



Galaxyä Outdoor 34mm Louvered LED Displays Series AF-3060

Installation, Maintenance & Troubleshooting Manual

ED-12061

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**ED-12061
Product #1215
Rev. 5 – 23 April 2002**

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Section 1: Introduction

1.1 How to Use This Manual

This manual explains the installation, maintenance and troubleshooting of a Daktronics Galaxy 34mm louvered LED (light emitting diode) display (series AF-3060). 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 & Troubleshooting, and two Appendices.

- **Introduction** 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.
- **Mechanical Installation** provides general guidance on display mounting.
- **Electrical Installation** provides general guidance on terminating power and signal cable at the display.
- **Maintenance & Troubleshooting** addresses such things as removing basic display components, troubleshooting the display, performing general maintenance and exchanging display components.
- **Appendix A** provides information on the signal converter.
- **Appendix B** includes the drawings referenced in this manual.

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-12061**.

Listed below are a number of drawing types commonly used by Daktronics, along with the information that each is likely to provide. This manual might not contain all 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 Daktronics drawing label. The drawing number is located in the lower-right corner of the drawing. Drawings in the manual are identified by listing the last set of digits and the letter preceding them. In the example below, the drawing would be referred to as **Drawing A-69945**. Reference drawings are inserted in the **Appendix**.

DAKTRONICS, INC. BROOKINGS, SD 57006		
PROJ:		
TITLE:		
DES. BY:	DRAWN BY: DOK	DATE: 04-20-95
APPR. BY:	7087-P08A-69945	
SCALE: 1=80		

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 A-69945** in **Appendix B** for the power supply location.”

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

Reference Drawings: Component Placement Diagram**Drawing A-69945**

Daktronics displays are built for long life, and require little maintenance. However, from time to time, certain display components will need replacing. The Replacement Parts List in **Section 4.11** provides the names and part number 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: 0P-XXXX-XXXX (circuit board) or 0A-XXXX-XXXX (multi-component assembly).

Following the Replacement Parts List is the Exchange/Replacement Procedure in **Section 4.12**. Refer to these instructions if any display component needs replacement or repair.

1.2 Safety Precautions



Important Safeguards:

1. Read and understand these instructions before installing.
2. Be sure the display is properly grounded.
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.

1.3 Network Concepts

The concept of using LED displays as a cost effective, 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 complexity of multiple display installations has emerged, and Daktronics display system 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 power 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

All that is required for signal installation is standard six (6) conductor modular telephone wire and a tool to install the connector. Tools required for mounting the display depend on the location and size of the display. For some installations, it may be possible to buy pre-terminated telephone cables for use with the displays.

There are four (4) network systems available: RS/232, RS/422, modem and fiber. Up to 240 displays can exist on one network.

RS/232 Network

RS/232 (EIA/TIA-232-E) is a standard communication interface that employs a single-ended serial transmission scheme that uses a maximum cable length of 8 meters (25 feet). This interface was designed for computer communication at short distances. All computers have an RS/232 communications port. Refer to **Section 3** for additional information.

RS/422 Network

RS/422 (EIA/TIA-422-B) is a standard communication interface that utilizes a differential balanced transmission scheme that uses a typical maximum cable length of 1.2 km (approximately 4000 feet). The main advantage to RS/422 over RS/232 is the longer cable length that is possible. A signal converter is needed to convert the computer's RS/232 to RS/422. Refer to **Section 3** for additional information.

Modem Network

The modem is a standard communication interface that utilizes standard phone transmission lines. The phone company assigns each phone line a number that the modem uses to communicate between controller and display. Refer to **Section 3** for additional information.

Fiber Optic Network

A fiber optic network is a standard communication method transmitting light (signal) through a glass fiber. Fiber optic cable has a maximum length of 2,000 feet. A signal conductor may be required.

1.4 Display Overview

Reference Drawings:

- Shop Drawing; AX-XXXX-8/32XX-34B..... **Drawing B-128423**
- Shop Drawing; AX-XXXX-40/48XX-34B..... **Drawing B-128425**

Daktronics AF-3060 Galaxy displays are designed and manufactured for performance, reliability, easy maintenance and long life. The pixels have a 34mm center-to-center spacing, and are lit using LEDs (light emitting diodes). Each display section has minimum 9-inch character height. A light sensor on the front of the 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 the drawings referenced above for the approximate size, weight, and power requirements for your model of display.

The Galaxy model numbers are described as follows: **AF-3060-RRCCC-9-X**

- AF-3060** = Outdoor 34mm Louvered Galaxy Display
- RR** = Number of Rows High (8, 16, 24 and 32 are available)
- CCC** = Number of Columns Long (48, 64, 80, 96, 112, 128, 144 are available)
- 9** = 9" Minimum Character Height
- X** = LED Color (Monochrome Red, Monochrome Amber or Tricolor Red-Green are available)

A typical display system consists of a Windows® based personal computer (PC) running Venus® 1500 software and one or more displays. The displays are offered as single-face units, which are single-sided stand-alone displays. They can become double-faced by mounting them back-to-back with a second unit.

The Venus 1500 controller is a software package that runs under Windows 9x/NT® operating systems on an IBM®-compatible computer. Refer to the Venus 1500 controller operator's manual for installation and operation of the Venus 1500 controller editing station.

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

1.5 Component Identification

The following illustrations depict some of the more commonly accessed Galaxy 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.

Com Port: A COM port is a connector on the back of the control computer. The COM port is used to control the display network through either a 9- or a 25-pin serial connector.

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

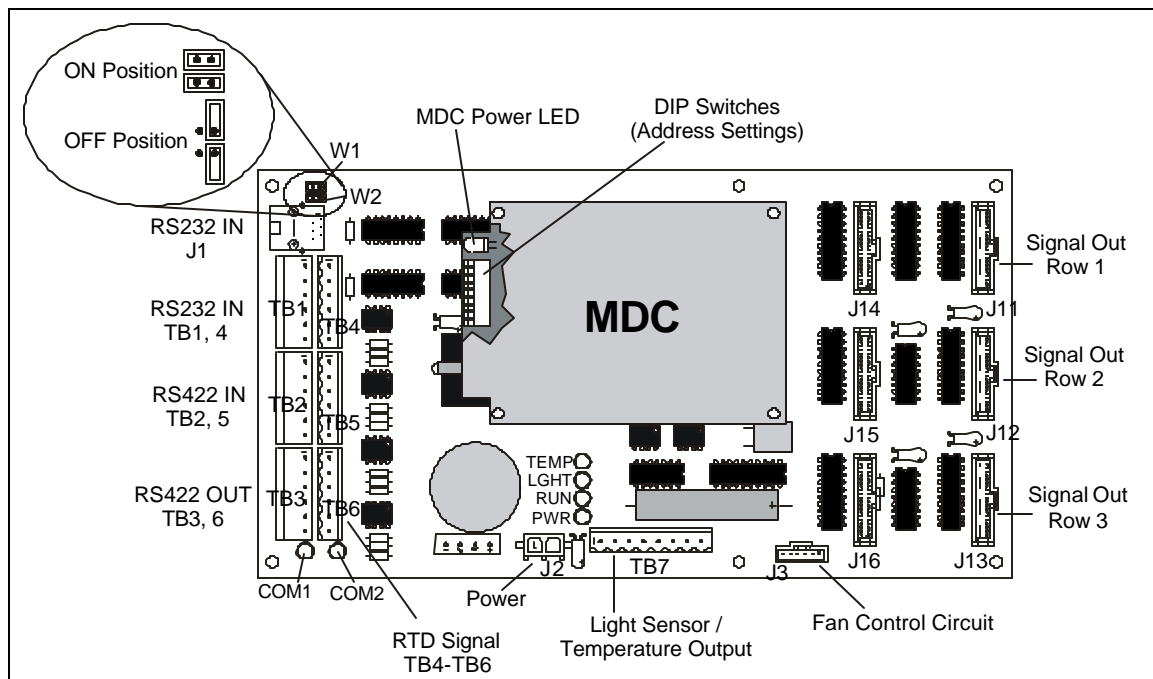


Figure 2: Controller

Galaxyä : Daktronics trademarked name for LED monochrome or tri-colored matrix displays.

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

Power Supply: converts AC line voltage from the load center to low DC voltage for one or more module driver boards.

RS232: RS232 is a standard PC communication type with a maximum cable length of 25 feet (7.62 meters).

RS422: RS422 is a standard differential communication type with a maximum cable length of 4000 feet (1.2 kilometers).

Display Address: The display address is an identification number assigned to each display of a network. It is set by flipping DIP switches on the controller. 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.

Signal Converter: The signal converter, shown in **Figure 3**, is a Daktronics supplied unit that converts the data from RS232 to RS422, or RS232 to fiber optic signal. The signal converter is connected to the control PC via straight through serial cable.

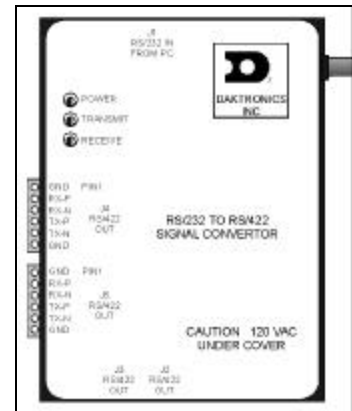


Figure 3: Signal Converter (RS232 to RS422 Shown)

Refer to **Figure 4** and **Figure 5** while reading the following component descriptions.

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.

LED (light emitting diode): low energy, high intensity lighting units.

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

Module: 34mm Galaxy modules are 8 pixels high by 8 pixels wide. Each is individually removable from the front of the display.

Module Latch Assembly: device utilizing a rotating retainer bar to hold the module firmly to the display frame. There are two per module: one near the top and one near the bottom. Use a $\frac{7}{32}$ " nut driver or C" Allen wrench to turn the retaining bar.

Pixel: a cluster of LEDs. The number and color of the LEDs depends on display application.

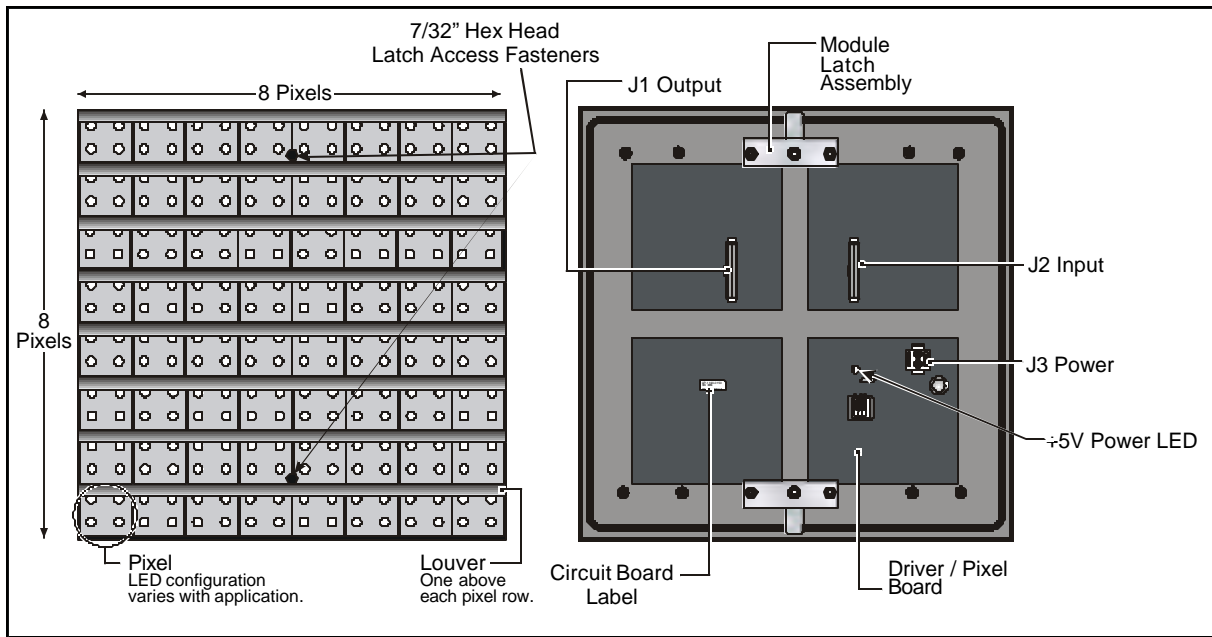


Figure 4: 8x8 Pixel Monochrome Module (Front and Rear)

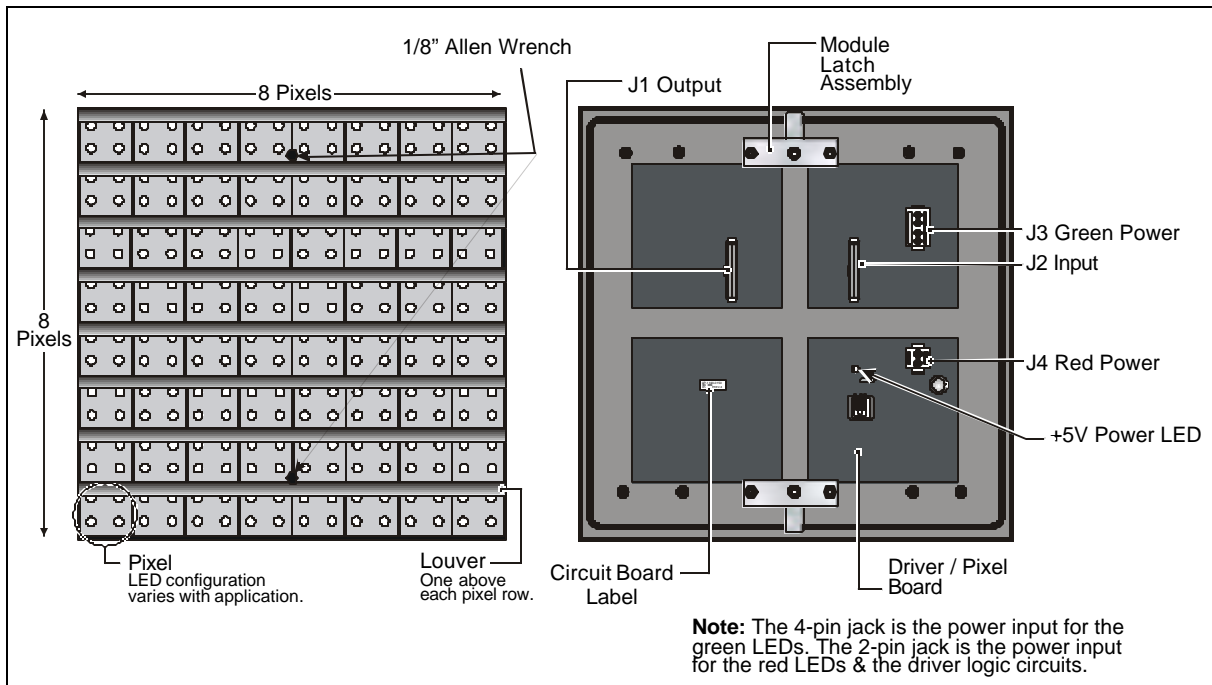


Figure 5: 8x8 Pixel Red-Green Module (Front and Rear)

1.6 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.

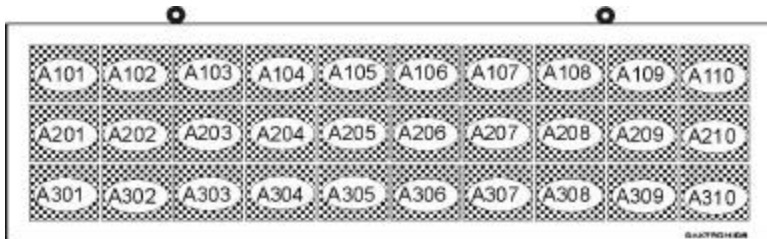


Figure 6: Module Numbering Example – 24x80 Front

A module is the building block of the Galaxy 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 6** illustrates how Daktronics numbers modules on a Galaxy display. **Figure 7** breaks down the module numbering method.

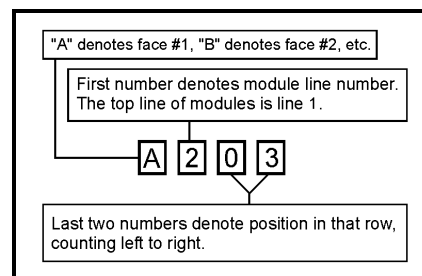


Figure 7: Module Numbering

The label “A” on a drawing typically denotes an assembly. An assembly can be a single circuit board or a collection of components that function together, usually mounted on a single plate or in a single enclosure. Assemblies are divided into two types: those that route signal and those that route power.

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

- “TB??” denotes a termination block for power or signal cable.
- “F??” denotes a fuse.
- “E??” denotes a grounding point.
- “J??” denotes a power or signal jack.
- “P??” denotes 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.

- “0P-????-????” denotes an individual circuit board, such as a line receiver.
- “0A-????-????” denotes an assembly, such as a circuit board and the plate or bracket to which it is mounted. A collection of circuit boards working as a single unit may also carry an assembly label.
- “W-????” denotes a wire or cable. 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 8**. The part number is in bold.

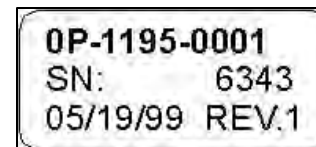


Figure 8: Typical Label

Section 2: Mechanical Installation

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

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 the structure and any additional hardware have been approved by a qualified structural engineer.

2.1 Mechanical Installation Overview

Because every installation site is unique, there is no single Daktronics-approved procedure for mounting the Galaxy 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.

- 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: 3" of unobstructed space is available below the display for filter removal from the display. 1-1/4" of unobstructed space is available above the top of the display.

Correct any deficiencies before installation.

2.3 Ventilation Requirements

Reference Drawings:

Shop Drawing; AX-XXXX-8/32XX-34B.....	Drawing B-128423
Shop Drawing; AX-XXXX-40/48XX-34B.....	Drawing B-128425
Shop Drawing; AX-XXXX-RG.....	Drawing B-141943

Fans are mounted in the bottom of the display and to the back sheet for ventilation. Maintain a minimum distance of 3" (7.62cm) below the display to maintain proper airflow. Refer to the appropriate shop drawing for additional information.

If the display cabinet is completely enclosed:

- 6 square inches of unobstructed opening per module must be provided to ensure adequate cooling.
- Allowances must be made to compensate for the percentage of material covering the openings in the structure.
- For adequate cooling, forced ventilation may be required. If air is forced into the enclosed cabinet, 10 cubic feet per minute must be provided per module (10.6" x 10.6" active area).

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

2.4 Lifting the Display

The top of the larger displays 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 9 illustrates both the correct (left example) and the incorrect (right example) method of lifting a display. Lift the display as shown on the left, *with the lifting bar*. Use every lifting point provided!

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

If removing the eyebolts, adequately seal the holes using 1/2-13 bolts and sealing washers and silicone along the threads. This ensures that water does not enter the display.

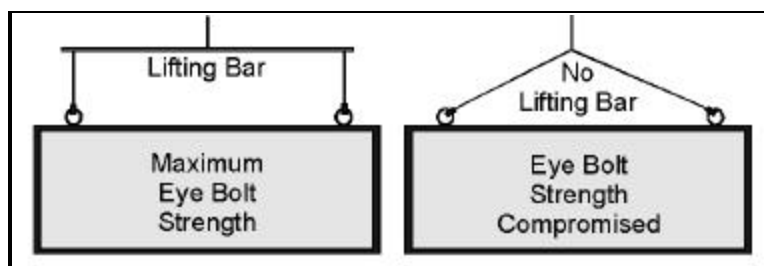


Figure 9: Lifting the Display (Correct, Left; Incorrect, Right)

2.5 Display Mounting

Reference Drawings:

Mtg Clip Angles; AX-XXXX-40/48XX-34B	Drawing A-128799
Mtg Clip Angles AX-XXX-8/32XX-34B	Drawing A-128801
Shop Drawing; AX-XXXX-8/32XX-34B.....	Drawing B-128423
Shop Drawing; AX-XXXX-40/48XX-34B.....	Drawing B-128425
Shop Drawing; AX-XXXX-RG	Drawing B-141943

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. The mounting hardware and method is also the responsibility of the installer.

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 1/4" steel clip angles at the locations shown in **Drawings A-128799** and **A-128801**. These angles may be used for mounting purposes. Remember to have *all* mounted displays inspected by a qualified structural engineer. It is the customer's responsibility to determine the proper wall mounting method and location.

Refer to **Drawing A-128799** 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. *Daktronics recommends using all clip angles as attachment points.*

1. Carefully uncrate the display. Look each side of the display over for damage during shipping.
2. Following the guidelines described in **Section 2.4**, lift the display into position on the support structure.
3. Weld or use 1/2" Grade-5 bolts and hardware to secure the clip angles to the support structure as shown in **Detail A** in **Drawing A-128799**.
4. Refer to **Section 3** for information on routing power and signal.
5. After installation is complete, carefully inspect the display for any holes that may allow water to seep into the display. Seal any openings with silicone. If the eyebolts on the top of the display have been removed, plug the holes with bolts and the rubber sealing washer that was removed with the eyebolt.

2.6 Optional Temperature Sensor Mounting

The optional temperature sensor is mounted separately and requires a location away from the influence of chimneys, air conditioners, vents, tar roofs, concrete and parking lots which can cause abnormal temperature fluctuations. Usually a separation of at least 20 to 30 feet horizontally and eight feet vertically is required to achieve this. Locations where air movement is restricted are also unsatisfactory.

A first-choice temperature sensor location is a north eave or northern exposure away from direct sun light and above grass. This location gives extra stability and accuracy to the sensor because of the added shading usually obtained on a northern exposure. There should be at least one foot between the bottom of the eave and the top of the temperature sensor housing for accurate readings, as seen in **Figure 10**.

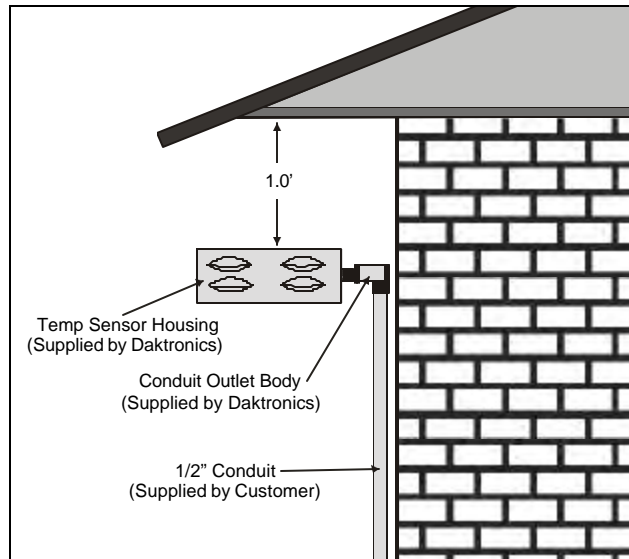


Figure 10: Temperature Sensor Eave/Wall Mount

Due to the nature of the signal cable used to send the temperature information, the maximum distance between the temperature sensor and the display is 1,000 feet (304.8 meters).

The second choice for locating a temperature sensor is on the display itself, or somewhere on the display structure. A light-colored display is preferred in this application. Location of the sensor should be above, below, or on a northern edge to try to keep the sensor shaded. If mounting above the display, a minimum height above of six feet is required. If mounting below the display, a minimum of eight feet above ground and a minimum of one foot between sensor and display are required, as seen in **Figure 11**. Greater accuracy is obtained if there is grass below the display rather than concrete or some other material.

Refer to **Section 3.10, Optional Temperature Sensor Electrical Installation** for wiring instructions.

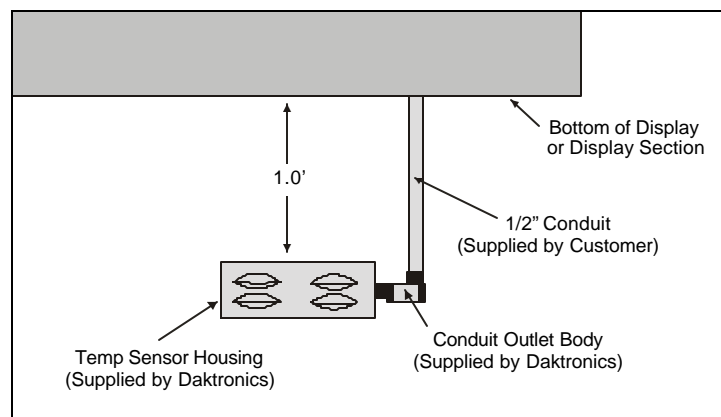
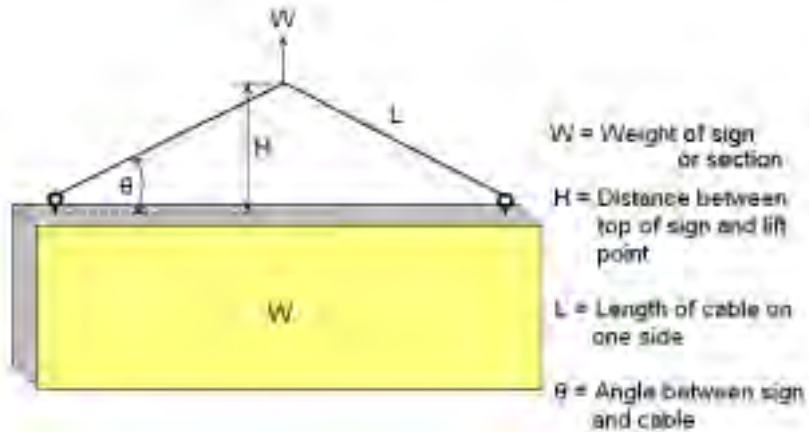


Figure 11: Temperature Sensor Mounting to Bottom of Display

Eyebolts

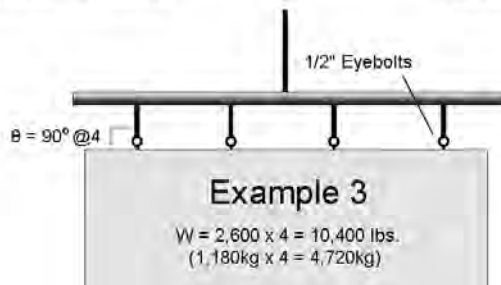
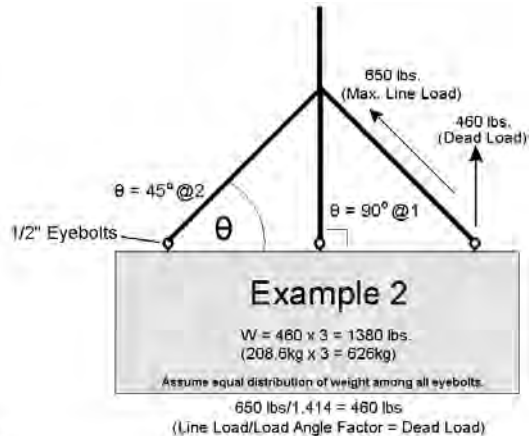
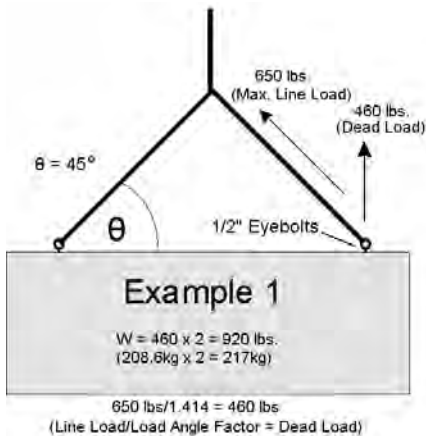
Almost every display that leaves Daktronics is equipped with eyebolts for lifting the display. There are two standard sizes of eyebolts: 1/2" and 5/8".

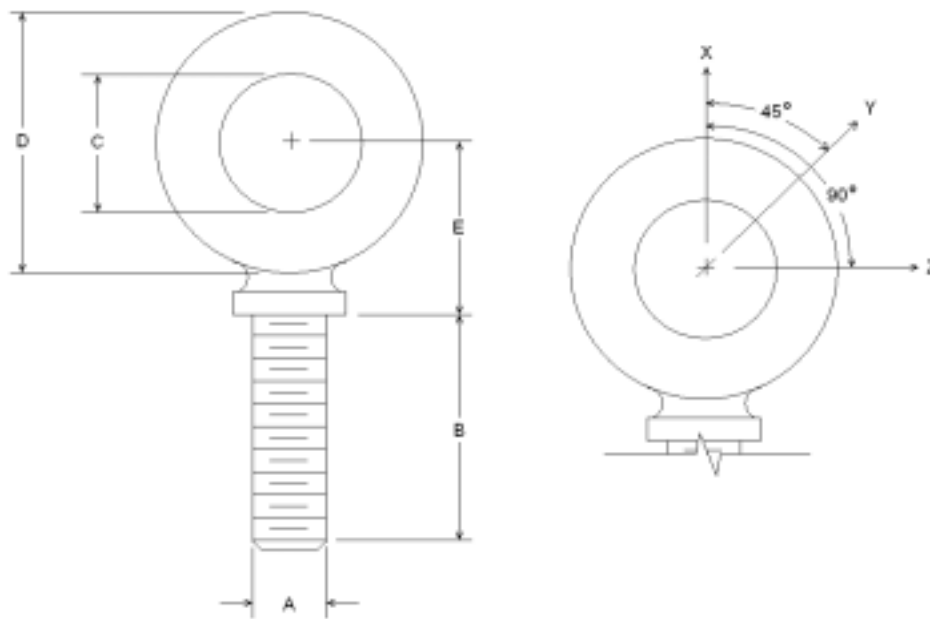
Load Increase Factor: The load increases as the lift angle (θ) decreases. The allowable load on the eyebolts also decreases with the lift angle due to the bending stress on the eyebolts. In sum, the smaller the angle between the cable and the top of the display, the lighter the sign must be to safely lift it. *Do NOT attempt to lift the display when the lift angle is less than 30 degrees.*



Horizontal Angle	Load Angle Factor (L/H)
90	1.00
60	1.155
50	1.305
45	1.414
30	2.00

θ	1/2"		5/8"	
	Line Load	Weight/Anchor	Line Load	Weight/Anchor
90	2600	2600	4000	4000
60	1500	1299	3300	2858
45	650	460	1000	707
30	520	260	800	400





A	B	C	D	E	No.	Min. Proof Load (lbs.)	Min. Break Load (lbs.)	Stocked	Min. Eff. Thrd. Length	Line Loads		
										Wx	Wy	Wz
1/4	1	3/4	1-3/16	25/32	21	600	2,000	Blank 1/4-20	7/8	400	100	80
3/8	1-1/4	1	1-21/32	1-3/16	23	2,100	5,000	Blank 3/8-16	1-1/8	1,400	350	250
1/2	1-1/2	1-3/16	2-1/16	1-13/32	25	3,900	9,200	Blank 1/2-13	1-11/32	2,600	650	520
9/16	1-5/8	1-9/32	2-13/16	1-17/32	26	4,500	11,830	Blank 9/16-12	1-3/8	3,000	750	600
5/8	1-3/4	1-3/8	2-1/2	1-11/16	27	6,000	14,700	Blank 5/8-11	1-9/16	4,000	1,000	800
3/4	2	1-1/2	2-13/16	1-13/16	28	9,000	21,700	Blank 3/4-10	1-5/8	6,000	1,500	1,200
7/8	2-1/4	1-11/16	3-1/4	2-1/16	29	10,000	30,000	Blank 7/8-9	1-13/16	6,600	1,670	1,330
1	2-1/2	1-13/16	3-9/16	2-5/16	30	12,000	39,400	Blank 1-8	2-1/16	8,000	2,000	1,600
1-1/2	3-1/2	2-9/16	5-1/2	3-5/32	34	27,000	91,300	Blank 1-1/2-6	3	17,800	4,500	3,600

- A. Do not use eyebolts on angular lifts unless absolutely necessary. For angular lifts, the shoulder pattern eyebolt is preferred.
- B. Load should always be applied to eyebolts in the plane of the eye, not at some angle to this plane.
- C. Shoulder eyebolts must be properly seated (should bear firmly against the mating part), otherwise the working loads must be reduced to those indicated for regular eyebolts. A washer or spacer may be required to put the plane of the eye in the direction of the load when the shoulder is seated.
- D. No load greater than the safe working load listed in the data table should be used.
- E. To obtain the greatest strength from the eyebolt, it must fit reasonably tight in its mounting hole to prevent accidental unscrewing due to twist of cable.
- F. Eyebolts should never be painted or otherwise coated when used for lifting. Such coatings may cover potential flaws in the eyebolt.
- G. To attain the safe working loads listed for regular eyebolts, 90% of the thread length must be engaged.

Section 3: Electrical Installation

Only a qualified individual should terminate power and signal cable within 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.

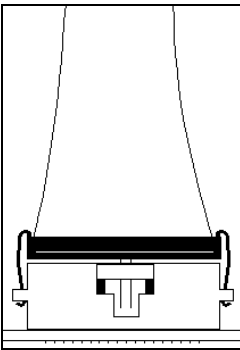


Figure 12: Ribbon Cable Connector

1. Ribbon Cable Connectors:

Figure 12 illustrates a typical ribbon connector. To disconnect the ribbon cable, push the metal clips on the sides to unlock and remove the jack.

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

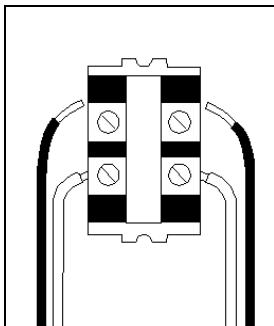


Figure 13: Termination Block

2. Termination Blocks:

Termination blocks are usually 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 one-half inch of insulation stripped from the end of the wire prior to termination. Tighten all screws firmly to ensure a good electrical connection. Refer to **Figure 13**.

3. PhoenixTM-Style Connectors:

Phoenix-style connectors, which are usually green, are often used for signal termination on circuit boards. Refer to **Figure 14**. Strip one-quarter inch of insulation from the wire prior to termination. To remove a wire, turn the above screw counter-clockwise to loose the connectors grip on the wire. To insert a wire, push the bare wire into the connector and turn the above screw clockwise to lock the wire into place.

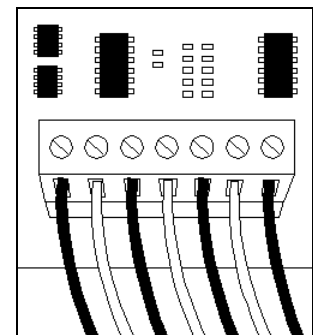


Figure 14: Phoenix Connector

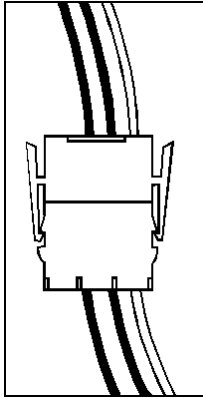


Figure 15: Mate-n-Loc Connector

4. Mate-n-Lok™ Connectors:

The Mate-n-Lok connectors found in the displays are white and come in a variety of sizes. **Figure 15** 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.

5. Phone Jacks (RJ11/RJ45 Connectors):

RJ connectors, as seen in **Figure 16**, are similar to the telephone connectors found in homes and are used on the ends of RJ45 cable. In order to remove this plug from the jack, depress the small clip on the underside of the plug.

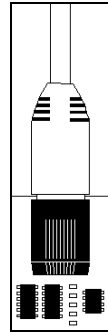


Figure 16: RJ11/ RJ45 Connector

Before replacing an RJ connector, spray it with Deoxit™ contact cleaner to remove any foreign matter that may cause signal problems. In addition, apply a generous amount of Ca-Lube protector paste to the plug before inserting it into the jack. This paste will protect both the plug and the jack from corrosion.

3.2 Control Cable Categories

Daktronics has identified four general categories for control cable. Most commonly used for installation in conduit are shielded and unshielded cable.

Unshielded Cable

Unshielded cable consists of paired wires. These wires should not be subjected to mechanical flexing after installation. This cable is *not* for direct burial and should have one of the following routings:

- In dedicated metallic conduit
- In plastic conduit away from interference signals
- Inside buildings – if cable is not in conduit, keep away from interference signals

Shielded Cable

This cable has stranded wire that is paired and overall shielded, and may be subjected to interference signals. It does not need to have a dedicated metallic conduit. The shield *must* be properly terminated at the controller. The cable can be subjected to some flexing after installation. Cable is *not* for direct burial. Do not use this in conduit with power conductors.

With interference signals such as power conductors, intercom, etc., a two-foot separation is typically required.

Direct Burial Cable

This application uses a paired, overall shielded, solid, direct burial cable. It is intended that this cable type be typically used underground without conduit.

High Voltage Insulation Cable

This cable uses an individually shielded pair of stranded wires. The insulation rating is 600V and 60 degrees Celsius. Cable routing may be with power conductors. This category is discouraged when other routing is possible. The National Electric Code has specific requirements concerning

the voltage rating of cables with power conductors. All applicable electrical and building codes must be followed.

Conduit, and the labor to pull cable through the conduit, is the responsibility of the customer and/or contractor.

3.3 Control Cable Requirements

RS/232

This cable is a 2-conductor shielded cable used to transmit an RS/232 signal (Daktronics part number W-1117). This shielded cable should not be subjected to mechanical flexing after installation. This cable is not for direct burial and should be routed in a dedicated, grounded metallic conduit at the base of the sign structure. This cable has a maximum length of 25 feet.

RS/422

This cable is a 6-conductor shielded cable used to transmit an RS/422 signal (Daktronics part number W-1210). This shielded cable consists of unpaired wires. They should not be subjected to mechanical flexing after installation. This cable is not for direct burial and should have one of the following routings:

- In dedicated metallic conduit
- Inside buildings – if cable is not in conduit, keep away from interference signals.

⌒ With interference signals (such as power conductors, intercom, etc.) typically a two foot separation is required. The maximum length of an RS/422 signal cable is 4,000 feet (1.22 kilometers).

Modem

The modem option will use standard telephone cable routed through conduit. The local telephone company will need to assist in this installation.

Ask the telephone company which colors are used by the TIP, and the RING for signal hook up.

Note: The telephone lines must be dedicated lines and *not* run through a switch board/communications system.

Fiber Optic

This cable is a 4-fiber cable (Daktronics part number W-1376). Two fibers are used for display communications and the other two are saved for spares. The cable may be either direct burial or routed in conduit but it should not be subjected to mechanical flexing. The maximum length of a fiber optic cable is 2,000 feet (611.6 meters).

3.4 RJ Connector Cables

The conductor connector used in the network is an industry standard, 6-pin RJ-11 or an 8-pin RJ-45. This connector can be found on many telephones and LANs.

The cable used in the network is a standard flat six conductor telephone cable (**standard flipped cable**). Refer to **Figure 17**. This cable has one end that is the mirror image of the other end (i.e. the cable is flipped). Refer to **Figure 18** for a standard flipped cable.

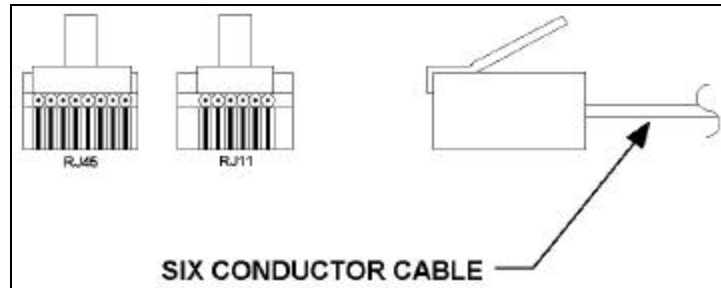


Figure 17: 6-Conductor RJ-11 Connector, 8-Conductor RJ-45 Connector and Cable

Notice in **Figure 18** that the color code on one connector must be made the opposite on the other connector. When installing a network, it is not easy to remember in which direction the previous end was oriented. One simple way to avoid confusion is to standardize the color code, having one color for the connector going into the output of a sign and the opposite color for a connector going into the input of a sign. This will help ensure correct cabling since cables are always installed from the output jack of one sign to the input jack of the next sign.

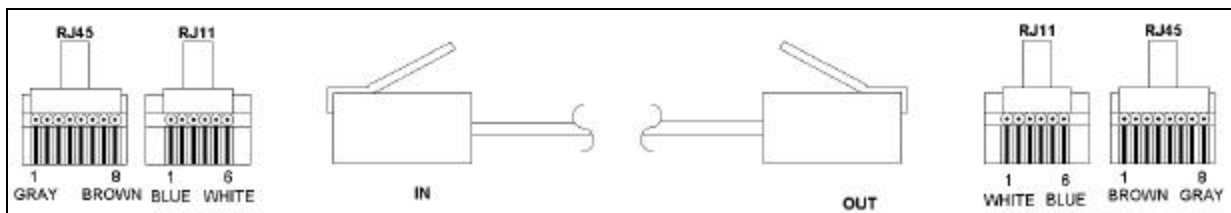


Figure 18: Flipped Cable with RJ Connectors

Installing an RJ Connector

Installing an RJ connector on the end of the conductor cable is a simple task when the correct tools are used. The RJ crimping tool (Daktronics part number TH-1033) performs two separate steps.

First, use the crimping tool to strip the outer insulation from the inner wires. This does not result in bare wires since only the gray outer jacket is removed. After correct stripping, the wire will appear as shown in **Figure 19**.

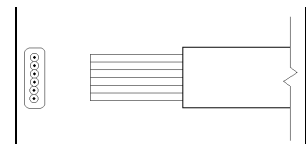


Figure 19: Wire with Outer Jacket Stripped

The crimping tool is then used to crimp the RJ connector onto the cable. The RJ connector is locked into a special socket in the tool. The stripped wire is inserted into the RJ connector. Finally, the tool is squeezed like a pliers to crimp the connector onto the wire. This completes the installation of an RJ connector onto the wire.

Pin-Outs

The RS422 jack's pin out is as follows:

RJ11	RJ45	Function
	1	N.C.
1	2	GROUND
2	3	D1OUT-P
3	4	D1OUT-N

RJ11	RJ45	Function
4	5	D1IN-P
5	6	D1IN-N
6	7	GROUND
	8	N.C.

3.5 Conduit

Reference Drawings:

System Riser Diagram, RS232.....	Drawing A-96058
System Riser Diagram, RS422.....	Drawing A-92681
System Riser Diagram, Modem.....	Drawing A-88426
System Riser Diagram, Fiber.....	Drawing A-110559
Signal Input, Venus 1500.....	Drawing A-129110
Power Termination Box	Drawing A-129227
Shop Drawing; AX-XXXX-8/32XX-34B.....	Drawing B-128423
Shop Drawing; AX-XXXX-40/48XX-34B.....	Drawing B-128425
Shop Drawing; AX-XXXX-RG.....	Drawing B-141943

Daktronics does not include the conduit. Refer to Drawings B-128423, B-128425 and B-141943 for approximate locations for power and signal conduit. Separate conduit must be used to route:

- Power
- Signal IN wires
- Signal OUT wires (if signal is required for another display)

Knockout holes for ½” conduit are located at the bottom right (rear view) of the back of the display (refer to **Drawings B-128423, B-128425 and B-141943**).

L For displays with more than one face, signal and temperature sensor wiring between displays can be routed through the same conduit.

3.6 Preparing for Power/Signal Connection

Reference Drawings:

System Riser Diagram, RS232.....	Drawing A-96058
System Riser Diagram, RS422.....	Drawing A-92681
System Riser Diagram, Modem.....	Drawing A-88426
System Riser Diagram, Fiber.....	Drawing A-110559
Signal Input, Venus 1500.....	Drawing A-129110
Power Termination Box	Drawing A-129227
Shop Drawing; AX-XXXX-8/32XX-34B.....	Drawing B-128423
Shop Drawing; AX-XXXX-40/48XX-34B.....	Drawing B-128425
Shop Drawing; AX-XXXX-RG.....	Drawing B-141943
Component Layout Diagram	Appendix B
Schematic	Appendix B

1. Punch or use **F**” (0.875) conduit holes for the desired conduit openings. *Be careful that none of the internal components are damaged.* Refer to **Drawings B-128423, B-128425 and B-141943**. Attach the conduit.
2. Remove the bottom left two modules (AX01 and AX02) to expose the power enclosure and signal panel. To do this, use a 7/32” nut driver or **C**” Allen wrench to turn the latch access fasteners one-quarter turn. Turn the top latch clockwise and the bottom latch counter-clockwise. Lift each module away from the display, then reach behind it and disconnect all power and signal connections.
3. Locate the controller and power termination box for these displays in the **Component Layout Diagram**. The controller is shown in **Figure 2**. The controller receives the incoming signal and relays it to the individual modules.

4. 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.*
5. Power conductors from the disconnect to the display should be routed through conduit in agreement with local code.
6. You may route the signal cable from the control computer to the display at this time also. *Be sure to run the power and signal cables in a separate conduit.*

3.7 Power

Reference Drawings:

Power Specs, 8x48-48x128 Dwgs.....	Drawing A-127440
Power Termination Box	Drawing A-129227
Schematic	Appendix B

Power Requirements

Refer to **Drawing A-127440** for voltage and current requirements for your display size. Each uses a 120VAC, 120/240 VAC, or 240VAC single-phase power source. Depending on the module color and display size the power supply may vary.

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

Grounding

⌊ Displays MUST be grounded according to the provisions outlined in Article 250 and 600 of the National Electrical Code.

Do not use the support structure of the display for grounding.

The display *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 grounded as follows or the warranty will be void.**

The support structure of the display cannot be used as a ground. The support is generally embedded in concrete, and if in earth, the steel is either primed or it corrodes, making it a poor ground. Use one ground rod at each display support column.

There are two considerations for power installation: New Power Installation and Existing Power Installation. These two power installations differ slightly, as described in the following paragraphs.

New Power Installation

The power cable *must* contain a separate earth-ground conductor. When a separate ground conductor is used, *do not* connect neutral to ground at the disconnect or at the display. This would violate electrical codes and void the warranty. Refer to **Figure 20**.

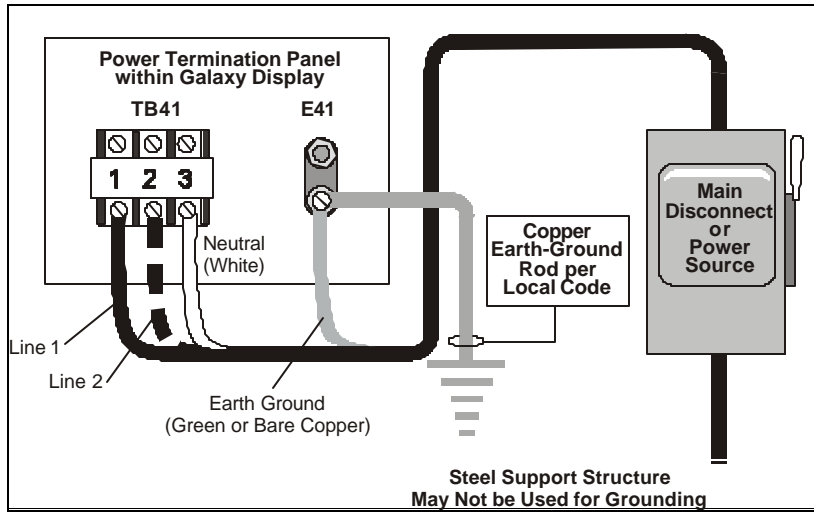


Figure 20: New Power Installation

Existing Power Installation

When a separate ground conductor is *not* available, connect the neutral to the earth-ground at the disconnect, *never* at the display. Refer to **Figure 21**.

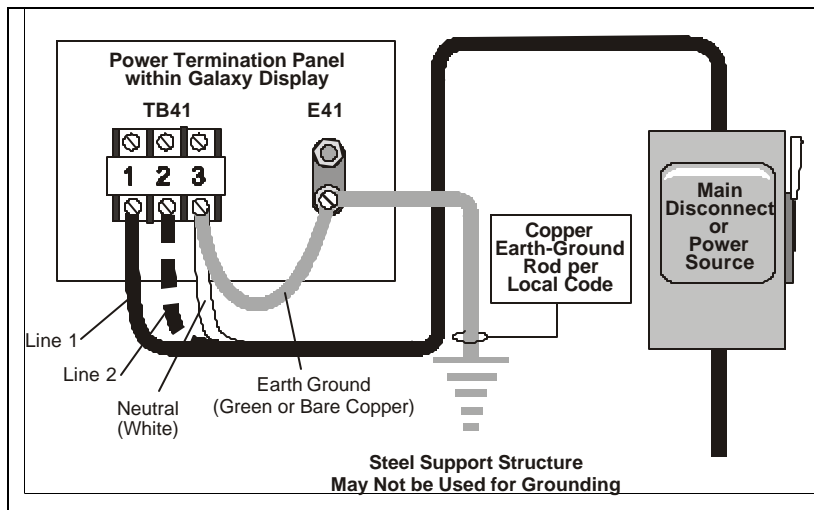


Figure 21: Existing Power Installation

Power Connection

Incoming power is connected within the power termination enclosure. Complete the following steps to terminate the hot and neutral wires at the termination block within the enclosure. Refer to **Drawing A-129227** and the appropriate schematic for your display size.

1. Access the enclosure by removing the left bottom two LED modules as described in **Section 3.6**.
2. Route the power cables through the power conduit in the rear of the display and to the enclosure.
3. Connect the white neutral wire to TB41-3 (N).
4. *If one power line is being terminated (120VAC)*, connect the black “hot” wire to TB41-1 (L).
5. *If two power lines are being terminated (120/240VAC)*, remove the shorting jumper on TB41. Connect one black “hot” wire to TB41-1 and the second “hot” wire to TB41-2.
6. Connect the green grounding wire to the grounding lug E41.

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 can all be disconnected. The main disconnect should be mounted at or near the point of power supply connection to the display. A main disconnect is to be provided for each supply circuit to the display.

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.

3.8 Signal Termination from Computer to Display

Reference Drawings:

System Riser Diagram, Modem.....	Drawing A-88426
System Riser Diagram, RS422.....	Drawing A-92681
System Riser Diagram, RS232.....	Drawing A-96058
Schematic; Fiber/Modem Input.....	Drawing A-125900
Signal Input, Venus 1500.....	Drawing A-129110
System Riser Diagram Fiber.....	Drawing A-110559

RS/232

One end of the signal cable should be terminated to the 6-position terminal block on the controller labeled “RS232 IN” (TB1). **Drawing A-129110** shows the terminal block wiring. The opposite end is terminated at the J-box near the display. The controlling computer connects to the J-box through the serial cable (refer to **Drawing A-96058**).

J-Box	Field Cabling	Terminal Block TB1 (RS232 In)
		Pin 1 (RTS)
		Pin 2 (GND)
Pin 2 (RX-P)	Clear	Pin 3 (TX-P)
Pin 3 (GND)	Shield	Pin 4 (GND)
Pin 1 (TX-P)	Black	Pin 5 (RX-P)
		Pin 6 (DCD)

RS/422

One end of the signal cable should be terminated to the 6-position terminal block in the display labeled “RS422 IN” (TB2). **Drawing A-129110** shows the terminal block wiring. The opposite end is terminated at the signal converter (Daktronics part number 0A-1127-0237) in the control room.

Signal Converter (J4/J5)	Field Cabling	Terminal Block TB2 (RS422 In)
Pin 1 (GND)	Red	Pin 1 (GND)
Pin 2 (RX-P)	Black	Pin 2 (TX-P)
Pin 3 (RX-N)	Brown	Pin 3 (TX-N)
Pin 4 (TX-P)	White	Pin 4 (RX-P)
Pin 5 (TX-N)	Blue	Pin 5 (RX-N)
Pin 6 (GND)	Green	Pin 6 (GND)
	Bare (Shield)	N.C.

Modem

In a display that uses a modem, **Signal In** is first routed to a telecommunications connector and terminated per the table below. A 6-conductor phone cord with RJ11 connectors (part number 0A-1137-0160) relays the signal to the modem (refer to **Drawing A-125900**). A second phone cord (0A-1137-0160) transfers the data from the modem to J1 (RS232 IN) on the controller.

Terminal Block TB31	Function
Pin 1	
Pin 2	
Pin 3	TIP-P
Pin 4	Ring-P
Pin 5	
Pin 6	

Fiber Optic

When fiber optic cables are used, signal from the converter enters the fiber board (J4/J5). An adapter module (Daktronics part number 0A-1146-0029) allows the use of a 6-conductor phone cord with RJ11 connectors (part number 0A-1137-0160) to relay the signal to J1 (RS232 IN) on the controller.

Signal Converter	Field Cabling	Sign A Data In
J2 (TX1)		J5 (RX2)
J3 (RX1)		J4 (TX2)

3.9 Signal Termination Between Two (or More) Signs

Reference Drawings:

System Riser Diagram, RS232.....	Drawing A-96058
System Riser Diagram, RS422.....	Drawing A-92681
System Riser Diagram, Modem.....	Drawing A-88426
System Riser Diagram, Fiber.....	Drawing A-110559
Schematic; Fiber/Modem Input.....	Drawing A-125900
Signal Input, Venus 1500.....	Drawing A-129110

RS/422 Interconnection

This is the most common method of terminating signal between two or more displays. A 6-conductor cable is used and one end terminates at the “RS422 OUT” 6-position terminal block (TB3) on the first display. The other end terminates at the “RS422 IN” 6-position terminal block (TB2) in the second display.

Display A Data Out (TB3)	Field Cabling	Display B Data In (TB2)
Pin 1 (GND)	Green	Pin 6 (GND)
Pin 2 (Data TX-N)	Blue	Pin 5 (Data RX-N)
Pin 3 (Data TX-P)	White	Pin 4 (Data RX-P)
Pin 4 (Data RX-N)	Brown	Pin 3 (Data TX-N)
Pin 5 (Data RX-P)	Black	Pin 2 (Data TX-P)
Pin 6 (GND)	Red	Pin 1 (GND)
Pin 6 (GND)	Bare (Shield)	N.C.

Fiber Interconnection

A four-conductor fiber cable is used in connecting two or more displays in the Fiber Interconnection method. Connect the fiber cable to the fiber cards of the display as described in **Drawing A-125900** and on the following table.

Display A Data Out (J2 & J3)	Field Cabling	Display B Data In (J4 & J5)
J2 (TX1)		J5 (RX2)
J3 (RX1)		J4 (TX2)

3.10 Optional Temperature Sensor Electrical Installation

Reference Drawings:

Temp Sensor Mounting	Drawing A-79767
Signal Input, Venus 1500.....	Drawing A-129110

After mounting the optional temp sensor as described in **Section 2.6, Optional Temperature Sensor Mounting**, follow these steps to complete the electrical installation. A 2-pair, individually shielded cable (Belden 5594, Daktronics part number W-1234) is used to connect the sensor to the controller.

1. Run ½” conduit from the sensor location to the controller within the display. The cable must be routed through one-foot of ½” metal conduit that should be earth-grounded to protect the sensor and controller from lightning damage.
2. Connect the cable to the temperature sensor terminal block *within the temperature sensor as follows:*

Wire Color	Terminal Block
Red	V+
Green	P
Black	GND
White	N

***Note:** Do not terminate shield at this point.

3. Install the mesh screen with the four screws enclosed.
4. Disconnect power to the display before attaching the cable.
5. Connect the cable to the temperature sensor terminal block on the controller (TB7) per the following table:

Wire Color	Terminal Block TB7 (Temp In)
	Pin 1 (+5V)
	Pin 2 (GND)
	Pin 3 (LIGHT +)
	Pin 4 (LIGHT -)
Green	Pin 5 (TEMP +)
White	Pin 6 (TEMP -)
Red	Pin 7 (+5V)
Black & Shield	Pin 8 (GND)
OR Bare (Shield)	Pin 8 (GND)

To connect the temperature sensor to multiple displays (such as a double-face display):

Wire Color	Display 1 TB7	Display 2 TB7
Green	Pin 5 (TEMP +)	Pin 5 (TEMP +)
White	Pin 6 (TEMP -)	Pin 6 (TEMP -)

3.11 First Time Turn On

When first powered up, the display will run through an initialization in which it will display the following:

1. Output Test (DDD's)
2. Product Name (Galaxy)
3. Display Size (Row x Column)
4. Firmware Number (**ED-10134**)
5. Firmware Revision (Rev X.XX)
6. COM1 Configuration (C1: V15/RTD)
7. COM2 Configuration (C2: None)
8. Line Frequency (60 Hz)
9. Hardware Address (HW: XX)
10. Software Address (SW: XX)
11. Display Name
12. Modem (If modem is present)

Section 4: Maintenance & Troubleshooting



IMPORTANT NOTES:

1. **Power must be turned off before any repair or maintenance work is done on the display!**
2. **Any access to internal display electronics must be made by qualified service personnel.**
3. **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 & Troubleshooting Overview

Daktronics Galaxy series AF-3060 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 display information.

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

4.2 Signal Summary

Reference Drawings:

System Riser Diagram, RS232.....	Drawing A-96058
System Riser Diagram, RS422.....	Drawing A-92681
System Riser Diagram, Modem.....	Drawing A-88426
System Riser Diagram, Fiber.....	Drawing A-110559
Schematic	Appendix B

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

1. Data from the controller computer, which runs Venus 1500 software, travels via RS232, RS422, modem or fiber optic cable into the display.
2. For multiple face display or a display network, an RS422 (most typical) or fiber cable relays signal between the controller of the first display and the controller in the second display.

3. From the controller, the signal then travels over a 40-conductor ribbon cables from the controller (J11 through J16 provide signal out) to J2 on the driver of the first column of modules in the display.
4. Data exits at J1 and is relayed to J2 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.

4.3 Power Summary

Reference Drawing: Schematic **Appendix B**

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

1. Incoming power terminates at the termination block (TB41) within the power termination enclosure. Before leaving the enclosure, the power is sent through a fuse and an RFI electrical filter.
2. Power for the controller board passes through a transformer located on the controller/power panel.
3. Depending on display size and color (monochrome or tri-color), either +6.5VDC, +9VDC or +12VDC power supplies are used to power the modules. Power supplies are preset. Contact Daktronics Customer Service for the proper settings.
4. In tricolor displays, the 12VDC power supply powers the green LEDs through the 4-pin connector. The 6.5VDC power supply powers the red LEDs and driver's logic circuit through 2-pin connectors.

4.4 Service & Diagnostics

Reference Drawings:

Component Layout Diagram **Appendix B**
 Schematic **Appendix B**

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

- transformer, RFI filter and fuse
- controller
- modules, drivers and power supplies

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

Component...	Denoted As...	Location...
Filter, Transformer & Fuse	0A-1215-4002	Inside the power termination box
Controller	0A-1146-0035	Inside the controller/power panel (behind the bottom left module)
Modules	Squares A101 through A418	Over entire face of the display (includes driver)
Power Supplies	0A-1213-2011 or 0A-1213-2039 or 0A-1213-2042 or 0A-1213-2043	Behind modules (refer to your display's schematic)
Light Detector	0A-1215-4001	Behind the bottom left module
Modem	0P-1146-0003	Refer to the display's schematic
Fiber Board	0P-1127-0024	Refer to the display's schematic

Transformer, RFI Filter & Fuse

Reference Drawings: Power Termination Box Drawing A-129227

REMEMBER: DISCONNECT POWER BEFORE SERVICING ANY INTERNAL COMPONENTS.

Transformer

The transformer is located in the upper portion of the power termination box (T1 in **Drawing A-129227**). To replace the transformer, first disconnect all the wires attached to it. *Turn off power to the display before removing the wires.* Then release the hardware securing it to the inside of the enclosure. Position the new transformer in its place, and tighten it down. Reconnect all the wires using the display's schematic as a reference.

RFI Filter

The RFI electrical filters are mounted inside the power termination box on either side of the transformer (Z1 and Z2 in **Drawing A-129227**). Like the transformer, the filters can be replaced by first removing all connecting wires, then releasing the attachment hardware. Install the new filter using the display's schematic as a wiring reference.

Fuse

The fuses are located in the left side of the power termination box (F1 and F2 in **Drawing A-129227**). To replace the fuse, push and turn the fuse cap, insert the new fuse into the cap and reattach. *Replace the fuse only with fuses of the same type and rating.* For 120VAC input, F41 and F42 are MWO-15 fuses. For 240VAC input, MDL-7 fuses are used.

Controller

The controller sends data to the modules. Refer to the signal summary in **Section 4.2** for more information and to the component location drawings for the position of the controller board. A typical controller is illustrated in **Figure 22**.

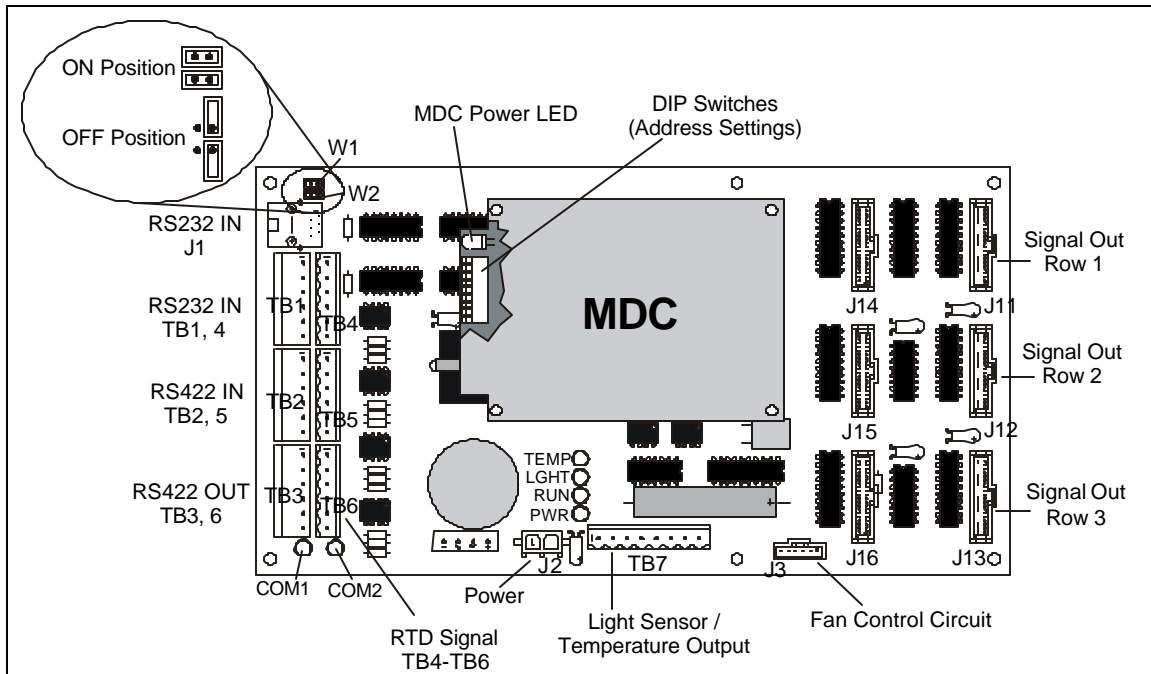


Figure 22: Controller Component Layout

“DIP” switches are located on the controller’s MDC. These DIP switches set the hardware address, which is used by the software to identify that particular display. When replacing a controller board, be sure to set the DIP switches in the same address configuration as the defective controller.

Note: Setting the DIP switches to address 0 (turn all the switches to OFF by flipping them toward the printed switch numbers) can activate a test mode. The display’s power must be downed, and then reconnected to run the test mode.

Switch 8	Switch 7	Switch 6	Switch 5	Switch 4	Switch 3	Switch 2	Switch 1	Address
Off	Off	Off	Off	Off	Off	Off	Off	Test Mode
Off	Off	Off	Off	Off	Off	Off	On	1
Off	Off	Off	Off	Off	Off	On	Off	2
Off	Off	Off	Off	Off	Off	On	On	3
Off	Off	Off	Off	Off	On	Off	Off	4
Off	Off	Off	Off	Off	On	Off	On	5
Off	Off	Off	Off	Off	On	On	Off	6
Off	Off	Off	Off	Off	On	On	On	7
...
On	On	On	On	Off	Off	Off	Off	240

Four diagnostic LEDs are located on the controller. The following table explains what each LED represents.

LED	Color	Function	Operation	Summary
TEMP	Red	Temperature Level	Flashes	Flash rate is dependent upon the temperature. Flashes faster in high temperature and slows as the temperature decreases.
LGHT	Red	Photocell Light Level	Flashes	Flash rate is dependent on the light level. Flashes faster in bright light and slows as darkness descends.
RUN	Red	Controller	Steady Flash	A steady flash indicates the controller is running correctly. Normal flash rate is about once a second.
PWR	Green	Power	Always On	Power to the data input circuit when lit.
RX1	Yellow	Com 1	Flashes	Turns on and flashes when receiving information.
RX2	Yellow	Com 2	Flashes	Turns on and flashes when receiving information, typically used in custom applications.

The controller contains two jumpers (W1 and W2) for use with a modem system. *The jumpers must jump both pins for a modem system.*

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

1. Disconnect power from J2.
2. Remove all power and signal connections from the board. “Locked” connectors are released by squeezing together the tabs, then carefully pulling them from the jack. When replacing the board, it may be helpful if the cables are labeled as to which cable was removed from which connector.
3. Remove each of the six nuts holding the board in place.
4. Follow the previous steps in reverse order to install a new controller board.

Modules & Drivers

Reference Drawings:

Exploded Front, Module	Drawing B-126111
Exploded Rear, Module	Drawing B-126112
Component Layout Diagram	Appendix B

The module and driver board are a single functional unit.

The LED power supplies are identified as assemblies (refer to **Power Supplies**, following in this section). Each power supply unit controls four modules; a power supply assembly (two power supply units) controls eight.

To remove a module, complete the following steps:



Figure 23: Turning the Module Access Fasteners

1. Locate the latch access fasteners on the module. One is centered below the top row of pixels and one is centered above the bottom row.
2. With a $\frac{7}{32}$ -inch nut driver or C " Allen wrench, turn the latch access fasteners a quarter turn as seen in **Figure 23**. The top one should be turned clockwise and the bottom one counter-clockwise.
3. Pull the module of the display far enough to reach around the back and disconnect the ribbon cables.

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 if it is to prevent 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.

Each module assembly is made up of a module housing (containing LEDs and the driver) and a louver assembly. **Drawings B-126111** and **B-126112** illustrate the various module components.

From time to time, it may become necessary to remove one or more parts from the module housing for repair or replacement. The following sub-sections explain how to disassemble a module.

Removing the Louver Assembly

Complete the following steps to remove the louver assembly from the face of the module.

1. Remove the five twist-on fasteners holding the louver assembly to the module.
2. Lift the louver assembly straight away from the module.

Damaged louvers may reduce the brightness and contrast of this display. If any of the louvers on the display are broken or damaged, the entire louver assembly must be replaced. Refer to the Replacement Parts List in **Section 4.11**. When replacing the louver assembly take care not to strip the plastic twist-on fasteners.

Power Supplies

Reference Drawings:

Schem.; Power Supply Config.....	Drawing A-126330
PS Assy; 2 A-1555's	Drawing A-126508
Signal Input, Venus 1500.....	Drawing A-129110
Assy, Power Supply A-1633, A-1591	Drawing A-135118
Component Location Drawing.....	Appendix B
Schematic	Appendix B

The LED power supplies are identified as assemblies 0A-1213-2039 (single power supply, 9VDC), 0A-1213-2043 (double power supply, 12VDC), 0A-1213-2011 (single power supply, 12VDC) and 0A-1213-2042 (double power supply, one 9VDC, one 6.5VDC) in the component location drawings.

Complete the following steps to remove a power supply from the display:

1. Remove the module directly in front of the failed power supply.
2. Disconnect all the wires connected to the power supply.
3. Remove the hardware holding the power supply in place to free the unit.
4. Follow these steps in reverse order to install a new power supply. Refer to the display's **Schematic** when reconnecting the wires.

Light Detector

Reference Drawings:

Signal Input, Venus 1500.....	Drawing A-129110
Component Layout Diagram	Appendix B
Schematic	Appendix B

The light detector is internally mounted and wired at Daktronics. It is located in the bottom left corner on the front of the display (identified as assembly 0A-1215-4001 (LT) in the **Component Layout Diagram**). A 4-conductor cable connects the light detector to the controller board. The cable is terminated at the terminal block on the light sensor and at TB7 on the controller board (refer to your display's schematic).

Light Detector Pin No.	Cable Wires Color	Controller Board TB7 Pin No.
1	Green	3
2	White	4
3	Red	1
4	Black	2
N.C.	Shield	2

Modem

If a modem was included with the display, it is located inside the display next to the controller board.

1. To replace a modem, first disconnect the power and signal connections (refer to **Figure 24** for the location of the power jack).
2. The modem is held in place with four screws. Remove the screws and lift the modem out of the display.
3. Attach the new modem using the same four screws removed in step 2, above.

The modem module has two LEDs. The Power LED should remain lit while power is applied to the modem. The Active LED will light when the modem is in the process of communicating.

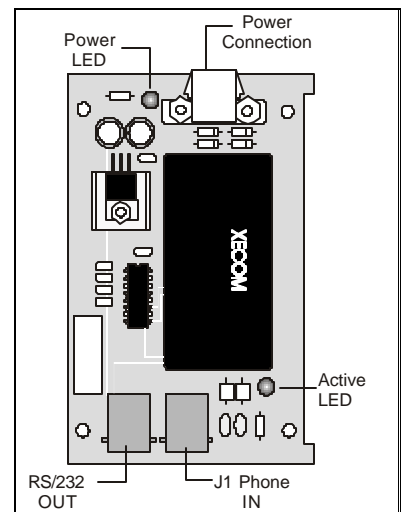


Figure 24: Modem

A modem system requires jumpers to be set on the controller board. Refer to the subsection titled **Controller** for these jumper settings.

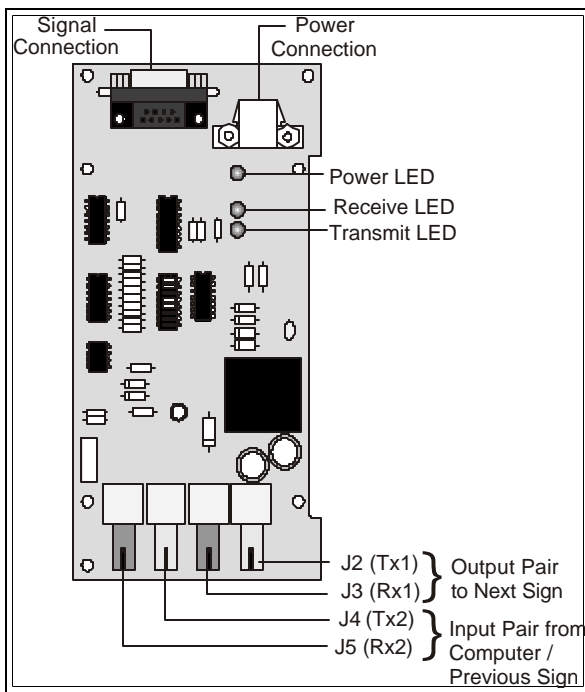


Figure 25: Fiber Optic Board

Fiber Board

The fiber module has three LEDs. The power LED (DS1) should remain lit while power is applied to the module. The receive LED (DS2) will light when the display fiber board is accepting signal from the computer fiber board. The transmit LED (DS3) will light when the display fiber board is sending to the computer fiber board. In addition, the fiber module has two input fiber connectors, which the computer or the previous display connects to, and two output fiber connectors that connect to the next display. The fiber module connects to the controller board with a small DB9 to RJ11 cable.

To replace a fiber optic board:

1. Disconnect the power and signal connections (refer to **Figure 25** for disconnection of power).
2. The fiber optic board is held in place with four nuts. Carefully remove them.
3. Install the new fiber board, replace the nuts and reconnect power and signal cables.

4.5 Ventilation Systems (With Fans and Filters)

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, for whatever reason, take a minute to inspect the fans.

- Check the fan blades for dirt and debris. If the fan blades have a large accumulation of dirt and debris, this indicates that the filters must be changed more often. 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:

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

Filters must be checked once a year or after every 1,500 hours of operation, whichever comes first.

Filters can be cleaned with water and a mild detergent, such as dish soap. Compressed air can also be used to clean the filters provided the nozzle is held at least six inches away from the filter, the pressure is no greater than 60 psi and the air is blown through the filter in the opposite direction from which air normally flows. The arrow stamped on the frame filter indicates air flow direction.

4.6 Thermostats

Reference Drawings: Component Layout Diagram **Appendix B**

A thermostat controls when the ventilation fans are turned on in the display. Refer to the **Component Layout Diagram** for the location of the thermostat. The ventilation fans turn on when the inside of the display reaches 85° F (29° C), and turn off at 70° F (21° C).

4.7 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.

4.8 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 or where fasteners have come loose allowing gaps in the panels or where moisture may be entering around hardware. Check electronic components for displays of 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.

4.9 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">• Replace/check ribbon cables on the module.• Replace the module.
One or more LEDs on a single module fail to turn off.	<ul style="list-style-type: none">• Replace/check ribbon cables on module.• Replace the module.
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">• Replace the first module/driver on the left side of the first module that is not working.• Replace the second module that is not working.• Replace the power supply assembly on the first module that is not working.• Replace the ribbon cable.
One row of modules does not work or is garbled.	<ul style="list-style-type: none">• Replace first module.• Replace controller.• Check the fuses in the power termination box.
A group of modules, which share the same power supply assembly, fail to work.	<ul style="list-style-type: none">• Replace the power supply assembly.
Entire display fails to work.	<ul style="list-style-type: none">• Check for proper line voltage into the power termination panel.• Check/replace the ribbon cable from the controller to the modules.• Check the voltage settings on the power supplies.• Check/replace the signal cable to the controller.• Replace the controller.• Verify proper use of the software in the operation manual.
Temperature always reads 32 degrees F/0 degrees C	<ul style="list-style-type: none">• Check temperature sensor connections.• Replace the temperature sensor.• Replace the controller.

Display is stuck on bright or dim.	<ul style="list-style-type: none"> • Check Manual/Auto dimming in Venus 1500 software. • Check light detector cable. • Check light detector for obstructions. • Replace the light detector. • Replace the controller.
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4.10 Boot Up Initialization Information

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

1. Output Test (DDD)
2. Product Name (Galaxy)
3. Display Size (Row x Column)
4. Firmware Number (**ED-10134**)
5. Firmware Revision (Rev X.XX)
6. COM1 Configuration (C1: V15/RTD)
7. COM2 Configuration (C2: None)
8. Line Frequency (60 Hz)
9. Hardware Address (HW: XX)
10. Software Address (SW: XX)
11. Display Name
12. Modem (If modem is present)

4.11 Replacement Parts List

The following tables contain some of the items that may need to be replaced in these displays over a period of time. Many of the parts within the display also list their part numbers on labels affixed to them.

To prevent theft Daktronics recommends purchasing a lockable cabinet to store manuals and replacement/spare parts.

Part Description	Part Number
Controller II, 48x256, Louvered Galaxy	0A-1146-0035
Thermostat Enclosure 85-70-9L	0A-1213-4024
Light Level Detector; 34mm	0A-1215-4001
Filter; Air, Gasket, 7.50" x 13.50" x .88"	EN-1774
Fan; 110CFM, 115VAC, 17W, 60Hz, 4.5"	B-1006
Fan; 250CFM, 115VAC, 0.65A, 5.84x6.0"	B-1019
Fuse; MWO-15, 15A 120V Glass Tube (120V Displays)	F-1028
Fuse; MDL-7, 7A 250V Glass Tube (240V Displays)	F-1031
Transformer; Pri 115V, Sec 10VCT@1.2A (120V Displays)	T-1072
Transformer; 115/240V Pri 10VCT@1.2A (240V Displays)	T-1106
Filter, RFI Line 10 AMP 120 VAC	Z-1007
Fan Finger Guard (for B-1006 fan)	HS-1036
Fan Finger Guard (for B-1019 fan)	HS-1130
Fuse Holder; 1 Pos. Pnl Mt. ¼"	X-1032
Thermostat; SPST NO Close 85 Open 70	S-1144
Modem Board; 232 Coated	0P-1146-0003
Fiber Board; RS232 to Fiber, 12V	0P-1127-0024

Jack; 6-Pin Female for Modem	J-1094
Cable; 18" RJ11; 6-Cond.	0A-1137-0160
Signal Converter (RS232/RS422)	0A-1127-0237
Signal Converter (RS232/Fiber)	0A-1127-0239
Manual; Venus 1500 Operator's	ED-12717
Manual; Galaxy Outdoor 34mm Louvered Displays	ED-12061
Ribbon Cable; 40 Cond. 30 AWG (Controller to Module, Module to Module)	W-1412
Cable; 22 AWG (Light Sensor/Temp Sensor to Controller)	W-1234
Flipped PC Connector; DB9F/RJ11F	0A-1146-0029
Digital Temp Sensor	0P-1151-0003
Electrical Contact Cleaner Lubricant / Cal-Lube	CH-1020
Module; 4A (1:1) 8x8 (30x70) Coated Type 1 (Amber, 4 LED/Pixel)	0A-1208-3000
Module; 4R(1:1) 8x8 (30x70) Coated Type 1 (Red, 4 LED/Pixel)	0A-1208-3001
Module; 3R (1:1) 8x8 (30x70) Coated Type 1 (Red, 3 LED/Pixel)	0A-1208-3002
Power Supply with Harness (1, A-1633)	0A-1213-2039
Power Supply with Harness (1, A-1555)	0A-1213-2011
Power Supply Assembly (2, A-1555)	0A-1213-2043

4.12 Daktronics Exchange/Repair & Return Programs

To serve customers' repair and maintenance needs, Daktronics offers both an exchange and a repair and return program. The exchange program reduces down time by providing timely replacement of key components. This service is provided to qualified customers who follow the program guidelines explained below. It is our pleasure to provide this service to ensure you get the most from your Daktronics products. Please call our Help Desk (1-877 / 605-1113) if you have any questions regarding the exchange program or any other Daktronics service.

When you call the Daktronics Help Desk, a trained service technician will work with you to solve the equipment problem. You will work together to diagnose the problem and determine which exchange replacement part to ship. If, after you make the exchange, the equipment still causes problems, please contact our Help Desk immediately.

If the replacement part fixes the problem, package the defective part in the same packaging the replacement part arrived in, fill out and attach the enclosed UPS shipping document and **RETURN THE PART TO DAKTRONICS**. (You may use the same box and packing the exchange part was sent in.) This will speed up the transaction and alleviate confusion when the failed component arrives at Daktronics. (Daktronics expects immediate return of the exchange part if it does not solve the problem.) For most equipment, you will be invoiced for the replacement part at the time it is shipped. This invoice is due when you receive it.

Daktronics reserves the right to refuse equipment that has been damaged due to acts of nature or causes other than normal wear and tear.

If the defective equipment is not shipped to Daktronics within 30 working days from the invoice date, it is assumed you are purchasing the replacement part and you will be invoiced for it. This second invoice represents the difference between the exchange price and the purchase price of the equipment. This amount is due when you receive the second invoice. If you return the exchange equipment after 30 working days from invoice date, you will be credited for the amount on the second invoice minus a restocking fee.

@To avoid a restocking charge, please return the defective equipment within 30 days from the invoice date.

Daktronics also offers a Repair and Return program for items not subject to exchange.

Where to Send: To return parts for service, contact your local representative prior to shipment to acquire a Return Material Authorization Number (RMA#). If you have no local representative, call the Daktronics Help Desk for the RMA#. This will expedite the receiving process.

Packaging for Return: Package and pad the item well so that it will not be damaged in shipment. Electronic components such as printed circuit boards should either be installed in an enclosure or should be put in an anti-static bag before boxing. Please enclose your name, address, phone number and a clear description of symptoms.

Mail: Daktronics, Inc., Customer Service
PO Box 5128
331 32nd Avenue
Brookings, SD 57006

Phone: Daktronics Help Desk: 1-877/605-1113
or 1-605/697-4034

Customer Service Fax: 1-605-697-4444

e-mail: helpdesk@daktronics.com

Appendix A: Signal Converter

The following table gives the typical state of the signal converter when the LEDs are either on or off. Refer to **Figure 26** for an illustration of the signal converters and the locations of the various components.

LED Indicators	Typical States	
PWR	ON	Signal Converter (SC) is receiving power.
	OFF	SC is not receiving power. Internal 1 AMP Fuse is bad.
TX	ON Steady	SC is not connected to a serial port. (If connected to serial port) Serial port or serial cable may be bad.
	OFF Steady	Normal state, SC is not transmitting data.
	Brief Flicker	SC is transmitting data.
RX	ON Steady	Field cabling between SC and display is bad, connected to display out or terminated incorrectly.
	OFF Steady	Normal state, SC is not receiving data.
	Brief Flicker	SC is receiving data.

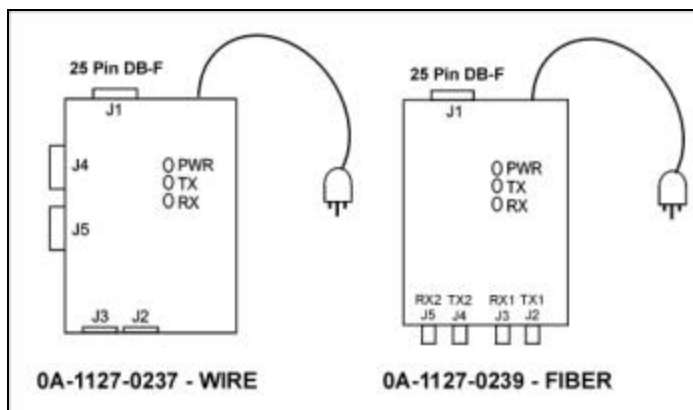


Figure 26: Signal Converters

0A-1127-0237 – Wire

The following tables list the jack pin-outs for a wire signal converter.

J2 & J3 - RJ/11	
PIN	OPERATION
1	GND
2	TX-N (out)
3	TX-P (out)
4	RX-N (in)
5	RX-P (in)
6	GND

J4 & J5 – Phoenix	
PIN	OPERATION
1	GND
2	RX-P (in)
3	RX-N (in)
4	TX-P (out)
5	TX-N (out)
6	GND

J1 25 Pin DB-F	
PIN	OPERATION
2	TX-P (out)
3	RX-P (in)
7	GND

Loop-Back Test: To perform a loop-back, for testing purposes only, connect the following using copper conductor jumpers.

Note: This test should be performed with only one jack at a time. Do not connect loop back to more than one jack at a time.

J2 & J3	OR	J4 & J5
TX-N to RX-N		RX-P to TX-P
TX-P to RX-P		RX-N to TX-N

0A-1127-0239 – Fiber

The following tables give the jack pin-outs for a fiber signal converter.

JACK	OPERATION
J2	TX1 (out)
J3	RX1 (in)
J4	TX2 (out)
J5	RX2 (in)

J1 – 25 Pin DB-F	
PIN	OPERATION
2	TX-P (out)
3	RX-P (in)
7	GND

Loop-Back Test: To perform a loop-back, for testing purposes only, connect the following using a fiber optic cable jumper.

J2 & J3 or J4 & J5
TX to RX

Serial Cable (W-1249)

This table lists the pin connections when using a serial cable (W-1249).

DB9-F	DB25-F
Pin 3 – TX	Pin 2 – TX
Pin 2 – RX	Pin 3 – RX
Pin 5 – GND	Pin 7 - GND

Serial Adaptor (A-1603)

DB9-F	DB25-M
Pin 3 – TX	Pin 2 – TX
Pin 2 – RX	Pin 3 – RX
Pin 5 – GND	Pin 7 - GND

Appendix B: Reference Drawings

Refer to **Section 1.1** for information on reading drawing numbers. The following drawings are listed in numerical order by size (A, B, etc.)

System Riser Diagram, Modem.....	Drawing A-88426
System Riser Diagram, RS422.....	Drawing A-92681
System Riser Diagram, RS232.....	Drawing A-96058
System Riser Diagram, Fiber.....	Drawing A-110559
Assembly; B-1006.....	Drawing A-125368
Schematic; Fiber/Modem Input.....	Drawing A-125900
Schematic; Power Supply Configurations	Drawing A-126330
PS Assy; 2 A-1555's	Drawing A-126508
Power Specs, 8x48 – 48x128 Displays	Drawing A-127440
Comp. Layout Diagram; AF-3060-24/3248-9L	Drawing A-127629
Comp. Layout Diagram; AF-3060-24/3264-9L	Drawing A-127630
Comp. Layout Diagram; AF-3060-24/3280-9L	Drawing A-127631
Comp. Layout Diagram; AF-3060-24/3296-9L	Drawing A-127632
Comp. Layout Diagram; AF-3060-24x32112-9L	Drawing A-127633
Comp. Layout Diagram; AF-3060-24/32128-9L	Drawing A-127634
Comp. Layout Diagram; AF-3060-24/32144-9L	Drawing A-127635
Comp. Layout Diagram; AF-3060-848-9L	Drawing A-127643
Comp. Layout Diagram; AF-3060-864-9L	Drawing A-127984
Comp. Layout Diagram; AF-3060-880-9L	Drawing A-127985
Comp. Layout Diagram; AF-3060-896-9L	Drawing A-127986
Comp. Layout Diagram; AF-3060-8112-9L	Drawing A-127987
Comp. Layout Diagram; AF-3060-8128-9L	Drawing A-127988
Comp. Layout Diagram; AF-3060-8144-9L	Drawing A-127989
Comp. Layout Diagram; AF-3060-1648-9L	Drawing A-127995
Comp. Layout Diagram; AF-3060-1664-9L	Drawing A-127996
Comp. Layout Diagram; AF-3060-1680-9L	Drawing A-127997
Comp. Layout Diagram; AF-3060-1696-9L	Drawing A-127998
Comp. Layout Diagram; AF-3060-16112-9L	Drawing A-127999
Comp. Layout Diagram; AF-3060-16128-9L	Drawing A-128000
Comp. Layout Diagram; AF-3060-16144-9L	Drawing A-128001
Mtg Clip Angles; AX-XXXX-40/48XXX-34B.....	Drawing A-128799
Clip Angle Mounting; AX-XXX-8/32XX-34B	Drawing A-128801
Signal Input, Venus 1500.....	Drawing A-129110
Power Termination Box	Drawing A-129227
Assy, Power Supply A-1633, A-1591	Drawing A-135118
Comp. Layout Diagram; AF-3060-864-9-RG	Drawing A-141934
Comp. Layout Diagram; AF-3060-880-9-RG	Drawing A-141935
Comp. Layout Diagram; AF-3060-1664-9-RG	Drawing A-141936
Comp. Layout Diagram; AF-3060-1680-9-RG	Drawing A-141937
Comp. Layout Diagram; AF-3060-2464-9-RG	Drawing A-141938
Comp. Layout Diagram; AF-3060-2480-9-RG	Drawing A-141939
Exploded Front View, Single Panel Module	Drawing B-126111
Exploded Rear View, Single Panel Module.....	Drawing B-126112
Schematic; AF-3060-8x48/64/112/128-9.....	Drawing B-127516
Schematic: AF-3060-8x80/96/144-9.....	Drawing B-127517
Schematic: AF-3060-16x***-9.....	Drawing B-127518

Schematic; AF-3060-24/32x***-9.....	Drawing B-127519
Shop Dwg; AX-XXXX-8/32XXX***-34B.....	Drawing B-128423
Shop Dwg; AX-XXXX-40/48XXX***-34B.....	Drawing B-128425
Schematic; AF-3060-40/48X****-9.....	Drawing B-129464
Shop Drawing; AX-XXXX-RG.....	Drawing B-141943

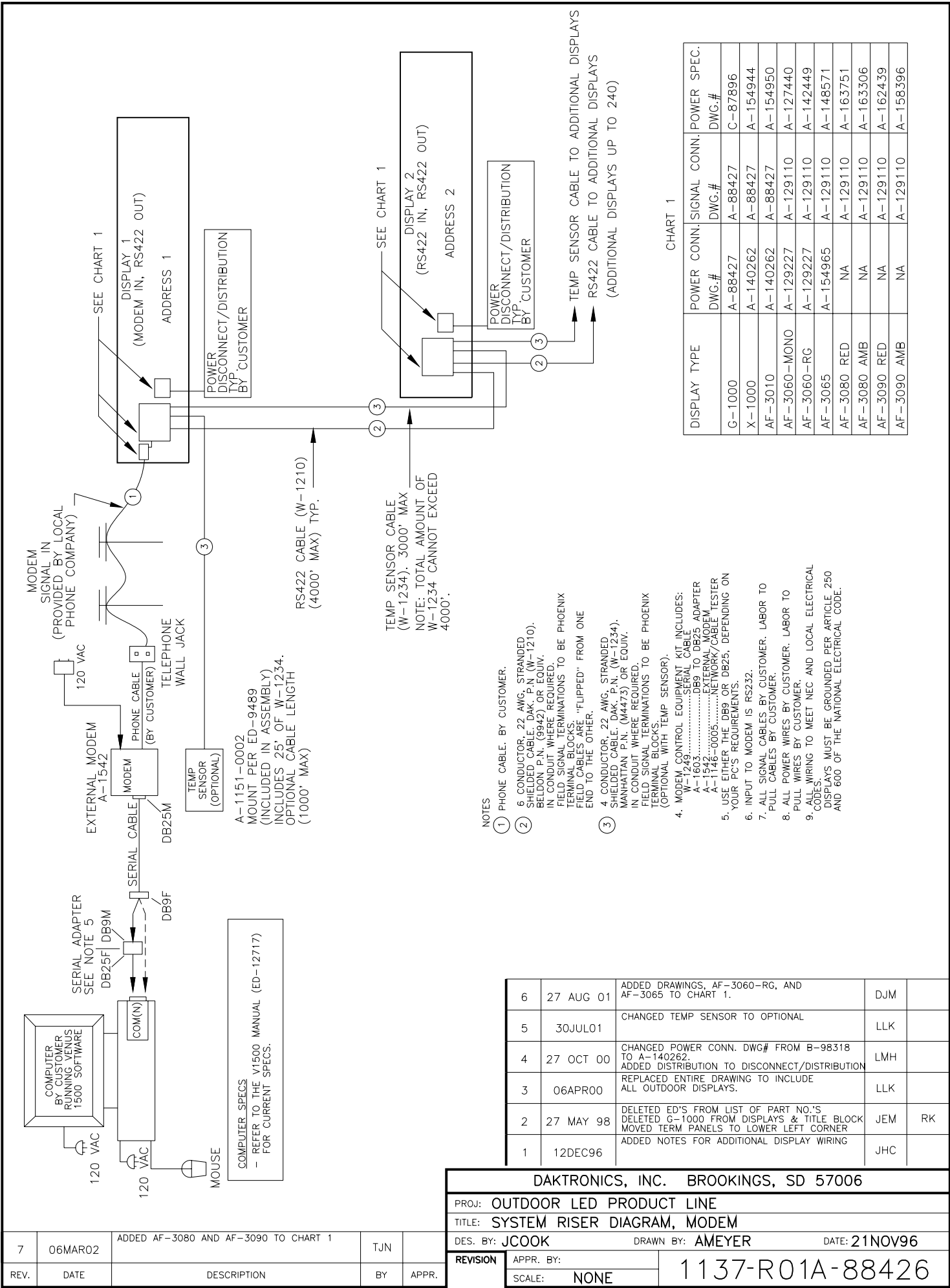


CHART 1

DISPLAY TYPE	POWER CONN#	SIGNAL CONN#	POWER SPEC.
	DWG.#	DWG.#	DWG.#
G-1000	A-88427	A-88427	C-87896
X-1000	A-140262	A-88427	A-154944
AF-3010	A-140262	A-88427	A-154950
AF-3060-MONO	A-129227	A-129110	A-127440
AF-3060-RG	A-129227	A-129110	A-142449
AF-3065	A-154965	A-129110	A-148571
AF-3080 RED	NA	A-129110	A-163751
AF-3080 AMB	NA	A-129110	A-163306
AF-3090 RED	NA	A-129110	A-162439
AF-3090 AMB	NA	A-129110	A-158396

NOTES

- PHONE CABLE: BY CUSTOMER.
- CONDUCTOR, 22 AWG, STRANDED SHIELDED CABLE, DAK P.N. (W-1210), BELDON P.N. (9942) OR EQUIV. IN CONDUIT WHERE REQUIRED. FIELD SIGNAL TERMINATIONS TO BE PHOENIX TERMINAL BLOCKS. FIELD CABLES ARE "FLIPPED" FROM ONE END TO THE OTHER.
- CONDUCTOR, 22 AWG, STRANDED SHIELDED CABLE, DAK P.N. (W-1234), MANHATTAN P.N. (M4473) OR EQUIV. IN CONDUIT WHERE REQUIRED. FIELD SIGNAL TERMINATIONS TO BE PHOENIX TERMINAL BLOCKS (OPTIONAL WITH TEMP SENSOR).
- MODEM CONTROL EQUIPMENT KIT INCLUDES:
A-1603.....DB9 TO DB25 ADAPTER
A-1542.....EXTERNAL MODEM
A-1146-0005.....NETWORK/CABLE TESTER
5. USE EITHER THE DB9 OR DB25, DEPENDING ON YOUR PC'S REQUIREMENTS.
- INPUT TO MODEM IS RS232.
- ALL SIGNAL CABLES BY CUSTOMER. LABOR TO PULL CABLES BY CUSTOMER.
- ALL POWER WIRES BY CUSTOMER. LABOR TO PULL WIRES BY CUSTOMER.
- ALL WIRING TO MEET NEC AND LOCAL ELECTRICAL CODES.
DISPLAYS MUST BE GROUNDED PER ARTICLE 250 AND 600 OF THE NATIONAL ELECTRICAL CODE.

6	27 AUG 01	ADDED DRAWINGS, AF-3060-RG, AND AF-3065 TO CHART 1.		DJM
5	30JUL01	CHANGED TEMP SENSOR TO OPTIONAL		LLK
4	27 OCT 00	CHANGED POWER CONN. DWG# FROM B-98318 TO A-140262. ADDED DISTRIBUTION TO DISCONNECT/DISTRIBUTION		LMH
3	06APR00	REPLACED ENTIRE DRAWING TO INCLUDE ALL OUTDOOR DISPLAYS.		LLK
2	27 MAY 98	DELETED ED'S FROM LIST OF PART NO.'S DELETED G-1000 FROM DISPLAYS & TITLE BLOCK MOVED TERM PANELS TO LOWER LEFT CORNER		JEM RK
1	12DEC96	ADDED NOTES FOR ADDITIONAL DISPLAY WIRING		JHC

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ:	OUTDOOR LED PRODUCT LINE		
TITLE:	SYSTEM RISER DIAGRAM, MODEM		
DES. BY:	JCOOK	DRAWN BY:	AMEYER
DATE:	21NOV96		
REVISION	APPR. BY:	1137-R01A-88426	
SCALE:	NONE		

REV.	DATE	DESCRIPTION	BY	APPR.
7	06MAR02	ADDED AF-3080 AND AF-3090 TO CHART 1	TJN	

COMPUTER SPECS
- REFER TO THE Y1500 MANUAL (ED-12717)
FOR CURRENT SPECS.

A-1151-0002
MOUNT PER ED-9489
(INCLUDED IN ASSEMBLY)
INCLUDES 25' OF W-1234.
OPTIONAL CABLE LENGTH
(1000' MAX)

TEMP SENSOR CABLE
(W-1234). 3000' MAX
NOTE: TOTAL AMOUNT OF
W-1234 CANNOT EXCEED
4000'.

RS422 CABLE (W-1210)
(4000' MAX) TYP.

COMPUTER BY CUSTOMER
RUNNING VENUS
1500 SOFTWARE

SERIAL ADAPTER
SEE NOTE 5
DB25F DB9M

EXTERNAL MODEM
A-1542

MODEM SIGNAL IN
(PROVIDED BY LOCAL
PHONE COMPANY)

DISPLAY 1
(MODEM IN, RS422 OUT)
ADDRESS 1

DISPLAY 2
(RS422 IN, RS422 OUT)
ADDRESS 2

POWER
DISCONNECT/DISTRIBUTION
TYP.
BY CUSTOMER

POWER
DISCONNECT/DISTRIBUTION
TYP.
BY CUSTOMER

COMPUTER SPECS
- REFER TO THE Y1500 MANUAL (ED-12717)
FOR CURRENT SPECS.

SERIAL ADAPTER
SEE NOTE 5
DB25F DB9M

EXTERNAL MODEM
A-1542

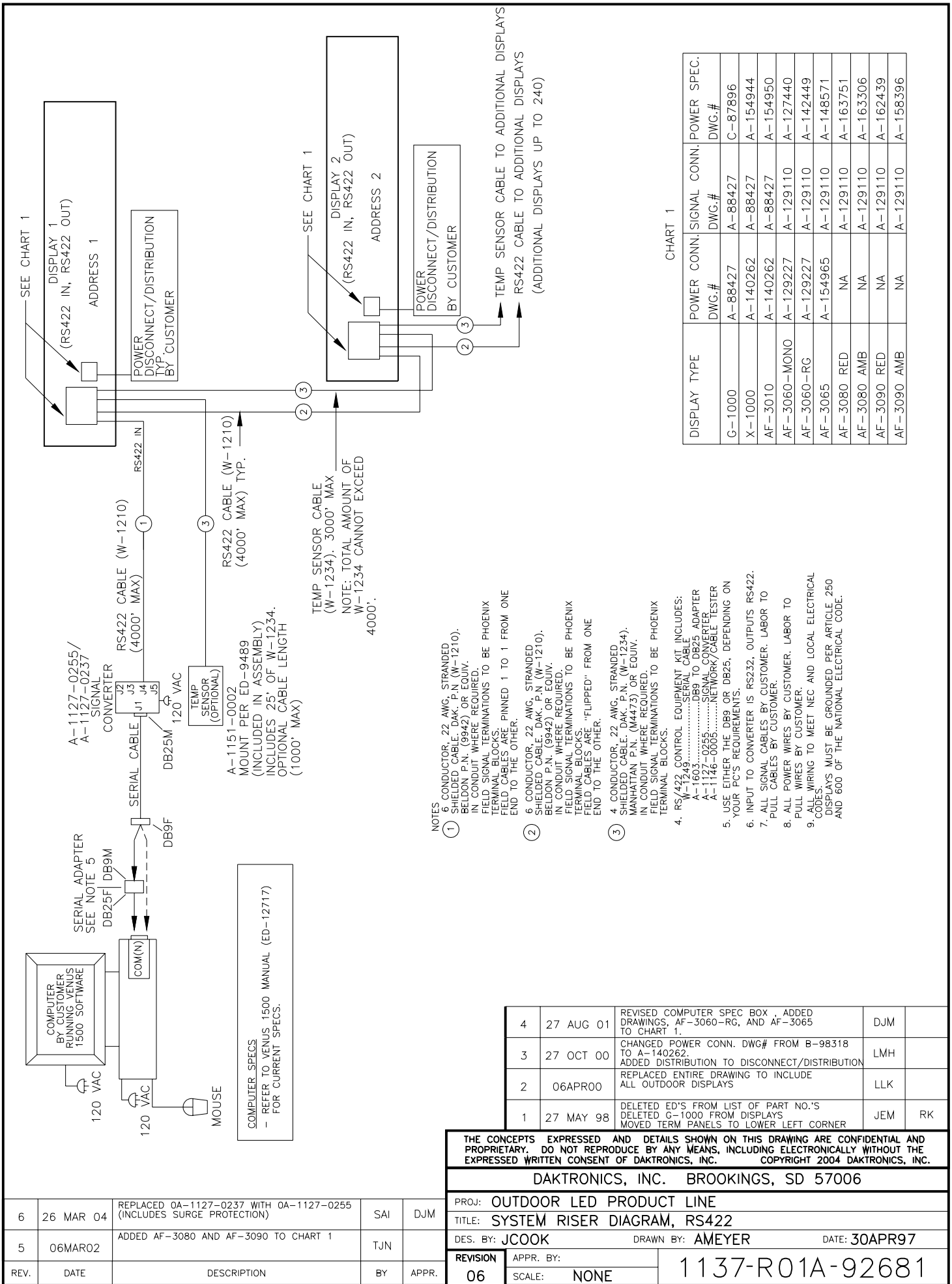
MODEM SIGNAL IN
(PROVIDED BY LOCAL
PHONE COMPANY)

DISPLAY 1
(MODEM IN, RS422 OUT)
ADDRESS 1

DISPLAY 2
(RS422 IN, RS422 OUT)
ADDRESS 2

POWER
DISCONNECT/DISTRIBUTION
TYP.
BY CUSTOMER

POWER
DISCONNECT/DISTRIBUTION
TYP.
BY CUSTOMER



4	27 AUG 01	REVISED COMPUTER SPEC BOX, ADDED DRAWINGS, AF-3060-RG, AND AF-3065 TO CHART 1.	DJM	
3	27 OCT 00	CHANGED POWER CONN. DWG# FROM B-98318 TO A-140262. ADDED DISTRIBUTION TO DISCONNECT/DISTRIBUTION	LMH	
2	06APR00	REPLACED ENTIRE DRAWING TO INCLUDE ALL OUTDOOR DISPLAYS	LLK	
1	27 MAY 98	DELETED ED'S FROM LIST OF PART NO.'S DELETED G-1000 FROM DISPLAYS MOVED TERM PANELS TO LOWER LEFT CORNER	JEM	RK

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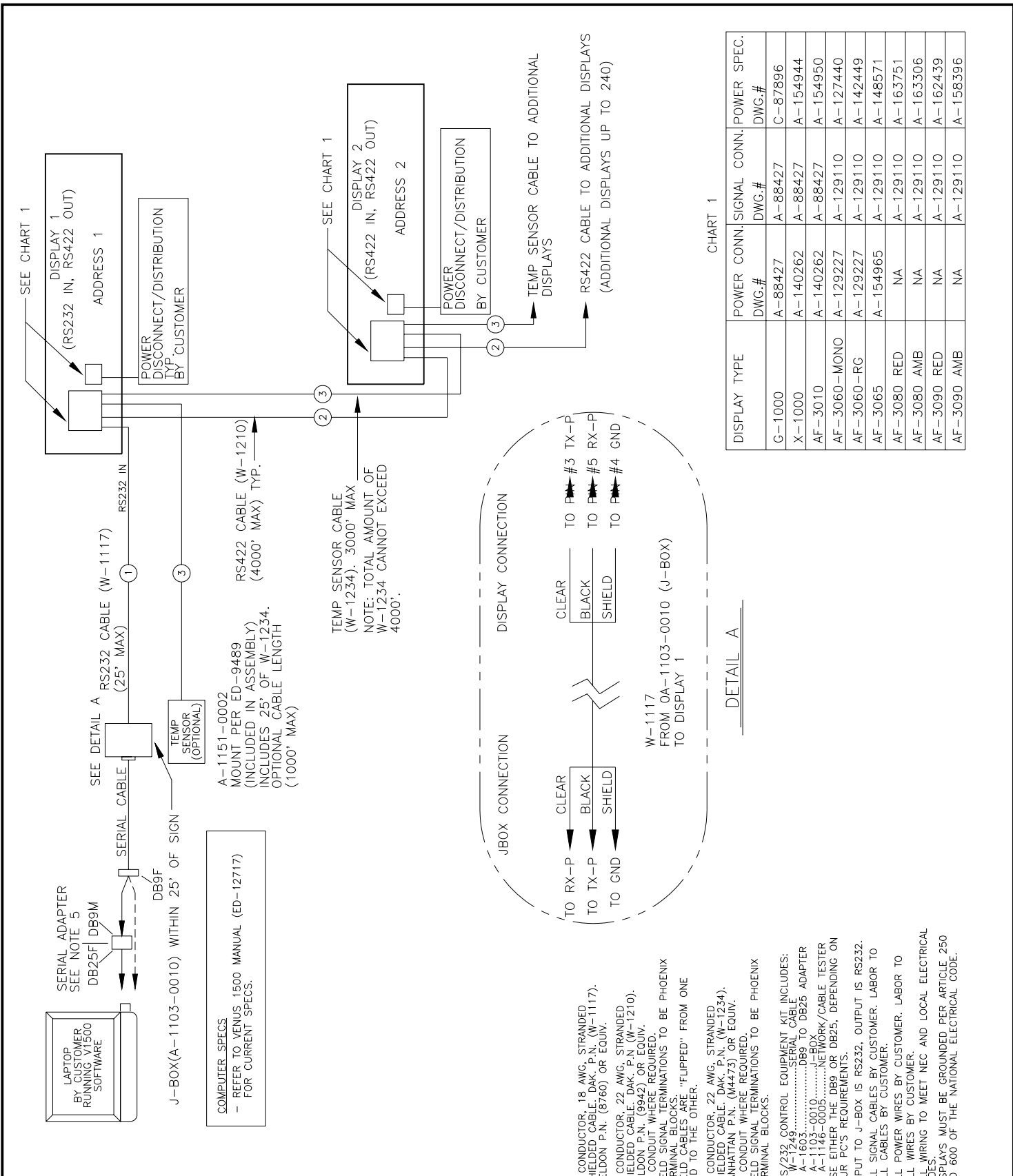
PROJ: **OUTDOOR LED PRODUCT LINE**

TITLE: **SYSTEM RISER DIAGRAM, RS422**

DES. BY: **JCOOK** DRAWN BY: **AMEYER** DATE: **30APR97**

REVISION	APPR. BY:	1137-R01A-92681
06	SCALE: NONE	

REV.	DATE	DESCRIPTION	BY	APPR.
6	26 MAR 04	REPLACED OA-1127-0237 WITH OA-1127-0255 (INCLUDES SURGE PROTECTION)	SAI	DJM
5	06MAR02	ADDED AF-3080 AND AF-3090 TO CHART 1	TJN	



REV.	DATE	DESCRIPTION	BY	APPR.
5	06 MAR 02	ADDED AF-3080 AND AF-3090 TO CHART 1	TJN	
4	27 AUG 01	REVISED COMPUTER SPEC BOX, ADDED DRAWINGS, AF-3060-RC, AND AF-3065 TO CHART 1.	DJM	
3	27 OCT 00	CHANGED POWER CONN. DWG# FROM B-98318 TO A-140262. ADDED DISTRIBUTION TO DISCONNECT/DISTRIBUTION	LMH	
2	06 APR 00	REPLACED ENTIRE DRAWING TO INCLUDE ALL OUTDOOR DISPLAYS.	LLK	
1	27 MAY 98	DELETED ED'S FROM LIST OF PART NO.'S DELETED G-1000 FROM DISPLAYS & TITLE MOVED TERM PANELS TO LOWER LEFT CORNER	JEM	RK

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: **OUTDOOR LED PRODUCT LINE**

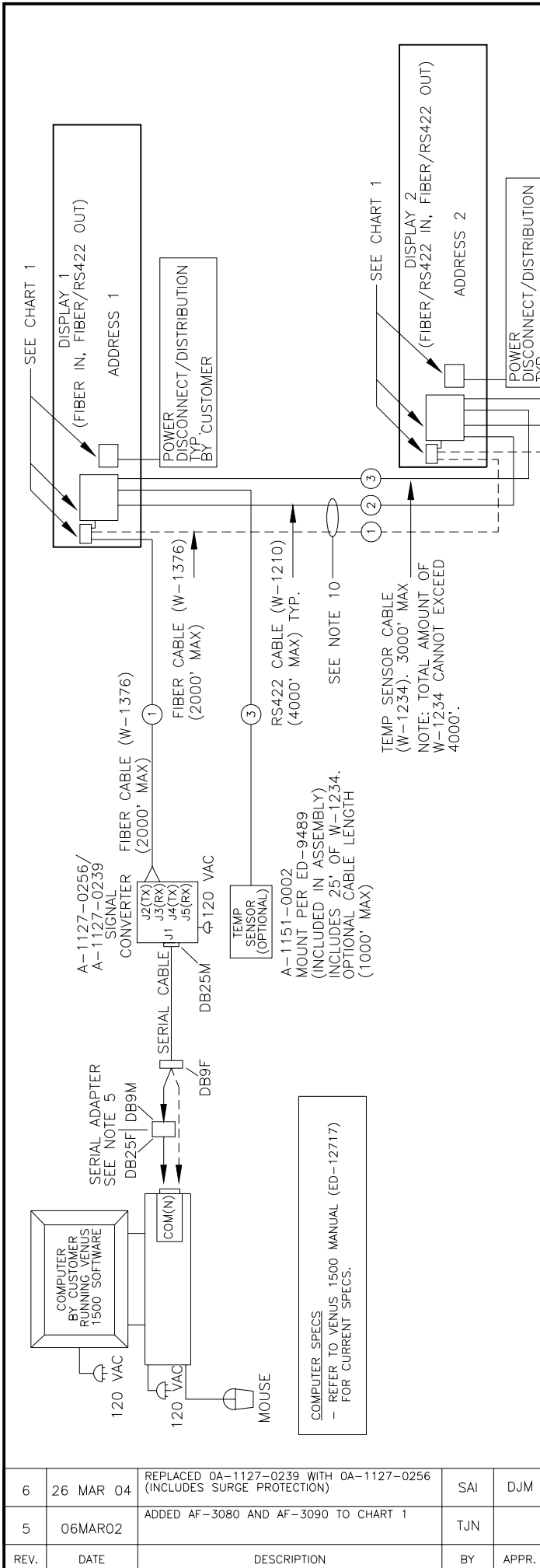
TITLE: **SYSTEM RISER DIAGRAM, RS232**

DES. BY: **CIVERSEN** DRAWN BY: **CIVERSEN** DATE: **28 AUG 97**

REVISION	APPR. BY:	1137-R01A-96058
	SCALE: NONE	

CHART 1

DISPLAY TYPE	POWER CONN. DWG.#	SIGNAL CONN. DWG.#	POWER SPEC. DWG.#
G-1000	A-88427	A-88427	C-87896
X-1000	A-140262	A-88427	A-154944
AF-3010	A-140262	A-88427	A-154950
AF-3060-MONO	A-129227	A-129110	A-127440
AF-3060-RG	A-129227	A-129110	A-142449
AF-3065	A-154965	A-129110	A-148571
AF-3080-RED	NA	A-129110	A-163751
AF-3080-AMB	NA	A-129110	A-163306
AF-3090-RED	NA	A-129110	A-162439
AF-3090-AMB	NA	A-129110	A-158396



- NOTES
- 4 FIBER CABLE, 62.5/125 GRADE DAK, P.N. (W-1376), GRAYBAR P.N. (BX04080D-W35B1UC900R) IN CONDUIT WHERE REQUIRED.
 - 6 CONDUCTOR, 22 AWG, STRANDED SHIELDED CABLE, DAK, P.N. (W-1210), BELDON P.N. (992) OR EQUIV. IN CONDUIT WHERE REQUIRED. FIELD SIGNAL TERMINATIONS TO BE PHOENIX FIBER CABLES ARE "FLIPPED" FROM ONE END TO THE OTHER.
 - 4 CONDUCTOR, 22 AWG, STRANDED SHIELDED CABLE, DAK, P.N. (W-1234), MANHATTAN P.N. (M4475) OR EQUIV. IN CONDUIT WHERE REQUIRED. FIELD SIGNAL TERMINATIONS TO BE PHOENIX TERMINAL BLOCKS.

CHART 1

DISPLAY TYPE	POWER CONN. DWG.#	SIGNAL CONN. DWG.#	POWER SPEC. DWG.#
G-1000	A-88427	A-88427	C-87896
X-1000	A-140262	A-88427	A-154944
AF-3010	A-140262	A-88427	A-154950
AF-3060-MONO	A-129227	A-129110	A-127440
AF-3060-RG	A-129227	A-129110	A-142449
AF-3065	A-154965	A-129110	A-148571
AF-3080 RED	NA	A-129110	A-163751
AF-3080 AMB	NA	A-129110	A-163306
AF-3090 RED	NA	A-129110	A-162439
AF-3090 AMB	NA	A-129110	A-158396

- FIBER CONTROL EQUIPMENT KIT INCLUDES: W-1249.....SERIAL CABLE A-1603.....DB9 TO DB25 ADAPTER A-1127-0256.....SIGNAL CONVERTER A-1146-0005.....NETWORK/CABLE TESTER
- USE EITHER THE DB9 OR DB25, DEPENDING ON YOUR PC'S REQUIREMENTS.
- INPUT TO CONVERTER IS RS232.
- ALL SIGNAL CABLES BY CUSTOMER. LABOR TO PULL CABLES BY CUSTOMER.
- ALL POWER WIRES BY CUSTOMER. LABOR TO PULL WIRES BY CUSTOMER.
- ALL WIRING TO MEET NEC AND LOCAL ELECTRICAL CODES.
- DISPLAYS MUST BE GROUNDED PER ARTICLE 250 AND 600 OF THE NATIONAL ELECTRICAL CODE.
- DISPLAY OUTPUTS CAN BE EITHER FIBER OR RS422.

4	27 AUG 01	REVISED COMPUTER SPEC BOX AND ADDED DRAWINGS, AF-3060-RG, AF-3065 TO CHART 1.	DJM	
3	27 OCT 00	CHANGED POWER CONN. DWG# FROM B-98318 TO A-140262. ADDED DISTRIBUTION TO DISCONNECT/DISTRIBUTION	LMH	
2	06APR00	REPLACED ENTIRE DRAWING TO INCLUDE ALL OUTDOOR DISPLAYS.	LLK	
1	20JAN99	REVISED FIBER CABLE LENGTH FROM 3000' MAX TO 2000' MAX.	LLK	

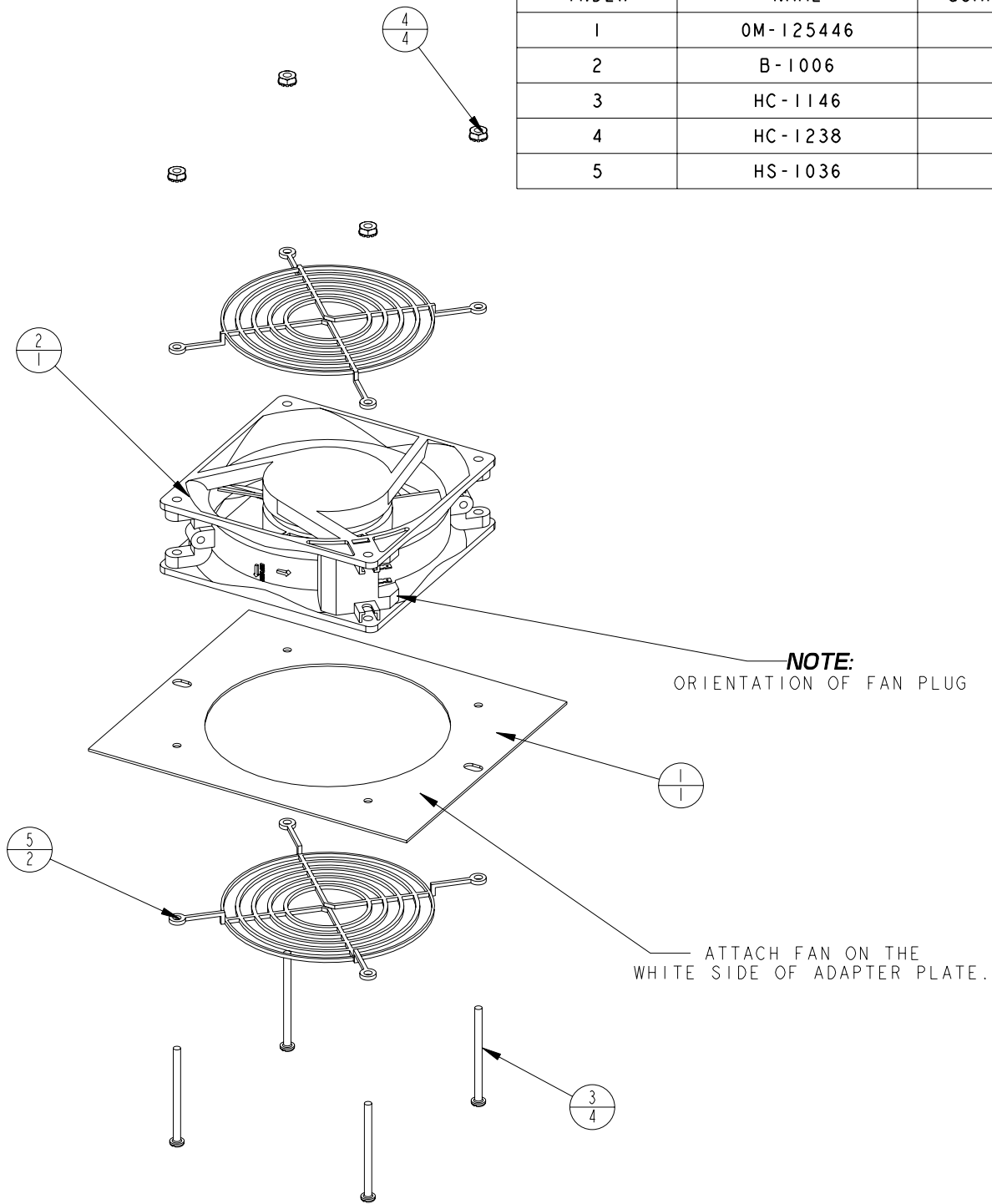
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6	26 MAR 04	REPLACED 0A-1127-0239 WITH 0A-1127-0256 (INCLUDES SURGE PROTECTION)	SAI	DJM
5	06MAR02	ADDED AF-3080 AND AF-3090 TO CHART 1	TJN	
REV.	DATE	DESCRIPTION	BY	APPR.
06		SCALE: NONE		

PROJ: OUTDOOR LED PRODUCT LINE
TITLE: SYSTEM RISER DIAGRAM, FIBER
DES. BY: DRAWN BY: LKERR DATE: 29DEC98
1137-R01A-110559

INDEX	NAME	QUANTITY
1	0M-125446	1
2	B-1006	1
3	HC-1146	4
4	HC-1238	4
5	HS-1036	2

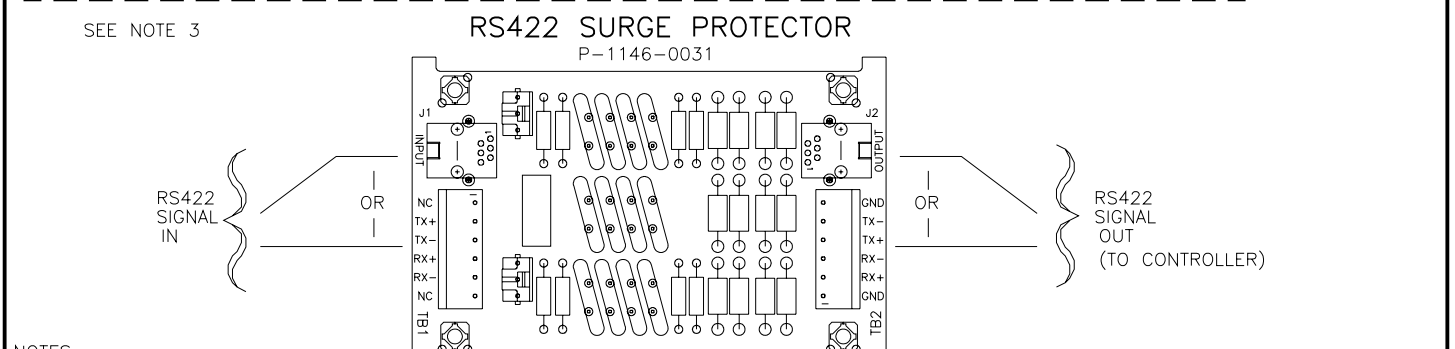
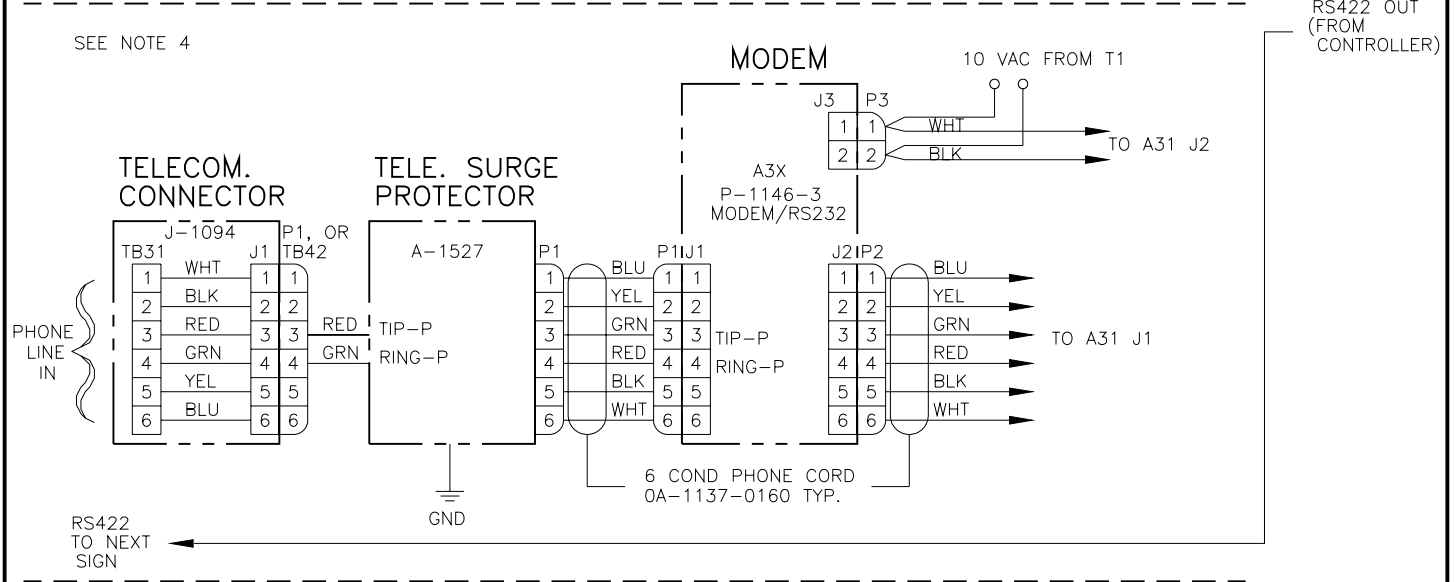
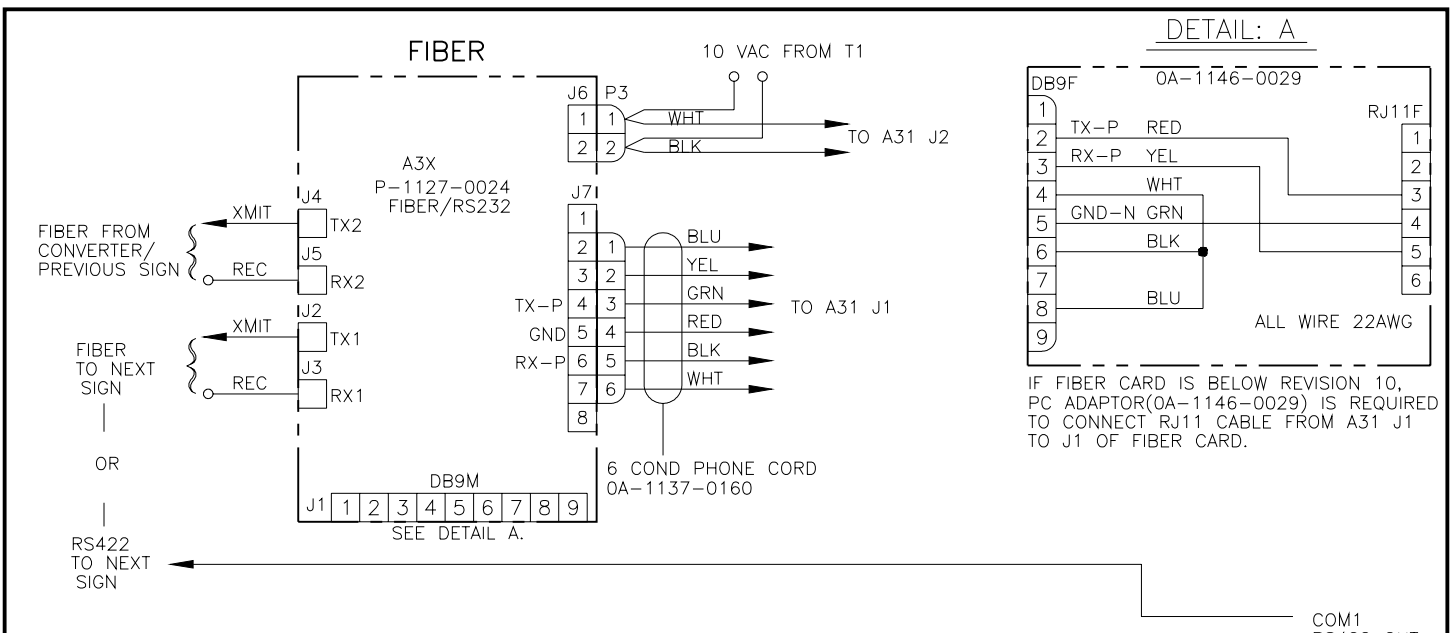


ISOMETRIC VIEW

4	28OCT03	ADDED NOTE ORIENTATION OF FAN PLUG	TMS
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REV.	DATE	DESCRIPTION	BY	APPR.
3	04JUL01	CHANGED SCREWS SIZES FROM #8 TO #6 PER ECO-125368	BKS	
2	02OCT00	ADDED NOTE MOUNT FAN ON WHITE SIDE OF ADAPTER PLATE	MDD	
1	08AUG00	CHANGED SCREWS SIZES FROM #6 TO #8 PER ECO-23735	JRH	

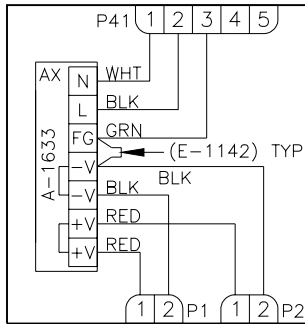
DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ:	34mm LINE DISPLAYS		
TITLE:	ASSEMBLY; B-1006 *L		
DES. BY:	NANDAL	DRAWN BY:	NANDAL
		DATE:	20DEC99
SHEET 1 OF DWG 125368		1213-E10A-125368	
SCALE:	1=3		



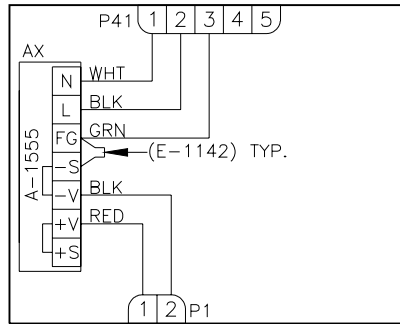
- NOTES
- 1) ALL WIRE IS 18 AWG UNLESS OTHERWISE NOTED.
 - 2) REFER TO DISPLAY SCHEMATICS FOR COMPLETE SIGN WIRING.
 - 3) SURGE PROTECTOR CARD MUST BE CONNECTED TO THE SIGN'S CHASSIS IN ORDER TO BE EFFECTIVE. THE MOUNTING HOLES (GROUND PADS) OR PIN 1 & 6 OF TB2 ARE USED FOR THIS GROUND CONNECTION.
 - 4) AF-3010 DOES NOT USE TELCOM CONNECTOR. TERMINATE TO TB42 PINS 3 (RED) & 4 (GRN).

04	09SEPT03	ADDED DETAIL A. J7 WAS ADDED ON REVISION 10 OF FIBER CARD. PC ADAPTOR IS NO LONGER REQUIRED FOR CONNECTION TO CONTROLLER.	DJM	<p style="font-size: x-small;">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 2003 DAKTRONICS, INC.</p> <p style="font-weight: bold;">DAKTRONICS, INC. BROOKINGS, SD 57006</p>
03	27FEB02	ADDED TELE. SURGE PROTECTOR	JHH	PROJ:
02	12NOV01	ADDED SURGE PROTECTOR DETAIL	LLK	TITLE: SCHEM; FIBER, MODEM, RS422 SURGE PROTECTOR INPUT
01	13MAR00	REMOVED A31 LAYOUT	LLK	DES. BY: DRAWN BY: LKERR DATE: 14DEC99
REV.	DATE	DESCRIPTION	BY	APPR.
			04	APPR. BY: SCALE:
				1146-R03A-125900

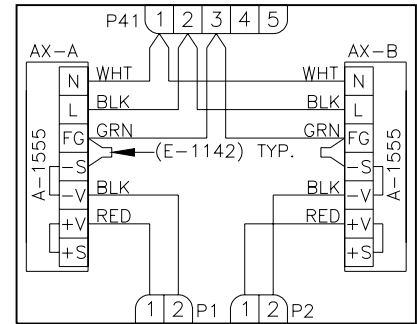
9VDC VERSION
 0A-1213-2039, **0A-1327-0099**
 (SET POWER SUPPLIES TO 9.0VDC)



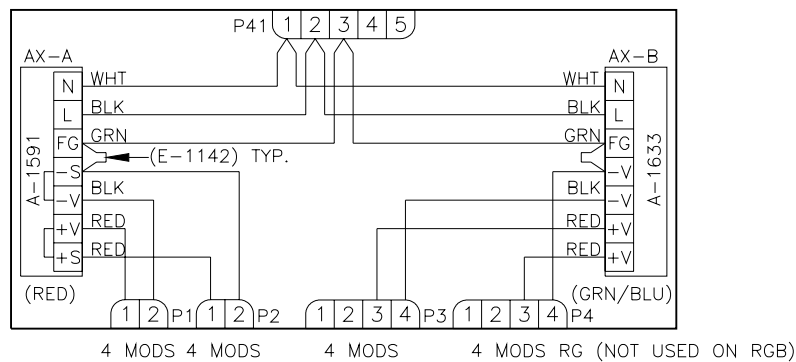
12VDC VERSION (SINGLE)
 0A-1213-2011, **0A-1327-0097**
 (SET POWER SUPPLIES TO 11.0VDC)



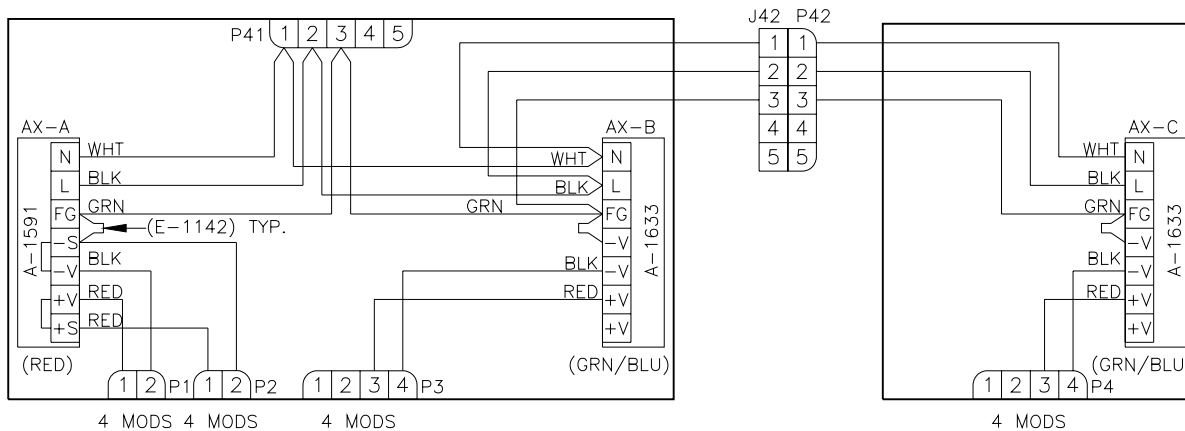
12VDC VERSION (DUAL)
 0A-1213-2043, **0A-1327-0098**
 (SET POWER SUPPLIES TO 11.0VDC)



6.5/9.5VDC VERSION (DUAL FOR RG/RGB)
 0A-1213-2042, **0A-1327-0096**
 SET POWER SUPPLIES TO 6.5VDC (A-1591) AND 9.5VDC (A-1633)



6.5/9.5VDC VERSION (TRIPLE FOR RGB)
 0A-1241-2001, **0A-1327-0095**
 SET POWER SUPPLIES TO 6.5VDC (A-1591) AND 9.5VDC (A-1633)



NOTES

- 1) ALL WIRE IS 14 AWG EXCEPT * IS 18 AWG UNLESS OTHERWISE NOTED.
- 2) ASSEMBLY NUMBERS IN BOLD MOUNTING BRACKET (0M-212638).

REV.	DATE	DESCRIPTION	BY	APPR.
06	27JUL04	ADDED NEW ASSY NUMBERS 0A-1327-0095, -0096, -0097, -0098, -0099.	DJM	
05	16OCT01	CHANGED ASSEMBLY NUMBERS FROM (4013, 4026, 4022, 4034, 4001) TO (2039, 2011, 2043, 2042, 2001) RESPECTIVELY.	DJM	
04	08MAY01	ADDED 0A-1241-4001 ASSEMBLY	LLK	
03	03 JAN 01	ADDED 0A-1213-4034 PACKET	LMH	
02	09MAY00	CHANGED 0A-1213-4013 PS ASSEMBLY FROM 9.6VDC TO 9.0VDC.	LLK	
01	20APR00	CHANGED 0A-1213-4004 PACKET TO 0A-1213-4013 FOR THE 9V POWER SUPPLY	MDM	

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: 1.33" LINE DISPLAYS

TITLE: SCHEMATIC; POWER SUPPLY CONFIGURATIONS

DES. BY:

DRAWN BY: LKERR

DATE: 17 JAN 00

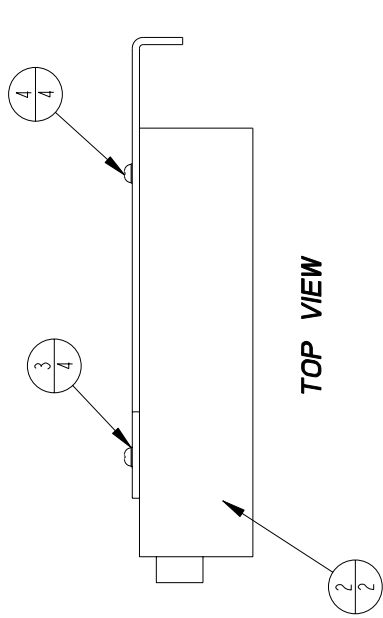
REVISION

APPR. BY:

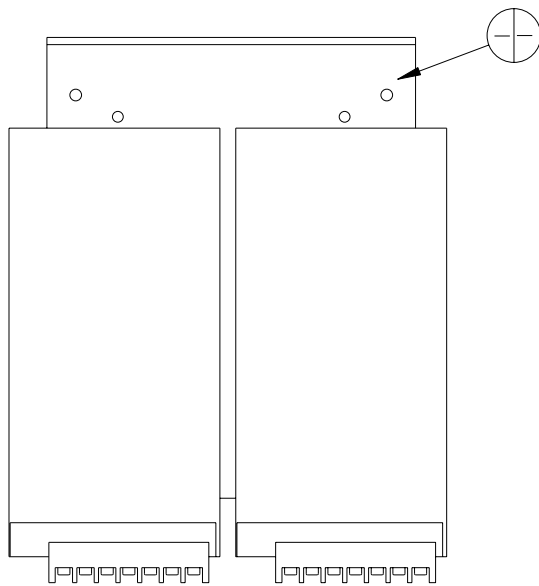
06

SCALE:

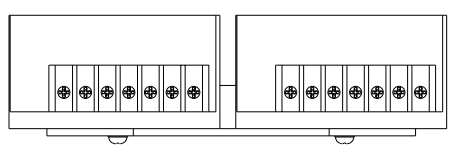
1213-R03A-126330



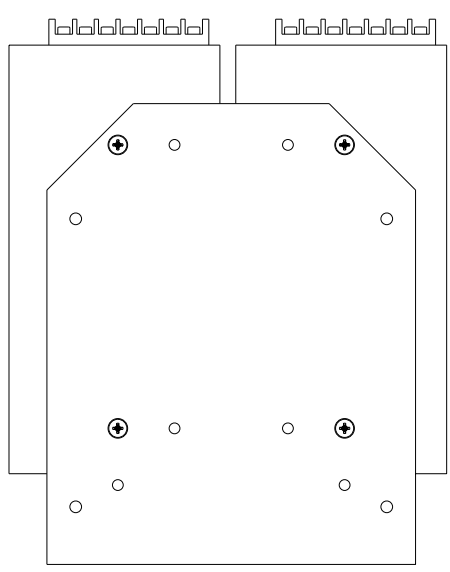
TOP VIEW



FRONT VIEW



LEFT SIDE



REAR VIEW

INDEX	NAME	QUANTITY
1	0M-125102	1
2	A-1555	2
3	HC-1192	4
4	HC-1224	4

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ:	34mm LINE DISPLAYS
TITLE:	PS ASSY; 2 A-1555'S
DES. BY:	NANDAL
DRAWN BY:	NANDAL
DATE:	17JAN00
REVISION	SHEET 1 OF DWG 126508
SCALE:	1 = 4

1213 - E10A - 126508

REV.	DATE	DESCRIPTION	BY	APPR.
1	26NOV01	ADDED HC-1192 @4 AS PER ECO #031007	JDA	

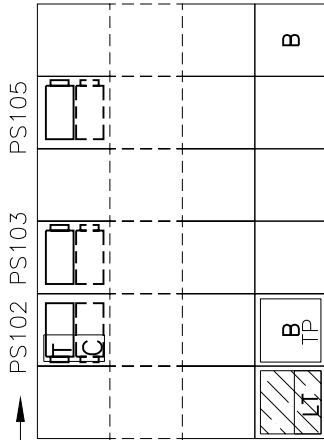
34mm LOUVERED MONOCHROME GALAXY DISPLAYS POWER SPECIFICATION CHART

MATRIX SIZE	TOTAL WATTS	120V AMPS	120/240 3, wire		240V AMPS		
			LINE 1 AMPS	LINE 2 AMPS			
8X48	175	1.46	NOTE: 120/240 VAC, 3 WIRE PLUS GND. IS NOT AVAILABLE ON THESE DISPLAY SIZES.		0.73		
8X64	224	1.86			0.93		
8X80	272	2.27			1.13		
8X96	321	2.67			1.34		
8X112	394	3.28			1.64		
8X128	442	3.69			1.84		
8X144	491	4.09			2.05		
16X48	321	2.67			1.34		
16X64	418	3.49			1.74		
16X80	540	4.50			2.25		
16X96	637	5.31			2.65		
16X112	734	6.12			3.06		
16X128	832	6.93			3.46		
16X144	953	7.94			3.97		
24X48	491	4.09			2.27	1.82	2.05
24X64	637	5.31			2.88	2.43	2.65
24X80	807	6.73	3.69	3.04	3.36		
24X96	953	7.94	4.29	3.65	3.97		
24X112	1123	9.36	5.10	4.26	4.68		
24X128	1269	10.57	5.71	4.86	5.29		
24X144	1439	11.99	6.52	5.47	6.00		
32X48	732	6.10	3.67	2.43	3.05		
32X64	926	7.72	4.48	3.24	3.86		
32X80	1192	9.94	5.89	4.05	4.97		
32X96	1387	11.56	6.70	4.86	5.78		
32X112	1653	13.77	8.10	5.67	6.89		
32X128	1847	15.40	8.91	6.49	7.70		
32X144	2114	17.61	10.31	7.30	8.81		
40X48	949	7.91	3.81	4.10	3.95		
40X64	1264	10.53	5.22	5.31	5.27		
40X80	1579	13.15	6.63	6.52	6.58		
40X96	1893	15.78	7.83	7.95	7.89		
40X112	2208	18.40	9.24	9.16	9.20		
40X128	2523	21.02	10.48	10.54	10.51		
40X144	2837	23.64	11.89	11.75	11.82		
48X48	1095	9.13	4.67	4.46	4.56		
48X64	1458	12.15	6.07	6.08	6.08		
48X80	1822	15.18	7.48	7.70	7.59		
48X96	2185	18.21	9.09	9.12	9.10		
48X112	2548	21.24	10.50	10.74	10.62		
48X128	2912	24.26	12.10	12.16	12.13		

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).

DAKTRONICS, INC. BROOKINGS, SD 57006					
PROJ: 34MM MONO GALAXY					
TITLE: POWER SPECS, 8X48-48X128 DISPLAYS					
DES. BY: TWOODARD		DRAWN BY: JOLIVER		DATE: 09FEB00	
1	28mar99	added notes for power type	tgw		
REV.	DATE	DESCRIPTION	BY	APPR.	
				REVISION	APPR. BY:
				SCALE: 1=.75	1215-R10A-127440

DENOTES POWER SUPPLY LOCATION.
(I.E. PS102 IS LOCATED BEHIND A102.)



FRONT VIEW



POWER SUPPLIES

- OA-1213-4022 4 LED PS ASSY; (2, A-1555)
- OA-1213-4013 3 LED PS ASSY; (1, A-1633)



POWER TERMINATION BOX

- OA-1215-4002 ASSY; POWER TERM BOX 120V-*L

B

FAN

- OA-1213-4014 (FOR 24 HIGH ONLY) B-1006 W/HARDWARE
- OA-1213-4010 (FOR 32 HIGH ONLY) B-1019 W/HARDWARE



LIGHT DETECTOR

- OA-1215-4001 ASSY; LIGHT DETECTOR-34MM



THERMOSTAT

- OA-1213-4024 ENCLOSURE; THERMOSTAT 85-70-9L

MOUNTED ON VERTICAL



CONTROLLER BOARD

- OA-1146-0035 CONTROLLER BOARD



FILTER

- OA-1213-4011 EN-1774 FILTER W/ WEATHERSTRIP

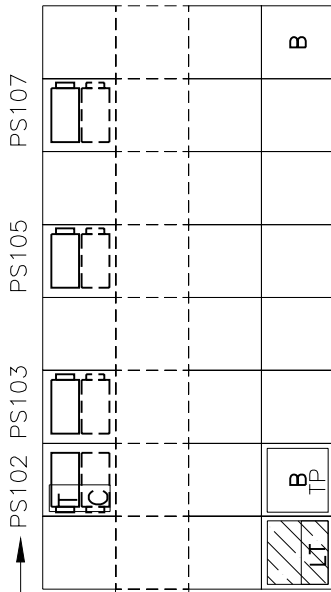
NOTES:

1. 10.64" FOR MODULE SIZE
2. POWER SUPPLIES AND THERMOSTAT MOUNTED ON TOP ROW FOR 32 HIGH.
3. THIS LINE EXISTS ONLY ON A 32 HIGH.
4. THE POWER SUPPLY ASSEMBLY VARIES PER MODULE TYPE.

01	21 FEB 01	CHANGED SECONDARY PWR SUPPLY TO HIDDEN LAYER ADDED NOTES TO PWR SUPPLY	MRO	
REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: GALAXY, LOUVERED, V1500 34mm			
TITLE: COMP. LAYOUT DIAGRAM; AF-3060-24/3248-9L			
DES. BY: MMAMMENGA	DRAWN BY: MMAMMENGA	DATE: 25APR00	
REVISION	APPR. BY:	1215-E10A-127629	
	SCALE: NONE		

DENOTES POWER SUPPLY LOCATION.
(I.E. PS102 IS LOCATED BEHIND A102.)



SEE NOTE 3.



FRONT VIEW



POWER SUPPLIES

- OA-1213-4022 4 LED PS ASSY; (2, A-1555)
- OA-1213-4013 3 LED PS ASSY; (1, A-1633)



POWER TERMINATION BOX

- OA-1215-4002 ASSY; POWER TERM BOX 120V-*L



THERMOSTAT

- OA-1213-4024 ENCLOSURE; THERMOSTAT 85-70-9L MOUNTED ON VERTICAL



CONTROLLER BOARD

- OA-1146-0035 CONTROLLER BOARD



LIGHT DETECTOR

- OA-1215-4001 ASSY; LIGHT DETECTOR-34MM



FILTER

- OA-1213-4011 EN-1774 FILTER W/ WEATHERSTRIP

NOTES:

1. 10.64" FOR MODULE SIZE
2. POWER SUPPLIES AND THERMOSTAT MOUNTED ON TOP ROW FOR 32 HIGH.
3. THIS LINE EXISTS ONLY ON A 32 HIGH.
4. THE POWER SUPPLY ASSEMBLY VARIES PER MODULE TYPE.

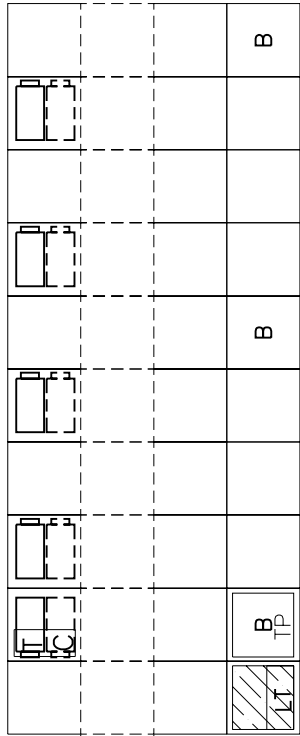
01	21 FEB 01	CHANGED SECONDARY PWR SUPPLY TO THE HIDDEN LAYER ADDED NOTES TO PWR SUPPLY	MRO	
REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: GALAXY, LOUVERED, VENUS 1500, 34mm			
TITLE: COMP. LAYOUT DIAGRAM, AF-3060-24/3264-9L			
DES. BY: MMAMMENGA		DRAWN BY: MMAMMENGA	
DATE: 25APR00			
REVISION	APPR. BY:		
	SCALE: NONE	1215-E10A-127630	

DENOTES POWER SUPPLY LOCATION. (I.E. PS102 IS LOCATED BEHIND A102.)

SEE NOTE 3.

PS102 PS103 PS105 PS107 PS109



FRONT VIEW



POWER SUPPLIES

- 0A-1213-4022 4 LED PS ASSY; (2, A-1555)
- 0A-1213-4013 3 LED PS ASSY; (1, A-1633)



POWER TERMINATION BOX
0A-1215-4002
ASSY; POWER TERM BOX 120V-*L

B

FAN

- 0A-1213-4014 (FOR 24 HIGH ONLY) B-1006 W/HARDWARE
- 0A-1213-4010 (FOR 32 HIGH ONLY) B-1019 W/HARDWARE



LIGHT DETECTOR
0A-1215-4001
ASSY; LIGHT DETECTOR-34MM



FILTER
0A-1213-4011
EN-1774 FILTER W/ WEATHERSTRIP

NOTES:

1. 10.64" FOR MODULE SIZE
2. POWER SUPPLIES AND THERMOSTAT MOUNTED ON TOP ROW FOR 32 HIGH.
3. THIS LINE EXISTS ONLY ON A 32 HIGH.
4. THE POWER SUPPLY ASSEMBLY VARIES PER MODULE TYPE.



THERMOSTAT
0A-1213-4024
ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL



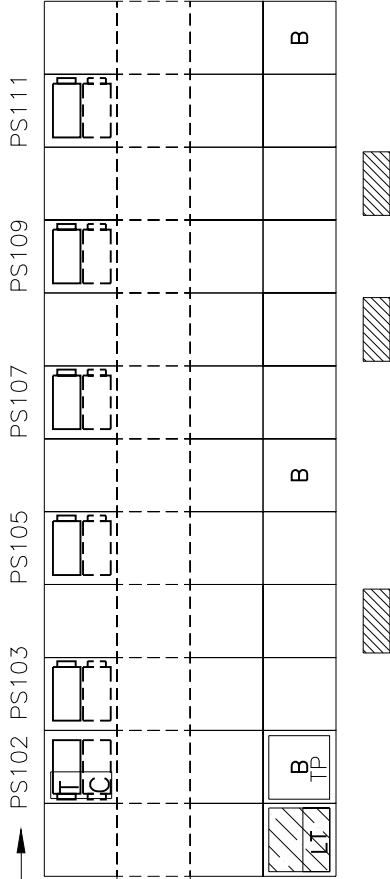
CONTROLLER BOARD
0A-1146-0035
CONTROLLER BOARD

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ:	GALAXY, LOUVERED, V1500 34mm
TITLE:	COMP. LAYOUT DIAGRAM; AF-3060-24/3280-9L
DES. BY:	MMAMMENGA
DRAWN BY:	MMAMMENGA
DATE:	21APR00
REVISION	APPR. BY:
SCALE:	NONE
1215-E10A-127631	

02	21FEB01	CHANGED THE SECONDARY PWR SUPPLY TO THE HIDDEN LAYER ADDED NOTES TO PWR SUPPLY	MRO	
01	04MAY00	UPDATED DRAWING TO STANDARD	MDM	
REV.	DATE	DESCRIPTION	BY	APPR.

DENOTES POWER SUPPLY LOCATION.(I.E. PS102 IS LOCATED BEHIND A102.)

SEE NOTE 3.



FRONT VIEW



POWER SUPPLIES

- OA-1213-4022 4 LED PS ASSY; (2, A-1555)
- OA-1213-4013 3 LED PS ASSY; (1, A-1633)



POWER TERMINATION BOX

- OA-1215-4002 ASSY; POWER TERM BOX 120V-*L



THERMOSTAT

- OA-1213-4024 ENCLOSURE; THERMOSTAT 85-70-9L MOUNTED ON VERTICAL



CONTROLLER BOARD

- OA-1146-0035 CONTROLLER BOARD



LIGHT DETECTOR

- OA-1215-4001 ASSY; LIGHT DETECTOR-34MM



FILTER

- OA-1213-4011 EN-1774 FILTER W/ WEATHERSTRIP

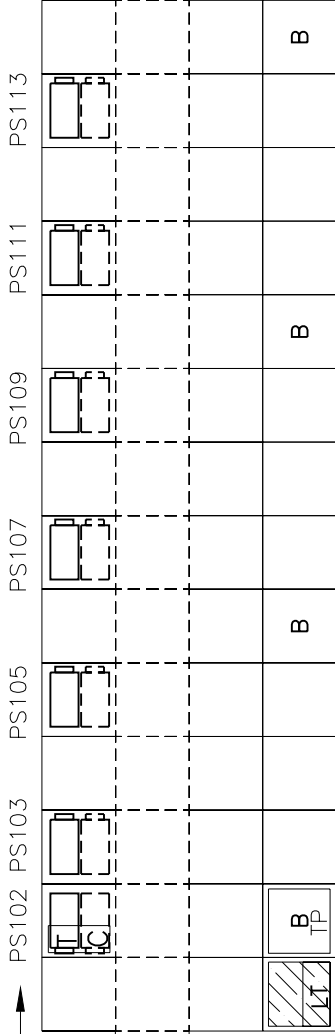
NOTES:

- 10.64" FOR MODULE SIZE
- POWER SUPPLIES AND THERMOSTAT MOUNTED ON TOP ROW FOR 32 HIGH.
- THIS LINE EXISTS ONLY ON A 32 HIGH.
- THE POWER SUPPLY ASSEMBLY VARIES PER MODULE TYPE.

01	21 FEB 01	CHANGED SECONDARY PWR SUPPLY TO THE HIDDEN LAYER ADDED NOTES TO PWR SUPPLY	MRO	
REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: GALAXY; LOUVERED, VENUS 1500, 34mm			
TITLE: COMP. LAYOUT DIAGRAM; AF-3060-24/3296-9L			
DES. BY: MMAMMENGA		DRAWN BY: MMAMMENGA	
		DATE: 25APR00	
REVISION	APPR. BY:	1215-E10A-127632	
	SCALE: NONE		

DENOTES POWER SUPPLY LOCATION. (I.E. PS102 IS LOCATED BEHIND A102.)



SEE NOTE 3.

FRONT VIEW



POWER SUPPLIES

- OA-1213-4022 4 LED PS ASSY; (2, A-1555)
- OA-1213-4013 3 LED PS ASSY; (1, A-1633)



THERMOSTAT

- OA-1213-4024 ENCLOSURE; THERMOSTAT 85-70-9L MOUNTED ON VERTICAL



POWER TERMINATION BOX

- OA-1215-4002 ASSY; POWER TERM BOX 120V-*L



LIGHT DETECTOR

- OA-1215-4001 ASSY; LIGHT DETECTOR-34MM



CONTROLLER BOARD

- OA-1146-0035 CONTROLLER BOARD



FILTER

- EN-1774 FILTER W/ WEATHERSTRIP



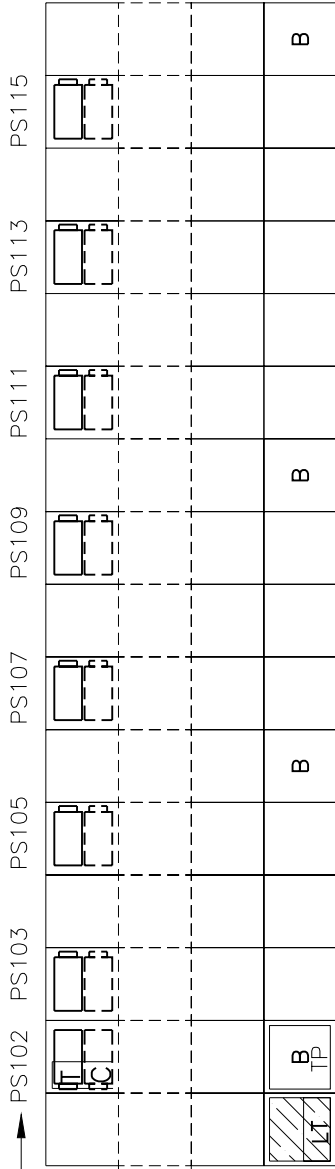
NOTES:

- 10.64" FOR MODULE SIZE
- POWER SUPPLIES AND THERMOSTAT MOUNTED ON TOP ROW FOR 32 HIGH.
- THIS LINE EXISTS ONLY ON A 32 HIGH.
- THE POWER SUPPLY ASSEMBLY VARIES PER MODULE TYPE.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: GALAXY, LOUVERED, VENUS 1500, 34mm			
TITLE: COMP. LAYOUT DIAGRAM; AF-3060-24/32112-9L			
DES. BY: MMAMMENGA		DRAWN BY: MMAMMENGA	
DATE: 25APR00			
REVISION	APPR. BY:	1215-E10A-127633	
	SCALE: NONE		

01	21 FEB 01	CHANGED SECONDARY PWR SUPPLY TO THE HIDDEN LAYER ADDED NOTES TO PWR SUPPLY	MRO	
REV.	DATE	DESCRIPTION	BY	APPR.

DENOTES POWER SUPPLY LOCATION: (I.E. PS102 IS LOCATED BEHIND A102.)



SEE NOTE 3.

FRONT VIEW



POWER SUPPLIES
0A-1213-4022 4 LED
 PS ASSY; (2, A-1555)
0A-1213-4013 3 LED
 PS ASSY; (1, A-1633)



POWER TERMINATION BOX
 0A-1215-4002
 ASSY; POWER TERM BOX 120V-*L

B

FAN
 0A-1213-4014 (FOR 24 HIGH ONLY)
 B-1006 W/HARDWARE
 0A-1213-4010 (FOR 32 HIGH ONLY)
 B-1019 W/HARDWARE



LIGHT DETECTOR
 0A-1215-4001
 ASSY; LIGHT DETECTOR-34MM



THERMOSTAT
 0A-1213-4024
 ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL



CONTROLLER BOARD
 0A-1146-0035
 CONTROLLER BOARD



FILTER
 0A-1213-4011
 EN-1774 FILTER W/ WEATHERSTRIP

NOTES:

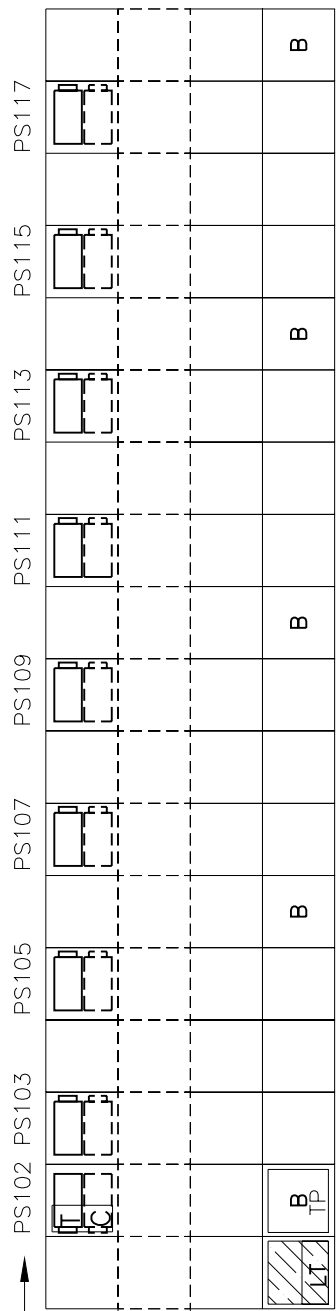
1. 10.64" FOR MODULE SIZE
2. POWER SUPPLIES AND THERMOSTAT MOUNTED ON TOP ROW FOR 32 HIGH.
3. THIS LINE EXISTS ONLY ON A 32 HIGH.
4. THE POWER SUPPLY ASSEMBLY VARIES PER MODULE TYPE.

REV.	DATE	DESCRIPTION	BY	APPR.
01	21FEB01	CHANGED SECONDARY PWR SUPPLIES TO THE HIDDEN LAYER ADDED NOTES TO TH EPWR SUPPLY	MRO	

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: GALAXY, LOUVERED, VENUS 1500, 34mm			
TITLE: COMP. LAYOUT DIAGRAM; AF-3060-24/32128-9L			
DES. BY: MMAMMENGA		DRAWN BY: MMAMMENGA	
DATE: 26APR00			
REVISION	APPR. BY:	1215-E10A-127634	
SCALE: NONE			

DENOTES POWER SUPPLY LOCATION. (I.E. PS102 IS LOCATED BEHIND A102.)

SEE NOTE 3.



FRONT VIEW

- POWER SUPPLIES
0A-1213-4022 4 LED
 PS ASSY; (2, A-1555)
0A-1213-4013 3 LED
 PS ASSY; (1, A-1633)
- FAN
B
 0A-1213-4014 (FOR 24 HIGH ONLY)
 B-1006 W/HARDWARE
 0A-1213-4010 (FOR 32 HIGH ONLY)
 B-1019 W/HARDWARE
- THERMOSTAT
T C
 0A-1213-4024
 ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL
- LIGHT DETECTOR
LT
 0A-1215-4001
 ASSY; LIGHT DETECTOR-34MM
- POWER TERMINATION BOX
TP
 0A-1215-4002
 ASSY; POWER TERM BOX 120V-*L
- CONTROLLER BOARD
 0A-1146-0035
 CONTROLLER BOARD
- FILTER
EN-1774 FILTER W/ WEATHERSTRIP
 0A-1213-4011

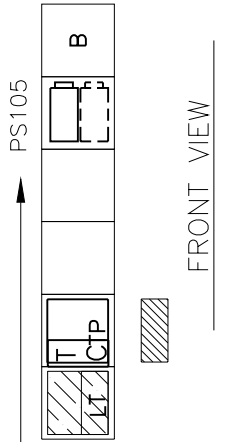
NOTES:

1. 10.64" FOR MODULE SIZE
2. POWER SUPPLIES AND THERMOSTAT MOUNTED ON TOP ROW FOR 32 HIGH.
3. THIS LINE EXISTS ONLY ON A 32 HIGH.
4. THE POWER SUPPLY ASSEMBLY VARIES PER MODULE TYPE.

01	21 FEB 01	CHANGED SECONDARY PWR SUPPLY TO THE HIDDEN LAYER ADDED NOTES TO THE PWR SUPPLY	MRO	
REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: GALAXY, LOUVERED, VENUS 1500, 34mm			
TITLE: COMP. LAYOUT DIAGRAM; AF-3060-24/32144-9L			
DES. BY: MMAMMENGA		DRAWN BY: MMAMMENGA	DATE: 26APR00
REVISION	APPR. BY:	1215-E10A-127635	
	SCALE: NONE		

DENOTES POWER SUPPLY LOCATION.
(I.E. PS105 IS LOCATED BEHIND A105.)



POWER SUPPLIES
0A-1213-4022 4 LED
 PS ASSY; (2, A-1555)
0A-1213-4013 3 LED
 PS ASSY; (1, A-1633)



POWER TERMINATION BOX
0A-1215-4002
 ASSY; POWER TERM BOX 120V-*L

B

FAN
0A-1213-4014
 B-1006 W/HARDWARE



LIGHT DETECTOR
0A-1215-4001
 ASSY; LIGHT DETECTOR-34MM



THERMOSTAT
0A-1213-4024
 ENCLOSURE; THERMOSTAT 85-70-9L
 MOUNTED ON VERTICAL.



CONTROLLER BOARD
0A-1146-0035
 CONTROLLER BOARD



FILTER
0A-1213-4011
 EN-1774 FILTER W/ WEATHERSTRIP

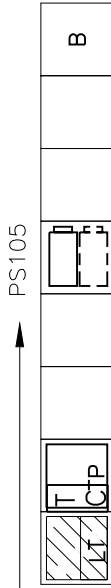
NOTES:

1. 10.64" FOR MODULE SIZE
2. THE POWER SUPPLY ASSEMBLY VARIES PER MODULE TYPE.

01	21FEB01	CHANGED SECONDARY PWR SUPPLIES TO THE HIDDEN LAYER ADDED NOTES TO THE PWR SUPPLY	MRO	
REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: GALAXY, LOUVERED, VENUS 1500, 34mm			
TITLE: COMP. LAYOUT DIAGRAM; AF-3060-848-9L			
DES. BY: MMAMMENGA		DRAWN BY: MMAMMENGA	
DATE: 26APR00			
REVISION	APPR. BY:	1215-E10A-127643	
	SCALE: NONE		

DENOTES POWER SUPPLY LOCATION.
(I.E. PS105 IS LOCATED BEHIND A105.)



FRONT VIEW



POWER SUPPLIES
0A-1213-4022 4 LED
 PS ASSY; (2, A-1555)
0A-1213-4013 3 LED
 PS ASSY; (1, A-1633)



POWER TERMINATION BOX
 0A-1215-4002
 ASSY; POWER TERM BOX 120V-*L



THERMOSTAT
 0A-1213-4024
 ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL.



CONTROLLER BOARD
 0A-1146-0035
 CONTROLLER BOARD

B

FAN
 0A-1213-4014
 B-1006 W/HARDWARE



LIGHT DETECTOR
 0A-1215-4001
 ASSY; LIGHT DETECTOR-34MM



FILTER
 0A-1213-4011
 EN-1774 FILTER W/ WEATHERSTRIP

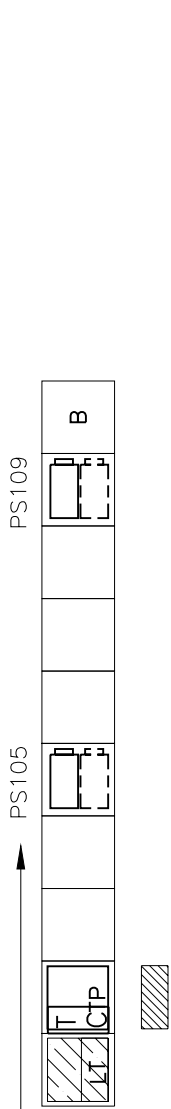
NOTES:

1. 10.64" FOR MODULE SIZE
2. THE POWER SUPPLY ASSEMBLY VARIES PER MODULE TYPE.






DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: GALAXY, LOUVERED, VENUS 1500, 34mm	
TITLE: COMP. LAYOUT DIAGRAM; AF-3060-864-9L	
DES. BY: MMAMMENGA	DRAWN BY: MMAMMENGA DATE: 26APR00
REVISION	APPR. BY:
SCALE: NONE	1215-E10A-127984

01	21 FEB 01	CHANGED SECONDARY PWR SUPPLY TO THE HIDDEN LAYER ADDED NOTES TO THE PWR SUPPLY	MRO	
REV.	DATE	DESCRIPTION	BY	APPR.

DENOTES POWER SUPPLY LOCATION.
(I.E. PS105 IS LOCATED BEHIND A105.)



FRONT VIEW

-  POWER TERMINATION BOX
OA-1215-4002
ASSY; POWER TERM BOX 120V-*L
-  LIGHT DETECTOR
OA-1215-4001
ASSY; LIGHT DETECTOR-34MM
-  FAN
OA-1213-4014
B-1006 W/HARDWARE
-  THERMOSTAT
OA-1213-4024
ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL
-  FILTER
OA-1213-4011
EN-1774 FILTER W/ WEATHERSTRIP

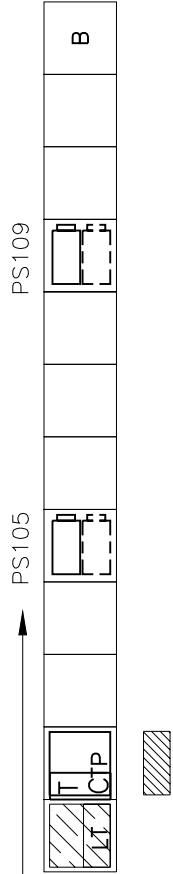
NOTES:

1. 10.64" FOR MODULE SIZE
2. THE POWER SUPPLY ASSEMBLY VARIES PER MODULE TYPE.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: GALAXY, LOUVERED, VENUS 1500, 34mm			
TITLE: COMP. LAYOUT DIAGRAM; AF-3060-8809L			
DES. BY: MMAMMENGA		DRAWN BY: MMAMMENGA	
DATE: 26APR00			
REVISION	APPR. BY:	1215-E10A-127985	
SCALE: NONE			

01	21 FEB 01	CHANGED SECONDARY PWR SUPPLY TO THE HIDDEN LAYER ADDED NOTES TO THE PWR SUPPLY	MRO	
REV.	DATE	DESCRIPTION	BY	APPR.

DENOTES POWER SUPPLY LOCATION.
(I.E. PS105 IS LOCATED BEHIND A105.)



FRONT VIEW



POWER SUPPLIES

0A-1213-4022 4 LED
PS ASSY; (2, A-1555)
0A-1213-4013 3 LED
PS ASSY; (1, A-1633)



POWER TERMINATION BOX

0A-1215-4002
ASSY; POWER TERM BOX 120V-*L

B

FAN

0A-1213-4014
B-1006 W/HARDWARE



THERMOSTAT

0A-1213-4024
ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL.



CONTROLLER BOARD

0A-1146-0035
CONTROLLER BOARD



LIGHT DETECTOR

0A-1215-4001
ASSY; LIGHT DETECTOR-34MM



FILTER

0A-1213-4011
EN-1774 FILTER W/ WEATHERSTRIP

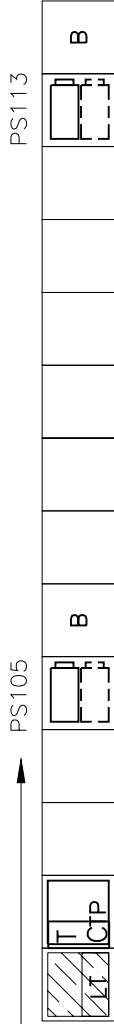
NOTES:

1. 10.64" FOR MODULE SIZE
2. THE POWER SUPPLY ASSEMBLY VARIES PER MODULE TYPE.

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ:	GALAXY, LOUVERED, VENUS 1500, 34mm
TITLE:	COMP. LAYOUT DIAGRAM; AF-3060-896-9L
DES. BY:	MMAMMENGA
DRAWN BY:	MMAMMENGA
DATE:	26APR00
REVISION	APPR. BY:
SCALE:	NONE
1215-E10A-127986	

01	21 FEB 01	CHANGED SECONDARY PWR SUPPLY TO THE HIDDEN LAYER ADDED NOTES TO THE PWR SUPPLY	MRO	
REV.	DATE	DESCRIPTION	BY	APPR.

DENOTES POWER SUPPLY LOCATION. (I.E. PS105 IS LOCATED BEHIND A105.)



FRONT VIEW



POWER SUPPLIES
0A-1213-4022 4 LED
 PS ASSY; (2, A-1555)
0A-1213-4013 3 LED
 PS ASSY; (1, A-1633)



POWER TERMINATION BOX
 0A-1215-4002
 ASSY; POWER TERM BOX 120V-*L



THERMOSTAT
 0A-1213-4024
 ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL.

B
 FAN
 0A-1213-4014
 B-1006 W/HARDWARE



CONTROLLER BOARD
 0A-1146-0035
 CONTROLLER BOARD



LIGHT DETECTOR
 0A-1215-4001
 ASSY; LIGHT DETECTOR-34MM



FILTER
 0A-1213-4011
 EN-1774 FILTER W/ WEATHERSTRIP

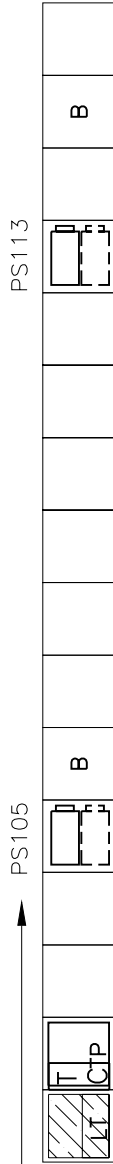
NOTES:

1. 10.64" FOR MODULE SIZE
2. THE POWER SUPPLY ASSEMBLY VARIES PER MODULE TUP.

01	21 FEB 01	CHANGED SECONDARY PWR SUPPLY TO THE HIDDEN LAYER ADDED NOTES TO THE PWR SUPPLY	MRO	
REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: GALAXY, LOUVERED, VENUS 1500, 34mm			
TITLE: COMP. LAYOUT DIAGRAM; AF-3060-8112-9L			
DES. BY: MMAMMENGA		DRAWN BY: MMAMMENGA	
DATE: 26APR00			
REVISION	APPR. BY:		
	SCALE: NONE		
1215-E10A-127987			

DENOTES POWER SUPPLY LOCATION. (I.E. PS105 IS LOCATED BEHIND A105.)



FRONT VIEW



POWER SUPPLIES
0A-1213-4022 4LED
 PS ASSY; (2, A-1555)
0A-1213-4013 3 LED
 PS ASSY; (1, A-1633)



POWER TERMINATION BOX
 0A-1215-4002
 ASSY; POWER TERM BOX 120V-*L



TC
 THERMOSTAT
 0A-1213-4024
 ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL.



CONTROLLER BOARD
 0A-1146-0035
 CONTROLLER BOARD

B

FAN
 0A-1213-4014
 B-1006 W/HARDWARE



LIGHT DETECTOR
 0A-1215-4001
 ASSY; LIGHT DETECTOR-34MM



FILTER
 0A-1213-4011
 EN-1774 FILTER W/ WEATHERSTRIP

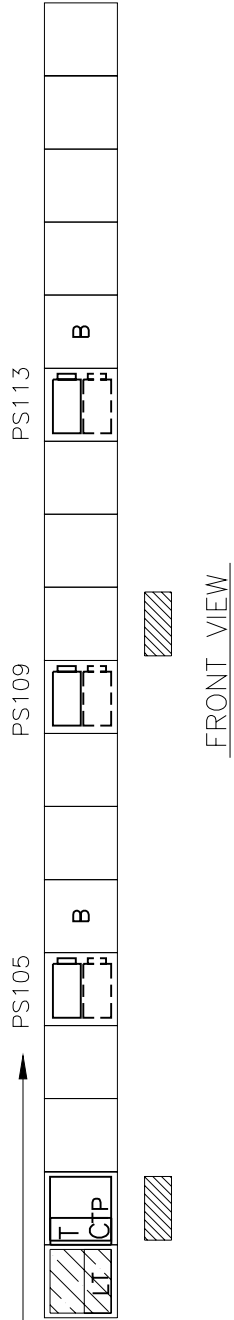
NOTES:

1. 10.64" FOR MODULE SIZE
2. THE POWER SUPPLY ASSEMBLY VARIES PER MODULE TYPE.

01	21 FEB 01	CHANGED SECONDARY PWR SUPPLY TO THE HIDDEN LAYER ADDED NOTES TO THE PWR SUPPLY	MRO	
REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ:	GALAXY, LOUVERED, VENUS 1500, 34mm
TITLE:	COMP. LAYOUT DRAWING; AF-3060-8128-9L
DES. BY:	MMAMMENGA
DRAWN BY:	MMAMMENGA
DATE:	26APR00
REVISION	APPR. BY:
SCALE:	NONE
1215-E10A-127988	

DENOTES POWER SUPPLY LOCATION. (I.E. PS105 IS LOCATED BEHIND A105.)



POWER SUPPLIES

0A-1213-4022 4 LED
PS ASSY; (2, A-1555)
0A-1213-4013 3 LED
PS ASSY; (1, A-1633)



POWER TERMINATION BOX

0A-1215-4002
ASSY; POWER TERM BOX 120V-*L



THERMOSTAT

0A-1213-4024
ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL.

B

FAN

0A-1213-4014
B-1006 W/HARDWARE



LIGHT DETECTOR

0A-1215-4001
ASSY; LIGHT DETECTOR-34MM



CONTROLLER BOARD

0A-1146-0035
CONTROLLER BOARD



FILTER

0A-1213-4011
EN-1774 FILTER W/ WEATHERSTRIP

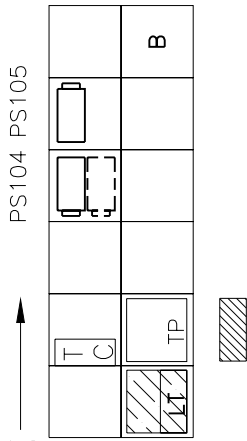
NOTES:

1. 10.64" FOR MODULE SIZE
2. THE POWER SUPPLY ASSEMBLY VARIES PER MODULE TYPE.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: GALAXY, LOUVERED, VENUS 1500, 34mm			
TITLE: COMP. LAYOUT DIAGRAM; AF-3060-8144-9L			
DES. BY: MMAMMENGA		DRAWN BY: MMAMMENGA	
		DATE: 26APR00	
REVISION	APPR. BY:	1215-E10A-127989	
	SCALE: NONE		

01	21 FEB 01	CHANGED SECONDARY PWR SUPPLY TO THE HIDDEN LAYER ADDED NOTES TO THE PWR SUPPLY	MRO	
REV.	DATE	DESCRIPTION	BY	APPR.

DENOTES POWER SUPPLY LOCATION:
(I.E. PS104 IS LOCATED BEHIND A104.)



FRONT VIEW



POWER SUPPLIES
0A-1213-4022 4 LED
 PS ASSY; (2, A-1555)
0A-1213-4013 3 LED
 PS ASSY; (1, A-1633)



POWER SUPPLY
0A-1213-4026 4 LED
 PS ASSY; (1, A-1555)
0A-1213-4013 3 LED
 PS ASSY; (1, A-1633)



POWER TERMINATION BOX
 0A-1215-4002
 ASSY; POWER TERM BOX 120V-*L



THERMOSTAT
 0A-1213-4024
 ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL



CONTROLLER BOARD
 0A-1146-0035
 CONTROLLER BOARD



LIGHT DETECTOR
 0A-1215-4001
 ASSY; LIGHT DETECTOR-34MM



FILTER
 0A-1213-4011
 EN-1774 FILTER W/ WEATHERSTRIP

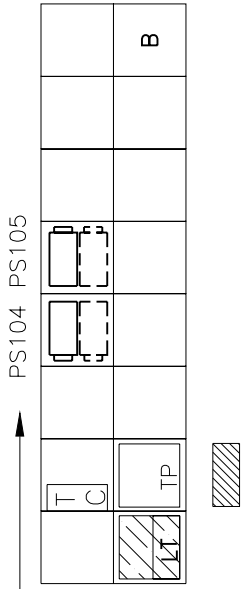
NOTES:

1. 10.64" FOR MODULE SIZE
2. THE POWER SUPPLY ASSEMBLY VARIES PER MODULE TYPE.

01	21FEB01	CHANGED SECONDARY PWR SUPPLY TO THE HIDDEN LAYER ADDED NOTES TO THE PWR SUPPLY	MRO	
REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: GALAXY, LOUVERED, VENUS 1500, 34mm			
TITLE: COMP. LAYOUT DIAGRAM; AF-3060-1648-9L			
DES. BY: MMAMMENGA		DRAWN BY: MMAMMENGA	
DATE: 8MAR00			
REVISION	APPR. BY:	1215-E10A-127995	
	SCALE: NONE		

DENOTES POWER SUPPLY LOCATION.
(I.E. PS104 IS LOCATED BEHIND A104.)



FRONT VIEW



POWER SUPPLIES
0A-1213-4022 4 LED
 PS ASSY; (2, A-1555)
0A-1213-4013 3 LED
 PS ASSY; (1, A-1633)



POWER TERMINATION BOX
 0A-1215-4002
 ASSY; POWER TERM BOX 120V-*L



THERMOSTAT
 0A-1213-4024
 ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL.



CONTROLLER BOARD
 0A-1146-0035
 CONTROLLER BOARD

B

FAN
 0A-1213-4014
 B-1006 W/HARDWARE



LIGHT DETECTOR
 0A-1215-4001
 ASSY; LIGHT DETECTOR-34MM



FILTER
 EN-1774
 FILTER W/ WEATHERSTRIP

NOTES:

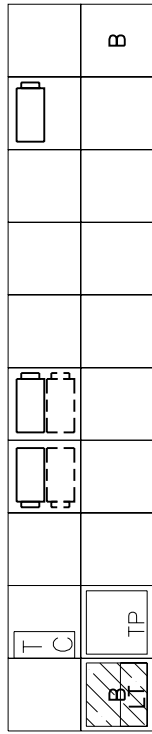
1. 10.64" FOR MODULE SIZE
2. THE POWER SUPPLY ASSEMBLY VARIES PER MODULE TYPE.

01	21FEB01	CHANGED SECONDARY PWR SUPPLY TO THE HIDDEN LAYER. CHANGED 0A-1213-4011 TO EN-1774. ADDED NOTES TO PWR SUPPLY	MRO	
REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: GALAXY, LOUVERED, VENUS 1500, 34mm			
TITLE: COMP. LAYOUT DIAGRAM; AF-3060-1664-9L			
DES. BY: MMAMMENGA		DRAWN BY: MMAMMENGA	
DATE: 26APROO			
REVISION	APPR. BY:	1215-E10A-127996	
	SCALE: NONE		

DENOTES POWER SUPPLY LOCATION.
(I.E. PS104 IS LOCATED BEHIND A104.)

PS104 PS105 PS109



FRONT VIEW



POWER SUPPLIES
0A-1213-4022 4 LED
 PS ASSY; (2, A-1555)
0A-1213-4013 3 LED
 PS ASSY; (1, A-1633)



THERMOSTAT
0A-1213-4024
 ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL.

B

FAN
0A-1213-4014
 B-1006 W/HARDWARE



POWER SUPPLY
0A-1213-4026 4 LED
 PS ASSY; (1, A-1555)
0A-1213-4013 3 LED
 PS ASSY; (1, A-1633)



LIGHT DETECTOR
0A-1215-4001
 ASSY; LIGHT DETECTOR-34MM



CONTROLLER BOARD
0A-1146-0035
 CONTROLLER BOARD



POWER TERMINATION BOX
0A-1215-4002
 ASSY; POWER TERM BOX 120V-*L



FILTER
0A-1213-4011
 EN-1774 FILTER W/ WEATHERSTRIP

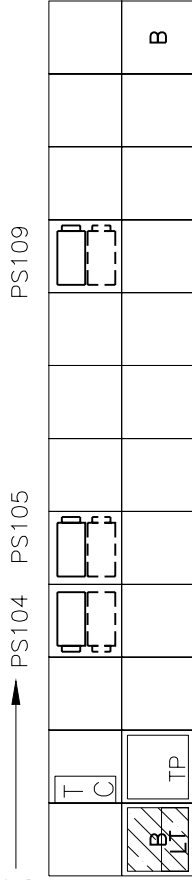
NOTES:

- 10.64" FOR MODULE SIZE
- THE POWER SUPPLY ASSEMBLY VARIES PER MODULE TYPE.

01	21FEB01	CHANGED SECONDARY PWR SUPPLY TO THE HIDDEN LAYER ADDED NOTES TO THE PWR SUPPLY	MRO	
REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: GALAXY, LOUVERED, VENUS 1500, 34mm			
TITLE: COMP. LAYOUT DIAGRAM; AF-3060-1680-9L			
DES. BY: MMAMMENGA		DRAWN BY: MMAMMENGA	
		DATE: 26APR00	
REVISION	APPR. BY:	1215-E10A-127997	
	SCALE: NONE		

DENOTES POWER SUPPLY LOCATION.
(I.E. PS104 IS LOCATED BEHIND A104.)



FRONT VIEW



POWER SUPPLIES
OA-1213-4022 4 LED
 PS ASSY; (2, A-1555)
OA-1213-4013 3 LED
 PS ASSY; (1, A-1633)



POWER TERMINATION BOX
 OA-1215-4002
 ASSY; POWER TERM BOX 120V-*L



FILTER
 OA-1213-4011
 EN-1774 FILTER W/ WEATHERSTRIP



THERMOSTAT
 OA-1213-4024
 ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL.



CONTROLLER BOARD
 OA-1146-0035
 CONTROLLER BOARD



LIGHT DETECTOR
 OA-1215-4001
 ASSY; LIGHT DETECTOR-34MM

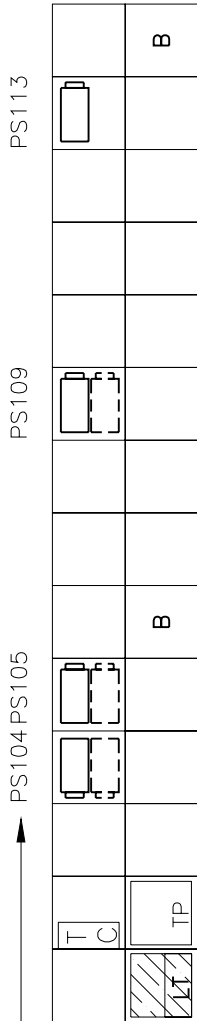
NOTES:

1. 10.64" FOR MODULE SIZE
2. THE POWER SUPPLY ASSEMBLY VARIES PER MODULE TYPE.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: GALAXY, LOUVERED, V1500 34mm			
TITLE: COMP. LAYOUT DIAGRAM, AF-3060-1696-9L			
DES. BY: MMAMMENGA		DRAWN BY: MMAMMENGA	
		DATE: 18APR00	
REVISION	APPR. BY:	1215-E10A-127998	
	SCALE: NONE		

01	21FEB01	CHANGED SECONDARY PWR SUPPLY TO THE HIDDEN LAYER ADDED NOTES TO PWR SUPPLY	MRO	
REV.	DATE	DESCRIPTION	BY	APPR.

DENOTES POWER SUPPLY LOCATION:
(I.E. PS104 IS LOCATED BEHIND A104.)



FRONT VIEW



POWER SUPPLIES

OA-1213-4022 4 LED

PS ASSY; (2, A-1555)

OA-1213-4013 3 LED

PS ASSY; (1, A-1633)



POWER SUPPLY

OA-1213-4026 4 LED

PS ASSY; (1, A-1555)

OA-1213-4013 3 LED

PS ASSY; (1, A-1633)



POWER TERMINATION BOX

OA-1215-4002

ASSY; POWER TERM BOX 120V-*L



THERMOSTAT

OA-1213-4024

ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL.



CONTROLLER BOARD

OA-1146-0035

CONTROLLER BOARD



LIGHT DETECTOR

OA-1215-4001

ASSY; LIGHT DETECTOR-34MM



FILTER

OA-1213-4011

EN-1774 FILTER W/ WEATHERSTRIP

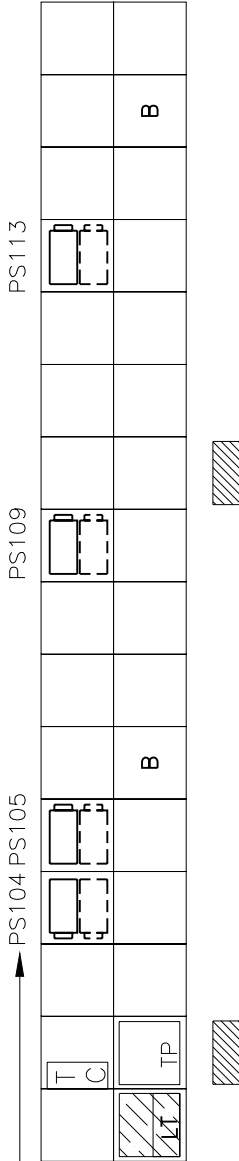
NOTES:

1. 10.64" FOR MODULE SIZE
2. THE POWER SUPPLY ASSEMBLY VARIES PER MODULE TYPE.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: GALAXY, LOUVERED, VENUS 1500, 34MM			
TITLE: COMP. LAYOUT DIAGRAM; AF-3060-16112-9L			
DES. BY: MMAMMENGA		DRAWN BY: MMAMMENGA	
DATE: 26APR00			
REVISION	APPR. BY:	1215-E10A-127999	
	SCALE: NONE		

01	21FEB01	CHANGED SECONDARY PWR SUPPLY TO THE HIDDEN LAYER ADDED NOTES TO THE PWR SUPPLY	MRO	
REV.	DATE	DESCRIPTION	BY	APPR.

DENOTES POWER SUPPLY LOCATION. (I.E. PS104 IS LOCATED BEHIND A104.)



FRONT VIEW



POWER SUPPLIES
 OA-1213-4022 4 LED
 PS ASSY; (2, A-1555)
 OA-1213-4013 3 LED
 PS ASSY; (1, A-1633)



POWER TERMINATION BOX
 OA-1215-4002
 ASSY; POWER TERM BOX 120V-*L

B

FAN
 OA-1213-4014
 B-1006 W/HARDWARE



LIGHT DETECTOR
 OA-1215-4001
 ASSY; LIGHT DETECTOR-34MM



THERMOSTAT
 OA-1213-4024
 ENCLOSURE; THERMOSTAT 85-70-9L
 MOUNTED ON VERTICAL.



CONTROLLER BOARD
 OA-1146-0035
 CONTROLLER BOARD



FILTER
 OA-1213-4011
 EN-1774 FILTER W/ WEATHERSTRIP

NOTES:

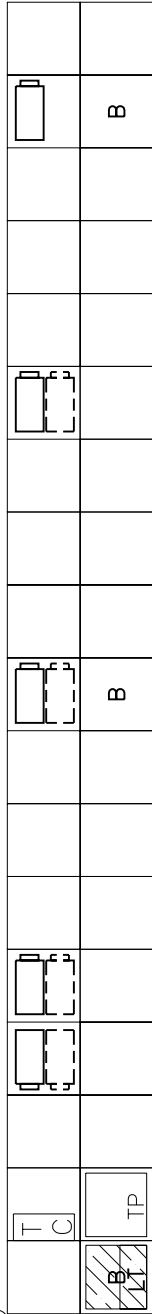
- 10.64" FOR MODULE SIZE
- THE POWER SUPPLY ASSEMBLY VARIES PER MODULE TYPE.

01	21FEB01	CHANGED SECONDARY PWR SUPPLIES TO THE HIDDEN LAYER ADDED NOTES TO PWR SUPPLY	MRO	
REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: GALAXY, LOUVERED, VENUS 1500, 34MM			
TITLE: COMP. LAYOUT DIAGRAM; AF-3060-16128-9L			
DES. BY: MMAMMENGA		DRAWN BY: MMAMMENGA	
DATE: 27APR00			
REVISION	APPR. BY:	1215-E10A-128000	
	SCALE: NONE		

DENOTES POWER SUPPLY LOCATION. (I.E. PS104 IS LOCATED BEHIND A104.)

PS104 PS105 PS109 PS113 PS117



FRONT VIEW



POWER SUPPLIES
OA-1213-4022 4 LED
 PS ASSY; (2, A-1555)
OA-1213-4013 3 LED
 PS ASSY; (1, A-1633)



THERMOSTAT
OA-1213-4024
 ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL.



POWER SUPPLY
OA-1213-4026 4 LED
 PS ASSY; (1, A-1555)
OA-1213-4013 3 LED
 PS ASSY; (1, A-1633)



LIGHT DETECTOR
OA-1215-4001
 ASSY; LIGHT DETECTOR-34MM



CONTROLLER BOARD
OA-1146-0035
 CONTROLLER BOARD



POWER TERMINATION BOX
OA-1215-4002
 ASSY; POWER TERM BOX 120V-*L



FILTER
OA-1213-4011
 EN-1774 FILTER W/ WEATHERSTRIP

NOTES:

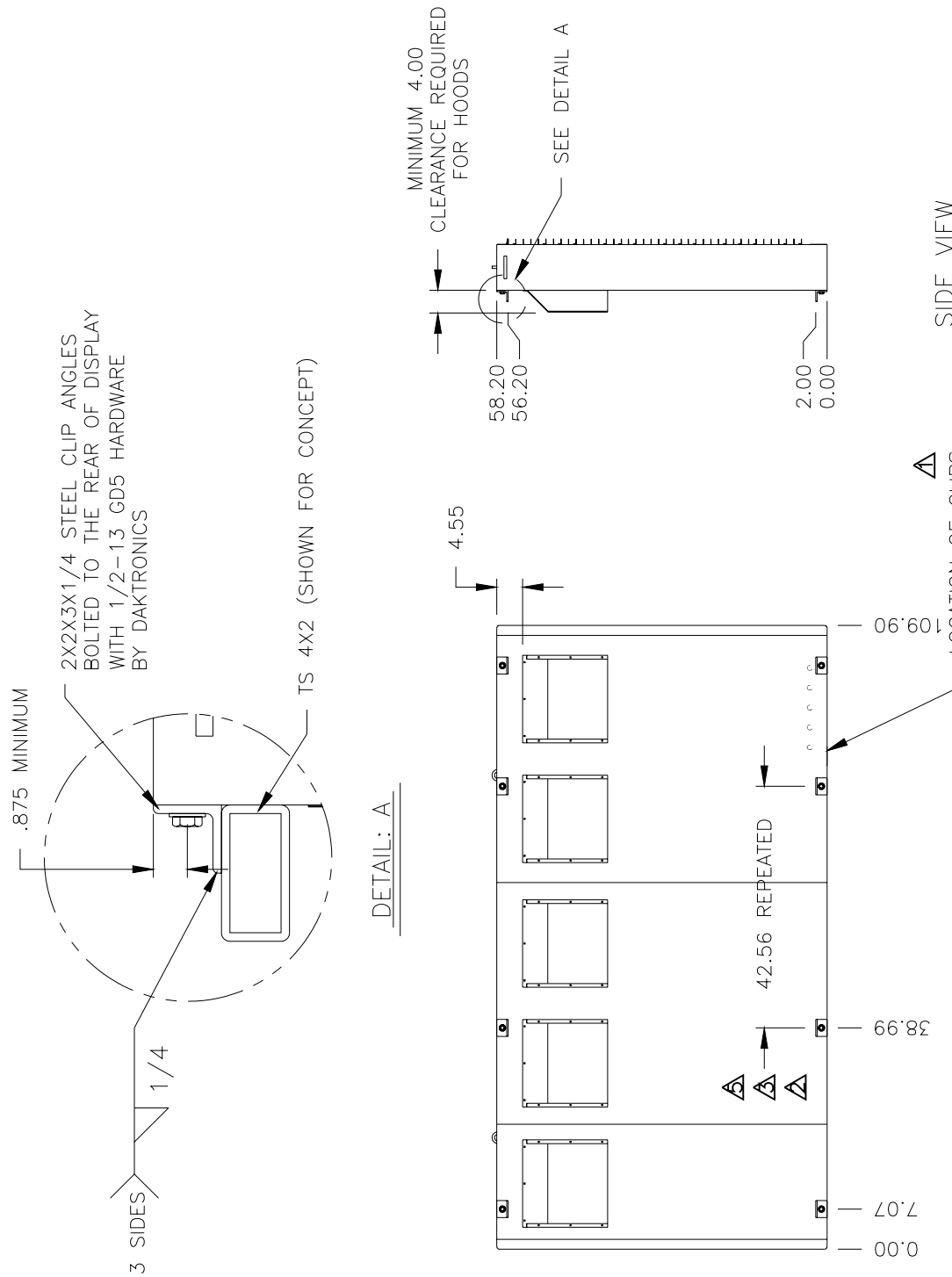
1. 10.64" FOR MODULE SIZE
2. THE POWER SUPPLY ASSEMBLY VARIES PER MODULE TYPE.

01	21FEB01	CHANGED SECONDARY PWR SUPPLIES TO THE HIDDEN LAYER ADDED NOTES TO THE PWR SUPPLY	MRO	
REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ:	GALAXY, LOUVERED, VENUS 1500, 34MM		
TITLE:	COMP. LAYOUT DIAGRAM; AF-3060-16144-9L		
DES. BY:	MMAMMENGA	DRAWN BY:	MMAMMENGA
DATE:	27APR00		
REVISION	APPR. BY:	1215-E10A-128001	
	SCALE:	NONE	

REV.	DATE	DESCRIPTION	BY	APPR.
3	14FEB03	CHANGED CLIP ANGLE LAYOUT TO MATCH RIVET HOLE LOCATION OF BKSHT.	MDM	
4	07MAY02	ADDED NOTES TO CLARIFY DIMENSIONS FOR THE CLIPS.	MDM	
3	11AUG00	CHANGED THE LOCATION OF THE CLIP ANGLES.	MDM	
2	27JUL00	CHANGED THE LOCATION OF THE CLIP ANGLES.	MDM	
1	06APR00	ADDED NOTE ABOUT CLIP ANGLES	MDD	

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ:	34mm MATRIX DISPLAY
TITLE:	MTG CLIP ANGLES, AF-3*6*-40/48X**-34MM
DES. BY:	MDENNIS
DRAWN BY:	MDENNIS
DATE:	20MAR00
REVISION	APPR. BY:
05	SCALE: 1=30
1213-E10A-128799	



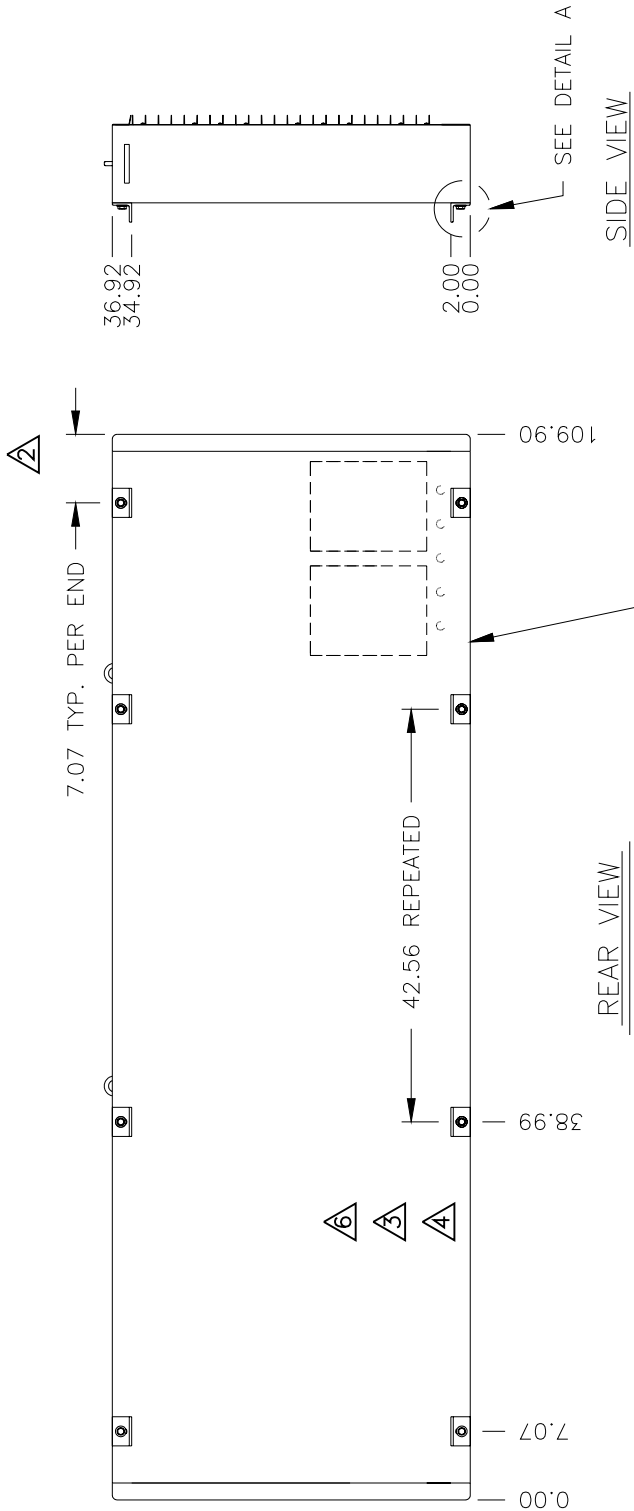
NOTES:

- ALL DIMENSIONS ARE IN INCHES. QUANTITY OF CLIP ANGLES WILL VARY DEPENDING ON SIZE OF DISPLAY.
- PLACE CLIPS 42.56" TO THE RIGHT OF THE 38.99 DIMENSION UNTIL THE CLIPS ARE A MAXIMUM OF 42.56" AWAY FROM EACH OTHER. NOTE IN SOME CASES THE CLIPS MAY ONLY BE ABOUT 15" APART ON THE LEFT END OF THE CABINET. (REAR VIEW)
- REMOVE RIVET WHEN IT IS IN THE PATH OF THE HOLE NEEDED FOR THE 1/2-13 BOLT.

REAR VIEW
(48X80 SHOWN)

SIDE VIEW

REV.	DATE	DESCRIPTION	BY	APPR.
6	14FEB03	CHANGED CLIP ANGLE LAYOUT TO MATCH RIVET HOLE LOCATION ON BKSHT.	MDM	
5	07MAY02	ADDED NOTES TO CLARIFY DIMENSIONS FOR THE CLIPS.	MDM	
4	11AUG00	CHANGED LOCATION OF MOUNTING CLIPS.	MDM	
3	24JUL00	CHANGED LOCATION OF MOUNTING CLIPS ON THE INTER BODY OF CABINET.	MDM	
2	16JUN00	CHANGED LOCATION OF MOUNTING CLIPS FROM THE END OF THE CABINET.	MDM	
1	05APR00	MOVED CLIP ANGLES 21.28"	MDD	



REAR VIEW
(24X80 SHOWN)

SIDE VIEW

DETAIL: A

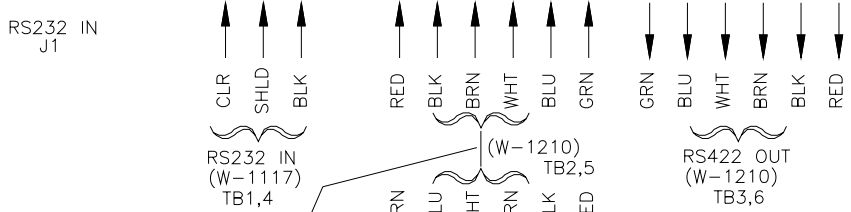
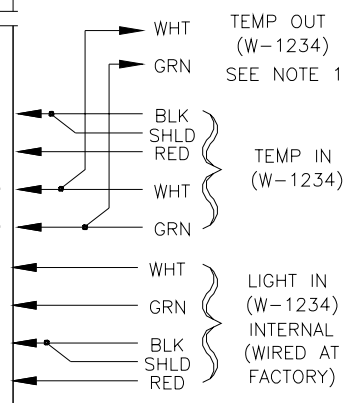
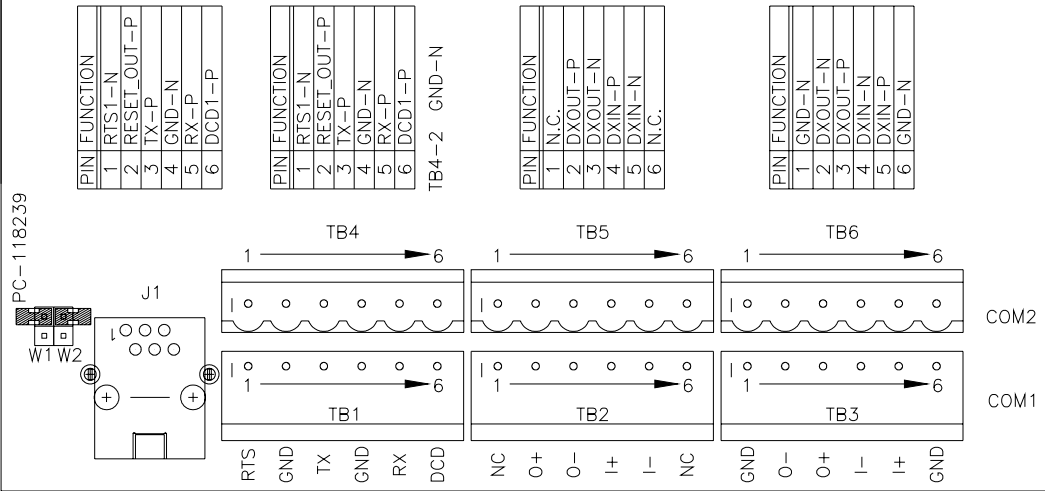
NOTES:

- ALL DIMENSIONS ARE IN INCHES. QUANTITY OF CLIP ANGLES WILL VARY DEPENDING ON SIZE OF DISPLAY.
- PLACE CLIPS 42.56" TO THE RIGHT OF THE 38.99 DIMENSION UNTIL THE CLIPS ARE A MAXIMUM OF 42.56" AWAY FROM EACH OTHER. NOTE IN SOME CASES THE CLIPS MAY ONLY BE ABOUT 15" APART ON THE LEFT END OF THE CABINET. (REAR VIEW) REMOVE RIVET WHEN IT IS IN THE PATH OF THE HOLE NEEDED FOR THE 1/2-13 BOLT.
- 2X2X3X1/4 STEEL ANGLE BOLTED TO REAR OF DISPLAY WITH 1/2-13 GD5 HARDWARE BY DAKTRONICS.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: 34mm MATRIX DISPLAY			
TITLE: CLIP ANGLE MOUNTING ; AX-XXXX-8/32XX-34B			
DES. BY: MMAMMENGA		DRAWN BY: MDENNIS	
		DATE: 21MAR00	
REVISION	APPR. BY:	1213-E10A-128801	
06	SCALE: 1=20		

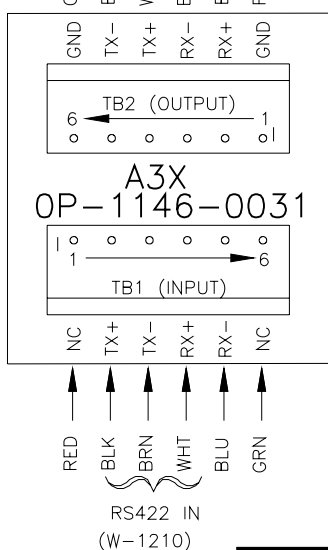
A31 CONTROLLER CARD

PC-118239



CABLE BETWEEN IS PINNED ONE TO ONE

GROUND CONNECTION MUST BE MAINTAINED

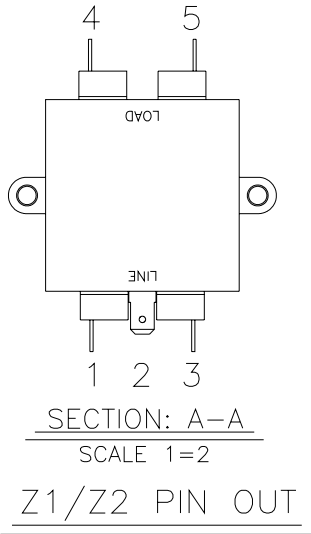


NOTES:

- TO ADDITIONAL DISPLAYS WHEN USING A SINGLE TEMP SENSOR. (NOTE THAT THE RED AND BLK WIRES ARE NOT CONNECTED TO SUBSEQUENT CONTROLLER CARDS)

REV.	DATE	DESCRIPTION	BY	APPR.
02	13DEC01	ADDED WIRE COLORS TO TB2 OF A3X	LLK	LLK
01	13NOV01	ADDED OP-1146-0031	LLK	

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ:	TITLE: SIGNAL INPUT, OUTDOOR VENUS 1500		
DES. BY:	DRAWN BY: LKERR	DATE: 9MAR00	
REVISION	APPR. BY:	1146-R01A-129110	
	SCALE: NONE		

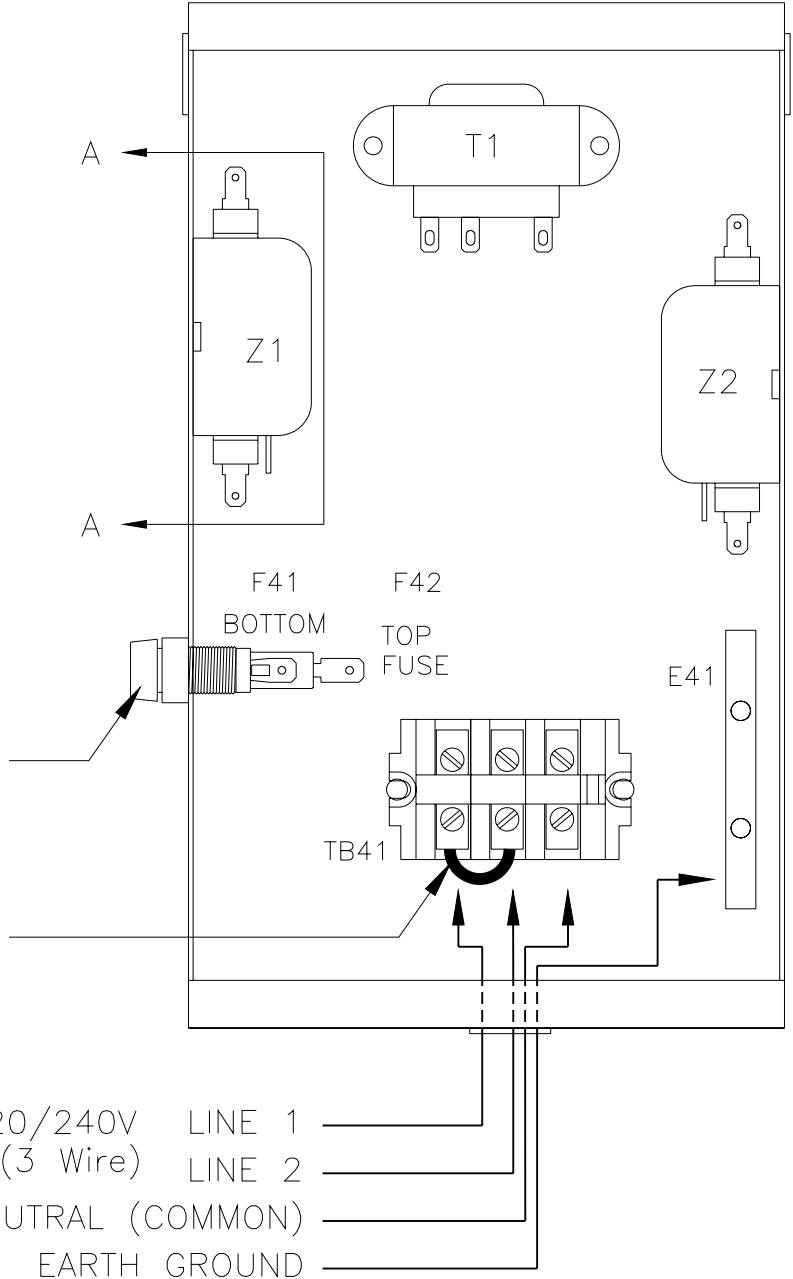


Z1/Z2 PIN OUT

REPLACE FUSES WITH THE SAME TYPE AND RATING. SEE BELOW.

SHORTING JUMPER (REMOVE IF TWO LINES ARE TERMINATED)

120 or 240 VAC (2 Wire) TB41-1&2 Jumpered
 120/240V (3 Wire) LINE 1
 LINE 2
 NEUTRAL (COMMON)
 EARTH GROUND



FRONT VIEW

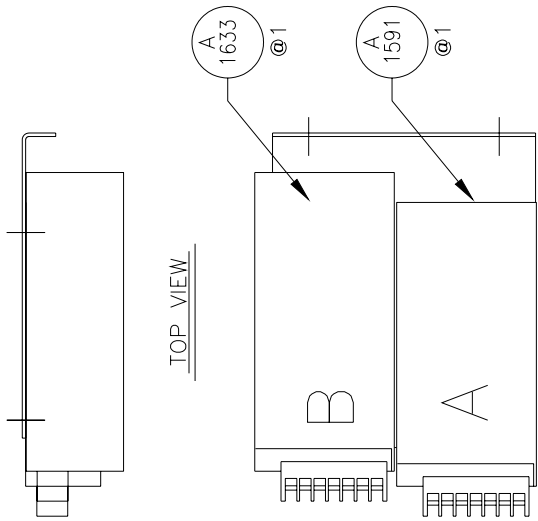
COVER REMOVED

FUSE REPLACEMENT INFORMATION

Voltage	Fuse Type	Daktronics part no.
120VAC	MWO-15	F-1028
120/240VAC	MWO-15	F-1028
240VAC	MDL-7	F-1031

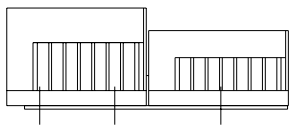
DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: GALAXY, LOUVERED, VENUS 1500, 34MM	
TITLE: POWER TERMINATION BOX	
DES. BY: MMAMENGA	DRAWN BY: KERR/WOODARD DATE: 10MAR00
REVISION	APPR. BY:
SCALE: 1=2	1215-R04A-129227

REV.	DATE	DESCRIPTION	BY	APPR.
01	30OCT01	REPLACED E-1001 @2 WITH TB-1037.	MDM	

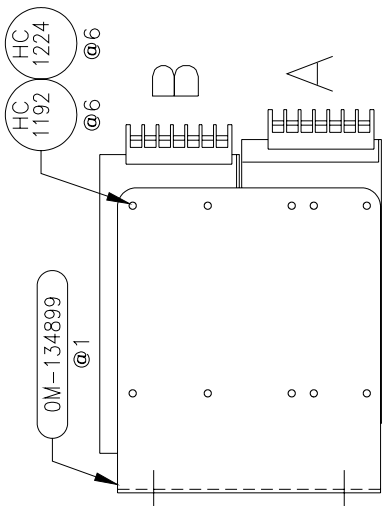


TOP VIEW

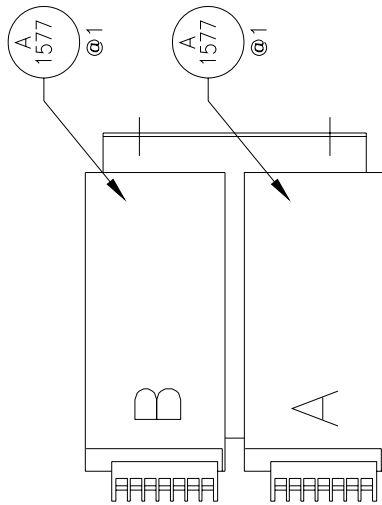
FRONT VIEW



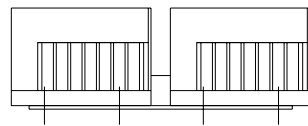
LEFT SIDE



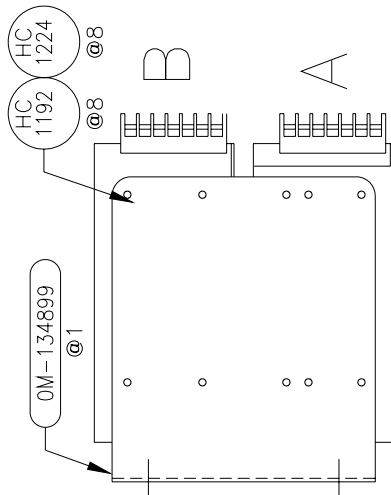
REAR VIEW



FRONT VIEW



LEFT SIDE



REAR VIEW

OR

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: 1.33" LINE DISPLAYS
 TITLE: ASSY, POWER SUPPLY A-1633 & A-1591 OR A-1577@2

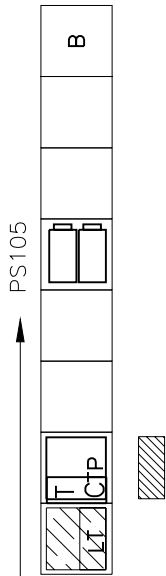
DES. BY: MMAMMENGA DRAWN BY: MMAMMENGA DATE: 14JUL00

REVISION APPR. BY:
 SCALE: 1=5

1213-E10A-135118

REV.	DATE	DESCRIPTION	BY	APPR.
02	20 MAR 03	UPDATED PLACEMENT OF POWER SUPPLIES	KSM	
01	24 FEB 03	ADDED VIEW SHOWING OPTIONAL MOUNTING OF PWR SPLY A-1577 @2 FOR RGB DISPLAYS.	EJY	

DENOTES POWER SUPPLY LOCATION.
(I.E. PS105 IS LOCATED BEHIND A105.)



POWER SUPPLIES
OA-1213-4034
PS ASSY; (1, A-1591, 1, A-1633)



POWER TERMINATION BOX
OA-1215-4002
ASSY; POWER TERM BOX 120V-*L



LIGHT DETECTOR
OA-1215-4001
ASSY; LIGHT DETECTOR-34MM

B

FAN
OA-1213-4010
B-1019 W/HARDWARE



THERMOSTAT
OA-1213-4024
ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL.



CONTROLLER BOARD
OA-1146-0035
CONTROLLER BOARD



FILTER
EN-1774
FILTER W/ WEATHERSTRIP

NOTES:

1. 10.64" FOR MODULE SIZE

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GALAXY, LOUVERED, VENUS 1500, 34mm

TITLE: COMP. LAYOUT DIAGRAM; AF-3060-864-9-RG

DES. BY: MMAMMENGA

DRAWN BY: BSAVARI

DATE: 11DEC00

REVISION

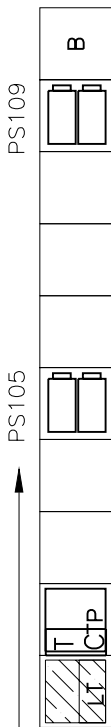
APPR. BY:

SCALE: NONE

1215-E10A-141934

REV.	DATE	DESCRIPTION	BY	APPR.

DENOTES POWER SUPPLY LOCATION.
(I.E. PS105 IS LOCATED BEHIND A105.)



FRONT VIEW



POWER SUPPLIES
OA-1213-4034
PS ASSY; (1, A-1591, 1, A-1633)



THERMOSTAT
OA-1213-4024
ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL.

B

FAN
OA-1213-4010
B-1019 W/HARDWARE



POWER TERMINATION BOX
OA-1215-4002
ASSY; POWER TERM BOX 120V-*L



LIGHT DETECTOR
OA-1215-4001
ASSY; LIGHT DETECTOR-34MM



CONTROLLER BOARD
OA-1146-0035
CONTROLLER BOARD



FILTER
EN-1774
FILTER W/ WEATHERSTRIP

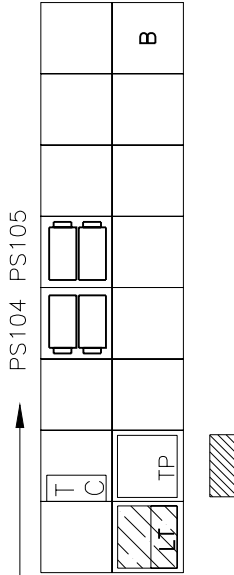
NOTES:

1. 10.64" FOR MODULE SIZE

REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ:	GALAXY, LOUVERED, VENUS 1500, 34mm
TITLE:	COMP. LAYOUT DIAGRAM; AF-3060-880-9-RG
DES. BY:	MMAMMENGA
DRAWN BY:	BSAVARI
DATE:	11DEC00
REVISION	APPR. BY:
SCALE:	NONE
1215-E10A-141935	

DENOTES POWER SUPPLY LOCATION.
(I.E. PS104 IS LOCATED BEHIND A104.)



FRONT VIEW



POWER SUPPLIES
OA-1213-4034
PS ASSY; (1, A-1591, 1, A-1633)



POWER TERMINATION BOX
OA-1215-4002
ASSY; POWER TERM BOX 120V-*L



LIGHT DETECTOR
OA-1215-4001
ASSY; LIGHT DETECTOR-34MM

B

FAN
OA-1213-4010
B-1019 W/HARDWARE



THERMOSTAT
OA-1213-4024
ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL.



CONTROLLER BOARD
OA-1146-0035
CONTROLLER BOARD



FILTER
EN-1774
FILTER W/ WEATHERSTRIP

NOTES:

1. 10.64" FOR MODULE SIZE
2. THERMOSTAT MOUNTED ON TOP ROW.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GALAXY, LOUVERED, VENUS 1500, 34mm

TITLE: COMP. LAYOUT DIAGRAM; AF-3060-1664-9-RG

DES. BY: MMAMMENGA

DRAWN BY: BSAVARI

DATE: 11DEC00

REVISION

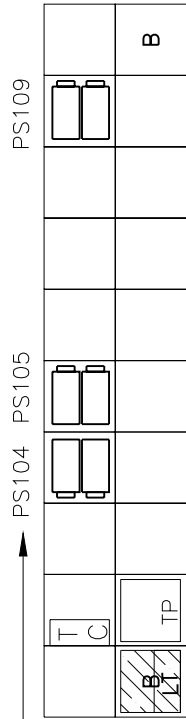
APPR. BY:

SCALE: NONE

1215-E10A-141936

REV.	DATE	DESCRIPTION	BY	APPR.

DENOTES POWER SUPPLY LOCATION.
(I.E. PS104 IS LOCATED BEHIND A104.)



FRONT VIEW



POWER SUPPLIES
OA-1213-4034
PS ASSY; (1, A-1591, 1, A-1633)



THERMOSTAT
OA-1213-4024
ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL.

B

FAN
OA-1213-4010
B-1019 W/HARDWARE



POWER TERMINATION BOX
OA-1215-4002
ASSY; POWER TERM BOX 120V-*L



LIGHT DETECTOR
OA-1215-4001
ASSY; LIGHT DETECTOR-34MM



CONTROLLER BOARD
OA-1146-0035
CONTROLLER BOARD



FILTER
EN-1774
FILTER W/ WEATHERSTRIP

NOTES:

1. 10.64" FOR MODULE SIZE
2. THERMOSTAT MOUNTED ON TOP ROW.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GALAXY, LOUVERED, VENUS 1500, 34mm

TITLE: COMP. LAYOUT DIAGRAM; AF-3060-1680-9-RG

DES. BY: MMAMMENGA

DRAWN BY: BSAVARI

DATE: 11DEC00

REVISION

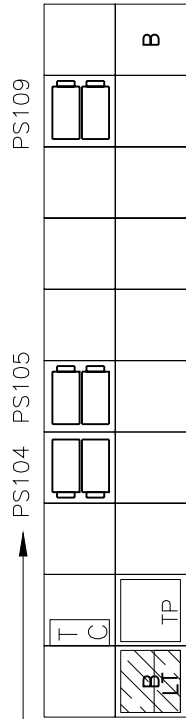
APPR. BY:

SCALE: NONE

1215-E10A-141937

REV.	DATE	DESCRIPTION	BY	APPR.

DENOTES POWER SUPPLY LOCATION.
(I.E. PS104 IS LOCATED BEHIND A104.)



FRONT VIEW



POWER SUPPLIES
OA-1213-4034
PS ASSY; (1, A-1591, 1, A-1633)



THERMOSTAT
OA-1213-4024
ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL.

B

FAN
OA-1213-4010
B-1019 W/HARDWARE



POWER TERMINATION BOX
OA-1215-4002
ASSY; POWER TERM BOX 120V-*L



LIGHT DETECTOR
OA-1215-4001
ASSY; LIGHT DETECTOR-34MM



CONTROLLER BOARD
OA-1146-0035
CONTROLLER BOARD



FILTER
EN-1774
FILTER W/ WEATHERSTRIP

NOTES:

1. 10.64" FOR MODULE SIZE
2. THERMOSTAT MOUNTED ON TOP ROW.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GALAXY, LOUVERED, VENUS 1500, 34mm

TITLE: COMP. LAYOUT DIAGRAM; AF-3060-1680-9-RG

DES. BY: MMAMMENGA

DRAWN BY: BSAVARI

DATE: 11DEC00

REVISION

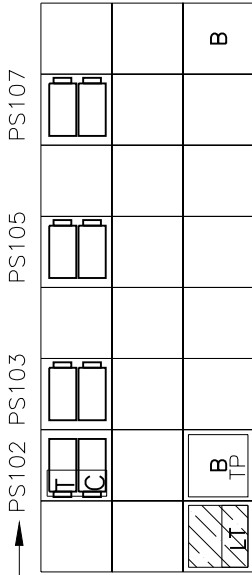
APPR. BY:

SCALE: NONE

1215-E10A-141937

REV.	DATE	DESCRIPTION	BY	APPR.

DENOTES POWER SUPPLY LOCATION:
(I.E. PS102 IS LOCATED BEHIND A102.)



FRONT VIEW



POWER SUPPLIES
0A-1213-4034
PS ASSY; (1, A-1591, 1, A-1633)



POWER TERMINATION BOX
0A-1215-4002
ASSY; POWER TERM BOX 120V-*L

B

FAN
0A-1213-4010
B-1019 W/HARDWARE



LIGHT DETECTOR
0A-1215-4001
ASSY; LIGHT DETECTOR-34MM



THERMOSTAT
0A-1213-4024
ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL



CONTROLLER BOARD
0A-1146-0035
CONTROLLER BOARD



FILTER
EN-1774
FILTER W/ WEATHERSTRIP

NOTES:

1. 10.64" FOR MODULE SIZE
2. THERMOSTAT MOUNTED ON TOP ROW.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GALAXY, LOUVERED, VENUS 1500, 34mm

TITLE: COMP. LAYOUT DIAGRAM, AF-3060-2464-9-RG

DES. BY: MMAMMENGA

DRAWN BY: BSAVARI

DATE: 11DEC00

REVISION

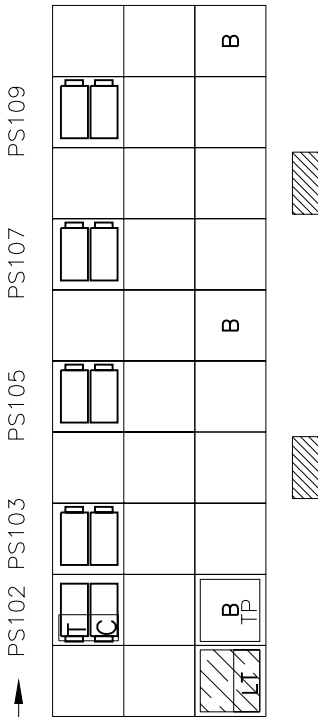
APPR. BY:

SCALE: NONE

1215-E10A-141938

REV.	DATE	DESCRIPTION	BY	APPR.

DENOTES POWER SUPPLY LOCATION.
(I.E. PS102 IS LOCATED BEHIND A102.)



FRONT VIEW



POWER SUPPLIES

OA-1213-4034

PS ASSY: (1, A-1591, 1, A-1633)



THERMOSTAT

OA-1213-4024

ENCLOSURE; THERMOSTAT 85-70-9L
MOUNTED ON VERTICAL



POWER TERMINATION BOX

OA-1215-4002

ASSY; POWER TERM BOX 120V-L



LIGHT DETECTOR

OA-1215-4001

ASSY; LIGHT DETECTOR-34MM



CONTROLLER BOARD

OA-1146-0035

CONTROLLER BOARD

NOTES:

1. 10.64" FOR MODULE SIZE
2. THERMOSTAT MOUNTED ON TOP ROW.



FILTER

EN-1774

FILTER W/ WEATHERSTRIP

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GALAXY, LOUVERED, V1500 34mm

TITLE: COMP. LAYOUT DIAGRAM; AF-3060-2480-9-RG

DES. BY: MMAMMENGA

DRAWN BY: BSAVARI

DATE: 11DEC00

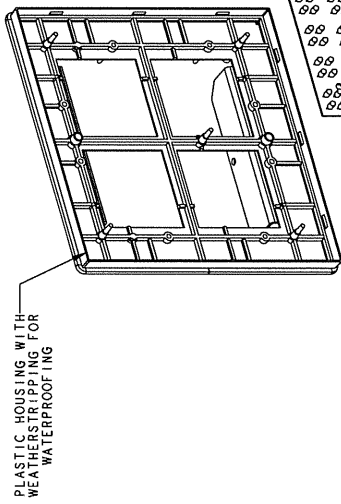
REVISION

APPR. BY:

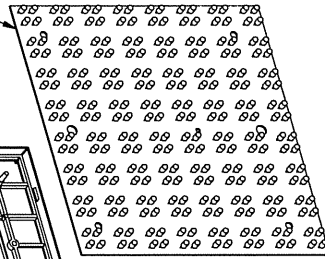
SCALE: NONE

1215-E10A-141939

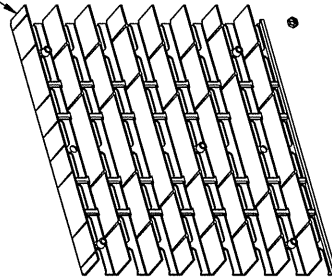
REV.	DATE	DESCRIPTION	BY	APPR.



SINGLE LED AND DRIVER PANEL



LOUVER



LATCH ACCESS PLUG Ø2 FOR FRONT AND REAR MODULE ACCESS AND WATERPROOFING

TWIST ON FASTENERS Ø5 FOR ATTACHMENT OF LOUVER

DAXTRONICS, INC. BROOKINGS, SD 57006	
PROJ:	34MM OUTDOOR GALAXY
TITLE:	EXPLODED FRONT VIEW: SINGLE PANEL MODULE
DES. BY:	MANDAL
DRAWN BY:	DNUGTEREN
DATE:	10-JAN-00
SHEET 1 OF DWG 126111	SCALE: 1=2
REV.	DATE
BY	APPR.

REV.	DATE	DESCRIPTION	BY	APPR.

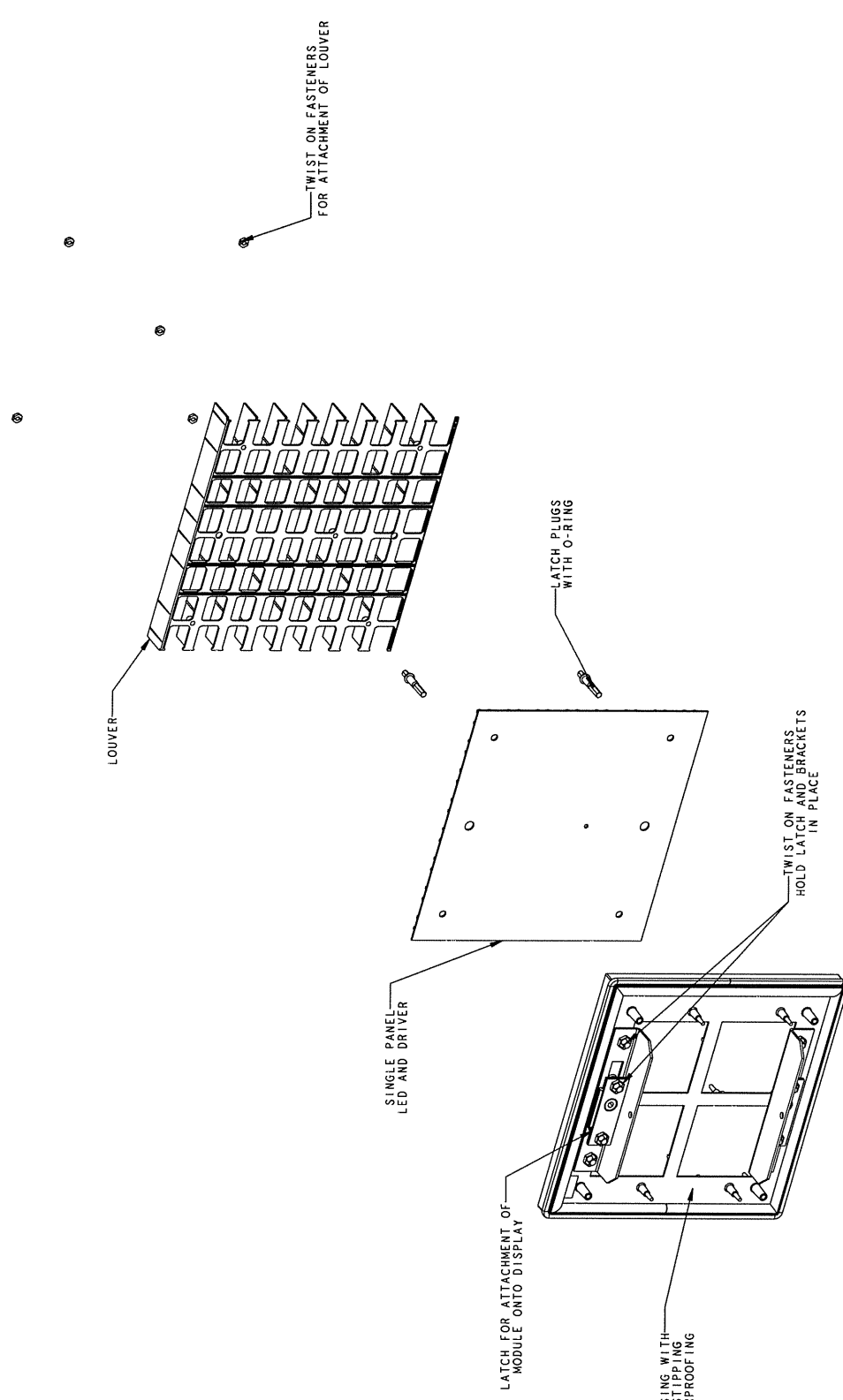
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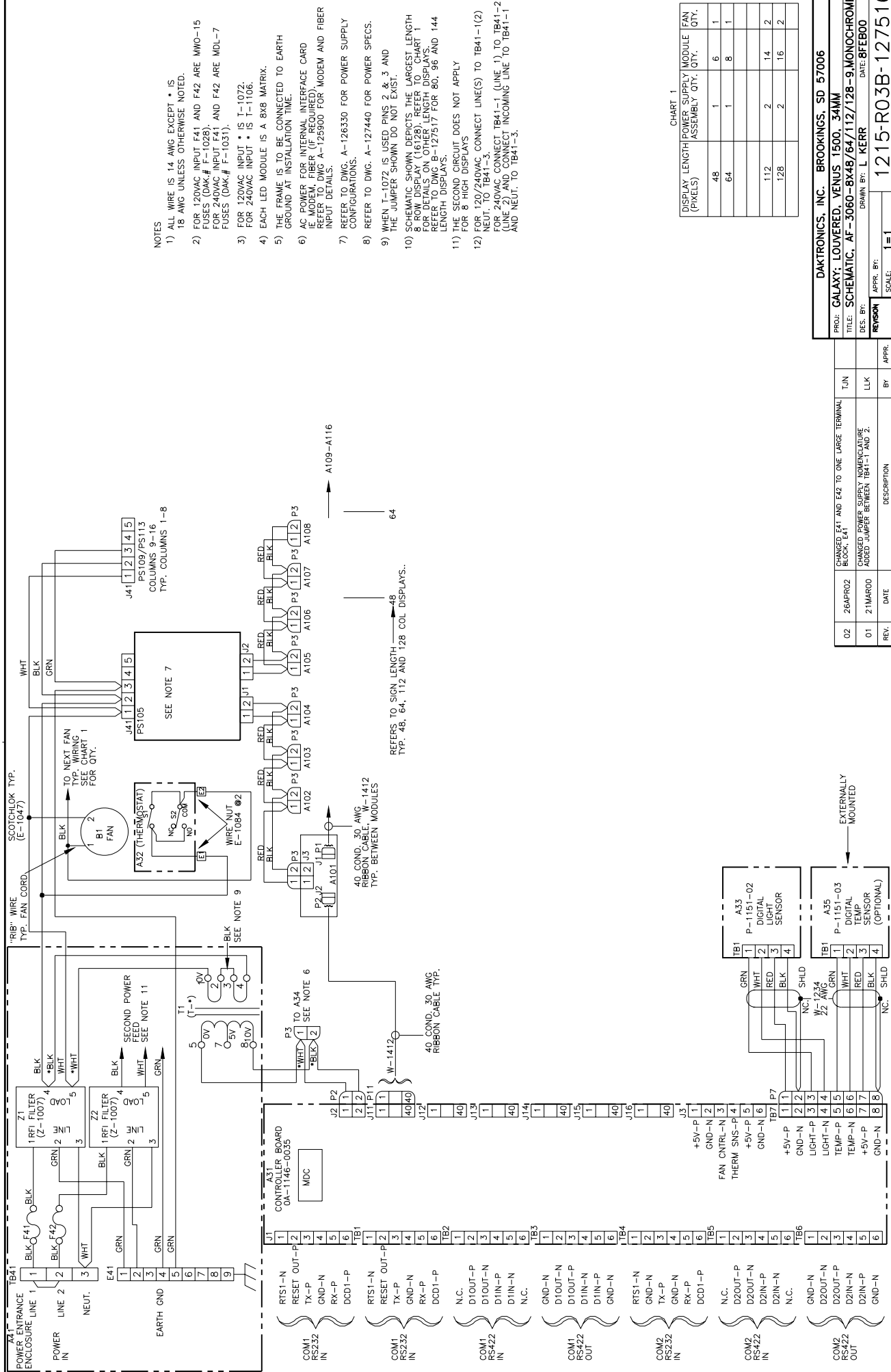
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DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: 34MM OUTDOOR GALAXY	
TITLE: EXPLODED REAR VIEW; SINGLE PANEL MODULE	
DES. BY: NANDAL	DATE: 10JAN00
DRAWN BY: DNUIGTEREN	
SHEET 1 OF DWG 126112	
SCALE: 1=2	1208 -E10B- 126112

REV.	DATE	BY	APP.	DESCRIPTION



- NOTES
- 1) ALL WIRE IS 14 AWG EXCEPT * IS 18 AWG UNLESS OTHERWISE NOTED.
 - 2) FOR 120VAC INPUT F41 AND F42 ARE MWO-15 FUSES (DAK # F-1028). FOR 240VAC INPUT F41 AND F42 ARE MDL-7 FUSES (DAK # F-1031).
 - 3) FOR 120VAC INPUT * IS T-1072. FOR 240VAC INPUT * IS T-1106.
 - 4) EACH LED MODULE IS A 8X8 MATRIX.
 - 5) THE FRAME IS TO BE CONNECTED TO EARTH GROUND AT INSTALLATION TIME.
 - 6) AC POWER FOR INTERNAL INTERFACE CARD I.E. MODEM, FIBER (IF REQUIRED), REFER TO DWG A-125900 FOR MODEM AND FIBER INPUT DETAILS.
 - 7) REFER TO DWG. A-126330 FOR POWER SUPPLY CONFIGURATIONS.
 - 8) REFER TO DWG. A-127440 FOR POWER SPECS.
 - 9) WHEN T-1072 IS USED PINS 2, 3 AND THE JUMPER SHOWN DO NOT EXIST.
 - 10) SCHEMATIC SHOWN DEPICTS THE LARGEST LENGTH RIBBON CABLE AVAILABLE. REFER TO DWG B-127517 FOR 80, 96 AND 144 LENGTH DISPLAYS.
 - 11) THE SECOND CIRCUIT DOES NOT APPLY FOR 8 HIGH DISPLAYS
 - 12) FOR 120/240VAC CONNECT LINE(S) TO TB41-1(2) NEUT. TO TB41-3.

CHART 1

DISPLAY LENGTH (PIXELS)	POWER SUPPLY MODULE ASSEMBLY QTY.	FAN QTY.
48	1	6
64	1	8
112	2	14
128	2	16

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GALAXY; LOUVERED, VENUS 1500, 34MM

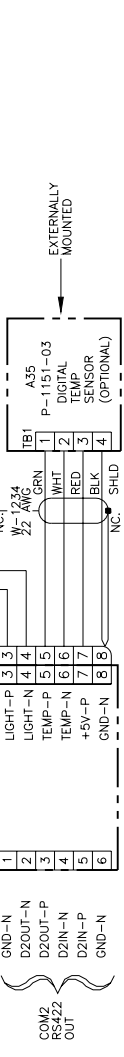
TITLE: SCHEMATIC, AF-3060-8X48/64/112/128-9, MONOCHROME

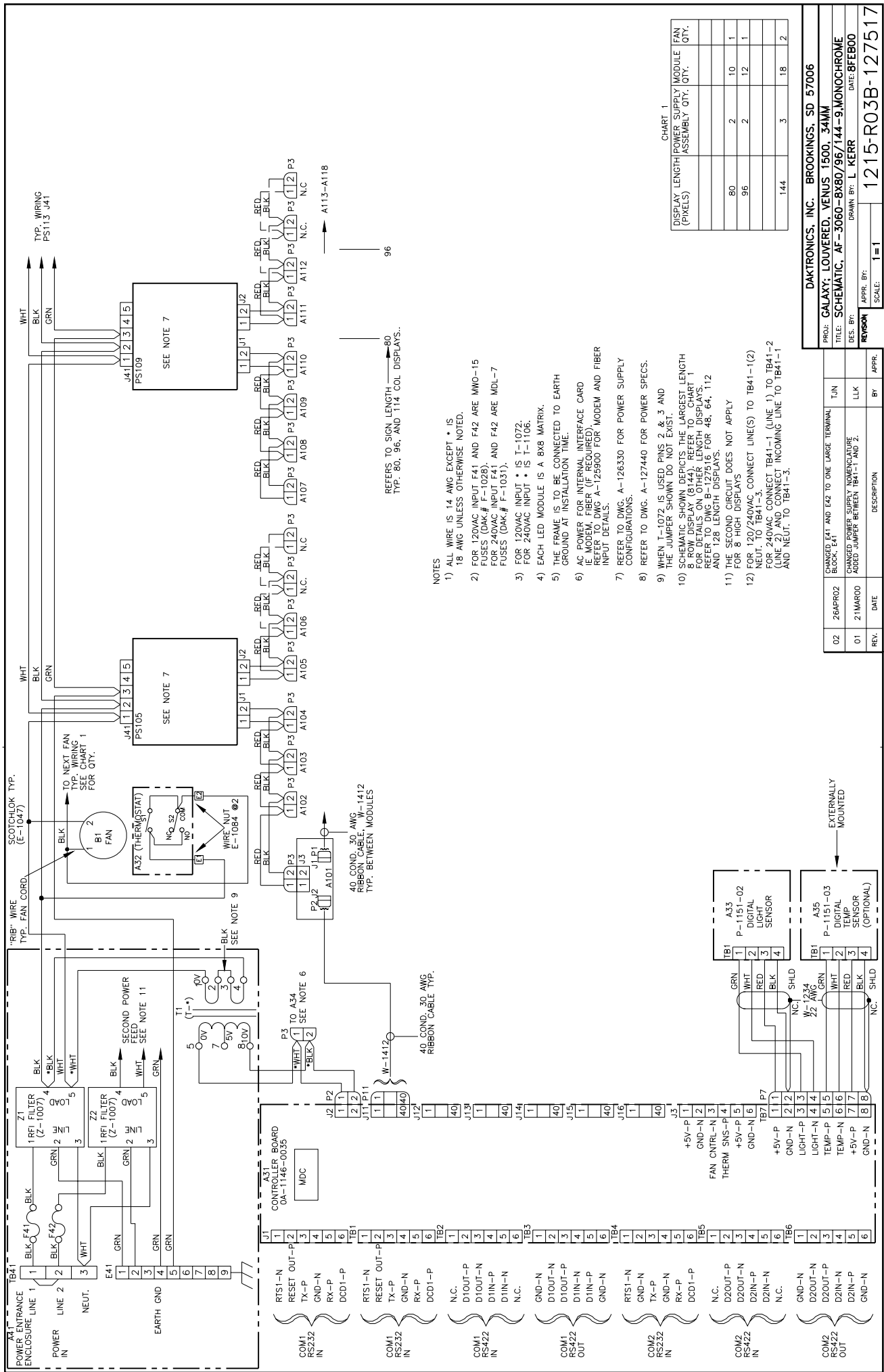
DES. BY: L. KERR DRAWN BY: L. KERR DATE: 8 FEB 80

APPR. BY: REYSON SCALE: 1=1

1215-R03B-127516

REV.	DATE	DESCRIPTION	BY	APPR.
02	26APR02	CHANGED E41 AND E42 TO ONE LARGE TERMINAL BLOCK, E41	TJN	
01	21MAR00	CHANGED POWER SUPPLY NOMENCLATURE ADDED JUMPER BETWEEN TB41-1 AND 2.	LLK	





NOTES

- 1) ALL WIRE IS 14 AWG EXCEPT * IS 18 AWG UNLESS OTHERWISE NOTED.
- 2) FOR 120VAC INPUT F41 AND F42 ARE MWO-15 FUSES (DAK.# F-1028).
- 3) FOR 240VAC INPUT F41 AND F42 ARE MDL-7 FUSES (DAK.# F-1031).
- 4) FOR 120VAC INPUT * IS T-1072.
- 5) FOR 240VAC INPUT * IS T-1106.
- 6) EACH LED MODULE IS A 8X8 MATRIX. THE FRAME IS TO BE CONNECTED TO EARTH GROUND AT INSTALLATION TIME.
- 7) AC POWER FOR INTERNAL INTERFACE CARD IS SUPPLIED BY THE POWER SUPPLY. REFER TO DWG. A-125800 FOR MODEM AND FIBER INPUT DETAILS.
- 8) REFER TO DWG. A-126330 FOR POWER SUPPLY CONFIGURATIONS.
- 9) REFER TO DWG. A-127440 FOR POWER SPECS. WHEN T-1072 IS USED PINS 2 & 3 AND THE JUMPER SHOWN DO NOT EXIST.
- 10) SCHEMATIC SHOWN DEPICTS THE LARGEST LENGTH 8 ROW DISPLAY (8144). REFER TO CHART 1 FOR DETAILS ON OTHER LENGTH DISPLAYS, AND 128 LENGTH DISPLAYS FOR 48, 64, 112 AND 128 LENGTH DISPLAYS.
- 11) THE SECOND CIRCUIT DOES NOT APPLY FOR 8" HIGH DISPLAYS.
- 12) FOR 120/240VAC CONNECT LINE(S) TO TB41-1(2) NEUT. TO TB41-3.

REFERS TO SIGN LENGTH 80 TYP. 80, 96, AND 114 COL DISPLAYS.

CHART 1

DISPLAY LENGTH (CHARS)	POWER SUPPLY ASSEMBLY QTY.	MODULE QTY.	FAN QTY.
80	2	10	1
96	2	12	1
144	3	18	2

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GALAXY; LOUVERED, VENUS 1600, 34MM

TITLE: SCHEMATIC; AF-3060-8X80/96/144-9-MONOCHROME

DES. BY: L. KERR

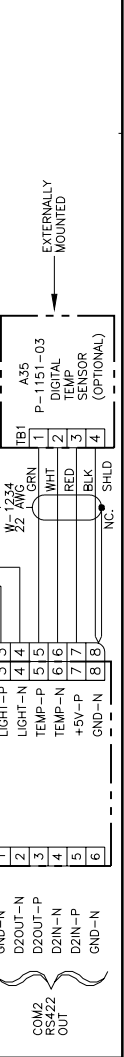
DATE: 8FEB00

REV. 01

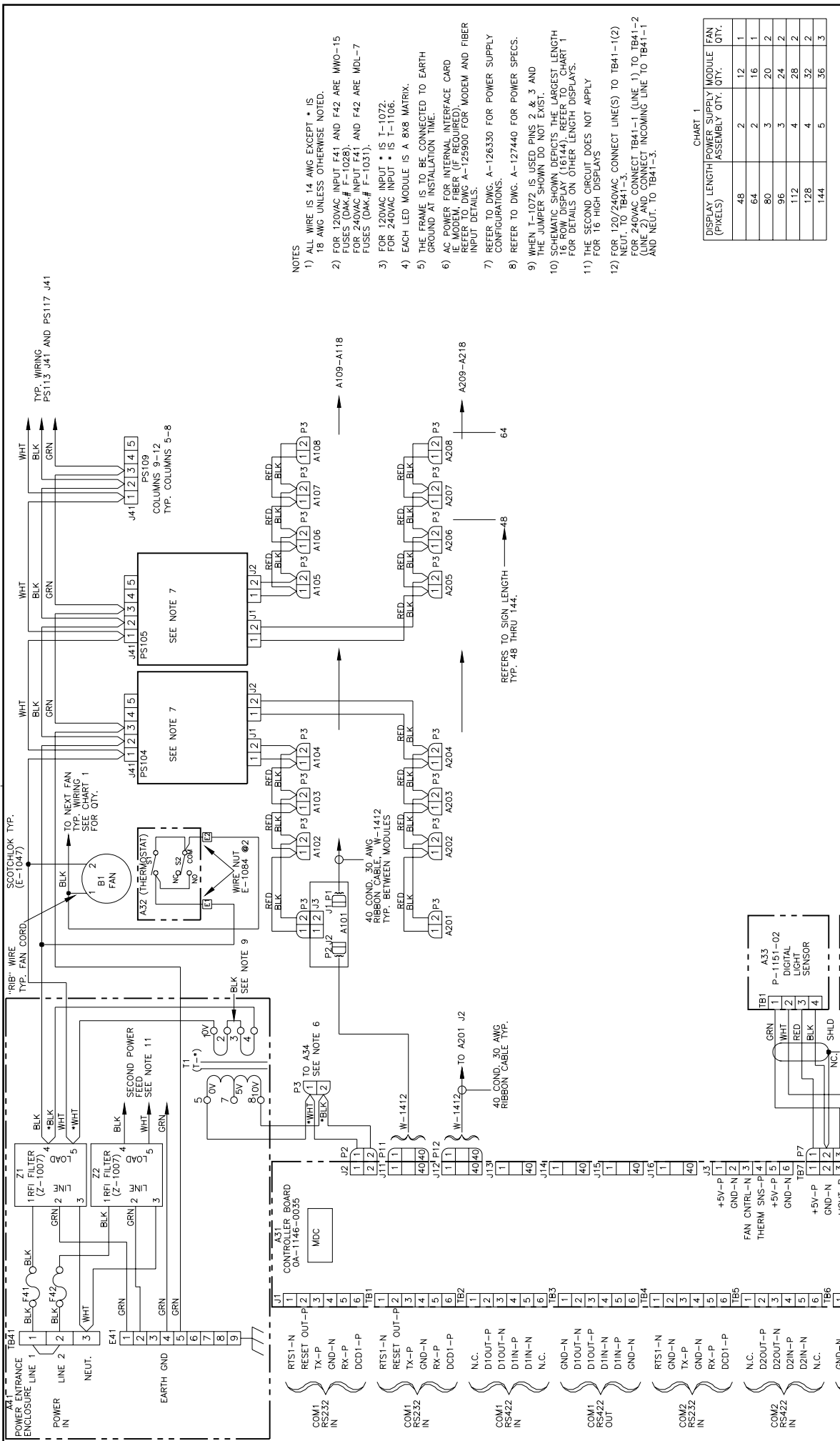
SCALE: 1=1

1215-R03B-127517

REV.	DATE	DESCRIPTION	BY	APPR.
02	26APR02	CHANGED E41 AND E42 TO ONE LARGE TERMINAL BLOCK, E41	TUN	
01	21MAR00	CHANGED POWER SUPPLY VOLTAGE RISE ADDED JUMPER BETWEEN TB41-1 AND 2.	LLK	



EXTERNALLY MOUNTED



- NOTES
- 1) ALL WIRE IS 14 AWG EXCEPT * IS 18 AWG UNLESS OTHERWISE NOTED.
 - 2) FOR 120VAC INPUT F41 AND F42 ARE MWO-15 FUSES (OAK # F-1028).
 - 3) FOR 240VAC INPUT F41 AND F42 ARE MWO-15 FUSES (OAK # F-1031).
 - 4) FOR 120VAC INPUT * IS T-1072.
 - 5) FOR 240VAC INPUT * IS T-1102.
 - 6) EACH LED MODULE IS A 8X8 MATRIX.
 - 7) THE FRAME IS TO BE CONNECTED TO EARTH GROUND AT INSTALLATION TIME.
 - 8) AC POWER FOR INTERNAL INTERFACE CARD (IE MODEM, FIBER (IF REQUIRED), REFER TO DWG A-125900 FOR MODEM AND FIBER INPUT DETAILS).
 - 9) REFER TO DWG. A-126330 FOR POWER SUPPLY CONFIGURATIONS.
 - 10) REFER TO DWG. A-127440 FOR POWER SPECS.
 - 11) WHEN T-1072 IS USED PINS 2 & 3 AND THE JUMPER SHOWN DO NOT EXIST.
 - 12) SCHEMATIC SHOWS DISPLAYS THE LARGEST LENGTH FROM DISPLAY (J41) REFER TO CHART 1 FOR DETAILS ON OTHER LENGTH DISPLAYS.
 - 13) THE SECOND CIRCUIT DOES NOT APPLY FOR 16 HIGH DISPLAYS.
 - 14) FOR 120/240VAC CONNECT LINE(S) TO TB41-1(2) NEUT. TO TB41-3.
 - 15) FOR 240VAC CONNECT TB41-1 (LINE 1) TO TB41-2 AND TB41-3 (NEUTRAL) TO TB41-1.

CHART 1

DISPLAY (PIXELS)	LENGTH (INCHES)	POWER SUPPLY MODULE ASSEMBLY QTY.	FAN QTY.
48	2	12	1
64	2	16	1
80	3	20	2
96	3	24	2
112	4	28	2
128	4	32	2
144	5	36	3

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GALAXY; LOUVERED, VENUS 1500, 3AMM

TITLE: SCHEMATIC, AF-3060-16X***-9, MONOCHROME

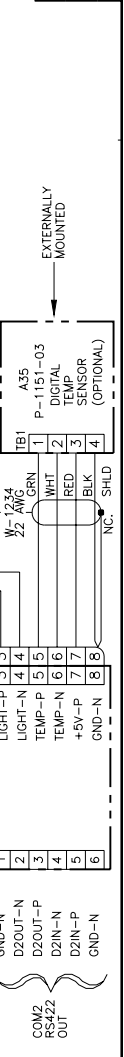
DES. BY: L. KERR DATE: 8FEB80

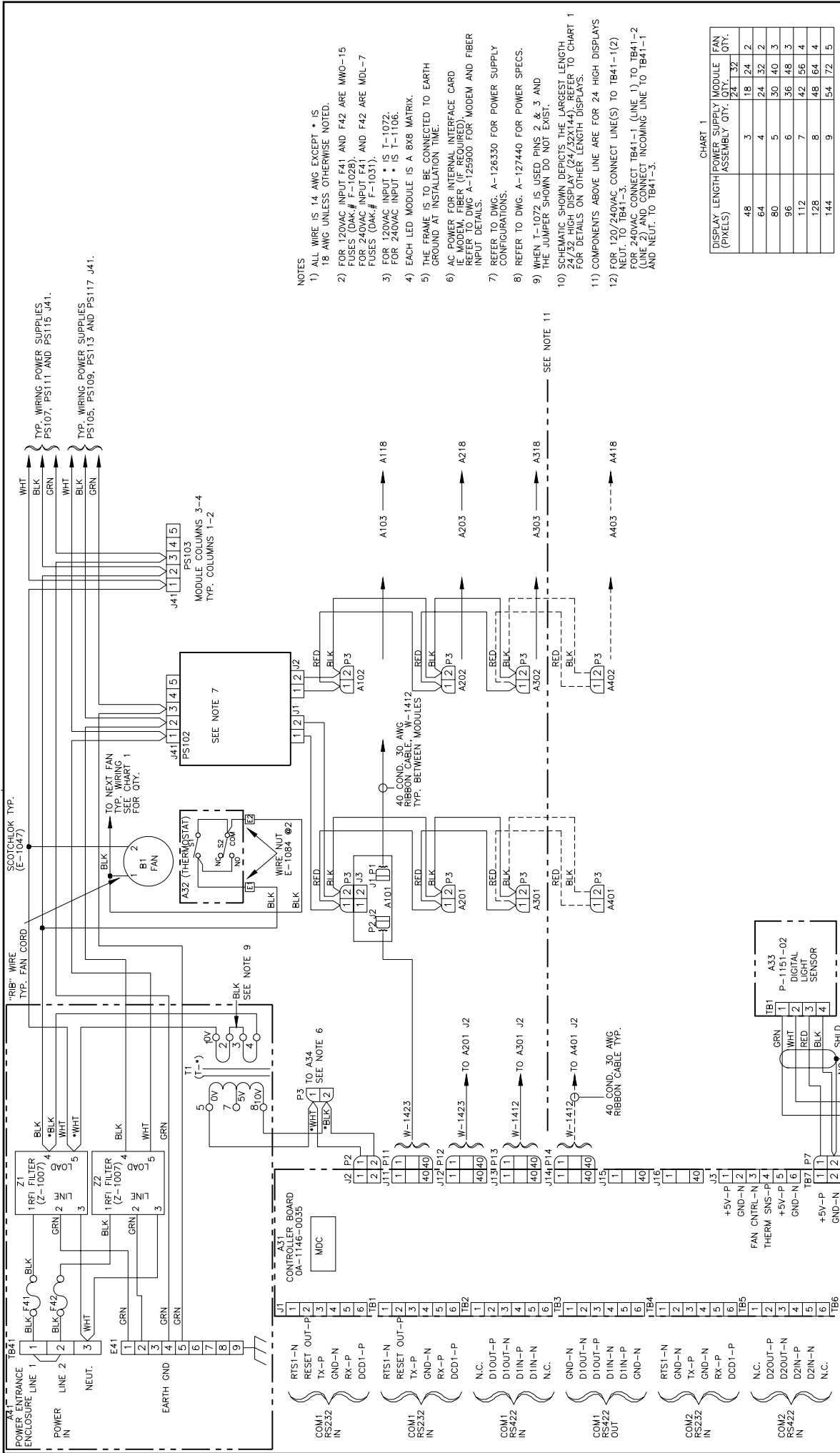
REVISION

SCALE: 1=1

1215-R03B-127518

REV.	DATE	DESCRIPTION	BY	APPR.
02	26APR82	CHANGED F41 AND F42 TO ONE LARGE TERMINAL BLOCK, F41	TUN	
01	21MAR80	CHANGED POWER SUPPLY NOMENCLATURE ADDED JUMPER BETWEEN TB41-1 AND 2.	LLK	





- NOTES
- 1) ALL WIRE IS 14 AWG EXCEPT * IS 18 AWG UNLESS OTHERWISE NOTED.
 - 2) FOR 120VAC INPUT F41 AND F42 ARE MWO-15 FUSES (OAK # F-1028).
 - 3) FOR 240VAC INPUT F41 AND F42 ARE MDL-7 FUSES (OAK # F-1031).
 - 4) FOR 120VAC INPUT * IS T-1072 FOR 240VAC INPUT * IS T-1106.
 - 5) EACH LED MODULE IS A 8x8 MATRIX.
 - 6) THE FRAME IS TO BE CONNECTED TO EARTH GROUND AT INSTALLATION TIME.
 - 7) AC POWER FOR INTERNAL INTERFACE CARD (IE. MODEM, FIBER (IF REQUIRED), REFER TO DWG A-125900 FOR MODEM AND FIBER INPUT DETAILS).
 - 8) REFER TO DWG. A-126330 FOR POWER SUPPLY CONFIGURATIONS.
 - 9) REFER TO DWG. A-127440 FOR POWER SPECS.
 - 10) WHEN T-1072 IS USED PINS 2, 3 AND 9 THE JUMPER SHOWN DO NOT EXIST.
 - 11) SCHEMATIC SHOWN DEPICTS THE LARGEST LENGTH JUMPER (24" MAX) REFER TO CHART 1 FOR DETAILS ON OTHER LENGTH DISPLAYS.
 - 12) COMPONENTS ABOVE LINE ARE FOR HIGH DISPLAYS FOR 120/240VAC CONNECT LINE(S) TO TB41-(1) AND NEUT. TO TB41-3.
 - 13) FOR 240VAC CONNECT TB41-1 (LINE 1) TO TB41-2 (LINE 2) AND CONNECT INCOMING LINE TO TB41-1 AND NEUT. TO TB41-3.

CHART 1

DISPLAY (PIXELS)	LENGTH	SUPPLY	MODULE	FAN
			ASSEMBLY	QTY.
48	3	18	24	2
64	4	24	32	2
80	5	30	40	3
96	6	36	48	3
112	7	42	56	4
128	8	48	64	4
144	9	54	72	5

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GALAXY; LOUVERED VENUS 1500, 34MM

TITLE: SCHEMATIC, AF-3060-24/32***-9, MONOCHROME

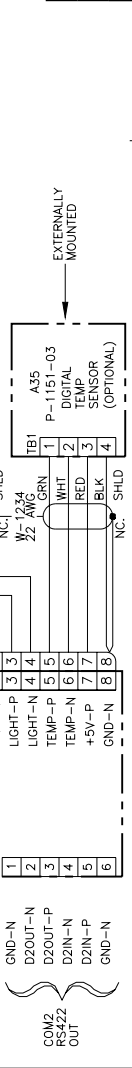
DES. BY: DRAWN BY: L. KERR DATE: 8/8/80

REVISION

APPR. BY: SCALE: 1=1

1215-R03B-127519

REV.	DATE	DESCRIPTION	BR.	APPR.
02	26APR02	CHANGED E41 AND E42 TO ONE LARGE TERMINAL BLOCK, E41	TJN	
01	21MAR00	CHANGED POWER SUPPLY NOMENCLATURE ADDED JUMPER BETWEEN TB41-1 AND 2.	LLK	



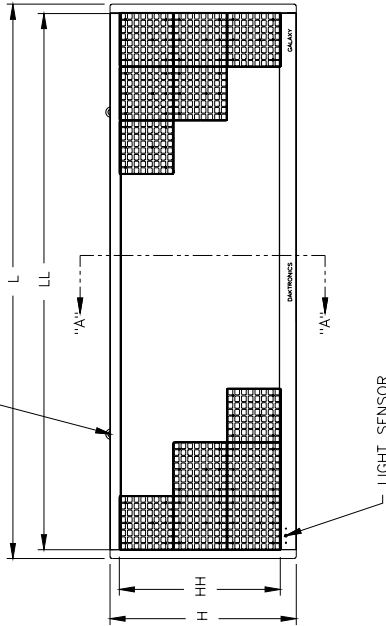
SIZES AND (APPROX.) WEIGHTS FOR 34 mm DISPLAYS
AX-XXXX-8/32XX-34B

SIZE	TOTAL DISPLAY		ACTIVE AREA		CLIP DISTANCE HHH	(APPROX.) WEIGHT
	H	L	HH	LL		
8X48	15.64	67.34	10.64	63.84	11.64	80 lbs
8X64	15.64	88.62	10.64	85.12	11.64	100 lbs
8X80	15.64	109.90	10.64	106.40	11.64	120 lbs
8X96	15.64	131.18	10.64	127.68	11.64	150 lbs
8X112	15.64	152.46	10.64	148.96	11.64	170 lbs
8X128	15.64	173.74	10.64	170.24	11.64	200 lbs
8X144	15.64	195.02	10.64	191.52	11.64	220 lbs
16X48	26.28	67.34	21.28	63.84	22.28	150 lbs
16X64	26.28	88.62	21.28	85.12	22.28	200 lbs
16X80	26.28	109.90	21.28	106.40	22.28	240 lbs
16X96	26.28	131.18	21.28	127.68	22.28	300 lbs
16X112	26.28	152.46	21.28	148.96	22.28	340 lbs
16X128	26.28	173.74	21.28	170.24	22.28	400 lbs
16X144	26.28	195.02	21.28	191.52	22.28	440 lbs
24X48	36.92	67.34	31.92	63.84	32.92	220 lbs
24X64	36.92	88.62	31.92	85.12	32.92	300 lbs
24X80	36.92	109.90	31.92	106.40	32.92	370 lbs
24X96	36.92	131.18	31.92	127.68	32.92	440 lbs
24X112	36.92	152.46	31.92	148.96	32.92	510 lbs
24X128	36.92	173.74	31.92	170.24	32.92	580 lbs
24X144	36.92	195.02	31.92	191.52	32.92	650 lbs
32X48	47.56	67.34	42.56	63.84	43.56	300 lbs
32X64	47.56	88.62	42.56	85.12	43.56	400 lbs
32X80	47.56	109.90	42.56	106.40	43.56	490 lbs
32X96	47.56	131.18	42.56	127.68	43.56	590 lbs
32X112	47.56	152.46	42.56	148.96	43.56	680 lbs
32X128	47.56	173.74	42.56	170.24	43.56	780 lbs
32X144	47.56	195.02	42.56	191.52	43.56	880 lbs

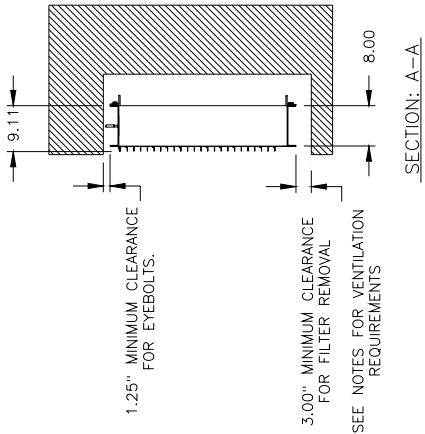
NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. DISPLAY CABINET IS ALUMINUM.
3. DISPLAY CABINET COLOR IS FLAT BLACK.
4. FRONT ACCESS FOR SERVICE.
5. THE DISPLAY IS BOTTOM VENTILATED.
6. MINIMUM BOTTOM CLEARANCE IS 3.00".
7. MINIMUM TOP CLEARANCE IS 1.25".
8. MAIN ELECTRICAL DISCONNECT TO BE FURNISHED BY CUSTOMER.
9. FOR SIZES AND APPROX. WEIGHTS SEE ABOVE TABLE.
10. FOR POWER REQUIREMENTS REFER TO 1215-R01A-127440.
11. DAKTRONICS INC. IS NOT RESPONSIBLE FOR HARDWARE ATTACHING DISPLAY TO STRUCTURE.
12. REFER TO INSTALLATION ENGINEERING DOCUMENT FOR MOUNTING TEMPERATURE SENSOR. (ER-010711)
13. FOR MOUNTING DETAIL REFER TO 1213-E10A-128801.
14. VENTILATION: IN ENCLOSED CABINET SITUATION, 6 SQUARE INCHES OF UNOBSTRUCTED OPENING PER MODULE MUST BE PROVIDED TO INSURE ADEQUATE DISPLAY COOLING. ALLOWANCES MUST BE MADE TO COMPENSATE FOR THE PERCENTAGE OF A MATERIAL COVERING THE OPENINGS IN THE STRUCTURE. FOR ADEQUATE COOLING, FORCED VENTILATION OF THE ENCLOSED STRUCTURE MAY BE REQUIRED. IF AIR MUST BE FORCED INTO THE ENCLOSED CABINET, 10 CUBIC FEET PER MINUTE MUST BE PROVIDED PER MODULE (10.6" X 10.6" ACTIVE AREA).
15. CUSTOMER IS RESPONSIBLE FOR THE STRUCTURAL INTEGRITY OF THE STRUCTURE THAT THE DISPLAY IS MOUNTED TO.

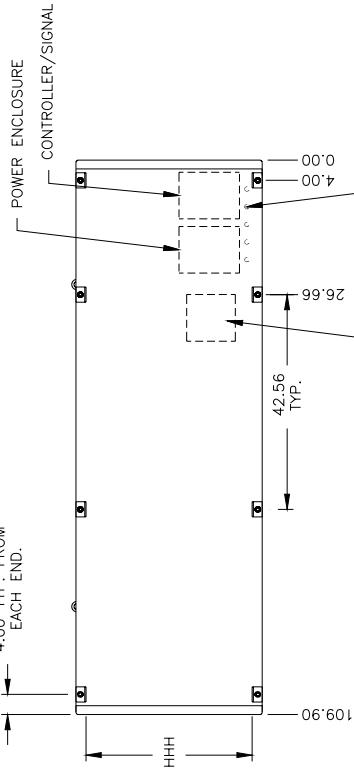
LIFETEX FACTORY INSTALLED BY DAKTRONICS TO ASSIST IN INSTALLATION. EYEBOLTS MAY BE REMOVED AND REPLACED WITH A 1/2-13 BOLT, IF REPLACED, HOLES MUST BE ADEQUATELY SEALED.



FRONT VIEW
(24X80 SHOWN)



SECTION: A-A



REAR VIEW
(24X80 SHOWN)

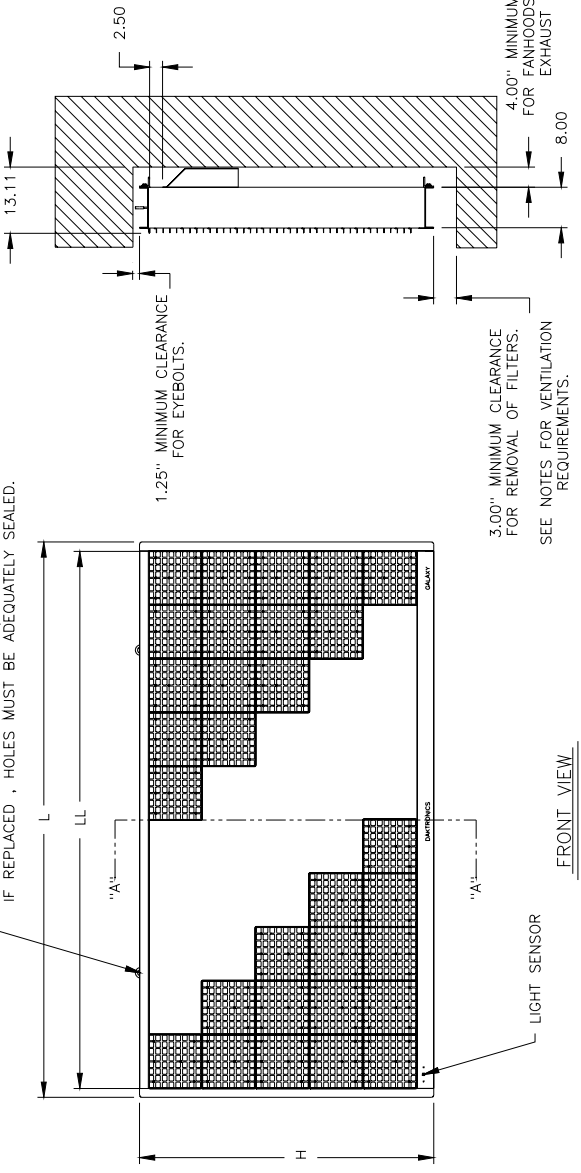
REV.	DATE	DESCRIPTION	BY	APPR.
03	09MAY02	PLACED DATA DISTRIBUTOR INTERNALLY UPON REQUEST AND REVISION CENTER CHANGED SIDE VIEW TO SECTION VIEW TO SHOW TOP AND BOTTOM PERIMETERS.	MDD	
02	19OCT00	CHANGED MOUNTING DETAIL DWG FROM 1213-E10A-128801 TO 1213-E10B-128423	MDD	
01	05APR00	CHANGED MOUNTING DETAIL DWG FROM 1213-E10A-128801 TO 1213-E10B-128423	MDD	

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: 34mm MATRIX DISPLAYS	
TITLE: SHOP DWG; AX-XXXX-8/32XXXX-34B	
DWG. BY: NANDAL	DATE: 28FEB00
REVISION	APPR. BY: MDENNIS
03	SCALE: 1=25
1213-E10B-128423	

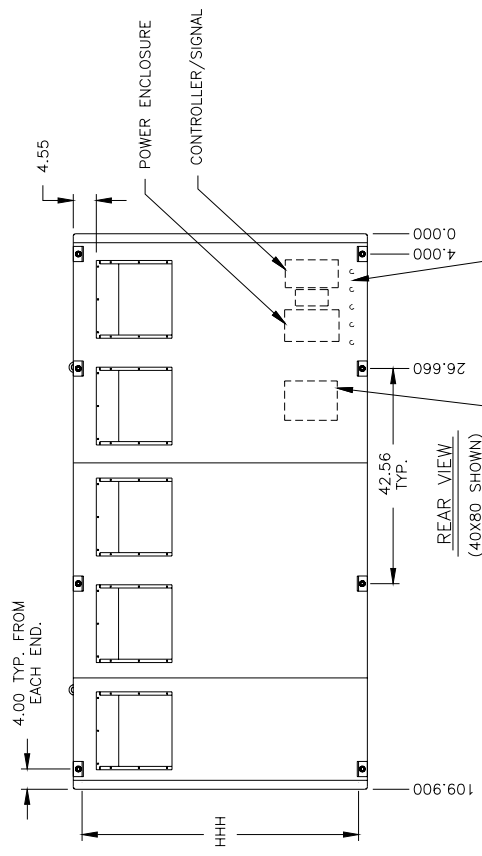
SIZES AND (APPROX.) WEIGHTS FOR 34 mm DISPLAYS
AX-XXXX-40/48XX-34B.

SIZE	TOTAL DISPLAY		ACTIVE AREA		CLIP DISTANCE HHH	(APPROX.) WEIGHT
	H	L	HH	LL		
40X48	58.20	67.34	53.20	63.84	54.20	360 lbs
40X64	58.20	88.62	53.20	85.12	54.20	480 lbs
40X80	58.20	109.90	53.20	106.40	54.20	600 lbs
40X96	58.20	131.18	53.20	127.68	54.20	730 lbs
40X112	58.20	152.46	53.20	148.96	54.20	850 lbs
40X128	58.20	173.74	53.20	170.24	54.20	970 lbs
40X144	58.20	195.02	53.20	191.52	54.20	1100 lbs
48X48	68.84	67.34	63.84	63.84	64.84	440 lbs
48X64	68.84	88.62	63.84	85.12	64.84	580 lbs
48X80	68.84	109.90	63.84	106.40	64.84	730 lbs
48X96	68.84	131.18	63.84	127.68	64.84	870 lbs
48X112	68.84	152.46	63.84	148.96	64.84	1020 lbs
48X128	68.84	173.74	63.84	170.24	64.84	1170 lbs
48X144	68.84	195.02	63.84	191.52	64.84	1300 lbs

LIFETYS FACTORY INSTALLED BY DAKTRONICS TO ASSIST IN INSTALLATION. EYEBOLTS MAY BE REMOVED AND REPLACED WITH A 1/2-13 BOLT IF REPLACED, HOLES MUST BE ADEQUATELY SEALED.



FRONT VIEW
(40X80 SHOWN)



REAR VIEW
(40X80 SHOWN)

NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. DISPLAY CABINET IS ALUMINUM.
3. DISPLAY CABINET COLOR IS FLAT BLACK.
4. FRONT ACCESS FOR SERVICE.
5. THE DISPLAY IS BOTTOM VENTILATED.
6. MINIMUM BOTTOM CLEARANCE IS 3.00"
7. MINIMUM TOP CLEARANCE IS 1.25"
8. FOR SIZES AND APPROX. WEIGHTS SEE ABOVE TABLE.
9. FOR POWER REQUIREMENTS REFER TO 1215-R01A-127440.
10. DAKTRONICS INC. IS NOT RESPONSIBLE FOR HARDWARE ATTACHING DISPLAY TO STRUCTURE.
11. REFER TO INSTALLATION ENGINEERING DOCUMENT FOR MOUNTING TEMPERATURE SENSOR. (ER-010711)
12. FOR MOUNTING DETAIL REFER TO 1213-E10A-128799.
13. VENTILATION IN ENCLOSED CABINET SITUATION 6 SQUARE INCHES OF UNOBSTRUCTED OPENING PER MODULE MUST BE PROVIDED TO INSURE ADEQUATE DISPLAY COOLING. ALLOWANCES MUST BE MADE TO COMPENSATE FOR THE PERCENTAGE OF A MATERIAL COVERING THE OPENINGS IN THE STRUCTURE. FOR ADEQUATE COOLING, FORCED VENTILATION OF THE ENCLOSED STRUCTURE MAY BE REQUIRED. IF AIR MUST BE FORCED INTO THE ENCLOSED CABINET, 10 CUBIC FEET PER MINUTE MUST BE PROVIDED PER MODULE (10.6" X 10.6" ACTIVE AREA).
14. CUSTOMER IS RESPONSIBLE FOR THE STRUCTURAL INTEGRITY OF THE STRUCTURE THAT THE DISPLAY IS MOUNTED TO.
15. MAIN ELECTRICAL DISCONNECT TO BE FURNISHED BY CUSTOMER.

REV.	DATE	DESCRIPTION	BY	APPR.
06	15MAY03	CORRECTED OVERALL DISPLAY HEIGHT IN THE FRONT VIEW. CORRECT HEIGHT IS 58.20"	MDD	
05	08MAY02	PLACED DATA DISTRIBUTOR INTERNALLY BEHIND DAKTRONICS LABEL AND ADDED GALAXY LABEL.	MDD	
04	12JUL01	UPDATED CLIP ANGLE DISTANCE IN CHART.	MDM	
03	30 APR 01	CHANGED TOTAL DISPLAY HEIGHT TO 68.84 ON 48" DISPLAYS	JAD	

REV.	DATE	DESCRIPTION	BY	APPR.
02	190CT00	REPLACED SIDE VIEW WITH SECTION VIEW. ADDED DIMENSION FROM CLIP ANGLE TO HOOD	MDD	
01	07JUN00	UPDATED THE NUMBER OF CLIP MATCHING MOUNTING DETAIL DRAWING (A-128799)	MDM	

PROJ: **34mm MATRIX DISPLAY**
 TITLE: **SHOP DWG: AX-XXXX-40/48XXX-34B**
 DES. BY: **NANDAL** DRAWN BY: **MDENNIS** DATE: **01MAR00**
 REVISION SCALE: **1=25**

1213-E10B-128425

DAKTRONICS, INC. BROOKINGS, SD 57006

REV.	DATE	DESCRIPTION	BY	APPR.
01	26APR82	CHANGED E41 AND E42 TO ONE LARGE TERMINAL BLOCK, E41	TJN	

TERMINAL	WIRE	DESCRIPTION	WIRE	DESCRIPTION
J1	1	RTS1-N	1	RTS1-N
J1	2	RESET OUT-P	2	RESET OUT-P
J1	3	TX-P	3	TX-P
J1	4	GND-N	4	GND-N
J1	5	RX-P	5	RX-P
J1	6	DCD1-P	6	DCD1-P
J1	7	N.C.	7	N.C.
J1	8	D100T-P	8	D100T-P
J1	9	D100T-N	9	D100T-N
J1	10	D11N-P	10	D11N-P
J1	11	D11N-N	11	D11N-N
J1	12	N.C.	12	N.C.
J1	13	GND-N	13	GND-N
J1	14	D100T-N	14	D100T-N
J1	15	D100T-P	15	D100T-P
J1	16	D11N-P	16	D11N-P
J1	17	D11N-N	17	D11N-N
J1	18	GND-N	18	GND-N
J1	19	RTS1-N	19	RTS1-N
J1	20	GND-N	20	GND-N
J1	21	TX-P	21	TX-P
J1	22	GND-N	22	GND-N
J1	23	RX-P	23	RX-P
J1	24	DCD1-P	24	DCD1-P
J1	25	N.C.	25	N.C.
J1	26	D200T-P	26	D200T-P
J1	27	D200T-N	27	D200T-N
J1	28	D21N-P	28	D21N-P
J1	29	D21N-N	29	D21N-N
J1	30	GND-N	30	GND-N
J1	31	RTS1-N	31	RTS1-N
J1	32	GND-N	32	GND-N
J1	33	TX-P	33	TX-P
J1	34	GND-N	34	GND-N
J1	35	RX-P	35	RX-P
J1	36	DCD1-P	36	DCD1-P
J1	37	N.C.	37	N.C.
J1	38	D200T-P	38	D200T-P
J1	39	D200T-N	39	D200T-N
J1	40	D21N-P	40	D21N-P
J1	41	D21N-N	41	D21N-N
J1	42	GND-N	42	GND-N
J1	43	RTS1-N	43	RTS1-N
J1	44	GND-N	44	GND-N
J1	45	TX-P	45	TX-P
J1	46	GND-N	46	GND-N
J1	47	RX-P	47	RX-P
J1	48	DCD1-P	48	DCD1-P
J1	49	N.C.	49	N.C.
J1	50	D200T-P	50	D200T-P
J1	51	D200T-N	51	D200T-N
J1	52	D21N-P	52	D21N-P
J1	53	D21N-N	53	D21N-N
J1	54	GND-N	54	GND-N
J1	55	RTS1-N	55	RTS1-N
J1	56	GND-N	56	GND-N
J1	57	TX-P	57	TX-P
J1	58	GND-N	58	GND-N
J1	59	RX-P	59	RX-P
J1	60	DCD1-P	60	DCD1-P
J1	61	N.C.	61	N.C.
J1	62	D200T-P	62	D200T-P
J1	63	D200T-N	63	D200T-N
J1	64	D21N-P	64	D21N-P
J1	65	D21N-N	65	D21N-N
J1	66	GND-N	66	GND-N
J1	67	RTS1-N	67	RTS1-N
J1	68	GND-N	68	GND-N
J1	69	TX-P	69	TX-P
J1	70	GND-N	70	GND-N
J1	71	RX-P	71	RX-P
J1	72	DCD1-P	72	DCD1-P
J1	73	N.C.	73	N.C.
J1	74	D200T-P	74	D200T-P
J1	75	D200T-N	75	D200T-N
J1	76	D21N-P	76	D21N-P
J1	77	D21N-N	77	D21N-N
J1	78	GND-N	78	GND-N
J1	79	RTS1-N	79	RTS1-N
J1	80	GND-N	80	GND-N
J1	81	TX-P	81	TX-P
J1	82	GND-N	82	GND-N
J1	83	RX-P	83	RX-P
J1	84	DCD1-P	84	DCD1-P
J1	85	N.C.	85	N.C.
J1	86	D200T-P	86	D200T-P
J1	87	D200T-N	87	D200T-N
J1	88	D21N-P	88	D21N-P
J1	89	D21N-N	89	D21N-N
J1	90	GND-N	90	GND-N

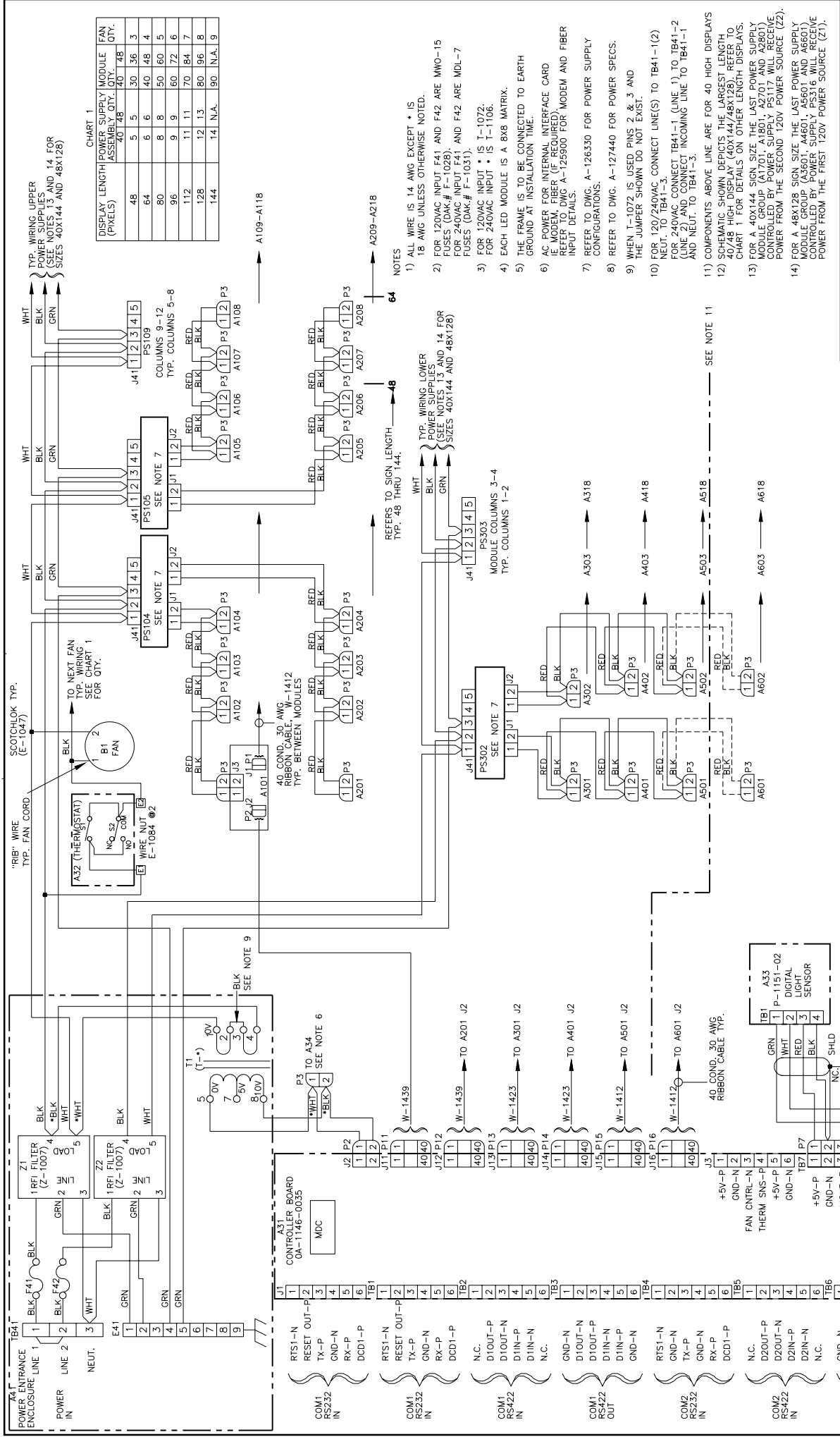


CHART 1

DISPLAY LENGTH (PIXELS)	POWER SUPPLY ASSEMBLY QTY.	MODULE QTY.	FAN QTY.
48	5	5	30
64	6	6	40
80	8	8	50
96	9	9	60
112	11	11	70
128	12	12	80
144	14	N.A.	90

- NOTES
- 1) ALL WIRE IS 14 AWG EXCEPT * IS 18 AWG UNLESS OTHERWISE NOTED.
 - 2) FOR 120VAC INPUT F41 AND F42 ARE MWO-15 FUSES (DAK # F-1028). FOR 240VAC INPUT F41 AND F42 ARE MDL-7 FUSES (DAK # F-1031).
 - 3) FOR 120VAC INPUT * IS I-1072. FOR 240VAC INPUT * IS I-1106.
 - 4) EACH LED MODULE IS A 8X8 MATRIX.
 - 5) THE FRAME IS TO BE CONNECTED TO EARTH GROUND AT INSTALLATION TIME.
 - 6) AC POWER FOR INTERNAL INTERFACE CARD (IE MODEM, FIBER (IF REQUIRED), REFER TO DWG A-125900 FOR MODEM AND FIBER INPUT DETAILS.
 - 7) REFER TO DWG. A-126330 FOR POWER SUPPLY CONFIGURATIONS.
 - 8) REFER TO DWG. A-127440 FOR POWER SPECS.
 - 9) WHEN I-1072 IS USED PINS 2 & 3 AND THE JUMPER SHOWN DO NOT EXIST.
 - 10) FOR 120/240VAC CONNECT LINE(S) TO TB41-(1)(2) NEUT. TO TB41-3.
 - 11) COMPONENTS ABOVE LINE ARE FOR 40 HIGH DISPLAYS
 - 12) SCHEMATIC SHOWN DEPICTS THE LARGEST LENGTH 40/48 HIGH DISPLAY (40X144/48X128). REFER TO CHART 1 FOR DETAILS ON OTHER LENGTH DISPLAYS.
 - 13) FOR A 40X144 SIGN SIZE THE LAST POWER SUPPLY MODULE GROUP (A107, A106, A105, A207, AND A208) WILL BE CONNECTED TO THE SECOND 120V POWER SOURCE (Z2).
 - 14) FOR A 48X128 SIGN SIZE THE LAST POWER SUPPLY MODULE GROUP (A107, A106, A105, A207, AND A208) WILL BE CONNECTED TO THE FIRST 120V POWER SOURCE (Z1).

SIZES AND (APPROX.) WEIGHTS FOR 34 mm DISPLAYS
AF-3060-8/16/2464 & 8/16/2480-RG

SIZE	TOTAL DISPLAY		ACTIVE AREA			CLIP DISTANCE HHH	(APPROX.) WEIGHT
	H	L	HH	LL	LLL		
8X48	15.64	67.34	10.64	63.84	11.64	80 lbs	
8X64	15.64	88.62	10.64	85.12	11.64	100 lbs	
8X80	15.64	109.90	10.64	106.40	11.64	120 lbs	
8X96	15.64	131.18	10.64	127.68	11.64	150 lbs	
16X64	26.28	88.62	21.28	85.12	22.28	200 lbs	
16X80	26.28	109.90	21.28	106.40	22.28	240 lbs	
24X64	36.92	88.62	31.92	85.12	32.92	300 lbs	
24X80	36.92	109.90	31.92	106.40	32.92	370 lbs	

34mm LOUVERED MONochrome GALAXY DISPLAYS
POWER SPECIFICATION CHART

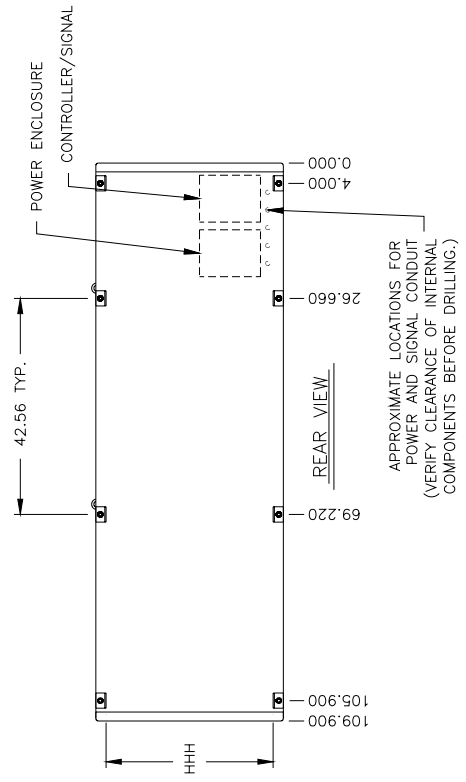
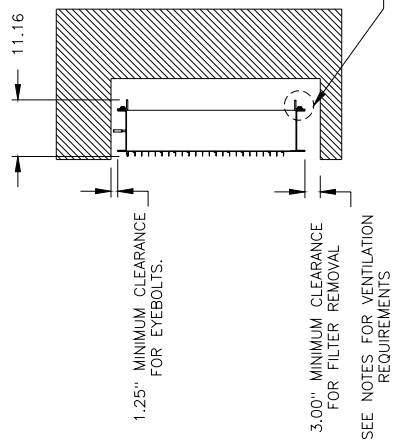
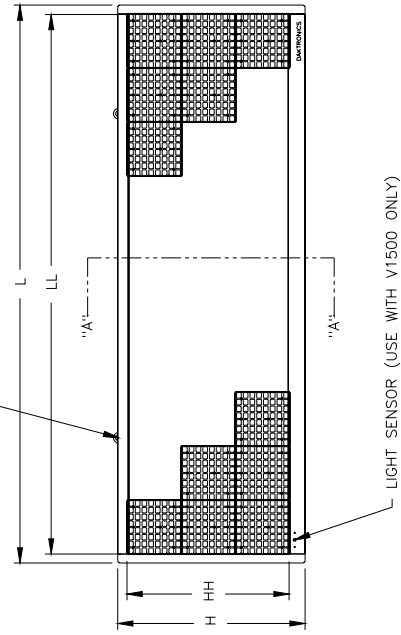
SIZE	TOTAL WATTS	120V AMPS	120/240 3. WIRE			240V AMPS
			LINE 1 AMPS	LINE 2 AMPS	LINE 3 AMPS	
8X48	253	2.11				1.05
8X64	312	2.60				1.30
8X80	371	3.09				1.55
8X96	430	3.58				1.79
16X64	548	4.56				2.28
16X80	737	6.14				3.07
24X64	855	7.12	4.18	2.94		3.56
24X80	1103	9.19	4.77	4.42		4.59

NOTE:
120/240 VAC, 3 WIRE PLUS GND. IS NOT AVAILABLE ON THESE DISPLAY SIZES.

NOTES:

- ALL DIMENSIONS ARE IN INCHES.
- DISPLAY CABINET IS ALUMINUM.
- DISPLAY CABINET COLOR IS FLAT BLACK.
- DISPLAY L.E.D. IS RED-GREEN (TRI-COLOR).
- FRONT ACCESS FOR SERVICE.
- LIGHT SENSOR IS LOCATED ON THE FRONT OF THE DISPLAY.
- THE DISPLAY IS BOTTOM VENTILATED.
- MINIMUM BOTTOM CLEARANCE IS 3.00".
- MINIMUM TOP CLEARANCE IS 1.25".
- MAIN ELECTRICAL DISCONNECT TO BE FURNISHED BY CUSTOMER.
- FOR POWER AND SIZE AND APPROX. WEIGHTS SEE ABOVE TABLE.
- THE DISPLAY IS ETL LISTED.
- DAKTRONICS INC. IS NOT RESPONSIBLE FOR HARDWARE ATTACHING DISPLAY TO STRUCTURE.
- REFER TO INSTALLATION ENGINEERING DOCUMENT FOR MOUNTING TEMPERATURE SENSOR (EP-12717).
- VENTILATION IN ENCLOSED CABINET SITUATION, 6 SQUARE INCHES OF UNOBSTRUCTED OPENING PER MODULE MUST BE PROVIDED TO INSURE ADEQUATE DISPLAY COOLING. ALLOWANCES MUST BE MADE TO COMPENSATE FOR THE PERCENTAGE OF A MATERIAL COVERING THE OPENINGS IN THE STRUCTURE. FOR ADEQUATE COOLING, FORCED VENTILATION OF THE ENCLOSED STRUCTURE MAY BE REQUIRED. IF AIR MUST BE FORCED INTO THE ENCLOSED CABINET, 10 CUBIC FEET PER MINUTE MUST BE PROVIDED PER MODULE (10.6" X 10.6" ACTIVE AREA).
- CUSTOMER IS RESPONSIBLE FOR THE STRUCTURAL INTEGRITY OF THE STRUCTURE THAT THE DISPLAY IS MOUNTED TO.
- CANNOT MOUNT THROUGH THE FILTERS ON THE BOTTOM ON THE DISPLAY.

LIFTEYES FACTORY INSTALLED BY DAKTRONICS TO ASSIST IN INSTALLATION. EYEBOLTS MAY BE REMOVED AND REPLACED WITH A 1/2-13 BOLT. IF REPLACED, HOLES MUST BE ADEQUATELY SEALED.



DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: 34mm MATRIX DISPLAYS

TITLE: SHOP DWG: AF-3060-RG-9

DES. BY: NANDAL

REVISION

APPR. BY: BSAVARI

SCALE: 1=25

DATE: 21DEC00

1215-E10A-141943

REV.	DATE	DESCRIPTION	MDM	APPR.
01	07FEB02	ADDED 8X48 AND 8X96 TO THE STANDARD LIST. ADDED NOTES 4, 6, 12, AND 17.		