



Auto Racing Display Model CH-1018V

Installation & Maintenance Manual

ED-7029

ED 7029

Project#1081

Rev. 2 - 18 August 1998

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DAKTRONICS, INC.

Setting New Standards Worldwide

P.O. Box 5128 331 32nd Ave. Brookings, SD 57006



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Section 1: Introduction

1.1 How To Use This Manual

This manual explains the installation and maintenance of the Daktronics CH-1018V auto racing display system. Setup of other control equipment or operation of the CHTS-300 timing console are not covered in this manual. 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.

Important Safeguards:

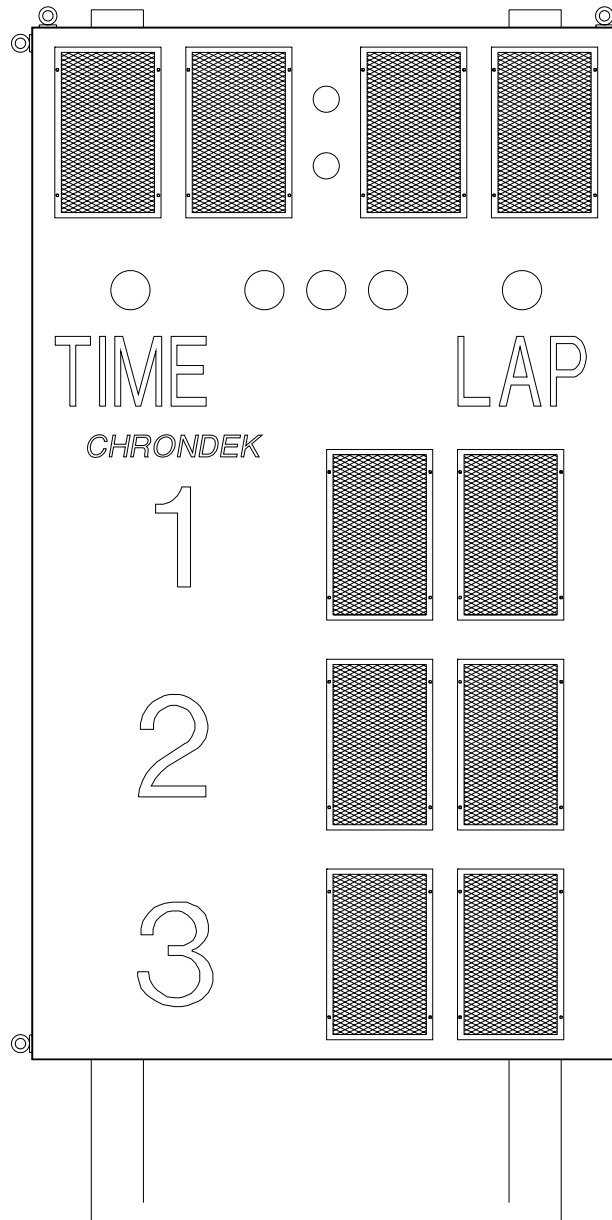
1. Read and understand these instructions before installing.
2. Do not drop the control console or allow it to get wet.
3. Be sure the display is properly grounded with a ground rod at the display location.
4. *Disconnect power to the display when it is not in use.*
5. *Disconnect power when servicing the display.*
6. Do not modify the display structure or attach any panels or coverings to the display without the written consent of Daktronics, Inc.

The box below illustrates Daktronics drawing numbering system. The drawing number “7087-P08A-69945” is how Daktronics identifies individual drawings. This number is located in the lower-right corner of the drawing. This manual refers to drawings 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**. Referenced drawings are inserted at the *end of the first section which references them*.

1.2 Display Overview

Reference Drawing: Display, CH-1018V **Drawing A-55691**

Drawing A-55691 shows a Daktronics CH-1018V auto racing display system. The CH-1018V display along with the use of the Daktronics CHTS-300 timing console will display the lap number or lap time and the first three car positions.



OVERALL DIMENSIONS: 119" H x 68" W x 6" D

WEIGHT: 275 LBS

POWER REQUIREMENTS: 120/240 VAC, 40 AMPS PER LINE

MAXIMUM POWER DEMAND: 6425 WATTS WITH 30W FROSTED LAMPS.

DIGITS ARE 18" HIGH, 4 x 7 MATRICES.

LAP & TIME INDICATOR LAMPS ARE 55W FLOOD LAMPS.

RACE STATUS INDICATOR LAMPS ARE 85W MISER FLOOD LAMPS.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: CHRONDEK			
TITLE: DISPLAY, CH-1018V			
DES. BY:		DRAWN BY: C FICKBOHM	
		DATE: 17 MAR 93	
REVISION	APPR. BY:	1081-R08A-55691	
	SCALE: 1=20		

REV.	DATE	DESCRIPTION	BY	APPR.

Section 2: Installation

2.1 General System

Reference Drawings:

Driver Enclosure, Power & Signal	Drawing A-37915
Color Code, 25-Pin J-Box	Drawing A-47207
System Layout, CH-1018V.....	Drawing A-55692
Footings & Beams, CH-1018V	Drawing A-55694
Display Mounting, CH-1018V.....	Drawing A-55695
Electrical Installation, CH-1018V	Drawing A-55699
Component Locations, CH-1018V	Drawing A-55700

Refer to **Drawing A-55692** for a general system layout.

The general procedure for installing the CH-1018H display is as follows:

1. Select beam and footing recommendations from the table below.
2. Dig the footing holes and install beams and footings.
3. Route power and signal cables to the display and control locations.
4. Mount the displays to the beams as described in **Section 2.3** and **Drawings A-55694** and **A-55695**.
5. Route power and signal wires into the displays as described in **Section 2.4** and **Drawings A-37915, A-47207, A-55699, and A-55700**.

2.2 Beam and Footing Selection

Reference Drawing: Footings & Beams, CH-1018V **Drawing A-55694**

The table below contains recommendations for W-shape beams and footings to support the display as shown in **Drawing A-55694**. The first column is wind velocity in miles per hour. The distance in the second column is from the ground to the bottom of the display. The choice from these columns depends upon the display location.

The beams listed below are beams which provide maximum wind load strength for the weight and cost of the beams.

Wind Speed	Height (ft)	Beam Section	Footing Depth x Dia.
70 mph	10	W8 x 15	4 ¾ ft x 3 ft
	15	W6 x 20	5 ½ ft x 3 ft
80 mph	10	W8 x 15	5 ½ ft x 3 ft
	15	W8 x 20	6 ¾ ft x 3 ft
90 mph	10	W8 x 17	6 ¼ ft x 3 ft
	15	W8 x 24	7 ft x 3 ft

The calculations for footing diameters and depths are based on the assumption that footings are in undisturbed soils, *not fill soils*. Lateral bearing capacity of 300 psf per foot of depth in natural grade was used to derive these figures.

The footing recommendations are based on the allowable soil bearing pressure of 3000 psf vertically and 300 psf/ft of depth horizontally. However, these recommendations *are suggestions only* and soil bearing pressure at the site must be determined by a sample test prior to specifying actual footings. Be sure that the installation complies with local codes and is suitable for the particular soil and wind conditions. *Daktronics assumes no responsibility for structures installed by others.* Daktronics recommends that W-sections of grade 35 steel be used for beams, and that 28-day (strength 3000 psi) concrete be used for footings.

A note about beam nomenclature: For a typical beam, W6 x 12 for example "W" stands for "Wide-Flange Beam". The first number (6) is the approximate front to rear dimension of the beam in inches. The second number (12) is the weight per foot in pounds. This numbering is a standard in the steel industry. Widths are from 6.00 to 8.00 inches in the chart above.

2.3 Display Mounting

Reference Drawings: Footings & Beams, CH-1018V **Drawing A-55694**
Display Mounting, CH-1018V..... **Drawing A-55695**

Drawings A-55694 and **A-55695** show the typical mounting for the display.

Note: The bolts that secure the display sections do not go through the beams, but run along both sides of the beam, clamping the display to the beams.

A mounting kit consisting of mounting angles and 1/2" hardware are provided to mount the display.

1. Position the display against the mounting beams and secure the bottom of the display to both beams as shown in **Drawing A-51757**.
2. Next, secure the top of the display. Once mounting angles are attached, the display may be slid up or down to the desired height.
3. Once positioned as desired, tighten all bolts.

2.4 Electrical Installation

2.4.1 Control Signal Cable

Reference Drawings: Driver Enclosure, Power & Signal.... **Drawing A-37915**
Color Code, 25-Pin J-Box **Drawing A-47207**
Component Locations, CH-1018V ... **Drawing A-55700**

For the display, two conductors of 24 AWG are needed. For distances up to 600 ft. or 22 AWG, up to 1000 ft. are required. Daktronics has 24 AWG direct burial cable, Daktronics part no. W-1105 with 6 conductors, and 22 AWG cable that must be pulled through the conduit before burial, Daktronics part no. W-1077 with 2 conductors.

At the control location, mount the signal J-box to a convenient location. Route the cables and connect to the wires leading from the connector in the cover according to the following table and **Drawing A-47207**.

At the display, open the bottom hinged panel covering the entrance enclosure as shown on **Drawing A-55700**. Remove the cover from the entrance enclosure. Refer

to **Drawing A-37915** for an illustration of the components inside the entrance enclosure. Connect the signal wires to TB31 as indicated in the table below.

Control End			Display End
J-box Terminal No.	Wire Color	Output No.	TB31 Terminal No.
14	Red/Wht	1*	1 (+)
15	Grn/Wht		2 (-)

*Auxiliary display(s) require(s) a different output no.(s). Consult your CHTS-300 console manual.

2.4.2 Power Wiring

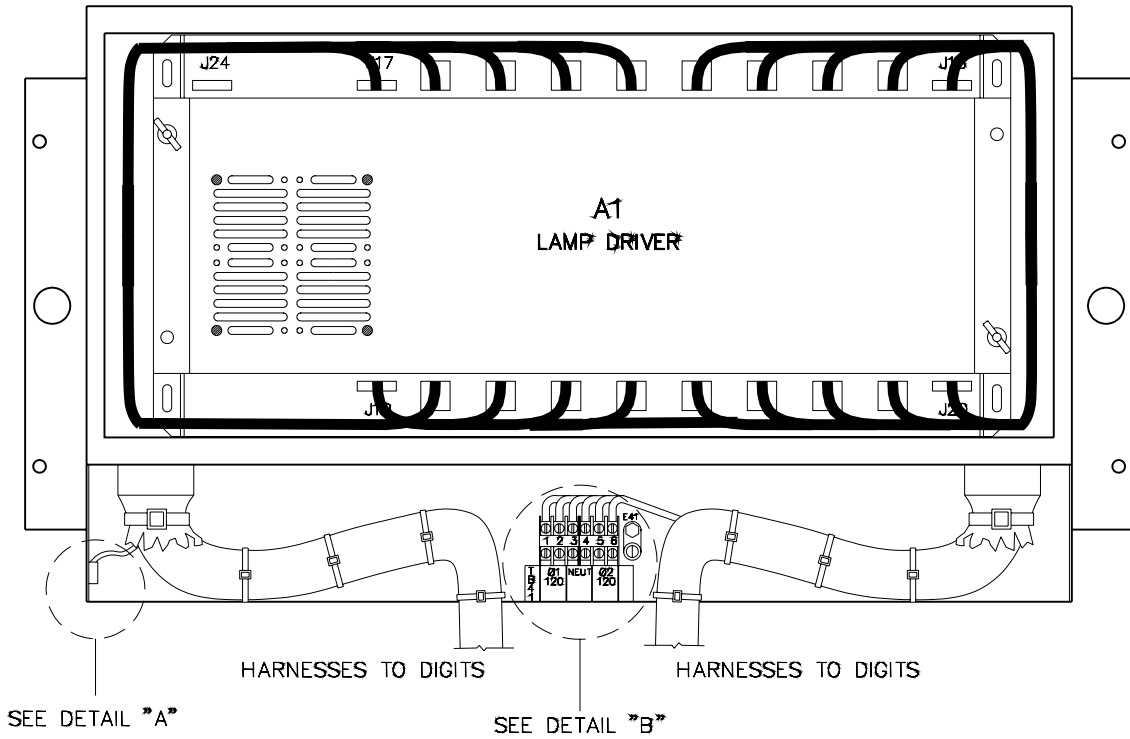
Reference Drawings: Driver Enclosure, Power & Signal.... **Drawing A-37915**
Electrical Installation, CH-1018V..... **Drawing A-55699**

A 120/240 VAC circuit (two hot lines, one neutral, plus a ground) must be run into a load center. Refer to **Drawing A-55699**. With all lamps lighted, this display is capable of drawing a maximum of 40 amps on one line and 14 amps on the other line.

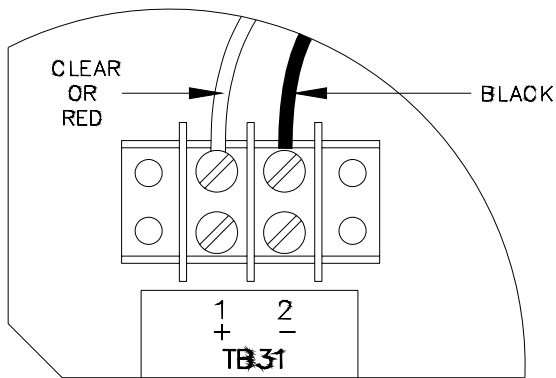
Route four “hot,” two “neutral,” and one “ground” wire, 12 AWG from the load center (refer to **Drawing A-55699**) to the driver enclosure (refer to **Drawing A-37915**) in the display. Refer to **Drawing A-37915** for component locations at the driver. Connect the ground wire to terminal E41. Connect the two neutral wires to TB41-3 and TB41-4. Connect the hot wires to the load center and the display as in the example below.

Load Center Breaker No.	Display Terminal No.
1	TB41-1
2	TB41-2
3	TB41-5
4	TB41-6

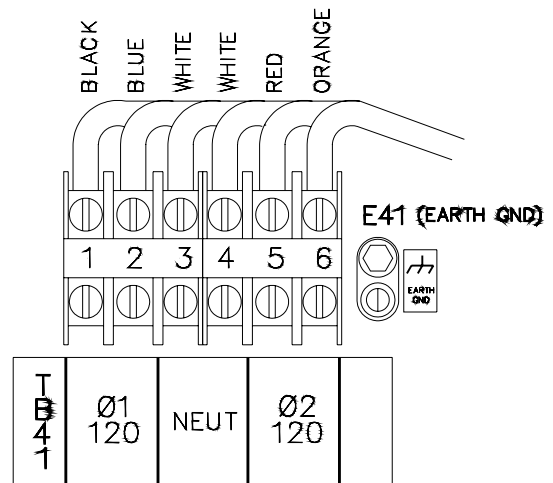
Note: Breaker numbers are suggestions only and may be assigned as required. The objective is to have TB41-1 and TB41-2 on line 1. TB41-5 and TB41-6 should be on line 2.



FRONT VIEW (COVER REMOVED)



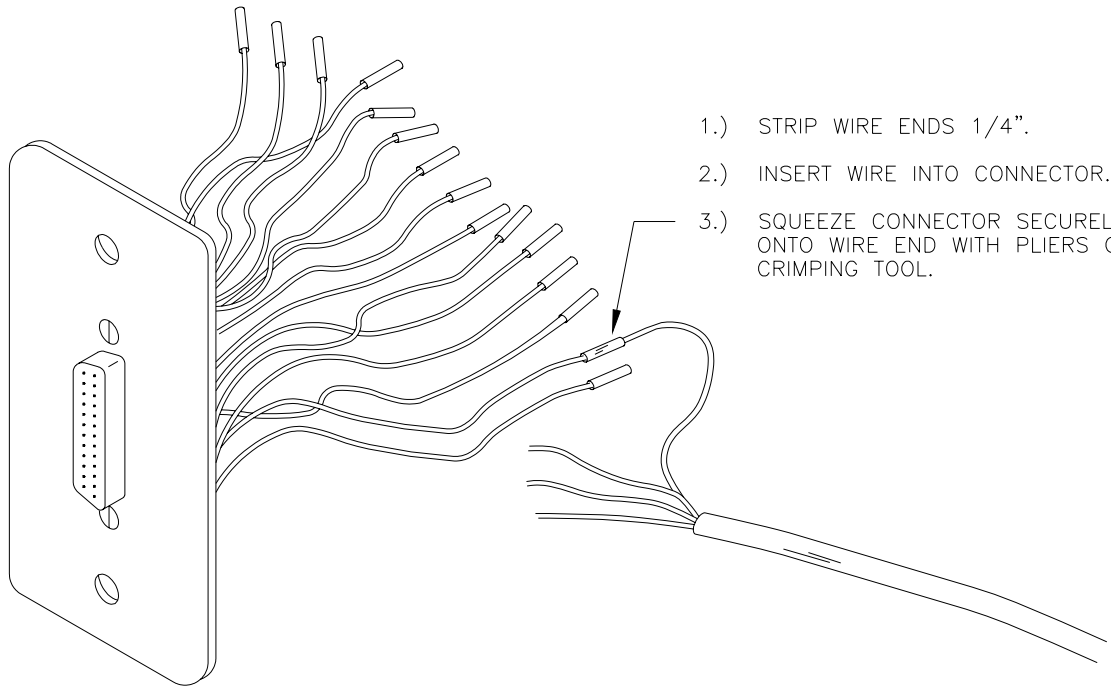
D
A
DETAIL "A" (SIGNAL)



D
B
DETAIL "B" (POWER)

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: CHRONDEK DISPLAYS			
TITLE: DRIVER ENCLOSURE, POWER & SIGNAL			
DES. BY: T. WOODARD		DRAWN BY: T. WOODARD	
DATE: 10 MAY 89			
REVISION	APPR. BY:	1081-R08A-37915	
SCALE:	1=5		

1	8 MAR 91	ADDED E41 AND CHANGED FROM "B" TO "A" SIZE DWG.	CF	CF
REV.	DATE	DESCRIPTION	BY	APPR.

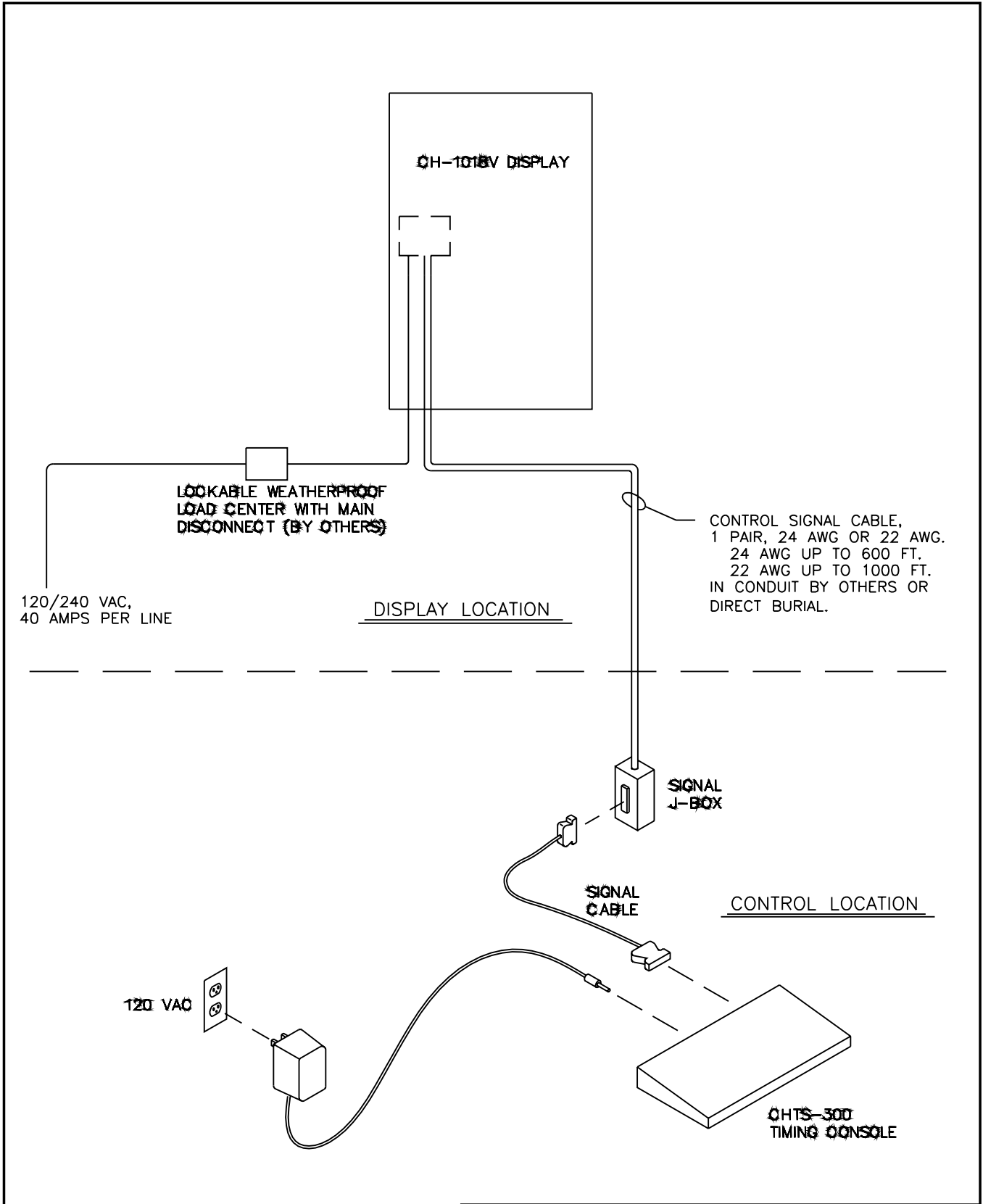


- 1.) STRIP WIRE ENDS 1/4".
- 2.) INSERT WIRE INTO CONNECTOR.
- 3.) SQUEEZE CONNECTOR SECURELY ONTO WIRE END WITH PLIERS OR CRIMPING TOOL.

PIN NO.	WIRE COLOR	FUNCTION	
1	BLACK	PHOTO 1-N	PHOTOCELL POWER INPUTS
2	WHITE	PWR 1-P	
3	RED	GND 1-N	
4	GREEN	PHOTO 2-N	
5	ORANGE	PWR 2-P	
6	BLUE	GND 2-N	
7	WHITE/BLACK	PHOTO 3-N	
8	RED/BLACK	PWR 3-P	
9	GREEN/BLACK	GND 3-N	
10	ORANGE/BLACK	PHOTO 4-N	
11	BLUE/BLACK	PWR 4-P	
12	BLACK/WHITE	GND 4-N	
14	RED/WHITE	1 SIG-P	SCOREBOARD SIGNAL OUTPUTS
15	GREEN/WHITE	1 SIG-N	
16	BLUE/WHITE	2 SIG-P	
17	BLACK/RED	2 SIG-N	
18	WHITE/RED	3 SIG-P	
19	ORANGE/RED	3 SIG-N	
22	BLUE/RED	4 SIG-P	
23	RED/GREEN	4 SIG-N	
13	ORANGE/GREEN	NOT USED	THESE PINS TYPICALLY NOT USED BY CHTS TIMER
20	BLK/WHT/RED	NOT USED	
21	WHT/BLK/RED	NOT USED	
24	RED/BLK/WHT	12 VAC	
25	GRN/BLK/WHT	12 VAC	

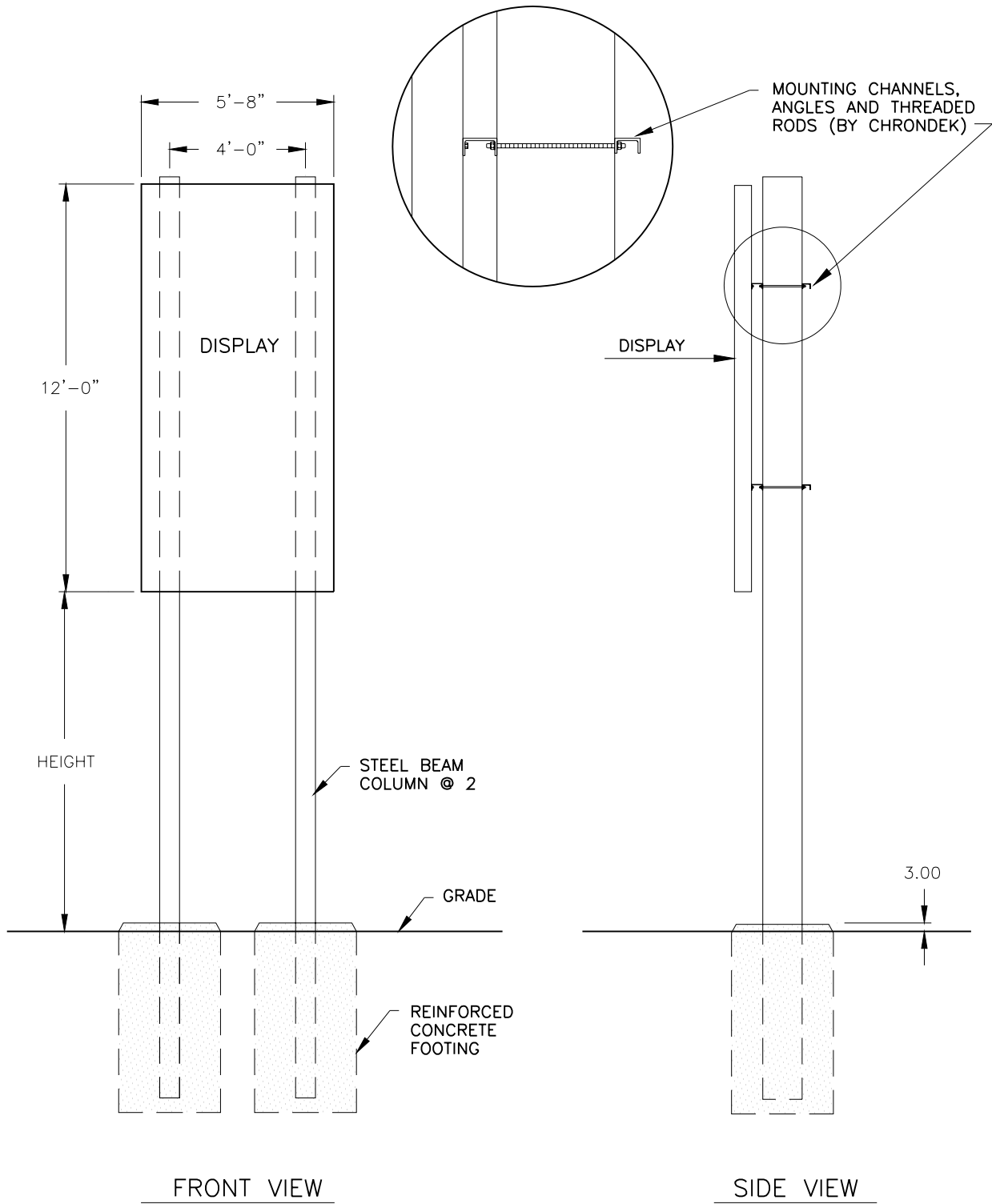
REV.	DATE	DESCRIPTION	BY	APPR.
2	10MAR97	ADDED WIRES TO PINS 13,20,21,24,25	EB	
1	4 JUN 92	CHANGED "SIGNAL INPUTS" TO "SIGNAL OUTPUTS"	C FICK	

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: CHRONDEK		TITLE: COLOR CODE, 25-PIN J-BOX	
DES. BY: CF		DRAWN BY: CF	
DATE: 1 MAY 91			
REVISION	APPR. BY: AVB	1067-R10A-47207	
	SCALE: 1=2		



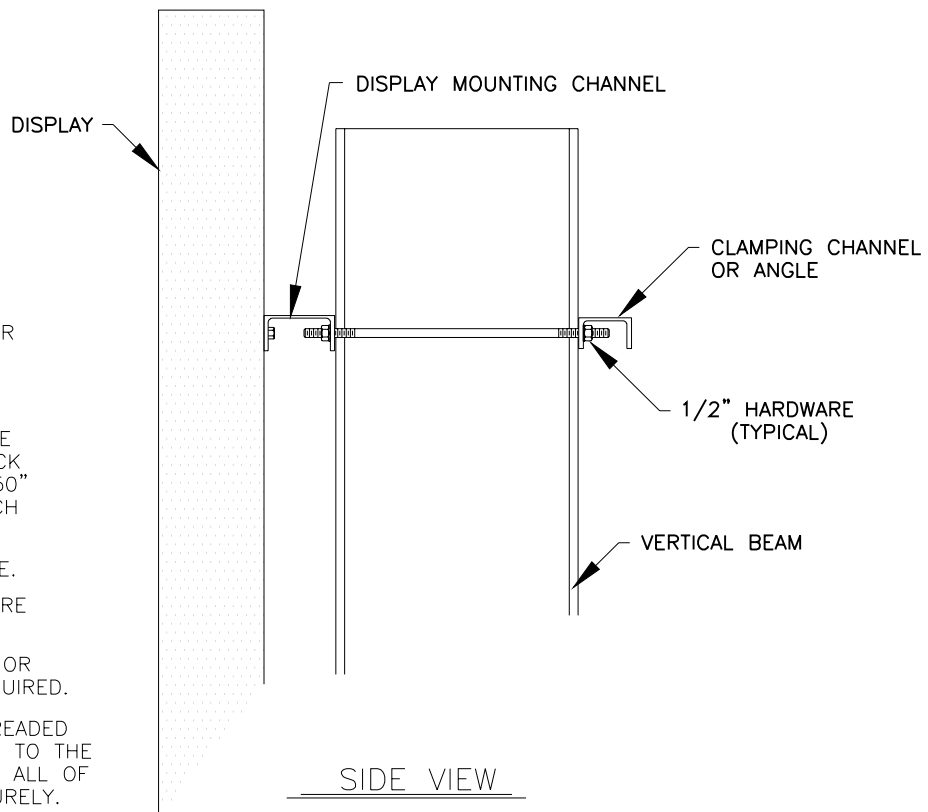
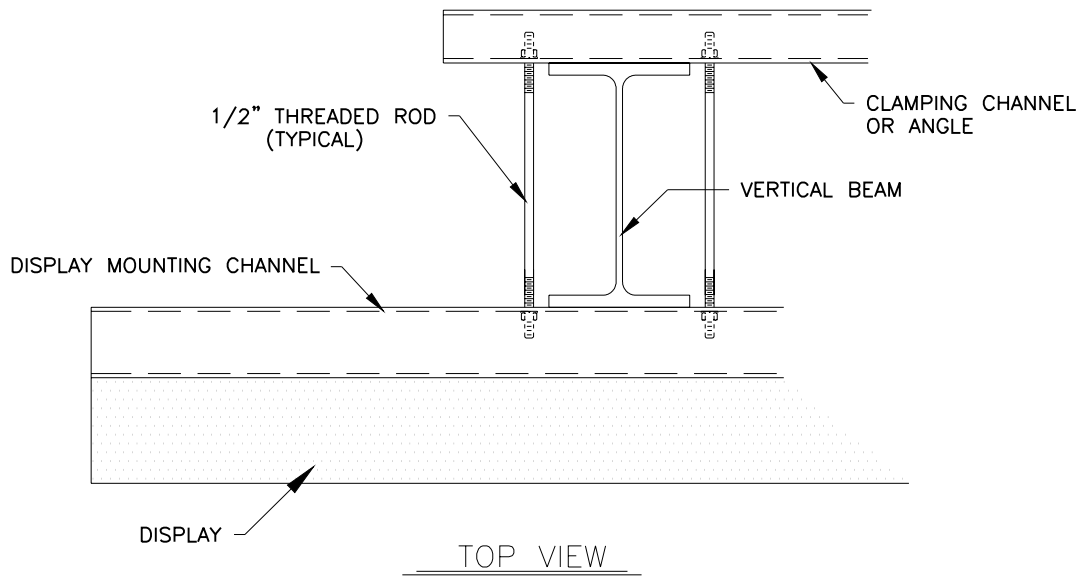
DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: CHRONDEK	
TITLE: SYSTEM LAYOUT, CH-1018V	
DES. BY:	DRAWN BY: C FICKBOHM DATE: 17 MAR 93
REVISION	APPR. BY:
	SCALE: NONE
1081-R08A-55692	

1	25 MAY 93	REMOVED LOCKABLE SAFETY DISCONNECT. ADDED MAIN DISCONNECT TO LOAD CENTER.	C FICK	
REV.	DATE	DESCRIPTION	BY	APPR.



DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: CHRONDEK	
TITLE: FOOTINGS & BEAMS, CH-1018V	
DES. BY:	DRAWN BY: C FICKBOHM DATE: 17 MAR 93
REVISION	APPR. BY:
	SCALE: 1=50
1081-R08A-55694	

REV.	DATE	DESCRIPTION	BY	APPR.

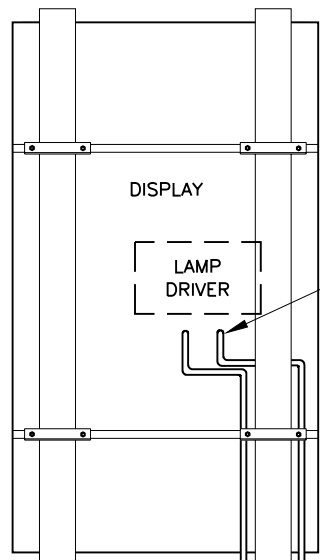


MOUNTING INSTRUCTIONS

- 1.) LOCATE WHERE THE CENTER OF THE VERTICAL BEAMS WILL BE ON THE BACK OF THE DISPLAY.
- 2.) DRILL 9/16" HOLES IN THE MTG CHANNEL ON THE BACK OF THE DISPLAY 3.50"-4.50" FROM THE CENTER OF EACH BEAM.
- 3.) LIFT THE DISPLAY IN PLACE.
- 4.) ATTACH MOUNTING HARDWARE AS SHOWN ABOVE.
- 5.) DISPLAY CAN BE SLID UP OR DOWN TO THE HEIGHT REQUIRED.
- 6.) MAKE SURE THAT THE THREADED RODS ARE PERPENDICULAR TO THE SCOREBOARD AND TIGHTEN ALL OF THE 1/2" HEX NUTS SECURELY.

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: CHRONDEK	
TITLE: DISPLAY MOUNTING, CH-1018V	
DES. BY:	DRAWN BY: C FICKBOHM DATE: 18 MAR 93
REVISION	APPR. BY:
	SCALE: 1=10
1081-R08A-55695	

REV.	DATE	DESCRIPTION	BY	APPR.



NOTE
 12 AWG MINIMUM WIRE IS NEEDED FROM THE LOAD CENTER TO THE DISPLAY. CHECK WITH A QUALIFIED ELECTRICIAN FOR CORRECT WIRE SIZE FROM POWER SOURCE TO LOAD CENTER.

KNOCKOUTS FOR 1/2" CONDUIT PROVIDED.

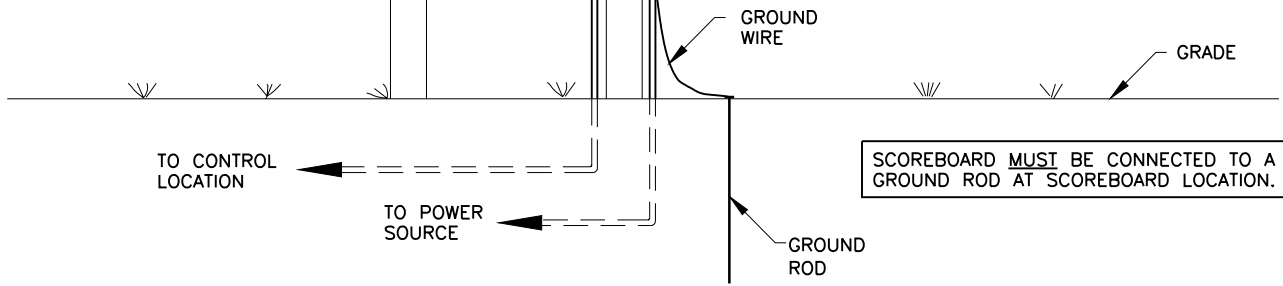
POWER WIRES FOR (4) 120/240V, 20A BREAKERS PLUS GROUND, 12 AWG MINIMUM. (BY OTHERS)

LOCKABLE WEATHERPROOF LOAD CENTER WITH MAIN DISCONNECT (BY OTHERS)

BRING POWER WIRES INTO LOAD CENTER, 120/240V, 40A, 3-WIRES PLUS GROUND.

SIGNAL CABLE, 1 PAIR, 24 AWG OR 22 AWG, IN CONDUIT BY OTHERS OR DIRECT BURIAL. 24 AWG UP TO 600 FT. 22 AWG UP TO 1000 FT.

REAR VIEW



SCOREBOARD MUST BE CONNECTED TO A GROUND ROD AT SCOREBOARD LOCATION.

DAKTRONICS, INC. BROOKINGS, SD 57006

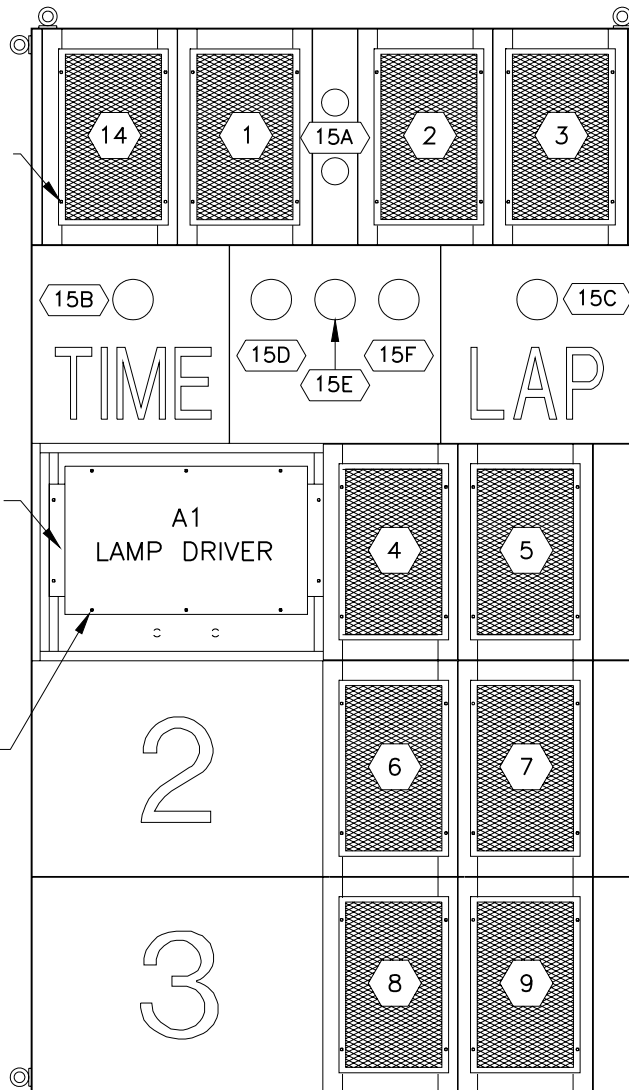
PROJ:	CHRONDEK
TITLE:	ELECTRICAL INSTALLATION, CH-1018V
DES. BY:	C FICKBOHM
DATE:	18 MAR 93
REVISION	APPR. BY:
	SCALE: 1=40
1081-R10A-55699	


1	25 MAY 93	REMOVED LOCKABLE SAFETY DISCONNECT. CHANGED LOAD CENTER TO LOCKABLE WITH MAIN DISCONNECT.	C FICK	
REV.	DATE	DESCRIPTION	BY	APPR.


REMOVE (4) SCREWS TO REMOVE SCREENS FOR LAMP ACCESS.

HINGED PANEL REMOVED TO SHOW LAMP DRIVER LOCATION.

REMOVE (6) SCREWS TO ACCESS LAMP DRIVER AND POWER AND SIGNAL ENTRANCE COMPONENTS.



 = LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT.

 = LAMP DRIVER CONNECTOR AND PIN NUMBER WIRED TO THAT INDICATOR.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: CHRONDEK			
TITLE: COMPONENT LOCATIONS, CH-1018V			
DES. BY:		DRAWN BY: C FICKBOHM	
		DATE: 18 MAR 93	
REVISION		APPR. BY:	
		SCALE: 1=20	
1081-R08A-55700			

REV.	DATE	DESCRIPTION	BY	APPR.

Section 3: Maintenance & Troubleshooting



IMPORTANT NOTES:

1. Disconnect power 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. Disconnect power when the display is not in use.

3.1 Lamp Replacement

Reference Drawing: Digit Service **Drawing A-27674**

The primary service required by the CH-1036H display is to replace burned-out lamps. Refer to **Drawing A-27674** for an illustration of how to access the digit lamps for replacement. Standard replacement lamps for the digits are 120V, 25W frosted medium base and may be obtained at your local store or directly from Daktronics, part number DS-1029. Some displays may be equipped with 120V, 30W reflector type 30R20 lamps, Daktronics part number DS-1126.

The Lap/Time indicators use 120V, 55W clear flood lamps, type 55PAR38, Daktronics part no. DS-1101.

The status indicators use 120V, 85W flood lamps, type 85PAR38. The Daktronics part numbers are as follows:

Color	Part Number
Amber	DS-1184
Green	DS-1185
Red	DS-1186

Do not use lamps larger than those originally installed in the display. Using higher power lamps will likely cause fuse failures in the display and could exceed the current levels that the display's circuits can safely handle.

3.2 Lamp Driver

Reference Drawings: Lamp Driver, 16 col. w/ Fan..... **Drawing A-37070**
Component Locations CH-1018V **Drawing A-55700**

In the display, the task of switching lamps on and off is performed by the lamp driver. **Drawing A-55700** in **Section 2** shows the location of the lamp driver in the display. **Drawing A-37070** is an illustration of the lamp driver and the fuses located in it. The lamp driver has 21 connectors, providing power and signal inputs and outputs to digits. The functions of these connectors are as follows:

Connector Number	Function
1-16	Outputs to digits
17	Signal Input
18	Power input for outputs 1-8 (120 V)
19	Power input for driver logic and fan (120V)
20	Power input for outputs 9-16 (120V)
24	Dim option selector

In **Drawing A-55700**, the numbers on the digits refer to the lamp driver output connector wired to each digit.

3.3 Digit Segmentation

Reference Drawing: Segments, 4x7 Lamp Matrix Digit..... **Drawing A-37685**

In a digit certain lamp always go on and off together. These groupings of lamps are known as "segments". Each digit has eight segments, referred by letters A through H. **Drawing A-37685** illustrates these segments and shows which connector pin and wire color is wired to each segment.

3.4 Schematic

Reference Drawings: Driver Enclosure, Power & Signal **Drawing A-37915**
Schematic, Pwr & Sig, 1421-H..... **Drawing A-38788**

The schematic diagram in **Drawing A-38788** shows the power and signal inputs into the display and to the lamp driver. The component numbers correspond to those shown in **Drawing A-37915**.

3.5 Troubleshooting

Observed Problem	Possible Cause
One lamp won't light	<ul style="list-style-type: none"> • Burned-out lamp • Broken wire behind digit
Digit segment won't light	<ul style="list-style-type: none"> • Broken wire • Poor contact at driver connector • Internal driver malfunction
Entire digit won't light	<ul style="list-style-type: none"> • Broken wire (black) • Poor contact at connector, pin 7 • Fuse blown in driver
Half the display won't light	<ul style="list-style-type: none"> • Service breaker tripped • Main fuse blown • Poor contact at main power connection • P18 disconnected
Entire display won't light	<ul style="list-style-type: none"> • Power disruptions • Poor signal connection • Driver logic fuse blown • Control not connected to display • P20 disconnected

Segment stays lit	<ul style="list-style-type: none"> • Broken wire behind digit • Internal driver malfunction
Garbled display	<ul style="list-style-type: none"> • Control malfunction • Internal driver malfunction

If a problem is observed in one digit, the cause may be isolated by swapping plugs on the driver (connect the plug from the digit into a different jack). If the same digit shows the same problem, the cause may be in the digit or the wiring. If the problem moves to another digit, then the cause is probably an internal driver problem.

Use a volt meter at driver inputs to determine if power is being supplied to the driver. An ohmmeter can be helpful in finding broken wires and bad connections. Internal electronic problems must be corrected by Daktronics or an authorized service center.

3.6 Replacement Parts

Part Name or Description	Type	Part Number
Lamp Driver		0A-1033-0122
J-Box, CHTS-300 Timer		0A-1067-0056
Fuse, Lamp Driver 10A	AGC-10	F-1006
Fuse, Driver Logic, 1/2A	AGC-1/2	F-1000
Digit Lampbank, 18" 4x7		0A-1027-0068
Digit Screen, 18" 4x7		0S-1064-0001
Socket, Med. Base		X-1046
Lamp, 25W Frosted		DS-1029
Lamp, 30 W Reflector	30R20	DS-1126
Lamp, 55W Clear Flood	55PAR38	DS-1101
Lamp, 85W Amber Flood	85PAR38	DS-1184
Lamp, 85W Green Flood	85PAR38	DS-1185
Lamp, 85W Red Flood	85PAR38	DS-1186

3.7 Unit Exchange/Replacement Procedure

Daktronics unique exchange program offers our clients the quickest, most economical way of receiving product repairs. If a component fails, Daktronics will send the customer a replacement. The customer, in turn, sends the failed component to Daktronics. This not only saves money but decreases the time the display is inoperable. Daktronics offers repair and return on a timely basis; in urgent situations, every attempt is made to ship by the fastest transit method available.

1. **Packaging for Return:** Package and pad the item well to prevent damage during shipment. Electronic components, such as printed circuit boards, should either be installed in an enclosure or placed in an anti-static bag before boxing.

Please enclose your name and address along with a list of all the symptoms. Please be as specific as possible.

2. **Driver Packaging Instructions:** Drivers should be placed in a static-free enclosure for return shipping. An anti-static convoluted foam packing is available from

Daktronics (part number PK-1135). The shipping box (Daktronics part number PK-1006) should be used along with the foam.

- 3. Where to Send:** Contact your local representative prior to shipment to acquire a Return Material Authorization Number (RMA#). This will speed up the repair of your unit.

When returning defective items under the exchange program, please use the UPS Blue Return Tags found in the package containing the exchange unit sent from Daktronics. This will speed up the transaction and help avoid confusion when the part is returned to Daktronics. **The defective item must be returned within 15 days of receiving a replacement part.** Using the UPS Blue Return Tag immediately will eliminate the possibility of late charges being assessed against your account.

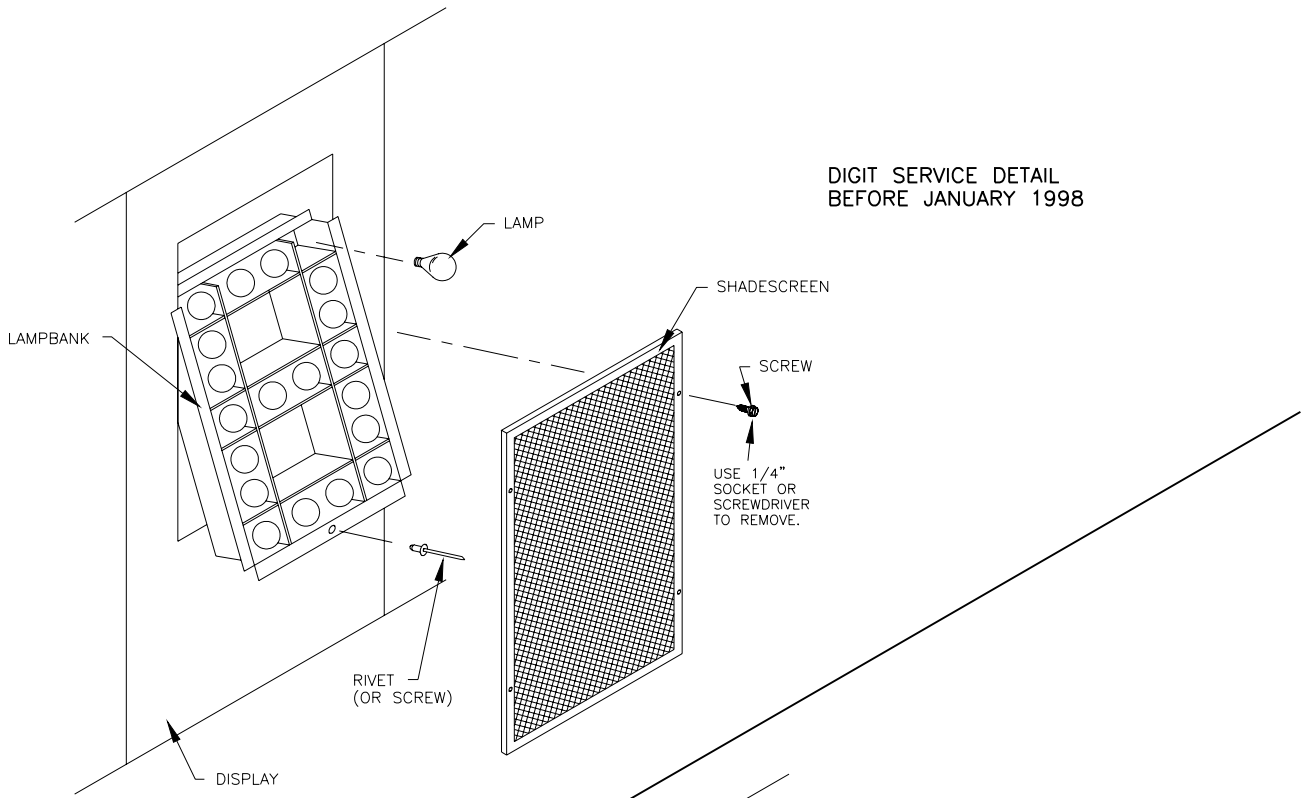
Mail: Daktronics, Inc., Customer Service
PO Box 5128
331 32nd Avenue
Brookings, SD 57006

Phone: Toll Free: 1-800-843-9879
or 1-605-697-4400

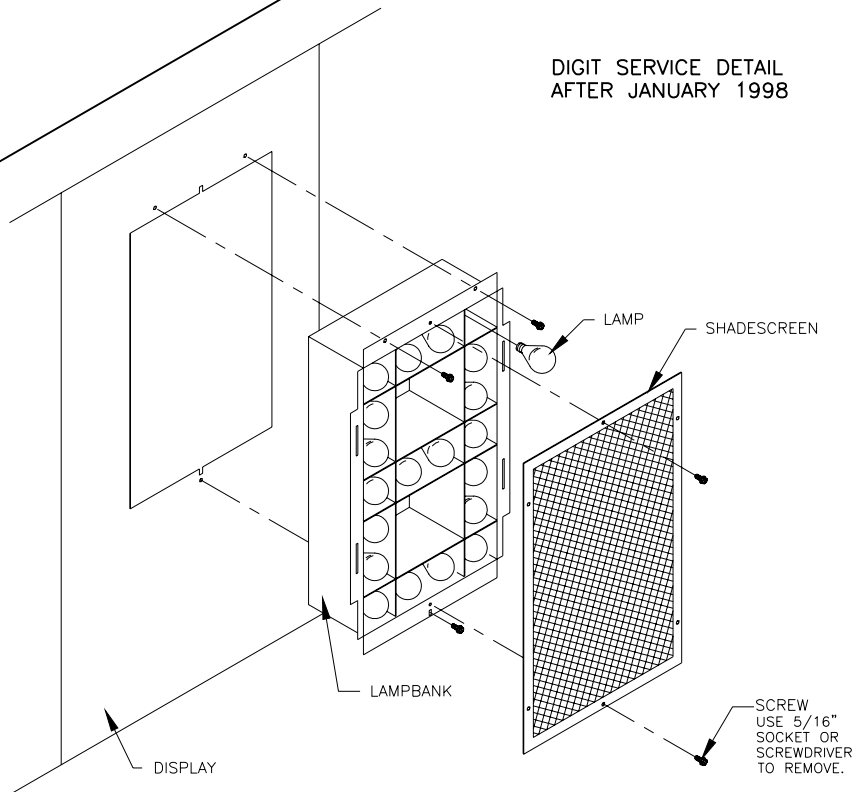
Customer Service Fax: 1-605-697-4444

E-Mail: helpdesk@daktronics.com

DIGIT SERVICE DETAIL
BEFORE JANUARY 1998



DIGIT SERVICE DETAIL
AFTER JANUARY 1998

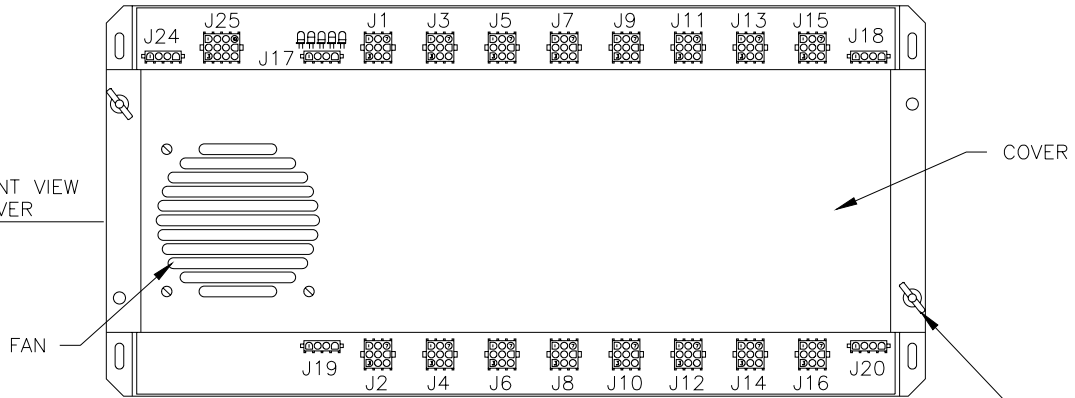


DAKTRONICS, INC. BROOKINGS, SD 57006

REV.	DATE	DESCRIPTION	BY	APPR.
2	10NOV97	ADDED DIGIT SERVICE AFTER JANUARY 1998 CHANGED SCALE FROM 1=10 TO 1=15	BDP	
1	5 MAR 91	CHANGED FROM "B" TO "A" SIZE DWG.	CF	

PROJ: OUTDOOR SCOREBOARDS	
TITLE: DIGIT SERVICE	
DES. BY:	DRAWN BY: TERRY P. DATE: 31 JULY 86
REVISION	APPR. BY:
SCALE: 1=15	1064-E10A-27674

DRIVER FRONT VIEW WITH COVER



REMOVE TWO WING NUTS TO REMOVE COVER AND GAIN ACCESS TO FUSES.

J24			
PIN	FUNCTION	PIN	FUNCTION
1	NETWORK+	7	ADDR 3 -
2	NETWORK-	8	NTW GND -
3	NTWREF-P	9	NTW GND -
4	ADDR 0 -	10	FAN SW HOT
5	ADDR 1 -	11	FAN HOT
6	ADDR 2 -	12	NEUT

J17	
PIN	FUNCTION
1	SIGNAL +
2	SIGNAL -
3	N.C.
4	N.C.

J1 - J16	
PIN	FUNCTION
1	SEG C
2	SEG B
3	SEG A
4	SEG F
5	SEG E
6	SEG D
7	COMMON
8	SEG H
9	SEG G

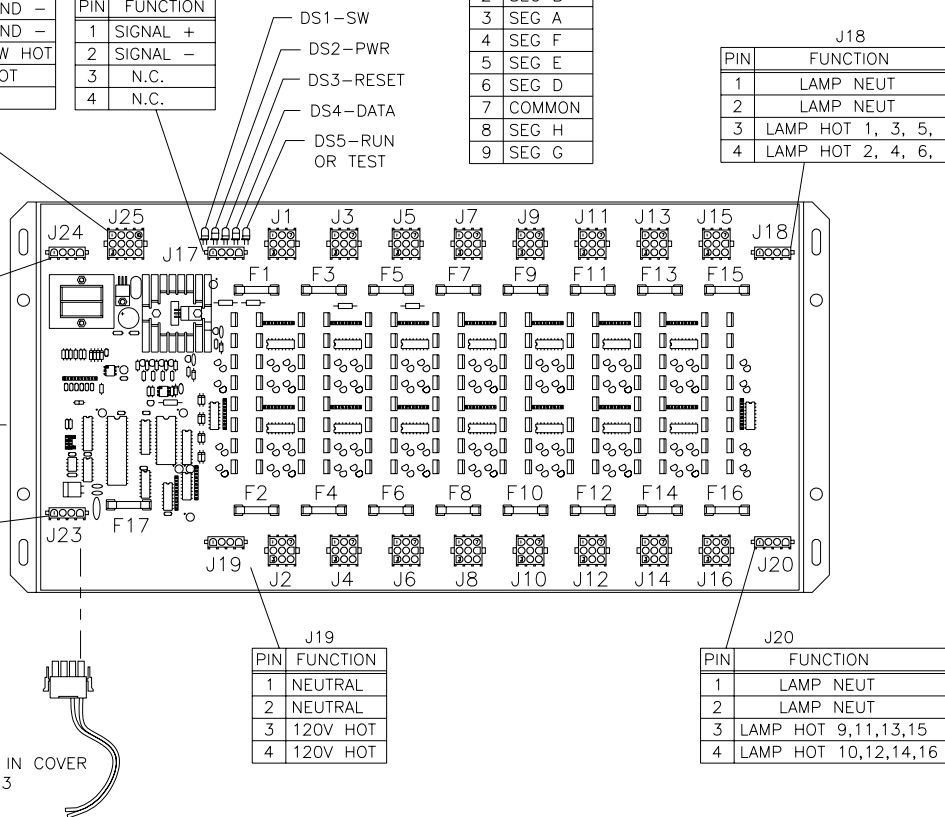
J18	
PIN	FUNCTION
1	LAMP NEUT
2	LAMP NEUT
3	LAMP HOT 1, 3, 5, 7
4	LAMP HOT 2, 4, 6, 8

J24	
PIN	FUNCTION
1	-5V
2	DIM SEL 1
3	-5V
4	DIM SEL 2

DRIVER FRONT VIEW WITH COVER REMOVED

J23	
PIN	FUNCTION
1	FAN SW HOT
2	N.C.
3	FAN HOT
4	NEUT

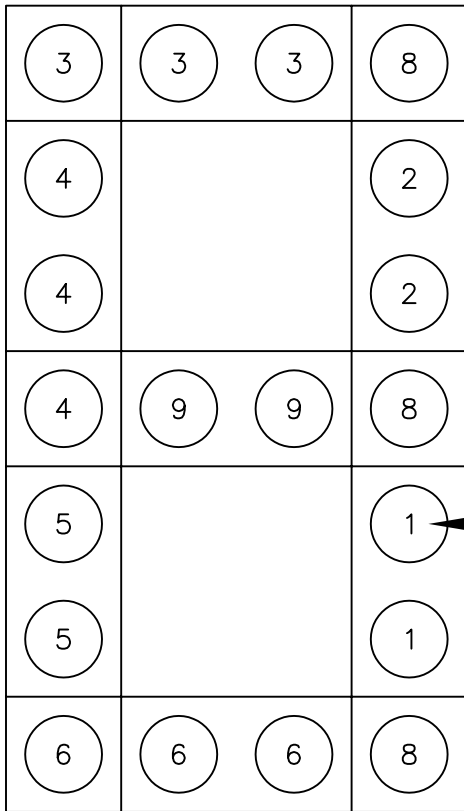
PLUG FROM FAN IN COVER CONNECTS TO J23



F1 THRU F16 ARE TYPE AGC-10, DAKTRONICS PART NUMBER F-1006. F17 IS TYPE AGC-1/2, DAKTRONICS PART NUMBER F-1000

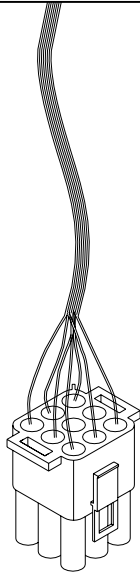
REV.	DATE	DESCRIPTION	BY	APPR.
2	29 APR 97	ADDED TABLES OF PINS AND FUNCTIONS.	AVB	AVB
1	5 MAR 91	CHANGED FROM "B" TO "A" SIZE DWG.	CF	

DAKTRONICS, INC. BROOKINGS, SD 57006				
PROJ: MULTIPLEX CONTROLLERS				
TITLE: LAMP DRIVER, 16 COL., W/FAN				
DES. BY: JLH		DRAWN BY: JLH		DATE: 20 FEB 89
REVISION	APPR. BY:	1033-R04A-37070		
	SCALE: 1=5			



4 x 7 LAMP MATRIX DIGIT

CONNECTOR PIN NUMBER
WIRED TO THAT SEGMENT

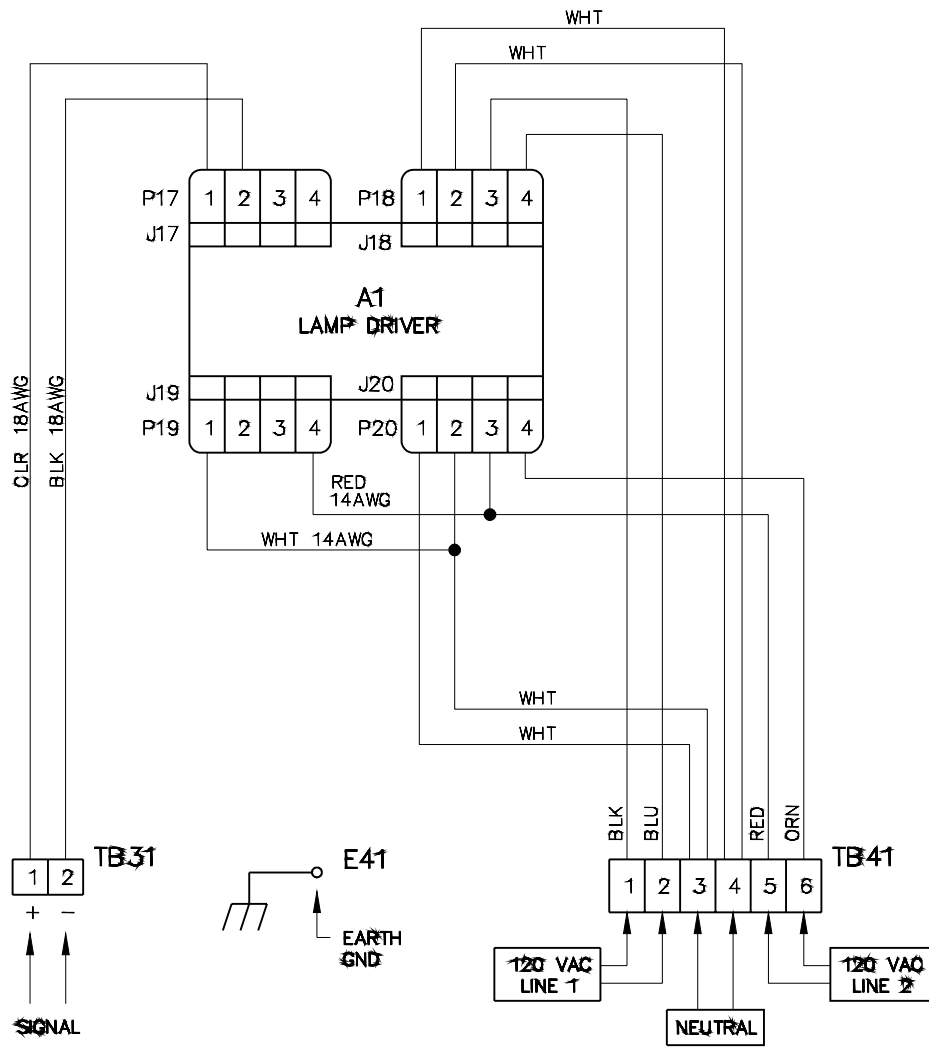


LAMP DRIVER
CONNECTOR

COLOR CODE		
PIN NO.	WIRE COLOR	DRIVER SEGMENT
1	ORANGE	C
2	RED	B
3	BROWN	A
4	BLUE	F
5	GRN OR PNK	E
6	YEL OR TAN	D
7	BLACK	COMMON
8	GRAY	H
9	VIOLET	G

DAKTRONICS, INC. BROOKINGS, SD 57006		
PROJ: OUTDOOR SCOREBOARDS		
TITLE: SEGMENTS, 4 x 7 LAMP MATRIX DIGIT		
DES. BY:	DRAWN BY: AVB	DATE: 18 APR 89
REVISION	APPR. BY:	1064-R04A-37685
	SCALE: 1=1	

1	5 MAR 91	CHANGED FROM "B" TO "A" SIZE DWG.	CF	
REV.	DATE	DESCRIPTION	BY	APPR.



NOTE:
 ALL WIRES ARE 12 AWG UNLESS
 OTHERWISE SPECIFIED.

REV.	DATE	DESCRIPTION	BY	APPR.
10	30APR98	CHANGED MODEL NUMBER FROM CH-21GP TO CH-1421-H & CH-1521-H	RDA	RDA
9	11 MAR 93	REMOVED LIST OF DISPLAY MODELS.	C FICK	
8	01 JUL 92	ADDED MODEL CH-1024V TO NOTE.	TWEBER	
7	18 JUN 92	ADDED CH-1421V, CH-1421GP, CH-1424WB AND CH-36-DS TO LIST OF MODELS.	C FICK	

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: CHRONDEK DISPLAYS	
TITLE: SCHEMATIC; PWR/SIG CH-1421-H & CH-1521-H	
DES. BY:	DRAWN BY: JLH
DATE: 19JUL89	
REVISION	APPR. BY:
SCALE: 1=1	1081-R03A-38788