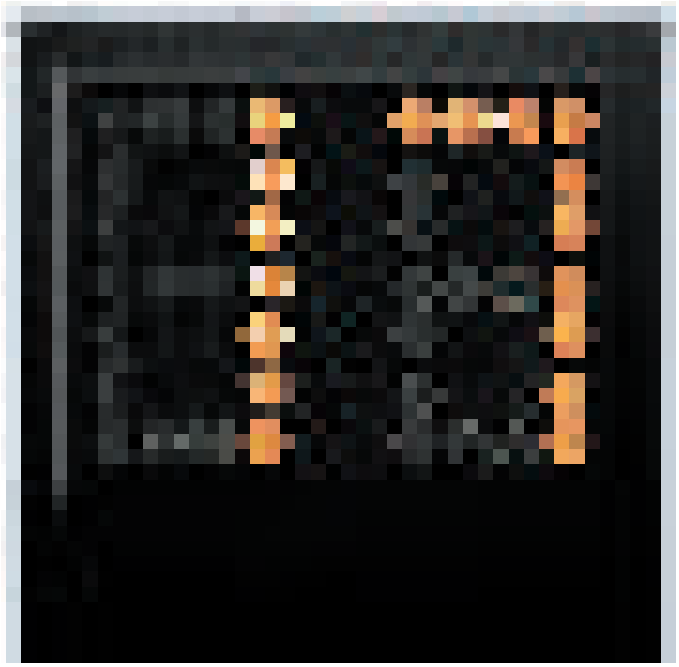
Operating Instructions & Service Manual



Football Scoreboard
Model MP-3499R With MP-3000R Radio Control

EFFECTIVE S.N. 16,775 August 17, 2000

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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 100
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 S. Main Street
Pardeeville, WI 53954
E-mail score@everbrite.com

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 display. When contacting the factory for assistance it is important that the model number and serial number 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 the 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 it must be 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, properly filled out, 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

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

2 ea Timer Displays
1 ea Control Console
1 ea Service Manual
1 ea Power Adaptor
1 ea Mounting Hardware Package

2.2 Inspection

Tighten all screws and fittings that may have loosened in shipment.

2.3 Pre-Test

Before installing the timers, pre-test all functions.

2.4 Installation

Select the location best suited for visibility by the majority of spectators. Preferred position is facing east or north to avoid direct sunlight on the face of the scoreboard, if day games are played.

2.5 Electrical Connections

These timers require a 120 V. 60 HZ 2 wire with ground 15 AMP circuit at each timer display for the exclusive use of the timers.

NOTE

To protect the control from damage, it is advisable that you 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 Scoreboard Power

Turn on the branch circuits to the timers. The timers will show "0".

3.2 Console Display

The 2 line by 20 character Liquid Crystal Display module displays the timer information entered from the keyboard. The following information is displayed continuously: Time A, Time B, Dimmer status, Auto Horn Enable.

3.3 Console Power

Plug the power adaptor into the control console and into a 120 VAC wall outlet.

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 as follows:

DELAY OF GAME TIMER
MP-3499 VER. 2.0

3.4 Initializing Scoreboard

Enter the two digit code (68) shown on the keyboard as in the following example:

Push **CODE** **6** **8** **ENTER** .

When the proper code has been entered, the console display will show as follows:

	00	
A = 0	**H**	**B = 0**

The timer display will now show “00” .

3.5 Time Setting and Control

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

To set a 45 second, and a 5 second period, key in the following:

Push **SET A** **4** **5** **ENTER** .

Push **SET B** **5** **ENTER** . Any time up to 99 may be preset in a similar manner.

Push **RESET A** or **RESET B** to reset the time to the previously set value.

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

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

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

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

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

3.6 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.

The automatic horn function may be disabled by using the **AUTO HORN** key. An ‘H’ is displayed on the LCD when this function is enabled.

3.7 Dimmer Operation

Push the **DIM** key to alternately dim and brighten the lamps, for day/night use.

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.

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) 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 transformer voltage going to the receiver PCB (printed circuit board) 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 Customer 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, 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 VAC 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 from the transceiver on the controller assembly with a voltmeter set on the 3 VDC or higher scale. The voltage should read somewhere between 2-3 VDC when the console is working properly.
(b) If the voltage is 0 VDC contact the Customer Service Department for assistance, or 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 "A" into "B" and "B" into "A" locations.
(b) Turn the power back on. If the same lamps remain lit all the time, the problem is a shorted lamp socket. If the lamps on a different digit now stay lit all the time, the problem is on the driver PCB assembly. See the replacement parts list for the proper replacement part.

(F) The scoreboard works but some lights do not come on:

(a) Check for burned out lamps.
(b) Check for a broken wire or bad connection on the 12 pin connector.
(c) See the replacement parts list for the proper replacement driver board.

IMPORTANT !!!

In this scoreboard the 120 volt line is on the lamp socket all the time, and the common is switched to turn the lamps on and off. For this reason, to avoid damage to the equipment or personal injury, it is important to turn the main power off when changing the lamps.

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 always remove power before removing the cover or replacing assemblies.

5. REPLACEMENT PARTS

5.1 Scoreboard Display Parts

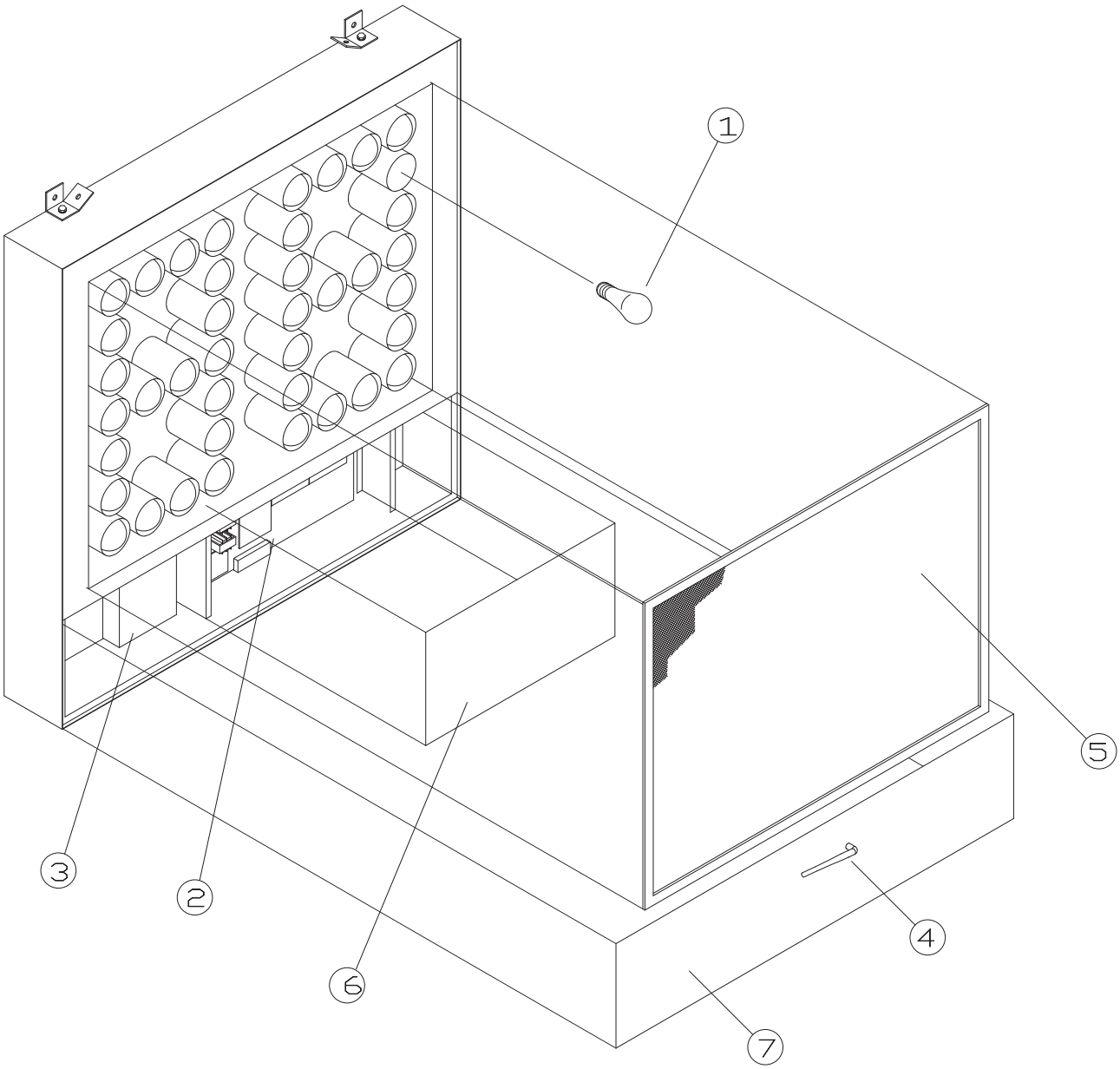


figure 1

DISPLAY ASSEMBLY

REPLACEMENT PARTS LIST (MP-3499R D.O.G. Timer)

fig.& index	MFG PART NUMBER	DESCRIPTION	REF DES	VENDOR PART #
1-	159056X	Display Assy, MP-3499R		159056X
1-1	850027	Lamp, 40W/130V IF		40A19IF
1-2	150624X	Controller Assembly, MP-3499R	A2	150624X
		*****SEE DETAIL FIGURE 2*****		
1-3	SU00038	Fuse box Assy.		SU00038
1-3A	121880	Fuse, 15A 250V	F1	ABC-15
1-4	EL00474P	Antenna, External		EL00474P
1-4A	WI00018P	Antennae Cable, 2.4 GHZ		WI00018P
1-5	705917	Screen, Timer		705917
1-6	EL00079	Rainshield		EL00079
1-7	151204	Service Door		151204
1-8	EL044100	Resistor, 2 OHM 30 WATT Wire Wound		HL-24-09Z
	150021	Control Console, 3000 Radio		150021
	HB005500	Slipsheet Pair		HB005500
	150031	Transmitter PCB Assembly	A1	150031
		*** PROGRAM MP3DOG56.HEX ***		
	SW005100	Toggle Switch,	S1	SW005100
	EL00479P	Tranceiver, 2.4 GHZ Zeus		EL00479P
	EL00473P	Antenna, Internal		EL00473P
	EL053000	LCD Display, 2 Line 20 Character		
	HB002400	Keyboard Assembly,		HB002400
	WH009100	Ribbon Cable Assembly, 14C 8”		WH009100
	122763	Enclosure,		
	EL00478P	Power Adaptor, 9 VDC 1 AMP		EL00478P
		Horn, 350N		

5.2 Scoreboard Controller Assembly Parts

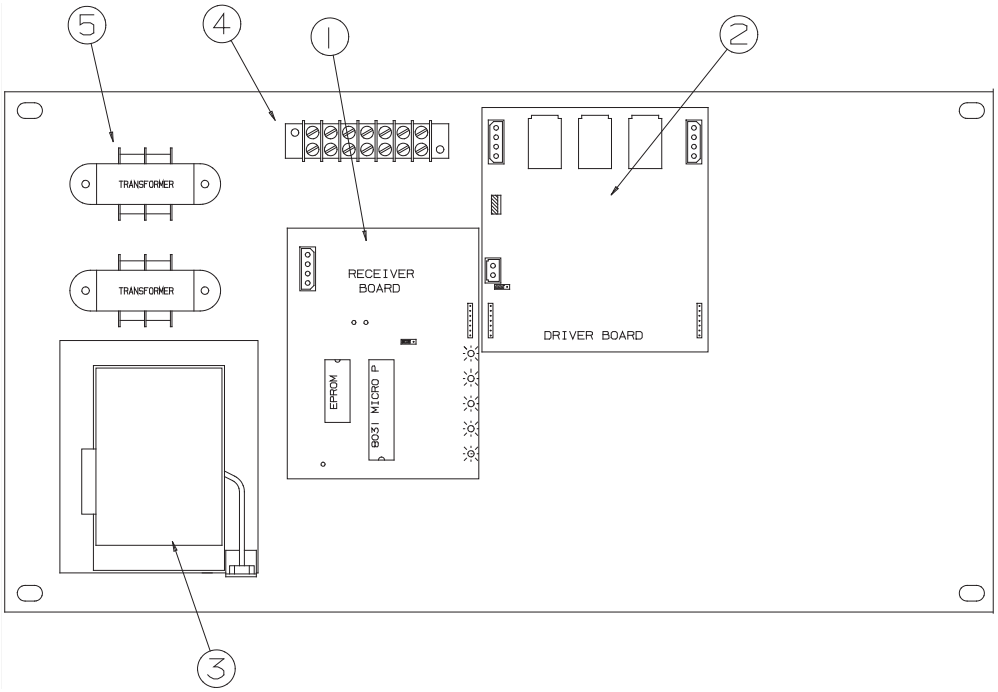


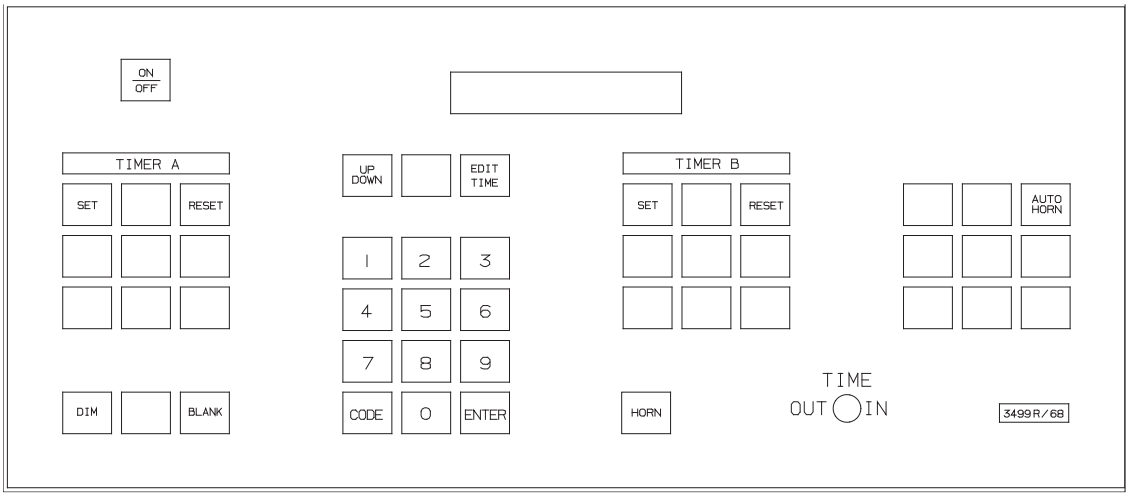
figure 2

CONTROLLER ASSEMBLY

REPLACEMENT PARTS LIST (MP-3499R) Controller Assembly				
fig.& index	MFG PART NUMBER	DESCRIPTION	REF DES	VENDOR PART #
2-	150624X	Controller Assembly	A2	150624X
2-1	150040	Receiver PCB Assembly ***** PROGRAM DG_RCV.HEX *****	A3	150040
2-2	118922	Driver PCB Assy, 3 Position #1	A4	118922
2-2A	930674	Cable Assy, 3” Ribbon W/ 7C Fem.		CE100F22-7
2-3	EL00479P	Transceiver, 2.4 GHZ Zeus OEM		EL00479P
2-4	701137	Terminal Block, 7C	TB-1	670-7
2-5	703719	Transformer Assy, 8V/18V	T1/T2	CS-697

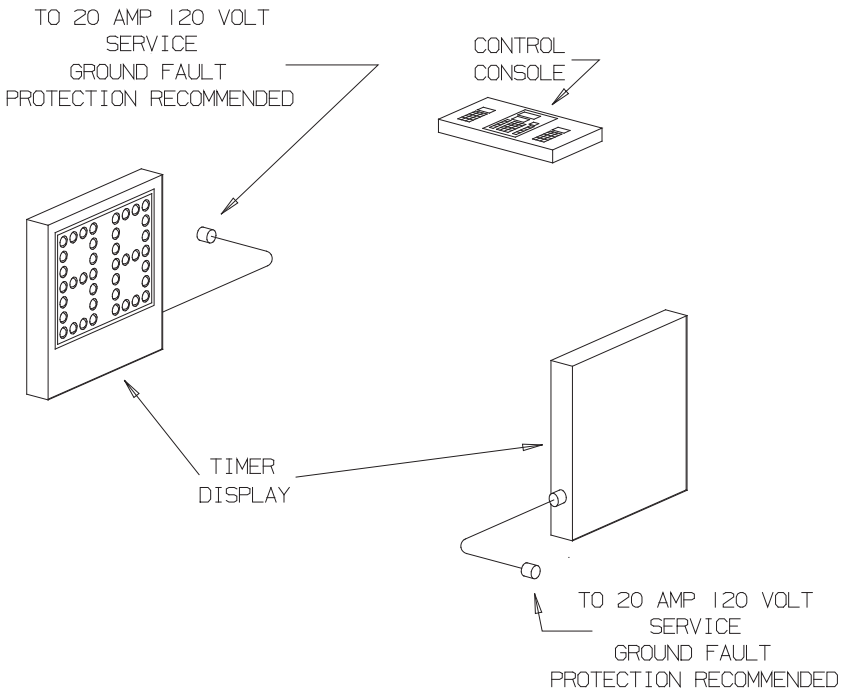
6. DIAGRAMS

6.1 Control Console Keyboard and Slipsheet Layout

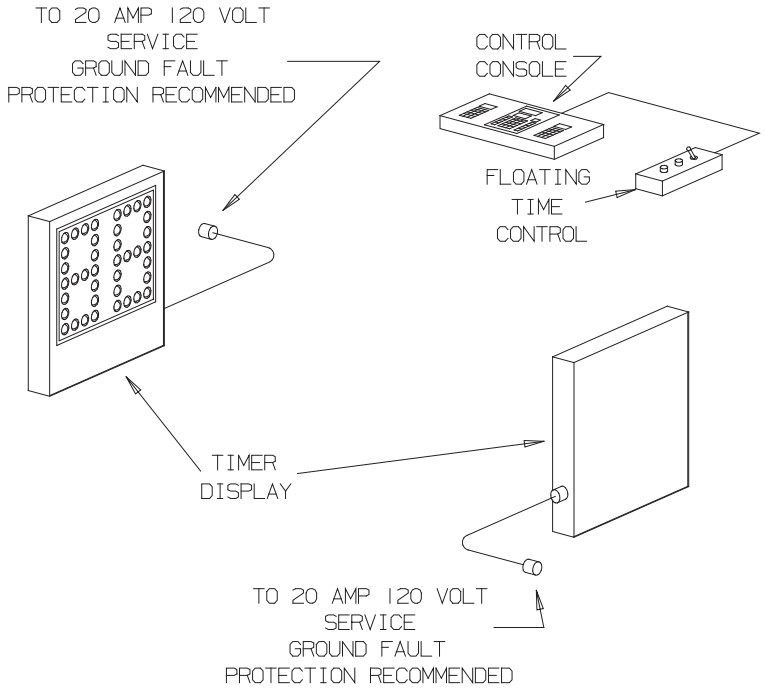


CONSOLE KEYBOARD

6.2 Scoreboard System Layouts



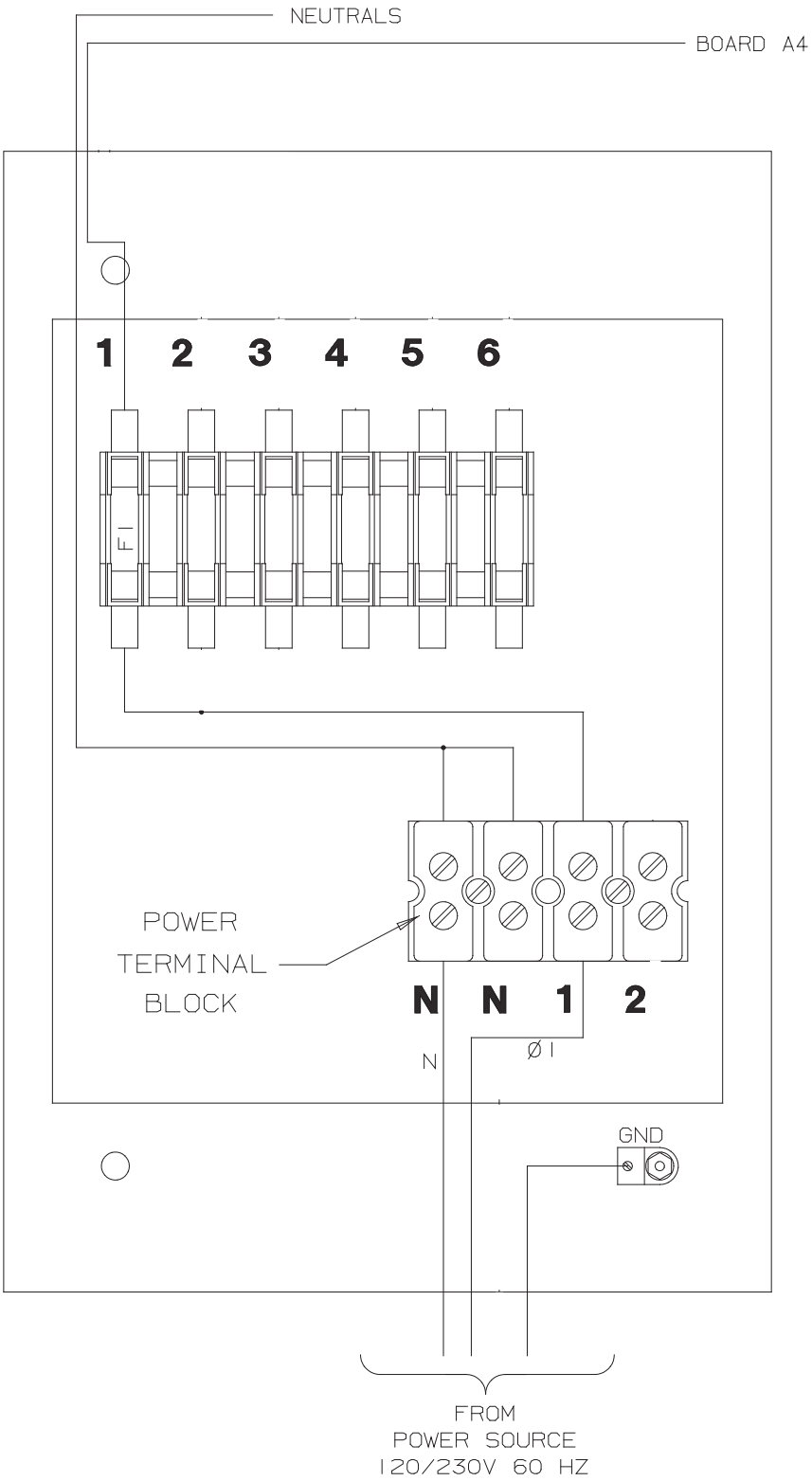
This is the normal setup.



This setup requires an additional 5 Pin connector installed in the control and a hand held control with 10’ cable or 200’ cable.

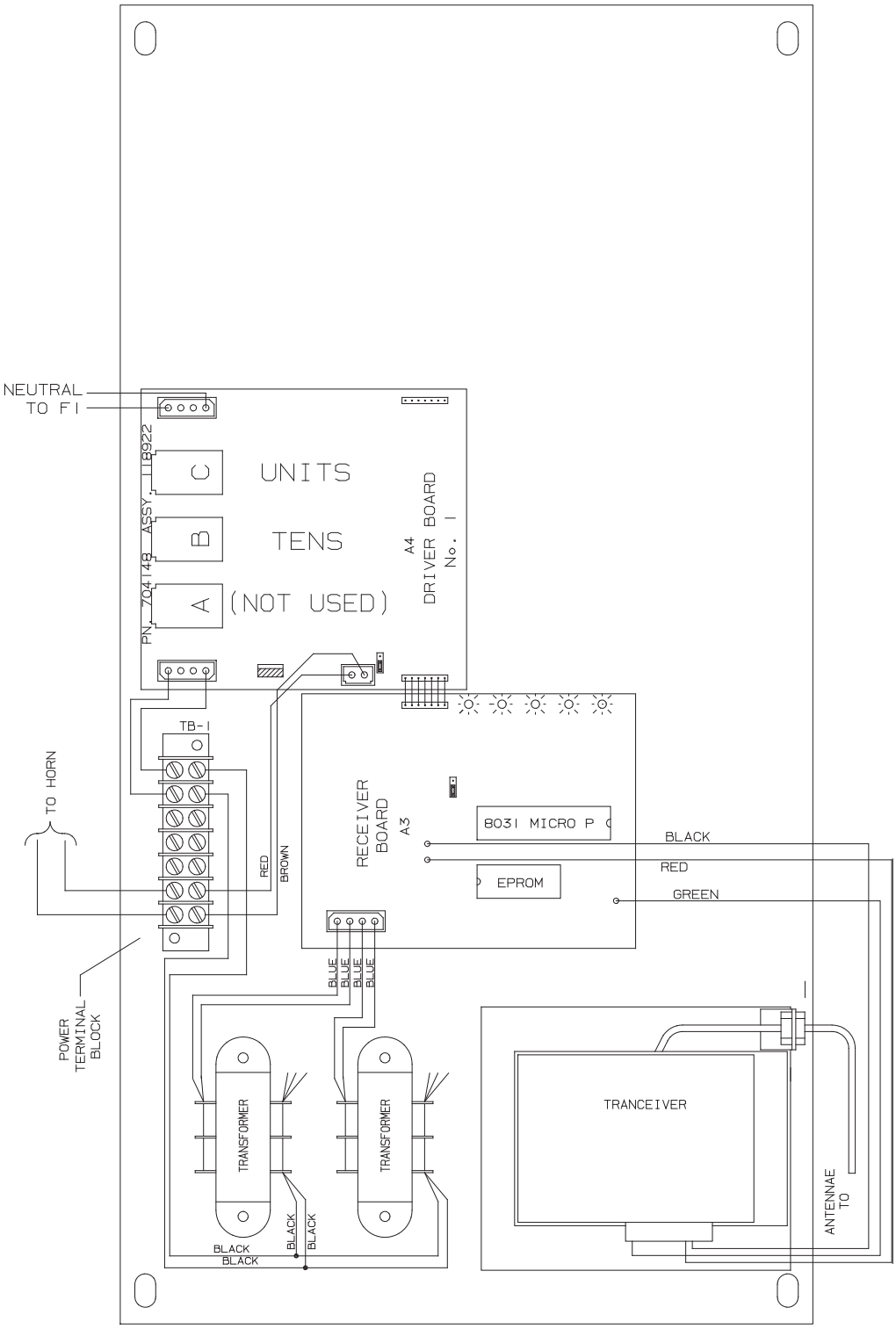
SYSTEM LAYOUT

6.3 Power Wiring



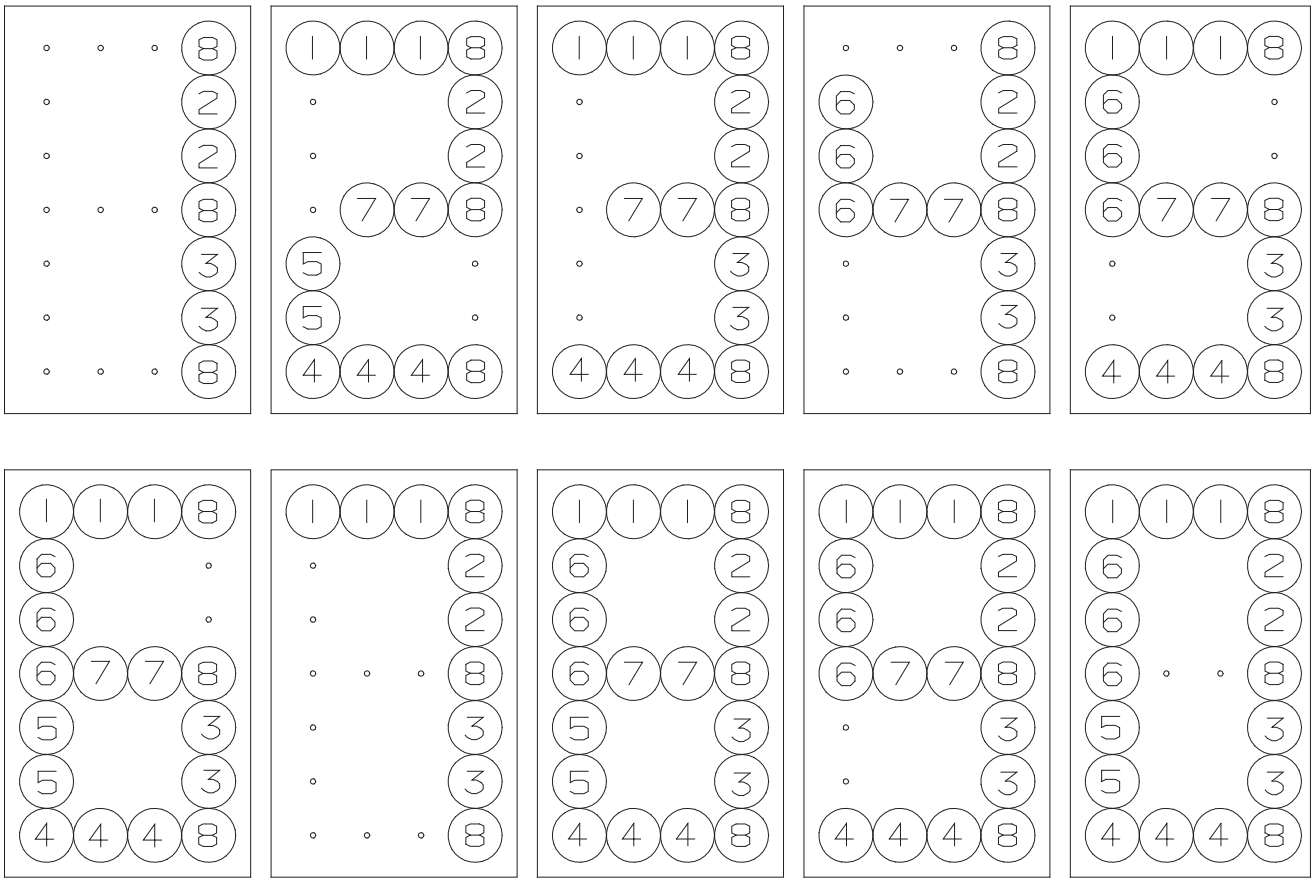
POWER WIRING

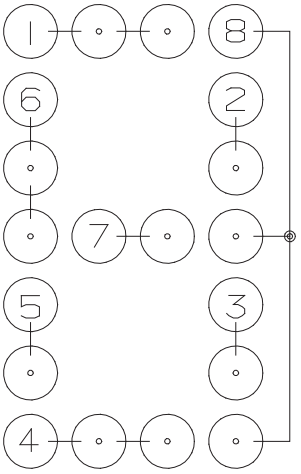
6.4 Controller Assembly Wiring



CONTROLLER ASSEMBLY

6.5 Microprocesor 4 X 7 Lamp Pattern (8 Bit)



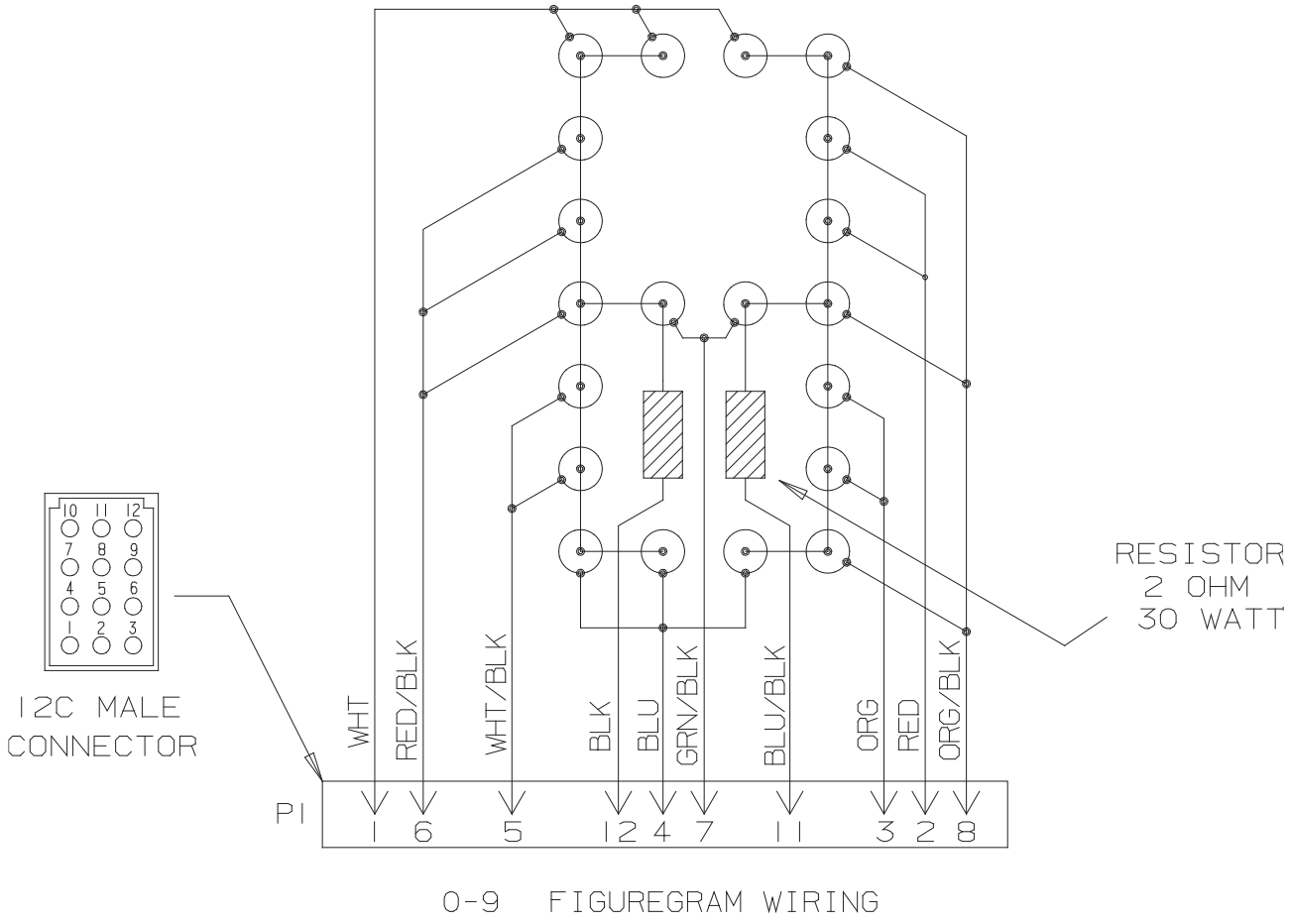


NUMERALS

BIT NUMBERS	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



0-9 FIGUREGRAM WIRING

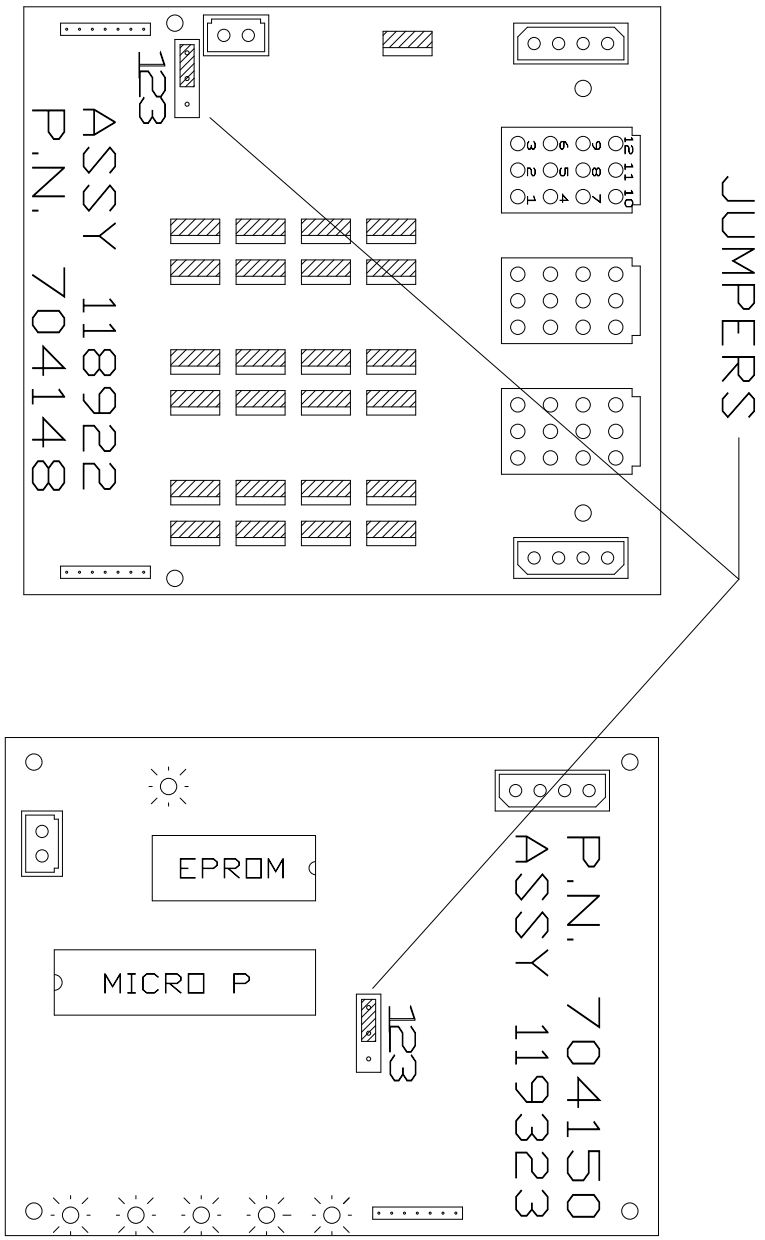
FIGUREGRAM WIRING

6.7 Jumper Location on 3 Position System

All of the 3 position drivers and receivers are identical except for the jumper on each board. Make sure the jumpers are set for the model of scoreboard you are installing them into.

(A) On the receiver board (refer to figure); Jumper pins 2 & 3 for models MP-3385, MP-3312, MP-3529, and MP-3549. Jumper pins 1 & 2 for all other models.

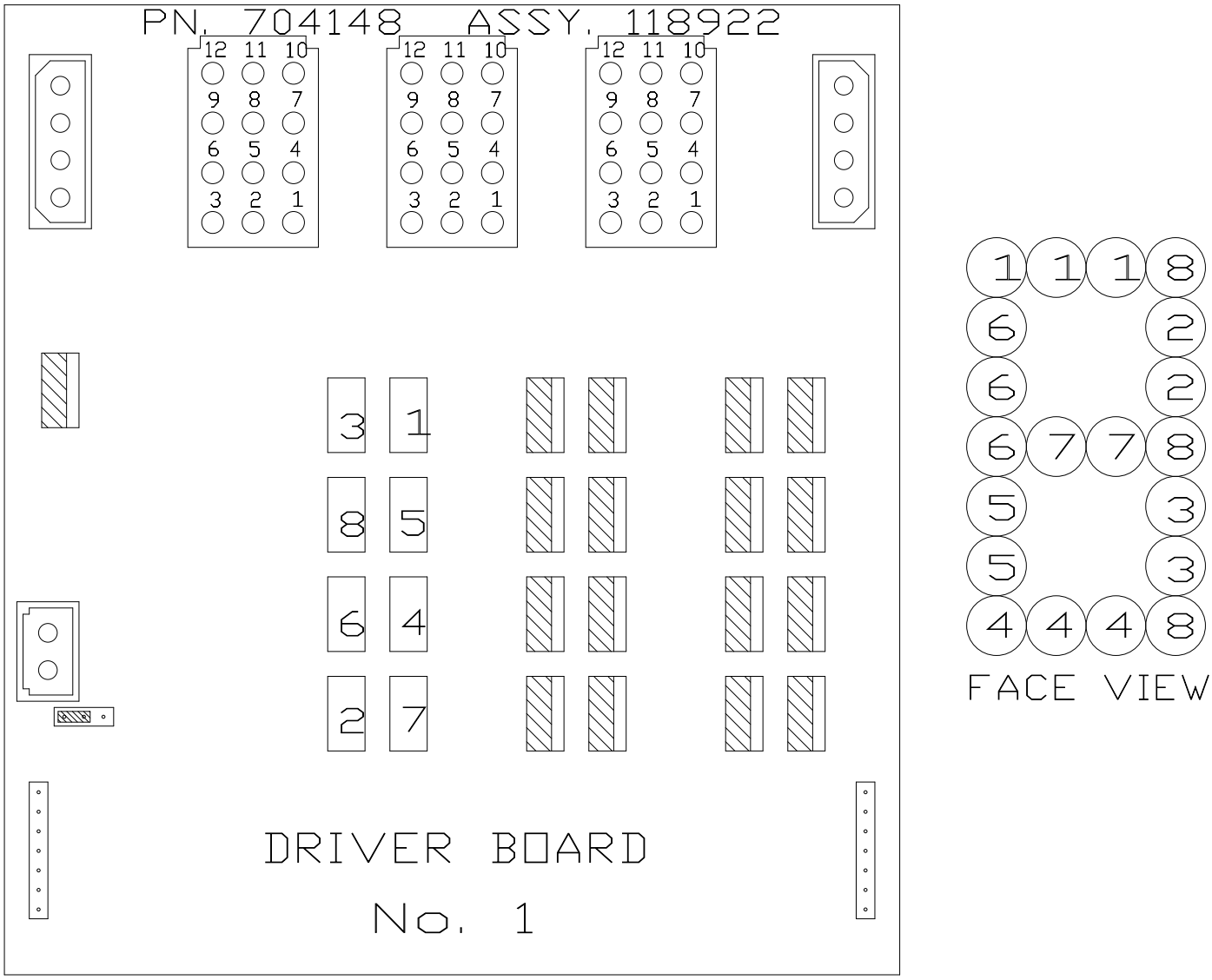
(B) On the driver board (refer to figure); Jumper pins 1 & 2 for use of a horn. Jumper pins 2 & 3 for all others.



JUMPER LOCATION

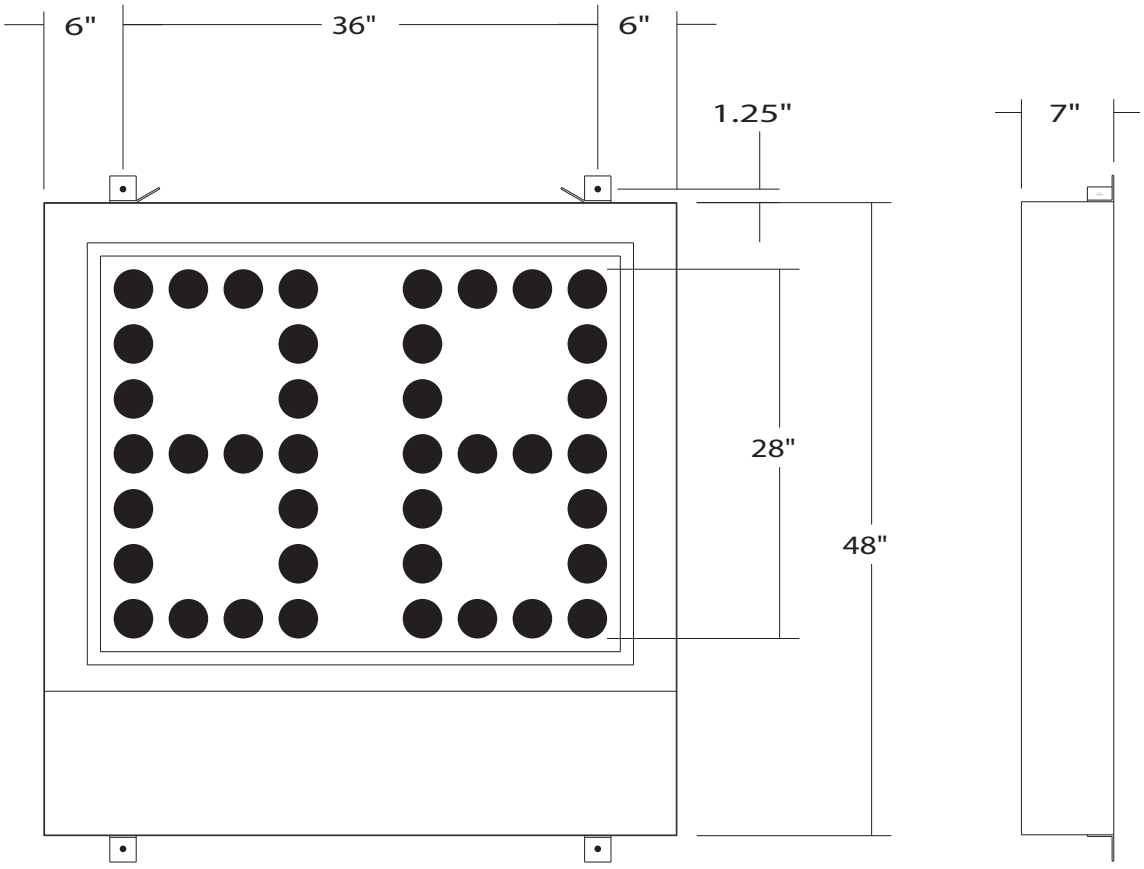
6.8 Triac Placement

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

6.9 Installation Drawing



USE 1/2" DIA. HARDWARE (NOT FURNISHED)

FOR MOUNTING THE SCOREBOARD DISPLAY

INSTALLATION DRAWING