:
 - 1) Breakout Timer
 - 2) Start Reaction Timer w/ Omega Relay Take-Off Platform
 - 3) Backstroke Start Reaction Timer
 - 4) Relay Exchange Timer w/ Omega Relay Take-Off Platform
 - 5) Pace Clock
 - 6) Game Clock
 - 7) Shot Clock
 - 8) 12-hour Time of Day
 - 9) 24-hour Time of Day
 - 10) Start Reaction Timer w/ Daktronics Relay Take-Off Platform
 - 11) Relay Exchange Timer w/ Daktronics Relay Take-Off Platform

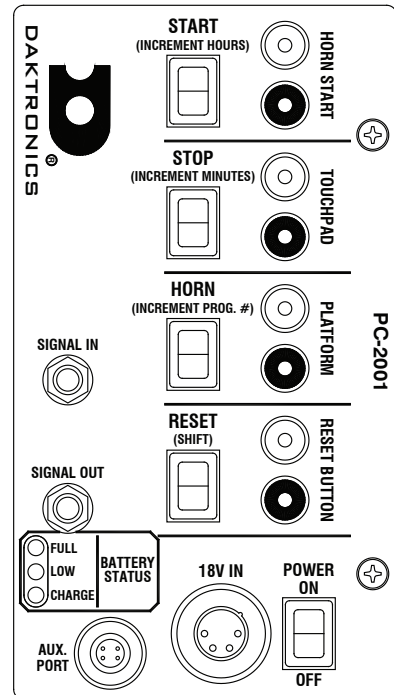


Figure 11: Control Panel

Note: Refer to **Program Operations (p.12)** for more information about each program.

To modify the preset time for programs 1, 5, 6, and 7:

1. Press and hold **<RESET>** for 2 seconds. The display will show PR## (program number) and then the preset time.
2. While holding **<RESET>**, press **<START>** to increment minutes and press **<STOP>** to increment seconds.
3. Release **<RESET>** to save the time. The display will count up to or down from that time, depending on the selected program.

To set the time of day for programs 8 and 9:

1. Press and hold **<RESET>** for 2 seconds. The display will show PR## (program number) and then the preset time.
2. While holding **<RESET>**, press **<START>** to increment hours and press **<STOP>** to increment minutes.
3. Release **<RESET>** to save the Time of Day.

Program Operations

1. **Count Up or Breakout Timer.** This program counts up to the configured time and sounds the horn. The time can be configured from 00:00 to 99:59. If the time is set to 0:00, the display will count up to 59:59 (mn:sc), roll over to 0:00, and continue counting.

In this program, the time can be started and stopped using the switches on the side, the JC-100, or the external, normally open contacts. While the display is counting, a start input will show the split time (time since last start input) for 10 seconds and then go back to the running time. Pressing **<RESET>** resets the timer to 0.00. Pressing **<RESET>** again will return the display to its previous state.

2. **Start Reaction Timer, Normally Closed (Omega).** With a relay take-off platform, this program shows the difference in time between the start signal and the last platform signal. The results show as a negative if the swimmer leaves the relay take-off platform before the start signal.
3. **Backstroke Reaction Timer.** With a touchpad, this program shows the difference in time between the start signal and the last touchpad signal. Results show as a negative if the swimmer leaves the touchpad before the start signal.
4. **Relay Exchange Timer, Normally Closed (Omega).** This program shows the exchange time between the touchpad signal and the last relay take-off platform signal. Results show as a negative if the swimmer leaves the relay take-off platform before the previous swimmer touches the touchpad. If a touchpad time is received and the relay exchange time is not within 2 seconds, "Err" will display on the pace clock. If a touchpad is not plugged into the PC-2001 but a platform is, the **<STOP>** button can emulate a touchpad being touched and starts timing until the next swimmer leaves the platform.
5. **Workout Program or "Pace Clock".** This program is used to structure workouts and practices. Using the base unit and the switches on the side of the display, the operator has the option to configure a pace time from 00:00 to 99:59. To configure a time, press and hold the **<RESET>** switch for 2 seconds, continue holding the **<RESET>** switch and simultaneously press either the **<START>** or **<STOP>** switches to increment MN (minute) or SC (second). If the time is configured to 0:00, the display will count up to 59:99 (mn:sc), roll over to 0:00, and repeat the cycle. If the time is configured from 0:01 to 99:59, the display will count up to that time, sound the horn, roll over to 0:00 and repeat the cycle.

If a "workout" is configured using a JC-100 as described in **JC-100 Console Operation (p.13)** or from TEAM MANAGER II as described in **Team Manager (p.17)** and step one is not a "pace" step, the switches on the side of the console will only allow the operator to start the workout, stop the workout, sound the horn, and reset the workout to step one. If step one is a "pace" step, the operator will be able to configure a time.

6. **Game Clock.** This program counts down to zero from a configured time and sounds the horn. The operator can configure the time from 00:00 to 99:59 (mn:sc). If the time is set to 0:00, the display will count down to 0:00, roll over to 59:59, and continue counting down. Pressing **<RESET>** resets the timer to the configured time.
7. **Shot Clock.** In this program, the display shows the tens and ones of seconds on the two center digits. The display counts down to 00 from a configured time and sounds the horn. The operator can configure the time from 0 to 99 seconds. In this mode, a **<START>** will start the display counting, and a **<STOP>** will stop the display from counting. The **<RESET>** switch will operate in one of two ways depending on which input was pressed last. If **<START>** was pressed last, when **<RESET>** is pressed, the display will reset to the configured time. When **<RESET>** is released, the display will

start counting. If **<STOP>** was pressed last, when **<RESET>** is pressed, the display will reset to the configured time. When **<RESET>** is released, the display will stay at the configured time and wait for a **<START>** to begin counting. This mode automatically configures the **SIGNAL IN** port on the PC-2001 to receive the signal from an All Sport console or an OmniSport 2000 timer for use as a portable shot clock display (such as for water polo).

8. **12-Hour Time of Day.** This program displays the time of day in 12-hour format. The current time can be set via the switches on the side of the display or the JC-100.
9. **24-Hour Time of Day.** This program displays the time of day in 24-hour format. The current time can be set via the switches on the side of the display or the JC-100.
10. **Start Reaction Timer, Normally Open (Daktronics).** With a relay take-off platform, this program shows the difference in time between the start signal and the last platform signal. The results show as a negative if the swimmer leaves the relay take-off platform before the start signal.
11. **Relay Exchange Timer, Normally Open (Daktronics).** This program shows the exchange time between the touchpad signal and the last relay take-off platform signal. Results show as a negative if the swimmer leaves the relay take-off platform before the previous swimmer touches the touchpad. If a touchpad time is received and the relay exchange time is not within 2 seconds, "Err" will display on the pace clock.

Note: An All Sport control console or an OmniSport timing console can be connected to the PC-2001 as an input device. The PC-2001 will then display the information received from the console. **DWG-192024** contains information on connecting multiple PC-2001 displays in series using these consoles, the JC-100, and the switches on the side.

JC-100 Console Operation

Connect the 4-pin power/signal cable from the JC-100 Judges Console to the **AUX. PORT** on the side of the PC-2001. The keypad insert number needed for operation is LL-2584 (**DWG-191855**).

When the PC-2001 is turned on and the JC-100 is connected, press **<MENU>** on the control console to view the available options. Use the up and down arrows to scroll through these options, or press the number located next to the option.

Press **<ENTER>** when the desired action is on the screen.

MENU-(CURR MODE)
1-SETTINGS ↑↓

Press the **<MENU>** button at any time to exit.

The settings will need to be changed to fit the operator's specific needs, but once the program has the desired settings, the console will remember those settings for next use. The available settings and menu numbers will vary by the current mode.

Time

The Time setting lets operators enter desired timing options for the mode. To change the preset time, press **<MENU>**, and then press **<ENTER>**. Press **<ENTER>**, input the desired time using the keypad, and then press **<ENTER>** once more.

MENU-SETTINGS
1-TIME ↑↓

ENTER TIME
00:00 *

Note: For 12 Hour Time of Day (mode 8), select whether the time is AM or PM using the arrow keys.

Intensity

The Intensity setting lets operators manipulate the brightness of the LED digits. The settings for intensity range from 1 to 16, with 16 being the brightest (default). To change the display's intensity, press **<MENU>**, and then press **<ENTER>**. Scroll down to *2-INTENSITY* and press **<ENTER>**. Use the up and down arrows or the keypad to adjust the intensity. When finished, press **<ENTER>**.

```
MENU-SETTINGS
2-INTENSITY ↑↓
```

```
INTENSITY(1-16)
=16 *
```

Horn

The Horn setting lets operators switch between an automatic horn and a manual horn. To change the Horn settings, press **<MENU>**, and then press **<ENTER>**. Scroll down to *3-HORN* and press **<ENTER>**. Press **<ENTER>** again to allow the selection of the Horn option. Use the up and down arrows to select between the *AUTO* (default) and *MANUAL*, and then press **<ENTER>**.

```
MENU-SETTINGS
3-HORN ↑↓
```

```
HORN CONFIG
(AUTO)*
```

After selecting the desired settings, refer to the sections below for operation instructions of specific modes.

Mode #1: Breakout

To select a mode, press **<MENU>** and go to the *2-CHANGE MODE* option. Use the arrow keys or press the number keys to select a particular mode, and then press **<ENTER>**.

```
MENU-(CURR MODE)
2-CHANGE MODE ↑↓
```

```
MENU-CHANGE MODE
1-BREAKOUT ↑↓
```

Press the **<START>** key to start the clock counting up.

```
PRESET= 00:00
0.0
```

Pressing the **<START>** key again will display an individual lap time and will allow the total time to continue running. The laps will be numbered up to 99 and then start over at 1.

Pressing the **<STOP>** key stops the clock and shows the lap time. After pressing the **<START>** key again, the clock will resume counting up from the stopped time. These procedures can be followed as many times as allowed before the preset time is reached. If there is no preset time, the procedure may be used as many times as desired. Press the **<RESET>** key to start the program over.

Mode #2: Start Reaction, Normally Closed (Omega)

When the PC-2001 is plugged into a relay take-off platform, the **<START>** key starts timing from the time the key is pressed to the time the swimmer leaves the platform. The JC-100 will display if the platform is open or closed before the start. A horn start may also be used as a start supplementary to the push of the button. A negative number indicates an early leave. Press the **<RESET>** key to start the program over.

```
MENU-CHANGE MODE
2-STRT RCT N.C.
```

```
PLATFORM: OPEN
READY
```

Mode #3: Backstroke Reaction

When the PC-2001 is plugged into a touchpad, the **<START>** key starts timing from the time the key is pressed to the time the swimmer leaves the touchpad. The JC-100 will display if the touchpad is open or closed before the start. A horn start may also be used as a start supplementary to the push of the button. A negative number indicates an early leave. Press the **<RESET>** key to start the program over.

```
MENU-CHANGE MODE
3-BACKSTRK REACT
```

```
TOUCHPAD: OPEN
READY
```

Mode #4: Relay Reaction, Normally Closed (Omega)

When the PC-2001 is plugged into both a touchpad and a relay take-off platform and the platform is closed, the JC-100 will automatically start the timing from when the touchpad is touched by the first swimmer to the time the platform is left by the next swimmer. A negative number indicates an early leave. Press the **<RESET>** key to start the program over. If a touchpad time is received and the relay exchange time is not within 2 seconds, "Err" will display on the pace clock.

```
MENU-CHANGE MODE
4-RLY RCT N.C.
```

```
PL:OPEN TP:OPEN
READY
```

Mode #5: Workout

To edit a workout, press **<MENU>** followed by **<ENTER>** on the *1-EDIT WORKOUT* option. Select the step number to change or add and press **<ENTER>**. To select the step type, scroll up or down through the options and press **<ENTER>** on the desired step type. There are six different step options to work with:

- *STOP* – This step allows operators to enter where to end or "Stop" a workout.
- *BEG CIRCUIT* – This step allows operators to enter a set of steps to repeat a set number of times within a workout. Basically, this is a workout within the whole workout.

```
MENU-CHANGE MODE
5-WORKOUT      ↑↓
```

```
MENU-WORKOUT
1-EDIT WORKOUT
```

```
EDIT STEP      1*
PACE 00:00
```

- After pressing **<ENTER>** to select this step, the operator is prompted to enter the number of times this circuit is to be repeated. Adding different steps within this circuit is the same as adding steps to the whole workout. The operator will be prompted to enter the amount of times each step within the circuit is to be repeated as they are added.
- *END CIRCUIT* – This step will end the circuit that was entered within the *BEG CIRCUIT* option. After ending a circuit, additional steps may still be added to the rest of the total workout.
 - *SWIM* – This step allows operators to enter the amount of time to have the swimmer(s) swim within one step.
 - *REST* – This step allows operators to enter the amount of time to have the swimmer(s) rest within one step.
 - *PACE* – This step allows operators to enter a pace step that will override the rest of the workout (or circuit if a pace step is entered within one) and continue to count up to the entered time, return to 0:00 and start counting again. It will repeat this step indefinitely.

To insert a step, press **<MENU>**, scroll down to *2-INSERT STEP*, and then press **<ENTER>**. Select the step number to insert after using the arrow keys or number pad, and then press **<ENTER>** to insert a new step into the workout.

```
MENU-WORKOUT
2-INSERT STEP ↑↓
```

```
INSERT @STEP  3*
STOP
```

To delete a step, press **<MENU>**, scroll down to *3-DELETE STEP*, and then press **<ENTER>**. Select the step number to delete using the arrow keys or number pad, and then press **<ENTER>** to remove the step from the workout.

```
MENU-WORKOUT
3-DELETE STEP
```

```
DELETE STEP  3*
STOP
```

To clear the entire workout, press **<MENU>** and scroll down to 4-CLEAR WORKOUT and then press **<ENTER>**. On the screen that appears, press **<ENTER>** to confirm the whole workout is to be cleared.

After entering all options, press **<START>** to begin the workout.

Horn

The workout mode has a few different horn options than other modes. To access the horn settings, press **<MENU>**, scroll down to 5-SETTINGS, and then press **<ENTER>**. Scroll down to 2-HORN and press **<ENTER>** once more. Here the operator can individually select the horn settings for swim steps and rest steps. Scroll to the desired step setting and press **<ENTER>**. Select a horn mode (3 for swim, 2 for rest), and then press **<ENTER>** to save the horn setting.

Mode #6: Game Clock

Press the **<START>** key to start the clock counting down from the preset time. Press the **<STOP>** key to stop the clock. Press the **<START>** key to resume the countdown. This procedure may be repeated until the clock reaches 0.00. Press **<RESET/CLEAR>** to return the game clock to the original preset time.

Mode #7: Shot Clock

Press the **<START>** key to start the countdown from the preset shot clock time. While the clock is running, press the **<RESET>** key to start the clock over again at the preset time and automatically start counting down. Press the **<STOP>** key to pause the countdown. When the clock is stopped, pressing **<RESET>** will place the clock at the preset time; however, **<START>** must then be pressed to resume the countdown as it will not begin automatically.

Mode #8: 12 Hour Time of Day

To change the time of day, press **<MENU>**, and then press **<ENTER>**. Press **<ENTER>**, input the desired time using the keypad, and then press **<ENTER>** once more. Select whether the time is AM or PM using the arrow keys, and then press **<ENTER>** to save the time of day settings.

Mode #9: 24 Hour Time of Day

To change the time of day, press **<MENU>**, and then press **<ENTER>**. Press **<ENTER>**, input the desired time using the keypad, and then press **<ENTER>** once more.

Mode #10: Start Reaction, Normally Open (Daktronics)

When the PC-2001 is plugged into a relay take-off platform, the **<START>** key starts timing from the time the key is pressed to the time the swimmer leaves the platform. The JC-100 will display if the platform is open or closed before the start. A horn start may also be used as a start supplementary to the push of the button. A negative number indicates an early leave. Press the **<RESET>** key to start the program over.

MENU-WORKOUT
4-CLEAR WORKOUT

CLEAR WORKOUT?
PRESS ENTER

MENU-WORKOUT
5-SETTINGS ↑↓

MENU-SETTINGS
2-HORN ↑↓

MENU-HORN
1-SWIM (OFF) ↑↓

MENU-CHANGE MODE
6-GAME CLOCK ↑↓

GAME CLOCK 15:00
HORN=AUTO

MENU-CHANGE MODE
7-SHOT CLOCK ↑↓

SHOT CLOCK 35
HORN=AUTO

MENU-CHANGE MODE
8-12HR T.O.D. ↑↓

12HR TIME OF DAY
12:00AM

MENU-CHANGE MODE
9-24HR T.O.D. ↑↓

24HR TIME OF DAY
13:00

MENU-CHANGE MODE
10-STRT RCT N.O.


PLATFORM: OPEN
READY

Mode #11: Relay Reaction, Normally Open (Daktronics)

When the PC-2001 is plugged into both a touchpad and a relay take-off platform and the platform is closed, the JC-100 will automatically start the timing from when the touchpad is touched by the first swimmer to the time the platform is left by the next swimmer. A negative number indicates an early leave. Press the **<RESET>** key to start the program over. If a touchpad time is received and the relay exchange time is not within 2 seconds, "Err" will display on the pace clock.



MENU-CHANGE MODE
11-RLY RCT N.C.



PL:OPEN TP:OPEN
READY

Team Manager

The Daktronics PC-2001 can interface with third-party Hy-Tek™ TEAM MANAGER with WORKOUT MANAGER software for easy entry of workouts from a computer to the display. The TEAM MANAGER must have the Workout Manager Basic option configured. After creating a workout in the Hy-Tek software:

1. Turn on the PC-2001, connect the JC-100 console, and set to mode 5-WORKOUT.
2. The interface cable (Daktronics part # 0A-1153-0036) has a 9-pin serial connector on one end and a stereo phone jack connector on the other end. Connect the 9-pin plug to an available COM port on the Hy-Tek computer, and plug the stereo phone jack into the **SIGNAL IN** port on the PC-2001.

DWG-195172 illustrates the connections needed to download information onto the PC-2001 from the Hy-Tek software.

Note: If the Hy-Tek computer does not have a serial port, a USB-to-serial adaptor must be purchased and installed.

3. From the TEAM MANAGER main menu, go to **Workouts > Pace Clock > Daktronics Pace Clock**.
4. At the top of the Daktronics Pace Clock menu, select the **Daktronics PC-2000** button. Select the **Verify** menu at the top of the screen and enter the serial port number that the cable is connected to (most likely 1), and then click **OK**.
5. Double-click on the desired workout from the list of available workouts at the bottom of the screen (or simply type the workout number into lane 1). The workout will appear in lane one under *Pace Clock Workout Lane Assignments*. The download will only download the workout for lane 1.
6. Click on the **Transfer** menu in the upper-left corner of the screen. A message should appear that reads "Transfer completed for lanes 1." Click **OK**. The PC-2001 should read "donE". If this does not happen, the download did not work properly.
7. Start the PC-2001 workout by pressing the **<START>** button on the side of the display or the **<START>** key on the JC-100.

5 Display Maintenance

Disconnect power before doing any repair or maintenance work on the display.
Permit only qualified service personnel to access internal display electronics.
Disconnect power when not using the display.

Display Components

The PC-2001 uses a single printed circuit board (PCB) that contains all of the electronics needed to make this system work: digit LEDs, control processors, power input connectors, horn, and other components. All switches, power systems, and input/output terminations are connected to the PCB.

As shown in **Figure 12**, the PCB is attached to the front panel of the display. Refer to **Replacing the Digit/Driver Printed Circuit Board (p.19)** for instructions on accessing and replacing the PCB.

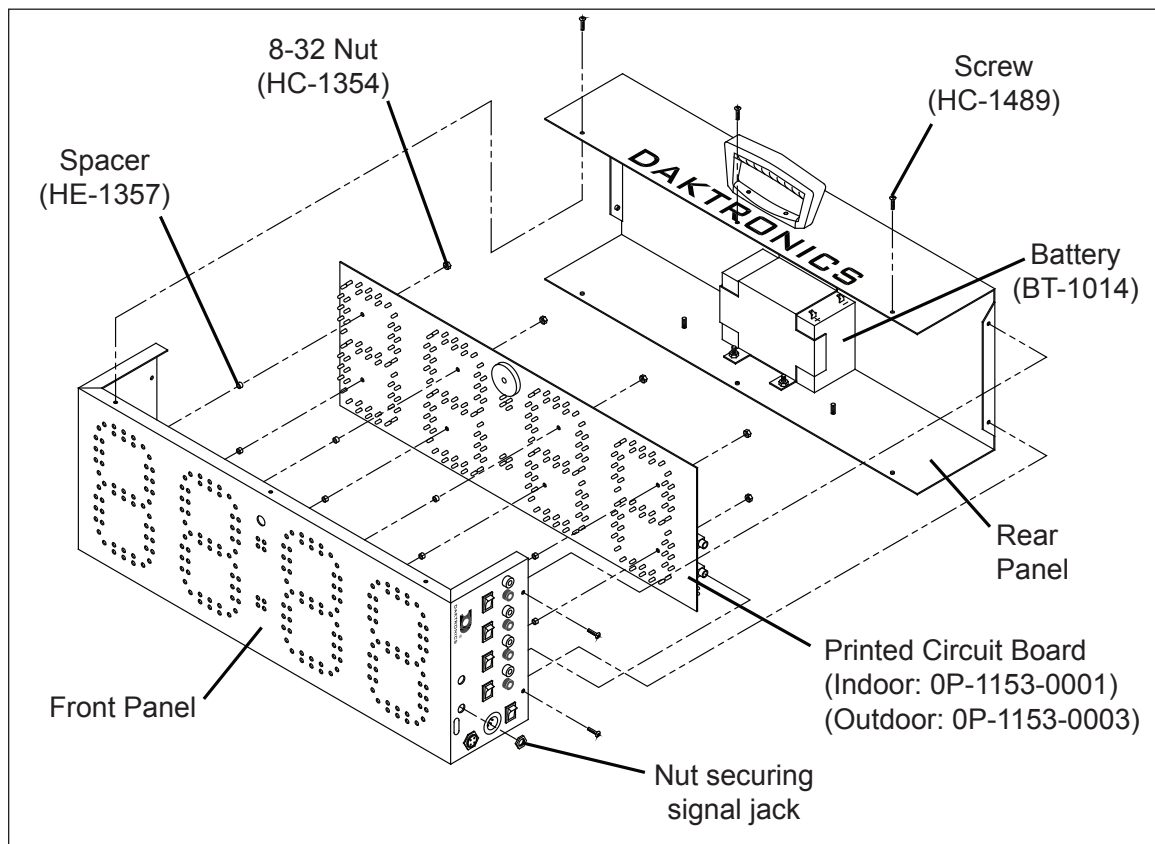


Figure 12: PC-2001 Exploded View

Replacing the Digit/Driver Printed Circuit Board

1. To access the digit/driver PCB, use a Phillips screwdriver to remove the 10 outer screws and separate the front and rear panels of the display.
2. Disconnect all plugs from the PCB by squeezing together the locking tabs and pulling the connectors free. It may be helpful to label the cables or take a picture to know which plug goes to which jack when connecting the replacement PCB.
3. Remove the 8 nuts securing the PCB to the front panel of the display. Take note of the orientation of the PCB for future reference.
4. Carefully remove the PCB from the studs and spacers on the front panel. Use an even force to prevent any damage that might result from bending the LEDs or connector pins on the board.
5. Position the new PCB over the studs, making sure there are spacers between the front panel and circuit board.
6. Tighten the 8 nuts.
7. Reconnect all plugs to their mating jacks on the PCB. The connectors are keyed and will attach in one way only. Do not force the connections.
8. Close and secure the rear panel with 10 screws, then power on and test the display to verify the issue has been resolved.

Replacing Batteries

CAUTION! DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE.

CAUTION: Do not allow any metal object, including jewelry, to contact the battery terminal – a short-circuit on a battery can produce very high current, causing equipment damage or severe burns!

To remove and replace a battery, refer to **Figure 13** and follow these steps:

1. Use a Phillips screwdriver to remove the 10 outer screws to separate the front and rear panels of the display.
2. Disconnect the power leads from the terminals.
3. Remove the 4 nuts securing the battery bracket.
4. Remove and replace the battery.
5. Reconnect the power leads to the terminals of the new battery exactly as follows:
RED to the POSITIVE terminal, BLACK to the NEGATIVE terminal.
6. Tighten the 4 nuts to secure the battery bracket.
7. Close and secure the rear panel with 10 screws, then power on and test the display.

Do not throw old battery in trash. The battery contains lead and should be recycled.

WARNING! Do not expose batteries to excessive heat, such as direct sunlight or open fire.

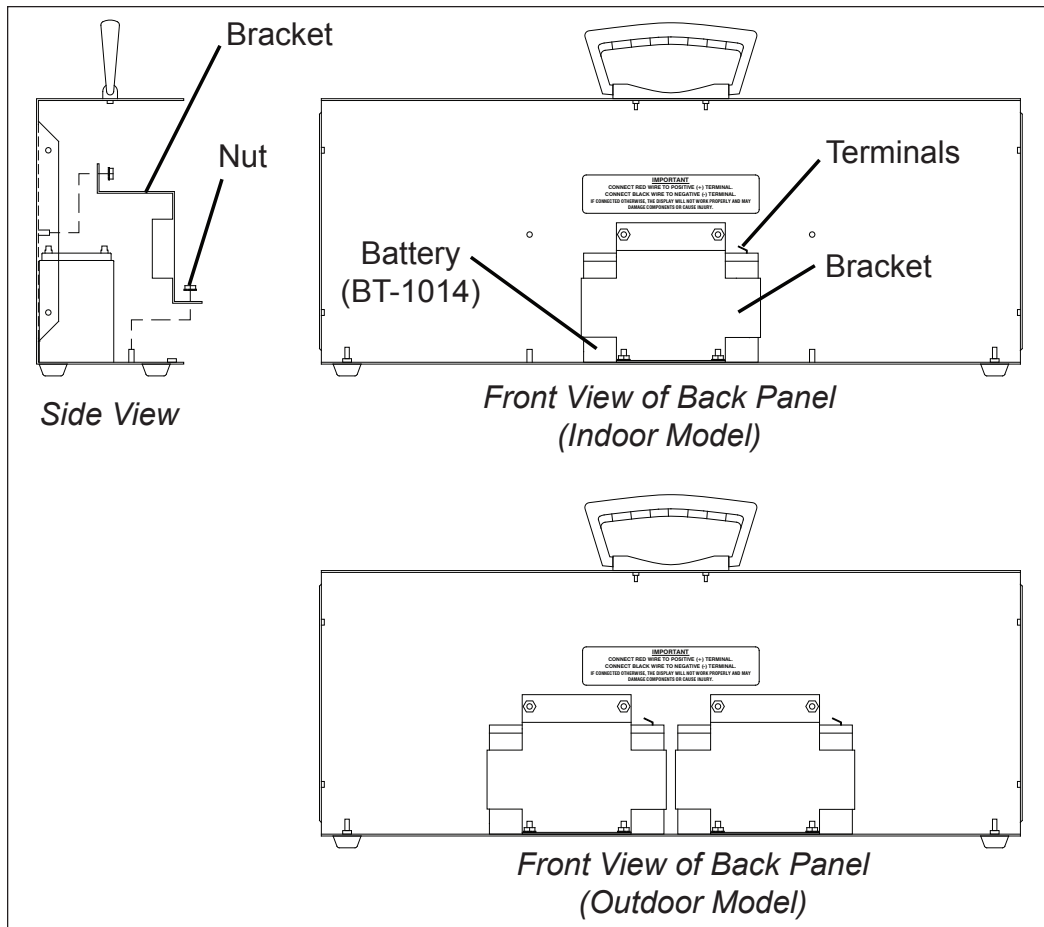


Figure 13: Battery Access

Schematics

For advanced troubleshooting and repair, it may be necessary to consult the schematic drawing. **DWG-177466** shows detailed power and signal wiring diagrams of internal display components.

Replacement Parts

The following table contains display components that may require replacement. Many of the other display components will have attached part number labels.

| Description | Part Number |
|---|--------------|
| 20' Hy-Tek Data Cable; 1/4" Stereo Phone to DB9 | 0A-1153-0036 |
| Tripod Mounting Kit | 0A-1153-0325 |
| Power Supply Kit; 120VAC | 0A-1240-0071 |
| Power Supply Kit; 240VAC | 0A-1240-0072 |
| Wall Mounting Bracket | 0M-173125 |
| Indoor PCB | 0P-1153-0001 |
| Outdoor PCB | 0P-1153-6003 |
| Tripod, Speaker Stand Type | A-1580 |
| Battery, 12V 7.2 AH sealed lead-acid | BT-1014 |
| 12 V Buzzer | DS-1487 |
| 5-pin to 6-pin Radio Adapter | W-2913 |

Refer to **Section 6: Daktronics Exchange and Repair & Return Programs (p.21)** for information on exchanging or returning parts.

6 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

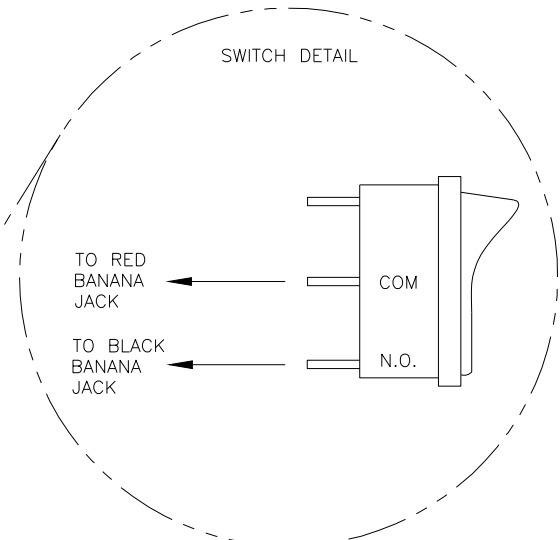
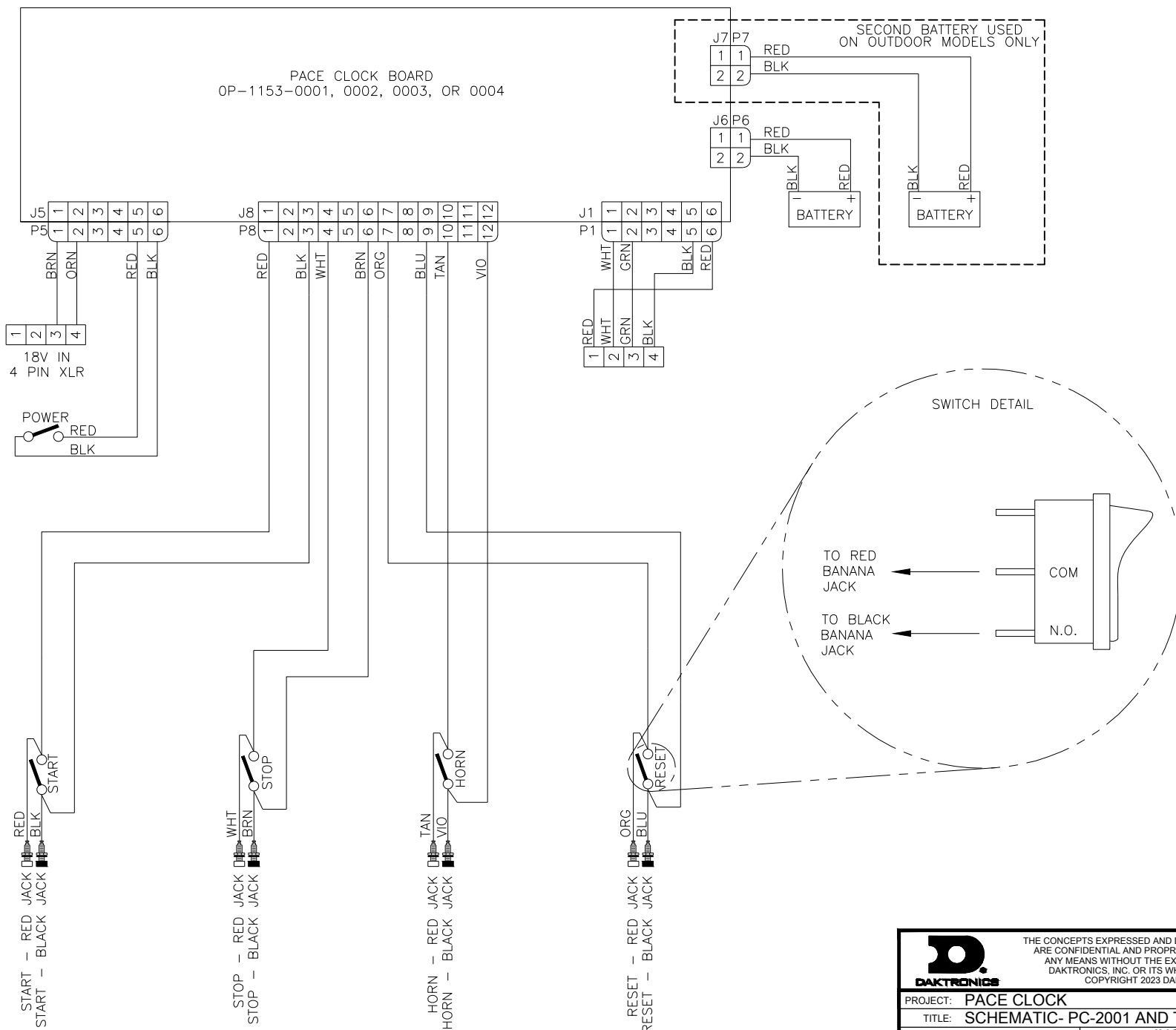
Refer to **Resources (p.2)** for information regarding how to read the drawing number. Any contract-specific drawings take precedence over the general drawings.

Reference Drawings:

| | |
|---|-------------------|
| Schematic; PC-2001 and TI-2022 | DWG-177466 |
| Insert, LL-2584, JC-100 Pace Clock | DWG-191855 |
| Riser Diagram; PC-2001 Portable Install | DWG-192024 |
| Riser Diagram; PC-2001 & PC-2002..... | DWG-195172 |

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PACE CLOCK BOARD
 OP-1153-0001, 0002, 0003, OR 0004



START - RED JACK
 START - BLACK JACK

STOP - RED JACK
 STOP - BLACK JACK


HORN - RED JACK
 HORN - BLACK JACK

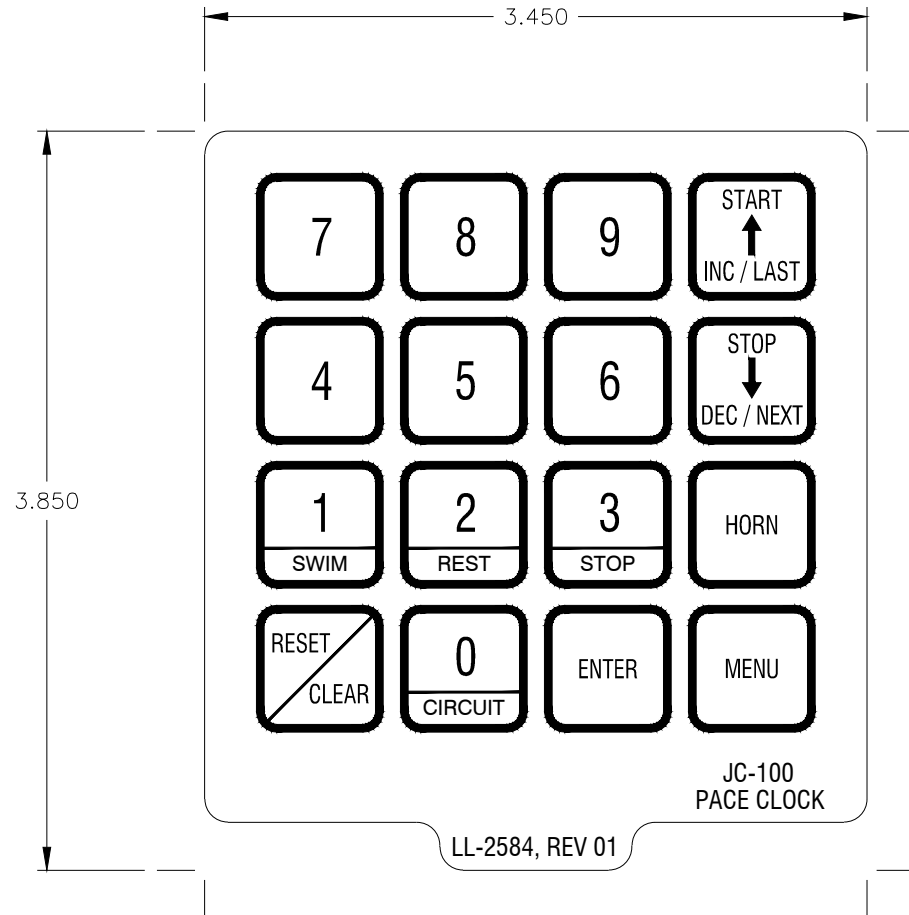
RESET - RED JACK
 RESET - BLACK JACK

| | | | | |
|-----------------|---------------------------------|--|--------|--|
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| | | PROJECT: PACE CLOCK TITLE: SCHEMATIC- PC-2001 AND TI-2022 | | |
| DATE: 24 OCT 02 | DIM UNITS: INCHES [MILLIMETERS] | SHEET | REV | |
| SCALE: 1=1 | DO NOT SCALE DRAWING | | 06 | |
| DESIGN: CBRECZI | JOB NO. P1153 | FUNC - TYPE - SIZE R - 03 - A | 177466 | |
| DRAWN: CBRECZI | | | | |

| | | | |
|--------|-----------------|--|---------|
| REV 06 | DATE: 11 APR 23 | CN-157894 CHANGED INPUT VOLTS FROM 12V TO 18V | BY: SJC |
|--------|-----------------|--|---------|

REV 01 DATE: 29 JUN 10 UPDATED GRAY TO MATCH PMS NO. 429 BY: CRD

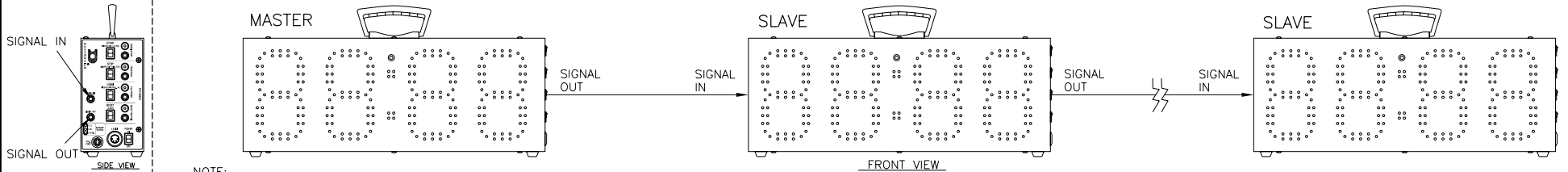
| | | | |
|---|-------|---|----------------|
|  DAKTRONICS, INC. BROOKINGS, SD 57006 <small>DO NOT SCALE DRAWING</small> | | <small>THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2010 DAKTRONICS, INC.</small> | |
| PROJ: TITLE: INSERT, LL-2584, JC-100 PAGE CLOCK DESIGN: CBRECZI DRAWN: CBRECZI DATE: 08 JUL 03 | | | |
| SCALE: 1=1 | SHEET | REV | JOB NO: |
| | | 01 | P1240 |
| | | | FUNC-TYPE-SIZE |
| | | | V-07-A |
| | | | 191855 |



1. DAKTRONICS PART NUMBER IS LL-2584
2. ALL TEXT AND KEY OUTLINES ARE BLACK
3. INSERT BACKGROUND TO BE GRAY TO MATCH PMS# 429
4. OUTLINE IS DIE CUT PER DRAWING 1196-V07A-139763.

PC-2001'S PORTABLE

OPTION 1

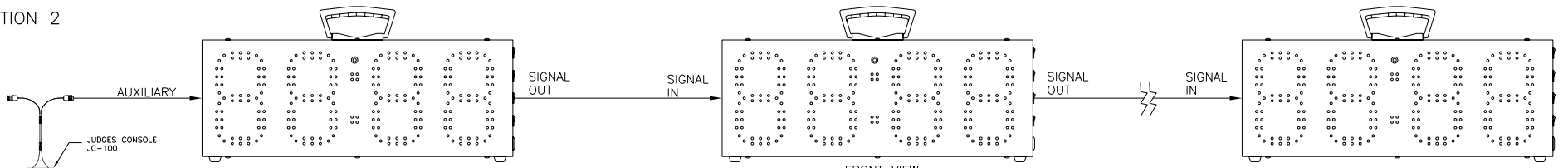


NOTE:

THIS OPTION USES SWITCHES ON THE SIDE OF THE MASTER CLOCK. THE SLAVE PACE CLOCK(S) WILL DISPLAY THE SAME INFORMATION AS THE MASTER PACE CLOCK.

ALL PACE CLOCKS IN THE SLAVE MODE ARE OPTIONAL.

OPTION 2

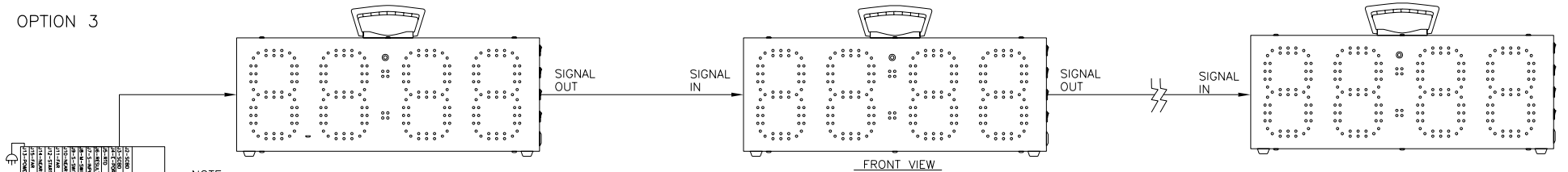


NOTE:

THIS OPTION USES A JUDGE CONSOLE (JC-100) TO CONTROL THE MASTER CLOCK. THE SLAVE CLOCK(S) WILL DISPLAY THE SAME INFORMATION AS THE MASTER CLOCK.

ALL PACE CLOCKS IN THE SLAVE MODE ARE OPTIONAL.

OPTION 3

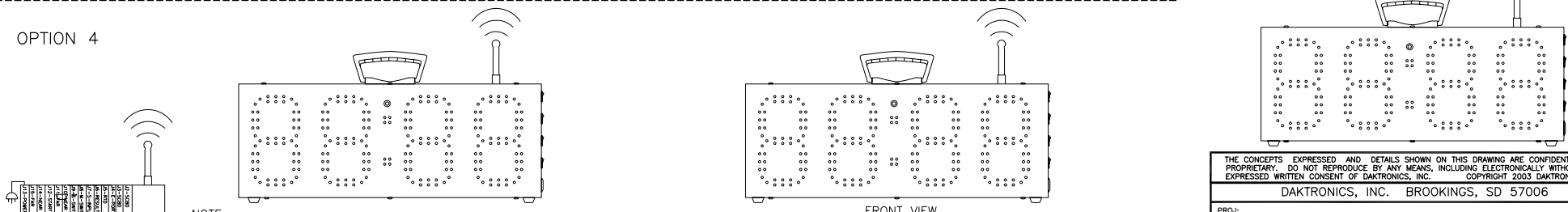


NOTE:

THIS OPTION USES A WIRED OMNISPORT 2000 TO PROVIDE DISPLAY DATA TO EACH PACE CLOCK. THE DATA DISPLAYED ON EACH CLOCK IS DETERMINED BY THE MODE SETTING.

ALL PACE CLOCKS IN THE SLAVE MODE ARE OPTIONAL.

OPTION 4



NOTE:

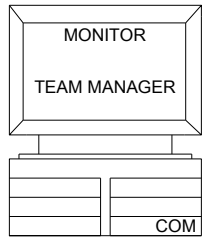
THIS OPTION USES A RADIO OMNISPORT 2000 TO PROVIDE DISPLAY DATA TO EACH PACE CLOCK. THE DATA DISPLAYED ON EACH CLOCK IS DETERMINED BY THE MODE SETTING.

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DAKTRONICS, INC. BROOKINGS, SD 57006

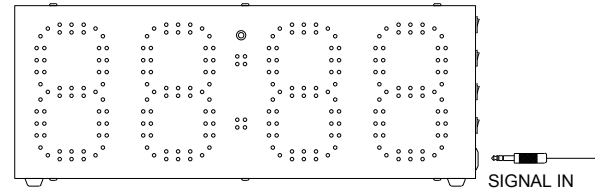
| | | | |
|------------------|---|-----------|---------|
| PROJ: | RISER DIAGRAM; PC-2001 PORTABLE INSTALL | | |
| DES. BY: | JWARNE | DRAWN BY: | CENGELS |
| DATE: | 09 JULY 03 | REVISION: | 01 |
| APPR. BY: | | SCALE: | 1=8 |
| 1153-R01B-192024 | | | |

| REV. | DATE | DESCRIPTION | BY | APPR. |
|------|------------|--|-----|-------|
| 01 | 15 JULY 03 | CHANGED TEXT NOTES FOR OPTIONS THREE AND FOUR. | CME | |



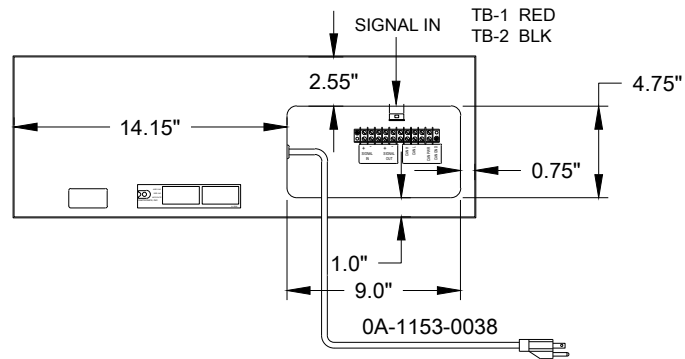
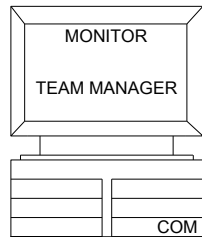
PC-2001

0A-1153-0036 (20')

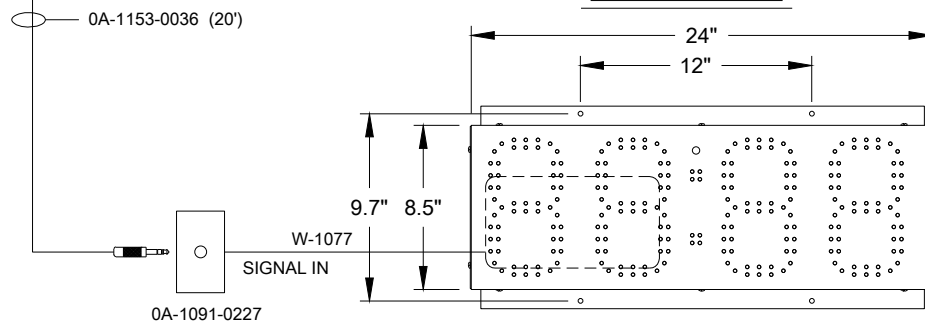


PC-2002

REAR VIEW



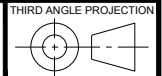
FRONT VIEW



| | | | |
|--------|-----------------|-----------------------------|---------|
| REV 02 | DATE: 29 AUG 18 | UPDATED PC-2002 MODEL VIEWS | BY: MTR |
| REV 01 | DATE: 30 OCT 14 | CHANGED W-1117 TO W-1077 | BY: KWR |



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| | | | |
|---|---------------------------------|-------------------------------|--------|
| PROJECT: | | | |
| TITLE: RISER DIAGRAM: PC-2001 AND PC-2002 | | | |
| DATE: 19AUG03 | DIM UNITS: INCHES [MILLIMETERS] | SHEET | REV 02 |
| SCALE: NONE | DO NOT SCALE DRAWING | | |
| DESIGN: | JOB NO. P1153 | FUNC - TYPE - SIZE R - 03 - A | 195172 |
| DRAWN: NBOWERS | | | |

B 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;

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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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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.

1. 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 (Selling Entity) | Column 2 (Governing Law) | Column 3 (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 | Kruikeke, Belgium |
| Daktronics Ireland Co. Ltd. | Ireland | Dublin, Ireland |

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