



a division of general indicator corporation

GIC

general indicator corporation

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OPERATING INSTRUCTIONS AND SERVICE MANUAL

SWIMMING SCOREBOARD

MODEL MP-2726

HOME 	:	GUEST 				
	PERIOD 1 2 3 4 ○ ○ ○ ○					
LANE PLACE	1	2	3	4	5	6

EFFECTIVE DECEMBER 6, 1989

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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 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 Identification

All-American uses a 4 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.

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 Swimming Display
- 1 ea Control Console
- 1 ea Service Manual
- 1 ea Mounting Hardware Package
- 1 ea Junction Box
- 1 ea Horn
- ? ft Control Cable (if ordered)

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 Pre-Test

Before installing scoreboard, pre-test all functions.

- (A) Connect scoreboard to two 20 AMP, 120 Volt AC circuits or one 30 AMP 120 Volt circuit.
- (B) Plug control console into top of scoreboard.
- (C) Test operate all functions on scoreboard according to operating instructions in section 3 of this manual.
- (D) When all functions test out, disconnect the power and the control console before hanging the scoreboard.

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 junction box and scoreboard wiring.

2.5 Electrical Connections

This scoreboard requires one 120 V. 30 Amp AC circuit, or two 120 V. 20 Amp circuits for the exclusive use of the scoreboard.

IMPORTANT

To protect the MP-2001 Control Console from damage, it is advisable to disconnect the Control Console and store in a dry secure area when it is not in use.

NOTE

This equipment 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 TV reception requiring the operator to take whatever steps are necessary to correct the interference.

3. CONTROL CONSOLE OPERATION

3.1 Scoreboard Power

Turn on the branch circuits to scoreboard. The Home and Guest scores will show "0", and the timer will show ":00".

3.2 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.

The console display should show CODE when first on.

Enter the two digit code (70) shown in the lower left corner of the keyboard as in the following example:

Push CODE 7 0 ENTER

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

3.3 Console Display

The 4 digit Liquid Crystal Display shows the race or game time plus information entered from the keyboard.

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. The 1/10 Second figuregram will operate in the up mode.
- (B) Push IN/OUT to start/stop the timer
- (C) Push RESET to return the timer to the previously set value. If the timer is in the up mode, the time will reset to 0 and time up. If the timer is in the down mode, you must set a time period, and the timer will count down.
- (D) To set an 8 minute period; key in the following:
SET 8 0 0 ENTER
- (E) Any time up to 99:59 may be preset in a similar manner.

3.5 Team Scores

The Home and Guest Scores can be changed in three different ways.

- (A) To Add 1 to the existing score: Push ADD 1 .
- (B) To directly enter or correct a score:
Push home or guest SCORE followed by desired number,
then ENTER .

Example: Present Home Score is 15. Change the score from 15 to 23.

Push Home SCORE 2 3 ENTER .

(C) To clear the score:

Push SCORE CLEAR

3.6 Period Indicators

Push PERIOD once to increment the period indicator.

3.7 Placing Indicators

To enter a Home or Guest place, push PLACE followed by the desired number, as in the following example:

Push PLACE 1 ENTER .

To clear the placing information, push: PLACE CLEAR .

3.8 Horn

The horn will blow for 1/2 second each time HORN is pressed.

The horn will blow automatically at the end of each period for 2 seconds.

3.9 Timeout Period

An automatic timeout period of 1 minute is provided for "Time Outs" when the main timer is not running.

Push: TIME OUT to start the 1 minute timer. The LED

indicator will glow and the console display will count down from 1:00. When 1 minute has elapsed the internal beeper sounds and the display returns to the current game time.

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.

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.

4.3 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)
- (b) If the voltage is 0 V contact the service department for assistance.
- (c) If the voltage is correct (2-3 V) check that this reading also appears at the scoreboard.
- (d) 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 Scoreboard Display Parts

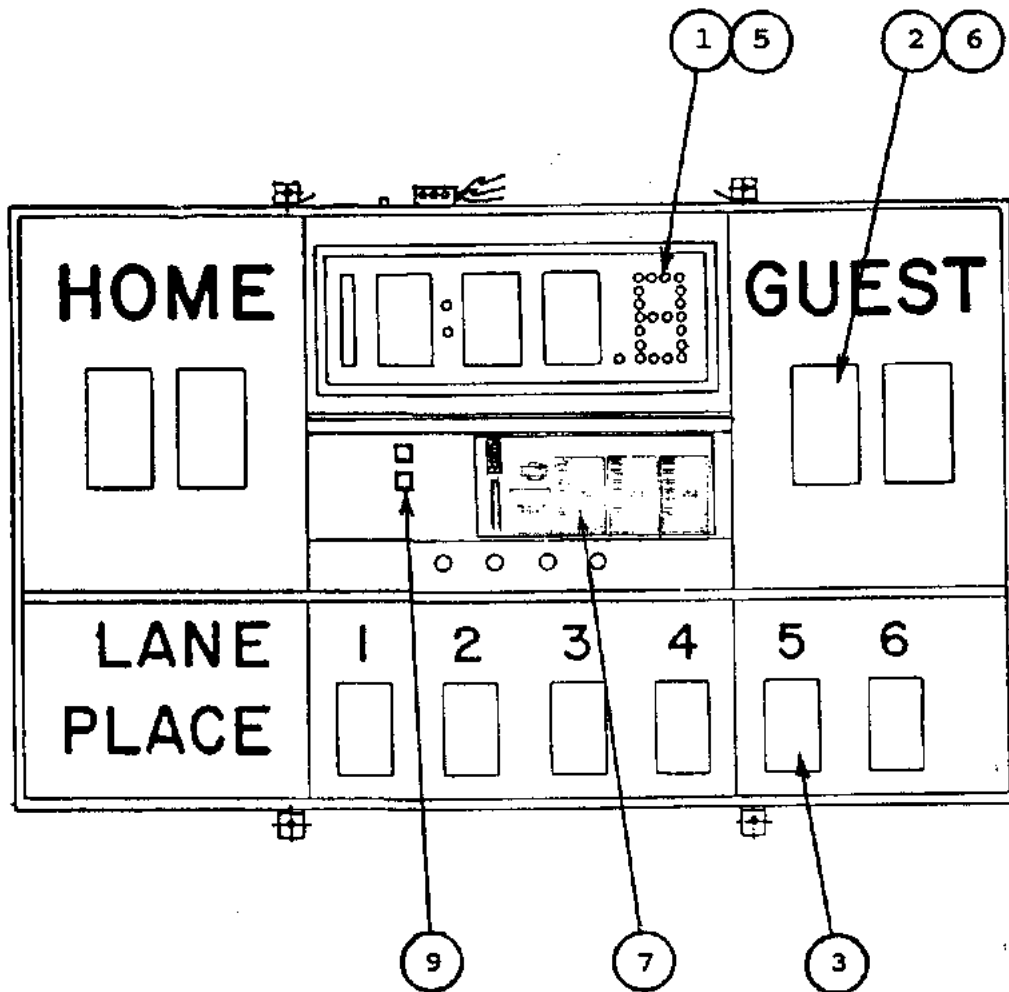


figure 1
DISPLAY ASSEMBLY

REPLACEMENT PARTS LIST (MP-2726) Swimming Scoreboard P.N.150171

fig.& index	MFG PART NUMBER	DESCRIPTION	REF DES	VENDOR PART #
1-	150472	Display Assembly		150472
1-1	850001	Lamp, 7C7/125V White		7C7/W
1-2	850002	Lamp, 7C7/125V Amber		7C7/A
1-3	850000	Lamp, 7C7/125V Red		7C7/R
1-4	705622	Lamp Socket, 2 tang cand. base		AC021
1-5	705800	Reflector Ring, 1 1/8" (Qty 210)		705800
1-6	705801	Reflector Ring, 1 1/2" (Qty 84)		705801
1-7	150369	Controller Assembly ***** (See Figure 2) *****		150369
1-8	700102	Resistor, 2 OHM 10 W. wire wound		HLM-10-10Z
1-9	119337	Line Filter, Mallory		20VB1
	150365	MP-2001 Control Console		150365
	180157	Transmitter PCB Assembly for S.N.1586 and up	A1	180157
	151003	Transmitter PCB Assembly for S.N.1585 and below	A1	151003
	151310	Keyboard Subassembly		151310
	702785	Connector, 5 Pin Male CCT	P1	RM12BPG-5P
	151204	Wall Junction Box, Single		151204
	702786	Connector, 5 Pin Female	J1	RM12BRD-5S
	150500	Cable, MP-41 Control		8723
	150205	Wall Junction Box, Dual		150205
	702786	Connector, 5 Pin Female	J1-J3	RM12BRD-5S
	150500	Cable, MP-41 Control		8723

5.2 Scoreboard Controller Assembly Parts

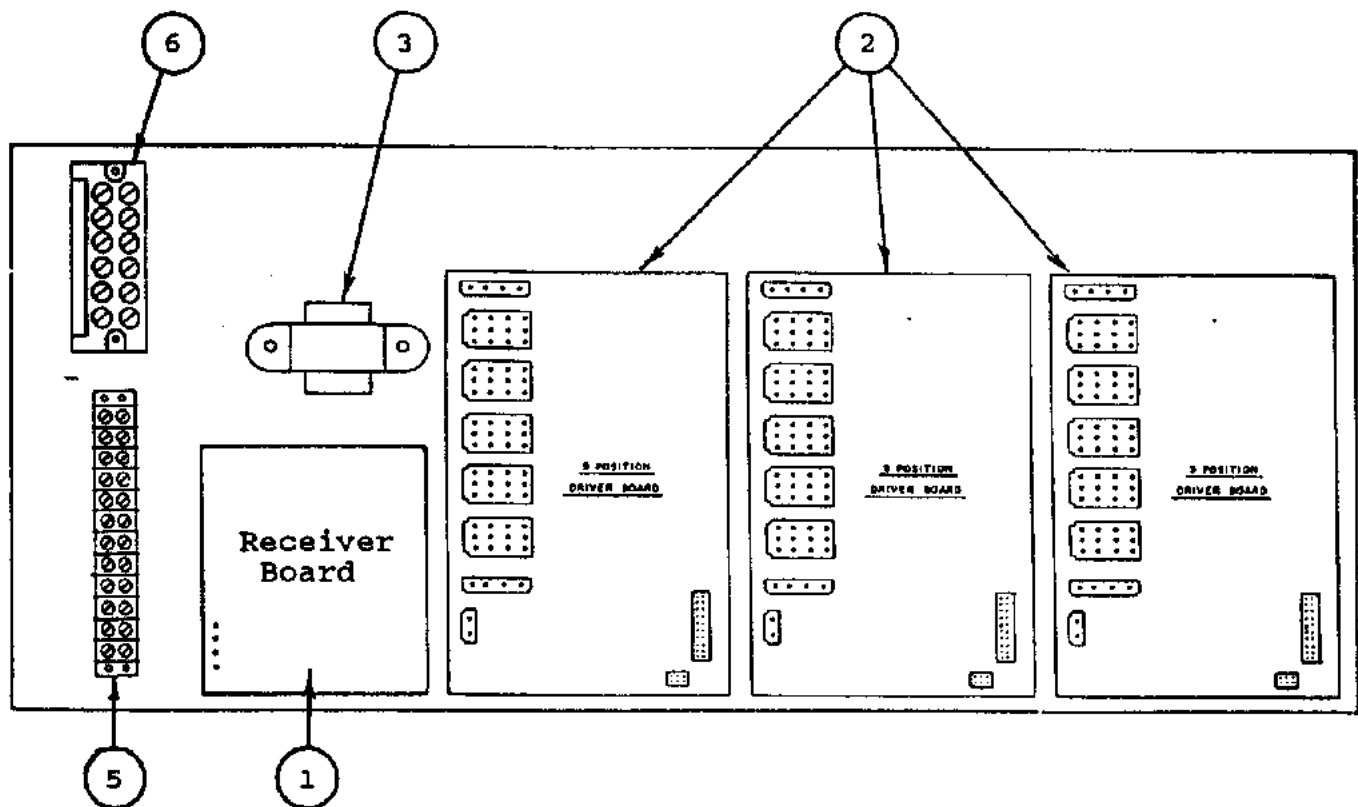


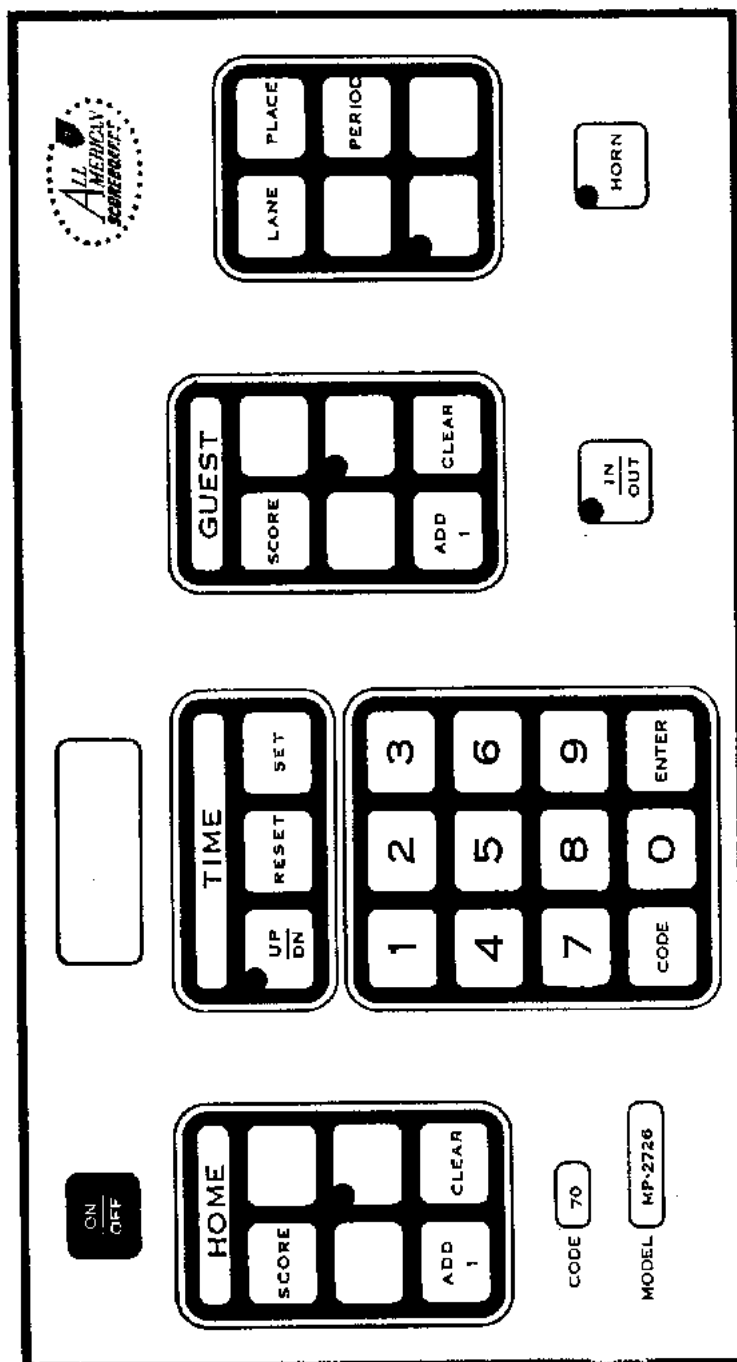
figure 2
CONTROLLER ASSEMBLY

REPLACEMENT PARTS LIST MP-2726 Controller Assy P.N.150369

fig.& index	MFG PART NUMBER	DESCRIPTION	REF DES	VENDOR PART #
2-	150369	Controller Assembly		150369
2-1	150366	Receiver PCB Assembly	A3	150366
2-2	150368	5 Pos. Driver #1, #2, & #3	A4-A6	150368
2-3	151301	8V/18V Transformer Assembly	T1	CS-697
2-4	151300	Horn Suppressor Assy.		151300
	700520	Varistor		ERZ-C20DK201U
	700850	Capacitor, .02 MFD 400V.		
2-5	701103	Terminal Block, 12 C		670-12
2-6	701134	Terminal Block, 6 C		ME 1106
2-7	705074	Ribbon Cable Assy. W/3 F.Con.		AS-1052

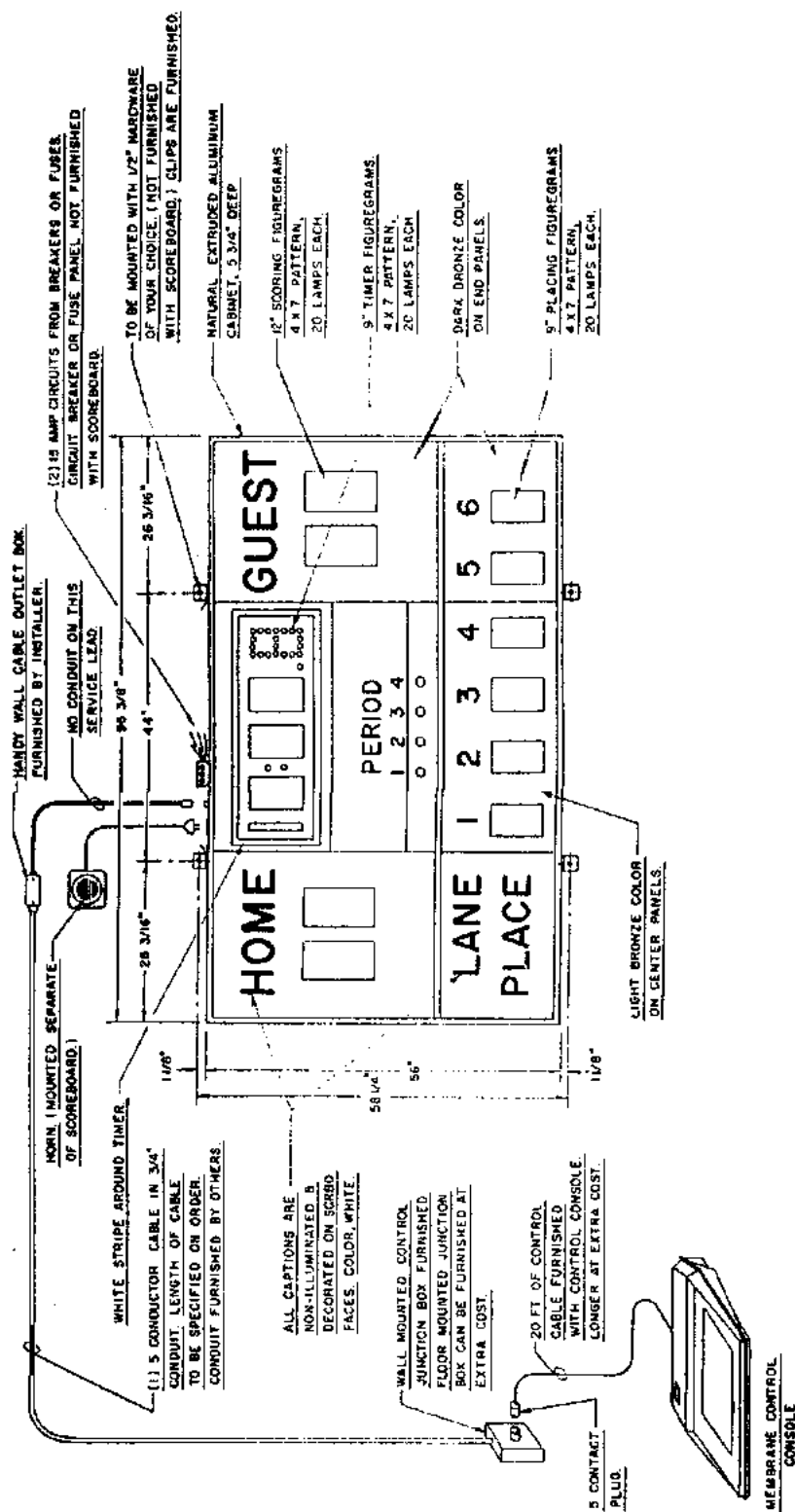
6. DIAGRAMS

6.1 Control Console Keyboard and Slipsheet Layout



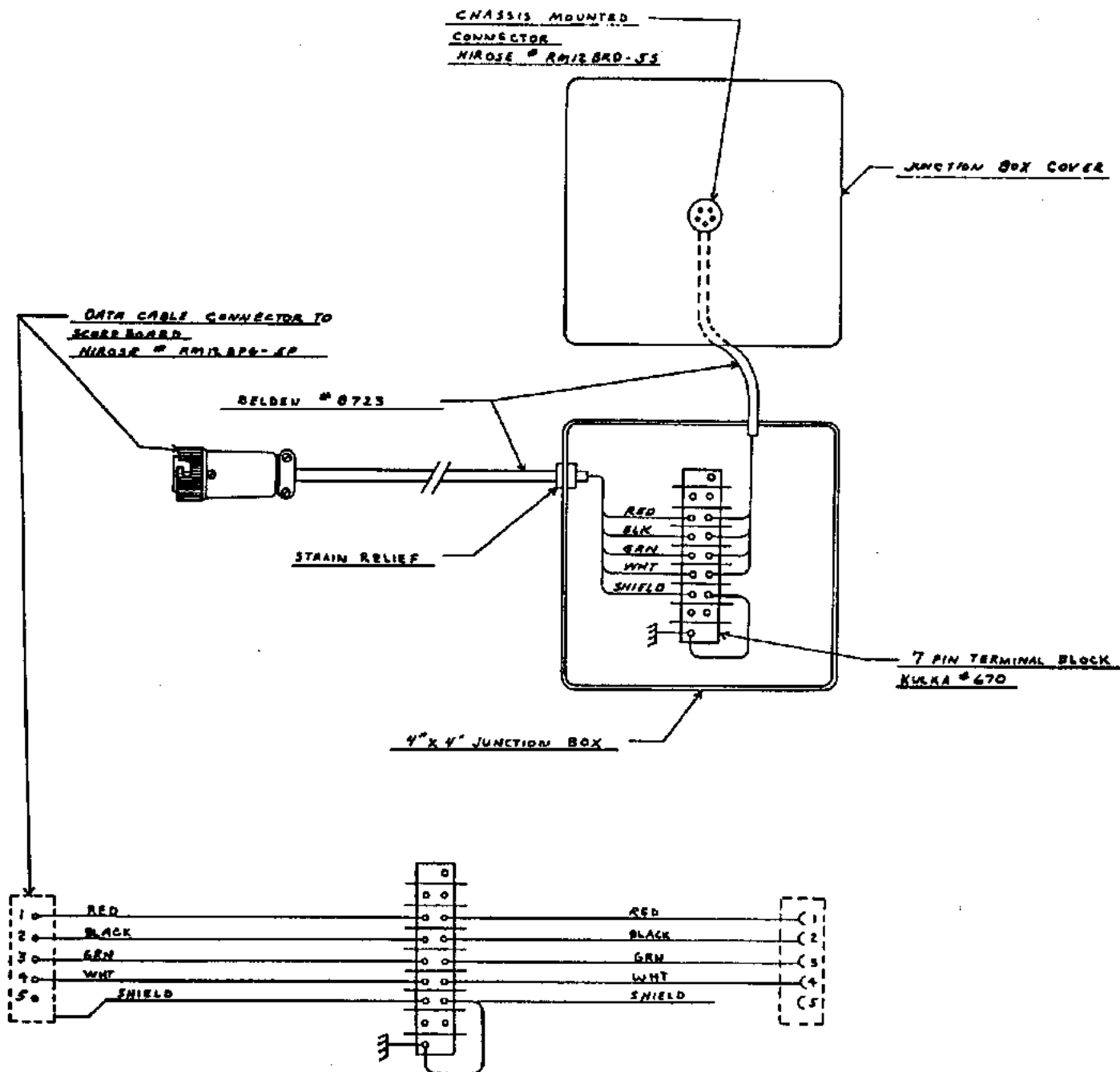
Console Keyboard

6.2 Scoreboard System Layout



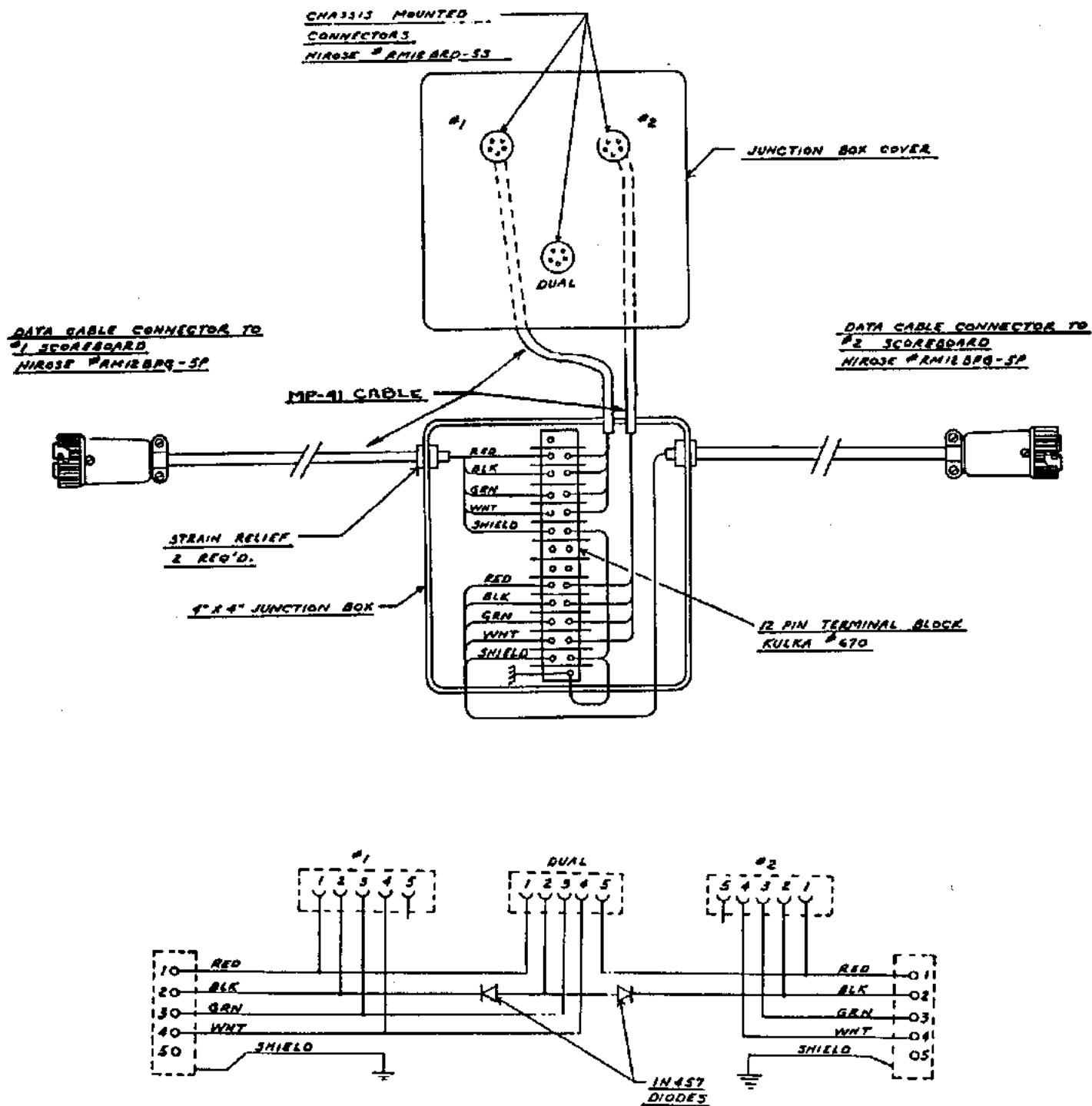
SYSTEM LAYOUT

6.3 Single Wall Junction Box Wiring



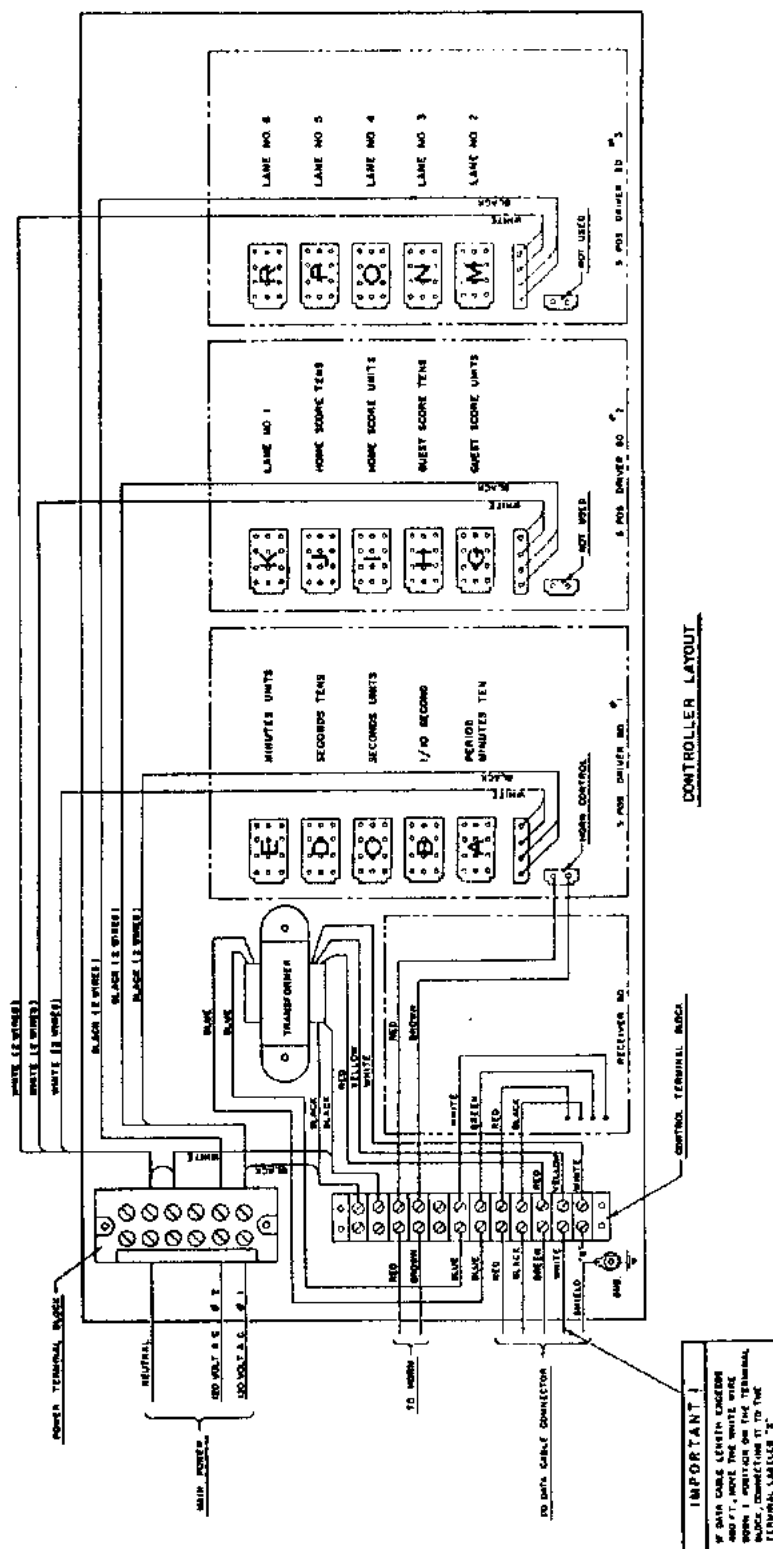
SINGLE JUNCTION BOX WIRING

6.4 Dual Wall Junction Box Wiring



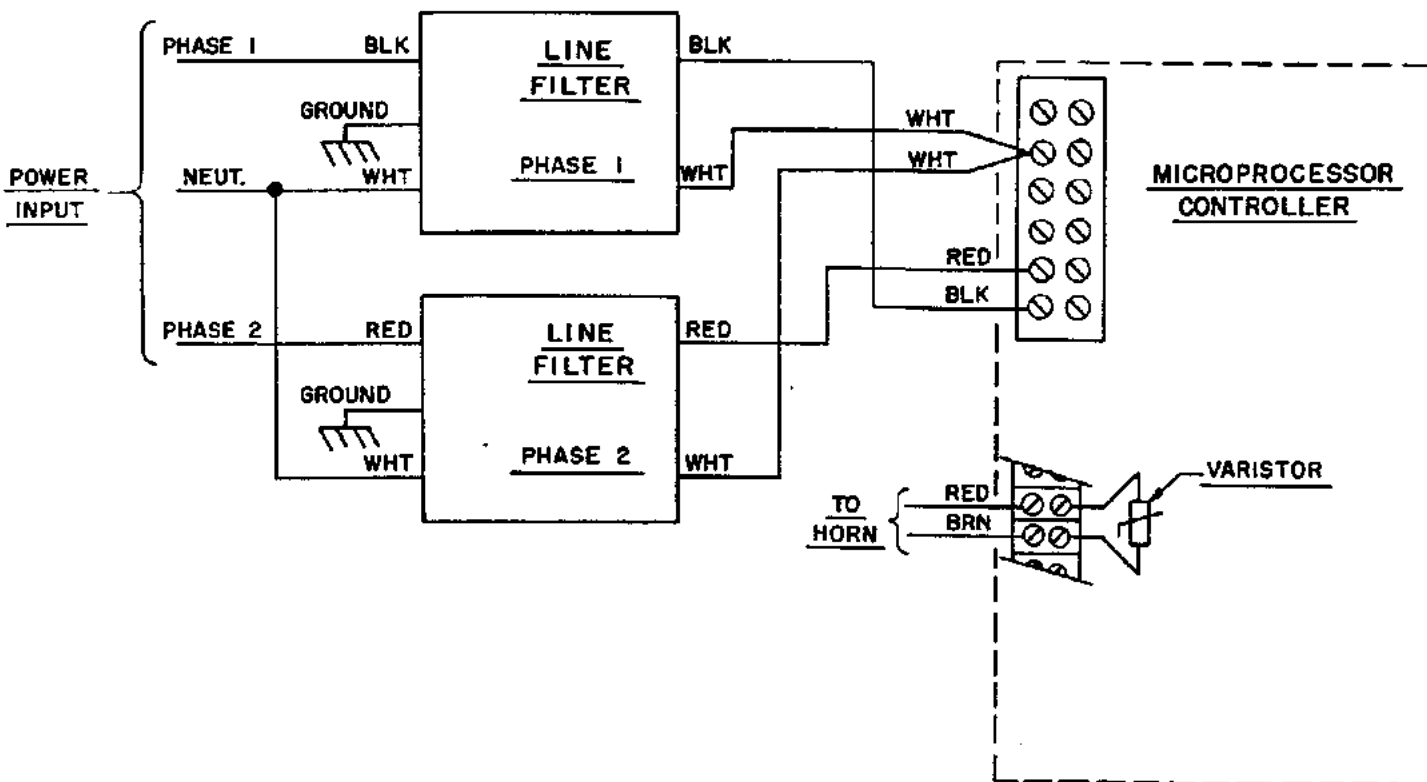
DUAL JUNCTION BOX WIRING

6.5 Controller Wiring and Layout



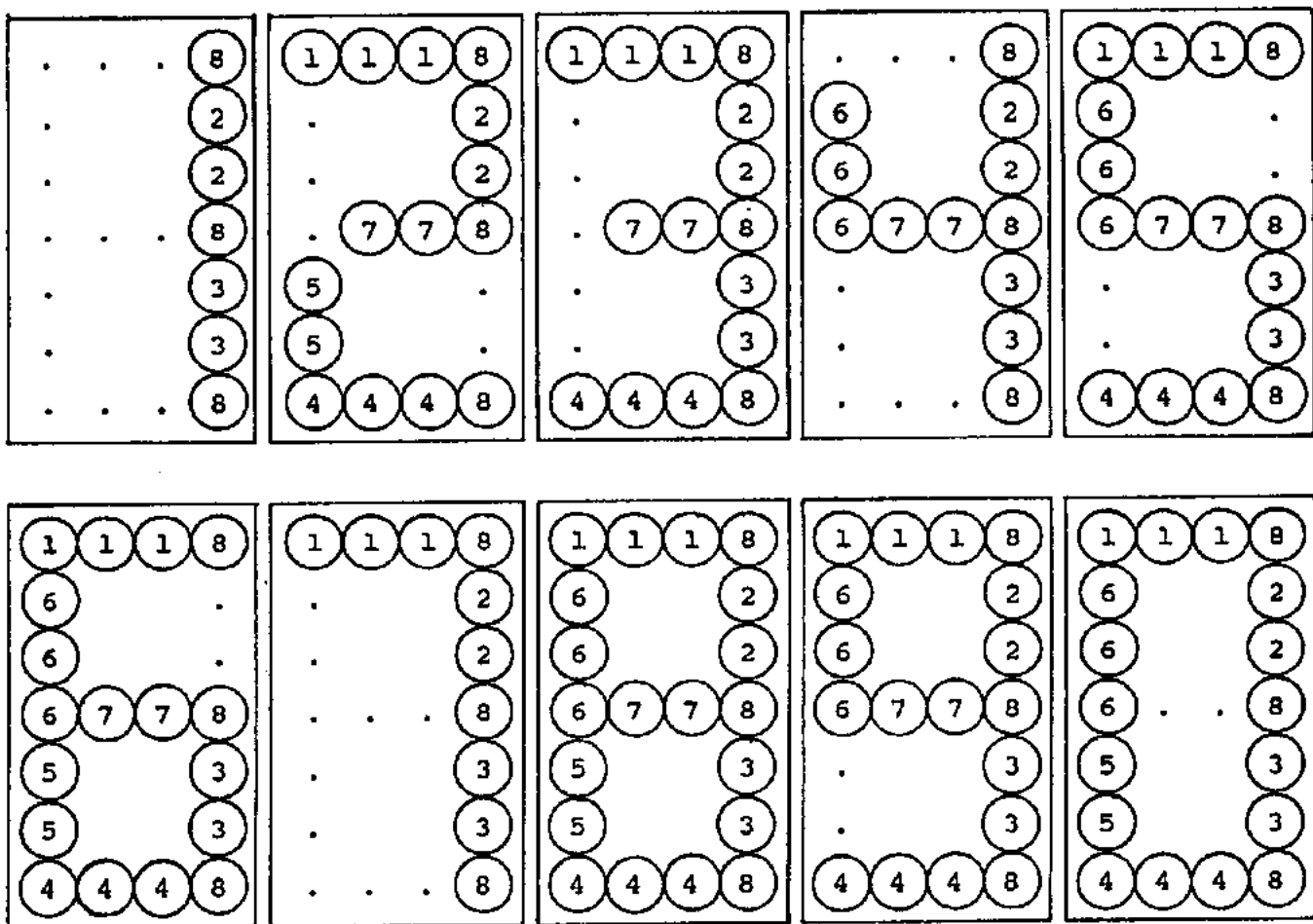
CONTROLLER LAYOUT

6.6 Line Filter Wiring Diagram

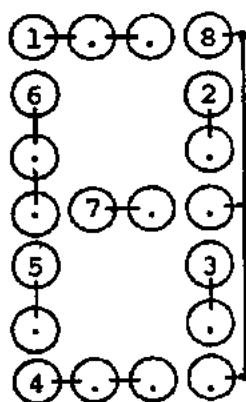


LINE FILTER WIRING

6.7 Microprocessor 4X7 Lamp Pattern (8 Bit)



NUMERALS

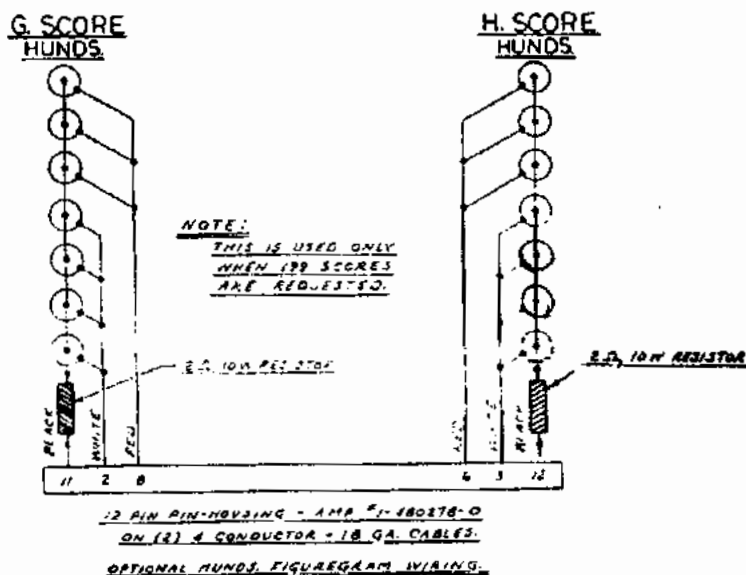
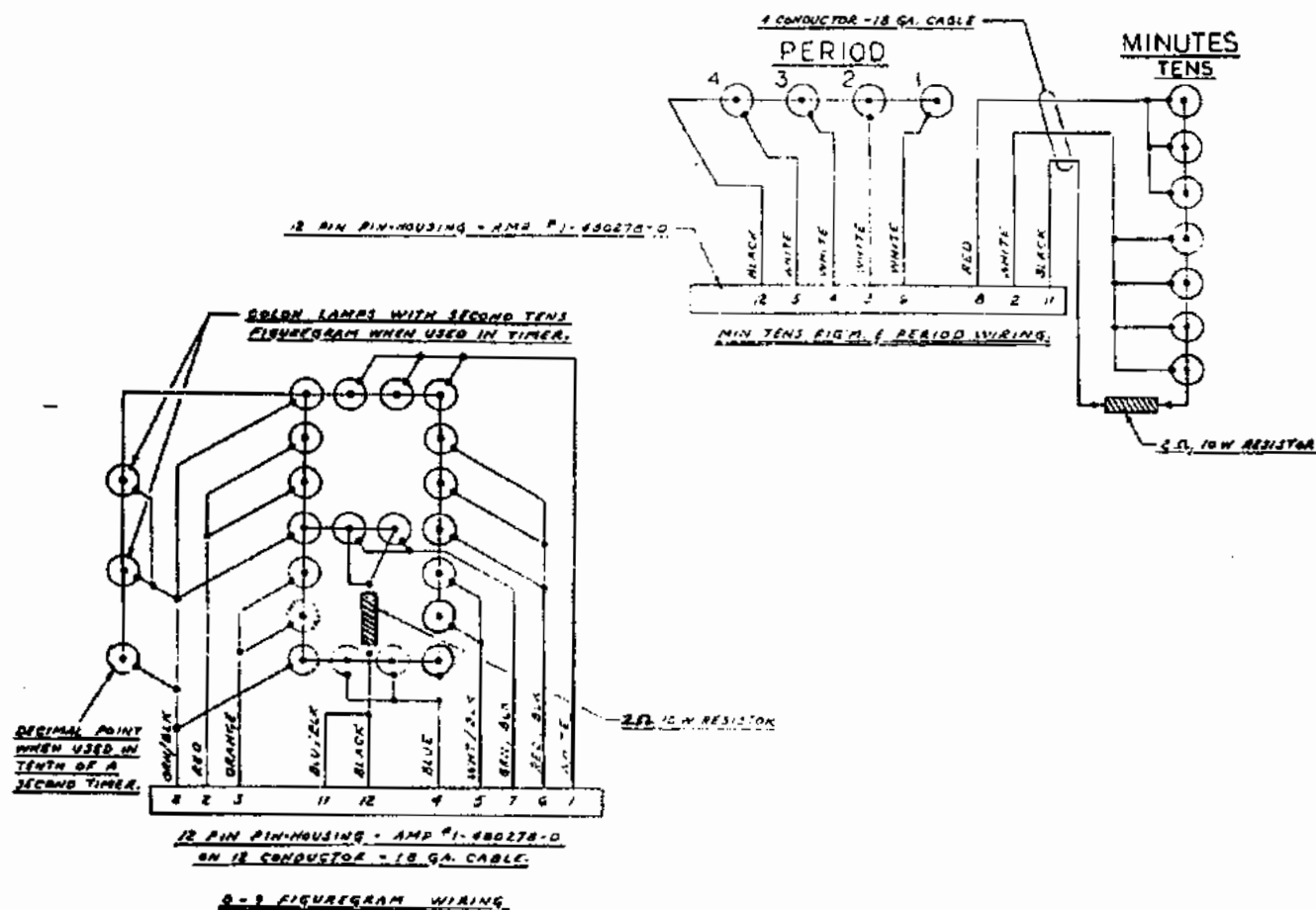


8 BITS

	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

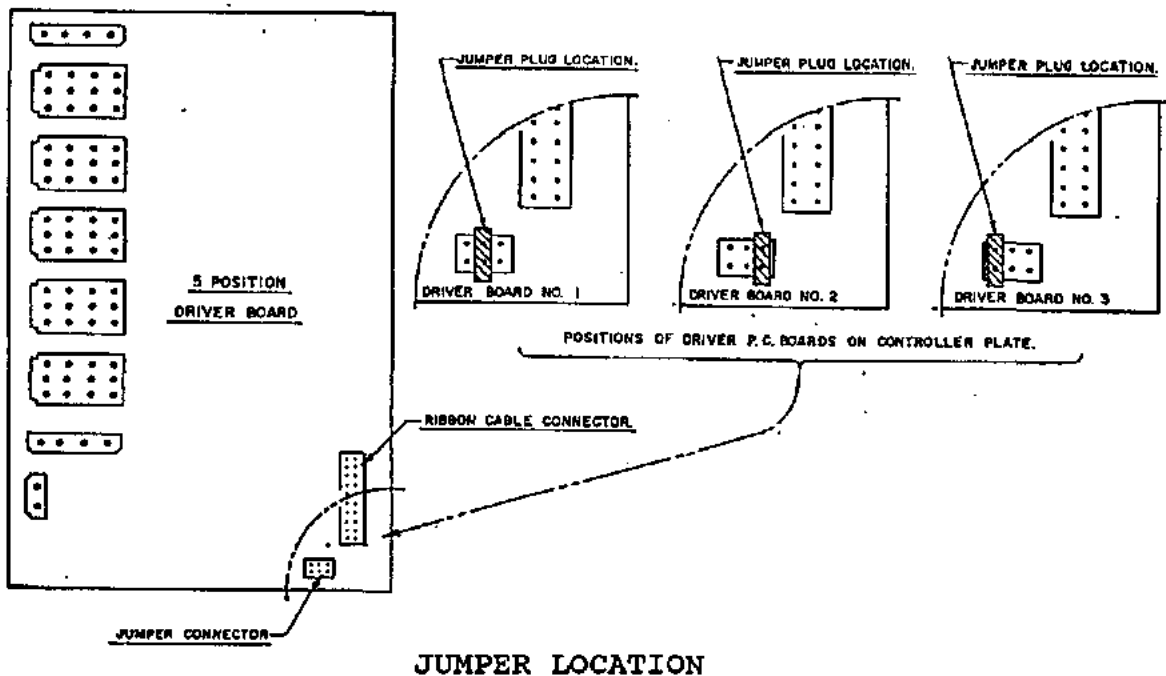
MICROPROCESSOR 4 X 7 (8 BIT) LAMP PATTERN

6.8 Figuregram Wiring



8 BIT FIGUREGRAM WIRING (Face View)

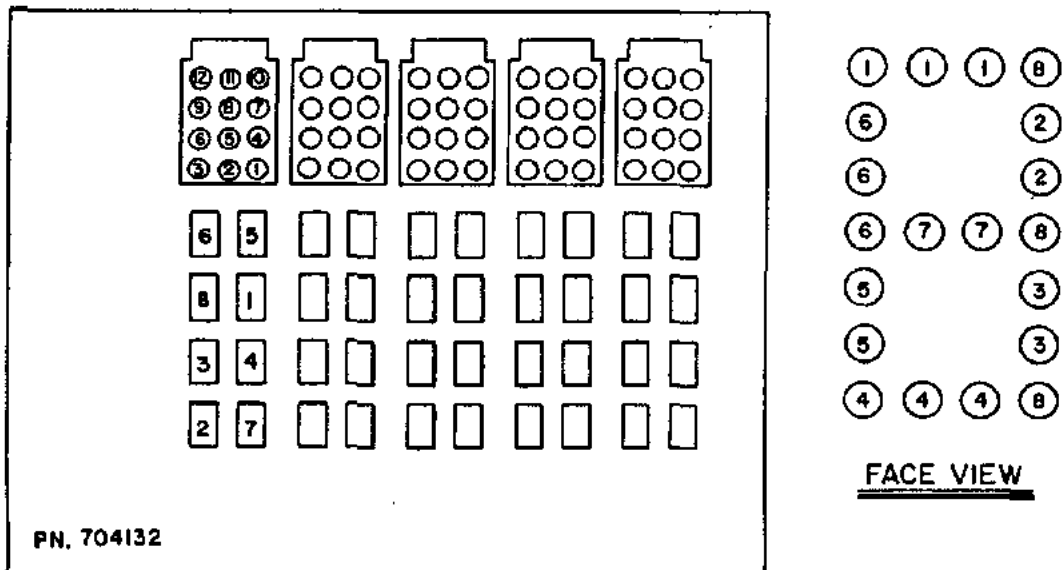
6.9 Jumper Location on 5 Position Driver Board



6.10 Triac Placement

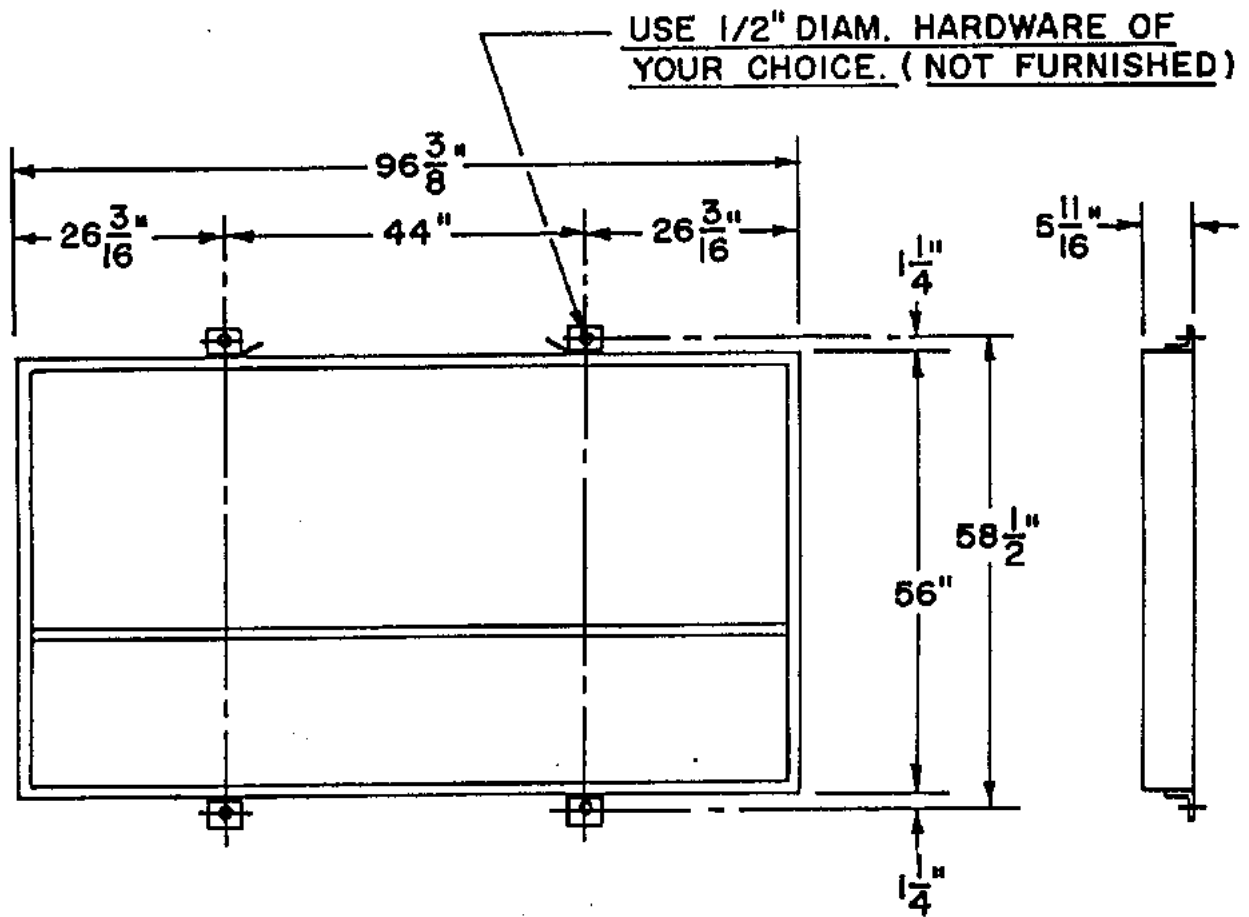
The triac is the switch that controls the figuregram lamps. The triacs for any given figuregram are adjacent to the twelve pin connector on the driver board that controls that figuregram.

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



MP TRIAC PLACEMENT

6.11 Installation Drawing



INSTALLATION DRAWING