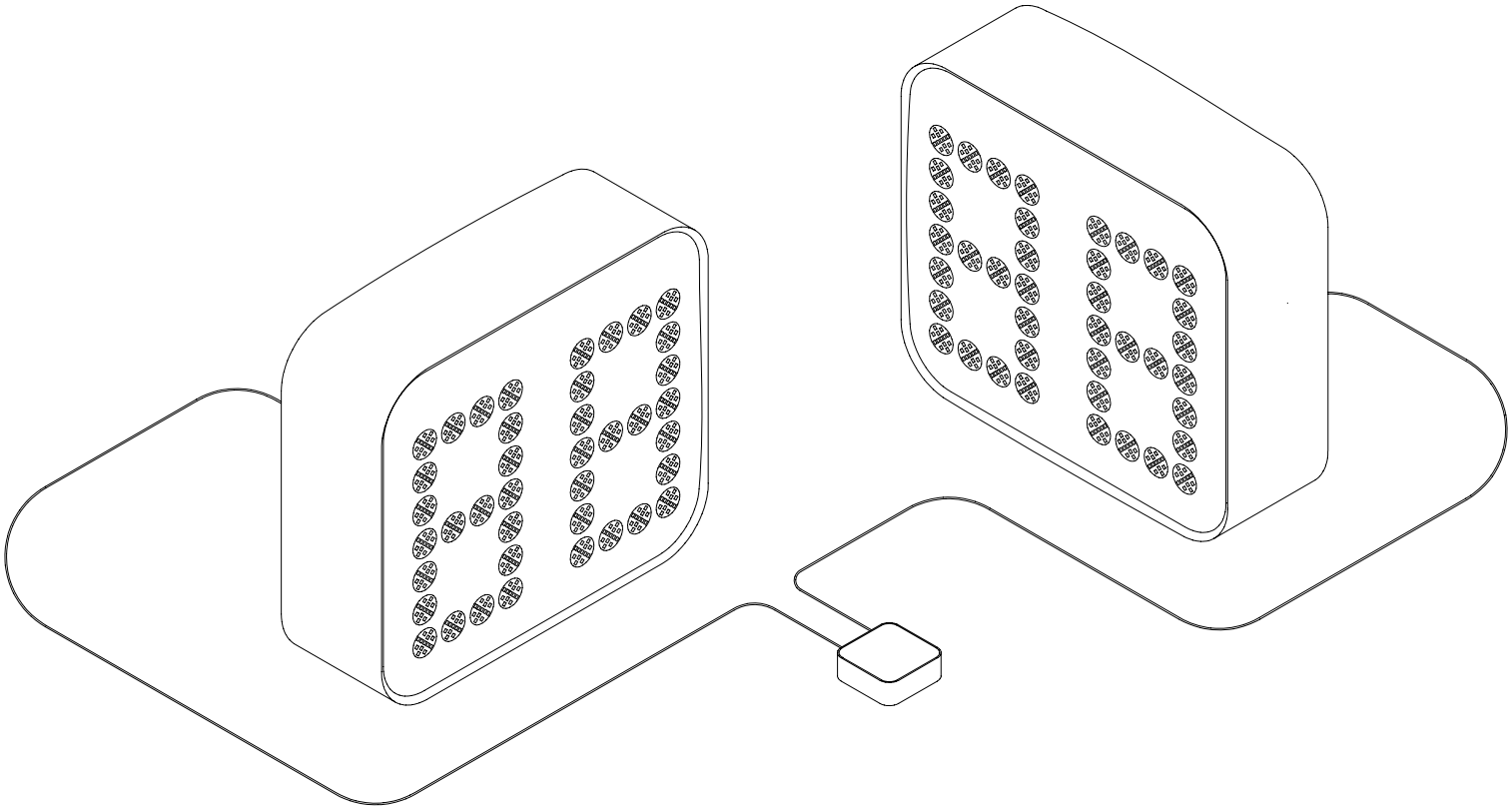
ALL AMERICAN
SCOREBOARDS

A Product of Everbrite 401 S. Main St. Pardeeville, WI 53901 (608)429-2121 / (800)356-8146

OPERATING INSTRUCTIONS AND SERVICE MANUAL

BASKETBALL SHOTCLOCK

MODEL MP-4299



EFFECTIVE S.N. 13121, March 26, 1998

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1. GENERAL INFORMATION

1.1 Description

Your All-American Scoreboard has been carefully inspected and tested before leaving the factory. It is possible, however, that components may be loosened or forced out of adjustment in transit. If this occurs, follow the troubleshooting guide (section 4). If equipment then fails to operate, contact immediately:

ALL-AMERICAN Service Department
EVERBRITE Corporation
P. O. Box 97
Pardeeville, WI 53954
Telephone: (608) 429-2121
Toll Free: 800-356-8146

Parts being returned for repair are to be sent to:

ALL-AMERICAN Service Department
EVERBRITE Corporation
401 South Main Street
Pardeeville, WI 53954

NOTE

If you need to send parts in for repair, please call the ALL AMERICAN service department for a returned goods authorization (RGA) number.

1.2 Identification

All-American uses a 5 digit serial number for scoreboard identification. The serial number tags are located on the back of the control console and the lower right hand corner on the face of the scoreboard. When contacting the factory for assistance it is important that the model and serial numbers are known.

1.3 Damage

Upon receipt, check for visible damage. If this occurs, or if damage is found after shipment has been accepted, follow the damage claim procedure.

1.4 Damage Claim Procedure

An instruction sheet is enclosed advising the Consignee in case of damage in transit.

If damage is noted at time of delivery, Consignee must obtain an Inspection of Bad Order from the delivering carrier. In order to process your claim, this must be properly filled out with a complete statement of all damage and signed by the carrier.

If damage is discovered after delivery, you should call the delivery company. Have them make out a Concealed Damage report. Fifteen days after delivery are allowed, so this should be done PROMPTLY or it is impossible to process this claim.

Advise EVERBRITE Corporation of necessary replacement parts, or repairs. Consignee will be invoiced and then should file a claim with the carrier to recover charges.

TO FILE YOUR CLAIM FOLLOW THIS PROCEDURE:

(A) Cost of replacement parts or repair charges are invoiced to the carrier by the Consignee.

(B) The following documents, plus invoice are forwarded to the Trucking Company in support of your claim:

(a) Original bill of lading.
(b) Original paid freight bill.
(c) Certified copy of original invoice.
(d) Standard form for Presentation of Loss and Damage Claim, properly filled out.

1.5 Care of Equipment

Proper care of the equipment will result in years of reliable service. Misuse, however, will only result in problems. For reliable service make sure that:

When not in use, the control console is stored in a secure area.

Responsible operators are used.

Control cables are routed to prevent possible damage.

Drinks are not spilled on the control console.

Properly grounded outlets or extension cords are used.

The displays are located or installed to prevent damage.

2. INSTALLATION

2.1 General Information

Check shipment and if damaged file damage claim.

Shipping papers accompany each scoreboard. Check carefully to see that you receive the following:

2 ea Basketball Shotclock Displays
1 ea Wall Junction Box
1 ea Control Console
1 ea Service Manual
2 ea Mounting Brackets (If Ordered)
ft Control Cable (If Ordered)

> IMPORTANT!
> The MP-41 cable supplied by ALL AMERICAN SCOREBOARDS for use on the Microprocessor based scoreboards is specifically designed for this system. Use of a substitute cable may void the warranty on the scoreboard!

2.2 Inspection

Inspect each unit and tighten all screws, lamps, and fittings that may have loosened in shipment.

2.3 Pre-Test

Before installing shotclocks, pre-test all functions.

(A) Connect power cords to 15 AMP, 120 Volt AC outlets.
(B) Plug the control console into the displays.
(C) Test operate all functions on shotclock according to operating instructions in section 3 of this manual.
(D) When all functions test out, disconnect the power and the control console before mounting the displays or cables.

2.4 Data Cable Installation

The MP-41 data cable carries only low voltage signals and therefore can be installed with or without conduit. Consult section 6 for shotclock wiring.

2.5 Electrical Connections

This shotclock requires one 120 V. 0.42 Amp AC circuit for the exclusive use of each display.

IMPORTANT !!!

To protect the MP-4002 control from damage, it is advisable to disconnect the control and store in a dry secure area when not in use.

NOTE

This equipment is **CSA** and **NRTL** approved and complies with the requirements in part 15 of the FCC rules for a class A computing device. Operation of this equipment in a residential area may cause unacceptable interference to radio and television reception, requiring the operator to take whatever steps are necessary to correct the interference.

3. CONTROL CONSOLE OPERATION

3.1 Display Power

Turn on the branch circuits to the displays. The timer displays will cycle through a self test mode where it tests all the LED pixels. During the self test mode the pixels will be going on and off. After the self test the shotclocks will blank.

3.2 Console Display

The Liquid Crystal Display module displays the shotclock information entered from the keyboard. The following information is displayed during normal operation: Time.

3.3 Console Power

Plug the control console cable into the wall junction box.

Push **ON/OFF** once to turn the console on.

Push **ON/OFF** a second time to shut the console off.

When first turned on; the console display should show **CODE** .

3.4 To Use Scoreboard

Enter the two digit code (50) shown in the bottom center of the keyboard as in the following example:

Push **CODE** **5** **0** **ENTER** .

When the proper code has been entered, the console display will show **:00** .

3.5 Time Setting and Control

The control console can store 2 preset time periods. One or both of these time periods must be set each time the console is turned on.

To set reset #1 to a 45 second period and reset #2 to a 5 second period; key in the following:

Push **SET 1** **4** **5** **ENTER** . Push **SET 2** **5** **ENTER** .

Push **RESET 1** or **RESET 2** to reset the timer to the preset values.

Any time up to 99 seconds may be preset in a similar manner.

Time can be corrected without affecting the preset times by using the **EDIT** key.

Push **EDIT** followed by the desired time, then **ENTER** .

The display can be blanked with the **BLANK** key.

This key would be used when the game clock is less than the shotclock time period.

The **UP/DN** key determines the timer mode.

Switching the time toggle switch to the IN and OUT position, starts and stops the timer.

3.5 Horn

The horn will sound each time **HORN** is pressed.

The horn will blow automatically when the timer reaches zero time.

3.6 Shotclock Goal Light (Optional)

The light on the top of the display will light when the timer runs down to zero, to signify a time violation.

4. MAINTENANCE AND TROUBLESHOOTING

4.1 Introduction

This section gives maintenance and troubleshooting information. Included are troubleshooting guides for typical scoreboard malfunctions. If the cause of a problem cannot be determined, please contact the customer service department.

WARNING !!!

120 VAC wires are exposed whenever the cover over the controller assembly is removed from the scoreboard. Use extreme caution during troubleshooting or repair. To avoid possible damage to equipment or personal injury, always turn off the main power before removing the cover or replacing assemblies.

4.2 Test Equipment

A simple analog or digital voltmeter will be sufficient for all user repairable problems. Printed circuit boards requiring troubleshooting should be returned to the factory.

4.3 Troubleshooting

Whenever possible, follow the troubleshooting guides prior to contacting the customer service department. If a problem not described in the guides exists, contact the customer service department immediately. Refer to the diagrams provided for assistance in troubleshooting scoreboard malfunctions.

4.4 Troubleshooting Guides

(A) Scoreboard doesn't light and console doesn't work

(a) Check that the main power switch is turned on.
(b) Replace any defective or blown fuses.
(c) Check the power connections and voltages at the scoreboard.
(d) Contact the customer service department.

(B) The scoreboard digits light but the console doesn't work

(a) Check for continuity between the scoreboard and the junction box.
(b) If an open circuit is found, the problem is either the cable or a cable connection.
(c) If the continuity test checks good, check the voltage between the green wire and the white wire in the junction box, using a voltmeter set on the 12 VAC or higher scale.

If the voltage is 10 VAC or greater contact the customer service department.

If the voltage is 0 VAC, plug the control console directly into the top of the scoreboard.

If the control works from the top of the scoreboard, recheck all cable connections and check continuity again.

If the control still does not work, check the cable connections to the receiver board (white and green wires).

If the voltage is less than 8 VAC consult the wiring instructions for long cable compensation.

If the voltage is 8 VAC or higher contact the customer service department.

(C) The scoreboard digits light, the console works, but there is no control of the scoreboard.

(a) With the main power switch "off"; remove the cover over the power supply, and receiver.
(b) Check all connections.
(c) Turn the main power on.
(d) Turn the control console on and enter the code.

If LED D4 on the receiver board is flashing call the customer service department.

If LED D4 on the receiver board is not flashing, plug the control console directly into the top of the scoreboard.

If LED D4 on the receiver board flashes now check the junction box and data cable for continuity.

If LED D4 on the receiver board still does not flash, call the customer service department.

(D) Scoreboard digits don't light, but the console works

(a) With the main power switch "off"; remove the cover over the power supply, and receiver.
(b) Check all connections.
(c) Turn the main power on.
(d) If the scoreboard still doesn't light, check the voltage between the positive and negative terminal strips on the power supply for 12 VDC with a voltmeter set on the 12 VDC or higher scale.

If the voltage is 12 VDC or greater, go to (e).

If the voltage is less than 12 VDC check the power supply input voltage for 120 VAC and contact the customer service department.

(e) Check if LED D7 on the receiver board is on.

If D7 is on, check if D5 and D6 are flashing and call customer service department.

If D7 is not on, check that the receiver board is plugged into the power supply and call the customer service department.

(E) The scoreboard works, but some digits do not change.

(a) Look at the digit wiring order table.
(b) Find the first digit in the wiring order that is not working.
(c) Check for 12 VDC at the digit.
(d) Reseat the data in and data out cable connectors.
(e) If the digit still doesn't work call the customer service department.

5. REPLACEMENT PARTS LIST

5.1 Shotclock Display Parts

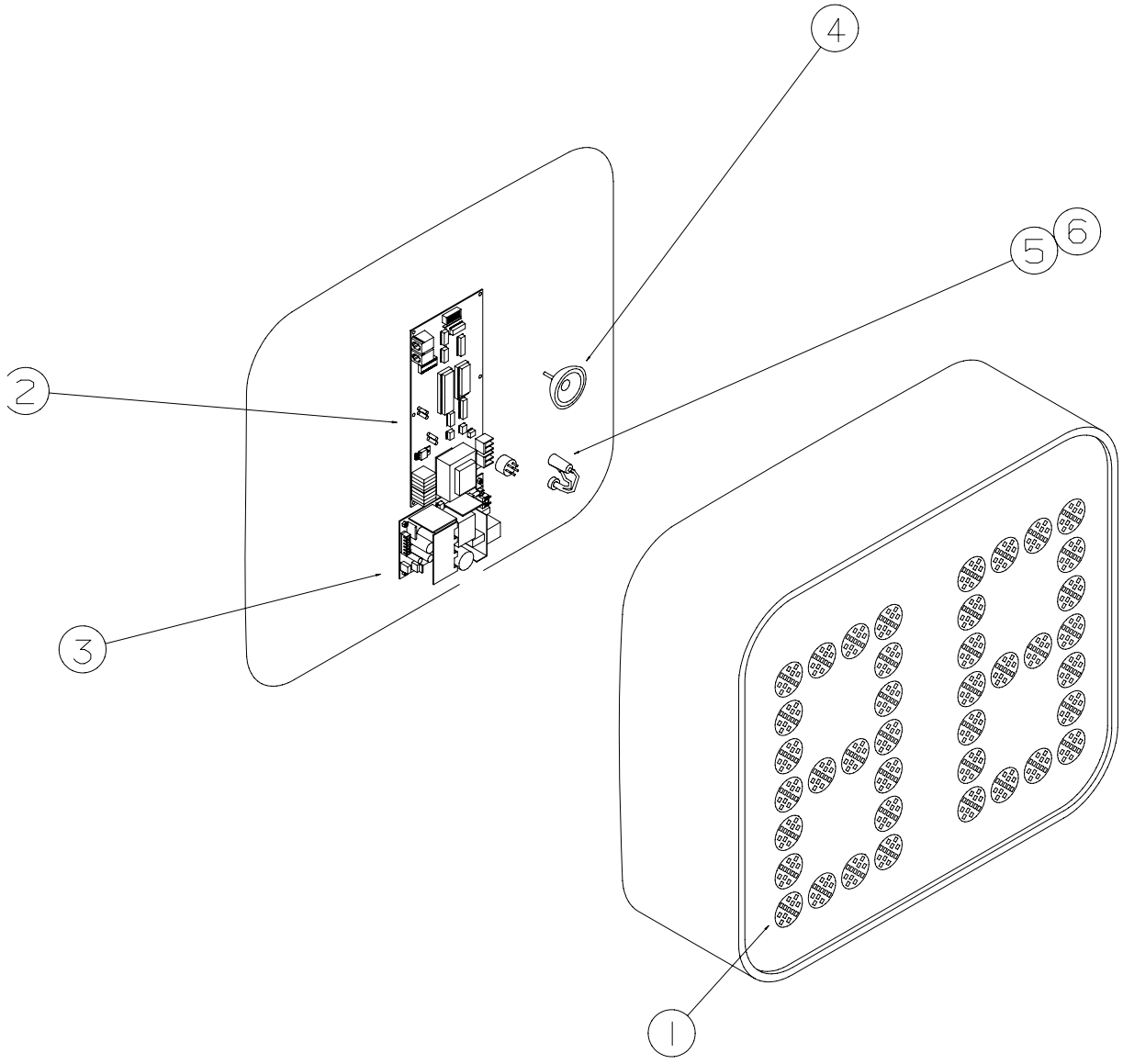


figure 1

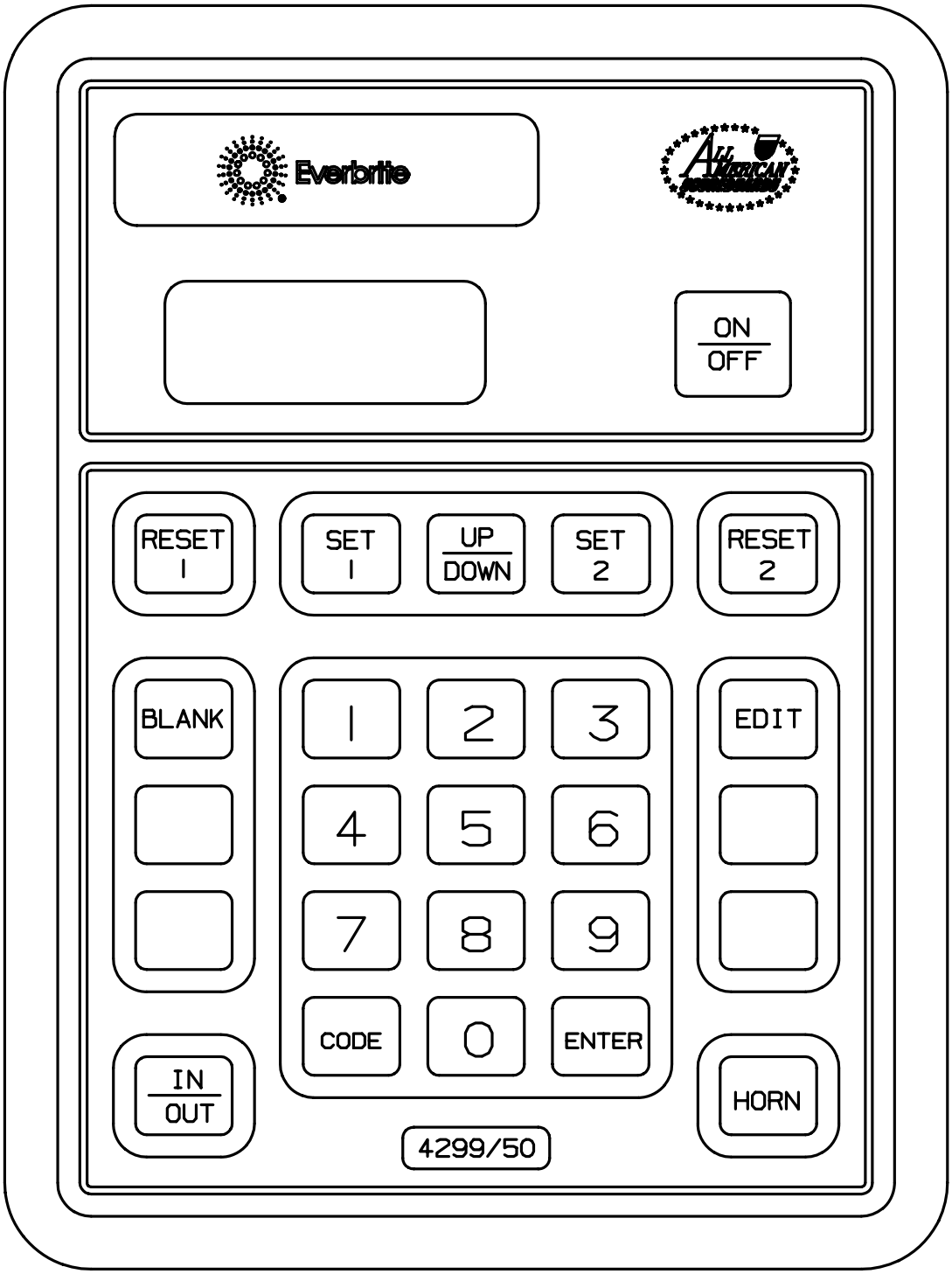
DISPLAY ASSEMBLY

REPLACEMENT PARTS LIST (MP-4299)

fig.& index	MFG PART NUMBER	DESCRIPTION	REF DES	VENDOR PART #
1-	150836	Display Assembly		150836
1-1	EL00431P	Digit, 4 X 7 Red		1048-9205RI
1-2	EL00351P	Receiver Board Assembly	A2	1048-9102
1-3	BL00032P	Power Supply, 50 Watt		BL00032P
1-4	703667	Horn, Mini		510
1-5	701049	Fuse, 3A, 250V, 1/4 X 1 1/4"	F1	MDX-3 SL BL
1-6	701036	Fuseholder, Single Snap-in		342001A
1-7	930894	Connector, 6 Pin Female Hirose	J3/J4	RM12BPG-6S
1-8	151627	Cable Assembly, Telehone 24"		151627
1-9	151631	Cable Assembly, Telehone 48"		151631
	151561	Control Console, MP-4002		151680
		***** PROGRAM SC.LED V01 *****		
	119771	Slipsheet		119771
	151560	Transmitter PCB Assembly	A1	151560
	930894	Connector, 6 Pin Male CCT	P1	RM12BPG-6P
	150994	Wall Junction Box,		150994
	930895	Connector, 6 Pin Female Hirose	J1	RM12BRD-6S
	150500	Cable, MP-41 Control		8723
		OPTIONAL RED GOAL LIGHTS		
	151225	Globe, Red Light		151225
	850023	Lamp,15 Watt,130V,Inside Frosted		15A15 IF

6. DIAGRAMS

6.1 Control Console Keyboard and Slipsheet Layout



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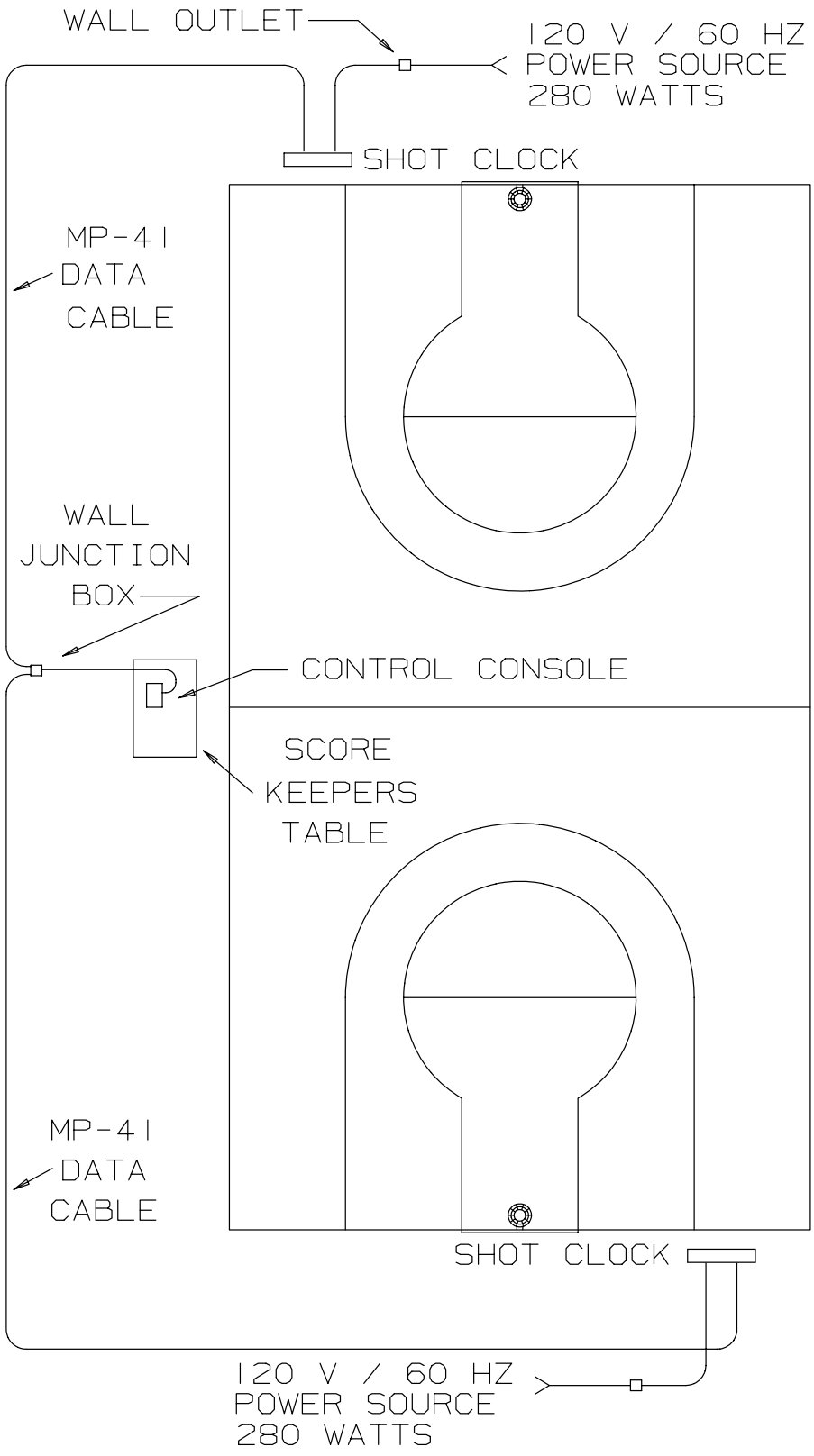
CONSOLE KEYBOARD

6.2 Shotclock System Layout



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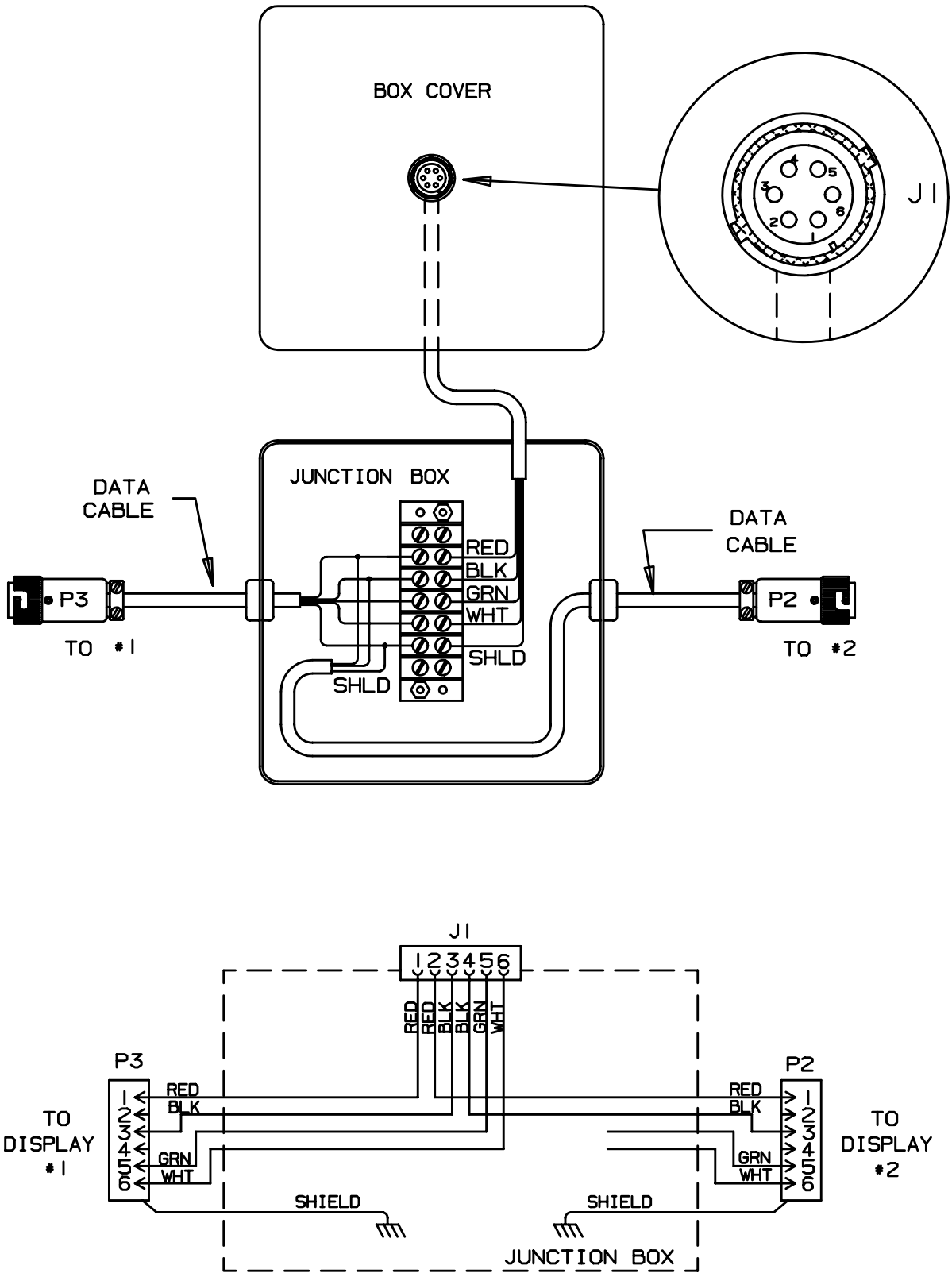
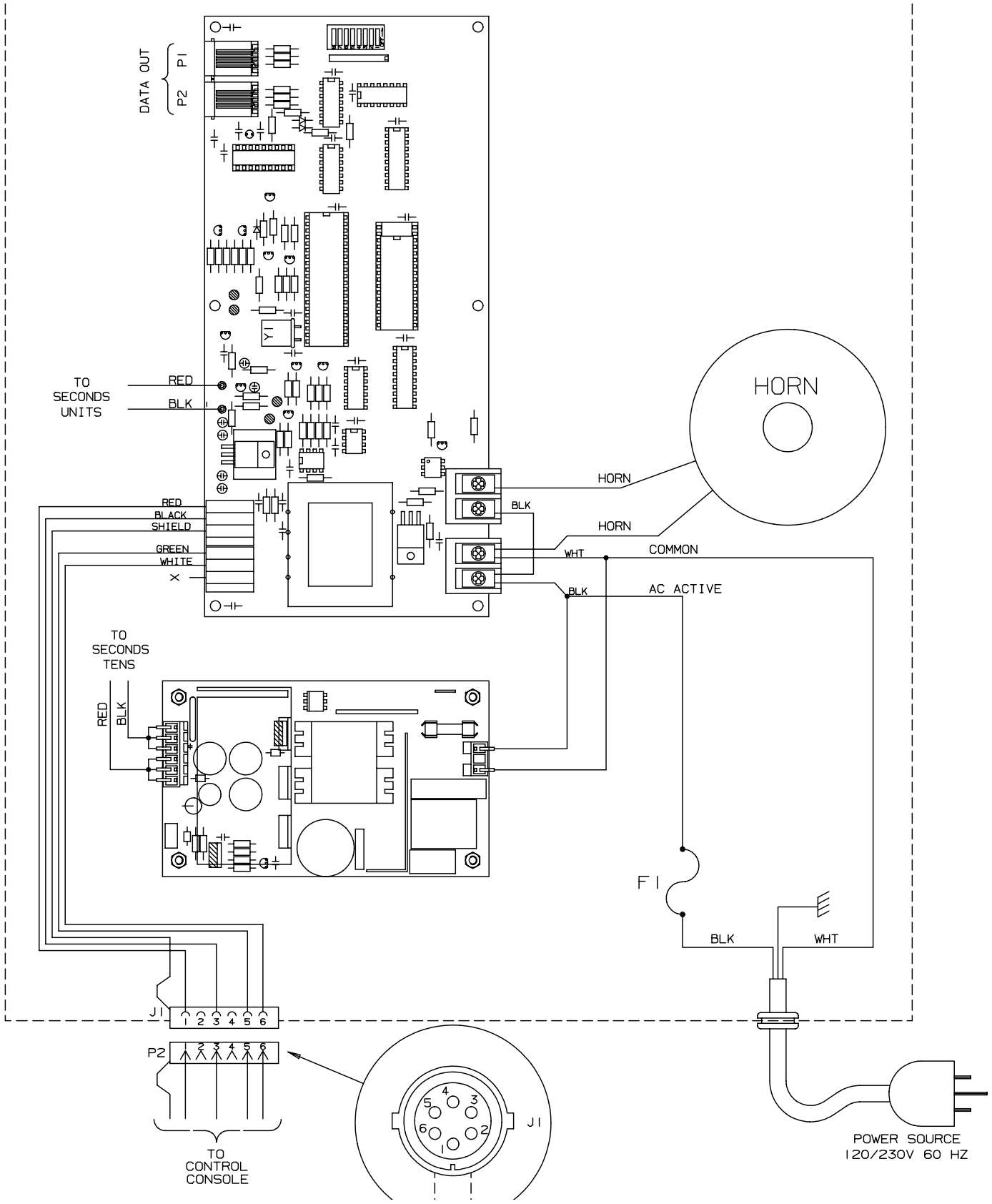
SYSTEM LAYOUT

6.3 Wall Junction Box Wiring



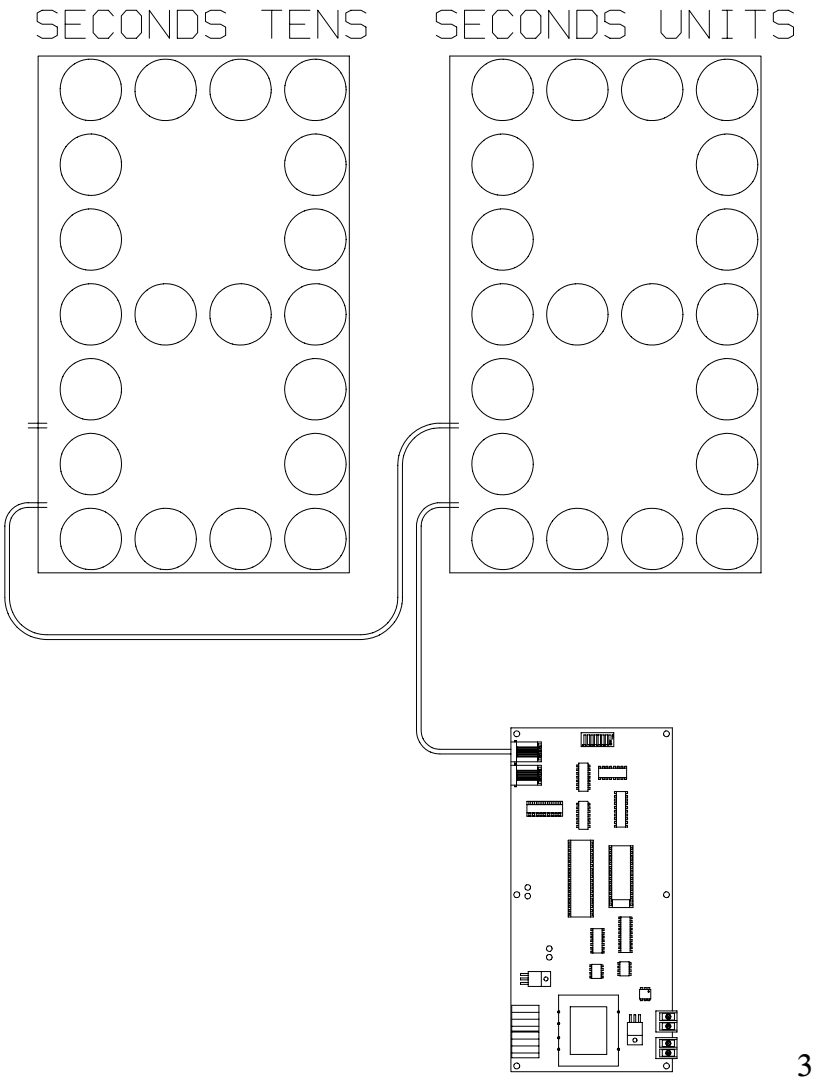
WALL JUNCTION BOX WIRING

6.4 Display Wiring and Layout



DISPLAY WIRING

6.5 Wiring Order Diagram



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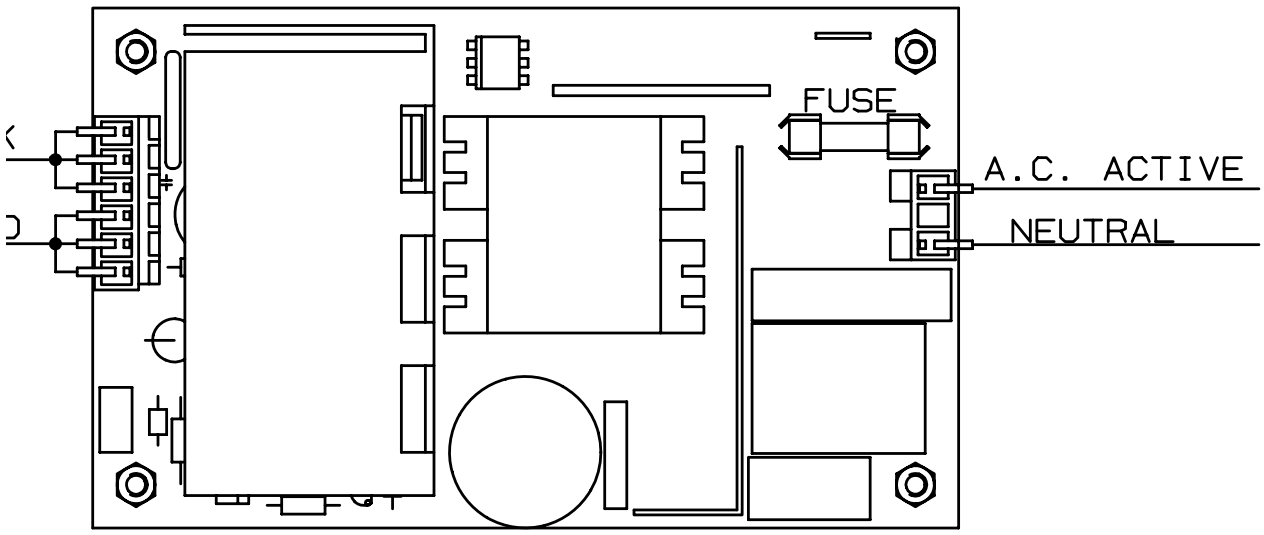
WIRING ORDER

6.6 Power Supply Diagram



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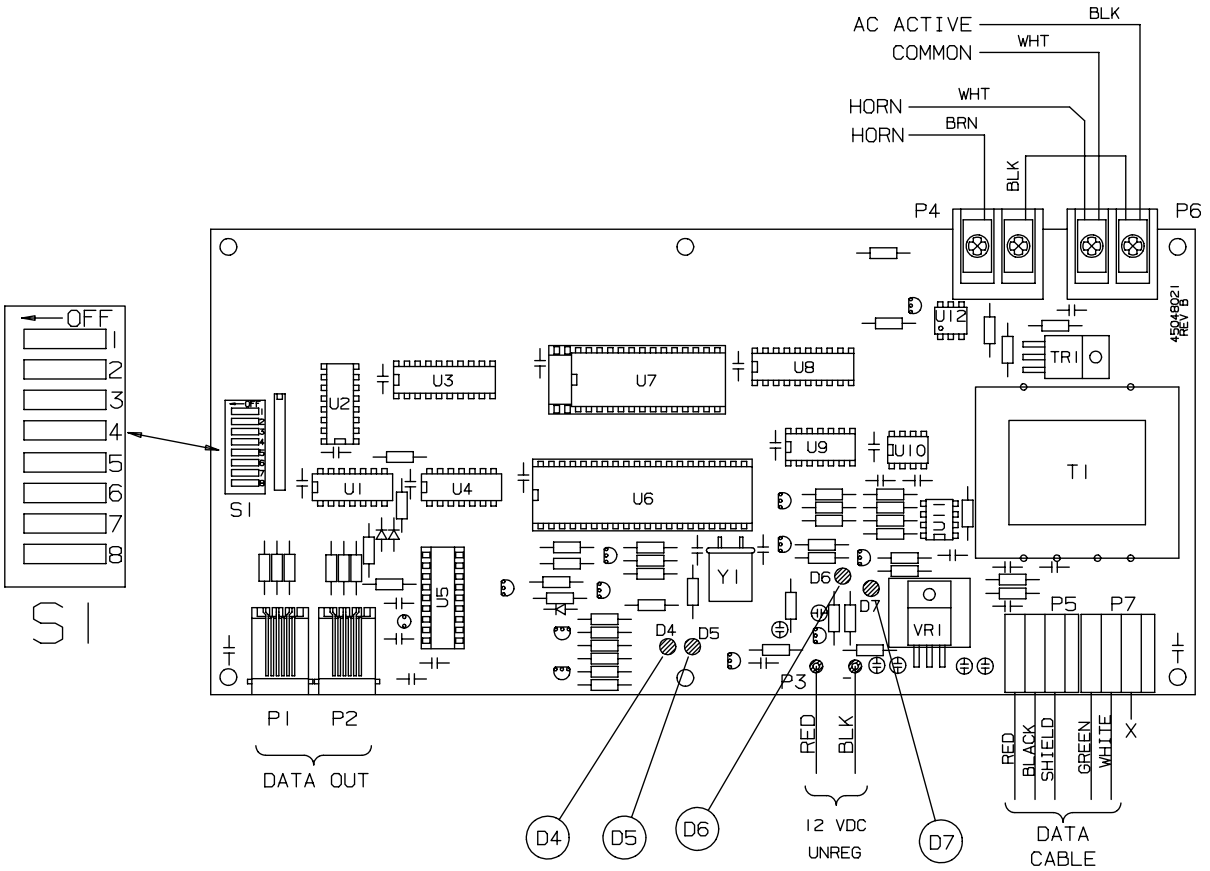
POWER SUPPLY

6.7 Receiver Board Diagram



DIP SWITCH SETTINGS:

1 - On only when Rx is in SCBD
2 - On only when Rx is in shotclock
3 - Off (saved for future use)
4 - Off (saved for future use)
5 - Off (saved for future use)
6 - Off (saved for future use)
7 - When on causes number test, then goes to continuous segment test.
8 - When on causes number test, then bit test, then continuous number test

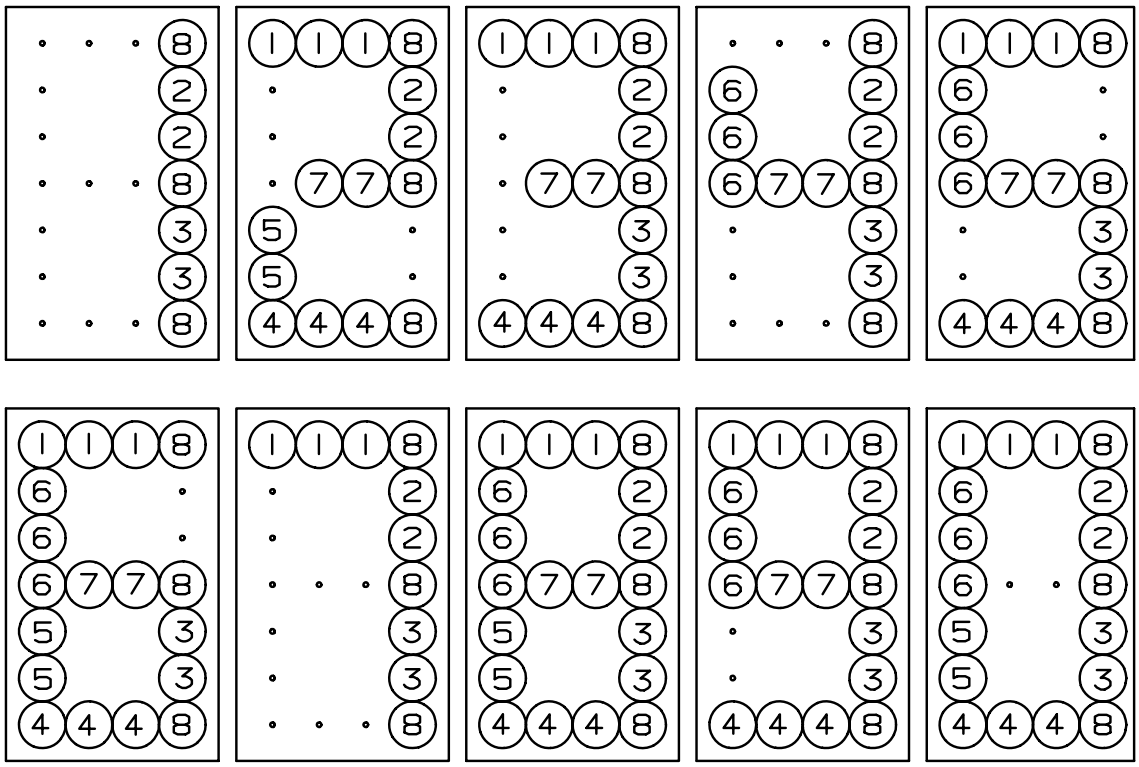
LED FUNCTIONS:

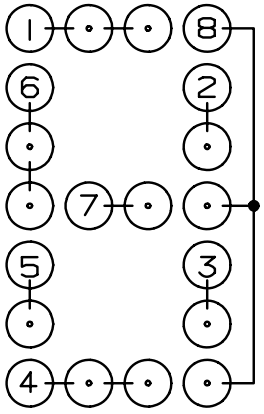
D4 - Flashes very dimly with power up. (Indicates clock output on P1/channel 1.)
D5 - Flashes very dimly with power up. (Indicates clock output on P2/channel 2.)
D6 - Lights continuously with power up. (Indicates that Rx has power.)
D7 - Off until console is coded in. Then it flashes. (Indicates Rx is receiving data from control console.

Standard settings for DIP switches is all off except for 1 and 2.

RECEIVER BOARD

6.8 Microprocessor 4X7 LED Pattern (8 Bit)





BIT NUMBERS	NUMERALS									
	0	1	2	3	4	5	6	7	8	9
1	0	.	2	3	.	5	6	7	8	9
2	0	1	2	3	4	.	.	7	8	9
3	0	1	.	3	4	5	6	7	8	9
4	0	.	2	3	.	5	6	.	8	9
5	0	.	2	.	.	.	6	.	8	.
6	0	.	.	.	4	5	6	.	8	9
7	.	.	2	3	4	5	6	.	8	9
8	0	1	2	3	4	5	6	7	8	9

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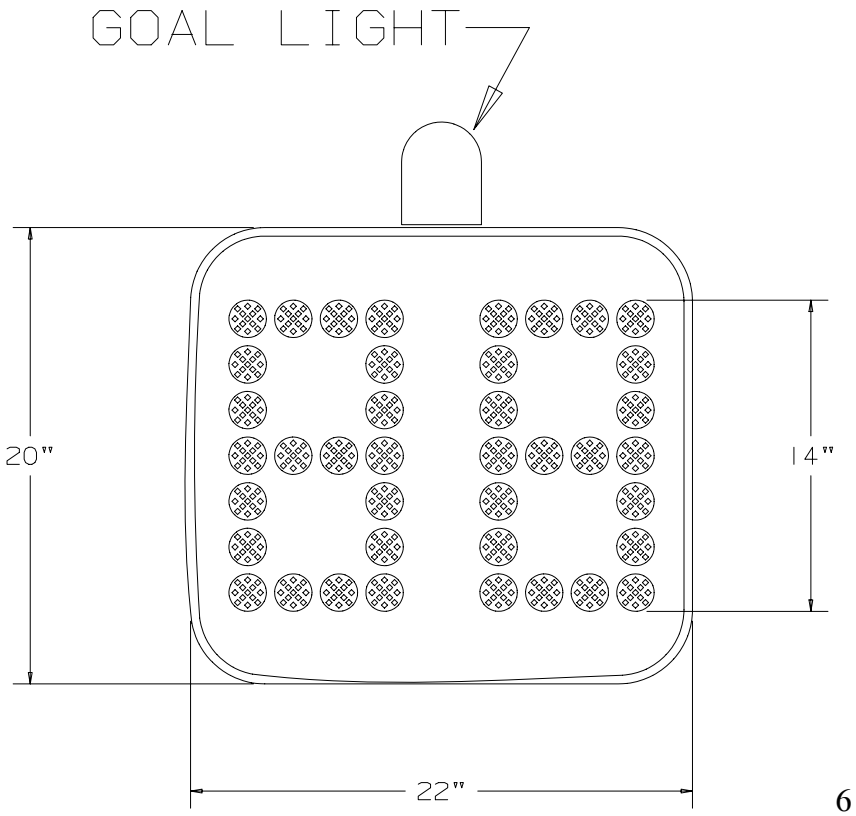
LED PATTERN

6.9 Installation Diagram



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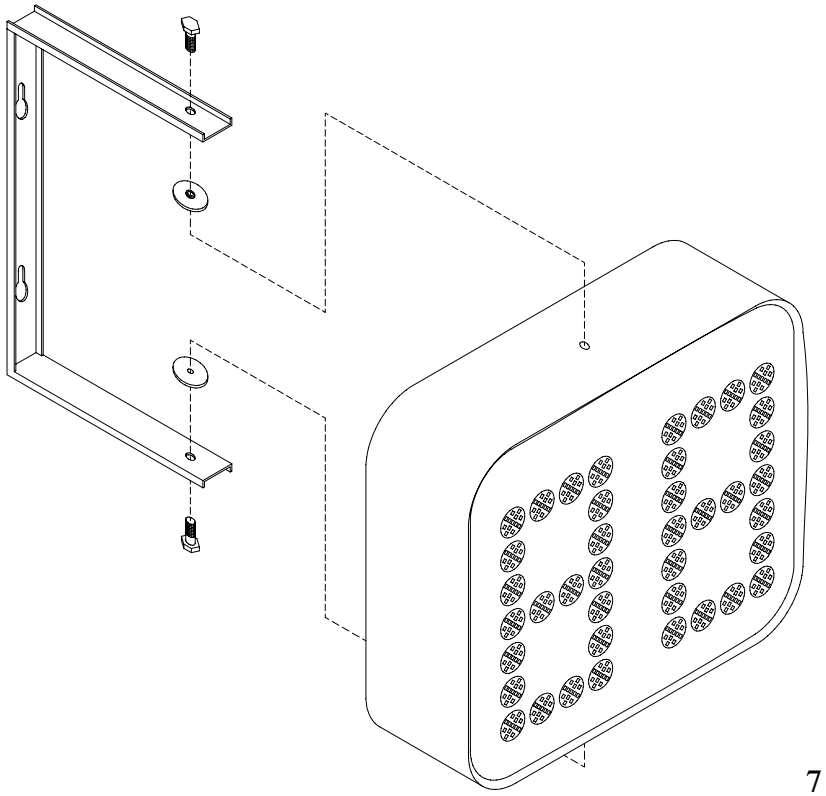

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INSTALLATION DIAGRAM