



a division of general indicator corporation

GIC

general indicator corporation

P.O. BOX 8888 MADISON, WI 53708
Area 608/241-7100

OPERATING INSTRUCTIONS AND SERVICE MANUAL

59.999 LAP TIMER

Model MP-2859

EFFECTIVE S.N.1180, APRIL 1987

TABLE OF CONTENTS

1. General Information

- 1.1 Description
- 1.2 Damage
- 1.3 Damage Claim procedure

2. Installation

- 2.1 General Information
- 2.2 Data Cable Installation
- 2.3 Electrical Connection

3. Control Console Operation

- 3.1 Scoreboard Power
- 3.2 Control Console Power
- 3.3 Control Console Display
- 3.4 Time Setting and Control
- 3.5 Dimmer

4. Maintenance And Troubleshooting

- 4.1 Introduction
- 4.2 Test Equipment
- 4.3 Troubleshooting
- 4.4 Troubleshooting Guide

5. Replacement Parts List

- 5.1 Timer Display Parts
- 5.2 Controller Assembly Parts

6. Diagrams

- 6.1 Keyboard Insert (Slipsheet)
- 6.2 Single Junction Box Wiring (B-13451)
- 6.3 Five Position Driver Bd. Jumper Location (B-151285)
- 6.4 Controller Plate Wiring and Layout (D-150733)
- 6.5 4X7 Lamp Pattern
- 6.6 Figuregram Wiring Diagram (A-13219)
- 6.7 Triac Replacement 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 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
413 South Main Street
Pardeeville, WI 53954

1.2 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.

1.3 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.

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:

- 1 ea Timer Display
- 1 ea Control Console
- 1 ea Service Manual
- 1 ea Junction Box
- ? ft Control Cable (if ordered)

2.2 Data Cable Installation

The MP-40 data cable is approved for direct burial and therefore can be installed with or without conduit. Consult section 6 for junction box and scoreboard wiring.

NOTE !

This equipment complies with the requirements in Part 15 of the FCC rules for a Class A computing devise. Operation of this equipment in a residential area may cause unacceptable interference to radio and TV reception requiring the operator to take whatever steps are necessary to correct the interference.

2.3 Electrical Connections

The model MP-2859 Timer (59.999) requires the following:

- (15 Watt Lamps) 110 V./ 60 HZ, 15 A. Service
- (25 Watt Lamps) 110 V./ 60 HZ, 30 A. Service

3. CONTROL CONSOLE OPERATION

3.1 Scoreboard Power

Turn on the branch circuit(s) to scoreboard(s). The Timer should read 0.000 .

3.2 Console Power

IMPORTANT

To protect the MP-2001 Control Console Electronics from lightning and other transient voltage spikes, it is advisable to disconnect the Control Console and store in a dry secure area, when it is not in use.

Plug the control console cable into the press junction box.

Push ON/OFF once to turn the console ON.

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

The console display should show CODE when first on.

Enter the two digit code (88) shown in the lower lefthand corner of the keyboard as in the following example:

Push CODE 8 8 ENTER

3.3 Console Display

The 4 digit Liquid Crystal Display shows the time.

3.4 Time Setting and Control

(A) 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.

(B) Push IN/OUT to start/stop the timer.

(C) Push RESET to return the timer to the previously set value.

3.5 Day / Night Dimmer

Push DIM to either brighten or dim the lamps in the scoreboard display.

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 !
*
* 110 VAC wires are exposed whenever the cover over the controller is
* removed from the scoreboard. Use extreme caution during
* troubleshooting or repair. To avoid possible damage always remove
* 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 Guide

(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) Scoreboard 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 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 PCB assembly, and contact the service department.

- (C) 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 then 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 0 V see the Controller parts list for a transformer assembly.
- If the voltage is less than 8 VAC consult the controller wiring diagram for instructions on long cable compensation.
- If the voltage is between 8 VAC and 12 VAC contact the customer service department.
- (D) The Scoreboard Digits Light the Console Works but there Is No Control Of The Scoreboard.
- (a) Check the voltage between the black and red wires in the junction box with a voltmeter set on the 3 VDC or higher scale. (2-3 VDC when working properly)
- If the voltage is 0 V contact the service department for assistance.
- If the voltage is correct (2-3 V) check that this reading also appears at the scoreboard.
- If the correct voltage also appears at the scoreboard see the replacement parts list for a Receiver PCB Assembly.
- (E) The Scoreboard 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 "C" in "D" and "D" in "C" 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 driver board.
- (F) The Scoreboard 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 Timer Display Parts

figure 1

DISPLAY ASSEMBLY

REPLACEMENT PARTS LIST

fig.& index	MFG PART NUMBER	DESCRIPTION	REF DES	VENDOR PART #
1-	000000	Display Assembly,Timer (MP-2859)		000000
1-1		Face Screen,		
1-2	850022	Lamp, 15W/130V Clear		15A15 CL
1-4	850030	Lamp, 25W/130V Clear (B S O)		25A19 CL
1-6	000000	Controller Assembly, One 5P Driver on E/M Timer Base Plate	A2	000000
1-7	150660	Rainshield		150660
	150365	MP-2001 Control Console		150365
	150208	Control Console Slipsheet		150208
	150184	Transmitter PCB Assembly	A1	150184
	702785	Connector, 5 Pin Male CCT	P1	RM12BPG-5P
	151002	Press Box Junction Box		151002
	702786	Connector, 5 Pin Female	J1	RM12BRD-5S
	150508	Cable, MP-40 Control		YR21233

5.2 Controller Assembly Parts

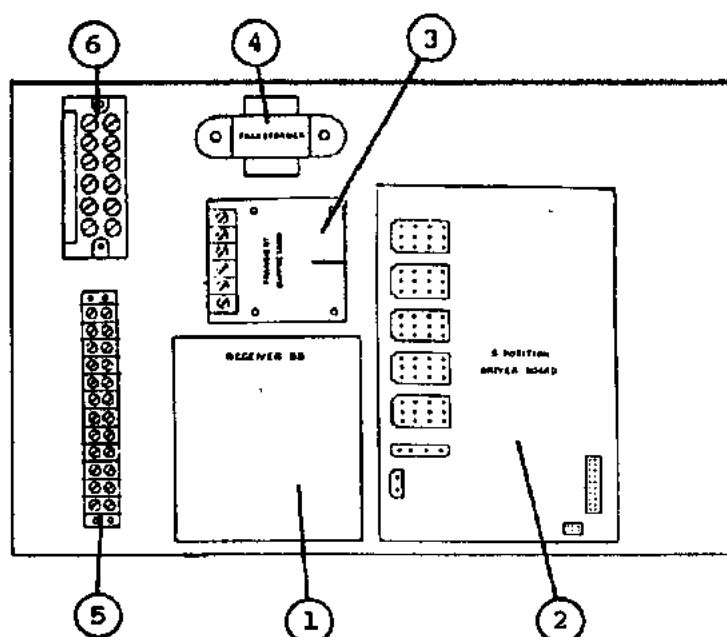
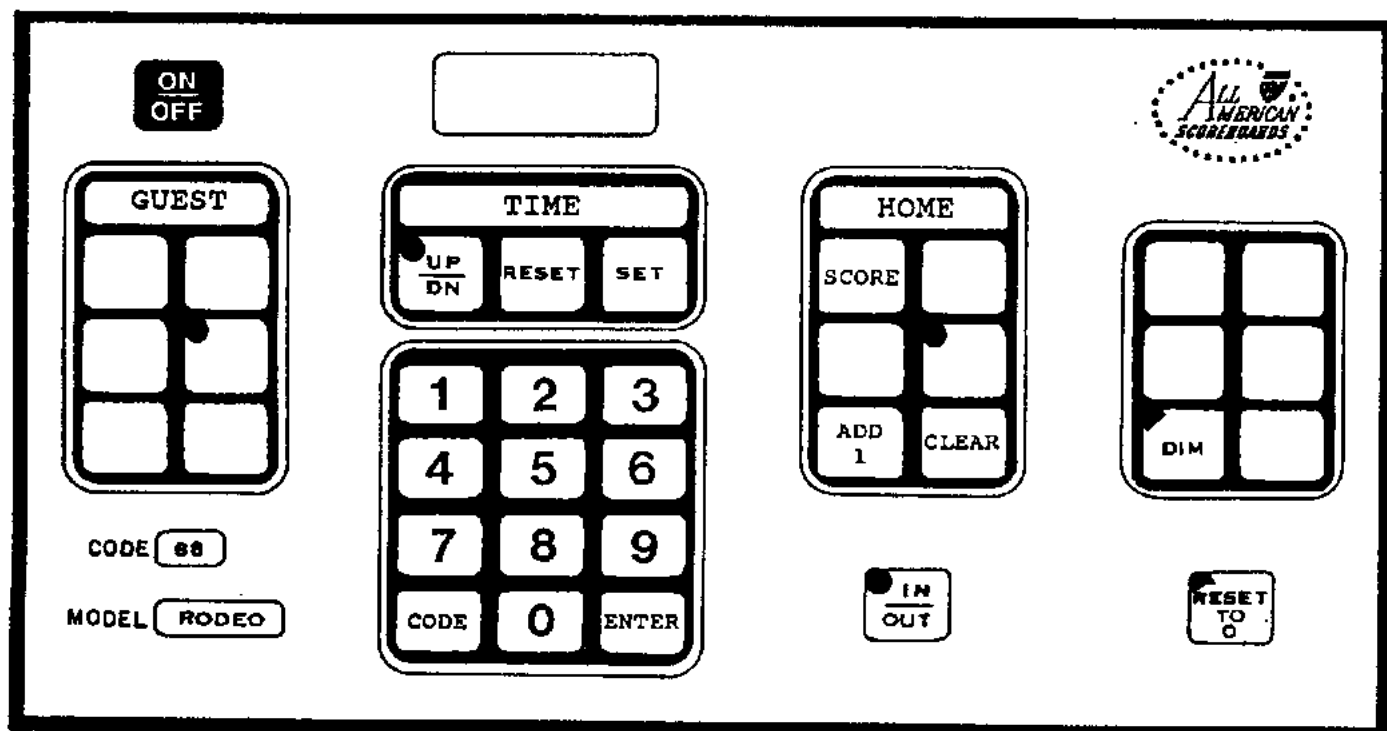


figure 2
CONTROLLER ASSEMBLY

REPLACEMENT PARTS LIST (Controller Assy)				
fig. & index	MFG PART NUMBER	DESCRIPTION	REF DES	VENDOR PART #
2-	000000	Controller Assembly	A2	000000
2-1	150366	Receiver PCB Assembly	A3	150366
2-2	150368	Driver PC Board Assembly, 5 Pos.	A6	150368
2-3	118522	PC BD Assy, Transient Suppressor	A10	118522
2-4	151301	Transformer Assembly, 8V/18V	T1	CS-697
2-5	701103	Terminal Block, 12C (Data)	TB1	671-12
2-6	701134	Terminal Block, 6C (Power)	TB-2	1106
2-	705075	Ribbon Cable Assy. 20C		AS-1053
2-	705723	Spacer, P.C. Board (Amerlock)		PCS-6

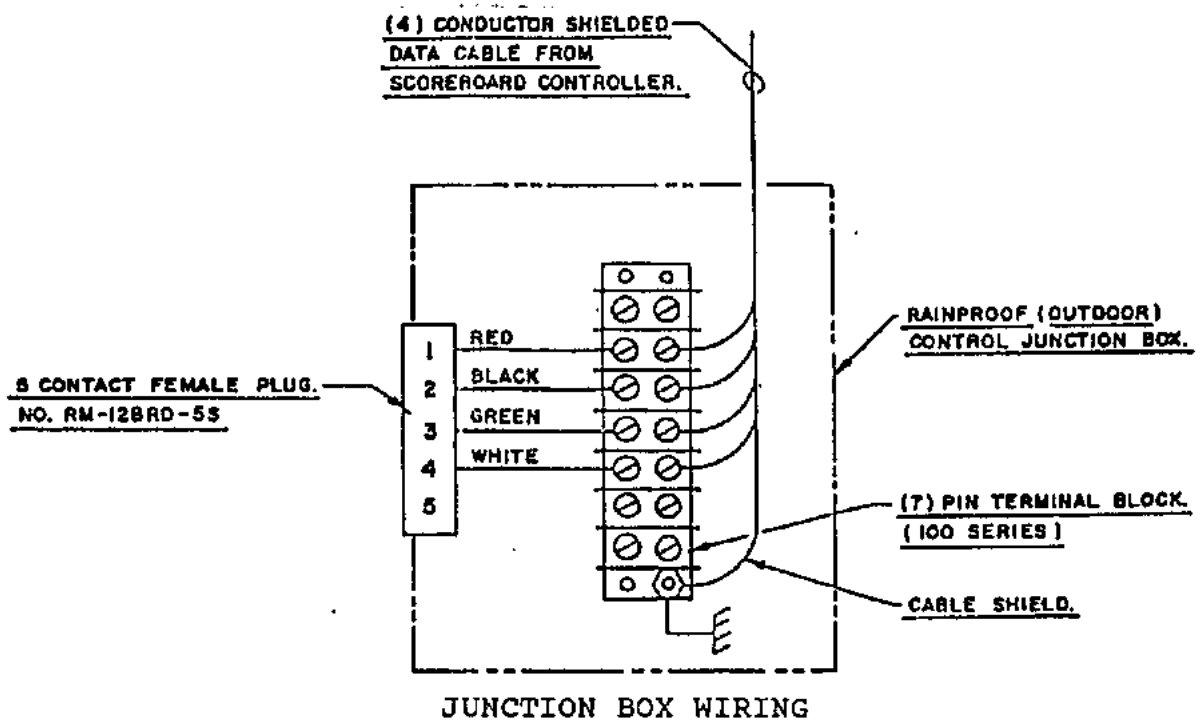
6. DIAGRAMS

6.1 Control Console Keyboard and Slipsheet Layout

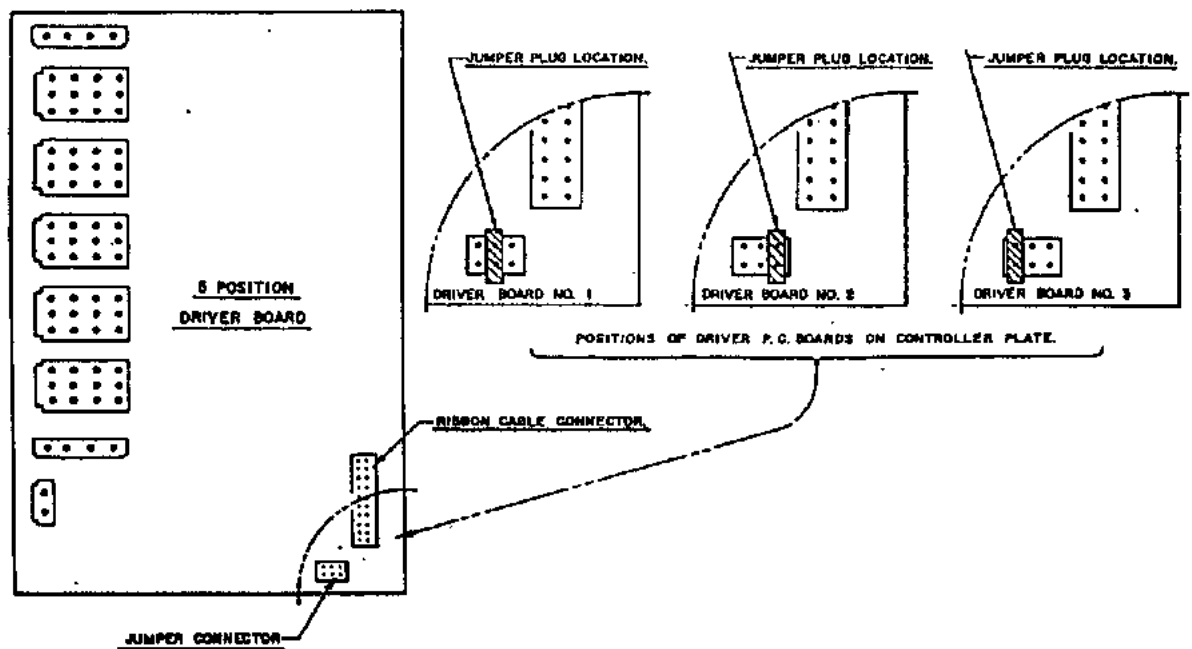


Console Keyboard

6.2 Press Box Junction Box Wiring

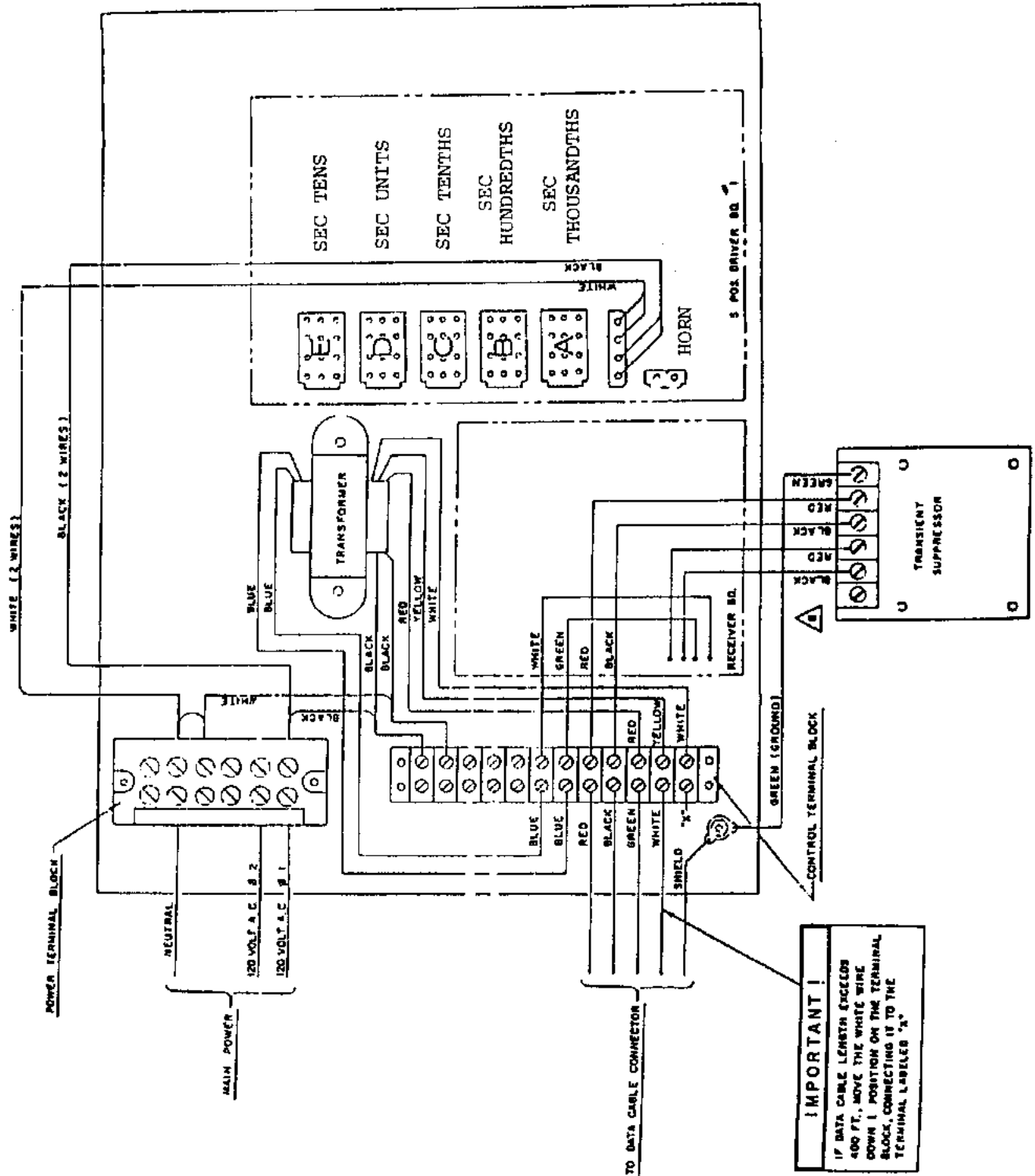


6.3 Jumper Location on 5 Position Driver Board



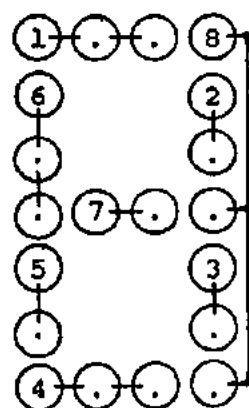
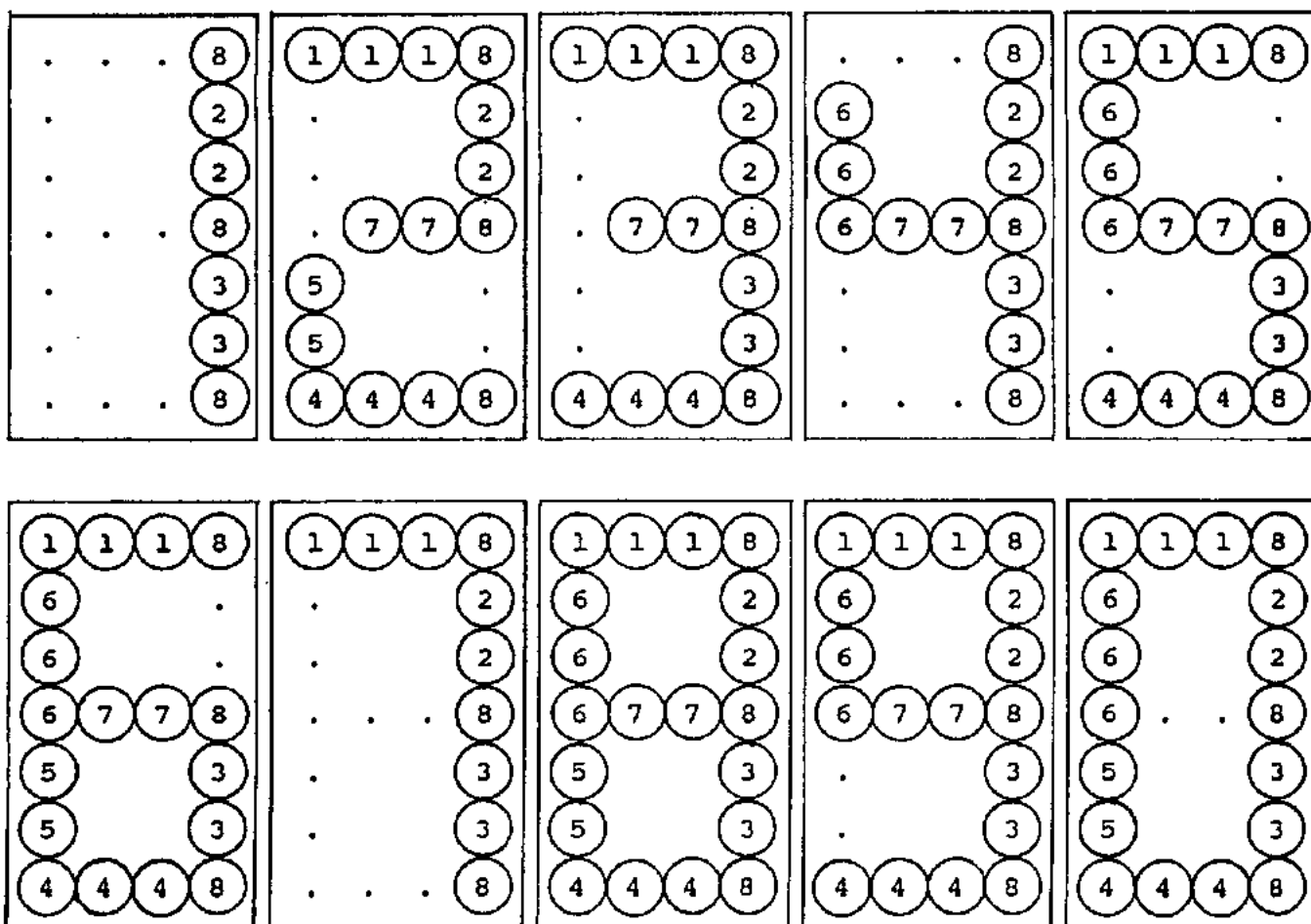
JUMPER LOCATION

6.4 Controller Wiring and Layout



CONTROLLER LAYOUT

6.5 Microprocessor 4X7 Lamp Pattern (8 Bit)



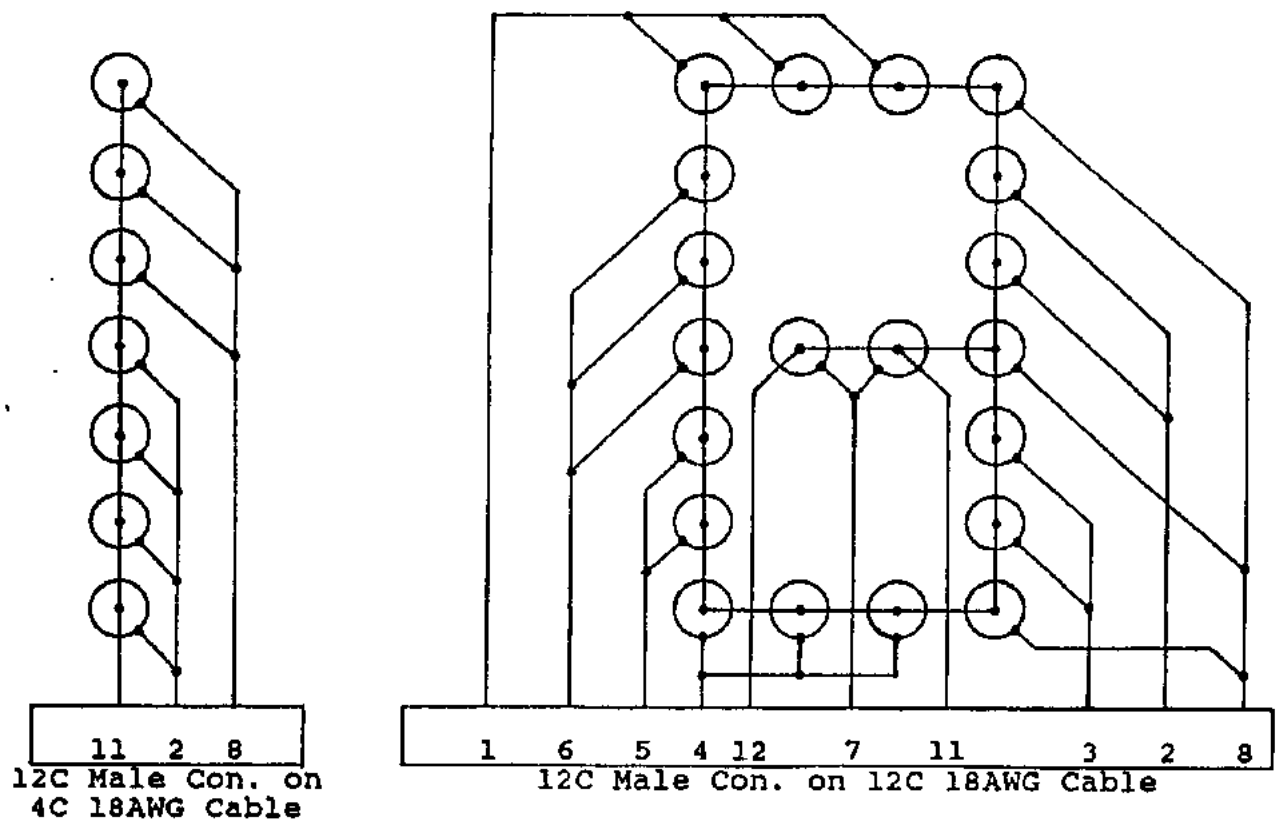
8 BITS

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

MICROPROCESSOR 4 X 7 (8 BIT) LAMP PATTERN

6.6 Figuregram Wiring

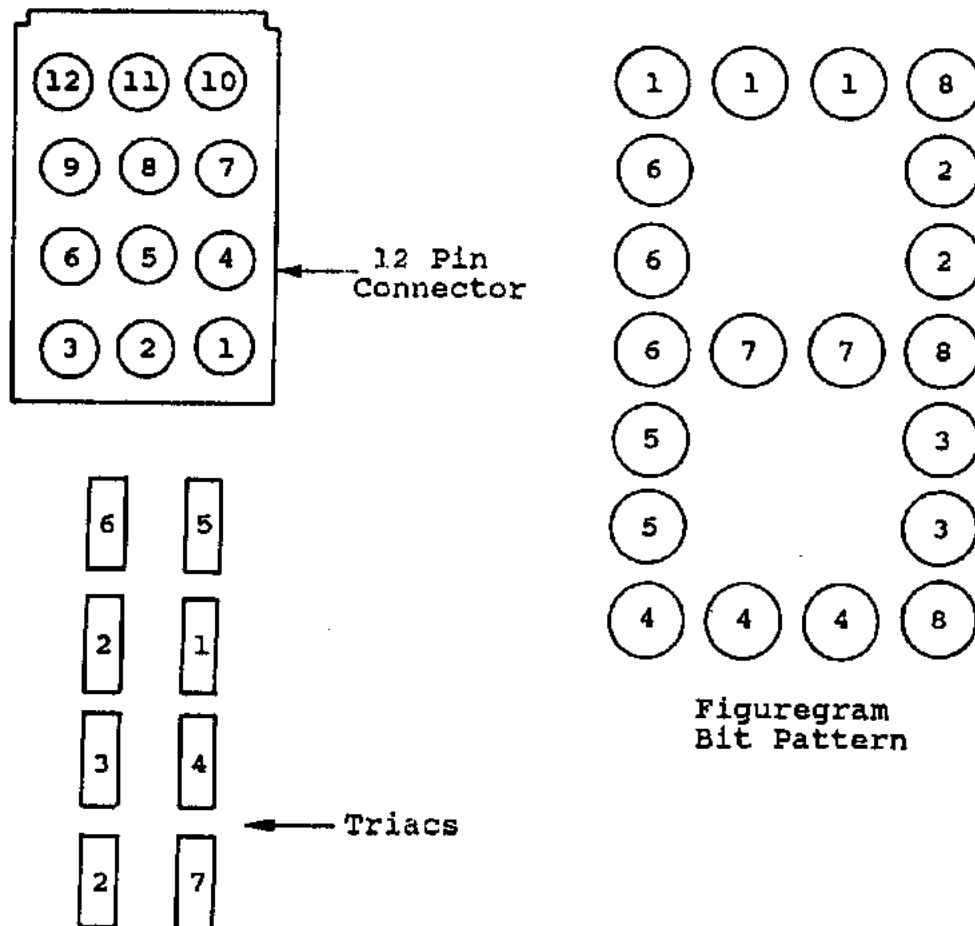


8 BIT FIGUREGRAM WIRING (Face View)

6.7 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