

**Galaxy<sup>®</sup> 46 mm  
Outdoor**

**Series AF-3400  
Display Manual**

ED-15477

Rev 3

13 April 2007

**DAKTRONICS**

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**ED-15477**  
**Product 1345**  
**Rev 3 – 13 April 2007**



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**ED-15477 – P1345**  
**Display Manual; Galaxy<sup>®</sup> 46 mm - Series AF-3400**

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Section heading pages always start on a new page; they never start on the back of another page.
- 3) Insert **ED-7244** at the end of **Section 2**.
- 4) Print and insert the drawings into **Appendix A**. Use the drawing list in Appendix A to print and arrange the drawings. Print C-size as B-size.
- 5) Insert **ED-14377** within **Appendix B**.
- 6) Use a blue window cover and a blue back.
- 7) Punch all pages, window cover and back cover along the left edge, and bind with a binder.
- 8) Please direct questions and suggestions to Engineering Secretarial.



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# Section 1: Introduction

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This manual explains the installation, maintenance and troubleshooting of a Daktronics Galaxy® 46 mm AF-3400 louvered LED display. For questions regarding the safety, installation, operation or service of this system, please refer to the telephone numbers listed on the cover page of this manual.

The manual is divided into six sections: Introduction, Mechanical Installation, Electrical Installation, Maintenance and Troubleshooting, Appendix A and Appendix B.

- **The Introduction section** covers the basic information needed to make the most of the rest of this manual – take time to read the entire introduction as it defines terms and explains concepts used throughout the manual.
- **The Mechanical Installation section** provides general guidance on display mounting.
- **The Electrical Installation section** gives general guidance on terminating power and signal cables at the display.
- **The Maintenance and Troubleshooting section** addresses such things as removing basic display components, troubleshooting the display, performing general maintenance and exchanging display components.
- **Appendix A** lists the drawings referenced within this manual.
- **Appendix B** includes information on the Optional Temperature Sensor.

Daktronics identifies manuals by an ED number located on the cover page of each manual. For example, this manual would be referred to as **ED-15477**.

Listed below are a number of drawing types commonly used by Daktronics with the information that each is likely to provide. This manual might not contain all of these drawings:

- **System Riser Diagrams:** Overall system layout from control computer to display, power and phase requirements.
- **Shop Drawings:** Fan locations, mounting information, power and signal entrance points and access method (front and rear).
- **Schematics:** Power and signal wiring for various components.
- **Component Placement Diagrams:** Locations of critical internal display components, such as power supply assemblies, controller boards, thermostats and light detectors.

**Figure 1** illustrates the Daktronics drawing label. The drawing number is located in the lower-right corner of the drawing. Listing the last set of digits and the letter preceding them identifies drawings in the manual. In the example below, the drawing would be referred to as **Drawing B-206146**. Reference drawings are inserted in **Appendix A**.

|  |             |                  |                 |
|--|-------------|------------------|-----------------|
| THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS, INCLUDING ELECTRONICALLY WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2004 DAKTRONICS, INC. |             |                  |                 |
| DAKTRONICS, INC. BROOKINGS, SD 57006   |             |                  |                 |
| PROJ: GALAXY, AF-3200 & AF-3400 SERIES   |             |                  |                 |
| TITLE: SCHEM, PRIMARY SIGNAL, INTERNAL, W/QC   |             |                  |                 |
| DES. BY: PGILK   |             | DRAWN BY: LKERR  | DATE: 11 MAR 04 |
| REVISION   | APPR BY:    | 1229-R03B-206146 |                 |
| 00   | SCALE: NONE |                  |                 |

**Figure 1: Drawing Label**

All references to drawing numbers, appendices, figures or other manuals are presented in **bold** typeface, as shown below.

“Refer to **Drawing B-206146** in **Appendix A** for the power supply connections.”

Additionally, drawings referenced in a particular section are listed at the beginning of that section as seen in the following example:

**Reference Drawing:**

Schem; Primary Signal, Internal, W/QC ..... **Drawing B-206146**

Daktronics displays are built for long life and require little maintenance. However certain display components may need replacing. The **Replacement Parts List** in **Section 4.12** provides the names and numbers of components that may need to be ordered during the life of the display. Most display components have a white label that lists the part number. The component part number is in the following format: OP-\_\_\_\_-\_\_\_\_ (component) or OA-\_\_ \_\_-\_\_\_\_ (multi-component assembly).

Following the **Replacement Parts List** is the **Daktronics Exchange and Repair and Return Programs** in **Section 4.13**. Refer to these instructions if any display component needs replacement or repair.

## 1.1 Safety Precautions

**Important Safeguards:**



1. Read and understand these instructions before installing.
2. Be sure the display and external signal enclosures are properly grounded with an earth ground electrode at the display.
3. Disconnect power when servicing the display.
4. **Do not** modify the display structure or attach any panels or coverings to the display without the written consent of Daktronics, Inc.

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

Modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment under FCC rules.

## 1.2 Network Concepts

The concept of using LED displays as a cost effective and high impact method of communication is rapidly growing throughout many industries and businesses. The reasons for this growth are many, but the need for additional features and the complexity of multiple display installations has emerged. Daktronics display systems have been designed to meet those needs.

The common thread to most client requests is a means of programming and controlling a group of displays from a central control point. Daktronics responded by developing a powerful system of interconnecting and controlling displays. Great care has been taken to design products that will satisfy a wide variety of installations. Some of the design goals of these systems include the following:

- Easy transfer of messages
- The ability to tell a display or group of displays in the network which message should run
- The ability to determine the status of any display on the network
- The ability to control multiple display technologies on the same network

There are six network systems available: RS232, RS422, modem, fiber, radio and Ethernet. They differ on the type of physical connections needed, the distance allowed and equipment required. A separate manual is provided for the type of communication method ordered with the display. See **Section 3.7** for the communication manual ED numbers.

Up to 240 displays can exist on one network.

## 1.3 Display Overview

### Reference Drawing:

Shop Drawing, Mounting Details ..... **Drawing B-227417**

Daktronics 46 mm, AF-3400 Galaxy® displays are designed and manufactured for performance, reliability, easy maintenance and long life. The pixels have a 46 mm center-to-center spacing and are lit using LEDs (light emitting diodes). A light sensor on the front of the primary display is used for automatic dimming of the LEDs based on the ambient light levels. The configuration of pixels depends on the model of display ordered.

Refer to **Drawing B-227417** for the approximate size and weight for your display model.

The Galaxy® model numbers are described as follows:

**AF-3400-RRCCC-46-\* -X**

|                |   |   |
|----------------|---|---|
| <b>AF-3400</b> | = | Outdoor Louvered Galaxy Display                         |
| <b>RR</b>      | = | Number of Rows High (8, 16, 24, 32, 40, 48, 56, and 64) |
| <b>CCC</b>     | = | Number of Columns Long (Up to 192 Columns Standard)     |
| <b>46</b>      | = | 46 mm pixel to pixel spacing                            |
| <b>*</b>       | = | LED Color, RGB (32,000 color), R (Red) or A (Amber)     |
| <b>X</b>       | = | P - Primary or 2V – Primary/Mirror                      |

A typical display system has a Windows® based personal computer (PC) running Venus® 1500 software and one or more displays. Venus® 1500 is a software package that runs under Windows® 98, ME™, NT® 4.0, 2000 or XP Home/Professional operating systems on an IBM®-compatible computer.

The displays are offered as single-face units, which are single-sided, stand-alone displays. The first display is called the primary. If the primary is mounted back-to-back with a second display, the second display is called the mirror. If the second display will be mounted at a distance of more than six feet from the primary display, two primary displays will be utilized.

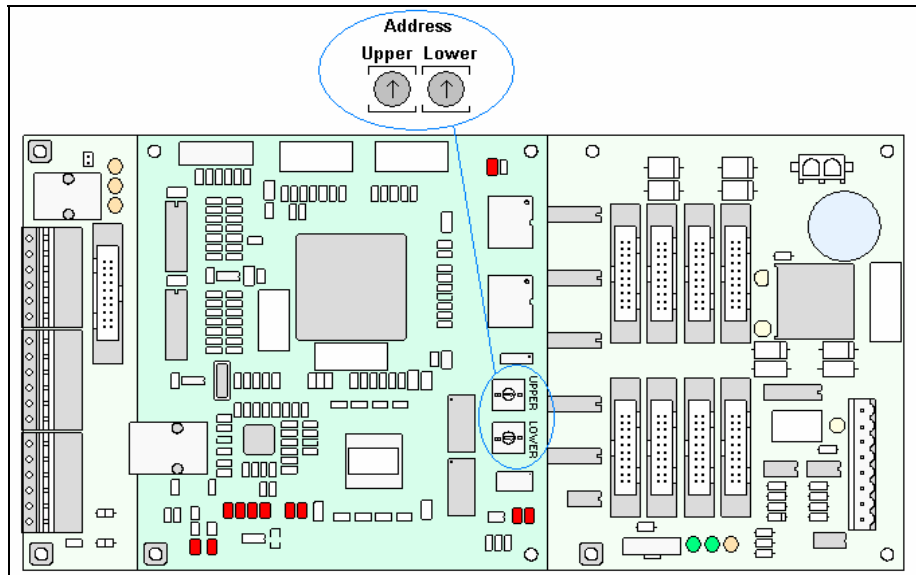
Refer to **Sections 4.2** and **4.3** for the summaries of how signal and power are routed through the displays.

## 1.4 Component Identification

The following illustrations depict some of the more commonly accessed Galaxy<sup>®</sup> display components. Because Daktronics occasionally alters standard design to meet customer needs, the actual display design may vary slightly from the illustrations below.

This is only a brief overview. Refer to **Section 4** for additional information on maintaining the various display components. Additional definitions are given in the communication manual provided with your display.

**Controller:** The display's controller is the "brains" of the display (refer to **Figure 2**). The controller receives, translates and activates the signal information from the computer to the appropriate pixels on the display.



**Figure 2:** Version 3 Controller

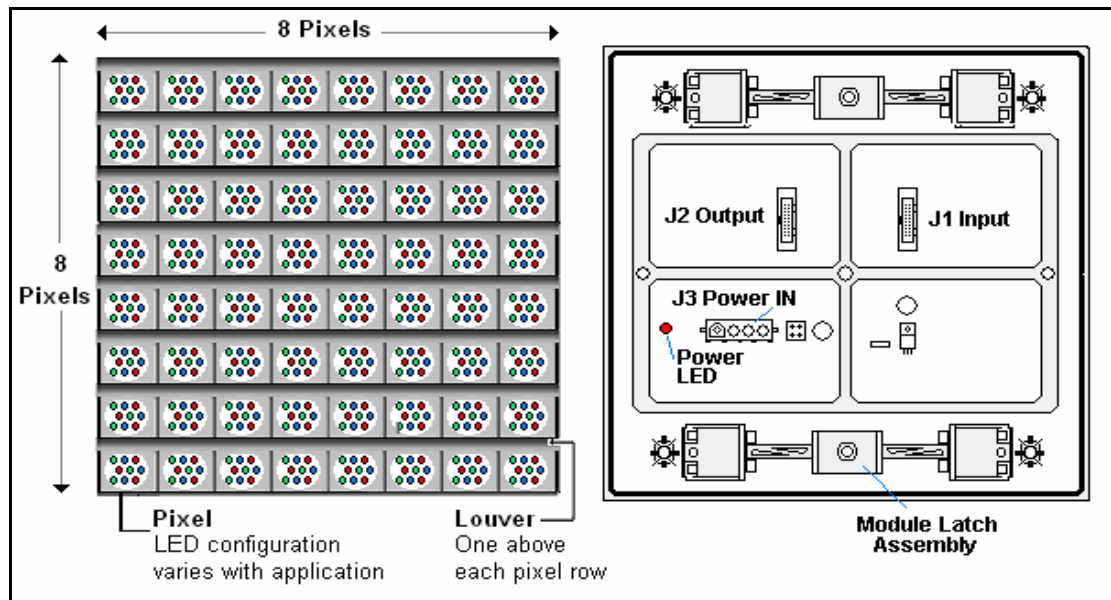
**Display Address:** The display address is an identification number assigned to each display of a network. Rotating the address switches on the controller sets the display address. The control software uses the address to locate and communicate with each display. Displays that are on the same network cannot have the same address.

**Driver/Pixel Board:** The LED pixels are mounted directly onto the driver/pixel board. This board is also responsible for the switching and intensity levels of the LEDs. The driver/pixel board is also called a module.

**Galaxy<sup>®</sup>:** Daktronics trademarked name for LED monochrome, tri-colored or RGB matrix displays.

**LED (light emitting diode):** This is a low energy and high intensity lighting unit.

**Louver:** Black plastic shade positioned horizontally above each pixel row. The louvers increase the level of contrast on the display face and direct LED light.



**Figure 3:** 46 mm Module

**Mirror:** A mirror display is the second display in a Primary-Mirror or 2V configuration. The mirror display **does not** have a controller. All signal information to the mirror is received through a signal inter-connect cable from the primary.

**Module:** 46 mm Galaxy<sup>®</sup> modules are 8 pixels high by 8 pixels wide. Each is individually removable from the front of the display.

**Module Latch Assembly:** This is a device utilizing a sliding retainer bar to hold the module firmly to the display frame at each corner. There are two per module. A  $\frac{1}{8}$ " Allen wrench is used to turn the retaining bar. Refer to **Figure 3** for module latch locations.

**Network:** A network consists of multiple displays connected to each other. Up to 240 primary displays can exist on one network.

**Pixel:** A pixel is a single LED or cluster of LEDs. The number and color of the LEDs depends on display application.

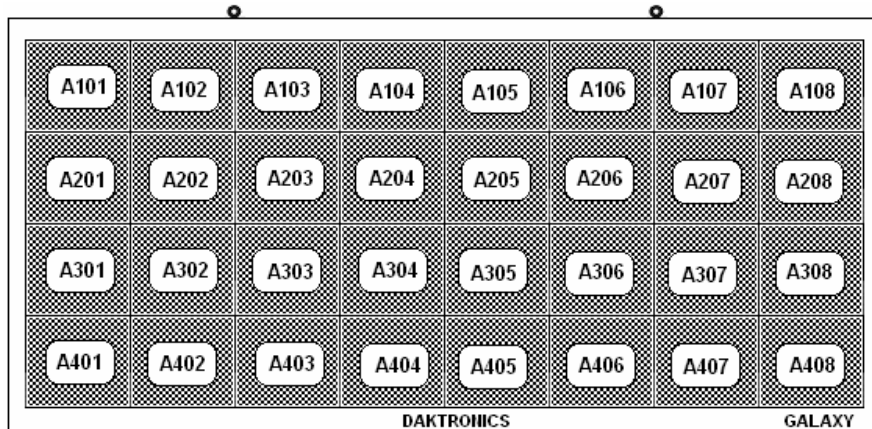
**Power Supply:** Converts AC line voltage from the load center to low DC voltage for multiple module driver boards

**Primary:** A primary display is a single-faced unit or the first display in a Primary-Mirror or 2V configuration. The communication and temperature sensor input will be connected to this display. The light sensor is also internally mounted in this display. An interconnect cable will transfer information from the primary to the mirror display in the 2V configuration.

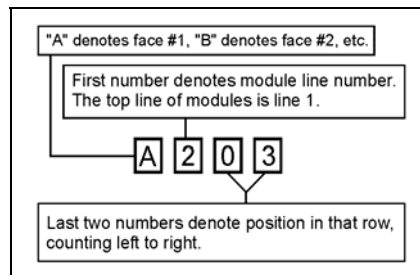


## 1.5 Daktronics Nomenclature

To fully understand some Daktronics drawings, such as schematics, it is necessary to know how various components are labeled in those drawings. This information is also useful when trying to communicate maintenance or troubleshooting efforts. A module is the building block of the Galaxy<sup>®</sup> display. Each module measures 8 pixels high by 8 pixels wide. By placing modules side-by-side and on top of one another, a display of any size can be designed and built. Individual modules can be easily removed from the display if required. **Figure 4** shows how Daktronics numbers the modules on a Galaxy<sup>®</sup> display. **Figure 5** illustrates the module numbering method.



**Figure 4:** Module Numbering Example – 32x64 Front

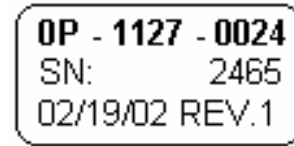


**Figure 5:** Module Numbering

In addition, the following labeling formats might be found on various Daktronics drawings:

- "TB\_ \_" signifies a termination block for power or signal cable.
- "F\_ \_" represents a fuse.
- "E\_ \_" shows a grounding point.
- "J\_ \_" denotes a power or signal jack.
- "P\_ \_" stands for a power or signal plug for the opposite jack.

Finally, Daktronics part numbers are commonly found on drawings. Those part numbers can be used when requesting replacement parts from Daktronics Customer Service. Take note of the following part number formats:



*Figure 6: Typical Label*

- “OP-\_\_\_\_-\_\_\_\_” indicates an individual circuit board, such as the internal fiberboard.
- “OA-\_\_\_\_-\_\_\_\_” stands for an assembly, such as a circuit board and the plate or bracket to which it is mounted.
- “W-\_\_\_\_” represents a wire or cable.

**Note:** A collection of circuit boards working as a single unit may carry an assembly label. Cables may also carry the assembly numbering format in certain circumstances. This is especially true of ribbon cables.

Most circuit boards and components within this display carry a label that lists the part number of the unit. If a circuit board or assembly is not listed in the **Replacement Parts List** in **Section 4**, use the label to order a replacement. A typical label is shown in **Figure 6**. The part number is in bold.

## Section 2: Mechanical Installation

---

**Note:** Daktronics does not guarantee the warranty in situations where the display is not constantly in a stable environment.

The Daktronics engineering staff must approve **any** changes that may affect the weather-tightness of the display. If any modifications are made, detailed drawings of the changes **must** be submitted to Daktronics for evaluation and approval or the warranty may be void.

**Daktronics is not responsible for installations or the structural integrity of support structures done by others.** It is the customer's responsibility to ensure that a qualified structural engineer approves the structure and any additional hardware.

### 2.1 Mechanical Installation Overview

Because every installation site is unique, there is no single Daktronics-approved procedure for mounting the Galaxy<sup>®</sup> displays. The information contained in this section is general information only and may or may not be appropriate for your particular installation.

**A qualified individual must make all decisions regarding the mounting of this display.**

**Read both the mechanical and electrical installation sections of this manual before beginning any installation procedures.**

### 2.2 Support Structure Design

Support structure design depends on the mounting methods, display size and weight. The structure design is critical and should be done only by a qualified individual. Display height and wind loading are also critical factors. It is the customer's responsibility to ensure that the structure and mounting hardware are adequate. **Daktronics is not responsible for the installations or the structural integrity of support structures done by others.**

**It is the installer's responsibility to ensure the mounting structure and hardware are capable of supporting the display and will agree with local codes.**

Before beginning the installation process, verify the following:

- All clip angles or mounting holes must be attached to the support structure.
- The mounting structure will provide a straight and square-mounting frame for the display.
- The mounting structure is capable of supporting the display and will not yield at any unsupported points after mounting.
- Clearance: 4" of unobstructed space is available above the top of the display to remove the eyebolt.

**Note:** No clearance is required once the eyebolt is removed. Correct any deficiencies before installation.

## 2.3 Ventilation Requirements

### Reference Drawing:

Shop Drawing, Mounting Details ..... **Drawing B-227417**

Vents are provided in the face of the display for ventilation. Vents and fans draw air into the front of the display at the bottom, and the warm air is expelled out the top of the display through vents in the front. Both the intake and exhaust vents run the length of the display and should not be obstructed. Refer to **Shop Drawing B-227417** for additional information.

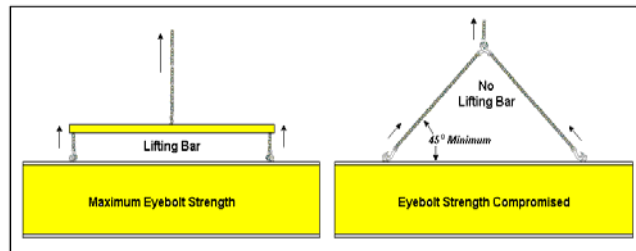
The display cabinet may be completely enclosed on the sides and in back, only if the vents in the face are not obstructed. In some displays there will be a hood on the backsheet, and the back of the display cannot be covered.

**If these requirements are not met, the Galaxy® display warranty may be void.**

## 2.4 Lifting the Display

The top of the display is equipped with eyebolts that are used to lift the unit. Take special care to ensure that the rated load of the eyebolts is not exceeded. Refer to the information at the end of this section labeled **Eyebolts** to determine the allowable load of the eyebolts shipped with the display.

**Figure 7** illustrates both the correct (left example) and the incorrect (right example) method of lifting a display. Lift the display with the lifting bar as shown on the left. Use every lifting point provided.



**Figure 7:** *Lifting the Display (Correct, Left; Incorrect, Right)*

**Do not attempt to permanently support the display by the eyebolts.**

Eyebolts can be removed from the display to eliminate the need for overhead clearance.

## 2.5 Display Mounting

### Reference Drawing:

Shop Drawing, Mounting Details..... **Drawing B-227417**

The method used to mount displays can vary greatly from location to location. For this reason, only general mounting topics can be addressed in this manual.

**It is the responsibility of the installer to ensure the installation will adequately meet local codes and standards, including the mounting hardware and method.**

Before beginning the installation process, verify the following items:

- The mounting structure will provide a straight and square-mounting frame for the display – **height variation in any four-foot horizontal section may not exceed 1/4-inch.**
- The mounting structure will not give way at any unsupported points after the display is mounted.

The back of the display is equipped with 2 x 2 x 3 x 1/4" steel clip angles at the locations shown in **Drawing B-227417** for your display size. These angles may be used for mounting purposes. Remember to have **all** mounted displays inspected by a qualified structural engineer.

Refer to the appropriate **Drawing B-227417** for a suggested wall mount method. The number of attachment points needed and the wall structure **must** be reviewed by a qualified structural engineer and meet all national and local codes. It is the customer's responsibility to determine the proper wall mounting method and location. Daktronics requires using all clip angles or mounting holes as attachment points.

### Mounting a Non-Sectional Display

1. Carefully uncrate the display and inspect each side of the display for possible damage that may have occurred during shipping.
2. If mounting a sectional display, refer to the segment following this sequence.
3. Following the guidelines described in **Section 2.4**, lift the display into position on the support structure.
4. Weld or use 1/2" Grade-5 bolts and hardware to secure the clip angles to the support structure as shown in the **Drawing B-227417** for your display.
5. Refer to **Section 3** for information on routing power to the display and the communication manual for routing the signal.
6. After installation is complete, carefully inspect the display for any holes that may allow water to seep into the display and seal any openings with silicone – **if the eyebolts on the top of the display have been removed, plug the holes with bolts and the flat washer that was removed with the eyebolt (unless there is an overhead structure).**

## Mounting a Sectional Display

Follow these steps to mount a sectional display.

**Note:** The bottom section has protective faceplates on the top. These faceplates are a protective measure for safe traveling. By removing the faceplates, any and all openings on the top of the bottom section are exposed and the display is vulnerable. Because of this, the top section needs to be attached to the bottom section very soon after the faceplates are removed. Before combining the sections, examine the inside of the bottom display to ensure no foreign objects entered the display that may damage internal components. Daktronics is **not responsible** for any damage that is a result of postponed top section installation.

Behind the second module in the bottom row of the top section is a padded envelope that contains the needed hardware.

1. Carefully uncrate the display and inspect each side of the display for possible damage that may have occurred during shipping.
2. Mount the bottom section first.
3. Remove the eyebolts from the top of the bottom display that secure the faceplates.
4. Carefully remove the faceplates making sure not to damage the protective sealant around the top of the display. Any damage done to the sealant may result in rusting or worse damage to the display. Daktronics is not responsible for any damage resulting in damaged sealant, and if the sealant is harmed during faceplate removal, the **warranty will be void**.
5. Install alignment pins to help set the top section onto the bottom section. The alignment pins are stored in the padded envelope mentioned above.
6. Following the guidelines described in **Section 2.4**, lift the bottom display into position on the support structure.
7. Weld or use 1/2" Grade-5 bolts and hardware to secure the clip angles to the support structure as shown in **Drawing B-227417**.
8. Remove the first, second and every even module from the bottom row on the top section. There should be two holes visible in both the top and bottom sections where the modules are removed.
9. Set the top section on to the mounted bottom section.
10. Remove the alignment pins.
11. Use the bolts found in the padded envelope to secure the top section.
12. Install the bolt and washer into the captivated nut in the bottom section.
13. Torque the bolts to 40-50 ft/lbs torque.
14. Re-install the modules and the power and signal jacks.
15. Refer to Section 3 for information on routing power to the display and the communication manual for routing the signal.
16. After installation is complete, carefully inspect the display for any holes that may allow water to seep into the display and seal any openings with silicone – **if the eyebolts on the top of the display have been removed, plug the holes with bolts that were removed with the eyebolt (unless there is an overhead structure)**.

## 2.6 Optional Temperature Sensor Mounting

If an optional temperature sensor will be used with this display, see **Appendix B** for mounting and signal connections.





## Section 3: Electrical Installation

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Only a qualified individual should terminate power and signal cable at this Daktronics display.

The Daktronics engineering staff must approve **any** changes made to the display. Before altering the display, submit detailed drawings for the proposed modifications to the Daktronics engineering staff for evaluation and approval, or the warranty will be rendered null and void.

### 3.1 Common Connectors in the Display

The power and signal connections in the displays use many different types of connectors. Take special care when disengaging any connector so as not to damage the connector, the cable or the circuit board.

When pulling a connector plug from a jack, **do not** pull on the wire or cable; pull on the jack itself. Pulling on the wires may damage the connector.

The following information presents some common connectors encountered during display installation and maintenance:

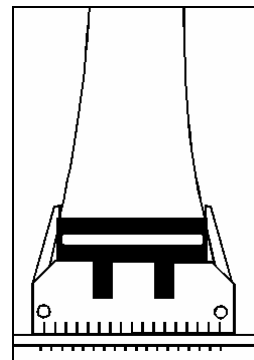
#### Ribbon Cable Connectors:

**Figure 8** illustrates a typical 20-pin ribbon connector. To disconnect the ribbon cable, push the plastic clips on the sides out to unlock and remove the jack.

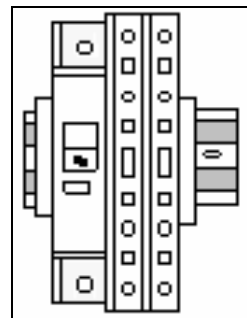
Before replacing a ribbon cable connector, spray it with DeoxIT™ contact cleaner to remove any foreign matter that may cause signal problems. In addition, apply a generous amount of CalLube™ protector paste to the plug before inserting it into the jack. This paste will protect the plug and the jack from corrosion.

#### Termination Blocks:

Termination blocks are commonly used to connect internal power and signal wires to wires of the same type coming into the display from an external source. Power wires need to have 1/2" of insulation stripped from the end of the wire prior to termination. Insert stripped wires into terminations and make sure the clamp holds the wire firmly. Refer to **Figure 9** and **Figure 17** for more information.



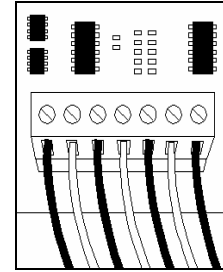
**Figure 8:** Ribbon Cable Connector



**Figure 9:** One Breaker Termination Block

**Phoenix™-Style Connectors:**

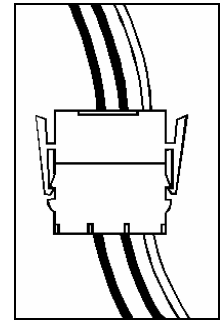
Phoenix-style connectors, which are usually green, are often used for signal termination on circuit boards. Refer to **Figure 10**. Strip 1/4" of insulation from the wire prior to termination. To insert a wire, push the bare wire into the connector and turn the above screw clockwise to lock the wire into place. To remove a wire, turn the above screw counterclockwise to loosen the connector's grip on the wire.



**Figure 10:** Phoenix Connector

**Mate-n-Lok™ Connectors:**

The Mate-n-Lok connectors found in the displays are white and come in a variety of sizes. **Figure 11** illustrates a four-pin Mate-n-Lok connector. To remove the plug from the jack, squeeze the plastic locking clasps on the side of the plug and pull it from the jack.

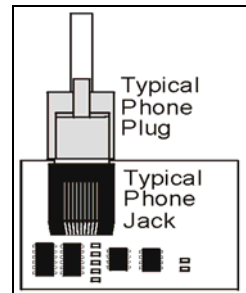


**Figure 11:** Mate-n-Loc Connector

**Phone/Network Jacks (RJ11/RJ45 Connectors):**

RJ connectors, as seen in **Figure 12**, are similar to the telephone connectors or network jacks found in homes and businesses and are used on the ends of RJ11 or RJ45 cable. In order to remove this plug from the jack, depress the small clip on the underside of the plug.

Before replacing an RJ connector, spray it with DeoxIT™ contact cleaner to remove any foreign matter that may cause signal problems. Apply a generous amount of CalLube™ protector paste to the plug before inserting it into the jack. This paste will protect the plug and the jack from corrosion.

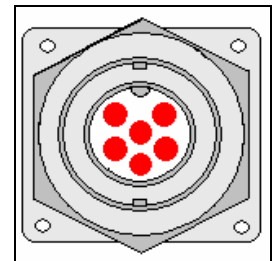


**Figure 12:** RJ11 Connector

**Quick Connect Jack:**

The display uses quick connect jacks for the connection of the signal termination enclosure, the temperature sensor and possible connection to a mirror display. There is one quick connect input board with three input jacks and one or two output quick connect boards, each with a single jack. The boards are located on the back with the number of boards depending on the display size. When not used, the attached dust cover should be kept closed.

To attach the cable to a jack, make sure to line up the plug to match the jack, push the plug in, and turn the outer collar to lock in place. **Figure 13** illustrates the 6-pin quick connect jack.



**Figure 13:** RS232/6-pin Quick Connect Jack

## 3.2 Signal Termination Enclosures

In each communication method, the final connection will be from a weather resistant enclosure to the display. For signal termination to the enclosure, see the manual included in the box with the enclosure.

Note the following information when mounting the enclosure:

1. Be sure to mount the enclosure with the cables exiting from the bottom to prevent water from entering into the enclosure.
2. A quick connect cable will be connected to the signal termination enclosure and will terminate to the back of the primary display. The length of the cable is 25 feet.
3. The quick connect cable can be run from the enclosure through 2" conduit or through the display pole to the sign, but it is not required. The cable is weather and sunlight resistant.

**Note:** Daktronics engineers strongly recommend that the quick connect cable be secured to protect it from weather or vandalism.

4. Earth ground enclosures that use wire signal cable – the resistance to ground of 10 ohms or less is required (a grounding electrode conductor is attached to the enclosure to make the necessary earth ground connection).

## 3.3 Interconnect for Sectional Displays

### Reference Drawing:

Schematic Drawings ..... Appendix A

Follow these steps for wiring between the sections after the sections are firmly attached to each other and securely mounted.

1. A power interconnect cable connects from the Z-filter in the top section to the power termination panel in the bottom section. This cable is already plugged into the Z-filter in the top section and the power termination panel in the bottom section prior to shipping. You will have to route the cable through the

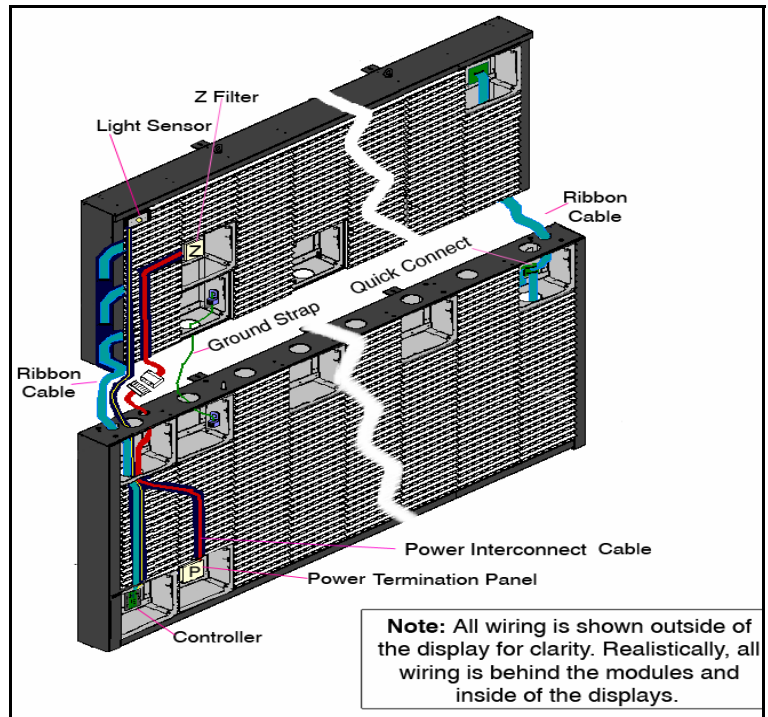


Figure 14: Connecting the Power Interconnect Cables

openings in the top of the bottom section and the bottom of the top section to plug the jack from the power termination panel into the plug coming from the Z-filter as shown in **Figure 14**.

2. Connect the ground strap from the ground lug in the bottom row of the top section to the ground lug on the top row of the bottom section as shown in **Figure 14**.
3. The light sensor is located at the top row of the top section. Connect the provided cable from the light sensor to the controller located in the bottom row of the bottom section. Refer to **Figure 14** and the appropriate **Schematic Drawings** located in **Appendix A**.
4. The ribbon cables run from the top section to the bottom section. They plug into quick connects which are installed in the display, and route down to the controller located in the bottom row of the bottom section. Refer to the appropriate **Schematic Drawings** and **Figure 14** for ribbon cable details.

### 3.4 Conduit

Daktronics **does not** include the conduit. A separate conduit must be used to route:

- Power
- Signal IN wires to the signal termination enclosure when applicable
- Signal OUT wires (if not using the provided interconnect cable)

Knockouts are on the rear of the display for power and signal. Some of the monochrome displays will have a 2x4 junction box (J-box) for termination of power. Unthreaded knockout holes are provided in the signal enclosures used with the display. If necessary, there are knockout/drill holes in the display when not using the provided enclosures.

For displays with more than one face, signal wiring between displays is normally done using a quick connect interconnect cable (length 6 feet). If the displays are too far apart for the interconnect cable, two primary displays will be used. The interconnect wiring is included in the manual for your communication type.

### 3.5 Preparing for Power/Signal Connection

#### Reference Drawing:

Layout Drawing..... **Appendix A**

Note the following when connecting power to the display:

1. Enclosures are provided with the display for termination of signal (**Section 3.6** shows the internal wiring for the power, and the manual for your communication type shows an alternate termination method for the signal).
2. Route power to the display through a fused disconnect switch capable of opening all ungrounded power conductors. Install this disconnect within the line of sight of any personnel performing maintenance on the display. If the disconnect is located out-of-sight of the display, it must be capable of being locked in the open position.

**Note:** Displays with a 2-position term panel (refer to **Layout Drawings in Appendix A**) are equipped with supplemental protection devices that carry a **UL1077 (IEC 60947, VDE 660)** rating. These devices are only intended to protect the components within the display. Suitable devices must be used for the equipment and feeders supplying power to the display.

3. Power conductors from the disconnect to the display should be routed through conduit in agreement with local code.
4. Display power will terminate directly to the power panel within the display. Some of the monochrome displays will have a J-box for termination of power.
5. Connect the grounding electrode conductor, at the grounding lug, to the display at this time.
6. You may also route the signal cable and connect the grounding electrode conductor to the signal termination enclosure (when required) at this time.
7. Signal into the enclosures must be routed through conduit. The size of the knockouts in the enclosures requires the use of 3/4" conduit.
8. The quick connect cable from the enclosure to the display can be routed through conduit or the display pole.

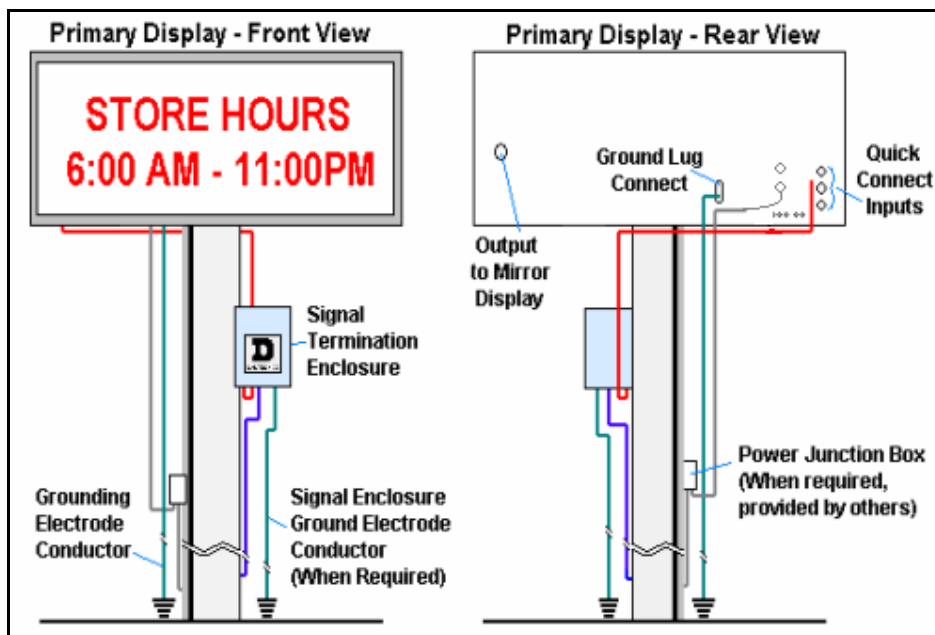
### 3.6 Power

#### Reference Drawings:

- Power Specs, AF-3400-46-RGB-P/M, \* ..... **Drawing A-242326**  
 Power Specs, AF-3400-46-Mono-P/M, \* ..... **Drawing A-253957**

#### Power Requirements

Refer to **Drawing A-242326 and A-253957** for voltage and current requirements for the display size. Each uses 120/240 VAC single-phase power source (**Figure 15**).



*Figure 15: Primary Display with Enclosures*

**Do not connect the displays to any voltage other than that listed on the Daktronics product label.**

Proper power installation is imperative for proper display operation. The following sub-sections give details of display power installation.

## **Grounding**

**This sign 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.**

Displays **must** be grounded according to the provisions outlined in Article 250 of the National Electrical Code<sup>®</sup>. Daktronics requires a resistance to ground of 10 ohms or less.

The display system **must** be connected to earth-ground. Proper grounding is necessary for reliable equipment operation. It also protects the equipment from damaging electrical disturbances and lightning. **The display must be properly grounded or the warranty will be void.**

The material of an earth-ground electrode differs from region to region and from conditions present at the site. Consult the National Electrical Code and any local electrical codes that may apply. The support structure of the display **cannot** be used as an earth-ground electrode. The support is generally embedded in concrete, and if in earth, the steel is either primed, or it corrodes making it a poor ground.

A minimum of one grounding electrode must be installed for each display face. The grounding electrode is typically one grounding rod for each display face. Other grounding electrodes as described in Article 250 of the National Electric Code may be used. Daktronics requires that the resistance to ground be 10 ohms or less. If the resistance to ground is higher than 10 ohms, it will be necessary to install additional grounding electrodes to reduce the resistance. The grounding electrode should be installed within 25 feet of the base of the display. The grounding electrode must be connected to the ground terminal lug on the back of the display.

## **Power Installation**

For these displays, installation with provided ground and neutral conductors is used.

### **Installation with Ground and Neutral Conductors Provided**

For this type of installation, the power cable **must** contain an isolated earth-ground conductor. Under this circumstance, **do not** connect neutral to ground at the disconnect or at the display. This would violate electrical codes and void the warranty. Use a disconnect so that all hot lines and neutral can be disconnected. The National Electrical Code requires the use of a lockable disconnect within sight of or at the display. **Figure 16** illustrates the possible main disconnects in the display.

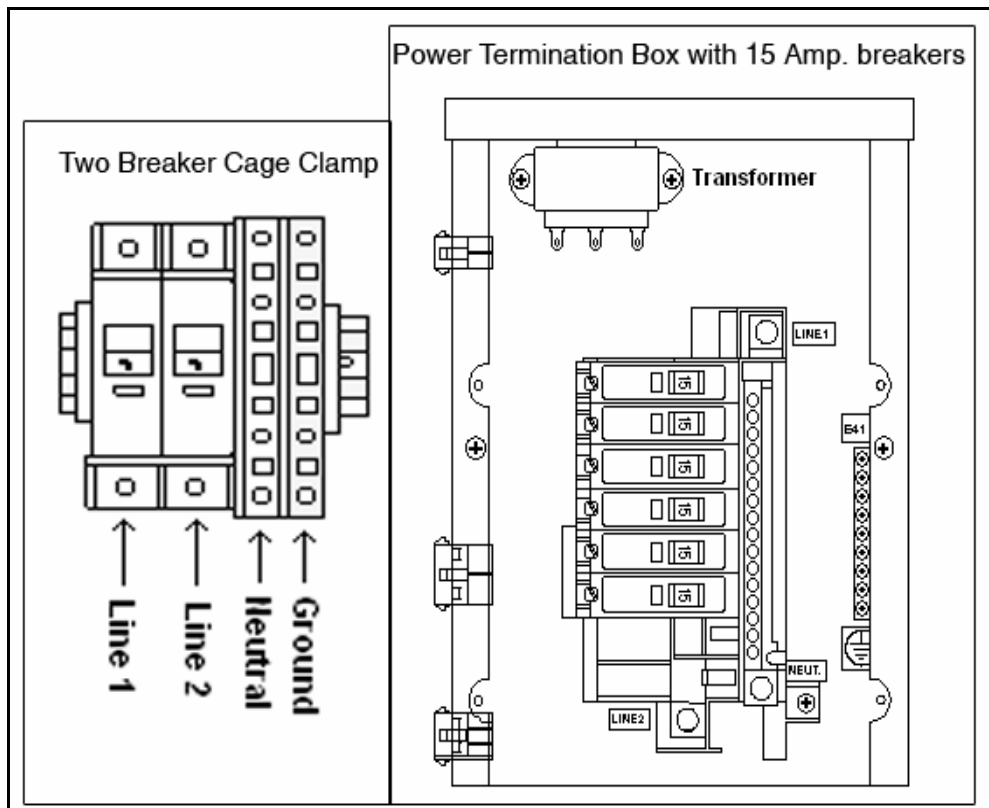


Figure 16: Installation with Ground and Neutral Conductors

## Power Connection

### Reference Drawings:

Schematic, Power Term Panel, 1 circuit ..... **Drawing A-211950**

Schematic, Power Term Panel, 2 circuit ..... **Drawing A-211947**

Schematic, Power Term Panel, 4&6 circuit ..... **Drawing A-223673**

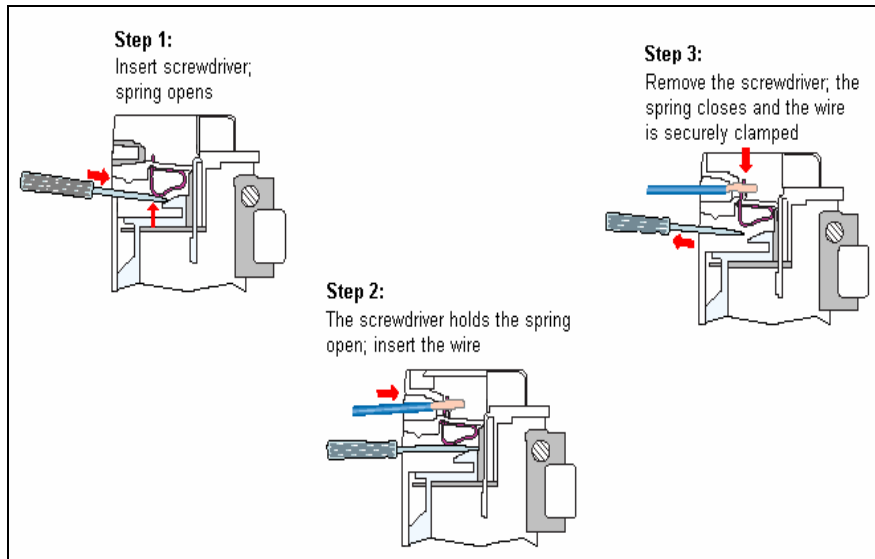
Schematic, Power Term Panel, 8 circuit ..... **Drawing A-231469**

Display power is connected to the power termination panel in the display. Complete the following steps to terminate the hot, neutral and ground wires at the termination panel. The display is equipped with 3/4" knockouts. If these are not sufficient, size the hole to match the conduit size required.

Route the power cable through conduit to the rear of the display and into the power termination panel.

**Note:** the following colors are used for the pre-terminated wires (2 position panel only):

- Line 1 – Black (Brown – 240V)
- Line 2 – Red (only on three wire installations – 120/240V)
- Neutral - White (Blue – 240V)
- Grounding Conductor - (Green-Yellow)



**Figure 17:** Making Cage Clamp Connections

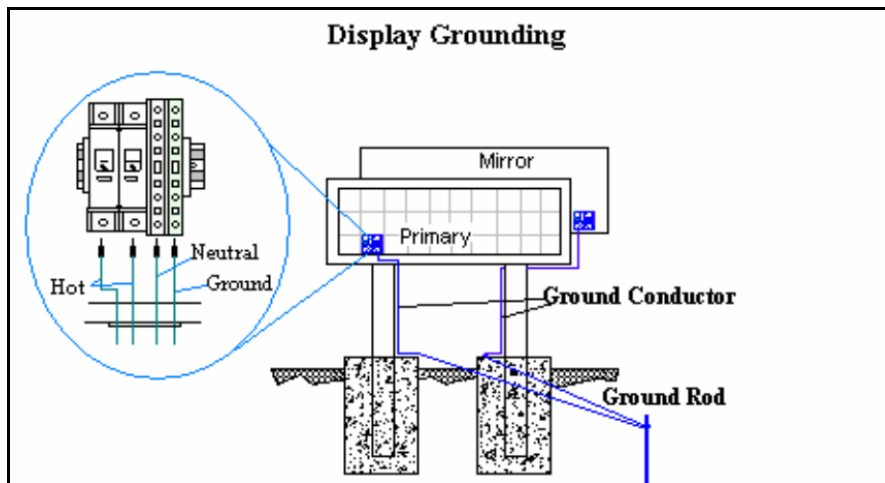
The following steps will need to be done to complete internal connections:

1. Open the display as explained in **Section 4.4** and locate the power termination panel for these displays.
2. Route the cable through conduit to the back of the display. Use the 3/4" knockout for access, being careful not to damage any internal components.
3. Disconnect the wires to the terminal block and connect the wires from the direct cable.
4. Using a small flat screwdriver to open the cage clamps, release the jumper wires connected to the external wires going to the external power termination box.
5. Install the wires from the direct circuit into the cage clamps following the directions in **Figure 17**.
6. Make the following connections as shown in **Figure 18**.
  - Hot to main lug labeled "Line 1"
  - Hot to "Line 2"
  - Neutral to Neutral bus bar
  - Ground to Ground bar
7. Power will need to be connected to all display faces

**Note:** The 4, 6 and 8 circuit displays do not use cage clamps. Feeders from the main disconnect must be connected to the main lugs of the power termination panel.

**Figure 16** shows power terminations for a 6-circuit display.





**Figure 18:** Power Termination Box (4, 6 and 8 Circuit Displays)

### Main Disconnect

The National Electrical Code requires the use of a lockable power disconnect near the display. Provide a lockable disconnect switch (knife switch) at the display location so that all power lines can be completely disconnected. Use a 3-conductor disconnect so that both hot lines and the neutral line can be disconnected. The main disconnect should be mounted at or near the point of power supply connection to the display. Provide a main disconnect for each supply circuit to the display. **Figure 16** illustrates the main disconnect.

The disconnecting means must be located in a direct line of sight from the display or outline lighting that it controls. This requirement provides protection by enabling a worker to keep the disconnecting means within view while working on the display.

**Exception:** Disconnecting means that are capable of being locked in the open position may be located elsewhere.

## 3.7 Signal Termination from Computer to Display

The 46 mm, AF-3400 display is designed for quicker signal connection to the display and between displays.

- Signal will terminate to a watertight enclosure that connects to the primary display using a quick connect cable.
- Mount the temperature sensor to the display structure preferably at least one foot away from the display. Terminate it to the primary display with a quick connect cable (**Do not** mount the temperature sensor between displays or anywhere that the airflow is restricted).
- The primary display connects to the mirror display (2V installations) with a 6-foot quick connect interconnect cable. For cables with right angle connectors, make sure the cable extends to the side or down (never up) to prevent stress on the cable. Flip the end of the cable to switch direction of the right angle end.

A separate manual is provided for explaining the connection to the signal termination enclosure. There are seven different methods of communication; your manual will be one of these types:

| Communication Type | Communication Manual ED# |
|--------------------|--------------------------|
| RS232              | ED-14739                 |
| RS422              | ED-14742                 |
| Fiber              | ED-14743                 |
| Radio              | ED-13932                 |
| Modem              | ED-14744                 |
| Ethernet           | ED-14745                 |
| Fiber Ethernet     | ED-14746                 |

### 3.8 Signal Termination Between Displays (Primary – Mirror)

Most displays are shipped as either a single Primary display or two displays in a 2V Primary-Mirror configuration.

The Primary/Mirror (2V) quick connect cable terminates signal between two displays. The 6-foot cable goes from the Signal OUT (J34) on the primary display to the Signal IN (J32) on the mirror display. **Figure 19** shows the use of one quick connect cable. Attach the cables so they extend into the side or down, but never up which would put a strain on the cable.



Figure 19: Display Interconnect

For those displays that are higher than 24 pixels, two quick connect cables and four quick connect boards are used as shown in **Figure 20**.

Displays with 56 and 64 pixels have 3 quick connect cables.

Make sure the quick connect cable wire is **attached to the structure** and protected from abrasive edges and as shown in **Figure 19**. It is very important to secure the cable to the structure because it reduces stress to the PC card jack.

**Note:** Not all jacks of the interconnect boards are used in all circumstances.

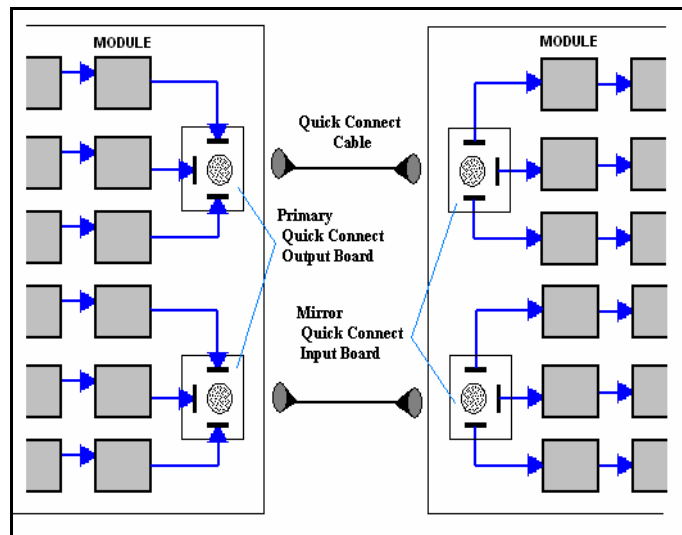


Figure 20: Quick Connect Cables (48-high display shown)

# Section 4: Maintenance and Troubleshooting

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## Important Notes:



**Power must be turned off before any repair or maintenance work is done on the display.**

**Qualified service personnel must make any access to internal display electronics.**

**The Daktronics engineering staff must approve ANY changes made to the display. Before altering the display, detailed drawings for the proposed modifications must be submitted to the Daktronics engineering staff for evaluation and approval, or the warranty will be rendered null and void.**

## 4.1 Maintenance and Troubleshooting Overview

Daktronics Galaxy<sup>®</sup> 46 mm, AF-3400 series displays are front accessible meaning access to the internal components can be gained only from the front of the display.

This section provides the following Galaxy<sup>®</sup> display information:

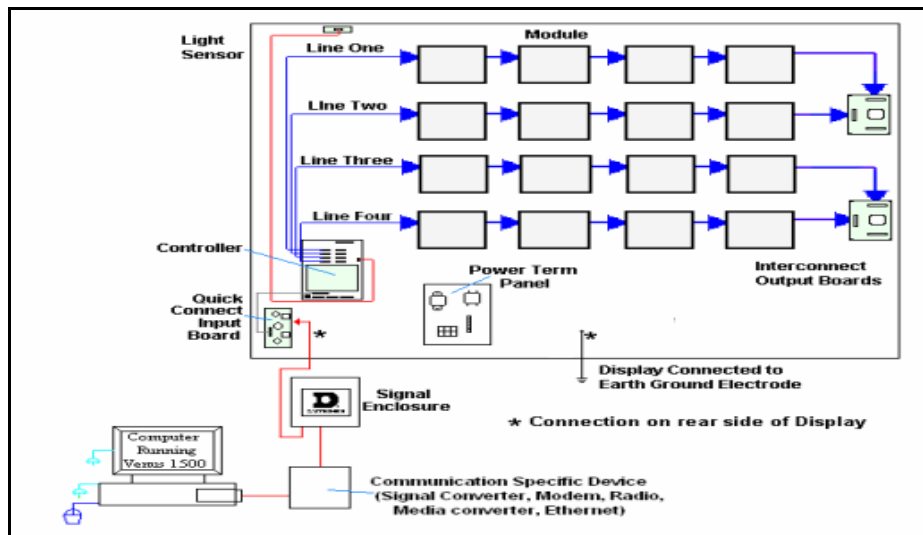
- **Signal Routing Summaries** provide a basic explanation of the way signal travels through the display.
- **Power Routing Summaries** offer a basic explanation of the way power travels through the display.
- **Service and Diagnostics** give instructions for removing various display components, explains the functions of circuit board connectors and the meanings of any diagnostic LEDs.
- **Maintenance** includes a number of steps to take to keep this Galaxy<sup>®</sup> display in a safe and working order.
- **Troubleshooting** lists some possible display malfunctions and provides a number of possible causes for that malfunction.
- **Replacement Parts List** includes the description and part number of display components that may need replacing during the life of this display.
- **Exchange and Repair and Return Programs** explain Daktronics component return policy.

**Note:** A single pixel flashing in the lower right hand corner of the display indicates that the display has power, but no messages are currently running.

## 4.2 Signal Summary

The signal routing for the display can be summarized as follows:

1. Data from the control computer, which runs Venus<sup>®</sup> 1500 software, travels via RS232, RS422, modem, fiber optic cable, radio signal or Ethernet to the signal termination enclosure at the primary display.
2. From the signal enclosure, signal is sent to the primary display via a quick connect cable which connects to the quick connect input board.
3. From the quick connect input board, the signal is transferred to the display's controller via a 20-conductor ribbon cable.
4. From the controller, the signal then travels over one or more 20-conductor ribbon cables (J11 through J18 provide signal out) to J1 input on the driver of the first row of modules in the display.
5. Data exits at J2 output and is relayed to J1 of the next driver board and so on traveling down the entire row of modules. The drivers use this display data to control the LEDs.
6. On the primary display, in a Primary-Mirror (2V) configuration, the output leaves the J2 output on the last column of modules via a 20-conductor ribbon cable and connects to one or more 31-pin quick connect output boards.
7. A quick connect interconnect cable transfers data from the primary to the mirror display.
8. The 31-pin quick connect input board on the mirror display receives the signal and transmits it to J1 on each row of the first column of modules via a 20-conductor ribbon cable.
9. Data exits at J2 and is relayed to J1 of the next driver board and so on traveling down the entire row on modules in the mirror face. This display data is used to control the LEDs on this face.
10. The data displayed on the mirror face will be the same as that displayed on the primary face.
11. Refer to **Figure 21** for the signal summary in a primary display.



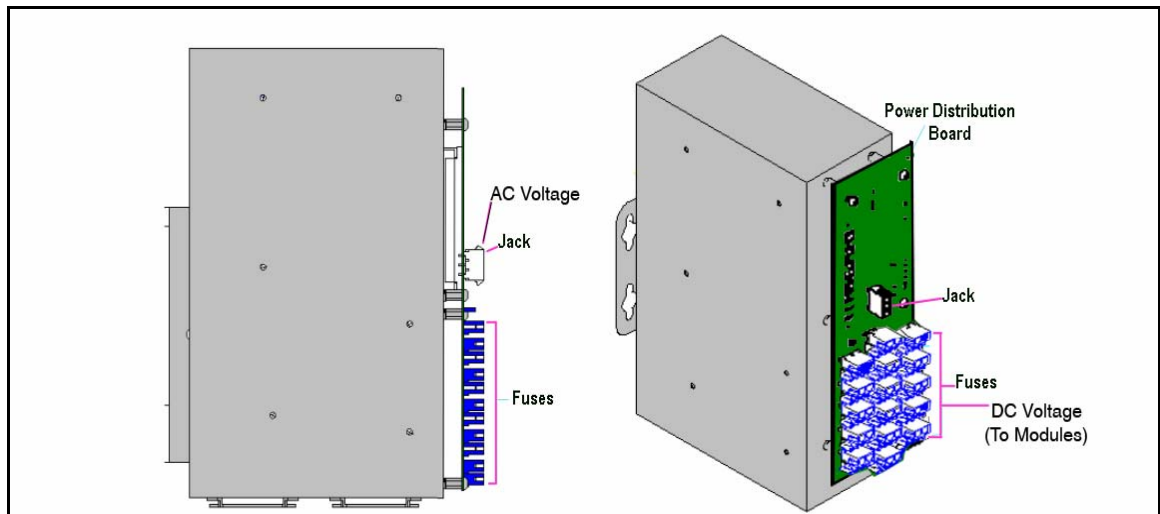
**Figure 21:** Primary Display Signal Summary (32-high Display)

## 4.3 Power Summary

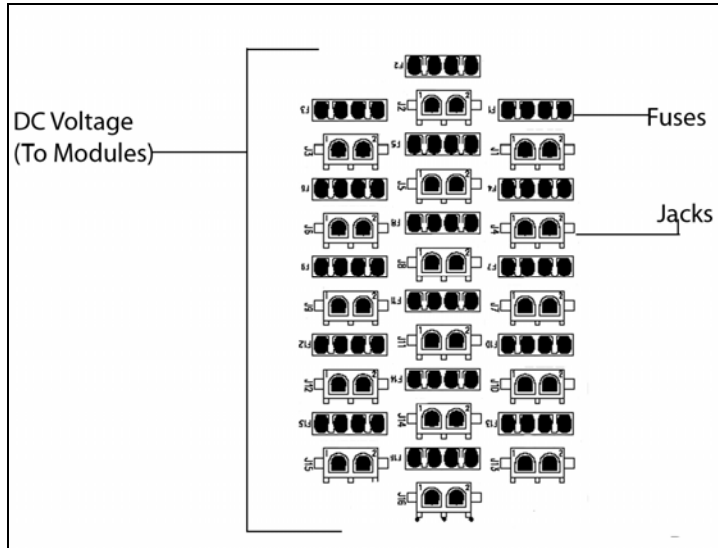
The power routing for the display can be summarized as follows:

1. Power terminates in the power termination panel in the display.
2. Before leaving the power termination panel, power is sent through a circuit breaker and an RFI electrical filter or filters.
3. Power for the controller board passes through a transformer located in the power termination panel.
4. RGB and Mono modules use 13.1 VDC power supply. For assistance with the wiring to the power supplies refer to **Figure 22**, **Figure 25**, **Figure 23** and **Figure 24**.
5. Fans are located along the bottom of the display (8 pixels-24 pixels high) to draw in cool air, which exits out through vents located in the face at the top of the display.
6. Fans are located on the backsheet of the rear of the display (32 pixels-64 pixels high), drawing in cool air in through the face of the display and exhausting out the back.

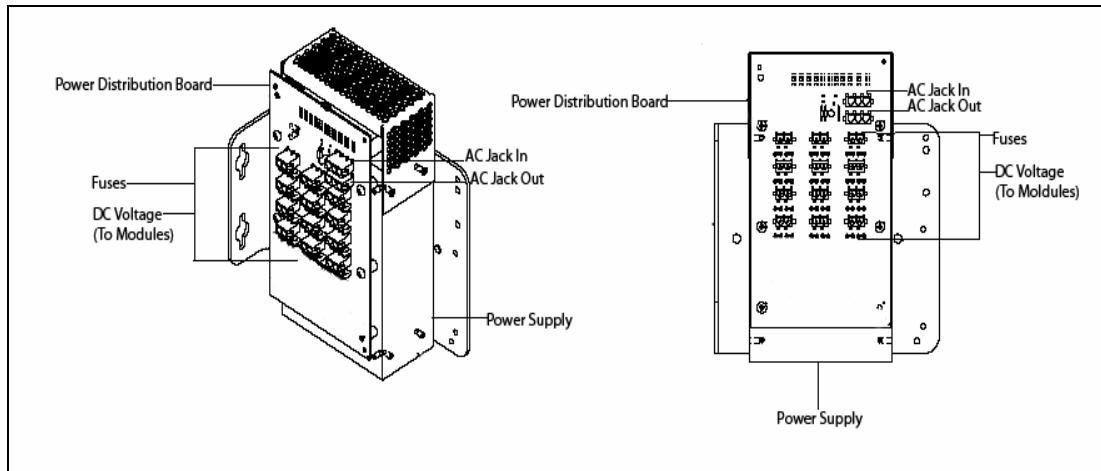
**Note:** Power supplies are preset. Contact Daktronics Customer Service for the proper settings.



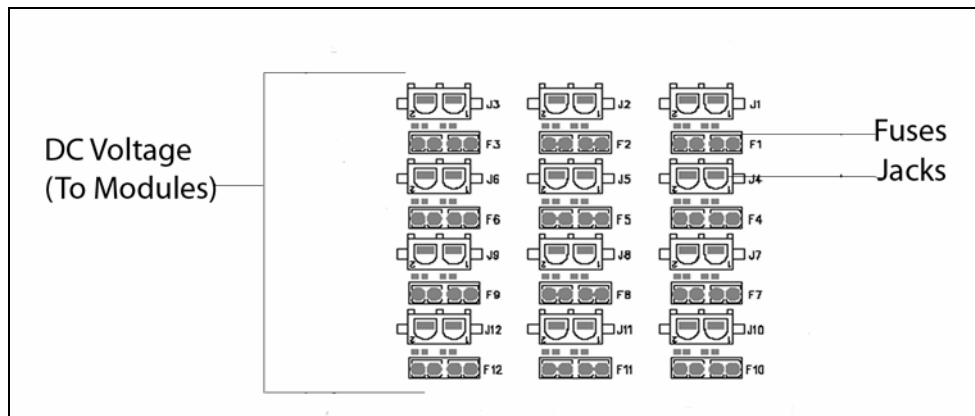
**Figure 22:** 13.1 VDC Power Supply RGB



**Figure 25:** Magnified view of Jacks and Fuses for 13.1 VDC Power Supply RGB



**Figure 23:** 13.1 VDC Power Supply Mono



**Figure 24:** Magnified View of Jacks and Fuses for 13.1 VDC Power Supply Mono

## 4.4 Display Access

Daktronics Galaxy 46 mm, AF-3400 series RGB displays are front accessible meaning access to the internal components can be gained only from the front of the display.

1. Locate the latch access fasteners on the module (one is centered below the second row of pixels and one is centered above the bottom two rows).
2. With a 1/8" hex wrench, turn both latch access fasteners a quarter turn counterclockwise to open, as shown in **Figure 26**, and clockwise to close.
3. Gently pull the module far enough forward to reach behind the back and disconnect the power and ribbon cables.

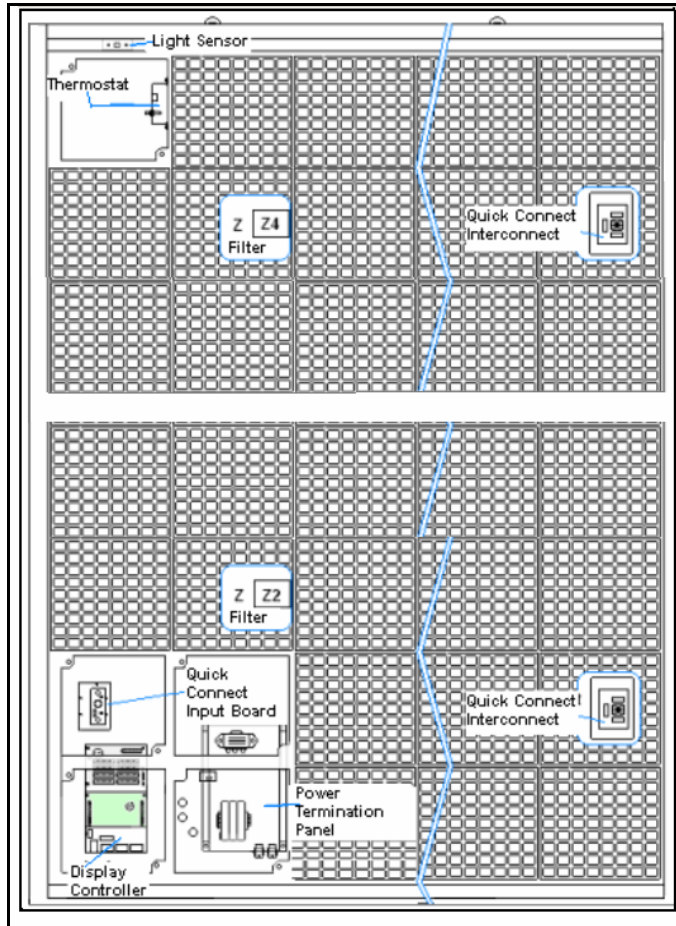


**Figure 26:** Removing a Module

When installing a module, reverse the previous steps and take note of the following points.

- The weather-stripping on the back edge of the module must be intact and in good condition so it prevents water from seeping into the display.
- The module latches must be fully engaged to create a watertight seal around the edge of the module. The module should be firmly seated against the display when the latches are fully engaged.

The module and driver board are a single functional unit. Each module assembly is made up of a module housing (containing LEDs and the driver) and a louver assembly. **Figure 27** shows the location of several basic components inside the display. The placement may vary slightly depending on the height of the display. Refer to this figure for additional troubleshooting component locations. The module and driver board are a single functional unit. Each module assembly is made up of a module housing (containing LEDs and the driver) and a louver assembly.



**Figure 27:** Control Corner Component Locations



## 4.5 Service and Diagnostics

### Reference Drawings:

Schematics..... **Refer to Appendix A**

The following sub-sections address servicing of the following display components:

- Transformer, RFI filter
- Controller
- Power supplies

The sub-sections also address any diagnostic LEDs, fuses, and signal/power connectors found on the unit. On the **Schematics** the components are denoted as follows:

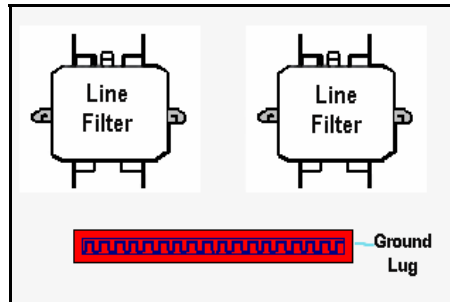
| Component...              | Denoted As...  | Location...   |
|---------------------------|--|---|
| Filter and/or Transformer | 0A-1327-0100 (120V, 1 circuit)<br>0A-1327-0101 (120/240V, 2 circuit)<br>0A-1327-0104 (120/240V, 4 circuit)<br>0A-1327-0105 (120/240V, 6 circuit)<br>0A-1327-0109 (120/240V, 8 circuit) | Inside the power termination box                                    |
| Controller                | 0A-1229-0013   | Usually behind the bottom left module of the bottom section.        |
| Modules                   | Squares<br>0A-1342-4550 (RGB)<br>0A-1342-4000 R<br>0A-1342-4002 A  | Over entire face of the display A101 through A309 (includes driver) |
| RGB Power Supplies        | 0A-1327-0013 1000W @ 13.1 VDC<br>0A-1327-0015 600W @ 13.1VDC   | Behind modules (refer to your display's <b>Schematic</b> )          |
| Light Detector            | 0A-1327-3000<br>0A-1327-3003<br>0A-1327-3004   | Behind/above the top left module                                    |

## Transformer and RFI Filter

### Reference Drawings:

- Schematic, Power Term Panel, 1 Circuit.....**Drawing A-211950**
- Schematic, Power Term Panel, 2 Circuit.....**Drawing A-211947**
- Schematic, Power Term Panel, 4&6 Circuit, 120/240 V.....**Drawing A-223673**
- Schematic, Power Term Panel, 8 Circuit, 120/240V .....**Drawing A-231469**

**Note:** Z Filters (refer to **Figure 28**) are external from the power termination panel.  
Refer to layouts to see if there are external Z filters.

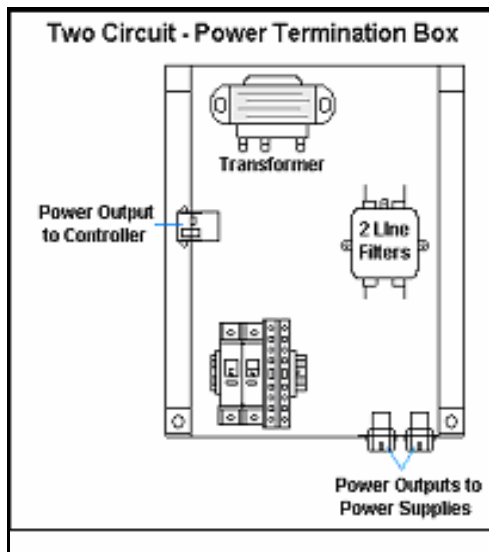


**Figure 28:** RFI Filter Assembly for RGB displays larger than 32x96

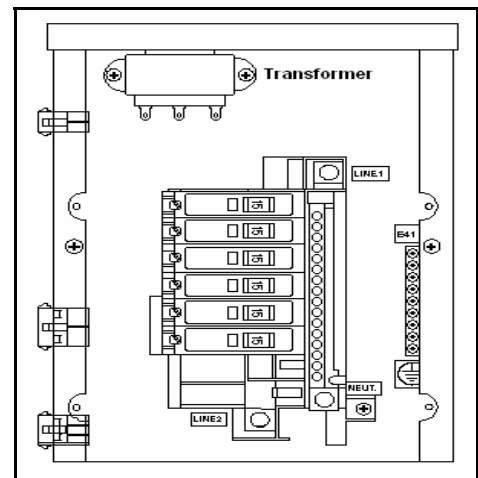
**Remember:** Disconnect power before servicing any internal components

### Transformer

The transformer is located in the upper portion of the primary display's power termination box as shown in **Figure 29** and **Figure 30**. **Turn off power to the display before removing the wires.**



**Figure 29:** Primary Display Power Termination Box



**Figure 30:** Power Termination - Displays Larger than 32x96

Use the following steps to replace the transformer:

1. Disconnect and label all the wires attached to the transformer.
2. Release the hardware securing it to the inside of the enclosure.
3. Position the new transformer in its place, and replace the fastening hardware.
4. Re-connect all the wires using **Drawing A-211950, A-211947, A-223673 or A-231469** as a reference.

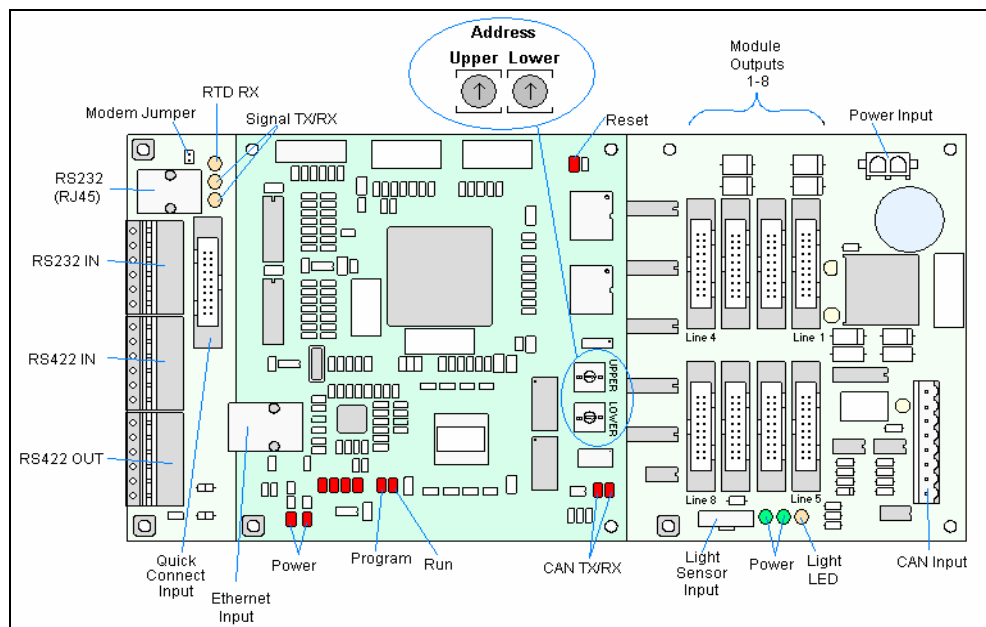
### **RFI Filter**

In some cases, the RFI electrical filters are inside of the power termination box (Z1 in **Drawing A-211950** and Z2 in **Drawing A-211947**). In some displays, however, the filter(s) is (are) located external to the power termination box and behind modules above the box. Refer to **Drawing A-223673 or A-231469** for power termination boxes of this type (refer to **Figure 28**).

1. Like the transformer, label all connecting wires and then remove them.
2. Release the attachment hardware.
3. Install the new filter using **Drawing A-211950, A-211947, A-223673 or A-231469** as a wiring reference.

### **Controller**

The controller sends data to the modules. Refer to the signal summary in **Section 4.2** for more information and for the possible location of the controller board. **Figure 31** illustrates a typical controller.



**Figure 31:** Controller Component Layout

Complete the following steps to remove the controller from the display:

- The tools required for this are a 1/8" hex wrench and a 3/16" nut driver.

  1. Turn off power to the display.
  2. Remove the module directly in front of the controller in the lower left corner of the primary display.
  3. Disconnect power plug from J5.
  4. Remove all power and signal connections from the board (pushing apart the latches and carefully pulling them from the jack will release the "Locked" connectors). When replacing the board, it is helpful to have the cables labeled as to which was removed from which connector.
  5. Remove the six screws holding the board in place using a 3/16" nut driver.
  6. Take note of the address of the controller, and ensure the address on the replacement board is the same.

Follow the previous steps in reverse order to install a new controller board.

The rotary switches set the hardware address, which the software uses to identify that particular display. When replacing a controller board, be sure to set the rotary switches in the same address configuration as the defective controller. Each controller in a network needs a unique address.

**Note:** Setting both rotary switches to address 0 (set the switches to 0 by rotating them counterclockwise until the arrow points to 0) can activate a test mode. The display's power must be turned off and then turned back on to activate the test mode.

| Controller Address Settings |       |       |         |       |       |
|-----------------------------|-------|-------|---------|-------|-------|
| Address                     | Upper | Lower | Address | Upper | Lower |
| Test Mode                   | 0     | 0     | 10      | 0     | A     |
| 1                           | 0     | 1     | 11      | 0     | B     |
| 2                           | 0     | 2     | 12      | 0     | C     |
| 3                           | 0     | 3     | 13      | 0     | D     |
| 4                           | 0     | 4     | 14      | 0     | E     |
| 5                           | 0     | 5     | 15      | 0     | F     |
| 6                           | 0     | 6     | 16      | 1     | 0     |
| 7                           | 0     | 7     | 17      | 1     | 1     |
| 8                           | 0     | 8     | ...     | ...   | ...   |
| 9                           | 0     | 9     | 240     | F     | 0     |

Diagnostic LEDs are located on the controller. The table below tells what each LED denotes:

| <b>CPU</b>           |              |                 |  |
|----------------------|--------------|-----------------|--|
| <b>LED</b>           | <b>Color</b> | <b>Function</b> | <b>Operation</b>   |
| DS1                  | Red          | CAN TxD         | Flashes when controller is transmitting CAN information.   |
| DS2                  | Red          | CAN RxD         | Flashes when controller is receiving CAN information.  |
| DS3                  | Red          | System Reset    | Off when controller is functioning properly. Flashes at 1.5-second rate if controller is not resetting the watchdog timer.   |
| DS4                  | Red          | Run             | A steady flash indicates the controller is running properly. Normal flash rate is about once per second.   |
| DS5                  | Red          | U15 Programmed  | On when U15 contains a valid logic program.  |
| DS7                  | Red          | Link            | On when Ethernet interface is in the link-up condition. Flashes when the Ethernet chip detects transmits or receives activity.   |
| DS8                  | Red          | Speed           | On when the Ethernet interface is at 100Mbps. Off when the Ethernet interface is at 10Mbps.  |
| DS9                  | Red          | Duplex          | On when the Ethernet interface is at full duplex. Off when the Ethernet interface is at half-duplex.   |
| DS10                 | Red          | Collision       | Flashes when the Ethernet interface detects a collision in half-duplex.  |
| DS12                 | Red          | +2.5V           | On when +2.5V power supply is functioning.   |
| DS13                 | Red          | +3.3V           | On when +3.3V power supply is functioning.   |
| <b>Product Board</b> |              |                 |  |
| <b>LED</b>           | <b>Color</b> | <b>Function</b> | <b>Operation</b>   |
| DS1                  | Green        | +5V             | On when +5V power supply is functioning.   |
| DS2                  | Green        | +3.3V           | On when +3.3V power supply is functioning.   |
| DS3                  | Yellow       | COM1 TxD        | Flashes when transmitting serial information.  |
| DS4                  | Yellow       | COM1 RxD        | Flashes when receiving serial information.   |
| DS5                  | Yellow       | Light           | Flashes when receiving signal from light sensor.   |
| DS6                  | Yellow       | Com 2 RX2       | Normal state is ON. When connected to receive RTD input, the LED will be OFF. The LED flashes when receiving signal from RTD input device.   |
| <b>Temp Sensor</b>   |              |                 |  |
| <b>LED</b>           | <b>Color</b> | <b>Function</b> | <b>Operation</b>   |
| DS1                  | Green        | +5V             | On when +5V power supply is functioning.   |
| DS2                  | Red          | Run             | A steady flash indicates the controller is running correctly. Normal flash rate is about once a second. Flashes faster when the sensor is transmitting temperature or light information. |

## Power Supplies

The LED power supplies are identified as assemblies. Each power supply unit can power up to eighteen modules.

The 46 mm, AF-3400 Galaxy displays use red, green and blue LEDs for the color for RGB displays and red or amber for the Mono displays.

- Each 13.1 VDC power supply provides power for up to eighteen modules in a RGB display. Refer to **Figure 22**, **Figure 25**, **Figure 23** and **Figure 24** for the 13.1 VDC power display illustration.

## 4.6 Ventilation Systems

Ventilation fans should be checked after 1,500 hours of operation and every 1,500 hours after that to ensure the display is being cooled properly. Fans should be checked more often if the display is located in a dusty or harsh weather environment (i.e. along a gravel road with dust laden air).

- 1,500 hours is equivalent to 83 days if the display is operated for 18 hours a day, and the power to the display is turned off when not in use.
- 1,500 hours is equivalent to 62 days if the display is running non-stop for 24 hours a day.
- Each time a module is removed, take a minute to inspect the fans.
- Check the fan blades for dirt and debris. If necessary, clean them and the inside of the display. Fan blades must be kept clean to maintain fan efficiency and ensure proper cooling.
- Spin the fan blades with a pen or pencil to ensure that the bearings are free and the fan is still in balance.

To check the operation of the fans, push the bypass button (momentary contact) on the thermostat enclosure to temporarily turn the fans on (the bypass button is located behind A101, top row and first module on the left).

- Hold your hand or a piece of light paper in front of the display to detect air movement.
- If the fan does not turn or does not operate smoothly, replace it.

Make sure the intake vents and exhaust vents on the front of the display are not blocked and are free of dust or other debris.

## 4.7 Thermostats

A thermostat controls the operation of the ventilation fans in the display. The thermostat is typically located behind module A101 as shown in **Figure 27**. The ventilation fans turn on when the inside of the display reaches 85° F (29° C) and turn off at 65° F (21° C).

## 4.8 Weather-stripping

To ensure that the display is waterproof, weather-stripping has been provided around the entire display and around each module. It is important that the weather-stripping is installed properly at all times or water may leak into the display and damage the components.

## 4.9 Display Maintenance

A yearly inspection should be completed to maintain safe and dependable display operation. This inspection should address the following issues:

- **Loose Hardware**  
Verify fasteners, such as bolts and rivets, have not come loose. Fasteners should be checked and tightened or replaced as required.
- **Excessive Dust Buildup**  
Occasionally it may be necessary to vacuum the inside of the display cabinet to remove dust/dirt buildup that may interfere with airflow.
- **Water Intrusion – Water Stain Marks**  
Water can enter the display where weather-stripping has come loose or deteriorated, where fasteners have come loose allowing gaps in the panels or where moisture may be entering around hardware. Be sure to check around the lift eyes and bolts to ensure that water has not entered there. If it has, replace hardware immediately to prevent more water from entering the display. Also, check electronic components for possible corrosion.
- **Corrosion**  
Check the paint, and look for possible corrosion especially at footings, structural tie points and ground rods.

**If any of the above conditions are noticed, action must be taken to correct the situation.**

## 4.10 Troubleshooting

This sub-section contains some symptoms that may be encountered in the displays. This list does not include every possible symptom, but does represent common situations that may occur.

| Symptom/Condition  | Possible Cause/Remedy  |
|--|--|
| One or more LEDs on a single module fail to light.   | <ul style="list-style-type: none"> <li>• Replace/check ribbon cables on the module.</li> <li>• Replace the module.</li> </ul>  |
| One or more LEDs on a single module fail to turn off.  | <ul style="list-style-type: none"> <li>• Replace/check ribbon cables on module.</li> <li>• Replace the module.</li> </ul>  |
| A section of the display is not working. The section extends all the way to the right side of the display. | <ul style="list-style-type: none"> <li>• Replace/check the ribbon cable.</li> <li>• Replace/move the first module/driver that is not working.</li> <li>• Replace/move the first module/driver on the left side of the module that is not working.</li> <li>• Check/replace the power supply assembly on the first module that is not working.</li> </ul>   |
| One row of modules does not work or is distorted.  | <ul style="list-style-type: none"> <li>• Replace/check ribbon cable to and from first non-working module.</li> <li>• Check for bent pins on module and controller.</li> <li>• Replace/move module that is distorted.</li> <li>• Replace/move the first module to the left of the one that is not working.</li> <li>• Replace controller.</li> </ul>  |
| A group of modules (a column of block), which share the same power supply assembly, fail to work.          | <ul style="list-style-type: none"> <li>• Check the voltage to the module.</li> <li>• Check the wire connections at the power supply and at the module.</li> <li>• Replace the power supply assembly.</li> </ul>  |
| Entire display fails to work.  | <ul style="list-style-type: none"> <li>• Check for proper line voltage to the power J-box.</li> <li>• Check for correct power at power termination panel.</li> <li>• Check for correct power to controller (10 VAC) and modules.</li> <li>• Check the breakers in the power termination panel.</li> <li>• Check/replace the ribbon cable from the controller to the modules.</li> <li>• Check the voltage settings on the power supplies.</li> <li>• Check the signal cable to the controller.</li> <li>• Replace the controller.</li> <li>• Consult the help guide in the Venus 1500 software.</li> </ul> |



|   |   |
|---|---|
| Temperature always reads –196F/-127C degrees F/0 degrees C. | <ul style="list-style-type: none"> <li>• Check temperature sensor cable connections.</li> <li>• Check for correct power on temperature sensor.</li> <li>• Check that the temperature is set to address 1.</li> <li>• Replace the temperature sensor.</li> </ul>                 |
| Display is stuck on bright or dim.                          | <ul style="list-style-type: none"> <li>• Check Manual/Auto dimming in Venus 1500 software.</li> <li>• Check light detector cable/wiring.</li> <li>• Check light detector for obstructions.</li> <li>• Replace the light detector.</li> <li>• Replace the controller.</li> </ul> |

## 4.11 Initial Operation Information

Every time the display is operated, the display will run through an initialization in which it will display the following:

1. Product Name (Galaxy®)
2. Display Size (Row x Column)
3. Shading (64 Mono)
4. Bootloader Version (OS X.XX)
5. Firmware Number (**ED-13305**)
6. Firmware Revision (Rev X.XX)
7. Hardware Address (HW:XX)
8. Software Address (SW:XX)
9. IP Address: ((default) IP: 172.16.192.25)
10. Subnet Msk: ((default) Msk: 255.255.0.0)
11. COM1 Configuration (C1:V15) ((Modem C1:V15) If a Modem is present)
12. COM 2 Configuration (C2: RTD)
13. Socket 3001: (IP 3001: V15)
14. Socket 3002: (IP 3002: RTD)
15. Line Frequency (CLK: AUTO (60))
16. Display Name Description (Galaxy Row x Column)

After this sequence is complete, the display will go blank. A single pixel will flash in the lower right hand corner of the display to show that the display has power, but no messages are currently running.

## 4.12 Replacement Parts List

The following table contains some items that may need to be replaced in displays over a period of time. Many of the parts within the display list the part number on labels affixed to them. To prevent theft, Daktronics recommends purchasing a lockable cabinet to store manuals and replacement/spare parts.

| <b>Part Description</b>                                    | <b>Part Number</b> |
|--|--------------------|
| Controller II, Louvered Galaxy, 8-connector                | 0A-1229-0013       |
| Module, 3R3G3B (1:1) 8x8 (35x70), RGB                      | 0A-1342-4550       |
| Module, AF-3400-8x8-46-3R-35x70, R                         | 0A-1342-4000       |
| Module, AF-3400-8x8-46-5A-35x70, A                         | 0A-1342-4002       |
| Power Supply Assembly, w/Harness RGB Displays (1000W)      | 0A-1327-0013       |
| Power Supply Assembly, (600W), w/o Harness                 | 0A-1327-0015       |
| Fuse; ATC-15, 15A  | F-1048             |
| Fuse; ATM-15, 32V  | F-1058             |
| Digital Temp Sensor  | 0P-1247-0008       |
| Light Level Detector                                       | 0P-1151-0002       |
| Fan, 245>CFM @ 120V @ 60Hz, 46-50 watt                     | B-1019             |
| Fan; 134 CFM, 120V @60Hz, 22 watt, 4.5" (120V)             | B-1053             |
| Transformer; Pri 115V, Sec 10VCT@3A                        | T-1119             |
| Transformer; Pri 115/230V, Sec 10VCT@2.5A                  | T-1121             |
| Filter, RFI Line 20 AMP                                    | Z-1007             |
| <b>Ribbon Cables - 20 Position</b>                         |                    |
| Cable Assy; 20 pos Ribbon, 18", Dual Row                   | W-1387             |
| Ribbon Assy; 20 Pos, 24"                                   | 0A-1000-0016       |
| Ribbon Assy; 20 Pos, 30"                                   | 0A-1000-0017       |
| Ribbon Assy 20 Pos 36"                                     | 0A-1000-0018       |
| Ribbon Assy; 20 Pos, 48"                                   | 0A-1000-0020       |
| Ribbon Assy 20 Pos 72"                                     | 0A-1000-0022       |
| Ribbon Assy 20 Pos 84"                                     | 0A-1000-0023       |
| Ribbon Assy 20 Pos 96"                                     | 0A-1000-0024       |
| Ribbon Assy 20 Pos 108"                                    | 0A-1000-0025       |
| Cable; 22 AWG, 2-pair, shielded (Light Sensor/Temp Sensor) | W-1234             |
| Interconnect Cable; 31-pin male to 31-pin male, 6', QC     | W-1503             |
| Quick Connect Interface, Input, w/Ethernet                 | 0P-1229-2004       |
| 31-pin, Quick Connect Input/Output Board                   | 0P-1229-2008       |
| Electrical Contact Cleaner Lubricant / Cal-Lube            | CH-1019            |
| Hex Wrench, T-Handle 1/8" RT                               | TH-1062            |
| Manual; Venus 1500 Operator's, Version 3.0                 | ED-13530           |
| Venus 1500 Software (CD)                                   | 0A-1147-0006       |

## 4.13 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

Insert important part numbers here:

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Display Serial Number: \_\_\_\_\_

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

Contract Number: \_\_\_\_\_

Date Installed: \_\_\_\_\_

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

**To participate in the Exchange Program, follow these steps.**

- 1. Call Daktronics Customer Service: 866-343-3122**
- 2. When the new exchange part is received, mail the old part to Daktronics.**

If the replacement part fixes the problem, send in the problem part 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. A charge will be made 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 the full purchase price will be charged.**

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:**

Phone: 866-343-3122      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 shipment.**

Electronic components, such as printed circuit boards, should be placed in an antistatic bag before boxing. Daktronics does not recommend styrofoam peanuts in packaging.

**4. Enclose:**

- your name
- address
- phone number
- the RMA number
- a clear description of symptoms

## **Shipping Address**

Daktronics Customer Service  
PO Box 5128  
331 32<sup>nd</sup> Ave  
Brookings, SD 57006

# Appendix A: Reference Drawings

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Refer to **Section 1** for information on reading drawing numbers. The following drawings are listed in numerical order by size (A, B, etc.). The drawings following this section are split into sections according to drawing type. Those drawings are listed according to size.

|   |                         |
|---|-------------------------|
| Schematic, Power Term Panel, 1 Circuit.....               | <b>Drawing A-211950</b> |
| Schematic, Power Term Panel, 2 Circuit.....               | <b>Drawing A-211947</b> |
| Schematic, Power Term Panel, 4&6 Circuit, 120/240V.....   | <b>Drawing A-223673</b> |
| Schematic, Power Term Panel, 8 Circuit, 120/240V .....    | <b>Drawing A-231469</b> |
| Power Specs, AF-3400-46-RGB-P/M, * .....                  | <b>Drawing A-242326</b> |
| Power Specs, AF-3400-46-Mono-P/M, * .....                 | <b>Drawing A-253957</b> |
| Schematic, Primary Signal, Internal W/QC .....            | <b>Drawing B-206146</b> |
| Schematic, AF-3400-46-RGB, P/M, *, General .....          | <b>Drawing B-241797</b> |
| Schematic, AF-3400-46-Mono, P/M, *, General.....          | <b>Drawing C-252596</b> |
|   |                         |
| Block Diagrams, AF-3400-46-RGB, P/M, *, 2&4 circuit ..... | <b>Drawing B-241828</b> |
| Block Diagrams, AF-3400-46-RGB, P/M, *, 6&8 circuit ..... | <b>Drawing B-241568</b> |
| Block Diagram, AF-3400-46-R/A-P/M, *1&2 circuit.....      | <b>Drawing B-252653</b> |
| Block Diagram, AF-3400-46-R/A-P/M, *4 circuit .....       | <b>Drawing B-252654</b> |
|   |                         |
| Elect Layout, AF-3400-8x***-46-RGB, P/M, * .....          | <b>Drawing B-241830</b> |
| Elect Layout, AF-3400-16x***-46-RGB, P/M, * .....         | <b>Drawing B-241835</b> |
| Elect Layout, AF-3400-24x***-46-RGB, P/M, * .....         | <b>Drawing B-242416</b> |
| Elect Layout, AF-3400-32x***-46-RGB, P/M, * .....         | <b>Drawing B-242456</b> |
| Elect Layout, AF-3400-40x***-46-RGB, P/M, * .....         | <b>Drawing B-242909</b> |
| Elect Layout, AF-3400-48x***-46-RGB, P/M, * .....         | <b>Drawing B-241860</b> |
| Elect Layout, AF-3400-56x***-46-RGB, P/M, * .....         | <b>Drawing B-243079</b> |
| Elect Layout, AF-3400-8x***-46-RGB, P/M, * .....          | <b>Drawing B-243086</b> |
| Elect Layout, AF-3400-16x***-46-Mono-P/M, * .....         | <b>Drawing B-253112</b> |
| Elect Layout, AF-3400-24x***-46-Mono-P/M, * .....         | <b>Drawing B-253113</b> |
| Elect Layout, AF-3400-32x***-46-Mono-P/M, * .....         | <b>Drawing B-253114</b> |
| Elect Layout, AF-3400-40x***-46-Mono-P/M, * .....         | <b>Drawing B-253115</b> |
| Elect Layout, AF-3400-48x***-46-Mono-P/M, * .....         | <b>Drawing B-253116</b> |
| Elect Layout, AF-3400-56x(48-144)-46-Mono-P/M, * .....    | <b>Drawing B-253117</b> |
| Elect Layout, AF-3400-64x(48-144)-46-Mono-P/M, * .....    | <b>Drawing B-253118</b> |
| Elect Layout, AF-3400-8x***-46-Mono-P/M, * .....          | <b>Drawing B-253111</b> |
|   |                         |
| Shop Drawing, Mounting Details .....                      | <b>Drawing B-227417</b> |



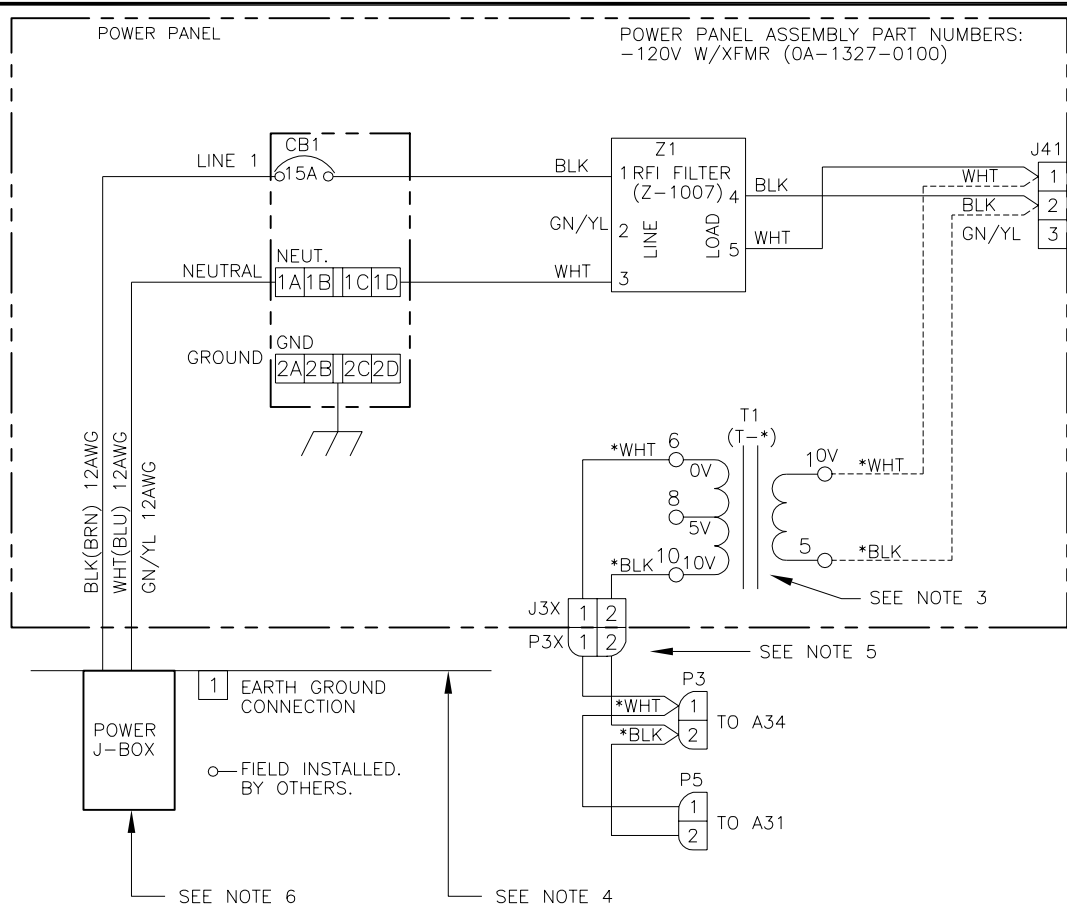
|      |         |  |     |       |
|------|---------|--|-----|-------|
| REV. | DATE    | DESCRIPTION  | BY  | APPR. |
| 01   | 29JUL04 | PANEL W/O XFMR. 0A-1327-0122   | DJM |       |
| 02   | 19OCT04 | REMOVED MIRROR ASSEMBLY. REMOVED DETAIL A OF TRANS. T-1121 MOVED FROM P1321 TO P1322. CORRECTED THE PART NUMBER OF THE 240V PANEL W/O XFMR. 0A-1327-0122 | WRS | DJM   |

THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS, INCLUDING ELECTRONICALLY WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2004 DAKTRONICS, INC.

PROJ: BUSINESS PRODUCTS DISPLAY COMPONENTS  
 TITLE: SCHEMATIC, POWER TERM PANEL, 1 CIRCUIT  
 DES. BY: DMATHER  
 DRAWN BY: DMATHER  
 DATE: 14 MAY 04

REVISION 02  
 APPR. BY:   
 SCALE: 1=1

1327-R01A-211950



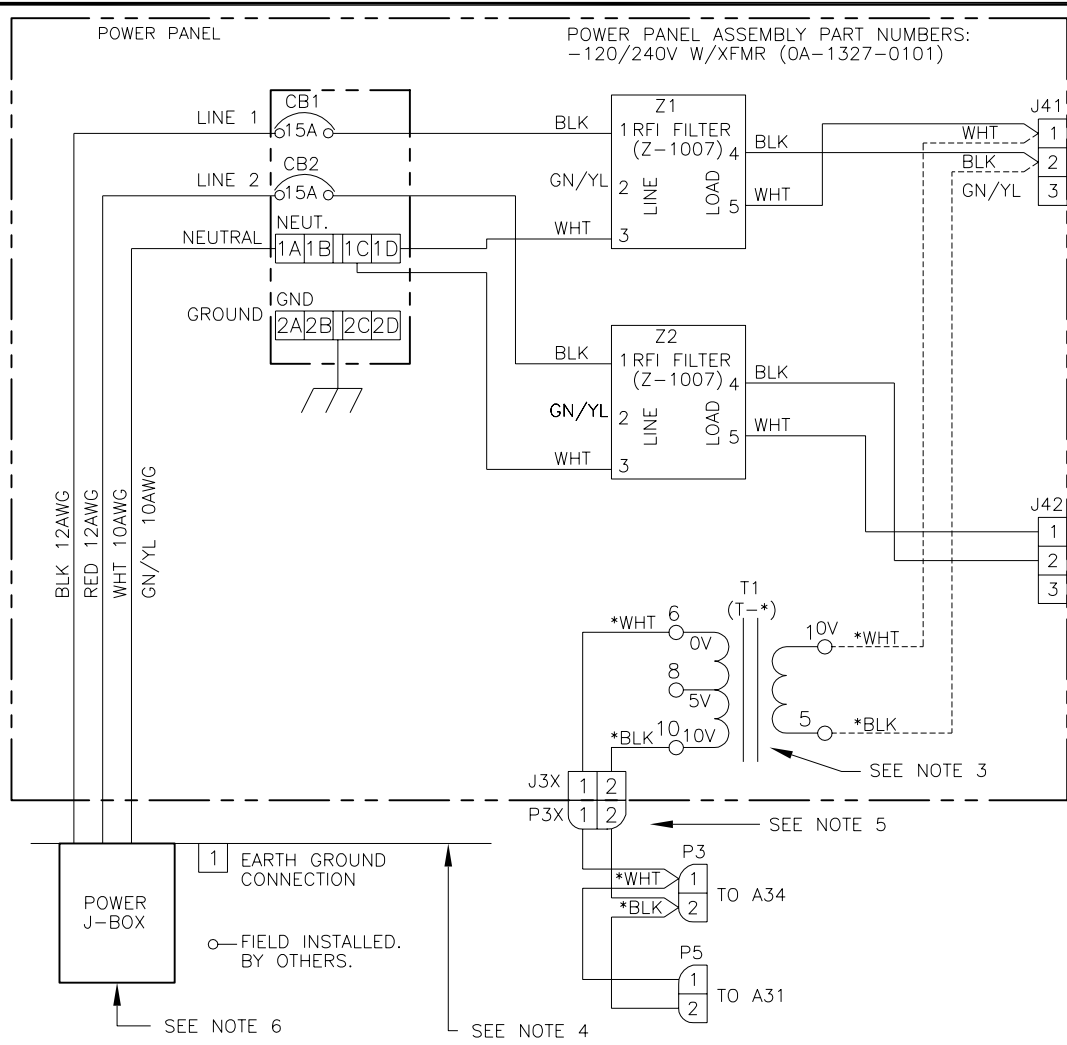
- NOTES:
- 1) ALL WIRE IS 14 AWG EXCEPT \* IS 18 AWG, UNLESS OTHERWISE NOTED.
  - 2) CB1 IS A 15AMP 277VAC BREAKER. DAK. PART NUMBER (S-1187)
  - 3) FOR 120VAC INPUT \* IS T-1119.
  - 4) POWER J-BOX & EARTH GROUND CONNECTION ARE LOCATED ON DISPLAY REAR. THEY ARE NOT INCLUDED WITH POWER TERM PANEL ASSY.
  - 5) INCLUDED WITH DISPLAY, WHEN REQUIRED. J3X IS FOR SIGNAL TERMINATIONS (10VAC).
  - 6) 12 INCH COIL OF WIRE LOCATED INSIDE. 120VAC LINE 1(BLK), NEUT(WHT), GND(GN/YL) 240VAC LINE 1(BRN), NEUT(BLU), GND(GN/YL)

|      |    |         |   |     |       |
|------|----|---------|---|-----|-------|
| REV. | 01 | 19OCT04 | REMOVED MIRROR ASSEMBLY<br>REMOVED DETAIL A OF TRANS, T-1121<br>MOVED FROM P1321 TO P1327 | WRS | DJM   |
| DATE |    |         | DESCRIPTION   | BY  | APPR. |

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PROJ: BUSINESS PRODUCTS DISPLAY COMPONENTS  
 TITLE: SCHEMATIC, POWER TERM PANEL, 2 CIRCUIT  
 DES. BY: DMATHER  
 DRAWN BY: DMATHER  
 DATE: 14 MAY 04

REVISION 01  
 SCALE: 1=1  
 1327-R01A-211947



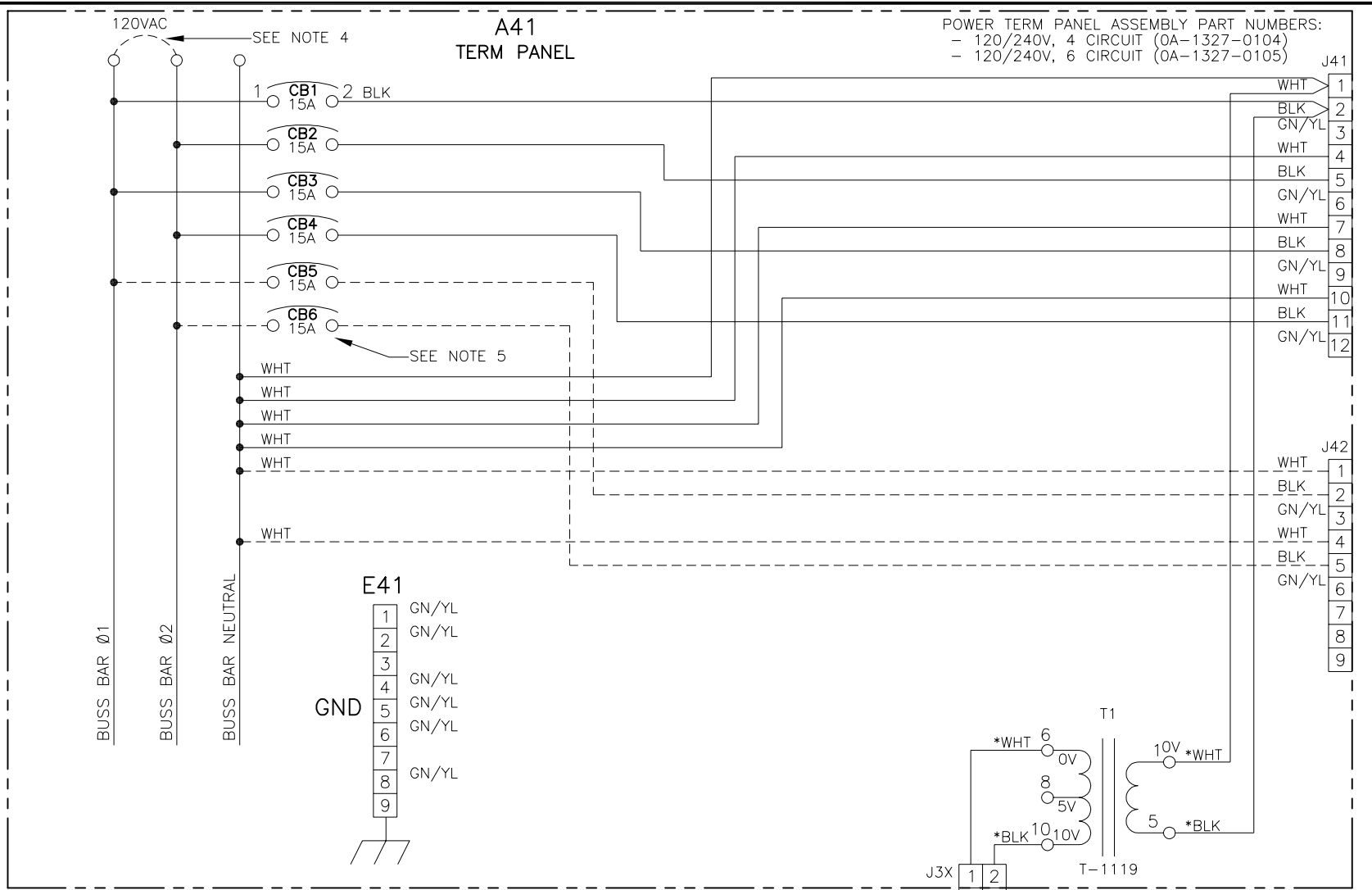
NOTES:

- 1) ALL WIRE IS 14 AWG EXCEPT \* IS 18 AWG, UNLESS OTHERWISE NOTED.
- 2) CB1 AND CB2 ARE 15AMP 277VAC BREAKERS. DAK. PART NUMBER (S-1187)
- 3) FOR 120VAC INPUT \* IS T-1119.
- 4) POWER J-BOX & EARTH GROUND CONNECTION ARE LOCATED ON DISPLAY REAR. THEY ARE NOT INCLUDED WITH POWER TERM PANEL ASSY.
- 5) INCLUDED WITH DISPLAY, WHEN REQUIRED. J3X IS FOR SIGNAL TERMINATIONS (10VAC).
- 6) 12 INCH COIL OF WIRE LOCATED INSIDE 120/240VAC LINE 1(BLK), LINE 2(RED), NEUT(WHT), GND(GN/YL)



|             |  |  |  |
|-------------|--|--|--|
| REV.        | 01   |  |  |
| DATE        | 12JAN05  |  |  |
| DESCRIPTION | CORRECTED PART NUMBER OF BREAKERS FROM S-1135 TO S-1035. |  |  |
| BY          | DJM  |  |  |
| APPR.       | DJM  |  |  |

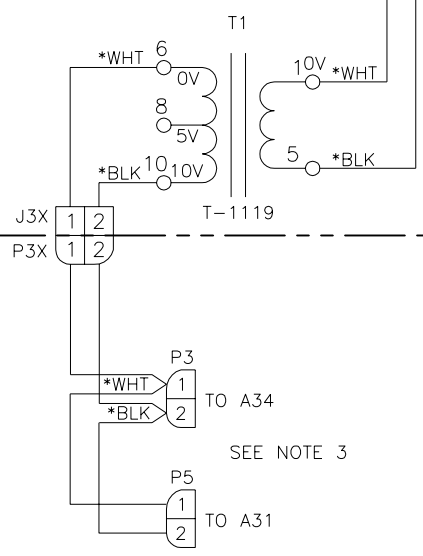
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|--|---------|-------|-----------|
| REVISION   | 01      |       |           |
| SCALE  | 1=1     |       |           |
| DES. BY:   | DMATHER | DATE: | 20 SEP 04 |
| DRAWN BY:  | DMATHER |       |           |
| TITLE: SCHEMATIC, POWER TERM PANEL, 4&6 CIRCUIT, 120/240V<br>PROJ.: BUSINESS PRODUCTS DISPLAY COMPONENTS<br>DAKTRONICS, INC. BROOKINGS, SD 57006<br>THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS, INCLUDING ELECTRONICALLY WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2004 DAKTRONICS, INC. |         |       |           |
| 1327-R01A-223673   |         |       |           |



POWER TERM PANEL ASSEMBLY PART NUMBERS:  
 - 120/240V, 4 CIRCUIT (0A-1327-0104)  
 - 120/240V, 6 CIRCUIT (0A-1327-0105)

NOTES:

- 1) ALL WIRE IS 14 AWG EXCEPT \* IS 18 AWG, UNLESS OTHERWISE NOTED.
- 2) CB1-6 ARE 1 POLE 15AMP 120/240VAC BREAKERS. DAK. PART NUMBER (S-1035)
- 3) INCLUDED WITH DISPLAY, WHEN REQUIRED. J3X IS FOR SIGNAL TERMINATIONS (10VAC).
- 4) WHEN 120 VAC (2 WIRES + GND) IS USED TO POWER DISPLAYS, A JUMPER PER NEC MUST BE INSTALLED IN FIELD AS SHOWN.
- 5) DASHED WIRES AND ASSOCIATED COMPONENTS ARE NOT REQUIRED ON 4 CIRCUIT PANEL. DAK PART # (0A-1327-0104).



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

|          |           |                  |
|----------|-----------|------------------|
| REVISION | APPR. BY: | DATE:            |
| 00       | DMATHER   | 12 JAN 05        |
| SCALE:   | 1=1       | 1327-R01A-231469 |

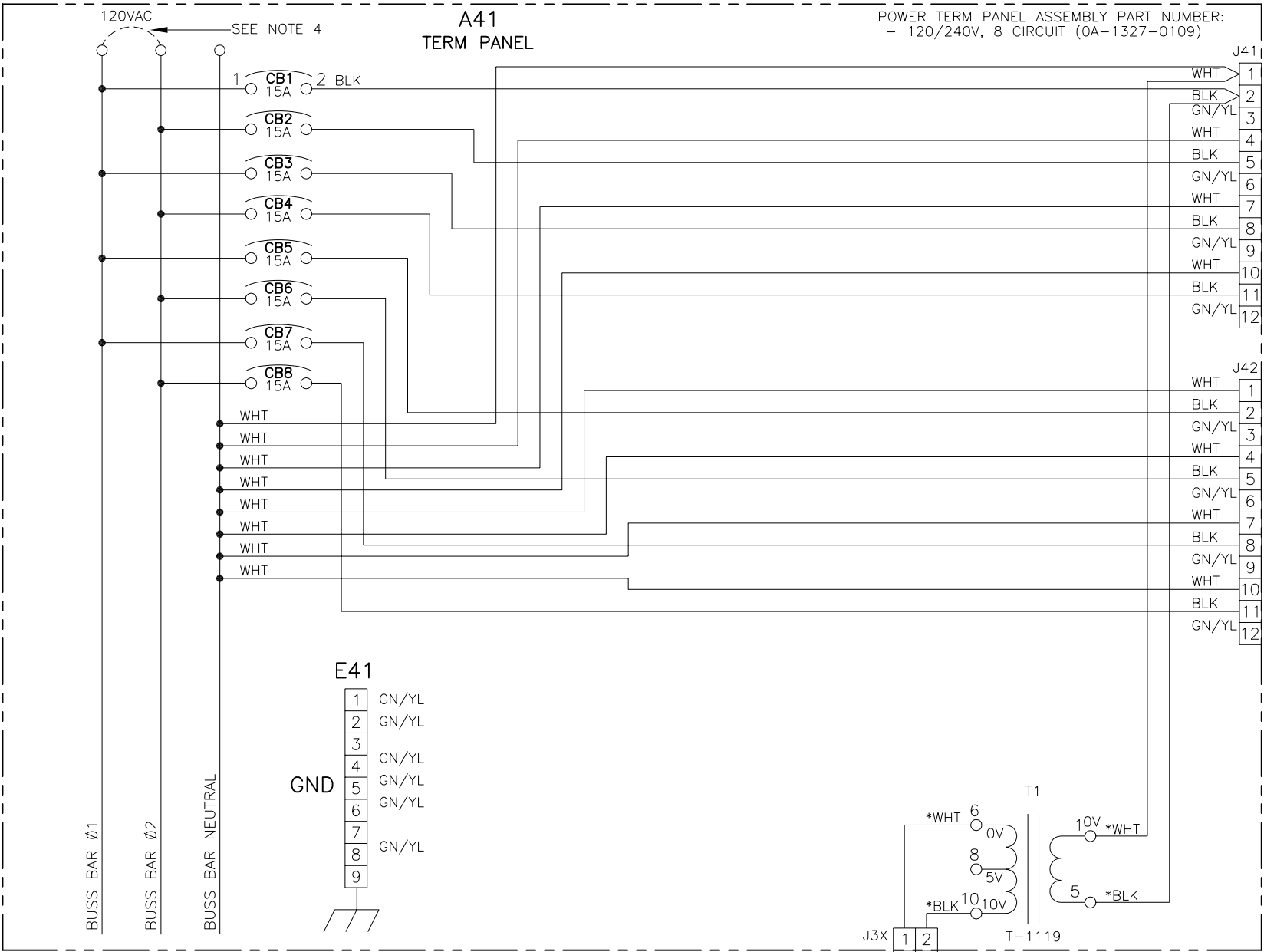
THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS, INCLUDING ELECTRONICALLY WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2004 DAKTRONICS, INC.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: BUSINESS PRODUCTS DISPLAY COMPONENTS

TITLE: SCHEMATIC, POWER TERM PANEL, 8 CIRCUIT, 120/240V

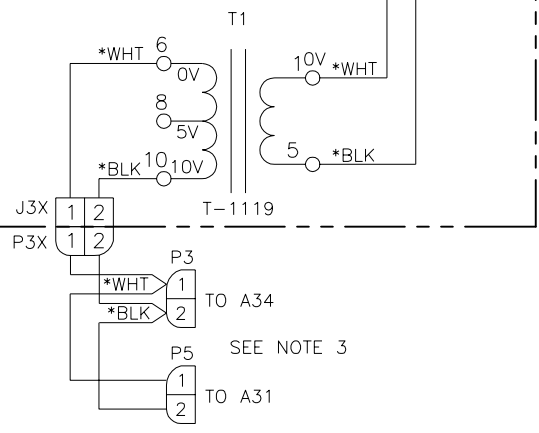
DES. BY: DMATHER DRAWN BY: DMATHER DATE: 12 JAN 05



POWER TERM PANEL ASSEMBLY PART NUMBER:  
- 120/240V, 8 CIRCUIT (0A-1327-0109)

NOTES:

- 1) ALL WIRE IS 14 AWG EXCEPT \* IS 18 AWG, UNLESS OTHERWISE NOTED.
- 2) CB1-8 ARE 1 POLE 15AMP 120/240VAC BREAKERS. DAK. PART NUMBER (S-1035)
- 3) INCLUDED WITH DISPLAY, WHEN REQUIRED. J3X IS FOR SIGNAL TERMINATIONS (10VAC).
- 4) WHEN 120 VAC (2 WIRES + GND) IS USED TO POWER DISPLAYS, A JUMPER PER NEC MUST BE INSTALLED IN FIELD AS SHOWN.



| MATRIX SIZE | TOTAL WATTS | 120V AMPS | 120/240 3, wire LINE 1 AMPS | LINE 2 AMPS | 240V AMPS |
|-------------|-------------|-----------|-----------------------------|-------------|-----------|
| 40X48       | 2010        | 16.75     | 8.98                        | 7.27        | 8.38      |
| 40X64       | 2635        | 21.96     | 13.15                       | 8.81        | 10.98     |
| 40X80       | 3300        | 27.50     | 16.79                       | 10.71       | 13.75     |
| 40X96       | 3925        | 32.71     | 16.79                       | 15.92       | 16.35     |
| 40X112      | 4590        | 38.25     | 17.83                       | 20.42       | 19.13     |
| 40X128      | 5215        | 43.46     | 23.04                       | 20.42       | 21.73     |
| 40X144      | 5880        | 49.00     | 23.04                       | 25.96       | 24.50     |
| 40X160      | 6505        | 54.21     | 25.65                       | 28.56       | 27.10     |
| 40X176      | 7170        | 59.75     | 29.29                       | 30.46       | 29.88     |
| 40X192      | 7795        | 64.96     | 34.50                       | 30.46       | 32.48     |
| 48X48       | 2385        | 19.88     | 9.50                        | 10.38       | 9.94      |
| 48X64       | 3175        | 26.46     | 15.75                       | 10.71       | 13.23     |
| 48X80       | 3965        | 33.04     | 15.75                       | 17.29       | 16.52     |
| 48X96       | 4755        | 39.63     | 18.88                       | 20.75       | 19.81     |
| 48X112      | 5545        | 46.21     | 25.13                       | 21.08       | 23.10     |
| 48X128      | 6335        | 52.79     | 25.13                       | 27.67       | 26.40     |
| 48X144      | 7125        | 59.38     | 28.25                       | 31.13       | 29.69     |
| 48X160      | 7915        | 65.96     | 34.50                       | 31.46       | 32.98     |
| 48X176      | 8705        | 72.54     | 34.50                       | 38.04       | 36.27     |
| 48X192      | 9495        | 79.13     | 37.63                       | 41.50       | 39.56     |
| 56X48       | 2760        | 23.00     | 12.63                       | 10.38       | 11.50     |
| 56X64       | 3675        | 30.63     | 14.71                       | 15.92       | 15.31     |
| 56X80       | 4590        | 38.25     | 19.92                       | 18.33       | 19.13     |
| 56X96       | 5505        | 45.88     | 25.13                       | 20.75       | 22.94     |
| 56X112      | 6420        | 53.50     | 28.25                       | 25.25       | 26.75     |
| 56X128      | 7335        | 61.13     | 30.33                       | 30.79       | 30.56     |
| 56X144      | 8250        | 68.75     | 37.63                       | 31.13       | 34.38     |
| 64X48       | 3135        | 26.13     | 12.63                       | 13.50       | 13.06     |
| 64X64       | 4175        | 34.79     | 16.79                       | 18.00       | 17.40     |
| 64X80       | 5215        | 43.46     | 23.04                       | 20.42       | 21.73     |
| 64X96       | 6255        | 52.13     | 31.38                       | 20.75       | 26.06     |
| 64X112      | 7295        | 60.79     | 31.38                       | 29.42       | 30.40     |
| 64X128      | 8335        | 69.46     | 33.46                       | 36.00       | 34.73     |
| 64X144      | 9375        | 78.13     | 37.63                       | 40.50       | 39.06     |

| MATRIX SIZE | TOTAL WATTS | 120V AMPS | 120/240 3, wire LINE 1 AMPS | LINE 2 AMPS | 240V AMPS |
|-------------|-------------|-----------|-----------------------------|-------------|-----------|
| 8X48        | 434         | 3.62      | 3.25                        | 0.37        | 1.81      |
| 8X64        | 559         | 4.66      | 4.29                        | 0.37        | 2.33      |
| 8X80        | 706         | 5.88      | 5.33                        | 0.55        | 2.94      |
| 8X96        | 831         | 6.93      | 3.25                        | 3.68        | 3.46      |
| 8X112       | 978         | 8.15      | 4.29                        | 3.86        | 4.08      |
| 8X128       | 1103        | 9.19      | 4.29                        | 4.90        | 4.60      |
| 8X144       | 1250        | 10.42     | 5.33                        | 5.08        | 5.21      |
| 8X160       | 1375        | 11.46     | 5.33                        | 6.13        | 5.73      |
| 8X176       | 1522        | 12.68     | 7.42                        | 5.27        | 6.34      |
| 8X192       | 1647        | 13.73     | 8.46                        | 5.27        | 6.86      |
| 16X48       | 831         | 6.93      | 6.38                        | 0.55        | 3.46      |
| 16X64       | 1103        | 9.19      | 8.46                        | 0.73        | 4.60      |
| 16X80       | 1375        | 11.46     | 6.38                        | 5.08        | 5.73      |
| 16X96       | 1647        | 13.73     | 8.46                        | 5.27        | 6.86      |
| 16X112      | 1919        | 15.99     | 8.46                        | 7.53        | 8.00      |
| 16X128      | 2191        | 18.26     | 8.46                        | 9.80        | 9.13      |
| 16X144      | 2463        | 20.53     | 10.54                       | 9.98        | 10.26     |
| 16X160      | 2713        | 22.61     | 12.63                       | 9.98        | 11.30     |
| 16X176      | 2985        | 24.88     | 14.71                       | 10.17       | 12.44     |
| 16X192      | 3257        | 27.14     | 16.79                       | 10.35       | 13.57     |
| 24X48       | 1206        | 10.05     | 9.50                        | 0.55        | 5.03      |
| 24X64       | 1603        | 13.36     | 6.38                        | 6.98        | 6.68      |
| 24X80       | 2000        | 16.67     | 9.50                        | 7.17        | 8.33      |
| 24X96       | 2397        | 19.98     | 9.50                        | 10.48       | 9.99      |
| 24X112      | 2794        | 23.28     | 12.63                       | 10.66       | 11.64     |
| 24X128      | 3191        | 26.59     | 15.75                       | 10.84       | 13.30     |
| 24X144      | 3588        | 29.90     | 18.88                       | 11.03       | 14.95     |
| 24X160      | 3985        | 33.21     | 18.88                       | 14.33       | 16.60     |
| 24X176      | 4382        | 36.52     | 18.88                       | 17.64       | 18.26     |
| 24X192      | 4779        | 39.83     | 18.88                       | 20.95       | 19.91     |
| 32X48       | 1635        | 13.63     | 8.46                        | 5.17        | 6.81      |
| 32X64       | 2135        | 17.79     | 8.46                        | 9.33        | 8.90      |
| 32X80       | 2675        | 22.29     | 13.67                       | 8.63        | 11.15     |
| 32X96       | 3175        | 26.46     | 15.75                       | 10.71       | 13.23     |
| 32X112      | 3715        | 30.96     | 15.75                       | 15.21       | 15.48     |
| 32X128      | 4215        | 35.13     | 18.88                       | 16.25       | 17.56     |
| 32X144      | 4755        | 39.63     | 18.88                       | 20.75       | 19.81     |
| 32X160      | 5255        | 43.79     | 23.04                       | 20.75       | 21.90     |
| 32X176      | 5795        | 48.29     | 27.21                       | 21.08       | 24.15     |
| 32X192      | 6295        | 52.46     | 29.21                       | 25.25       | 26.23     |

THE ABOVE DISPLAY SIZES CAN BE POWERED BY EITHER 120VAC (2 WIRE + GND), 120/240 (3 WIRE + GND) OR 240VAC (2 WIRE + GND) SERVICES (EXCEPT WHERE NOTED).

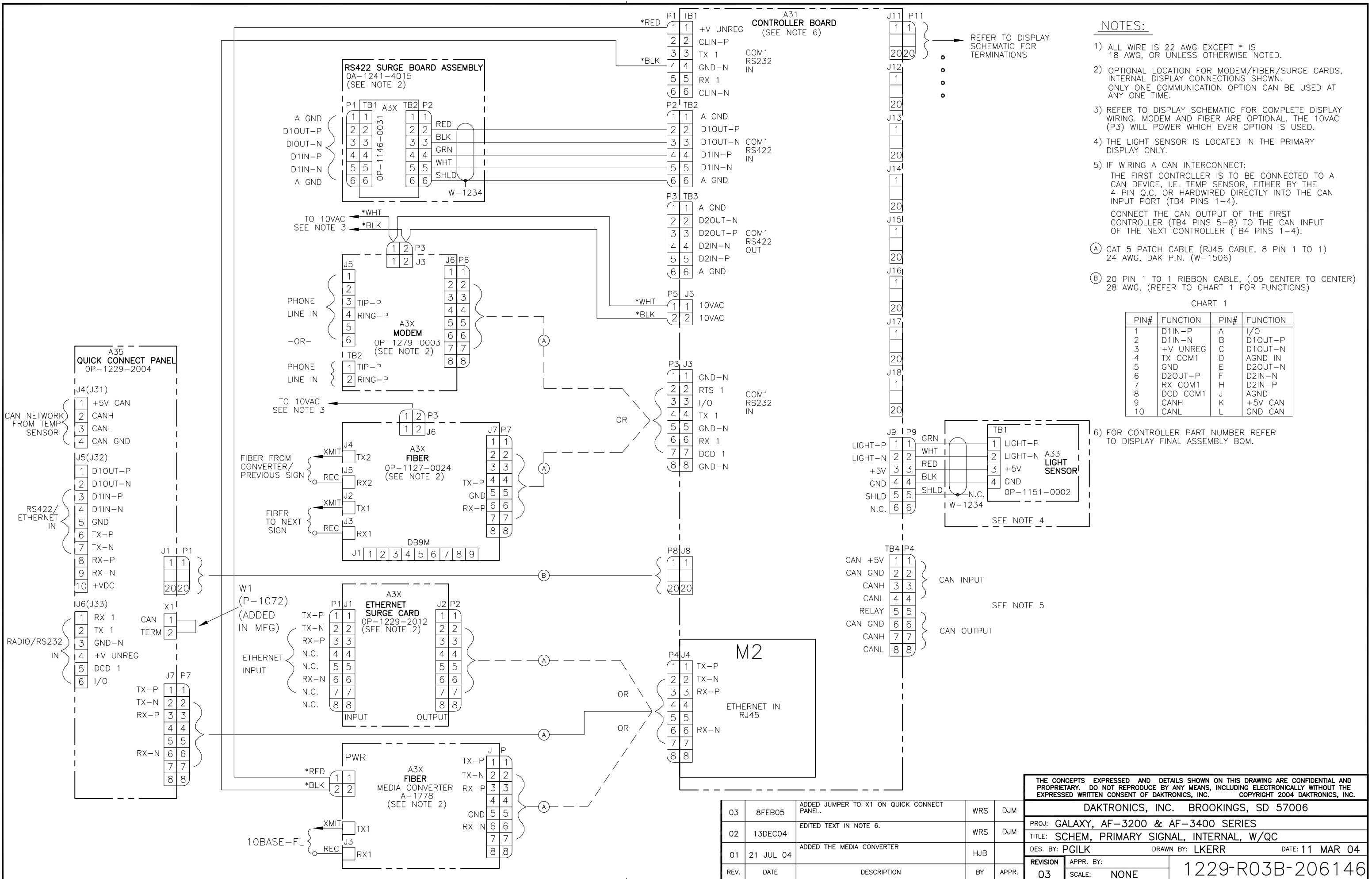
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|--|----|---------|----------------------|---------------|--------------------------|
| REV.   | 01 | 23AUG05 | UPDATED POWER SPECS. | RBN           | DJM                      |
| DATE   |    |         | DESCRIPTION          | BY            | APPR.                    |
|  |    |         |                      |               |                          |
| REVISION   | 00 |         |                      | APPR. BY: DJM | SCALE: 1 345-R10A-242326 |
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| DAKTRONICS, INC. BROOKINGS, SD 57006   |    |         |                      |               |                          |
| Prod: GALAXY; AF-3400-46MM RGB   |    |         |                      |               |                          |
| TITLE: POWER SPECS, AF-3400-46-RGB-P/M, *  |    |         |                      |               |                          |
| DES. BY: DMATHER DRAWN BY: WSCHNEI DATE: 18 MAY 05   |    |         |                      |               |                          |

|  |      |             |    |       |
|--|------|-------------|----|-------|
| REV.   | DATE | DESCRIPTION | BY | APPR. |
| 00   |      |             |    |       |
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| DAKTRONICS, INC. BROOKINGS, SD 57006   |      |             |    |       |
| PROJ: GALAXY; AF-3400-46MM MONO  |      |             |    |       |
| TITLE: POWER SPECS, AF-3400-46-MONO-P/M, *   |      |             |    |       |
| DES. BY: DMATHER DRAWN BY: DMATHER DATE: 21 SEP 05   |      |             |    |       |
| REVISION APPR. BY: DJM   |      |             |    |       |
| SCALE: 1=1 1345-R10A-253957  |      |             |    |       |

| MATRIX SIZE | TOTAL WATTS | 120V AMPS | 120/240 3, wire<br>LINE 1 LINE 2<br>AMPS AMPS |       | 240V AMPS |       |       |
|-------------|-------------|-----------|---|-------|-----------|-------|-------|
| 8X48        | 252         | 2.10      | 120/240 VAC IS NOT AVAILABLE FOR SIZE.        |       | 1.05      |       |       |
| 8X64        | 316         | 2.63      |   |       | 1.32      |       |       |
| 8X80        | 402         | 3.35      |   |       | 1.68      |       |       |
| 8X96        | 466         | 3.89      |   |       | 1.94      |       |       |
| 8X112       | 552         | 4.60      |   |       | 2.30      |       |       |
| 8X128       | 617         | 5.14      |   |       | 2.57      |       |       |
| 8X144       | 703         | 5.86      |   |       | 2.93      |       |       |
| 8X160       | 767         | 6.39      |   |       | 3.20      |       |       |
| 8X176       | 853         | 7.11      |   |       | 3.56      |       |       |
| 8X192       | 917         | 7.65      |   |       | 3.82      |       |       |
| 16X48       | 466         | 3.89      | 120/240 VAC IS NOT AVAILABLE FOR SIZE.        |       | 1.94      |       |       |
| 16X64       | 617         | 5.14      |   |       | 2.57      |       |       |
| 16X80       | 767         | 6.39      |   |       | 3.20      |       |       |
| 16X96       | 917         | 7.65      |   |       | 3.82      |       |       |
| 16X112      | 1068        | 8.90      |   |       | 4.45      |       |       |
| 16X128      | 1218        | 10.15     |   |       | 5.08      |       |       |
| 16X144      | 1369        | 11.41     |   |       | 5.70      |       |       |
| 16X160      | 1497        | 12.48     |   |       | 6.55      | 5.93  | 6.24  |
| 16X176      | 1647        | 13.73     |   |       | 7.62      | 6.11  | 6.86  |
| 16X192      | 1798        | 14.98     |   |       | 8.69      | 6.30  | 7.49  |
| 24X48       | 659         | 5.49      | 120/240 VAC IS NOT AVAILABLE FOR SIZE.        |       | 2.75      |       |       |
| 24X64       | 873         | 7.28      |   |       | 3.64      |       |       |
| 24X80       | 1088        | 9.07      |   |       | 4.53      |       |       |
| 24X96       | 1303        | 10.86     |   |       | 5.43      |       |       |
| 24X112      | 1517        | 12.64     |   |       | 6.55      | 6.10  | 6.32  |
| 24X128      | 1732        | 14.43     |   |       | 8.15      | 6.28  | 7.22  |
| 24X144      | 1946        | 16.22     |   |       | 9.76      | 6.47  | 8.11  |
| 24X160      | 2161        | 18.01     |   |       | 9.76      | 8.25  | 9.00  |
| 24X176      | 2376        | 19.80     |   |       | 9.76      | 10.04 | 9.90  |
| 24X192      | 2590        | 21.59     |   |       | 9.76      | 11.83 | 10.79 |
| 32X48       | 865         | 7.21      | 4.41  | 2.81  | 3.61      |       |       |
| 32X64       | 1122        | 9.35      | 4.41  | 4.95  | 4.68      |       |       |
| 32X80       | 1379        | 11.49     | 7.08  | 4.41  | 5.75      |       |       |
| 32X96       | 1676        | 13.97     | 8.15  | 5.82  | 6.98      |       |       |
| 32X112      | 1933        | 16.11     | 8.15  | 7.96  | 8.05      |       |       |
| 32X128      | 2189        | 18.25     | 9.76  | 8.49  | 9.12      |       |       |
| 32X144      | 2486        | 20.72     | 9.76  | 10.96 | 10.36     |       |       |
| 32X160      | 2743        | 22.86     | 11.90   | 10.96 | 11.43     |       |       |
| 32X176      | 3000        | 25.00     | 14.04   | 10.96 | 12.50     |       |       |
| 32X192      | 3257        | 27.14     | 14.04   | 13.10 | 13.57     |       |       |

| MATRIX SIZE | TOTAL WATTS | 120V AMPS | 120/240 3, wire<br>LINE 1 LINE 2<br>AMPS AMPS |       | 240V AMPS |
|-------------|-------------|-----------|---|-------|-----------|
| 40X48       | 1058        | 8.82      | 4.67  | 4.14  | 4.41      |
| 40X64       | 1379        | 11.49     | 6.81  | 4.68  | 5.75      |
| 40X80       | 1700        | 14.17     | 8.69  | 5.48  | 7.08      |
| 40X96       | 2061        | 17.18     | 8.69  | 8.49  | 8.59      |
| 40X112      | 2382        | 19.85     | 9.22  | 10.63 | 9.93      |
| 40X128      | 2743        | 22.86     | 11.90   | 10.96 | 11.43     |
| 40X144      | 3064        | 25.53     | 11.90   | 13.64 | 12.77     |
| 40X160      | 3425        | 28.54     | 13.23   | 15.31 | 14.27     |
| 40X176      | 3746        | 31.22     | 15.11   | 16.11 | 15.61     |
| 40X192      | 4067        | 33.89     | 17.78   | 16.11 | 16.95     |
| 48X48       | 1251        | 10.42     | 4.94  | 5.48  | 5.21      |
| 48X64       | 1636        | 13.63     | 8.15  | 5.48  | 6.82      |
| 48X80       | 2061        | 17.18     | 8.15  | 9.03  | 8.59      |
| 48X96       | 2446        | 20.39     | 9.76  | 10.63 | 10.19     |
| 48X112      | 2872        | 23.93     | 12.97   | 10.96 | 11.96     |
| 48X128      | 3257        | 27.14     | 12.97   | 14.17 | 13.57     |
| 48X144      | 3682        | 30.68     | 14.57   | 16.11 | 15.34     |
| 48X160      | 4067        | 33.89     | 17.78   | 16.11 | 16.95     |
| 48X176      | 4492        | 37.44     | 17.78   | 19.66 | 18.72     |
| 48X192      | 4878        | 40.65     | 19.39   | 21.26 | 20.32     |
| 56X48       | 1443        | 12.03     | 6.55  | 5.48  | 6.01      |
| 56X64       | 1933        | 16.11     | 7.62  | 8.49  | 8.05      |
| 56X80       | 2382        | 19.85     | 10.29   | 9.56  | 9.93      |
| 56X96       | 2872        | 23.93     | 12.97   | 10.96 | 11.96     |
| 56X112      | 3321        | 27.67     | 14.57   | 13.10 | 13.84     |
| 56X128      | 3810        | 31.75     | 15.64   | 16.11 | 15.88     |
| 56X144      | 4300        | 35.83     | 19.39   | 16.45 | 17.92     |
| 64X48       | 1636        | 13.63     | 6.55  | 7.09  | 6.82      |
| 64X64       | 2189        | 18.25     | 8.69  | 9.56  | 9.12      |
| 64X80       | 2743        | 22.86     | 11.90   | 10.96 | 11.43     |
| 64X96       | 3257        | 27.14     | 16.18   | 10.96 | 13.57     |
| 64X112      | 3810        | 31.75     | 16.18   | 15.58 | 15.88     |
| 64X128      | 4364        | 36.37     | 17.25   | 19.12 | 18.18     |
| 64X144      | 4878        | 40.65     | 19.39   | 21.26 | 20.32     |

THE ABOVE DISPLAY SIZES CAN BE POWERED BY EITHER 120VAC (2 WIRE + GND), 120/240 (3 WIRE + GND) OR 240VAC (2 WIRE + GND) SERVICES (EXCEPT WHERE NOTED).



**NOTES:**

- 1) ALL WIRE IS 22 AWG EXCEPT \* IS 18 AWG, OR UNLESS OTHERWISE NOTED.
  - 2) OPTIONAL LOCATION FOR MODEM/FIBER/SURGE CARDS, INTERNAL DISPLAY CONNECTIONS SHOWN. ONLY ONE COMMUNICATION OPTION CAN BE USED AT ANY ONE TIME.
  - 3) REFER TO DISPLAY SCHEMATIC FOR COMPLETE DISPLAY WIRING. MODEM AND FIBER ARE OPTIONAL. THE 10VAC (P3) WILL POWER WHICH EVER OPTION IS USED.
  - 4) THE LIGHT SENSOR IS LOCATED IN THE PRIMARY DISPLAY ONLY.
  - 5) IF WIRING A CAN INTERCONNECT: THE FIRST CONTROLLER IS TO BE CONNECTED TO A CAN DEVICE, I.E. TEMP SENSOR, EITHER BY THE 4 PIN Q.C. OR HARDWIRED DIRECTLY INTO THE CAN INPUT PORT (TB4 PINS 1-4).  
CONNECT THE CAN OUTPUT OF THE FIRST CONTROLLER (TB4 PINS 5-8) TO THE CAN INPUT OF THE NEXT CONTROLLER (TB4 PINS 1-4).
- (A) CAT 5 PATCH CABLE (RJ45 CABLE, 8 PIN 1 TO 1) 24 AWG, DAK P.N. (W-1506)
- (B) 20 PIN 1 TO 1 RIBBON CABLE, (.05 CENTER TO CENTER) 28 AWG. (REFER TO CHART 1 FOR FUNCTIONS)

CHART 1

| PIN# | FUNCTION | PIN# | FUNCTION |
|------|----------|------|----------|
| 1    | D1IN-P   | A    | I/O      |
| 2    | D1IN-N   | B    | D1OUT-P  |
| 3    | +V UNREG | C    | D1OUT-N  |
| 4    | TX COM1  | D    | AGND IN  |
| 5    | GND      | E    | D2OUT-N  |
| 6    | D2OUT-P  | F    | D2IN-N   |
| 7    | RX COM1  | H    | D2IN-P   |
| 8    | DCD COM1 | J    | AGND     |
| 9    | CANH     | K    | +5V CAN  |
| 10   | CANL     | L    | GND CAN  |

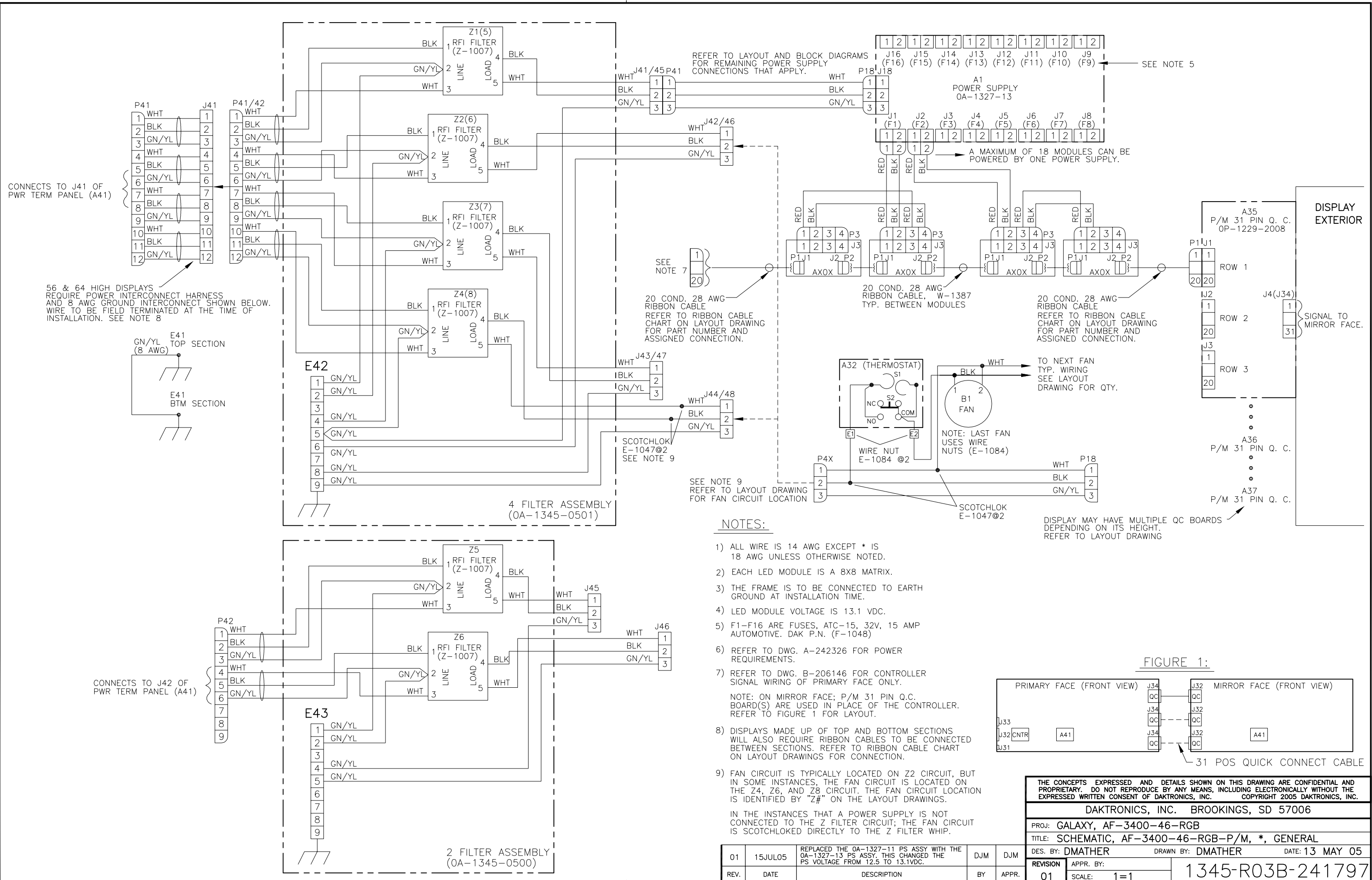
6) FOR CONTROLLER PART NUMBER REFER TO DISPLAY FINAL ASSEMBLY BOM.

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|  |           |  |          |
|--|-----------|--|----------|
| DAKTRONICS, INC. BROOKINGS, SD 57006         |           |  |          |
| PROJ: GALAXY, AF-3200 & AF-3400 SERIES       |           |  |          |
| TITLE: SCHEM, PRIMARY SIGNAL, INTERNAL, W/QC |           |  |          |
| DES. BY: PGILK                               |           | DRAWN BY: LKERR                            |          |
| DATE: 11 MAR 04                              |           | REVISION                                   |          |
| 03   | 8FEB05    | ADDED JUMPER TO X1 ON QUICK CONNECT PANEL. | WRS DJM  |
| 02   | 13DEC04   | EDITED TEXT IN NOTE 6.                     | WRS DJM  |
| 01   | 21 JUL 04 | ADDED THE MEDIA CONVERTER                  | HJB      |
| REV.   | DATE      | DESCRIPTION                                | BY APPR. |
| 03   |           | SCALE: NONE                                |          |

|      |           |  |     |       |
|------|-----------|--|-----|-------|
| 03   | 8FEB05    | ADDED JUMPER TO X1 ON QUICK CONNECT PANEL. | WRS | DJM   |
| 02   | 13DEC04   | EDITED TEXT IN NOTE 6.                     | WRS | DJM   |
| 01   | 21 JUL 04 | ADDED THE MEDIA CONVERTER                  | HJB |       |
| REV. | DATE      | DESCRIPTION                                | BY  | APPR. |

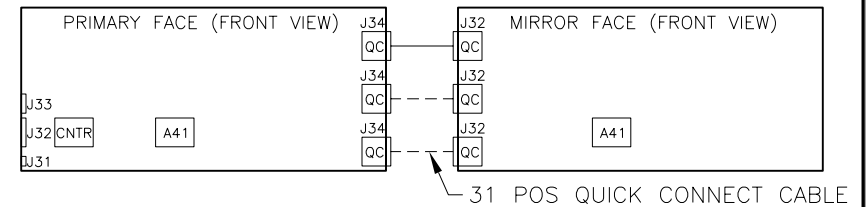
1229-R03B-206146



**NOTES:**

- 1) ALL WIRE IS 14 AWG EXCEPT \* IS 18 AWG UNLESS OTHERWISE NOTED.
- 2) EACH LED MODULE IS A 8X8 MATRIX.
- 3) THE FRAME IS TO BE CONNECTED TO EARTH GROUND AT INSTALLATION TIME.
- 4) LED MODULE VOLTAGE IS 13.1 VDC.
- 5) F1-F16 ARE FUSES, ATC-15, 32V, 15 AMP AUTOMOTIVE. DAK P.N. (F-1048)
- 6) REFER TO DWG. A-242326 FOR POWER REQUIREMENTS.
- 7) REFER TO DWG. B-206146 FOR CONTROLLER SIGNAL WIRING OF PRIMARY FACE ONLY.  
 NOTE: ON MIRROR FACE; P/M 31 PIN Q.C. BOARD(S) ARE USED IN PLACE OF THE CONTROLLER. REFER TO FIGURE 1 FOR LAYOUT.
- 8) DISPLAYS MADE UP OF TOP AND BOTTOM SECTIONS WILL ALSO REQUIRE RIBBON CABLES TO BE CONNECTED BETWEEN SECTIONS. REFER TO RIBBON CABLE CHART ON LAYOUT DRAWINGS FOR CONNECTION.
- 9) FAN CIRCUIT IS TYPICALLY LOCATED ON Z2 CIRCUIT, BUT IN SOME INSTANCES, THE FAN CIRCUIT IS LOCATED ON THE Z4, Z6, AND Z8 CIRCUIT. THE FAN CIRCUIT LOCATION IS IDENTIFIED BY "Z#" ON THE LAYOUT DRAWINGS.  
 IN THE INSTANCES THAT A POWER SUPPLY IS NOT CONNECTED TO THE Z FILTER CIRCUIT; THE FAN CIRCUIT IS SCOTCHLOKED DIRECTLY TO THE Z FILTER WHIP.

**FIGURE 1:**



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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GALAXY, AF-3400-46-RGB

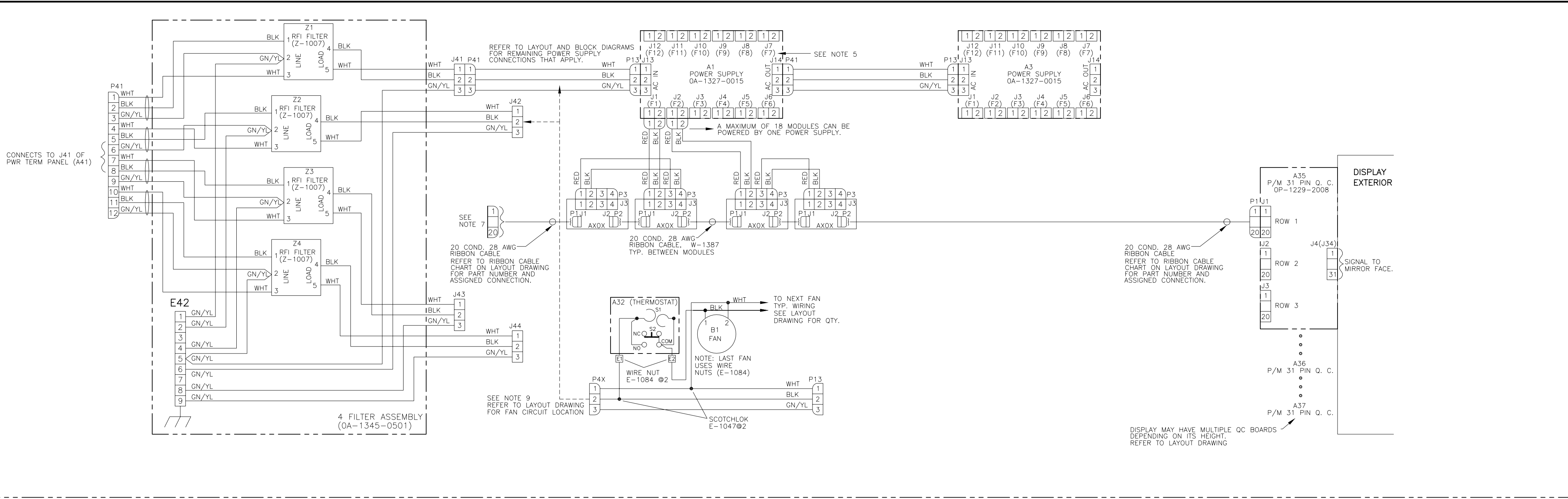
TITLE: SCHEMATIC, AF-3400-46-RGB-P/M, \*, GENERAL

DES. BY: DMATHER DRAWN BY: DMATHER DATE: 13 MAY 05

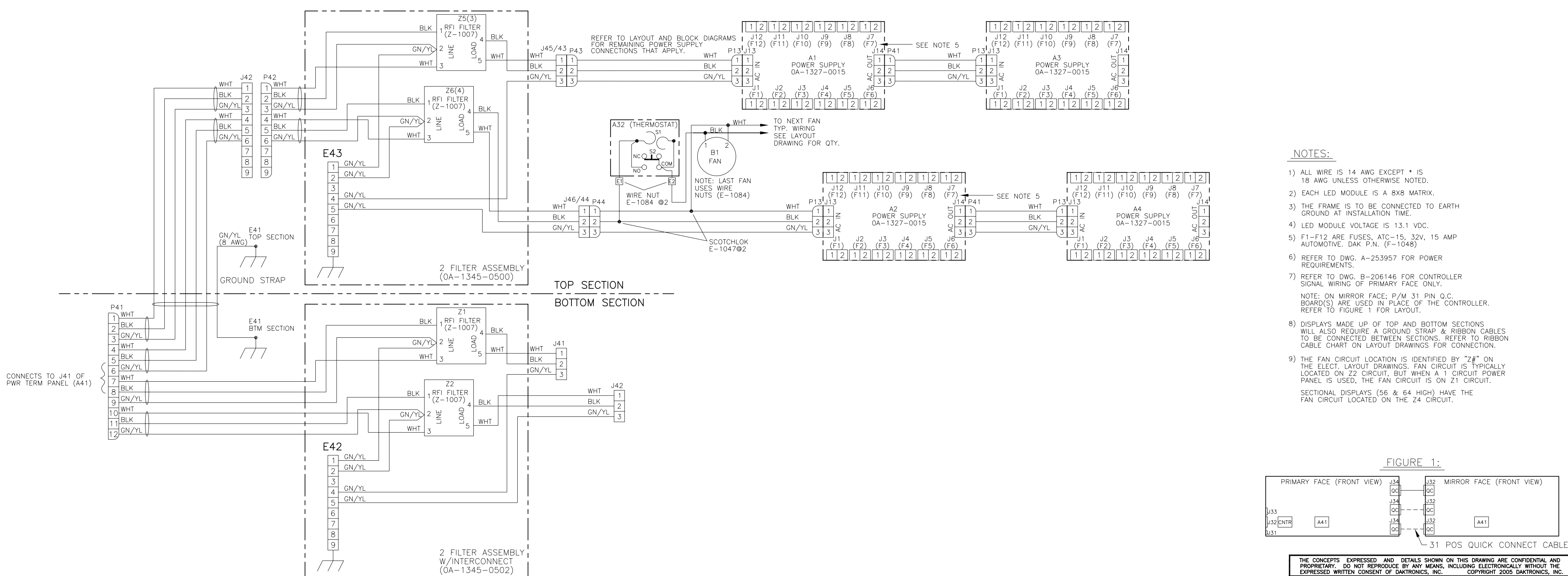
REVISION APPR. BY: 1345-R03B-241797

SCALE: 1=1

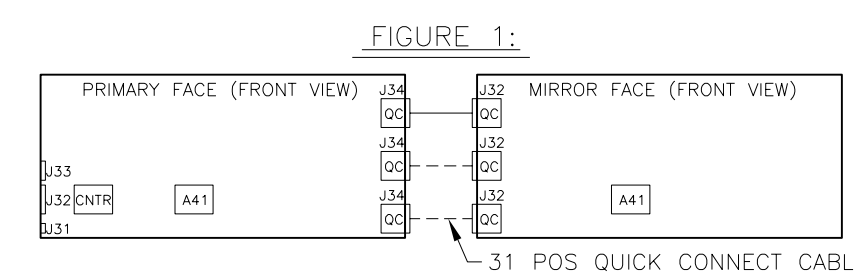
| REV. | DATE    | DESCRIPTION  | BY  | APPR. |
|------|---------|--|-----|-------|
| 01   | 15JUL05 | REPLACED THE OA-1327-11 PS ASSY WITH THE OA-1327-13 PS ASSY. THIS CHANGED THE PS VOLTAGE FROM 12.5 TO 13.1VDC. | DJM | DJM   |



56 & 64 HIGH DISPLAYS



- NOTES:**
- 1) ALL WIRE IS 14 AWG EXCEPT \* IS 18 AWG UNLESS OTHERWISE NOTED.
  - 2) EACH LED MODULE IS A 8X8 MATRIX.
  - 3) THE FRAME IS TO BE CONNECTED TO EARTH GROUND AT INSTALLATION TIME.
  - 4) LED MODULE VOLTAGE IS 13.1 VDC.
  - 5) F1-F12 ARE FUSES, ATC-15, 32V, 15 AMP AUTOMOTIVE, DAK P.N. (F-1048)
  - 6) REFER TO DWG. A-253957 FOR POWER REQUIREMENTS.
  - 7) REFER TO DWG. B-206146 FOR CONTROLLER SIGNAL WIRING OF PRIMARY FACE ONLY.  
NOTE: ON MIRROR FACE: P/M 31 PIN Q.C. BOARD(S) ARE USED IN PLACE OF THE CONTROLLER. REFER TO FIGURE 1 FOR LAYOUT.
  - 8) DISPLAYS MADE UP OF TOP AND BOTTOM SECTIONS WILL ALSO REQUIRE A GROUND STRAP & RIBBON CABLES TO BE CONNECTED BETWEEN SECTIONS. REFER TO RIBBON CABLE CHART ON LAYOUT DRAWINGS FOR CONNECTION.
  - 9) THE FAN CIRCUIT LOCATION IS IDENTIFIED BY "Z#" ON THE ELECT. LAYOUT DRAWINGS. FAN CIRCUIT IS TYPICALLY LOCATED ON Z2 CIRCUIT, BUT WHEN A 1 CIRCUIT POWER PANEL IS USED, THE FAN CIRCUIT IS ON Z1 CIRCUIT.  
SECTIONAL DISPLAYS (56 & 64 HIGH) HAVE THE FAN CIRCUIT LOCATED ON THE Z4 CIRCUIT.



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**DAKTRONICS, INC. BROOKINGS, SD 57006**

PROJ: GALAXY, AF-3400-46-MONO

TITLE: SCHEMATIC, AF-3400-46-MONO-P/M, \*, GENERAL

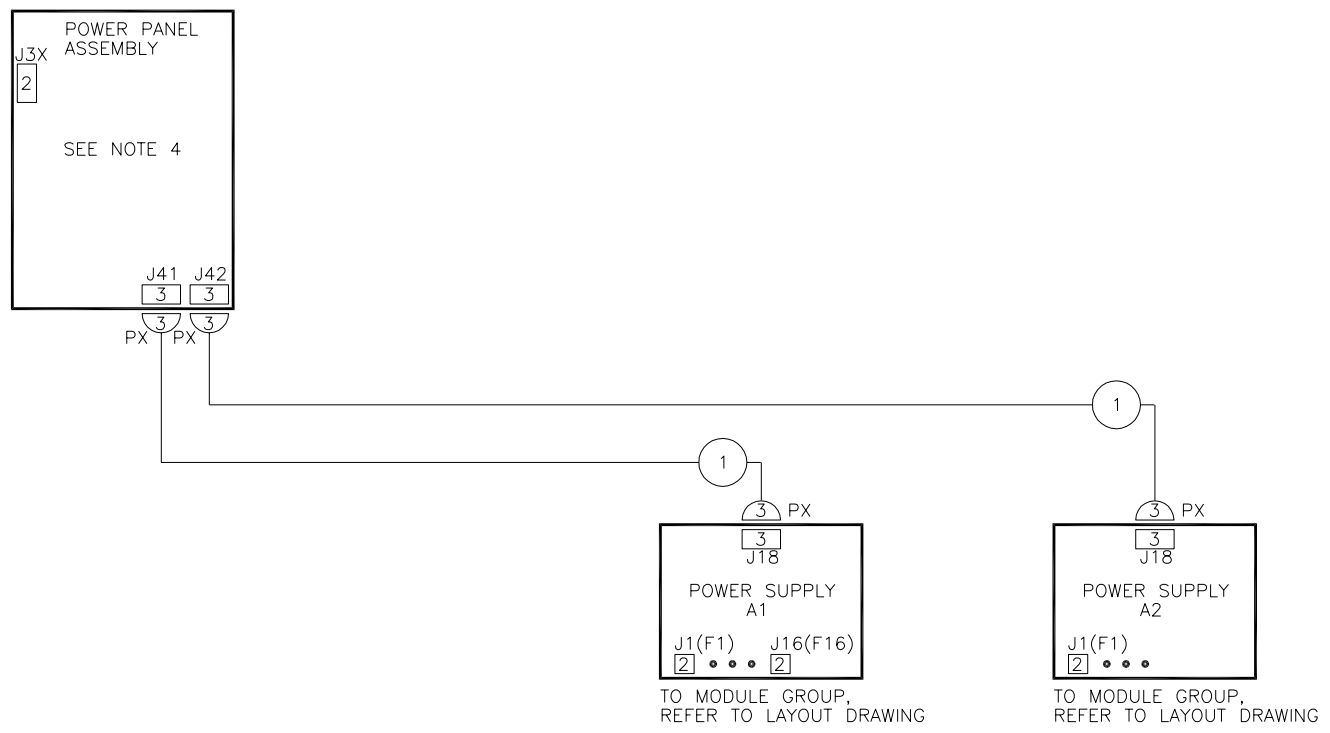
DES. BY: DMATHER DRAWN BY: DMATHER DATE: 31 AUG 05

| REV. | DATE | DESCRIPTION | BY | APPR. |
|------|------|-------------|----|-------|
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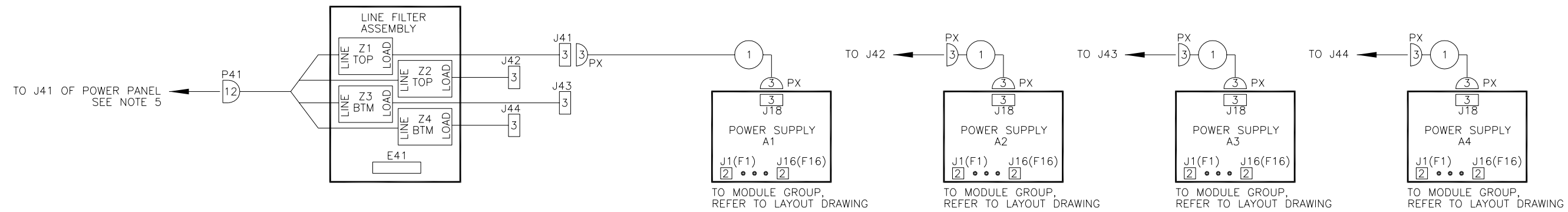
REVISION APPR. BY: 1=1

SCALE: 1=1

1345-R03C-252596



2 CIRCUIT POWER PANEL



4 CIRCUIT POWER PANEL

NOTES:

- 1) CABLE LENGTH IS SPECIFIED ON LAYOUT DRAWING.
- 2) POWER SUPPLIES ARE NUMBERED, LEFT TO RIGHT.
- 3) REFER TO DWG-241797 FOR SCHEMATIC POINT TO POINT WIRING.
- 4) POWER PANEL (A41)  
REFER TO DWG-211947 FOR 120/240VAC.  
REFER TO DWG-218666 FOR 240VAC.
- 5) CONNECTS TO POWER PANEL (A41)  
REFER TO DWG-223673 FOR 120/240VAC.  
REFER TO DWG-223654 FOR 240VAC.

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GALAXY, AF-3400-46-RGB

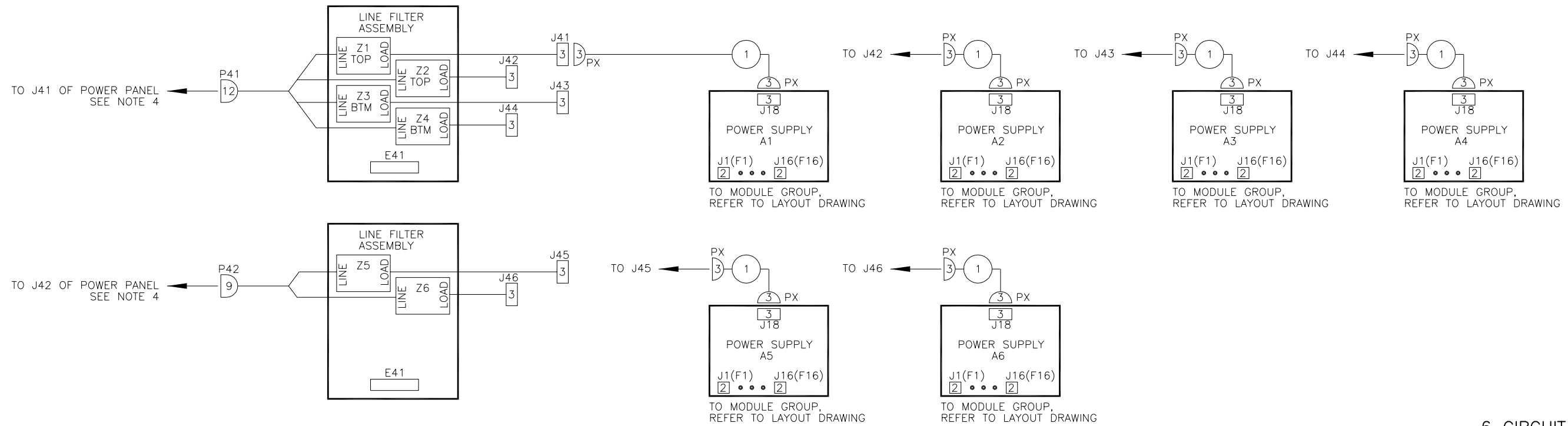
TITLE: BLOCK DIAGRAM, AF-3400-46-RGB-P/M, \*, 2&4 CIRCUIT

DES. BY: DMATHER DRAWN BY: DMATHER DATE: 13 MAY 05

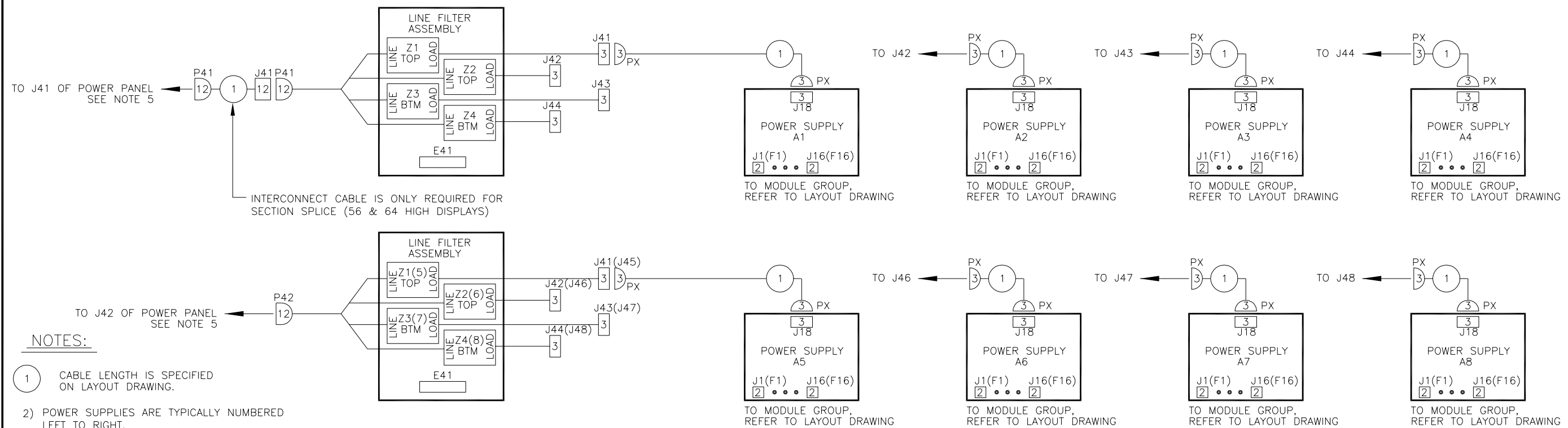
|          |             |                  |
|----------|-------------|------------------|
| REVISION | APPR. BY:   | 1345-R01B-241828 |
| 00       | SCALE: NONE |                  |

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





6 CIRCUIT POWER PANEL



8 CIRCUIT POWER PANEL  
4 CIRCUIT POWER PANEL@2  
(240VAC ONLY)

**NOTES:**

- 1) CABLE LENGTH IS SPECIFIED ON LAYOUT DRAWING.
- 2) POWER SUPPLIES ARE TYPICALLY NUMBERED LEFT TO RIGHT.  
EXCEPTION: POWER SUPPLIES IN A 48 HIGH DISPLAY ARE NUMBERED; TOP TO BOTTOM, LEFT TO RIGHT
- 3) REFER TO DWG-241797 FOR SCHEMATIC POINT TO POINT WIRING.
- 4) CONNECTS TO POWER PANEL (A41)  
REFER TO DWG-223673 FOR 120/240VAC.  
REFER TO DWG-223654 FOR 240VAC.
- 5) CONNECTS TO POWER PANEL (A41)  
REFER TO DWG-231469 FOR 120/240VAC.  
REFER TO DWG-223654 FOR 240VAC.  
TWO 4 CIRCUIT POWER PANELS ARE USED IN PLACE OF THE 8 CIRCUIT POWER PANEL FOR 240VAC.  
12 PIN INTERCONNECT HARNESS IS NOT USED FOR 240VAC.

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DAKTRONICS, INC. BROOKINGS, SD 57006

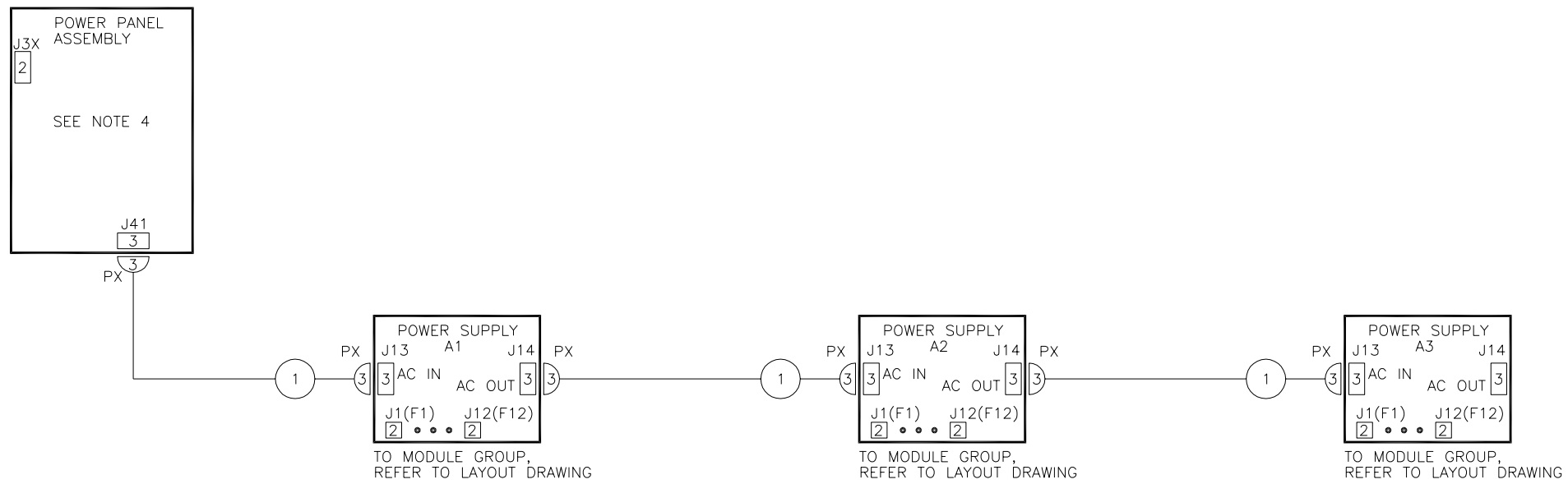
PROJ: GALAXY, AF-3400-46-RGB

TITLE: BLOCK DIAGRAM, AF-3400-46-RGB-P/M, \*, 6&8 CIRCUIT

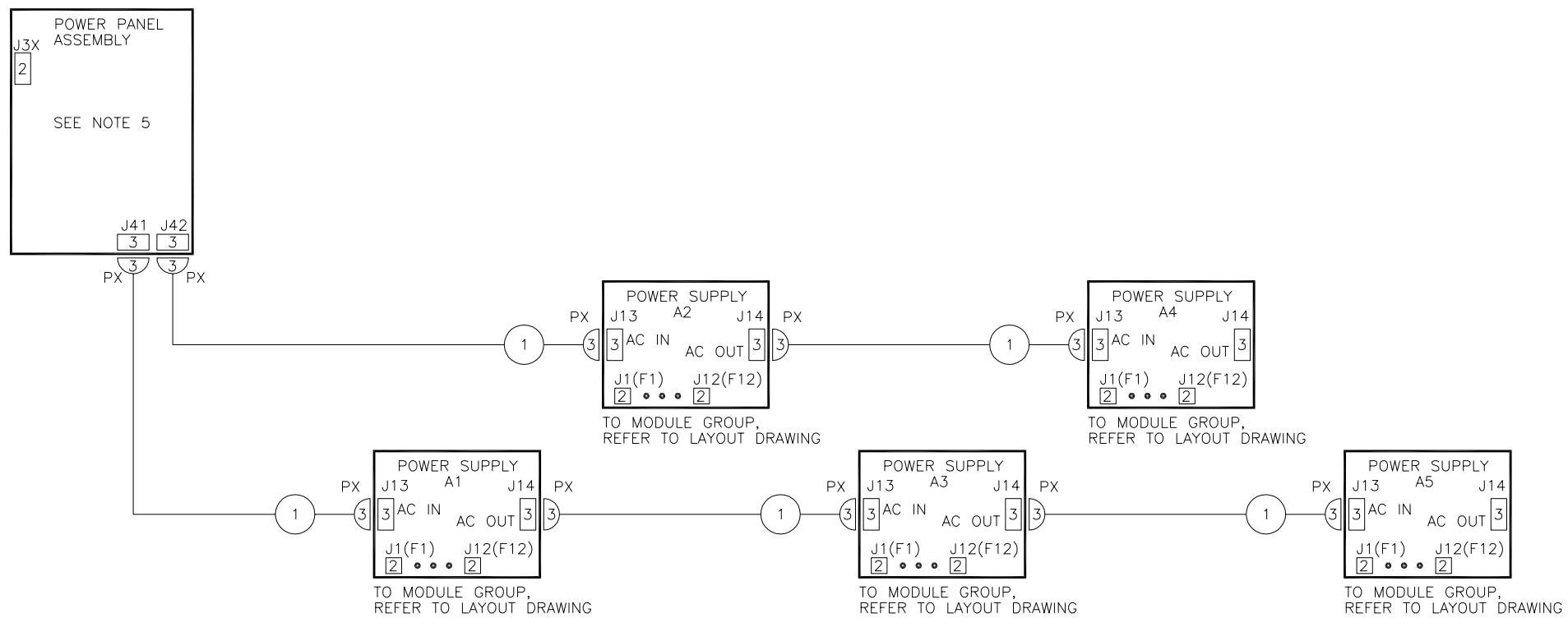
DES. BY: DMATHER DRAWN BY: DMATHER DATE: 13 MAY 05

REVISION 00 APPR. BY: SCALE: NONE 1345-R01B-241568

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



1 CIRCUIT POWER PANEL



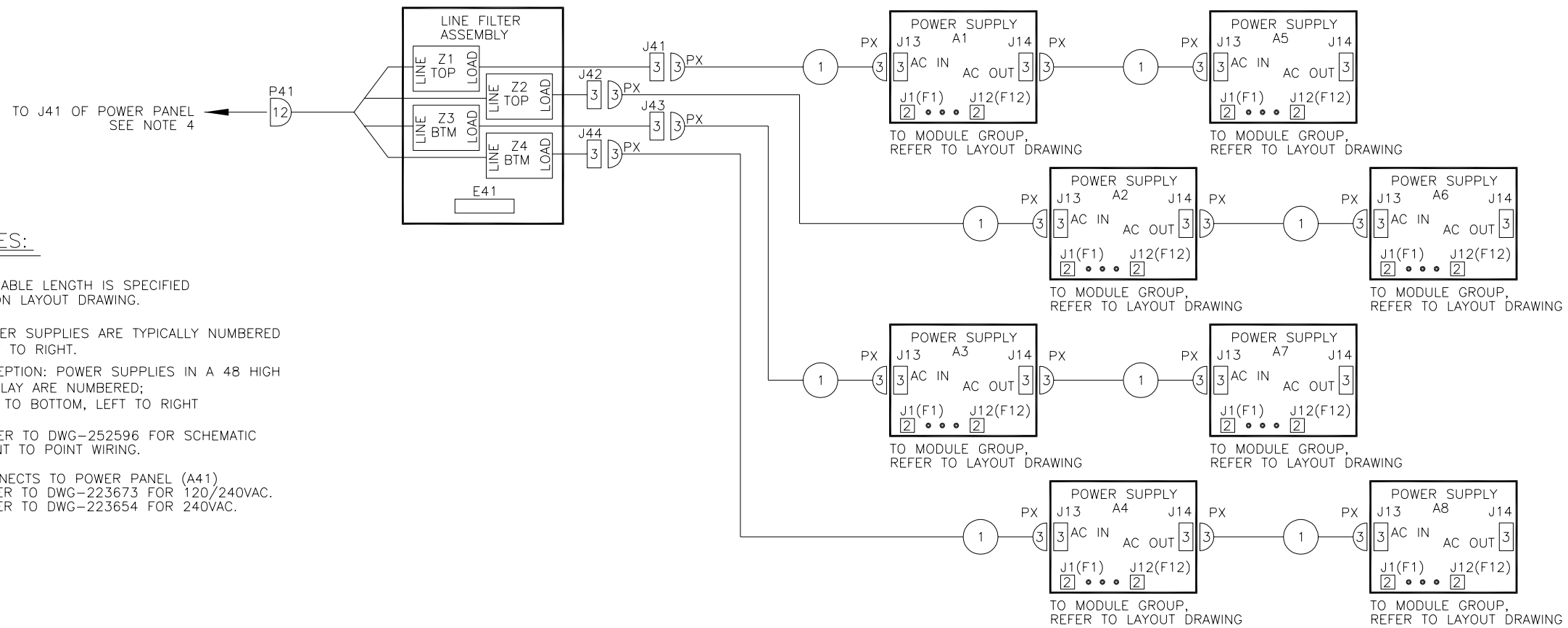
2 CIRCUIT POWER PANEL

NOTES:

- 1) CABLE LENGTH IS SPECIFIED ON LAYOUT DRAWING.
- 2) POWER SUPPLIES ARE NUMBERED, LEFT TO RIGHT.
- 3) REFER TO DWG-252596 FOR SCHEMATIC POINT TO POINT WIRING.
- 4) POWER PANEL (A41)  
REFER TO DWG-211950 FOR 120VAC.  
REFER TO DWG-220287 FOR 240VAC.
- 5) POWER PANEL (A41)  
REFER TO DWG-211947 FOR 120/240VAC.  
REFER TO DWG-218666 FOR 240VAC.

|  |  |                   |  |
|--|--|-------------------|--|
| THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS, INCLUDING ELECTRONICALLY WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2005 DAKTRONICS, INC. |  |                   |  |
| DAKTRONICS, INC. BROOKINGS, SD 57006   |  |                   |  |
| PROJ: GALAXY, AF-3400-46-MONO  |  |                   |  |
| TITLE: BLOCK DIAGRAM, AF-3400-46-R/A-P/M, * 1&2 CIRCUIT  |  |                   |  |
| DES. BY: DMATHER   |  | DRAWN BY: DMATHER |  |
| DATE: 31AUG 05   |  | REVISION          |  |
| APPR. BY:  |  | SCALE: NONE       |  |
| 00   |  | 1345-R01B-252653  |  |

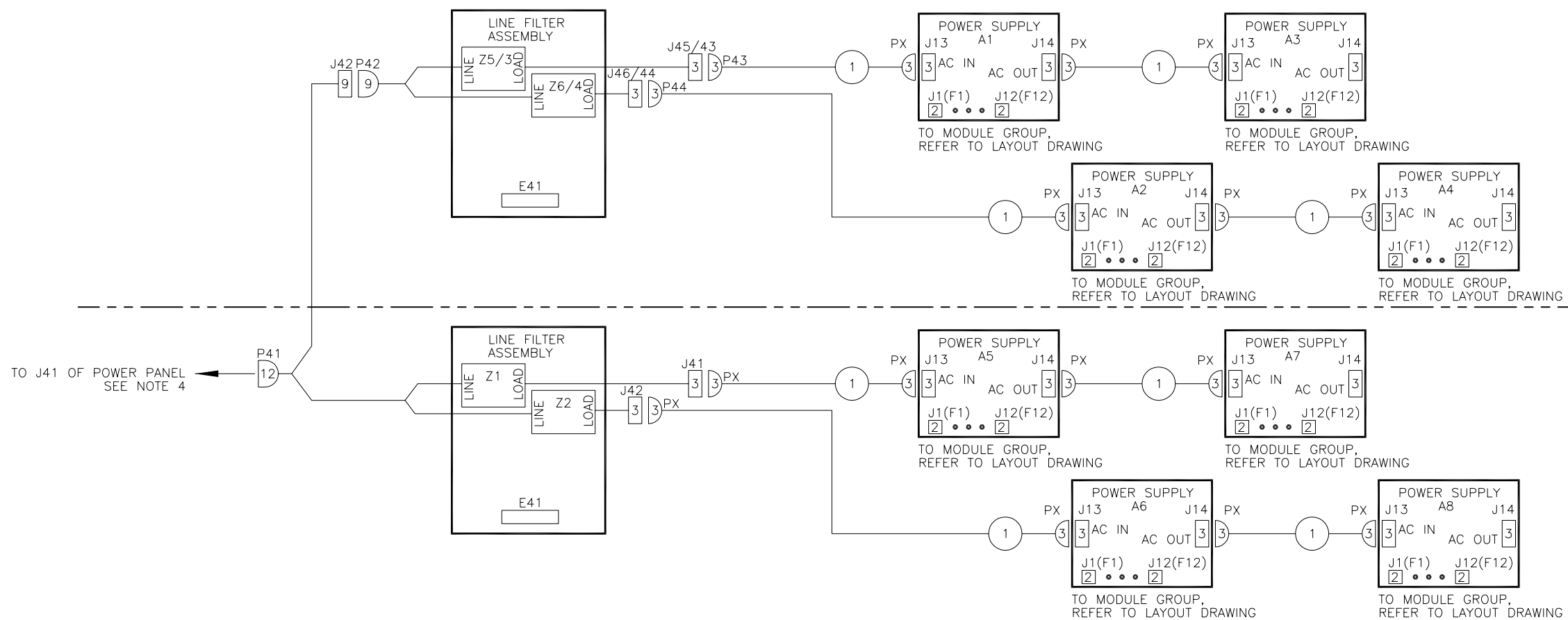
| REV. | DATE | DESCRIPTION | BY | APPR. |
|------|------|-------------|----|-------|
|      |      |             |    |       |



**NOTES:**

- 1) CABLE LENGTH IS SPECIFIED ON LAYOUT DRAWING.
- 2) POWER SUPPLIES ARE TYPICALLY NUMBERED LEFT TO RIGHT.  
EXCEPTION: POWER SUPPLIES IN A 48 HIGH DISPLAY ARE NUMBERED; TOP TO BOTTOM, LEFT TO RIGHT
- 3) REFER TO DWG-252596 FOR SCHEMATIC POINT TO POINT WIRING.
- 4) CONNECTS TO POWER PANEL (A41)  
REFER TO DWG-223673 FOR 120/240VAC.  
REFER TO DWG-223654 FOR 240VAC.

4 CIRCUIT POWER PANEL



TOP SECTION  
BOTTOM SECTION

4 CIRCUIT POWER PANEL  
(56 & 64 HIGH DISPLAY)

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GALAXY, AF-3400-46-MONO

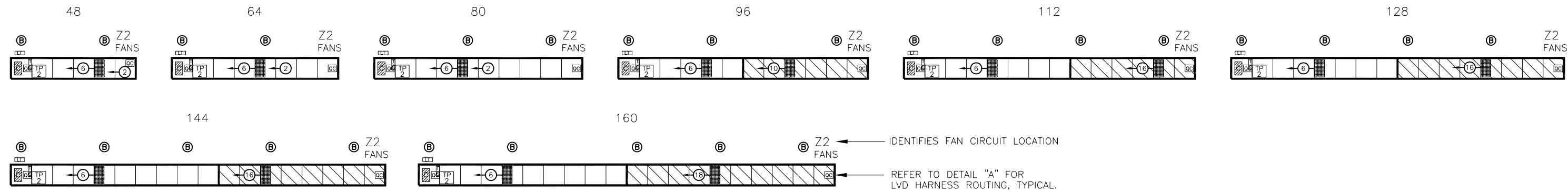
TITLE: BLOCK DIAGRAM, AF-3400-46-R/A-P/M, \* 4 CIRCUIT

DES. BY: DMATHER DRAWN BY: DMATHER DATE: 31 AUG 05

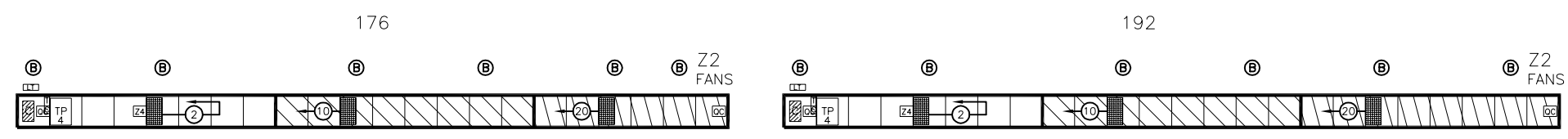
REVISION APPR. BY: 1345-R01B-252654

00 SCALE: NONE

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



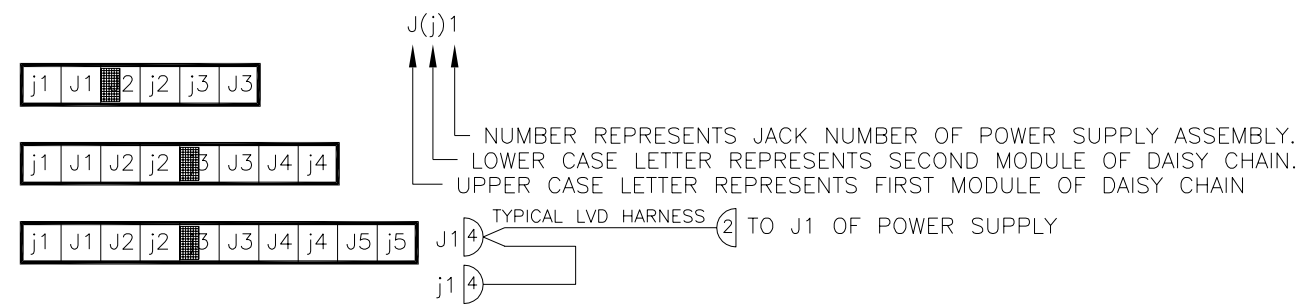
2 CIRCUIT—REFER TO DWG-00241828



4 CIRCUIT—REFER TO DWG-00241828

DETAIL: A

NOTE: POWER SUPPLY MAY HAVE MULTIPLE LOCATIONS WITHIN GROUPING. REFER TO ABOVE LAYOUTS.



- ② OA-1327-2061 HARN, PWR INTC. 3P TO 3P, 2 FT. (14AWG)
- ⑥ OA-1327-2010 HARN, PWR INTC. 3P TO 3P, 6 FT. (14AWG)
- ⑧ OA-1327-2011 HARN, PWR INTC. 3P TO 3P, 8 FT. (14AWG)
- ⑩ OA-1327-2012 HARN, PWR INTC. 3P TO 3P, 10 FT. (14AWG)
- ⑫ OA-1327-2013 HARN, PWR INTC. 3P TO 3P, 12 FT. (14AWG)
- ⑭ OA-1327-2014 HARN, PWR INTC. 3P TO 3P, 14 FT. (14AWG)
- ⑮ OA-1327-2015 HARN, PWR INTC. 3P TO 3P, 16 FT. (14AWG)
- ⑰ OA-1327-2016 HARN, PWR INTC. 3P TO 3P, 18 FT. (14AWG)
- ⑲ OA-1327-2017 HARN, PWR INTC. 3P TO 3P, 20 FT. (14AWG)
- ⑳ OA-1327-2018 HARN, PWR INTC. 3P TO 3P, 22 FT. (14AWG)
- ㉑ OA-1327-2019 HARN, PWR INTC. 3P TO 3P, 24 FT. (14AWG)
- ㉒ OA-1327-2060 HARN, PWR INTC. 3P TO 3P, 26 FT. (14AWG)

RIBBON CABLE CHART

| PRIMARY |        | PRIMARY OUTPUT |        | MIRROR INPUT |        |
|---------|--------|----------------|--------|--------------|--------|
| LINE/P# | P.N.   | LINE/QC P#     | P.N.   | LINE/QC P#   | P.N.   |
| 1 (P11) | W-1387 | 1 (A35-P1)     | W-1387 | 1 (A35-P1)   | W-1387 |

( OA-1000-\*\*\*\* )  
NOTE: ALL RIBBON CABLES BETWEEN MODULES ARE W-1387.

|   |   |   |
|---|---|---|
| <p>FAN B-1053 (8/16/24)HIGH<br/>OA-1327-3500 (32/40/48/56/64)HIGH</p> <p>THERMOSTAT OA-1327-3101</p> <p>1 POWER SUPPLY OA-1327-0013 RGB</p> <p>POWER FILTER Z# OA-1345-0500 (2)FILTERS<br/>OA-1327-0104 (2)CIRCUIT<br/>OA-1327-0105 (8)CIRCUIT</p> <p>POWER TERM PANEL TP OA-1327-0101 (2)CIRCUIT<br/>OA-1327-0104 (2)CIRCUIT<br/>OA-1327-0105 (8)CIRCUIT</p> | <p>CONTROLLER OA-1229-0013</p> <p>MODULE 14.4" X 14.4" 8 PIXEL X 8 PIXEL 46MM C-C / 1.8" C-C</p> <p>DARK GRID LINES REPRESENT A GROUPING OF MODULES THAT ARE POWERED BY A SINGLE OR DOUBE UNIT OF POWER SUPPLIES.</p> <p>LIGHT DETECTOR OA-1327-3000 (8/16/24)HIGH<br/>PRIMARY ONLY LT OA-1327-3003 (32/40/48)HIGH<br/>OA-1327-3004 (56/64)HIGH</p> | <p>□ AREA POWERED BY Z1 (J41)</p> <p>▨ AREA POWERED BY Z2 (J42)</p> <p>▧ AREA POWERED BY Z3</p> <p>▩ AREA POWERED BY Z4</p> <p>▤ AREA POWERED BY Z5</p> <p>▥ AREA POWERED BY Z6</p> <p>▦ AREA POWERED BY Z7</p> <p>▧ AREA POWERED BY Z8</p> |
|---|---|---|

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GALAXY, AF-3400-46-RGB

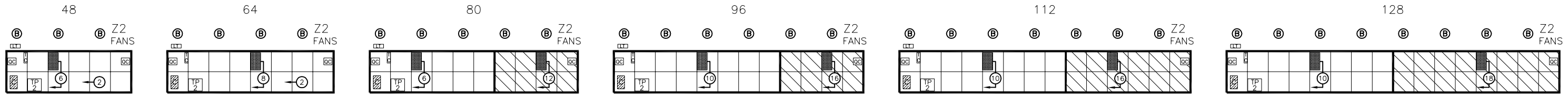
TITLE: ELECT LAYOUT, AF-3400-8X\*\*\*-46-RGB-P/M, \*

DES. BY: DMATHER DRAWN BY: DMATHER DATE: 18 MAY 05

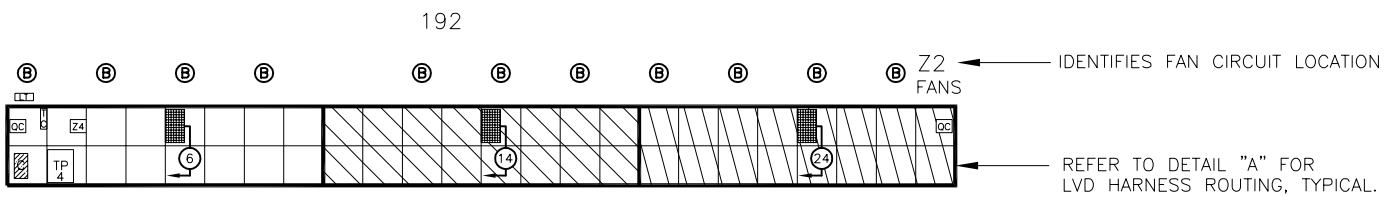
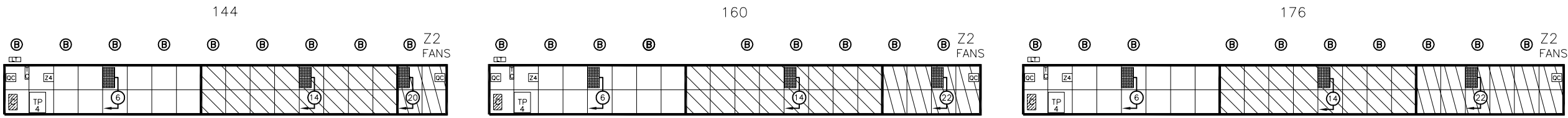
|         |              |  |        |           |
|---------|--------------|--|--------|-----------|
| REV. 01 | DATE 15JUL05 | DESCRIPTION REPLACED THE OA-1327-11 PS ASSY WITH THE OA-1327-13 PS ASSY. | BY DJM | APPR. DJM |
|---------|--------------|--|--------|-----------|

REVISION APPR. BY: SCALE: 1=70

1345-E10B-241830

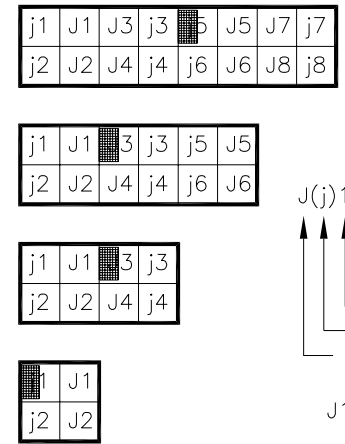


2 CIRCUIT—REFER TO DWG-00241828



4 CIRCUIT—REFER TO DWG-00241828

DETAIL: A



NUMBER REPRESENTS JACK NUMBER OF POWER SUPPLY ASSEMBLY.  
 LOWER CASE LETTER REPRESENTS SECOND MODULE OF DAISY CHAIN.  
 UPPER CASE LETTER REPRESENTS FIRST MODULE OF DAISY CHAIN

TYPICAL LVD HARNESS TO J1 OF POWER SUPPLY

- ② OA-1327-2061 HARN, PWR INTC. 3P TO 3P, 2 FT. (14AWG)
- ⑥ OA-1327-2010 HARN, PWR INTC. 3P TO 3P, 6 FT. (14AWG)
- ⑧ OA-1327-2011 HARN, PWR INTC. 3P TO 3P, 8 FT. (14AWG)
- ⑩ OA-1327-2012 HARN, PWR INTC. 3P TO 3P, 10 FT. (14AWG)
- ⑫ OA-1327-2013 HARN, PWR INTC. 3P TO 3P, 12 FT. (14AWG)
- ⑭ OA-1327-2014 HARN, PWR INTC. 3P TO 3P, 14 FT. (14AWG)
- ⑮ OA-1327-2015 HARN, PWR INTC. 3P TO 3P, 16 FT. (14AWG)
- ⑰ OA-1327-2016 HARN, PWR INTC. 3P TO 3P, 18 FT. (14AWG)
- ⑲ OA-1327-2017 HARN, PWR INTC. 3P TO 3P, 20 FT. (14AWG)
- ⑳ OA-1327-2018 HARN, PWR INTC. 3P TO 3P, 22 FT. (14AWG)
- ㉒ OA-1327-2019 HARN, PWR INTC. 3P TO 3P, 24 FT. (14AWG)
- ㉔ OA-1327-2060 HARN, PWR INTC. 3P TO 3P, 26 FT. (14AWG)

RIBBON CABLE CHART

| PRIMARY |        | PRIMARY OUTPUT |        | MIRROR INPUT |        |
|---------|--------|----------------|--------|--------------|--------|
| LINE/P# | P.N.   | LINE/QC P#     | P.N.   | LINE/QC P#   | P.N.   |
| 1 (P11) | W-1387 | 1 (A35-P1)     | W-1387 | 1 (A35-P1)   | W-1387 |
| 2 (P12) | W-1387 | 2 (A35-P2)     | 0016   | 2 (A35-P2)   | 0016   |

( OA-1000-\*\*\*\* )  
 NOTE: ALL RIBBON CABLES BETWEEN MODULES ARE W-1387.

|   |   |  |
|---|---|--|
| FAN B-1053 (8/16/24)HIGH<br>OA-1327-3500 (32/40/48/56/64)HIGH<br>THERMOSTAT OA-1327-3101<br>1 POWER SUPPLY OA-1327-0013 RGB<br>POWER FILTER Z# OA-1345-0500 (2)FILTERS<br>OA-1327-0104 (2)CIRCUIT<br>OA-1327-0105 (8)CIRCUIT<br>POWER TERM PANEL TP # OA-1327-0101 (2)CIRCUIT<br>OA-1327-0104 (2)CIRCUIT<br>OA-1327-0105 (8)CIRCUIT | CONTROLLER OA-1229-0013<br>MODULE 14.4" X 14.4" 8 PIXEL X 8 PIXEL 46MM C-C / 1.8" C-C<br>DARK GRID LINES REPRESENT A GROUPING OF MODULES THAT ARE POWERED BY A SINGLE OR DOUBLE UNIT OF POWER SUPPLIES.<br>LIGHT DETECTOR OA-1327-3000 (8/16/24)HIGH<br>PRIMARY ONLY LT OA-1327-3003 (32/40/48)HIGH<br>OA-1327-3004 (56/64)HIGH | □ AREA POWERED BY Z1 (J41)<br>▨ AREA POWERED BY Z2 (J42)<br>▩ AREA POWERED BY Z3<br>▧ AREA POWERED BY Z4<br>▦ AREA POWERED BY Z5<br>▤ AREA POWERED BY Z6<br>▥ AREA POWERED BY Z7<br>▣ AREA POWERED BY Z8 |
|---|---|--|

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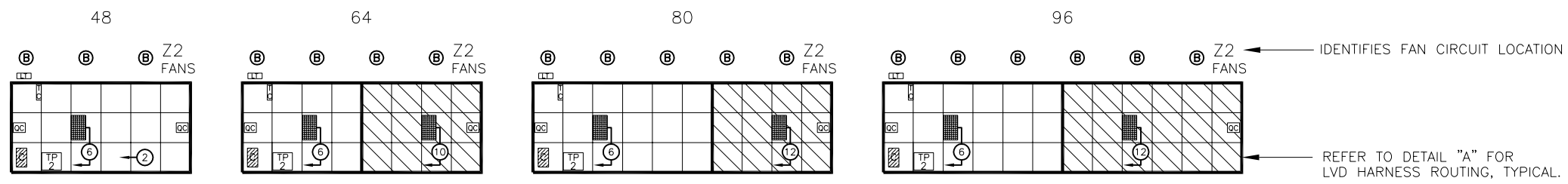
DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GALAXY, AF-3400-46-RGB  
 TITLE: ELECT LAYOUT, AF-3400-16X\*\*\*-46-RGB-P/M, \*

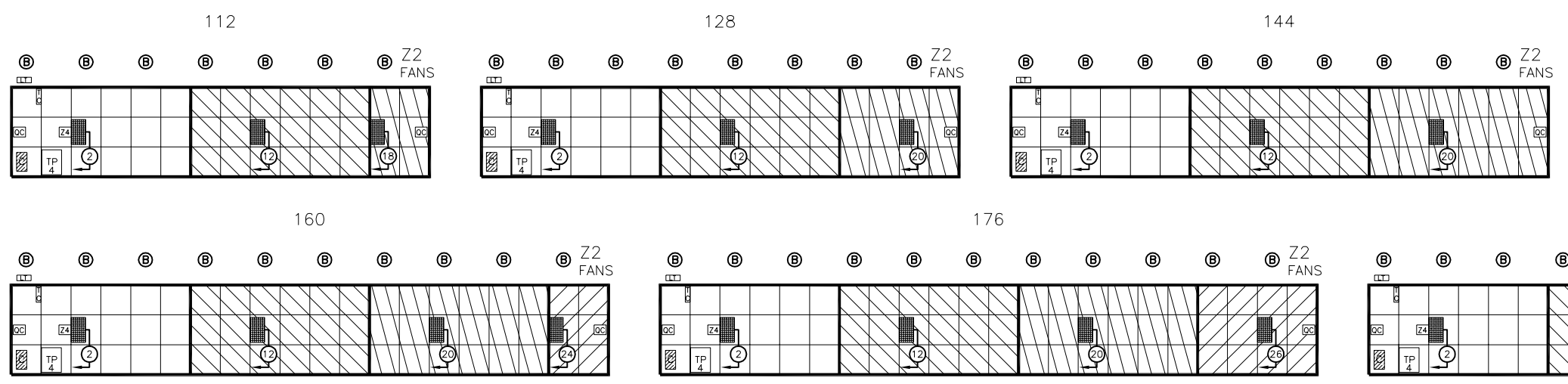
|                  |                   |                 |
|------------------|-------------------|-----------------|
| DES. BY: DMATHER | DRAWN BY: DMATHER | DATE: 19 MAY 05 |
| REVISION 01      | APPR. BY:         | SCALE: 1=70     |

1345-E10B-241835

| REV. | DATE    | DESCRIPTION  | BY  | APPR. |
|------|---------|--|-----|-------|
| 01   | 15JUL05 | REPLACED THE OA-1327-11 PS ASSY WITH THE OA-1327-13 PS ASSY. | DJM | DJM   |

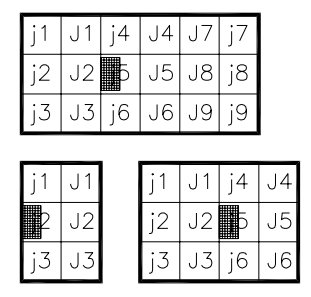


2 CIRCUIT—REFER TO DWG-00241828



4 CIRCUIT—REFER TO DWG-00241828

DETAIL: A



J(j)1  
 ↑  
 ↑  
 ↑  
 NUMBER REPRESENTS JACK NUMBER OF POWER SUPPLY ASSEMBLY.  
 LOWER CASE LETTER REPRESENTS SECOND MODULE OF DAISY CHAIN.  
 UPPER CASE LETTER REPRESENTS FIRST MODULE OF DAISY CHAIN  
 J1 4  
 j1 4

- ② OA-1327-2061 HARN, PWR INTC. 3P TO 3P, 2 FT. (14AWG)
- ⑥ OA-1327-2010 HARN, PWR INTC. 3P TO 3P, 6 FT. (14AWG)
- ⑧ OA-1327-2011 HARN, PWR INTC. 3P TO 3P, 8 FT. (14AWG)
- ⑩ OA-1327-2012 HARN, PWR INTC. 3P TO 3P, 10 FT. (14AWG)
- ⑫ OA-1327-2013 HARN, PWR INTC. 3P TO 3P, 12 FT. (14AWG)
- ⑭ OA-1327-2014 HARN, PWR INTC. 3P TO 3P, 14 FT. (14AWG)
- ⑮ OA-1327-2015 HARN, PWR INTC. 3P TO 3P, 16 FT. (14AWG)
- ⑰ OA-1327-2016 HARN, PWR INTC. 3P TO 3P, 18 FT. (14AWG)
- ⑲ OA-1327-2017 HARN, PWR INTC. 3P TO 3P, 20 FT. (14AWG)
- ⑳ OA-1327-2018 HARN, PWR INTC. 3P TO 3P, 22 FT. (14AWG)
- ㉑ OA-1327-2019 HARN, PWR INTC. 3P TO 3P, 24 FT. (14AWG)
- ㉓ OA-1327-2060 HARN, PWR INTC. 3P TO 3P, 26 FT. (14AWG)

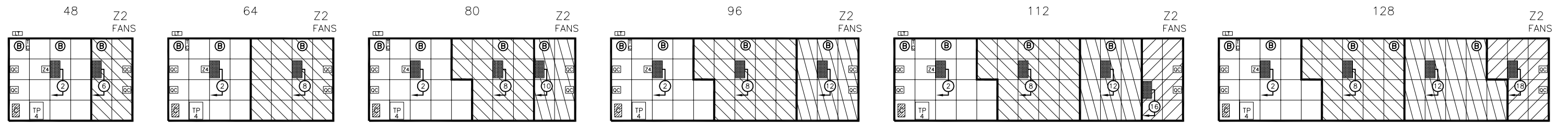
RIBBON CABLE CHART

| PRIMARY |        | PRIMARY OUTPUT |        | MIRROR INPUT |        |
|---------|--------|----------------|--------|--------------|--------|
| LINE/P# | P.N.   | LINE/QC P#     | P.N.   | LINE/QC P#   | P.N.   |
| 1 (P11) | 0018   | 1 (A35-P1)     | 0016   | 1 (A35-P1)   | 0016   |
| 2 (P12) | W-1387 | 2 (A35-P2)     | W-1387 | 2 (A35-P2)   | W-1387 |
| 3 (P13) | W-1387 | 3 (A35-P3)     | 0016   | 3 (A35-P3)   | 0016   |

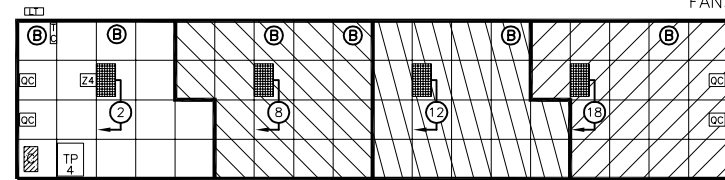
( OA-1000-\*\*\*\* )  
 NOTE: ALL RIBBON CABLES BETWEEN MODULES ARE W-1387.

|   |   |   |  |
|---|---|---|--|
| FAN<br>THERMOSTAT<br>1 POWER SUPPLY<br>POWER FILTER<br>POWER TERM PANEL | B-1053 (8/16/24)HIGH<br>OA-1327-3500 (32/40/48/56/64)HIGH<br>OA-1327-3101<br>OA-1327-0013 RGB<br>OA-1345-0500 (2)FILTERS<br>OA-1327-0104 (2)CIRCUIT<br>OA-1327-0105 (8)CIRCUIT<br>OA-1327-0109 (8)CIRCUIT | CONTROLLER<br>OA-1229-0013<br>MODULE<br>14.4" X 14.4"<br>8 PIXEL X 8 PIXEL<br>46MM C-C / 1.8" C-C<br>DARK GRID LINES REPRESENT A GROUPING OF MODULES THAT ARE POWERED BY A SINGLE OR DOUBE UNIT OF POWER SUPPLIES.<br>LIGHT DETECTOR<br>PRIMARY ONLY<br>OA-1327-3000 (8/16/24)HIGH<br>OA-1327-3003 (32/40/48)HIGH<br>OA-1327-3004 (56/64)HIGH | AREA POWERED BY Z1 (J41)<br>AREA POWERED BY Z2 (J42)<br>AREA POWERED BY Z3<br>AREA POWERED BY Z4<br>AREA POWERED BY Z5<br>AREA POWERED BY Z6<br>AREA POWERED BY Z7<br>AREA POWERED BY Z8 |
|---|---|---|--|

|  |           |  |     |                  |  |
|--|-----------|--|-----|------------------|--|
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| DAKTRONICS, INC. BROOKINGS, SD 57006   |           |  |     |                  |  |
| PROJ: GALAXY, AF-3400-46-RGB   |           |  |     |                  |  |
| TITLE: ELECT LAYOUT, AF-3400-24X***-46-RGB-P/M, *  |           |  |     |                  |  |
| DES. BY: DMATHER   |           | DRAWN BY: DMATHER  |     | DATE: 19 MAY 05  |  |
| REVISION   | APPR. BY: | SCALE: 1=70  |     | 1345-E10B-242416 |  |
| 01   |           | REPLACED THE OA-1327-11 PS ASSY WITH THE OA-1327-13 PS ASSY. | DJM | DJM              |  |
| REV.   | DATE      | DESCRIPTION  | BY  | APPR.            |  |



144

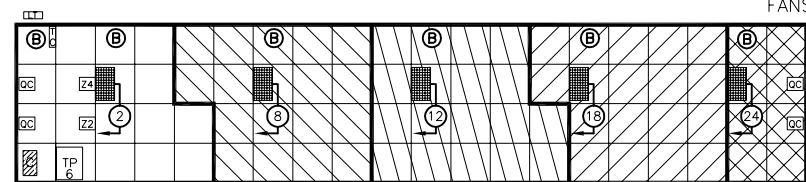


Z2 FANS IDENTIFIES FAN CIRCUIT LOCATION

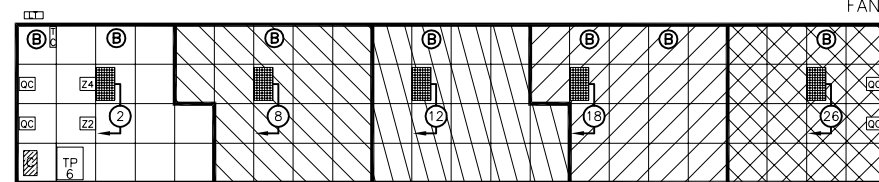
REFER TO DETAIL "A" FOR LVD HARNESS ROUTING, TYPICAL.

4 CIRCUIT-REFER TO DWG-00241828

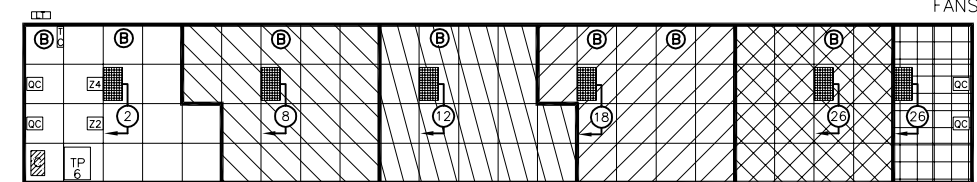
160



176



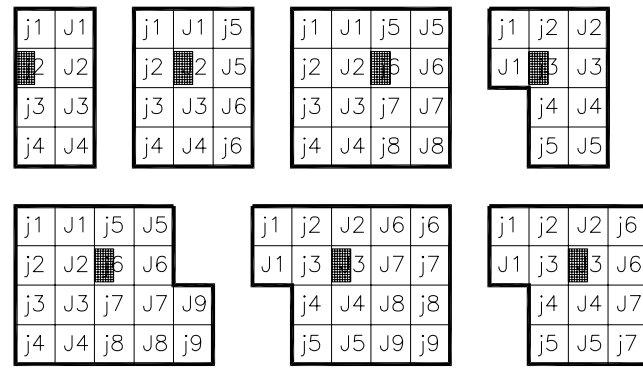
192



6 CIRCUIT-REFER TO DWG-00241568

DETAIL: A

NOTE: POWER SUPPLY MAY HAVE MULTIPLE LOCATIONS WITHIN GROUPING. REFER TO ABOVE LAYOUTS.



J(j) 1  
 NUMBER REPRESENTS JACK NUMBER OF POWER SUPPLY ASSEMBLY.  
 LOWER CASE LETTER REPRESENTS SECOND MODULE OF DAISY CHAIN.  
 UPPER CASE LETTER REPRESENTS FIRST MODULE OF DAISY CHAIN  
 TYPICAL LVD HARNESS TO J1 OF POWER SUPPLY

- ② OA-1327-2061 HARN, PWR INTC. 3P TO 3P, 2 FT. (14AWG)
- ⑥ OA-1327-2010 HARN, PWR INTC. 3P TO 3P, 6 FT. (14AWG)
- ⑧ OA-1327-2011 HARN, PWR INTC. 3P TO 3P, 8 FT. (14AWG)
- ⑩ OA-1327-2012 HARN, PWR INTC. 3P TO 3P, 10 FT. (14AWG)
- ⑫ OA-1327-2013 HARN, PWR INTC. 3P TO 3P, 12 FT. (14AWG)
- ⑭ OA-1327-2014 HARN, PWR INTC. 3P TO 3P, 14 FT. (14AWG)

- ⑮ OA-1327-2015 HARN, PWR INTC. 3P TO 3P, 16 FT. (14AWG)
- ⑰ OA-1327-2016 HARN, PWR INTC. 3P TO 3P, 18 FT. (14AWG)
- ⑲ OA-1327-2017 HARN, PWR INTC. 3P TO 3P, 20 FT. (14AWG)
- ⑳ OA-1327-2018 HARN, PWR INTC. 3P TO 3P, 22 FT. (14AWG)
- ㉑ OA-1327-2019 HARN, PWR INTC. 3P TO 3P, 24 FT. (14AWG)
- ㉓ OA-1327-2060 HARN, PWR INTC. 3P TO 3P, 26 FT. (14AWG)

RIBBON CABLE CHART

| PRIMARY |        | PRIMARY OUTPUT |        | MIRROR INPUT |        |
|---------|--------|----------------|--------|--------------|--------|
| LINE/P# | P.N.   | LINE/QC P#     | P.N.   | LINE/QC P#   | P.N.   |
| 1 (P11) | 0020   | 1 (A35-P1)     | 0016   | 1 (A35-P1)   | 0016   |
| 2 (P12) | 0018   | 2 (A35-P2)     | W-1387 | 2 (A35-P2)   | W-1387 |
| 3 (P13) | W-1387 | 3 (A36-P1)     | W-1387 | 3 (A36-P1)   | W-1387 |
| 4 (P14) | W-1387 | 4 (A36-P2)     | 0016   | 4 (A36-P2)   | 0016   |

( OA-1000-\*\*\*\* )

NOTE: ALL RIBBON CABLES BETWEEN MODULES ARE W-1387.

- FAN B-1053 (8/16/24)HIGH  
OA-1327-3500 (32/40/48/56/64)HIGH
- THERMOSTAT OA-1327-3101
- 1 POWER SUPPLY OA-1327-0013 RGB
- POWER FILTER Z# OA-1345-0500 (2)FILTERS  
OA-1327-0104 (2)CIRCUIT  
OA-1327-0105 (6)CIRCUIT  
OA-1327-0109 (8)CIRCUIT
- POWER TERM PANEL TP OA-1327-0101 (2)CIRCUIT  
OA-1327-0104 (2)CIRCUIT  
OA-1327-0105 (6)CIRCUIT  
OA-1327-0109 (8)CIRCUIT

- CONTROLLER OA-1229-0013
- MODULE 14.4" X 14.4" 8 PIXEL X 8 PIXEL 46MM C-C / 1.8" C-C
- DARK GRID LINES REPRESENT A GROUPING OF MODULES THAT ARE POWERED BY A SINGLE OR DOUBLE UNIT OF POWER SUPPLIES.
- LIGHT DETECTOR PRIMARY ONLY LT OA-1327-3000 (8/16/24)HIGH  
OA-1327-3003 (32/40/48)HIGH  
OA-1327-3004 (56/64)HIGH

- AREA POWERED BY Z1 (J41)
- ▨ AREA POWERED BY Z2 (J42)
- ▧ AREA POWERED BY Z3
- ▩ AREA POWERED BY Z4
- ▤ AREA POWERED BY Z5
- ▥ AREA POWERED BY Z6
- ▦ AREA POWERED BY Z7
- ▧ AREA POWERED BY Z8

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GALAXY, AF-3400-46-RGB

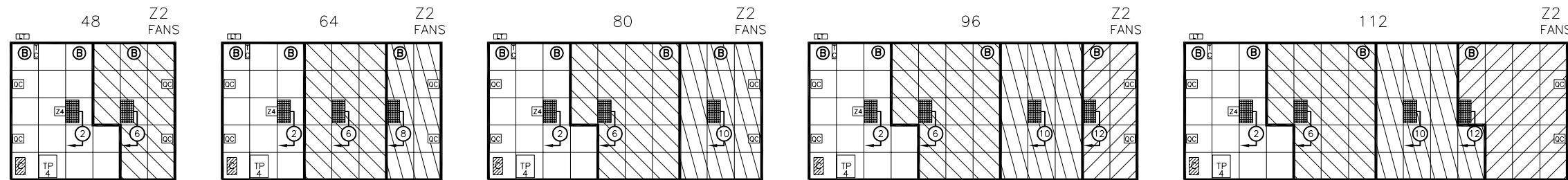
TITLE: ELECT LAYOUT, AF-3400-32X\*\*\*-46-RGB-P/M, \*

DES. BY: DMATHER DRAWN BY: DMATHER DATE: 19 MAY 05

REVISION APPR. BY: 1345-E10B-242456

| REV. | DATE    | DESCRIPTION  | BY  | APPR. |
|------|---------|--|-----|-------|
| 01   | 15JUL05 | REPLACED THE OA-1327-11 PS ASSY WITH THE OA-1327-13 PS ASSY. | DJM | DJM   |

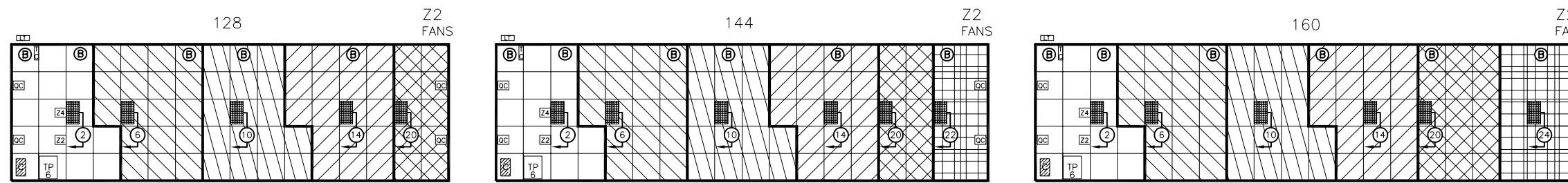
SCALE: 1=70



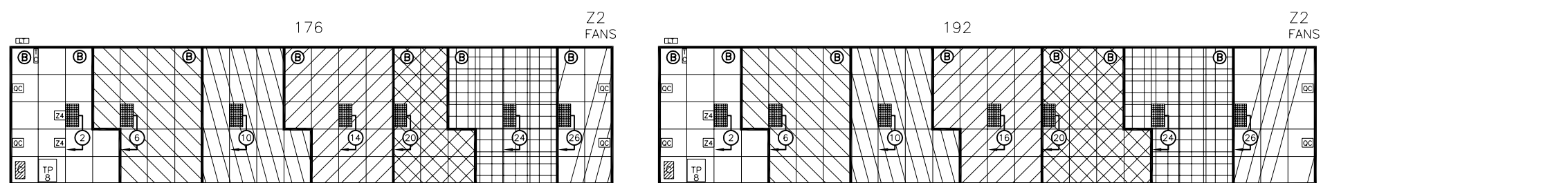
IDENTIFIES FAN CIRCUIT LOCATION

REFER TO DETAIL "A" FOR LVD HARNESS ROUTING, TYPICAL.

4 CIRCUIT—REFER TO DWG-00241828

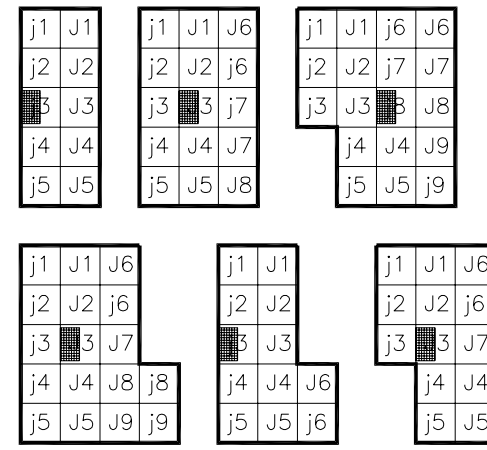


6 CIRCUIT—REFER TO DWG-00241568

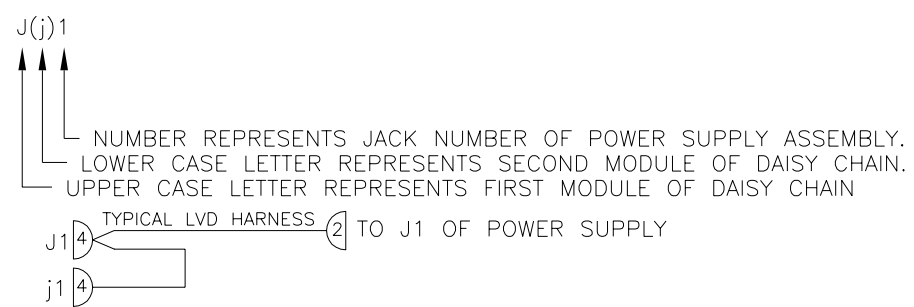


8 CIRCUIT—REFER TO DWG-00241568

DETAIL: A



NOTE: POWER SUPPLY MAY HAVE MULTIPLE LOCATIONS WITHIN GROUPING. REFER TO ABOVE LAYOUTS.



- ② OA-1327-2061 HARN, PWR INTC. 3P TO 3P, 2 FT. (14AWG)
- ⑥ OA-1327-2010 HARN, PWR INTC. 3P TO 3P, 6 FT. (14AWG)
- ⑧ OA-1327-2011 HARN, PWR INTC. 3P TO 3P, 8 FT. (14AWG)
- ⑩ OA-1327-2012 HARN, PWR INTC. 3P TO 3P, 10 FT. (14AWG)
- ⑫ OA-1327-2013 HARN, PWR INTC. 3P TO 3P, 12 FT. (14AWG)
- ⑭ OA-1327-2014 HARN, PWR INTC. 3P TO 3P, 14 FT. (14AWG)

- ⑮ OA-1327-2015 HARN, PWR INTC. 3P TO 3P, 16 FT. (14AWG)
- ⑰ OA-1327-2016 HARN, PWR INTC. 3P TO 3P, 18 FT. (14AWG)
- ⑳ OA-1327-2017 HARN, PWR INTC. 3P TO 3P, 20 FT. (14AWG)
- ㉑ OA-1327-2018 HARN, PWR INTC. 3P TO 3P, 22 FT. (14AWG)
- ㉓ OA-1327-2019 HARN, PWR INTC. 3P TO 3P, 24 FT. (14AWG)
- ㉕ OA-1327-2060 HARN, PWR INTC. 3P TO 3P, 26 FT. (14AWG)

RIBBON CABLE CHART

| PRIMARY |        | PRIMARY OUTPUT |        | MIRROR INPUT |        |
|---------|--------|----------------|--------|--------------|--------|
| LINE/P# | P.N.   | LINE/QC P#     | P.N.   | LINE/QC P#   | P.N.   |
| 1 (P11) | 0022   | 1 (A35-P1)     | 0016   | 1 (A35-P1)   | 0016   |
| 2 (P12) | 0020   | 2 (A35-P2)     | W-1387 | 2 (A35-P2)   | W-1387 |
| 3 (P13) | 0018   | 3 (A36-P1)     | 0016   | 3 (A36-P1)   | 0016   |
| 4 (P14) | W-1387 | 4 (A36-P2)     | W-1387 | 4 (A36-P2)   | W-1387 |
| 5 (P15) | W-1387 | 5 (A36-P3)     | 0016   | 5 (A36-P3)   | 0016   |

( OA-1000-\*\*\*\* )

NOTE: ALL RIBBON CABLES BETWEEN MODULES ARE W-1387.

|   |  |  |  |
|---|--|--|--|
| FAN<br>THERMOSTAT<br>1 POWER SUPPLY<br>POWER FILTER<br>POWER TERM PANEL | <ul style="list-style-type: none"> <li>Ⓟ B-1053 (8/16/24)HIGH OA-1327-3500 (32/40/48/56/64)HIGH</li> <li>Ⓛ OA-1327-3101</li> <li>Ⓛ OA-1327-0013 RGB</li> <li>Ⓛ OA-1345-0500 (2)FILTERS OA-1327-0104 (2)CIRCUIT OA-1327-0105 (2)CIRCUIT OA-1327-0109 (8)CIRCUIT</li> <li>Ⓛ OA-1327-0101 (2)CIRCUIT OA-1327-0104 (2)CIRCUIT OA-1327-0105 (2)CIRCUIT OA-1327-0109 (8)CIRCUIT</li> </ul> | <ul style="list-style-type: none"> <li>CONTROLLER OA-1229-0013</li> <li>MODULE 14.4" X 14.4" 8 PIXEL X 8 PIXEL 46MM C-C / 1.8" C-C</li> <li>DARK GRID LINES REPRESENT A GROUPING OF MODULES THAT ARE POWERED BY A SINGLE OR DOUBLE UNIT OF POWER SUPPLIES.</li> <li>LIGHT DETECTOR PRIMARY ONLY OA-1327-3000 (8/16/24)HIGH OA-1327-3003 (32/40/48)HIGH OA-1327-3004 (56/64)HIGH</li> </ul> | <ul style="list-style-type: none"> <li>□ AREA POWERED BY Z1 (J41)</li> <li>▧ AREA POWERED BY Z2 (J42)</li> <li>▨ AREA POWERED BY Z3</li> <li>▩ AREA POWERED BY Z4</li> <li>▫ AREA POWERED BY Z5</li> <li>▬ AREA POWERED BY Z6</li> <li>▭ AREA POWERED BY Z7</li> <li>▮ AREA POWERED BY Z8</li> </ul> |
|---|--|--|--|

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DAKTRONICS, INC. BROOKINGS, SD 57006

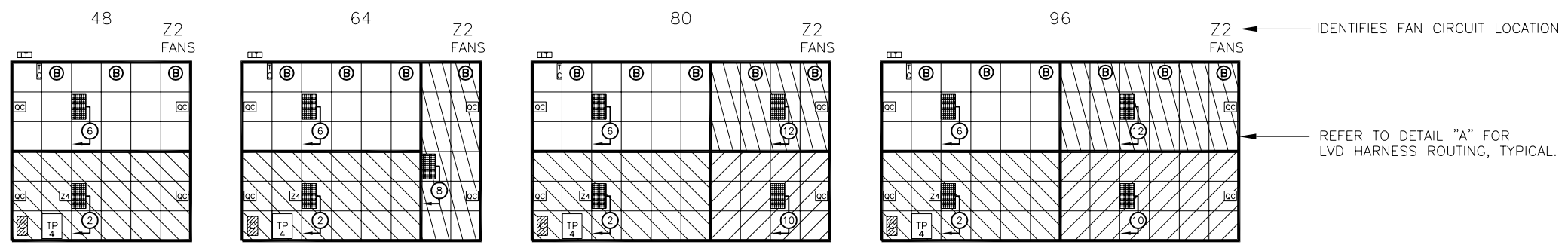
PROJ: GALAXY, AF-3400-46-RGB

TITLE: ELECT LAYOUT, AF-3400-40X\*\*\*-46-RGB-P/M, \*

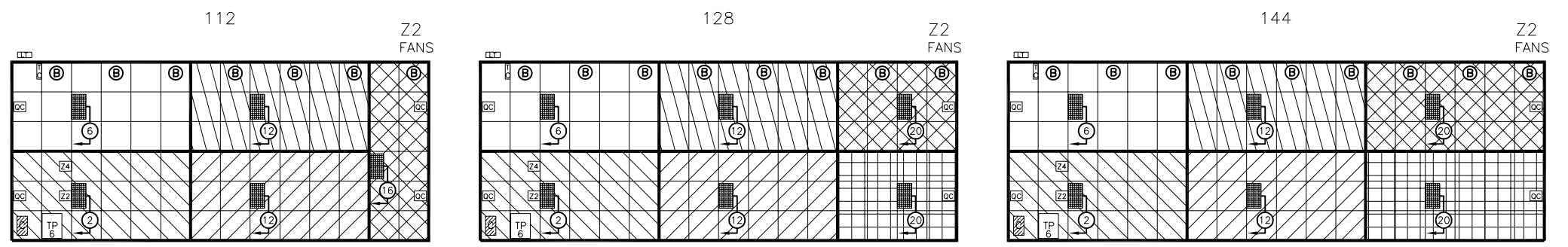
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|------------------|-------------------|------------------|
| DES. BY: DMATHER | DRAWN BY: DMATHER | DATE: 24 MAY 05  |
| REVISION         | APPR. BY:         | 1345-E10B-242909 |
| 01               | SCALE: 1=70       |                  |

| REV. | DATE    | DESCRIPTION  | BY  | APPR. |
|------|---------|--|-----|-------|
| 01   | 15JUL05 | REPLACED THE OA-1327-11 PS ASSY WITH THE OA-1327-13 PS ASSY. | DJM | DJM   |

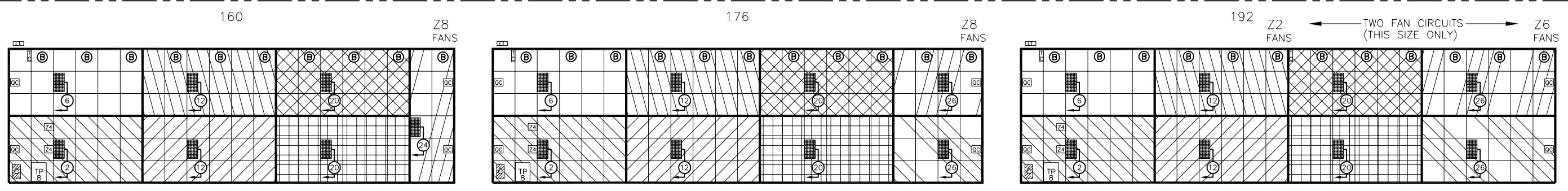




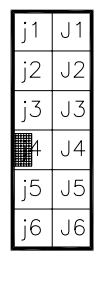
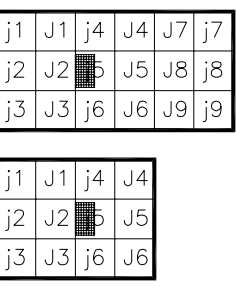
4 CIRCUIT—REFER TO DWG-00241828



6 CIRCUIT—REFER TO DWG-00241568



8 CIRCUIT—REFER TO DWG-00241568



**DETAIL: A**  
 J(j)1  
 NUMBER REPRESENTS JACK NUMBER OF POWER SUPPLY ASSEMBLY.  
 LOWER CASE LETTER REPRESENTS SECOND MODULE OF DAISY CHAIN.  
 UPPER CASE LETTER REPRESENTS FIRST MODULE OF DAISY CHAIN  
 TYPICAL LVD HARNESS TO J1 OF POWER SUPPLY

- ② OA-1327-2061 HARN, PWR INTC. 3P TO 3P, 2 FT. (14AWG)
- ⑥ OA-1327-2010 HARN, PWR INTC. 3P TO 3P, 6 FT. (14AWG)
- ⑧ OA-1327-2011 HARN, PWR INTC. 3P TO 3P, 8 FT. (14AWG)
- ⑩ OA-1327-2012 HARN, PWR INTC. 3P TO 3P, 10 FT. (14AWG)
- ⑫ OA-1327-2013 HARN, PWR INTC. 3P TO 3P, 12 FT. (14AWG)
- ⑭ OA-1327-2014 HARN, PWR INTC. 3P TO 3P, 14 FT. (14AWG)
- ⑮ OA-1327-2015 HARN, PWR INTC. 3P TO 3P, 16 FT. (14AWG)
- ⑰ OA-1327-2016 HARN, PWR INTC. 3P TO 3P, 18 FT. (14AWG)
- ⑳ OA-1327-2017 HARN, PWR INTC. 3P TO 3P, 20 FT. (14AWG)
- ㉑ OA-1327-2018 HARN, PWR INTC. 3P TO 3P, 22 FT. (14AWG)
- ㉓ OA-1327-2019 HARN, PWR INTC. 3P TO 3P, 24 FT. (14AWG)
- ㉕ OA-1327-2060 HARN, PWR INTC. 3P TO 3P, 26 FT. (14AWG)

RIBBON CABLE CHART

| PRIMARY |        | PRIMARY OUTPUT |        | MIRROR INPUT |        |
|---------|--------|----------------|--------|--------------|--------|
| LINE/P# | P.N.   | LINE/QC P#     | P.N.   | LINE/QC P#   | P.N.   |
| 1 (P11) | 0023   | 1 (A35-P1)     | 0016   | 1 (A35-P1)   | 0016   |
| 2 (P12) | 0022   | 2 (A35-P2)     | W-1387 | 2 (A35-P2)   | W-1387 |
| 3 (P13) | 0020   | 3 (A35-P3)     | 0016   | 3 (A35-P3)   | 0016   |
| 4 (P14) | 0018   | 4 (A36-P1)     | 0016   | 4 (A36-P1)   | 0016   |
| 5 (P15) | W-1387 | 5 (A36-P2)     | W-1387 | 5 (A36-P2)   | W-1387 |
| 6 (P16) | W-1387 | 6 (A36-P3)     | 0016   | 6 (A36-P3)   | 0016   |

( OA-1000-\*\*\*\* )  
 NOTE: ALL RIBBON CABLES BETWEEN MODULES ARE W-1387.

|   |  |  |
|---|--|--|
| FAN<br>THERMOSTAT<br>1 POWER SUPPLY<br>POWER FILTER<br>POWER TERM PANEL | B-1063 (8/16/24)HIGH<br>OA-1327-3500 (32/40/48/56/64)HIGH<br>OA-1327-3101<br>OA-1327-0013 RGB<br>OA-1345-0500 (2)FILTERS<br>OA-1327-0104 (2)CIRCUIT<br>OA-1327-0105 (2)CIRCUIT<br>OA-1327-0109 (8)CIRCUIT<br>OA-1229-0013<br>MODULE<br>14.4" X 14.4"<br>8 PIXEL X 8 PIXEL<br>46MM C-C / 1.8" C-C<br>DARK GRID LINES REPRESENT A GROUPING OF MODULES THAT ARE POWERED BY A SINGLE OR DOUBE UNIT OF POWER SUPPLIES.<br>LIGHT DETECTOR<br>PRIMARY ONLY<br>OA-1327-3000 (8/16/24)HIGH<br>OA-1327-3003 (32/40/48)HIGH<br>OA-1327-3004 (56/64)HIGH | AREA POWERED BY Z1 (J41)<br>AREA POWERED BY Z2 (J42)<br>AREA POWERED BY Z3<br>AREA POWERED BY Z4<br>AREA POWERED BY Z5<br>AREA POWERED BY Z6<br>AREA POWERED BY Z7<br>AREA POWERED BY Z8 |
|---|--|--|

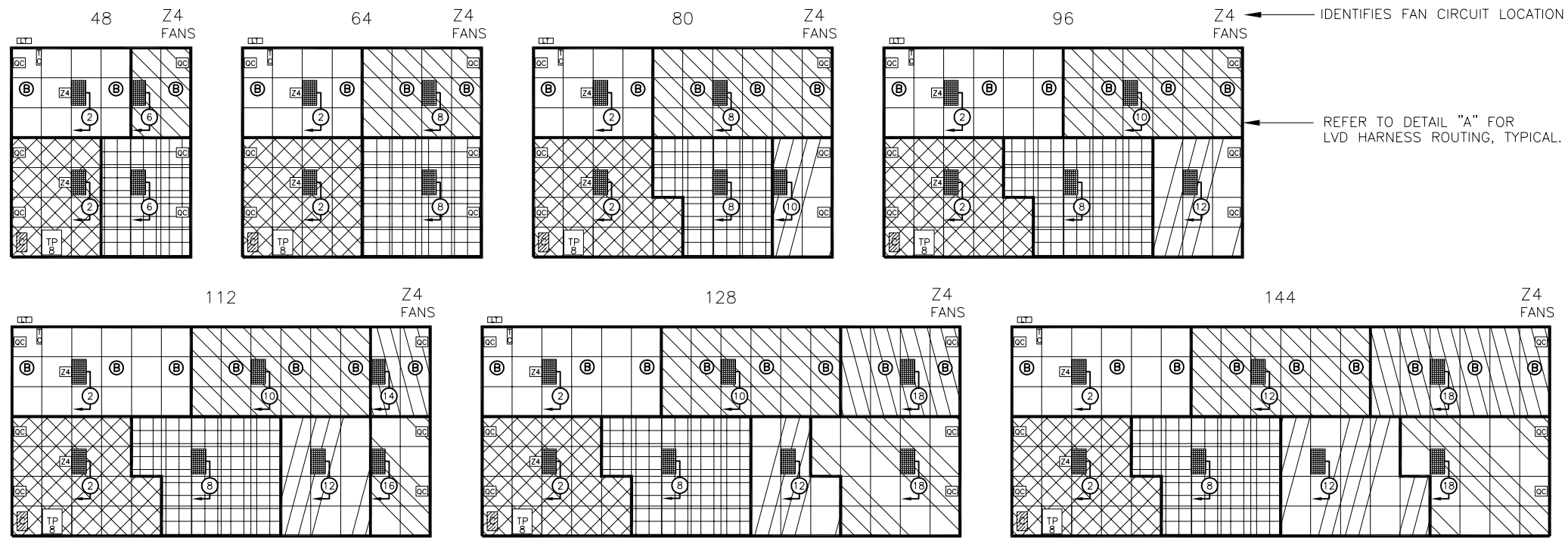
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**DAKTRONICS, INC. BROOKINGS, SD 57006**

PROJ: GALAXY, AF-3400-46-RGB  
 TITLE: ELECT LAYOUT, AF-3400-48X\*\*\*-46-RGB-P/M, \*

|                  |                   |                  |
|------------------|-------------------|------------------|
| DES. BY: DMATHER | DRAWN BY: DMATHER | DATE: 17 MAY 05  |
| REVISION         | APPR. BY:         | 1345-E10B-241860 |
| 01               | SCALE: 1=70       |                  |

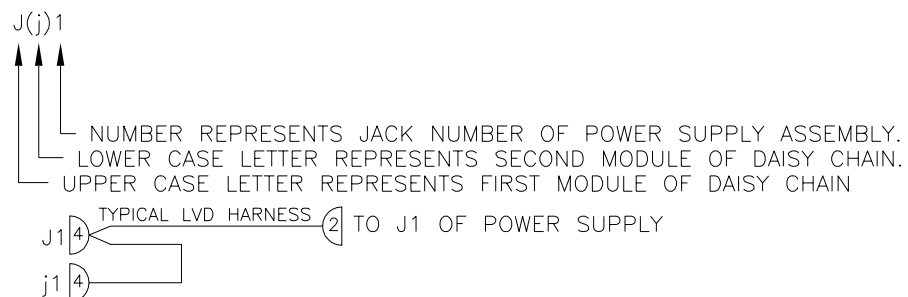
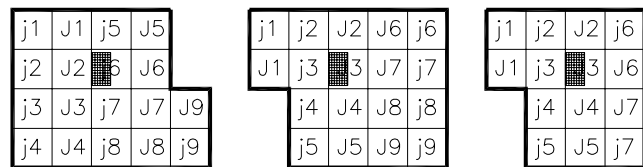
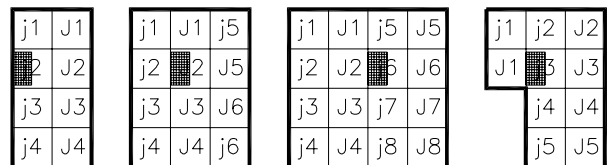
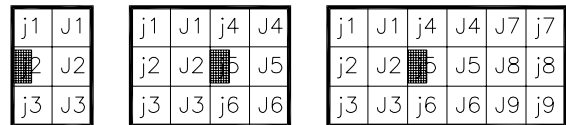
|      |         |  |     |       |
|------|---------|--|-----|-------|
| 01   | 15JUL05 | REPLACED THE OA-1327-11 PS ASSY WITH THE OA-1327-13 PS ASSY. | DJM | DJM   |
| REV. | DATE    | DESCRIPTION  | BY  | APPR. |



8 CIRCUIT-REFER TO DWG-00241568

**DETAIL: A**

NOTE: POWER SUPPLY MAY HAVE MULTIPLE LOCATIONS WITHIN GROUPING. REFER TO ABOVE LAYOUTS.



- ② OA-1327-2061 HARN, PWR INTC. 3P TO 3P, 2 FT. (14AWG)
- ⑥ OA-1327-2010 HARN, PWR INTC. 3P TO 3P, 6 FT. (14AWG)
- ⑧ OA-1327-2011 HARN, PWR INTC. 3P TO 3P, 8 FT. (14AWG)
- ⑩ OA-1327-2012 HARN, PWR INTC. 3P TO 3P, 10 FT. (14AWG)
- ⑫ OA-1327-2013 HARN, PWR INTC. 3P TO 3P, 12 FT. (14AWG)
- ⑭ OA-1327-2014 HARN, PWR INTC. 3P TO 3P, 14 FT. (14AWG)
- ⑮ OA-1327-2015 HARN, PWR INTC. 3P TO 3P, 16 FT. (14AWG)
- ⑰ OA-1327-2016 HARN, PWR INTC. 3P TO 3P, 18 FT. (14AWG)
- ⑲ OA-1327-2017 HARN, PWR INTC. 3P TO 3P, 20 FT. (14AWG)
- ⑳ OA-1327-2018 HARN, PWR INTC. 3P TO 3P, 22 FT. (14AWG)
- ㉑ OA-1327-2019 HARN, PWR INTC. 3P TO 3P, 24 FT. (14AWG)
- ㉓ OA-1327-2060 HARN, PWR INTC. 3P TO 3P, 26 FT. (14AWG)

**RIBBON CABLE CHART**

| PRIMARY |        | PRIMARY OUTPUT |        | MIRROR INPUT |        |
|---------|--------|----------------|--------|--------------|--------|
| LINE/P# | P.N.   | LINE/QC P#     | P.N.   | LINE/QC P#   | P.N.   |
| 1 (P11) | 0024   | 1 (A35-P1)     | W-1387 | 1 (A35-P1)   | W-1387 |
| 2 (P12) | 0023   | 2 (A35-P2)     | 0016   | 2 (A35-P2)   | 0016   |
| 3 (P13) | 0022   | 3 (A36-P1)     | 0016   | 3 (A36-P1)   | 0016   |
| 4 (P14) | 0020   | 4 (A36-P2)     | W-1387 | 4 (A36-P2)   | W-1387 |
| 5 (P15) | 0018   | 5 (A37-P1)     | 0016   | 5 (A37-P1)   | 0016   |
| 6 (P16) | W-1387 | 6 (A37-P2)     | W-1387 | 6 (A37-P2)   | W-1387 |
| 7 (P17) | W-1387 | 7 (A37-P3)     | 0016   | 7 (A37-P3)   | 0016   |

( OA-1000-\*\*\*\* )

NOTE: ALL RIBBON CABLES BETWEEN MODULES ARE W-1387.

|   |   |   |
|---|---|---|
| <p>FAN B-1063 (8/16/24)HIGH<br/>OA-1327-3500 (32/40/48/56/64)HIGH</p> <p>THERMOSTAT OA-1327-3101</p> <p>1 POWER SUPPLY OA-1327-0013 RGB</p> <p>POWER FILTER Z# OA-1345-0500 (2)FILTERS<br/>OA-1345-0501 (8)CIRCUIT</p> <p>POWER TERM PANEL TP OA-1327-0101 (2)CIRCUIT<br/>OA-1327-0104 (2)CIRCUIT<br/>OA-1327-0105 (8)CIRCUIT<br/>OA-1327-0109 (8)CIRCUIT</p> | <p>CONTROLLER OA-1229-0013</p> <p>MODULE 14.4" X 14.4"<br/>8 PIXEL X 8 PIXEL<br/>46MM C-C / 1.8" C-C</p> <p>DARK GRID LINES REPRESENT A GROUPING OF MODULES THAT ARE POWERED BY A SINGLE OR DOUBE UNIT OF POWER SUPPLIES.</p> <p>LIGHT DETECTOR OA-1327-3000 (8/16/24)HIGH<br/>PRIMARY ONLY LT OA-1327-3003 (32/40/48)HIGH<br/>OA-1327-3004 (56/64)HIGH</p> | <p>□ AREA POWERED BY Z1 (J41)</p> <p>▨ AREA POWERED BY Z2 (J42)</p> <p>▧ AREA POWERED BY Z3</p> <p>▩ AREA POWERED BY Z4</p> <p>▫ AREA POWERED BY Z5</p> <p>▬ AREA POWERED BY Z6</p> <p>▭ AREA POWERED BY Z7</p> <p>▮ AREA POWERED BY Z8</p> |
|---|---|---|

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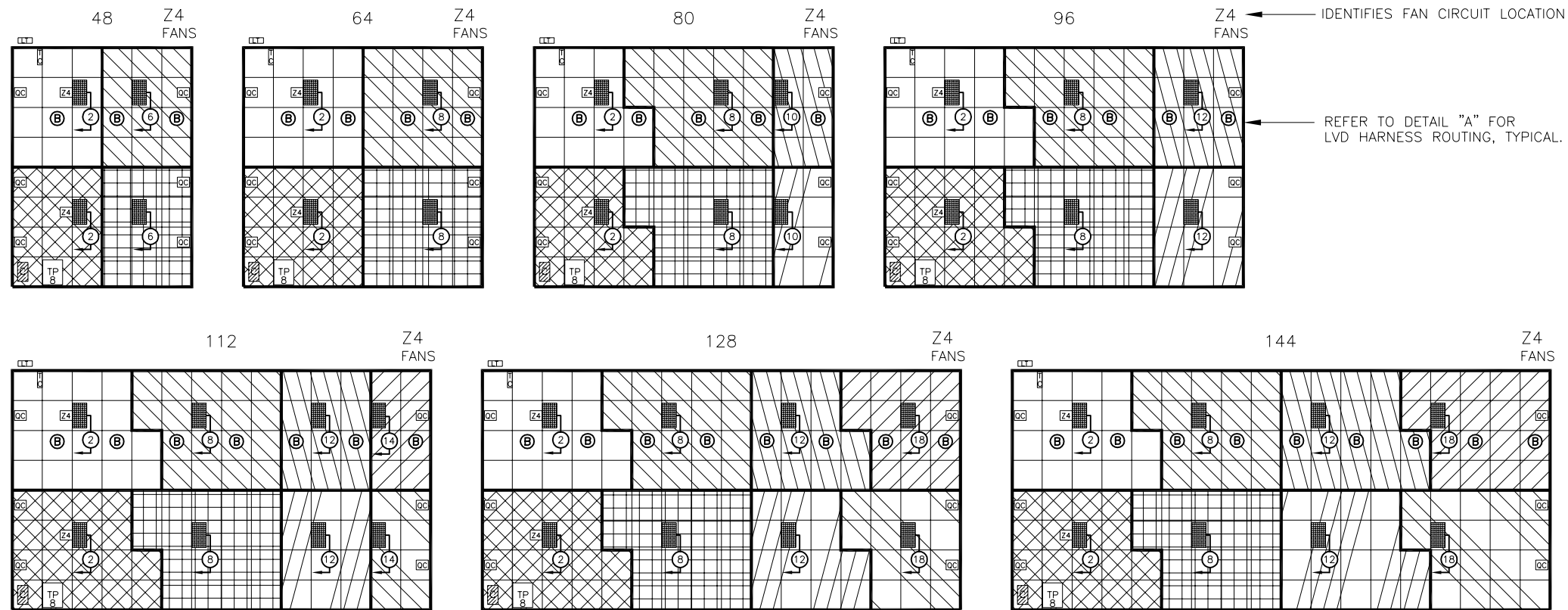
DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GALAXY, AF-3400-46-RGB

TITLE: ELECT LAYOUT, AF-3400-56X(48-144)-46-RGB-P/M, \*

|                  |                   |                  |
|------------------|-------------------|------------------|
| DES. BY: DMATHER | DRAWN BY: DMATHER | DATE: 25 MAY 05  |
| REVISION         | APPR. BY:         | 1345-E10B-243079 |
| 01               | SCALE: 1=70       |                  |

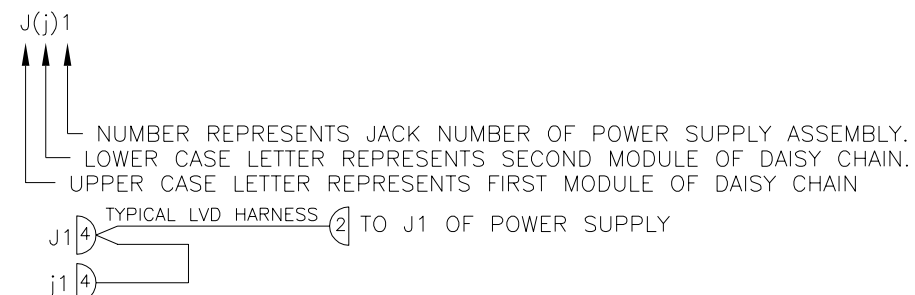
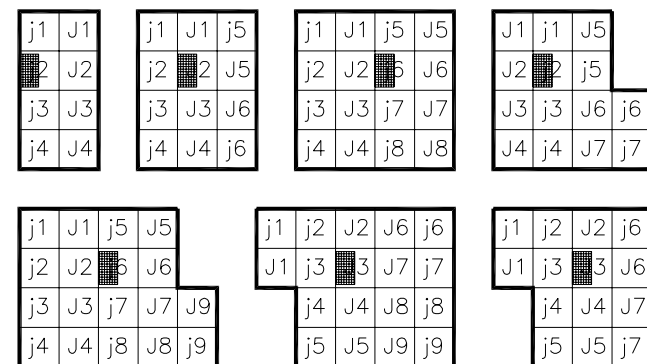
| REV. | DATE    | DESCRIPTION  | BY  | APPR. |
|------|---------|--|-----|-------|
| 01   | 15JUL05 | REPLACED THE OA-1327-11 PS ASSY WITH THE OA-1327-13 PS ASSY. | DJM | DJM   |



8 CIRCUIT—REFER TO DWG-00241568

**DETAIL: A**

NOTE: POWER SUPPLY MAY HAVE MULTIPLE LOCATIONS WITHIN GROUPING. REFER TO ABOVE LAYOUTS.



- ② OA-1327-2061 HARN, PWR INTC. 3P TO 3P, 2 FT. (14AWG)
- ⑥ OA-1327-2010 HARN, PWR INTC. 3P TO 3P, 6 FT. (14AWG)
- ⑧ OA-1327-2011 HARN, PWR INTC. 3P TO 3P, 8 FT. (14AWG)
- ⑩ OA-1327-2012 HARN, PWR INTC. 3P TO 3P, 10 FT. (14AWG)
- ⑫ OA-1327-2013 HARN, PWR INTC. 3P TO 3P, 12 FT. (14AWG)
- ⑭ OA-1327-2014 HARN, PWR INTC. 3P TO 3P, 14 FT. (14AWG)
- ⑮ OA-1327-2015 HARN, PWR INTC. 3P TO 3P, 16 FT. (14AWG)
- ⑰ OA-1327-2016 HARN, PWR INTC. 3P TO 3P, 18 FT. (14AWG)
- ⑳ OA-1327-2017 HARN, PWR INTC. 3P TO 3P, 20 FT. (14AWG)
- ㉑ OA-1327-2018 HARN, PWR INTC. 3P TO 3P, 22 FT. (14AWG)
- ㉓ OA-1327-2019 HARN, PWR INTC. 3P TO 3P, 24 FT. (14AWG)
- ㉕ OA-1327-2060 HARN, PWR INTC. 3P TO 3P, 26 FT. (14AWG)

**RIBBON CABLE CHART**

| PRIMARY |        | PRIMARY OUTPUT |        | MIRROR INPUT |        |
|---------|--------|----------------|--------|--------------|--------|
| LINE/P# | P.N.   | LINE/QC P#     | P.N.   | LINE/QC P#   | P.N.   |
| 1 (P11) | 0025   | 1 (A35-P1)     | 0016   | 1 (A35-P1)   | 0016   |
| 2 (P12) | 0024   | 2 (A35-P2)     | W-1387 | 2 (A35-P2)   | W-1387 |
| 3 (P13) | 0023   | 3 (A35-P3)     | 0016   | 3 (A35-P3)   | 0016   |
| 4 (P14) | 0022   | 4 (A36-P1)     | 0016   | 4 (A36-P1)   | 0016   |
| 5 (P15) | 0020   | 5 (A36-P2)     | W-1387 | 5 (A36-P2)   | W-1387 |
| 6 (P16) | 0018   | 6 (A37-P1)     | 0016   | 6 (A37-P1)   | 0016   |
| 7 (P17) | W-1387 | 7 (A37-P2)     | W-1387 | 7 (A37-P2)   | W-1387 |
| 8 (P18) | W-1387 | 8 (A37-P3)     | 0016   | 8 (A37-P3)   | 0016   |

( OA-1000-\*\*\*\* )

NOTE: ALL RIBBON CABLES BETWEEN MODULES ARE W-1387.

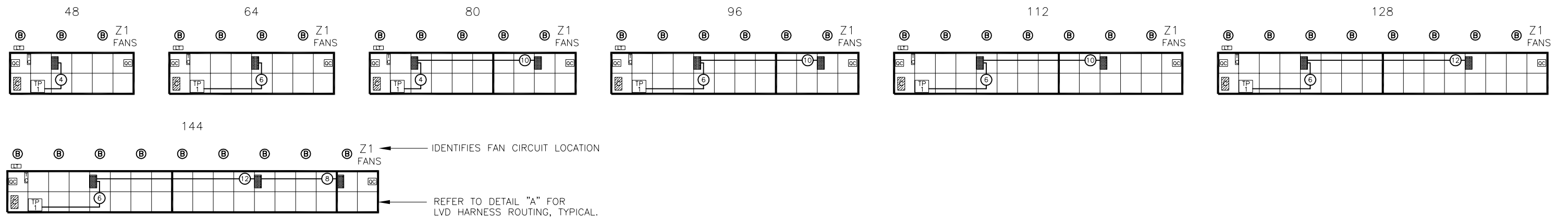
|   |   |   |
|---|---|---|
| <p>FAN B-1063 (8/16/24)HIGH<br/>DA-1327-3500 (32/40/48/56/64)HIGH</p> <p>THERMOSTAT OA-1327-3101</p> <p>1 POWER SUPPLY OA-1327-0013 RGB</p> <p>POWER FILTER Z# OA-1345-0500 (2) FILTERS<br/>OA-1327-0104 (2) CIRCUIT<br/>OA-1327-0105 (2) CIRCUIT<br/>OA-1327-0109 (8) CIRCUIT</p> <p>POWER TERM PANEL TP OA-1327-0101 (2) CIRCUIT<br/>OA-1327-0104 (2) CIRCUIT<br/>OA-1327-0105 (2) CIRCUIT<br/>OA-1327-0109 (8) CIRCUIT</p> | <p>CONTROLLER OA-1229-0013</p> <p>MODULE 14.4" X 14.4" 8 PIXEL X 8 PIXEL 46MM C-C / 1.8" C-C</p> <p>DARK GRID LINES REPRESENT A GROUPING OF MODULES THAT ARE POWERED BY A SINGLE OR DOUBLE UNIT OF POWER SUPPLIES.</p> <p>LIGHT DETECTOR OA-1327-3000 (8/16/24)HIGH<br/>PRIMARY ONLY OA-1327-3003 (32/40/48)HIGH<br/>OA-1327-3004 (56/64)HIGH</p> | <p>□ AREA POWERED BY Z1 (J41)</p> <p>▨ AREA POWERED BY Z2 (J42)</p> <p>▧ AREA POWERED BY Z3</p> <p>▩ AREA POWERED BY Z4</p> <p>▪ AREA POWERED BY Z5</p> <p>▫ AREA POWERED BY Z6</p> <p>▬ AREA POWERED BY Z7</p> <p>▭ AREA POWERED BY Z8</p> |
|---|---|---|

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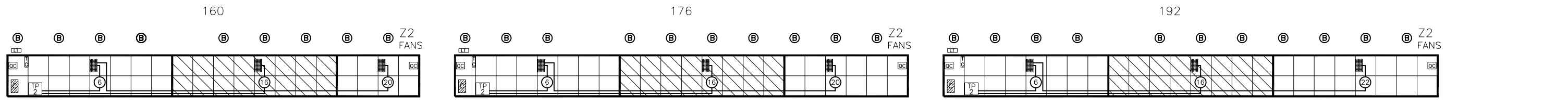
DAKTRONICS, INC. BROOKINGS, SD 57006

|          |   |                  |         |
|----------|---|------------------|---------|
| PROJ:    | GALAXY, AF-3400-46-RGB                          |                  |         |
| TITLE:   | ELECT LAYOUT, AF-3400-64X(48-144)-46-RGB-P/M, * |                  |         |
| DES. BY: | DMATHER   | DRAWN BY:        | DMATHER |
| DATE:    | 25 MAY 05                                       |                  |         |
| REVISION | APPR. BY:                                       | 1345-E10B-243086 |         |
| 02       | SCALE:  | 1=70             |         |

| REV. | DATE    | DESCRIPTION  | BY  | APPR. |
|------|---------|--|-----|-------|
| 02   | 23AUG05 | CHANGED MODULE GROUPING ON 96 COLUMN DISPLAY.                | RBN | DJM   |
| 01   | 15JUL05 | REPLACED THE OA-1327-11 PS ASSY WITH THE OA-1327-13 PS ASSY. | DJM | DJM   |

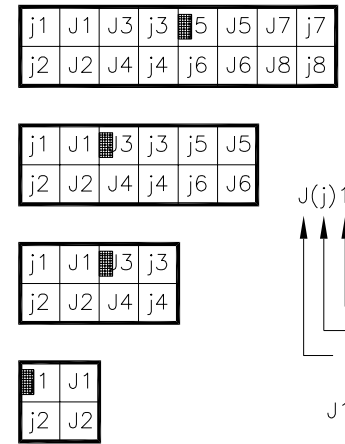


1 CIRCUIT-REFER TO DWG-00252653



2 CIRCUIT-REFER TO DWG-00252653

DETAIL: A



J(j)1  
 NUMBER REPRESENTS JACK NUMBER OF POWER SUPPLY ASSEMBLY.  
 LOWER CASE LETTER REPRESENTS SECOND MODULE OF DAISY CHAIN.  
 UPPER CASE LETTER REPRESENTS FIRST MODULE OF DAISY CHAIN

- ② OA-1327-2061 HARN, PWR INT. 3P TO 3P, 2 FT. (14AWG)
- ④ OA-1327-2062 HARN, PWR INT. 3P TO 3P, 4 FT. (14AWG)
- ⑥ OA-1327-2010 HARN, PWR INT. 3P TO 3P, 6 FT. (14AWG)
- ⑧ OA-1327-2011 HARN, PWR INT. 3P TO 3P, 8 FT. (14AWG)
- ⑩ OA-1327-2012 HARN, PWR INT. 3P TO 3P, 10 FT. (14AWG)
- ⑫ OA-1327-2013 HARN, PWR INT. 3P TO 3P, 12 FT. (14AWG)
- ⑭ OA-1327-2014 HARN, PWR INT. 3P TO 3P, 14 FT. (14AWG)
- ⑮ OA-1327-2015 HARN, PWR INT. 3P TO 3P, 16 FT. (14AWG)
- ⑰ OA-1327-2016 HARN, PWR INT. 3P TO 3P, 18 FT. (14AWG)
- ⑲ OA-1327-2017 HARN, PWR INT. 3P TO 3P, 20 FT. (14AWG)
- ⑳ OA-1327-2018 HARN, PWR INT. 3P TO 3P, 22 FT. (14AWG)
- ㉑ OA-1327-2019 HARN, PWR INT. 3P TO 3P, 24 FT. (14AWG)
- ㉓ OA-1327-2060 HARN, PWR INT. 3P TO 3P, 26 FT. (14AWG)

RIBBON CABLE CHART

| PRIMARY |        | PRIMARY OUTPUT |        | MIRROR INPUT |        |
|---------|--------|----------------|--------|--------------|--------|
| LINE/P# | P.N.   | LINE/QC P#     | P.N.   | LINE/QC P#   | P.N.   |
| 1 (P11) | W-1387 | 1 (A35-P1)     | W-1387 | 1 (A35-P1)   | W-1387 |
| 2 (P12) | W-1387 | 2 (A35-P2)     | 0016   | 2 (A35-P2)   | 0016   |

( OA-1000-\*\*\*\* )  
 NOTE: ALL RIBBON CABLES BETWEEN MODULES ARE W-1387.

|   |  |   |   |  |   |  |
|---|--|---|---|--|---|--|
| FAN<br>THERMOSTAT<br>1 POWER SUPPLY<br>POWER FILTER<br>POWER TERM PANEL | B-1053 (8/16/24)HIGH<br>OA-1327-3500 (32/40/48/56/64)HIGH<br>OA-1327-3101<br>OA-1327-0015 MONO<br>OA-1345-0500 (2)FILTERS<br>OA-1345-0501 (4)FILTERS<br>OA-1345-0502 (2)FILTERS, INT.<br>OA-1327-0100 (1)CIRCUIT<br>OA-1327-0101 (2)CIRCUIT<br>OA-1327-0104 (4)CIRCUIT | CONTROLLER<br>MODULE<br>DARK GRID LINES REPRESENT A GROUPING OF MODULES THAT ARE POWERED BY A SINGLE OR DOUBE UNIT OF POWER SUPPLIES. | OA-1229-0013<br>14.4" X 14.4"<br>8 PIXEL X 8 PIXEL<br>46MM C-C / 1.8" C-C | PRIMARY QUICK CONNECT LEFT LOWER LEFT CORNER CUTOUT<br>PRIMARY QUICK CONNECT RIGHT ALL RIGHT SIDE CUTOUTS<br>MIRROR QUICK CONNECT LEFT ALL LEFT SIDE CUTOUTS<br>QUICK CONNECT BLANK CUTOUTS NOT FILLED BY ABOVE<br>LIGHT DETECTOR PRIMARY ONLY<br>LIGHT DETECTOR BLANK MIRROR ONLY | OA-1327-1000<br>OA-1327-1010<br>OA-1327-1011<br>OA-1327-1003<br>OA-1327-3000 (8/16/24)HIGH<br>OA-1327-3003 (32/40/48)HIGH<br>OA-1327-3004 (56/64)HIGH<br>OA-1213-4009 | AREA POWERED BY Z1 (J41)<br>AREA POWERED BY Z2 (J42)<br>AREA POWERED BY Z3<br>AREA POWERED BY Z4 |
|---|--|---|---|--|---|--|

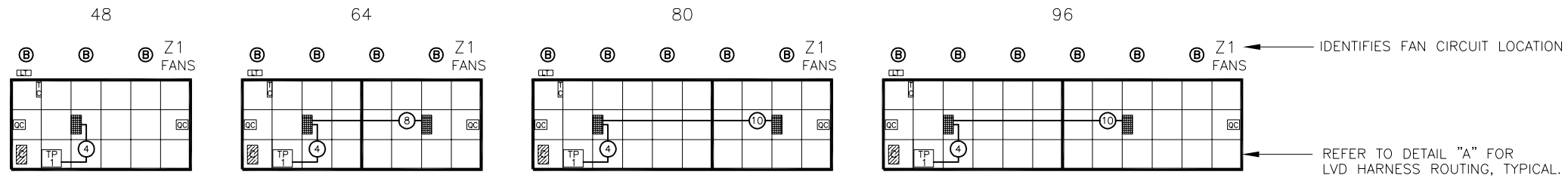
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DAKTRONICS, INC. BROOKINGS, SD 57006

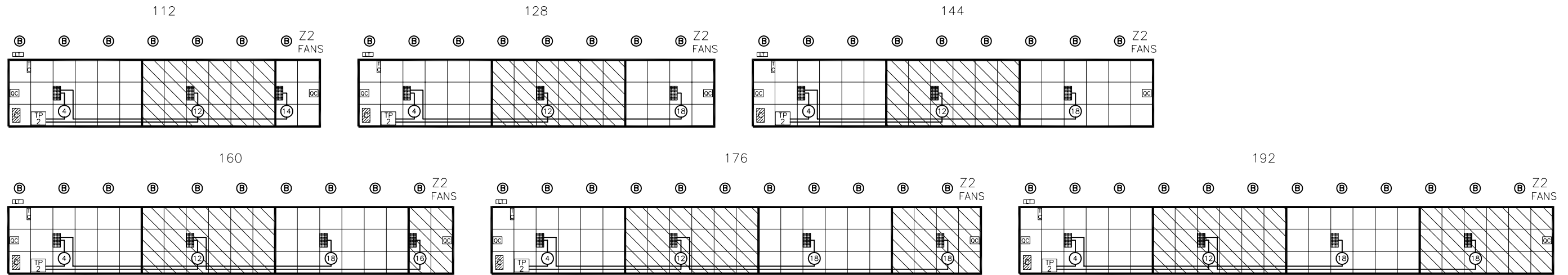
PROJ: GALAXY, AF-3400-46-MONO  
 TITLE: ELECT LAYOUT, AF-3400-16X\*\*\*-46-MONO-P/M, \*  
 DES. BY: DMATHER DRAWN BY: RNICOL DATE: 08 SEP 05

|          |                   |                  |
|----------|-------------------|------------------|
| REVISION | APPR. BY: DMATHER | 1345-E10B-253112 |
| 00       | SCALE: 1=70       |                  |

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

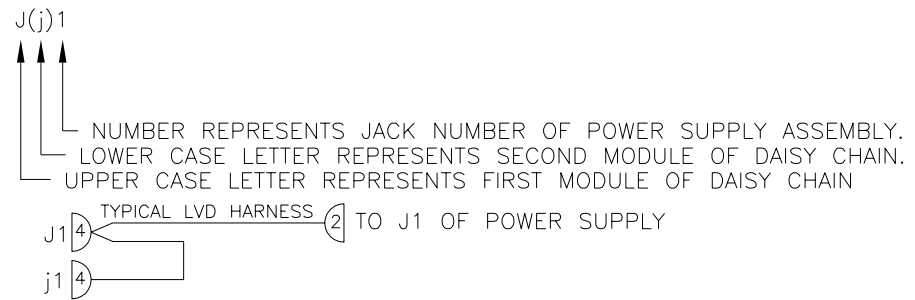
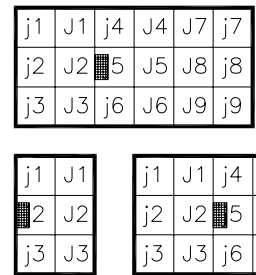


1 CIRCUIT—REFER TO DWG-00252653



2 CIRCUIT—REFER TO DWG-00252653

DETAIL: A



- ② OA-1327-2061 HARN, PWR INTC. 3P TO 3P, 2 FT. (14AWG)
- ④ OA-1327-2062 HARN, PWR INTC. 3P TO 3P, 4 FT. (14AWG)
- ⑥ OA-1327-2010 HARN, PWR INTC. 3P TO 3P, 6 FT. (14AWG)
- ⑧ OA-1327-2011 HARN, PWR INTC. 3P TO 3P, 8 FT. (14AWG)
- ⑩ OA-1327-2012 HARN, PWR INTC. 3P TO 3P, 10 FT. (14AWG)
- ⑫ OA-1327-2013 HARN, PWR INTC. 3P TO 3P, 12 FT. (14AWG)
- ⑭ OA-1327-2014 HARN, PWR INTC. 3P TO 3P, 14 FT. (14AWG)
- ⑯ OA-1327-2015 HARN, PWR INTC. 3P TO 3P, 16 FT. (14AWG)
- ⑰ OA-1327-2016 HARN, PWR INTC. 3P TO 3P, 18 FT. (14AWG)
- ⑲ OA-1327-2017 HARN, PWR INTC. 3P TO 3P, 20 FT. (14AWG)
- ⑳ OA-1327-2018 HARN, PWR INTC. 3P TO 3P, 22 FT. (14AWG)
- ㉑ OA-1327-2019 HARN, PWR INTC. 3P TO 3P, 24 FT. (14AWG)
- ㉓ OA-1327-2060 HARN, PWR INTC. 3P TO 3P, 26 FT. (14AWG)

RIBBON CABLE CHART

| PRIMARY |        | PRIMARY OUTPUT |        | MIRROR INPUT |        |
|---------|--------|----------------|--------|--------------|--------|
| LINE/P# | P.N.   | LINE/QC P#     | P.N.   | LINE/QC P#   | P.N.   |
| 1 (P11) | 0018   | 1 (A35-P1)     | 0016   | 1 (A35-P1)   | 0016   |
| 2 (P12) | W-1387 | 2 (A35-P2)     | W-1387 | 2 (A35-P2)   | W-1387 |
| 3 (P13) | W-1387 | 3 (A35-P3)     | 0016   | 3 (A35-P3)   | 0016   |

( OA-1000-\*\*\*\* )

NOTE: ALL RIBBON CABLES BETWEEN MODULES ARE W-1387.

|   |   |  |   |
|---|---|--|---|
| <p>FAN B-1053 (8/16/24)HIGH<br/>OA-1327-3500 (32/40/48/56/64)HIGH</p> <p>THERMOSTAT OA-1327-3101</p> <p>1 POWER SUPPLY OA-1327-0015 MONO</p> <p>POWER FILTER OA-1345-0500 (2)FILTERS<br/>OA-1345-0501 (4)FILTERS<br/>OA-1345-0502 (2)FILTERS, INTC.</p> <p>POWER TERM PANEL OA-1327-0100 (1)CIRCUIT<br/>OA-1327-0101 (2)CIRCUIT<br/>OA-1327-0104 (4)CIRCUIT</p> | <p>CONTROLLER OA-1229-0013</p> <p>MODULE 14.4" X 14.4"<br/>8 PIXEL X 8 PIXEL<br/>46MM C-C / 1.8" C-C</p> <p>DARK GRID LINES REPRESENT A GROUPING OF MODULES THAT ARE POWERED BY A SINGLE OR DOUBE UNIT OF POWER SUPPLIES.</p> | <p>PRIMARY QUICK CONNECT LEFT LOWER LEFT CORNER CUTOUT QC OA-1327-1000</p> <p>PRIMARY QUICK CONNECT RIGHT ALL RIGHT SIDE CUTOUTS QC OA-1327-1010</p> <p>MIRROR QUICK CONNECT LEFT ALL LEFT SIDE CUTOUTS QC OA-1327-1011</p> <p>QUICK CONNECT BLANK CUTOUTS NOT FILLED BY ABOVE QC OA-1327-1003</p> <p>LIGHT DETECTOR PRIMARY ONLY LT OA-1327-3000 (8/16/24)HIGH<br/>OA-1327-3003 (32/40/48)HIGH<br/>OA-1327-3004 (56/64)HIGH</p> <p>LIGHT DETECTOR BLANK MIRROR ONLY LT OA-1213-4009</p> | <p>AREA POWERED BY Z1 (J41)</p> <p>AREA POWERED BY Z2 (J42)</p> <p>AREA POWERED BY Z3</p> <p>AREA POWERED BY Z4</p> |
|---|---|--|---|

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

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DAKTRONICS, INC. BROOKINGS, SD 57006

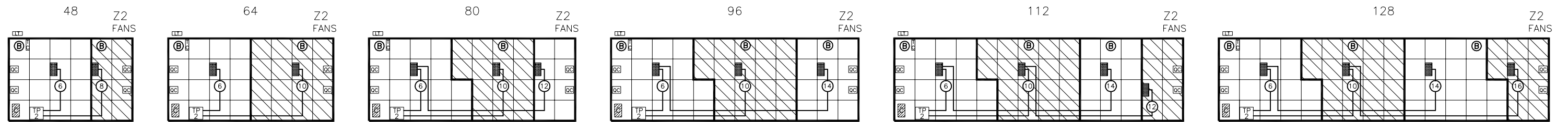
PROJ: GALAXY, AF-3400-46-MONO

TITLE: ELECT LAYOUT, AF-3400-24X\*\*\*-46-MONO-P/M, \*

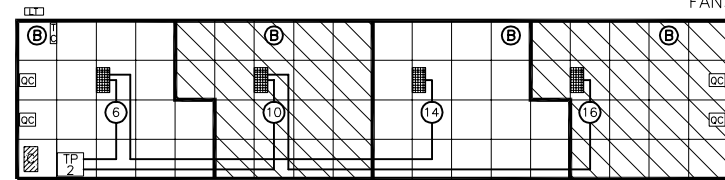
DES. BY: DMATHER DRAWN BY: RNICHOH DATE: 08 SEP 05

REVISION 00 APPR. BY: DMATHER SCALE: 1=70

1345-E10B-253113



144

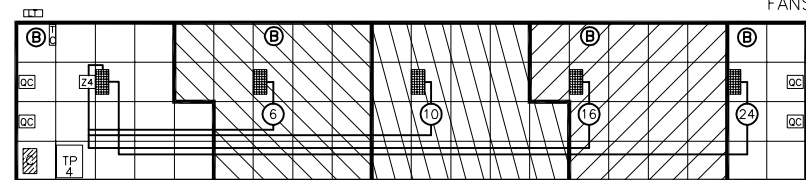


Z2 FANS ← IDENTIFIES FAN CIRCUIT LOCATION

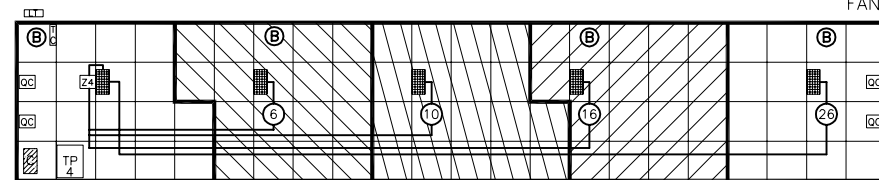
← REFER TO DETAIL "A" FOR LVD HARNESS ROUTING, TYPICAL.

2 CIRCUIT—REFER TO DWG-00252653

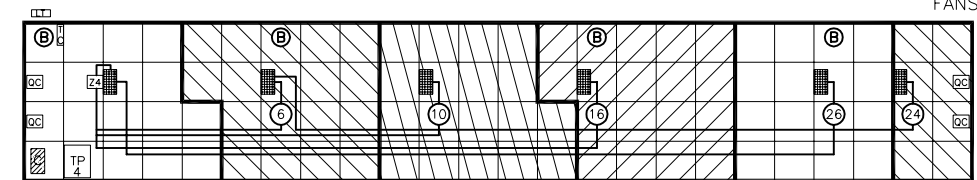
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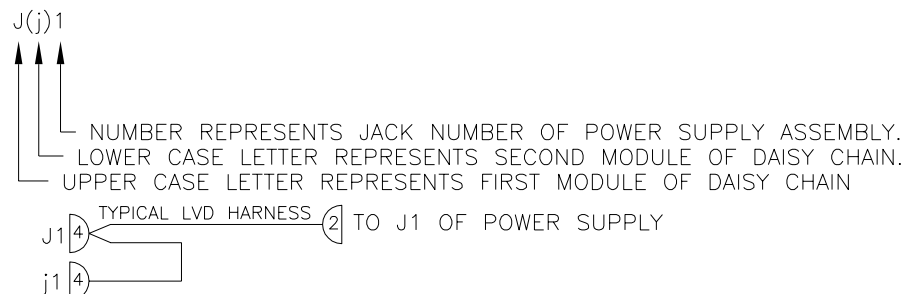
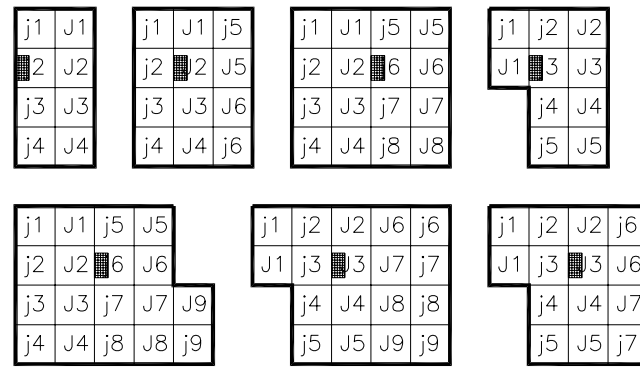
192



4 CIRCUIT—REFER TO DWG-00252654

DETAIL: A

NOTE: POWER SUPPLY MAY HAVE MULTIPLE LOCATIONS WITHIN GROUPING. REFER TO ABOVE LAYOUTS.



- ② 0A-1327-2061 HARN, PWR INTC. 3P TO 3P, 2 FT. (14AWG)
- ④ 0A-1327-2062 HARN, PWR INTC. 3P TO 3P, 4 FT. (14AWG)
- ⑥ 0A-1327-2010 HARN, PWR INTC. 3P TO 3P, 6 FT. (14AWG)
- ⑧ 0A-1327-2011 HARN, PWR INTC. 3P TO 3P, 8 FT. (14AWG)
- ⑩ 0A-1327-2012 HARN, PWR INTC. 3P TO 3P, 10 FT. (14AWG)
- ⑫ 0A-1327-2013 HARN, PWR INTC. 3P TO 3P, 12 FT. (14AWG)
- ⑭ 0A-1327-2014 HARN, PWR INTC. 3P TO 3P, 14 FT. (14AWG)
- ⑮ 0A-1327-2015 HARN, PWR INTC. 3P TO 3P, 16 FT. (14AWG)
- ⑰ 0A-1327-2016 HARN, PWR INTC. 3P TO 3P, 18 FT. (14AWG)
- ⑲ 0A-1327-2017 HARN, PWR INTC. 3P TO 3P, 20 FT. (14AWG)
- ⑳ 0A-1327-2018 HARN, PWR INTC. 3P TO 3P, 22 FT. (14AWG)
- ㉑ 0A-1327-2019 HARN, PWR INTC. 3P TO 3P, 24 FT. (14AWG)
- ㉓ 0A-1327-2060 HARN, PWR INTC. 3P TO 3P, 26 FT. (14AWG)

RIBBON CABLE CHART

| PRIMARY |        | PRIMARY OUTPUT |        | MIRROR INPUT |        |
|---------|--------|----------------|--------|--------------|--------|
| LINE/P# | P.N.   | LINE/QC P#     | P.N.   | LINE/QC P#   | P.N.   |
| 1 (P11) | 0020   | 1 (A35-P1)     | 0016   | 1 (A35-P1)   | 0016   |
| 2 (P12) | 0018   | 2 (A35-P2)     | W-1387 | 2 (A35-P2)   | W-1387 |
| 3 (P13) | W-1387 | 3 (A36-P1)     | W-1387 | 3 (A36-P1)   | W-1387 |
| 4 (P14) | W-1387 | 4 (A36-P2)     | 0016   | 4 (A36-P2)   | 0016   |

( 0A-1000-\*\*\*\* )

NOTE: ALL RIBBON CABLES BETWEEN MODULES ARE W-1387.

|  |   |  |   |
|--|---|--|---|
| <p>FAN (B) 0A-1053 (8/16/24)HIGH<br/>0A-1327-3500 (32/40/48/56/64)HIGH</p> <p>THERMOSTAT (T) 0A-1327-3101</p> <p>1 POWER SUPPLY (P) 0A-1327-0015 MONO</p> <p>POWER FILTER (ZF) 0A-1345-0500 (2)FILTERS<br/>0A-1345-0501 (4)FILTERS<br/>0A-1345-0502 (2)FILTERS, INTC.</p> <p>POWER TERM PANEL (TP) 0A-1327-0100 (1)CIRCUIT<br/>0A-1327-0101 (2)CIRCUIT<br/>0A-1327-0104 (4)CIRCUIT</p> | <p>CONTROLLER (C) 0A-1229-0013</p> <p>MODULE (M) 14.4" X 14.4"<br/>8 PIXEL X 8 PIXEL<br/>46MM C-C / 1.8" C-C</p> <p>DARK GRID LINES REPRESENT A GROUPING OF MODULES THAT ARE POWERED BY A SINGLE OR DOUBE UNIT OF POWER SUPPLIES.</p> | <p>PRIMARY QUICK CONNECT LEFT LOWER LEFT CORNER CUTOUT (QC) 0A-1327-1000</p> <p>PRIMARY QUICK CONNECT RIGHT ALL RIGHT SIDE CUTOUTS (QC) 0A-1327-1010</p> <p>MIRROR QUICK CONNECT LEFT ALL LEFT SIDE CUTOUTS (QC) 0A-1327-1011</p> <p>QUICK CONNECT BLANK CUTOUTS NOT FILLED BY ABOVE (QC) 0A-1327-1003</p> <p>LIGHT DETECTOR PRIMARY ONLY (LT) 0A-1327-3000 (8/16/24)HIGH<br/>0A-1327-3003 (32/40/48)HIGH<br/>0A-1327-3004 (56/64)HIGH</p> <p>LIGHT DETECTOR BLANK MIRROR ONLY (LT) 0A-1213-4009</p> | <p>□ AREA POWERED BY Z1 (J41)</p> <p>▨ AREA POWERED BY Z2 (J42)</p> <p>▩ AREA POWERED BY Z3</p> <p>▧ AREA POWERED BY Z4</p> |
|--|---|--|---|

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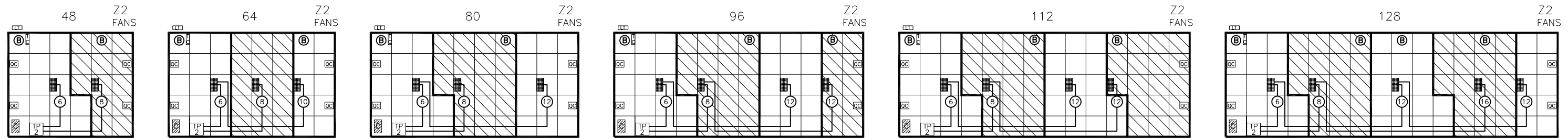
PROJ: GALAXY, AF-3400-46-MONO

TITLE: ELECT LAYOUT, AF-3400-32X\*\*\*-46-MONO-P/M, \*

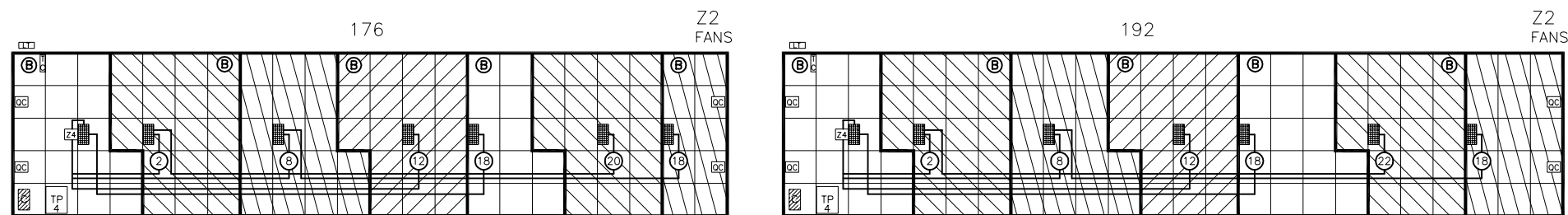
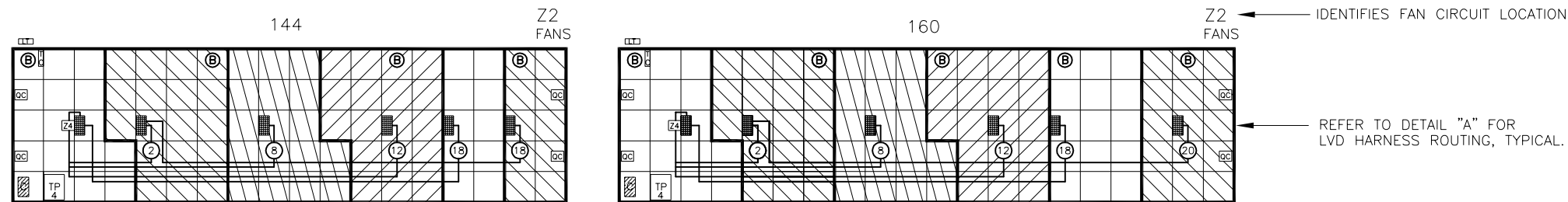
DES. BY: DMATHER DRAWN BY: RNICHOH DATE: 08 SEP 05

REVISION 00 APPR. BY: DMATHER SCALE: 1=70 1345-E10B-253114

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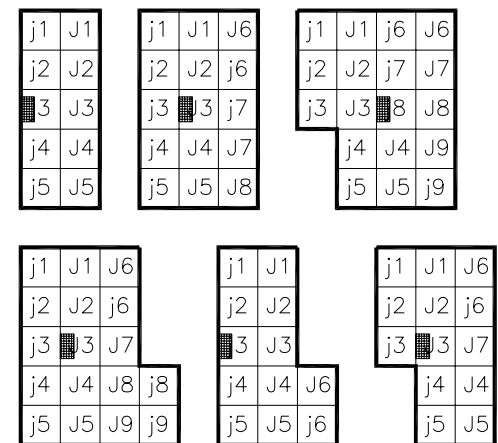


2 CIRCUIT—REFER TO DWG-00252653



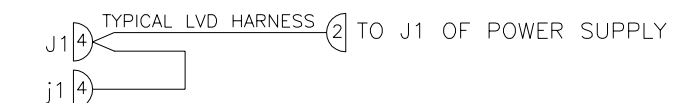
4 CIRCUIT—REFER TO DWG-00252654

DETAIL: A



NOTE: POWER SUPPLY MAY HAVE MULTIPLE LOCATIONS WITHIN GROUPING. REFER TO ABOVE LAYOUTS.

J(j)1  
 NUMBER REPRESENTS JACK NUMBER OF POWER SUPPLY ASSEMBLY.  
 LOWER CASE LETTER REPRESENTS SECOND MODULE OF DAISY CHAIN.  
 UPPER CASE LETTER REPRESENTS FIRST MODULE OF DAISY CHAIN



- ② OA-1327-2061 HARN, PWR INT. 3P TO 3P, 2 FT. (14AWG)
- ④ OA-1327-2062 HARN, PWR INT. 3P TO 3P, 4 FT. (14AWG)
- ⑥ OA-1327-2010 HARN, PWR INT. 3P TO 3P, 6 FT. (14AWG)
- ⑧ OA-1327-2011 HARN, PWR INT. 3P TO 3P, 8 FT. (14AWG)
- ⑩ OA-1327-2012 HARN, PWR INT. 3P TO 3P, 10 FT. (14AWG)
- ⑫ OA-1327-2013 HARN, PWR INT. 3P TO 3P, 12 FT. (14AWG)
- ⑭ OA-1327-2014 HARN, PWR INT. 3P TO 3P, 14 FT. (14AWG)
- ⑯ OA-1327-2015 HARN, PWR INT. 3P TO 3P, 16 FT. (14AWG)
- ⑰ OA-1327-2016 HARN, PWR INT. 3P TO 3P, 18 FT. (14AWG)
- ⑳ OA-1327-2017 HARN, PWR INT. 3P TO 3P, 20 FT. (14AWG)
- ㉑ OA-1327-2018 HARN, PWR INT. 3P TO 3P, 22 FT. (14AWG)
- ㉒ OA-1327-2019 HARN, PWR INT. 3P TO 3P, 24 FT. (14AWG)
- ㉓ OA-1327-2060 HARN, PWR INT. 3P TO 3P, 26 FT. (14AWG)

RIBBON CABLE CHART

| PRIMARY |        | PRIMARY OUTPUT |        | MIRROR INPUT |        |
|---------|--------|----------------|--------|--------------|--------|
| LINE/P# | P.N.   | LINE/QC P#     | P.N.   | LINE/QC P#   | P.N.   |
| 1 (P11) | 0022   | 1 (A35-P1)     | 0016   | 1 (A35-P1)   | 0016   |
| 2 (P12) | 0020   | 2 (A35-P2)     | W-1387 | 2 (A35-P2)   | W-1387 |
| 3 (P13) | 0018   | 3 (A36-P1)     | 0016   | 3 (A36-P1)   | 0016   |
| 4 (P14) | W-1387 | 4 (A36-P2)     | W-1387 | 4 (A36-P2)   | W-1387 |
| 5 (P15) | W-1387 | 5 (A36-P3)     | 0016   | 5 (A36-P3)   | 0016   |

( OA-1000-\*\*\*\* )

NOTE: ALL RIBBON CABLES BETWEEN MODULES ARE W-1387.

|  |   |  |   |
|--|---|--|---|
| <p>FAN B-1053 (8/16/24)HIGH<br/>OA-1327-3500 (32/40/48/56/64)HIGH</p> <p>THERMOSTAT OA-1327-3101</p> <p>1 POWER SUPPLY OA-1327-0015 MONO</p> <p>POWER FILTER Z# OA-1345-0500 (2)FILTERS<br/>OA-1345-0501 (4)FILTERS<br/>OA-1345-0502 (2)FILTERS, INT.</p> <p>POWER TERM PANEL TP OA-1327-0100 (1)CIRCUIT<br/>OA-1327-0101 (2)CIRCUIT<br/>OA-1327-0104 (4)CIRCUIT</p> | <p>CONTROLLER OA-1229-0013</p> <p>MODULE 14.4" X 14.4"<br/>8 PIXEL X 8 PIXEL<br/>46MM C-C / 1.8" C-C</p> <p>DARK GRID LINES REPRESENT A GROUPING OF MODULES THAT ARE POWERED BY A SINGLE OR DOUBE UNIT OF POWER SUPPLIES.</p> | <p>PRIMARY QUICK CONNECT LEFT LOWER LEFT CORNER CUTOUT CC OA-1327-1000</p> <p>PRIMARY QUICK CONNECT RIGHT ALL RIGHT SIDE CUTOUTS CC OA-1327-1010</p> <p>MIRROR QUICK CONNECT LEFT ALL LEFT SIDE CUTOUTS CC OA-1327-1011</p> <p>QUICK CONNECT BLANK CUTOUTS NOT FILLED BY ABOVE CC OA-1327-1003</p> <p>LIGHT DETECTOR (8/16/24)HIGH<br/>PRIMARY ONLY LT OA-1327-3000<br/>OA-1327-3003 (32/40/48)HIGH<br/>OA-1327-3004 (56/64)HIGH</p> <p>LIGHT DETECTOR BLANK MIRROR ONLY LT OA-1213-4009</p> | <p>AREA POWERED BY Z1 (J41)</p> <p>AREA POWERED BY Z2 (J42)</p> <p>AREA POWERED BY Z3</p> <p>AREA POWERED BY Z4</p> |
|--|---|--|---|

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

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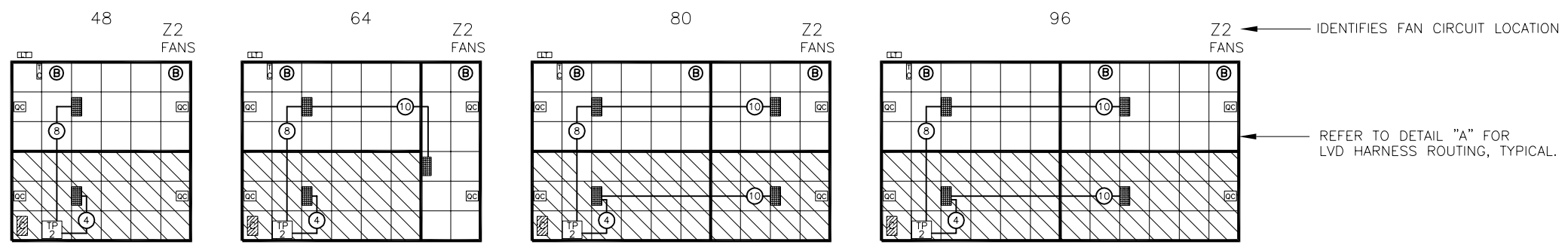
DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GALAXY, AF-3400-46-MONO

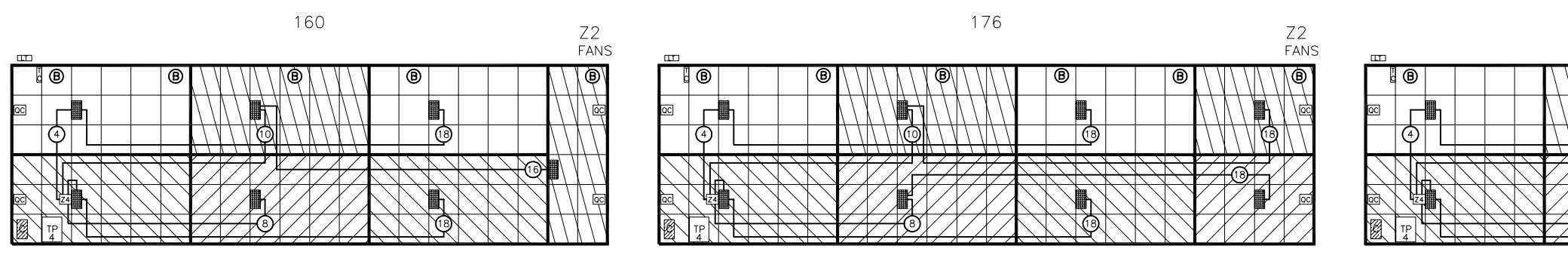
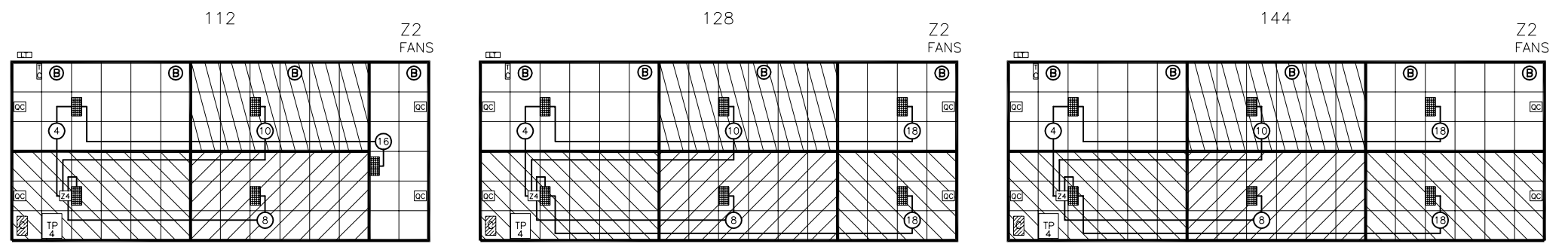
TITLE: ELECT LAYOUT, AF-3400-40X\*\*\*-46-MONO-P/M, \*

DES. BY: DMATHER DRAWN BY: RNICHO L DATE: 08 SEP 05

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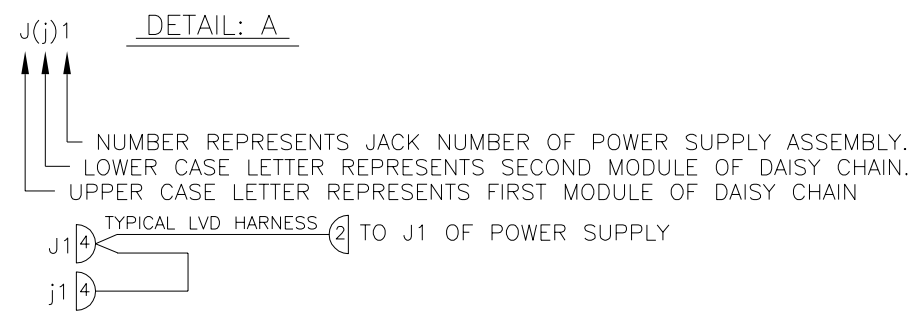
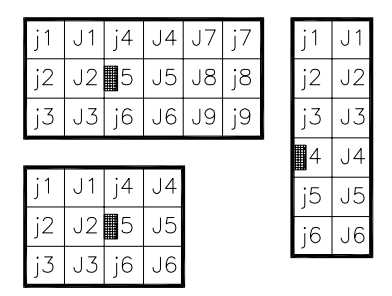


2 CIRCUIT-REFER TO DWG-00252653



4 CIRCUIT-REFER TO DWG-00252654

- ② OA-1327-2061 HARN, PWR INT. 3P TO 3P, 2 FT. (14AWG)
- ④ OA-1327-2062 HARN, PWR INT. 3P TO 3P, 4 FT. (14AWG)
- ⑥ OA-1327-2010 HARN, PWR INT. 3P TO 3P, 6 FT. (14AWG)
- ⑧ OA-1327-2011 HARN, PWR INT. 3P TO 3P, 8 FT. (14AWG)
- ⑩ OA-1327-2012 HARN, PWR INT. 3P TO 3P, 10 FT. (14AWG)
- ⑫ OA-1327-2013 HARN, PWR INT. 3P TO 3P, 12 FT. (14AWG)
- ⑭ OA-1327-2014 HARN, PWR INT. 3P TO 3P, 14 FT. (14AWG)
- ⑯ OA-1327-2015 HARN, PWR INT. 3P TO 3P, 16 FT. (14AWG)
- ⑰ OA-1327-2016 HARN, PWR INT. 3P TO 3P, 18 FT. (14AWG)
- ⑲ OA-1327-2017 HARN, PWR INT. 3P TO 3P, 20 FT. (14AWG)
- ⑳ OA-1327-2018 HARN, PWR INT. 3P TO 3P, 22 FT. (14AWG)
- ㉑ OA-1327-2019 HARN, PWR INT. 3P TO 3P, 24 FT. (14AWG)
- ㉒ OA-1327-2060 HARN, PWR INT. 3P TO 3P, 26 FT. (14AWG)



RIBBON CABLE CHART

| PRIMARY |        | PRIMARY OUTPUT |        | MIRROR INPUT |        |
|---------|--------|----------------|--------|--------------|--------|
| LINE/P# | P.N.   | LINE/QC P#     | P.N.   | LINE/QC P#   | P.N.   |
| 1 (P11) | 0023   | 1 (A35-P1)     | 0016   | 1 (A35-P1)   | 0016   |
| 2 (P12) | 0022   | 2 (A35-P2)     | W-1387 | 2 (A35-P2)   | W-1387 |
| 3 (P13) | 0020   | 3 (A35-P3)     | 0016   | 3 (A35-P3)   | 0016   |
| 4 (P14) | 0018   | 4 (A36-P1)     | 0016   | 4 (A36-P1)   | 0016   |
| 5 (P15) | W-1387 | 5 (A36-P2)     | W-1387 | 5 (A36-P2)   | W-1387 |
| 6 (P16) | W-1387 | 6 (A36-P3)     | 0016   | 6 (A36-P3)   | 0016   |

( OA-1000-\*\*\*\* )  
NOTE: ALL RIBBON CABLES BETWEEN MODULES ARE W-1387.

|  |   |  |   |
|--|---|--|---|
| <p>FAN (B) B-1053 (8/16/24)HIGH<br/>OA-1327-3500 (32/40/48/56/64)HIGH</p> <p>THERMOSTAT (T) OA-1327-3101</p> <p>1 POWER SUPPLY (P) OA-1327-0015 MONO</p> <p>POWER FILTER (ZF) OA-1345-0500 (2)FILTERS<br/>OA-1345-0501 (4)FILTERS<br/>OA-1345-0502 (2)FILTERS, INT.</p> <p>POWER TERM PANEL (TP) OA-1327-0100 (1)CIRCUIT<br/>OA-1327-0101 (2)CIRCUIT<br/>OA-1327-0104 (4)CIRCUIT</p> | <p>CONTROLLER (C) OA-1229-0013</p> <p>MODULE (M) 14.4" X 14.4" 8 PIXEL X 8 PIXEL 46MM C-C / 1.8" C-C</p> <p>DARK GRID LINES REPRESENT A GROUPING OF MODULES THAT ARE POWERED BY A SINGLE OR DOUBE UNIT OF POWER SUPPLIES.</p> | <p>PRIMARY QUICK CONNECT LEFT LOWER LEFT CORNER CUTOUT (CC) OA-1327-1000</p> <p>PRIMARY QUICK CONNECT RIGHT ALL RIGHT SIDE CUTOUTS (CC) OA-1327-1010</p> <p>MIRROR QUICK CONNECT LEFT ALL LEFT SIDE CUTOUTS (CC) OA-1327-1011</p> <p>QUICK CONNECT BLANK CUTOUTS NOT FILLED BY ABOVE (CC) OA-1327-1003</p> <p>LIGHT DETECTOR PRIMARY ONLY (LT) OA-1327-3000 (8/16/24)HIGH<br/>OA-1327-3003 (32/40/48)HIGH<br/>OA-1327-3004 (56/64)HIGH</p> <p>LIGHT DETECTOR BLANK MIRROR ONLY (LT) OA-1213-4009</p> | <p>AREA POWERED BY Z1 (J41)</p> <p>AREA POWERED BY Z2 (J42)</p> <p>AREA POWERED BY Z3</p> <p>AREA POWERED BY Z4</p> |
|--|---|--|---|

| REV. | DATE | DESCRIPTION | BY | APPR. |
|------|------|-------------|----|-------|
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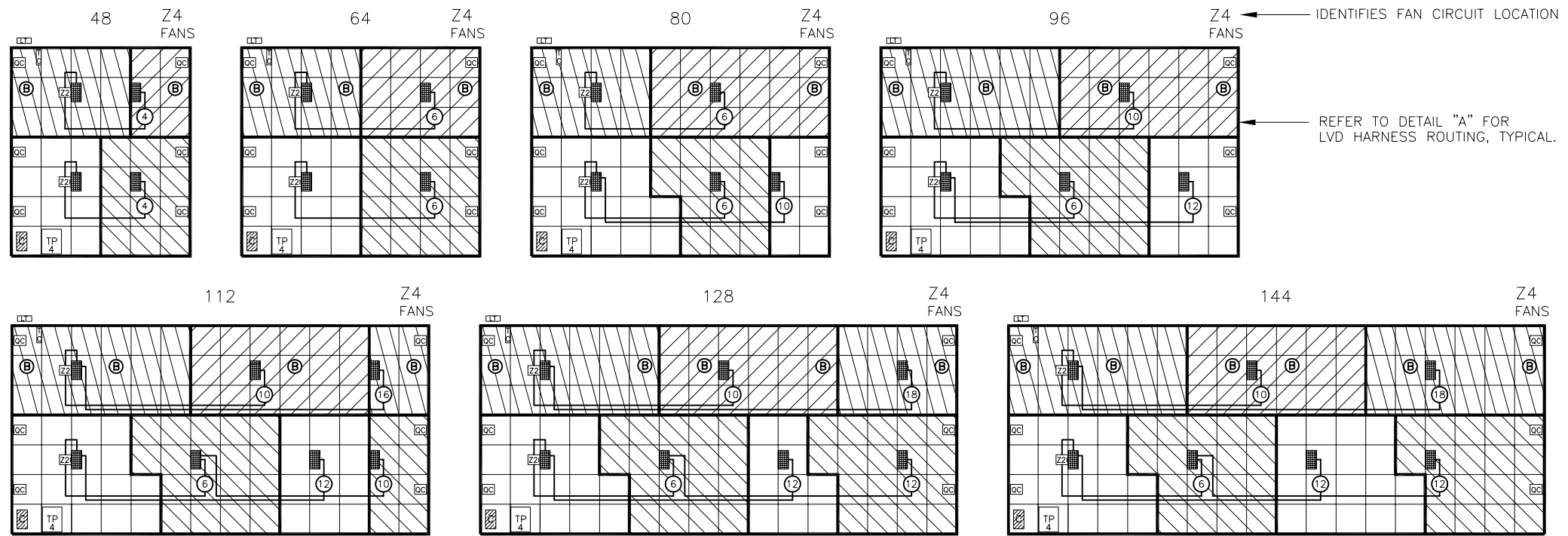
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PROJ: GALAXY, AF-3400-46-MONO  
TITLE: ELECT LAYOUT, AF-3400-48X\*\*\*-46-MONO-P/M, \*  
DES. BY: DMATHER DRAWN BY: RNICHO L DATE: 08 SEP 05

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| REVISION | APPR. BY: DMATHER | 1345-E10B-253116 |
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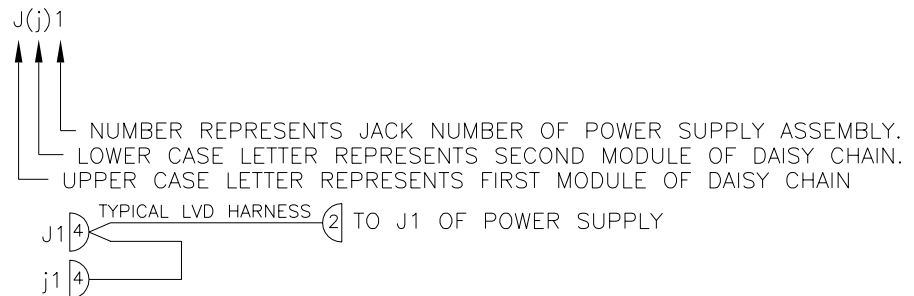
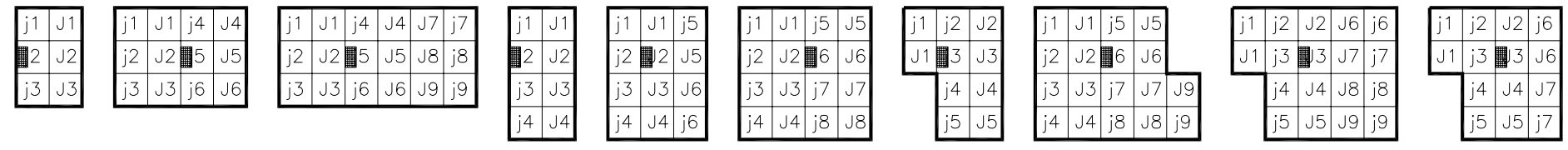




4 CIRCUIT—REFER TO DWG-00252654

DETAIL: A

NOTE: POWER SUPPLY MAY HAVE MULTIPLE LOCATIONS WITHIN GROUPING. REFER TO ABOVE LAYOUTS.



- ② OA-1327-2061 HARN, PWR INTC. 3P TO 3P, 2 FT. (14AWG)
- ④ OA-1327-2062 HARN, PWR INTC. 3P TO 3P, 4 FT. (14AWG)
- ⑥ OA-1327-2010 HARN, PWR INTC. 3P TO 3P, 6 FT. (14AWG)
- ⑧ OA-1327-2011 HARN, PWR INTC. 3P TO 3P, 8 FT. (14AWG)
- ⑩ OA-1327-2012 HARN, PWR INTC. 3P TO 3P, 10 FT. (14AWG)
- ⑫ OA-1327-2013 HARN, PWR INTC. 3P TO 3P, 12 FT. (14AWG)
- ⑭ OA-1327-2014 HARN, PWR INTC. 3P TO 3P, 14 FT. (14AWG)
- ⑯ OA-1327-2015 HARN, PWR INTC. 3P TO 3P, 16 FT. (14AWG)
- ⑰ OA-1327-2016 HARN, PWR INTC. 3P TO 3P, 18 FT. (14AWG)
- ⑲ OA-1327-2017 HARN, PWR INTC. 3P TO 3P, 20 FT. (14AWG)
- ⑳ OA-1327-2018 HARN, PWR INTC. 3P TO 3P, 22 FT. (14AWG)
- ㉑ OA-1327-2019 HARN, PWR INTC. 3P TO 3P, 24 FT. (14AWG)
- ㉓ OA-1327-2060 HARN, PWR INTC. 3P TO 3P, 26 FT. (14AWG)

RIBBON CABLE CHART

| PRIMARY |        | PRIMARY OUTPUT |        | MIRROR INPUT |        |
|---------|--------|----------------|--------|--------------|--------|
| LINE/P# | P.N.   | LINE/QC P#     | P.N.   | LINE/QC P#   | P.N.   |
| 1 (P11) | 0024   | 1 (A35-P1)     | W-1387 | 1 (A35-P1)   | W-1387 |
| 2 (P12) | 0023   | 2 (A35-P2)     | 0016   | 2 (A35-P2)   | 0016   |
| 3 (P13) | 0022   | 3 (A36-P1)     | 0016   | 3 (A36-P1)   | 0016   |
| 4 (P14) | 0020   | 4 (A36-P2)     | W-1387 | 4 (A36-P2)   | W-1387 |
| 5 (P15) | 0018   | 5 (A37-P1)     | 0016   | 5 (A37-P1)   | 0016   |
| 6 (P16) | W-1387 | 6 (A37-P2)     | W-1387 | 6 (A37-P2)   | W-1387 |
| 7 (P17) | W-1387 | 7 (A37-P3)     | 0016   | 7 (A37-P3)   | 0016   |

( OA-1000-\*\*\*\* )  
NOTE: ALL RIBBON CABLES BETWEEN MODULES ARE W-1387.

|   |   |  |   |
|---|---|--|---|
| <p>FAN B-1053 (8/16/24)HIGH<br/>OA-1327-3500 (32/40/48/56/64)HIGH</p> <p>THERMOSTAT OA-1327-3101</p> <p>1 POWER SUPPLY OA-1327-0015 MONO</p> <p>POWER FILTER Z# OA-1345-0500 (2)FILTERS<br/>OA-1345-0501 (4)FILTERS<br/>OA-1345-0502 (2)FILTERS, INTC.</p> <p>POWER TERM PANEL TP OA-1327-0100 (1)CIRCUIT<br/>OA-1327-0101 (2)CIRCUIT<br/>OA-1327-0104 (4)CIRCUIT</p> | <p>CONTROLLER OA-1229-0013</p> <p>MODULE 14.4" X 14.4"<br/>8 PIXEL X 8 PIXEL<br/>46MM C-C / 1.8" C-C</p> <p>DARK GRID LINES REPRESENT A GROUPING OF MODULES THAT ARE POWERED BY A SINGLE OR DOUBE UNIT OF POWER SUPPLIES.</p> | <p>PRIMARY QUICK CONNECT LEFT LOWER LEFT CORNER CUTOUT QC OA-1327-1000</p> <p>PRIMARY QUICK CONNECT RIGHT ALL RIGHT SIDE CUTOUTS QC OA-1327-1010</p> <p>MIRROR QUICK CONNECT LEFT ALL LEFT SIDE CUTOUTS QC OA-1327-1011</p> <p>QUICK CONNECT BLANK CUTOUTS NOT FILLED BY ABOVE QC OA-1327-1003</p> <p>LIGHT DETECTOR PRIMARY ONLY LT OA-1327-3000 (8/16/24)HIGH<br/>OA-1327-3003 (32/40/48)HIGH<br/>OA-1327-3004 (56/64)HIGH</p> <p>LIGHT DETECTOR BLANK MIRROR ONLY LT OA-1213-4009</p> | <p>AREA POWERED BY Z1 (J41)</p> <p>AREA POWERED BY Z2 (J42)</p> <p>AREA POWERED BY Z3</p> <p>AREA POWERED BY Z4</p> |
|---|---|--|---|

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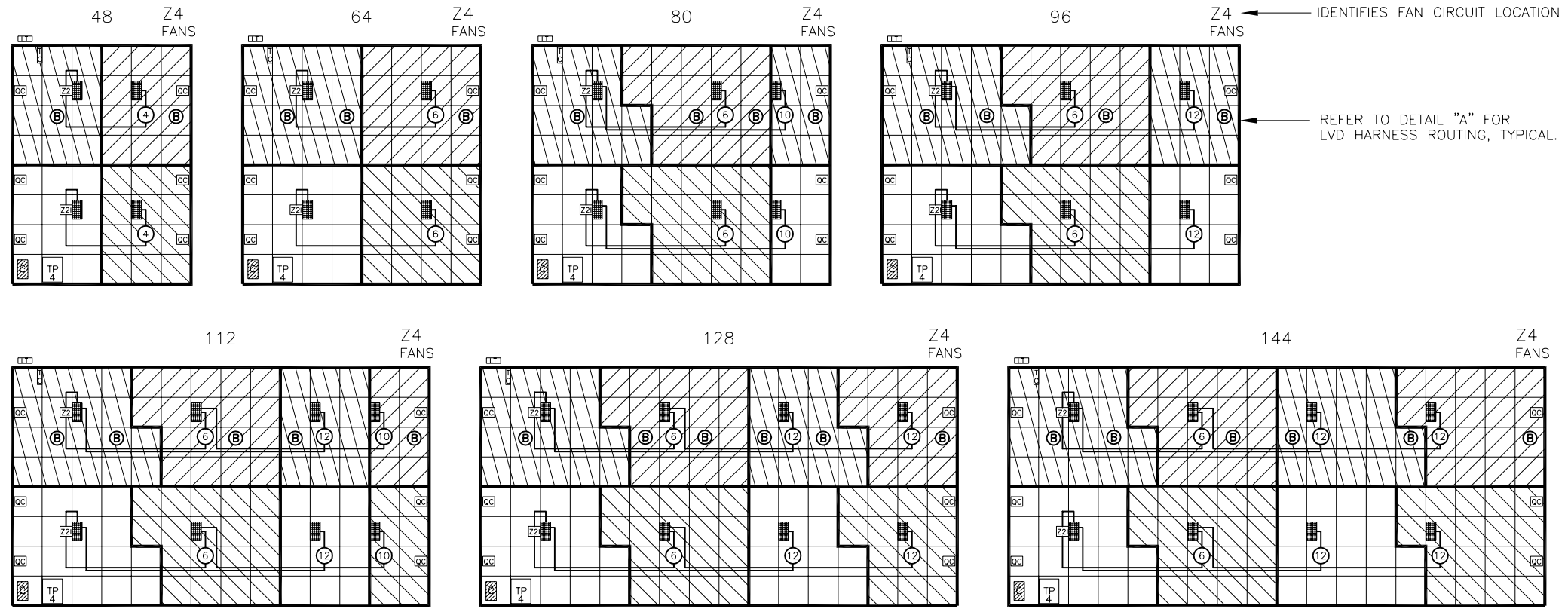
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TITLE: ELECT LAYOUT, AF-3400-56X(48-144)-46-MONO-P/M, \*

DES. BY: DMATHER DRAWN BY: RNICHOL DATE: 08 SEP 05

|          |                   |                  |
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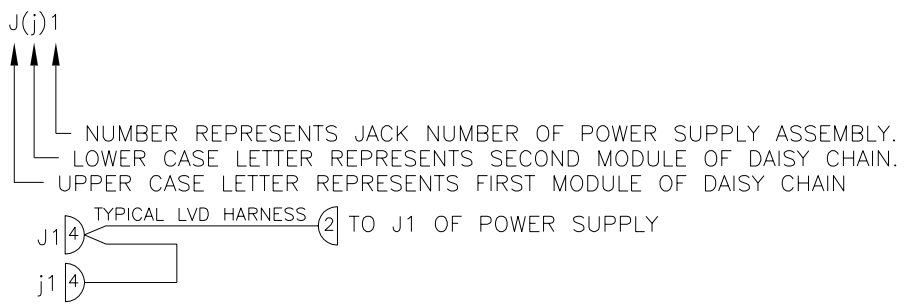
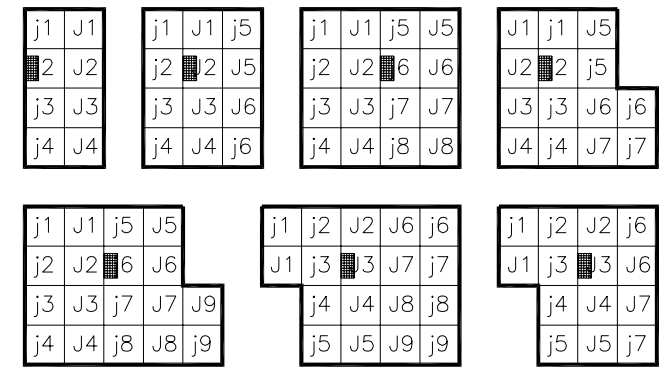


4 CIRCUIT—REFER TO DWG-00252654

DETAIL: A

NOTE: POWER SUPPLY MAY HAVE MULTIPLE LOCATIONS WITHIN GROUPING. REFER TO ABOVE LAYOUTS.

- ② OA-1327-2061 HARN, PWR INTC. 3P TO 3P, 2 FT. (14AWG)
- ④ OA-1327-2062 HARN, PWR INTC. 3P TO 3P, 4 FT. (14AWG)
- ⑥ OA-1327-2010 HARN, PWR INTC. 3P TO 3P, 6 FT. (14AWG)
- ⑧ OA-1327-2011 HARN, PWR INTC. 3P TO 3P, 8 FT. (14AWG)
- ⑩ OA-1327-2012 HARN, PWR INTC. 3P TO 3P, 10 FT. (14AWG)
- ⑫ OA-1327-2013 HARN, PWR INTC. 3P TO 3P, 12 FT. (14AWG)
- ⑭ OA-1327-2014 HARN, PWR INTC. 3P TO 3P, 14 FT. (14AWG)
- ⑯ OA-1327-2015 HARN, PWR INTC. 3P TO 3P, 16 FT. (14AWG)
- ⑰ OA-1327-2016 HARN, PWR INTC. 3P TO 3P, 18 FT. (14AWG)
- ⑲ OA-1327-2017 HARN, PWR INTC. 3P TO 3P, 20 FT. (14AWG)
- ⑳ OA-1327-2018 HARN, PWR INTC. 3P TO 3P, 22 FT. (14AWG)
- ㉑ OA-1327-2019 HARN, PWR INTC. 3P TO 3P, 24 FT. (14AWG)
- ㉒ OA-1327-2060 HARN, PWR INTC. 3P TO 3P, 26 FT. (14AWG)



RIBBON CABLE CHART

| PRIMARY |        | PRIMARY OUTPUT |        | MIRROR INPUT |        |
|---------|--------|----------------|--------|--------------|--------|
| LINE/P# | P.N.   | LINE/QC P#     | P.N.   | LINE/QC P#   | P.N.   |
| 1 (P11) | 0025   | 1 (A35-P1)     | 0016   | 1 (A35-P1)   | 0016   |
| 2 (P12) | 0024   | 2 (A35-P2)     | W-1387 | 2 (A35-P2)   | W-1387 |
| 3 (P13) | 0023   | 3 (A35-P3)     | 0016   | 3 (A35-P3)   | 0016   |
| 4 (P14) | 0022   | 4 (A36-P1)     | 0016   | 4 (A36-P1)   | 0016   |
| 5 (P15) | 0020   | 5 (A36-P2)     | W-1387 | 5 (A36-P2)   | W-1387 |
| 6 (P16) | 0018   | 6 (A37-P1)     | 0016   | 6 (A37-P1)   | 0016   |
| 7 (P17) | W-1387 | 7 (A37-P2)     | W-1387 | 7 (A37-P2)   | W-1387 |
| 8 (P18) | W-1387 | 8 (A37-P3)     | 0016   | 8 (A37-P3)   | 0016   |

( OA-1000-\*\*\*\* )  
NOTE: ALL RIBBON CABLES BETWEEN MODULES ARE W-1387.

|   |   |   |   |
|---|---|---|---|
| <p>FAN B-1053 (8/16/24)HIGH<br/>OA-1327-3500 (32/40/48/56/64)HIGH</p> <p>THERMOSTAT OA-1327-3101</p> <p>1 POWER SUPPLY OA-1327-0015 MONO</p> <p>POWER FILTER ZF OA-1345-0500 (2)FILTERS<br/>OA-1345-0501 (4)FILTERS<br/>OA-1345-0502 (2)FILTERS, INTC.</p> <p>POWER TERM PANEL TP OA-1327-0100 (1)CIRCUIT<br/>OA-1327-0101 (2)CIRCUIT<br/>OA-1327-0104 (4)CIRCUIT</p> | <p>CONTROLLER OA-1229-0013</p> <p>MODULE 14.4" X 14.4"<br/>8 PIXEL X 8 PIXEL<br/>46MM C-C / 1.8" C-C</p> <p>DARK GRID LINES REPRESENT A GROUPING OF MODULES THAT ARE POWERED BY A SINGLE OR DOUBE UNIT OF POWER SUPPLIES.</p> | <p>PRIMARY QUICK CONNECT LEFT LOWER LEFT CORNER CUTOUT QC OA-1327-1000</p> <p>PRIMARY QUICK CONNECT RIGHT ALL RIGHT SIDE CUTOUTS QC OA-1327-1010</p> <p>MIRROR QUICK CONNECT LEFT ALL LEFT SIDE CUTOUTS QC OA-1327-1011</p> <p>QUICK CONNECT BLANK CUTOUTS NOT FILLED BY ABOVE QC OA-1327-1003</p> <p>LIGHT DETECTOR OA-1327-3000 (8/16/24)HIGH<br/>PRIMARY ONLY OA-1327-3003 (32/40/48)HIGH<br/>OA-1327-3004 (56/64)HIGH</p> <p>LIGHT DETECTOR BLANK MIRROR ONLY LT OA-1213-4009</p> | <p>AREA POWERED BY Z1 (J41)</p> <p>AREA POWERED BY Z2 (J42)</p> <p>AREA POWERED BY Z3</p> <p>AREA POWERED BY Z4</p> |
|---|---|---|---|

| REV. | DATE | DESCRIPTION | BY | APPR. |
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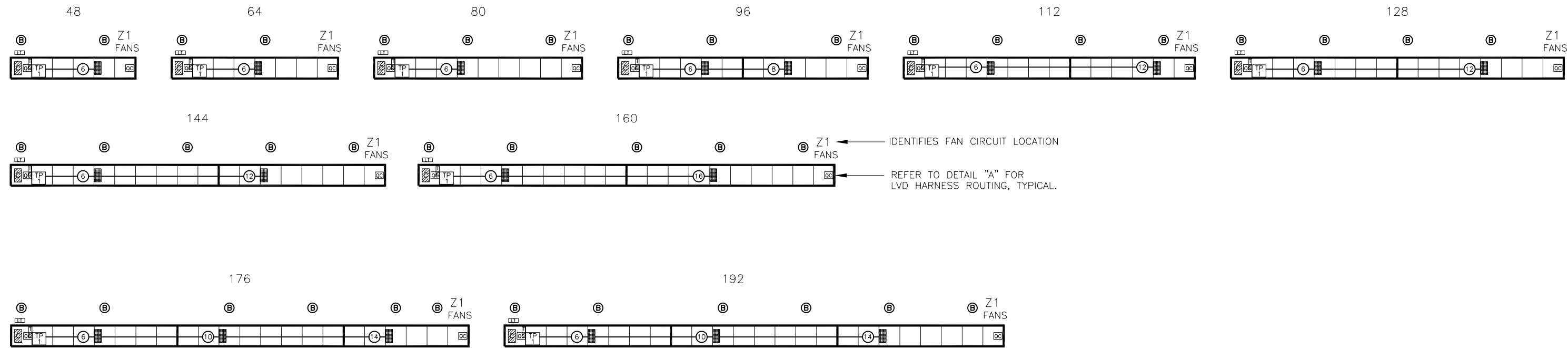
DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GALAXY, AF-3400-46-MONO

TITLE: ELECT LAYOUT, AF-3400-64X(48-144)-46-MONO-P/M, \*

DES. BY: DMATHER DRAWN BY: RNICHO L DATE: 08 SEP 05

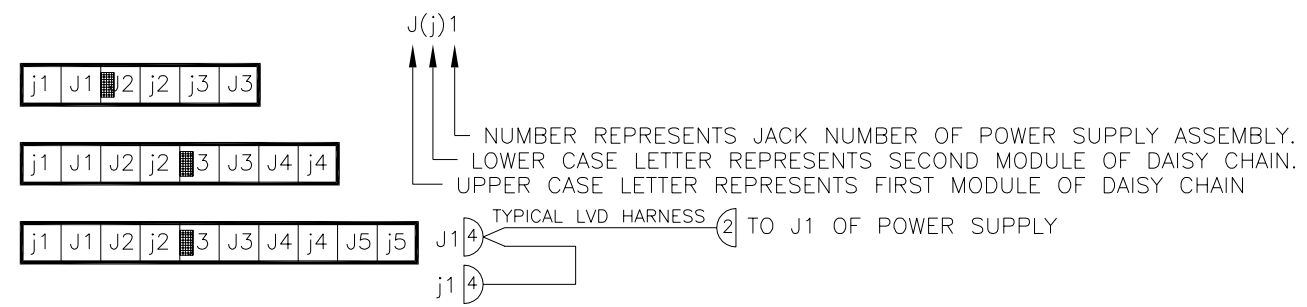
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| REVISION | APPR. BY: DMATHER | 1345-E10B-253118 |
| 00       | SCALE: 1=70       |                  |



1 CIRCUIT—REFER TO DWG-00252653

DETAIL: A

NOTE: POWER SUPPLY MAY HAVE MULTIPLE LOCATIONS WITHIN GROUPING. REFER TO ABOVE LAYOUTS.



- ② OA-1327-2061 HARN, PWR INTC. 3P TO 3P, 2 FT. (14AWG)
- ④ OA-1327-2062 HARN, PWR INTC. 3P TO 3P, 2 FT. (14AWG)
- ⑥ OA-1327-2010 HARN, PWR INTC. 3P TO 3P, 6 FT. (14AWG)
- ⑧ OA-1327-2011 HARN, PWR INTC. 3P TO 3P, 8 FT. (14AWG)
- ⑩ OA-1327-2012 HARN, PWR INTC. 3P TO 3P, 10 FT. (14AWG)
- ⑫ OA-1327-2013 HARN, PWR INTC. 3P TO 3P, 12 FT. (14AWG)
- ⑭ OA-1327-2014 HARN, PWR INTC. 3P TO 3P, 14 FT. (14AWG)
- ⑮ OA-1327-2015 HARN, PWR INTC. 3P TO 3P, 16 FT. (14AWG)
- ⑰ OA-1327-2016 HARN, PWR INTC. 3P TO 3P, 18 FT. (14AWG)
- ⑲ OA-1327-2017 HARN, PWR INTC. 3P TO 3P, 20 FT. (14AWG)
- ⑳ OA-1327-2018 HARN, PWR INTC. 3P TO 3P, 22 FT. (14AWG)
- ㉑ OA-1327-2019 HARN, PWR INTC. 3P TO 3P, 24 FT. (14AWG)
- ㉓ OA-1327-2060 HARN, PWR INTC. 3P TO 3P, 26 FT. (14AWG)

RIBBON CABLE CHART

| PRIMARY |        | PRIMARY OUTPUT |        | MIRROR INPUT |        |
|---------|--------|----------------|--------|--------------|--------|
| LINE/P# | P.N.   | LINE/QC P#     | P.N.   | LINE/QC P#   | P.N.   |
| 1 (P11) | W-1387 | 1 (A35-P1)     | W-1387 | 1 (A35-P1)   | W-1387 |

( OA-1000-\*\*\*\* )  
NOTE: ALL RIBBON CABLES BETWEEN MODULES ARE W-1387.

|   |   |   |   |
|---|---|---|---|
| <p>FAN B-1053 (8/16/24)HIGH<br/>OA-1327-3500 (32/40/48/56/64)HIGH</p> <p>THERMOSTAT OA-1327-3101</p> <p>1 POWER SUPPLY OA-1327-0015 MONO</p> <p>POWER FILTER Z# OA-1345-0500 (2)FILTERS<br/>OA-1345-0501 (4)FILTERS<br/>OA-1345-0502 (2)FILTERS, INTC.</p> <p>POWER TERM PANEL TP OA-1327-0100 (1)CIRCUIT<br/>OA-1327-0101 (2)CIRCUIT<br/>OA-1327-0104 (4)CIRCUIT</p> | <p>CONTROLLER OA-1229-0013</p> <p>MODULE 14.4" X 14.4"<br/>8 PIXEL X 8 PIXEL<br/>46MM C-C / 1.8" C-C</p> <p>DARK GRID LINES REPRESENT A GROUPING OF MODULES THAT ARE POWERED BY A SINGLE OR DOUBE UNIT OF POWER SUPPLIES.</p> | <p>PRIMARY QUICK CONNECT LEFT LOWER LEFT CORNER CUTOUT QC OA-1327-1000</p> <p>PRIMARY QUICK CONNECT RIGHT ALL RIGHT SIDE CUTOUTS QC OA-1327-1010</p> <p>MIRROR QUICK CONNECT LEFT ALL LEFT SIDE CUTOUTS QC OA-1327-1011</p> <p>QUICK CONNECT BLANK CUTOUTS NOT FILLED BY ABOVE QC OA-1327-1003</p> <p>LIGHT DETECTOR OA-1327-3000 (8/16/24)HIGH<br/>PRIMARY ONLY OA-1327-3003 (32/40/48)HIGH<br/>OA-1327-3004 (56/64)HIGH</p> <p>LIGHT DETECTOR BLANK MIRROR ONLY LT OA-1213-4009</p> | <p>AREA POWERED BY Z1 (J41)</p> <p>AREA POWERED BY Z2 (J42)</p> <p>AREA POWERED BY Z3</p> <p>AREA POWERED BY Z4</p> |
|---|---|---|---|

| REV. | DATE | DESCRIPTION | BY | APPR. |
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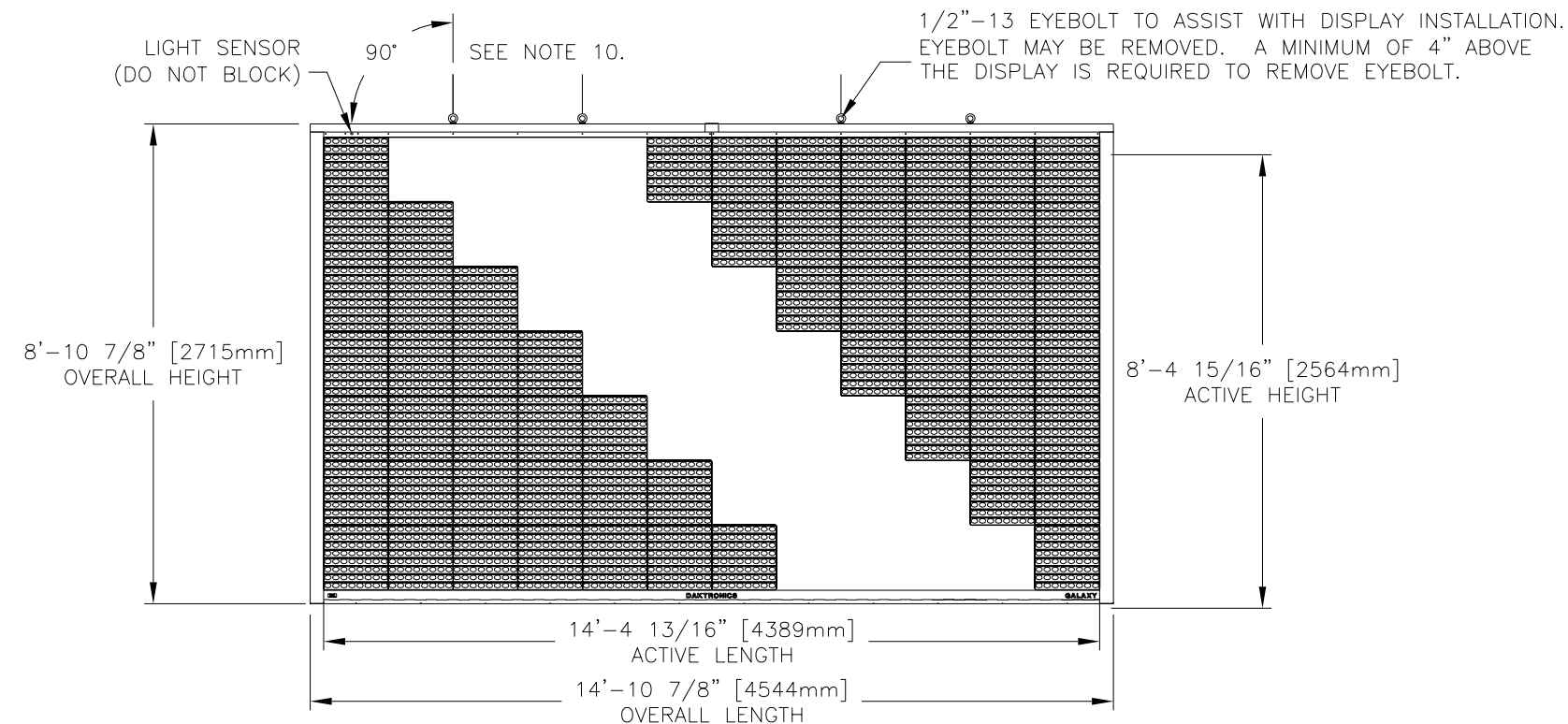
PROJ: GALAXY, AF-3400-46-MONO

TITLE: ELECT LAYOUT, AF-3400-8X\*\*\*-46-MONO-P/M, \*

DES. BY: DMATHER DRAWN BY: RNICOL DATE: 08 SEP 05

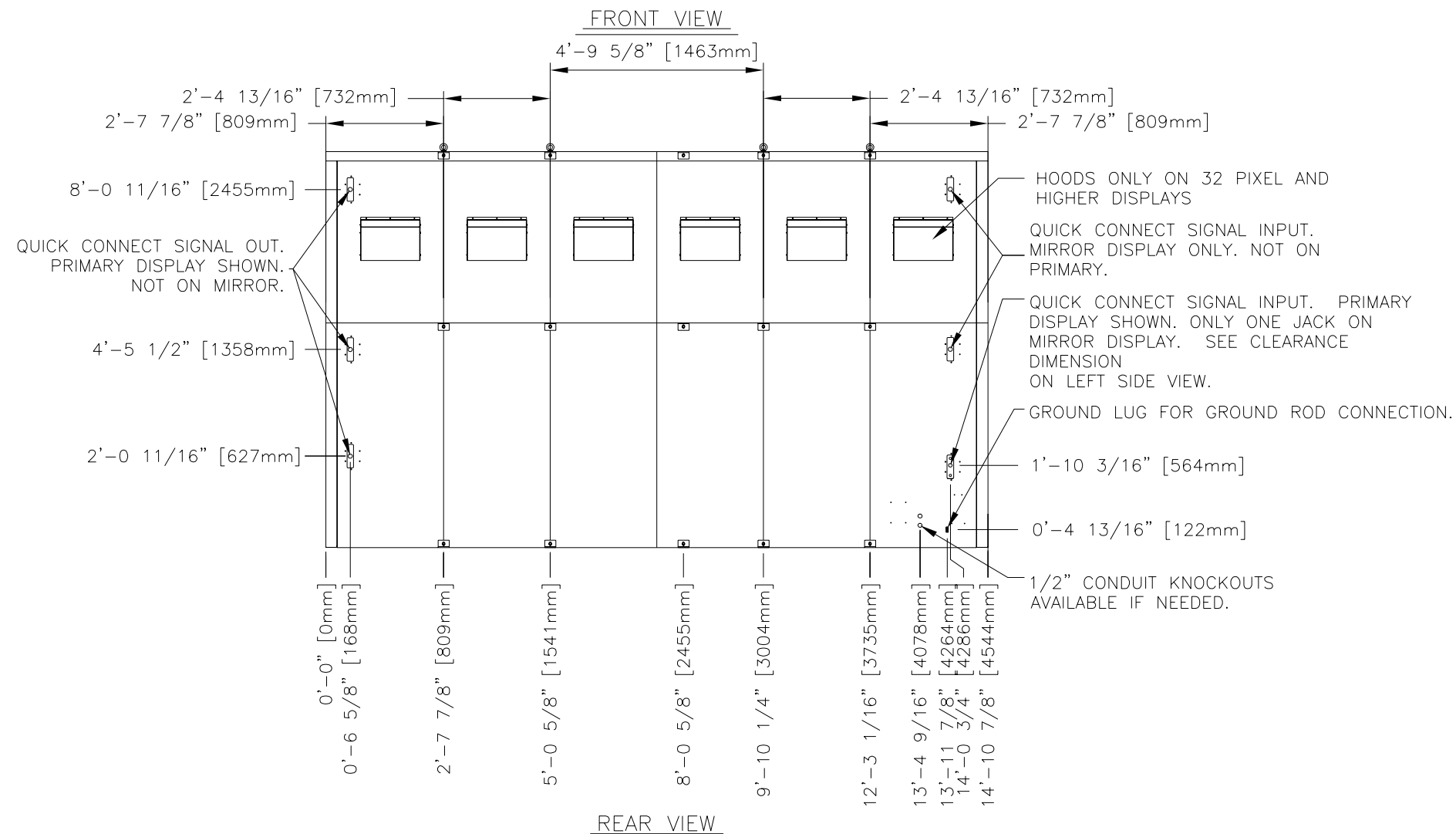
REVISION 00 APPR. BY: DMATHER SCALE: 1=70

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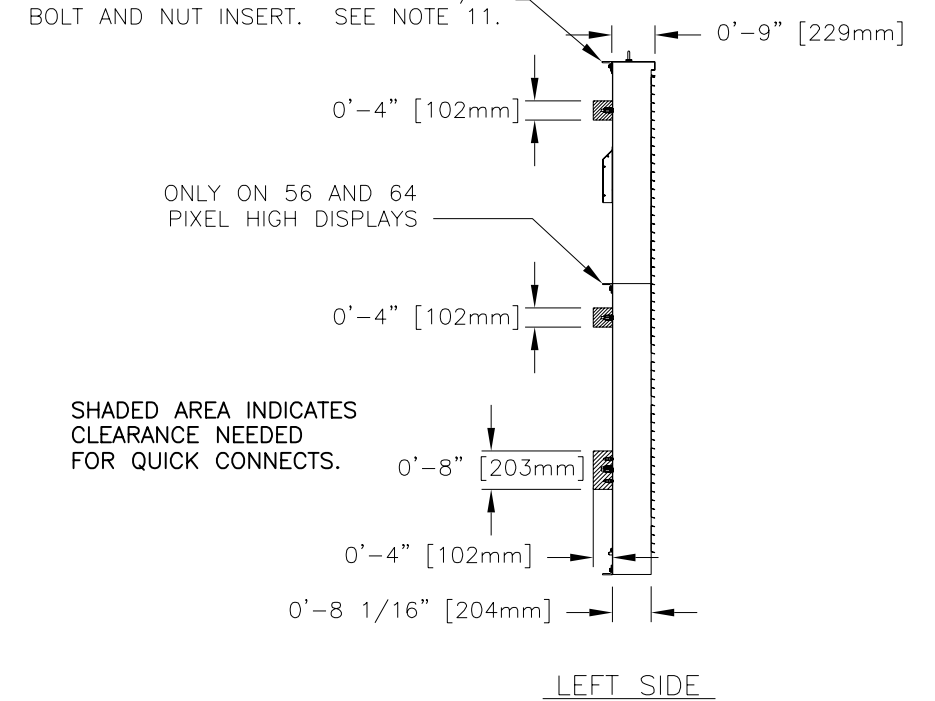


**NOTES:**

1. ALL DIMENSIONS ARE IN FEET AND INCHES [MILLIMETERS].
2. DISPLAY IS ALL ALUMINUM CONSTRUCTION.
3. DISPLAY CABINET COLOR IS FLAT BLACK.
4. FRONT ACCESS FOR SERVICE.
5. ESTIMATED WEIGHT IS: 8.8 lbs [4 kg] PER SQUARE FOOT UNCRATED PER SINGLE FACE DISPLAY (OVERALL AREA).
6. DAKTRONICS IS NOT RESPONSIBLE FOR THE MAIN ELECTRICAL DISCONNECT.
7. DAKTRONICS IS NOT RESPONSIBLE FOR THE MOUNTING HARDWARE OR THE INTEGRITY OF THE STRUCTURE THE DISPLAY IS MOUNTED TO.
8. DISPLAY L.E.D. COLOR IS RED, AMBER, OR RGB.
9. EYEBOLTS MAY NOT BE USED FOR PERMANENT INSTALLATION.
10. IN ORDER TO MAINTAIN THE STRUCTURAL INTEGRITY OF THE DISPLAY CABINET, THE 90° ANGLE BETWEEN THE CABINET AND THE LIFTING METHOD MUST BE MAINTAINED.
11. ALL CLIP ANGLES (OR THEIR LOCATIONS) MUST BE USED FOR DISPLAY INSTALLATION.
12. 8-24 PIXEL HIGH DISPLAYS ARE FRONT VENTILATED SO NO PORTION OF THE FRONT FACE CAN BE COVERED. 32 AND HIGHER PIXELS HAVE FRONT INTAKE AND REAR EXHAUST HOODS.
13. REFER TO EXACT DISPLAY SHOP DRAWING FOR MORE DETAILS.
14. MOUNT BOTTOM SECTION FIRST ON INSTALL WHEN A SECTIONAL DISPLAY. (ONLY 56 AND 64 PIXELS HIGH)
15. REFER TO DWG 1345-R10A-242326 FOR POWER SPECIFICATIONS.



L2X2X1/4X 3" WIDE ASTM A36 STEEL CLIP ANGLE FOR MOUNTING. ATTACHED TO DISPLAY WITH 3/8" BOLT AND NUT INSERT. SEE NOTE 11.



|  |             |                      |  |
|--|-------------|----------------------|--|
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| DAKTRONICS, INC. BROOKINGS, SD 57006   |             |                      |  |
| PROJ: GALAXY AF-3400 46MM FRONT VENTILATION  |             |                      |  |
| TITLE: SHOP DWG, MOUNTING DETAILS  |             |                      |  |
| DES. BY: GBREEN  |             | DRAWN BY: AHERMANSON |  |
| DATE: 09 AUG 05  |             |                      |  |
| REVISION   | APPR. BY:   | 1345-E10B-227417     |  |
| 00   | SCALE: 1=40 |                      |  |

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

## **Appendix B: Optional Temperature Sensor**

## For Galaxy displays only

### Reference Drawings:

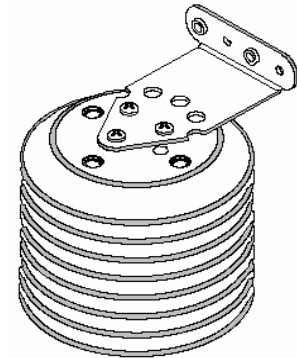
|  |                  |
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| Temperature Sensor Cable Routing Schematic ..... | Drawing A-197884 |
| Exploded Temperature Housing Assembly.....       | Drawing A-198371 |

## 1.1 Temperature Sensor Overview

The temperature sensor enclosure is made up of eight plastic disks, a metal mounting bracket, and a 25-foot weather resistant cable. Refer to **Figure 1**.

In most cases, the enclosure will be mounted using two screws. The cable will be plugged into the back of the display.

In certain cases, it may be necessary to disassemble the enclosure or rewire the temperature sensor board. Instructions are provided for those situations. If replacement or additional parts are needed, refer to the following chart for part numbers.



**Figure 1: Temperature Sensor**

| Parts List                   |                        |
|------------------------------|------------------------|
| Part description             | Daktronics part number |
| Temperature sensor housing   | 0A-1151-0005           |
| Temperature sensor           | 0P-1247-0008           |
| 4-pin Mal Conxall cable      | W-1819                 |
| 22 AWG 2-pair shielded cable | W-1234                 |
| 30-foot extension cable      | W-1820                 |
| 100-foot extension cable     | W-1821                 |
| 200-foot extension cable     | W-1822                 |

## 1.2 Mounting Locations

For greater accuracy of temperature, follow these mounting recommendations:

- An ideal location is under a north eave or on a northern exposure away from direct sunlight (**Figure 4**).
- Mount the sensor above grass or vegetation rather than concrete or other paving.
- Mount at least 20 feet away from chimneys, vents, air conditioners, or other items that would influence correct temperature readings.
- **Do not** mount between displays or in any location that restricts air movement.
- Mount the sensor so that the cable can be protected from weather and vandalism.

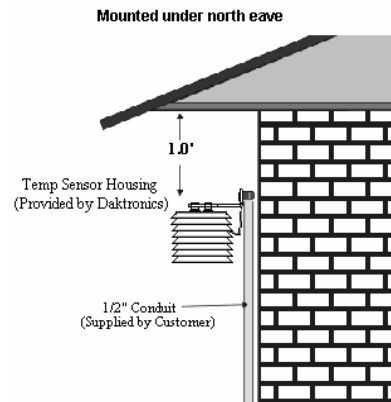
The most common locations for the temperature sensor are on the display cabinet (**Figure 2**), or on the display structure (**Figure 3**). A light-colored display is preferred in this location. Location of the sensor should be below or on a northern edge of the display to keep the sensor shaded.



**Figure 2:** Located on the Display



**Figure 3:** Located on Structure



**Figure 4:** Located on the North Eave

When exposed to outdoor conditions, it is necessary to route cable through conduit. In cases such as this, the quick-connect cable must be extended or replaced with four-conductor, 22-AWG, shielded cable. The maximum length of the cable should be no more than 500 feet.

## Mounting to a sheet metal surface

Follow these instructions when mounting the sensor to a sheet metal surface:

1. Drill two pilot holes using a 5/32" drill bit. Horizontally space the holes 1.5" apart.
2. Insert two self-drilling screws through the holes of the mounting bracket, and screw into the pilot holes.
3. Route cable up to the quick-connect jack on the back of the display and plug into J31. Refer to **Section 1.3** for an example of connection.

## 1.3 Temperature Signal Connection

Three options for signal connection are explained in this section:

- Using the 25-foot quick-connect cable.
- Using the quick-connect cable but less than 25 feet.
- Using more than 25-feet including extension cables or 22 AWG shielded cable.

### Using the provided 25-foot quick-connect cable

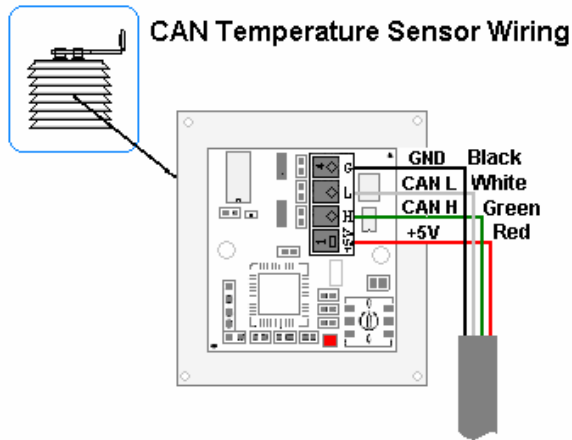
1. The temperature sensor is provided with a 25-foot weather-resistant cable. This cable does not need to be in conduit. The sensor connects to the display at J31. Refer to **Figure 5** for the location of the quick-connect plug.
2. Secure any excess cable to discourage vandalism.
3. Between displays, the quick-connect signal cable connects both communication and temperature signal, thus no additional wiring is required from display to display for the temperature sensor.



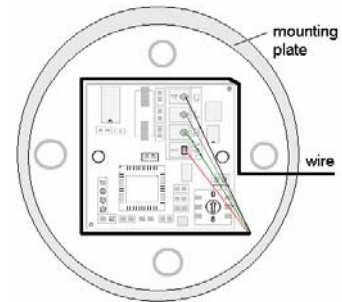
**Figure 5:** Quick-connect Cable

## Using the quick-connect cable and less than the 25-foot cable

1. Open the temperature sensor housing by removing the four nuts from the bottom and then removing the five bottom disks. Refer to **Drawing A-198371** for details on sensor housing disassembly.
2. Disconnect the quick-connect CAN temperature sensor cable from the temperature terminal block in the CAN temperature sensor housing.
3. Cut the cable to the desired length and reattach to the temperature sensor terminal block in the CAN temperature sensor housing. Refer to the table and **Figure 6** for the temperature sensor wiring.
4. Make sure to route cable around the sensor board as shown in **Figure 7** and **Drawing A-197884**.
5. Reconnect the cable and reassemble the sensor.



**Figure 6:** CAN Temperature Sensor Wiring



**Figure 7:** Wiring Around Sensor

| Wire Color   | Temperature Sensor Terminal Block (TB1) |
|--|---|
| Red  | +5V CAN (Pin 1)                         |
| Green  | CANH (Pin 2)                            |
| White  | CANL (Pin 3)                            |
| Black  | GND (Pin 4)                             |
| <b>*Note:</b> Do not terminate shield at this point. |   |



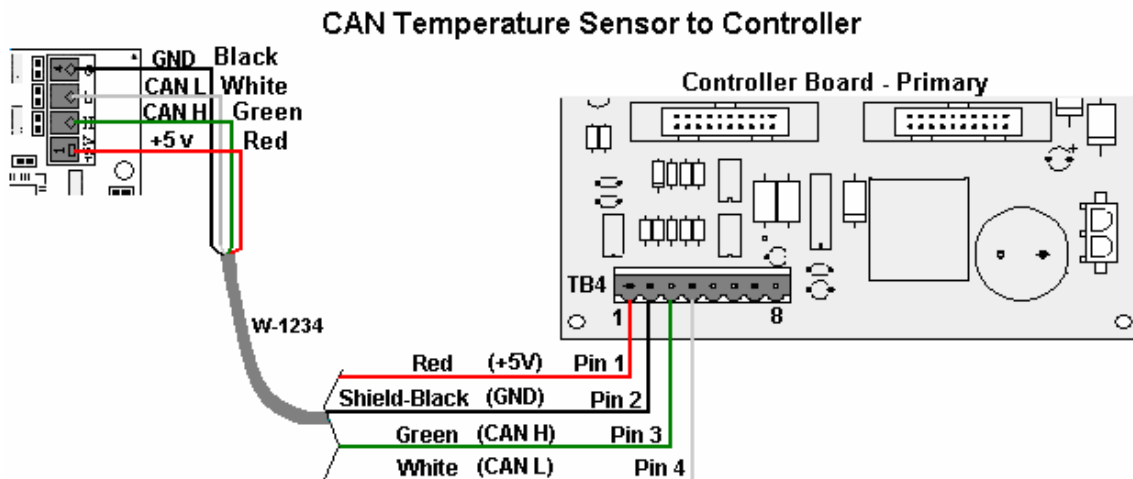
## Using more than 25-feet of cable

To meet customer needs, Daktronics has designed extension cables that allow extra length from the sensor to the display without separate rewiring. These cables contain the correct circular ends to be used with the quick-connect cable and quick-connect input. Refer to the parts list in **Section 1.1** for the cable options available.

If 22 AWG shielded cable is used instead of the cable extensions, follow these steps:

1. Run 1/2" conduit from the temperature sensor to a knockout on the back of the primary display. The cable must be routed through 1/2" metal conduit that should be earth-grounded to protect the sensor and controller from lightning damage.
2. Use a 2-pair 22 AWG individually shielded cable to connect the sensor to the 8-position terminal block in the display labeled "CAN US/DS" (A31/TB4). Connect to the controller as shown in **Figure 8**.
3. Open the temperature sensor housing by removing the four nuts from the bottom and then removing the five bottom disks. Refer to **Drawing A-198371** for details on sensor housing disassembly.
4. Disconnect the quick-connect temperature sensor cable from the terminal block in the temperature sensor housing.
5. Connect the cable coming from the display's terminal block to the temperature sensor board in the temperature sensor housing. Refer to **Figure 8** and table below for wiring locations at the sensor and to the controller.
6. Make sure to route cable around the sensor board as shown in **Drawing A-197884**. Connect the cable and reassemble the sensor. Refer to **Figure 8** and to the table below for the temperature sensor wiring.

**Note:** The cable length from the sensor to the display should not exceed 500 feet.



**Figure 8:** CAN Temperature Sensor Connection

| CAN Temperature Sensor (TB1) | Field Cabling | Primary - Controller Board CAN US (A31-TB4) |
|------------------------------|---------------|---|
| Pin 1 (+5V CAN)              | Red           | Pin 1 (+5V CAN)                             |
| Pin 2 (CAN H)                | Green         | Pin 3 (CAN H)                               |
| Pin 3 (CAN L)                | White         | Pin 4 (CAN L)                               |
| Pin 4 (GND CAN)              | Black         | Pin 2 (GND CAN)                             |
|                              | Shield        | Pin 2 (Shield)                              |

## 1.4 Temperature Interconnection Between Displays

If the display uses the quick-connect interconnect cable, this connection is already complete.

If the interconnect cable was not used, a 4-conductor shielded cable is needed to terminate the temperature sensor from side one to side two. One end terminates at the “CAN US/DS” 8-position terminal block (A31-TB4) on the Primary display. The other end terminates at the “CAN US/DS” 8-position terminal block (A31-TB4) at the second Primary display. Refer to **Figure 9** and the table for correct interconnect locations.

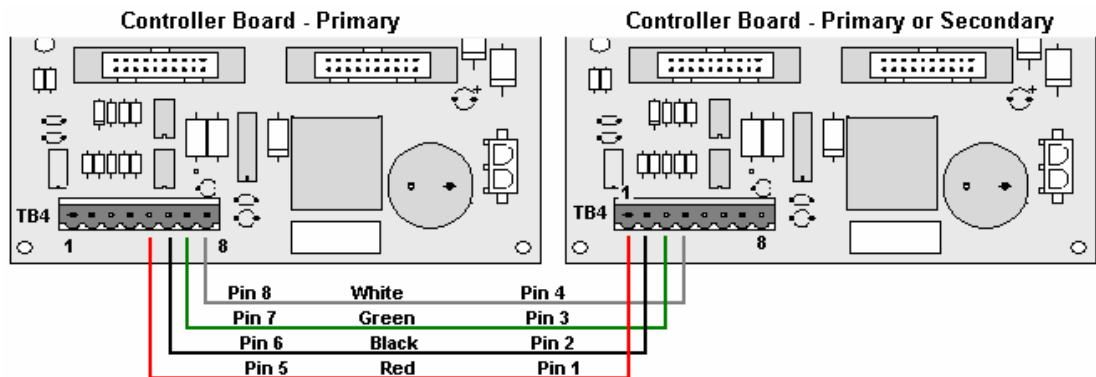


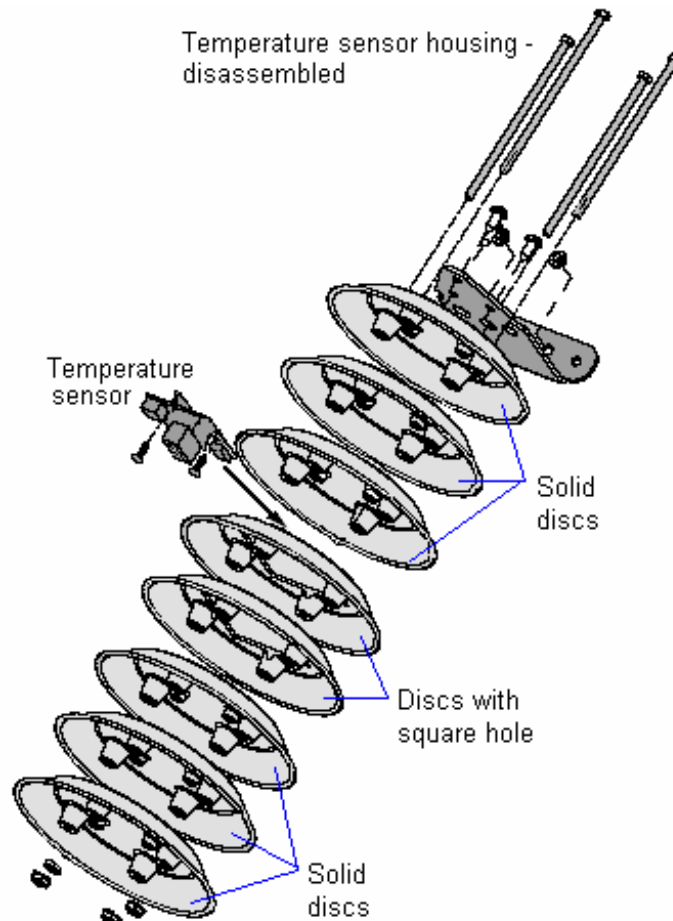
Figure 9: CAN Controller Interconnect

| Primary - CAN DS (A31-TB4) | Field Cabling | Secondary - CAN US (A31-TB4) |
|----------------------------|---------------|------------------------------|
| Pin 7 (CAN H)              | Green         | Pin 3 (CAN H)                |
| Pin 8 (CAN L)              | White         | Pin 4 (CAN L)                |
| Pin 6 (GND CAN)            | Black         | Pin 2 (GND CAN)              |
| Pin 5 (Relay)              | Red           | Pin 1 (CAN +5V)              |
|                            | Shield        |                              |

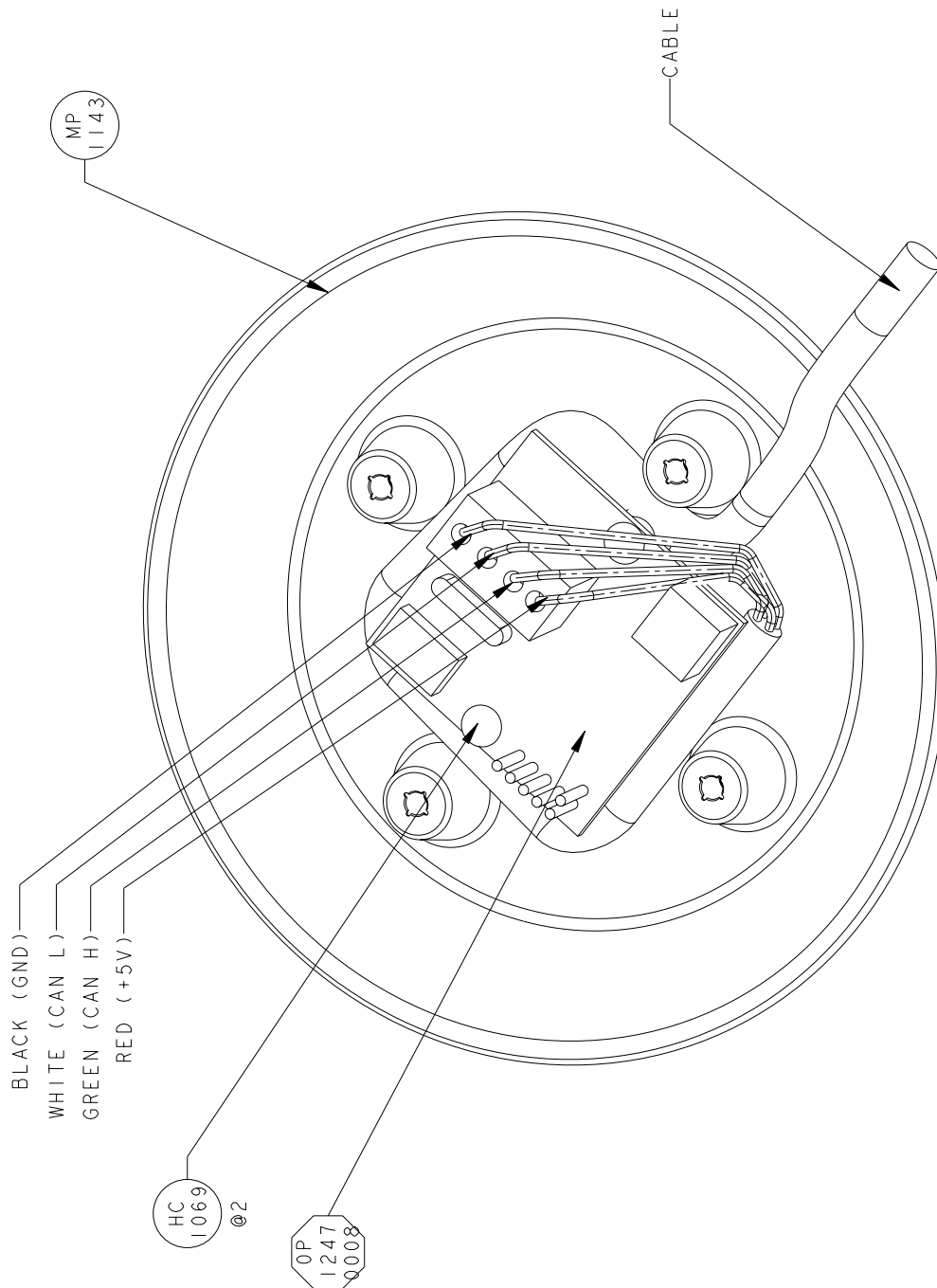
## 1.5 Sensor Board Replacement

If a problem occurs with the temperature sensor board or the wiring to the sensor, the board can be accessed in the following method:

1. Open the temperature sensor housing by removing the four nuts from the bottom, and removing the five bottom disks. Refer to **Figure 10** or **Drawing A-198371** for details on sensor housing disassembly.
2. Label the wires connected to the temperature sensor board and then disconnect the cable from the temperature sensor terminal block in the temperature sensor housing.
3. Remove the two screws holding the board to the plastic disk. Install the new board, and replace the two screws.
4. Reconnect the cable to the temperature sensor board, making sure all the wire make a good electrical connection.
5. Make sure to route cable around the sensor board as shown in **Drawing A-197884**, and reassemble the sensor enclosure.



**Figure 10:** *Temperature Sensor Housing Disassembled*



**ASSEMBLY INSTRUCTIONS:**  
 ATTACH PC BOARD TO MP-1143 W/ HC-1069.  
 STRIP JACKET OF W-1819 2". STRIP INSULATION  
 OF INDIVIDUAL WIRES APPROXIMATELY 1/4".  
 INSERT WIRES INTO TERMINALS AS SHOWN & TIGHTEN.  
 ROUTE CABLE AS SHOWN.

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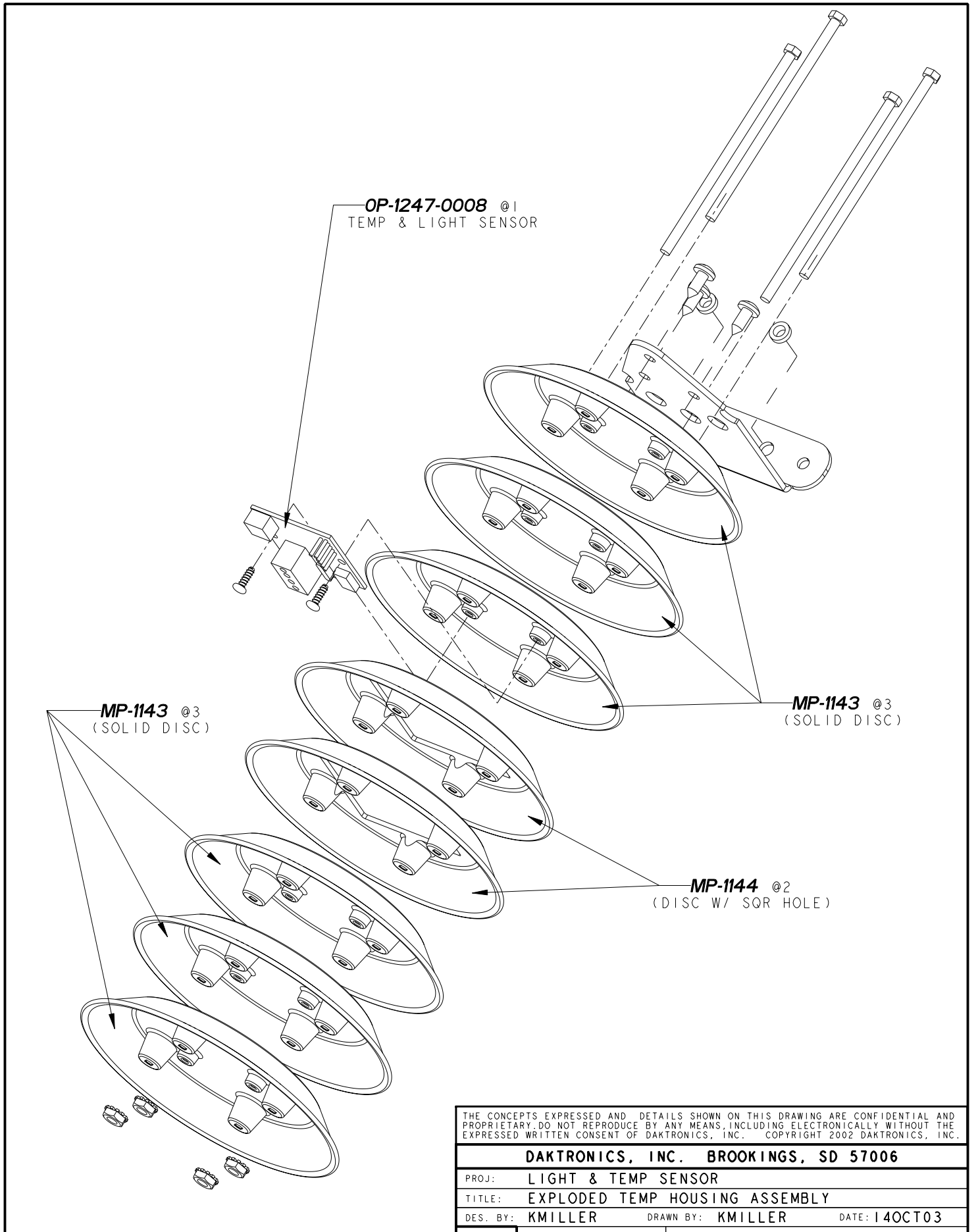
PROJ: LIGHT & TEMP SENSORS

TITLE: TEMP SENSOR CABLE ROUTING SCHEMATIC

DES. BY: K MILLER DRAWN BY: K MILLER DATE: 03OCT03

REVISION SHEET 1 OF DWG 197884 SCALE: 1 = 1 1151 - E10A - 197884

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



**OP-1247-0008** @1  
TEMP & LIGHT SENSOR

**MP-1143** @3  
(SOLID DISC)

**MP-1143** @3  
(SOLID DISC)

**MP-1144** @2  
(DISC W/ SQR HOLE)

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|          |                                |           |         |
|----------|--------------------------------|-----------|---------|
| PROJ:    | LIGHT & TEMP SENSOR            |           |         |
| TITLE:   | EXPLODED TEMP HOUSING ASSEMBLY |           |         |
| DES. BY: | KMILLER                        | DRAWN BY: | KMILLER |
|          |                                | DATE:     | 14OCT03 |

|          |                       |                  |
|----------|-----------------------|------------------|
| REVISION | SHEET 1 OF DWG 198371 | 1151-E10A-198371 |
|          | SCALE: 1=3            |                  |

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