DSF-600 Gen 2 Series

DAKT-0204-02

Display Manual

DD2862272

Rev 0—23 February 2016

Customer:_____
Contract:_____
Model Number: _____
Serial Number:_____
Activation Date: _____

201 Daktronics Drive PO Box 5128 Brookings, SD 57006
tel 800-325-8766 fax 605-697-4700
www.daktronics.com

DAKTRONICS

DD2862272
Product 1734
Rev 0—23 February 2016

DAKTRONICS

Table of Contents

This Page Intentionally Left Blank

Section 1: How to Use This Manual

This manual explains the installation, maintenance, and troubleshooting of this video display system. For additional information regarding the safety, installation, operation, or service of this system, refer to the telephone numbers listed in **Section 10.2**. This manual is not specific to a particular installation. Contract-specific information takes precedence over any general information found in this manual.

1.1 Resources

Figure 1 illustrates a Daktronics drawing label. This manual refers to drawings by listing the last set of digits and the letter preceding them. In the example, the drawing would be referred to as **Drawing B-1185035**.

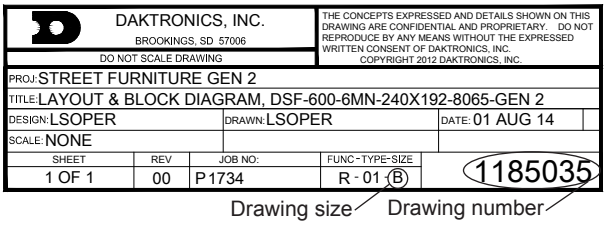


***Figure 1:** Drawing Label*

All references to drawing numbers, appendices, figures, or other manuals are presented in bold typeface, as shown in the example below:

"Refer to **Drawing B-1185035** in **Appendix A** for the locations of internal display components."

Daktronics identifies manuals by the DD number located on the cover page of each manual. For example, this manual would be referred to as **DD2862272**.

Please list the model number, display serial number, and the date this display became operational in the blanks provided on the front page of this manual. When calling Customer Service, have this information available to ensure the request is serviced as quickly as possible.

1.2 Numbering Conventions

Module Number

Figure 2 explains the module labeling method in more detail, and **Figure 3** illustrates how Daktronics numbers modules on a video display.

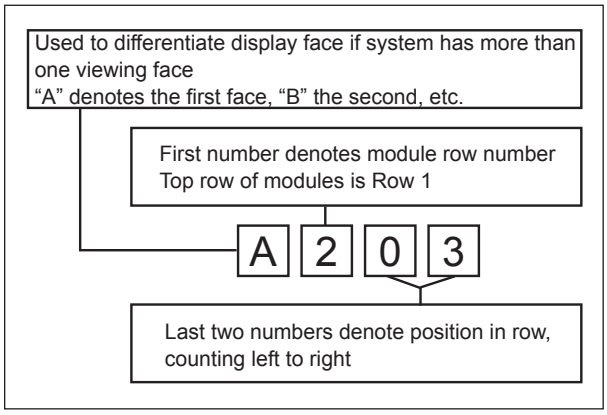


***Figure 2:** Module Numbering Breakdown*

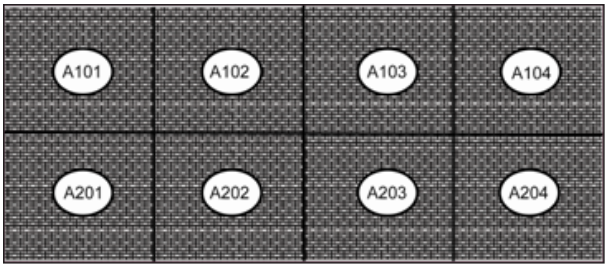


***Figure 3:** Module Numbering*

Part Number

Most display components within this video display carry a white label that lists the part number. The component part number uses the following format: 0A-XXXX-XXXX (multi-component assembly) or 0P-XXXX-XXXX (display interface board). **Section 10.2** contains the Daktronics Exchange Policy as well as the Repair & Return Program. Refer to these instructions if any display components need replacing or repairing. If an interface board or assembly is not found in the replacement parts list in **Section 10.1**, use the label to order a replacement. **Figure 4** illustrates a typical label. The part number is in bold.

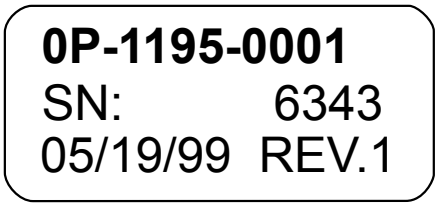


Figure 4: *Typical Label*

Part Type	Part Example	Part Number
Assembly	Display interface board and the plate or bracket to which it mounts	0A-XXXX-XXXX
Individual display interface board	ProLink Router (PLR)	0P-XXXX-XXXX
Wire or cable	SATA cable	W-XXXX

Model Number

Each video display system has a model number that explains the display specifications.

DSF-600-6MN-HHHxWWW		
DSF	=	Product series
600	=	Product generation
6MN	=	Pixel pitch/layout
HHH	=	Matrix height
WWW	=	Matrix width

1.3 Precautions

The various sections in this manual contain model-specific information, including dimensions, display configuration, and power requirements. The Shop Drawings in **Appendix A** also list dimensions, weights, and mounting instructions for each display. Refer to the label on the display entrance panel for the model number and electrical requirements.

Important Safeguards

- Read and understand the installation instructions before beginning the installation process.
- Do not drop the control equipment or allow it to get wet.
- Do not disassemble the control equipment or electronic controls of the display; failure to follow this safeguard will make the warranty null and void.
- Disconnect the display power when not in use or when servicing.
- Disconnect the display power before servicing the power supplies to avoid electrical shock. The power supplies run on high voltage and may cause physical injury if touched while powered.

Limitation of Liability

The factory warranty will be nullified if any of the following actions is performed:

- The display is not installed according to the steps in this manual.
- Proper electrical service is not provided, or the display is not properly grounded.
- Unauthorized modifications are made, panels are added, or coverings are attached to the structure without the express written consent of Daktronics.

Refer to **Appendix C** for the full Daktronics Warranty and Limitation of Liability.

This Page Intentionally Left Blank

Section 2: Specifications

2.1 Display Specifications

Feature	Specification
Ambient temperature	-35°C to 45°C (-31°F to 113°F)
Intensity (nits)	6000 (measured through glass)
Pitch (millimeters)	6.60
Power consumption	Refer to Power Spec Drawing in **Appendix A**
Resolution – module x module (pixel x pixel)	5 x 3 (240 x 144) 5 x 4 (240 x 192) 6 x 4 (288 x 192)
Structural	Refer to Shop Drawing in **Appendix A**
Viewing angle	Horizontal: 170°
	Vertical: 30° up 50° down
Water penetration	IP55

2.2 Power Specifications

Power from the termination panel breaker routes to the Power In jack on the power supplies. From there, power routes to the individual modules. ProLink Routers (PLRs) are powered by the display controller power supplies. Refer to the appropriate Layout Drawing and Power Drawing in **Appendix A** for detailed information.

This Page Intentionally Left Blank

Section 3: Installation Preparation

Follow all guidelines and safety precautions in this manual when installing the display. Do not modify the display or control system in any manner without the written permission of the Daktronics engineering staff.

Any unauthorized modifications will nullify the display warranty.

3.1 Pre-Installation Checklist

- □ Ensure the display was not damaged during shipping.
- □ Ensure the mounting structure will provide a straight and square mounting frame for the display.
- □ Confirm the support structure can carry the weight of the display and meets local and national codes.
- □ Ensure there is clearance to allow unobstructed airflow. Refer to the appropriate Shop Drawing for ventilation specifications.
- □ Ensure proper power is available at the sign structure. Refer to the Riser Drawing in **Appendix A** for display power requirements.
- □ Ensure the display cabinet has no holes (accidental or intentional) that will allow water to enter the display.
- □ Confirm all display modules are fully latched into the display cabinet.

3.2 Structural Requirements

The support structure design is dependent on the mounting method, installation height, and display size and weight. Because every installation site is unique, Daktronics approves no single procedure for mounting displays.

Review these points prior to installation:

- Ensure the display structure and mounting does not obstruct airflow. Refer to the appropriate Shop Drawing for ventilation space requirements.
- Ensure all mounting points per mounting method are used for mounting to the structure. Refer to the appropriate Shop Drawing.
- Ensure the light sensor is not obstructed to maintain proper display dimming.

For additional questions about display mounting requirements and specifications, refer to the appropriate Shop Drawing or contact Daktronics Technical Support at 800-DAKTRONics (800-325-8766).

3.3 Electrical Requirements

Size the circuits according to local and national codes so the power distribution system delivers full-load power to the display while maintaining a voltage within five percent of the nominal voltage.

Main Disconnect

Daktronics requires the installation of a power disconnect switch on the display so all ungrounded conductors can be disconnected near the point of power connection.

3.4 Required Tools

The following table lists the minimum tools Daktronics recommends having on-site for each installation. Daktronics only provides the specialized tools needed to complete the installation. These tools are located in the toolkit inside the display.

Provided by Daktronics	Provided by Customer
Safety lanyard (Daktronics part number 0A-1175-9000)	$^{3}/_{8}$" Crosby® bolt- or screw-type shackle
Module access tool (TH-1198)	Crane or lift truck
Door access tool (TH-1242)	Level
	Marking instrument (marker, pen, etc.)
	Ratchet and/or impact wrench
	Screwdrivers (flathead & Phillips-head)
	Socket set (metric sizes up to 13 mm)
	Step ladder
	Tape measure
	Utility knife
	Wrench set (metric Allen sizes up to 4 mm)

Section 4: Mechanical Installation

4.1 Transportation

- Only persons familiar with the content of this manual are authorized to install and/or transport the cabinet.
- Appropriate hoisting equipment must be used to move the unit. The equipment used must be designed to move this type of load to the desired location.
- The display must be supported as shown in **Figure 5**.

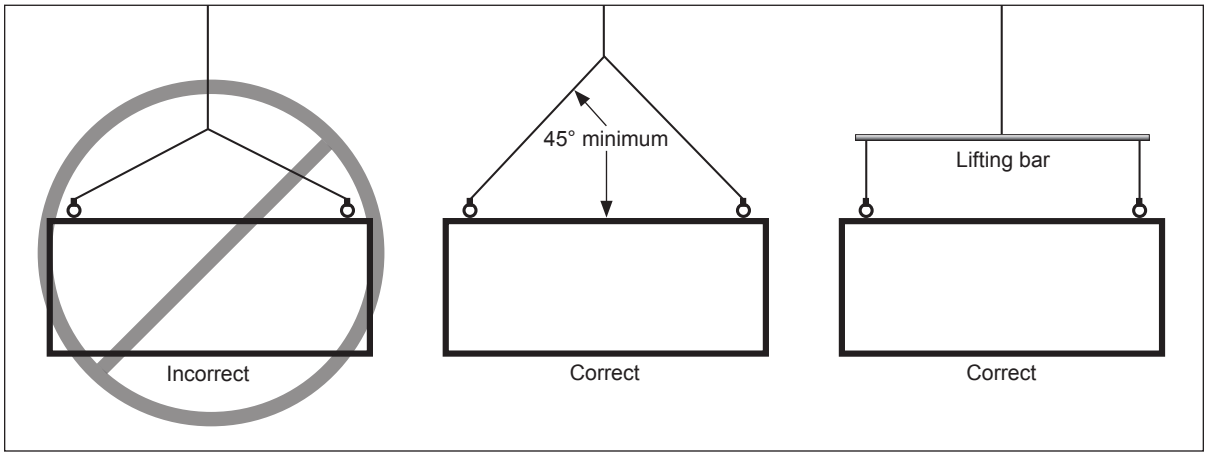


Figure 5: *Display Lifting*

- During handling, the display can be guided by hand, but the guide must be careful to avoid pinched hands or feet. Provide appropriate safety equipment, such as a helmet, safety shoes, and gloves.
- During transport as well as during all stages of handling, avoid strong physical impact that may damage the cabinet or display.

4.2 Guidelines

Transportation

- Transport the unit in the original crating to protect the display and ensure stability.
- Use proper lifting equipment to move the crate and secure it in a vehicle able to properly secure and transport the display.

Installation

- Install the cabinet only at the pre-assigned locations, taking into account conditions such as temperature, height, explosion danger, etc. Refer to **Section 4.5** for mounting instructions when installing the cabinet.
- Follow all local and electrical codes when installing the electrical system (cable section and type, grounding, fuses, etc.).

- Ensure the power source cable is correctly connected to avoid short circuits. An incorrect connection may cause electrical shocks or fire.

- Ensure the grounding cable is properly connected.

4.3 Uncrating

To uncrate the display, follow the steps below:

1. Stand the Nefab® crate upright as shown in **Figure 6** and then proceed to open it. Refer to the **DD2732324** DSF-600 Series International/Domestic Shipping Crate Field Instructions in **Appendix B** for details. The displays are not bolted to the crate.

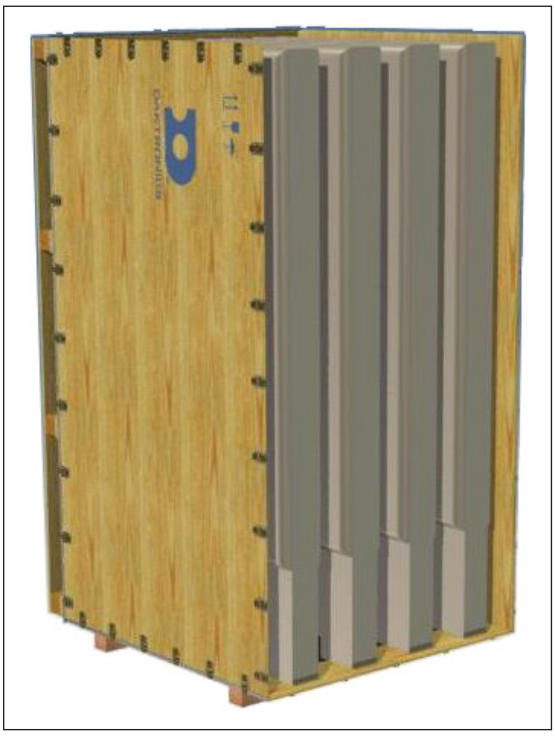


Figure 6: *Upright Crate*

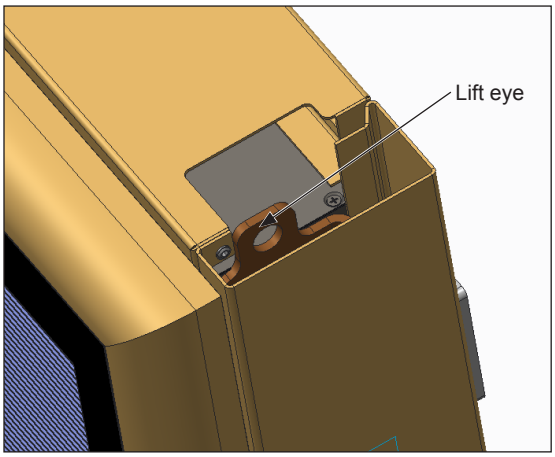


Figure 7: *Display Lift Eye*

2. Attach the display to a proper lifting system using the $^{3}/_{8}$" Crosby® bolt or screw-type shackle (provided by the customer) attached to the display lift eyes at the top of the display. Refer to **Figure 7**. Refer to **DD2732324** in **Appendix B** for details on removing the displays from the crate.

4.4 Mounting

There are different instructions for each mounting option. The display must first be removed from the shipping pallet. It will then be moved with a proper lifting system and secured to its permanent mounting location. Refer to the following subsections for a general overview of the mounting options.

Pedestal

To mount the display to a pedestal, follow the steps below:

1. Open the display door with the 5.5 mm hex tool (Daktronics part number TH-1242). Facing the sign, insert the hex tool in the right-side keyhole (located on the side of the cabinet at the bottom of the display door) and turn counterclockwise or in the left-side keyhole and turn clockwise. Ensure the display is supported with proper lifting equipment when opening the doors before the display is permanently mounted. Refer to **Figure 8** and **Figure 9**.

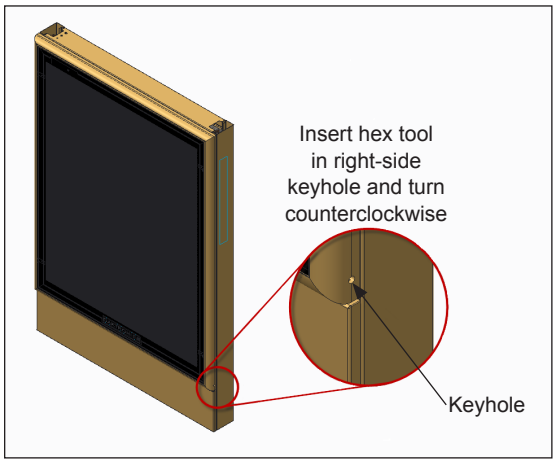


Figure 8: *Opening Single-Face Display Door*

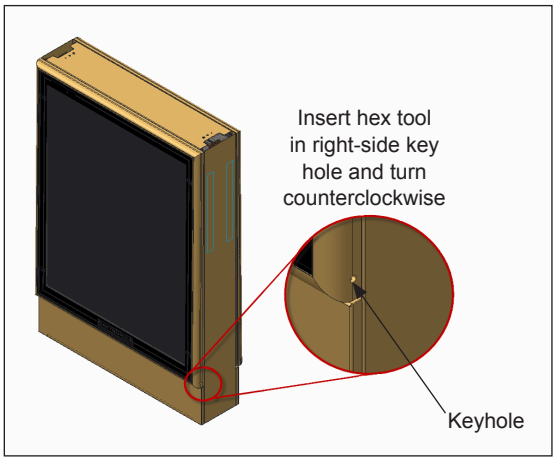


Figure 9: *Opening Double-Face Display Door*

2. Remove the base cover(s) by sliding the cover(s) up and back. Refer to **Figure 10** and **Figure 11**.

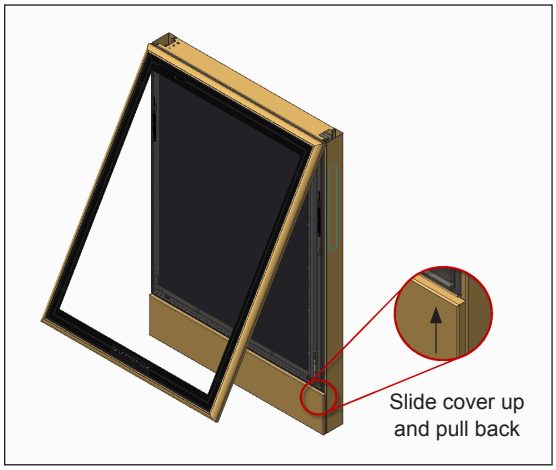


Figure 10: *Removing Single-Face Base Cover*

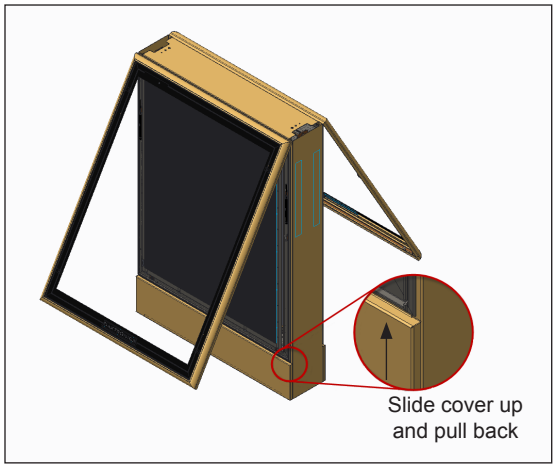


Figure 11: *Removing Double-Face Base Cover*

3. Push the display door down firmly to close and secure the door.

4. Lift the display and position it above the anchor points on the permanent base structure. The recommended minimum size anchor points are four S235 M22 mild steel-threaded rods.

5. Level the display and secure it to the anchor points with one washer and two nuts per bolt as shown in **Figure 12** and **Figure 13**. 1.9375 x 1.9375" square washers with a $^{5}/_{16}$" thickness are required for proper weld and cover clearance.

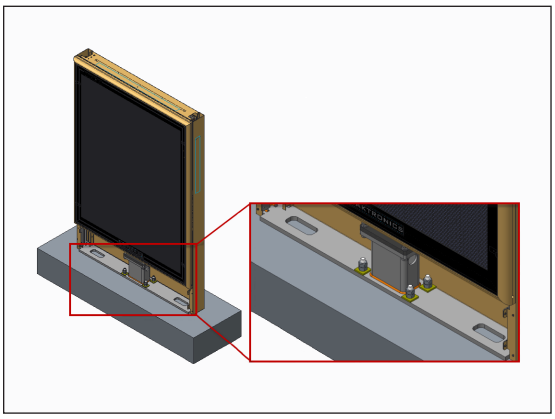


Figure 12: *Single-Face Anchor Points*

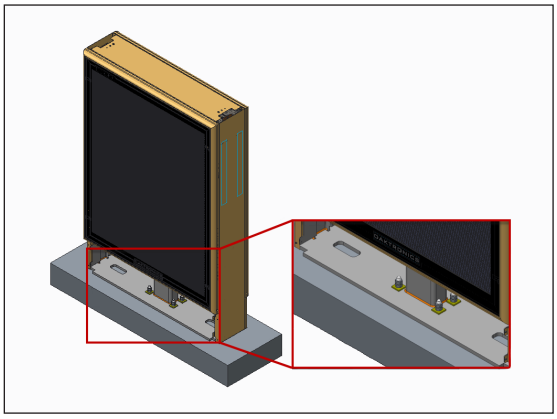


Figure 13: *Double-Face Anchor Points*

6. Remove the lifting equipment after the display is secured to the anchor points.

7. Connect the power and signal to the display to avoid removing the base cover again when making these connections. Refer to the appropriate Shop Drawing for details.

8. Open the display door with the 5.5 mm hex tool as shown in Step 1. Facing the sign, place the hex tool in the right-side keyhole and turn counterclockwise or in the left-side keyhole and turn clockwise.

9. Replace the base cover. Push the door firmly to close and secure it. Refer to **Figure 14** and **Figure 15** to view the display in its final state.

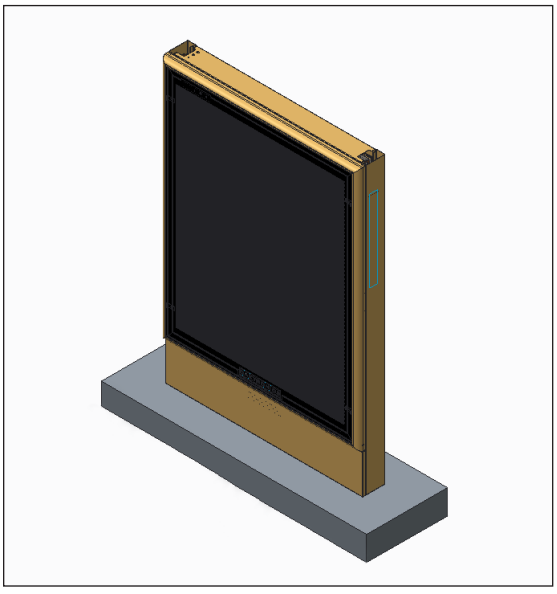


Figure 14: *Single-Face Pedestal Mount*

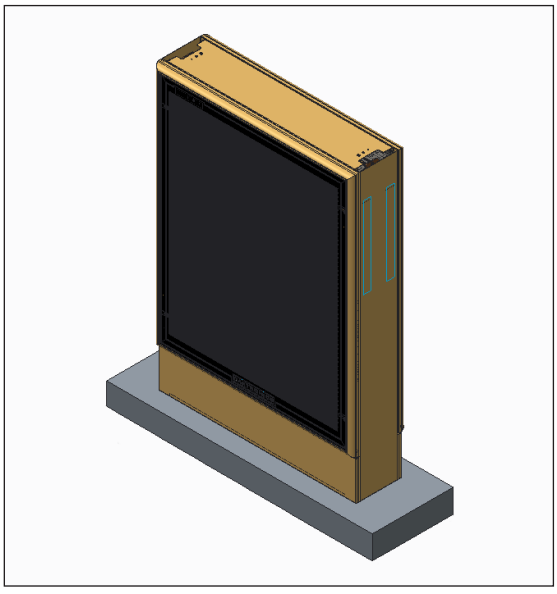


Figure 15: *Double-Face Pedestal Mount*

Pole/Flag

To mount the display to a pole or flag, follow the steps below:

1. Open the display door with the 5.5 mm hex tool (Daktronics part number TH-1242). Facing the sign, place the hex tool in the right-side keyhole (located on the side of the cabinet at the bottom of the display door) and turn counterclockwise or in the left-side keyhole and turn clockwise. Ensure the display is supported with proper lifting equipment when opening the doors before the display is permanently mounted. Refer to **Figure 16** and **Figure 17**.

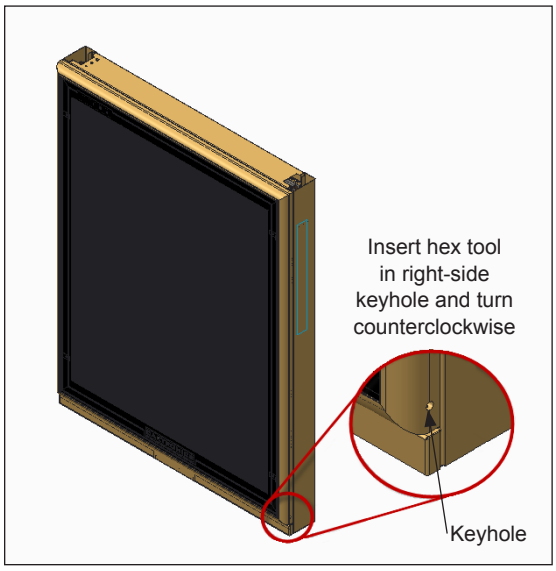


Figure 16: *Opening Single-Face Display Door*

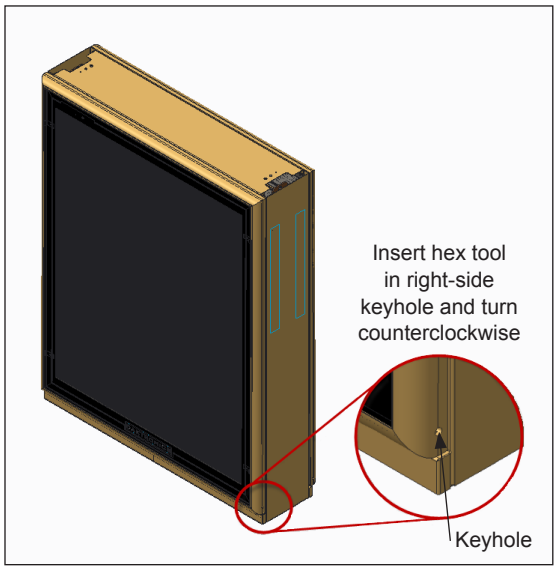


Figure 17: *Opening Double-Face Display Door*

2. Remove the base cover(s) by sliding the cover(s) up and pulling back. Refer to **Figure 18** and **Figure 19**.

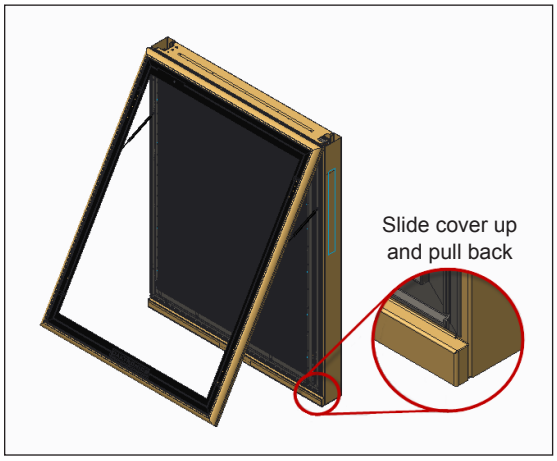


Figure 18: *Removing Single-Face Base Cover*

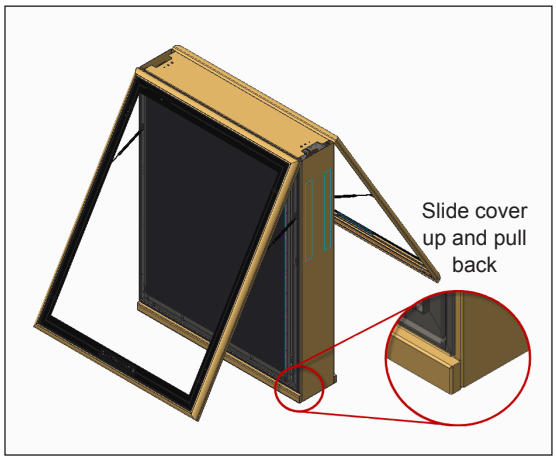


Figure 19: *Removing Double-Face Base Cover*

3. Remove the bottom shroud:

   - **Single-faced displays:** Remove the left- and right-side shrouds. With the door in the open position, use a Phillips screwdriver to remove the side shroud front screws attaching through the cabinet perimeter extrusion from the front of the display. Each side has two screws, one near the bottom and one near the top. After this hardware is removed, the side shrouds will lift up and can be set aside. Retain the hardware. Refer to **Figure 20**. The rear bottom cover can now be removed by sliding the cover to the right (when viewing the display from the rear). Refer to **Figure 22**. The bottom two covers can then be removed using a 5 mm Allen wrench to remove the brackets holding the covers in place. The brackets are located on the front and rear. Refer to **Figure 21**.

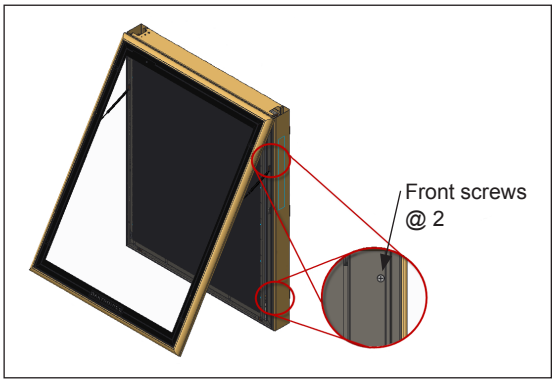


Figure 20: *Removing Shroud*

   - **Double-faced displays:** With the doors in the open position, use a 5 mm Allen wrench to remove the brackets securing the two bottom covers. Retain the hardware. The brackets are located on both the front and rear faces as shown in **Figure 21**.

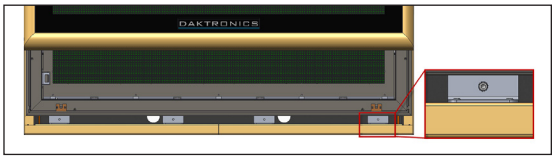


Figure 21: *Removing Bottom Cover Brackets*

4. Push the display door down firmly to close and secure the door.

5. Lift the display and position it above the anchor points on the permanent pole/flag mounting structure.

6. Connect the power and signal to the display.

7. Secure the display to the pole/flag mounting structure with the Daktronics-supplied M16 bolts. Refer to **Figure 22**.

8. Remove the lifting equipment after the display is secured to the mounting structure.

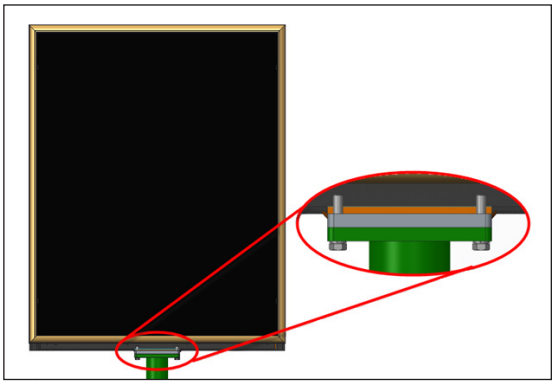


Figure 22: *Securing Display to Mounting Structure*

9. Open the display door with the 5.5 mm hex tool as shown in Step 1. Facing the sign, place the hex tool in the right-side keyhole and turn counterclockwise or in the left-side keyhole and turn clockwise.

10. Replace all covers removed in the previous steps in reverse order. Push the door firmly to close and secure it. Refer to **Figure 23** and **Figure 24** to view the display in its final state.

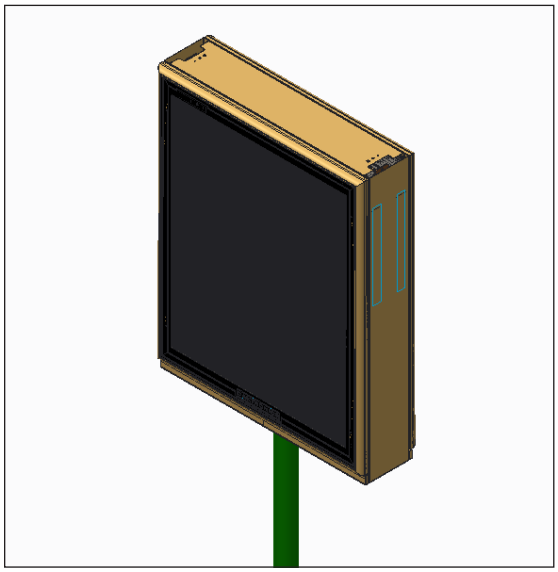


Figure 23: *Single-Face Pole/Flag Mount*

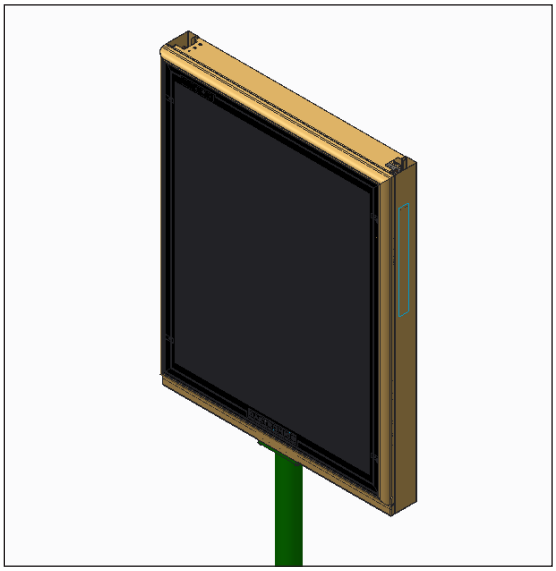


Figure 24: *Double-Face Pole/Flag Mount*

Wall

1. Open the display door with the 5.5 mm hex tool (Daktronics part number TH-1242). Facing the sign, place the hex tool in the right-side keyhole (located on the side of the cabinet at the bottom of the display door) and turn counterclockwise or in the left-side keyhole and turn clockwise. Ensure the display is supported with proper lifting equipment when opening the doors before the display is permanently mounted. Refer to **Figure 25**.

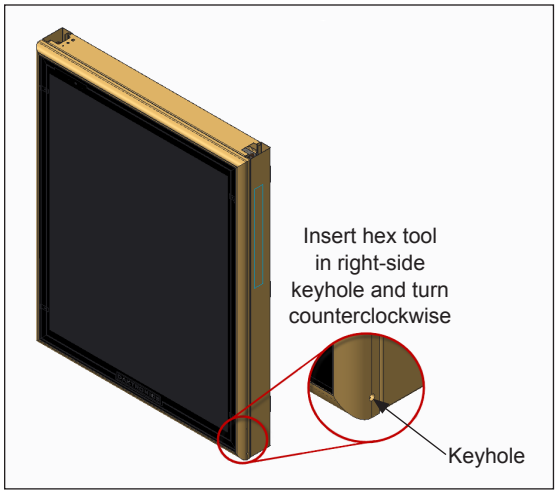


Figure 25: *Opening Display Door*

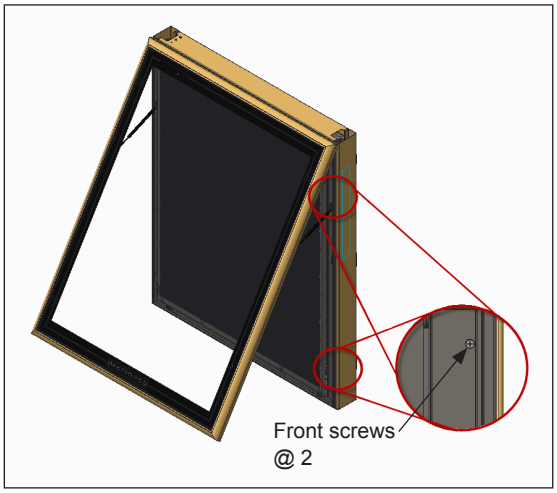


Figure 26: *Removing Base Cover*

2. Remove both side covers. Use a Phillips screwdriver to remove the side shroud front screws attaching through the cabinet perimeter extrusion from the front of the display with the door open. Each side has two screws, one near the bottom and one near the top. After this hardware is removed, the side shrouds will lift up and can be set aside. Refer to **Figure 26**.

3. Push the display door down firmly to close and secure the door.

4. Remove the six bolts (three per side) from the wall-mounting frame with a 13 mm wrench to separate the frame from the rear of the display assembly. Retain the hardware. Refer to **Figure 27**.

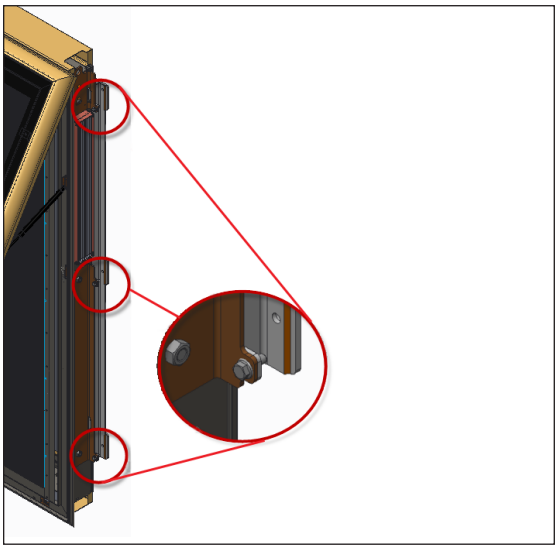


Figure 27: *Removing Wall-Mounting Frame*

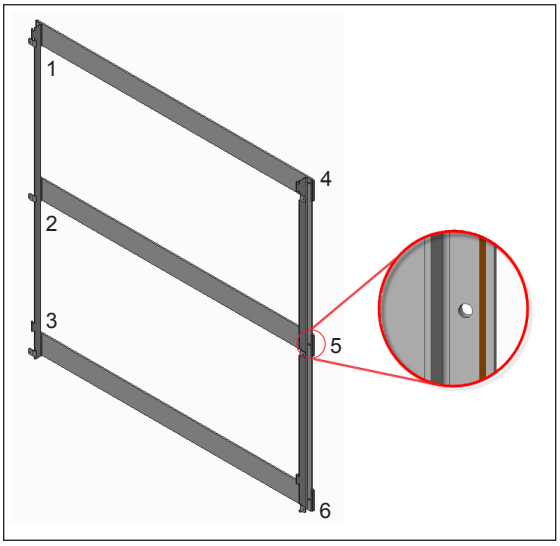


Figure 28: *Attaching Wall-Mounting Frame*

5. Attach the wall-mounting frame to the wall structure at six locations with the proper anchoring system (provided by others). Refer to **Figure 28**.

   Note: At this point, consider the power and signal connection locations to avoid having to lift the display cover off after the connections are made. Electrical connections should be made through the holes provided in the rear of the cabinet. Refer to **Figure 29**.

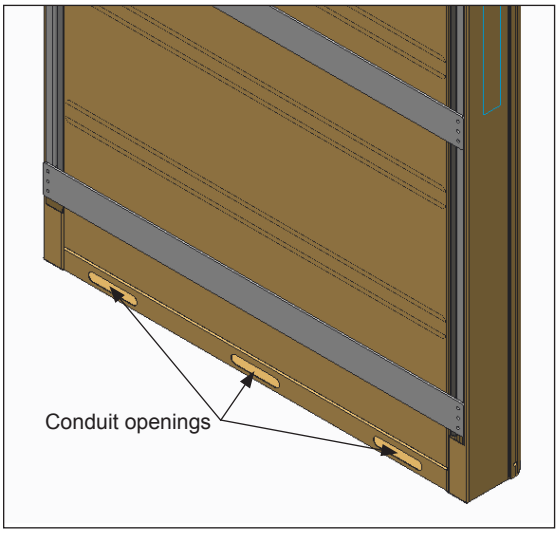


Figure 29: *Electrical Conduit*

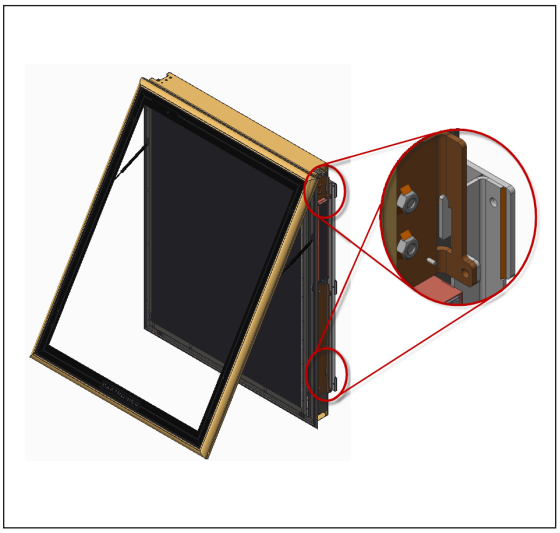


Figure 30: *Positioning Display on Frame Hook*

6. Ensure the display door is closed and lift the display and position it onto the wall-mounting frame hook at two locations per side. Refer to **Figure 30**. After the display is resting on the wall-mounting frame, re-open the door.

7. Re-install the six bolts removed in Step 4 to secure the display on the wall-mounting frame.

8. Remove the lifting equipment after the display is secured to the anchor points. Open the display door with the 5.5 mm hex tool as shown in Step 1. Facing the sign, insert the 5.5 mm hex tool in the right-side keyhole and turn it counterclockwise or in the left-side keyhole and turn it clockwise.

9. Replace the side covers. Push the display door firmly down to secure and close it. Refer to **Figure 31** to view the display in its final state.

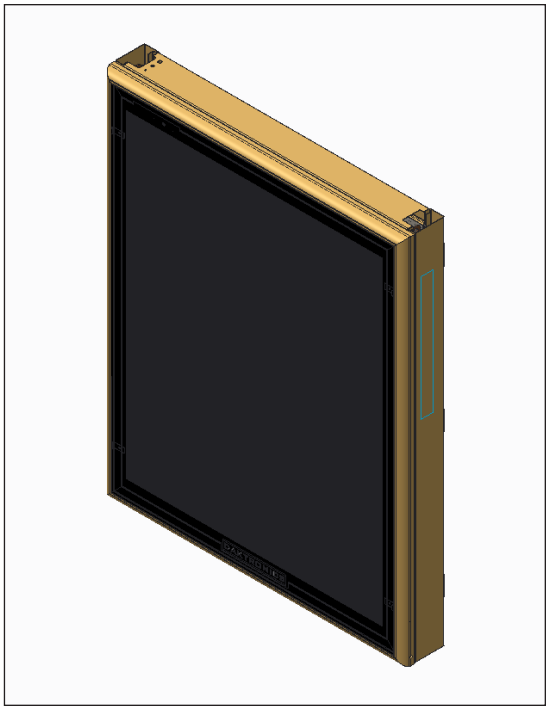


Figure 31: *Single-Face Wall Mount*

This Page Intentionally Left Blank

Section 5: Electrical Installation

This display is intended to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.

This display is suitable for wet locations. Daktronics engineering staff must approve any changes that may affect the weather tightness of the display. If ***any*** modifications are made to the weather tightness of the display, detailed drawings of the changes ***must*** be submitted to Daktronics engineering staff for evaluation and approval, or the warranty will be null and void.

Only qualified individuals should access the electrical components of this display and its associated equipment.

5.1 Electrical Precautions

Daktronics recommends that a separate circuit is run to the electronic display(s) to isolate it and prevent any issues that could be caused by other types of equipment (e.g. line voltage fluctuations or high frequency noise on power lines). A separate circuit also makes display maintenance and troubleshooting easier. Daktronics assumes no liability for any issues caused by line voltage fluctuations or other improper power conditions if these recommendations are not followed.

5.2 Power Summary

Power from the termination panel breaker routes to the Power In jack on the power supplies. From there, power routes to the individual modules. ProLink Routers (PLRs) are powered by the display controller power supplies. Refer to the Power, System Riser, and Schematic Drawings in **Appendix A** for detailed power information.

DSF-600 Power Specifications Per Face				
Matrix Size	**Maximum Watts**	**120VAC 1PH 60Hz Amps**	**240VAC 1PH 50HZ Amps**	**Agency RMN**
240 x 144	1236	10.3	5.15	DAKT-0204-02
240 x 192	1556	12.97	6.49	DAKT-0204-02
288 x 192	1859	15.49	7.75	DAKT-0204-02

5.3 Display Power

All display grounding, power routing, and termination must meet or exceed local codes and standards.

Correct power installation is imperative for display operation. The following subsections give details on display power installation. Only qualified individuals should attempt the electrical installation; untrained personnel should not attempt to install the displays or any of the electrical components. Improper installation could result in serious equipment damage and could be hazardous to personnel.

Refer to contract-specific documentation to determine who is responsible for providing conduit and pulling cable through the conduit.

Grounding

The display must be properly grounded according to the National Electric Code (NEC) and any other local or national codes, or the warranty will be null and void.

The display system must have proper earth-ground connection. Proper grounding is necessary for reliable equipment operation, as it protects the equipment from destructive electrical disturbances and lightning.

The material of an earth-ground electrode differs from region to region and varies with conditions present at the site. Consult local grounding codes. Daktronics does not recommend using the support structure as an earth-ground electrode; concrete, primer, corrosion, and other factors make the support structure a poor ground.

Note: The support structure may be used as an earth-ground electrode if designed to do so. A qualified inspector must approve the support structure and grounding methods.

Power Installation

1. Connect the grounding electrode cable to the ground bar attached on the termination panel or to the ground lug located behind the display's base cover.

2. Use a disconnect that opens all ungrounded phase conductors.

The display uses one termination panel per display face for power. Refer to **Figure 32** and the Power Entrance Drawing in **Appendix A** for installation details.

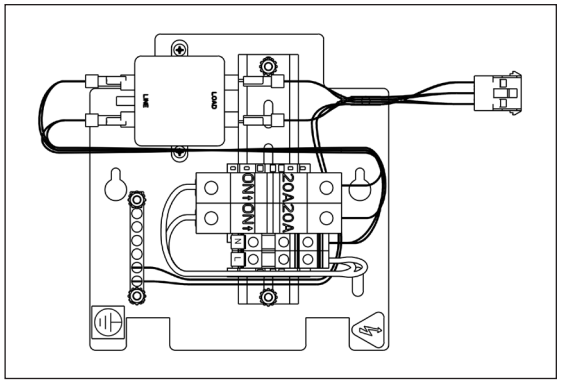


Figure 32: *Power Entrance*

Main Disconnect

Refer to the Riser Drawing in **Appendix A** to determine who must supply a fused main distribution/disconnect and the necessary wiring for power distribution to multiple display termination panels.

The disconnect mechanism must be located in direct line of sight from the display it controls. This allows workers to keep the disconnect mechanism in view while performing display maintenance.

Power disconnects capable of locking in the open position may be located in an out-of-sight location.

The customer or contractor is responsible for conduit and wire unless stated otherwise on the contract-specific documentation.

Power Termination at the Termination Panel(s)

All power routing and termination must comply with local and national codes and standards. Display grounding must agree with local and national codes and standards.

When terminating power at the termination panel, the individual power phases must balance as evenly as possible. Current draw per line, as noted on the Riser Drawing in **Appendix A**, is stated as the high leg current draw.

Refer to the Power Entrance Drawing in **Appendix A** for power termination information. Power is terminated in each display face.

5.4 Signal Summary

Refer to the Layout & Block Diagram in **Appendix A** for information on power harnessing, component placement, and how data passes from one ProLink Router (PLR) to the modules.

Each PLR sends data to the modules within the display; refer to the Layout & Block Diagram for further information on routing. Signal exits from Fiber Port B on the PLR and routes to Fiber Port A on the next PLR via fiber-optic cable. Refer to **Figure 33**, as it illustrates a typical signal routing layout. Refer to the Layout & Block Diagram for further information.

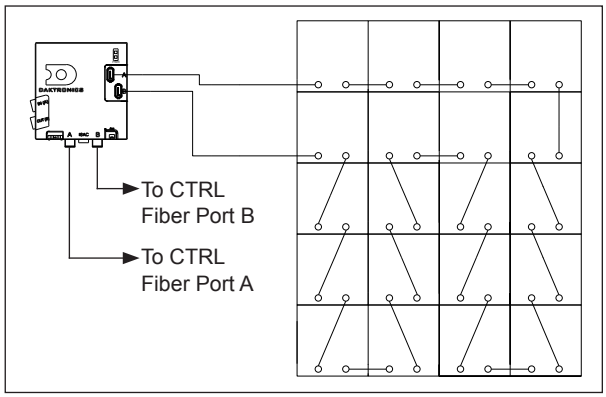


Figure 33: *Signal Routing (Front View)*

5.5 Common Connectors

When pulling a connector plug from a jack, do not pull the wire or cable; detach the jack itself. Pulling the wires may damage the connector. These connectors are not found in every display.

Fiber-Optic Connector

LC connectors are square. To remove an LC connector, depress the small clip on the jack and gently remove. Refer to **Figure 34**.

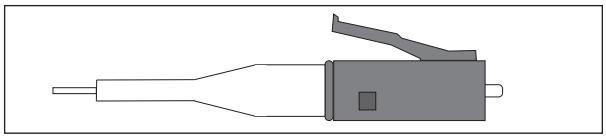


Figure 34: *LC Fiber-Optic Connector*

Water-Tight SATA Cable Connector

Daktronics uses a wide variety of SATA cables and SATA cable connectors. **Figure 35** illustrates one of the most commonly used connectors. To disconnect the SATA cable connector, squeeze the locking clips on both sides of the connector inward and pull the plug out of the jack.

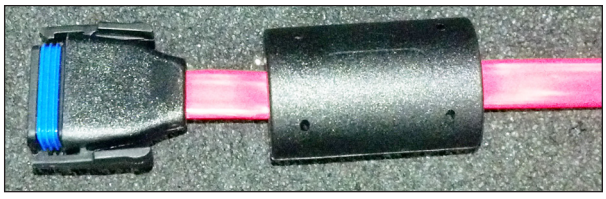


Figure 35: *SATA Cable Connector*

5.6 Control Cable

Refer to the Riser Drawing in **Appendix A** for specifications on signal and power cable runs. The display controller (DMP-8065 or VIP-5160) reads the video or image signal and feeds the information to the router for distribution. Refer to the **DD1881645** DMP-8000 Operator's Manual or **DD2773152** VIP-5X6X Operator's Manual for more information on the controller.

The minimum bend radius for this fiber-optic cable is 15 times the outside diameter of the cable or 7". Refer to the Riser Drawing for the outside diameter of the cable in this system. All fiber-optic runs must be continuous, except where noted on the Riser Drawing.

5.7 Display Wiring

The drawings listed illustrate the path of the wiring for the display. Use the Layout & Block Diagram in **Appendix A** specific to the model being wired for the proper diagram.

5.8 Display Continuity Check

Before turning on power to the display, perform a continuity check to ensure no short circuits occurred due to shipping vibration.

Caution: Before performing these steps, ensure all breakers are off.

1. Locate the termination panel. Refer to **Figure 36**.
2. Use an ohmmeter and place one probe on the neutral terminal and another probe to each of the taps on the breaker wire terminal. Repeat the same test for each breaker.
3. Place one probe to the earth ground and one to each of the breaker wire terminals and repeat for each breaker.

All tests should result in a reading of infinity or indicate an open circuit.

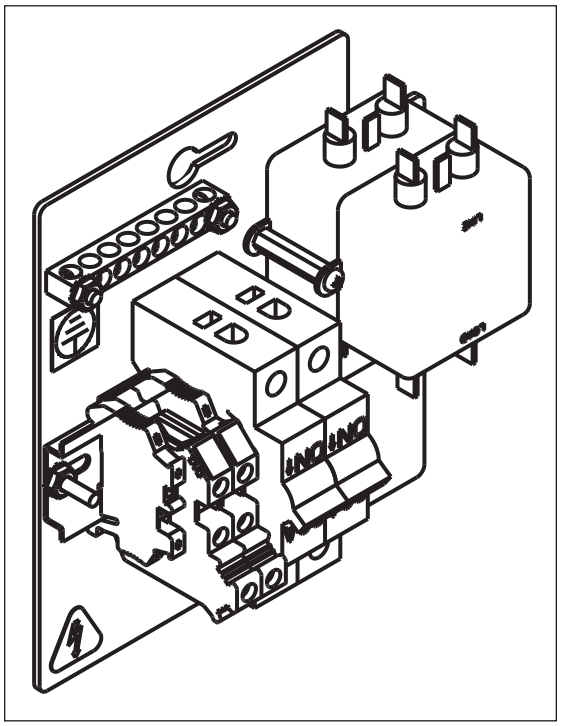


Figure 36: *Termination Panel*

5.9 Signal Redundancy

There are two different levels of signal redundancy: module redundancy, which is part of the standard design, and full-data redundancy.

Standard Module Redundancy

Module redundancy provides a primary and redundant SATA connection throughout the entire display to protect the system from signal failure. If a module in the middle of a signal chain fails, the redundant signal path takes over and limits the signal failure to that single module.

Full-Data Redundancy

Full-data redundancy provides primary and redundant fiber connection between the display controller (DMP-8065 or VIP-5160) and the ProLink Router (PLR). If the primary fiber connection fails, the redundant path takes over.

Testing

To test the module redundancy wiring, locate the Layout & Block Diagram in **Appendix A** to verify where the ProLink Routers (PLRs) are located. The display needs to be powered and running content. Disconnect the SATA cable from Port A of each PLR individually and verify all modules still display content correctly; reconnect the SATA cable. Disconnect the SATA cable from Port B of each PLR individually and verify all modules still display content correctly; reconnect the SATA cable.

To test the fiber redundancy, locate the Layout & Block Diagram to verify where the PLRs are located within the display. The display needs to be powered and running content. Disconnect the fiber from Port A of the display controller. Verify the display is displaying content directly, then reconnect the fiber to Port A. Repeat the test with fiber removed from Port B and reconnect the fiber cable.

If available, Intelligent Device Management (IDM) can also verify the system is working as intended. Refer to the **DD2097912** IDM User Manual.

5.10 Power Redundancy

Redundant power is included in the system using an N+1 power supply redundancy configuration for protection against module power failure. If a power supply fails, the redundant power supply provides backup power to the affected module. In regular conditions, the redundant power supply remains auxiliary.

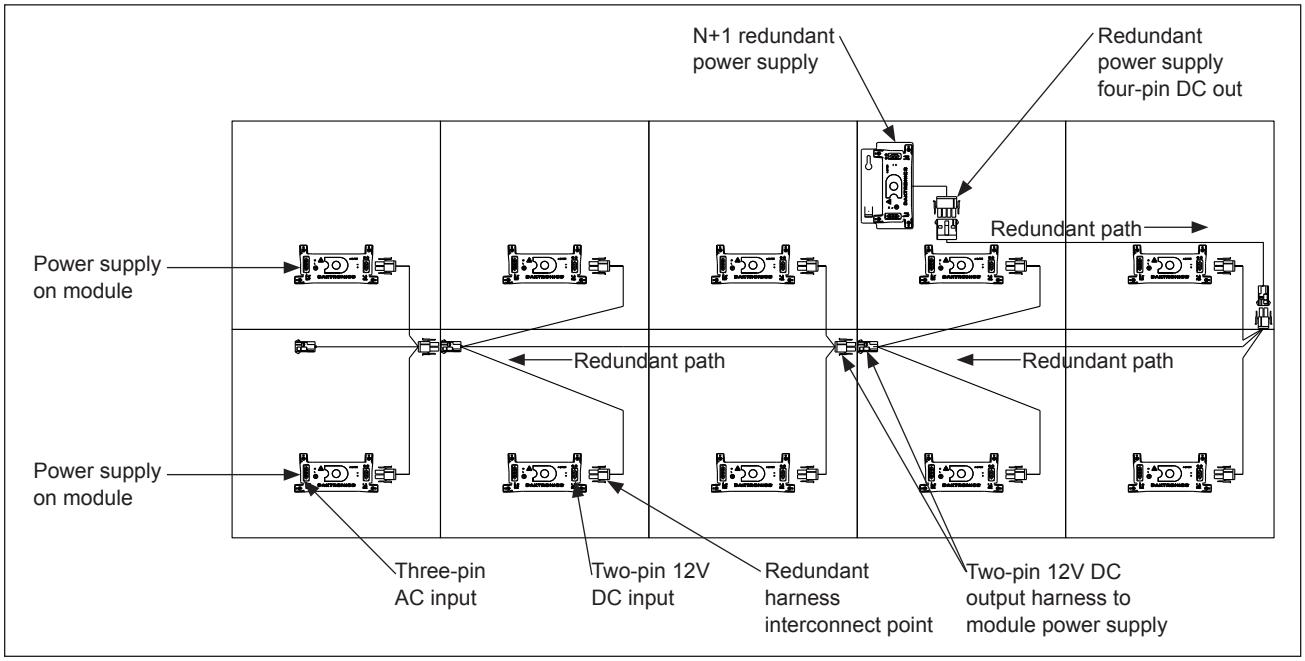


Figure 37: *Power Redundancy*

Testing

To test the redundant power wiring scheme/setup with power applied to the display, locate the last module(s) on the redundant harnessing bus system. Refer to the Layout & Block Diagram in **Appendix A** for wiring information and component placement. Disconnect the three-pin AC power to the power supply on the module. Verify the LEDs or indicator lights on the module remain lit to ensure the module continues to work after the AC power is disconnected.

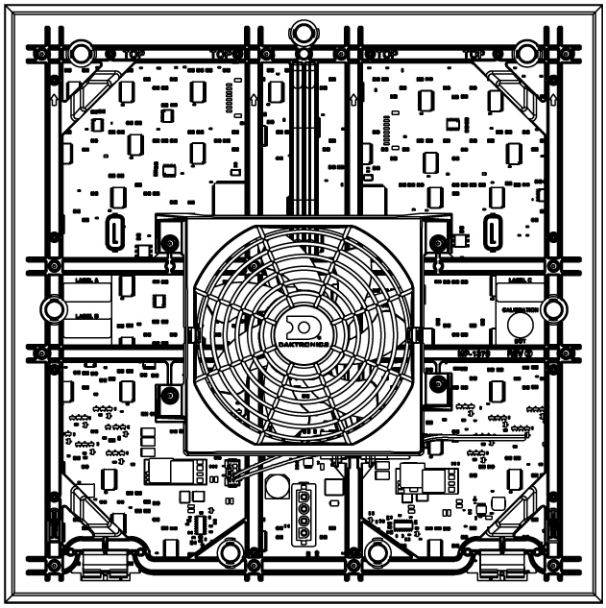


Figure 38: *Module Rear with Jacks*

This Page Intentionally Left Blank

Section 6: Display Startup

Displays with an embedded DMP-8065 controller consist of the standard product with the added controller and are controlled with Venus® software. Refer to the **DD3016537** Venus® Quick Start Guide for basic operation of the Venus® software.

6.1 Startup Checklist

- □ Confirm all communication equipment is installed according to the provided documentation.
- □ Confirm any necessary network connections have been made.
- □ Confirm the Venus® software is installed on the control computer (provided by the customer).

6.2 Display Powerup

To power up the display, follow the steps below:

1. Turn on the main disconnect to power up the display and verify the circuit breakers inside the display are also switched on.
2. Verify the control system powers on automatically and is fully functional before proceeding.
3. Run an initialization/power up script or animation/logo on the display.
4. Run a test pattern from the Video Image Processor (VIP) to quickly ensure the display is operating.
5. Run test content from the Digital Media Player (DMP) to ensure it is communicating with the VIP and sending output to the display.

6.3 System Startup

The display shows a boot sequence shortly after the power is turned on. The information in this sequence is very useful when using Venus® software to configure the display.

Boot Sequence

The information in the boot sequence includes the following:

- Firmware name & version
- Display size (pixels high by pixels wide)
- Dynamic Host Configuration Protocol (DHCP)-assigned name
- IP address & state
- Media Access Control (MAC) address
- Configuration port
- Status port

- Management port (used to access configuration)
- Description

6.4 Network & Communication Installation

This section explains the network settings of the display with the embedded controller and gives basic guidance for integrating a display with a customer's network. It also provides basic information about the standard communication options available.

Daktronics is not responsible for setting up displays on a wide area network (WAN) but does assist with setting up communication on a local area network (LAN) or directly to a laptop.

When installing network and communication, be aware of the following:

- Do not turn on the display until all network and communication installation is complete.
- Have a laptop with internet access on-site (preferred).
- Work with a customer's IT professional for network integration (preferred).

Network Connection

The display with the embedded controller uses Dynamic Host Configuration Protocol (DHCP) by default, allowing the customer's network to configure the display and eliminating manual configuration of the player.

When the display is connected to a network that supports DHCP, a default DHCP name similar to "DAKTXXXXXX," "XXXXXX" representing the last six digits of the player's MAC address, is used. This information displays during the boot sequence.

Ports 4500-4525 must be open for communication on the switch or router.

Computer Connection

If the Dynamic Host Configuration Protocol (DHCP) is not available when connecting the display directly to a computer, the display's AutoIP feature assigns an IP address. AutoIP addresses fall into the range of 169.254.0.0 to 169.254.255.255. The IP address displays during the boot sequence when the display first turns on.

6.5 Static IP Address Setting

Setting a static IP address on a display requires the following:

- Laptop with Java®, Silverlight®, DisplayFind (installed from the Venus® software in the Utilities folder), and Internet Explorer® programs installed
- Display IP address (provided by customer)
- Ethernet patch cable to connect computer to display

Work with Daktronics Technical Support when programming a static IP address on the player.

When performing maintenance work on the display, Daktronics recommends using the tools listed and placing them in a convenient, easy-to-access location.

Section 7: Communication & Third-Party Equipment

7.1 Player

Feature	Specification
Diagnostic	Must have ability to detect player-level failures and report them
Network Communications	Ethernet Dynamic Host Configuration Protocol (DHCP) or Static for IP address settings
Physical Size	Maximum dimensions 203 mm x 203 mm x 70 mm
Power	120-240 VAC
Resolution	1280 x 720 @ 60 Hz with content rendered at pixel location (0, 0) in upper-left corner
Temperature Rating	-30°C to 65°C (-22°F to 149°F)
Video Connection	DVI-D

7.2 Router

Feature	Specification
Network Communications	Dynamic Host Configuration Protocol (DHCP) and Static for IP address settings
Number of Ports	Minimum of four
Physical Size	Maximum dimensions 203 mm x 203 mm x 70 mm
Power	120-240 VAC
Temperature Rating	-30°C to 65°C (-22°F to 149°F)

7.3 Modem

Feature	Specification
Physical Size	Maximum dimensions 203 mm x 203 mm x 70 mm
Power	120-240 VAC
Temperature Rating	-30°C to 65°C (-22°F to 149°F)

7.4 Third-Party Installation

Player

To install a third-party player, follow the steps below:

1. Open the display door by following Step 1 for the appropriate model of display in **Section 4.5**.
2. Remove the modules to gain access where necessary. Refer to **Section 8.5**.
3. Refer to the Layout & Block Diagram in **Appendix A**. An illustration with components similar to **Figure 39** will indicate the locations for installing third-party equipment. These locations are labeled as ISP1 and ISP2.
4. Refer to the Universal Mount Drawing in **Appendix A** for bracket adjustability.
5. Install the third-party player in one of these open locations.

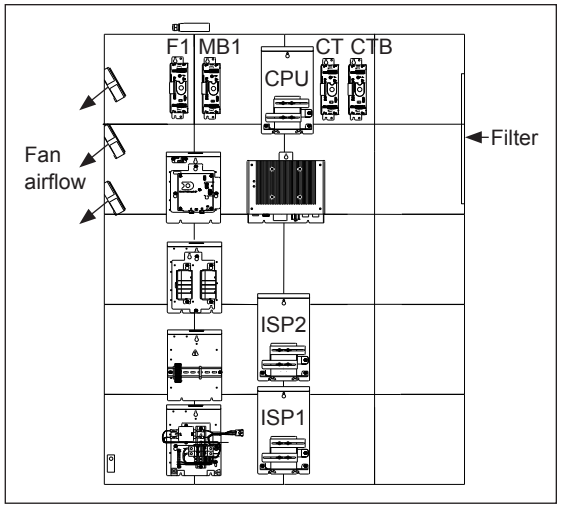


Figure 39: *Component Mounting Layout*

Note: The player must operate within the specifications found in **Section 7.1**.

Antenna

To install a third-party antenna, follow the steps below:

1. Locate the three optional antenna holes supplied in the top shroud of the display. Refer to **Figure 40**.

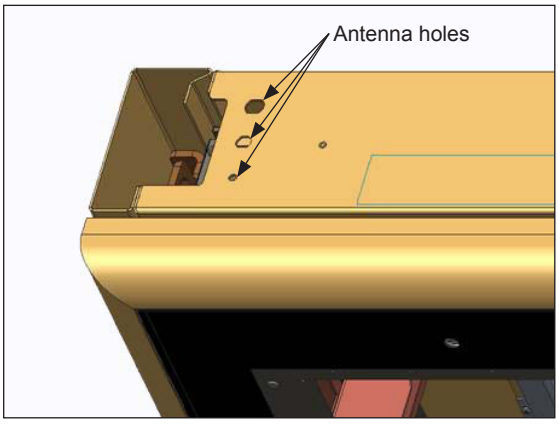


Figure 40: *Optional Antenna Holes*

2. Determine which hole is best suited for the antenna installation based on dimensions (shown in mm) in **Figure 41**.

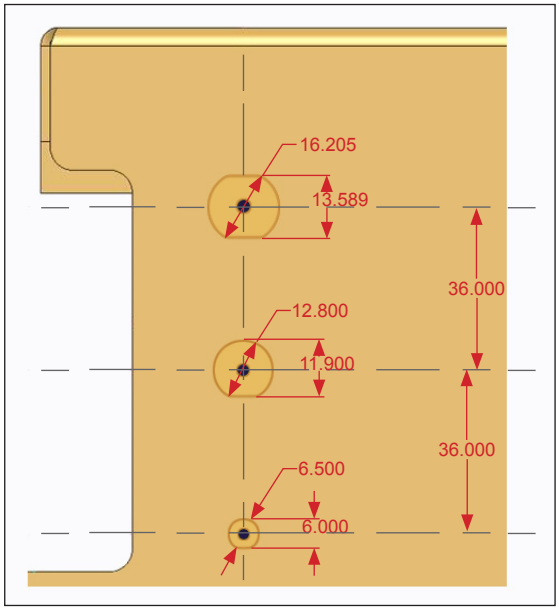


Figure 41: *Antenna Hole Dimensions*

3. Verify the antenna mounting clearance with the space provided between the top shroud and the cabinet top perimeter is 53 mm. Refer to **Figure 42**.

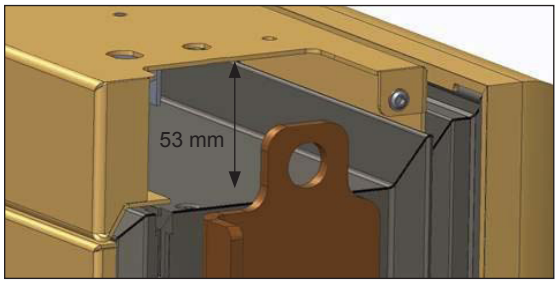


Figure 42: *Antenna Mounting Clearance*

4. Route the antenna cable inside the side shroud down to the bottom of the cabinet. Refer to **Figure 43**.

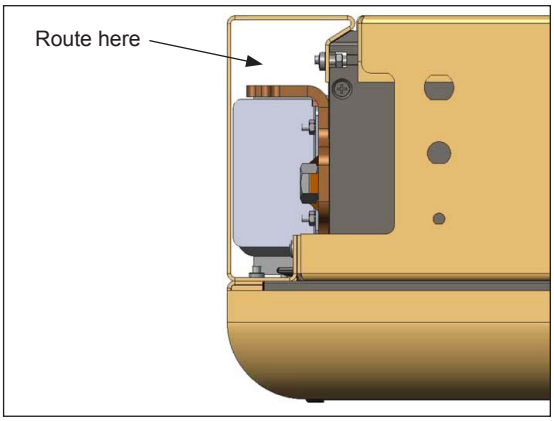


Figure 43: *Side Shroud (Top View)*

5. Route the antenna cable through the power/signal access holes supplied in the bottom cabinet perimeter as shown in **Figure 44** and terminate to proper equipment.

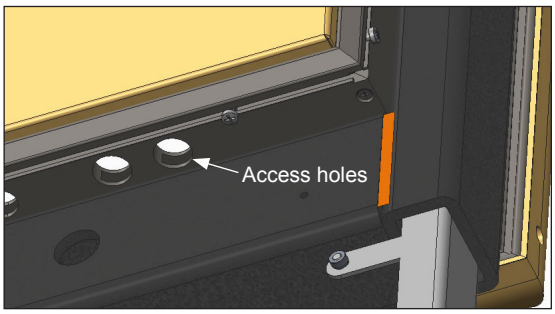


Figure 44: *Power/Signal Access Holes*

This Page Intentionally Left Blank

Section 8: Maintenance

Turn off power to the display before performing any repair or maintenance work.

Only qualified service personnel may access internal electronics.

Dirt and contaminants may enter the display if it is operated without the fan filters in place. These contaminants may cause premature failure of the electronic components. Operating the display with dirty fans and filters will make the warranty null and void.

Daktronics engineering staff must approve any changes that may affect the display's weather tightness. This includes, but is not limited to, border shrouding, back sheets, cooling fans, fan filters, and filler panels. If any changes are made to the display's weather tightness, submit detailed drawings to Daktronics engineering staff for evaluation and approval, or the warranty will be null and void.

8.1 Cabinet Description

Year of delivery: _____

The cabinet includes the following items:

- Steel frames
- Aluminum cabinet construction
- Claddings/face sheets
- Aluminum door frames (including safety glass pane)
- Ventilation structural ports
- Electrical component panels

8.2 Cabinet Precautions

- Do not perform any maintenance in wet or rainy weather conditions.
- Do not perform any maintenance in heavy wind or stormy weather conditions (e.g. extreme wind speeds over 30 mph).
- Do not allow metal cuttings to enter the product during maintenance work.
- Do not expose the product to flammable or explosive gases.
- Use caution when working on the unit or use proper hand protection, as some edges of the product may be sharp.
- Use only original components from Daktronics when replacing any parts. Consult Daktronics for information on spare parts or any technical issues. Refer to **Section 10.1** for replacement part information.

8.3 Yearly Maintenance Checklist

- □ Disconnect the main power supply.
- □ Clean the cabinet.

  Note: The outside of the cabinet can be cleaned with hot water and standard (mild) cleaning detergents. Do not use strong detergents such as acetone to clean the box, as they will damage the coating. Do not use a pressure cleaner because moisture will penetrate the cabinet. The inside of the cabinet can be cleaned with a damp cloth.
- □ Check for any loose, damaged, or broken electric wiring; replace where necessary.
- □ Check for any other damaged or missing parts; replace where necessary.
- □ Check all bolts and screws; replace any that are missing and tighten all loose screws and bolts.
- □ Grease the door lock mechanism and the lock plates on moving parts.
- □ Check for any sharp edges due to damaged parts; replace where necessary.
- □ Check for corrosion on metal parts; replace where necessary.
- □ Clean the rubber door seal profiles (where applicable); replace any damaged seals. Check for any out-of-place seals and return them to their original position.
- □ Close the box and turn on the power supply.
- □ Test for proper operation.

8.4 Cabinet Access

To access the cabinet, follow the steps below:

1. Unlock the door on the side of the cabinet where maintenance is needed. The door will hinge open automatically.
2. Locate the component to remove on the Layout & Block Diagram in **Appendix A**.
3. Open the door to access the modules.
4. Remove the modules as required using the module removal tool (Daktronics part number TH-1198). Refer to **Section 8.5**.
5. Disconnect power to the display by flipping the power breakers inside the display.
6. Use a $^{5}/_{16}$" nutdriver or Phillips screwdriver to loosen the set screw holding the mounting plate to the display.
7. Detach the cables and gently remove the component from the display.

Reverse these steps to install a new component, always disconnecting power to the display first. Tighten the mounting screw tightly.

8.5 Module Access

Module

The module is a grid of LEDs and technology that supports the long life of the video output. Maintenance and function of the module as a whole is explained in the **DD2554371** MOD-PL51.57PAD0KT Module Manual. Refer to **Figure 45** and **Figure 46** for a front and rear view of the module.

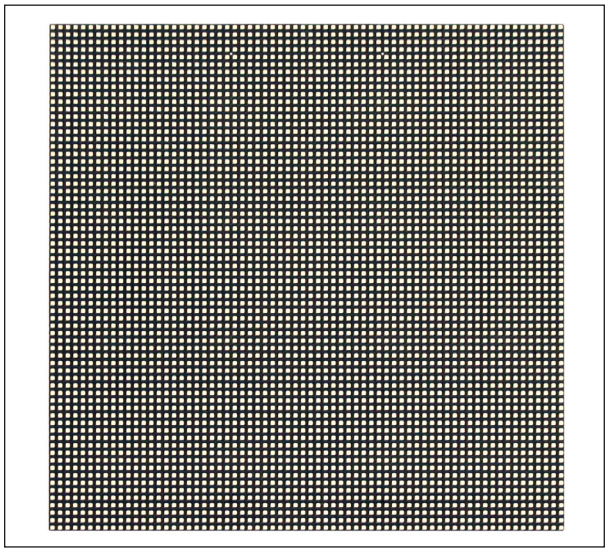


Figure 45: *Module Front*

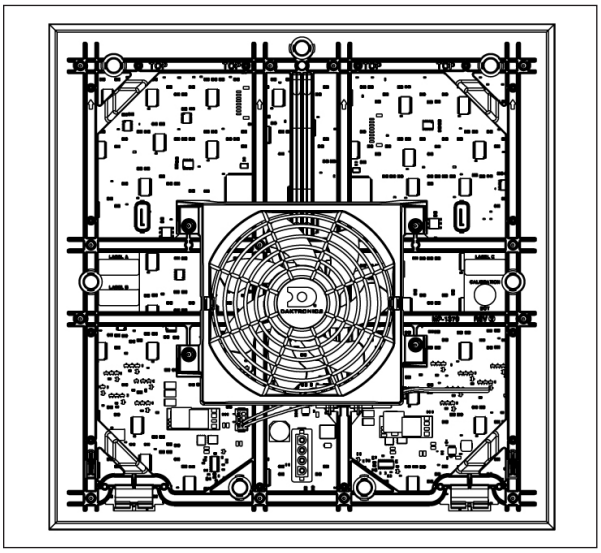


Figure 46: *Module Rear with Fan*

Steps 1-5 describe how to remove a module from a front-access display.

1. Disconnect power to the display.
2. Open the door to access the modules.
3. Use the module removal tool (Daktronics part number TH-1198) to pull the top portion of the module out slightly. Refer to **Figure 47**.
4. Lift up the module and pull it back from the display just far enough to reach around to the back of the unit. Attach one end of a safety lanyard to the rings on either the top or bottom of the module and the other end to a secure location within the display to prevent the module from falling if dropped.
5. Disconnect the power and signal cables from the rear of the module.

Reverse these steps to install a module in a display.

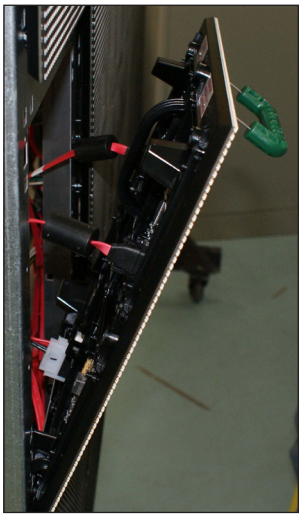
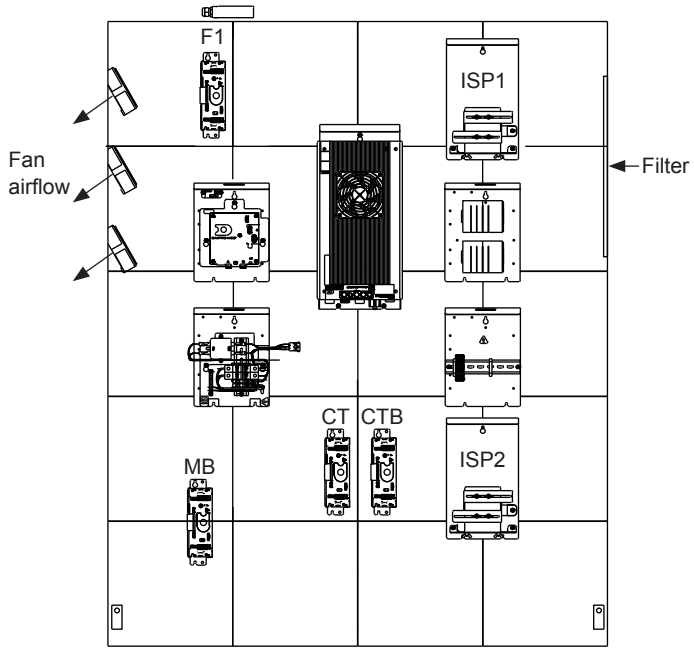


Figure 47: *Front Access*

8.6 Display Components

Internal components are installed on brackets in the display using keyholes.

Typical Component Layout



Part Reference	
Label	**Part**
CT	Controller power supply
CTB	Controller backup power supply
F1	Fan power supply
ISP1	Router
ISP2	Modem
MB	Module backup power supply

Figure 48: *Component Layout*

Digital Media Player

Figure 49 illustrates a Digital Media Player (DMP). The DMP reads the video or image signal, feeds the information to the router for distribution, and processes the video data file.

Refer to the **DD1881645** DMP-8000 Operator's Manual for further information.

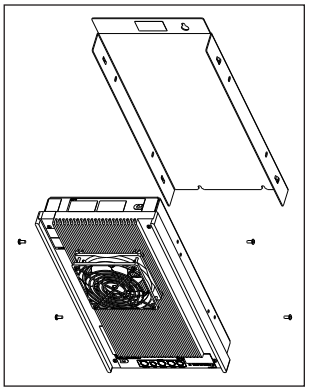


Figure 49: *DMP*

Power Supply

Figure 50 illustrates a typical power supply. The power supply, also referred to as a power module, connects to power harnesses that vary depending on type and overall display application. The power LED (DS1) illuminates when the unit is receiving incoming power.

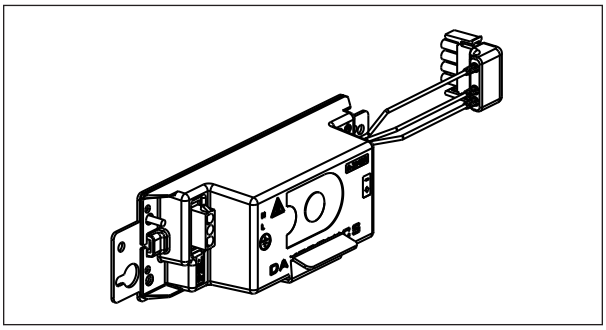


Figure 50: *Flush-Mount Power Supply Unit*

Caution: Disconnect power to the display before servicing the power supplies to avoid electrical shock. The power supplies run on high voltage and may cause physical injury if touched.

The power supplies are mounted to either the component mounting sheet or to the rear surface of the module mounting sheet.

If a power supply fails, refer to **Section 10** for more information.

iBoot

Figure 51 illustrates an iBoot. The iBoot is an Internet-enabled, power-cycling device for display controllers and networking equipment.

Figure 51: *iBoot*

Refer to the **DD2594516** Dataprobe iBoot G2+ for DSF-600 Operator's Manual in **Appendix B** for more information.

Light Sensor

Figure 52 illustrates a light sensor. The light sensor, also referred to as a Photocell, measures visible light levels and transmits the information to the display controller for brightness purposes.

Figure 52: *Light Sensor*

ProLink Router

Figure 53 illustrates a ProLink Router (PLR). The PLR is a display interface board that passes display data from the ProLink6 control system modules and other PLRs.

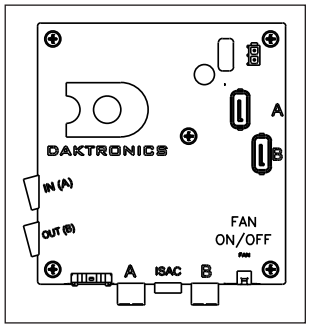


Figure 53: *PLR*

Refer to the **DD1735784** ProLink 6X5X Installation & Maintenance Manual for more information.

Terminal Block

Figure 54 illustrates a terminal block. The terminal block plate includes a location to wire additional internal equipment. It may be necessary to install an outlet on this plate for devices with plug-in power supplies.

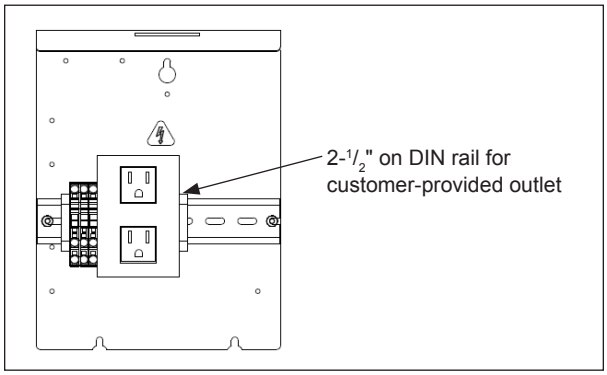


Figure 54: *Terminal Block*

Refer to the System Riser and Schematic Drawings in **Appendix A** for installation details.

Line Filter

Figure 55 illustrates a line filter. The line filter removes electromagnetic noise that might otherwise interfere with local communications channels from the power system. The line filter is mounted to the sectional termination panel.

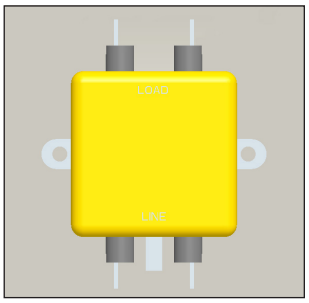


Figure 55: *Line Filter*

Video Image Processor

Figure 56 illustrates a Video Image Processor (VIP). The VIP is an interface that drives video to the display while also dimming, providing gamma and color controls, and displaying test patterns.

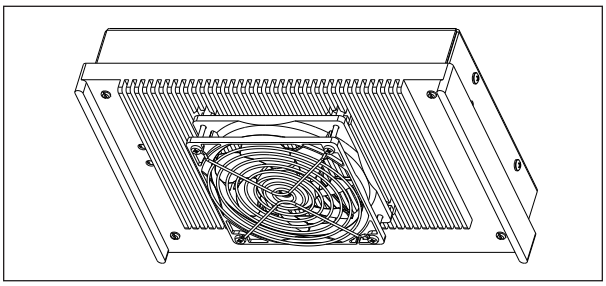


Figure 56: *VIP*

Refer to the **DD2773152** VIP-5X6X Operator's Manual for more information.

8.7 Ventilation Systems with Fans & Filters

Shut off power to the display when not in use. If the power is left on when the display is not operating, the filters may require cleaning and replacing more often, and the electrical components are exposed to excess condensation that shortens their life.

Check the display ventilation fans and filters after 1,500 hours of operation and every 1,500 hours after to ensure the display cools properly. Check the fans and filters more often if the display is located in a dusty or harsh weather environment (e.g. along a gravel road with dust-laden air).

- 1,500 hours is equivalent to 83 days if the display operates for 18 hours a day and power to the display is turned off when not in use.
- 1,500 hours is equivalent to 62 days if the display runs non-stop for 24 hours a day.

To check the fan operation, choose one of the following methods:

- Run an "all on white" test pattern on the display. The fans will operate automatically while this test pattern is displayed. Check for fans that do not rotate or operate smoothly, replacing any that do not operate smoothly.
- Unplug the fan control cable from the ProLink Router (PLR). Refer to **Figure 57**. The fans will turn on by default. Check for fans that do not rotate or operate smoothly, replacing any that do not operate smoothly. After the inspection, plug the fan control cable back into the PLR.

Figure 57: *Fan Test*

Ventilation Maintenance

After replacing 50% of the fans, Daktronics recommends replacing all cooling fans to reduce the associated maintenance costs that may incur with increased heat buildup from fan failure.

This display includes filters that are either disposable or cleanable. After one year or 1,500 hours of operation, either remove the filter and replace it with a new filter or clean the existing filter (if applicable). If the display has cleanable filters, clean the filters with water and mild detergent, such as dish soap. Compressed air can also be used to clean the filters if these criteria are met:

- The nozzle is held at least 6" away from the filter.
- The pressure is no greater than 60 psi.
- The air is blown through the filter in the opposite direction from which air normally flows.

For information on ordering replacement filters, refer to the replacement parts list in **Section 10.1**. Failure to change the filters may cause the display to overheat, decreasing the display life.

If the display provides rear access only, remove the back panels to service the fans and filters.

8.8 Structural Inspection

Perform annual visual inspections of the display to facilitate repairs and lengthen display life.

- Check paint for possible corrosion, especially at structural tie points and on ground rods.
- Check, tighten, and replace the fasteners as required.
- Check the electronic components closely for signs of corrosion.
- Check the inside of the display at least once a year for signs of water intrusion (e.g. water stain marks). Water can enter a display where weather stripping has loosened or deteriorated, where fasteners have loosened, allowing gaps in the panels, or where moisture may enter around the hardware in the top of the display.

This Page Intentionally Left Blank

Section 9: Troubleshooting

9.1 Quick Solutions

This table lists some problems that may be encountered while operating the display. Next to each problem are troubleshooting steps that may help to resolve it.

Display Problem	Troubleshooting Steps
Module is blank.	• Check the power status LEDs on all power supplies and modules connected to the module. • Check the SATA cable input into the module and the output from the previous module or ProLink Router (PLR). • Perform a module self-test. Refer to **Section 9.3**.
Module is garbled.	• Check the SATA cable input to the module and the output from the previous module or PLR. • Ensure all connections on the module power supplies are tight. A garbled module can be an indicator of power supply failure. A module with no power is blank and does not pass signal to the next module. • Perform a module self-test. Refer to **Section 9.3**.
Section of display is blank.	• Ensure the power status LEDs on the modules, power supplies, and PLRs in the blank section are on. • Ensure the connections to the PLR are secure. Change the connections with one another to test. • Check the SATA cable connections between the modules and the PLR in the blank section. Check the connection to the leftmost module first (from the front of the display). • Ensure the modules are receiving logic power. Signal will not pass through a module that is not receiving logic power. • Perform a PLR self-test. Refer to **Section 9.2**.
Display blanks intermittently.	• Check AutoPing settings in iBoot.
Display is too bright or too dim.	• Ensure the light sensor is properly installed. • Ensure the light sensor is connected and unobstructed. • Ensure the connections to the PLR are secure. Change the connections with one another to test. • Perform a PLR self-test. Refer to **Section 9.2**.
Entire display is blank.	• Ensure the display controller is receiving power by checking the power indicator light on the front of the controller. Refer to the Layout & Block Diagram in **Appendix A** for location. • Ensure the display is receiving power and all breakers are turned on. When power is applied to the display, power supply LEDs should turn on. • Ensure content is being sent to the display. • Ensure the fiber-optic signal cable is connected to the Digital Media Player (DMP). The input signal should be locked. If the input signal is not locked, check the fiber connections.
Entire display is blank and/or garbled.	• Check the power status LED on the PLR in the blank section. • Verify the status indicator digit on the PLR is flashing. • Ensure the connections to the PLRs are secure. Change the connections with one another to test. • Check the PLR connections in the garbled section.
Entire display is garbled and/or uncontrollable.	• Check the status LEDs on the PLR and display controller to ensure they are receiving power. • Ensure the fiber-optic signal cable is connected to the Video Image Processor (VIP). The input signal should be locked. If the input signal is not locked, check the fiber connections.

9.2 PLR Self-Test

To perform a ProLink Router (PLR) self-test, follow the steps below:

1. Locate the PLR with a reported problem.
2. Remove the protective metal cover from the PLR.
3. Connect a working SATA cable and a duplex fiber cable as shown in **Figure 58**.
4. Power-cycle the PLR by disconnecting the power cord and reconnecting it.
5. Watch the LCD display on the PLR and use the following code chart to see the results of the self-test.

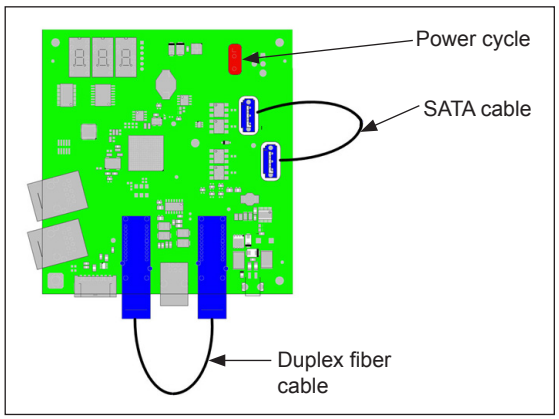


***Figure 58:** PLR Loopbacks*

Code			Description
8	8	8	Testing seven segments (held for two seconds)
t	s	t	Initial test in progress (60-second duration)
P	A	S	All tests passed
E	r	r	Test failures reported
F	0	1	Fiber Port A error
F	0	2	Fiber Port B error
F	0	3	RJ45 In (Port A) error
F	0	4	RJ45 Out (Port B) error
F	0	5	ProLink5 (SATA) Port A error
F	0	6	ProLink5 (SATA) Port B error
C	N	P	CAN light sensor (J8) port pass
C	N	F	CAN light sensor (J8) port fail

6. Reconnect to see if the problem disappears if the PLR displays a pass code.

Note: If the PLR fails, a code will flash after the ERR appears on the LED display. Write the code on the toe tag and send it back with the PLR to Daktronics.

9.3 Module Self-Test

To run the module self-test, follow the steps below:

1. Connect a SATA cable from Port A to Port B on the back of the module.

2. Cycle power to the module by unplugging power from the module and then plugging it back in.

   The module will reboot into test mode and display the following sequence: red, green, blue, white, even/odd rows and columns, module system error flags, module PCB temperature, and ProLink A/B status.

3. Allow the test to cycle through at least five times and show "Pa" in the system error flag slot indicating no problems are found.

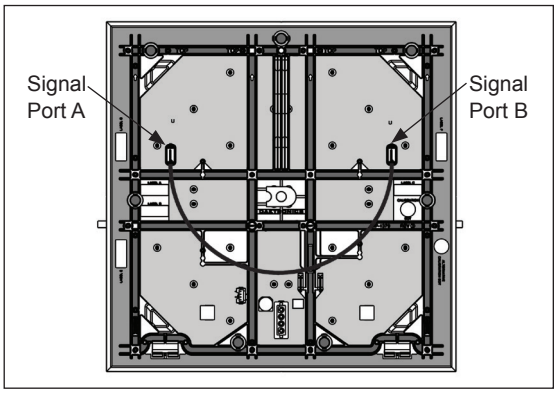


Figure 59: *Module SATA Loopback*

4. Contact Daktronics Technical Support for resolution information if an error code is given (set of four two-digit codes).

If all troubleshooting steps have been exhausted and the issue has not been resolved, contact Technical Support at 800-DAKTRONics (800-325-8766) for further assistance.

This Page Intentionally Left Blank

Section 10: Replacement Parts

10.1 Replacement Parts List

Part Description	Part Number
iBoot G2+	0A-1690-1201
Digital Media Player (DMP)	0A-1734-2003
Light sensor	0A-1734-2005
Video Image Processor (VIP)	0A-1734-2014
ProLink Router (PLR)	0A-1734-2019
Module	0A-1734-8206
65W power supply	A-3143E
iBoot expansion	A-3257
240V surge suppressor	A-3259
120V surge suppressor	A-3260
Module fan	B-1071
Cabinet fan	B-1100
Filter	EN-2241
Door switch	S-1170
3' LC-LC fiber	W-1659
10' LC-LC fiber	W-1864
28" SATA cable	W-2410
6' SATA cable	W-2411

10.2 Daktronics Exchange and Repair & Return Programs

To serve customers' repair and maintenance needs, Daktronics offers both an exchange program and a repair & return program.

Exchange Program

Daktronics unique Exchange Program is a quick service for replacing key parts in need of repair. If a part requires repair or replacement, Daktronics sends the customer a replacement, and the customer sends the defective part to Daktronics. This decreases display downtime.

Before Contacting Daktronics

Identify these important part numbers:

Display Serial Number: _____
Display Model Number: _____
Contract Number: _____
Installation Date: _____
Sign Location (Mile Marker Number): _____
Daktronics Customer ID Number: _____

1. **Call Daktronics Customer Service.**

Market Description	Customer Service Number
Schools (primary through community/junior colleges), religious organizations, municipal clubs, and community centers	877-605-1115
Universities and professional sporting events, live events for auditoriums, and arenas	866-343-6018
Financial institutions, petroleum, sign companies, gaming, and wholesale/retail establishments	866-343-3122
Department of Transportation, mass transits, airports, and parking facilities	800-833-3157

2. **After receiving the new exchange part, mail the old part to Daktronics.**
   If the replacement part fixes the problem, send in the problem part which is being replaced.

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

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

4. **If the replacement part does not solve the problem, return the part within 30 working days, or Daktronics will charge the full purchase price.**
   If, after the exchange is made, the equipment is still defective, please contact Customer Service immediately. Daktronics expects immediate return of an exchange part if it does not solve the problem. The company also 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 or fax Daktronics Customer Service.**
   Refer to the appropriate market number in the chart listed on the previous page.
   Fax: 605-697-4444

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

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

4. **Enclose the following:**

   - Contact name
   - Address
   - Phone number
   - RMA number
   - Clear description of symptoms
   - Case number

Shipping Address

Daktronics Customer Service
P.O. Box 5128
201 Daktronics Dr.
Brookings, SD 57006

10.3 Daktronics Warranty & Limitation of Liability

The Daktronics Warranty & Limitation of Liability is located in **Appendix C**. The warranty is independent of extended service agreements and is the authority in matters of service, repair, and display operation.

This Page Intentionally Left Blank

Glossary

Lanyard Attachment Ring: a ring found on the back of each module. The lanyard attaches to the ring to keep the module from falling to the ground.

Light-Emitting Diode (LED): a low energy, high intensity lighting unit.

Line Filter: a device that removes electromagnetic noise from the power system to avoid interference with local communications channels. Line filters sometimes mount on brackets with power supplies but can also mount alone on a bracket.

Louver: a plastic shade positioned horizontally above each pixel row. Louvers increase the contrast level on the display face and direct LED light for easier viewing.

Module: a display board with LEDs, a driver board or logic card, a black plastic housing, and a module latch assembly. Each module is individually removable from either the front or the rear of the display.

Pixel: the smallest single point of light on a display that can be turned on and off. For LED displays, a pixel is the smallest block of light-emitting devices that can generate all available colors.

Power Supply: a device that converts AC line voltage from the termination panel to low DC voltage for one or more module driver boards. One power supply may power multiple modules.

ProLink Router (PLR): a display interface board that passes display data from the ProLink6 control system modules and other PLRs. The ratio of PLRs to modules varies with display application.

Termination Block: an electrical point usually used to connect internal power and signal wires to wires of the same type coming into the display from an external source.

Video Image Processor (VIP): an interface that drives video to the display while also dimming, providing gamma and color controls, and displaying test patterns.

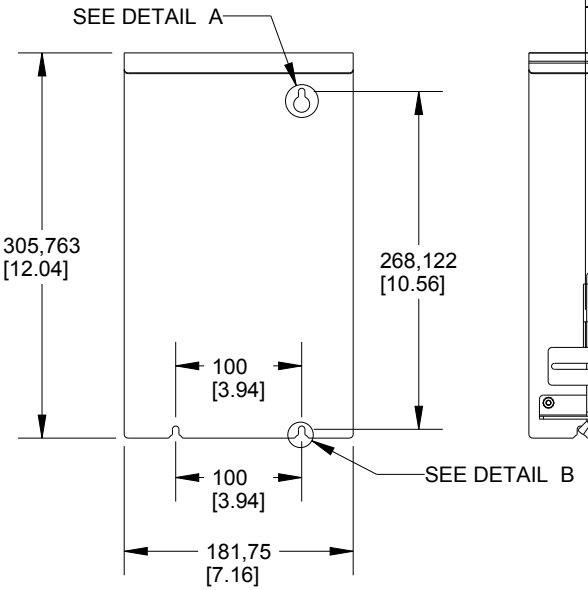
This Page Intentionally Left Blank

Appendix A: Drawings

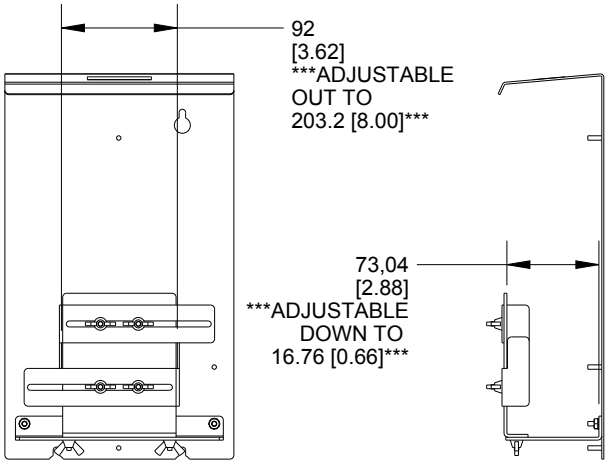
Refer to **Section 1.1** for information regarding how to read the drawing number.

These drawings offer general information pertaining to most DSF displays and are listed in alphanumeric order. Any contract-specific drawings take precedence over the general drawings.

This Page Intentionally Left Blank



HOLE LOCATIONS
AND PLATE DIMENSIONS
***STUD HOLES REMOVED
FOR CLARITY***



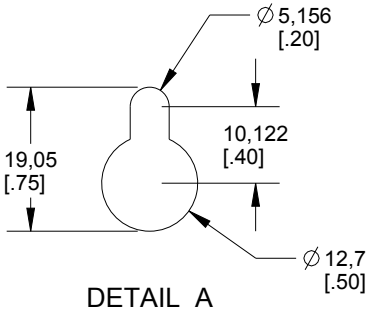
3rd PARTY EQUIPMENT BRACKET SPECIFICATION

FEATURE	SPECIFICATION
ASSEMBLY WEIGHT	1.16 lbs (0.505 kg)

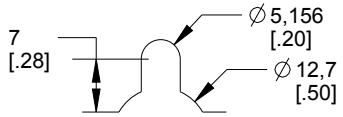
TORQUE SPECIFICATIONS FOR COMPONENT MOUNTING

HARDWARE	TORQUE
HC-1238 (NUT, #6-32 HEX KEPS, ZN PLTD)	10 IN-LB

INDEX	NAME	QTY	DESCRIPTION
1	0M-1116187	1	UNIVERSAL MOUNT, KEY HOLE, LARGE PLATE; SF
2	0M-1121403	1	ADJSTBL BRKT 1, 3RD PARTY PLAYER, PREPROD DISPLAY
3	0M-1121404	1	ADJSTBL BRKT 2, 3RD PARTY PLAYER, PREPROD DISPLAY
4	0M-1121405	2	ADJSTBL BRKT 3, 3RD PARTY PLAYER, PREPROD DISPLAY
5	HC-1238	2	NUT, #6-32 HEX KEPS, ZN PLTD
6	HC-1364	6	Wing Nut, 6-32, Nylon
7	LL-2285	1	Label, 2" X 1" For Zebra Printer



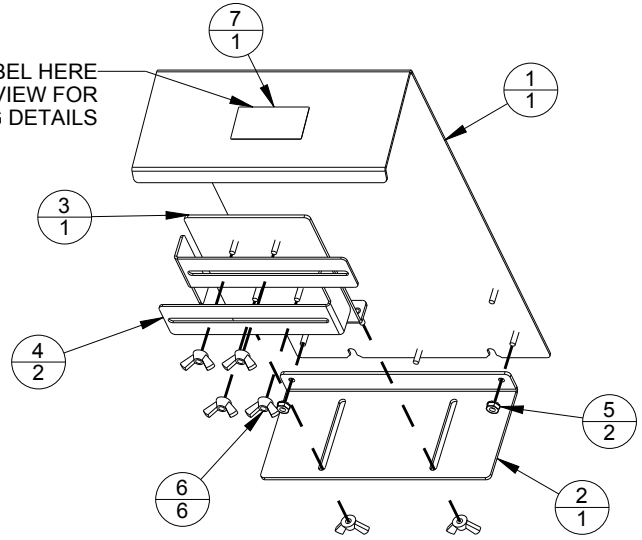
DETAIL A
SCALE 1/1



DETAIL B
SCALE 1/1

ASSEMBLY VIEW
0A-1734-2008

ATTACH LABEL HERE
SEE LABEL VIEW FOR
PRINTING DETAILS



ASSEMBLY VIEW

{ASSY #} HREV: {XX}
SN: {XXXX}
MFG DATE: {MM/DD/YYYY}
WO#: {XXXXXX}

LABEL VIEW
SCALE 3/4

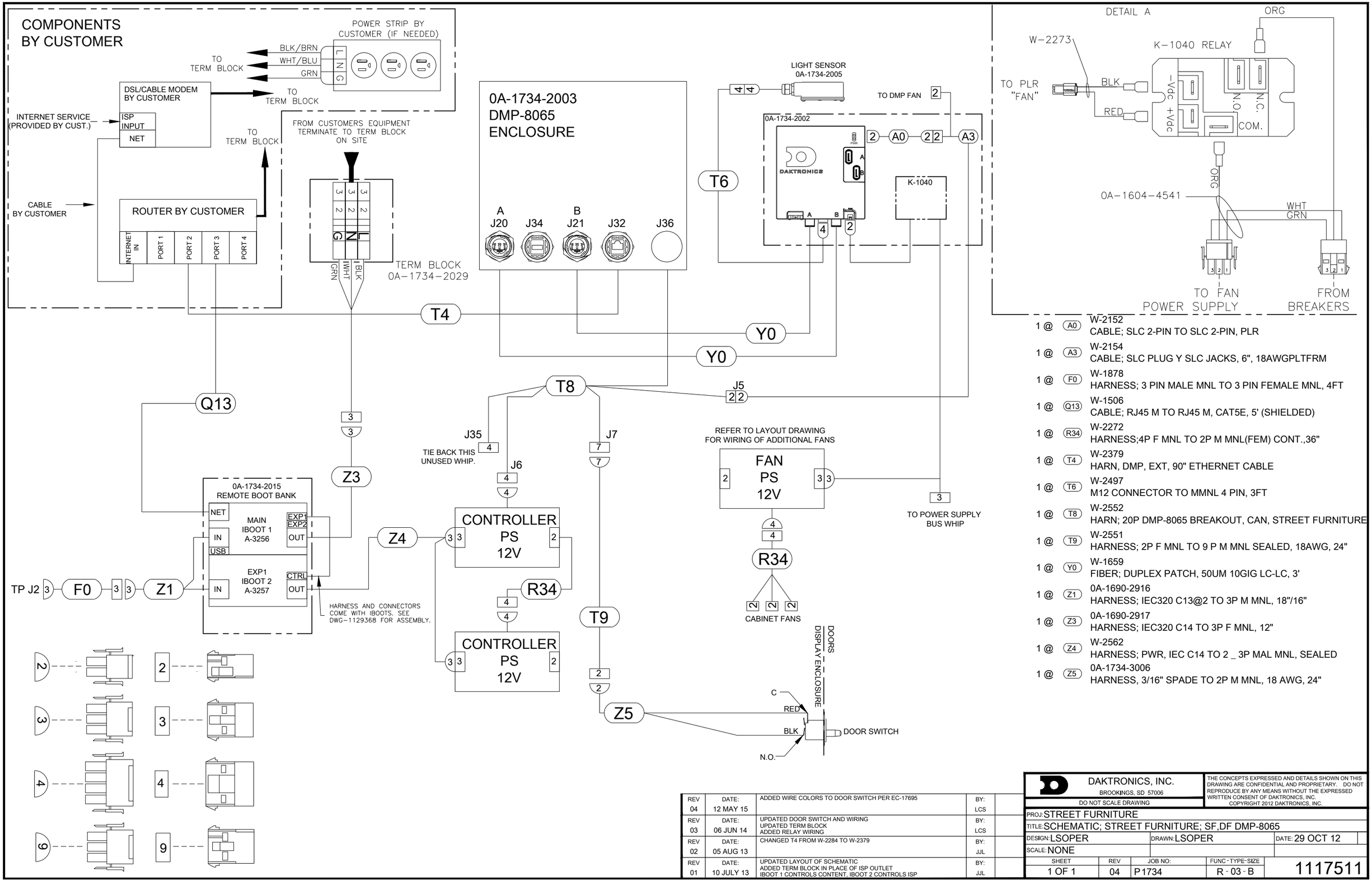
REV | DATE: | BY:

DAKTRONICS, INC.
BROOKINGS, SD 57006
DO NOT SCALE DRAWING

PROJ: STREET FURNITURE
TITLE: UNIVERSAL MOUNT, KEY HOLE, 3rd PARTY BRACKET, ASSY; SF
DESIGN: NWINTER | DRAWN: NWINTER | DATE: 18-DEC-12
SCALE: 1=6

SHEET:	REV	JOB NO:	FUNC-TYPE-SIZE
1 OF 1	00	P 1734	E - 10 - A

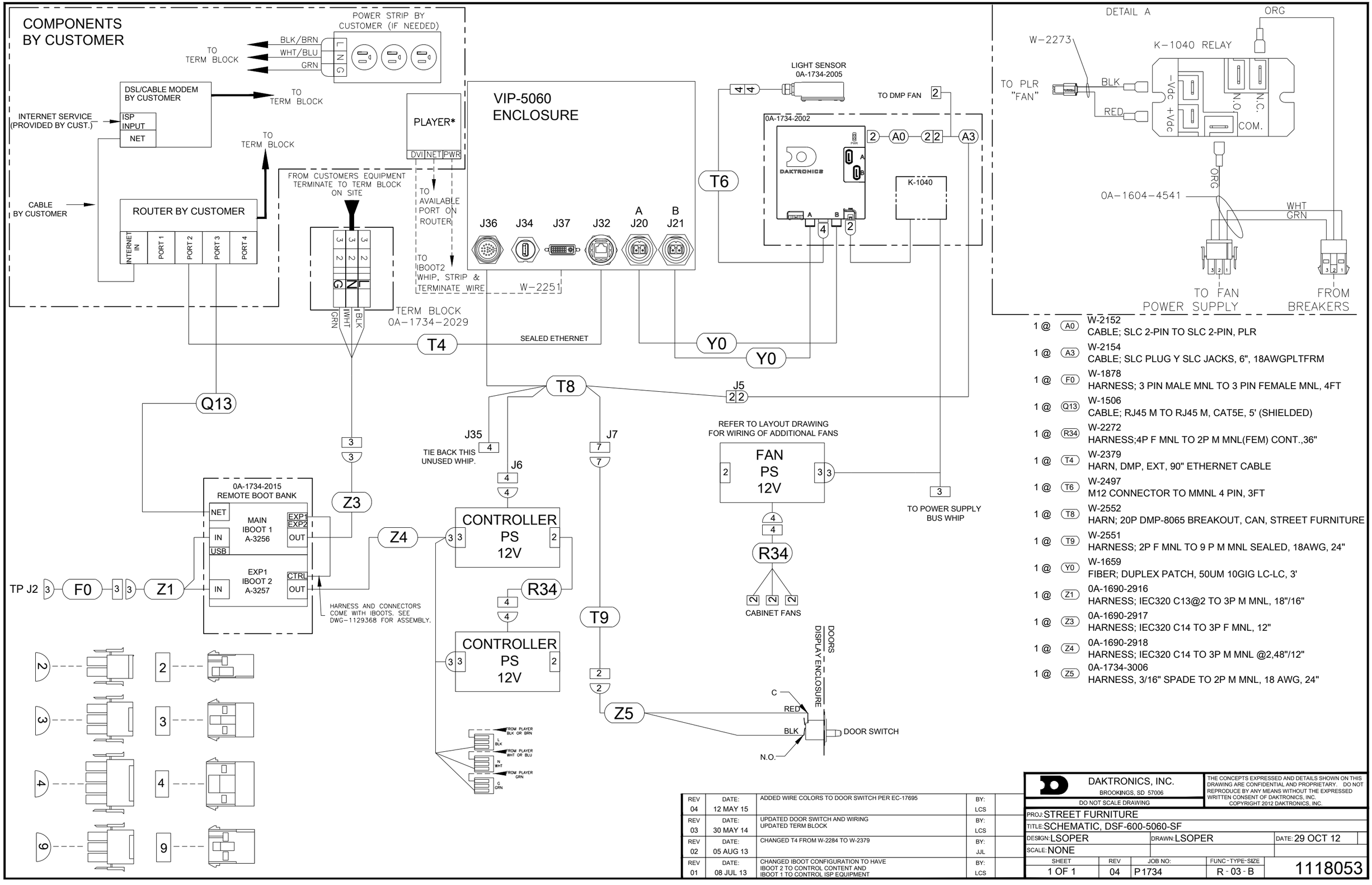
1122201



1 @ (A0)	W-2152	CABLE; SLC 2-PIN TO SLC 2-PIN, PLR
1 @ (A3)	W-2154	CABLE; SLC PLUG Y SLC JACKS, 6", 18AWGPLTFRM
1 @ (F0)	W-1878	HARNESS; 3 PIN MALE MNL TO 3 PIN FEMALE MNL, 4FT
1 @ (Q13)	W-1506	CABLE; RJ45 M TO RJ45 M, CAT5E, 5' (SHIELDED)
1 @ (R34)	W-2272	HARNESS;4P F MNL TO 2P M MNL(FEM) CONT.,36"
1 @ (T4)	W-2379	HARN, DMP, EXT, 90" ETHERNET CABLE
1 @ (T6)	W-2497	M12 CONNECTOR TO MMNL 4 PIN, 3FT
1 @ (T8)	W-2552	HARN; 20P DMP-8065 BREAKOUT, CAN, STREET FURNITURE
1 @ (T9)	W-2551	HARNESS; 2P F MNL TO 9 P M MNL SEALED, 18AWG, 24"
1 @ (Y0)	W-1659	FIBER; DUPLEX PATCH, 50UM 10GIG LC-LC, 3'
1 @ (Z1)	0A-1690-2916	HARNESS; IEC320 C13@2 TO 3P M MNL, 18"/16"
1 @ (Z3)	0A-1690-2917	HARNESS; IEC320 C14 TO 3P F MNL, 12"
1 @ (Z4)	W-2562	HARNESS; PWR, IEC C14 TO 2 _ 3P MAL MNL, SEALED
1 @ (Z5)	0A-1734-3006	HARNESS, 3/16" SPADE TO 2P M MNL, 18 AWG, 24"

REV	DATE:		BY:
04	12 MAY 15	ADDED WIRE COLORS TO DOOR SWITCH PER EC-17695	LCS
03	06 JUN 14	UPDATED DOOR SWITCH AND WIRING UPDATED TERM BLOCK ADDED RELAY WIRING	LCS
02	05 AUG 13	CHANGED T4 FROM W-2284 TO W-2379	JJL
01	10 JULY 13	UPDATED LAYOUT OF SCHEMATIC ADDED TERM BLOCK IN PLACE OF ISP OUTLET IBOOT 1 CONTROLS CONTENT, IBOOT 2 CONTROLS ISP	JJL

PROJ: STREET FURNITURE				
TITLE: SCHEMATIC; STREET FURNITURE; SF,DF DMP-8065				
DESIGN: LSOPER		DRAWN: LSOPER		DATE: 29 OCT 12
SCALE: NONE				
SHEET	REV	JOB NO:	FUNC - TYPE - SIZE	1117511
1 OF 1	04	P1734	R - 03 - B	



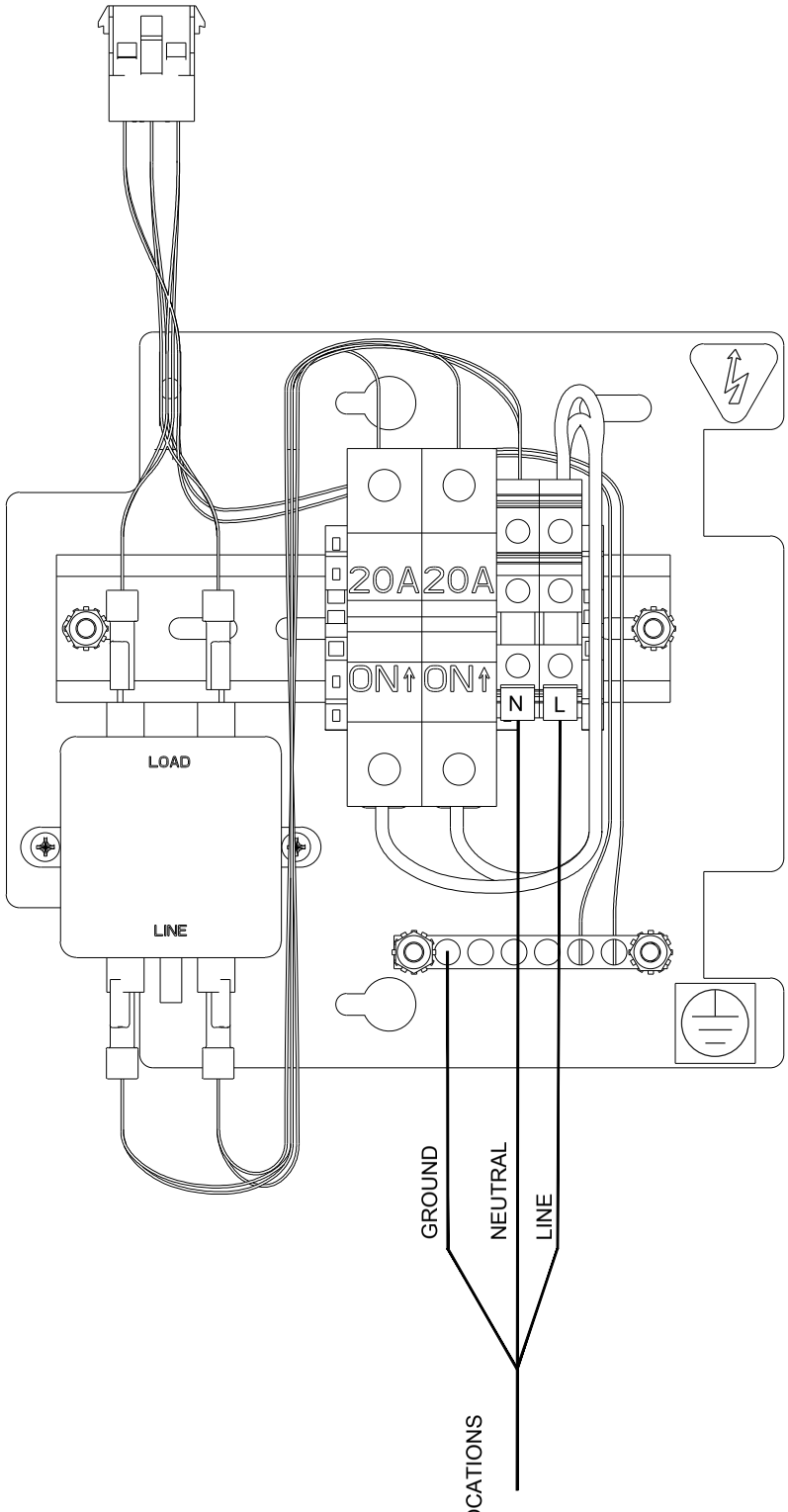
1 @	A0	W-2152 CABLE; SLC 2-PIN TO SLC 2-PIN, PLR
1 @	A3	W-2154 CABLE; SLC PLUG Y SLC JACKS, 6", 18AWGPLTFRM
1 @	F0	W-1878 HARNESS; 3 PIN MALE MNL TO 3 PIN FEMALE MNL, 4FT
1 @	Q13	W-1506 CABLE; RJ45 M TO RJ45 M, CAT5E, 5' (SHIELDED)
1 @	R34	W-2272 HARNESS;4P F MNL TO 2P M MNL(FEM) CONT.,36"
1 @	T4	W-2379 HARN, DMP, EXT, 90" ETHERNET CABLE
1 @	T6	W-2497 M12 CONNECTOR TO MMNL 4 PIN, 3FT
1 @	T8	W-2552 HARN; 20P DMP-8065 BREAKOUT, CAN, STREET FURNITURE
1 @	T9	W-2551 HARNESS; 2P F MNL TO 9 P M MNL SEALED, 18AWG, 24"
1 @	Y0	W-1659 FIBER; DUPLEX PATCH, 50UM 10GIG LC-LC, 3'
1 @	Z1	0A-1690-2916 HARNESS; IEC320 C13@2 TO 3P M MNL, 18"/16"
1 @	Z3	0A-1690-2917 HARNESS; IEC320 C14 TO 3P F MNL, 12"
1 @	Z4	0A-1690-2918 HARNESS; IEC320 C14 TO 3P M MNL @2,48"/12"
1 @	Z5	0A-1734-3006 HARNESS, 3/16" SPADE TO 2P M MNL, 18 AWG, 24"

REV	DATE:		BY:
04	12 MAY 15	ADDED WIRE COLORS TO DOOR SWITCH PER EC-17695	LCS
03	30 MAY 14	UPDATED DOOR SWITCH AND WIRING UPDATED TERM BLOCK	LCS
02	05 AUG 13	CHANGED T4 FROM W-2284 TO W-2379	JJL
01	08 JUL 13	CHANGED IBOOT CONFIGURATION TO HAVE IBOOT 2 TO CONTROL CONTENT AND IBOOT 1 TO CONTROL ISP EQUIPMENT	LCS

DAKTRONICS, INC.
BROOKINGS, SD 57006
DO NOT SCALE DRAWING

PROJ: STREET FURNITURE
TITLE: SCHEMATIC, DSF-600-5060-SF
DESIGN: LSOPER | DRAWN: LSOPER | DATE: 29 OCT 12
SCALE: NONE

SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	
1 OF 1	04	P1734	R - 03 - B	1118053



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

DAKTRONICS, INC.
BROOKINGS, SD 57006
DO NOT SCALE DRAWING

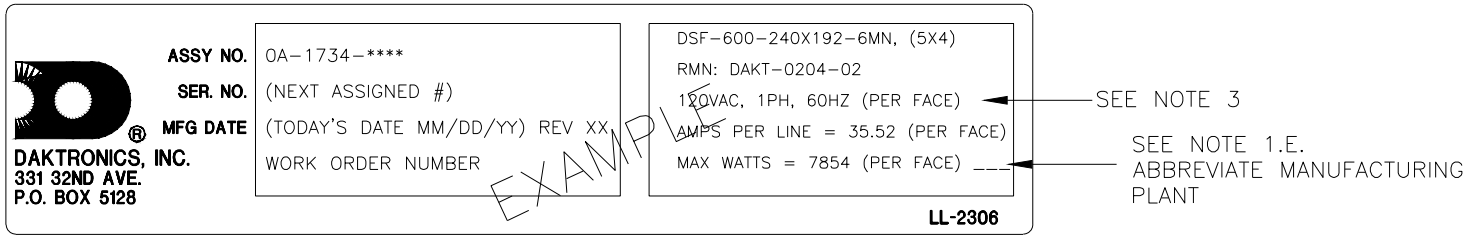
PROJ: STREET FURNITURE				
TITLE: POWER ENTRANCE; FIELD TERMINATION DETAIL				
DESIGN: LSOPER		DRAWN: LSOPER		DATE: 22 FEB 13
SCALE: NONE				
SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	1128366
1 OF 1	00	P1734	F - 01 - B	

REV	DATE:	BY:	
03	06 JUN 14	LCS	ADDED 5X3 ADDED "PER FACE" TO LABEL REMOVED 120/240 COLUMN
02	2 AUG 13	LCS	REMOVED UNUSED SIZES UPDATED POWER CHANGED TO A SIZE DRAWING
01	16 APR 13	LCS	ADDED DISPLAY LABEL INSTRUCTIONS

STREET FURNTIURE POWER SPECS PER FACE

MAXTRIX SIZE	MAX WATTS	120VAC 1PH 60HZ AMPS	240VAC 1PH 50HZ AMPS	AGENCY RMN
240 X 144	1236	10.3	5.15	DAKT-0204-02
240 X 192	1556	12.97	6.49	DAKT-0204-02
288 X 192	1859	15.49	7.75	DAKT-0204-02

EXAMPLE PRODUCT IDENTIFICATION LABEL



NOTES:

1. POWER SPECIFICATION LABEL INSTRUCTIONS:
   A. REFER TO CHART FOR POWER SPECIFICATION INFORMATION.
   B. REFER TO BELOW EXAMPLE.
   C. LOCATE THE DISPLAY SIZE.
   D. IDENTIFY VOLTAGE TYPE:
      - FOR 120/240VAC, 1PH, 60HZ USE THE LARGEST NUMBER UNDER EITHER LINE 1 OR LINE 2 FOR THAT SIZE.
      - FOR 240VAC, 1PH, 50HZ, LIST AMPS GIVEN.
      - FOR 120VAC, 1PH, 60HZ, LIST AMPS GIVEN.
   E. IDENTIFY MANUFACTURING PLANT WHERE SHOWN ON MAX WATTS LINE

2. REFER TO SHOP DRAWING FOR OVERALL DISPLAY POWER REQUIREMENTS.
3. IDF FACE CONFIGURATIONS HAVE MULTIPLE POWER ENTRANCES. BOTH FACES MUST BE LABELED WITH POWER.

DAKTRONICS, INC.
BROOKINGS, SD 57006
DO NOT SCALE DRAWING

PROJ: STREET FURNITURE
TITLE: PWR SPEC, DSF-600-6MN-(240-288) X 192
DESIGN: LSOPER
DRAWN: LSOPER
DATE: 04 MAR 13
SCALE: NONE
SHEET: 1 OF 1
REV: 03
JOB NO: P1734
FUNC-TYPE-SIZE: R - 01 - B
1129095

DSF-600 - SF/DF CONFIGURATION

NOTES:

1) DISPLAY LOADS ARE NON-CONTINUOUS.

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

3) SEE DISPLAY SHOP DRAWING FOR EXACT POWER AND SIGNAL ENTRANCE LOCATIONS PROVIDED ON BASE OF DISPLAY.

4) DAKTRONICS IS NOT RESPONSIBLE FOR THE QUALITY OF THE POWER DELIVERY SYSTEM TO THE DISPLAY SYSTEM.

5) BECAUSE EACH INSTALLATION IS UNIQUE, DAKTRONICS OFFERS THESE INSTRUCTIONS AS GUIDELINES ONLY. DAKTRONICS, INC. ASSUMES NO LIABILITY IF INSTALLATION STEPS HAVE BEEN OMITTED OR OTHER NECESSARY PROCEDURES ARE NOT INCLUDED IN THIS SYSTEM RISER DIAGRAM.

6) GROUND ROD CONNECTION LOCATED ON TERM PANEL OR PROVIDED BY INSTALLER. ALL DISPLAYS MUST BE GROUNDED PER ARTICLE 250 AND 600 OF THE NATIONAL ELECTRICAL CODE WITH NO MORE THAN 10 OHMS GROUND RESISTANCE.

7) DAKTRONICS UTILIZES BOTH STANDARD AND SUPPLEMENTARY CIRCUIT BREAKERS IN THE DISPLAY ASSEMBLY PROCESS. IT IS THE ELECTRICAL INSTALLATION CONTRACTORS RESPONSIBILITY TO ENSURE THAT ALL PRIMARY FEEDER CIRCUIT BREAKERS TO EACH DISPLAY/DISPLAY SECTION ARE UL 489 LISTED.

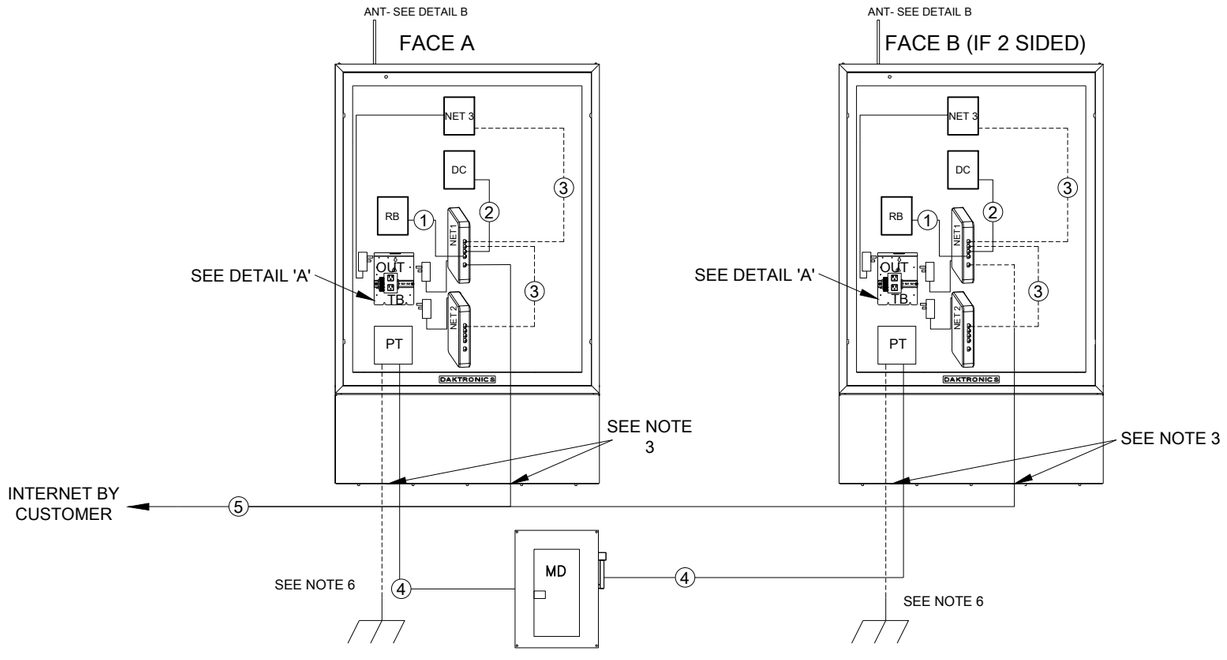
8) POWER AND SIGNAL REQUIREMENTS ARE SPECIFIED TO THE EQUIPMENT AND SETUP SHOWN. ANY CHANGES MADE TO EQUIPMENT OR THEIR SETUP SHOULD BE DISCUSSED WITH DAKTRONICS DESIGN PERSONNEL AND WILL REQUIRE AN UPDATED RISER DIAGRAM DRAWING.

9) THE CONTRACTUAL AGREEMENT WILL DETERMINE THE PARTY OR PARTIES RESPONSIBLE FOR ITEMS LISTED AS FIELD INSTALLED. THIS DRAWING IS NOT INTENDED TO DETERMINE RESPONSIBILITIES AND SHOULD BE USED FOR REFERENCES ONLY.

10) THIS IS NOT A SCALED DRAWING AND SHOULD BE USED FOR POWER AND SIGNAL REQUIREMENTS ONLY. ACTUAL PLACEMENT OF ELECTRICAL COMPONENTS, SUCH AS PANEL BOARDS, A/C'S, AND SPLICE PANELS, MAY VARY. PLEASE REFERENCE THE DISPLAY LAYOUT DRAWING FOR THIS DETAIL. THIS DRAWING REPRESENTS A GENERAL MOUNTING LOCATION ONLY.

11) CUSTOMER IS RESPONSIBLE FOR COMMUNICATION METHOD USED TO INTERFACE DISPLAY WITH CUSTOMER'S INTERNAL NETWORK.

12) REFER TO INTERNAL AUXILIARY EQUIPMENT TABLE FOR MIN AND MAX DIMENSIONS ACCEPTED BY PROVIDED MOUNTING PLATES AND RECOMMENDED TEMPERATURE RATING OF EQUIPMENT. NET3 PLATE ONLY PROVIDED IN CABINETS WITH CUSTOMER PROVIDED PLAYER. BOTH FACES CONTAIN THE SAME DAKTRONICS PROVIDED EQUIPMENT.



POWER REQUIREMENTS PER FACE			
MAXTRIX SIZE	MAX WATTS	120VAC 1PH 60HZ AMPS	240VAC 1PH 50HZ AMPS
240 X 144	1236	10.3	5.15
240 X 192	1556	12.97	6.49
288 X 192	1859	15.49	7.75

COMPONENT IDENTIFICATION TABLE

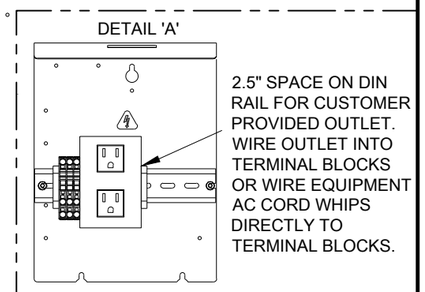
COMPONENT	DESCRIPTION	DAKTRONICS'S #	PROVIDED BY	INSTALLED BY
ANT	OPTIONAL WIRELESS ANTENNA SEE DETAIL 'B'	-	CUSTOMER	CUSTOMER
DC	DISPLAY CONTROLLER	SEE BOM	DAKTRONICS	FACTORY
MD	MAIN DISCONNECT	-	CUSTOMER	CUSTOMER
NET1	NETWORK SWITCH OR ROUTER - SEE NOTE 12	-	CUSTOMER	CUSTOMER
NET2	OPTIONAL CUSTOMER EQUIPMENT - SEE NOTE 12	-	CUSTOMER	CUSTOMER
NET3	OPTIONAL CUSTOMER PLAYER - SEE NOTE 12	-	CUSTOMER	CUSTOMER
OUT	FIELD WIRED OUTLET FOR ISP EQUIPMENT	-	CUSTOMER	CUSTOMER
PT	INTERNAL POWER TERMINATION PANEL	SEE BOM	DAKTRONICS	FACTORY
RB	REMOTE BOOT DEVICES	SEE BOM	DAKTRONICS	FACTORY
TB	TERMINAL BLOCK PLATE, SEE DETAIL 'A'	-	DAKTRONICS	FACTORY

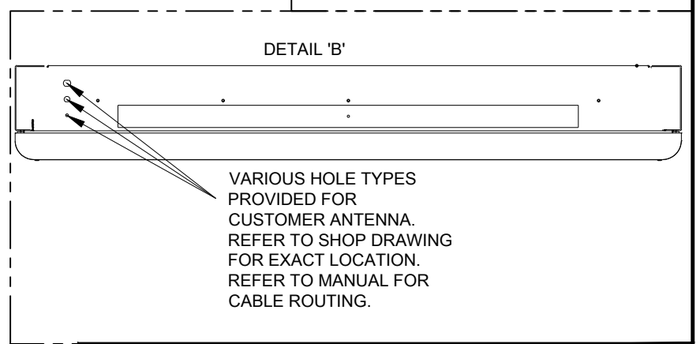
CABLE IDENTIFICATION TABLE

ID TAG	CABLE TYPE	DAKTRONICS PART NUMBER	MANUFACTURE (PART NUMBER)	CABLE	
				PROVIDED BY	INSTALLED BY
①	CAT5E ETHERNET CABLE, 5FT	W-1506	27246	DAKTRONICS	FACTORY
②	HARN, DMP, EXT, 90" ETHERNET CABLE	W-2379	-	DAKTRONICS	FACTORY
③	ETHERNET CABLE	-	-	CUSTOMER	CUSTOMER
④	POWER FEEDER SEE NOTE "2"	-	-	CUSTOMER	CUSTOMER
⑤	INCOMING INTERNET	-	-	CUSTOMER	CUSTOMER

INTERNAL AUXILIARY EQUIPMENT (NET1,2,3)

FEATURE	SPECIFICATION
PHYSICAL SIZE (MIN)	DIMENSIONS: 92MM(L) X 92MM(W) X 16MM(H)
PHYSICAL SIZE (MAX)	DIMENSIONS: 203MM(L) X 203MM(W) X 70MM(H)
TEMP RATING	(-)30C TO 65C
POWER RECEPTACLE	VARIES BY REGION. PROVIDED BY CUSTOMER.





REV	DATE:		BY:
03	13 NOV 14	ADDED FACE B FOR DF CONFIGURATIONS CORRECTED COMPONENT LAYOUT ADDED ADDITIONAL POWER TABLE	LCS
02	21 FEB 14	ADDED TERMINAL BLOCK PLATE ADDED DETAIL 'A'	LCS
01	14 OCT 13	CHANGED RECEPTACLE TYPE ON ISP TO TBD	LCS

DAKTRONICS, INC.
BROOKINGS, SD 57006

DO NOT SCALE DRAWING

PROJ: DSF-600 SERIES
TITLE: DSF-600 SERIES RISER - GENERIC
DESIGN: LSOPER | DRAWN: LSOPER | DATE: 09 AUG 13
SCALE: NONE

SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	
	03	P1734	F - 01 - B	1147032

DSF-600 - SF/DF CONFIGURATION

NOTES:

1) DISPLAY LOADS ARE NON-CONTINUOUS.

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

3) SEE DISPLAY SHOP DRAWING FOR EXACT POWER AND SIGNAL ENTRANCE LOCATIONS PROVIDED ON BASE OF DISPLAY.

4) DAKTRONICS IS NOT RESPONSIBLE FOR THE QUALITY OF THE POWER DELIVERY SYSTEM TO THE DISPLAY SYSTEM.

5) BECAUSE EACH INSTALLATION IS UNIQUE, DAKTRONICS OFFERS THESE INSTRUCTIONS AS GUIDELINES ONLY. DAKTRONICS, INC. ASSUMES NO LIABILITY IF INSTALLATION STEPS HAVE BEEN OMITTED OR OTHER NECESSARY PROCEDURES ARE NOT INCLUDED IN THIS SYSTEM RISER DIAGRAM.

6) GROUND ROD CONNECTION LOCATED ON TERM PANEL OR PROVIDED BY INSTALLER. ALL DISPLAYS MUST BE GROUNDED PER ARTICLE 250 AND 600 OF THE NATIONAL ELECTRICAL CODE WITH NO MORE THAN 10 OHMS GROUND RESISTANCE.

7) DAKTRONICS UTILIZES BOTH STANDARD AND SUPPLEMENTARY CIRCUIT BREAKERS IN THE DISPLAY ASSEMBLY PROCESS. IT IS THE ELECTRICAL INSTALLATION CONTRACTORS RESPONSIBILITY TO ENSURE THAT ALL PRIMARY FEEDER CIRCUIT BREAKERS TO EACH DISPLAY/DISPLAY SECTION ARE UL 489 LISTED.

8) POWER AND SIGNAL REQUIREMENTS ARE SPECIFIED TO THE EQUIPMENT AND SETUP SHOWN. ANY CHANGES MADE TO EQUIPMENT OR THEIR SETUP SHOULD BE DISCUSSED WITH DAKTRONICS DESIGN PERSONNEL AND WILL REQUIRE AN UPDATED RISER DIAGRAM DRAWING.

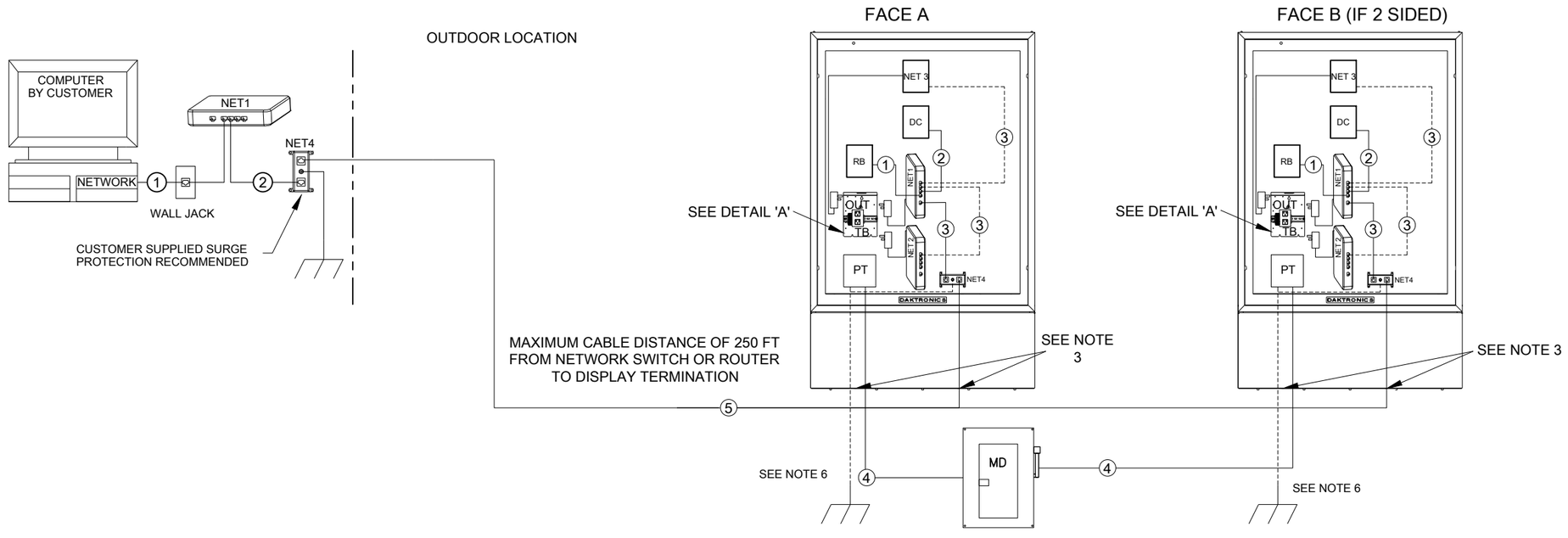
9) THE CONTRACTUAL AGREEMENT WILL DETERMINE THE PARTY OR PARTIES RESPONSIBLE FOR ITEMS LISTED AS FIELD INSTALLED. THIS DRAWING IS NOT INTENDED TO DETERMINE RESPONSIBILITIES AND SHOULD BE USED FOR REFERENCES ONLY.

10) THIS IS NOT A SCALED DRAWING AND SHOULD BE USED FOR POWER AND SIGNAL REQUIREMENTS ONLY. ACTUAL PLACEMENT OF ELECTRICAL COMPONENTS, SUCH AS PANEL BOARDS, A/C'S, AND SPLICE PANELS, MAY VARY. PLEASE REFERENCE THE DISPLAY LAYOUT DRAWING FOR THIS DETAIL. THIS DRAWING REPRESENTS A GENERAL MOUNTING LOCATION ONLY.

11) CUSTOMER IS RESPONSIBLE FOR COMMUNICATION METHOD USED TO INTERFACE DISPLAY WITH CUSTOMER'S INTERNAL NETWORK.

12) REFER TO INTERNAL AUXILIARY EQUIPMENT TABLE FOR MIN AND MAX DIMENSIONS ACCEPTED BY PROVIDED MOUNTING PLATES AND RECOMMENDED TEMPERATURE RATING OF EQUIPMENT. NET3 PLATE ONLY PROVIDED IN CABINETS WITH CUSTOMER PROVIDED PLAYER. BOTH FACES CONTAIN THE SAME DAKTRONICS PROVIDED EQUIPMENT.

13) CAT5E ETHERNET CABLE INSTALLED IN METALLIC CONDUIT BY CUSTOMER.



COMPONENT IDENTIFICATION TABLE

COMPONENT	DESCRIPTION	DAKTRONICS'S #	PROVIDED BY	INSTALLED BY
DC	DISPLAY CONTROLLER	SEE BOM	DAKTRONICS	FACTORY
MD	MAIN DISCONNECT	-	CUSTOMER	CUSTOMER
NET1	NETWORK SWITCH OR ROUTER - SEE NOTE 12	-	CUSTOMER	CUSTOMER
NET2	OPTIONAL CUSTOMER EQUIPMENT - SEE NOTE 12	-	CUSTOMER	CUSTOMER
NET3	OPTIONAL CUSTOMER PLAYER - SEE NOTE 12	-	CUSTOMER	CUSTOMER
NET4	NETWORK SURGE DEVICE (RECOMMENDED)	-	CUSTOMER	CUSTOMER
OUT	FIELD WIRED OUTLET FOR ISP EQUIPMENT	-	CUSTOMER	CUSTOMER
PT	INTERNAL POWER TERMINATION PANEL	SEE BOM	DAKTRONICS	FACTORY
RB	REMOTE BOOT DEVICES	SEE BOM	DAKTRONICS	FACTORY
TB	TERMINAL BLOCK PLATE, SEE DETAIL 'A'	-	DAKTRONICS	FACTORY

CABLE IDENTIFICATION TABLE

ID TAG	CABLE TYPE	DAKTRONICS PART NUMBER	MANUFACTURE (PART NUMBER)	CABLE	
				PROVIDED BY	INSTALLED BY
①	CAT5E ETHERNET CABLE, 5FT	W-1506	27246	DAKTRONICS	FACTORY
②	HARN, DMP, EXT, 90" ETHERNET CABLE	W-2379	-	DAKTRONICS	FACTORY
③	ETHERNET CABLE	-	-	CUSTOMER	CUSTOMER
④	POWER FEEDER SEE NOTE "2"	-	-	CUSTOMER	CUSTOMER
⑤	CAT5E ETHERNET CABLE,STRANDED, SEE NOTE "13"	-	-	CUSTOMER	CUSTOMER

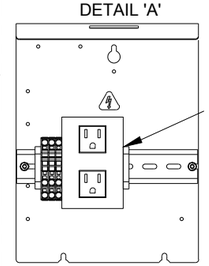
INTERNAL AUXILIARY EQUIPMENT (NET1,2,3)

FEATURE	SPECIFICATION
PHYSICAL SIZE (MIN)	DIMENSIONS: 92MM(L) X 92MM(W) X 16MM(H)
PHYSICAL SIZE (MAX)	DIMENSIONS: 203MM(L) X 203MM(W) X 70MM(H)
TEMP RATING	(-)30C TO 65C
POWER RECEPTACLE	VARIES BY REGION. PROVIDED BY CUSTOMER.

POWER REQUIREMENTS PER FACE

MAXTRIX SIZE	MAX WATTS	120VAC 1PH 60HZ AMPS	240VAC 1PH 50HZ AMPS
240 X 144	1236	10.3	5.15
240 X 192	1556	12.97	6.49
288 X 192	1859	15.49	7.75

DETAIL 'A'



2.5" SPACE ON DIN RAIL FOR CUSTOMER PROVIDED OUTLET. WIRE OUTLET INTO TERMINAL BLOCKS OR WIRE EQUIPMENT AC CORD WHIPS DIRECTLY TO TERMINAL BLOCKS.

REV	DATE:		BY:
02	13 NOV 14	ADDED FACE B FOR DF CONFIGURATIONS CORRECTED COMPONENT LAYOUT ADDED ADDITIONAL POWER TABLE	LCS
01	21 FEB 14	ADDED TERMINAL BLOCK PLATE ADDED DETAIL 'A'	LCS

DAKTRONICS, INC.
BROOKINGS, SD 57006

DO NOT SCALE DRAWING

PROJ: DSF-600
TITLE: SYSTEM RISER, STREET FURNITURE, DIRECT ETHERNET
DESIGN: LSOPER | DRAWN: LSOPER | DATE: 14 OCT 13
SCALE: NONE

SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	
-	02	P1734	F - 01 - B	1153210

DSF-600 - SF/DF CONFIGURATION

NOTES:

1) DISPLAY LOADS ARE NON-CONTINUOUS.

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

3) SEE DISPLAY SHOP DRAWING FOR EXACT POWER AND SIGNAL ENTRANCE LOCATIONS PROVIDED ON BASE OF DISPLAY.

4) DAKTRONICS IS NOT RESPONSIBLE FOR THE QUALITY OF THE POWER DELIVERY SYSTEM TO THE DISPLAY SYSTEM.

5) BECAUSE EACH INSTALLATION IS UNIQUE, DAKTRONICS OFFERS THESE INSTRUCTIONS AS GUIDELINES ONLY. DAKTRONICS, INC. ASSUMES NO LIABILITY IF INSTALLATION STEPS HAVE BEEN OMITTED OR OTHER NECESSARY PROCEDURES ARE NOT INCLUDED IN THIS SYSTEM RISER DIAGRAM.

6) GROUND ROD CONNECTION LOCATED ON TERM PANEL OR PROVIDED BY INSTALLER. ALL DISPLAYS MUST BE GROUNDED PER ARTICLE 250 AND 600 OF THE NATIONAL ELECTRICAL CODE WITH NO MORE THAN 10 OHMS GROUND RESISTANCE.

7) DAKTRONICS UTILIZES BOTH STANDARD AND SUPPLEMENTARY CIRCUIT BREAKERS IN THE DISPLAY ASSEMBLY PROCESS. IT IS THE ELECTRICAL INSTALLATION CONTRACTORS RESPONSIBILITY TO ENSURE THAT ALL PRIMARY FEEDER CIRCUIT BREAKERS TO EACH DISPLAY/DISPLAY SECTION ARE UL 489 LISTED.

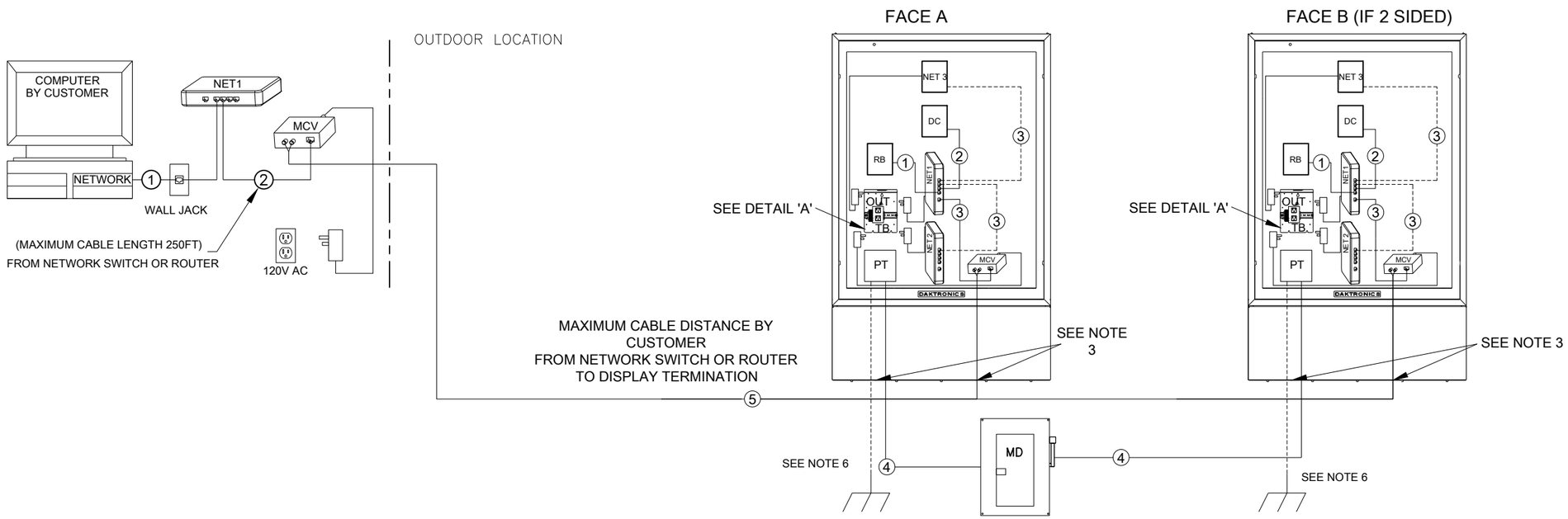
8) POWER AND SIGNAL REQUIREMENTS ARE SPECIFIED TO THE EQUIPMENT AND SETUP SHOWN. ANY CHANGES MADE TO EQUIPMENT OR THEIR SETUP SHOULD BE DISCUSSED WITH DAKTRONICS DESIGN PERSONNEL AND WILL REQUIRE AN UPDATED RISER DIAGRAM DRAWING.

9) THE CONTRACTUAL AGREEMENT WILL DETERMINE THE PARTY OR PARTIES RESPONSIBLE FOR ITEMS LISTED AS FIELD INSTALLED. THIS DRAWING IS NOT INTENDED TO DETERMINE RESPONSIBILITIES AND SHOULD BE USED FOR REFERENCES ONLY.

10) THIS IS NOT A SCALED DRAWING AND SHOULD BE USED FOR POWER AND SIGNAL REQUIREMENTS ONLY. ACTUAL PLACEMENT OF ELECTRICAL COMPONENTS, SUCH AS PANEL BOARDS, A/C'S, AND SPLICE PANELS, MAY VARY. PLEASE REFERENCE THE DISPLAY LAYOUT DRAWING FOR THIS DETAIL. THIS DRAWING REPRESENTS A GENERAL MOUNTING LOCATION ONLY.

11) CUSTOMER IS RESPONSIBLE FOR COMMUNICATION METHOD USED TO INTERFACE DISPLAY WITH CUSTOMER'S INTERNAL NETWORK.

12) REFER TO INTERNAL AUXILIARY EQUIPMENT TABLE FOR MIN AND MAX DIMENSIONS ACCEPTED BY PROVIDED MOUNTING PLATES AND RECOMMENDED TEMPERATURE RATING OF EQUIPMENT. NET3 PLATE ONLY PROVIDED IN CABINETS WITH CUSTOMER PROVIDED PLAYER. MCV FIBER MEDIA CONVERTER MAY BE MOUNTED ON AUXILIARY EQUIPMENT PLATES. BOTH FACES CONTAIN THE SAME DAKTRONICS EQUIPMENT.



COMPONENT IDENTIFICATION TABLE

COMPONENT	DESCRIPTION	DAKTRONICS'S #	PROVIDED BY	INSTALLED BY
ANT	OPTIONAL WIRELESS ANTENNA SEE DETAIL 'B'	-	CUSTOMER	CUSTOMER
DC	DISPLAY CONTROLLER	SEE BOM	DAKTRONICS	FACTORY
MD	MAIN DISCONNECT	-	CUSTOMER	CUSTOMER
MCV	ETHERNET MEDIA CONVERTER	-	CUSTOMER	CUSTOMER
NET1	NETWORK SWITCH OR ROUTER - SEE NOTE 12	-	CUSTOMER	CUSTOMER
NET2	OPTIONAL CUSTOMER EQUIPMENT - SEE NOTE 12	-	CUSTOMER	CUSTOMER
NET3	OPTIONAL CUSTOMER PLAYER - SEE NOTE 12	-	CUSTOMER	CUSTOMER
OUT	FIELD WIRED OUTLET FOR ISP EQUIPMENT	-	CUSTOMER	CUSTOMER
PT	INTERNAL POWER TERMINATION PANEL	SEE BOM	DAKTRONICS	FACTORY
RB	REMOTE BOOT DEVICES	SEE BOM	DAKTRONICS	FACTORY
TB	TERMINAL BLOCK PLATE, SEE DETAIL 'A'	-	DAKTRONICS	FACTORY

CABLE IDENTIFICATION TABLE

ID TAG	CABLE TYPE	DAKTRONICS PART NUMBER	MANUFACTURE (PART NUMBER)	CABLE	
				PROVIDED BY	INSTALLED BY
①	CAT5E ETHERNET CABLE, 5FT	W-1506	27246	DAKTRONICS	FACTORY
②	HARN, DMP, EXT, 90" ETHERNET CABLE	W-2379	-	DAKTRONICS	FACTORY
③	ETHERNET CABLE	-	-	CUSTOMER	CUSTOMER
④	POWER FEEDER SEE NOTE "2"	-	-	CUSTOMER	CUSTOMER
⑤	2 FIBER CABLE	-	-	CUSTOMER	CUSTOMER

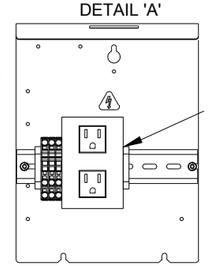
INTERNAL AUXILIARY EQUIPMENT (NET1,2,3)

FEATURE	SPECIFICATION
PHYSICAL SIZE (MIN)	DIMENSIONS: 92MM(L) X 92MM(W) X 16MM(H)
PHYSICAL SIZE (MAX)	DIMENSIONS: 203MM(L) X 203MM(W) X 70MM(H)
TEMP RATING	(-)30C TO 65C
POWER RECEPTACLE	VARIES BY REGION. PROVIDED BY CUSTOMER.

POWER REQUIREMENTS PER FACE

MAXTRIX SIZE	MAX WATTS	120VAC 1PH 60HZ AMPS	240VAC 1PH 50HZ AMPS
240 X 144	1236	10.3	5.15
240 X 192	1556	12.97	6.49
288 X 192	1859	15.49	7.75

DETAIL 'A'

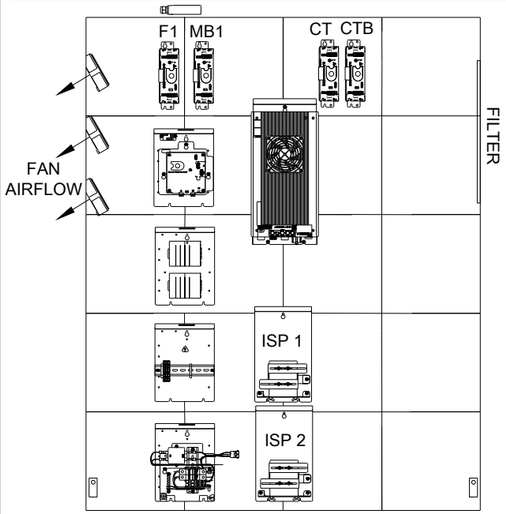


2.5" SPACE ON DIN RAIL FOR CUSTOMER PROVIDED OUTLET. WIRE OUTLET INTO TERMINAL BLOCKS OR WIRE EQUIPMENT AC CORD WHIPS DIRECTLY TO TERMINAL BLOCKS.

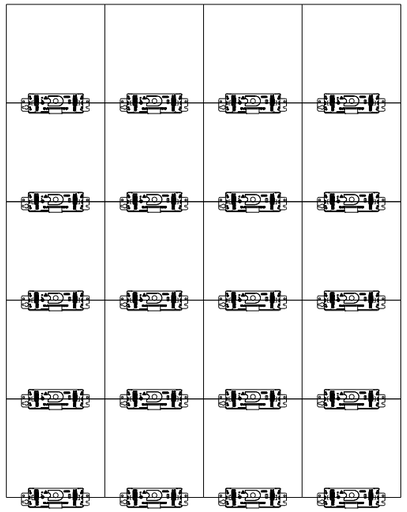
REV	DATE:		BY:
02	02 DEC 14	ADDED FACE B CORRECTED COMPONENT LAYOUT ADDED POWER TABLE	LCS
01	21 FEB 14	ADDED TERMINAL BLOCK PLATE ADDED DETAIL 'A'	LCS

PROJ: DSF-600			
TITLE: SYSTEM RISER, STREET FURNITURE, FIBER ETHERNET			
DESIGN: LSOPER	DRAWN: LSOPER	DATE: 14 OCT 13	
SCALE: NONE			

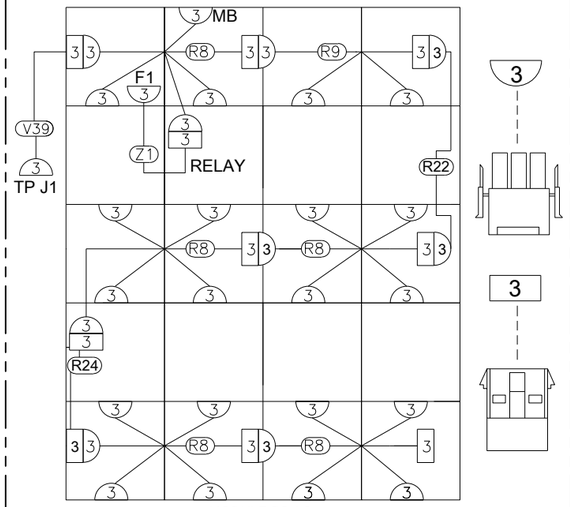
SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	
-	02	P1734	F - 01 - B	1153211



COMPONENT MOUNTING SHEET LAYOUT

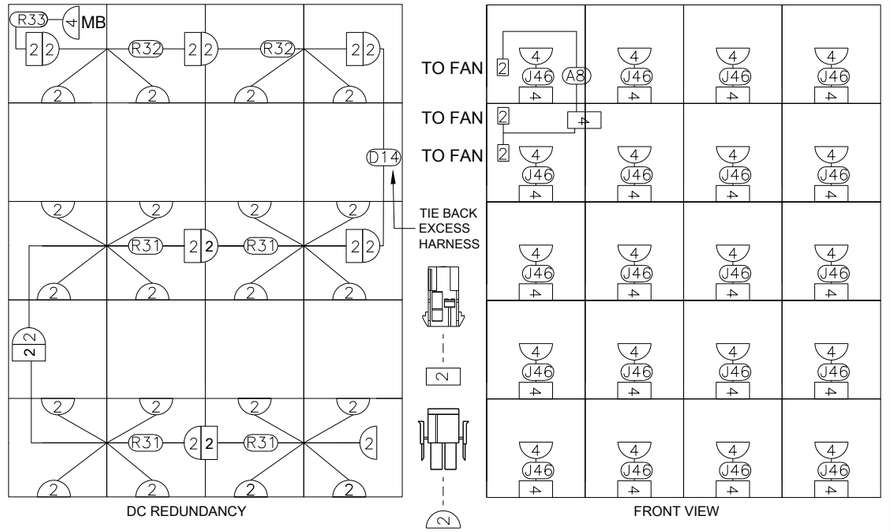

MODULE POWER SUPPLY MOUNTED TO FACE SHEET
REAR VIEW

COMPONENT LAYOUT



MODULE PS AC
HARNESS

AC HARNESS ROUTING



DC REDUNDANCY

FRONT VIEW

DC HARNESS ROUTING

STEP 1: MOUNTING COMPONENTS → STEP 2: AC HARNESS → STEP 3: DC REDUNDANCY → STEP 4: REFER TO SCHEMATIC FOR PWR/SIG → STEP 5: POWER TO MODULE AND SATA ROUTING

COMPONENTS & ASSOCIATED DRAWINGS

12V POWER SUPPLY 0A-1734-2000	DWG-1122210	
BACK SHEET MOUNT HC-1554 @2 TORQUE 25 IN-LBS	FACE SHEET MOUNT HC-1554 @2 HC-1243 @2 TORQUE 25 IN-LBS	
TERM PANEL 0A-1734-2011 0A-1734-2028	DWG-1119398 DWG-1129800	
	HC-1554 @3 TORQUE 25 IN-LBS	
DIGITAL MEDIA PLAYER 8065 0A-1734-2003	DWG-1119400	
	HC-1554 @3 TORQUE 25 IN-LBS	
PROLINK ROUTER 0A-1734-2002	DWG-1119397 DWG-1120869	
	HC-1554 @3 TORQUE 25 IN-LBS	
DC CABINET FAN B-1100	DWG-1121004 DWG-1121758	
HARDWARE INCLUDED @4 PER FAN TORQUE 4 IN-LBS	DWG-1121866 DWG-1121800	
ACCESSORY MOUNTING PLATE FOR CUSTOMER PROVIDED ISP EQUIPMENT	DWG-1122201	
SEE MANUAL FOR SPECIFICATIONS	HC-1554 @3 TORQUE 25 IN-LBS	
REMOTE BOOT DEVICE 0A-1734-2015	DWG-1124624	
	HC-1554 @3 TORQUE 25 IN-LBS	
AIR FILTER	DWG-1121800	
PHOTOSENSOR	DWG-1120363	
	HC-1144 @2 TORQUE 15 IN-LBS	
DOOR SWITCH	DWG-1121201	
TERM BLOCKS 0A-1734-2029	DWG-1143188	
	HC-1554 @3 TORQUE 25 IN-LBS	

NOTES:

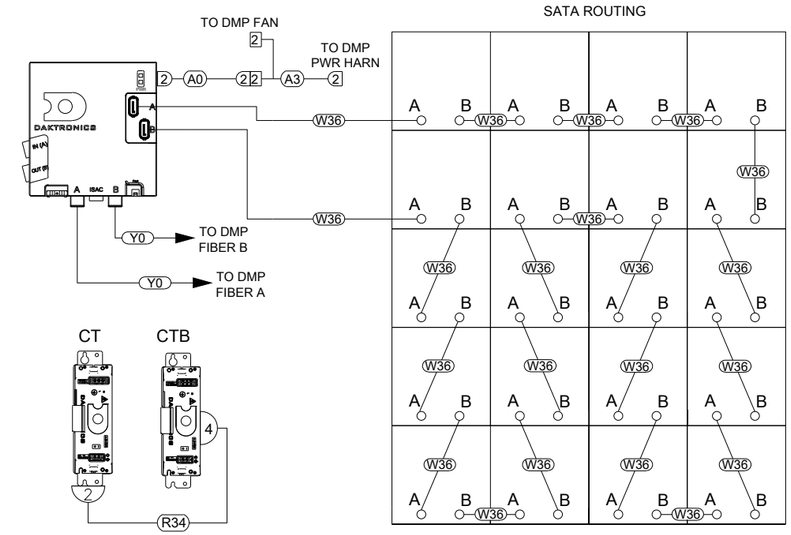
1. REFER TO SCHEMATIC FOR DOOR SWITCH AND ISP WIRING.

2. REFER TO SCHEMATIC FOR IBOOT DEVICE POWER.

PART REFERENCE

LABEL	PART
F1	FAN PS
MB	MOD BACKUP PS
CT	CONTROLLER PS
CTB	CT BACKUP PS
ISP1	ROUTER
ISP2	MODEM

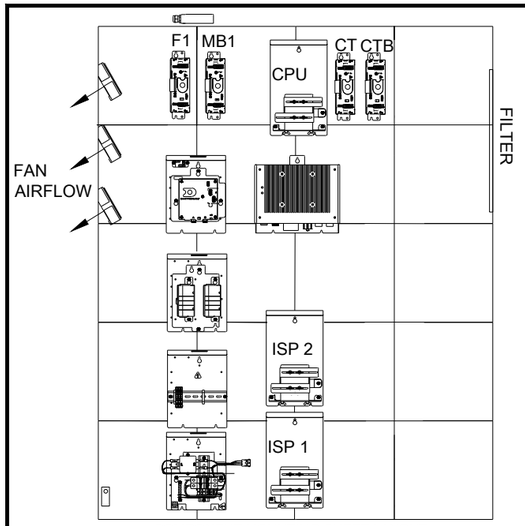
1	@ A0	W-2152 CABLE; SLC 2-PIN TO SLC 2-PIN, PLR
1	@ A3	W-2154 CABLE; SLC PLUG Y SLC JACKS, 6", 18AWG PLATFORM
1	@ A8	W-2573 HARN, 4P FEM MNL TO 3 SLC JACKS
1	@ D14	0A-1487-5034 HARN, 2-PIN M-N-L TO 2-PIN M-N-L, 5FT
20	@ J46	W-2550 HARNESS; 4P MAL MNL TO 4P FEM MNL, 8", SEALED
5	@ R8	W-2297 HARN; PWR, 65W, 4MOD, 24"
1	@ R9	W-2298 HARN; PWR, 65W, 2MOD, 24"
2	@ R22	0A-1487-5192 HARN; 2FT, 3P M MNL TO 3P M MNL (FEM CONTACTS-ALL)
1	@ R24	0A-1487-5194 HARN; 3P F MNL TO 3P F MNL (MALE CONTACT-ALL)
4	@ R31	W-2557 HARN; PWR, 65W RD, 4MOD,2 PIN, 29", CNTR TAP, RVS, SEALED
2	@ R32	W-2558 HARN; PWR, 65W RD, 2MOD, 2 PIN, 29", CNTR TAP, RVS SEALED
1	@ R33	W-2559 HARN; 2PIN F MNL TO 4PIN F MNL, SEALED
1	@ R34	W-2272 HARNESS;4P F MNL TO 2P M MNL(FEM) CONT.,36"
1	@ V39	0A-1604-4521 HARN; 8', 3P F MNL MALE PINS TO 3P M MNL, 12AWG
21	@ W36	W-2410 CABLE; SATA PLUG TO SATA PLUG, 28"
2	@ Y0	W-1659 FIBER; DUPLEX PATCH, 50UM 10GIG LC-LC, 3'
1	@ Z1	0A-1604-4541 HARN; SS RELAY,AC FAN, 3 P M/F MNL, 14AWG,ORG.



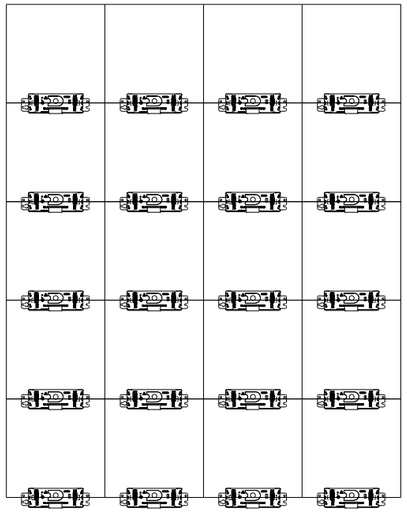
DMP-8065
POWER SUPPLY
REDUNDANCY
WIRING ONLY

SIGNAL ROUTING AND MISC POWER

PROJ: STREET FURNITURE GEN 2				
TITLE: LAYOUT & BLOCK DIAGRAM, DSF-600-6MN-240X192-8065-GEN 2				
DESIGN: LSOPER		DRAWN: LSOPER		DATE: 01 AUG 14
SCALE: NONE				
SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	1185035
1 OF 1	00	P1734	R - 01 - B	

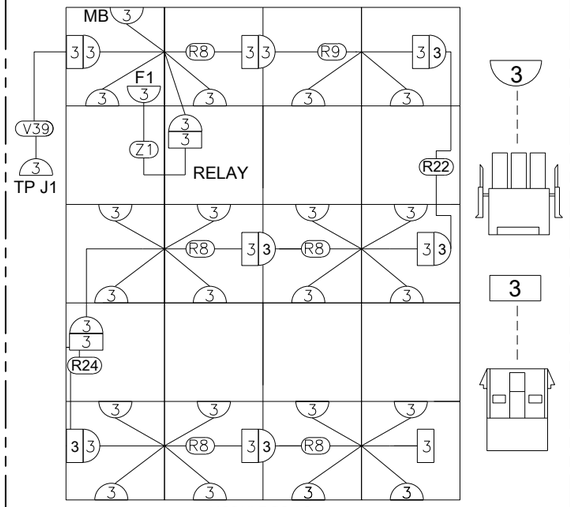


COMPONENT MOUNTING SHEET LAYOUT



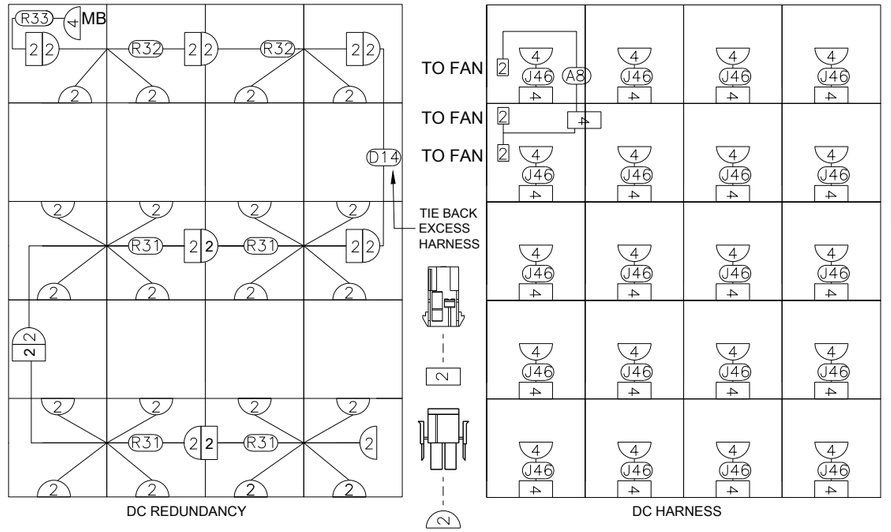
MODULE POWER SUPPLY MOUNTED TO FACE SHEET
REAR VIEW

COMPONENT LAYOUT



MODULE PS AC
HARNESS

AC HARNESS ROUTING



DC REDUNDANCY

DC HARNESS

DC HARNESS ROUTING

STEP 1: MOUNTING COMPONENTS → STEP 2: AC HARNESS → STEP 3: DC REDUNDANCY → STEP 4: REFER TO SCHEMATIC FOR PWR/SIG → STEP 5: POWER TO MODULE AND SATA ROUTING

COMPONENTS & ASSOCIATED DRAWINGS

12V POWER SUPPLY 0A-1734-2000 BACK SHEET MOUNT HC-1554 @2 TORQUE 25 IN-LBS	DWG-1122210 FACE SHEET MOUNT HC-1554 @2 HC-1243 @2 TORQUE 25 IN-LBS	PHOTOSENSOR	DWG-1120363 HC-1144 @2 TORQUE 15 IN-LBS
		DOOR SWITCH	DWG-1121201
TERM PANEL 0A-1734-2011 0A-1734-2028	DWG-1119398 DWG-1129800 HC-1554 @3 TORQUE 25 IN-LBS	TERM BLOCKS 0A-1734-2029	DWG-1143188 HC-1554 @3 TORQUE 25 IN-LBS
VIDEO IMAGE PROCESSOR 5060 0A-1734-2014	DWG-1124625 HC-1554 @3 TORQUE 25 IN-LBS		
PROLINK ROUTER 0A-1734-2002	DWG-1119397 DWG-1120869 HC-1554 @3 TORQUE 25 IN-LBS		
DC CABINET FAN B-1100 HARDWARE INCLUDED @4 PER FAN TORQUE 4 IN-LBS	DWG-1121004 DWG-1121758 DWG-1121866 DWG-1121800		
ACCESSORY MOUNTING PLATE FOR CUSTOMER PROVIDED ISP EQUIPMENT SEE MANUAL FOR SPECIFICATIONS	DWG-1122201 HC-1554 @3 TORQUE 25 IN-LBS		
REMOTE BOOT DEVICE 0A-1734-2015	DWG-1124624 HC-1554 @3 TORQUE 25 IN-LBS		
AIR FILTER	DWG-1121800		

NOTES:

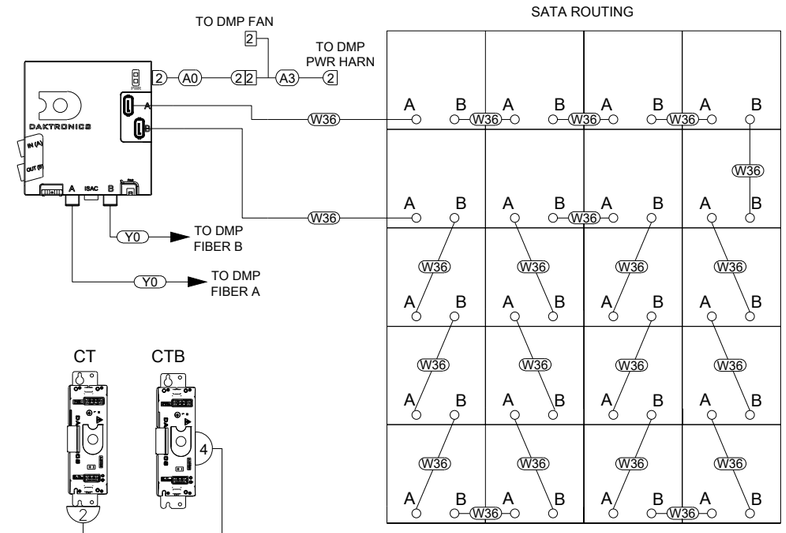
1. REFER TO SCHEMATIC FOR DOOR SWITCH AND ISP WIRING.

2. REFER TO SCHEMATIC FOR IBOOT DEVICE POWER.

PART REFERENCE

LABEL	PART
F1	FAN PS
MB	MOD BACKUP PS
CT	CONTROLLER PS
CTB	CT BACKUP PS
ISP1	ROUTER
ISP2	MODEM
CPU	PLAYER

1	@ A0	W-2152 CABLE; SLC 2-PIN TO SLC 2-PIN, PLR
1	@ A3	W-2154 CABLE; SLC PLUG Y SLC JACKS, 6", 18AWG PLATFORM
1	@ A8	W-2573 HARN, 4P FEM MNL TO 3 SLC JACKS
1	@ D14	0A-1487-5034 HARN, 2-PIN M-N-L TO 2-PIN M-N-L, 5FT
5	@ R8	W-2297 HARN; PWR, 65W, 4MOD, 24"
1	@ R9	W-2298 HARN; PWR, 65W, 2MOD, 24"
2	@ R22	0A-1487-5192 HARN; 2FT, 3P M MNL TO 3P M MNL (FEM CONTACTS-ALL)
1	@ R24	0A-1487-5194 HARN; 3P F MNL TO 3P F MNL (MALE CONTACT-ALL)
4	@ R31	W-2557 HARN; PWR, 65W RD, 4MOD,2 PIN, 29", CNTR TAP, RVS, SEALED
2	@ R32	W-2558 HARN; PWR, 65W RD, 2MOD, 2 PIN, 29", CNTR TAP, RVS SEALED
1	@ R33	W-2559 HARN; 2PIN F MNL TO 4PIN F MNL, SEALED
1	@ R34	W-2272 HARNESS;4P F MNL TO 2P M MNL(FEM) CONT.,36"
20	@ J46	W-2550 HARNESS; 4P MAL MNL TO 4P FEM MNL, 8", SEALED
1	@ V39	0A-1604-4521 HARN; 8', 3P F MNL MALE PINS TO 3P M MNL, 12AWG
21	@ W36	W-2410 CABLE; SATA PLUG TO SATA PLUG, 28"
2	@ Y0	W-1659 FIBER; DUPLEX PATCH, 50UM 10GIG LC-LC, 3'
1	@ Z1	0A-1604-4541 HARN; SS RELAY,AC FAN, 3 P M/F MNL, 14AWG,ORG.

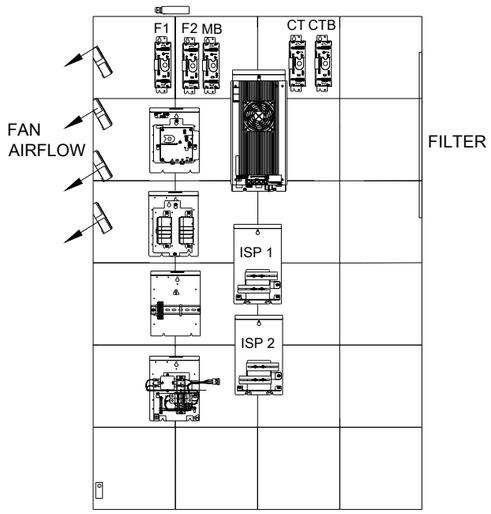


SIGNAL ROUTING AND MISC POWER

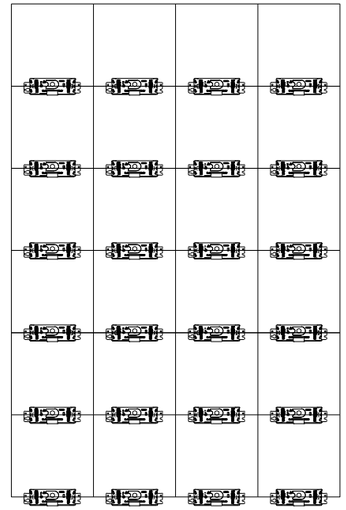
DAKTRONICS, INC.
BROOKINGS, SD 57006
DO NOT SCALE DRAWING

PROJ: STREET FURNITURE GEN 2
TITLE: LAYOUT & BLOCK DIAGRAM, DSF-600-6MN-240X192-5X60-GEN 2
DESIGN: LSOPER | DRAWN: LSOPER | DATE: 01 AUG 14
SCALE: NONE

SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	
1 OF 1	00	P1734	R - 01 - B	1185044

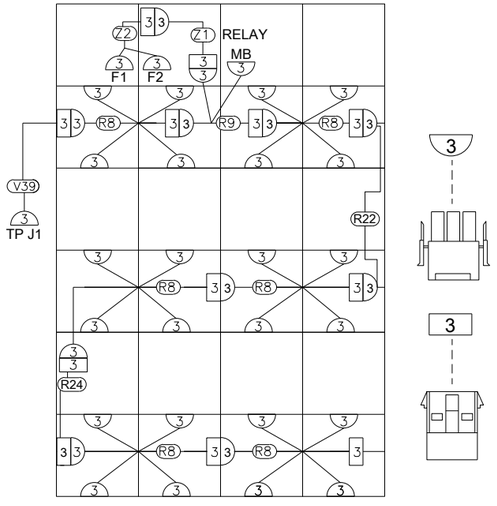


COMPONENT MOUNTING SHEET LAYOUT



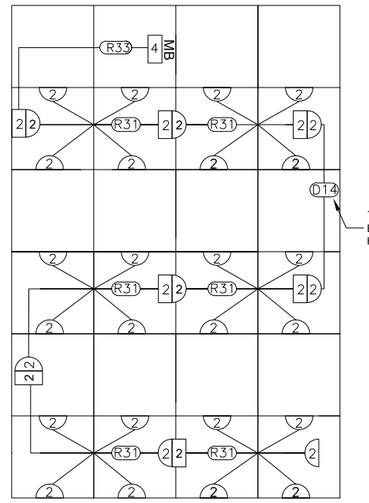
MODULE POWER SUPPLY MOUNTED TO FACE SHEET
REAR VIEW

COMPONENT LAYOUT

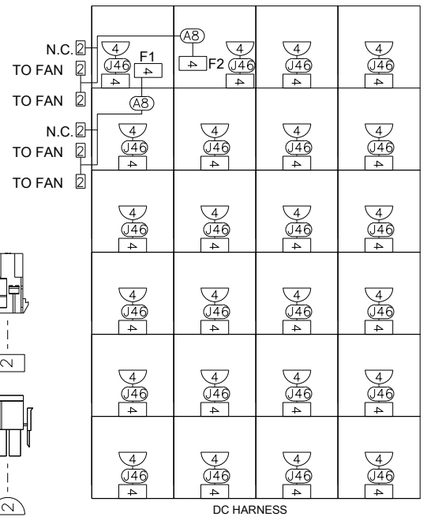


MODULE PS AC
HARNESS

AC HARNESS ROUTING



DC REDUNDANCY



DC HARNESS

DC HARNESS ROUTING

STEP 1: MOUNTING COMPONENTS → STEP 2: AC HARNESS → STEP 3: DC REDUNDANCY → STEP 4: REFER TO SCHEMATIC FOR PWR/SIG → STEP 5: POWER TO MODULE AND SATA ROUTING

COMPONENTS & ASSOCIATED DRAWINGS

12V POWER SUPPLY 0A-1734-2000	DWG-1122210	
BACK SHEET MOUNT HC-1554 @2 TORQUE 25 IN-LBS	FACE SHEET MOUNT HC-1554 @2 HC-1243 @2 TORQUE 25 IN-LBS	
TERM PANEL 0A-1734-2011 0A-1734-2028	DWG-1119398 DWG-1129800	
	HC-1554 @3 TORQUE 25 IN-LBS	
DIGITAL MEDIA PLAYER 8065 0A-1734-2003	DWG-1119400	
	HC-1554 @3 TORQUE 25 IN-LBS	
PROLINK ROUTER 0A-1734-2002	DWG-1119397 DWG-1120869	
	HC-1554 @3 TORQUE 25 IN-LBS	
DC CABINET FAN B-1100	DWG-1121004 DWG-1121758	
HARDWARE INCLUDED @4 PER FAN TORQUE 4 IN-LBS	DWG-1121866 DWG-1121800	
ACCESSORY MOUNTING PLATE FOR CUSTOMER PROVIDED ISP EQUIPMENT SEE MANUAL FOR SPECIFICATIONS	DWG-1122201 HC-1554 @3 TORQUE 25 IN-LBS	
REMOTE BOOT DEVICE 0A-1734-2015	DWG-1124624 HC-1554 @3 TORQUE 25 IN-LBS	
AIR FILTER	DWG-1121800	
PHOTOSENSOR	DWG-1120363 HC-1144 @2 TORQUE 15 IN-LBS	
DOOR SWITCH	DWG-1121201	
TERM BLOCKS 0A-1734-2029	DWG-1143188 HC-1554 @3 TORQUE 25 IN-LBS	

NOTES:

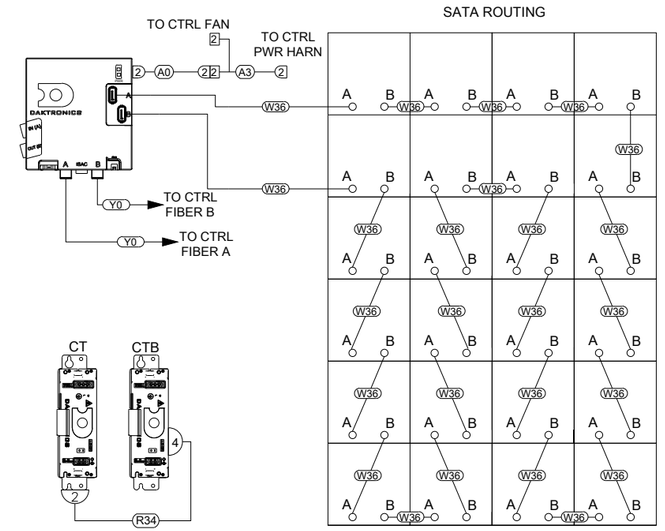
1. REFER TO SCHEMATIC FOR DOOR SWITCH AND ISP WIRING.

2. REFER TO SCHEMATIC FOR IBOOT DEVICE POWER.

PART REFERENCE

LABEL	PART
F1/F2	FAN PS
MB	MOD BACKUP PS
CT	CONTROLLER PS
CTB	CT BACKUP PS
ISP1	ROUTER
ISP2	MODEM

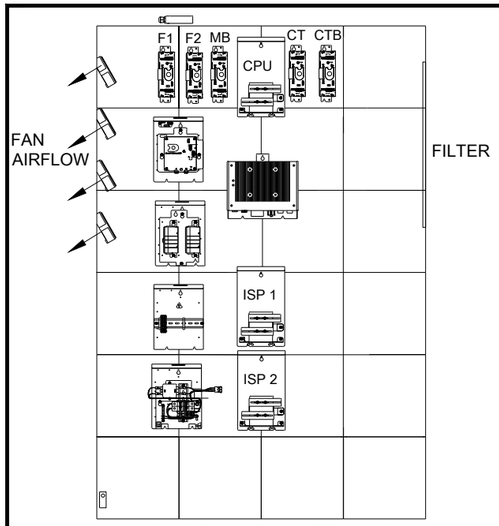
1	@ A0	W-2152 CABLE; SLC 2-PIN TO SLC 2-PIN, PLR	
1	@ A3	W-2154 CABLE; SLC PLUG Y SLC JACKS, 6", 18AWG PLATFORM	
2	@ A8	W-2573 HARN, 4P FEM MNL TO 3 SLC JACKS	
1	@ D14	0A-1487-5034 HARN, 2-PIN M-N-L TO 2-PIN M-N-L, 5FT	
24	@ J46	W-2550 HARNESS; 4P MAL MNL TO 4P FEM MNL, 8", SEALED	
6	@ R8	W-2297 HARN; PWR, 65W, 4MOD, 24"	
1	@ R9	W-2298 HARN; PWR, 65W, 2MOD, 24"	
1	@ R22	0A-1487-5192 HARN; 2FT, 3P M MNL TO 3P M MNL (FEM CONTACTS-ALL)	
1	@ R24	0A-1487-5194 HARN; 3P F MNL TO 3P F MNL (MALE CONTACT-ALL)	
6	@ R31	W-2557 HARN; PWR, 65W RD, 4MOD,2 PIN, 29", CNTR TAP, RVS, SEALED	
1	@ R33	W-2559 HARN; 2PIN F MNL TO 4PIN F MNL, SEALED	
1	@ R34	W-2272 HARNESS;4P F MNL TO 2P M MNL(FEM) CONT.,36"	
1	@ V39	0A-1604-4521 HARN; 8', 3P F MNL MALE PINS TO 3P M MNL, 12AWG	
25	@ W36	W-2410 CABLE; SATA PLUG TO SATA PLUG, 28"	
2	@ Y0	W-1659 FIBER; DUPLEX PATCH, 50UM 10GIG LC-LC, 3'	
1	@ Z1	0A-1604-4541 HARN; SS RELAY,AC FAN, 3 P M/F MNL, 14AWG,ORG. (PART OF PLR)	
1	@ Z2	W-2571 HARNESS, 3P FEM MNL TO 2 3P MAL MNL, 12" AND 18"	



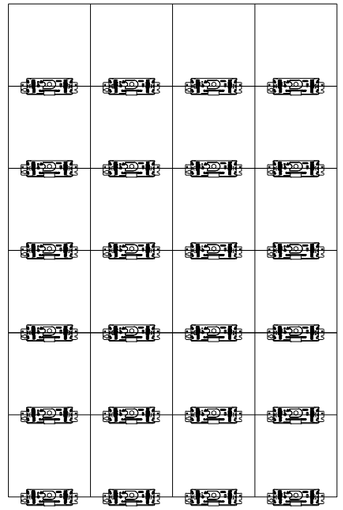
DMP-8065
CONTROLLER
POWER SUPPLY
REDUNDANCY
WIRING ONLY

SIGNAL ROUTING AND MISC POWER

PROJ: STREET FURNITURE GEN 2				
TITLE: LAYOUT & BLOCK DIAGRAM, DSF-600-6MN-288X192-8065-GEN 2				
DESIGN: LSOPER		DRAWN: LSOPER	DATE: 01 AUG 14	
SCALE: NONE				
SHEET	REV	JOB NO:	FUNC - TYPE - SIZE	1185052
1 OF 1	00	P1734	F - 01 - B	

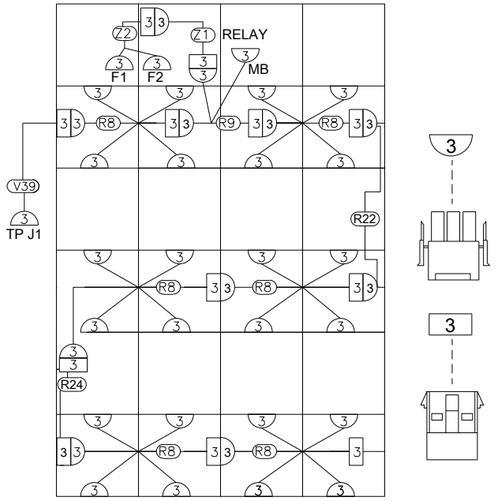


COMPONENT MOUNTING SHEET LAYOUT



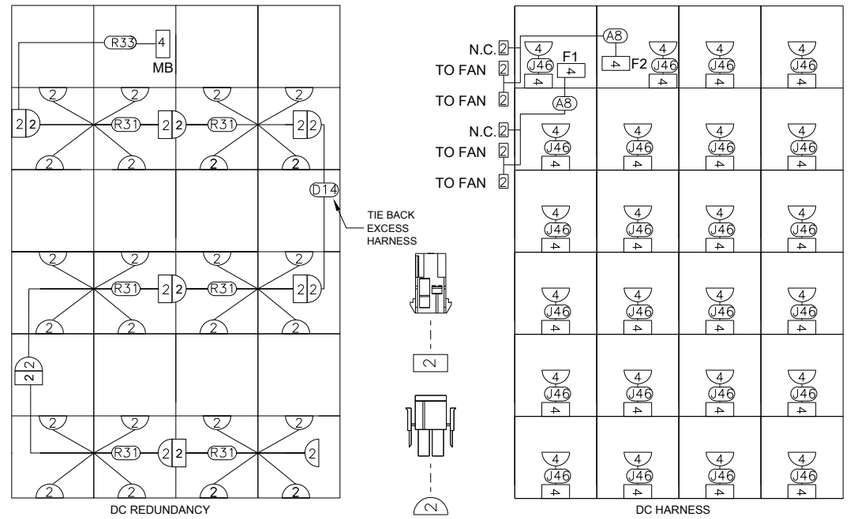
MODULE POWER SUPPLY MOUNTED TO FACE SHEET
REAR VIEW

COMPONENT LAYOUT



MODULE PS AC
HARNESS

AC HARNESS ROUTING



DC REDUNDANCY

DC HARNESS

DC HARNESS ROUTING

STEP 1: MOUNTING COMPONENTS → STEP 2: AC HARNESS → STEP 3: DC REDUNDANCY → STEP 4: REFER TO SCHEMATIC FOR PWR/SIG → STEP 5: POWER TO MODULE AND SATA ROUTING

COMPONENTS & ASSOCIATED DRAWINGS

12V POWER SUPPLY 0A-1734-2000 BACK SHEET MOUNT HC-1554 @2 TORQUE 25 IN-LBS	DWG-1122210 FACE SHEET MOUNT HC-1554 @2 HC-1243 @2 TORQUE 25 IN-LBS	PHOTOSENSOR DOOR SWITCH	DWG-1120363 HC-1144 @2 TORQUE 15 IN-LBS DWG-1121201
TERM PANEL 0A-1734-2011 0A-1734-2028	DWG-1119398 DWG-1129800 HC-1554 @3 TORQUE 25 IN-LBS	TERM BLOCKS 0A-1734-2029	DWG-1143188 HC-1554 @3 TORQUE 25 IN-LBS
VIDEO IMAGE PROCESSOR 5060 0A-1734-2014	DWG-1124625 HC-1554 @3 TORQUE 25 IN-LBS		
PROLINK ROUTER 0A-1734-2002	DWG-1119397 DWG-1120869 HC-1554 @3 TORQUE 25 IN-LBS		
DC CABINET FAN B-1100 HARDWARE INCLUDED @4 PER FAN TORQUE 4 IN-LBS	DWG-1121004 DWG-1121758 DWG-1121866 DWG-1121800		
ACCESSORY MOUNTING PLATE FOR CUSTOMER PROVIDED ISP EQUIPMENT SEE MANUAL FOR SPECIFICATIONS	DWG-1122201 HC-1554 @3 TORQUE 25 IN-LBS		
REMOTE BOOT DEVICE 0A-1734-2015	DWG-1124624 HC-1554 @3 TORQUE 25 IN-LBS		
AIR FILTER	DWG-1121800		

NOTES:

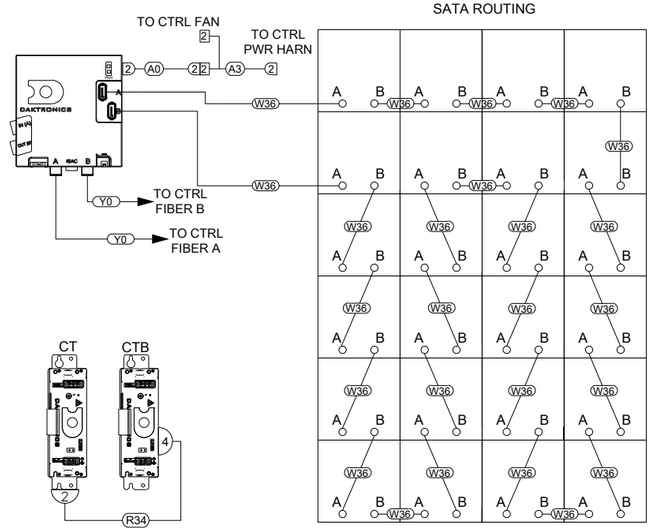
1. REFER TO SCHEMATIC FOR DOOR SWITCH AND ISP WIRING.

2. REFER TO SCHEMATIC FOR IBOOT DEVICE POWER.

PART REFERENCE

LABEL	PART
F1/F2	FAN PS
MB	MOD BACKUP PS
CT	CONTROLLER PS
CTB	CT BACKUP PS
ISP1	ROUTER
ISP2	MODEM
CPU	PLAYER

1	@ A0	W-2152 CABLE; SLC 2-PIN TO SLC 2-PIN, PLR
1	@ A3	W-2154 CABLE; SLC PLUG Y SLC JACKS, 6", 18AWG PLATFORM
2	@ A8	W-2573 HARN, 4P FEM MNL TO 3 SLC JACKS
1	@ D14	0A-1487-5034 HARN, 2-PIN M-N-L TO 2-PIN M-N-L, 5FT
24	@ J46	W-2550 HARNESS; 4P MAL MNL TO 4P FEM MNL, 8", SEALED
6	@ R8	W-2297 HARN; PWR, 65W, 4MOD, 24"
1	@ R9	W-2298 HARN; PWR, 65W, 2MOD, 24"
1	@ R22	0A-1487-5192 HARN; 2FT, 3P M MNL TO 3P M MNL (FEM CONTACTS-ALL)
1	@ R24	0A-1487-5194 HARN; 3P F MNL TO 3P F MNL (MALE CONTACT-ALL)
6	@ R31	W-2557 HARN; PWR, 65W RD, 4MOD,2 PIN, 29", CNTR TAP, RVS, SEALED
1	@ R33	W-2559 HARN; 2PIN F MNL TO 4PIN F MNL, SEALED
1	@ R34	W-2272 HARNESS;4P F MNL TO 2P M MNL(FEM) CONT.,36"
1	@ V39	0A-1604-4521 HARN; 8', 3P F MNL MALE PINS TO 3P M MNL, 12AWG
25	@ W36	W-2410 CABLE; SATA PLUG TO SATA PLUG, 28"
2	@ Y0	W-1659 FIBER; DUPLEX PATCH, 50UM 10GIG LC-LC, 3'
1	@ Z1	0A-1604-4541 HARN; SS RELAY,AC FAN, 3 P M/F MNL, 14AWG,ORG. (PART OF PLR)
1	@ Z2	W-2571 HARNESS, 3P FEM MNL TO 2 3P MAL MNL, 12" AND 18"

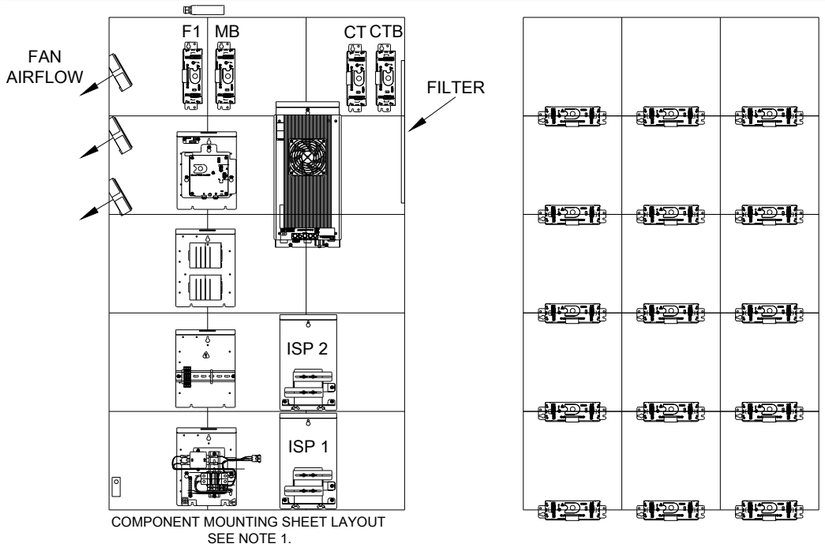


SIGNAL ROUTING AND MISC POWER

DAKTRONICS, INC.
BROOKINGS, SD 57006
DO NOT SCALE DRAWING

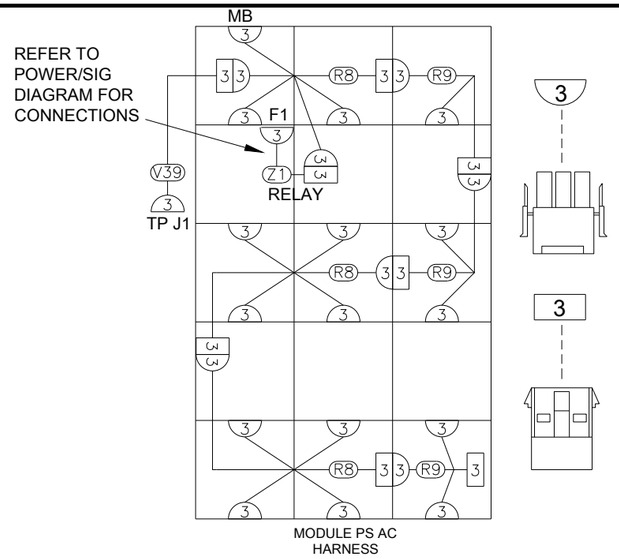
PROJ: STREET FURNITURE GEN 2
TITLE: LAYOUT & BLOCK DIAGRAM, DSF-600-6MN-288X192-5X60-GEN 2
DESIGN: LSOPER | DRAWN: LSOPER | DATE: 01 AUG 14
SCALE: NONE

SHEET	REV	JOB NO:	FUNC - TYPE - SIZE	
1 OF 1	00	P1734	F - 01 - B	1185053



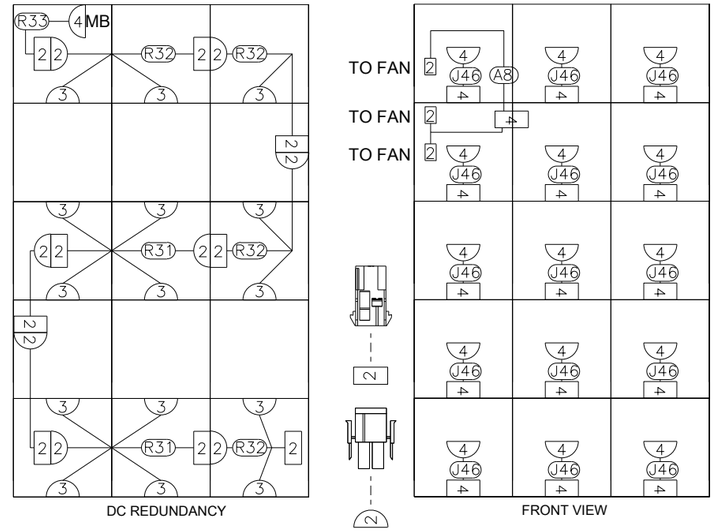
COMPONENT MOUNTING SHEET LAYOUT
SEE NOTE 1.

COMPONENT LAYOUT



MODULE PS AC HARNESS

AC HARNESS ROUTING



DC REDUNDANCY

FRONT VIEW

DC HARNESS ROUTING

STEP 1: MOUNTING COMPONENTS → STEP 2: AC HARNESS → STEP 3: DC REDUNDANCY → STEP 4: REFER TO DIAGRAM FOR PWR/SIG → STEP 5: POWER TO MODULE AND SATA ROUTING

12V POWER SUPPLY 0A-1734-2000	DWG-1122210	
BACK SHEET MOUNT HC-1554 @2 TORQUE 25 IN-LBS	FACE SHEET MOUNT HC-1554 @2 HC-1243 @2 TORQUE 25 IN-LBS	
TERM PANEL 0A-1734-2011 0A-1734-2028	DWG-1119398 DWG-1129800	
	HC-1554 @3 TORQUE 25 IN-LBS	
DIGITAL MEDIA PLAYER 8065 0A-1734-2003	DWG-1119400	
	HC-1554 @3 TORQUE 25 IN-LBS	
PROLINK ROUTER 0A-1734-2002	DWG-1119397 DWG-1120869	
	HC-1554 @3 TORQUE 25 IN-LBS	
DC CABINET FAN B-1100	DWG-1121004 DWG-1121758	
HARDWARE INCLUDED @4 PER FAN TORQUE 4 IN-LBS	DWG-1121866 DWG-1121800	
ACCESSORY MOUNTING PLATE FOR CUSTOMER PROVIDED ISP EQUIPMENT	DWG-1122201	
SEE MANUAL FOR SPECIFICATIONS	HC-1554 @3 TORQUE 25 IN-LBS	
REMOTE BOOT DEVICE 0A-1734-2015	DWG-1124624	
	HC-1554 @3 TORQUE 25 IN-LBS	
AIR FILTER	DWG-1121800	
PHOTOSENSOR	DWG-1120363	
	HC-1144 @2 TORQUE 15 IN-LBS	
DOOR SWITCH	DWG-1121201	
TERM BLOCKS 0A-1734-2029	DWG-1143188	
	HC-1554 @3 TORQUE 25 IN-LBS	

NOTES:
1. REFER TO SCHEMATIC FOR DOOR SWITCH AND ISP WIRING

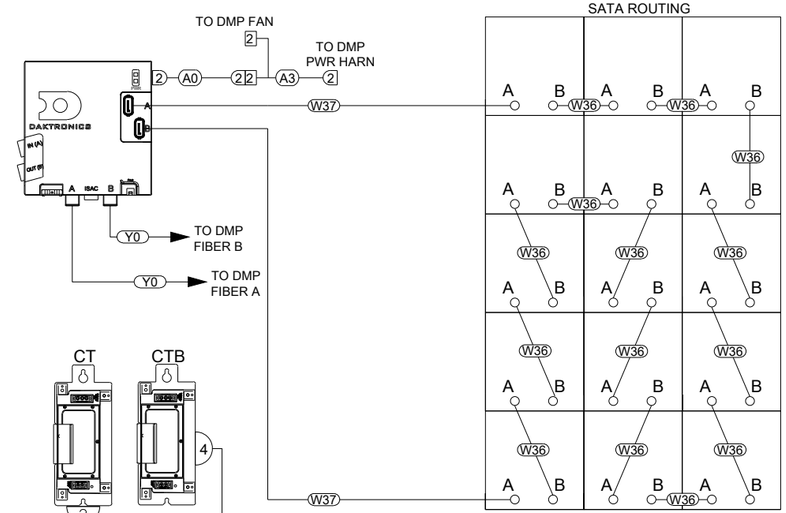
2. REFER TO SCHEMATIC FOR IBOOT DEVICE POWER

3. REFER TO DWG1129095 FOR POWER SPECIFICATIONS

PART REFERENCE

LABEL	PART
F1	FAN PS
MB	MOD BACKUP PS
CT	CONTROLLER PS
CTB	CT BACKUP PS
ISP1	ROUTER
ISP2	MODEM

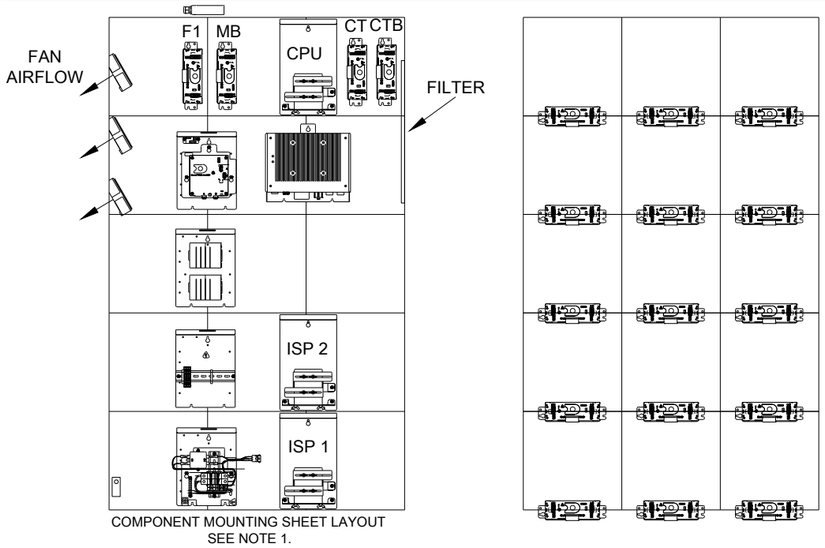
1	@ A0	W-2152 CABLE; SLC 2-PIN TO SLC 2-PIN, PLR
1	@ A3	W-2154 CABLE; SLC PLUG Y SLC JACKS, 6", 18AWG PLATFORM
1	@ A8	W-2573 HARN, 4P FEM MNL TO 3 SLC JACKS
3	@ R8	W-2297 HARN; PWR, 65W, 4MOD, 24"
3	@ R9	W-2298 HARN; PWR, 65W, 2MOD, 24"
1	@ R34	W-2272 HARNESS;4P F MNL TO 2P M MNL(FEM) CONT.,36"
15	@ J46	W-2550 HARNESS; 4P MAL MNL TO 4P FEM MNL, 8", SEALED
2	@ R31	W-2557 HARN; PWR, 65W RD, 4MOD,2 PIN, 29", CNTR TAP, RVS, SEALED
4	@ R32	W-2558 HARN; PWR, 65W RD, 2MOD, 2 PIN, 29", CNTR TAP, RVS SEALED
1	@ R33	W-2559 HARN; 2PIN F MNL TO 4PIN F MNL, SEALED
1	@ V39	0A-1604-4521 HARN; 8', 3P F MNL MALE PINS TO 3P M MNL, 12AWG
14	@ W36	W-2410 CABLE; SATA PLUG TO SATA PLUG, 28"
2	@ W37	W-2411 CABLE; SATA PLUG TO SATA PLUG, 6FT
2	@ Y0	W-1659 FIBER; DUPLEX PATCH, 50UM 10GIG LC-LC, 3'
1	@ Z1	0A-1604-4541 HARN; SS RELAY,AC FAN, 3 P M/F MNL, 14AWG,ORG.



DMP-8065 POWER SUPPLY REDUNDANCY WIRING ONLY

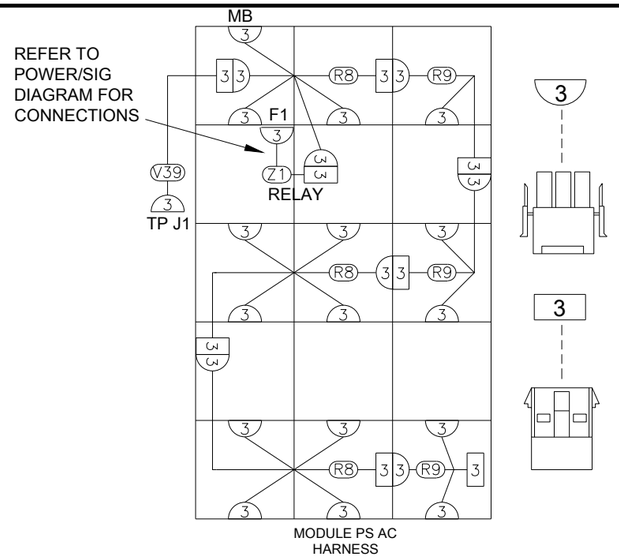
SIGNAL ROUTING AND MISC POWER

PROJ: STREET FURNITURE GEN 2				
TITLE: LAYOUT & BLOCK DIAGRAM, DSF-600-6MN-240X144-8065-GEN 2				
DESIGN: LSOPER	DRAWN: LSOPER		DATE: 01 AUG 14	
SCALE: NTS				
SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	1185074
	00	P1734	R - 01 - B	



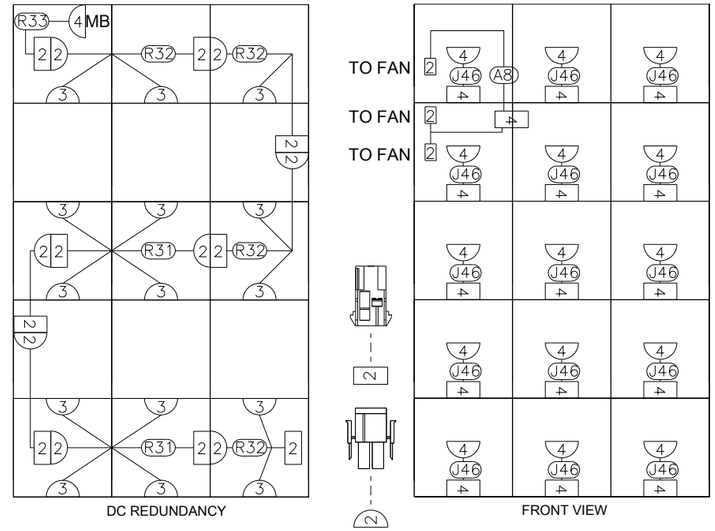
COMPONENT MOUNTING SHEET LAYOUT
SEE NOTE 1.

COMPONENT LAYOUT



MODULE PS AC HARNESS

AC HARNESS ROUTING



DC REDUNDANCY

FRONT VIEW

DC HARNESS ROUTING

STEP 1: MOUNTING COMPONENTS → STEP 2: AC HARNESS → STEP 3: DC REDUNDANCY → STEP 4: REFER TO DIAGRAM FOR PWR/SIG → STEP 5: POWER TO MODULE AND SATA ROUTING

12V POWER SUPPLY 0A-1734-2000 BACK SHEET MOUNT HC-1554 @2 TORQUE 25 IN-LBS	DWG-1122210 FACE SHEET MOUNT HC-1554 @2 HC-1243 @2 TORQUE 25 IN-LBS	PHOTOSENSOR
TERM PANEL 0A-1734-2011 0A-1734-2028	DWG-1119398 DWG-1129800 HC-1554 @3 TORQUE 25 IN-LBS	DOOR SWITCH
VIDEO IMAGE PROCESSOR 5060 0A-1734-2014	DWG-1124625 HC-1554 @3 TORQUE 25 IN-LBS	TERM BLOCKS 0A-1734-2029
PROLINK ROUTER 0A-1734-2002	DWG-1119397 DWG-1120869 HC-1554 @3 TORQUE 25 IN-LBS	
DC CABINET FAN B-1100 HARDWARE INCLUDED @4 PER FAN TORQUE 4 IN-LBS	DWG-1121004 DWG-1121758 DWG-1121866 DWG-1121800	
ACCESSORY MOUNTING PLATE FOR CUSTOMER PROVIDED ISP EQUIPMENT SEE MANUAL FOR SPECIFICATIONS	DWG-1122201 HC-1554 @3 TORQUE 25 IN-LBS	
REMOTE BOOT DEVICE 0A-1734-2015	DWG-1124624 HC-1554 @3 TORQUE 25 IN-LBS	
AIR FILTER	DWG-1121800	

PHOTOSENSOR	DWG-1120363 HC-1144 @2 TORQUE 15 IN-LBS	
DOOR SWITCH	DWG-1121201	
TERM BLOCKS 0A-1734-2029	DWG-1143188 HC-1554 @3 TORQUE 25 IN-LBS	

NOTES:
1. REFER TO SCHEMATIC FOR DOOR SWITCH AND ISP WIRING

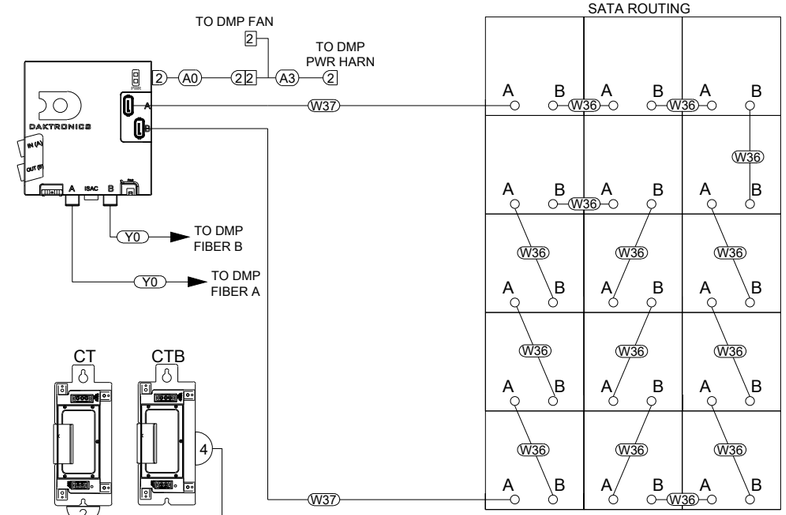
2. REFER TO SCHEMATIC FOR IBOOT DEVICE POWER

3. REFER TO DWG1129095 FOR POWER SPECIFICATIONS

PART REFERENCE

LABEL	PART
F1	FAN PS
MB	MOD BACKUP PS
CT	CONTROLLER PS
CTB	CT BACKUP PS
ISP1	ROUTER
ISP2	MODEM
CPU	PLAYER

1	@ A0	W-2152 CABLE; SLC 2-PIN TO SLC 2-PIN, PLR
1	@ A3	W-2154 CABLE; SLC PLUG Y SLC JACKS, 6", 18AWG PLATFORM
1	@ A8	W-2573 HARN, 4P FEM MNL TO 3 SLC JACKS
3	@ R8	W-2297 HARN; PWR, 65W, 4MOD, 24"
3	@ R9	W-2298 HARN; PWR, 65W, 2MOD, 24"
1	@ R34	W-2272 HARNESS;4P F MNL TO 2P M MNL(FEM) CONT.,36"
15	@ J46	W-2550 HARNESS; 4P MAL MNL TO 4P FEM MNL, 8", SEALED
2	@ R31	W-2557 HARN; PWR, 65W RD, 4MOD,2 PIN, 29", CNTR TAP, RVS, SEALED
4	@ R32	W-2558 HARN; PWR, 65W RD, 2MOD, 2 PIN, 29", CNTR TAP, RVS SEALED
1	@ R33	W-2559 HARN; 2PIN F MNL TO 4PIN F MNL, SEALED
1	@ V39	0A-1604-4521 HARN; 8', 3P F MNL MALE PINS TO 3P M MNL, 12AWG
14	@ W36	W-2410 CABLE; SATA PLUG TO SATA PLUG, 28"
2	@ W37	W-2411 CABLE; SATA PLUG TO SATA PLUG, 6FT
2	@ Y0	W-1659 FIBER; DUPLEX PATCH, 50UM 10GIG LC-LC, 3'
1	@ Z1	0A-1604-4541 HARN; SS RELAY,AC FAN, 3 P M/F MNL, 14AWG,ORG.



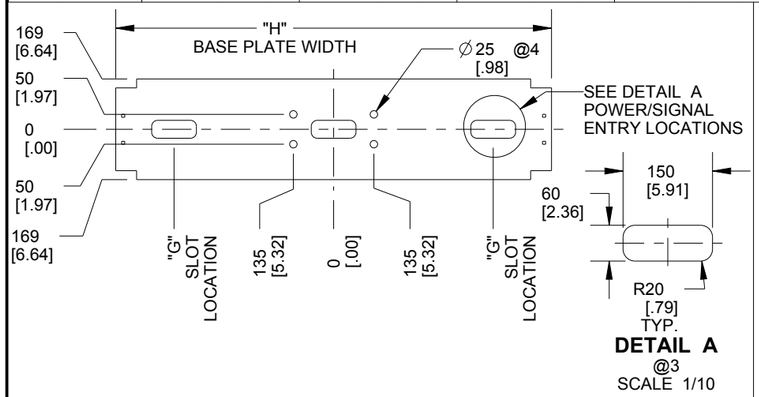
DMP-8065
POWER SUPPLY
REDUNDANCY
WIRING ONLY

SIGNAL ROUTING AND MISC POWER

DAKTRONICS, INC.
BROOKINGS, SD 57006
DO NOT SCALE DRAWING

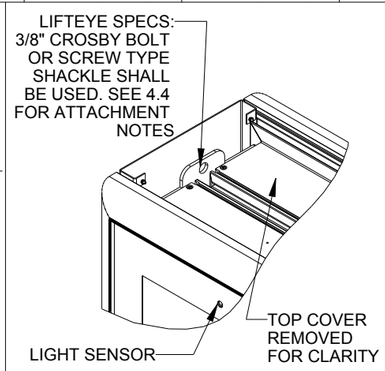
PROJ: STREET FURNITURE GEN 2				
TITLE: LAYOUT & BLOCK DIAGRAM, DSF-600-6MN-240X144-5X60-GEN 2				
DESIGN: LSOPER		DRAWN: LSOPER		DATE: 01 AUG 14
SCALE: NTS				
SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	1185075
	00	P1734	R - 01 - B	

DISPLAY SIZE MODS [PIXELS]	"A" ACTIVE HEIGHT	"B" ACTIVE WIDTH	"C" ACTIVE DIAGONAL	"D" OVERALL HEIGHT	"E" OVERALL WIDTH	"F" LIFTEYE SPACING	"G" SLOT LOCATION	"H" BASE PLATE WIDTH	"I" DOOR HEIGHT	ACTIVE AREA METERS² [FEET²]	OVERALL AREA METERS² [FEET²]	WEIGHT KG [LBS]
5X3 [240X144]	1585 [62.40]	951 [37.44]	1848 [72.76]	2154 [84.80]	1173 [46.18]	1061 [41.77]	377 [14.84]	1144 [45.04]	1849 [72.80]	1.507 [16.221]	2.525 [27.178]	497 [1095]
5X4 [240X192]	1585 [62.40]	1268 [49.92]	2030 [79.92]	2154 [84.80]	1490 [58.66]	1378 [54.25]	535 [21.06]	1461 [57.52]	1849 [72.80]	2.010 [21.635]	3.208 [34.531]	602 [1328]
6X4 [288X192]	1902 [74.88]	1268 [49.92]	2286 [90.00]	2470 [97.24]	1490 [58.66]	1378 [54.25]	535 [21.06]	1461 [57.52]	2166 [85.28]	2.412 [25.963]	3.680 [39.611]	675 [1487]

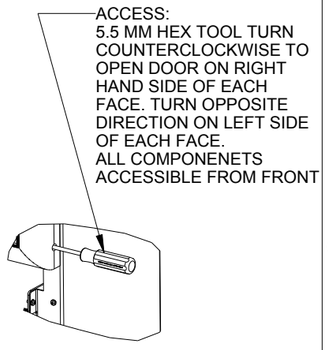


BASE PLATE HOLE LOCATIONS AND SPACING
20 MM [0.79"] THICK STEEL BASE PLATE

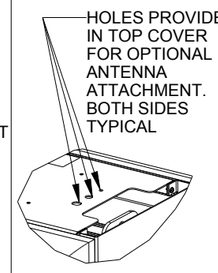
DETAIL A
@3
SCALE 1/10



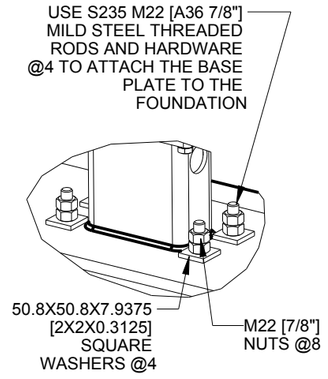
DETAIL B
SCALE 1/10



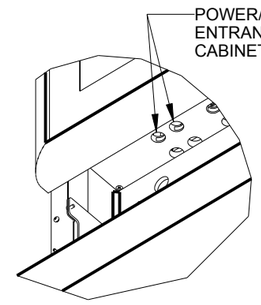
DETAIL C
SCALE 1/10



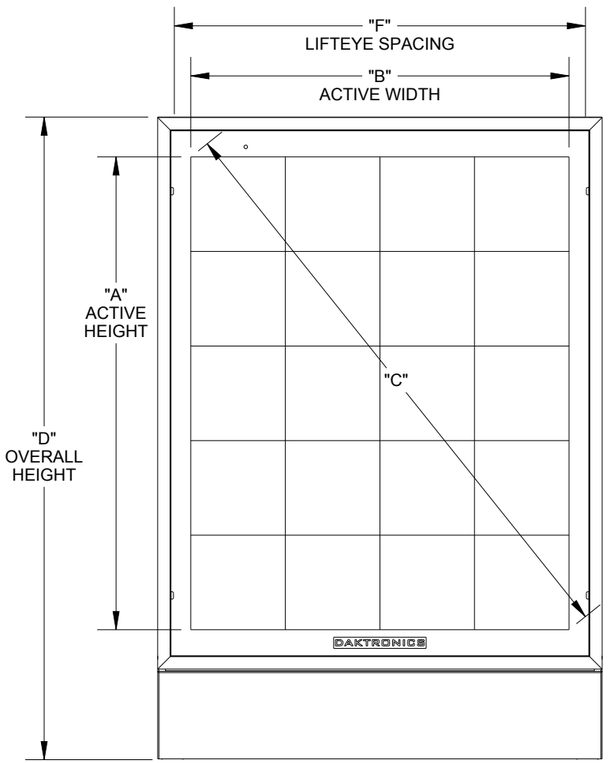
DETAIL D
SCALE 1/10



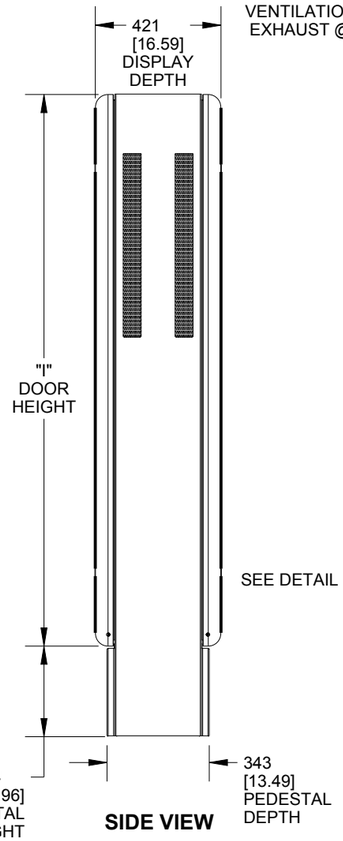
DETAIL E
SCALE 1/10



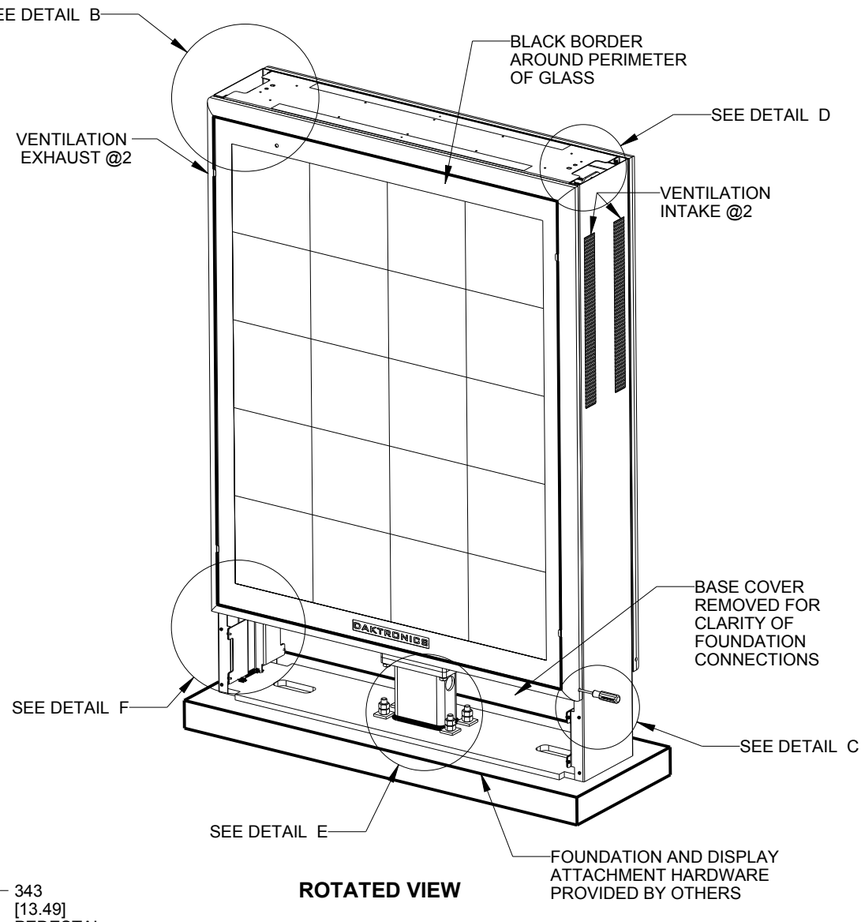
ROTATED DETAIL F
SCALE 1/10



FRONT VIEW



SIDE VIEW



ROTATED VIEW

NOTES:
1.0 REFERENCE
- 1.1 REFER TO INSTALLATION MANUAL FOR DISPLAY INSTALLATION
- 1.2 REFER TO DAKTRONICS RISER DIAGRAM FOR ALL ELECTRICAL POWER AND SIGNAL CONNECTIONS
- 1.3 ALL DISPLAYS MUST BE GROUNDED WITH 10 OHMS OR LESS GROUND RESISTANCE. REFER TO LOCAL AND NATIONAL CODES ON GROUNDING AND BONDING METHODS. REFER TO RISER DIAGRAM FOR GROUNDING CONNECTION LOCATIONS
- 1.4 ALL DIMENSIONS ARE IN MILLIMETERS [FEET AND INCHES] UNLESS OTHERWISE NOTED

2.0 PROJECT RESPONSIBILITY
- 2.1 CUSTOMER IS RESPONSIBLE FOR DESIGNING AND CERTIFYING THE FOUNDATION AND ATTACHMENT HARDWARE
- 2.2 CUSTOMER IS RESPONSIBLE FOR OBTAINING LOCAL CERTIFICATION FOR THE FOUNDATION
- 2.3 CUSTOMER IS RESPONSIBLE FOR SUPPLYING EQUIPMENT W/ APPROPRIATE SAFETY FACTOR TO LIFT DISPLAY

3.0 DISPLAY SPECIFICATIONS
- 3.1 CABINET IS ALUMINUM AND STEEL CONSTRUCTION
- 3.2 TEMPERED LAMINATED GLASS FACE
- 3.3 CABINET EXTERIOR IS POWDER COATED RAL 9007 GREY ALUMINUM
- 3.4 BLACK BORDER AROUND MODULES
- 3.5 DISPLAY IS FRONT ACCESS FOR EACH FACE

4.0 STRUCTURAL NOTES
- 4.1 DISPLAY DESIGN WIND PRESSURE: 2 KPA, 42 PSF CASE A ASCE 7, ASD; 3.3 KPA, 70.2 PSF CASE B ASCE 7, ASD
- 4.2 MAXIMUM TENSION IN ANY ANCHOR = 47.5 KN, 10.7 KIP MAXIMUM SHEAR IN ANY ANCHOR = 3.1 KN, 0.71 KIP
- 4.3 SEISMIC DESIGN SPECTRAL ACCELERATION PARAMETER, SDS = 1.2, ASCE7
- 4.4 MINIMUM LIFTEYE STRAP ANGLE: 45 DEGREES
- 4.5 3/8" CROSBY BOLT OR SCREW TYPE SHACKLE SHALL BE USED. WASHER SHIMS SHOULD BE USED ACROSS LENGTH OF SHACKLE PIN TO COVER AT LEAST 90% OF EXPOSED AREA.

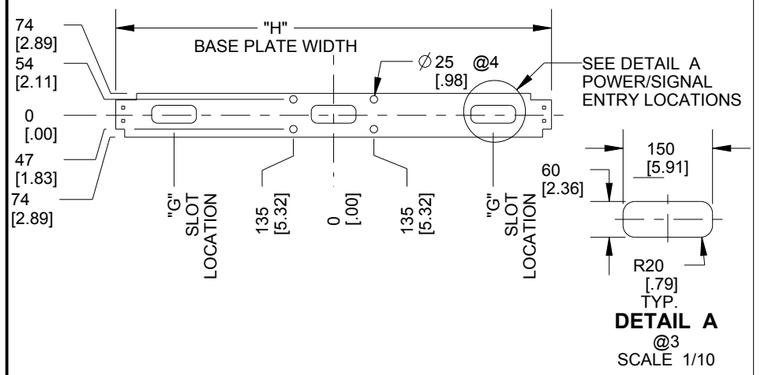
5.0 VENTILATION SPECIFICATIONS
- 5.1 DISPLAY UTILIZES CROSS FLOW VENTILATION, DO NOT OBSTRUCT INTAKE AND EXHAUST OPENINGS

REV	DATE:		BY:	

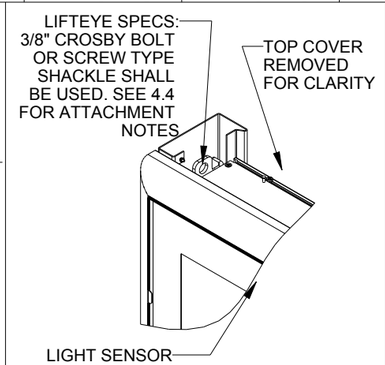
DAKTRONICS, INC.
BROOKINGS, SD 57006
DO NOT SCALE DRAWING

PROJ: STREET FURNITURE				
TITLE: SHOP DRAWING; DSF-600-G2, PEDESTAL, DBL FACE				
DESIGN: JCOOK	DRAWN: JCOOK		DATE: 03-NOV-14	
SCALE: 1=20				
SHEET: 1 OF 1	REV 00	JOB NO: P 1734	FUNC-TYPE-SIZE E - 10 - B	1195452

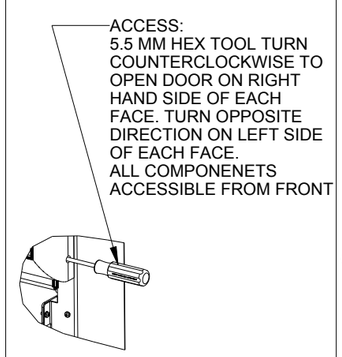
DISPLAY SIZE MODS [PIXELS]	"A" ACTIVE HEIGHT	"B" ACTIVE WIDTH	"C" ACTIVE DIAGONAL	"D" OVERALL HEIGHT	"E" OVERALL WIDTH	"F" LIFTEYE SPACING	"G" SLOT LOCATION	"H" BASE PLATE WIDTH	"I" DOOR HEIGHT	ACTIVE AREA METERS² [FEET²]	OVERALL AREA METERS² [FEET²]	WEIGHT KG [LBS]
5X3 [240X144]	1585 [62.40]	951 [37.44]	1848 [72.76]	2154 [84.80]	1173 [46.18]	1061 [41.77]	377 [14.84]	1144 [45.04]	1849 [72.80]	1.507 [16.221]	2.525 [27.178]	282 [621]
5X4 [240X192]	1585 [62.40]	1268 [49.92]	2030 [79.92]	2154 [84.80]	1490 [58.66]	1378 [54.25]	535 [21.06]	1461 [57.52]	1849 [72.80]	2.010 [21.635]	3.208 [34.531]	337 [744]
6X4 [288X192]	1902 [74.88]	1268 [49.92]	2286 [90.00]	2470 [97.24]	1490 [58.66]	1378 [54.25]	535 [21.06]	1461 [57.52]	2166 [85.28]	2.412 [25.963]	3.680 [39.611]	375 [828]



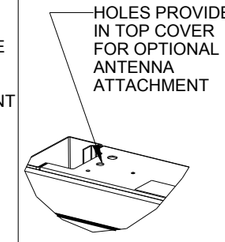
BASE PLATE HOLE LOCATIONS AND SPACING
20 MM [0.79"] THICK STEEL BASE PLATE



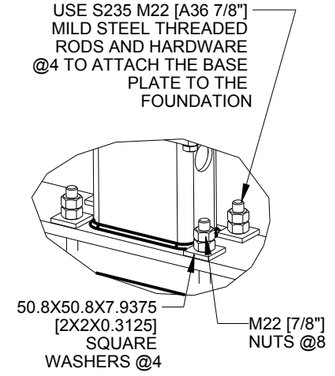
DETAIL B
SCALE 1/10



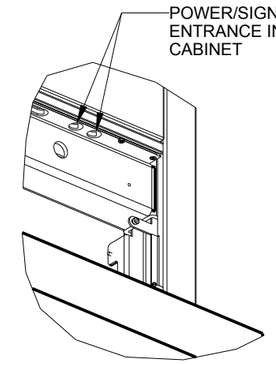
DETAIL C
SCALE 1/10



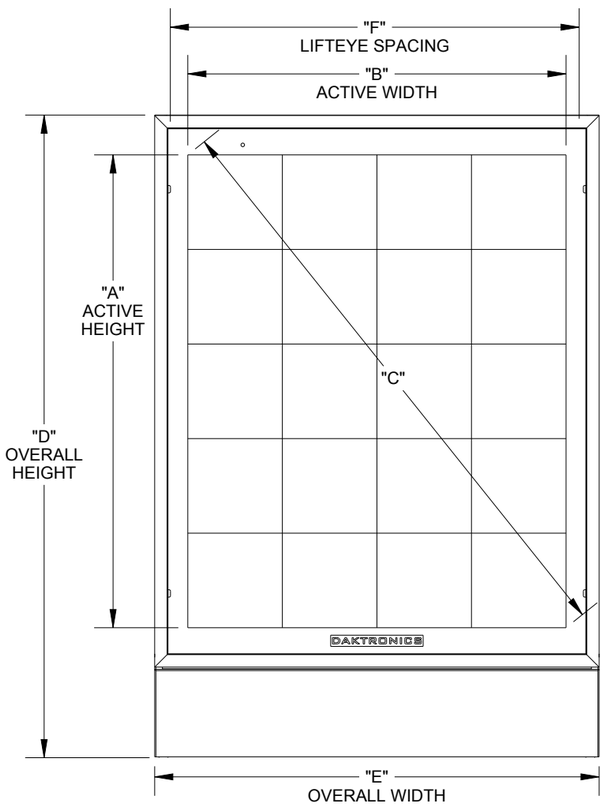
DETAIL D
SCALE 1/10



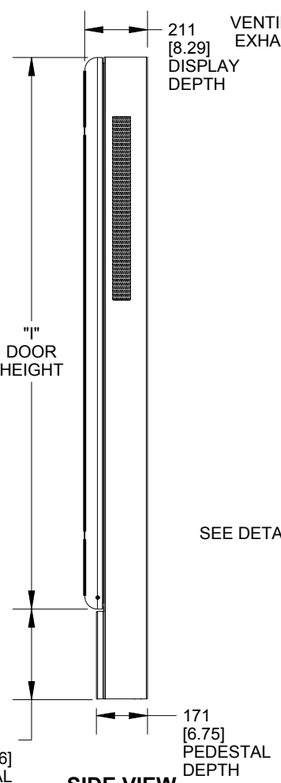
DETAIL E
SCALE 1/10



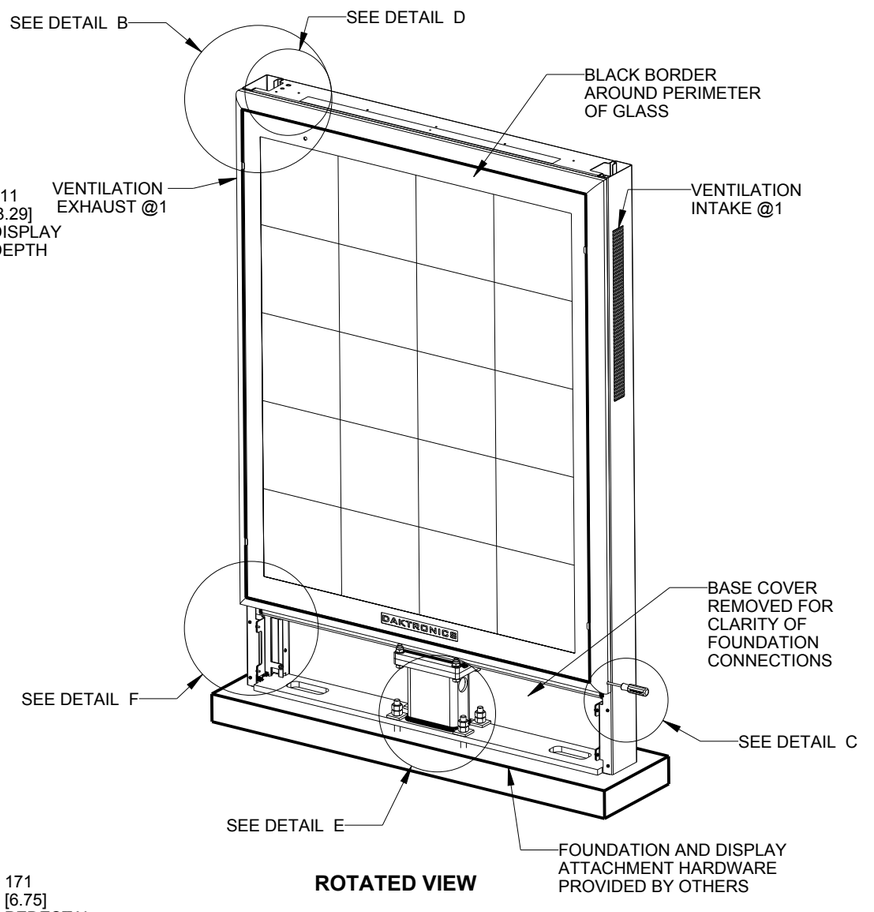
ROTATED REAR DETAIL F
SCALE 1/10



FRONT VIEW



SIDE VIEW



ROTATED VIEW

NOTES:
1.0 REFERENCE
- 1.1 REFER TO INSTALLATION MANUAL FOR DISPLAY INSTALLATION
- 1.2 REFER TO DAKTRONICS RISER DIAGRAM FOR ALL ELECTRICAL POWER AND SIGNAL CONNECTIONS
- 1.3 ALL DISPLAYS MUST BE GROUNDED WITH 10 OHMS OR LESS GROUND RESISTANCE. REFER TO LOCAL AND NATIONAL CODES ON GROUNDING AND BONDING METHODS. REFER TO RISER DIAGRAM FOR GROUNDING CONNECTION LOCATIONS
- 1.4 ALL DIMENSIONS ARE IN MILLIMETERS [FEET AND INCHES] UNLESS OTHERWISE NOTED

2.0 PROJECT RESPONSIBILITY
- 2.1 CUSTOMER IS RESPONSIBLE FOR DESIGNING AND CERTIFYING THE FOUNDATION AND ATTACHMENT HARDWARE
- 2.2 CUSTOMER IS RESPONSIBLE FOR OBTAINING LOCAL CERTIFICATION FOR THE FOUNDATION
- 2.3 CUSTOMER IS RESPONSIBLE FOR SUPPLYING EQUIPMENT W/ APPROPRIATE SAFETY FACTOR TO LIFT DISPLAY

3.0 DISPLAY SPECIFICATIONS
- 3.1 CABINET IS ALUMINUM AND STEEL CONSTRUCTION
- 3.2 TEMPERED LAMINATED GLASS FACE
- 3.3 CABINET EXTERIOR IS POWDER COATED RAL 9007 GREY ALUMINUM
- 3.4 BLACK BORDER AROUND MODULES
- 3.5 DISPLAY IS FRONT ACCESS

4.0 STRUCTURAL NOTES
- 4.1 DISPLAY DESIGN WIND PRESSURE: 2 KPA, 42 PSF CASE A ASCE 7, ASD; 3.3 KPA, 70.2 PSF CASE B ASCE 7, ASD
- 4.2 MAXIMUM TENSION IN ANY ANCHOR = 47.5 KN, 10.7 KIP MAXIMUM SHEAR IN ANY ANCHOR = 3.1 KN, 0.71 KIP
- 4.3 SEISMIC DESIGN SPECTRAL ACCELERATION PARAMETER, SDS = 1.2, ASCE7
- 4.4 MINIMUM LIFTEYE STRAP ANGLE: 45 DEGREES
- 4.5 3/8" CROSBY BOLT OR SCREW TYPE SHACKLE SHALL BE USED. WASHER SHIMS SHOULD BE USED ACROSS LENGTH OF SHACKLE PIN TO COVER AT LEAST 90% OF EXPOSED AREA.

5.0 VENTILATION SPECIFICATIONS
- 5.1 DISPLAY UTILIZES CROSS FLOW VENTILATION, DO NOT OBSTRUCT INTAKE AND EXHAUST OPENINGS

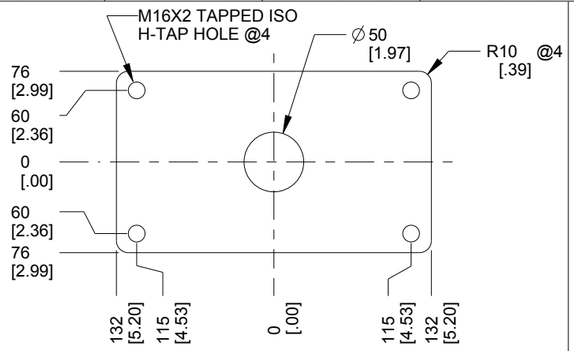
DAKTRONICS, INC.
BROOKINGS, SD 57006
DO NOT SCALE DRAWING

PROJ:	STREET FURNITURE				
TITLE:	SHOP DRAWING; DSF-600-G2, PEDESTAL, SINGLE FACE				
DESIGN:	JCOOK	DRAWN:	JCOOK	DATE:	26-NOV-14
SCALE:	1=20				

REV	DATE:		BY:

SHEET:	REV	JOB NO:	FUNC-TYPE-SIZE	
1 OF 1	00	P 1734	E - 10 - B	1197529

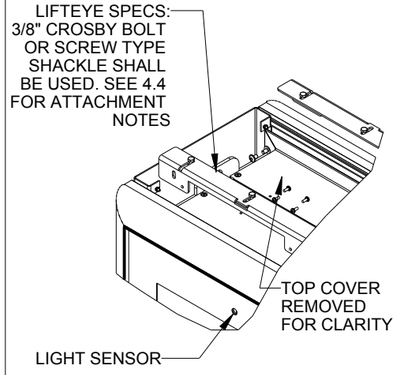
DISPLAY SIZE MODS [PIXELS]	"A" ACTIVE HEIGHT	"B" ACTIVE WIDTH	"C" ACTIVE DIAGONAL	"D" OVERALL HEIGHT	"E" OVERALL WIDTH	"F" LIFTEYE SPACING	"G" DOOR HEIGHT	ACTIVE AREA METERS² [FEET²]	OVERALL AREA METERS² [FEET²]	WEIGHT KG [LBS]
5X3 [240X144]	1585 [62.40]	951 [37.44]	1848 [72.76]	1913 [76.02]	1173 [46.18]	1061 [41.77]	1849 [72.80]	1.507 [16.221]	2.244 [24.154]	421 [928]
5X4 [240X192]	1585 [62.40]	1268 [49.92]	2030 [79.92]	1913 [76.02]	1490 [58.66]	1378 [54.25]	1849 [72.80]	2.010 [21.635]	2.850 [30.677]	509 [1123]
6X4 [288X192]	1902 [74.88]	1268 [49.92]	2286 [90.00]	2230 [87.80]	1490 [58.66]	1378 [54.25]	2166 [85.28]	2.412 [25.963]	3.323 [35.768]	582 [1282]



MATCH PLATE VIEW

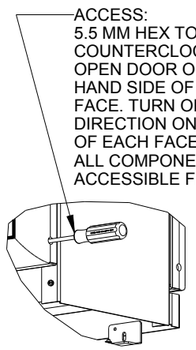
20 MM [0.79"] THICK STEEL MATCH PLATE S355 (GRADE 50)

SCALE 1/5



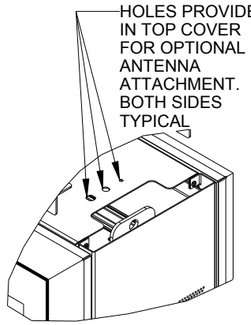
ROTATED DETAIL A

SCALE 1/10



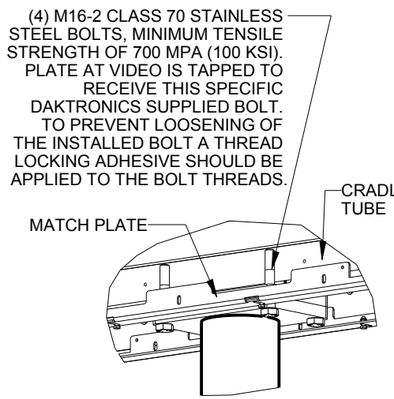
DETAIL B

SCALE 1/10



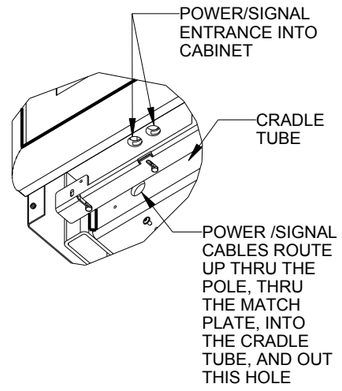
ROTATED DETAIL C

SCALE 1/10



DETAIL D

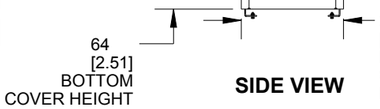
SCALE 1/10



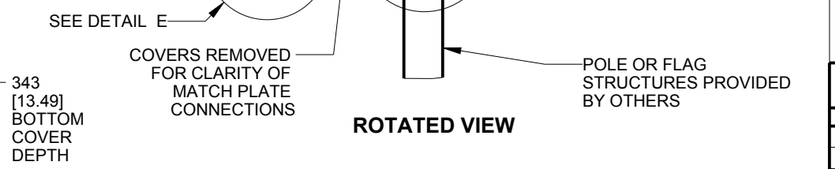
ROTATED DETAIL E

SCALE 1/10

FRONT VIEW



SIDE VIEW



ROTATED VIEW

NOTES:

1.0 REFERENCE
- 1.1 REFER TO INSTALLATION MANUAL FOR DISPLAY INSTALLATION
- 1.2 REFER TO DAKTRONICS RISER DIAGRAM FOR ALL ELECTRICAL POWER AND SIGNAL CONNECTIONS
- 1.3 ALL DISPLAYS MUST BE GROUNDED WITH 10 OHMS OR LESS GROUND RESISTANCE. REFER TO LOCAL AND NATIONAL CODES ON GROUNDING AND BONDING METHODS. REFER TO RISER DIAGRAM FOR GROUNDING CONNECTION LOCATIONS
- 1.4 ALL DIMENSIONS ARE IN MILLIMETERS [FEET AND INCHES] UNLESS OTHERWISE NOTED

2.0 PROJECT RESPONSIBILITY
- 2.1 CUSTOMER IS RESPONSIBLE FOR DESIGNING AND CERTIFYING THE STRUCTURE
- 2.2 CUSTOMER IS RESPONSIBLE FOR OBTAINING LOCAL CERTIFICATION FOR THE STRUCTURE
- 2.3 CUSTOMER IS RESPONSIBLE FOR SUPPLYING EQUIPMENT W/ APPROPRIATE SAFETY FACTOR TO LIFT DISPLAY

3.0 DISPLAY SPECIFICATIONS
- 3.1 CABINET IS ALUMINUM AND STEEL CONSTRUCTION
- 3.2 TEMPERED LAMINATED GLASS FACE
- 3.3 CABINET EXTERIOR IS POWDER COATED RAL 9007 GREY ALUMINUM
- 3.4 BLACK BORDER AROUND MODULES
- 3.5 DISPLAY IS FRONT ACCESS FOR EACH FACE

4.0 STRUCTURAL NOTES
- 4.1 DISPLAY DESIGN WIND PRESSURE: 2 KPA, 42 PSF CASE A ASCE 7, ASD; 3.3 KPA, 70.2 PSF CASE B ASCE 7, ASD
- 4.2 SEISMIC DESIGN SPECTRAL ACCELERATION PARAMETER, SDS = 1.2, ASCE7
- 4.3 MINIMUM LIFTEYE STRAP ANGLE: 45 DEGREES
- 4.4 3/8" CROSBY BOLT OR SCREW TYPE SHACKLE SHALL BE USED. WASHER SHIMS SHOULD BE USED ACROSS LENGTH OF SHACKLE PIN TO COVER AT LEAST 90% OF EXPOSED AREA.

5.0 VENTILATION SPECIFICATIONS
- 5.1 DISPLAY UTILIZES CROSS FLOW VENTILATION, DO NOT OBSTRUCT INTAKE AND EXHAUST OPENINGS

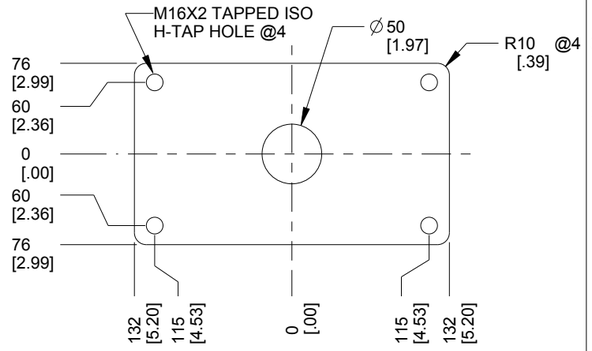
REV	DATE:		BY:
01	21 MAY 15	UPDATED MATCH PLATE TO HAVE TAPPED HOLES REMOVED NUTS AND MODIFIED THE NOTE FOR DETAIL D	JTC

DAKTRONICS, INC.
BROOKINGS, SD 57006
DO NOT SCALE DRAWING

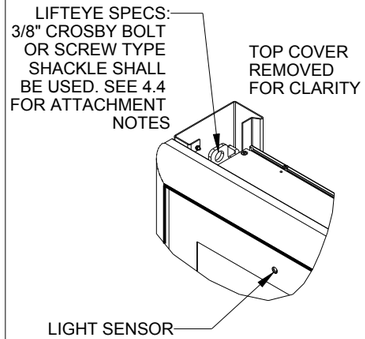
PROJ:	STREET FURNITURE		
TITLE:	SHOP DRAWING; DSF-600-G2, FLAG-POLE, DF		
DESIGN: JCOOK	DRAWN: JCOOK	DATE: 21-MAY-15	
SCALE: 1=20			
SHEET: 1 OF 1	REV 01	JOB NO: P 1734	FUNC-TYPE-SIZE E – 07 – B

1197530

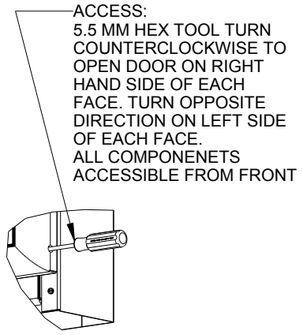
DISPLAY SIZE MODS [PIXELS]	"A" ACTIVE HEIGHT	"B" ACTIVE WIDTH	"C" ACTIVE DIAGONAL	"D" OVERALL HEIGHT	"E" OVERALL WIDTH	"F" LIFTEYE SPACING	"G" DOOR HEIGHT	ACTIVE AREA METERS² [FEET²]	OVERALL AREA METERS² [FEET²]	WEIGHT KG [LBS]
5X3 [240X144]	1585 [62.40]	951 [37.44]	1848 [72.76]	1913 [76.02]	1173 [46.18]	1061 [41.77]	1849 [72.80]	1.507 [16.221]	2.244 [24.154]	242 [534]
5X4 [240X192]	1585 [62.40]	1268 [49.92]	2030 [79.92]	1913 [76.02]	1490 [58.66]	1378 [54.25]	1849 [72.80]	2.010 [21.635]	2.850 [30.677]	290 [639]
6X4 [288X192]	1902 [74.88]	1268 [49.92]	2286 [90.00]	2230 [87.80]	1490 [58.66]	1378 [54.25]	2166 [85.28]	2.412 [25.963]	3.323 [35.768]	328 [723]



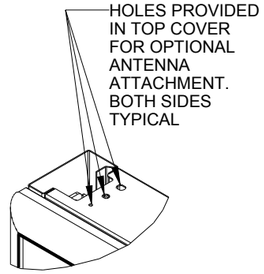
MATCH PLATE VIEW
20 MM [0.79"] THICK STEEL MATCH PLATE S355 (GRADE 50)
SCALE 1/5



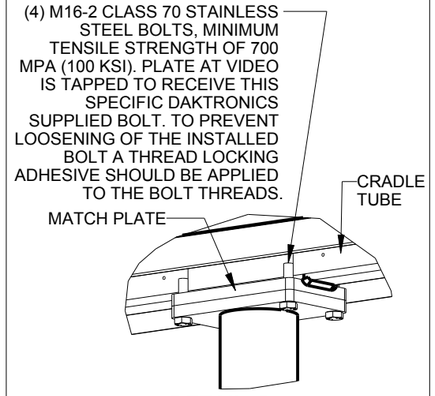
ROTATED DETAIL A
SCALE 1/10



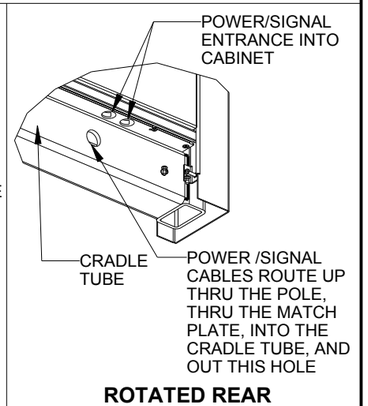
DETAIL B
SCALE 1/10



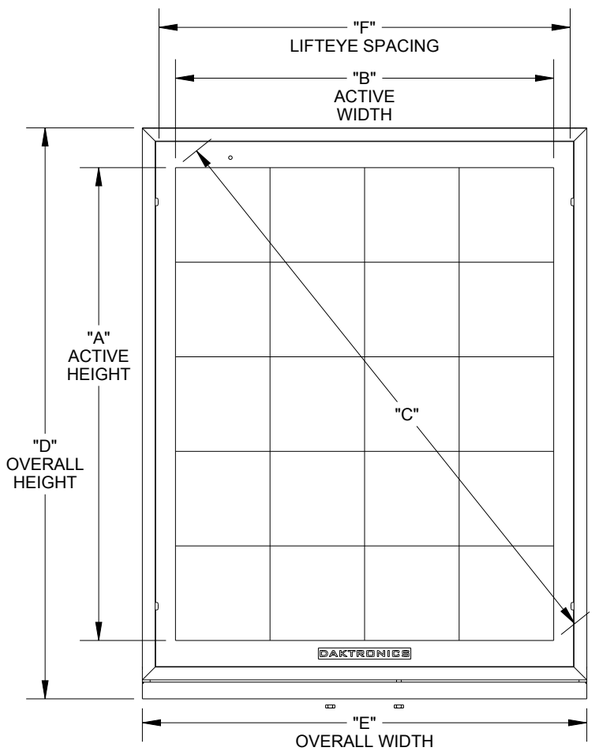
ROTATED DETAIL C
SCALE 1/10



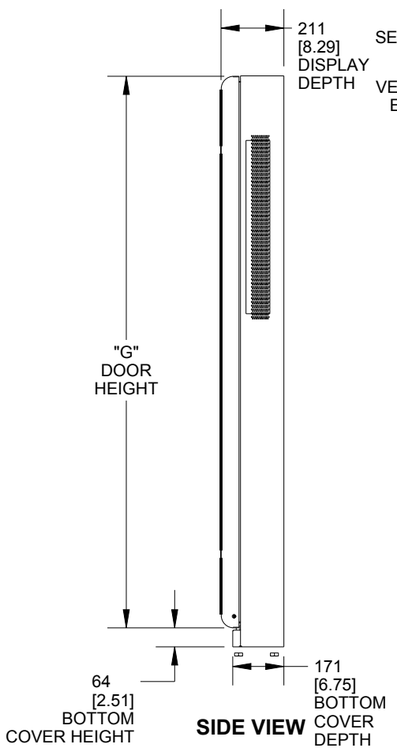
DETAIL D
SCALE 1/10



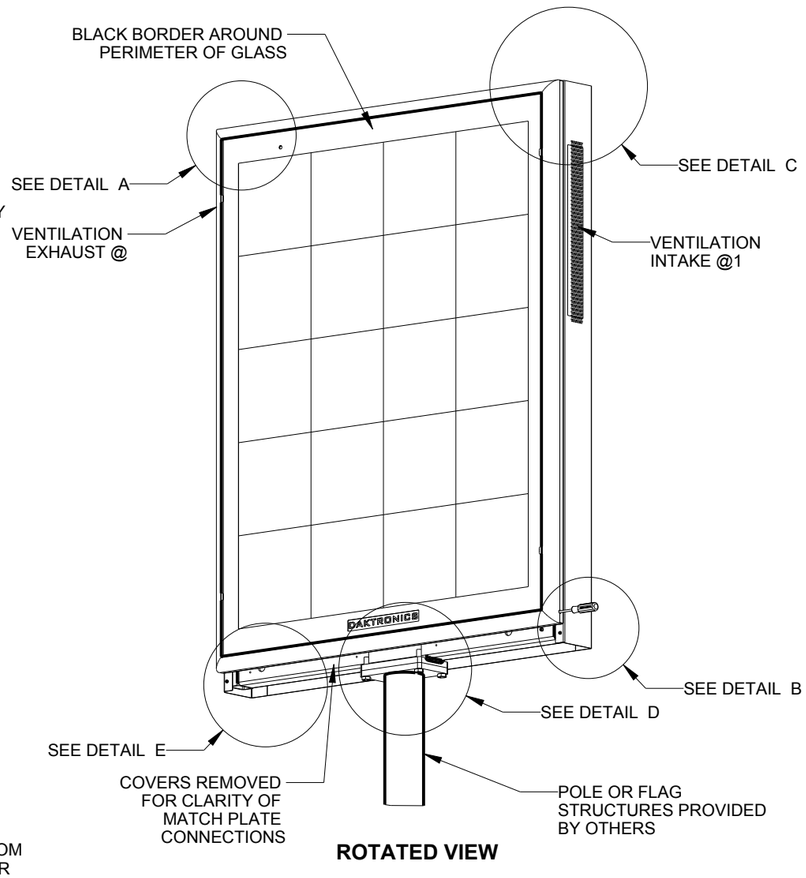
ROTATED REAR DETAIL E
SCALE 1/10



FRONT VIEW



SIDE VIEW



ROTATED VIEW

NOTES:

1.0 REFERENCE
- 1.1 REFER TO INSTALLATION MANUAL FOR DISPLAY INSTALLATION
- 1.2 REFER TO DAKTRONICS RISER DIAGRAM FOR ALL ELECTRICAL POWER AND SIGNAL CONNECTIONS
- 1.3 ALL DISPLAYS MUST BE GROUNDED WITH 10 OHMS OR LESS GROUND RESISTANCE. REFER TO LOCAL AND NATIONAL CODES ON GROUNDING AND BONDING METHODS. REFER TO RISER DIAGRAM FOR GROUNDING CONNECTION LOCATIONS
- 1.4 ALL DIMENSIONS ARE IN MILLIMETERS [FEET AND INCHES] UNLESS OTHERWISE NOTED

2.0 PROJECT RESPONSIBILITY
- 2.1 CUSTOMER IS RESPONSIBLE FOR DESIGNING AND CERTIFYING THE STRUCTURE
- 2.2 CUSTOMER IS RESPONSIBLE FOR OBTAINING LOCAL CERTIFICATION FOR THE STRUCTURE
- 2.3 CUSTOMER IS RESPONSIBLE FOR SUPPLYING EQUIPMENT W/ APPROPRIATE SAFETY FACTOR TO LIFT DISPLAY

3.0 DISPLAY SPECIFICATIONS
- 3.1 CABINET IS ALUMINUM AND STEEL CONSTRUCTION
- 3.2 TEMPERED LAMINATED GLASS FACE
- 3.3 CABINET EXTERIOR IS POWDER COATED RAL 9007 GREY ALUMINUM
- 3.4 BLACK BORDER AROUND MODULES
- 3.5 DISPLAY IS FRONT ACCESS

4.0 STRUCTURAL NOTES
- 4.1 DISPLAY DESIGN WIND PRESSURE: 2 KPA, 42 PSF CASE A ASCE 7, ASD; 3.3 KPA, 70.2 PSF CASE B ASCE 7, ASD
- 4.2 SEISMIC DESIGN SPECTRAL ACCELERATION PARAMETER, SDS = 1.2, ASCE7
- 4.3 MINIMUM LIFTEYE STRAP ANGLE: 45 DEGREES
- 4.4 3/8" CROSBY BOLT OR SCREW TYPE SHACKLE SHALL BE USED. WASHER SHIMS SHOULD BE USED ACROSS LENGTH OF SHACKLE PIN TO COVER AT LEAST 90% OF EXPOSED AREA.

5.0 VENTILATION SPECIFICATIONS
- 5.1 DISPLAY UTILIZES CROSS FLOW VENTILATION, DO NOT OBSTRUCT INTAKE AND EXHAUST OPENINGS

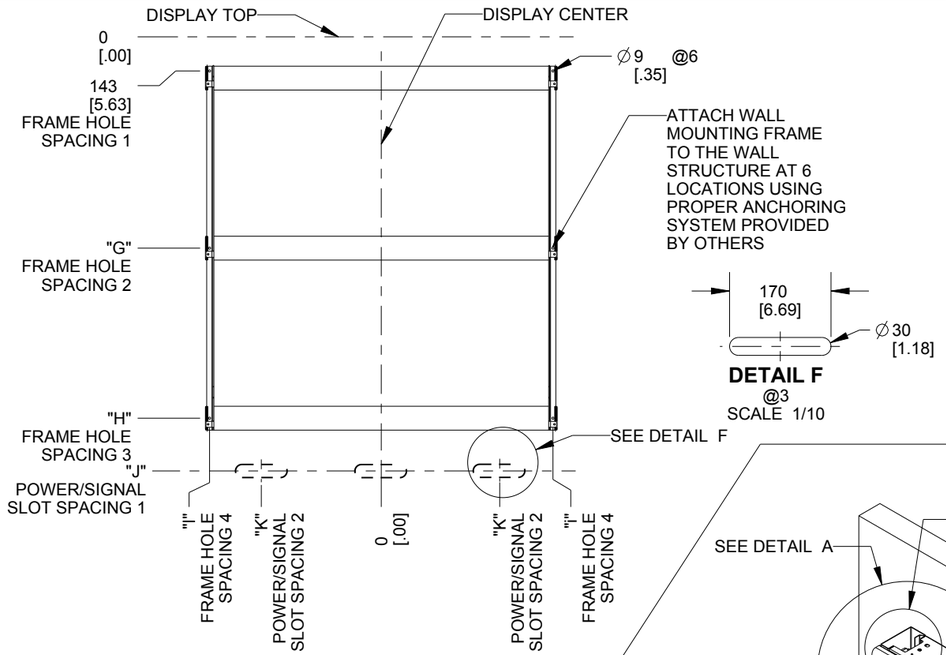
REV	DATE:		BY:
01	21 MAY 15	UPDATED MATCH PLATE TO HAVE TAPPED HOLES REMOVED NUTS AND MODIFIED THE NOTE FOR DETAIL D	JTC

DAKTRONICS, INC.
BROOKINGS, SD 57006
DO NOT SCALE DRAWING

PROJ: STREET FURNITURE
TITLE: SHOP DRAWING; DSF-600-G2, FLAG-POLE, SF
DESIGN: JCOOK | DRAWN: JCOOK | DATE: 21-MAY-15
SCALE: 1=20

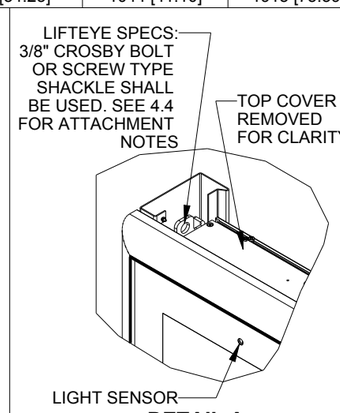
SHEET:	REV	JOB NO:	FUNC-TYPE-SIZE	
1 OF 1	01	P 1734	E _ 07 _ B	1197531

DISPLAY SIZE MODS [PIXELS]	"A" ACTIVE HEIGHT	"B" ACTIVE WIDTH	"C" ACTIVE DIAGONAL	"D" OVERALL HEIGHT	"E" OVERALL WIDTH	"F" LIFTEYE SPACING	"G" FRAME HOLE SPACING 2	"H" FRAME HOLE SPACING 3	"I" FRAME HOLE SPACING 4	"J" POWER/SIGNAL SLOT SPACING 1	"K" POWER/SIGNAL SLOT SPACING 2	"L" DOOR HEIGHT	ACTIVE AREA METERS² [FEET²]	OVERALL AREA METERS² [FEET²]	WEIGHT KG [LBS]
5X3 [240X144]	1585 [62.40]	951 [37.44]	1848 [72.76]	1849 [72.80]	1173 [46.18]	1061 [41.77]	886 [34.86]	1598 [62.91]	561 [22.09]	1819 [71.61]	342 [13.46]	1849 [72.80]	1.507 [16.221]	2.169 [23.347]	208 [459]
5X4 [240X192]	1585 [62.40]	1268 [49.92]	2030 [79.92]	1849 [72.80]	1490 [58.66]	1378 [54.25]	886 [34.86]	1598 [62.91]	720 [28.33]	1819 [71.61]	500 [19.69]	1849 [72.80]	2.010 [21.635]	2.755 [29.655]	254 [559]
6X4 [288X192]	1902 [74.88]	1268 [49.92]	2286 [90.00]	2166 [85.28]	1490 [58.66]	1378 [54.25]	1044 [41.10]	1915 [75.39]	720 [28.33]	2136 [84.09]	500 [19.69]	2166 [85.28]	2.412 [25.963]	3.227 [34.735]	290 [640]

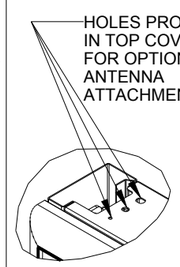


WALL MOUNTING FRAME HOLE LOCATIONS

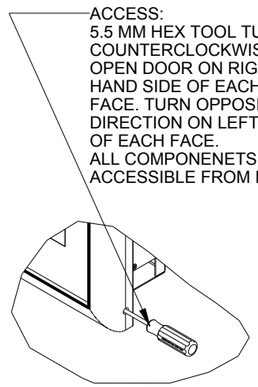
DETAIL F
@3
SCALE 1/10



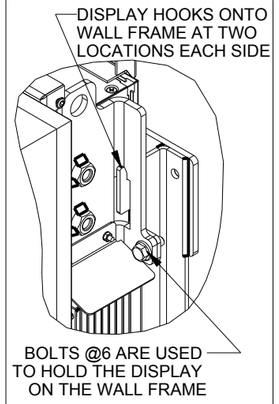
DETAIL A
SCALE 1/10



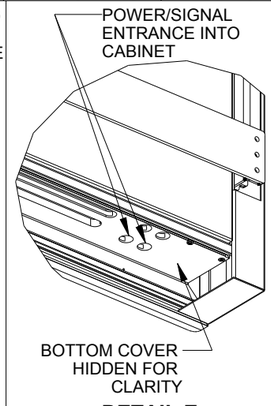
DETAIL B
SCALE 1/10



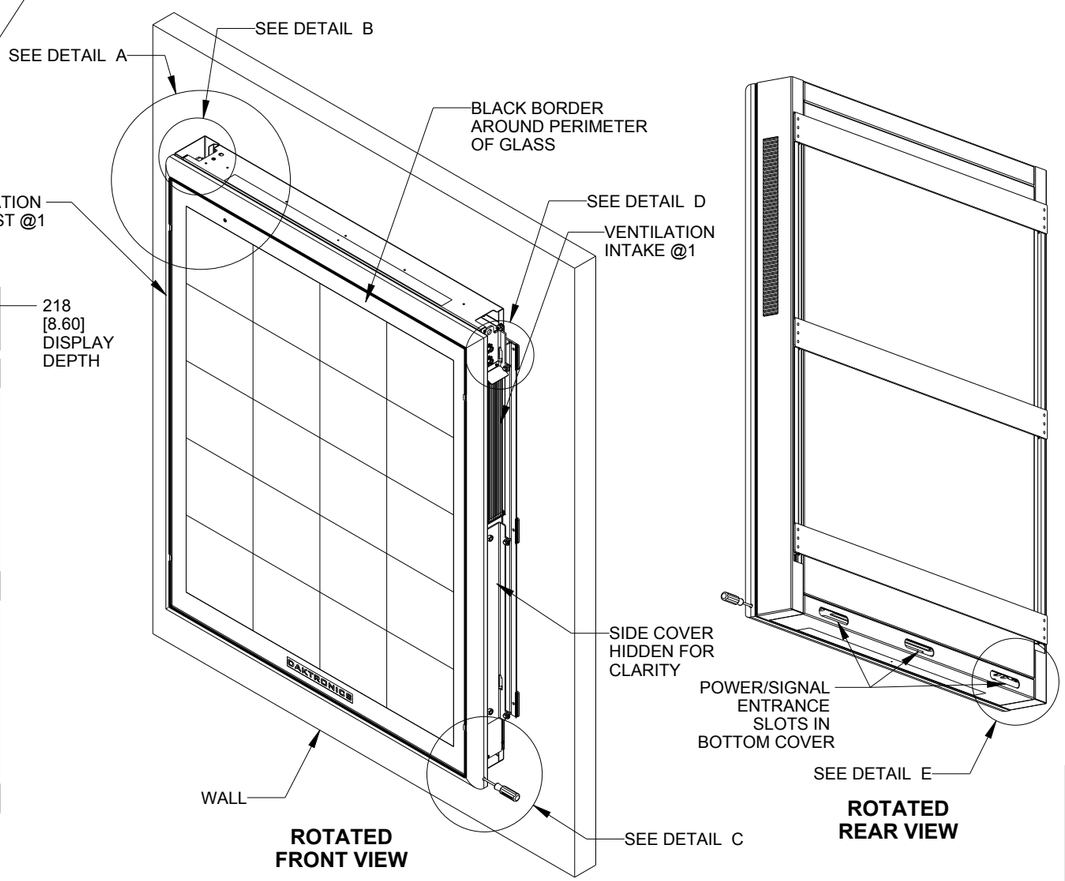
DETAIL C
SCALE 1/10



DETAIL D
SCALE 1/5

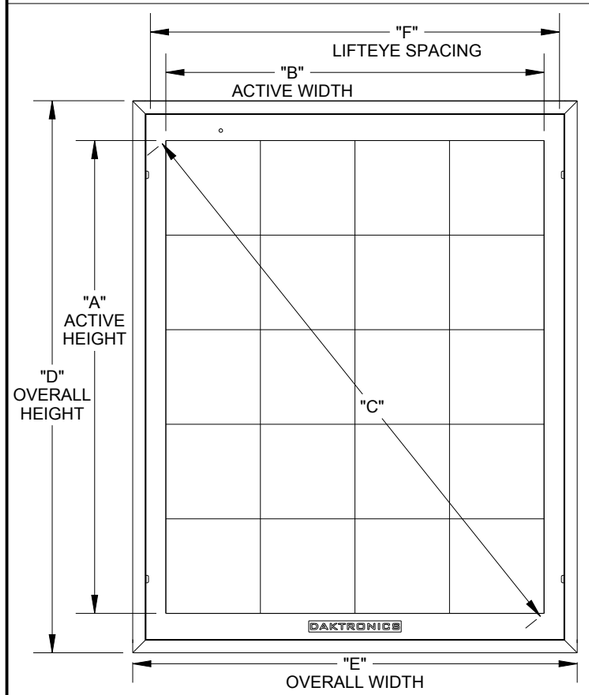


DETAIL E
SCALE 1/10

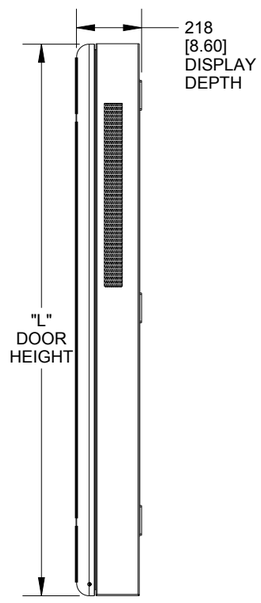


ROTATED FRONT VIEW

ROTATED REAR VIEW



FRONT VIEW



SIDE VIEW

NOTES:

1.0 REFERENCE
- 1.1 REFER TO INSTALLATION MANUAL FOR DISPLAY INSTALLATION
- 1.2 REFER TO DAKTRONICS RISER DIAGRAM FOR ALL ELECTRICAL POWER AND SIGNAL CONNECTIONS
- 1.3 ALL DISPLAYS MUST BE GROUNDED WITH 10 OHMS OR LESS GROUND RESISTANCE. REFER TO LOCAL AND NATIONAL CODES ON GROUNDING AND BONDING METHODS. REFER TO RISER DIAGRAM FOR GROUNDING CONNECTION LOCATIONS
- 1.4 ALL DIMENSIONS ARE IN MILLIMETERS [FEET AND INCHES] UNLESS OTHERWISE NOTED

2.0 PROJECT RESPONSIBILITY
- 2.1 CUSTOMER IS RESPONSIBLE FOR DESIGNING AND CERTIFYING THE ANCHORING SYSTEM
- 2.2 CUSTOMER IS RESPONSIBLE FOR OBTAINING LOCAL CERTIFICATION FOR THE AHCHORING SYSTEM
- 2.3 CUSTOMER IS RESPONSIBLE FOR SUPPLYING EQUIPMENT W/ APPROPRIATE SAFETY FACTOR TO LIFT DISPLAY

3.0 DISPLAY SPECIFICATIONS
- 3.1 CABINET IS ALUMINUM AND STEEL CONSTRUCTION
- 3.2 TEMPERED LAMINATED GLASS FACE
- 3.3 CABINET EXTERIOR IS POWDER COATED RAL 9007 GREY ALUMINUM
- 3.4 BLACK BORDER AROUND MODULES
- 3.5 DISPLAY IS FRONT ACCESS

4.0 STRUCTURAL NOTES
- 4.1 DISPLAY DESIGN WIND PRESSURE: 2.5 KPA, 50.7 PSF COMPONENTS AND CLADDING, ASCE 7, ASD
- 4.2 SEISMIC DESIGN SPECTRAL ACCELERATION PARAMETER, SDS = 1.2, ASCE7
- 4.3 MINIMUM LIFTEYE STRAP ANGLE: 45 DEGREES
- 4.4 3/8" CROSBY BOLT OR SCREW TYPE SHACKLE SHALL BE USED. WASHER SHIMS SHOULD BE USED ACROSS LENGTH OF SHACKLE PIN TO COVER AT LEAST 90% OF EXPOSED AREA.

5.0 VENTILATION SPECIFICATIONS
- 5.1 DISPLAY UTILIZES CROSS FLOW VENTILATION, DO NOT OBSTRUCT INTAKE AND EXHAUST OPENINGS

REV	DATE:		BY:

DAKTRONICS, INC.
BROOKINGS, SD 57006
DO NOT SCALE DRAWING

PROJ: STREET FURNITURE			
TITLE: SHOP DRAWING; DSF-600-G2, WALL MOUNT			
DESIGN: JCOOK	DRAWN: JCOOK	DATE: 03-DEC-14	
SCALE: 1=20			
SHEET: 1 OF 1	REV 00	JOB NO: P 1734	FUNC-TYPE-SIZE E - 10 - B

1197532

This Page Intentionally Left Blank

Appendix B: Supplementary Documents

This section includes the following:

- **DD2594516** Dataprobe iBoot G2+ for DSF-600 Operator's Manual
- **DD2732324** DSF-600 Series International/Domestic Shipping Crate Field Instructions

This Page Intentionally Left Blank

Dataprobe iBoot G2+ for DSF-600

Operator's Manual

DD2594516

Rev 02—19 February 2016

201 Daktronics Drive PO Box 5128 Brookings, SD 57006
tel 800-325-8766 fax 605-697-4700
www.daktronics.com

DAKTRONICS

DD2594516
Product 1734
Rev 02—19 February 2016

DAKTRONICS

Table of Contents

This Page Intentionally Left Blank

Section 1: Introduction

The Dataprobe iBoot-G2+ is a network-attached, IP-addressed, web-controlled, AC power switch. Anyone with a web browser can access the iBoot-G2+ to perform power on, off, or power cycle (power reboot or power burst) commands. The iBoot-G2+ is password protected with user and administrator security levels. A simple web browser interface makes it easy to control power from anywhere in the world with a click of a mouse.

1.1 Hardware Setup

Ethernet Connections

The iBoot-G2+ supports 10/100 Ethernet using the supplied cable, or other suitable unshielded, twisted-pair (Cat-5) cabling. Link (amber) and Activity (green) LEDs on the network connector indicate when the network connection is properly established. Basic iBoot-G2+ connections and setup are shown in **Figure 1**.

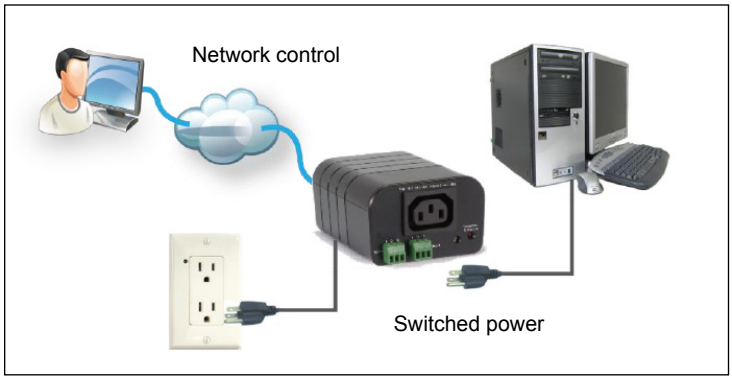


Figure 1: *iBoot-G2+ Connections*

Power Connections

All iBoot-G2+ devices are pre-installed by Daktronics before shipment. If the power connections need to be altered, follow the guidelines in this section.

Connect the device to be powered on and off to the **A/C Output** IEC receptacle. An IEC 320 to North American (NEMA 5-15) power cord is included for connecting the iBoot-G2+ outlet to the device to be controlled.

If a cord with a different terminating receptacle is required, ensure it is properly rated and meets all the required local electrical standards. If the device to be powered uses an IEC 320 receptacle and detachable power cord, an IEC-to-IEC extension cord can be used.

The iBoot-G2+ can be connected to a power strip to allow simultaneous control of multiple devices.

Verify that the combined load of all controlled devices does not exceed 12 A for 105-125VAC or 10 A for 210-240VAC.

A lit LED indicator next to the switched outlet indicates that the power is turned on at that outlet. This LED will turn off to indicate that the power to that outlet is turned off.

Mounting

All iBoot-G2+ devices are pre-installed by Daktronics before shipment. If the unit needs to be removed or replaced, follow the steps below:

1. Locate the status LEDs on the top of the iBoot-G2+.
2. Slide the iBoot-G2+ into the mounting bracket with the LEDs on the top and the rounded edge of the iBoot-G2+ aligned with the short side of the mounting bracket. Refer to **Figure 2**.
3. Verify the iBoot-G2+ is secure in the mounting bracket.
4. Slide the flange on the mounting bracket into the mounting holes on the back wall of the display.
5. Secure the bracket to the display by screwing it to the back wall through the keyhole knockout.

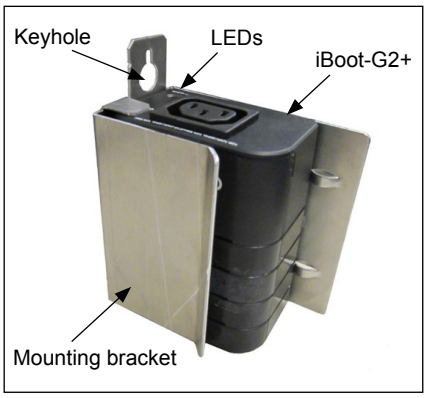


Figure 2: *iBoot-G2+ Mounting Bracket*

6. Connect the incoming power cable to the bottom of the iBoot-G2+.
7. Connect the outgoing power cable to the top of the iBoot-G2+.
8. Plug the devices into the iBoot-G2+.

Section 2: Expansion Ports

Each iBoot-G2+ has two expansion ports labeled **Exp1** and **Exp2**. These ports can be connected to iBoot-Exp devices or to general purpose input/output (GPIO) ports. Mode settings on the iBoot-G2+ determine how the expansion ports function. Refer to **Section 5.2**.

Expansion connections are made using screw terminal blocks. The screw terminal blocks are on removable connectors for easy cable fabrication.

Ensure the screw terminals are securely tightened and there are no loose strands of cable or excessive stripped wires. Ensure the cable jacket is not crimped. Refer to **Figure 3** and **Figure 4**.

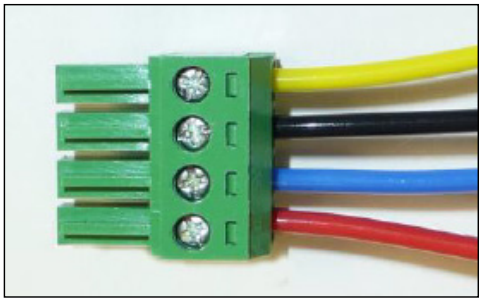


Figure 3: *Proper Terminal Connections*

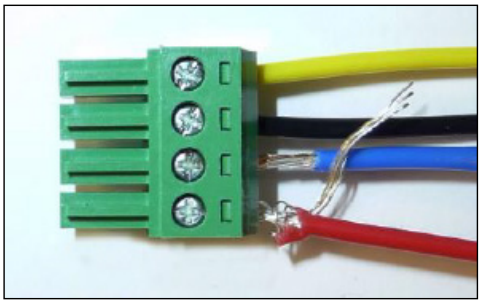


Figure 4: *Improper Terminal Connections*

2.1 Expansion Options

Expansion with iBoot-Exp

The iBoot-G2+ can be linked to two iBoot-Exp expansion units to control three outlets. All three outlets are controlled and managed through the iBoot-G2+ web page and Command Line Interface (CLI). Each outlet is independently controlled and AutoPing can also be used to control the main and expansion units independently. Refer to **Figure 5**.

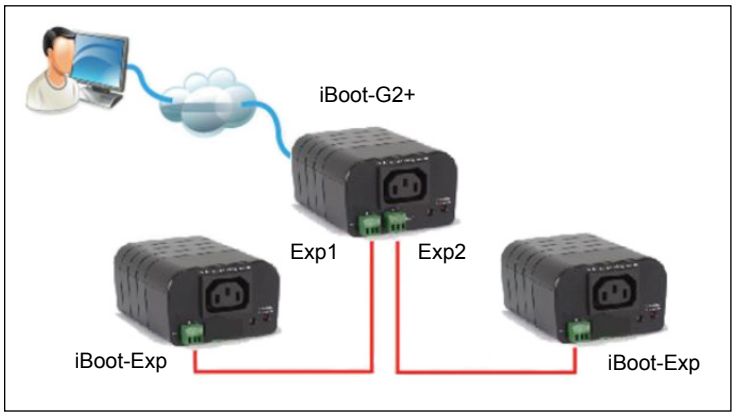


Figure 5: *Expansion to Three Outlets*

The iBoot-Exp expansion units are shipped with a cable for easy connection to the iBoot-G2+. Maximum cable length is 1000 ft (305 m) using 22 AWG wire.

The iBoot-G2+ and the iBoot-Exp terminal blocks are connected pin-to-pin. Refer to **Figure 6** and the table below.

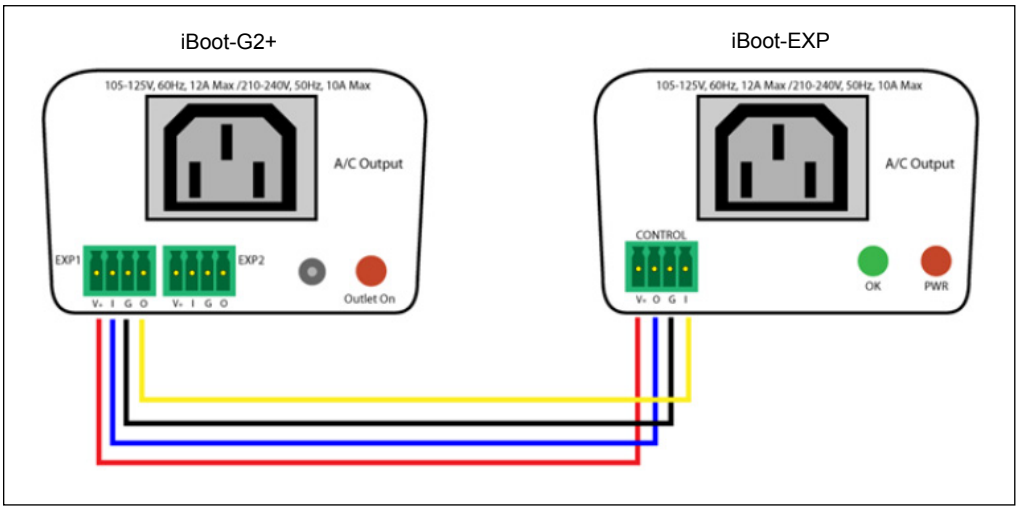


Figure 6: *iBoot-G2+ to iBoot-Exp Connections*

Wire Color	Function	iBoot-G2+ Terminal	iBoot-Exp Terminal
Red	Power	V+ – Power out	V+ – Power in
Blue	Feedback	I – Input	O – Output
Black	Ground	G – Ground	G – Ground
Yellow	Command	O – Output	I – Input

Section 3: Configuration

3.1 Initial Configuration

The Device Management Utility (DMU) provides the easiest means to find and configure the iBoot-G2+. This utility is available online from the Dataprobe website. The DMU discovers all iBoots on the network, displays the current IP address of each, and allows for setting any valid IP address. To install and run the DMU, follow the steps below:

1. Download the **DMU.exe** file from the Dataprobe website: **http://dataprobe.com > Support > iBoot-G2+ > Utilities**

2. Run the **dmusetup.exe** file and follow the instructions as prompted.

3. Start the DMU.

   Note: The IP address can be set only within the first two minutes of powering up the iBoot. The DMU works only with iBoots on the same local subnets as the PC.

4. Click **Device > Discover** to display all iBoots on the network. The DMU displays the location name of the iBoot, the product ID, version number, current IP address, and MAC address. Refer to **Figure 7**.

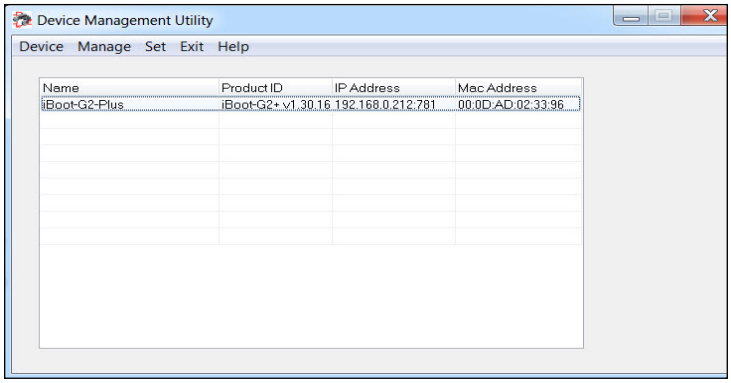


Figure 7: *DMU iBoot Discovery*

3.2 Setting the IP Address

Changing the Initial IP Address

New iBoots are named **New iBoot-G2+** and have either the factory default IP address or an IP address that was automatically assigned by the DHCP server on the network. The Daktronics default IP address is set to **192.168.0.212**.

The IP address field also indicates the port for the web access used by the iBoot-G2+. The factory default standard port for web browser control is set to **80**. The Daktronics default port is set to **781**. To change the IP address, follow the steps below:

1. Click the row containing the iBoot-G2+ to be set. The row is highlighted.

2. Click **Set > IP Address**.

3. Enter the new IP address and click **OK**. Refer to **Figure 8**. A confirmation window opens.

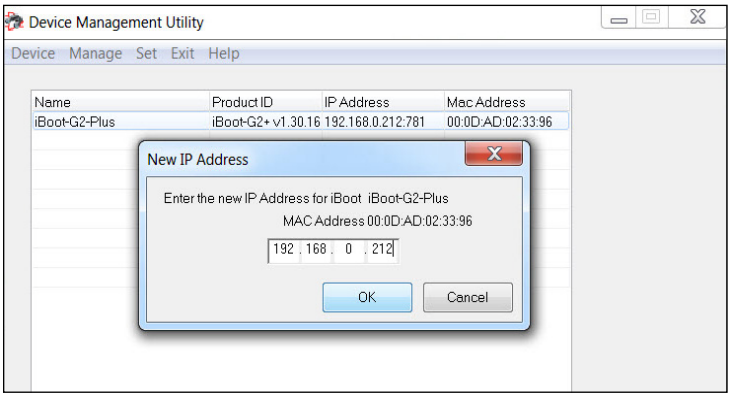


Figure 8: *Entering New IP Address*

4. Click **OK**.

5. Set up other operational features of the iBoot-G2+ as necessary. Click **Discover** to refresh the display, highlight the desired iBoot-G2+, and click **Manage > Launch Browser**.

Reverting to Factory Defaults

The DMU can also be used to return an iBoot-G2+ to its factory default condition (this is different from the Daktronics default). This function can be used to recover an iBoot-G2+ with a lost password. To restore to factory default, highlight the desired iBoot-G2+ from the display list and select **Set > Factory Defaults**. This must be completed within the first two minutes of powering up the iBoot-G2+.

Setting the IP Address from a DHCP Server

A Dynamic Host Configuration Protocol (DHCP) server automatically assigns an IP address (dynamic address), as well as Subnet Mask, and Gateway to the iBoot. If the iBoot-G2+ is rebooted with the IP Mode set for DHCP, the DHCP server will be able to assign an IP address. Once an IP address is assigned, check the DHCP server or use the iBoot-G2+ Setup Utility to verify the address assigned to the iBoot-G2+. The iBoot-G2+ can be locked to the current address by selecting **UP Mode = Static** without changing the addresses. Set the IP mode by using the web setup page. Refer to **Section 5.3** for web configuration.

If the IP address is set using another method, the address becomes static. To return the iBoot-G2+ to dynamic addressing using DHCP, select DHCP mode in **Network Setup** and reboot the unit.

Setting the IP Address using a Web Browser

To set the IP address using a web browser, connect the Ethernet connection to the local network and apply power to the iBoot-G2+. Open the browser and access iBoot-G2+ by entering the default or current IP address into the browser's address window. Enter the administrator credentials and click **Setup**.

Section 4: Web Browser Operation

4.1 Password Protection

The iBoot-G2+ uses two user name and password credential sets, one for normal power control (user) and one that also provides access to the setup functions (administrator). The Daktronics default credentials are listed in the table below.

Role	User Name (Fixed)	Password (User Set)
Administrator	admin	admin
User	user	user

Open the web browser and enter the iBoot-G2+ default IP address into the address bar. If the IP address has been changed by any method, enter the new address.

Note: Change the default password for security purposes. Passwords can be up to 20 characters long and are case sensitive.

Enter the **User Name** and **Password** as prompted. Refer to **Figure 9**. The **Control and Status** page opens. Refer to **Section 4.2**.

The iBoot-G2+ uses an inactivity timer for security. This timeout is user-defined and ranges from 0-99 minutes. Setting the timeout to zero disables the timeout feature. If there is no activity during this set time, the user is automatically logged out and the user name and password must be entered again for access. This feature prevents accidental lockout by leaving the user logged in.

Figure 9: *iBoot-G2+ Password*

Note: As the iBoot-G2+ allows only one web user to be logged in at any time, use caution with disabling the timeout feature; it is possible to lock out other users by forgetting to log out. Closing the browser will not automatically log out a user and will lock out other web access. If users become locked out, access the iBoot-G2+ via Telnet and reboot the unit, or press the reset button.

4.2 Control and Status

The **Control and Status** page opens after the user is validated. As noted above, only one person can be logged in at any time. The look of the **Control and Status** page is determined by which options are selected in the **Expansion**, **AutoPing**, and **Heartbeat** items. The main navigation buttons are listed in the table below:

Button	Function
Refresh	This button obtains the latest status of the iBoot. Using the web browser's refresh button can lead to inadvertent power switching. If a Network Time Protocol (NTP) server is being used, the time of the last refresh is shown in the upper-right corner.
Setup	To access the **Setup** page, the **Admin** credentials must be used for the initial login. If the initial login is performed under **User** credentials, the login may be switched to **Admin**.
Logout	This button causes the user to log out of the system. A confirmation window opens. If another user is logged into the iBoot-G2+, an **In Use** window opens.

Setting Expansion for iBoot-Exp Mode

Under the **Power Status** section, an **ON** or **OFF** status is shown for each of the three manageable outlets: **Main**, **Exp1** and **Exp2**.

To control the power, select the desired outlet(s) and click the appropriate button (**Power ON** or **Power OFF**). If an outlet is linked to the main outlet, the **Linked to Main** message replaces the check box and it is managed in sync with the main outlet. Refer to **Figure 10**.

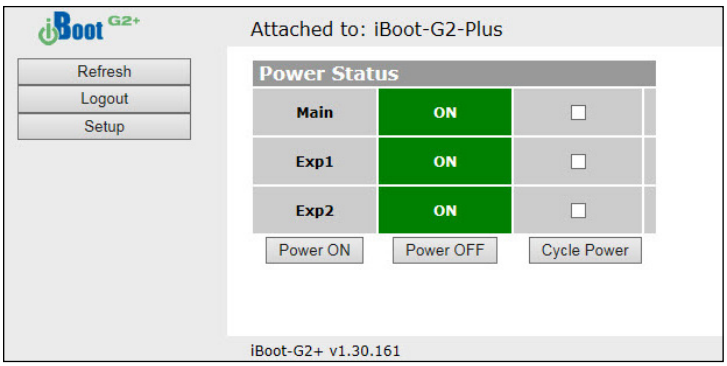


Figure 10: *Power Status for iBoot-Exp Mode*

Setting Expansion for Power Control

The expansion ports may be set for **Power Control** mode. While the inputs are controlling power, all other control is locked out. During power cycling, the **Power Status** bar indicates the temporary status with a blue background. Once the cycle is complete, the status bar reverts to its original condition. To abort a power cycle, select the desired outlet and click either the **Power ON** or **Power OFF** button; the iBoot-G2+ will assume the selected status.

Setting Expansion for Independent I/O Mode

Under the **Power Status** section, the **ON** or **OFF** status is shown for the main outlet. Exp1 and Exp2 are listed below in the **External I/O** section with a status of **Open** or **Closed** for the input and output of each. A button toggles the status of the output of Exp1 and Exp2. Refer to **Figure 11**.

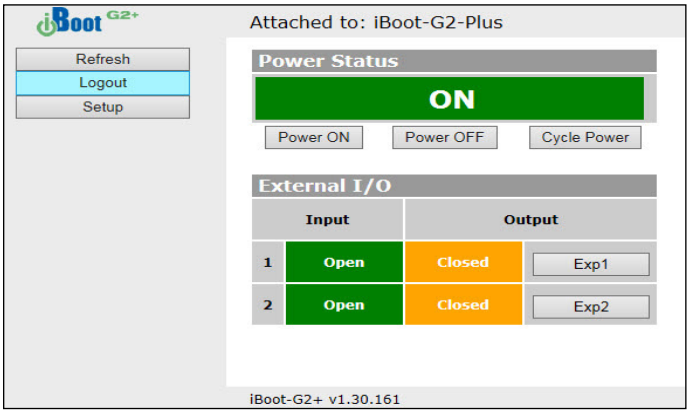


Figure 11: *Power Status for I/O Mode*

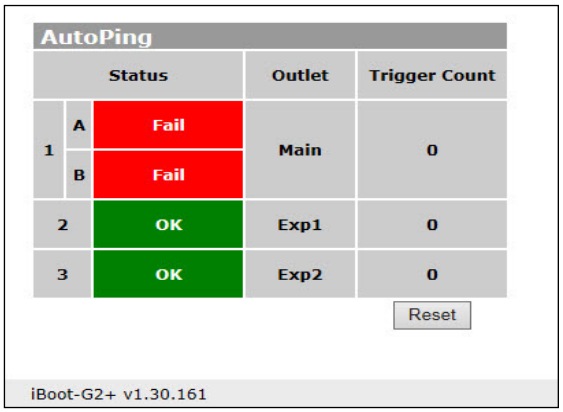


Figure 12: *AutoPing Status*

Enabling AutoPing

If the AutoPing feature is in use, the page displays each AutoPing's status (**OK** or **Fail**), and a counter showing the number of times the action was triggered. The **Trigger Count** can be reset by clicking the **Reset** button. Refer to **Figure 12**.

Section 5: Web Setup

The iBoot-G2+ web setup consists of several steps. Access any menu item via the buttons on the left of the page. Each time a setting is changed, click the **Save** button for that item to save the changes before moving to the next menu item.

5.1 Device

Click the **Device** tab on the left side of the screen to open the **Device Settings** window. Refer to **Figure 13**.

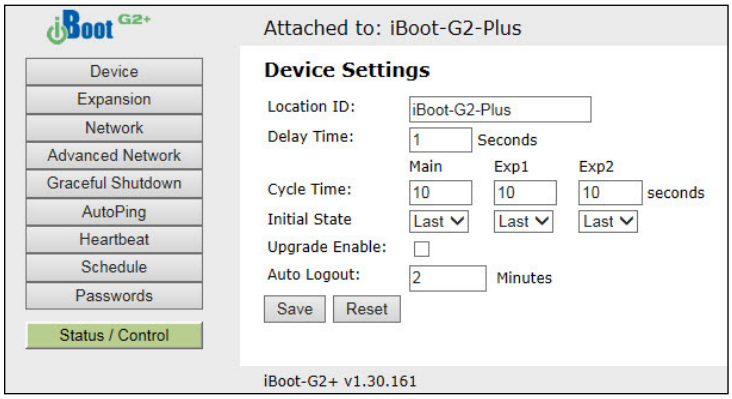


Figure 13: *Device Settings*

Ensure the device settings are configured with the Daktronics default values as listed below:

- Location ID – **iBoot-G2-Plus**
- Delay Time – **1**
- Cycle Time – **10**
- Initial State – **Last**
- Upgrade Enable – check box is unchecked
- Auto Logout – **2**

  Note: As the iBoot-G2+ allows only one web user to be logged in at any time, use caution with disabling the **Auto Logout** feature; it is possible to lock out other users by forgetting to logout. Closing the browser will not automatically log out a user and will lock out other web access. If users become locked out, access the iBoot-G2+ via Telnet and reboot the unit, or press the reset button.

5.2 Expansion

Click the **Expansion** tab on the left side of the screen to open the **Expansion Settings** window. Three expansion modes available in the **Mode** drop-down list. The Daktronics default mode is **iBoot Expansion Units**.

- **iBoot Expansion Units** – used with the iBoot-Exp expansion units
- **Power Control** – used with external switches to provide manual power control
- **Independent I/O** – used with inputs and outputs for status and control not associated with power outlets

iBoot Expansion Units

The Daktronics default setting is to disable the **Link to Main** option; the check boxes should not be checked. Refer to **Figure 14**.

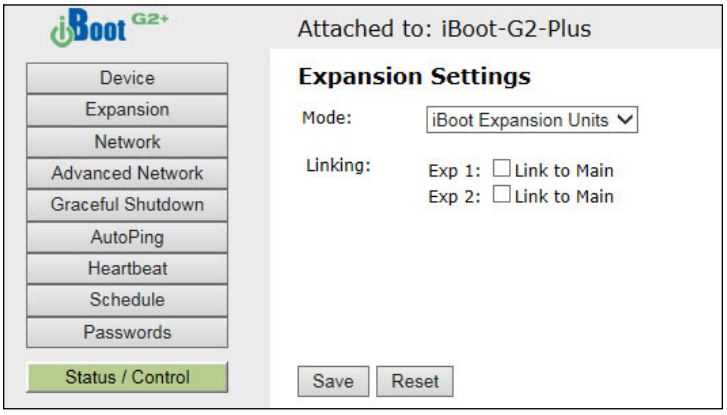


Figure 14: *Expansion Settings - iBoot mode*

Power Control

Each of the two inputs is independently set. Select the target outlet: **Main**, **Exp1**, or **Exp2** from the drop-down menu. Select the desired action with the input closed from the drop-down menu. There are four choices for action: **On** (turns the power on), **Off** (turns the power off), **Cycle** (changes the power for the **Cycle Time** setting), and **Toggle** (changes the state of power On/Off depending on the current state). Refer to **Figure 15**.

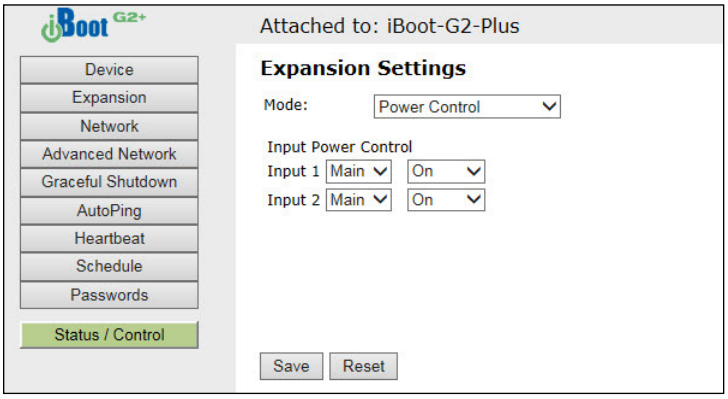


Figure 15: *Expansion Settings - Power Control Mode*

The power is controlled when the input is connected to ground. When set to **On** or **Off**, holding the input to the ground locks the power in the selected position, allowing for manual override of all other control options. By using both inputs, one set to **On** and the other set to **Off**, a three-position switch can be used to create an On/Remote/Off switch.

Independent I/O

To allow the inputs of Exp1 and Exp2 to control additional devices via DxP protocol, enter the remote IP address, relay number, user name, and password for the device to be controlled. Refer to **Figure 16**.

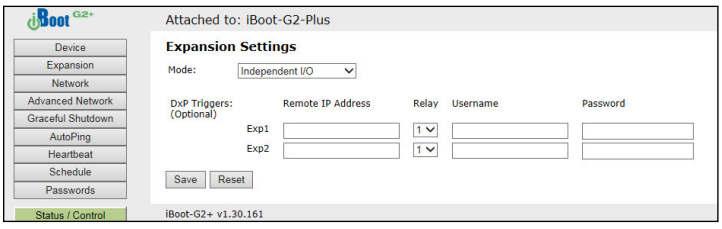


Figure 16: *Expansion Settings - I/O Mode*

5.3 Network

Click the **Network** tab on the left side of the screen to open the **Network Settings** window. Refer to **Figure 17**.

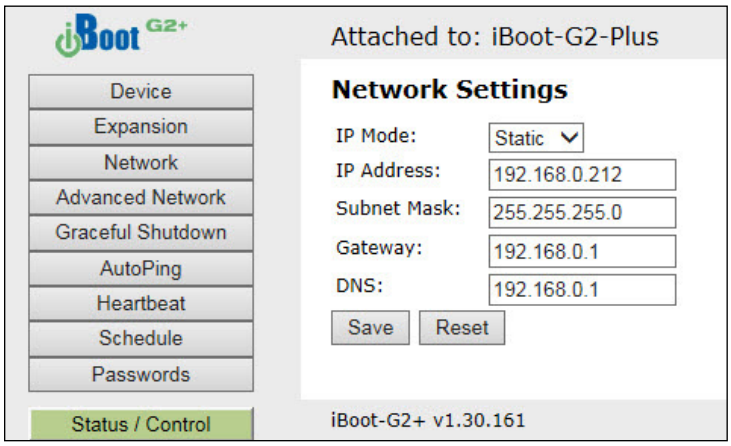


Figure 17: *Network Settings*

Ensure the network settings are configured with the Daktronics default values as listed below:

- IP Mode – **Static**
- IP Address – **192.168.0.212**
- Subnet Mask – **255.255.255.0**
- Gateway – **192.168.0.1**
- DNS – **192.168.0.1**

5.4 AutoPing

Click the **AutoPing** tab on the left side of the screen to open the **AutoPing Settings** window.

The AutoPing feature allows the iBoot-G2+ to automatically detect failed equipment and perform a timed reboot or other power control function such as turning on an indicator or siren. Up to four IP addresses may be set to be periodically pinged.

When the iBoot-G2+ no longer detects a response from these addresses, the programmed power control function is triggered.

The two addresses can be linked with AND or OR commands:

- AND – Both addresses need to fail in order to trigger the selected action.
- Or – One address needs to fail in order to trigger the selected action.

Examples of the AutoPing function are shown in **Figure 18** and listed below:

- AutoPing can be used as a server monitor. The iBoot-G2+ is installed with the device it monitors and automatically reboots if there is no response. For DSF-600, the device is a VIP.
- Auto-Ping can be used as a service monitor. The iBoot-G2+ is installed with the device to be rebooted, but pings a remote host to test the communication channel. This option is deal for DSL and cable modem verification.
- iBoot-G2+ supports three independent AutoPing channels, each controlling either the main power or either of the two expansion ports. The first AutoPing channel can be programmed with two separate IP addresses with logical AND / OR configuration to determine the final action.

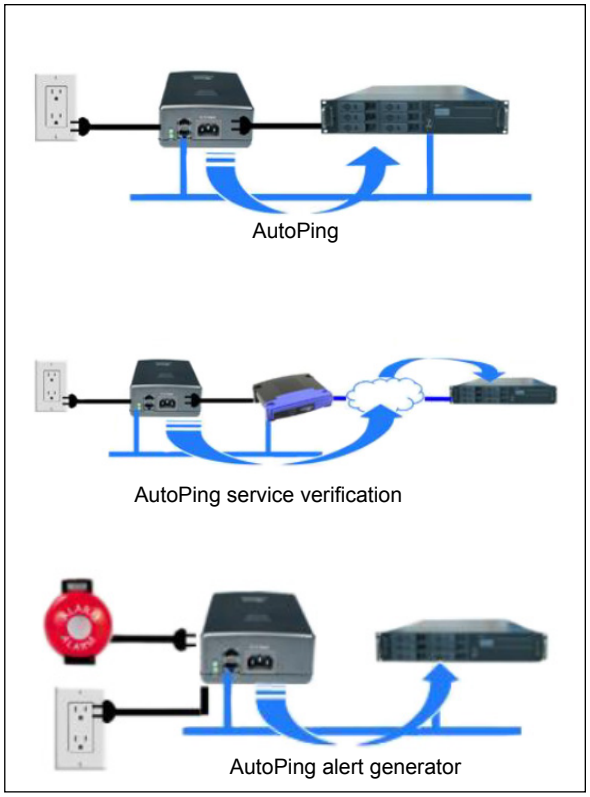


Figure 18: *AutoPing Setup Options*

AutoPing Settings

By default, AutoPing rules are disabled by Daktronics to eliminate problems during initial equipment setup.

Prior to final commissioning, Daktronics recommends enabling these rules to monitor and perform an automated recovery of target devices. Typical configuration steps are listed below, however actual settings may vary by site.

To configure the AutoPing settings, follow the steps below:

1. Click the **AutoPing** menu item to open the **AutoPing Settings** window. Refer to **Figure 19**.

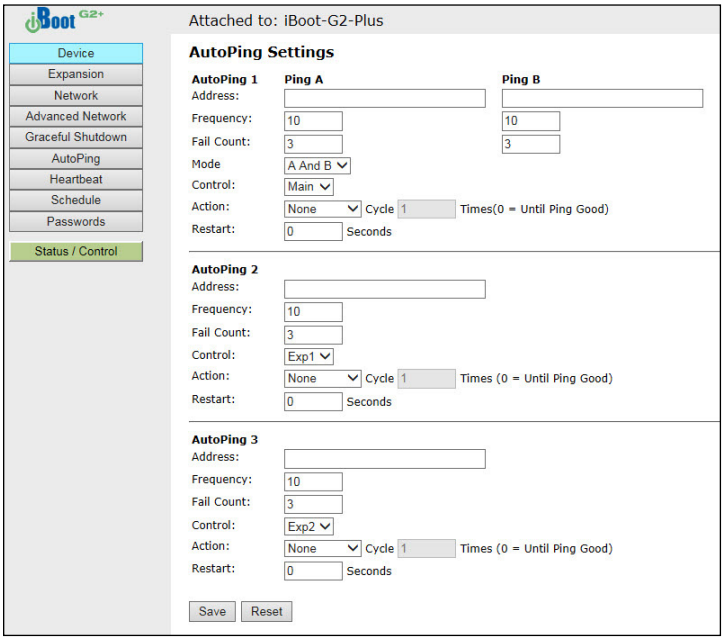


Figure 19: *AutoPing Settings*

2. Enter the IP address or domain name of the device to be pinged in the **Address** field.

3. Enter the ping frequency in the **Frequency** field to determine how often the ping will go out to the selected device.

    - The Daktronics default is **300-900** seconds depending on the AutoPing rule but can range from 1-999 seconds.

4. Enter the number of times the ping needs to fail consecutively before the selected action is taken in the **Fail Count** field.

    - The Daktronics default is **2-4** times depending on the AutoPing rule but can range from 1-999 times.

5. Select the desired mode from the drop-down list in the **Mode** field. This field is available under the **AutoPing1** section only.

    Note: If **A And B** is selected, both AutoPings must exceed the set fail count to trigger the action. If **A Or B** is selected, the action will be triggered if either AutoPing exceeds the set fail count.

6. Select **Main** for the internal power outlet in the **Control** field (or select **Exp1** or **Exp2** for either of the two expansion ports).

7. Select the desired action from the **Action** drop-down list as listed below:

    - **None –** No action is taken when the AutoPing fail count is reached.
    - **On - Latch –** iBoot-G2+ will power on and remain powered on until manually changed.
    - **On - Follow –** iBoot-G2+ will power on until the ping response returns and then power off.
    - **Off - Latch –** iBoot-G2+ will power off and remain powered off until manually changed.
    - **Off - Follow –** iBoot-G2+ will power off until the ping response returns and then power on.
    - **Cycle –** iBoot-G2+ will cycle the power. If there is no ping response, it will cycle again for the number of times entered into the **Times** field.

8. Enter the number of seconds the iBoot-G2+ will wait before restarting the AutoPing in the **Restart** field. This restart occurs after the AutoPing fails and an action is triggered.

9. Click **Save**.

    Note: A **Reboot** button opens at the bottom of the page. The new AutoPing settings will not take effect until the unit is rebooted. Reboot will not affect the power position of the iBoot-G2+. After clicking the **Reboot** button, the **Goodbye** window opens with a link to log in again.

After the AutoPing feature is operational, the main iBoot-G2+ page displays the current status of this feature. An **OK** status indicates that iBoot-G2+ is receiving responses to the ping, or that the fail counter has not been exceeded. A **FAIL** status indicates the count failure has been exceeded.

The **Fail Counter** indicates the number of times the failure has occurred and the **Trigger Counter** indicates the number of times the AutoPing action has been triggered. A counter reset button is provided when logging in with the administrator password.

5.5 Passwords

The iBoot-G2+ uses two password levels. The **User** level password and the **Admin** level password. Refer to **Section 4.1**.

Passwords can be up to 20 characters long and are case sensitive.

To change a password, choose **Login Required** from the **User Rights Management** drop-down menu, enter the current password then enter the new password twice to confirm. Refer to **Figure 20**.

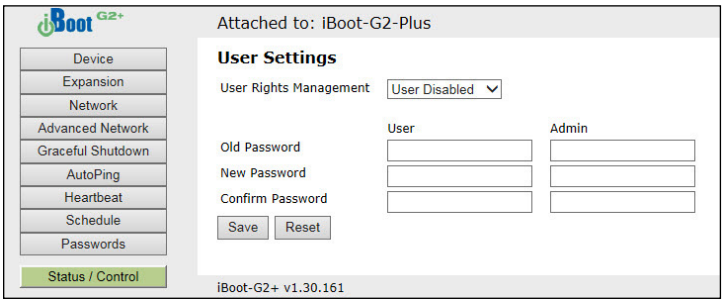


Figure 20: *Password User Settings*

Section 6: Troubleshooting

The iBoot-G2+ has a recessed, pushbutton switch that can be used in the event the unit is not performing as expected. This reset button is shown in **Figure 21**.

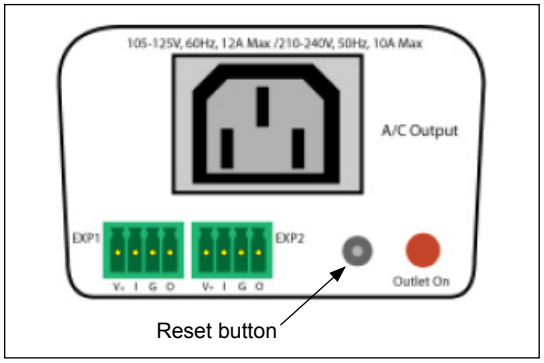


Figure 21: *iBoot-G2+ Reset Button*

Use the reset button to change the iBoot-G2+settings as follows:

Setting Change	Description	Action
Soft reset	This action will not change the outlet status.	Push the button in and quickly release
Factory default reset	This action resets iBoot-G2+ to factory defaults.	Hold the button in until the outlet LED starts blinking, and then release (push for approximately five seconds)
Recover mode	This action allows upload of new firmware to the current IP address. The iBoot-G2+ will recover to the factory default IP address 192.168.1.254 if the database has been corrupted.	Hold the button in and power up the iBoot-G2+

This Page Intentionally Left Blank

Rotating

1. Attach lifting straps to the corner blocks on the crate once the crate is on level ground. Refer to **Figure 1**.

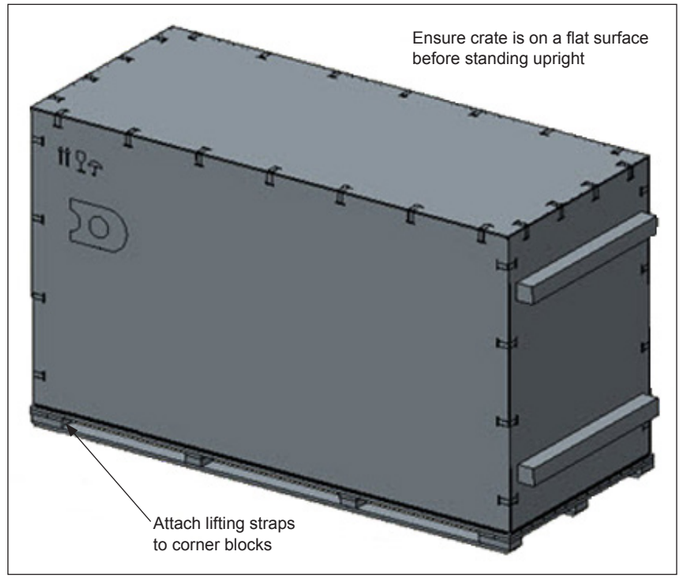


Figure 1: *Attaching Lifting Straps*

2. Use a lift, crane, or forklift to carefully stand the crate on its end with lumber skids. Refer to **Figure 2**.

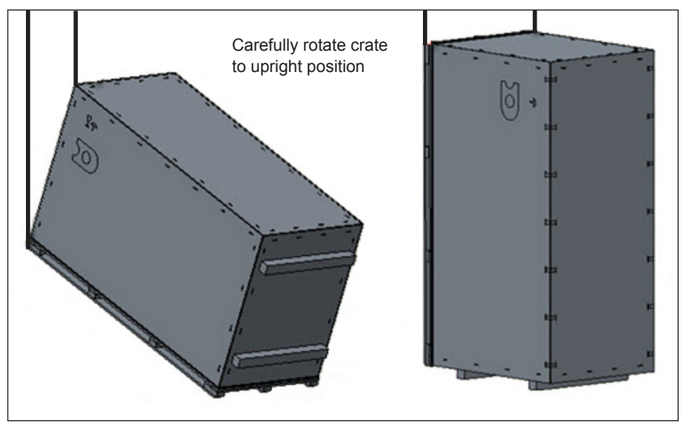


Figure 2: *Standing Crate Upright*

Disassembling

1. Remove the spring clips with a standard flathead screwdriver and then carefully remove the top panel. Refer to **Figure 3**.

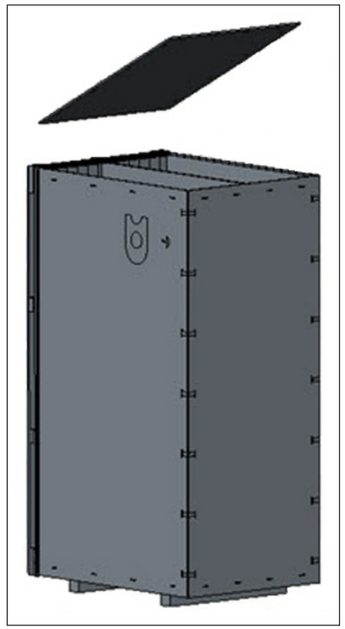


Figure 3: *Removing Top Panel*

2. Remove the spring clips and then carefully remove the front panel. If 5x4 or 6x4 displays are included, loose items also need to be removed: four (4) in 5x4 displays and two (2) in 6x4 displays. Refer to **Figure 4**.

Note: Some spare parts and modules may be included in the top storage area.

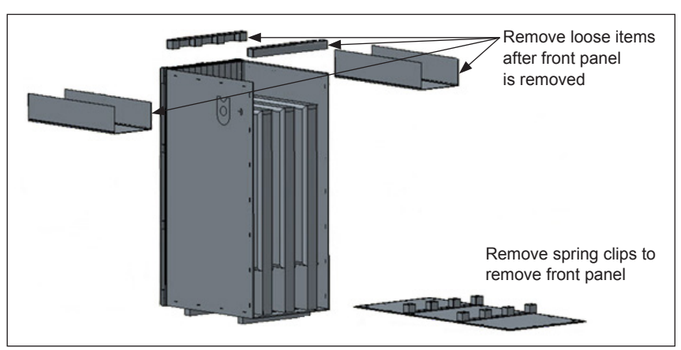


Figure 4: *Removing Front Panel & Loose Items (5x4 Display)*

3. Attach a chain or strap to the top clevis or shackle attached to the outer display section. Refer to **Figure 5**. Carefully lift and remove the section from the crate. Refer to **Figure 6**.

Figure 5: *Attaching Chain/Strap to Display*

Figure 6: *Removing Display from Crate*

4. Use the included 5.5mm tool to open the front glass door and remove the bottom base shrouding while the display section is still attached to the crane or lift. Refer to **Figure 7** and **Figure 8**.

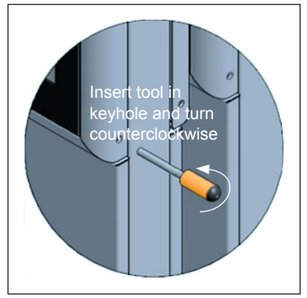


Figure 7: *Opening Door*

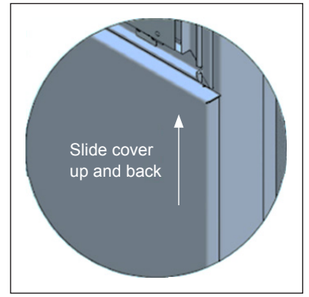


Figure 8: *Removing Shrouding*

The display section is ready to be installed onto the pre-designed concrete footing.

Note: If the site location is far from where the display is uncrated, re-assemble the crate (reverse Steps 1-4) before moving it to site, then repeat Steps 1-4 until all display sections are removed from the crate.

When the crate is empty, continue to break it down for disposal or save the components for future use.

201 Daktronics Dr. P.O. Box 5128 Brookings, SD 57006
tel: 866-343-6018 fax: 605-697-4700
www.daktronics.com

DAKTRONICS

This Page Intentionally Left Blank

Appendix C: Daktronics Warranty & Limitation of Liability

This section includes the Daktronics Warranty & Limitation of Liability statement.

This Page Intentionally Left Blank

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") 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. 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; 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. 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; 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;

DAKTRONICS

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 Equipement 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

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.

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.

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

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

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.

6. Availability of Extended Service Agreement

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).

DAKTRONICS