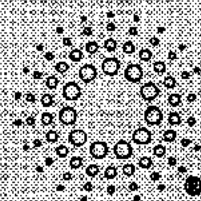




A product of



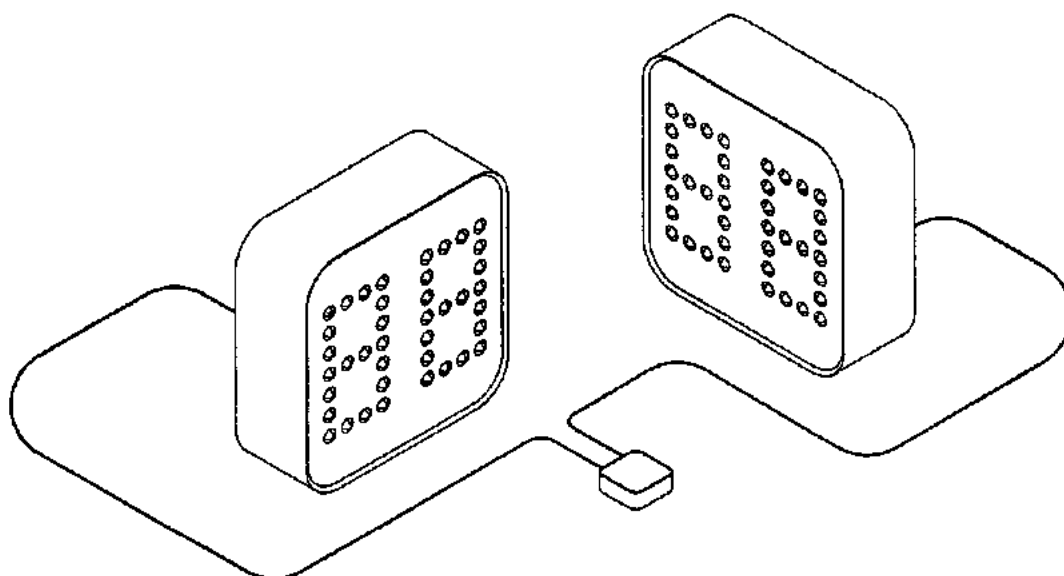
Everbrite

401 S Main St
Pardeeville, WI 53954
(608) 429-2121 / (800) 356-8146

OPERATING INSTRUCTIONS AND SERVICE MANUAL

BASKETBALL SHOTCLOCK

MODEL MP-3299



CAUTION
INDOOR USE ONLY

EFFECTIVE S.N. MP-xxxx, MAY 15, 1995

TABLE OF CONTENTS

1. General Information
 - 1.1 Description
 - 1.2 Identification
 - 1.3 Damage
 - 1.4 Damage Claim procedure
 - 1.5 Care of Equipment
2. Installation
 - 2.1 General Information
 - 2.2 Inspection
 - 2.3 Pre-Test
 - 2.4 Data Cable Installation
 - 2.5 Electrical Connection
3. Control Console Operation
 - 3.1 Shotclock Power
 - 3.2 Control Console Power
 - 3.3 Control Console Display
 - 3.4 Time Control
 - 3.5 Horn Operation
 - 3.6 Shotclock Light Operation (OPTIONAL)
4. Maintenance And Troubleshooting
 - 4.1 Introduction
 - 4.2 Test Equipment
 - 4.3 Troubleshooting
 - 4.4 Troubleshooting Guide
5. Replacement Parts List
 - 5.1 Shotclock Display Parts
6. Diagrams
 - 6.1 Keyboard Layout (Slipsheet)
 - 6.2 Shotclock System Layout
 - 6.3 Wall Function Box Wiring
 - 6.4 Display Wiring
 - 6.5 Microprocessor 4x7 Lamp Pattern (8 Bit)
 - 6.6 Figuregram Wiring Diagram (C-150429)
 - 6.7 Data Cable Wiring
 - 6.8 Triac Placement Diagram

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 4 or 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.

Correct wattage and voltage replacement lamps are used.

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 Display
- 1 ea Hand Held Time Control (if ordered)
- 1 ea Service Manual
- ? 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.

NOTE

A small length of rubber hose may be used as a lamp extractor. Simply taper the inside of the hose with a sharp knife to fit the lamp.

2.3 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.

The control cable ends with the connectors should plug into the shotclock displays and the other ends of the control cables must go to either the wall junction box or the controller assembly in the scoreboard displays.

2.5 Electrical Connections

This scoreboard requires one 120 V. 15 Amp AC circuit for the exclusive use of each display.

IMPORTANT !!!

To protect the Floating Time 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 ETL (Electronics Testing Laboratories) 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 Shotclock Power

Turn on the branch circuits to the shotclocks or plug in the power cords to both displays.

3.2 Console Power

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

The console display should show **CODE** when first on, and the displays should be blank.

Enter the code (41) as in the following example:

Push **CODE** **4** **1** **ENTER**.

When the proper code has been entered each display will show: **0**.

3.3 Console Display

The Liquid Crystal Display shows the shot time plus information entered from the keyboard.

3.4 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. When the LED indicator glows the timer will count up. The timer will count down when the LED indicator is off.

Push **IN/OUT** to start/stop 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.

The horn may be turned off by pushing **IN/OUT**, **RESET 1**, or **RESET 2**.

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.

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.

WARNING

110 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, or replacing lamps.

4.4 Troubleshooting Guide

(A) Display(s) Do not Light and Console Doesn't Work

- (a) Check that the power to the display(s) is turned on.
- (b) Replace any defective or blown fuses.
- (c) Check the power connections and voltages at the display(s).
- (d) Check continuity between the display and the control.

If an open circuit is found the problem is either the cable or the connector.

If the continuity test checks good then check the voltage between the green wire and the shield using a voltmeter set on the 12 VDC or higher scale.

If the voltage is less than 7 VDC see the controller parts list for a transformer assembly.

If the voltage is between 7 VDC and 12 VDC see the replacement parts list for a transmitter PCB assembly and contact the customer service department.

(B) Display Digits Don't Light But the Console Works

- (a) With the main power "off" remove the cover over the controller assembly.
- (b) Check all connections.
- (c) Turn main power "on".
- (d) If board still doesn't light check the transformer voltage going to the Receiver/Driver PCB assembly (blue wires) using a voltmeter set on the 12 VAC or higher scale.

If the voltage is less than 8 VAC contact the customer service department.

If the voltage is between 8-12 VAC see the replacement parts list for a Receiver/Driver PCB assembly, and contact the service department.

- (D) The display digits light the console works but there is no control of the shotclock displays.

- (a) Check the following voltages on the Data Cable, with respect to the shield, with a voltmeter set on the 3 VDC or higher scale:

Shield to Red (Clock) = Approximately 1.0 VDC
Shield to Black (Data) = Approximately 1.0 VDC
Shield to White (Sync) = Approximately 0.1 VDC

- (b) If the voltage is 0 V contact the service department for assistance.

- (d) If the correct voltage appears at the displays see the replacement parts list for a Receiver/Driver PCB Assembly.

- (E) The display works but some lights stay on all the time

- (a) With the main power OFF, switch the plug from the bad digit with the plug for a known good digit.

Example: Plug "A" in "B" and "B" in "A" locations.

- (b) Turn the power back on. If the same lights remain lit, the problem is a shorted lamp socket. If the lights now stay on in a different digit the problem is the driver board. See the replacement parts list for the proper replacement component.

- (F) The display works but some lights do not come on

- (a) Check for burned out lamps.

- (b) Check for broken wire or bad connection on 12 pin connector.

- (c) See the replacement parts list for the proper replacement driver board.

5. REPLACEMENT PARTS LIST

5.1 Shotclock Display Parts

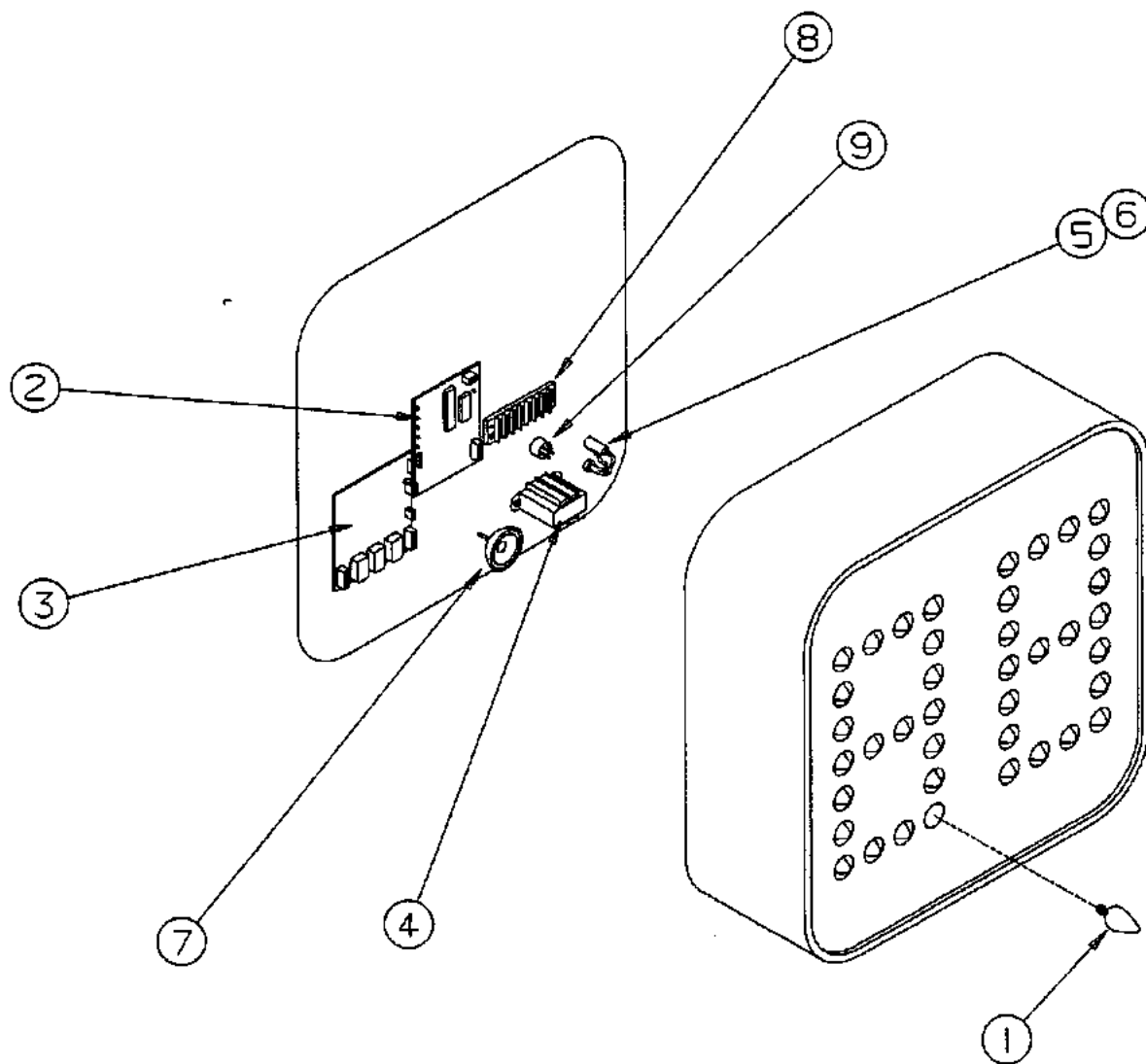


figure 1

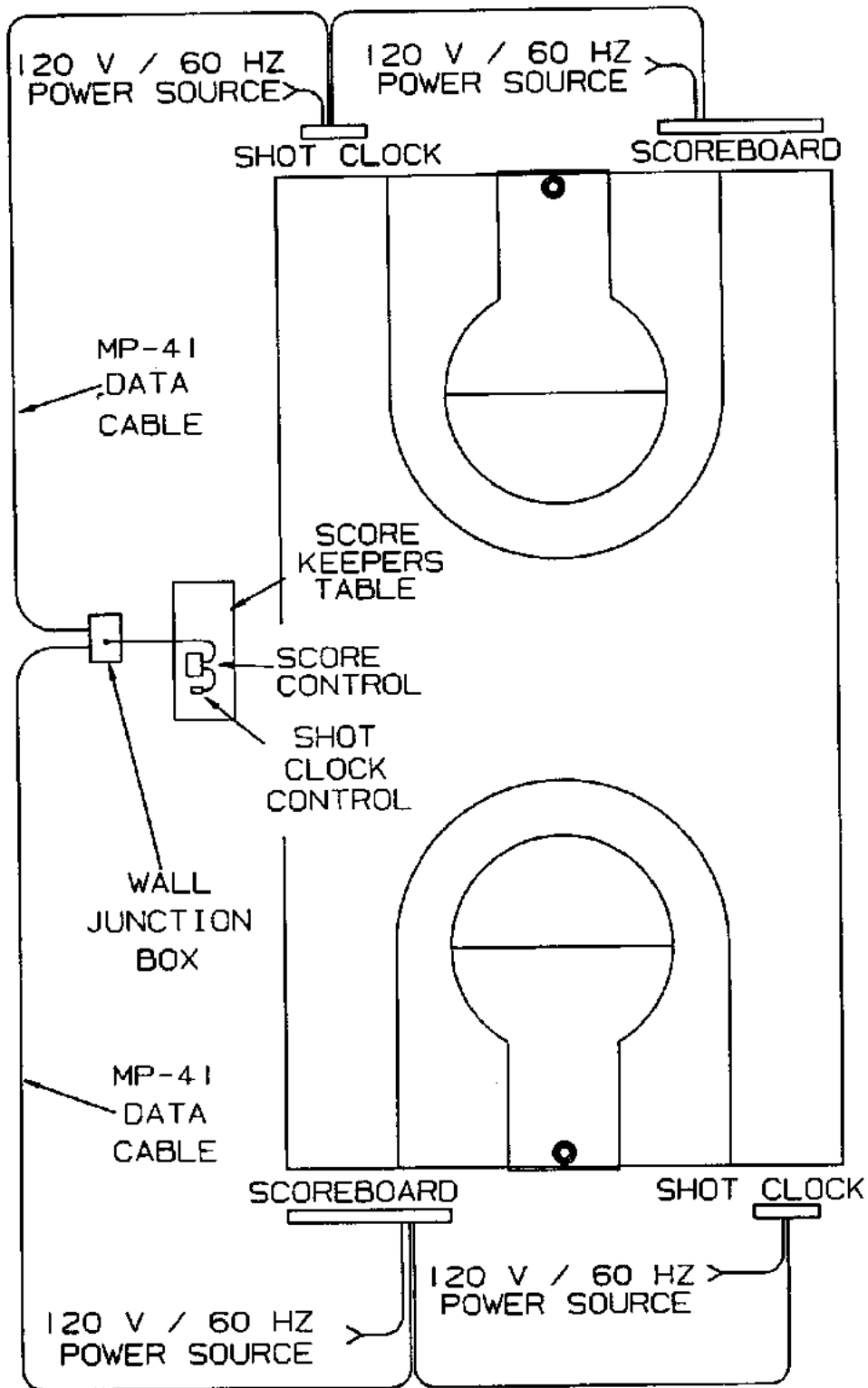
DISPLAY ASSEMBLY

REPLACEMENT PARTS LIST (MP-3299)

fig.& index	MFG PART NUMBER	DESCRIPTION	REF DES	VENDOR PART #
1-	150304	Display Assembly		150304
1-1	850000	Lamp, 7C7/125V Red		7C7/R
1-2	119323	Receiver PCB Assembly	A3	119323
1-3	118922	Driver PCB Assembly	A4	118922
1-4	151301	8V/18V Transformer Assembly	T1	CS-697
1-5	701049	Fuse, 3A, 250V, 1/4X1 1/4"	F1	MDX-3 SL BL
1-6	701036	Fuseholder, Single Snap-in		342001A
1-7	703667	Horn, Mini		510
1-8	701137	Terminal Block, 7C		670-7
1-9	702786	Connector, 5 Pin Female	J3orJ4	RM12BRD-5S
1-10	700102	Resistor, 2 OHM 10 Watt	R1	HLM-10-10Z
	150500 702785	Cable, MP-41 Control Connector, 5 Pin Male CCT	P1-P4	8723 Belden RM12BPG-5P
	151225 850023	OPTIONAL RED GOAL LIGHTS Globe, Red Light Lamp, 15 Watt, 130V, Inside Frosted		151225 15A15 IF

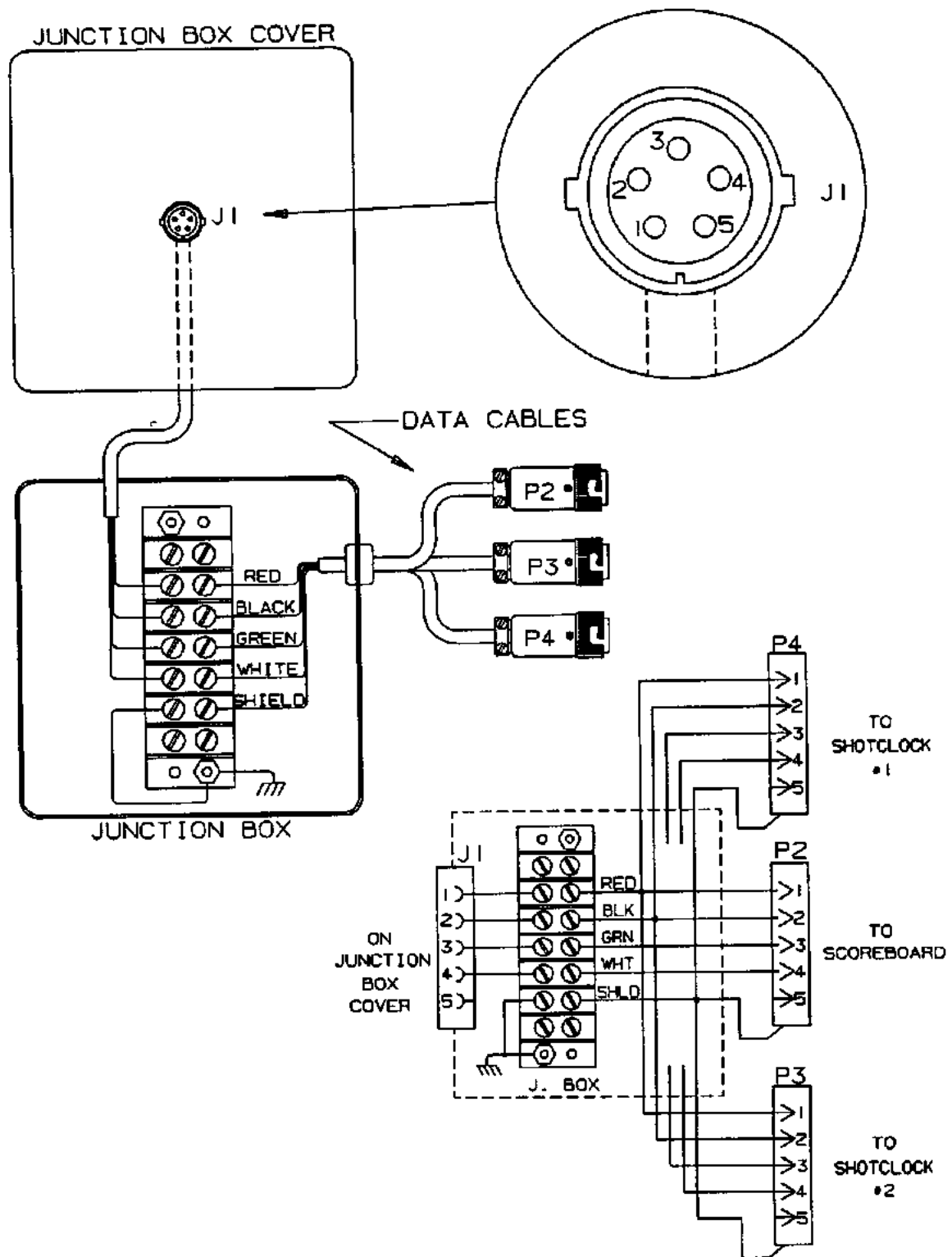
6. DIAGRAMS

6.1 Shotclock System Layout



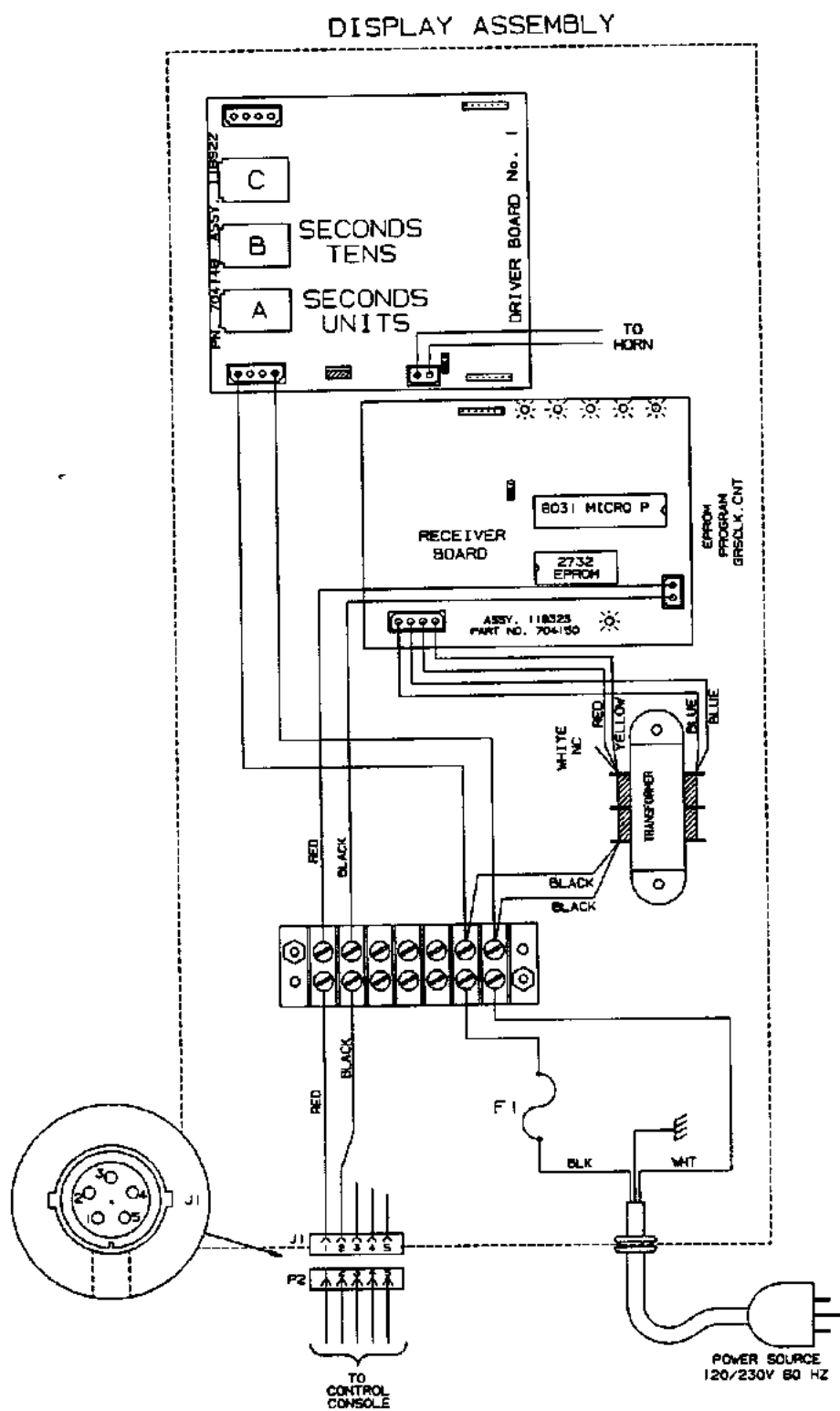
SYSTEM LAYOUT

6.2 Wall Junction Box Wiring (OPTIONAL)

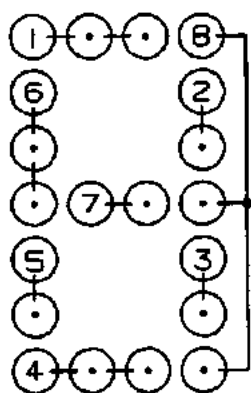
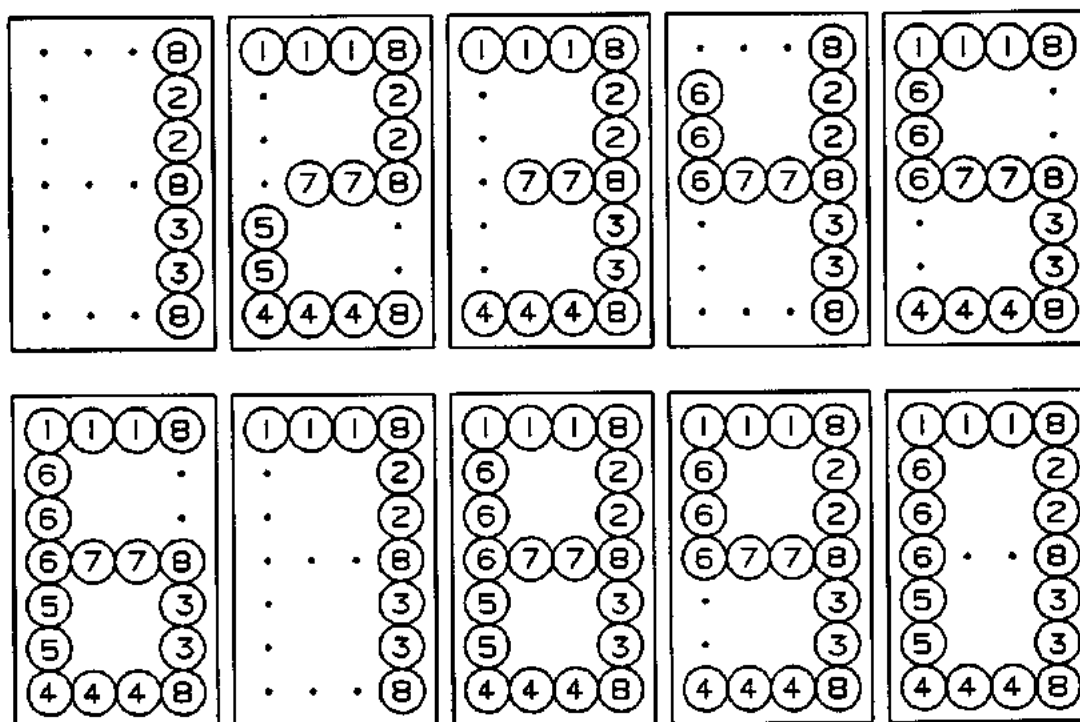


WALL JUNCTION BOX WIRING

6.3 Display Wiring and Layout



6.4 Microprocessor 4X7 Lamp Pattern (8 Bit)



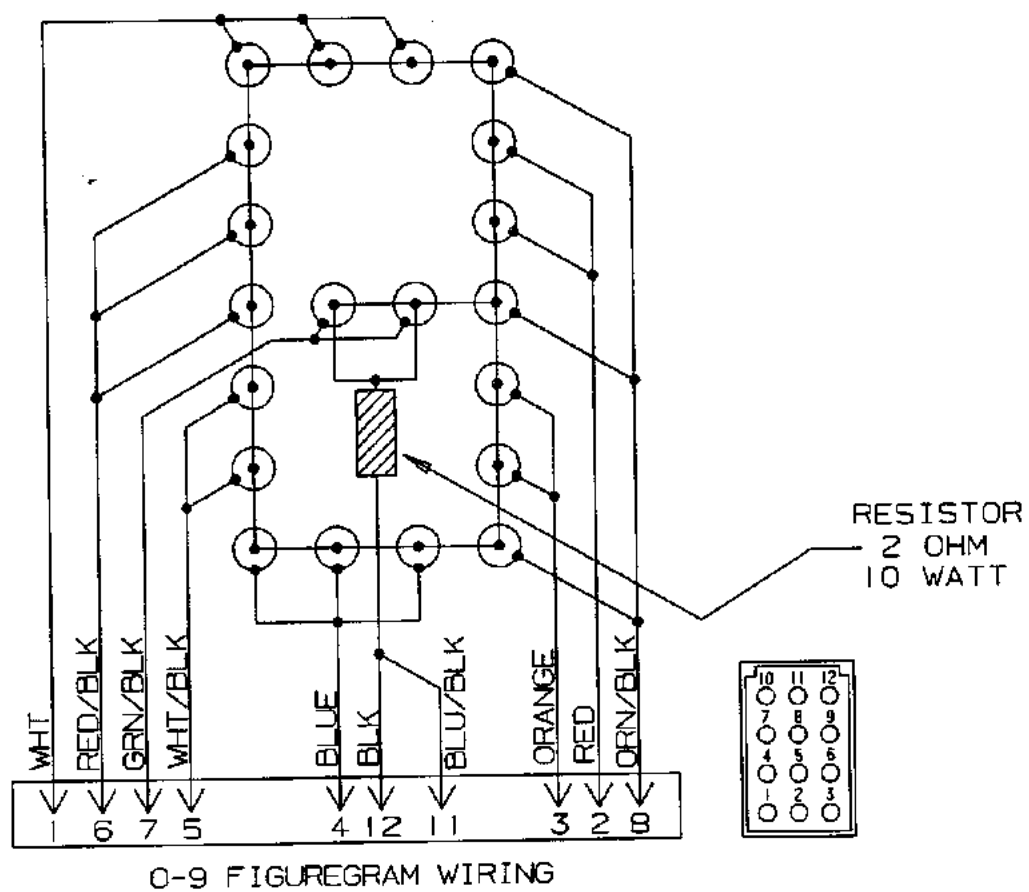
NUMERALS

	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

BIT INDEX

LAMP PATTERN

6.5 Figuregram Wiring

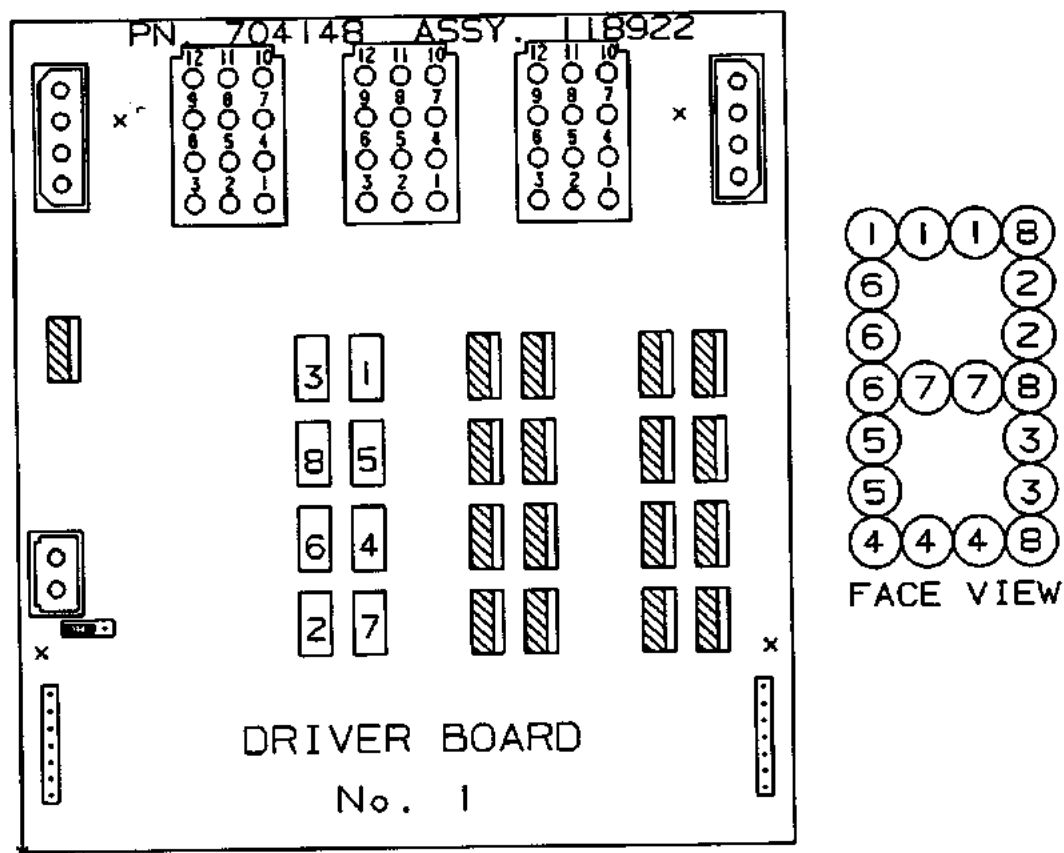


8 BIT FIGUREGRAM WIRING (Face View)

6.6 Triac Placement

The triac is the switch that controls the figuregram lamps. The triacs for any given figuregram are adjacent to the twelve pin connector on the driver board that controls that figuregram.

Shown below is the triac placement and bit designation relative to the figuregram bit pattern.



MP TRIAC PLACEMENT