ALL **A**MERICAN SCOREBOARDS ®

OPERATING INSTRUCTIONS AND SERVICE MANUAL

BASKETBALL SCOREBOARD

MODEL MP-2210 With MP-3000 Control

HOME   GUEST

BONUS   BONUS

P O S S   PERIOD   P O S S

1   2   3   4

FOULS   PLAYER   FOULS

EFFECTIVE S.N.XXXX, MAY 1,1992

TABLE OF CONTENTS

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

2.3 Pre-Test

Before installing the scoreboard, pre-test all functions.

Parts being returned for repair are to be sent to:

> ALL-AMERICAN Service Department
> EVERBRITE Corporation
> 401 S. 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 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

2. INSTALLATION

2.1   General Information

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

1 ea Basketball Display
1 ea Control Console
1 ea Service Manual
1 ea Mounting Hardware Package
1 ea Wall Junction Box
1 ea Basketball 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.

2.3   Pre-Test

Before installing the scoreboard, pre-test all functions.

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.

(A)   Connect the scoreboard to two 20 AMP, 120 Volt AC circuits or one 30 AMP, 120 Volt AC circuit.
(B)   Plug the control console into the top of the scoreboard.
(C)   Test operate all functions on the scoreboard according to operating instructions in section 3 of this manual.
(D)   When all the 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 two 120 V. 20 AMP AC circuits, or one 120 V. 30 AMP AC circuit, for the exclusive use of the scoreboard.

3. CONTROL CONSOLE OPERATION

3.1   Scoreboard Power

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

3.2   Console Display

The 2 line by 20 character Liquid Crystal Display module displays the scoreboard information entered from the keyboard. The following information is displayed during normal operation: Time, Home and Guest scores, Home and Guest Team Fouls, Period, Home and Guest Bonus, Ball Possession, Auto Horn Enable, and 1/10 Second Enable.

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 as follows.

SCOREBOARD CONTROL
1991 VERSION 3.3

3.4   To Use Scoreboard

Enter the two digit code (58) shown in the lower right corner of the keyboard as in the following example:

Push   **CODE**   **5**   **8**   **ENTER** .

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

```
0          :00       0
0 H                  0
```

3.5   Time Setting and Control

To set an 8 minute period, Push: **SET**   **8**   **0**   **0**   **ENTER** .

Any time up to 99:59 may be preset in a similar manner.

The   **UP/DN**   key determines the timer mode. When in the UP mode an arrow

up symbol is displayed next to the time on the LCD display. If in the DOWN mode there is no arrow displayed.

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

Push   **RESET**   to return the timer to the previously set value.

3.6   Final Minute 1/10 Second Option

The control console is capable of displaying 1/10 second during the final minute of the period.

Push   **FINAL MIN 1/10**   to enable the scoreboard to display the 1/10 second

during the final minute of the period. A 'T' is displayed on the LCD to indicate this function is enabled.

The scoreboard timer digits shift two positions to the left in the final minute of play and 1/10 seconds are displayed.

Push   **FINAL MIN 1/10**   again to disable this function.

```
                    NOTE !!!


```

The receiver program chip must be
CNTVER.105   or higher to use the 1/10 second function.

3.7   Team Scores

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

(A)   To add 1 to the existing score: Push   **+1** .

(B)   To add 2 to the existing score: Push   **+2** .

(C)   To add 3 to the existing score: Push   **+3** .

(D)   To directly enter or correct a score: Push Home or Guest   **SCORE**   followed
      by the desired number, then   **ENTER** .

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

      Push: Home   **SCORE**   **2**   **3**   **ENTER** .

(E)   To clear the score: Push   **SCORE**   **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.

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.

3.9   Bonus Indicators

Push Home or Guest   **BONUS**   to illuminate the appropriate bonus indicator. A

'<B' or 'B>' will be displayed when the bonus is illuminated.

3.10 Period Indicators

Push   **PERIOD**   once to increment the period indicator. The LCD display will

show the period directly below the time.

3.11 Timeout Period

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

Push: **TIME OUT TIMER** to start the 1 minute timer. The LCD will show "TIME OUT = 1:00" and start to count down. When 1 minute has elapsed the internal beeper sounds, and the display returns to the current game time.

If you want to return to play before the Time Out Timer gets back to zero,

push: **CLEAR** and the console will return to play mode.

3.12 Ball Possession Indicator

The ball possession indicators alternate with each **BALL POSS** entry. The

possession is displayed on the LCD with a ' <P' or 'P>' to show Home or Guest possession.

3.13 Team Fouls

The Home and Guest team fouls are entered in the same manner as the home and guest team scoring direct entry method.

Example: Present guest team foul is 3. Change to 4.

Key in Guest **FOUL** **4** **ENTER** .

The control display will now show game time, and the scoreboard display will show 4 team fouls for the guest team.

3.14 Player Number and Player Fouls

The player number and player fouls information is entered as in the following example:

If player number 25 gets a foul;

Push **PLAYER NO.** **2** **5** **ENTER** **1** **ENTER** .

The control console memory will store the player numbers and fouls for 15 players for each team. This information may be viewed on the LCD display at any time.

This information is now stored in memory. To view the information, push

HOME STATS or **GUEST STATS** key. The first 8 player numbers

entered, and their fouls are displayed.

Push the ┃ **HOME STATS** ┃ or ┃ **GUEST STATS** ┃ key a second time to display

the next 7 player numbers and fouls. To return to normal game display,

push ┃ **GAME DISPLAY** ┃ .

To clear a player number/foul from memory: push, ┃ **PLAYER NO.** ┃ followed by

the number you want to clear, then ┃ **ENTER** ┃ **CLEAR** ┃ .

3.15 Wrestling Operation

When using the MP-2210 scoreboard for wrestling, replace the basketball slipsheet
with the wrestling slipsheet, The code is 31 for wrestling. All keyboard entries are

made in the same way as for basketball, with the following exceptions:

The console LCD display shows; time, home and guest score, home and guest bout
scores, period, weight class, and auto horn enable continuously.

The ┃ **+1** ┃ , ┃ **+2** ┃ , and ┃ **+3** ┃ keys now control the bout scores instead of team

scores.

3.16 Volleyball Operation

When using the scoreboard for volleyball, replace the console slipsheet with the
volleyball slipsheet. The code is 70 for volleyball. Operation of all keys is similar
to basketball operation.

The console LCD display shows; time, home and guest score, home and guest games
won, game, serving, and auto horn enable continuously.

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.

<div style="border:1px solid black; padding:10px;">

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.

</div>

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 controller assembly.
    (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 in the junction box 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.
   (c) If the voltage is correct, (2-3 VDC) 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" into "D" and "D" into "C" 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.

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.

(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.

5. REPLACEMENT PARTS LIST

5.1 Scoreboard Display Parts
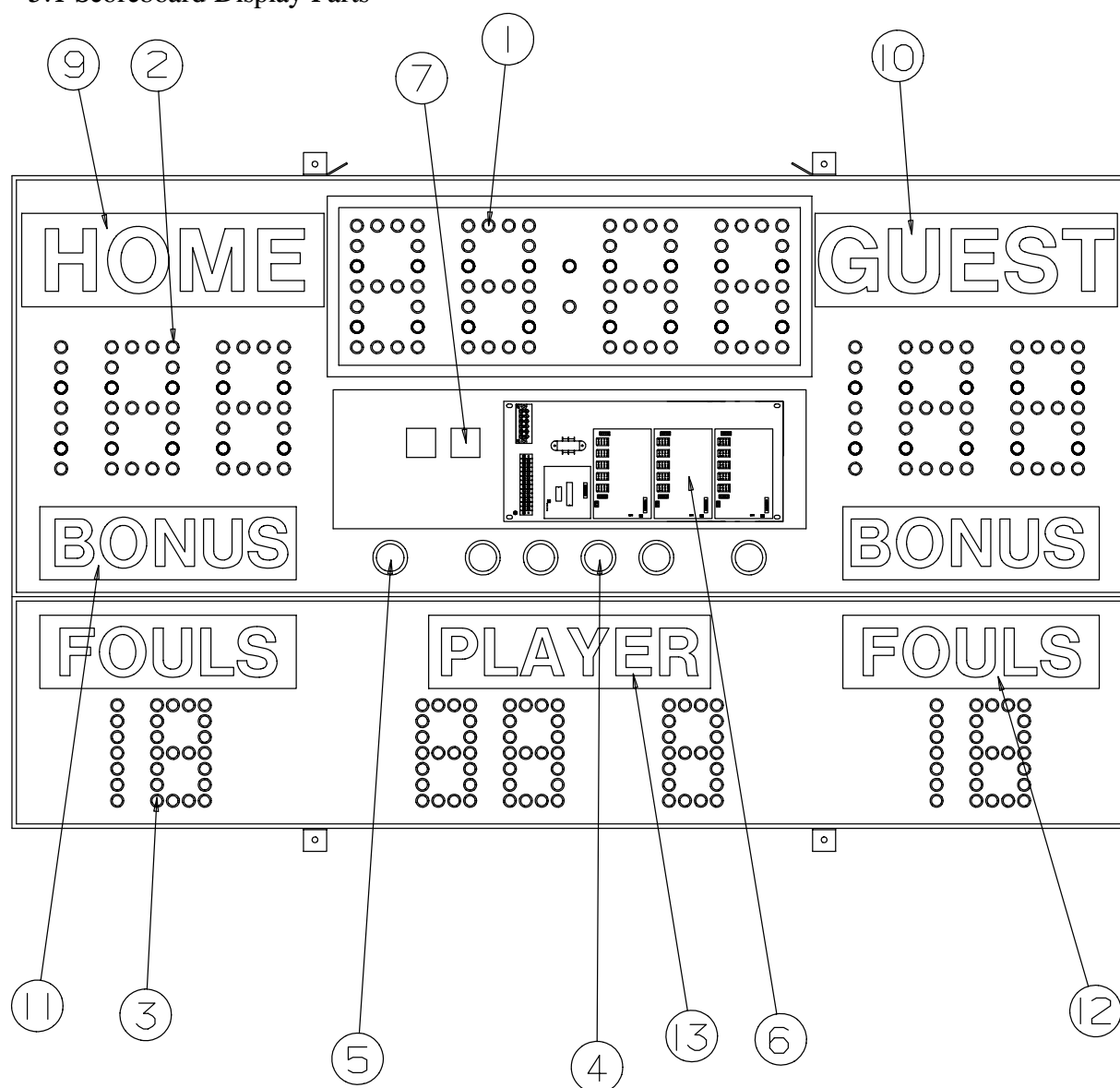
figure 1

DISPLAY ASSEMBLY

REPLACEMENT PARTS LIST (MP-2210 Basketball)

fig.& index	MFG PART NUMBER	DESCRIPTION	REF DES	VENDOR PART #
1-	150399	Display Assembly		000000
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	850024	Lamp, 25W/130V Red		25A19 RED
1-5	850029	Lamp, 25W/130V IF		25A19 IF
1-6	150369	Controller Assembly		000000
		*****SEE FIGURE 2*****		
1-7	119337	Line Filter, Mallory		20VB1
1-8	700102	Resistor, 2 OHM 10 WATT		HLM-10-10Z
1-9	150036	Placard, Home		150036
1-10	150037	Placard, Guest		150037
1-11	150057	Placard, Bonus		150057
1-12	150427	Placard, Fouls		150427
1-13	150428	Placard, Player		150428
1-14	151086	Placard Set, Score-Match-Score		151086
	150444	Placard, Score		150444
	150445	Placard, Match		150445
	118082	Placard, Bout		118082
	SU4450	Control Console		SU4450
	HB005500	Slipsheet Pair		HB005500
	HB002300	Transmitter PCB Assembly	A1	HB002300
	SW005100	Toggle Switch,	S1	SW005100
	702785	Connector, 5 Pin Male Cable	P1	RM12BPG5P
	EL053000	LCD Display, 2 Line 20 Character		

HB002400	Keyboard Assembly,		HB002400
WH009100	Ribbon Cable Assembly, 14C 8"		WH009100
122763	Enclosure,		

151204	Wall Junction Box, Single		151204
150205	Wall Junction Box, Dual		150205
702786	Connector, 5 Pin Female	J1-J3	RM12BRD5S
150500	Cable, MP-41 Control		8723
700618	Diode, 1N457A	D1/D2	

5.2 Scoreboard Controller Assembly Parts
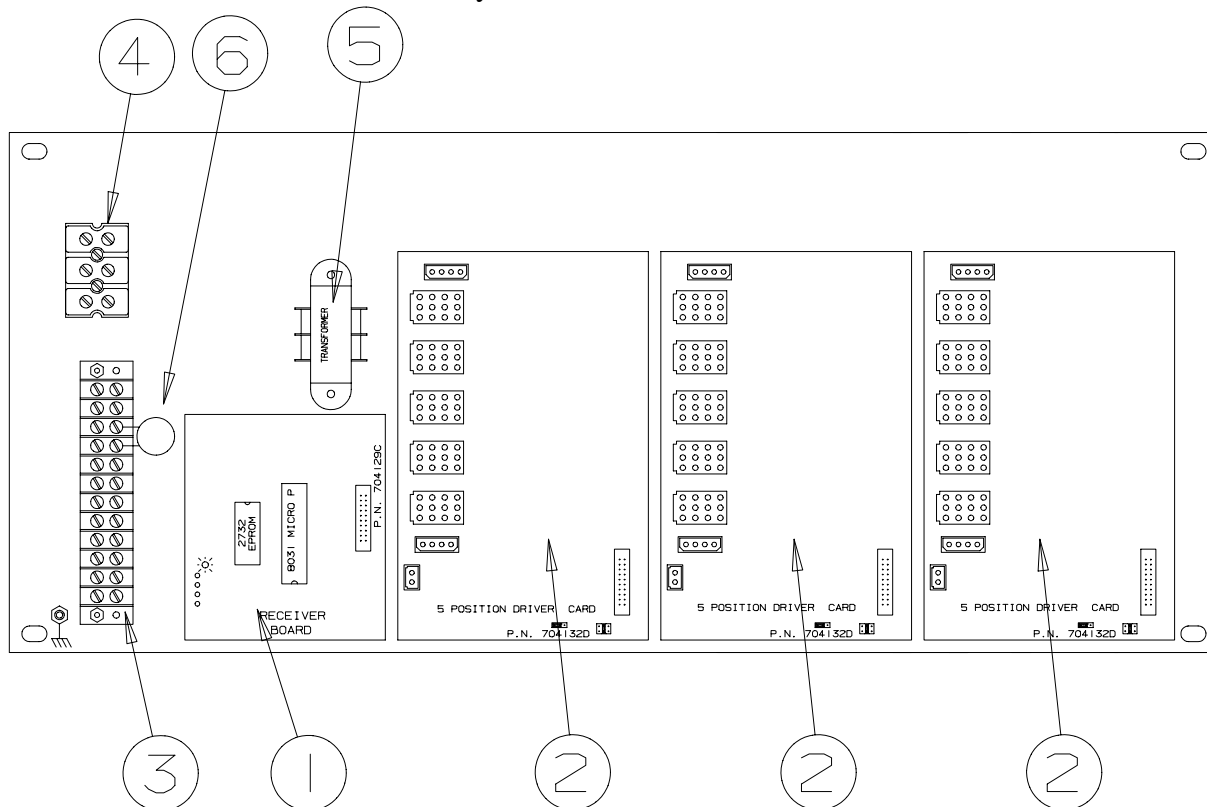
figure 2

CONTROLLER ASSEMBLY

REPLACEMENT PARTS LIST (MP-2210 Controller Assembly)				
fig.& index	MFG PART NUMBER	DESCRIPTION	REF DES	VENDOR PART #
2-	150369	Controller Assembly	A2	150369
2-1	150366	Receiver PCB Assembly	A3	150366

16

2-2	150368	Driver PCB Assy, 5 Position #1, #2, & #3	A4/6/8	150368
2-3	701103	Terminal Block, 12C		670-12
2-4	EL055800	Terminal Block, 3C		B-03 EAGLE
2-5	151301	Transformer Assy, 8V/18V	T1	CS-697
2-6	151300	Horn Suppressor Assy,		151300
2-7	700520	Varistor,		ERZ-C20DK201U
2-8	700850	Capacitor, .02 MFD 400V.		
2-9	705074	Ribbon Cable Assy, W/3 Fem. Con.		AS-1052
2-10	HB005600	Cover		HB005600
2-11	705723	Spacer, P.C.Board		LCBS-6-01

6. DIAGRAMS

6.1 Control Console Keyboard and Slipsheet Layout

ON / OFF

HOME TEAM

FINAL MIN 1/10

+3 +2 +1

SCORE FOUL

PLAYER NO.

BONUS

UP / DOWN   RESET   SET

CODE 7 4 1

0 8 5 2

ENTER 9 6 3

GUEST TEAM

HORN

+3 +2 +1

SCORE FOUL PLAYER NO. BONUS

TIME OUT IN

HOME STATS   TIME OUT TIMER   AUTO HORN

GAME DISP.   BALL POSS

GUEST STATS   PERIOD   CLEAR

MODEL/CODE 2210 / 58

for Basketball Operation
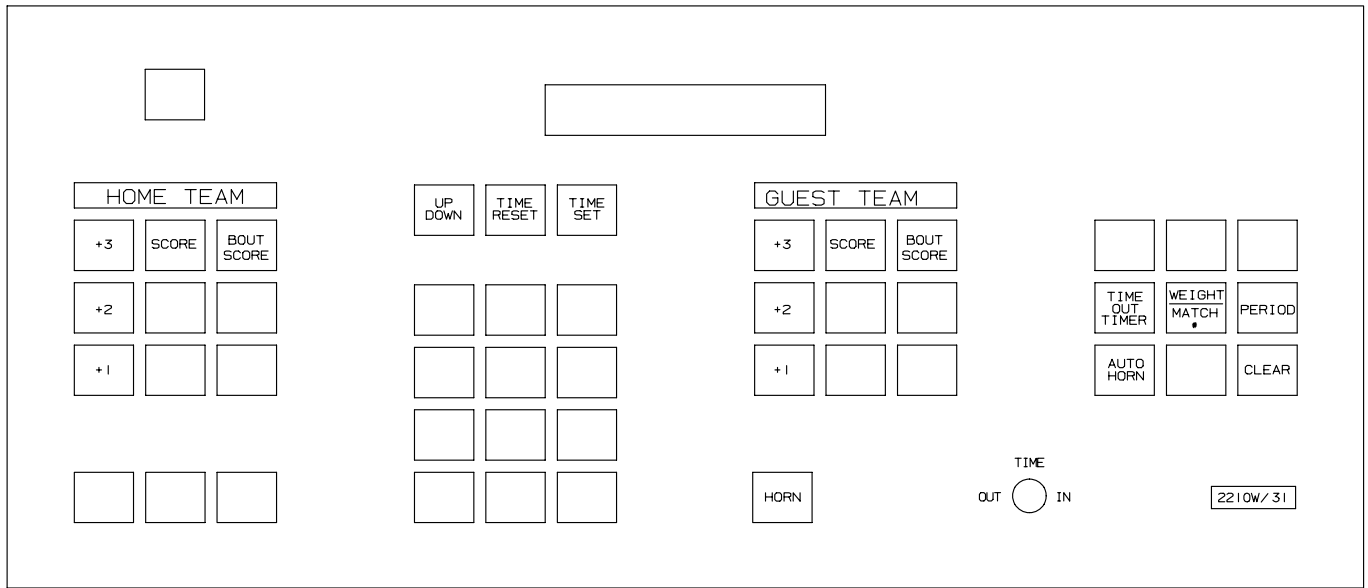
for Wrestling Operation
CONSOLE KEYBOARD

WALL OUTLET

120 V / 60 HZ
POWER SOURCE

SCOREBOARD

MP-41
DATA
CABLE

WALL
JUNCTION
BOX

CONTROL CONSOLE

SCORE
KEEPERS
TABLE

THIS
SIDE
FOR
DUALS
ONLY

MP-41
DATA
CABLE

SCOREBOARD

120 V / 60 HZ
POWER SOURCE
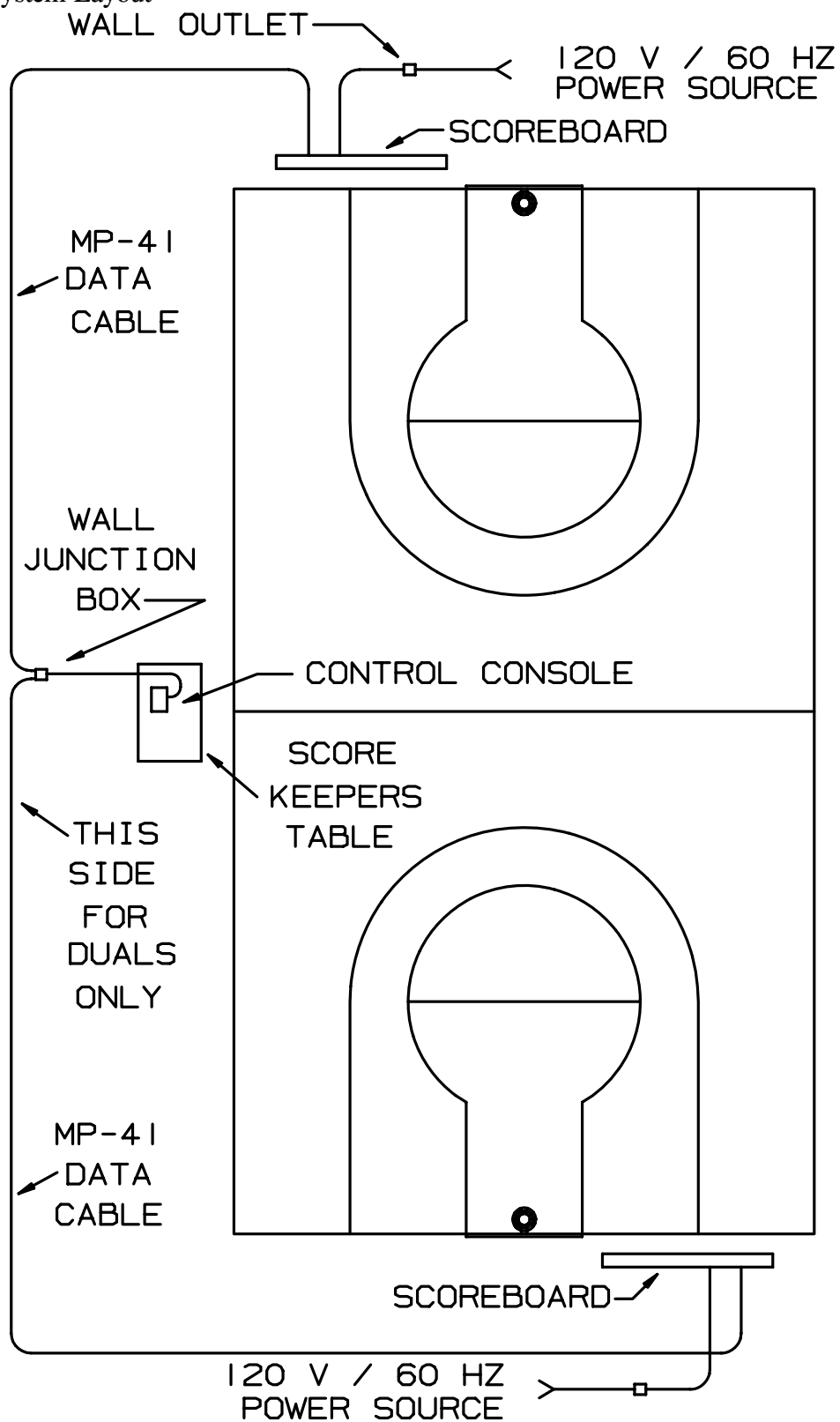
SYSTEM LAYOUT

6.3 Single Wall Junction Box Wiring

JUNCTION BOX COVER

J1

J1

3
2   4
1   5

DATA CABLE

RED
BLACK
GREEN
WHITE
SHIELD

P2

TO
SCOREBOARD

JUNCTION BOX

J1

ON
JUNCTION
BOX
COVER

1
2
3
4
5

RED
BLACK
GREEN
WHITE
SHIELD

P2

1
2
3
4
5

TO
SCOREBOARD

J. BOX
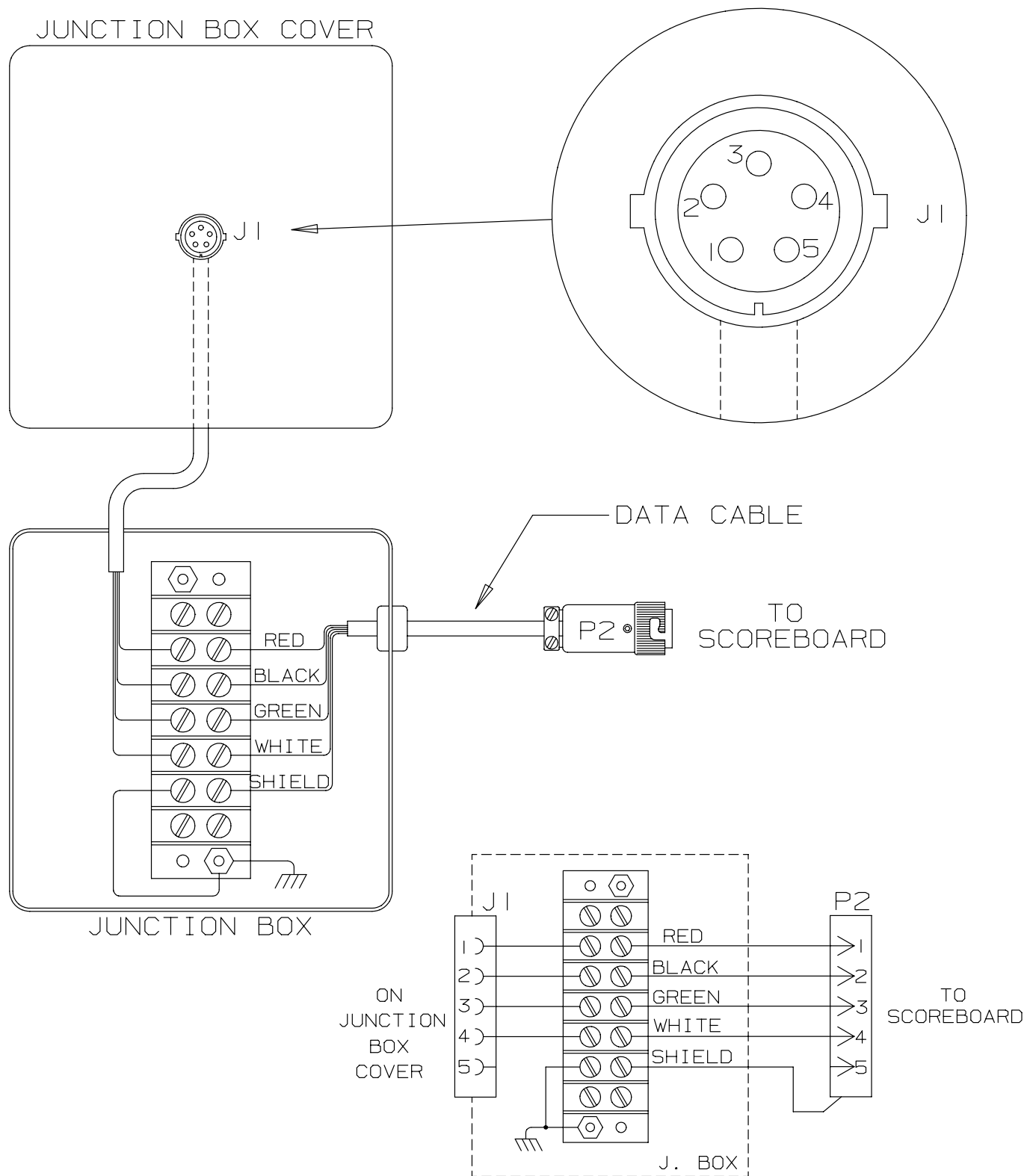
SINGLE JUNCTION BOX WIRING

6.4 Dual Wall Junction Box Wiring

DUAL JUNCTION BOX WIRING
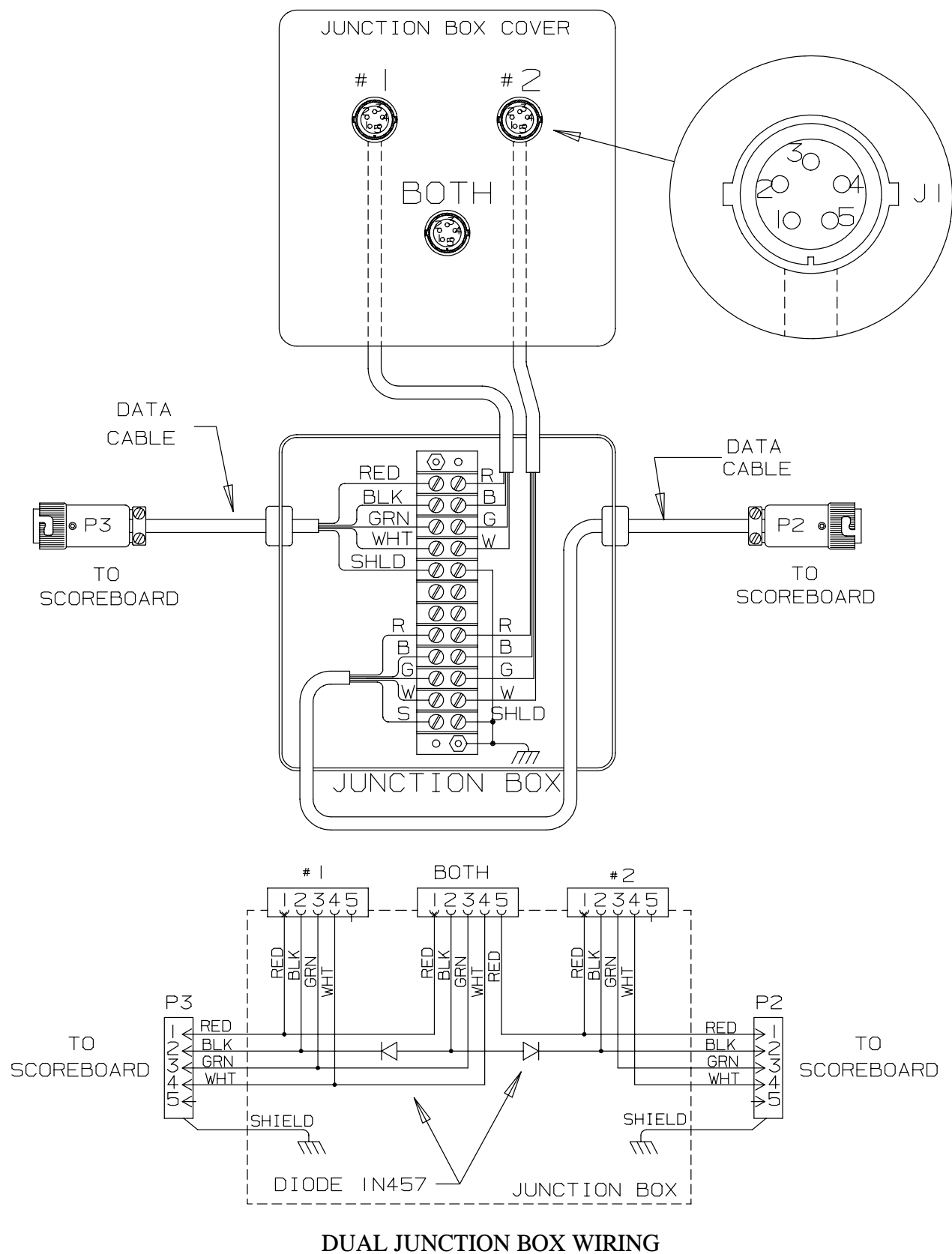
6.5 Controller Assembly Wiring
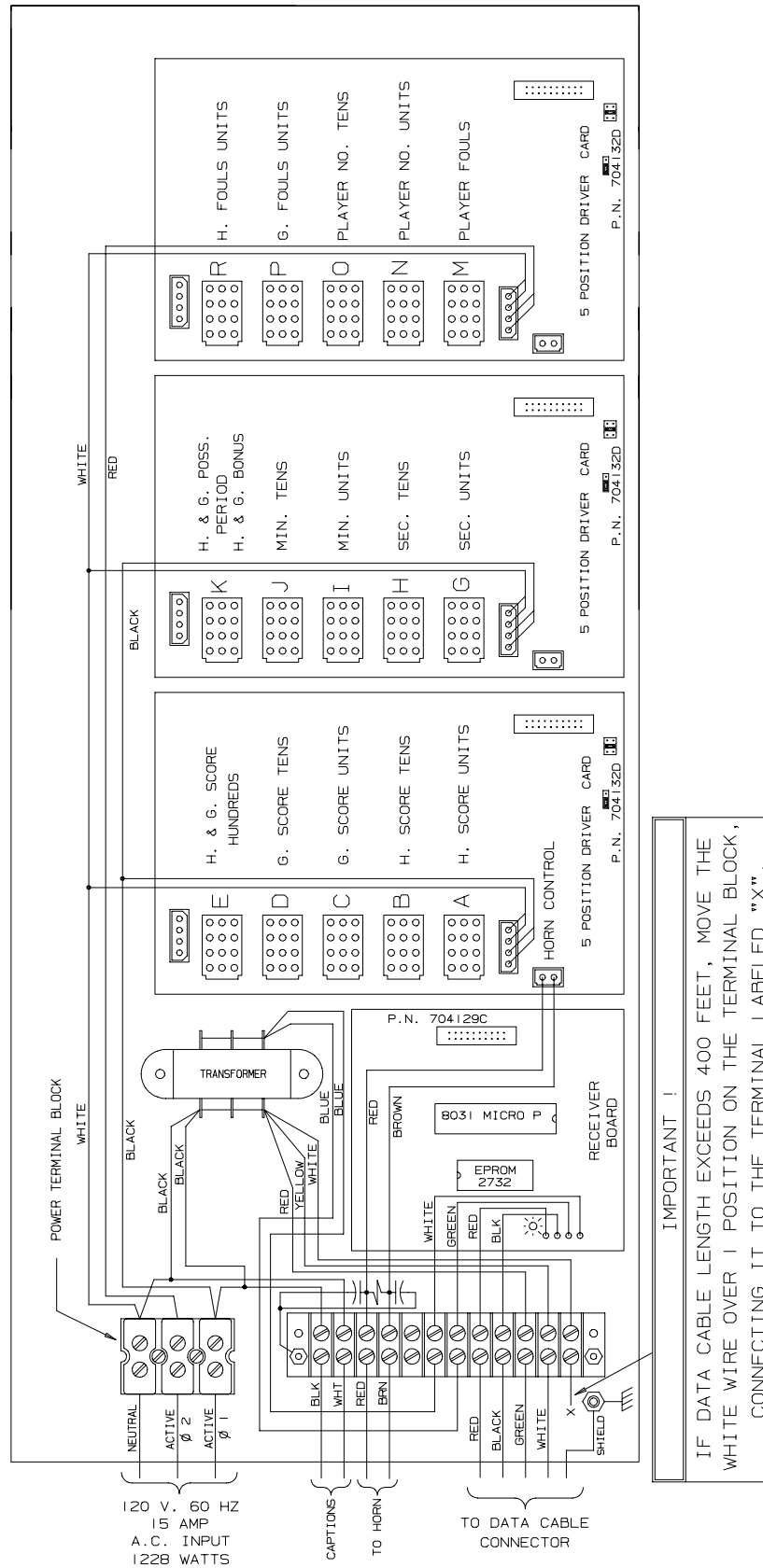
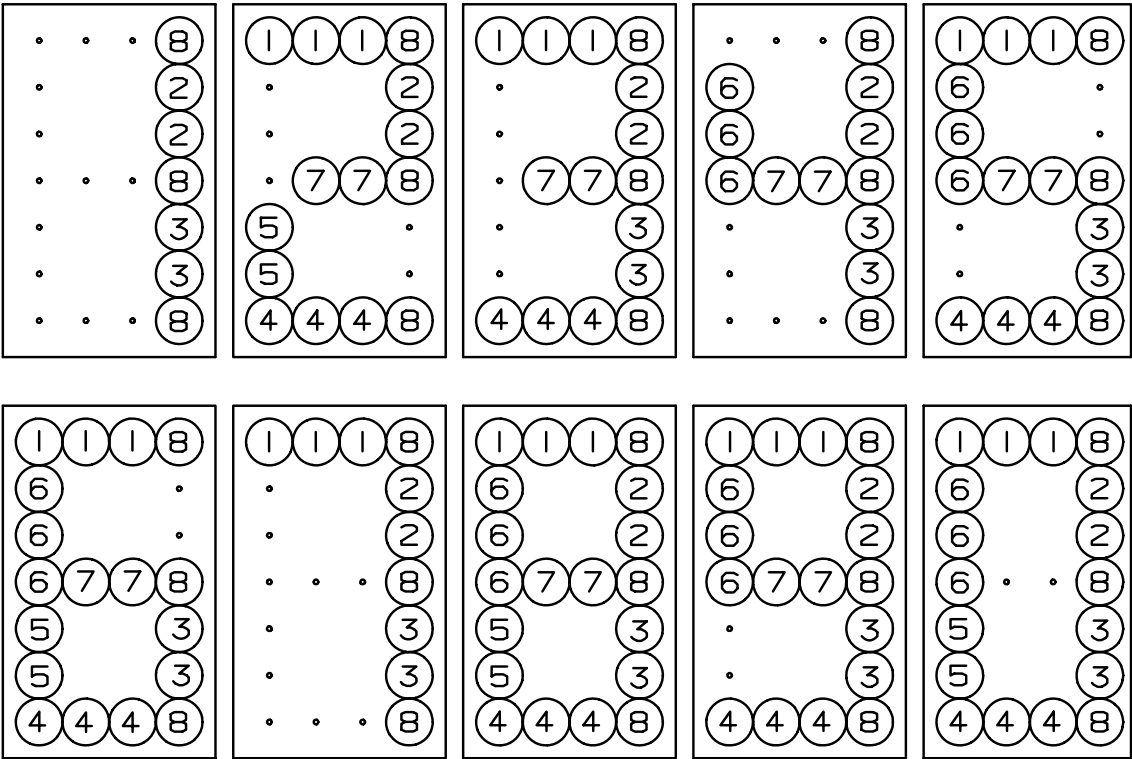CONTROLLER ASSEMBLY

6.6 Line Filter Wiring Diagram

POWER TERMINAL BLOCK

CAPACITOR   VARISTOR   CAPACITOR

CONTROLLER ASSEMBLY

RED   BLACK   GREEN   WHITE   X   SHIELD

TO DATA CABLE CONNECTOR

ACTIVE Ø 2   NEUTRAL   ACTIVE Ø 1

LINE FILTER   LINE FILTER

ACTIVE Ø 2   ACTIVE Ø 1   NEUTRAL

120/240 V. 60 HZ
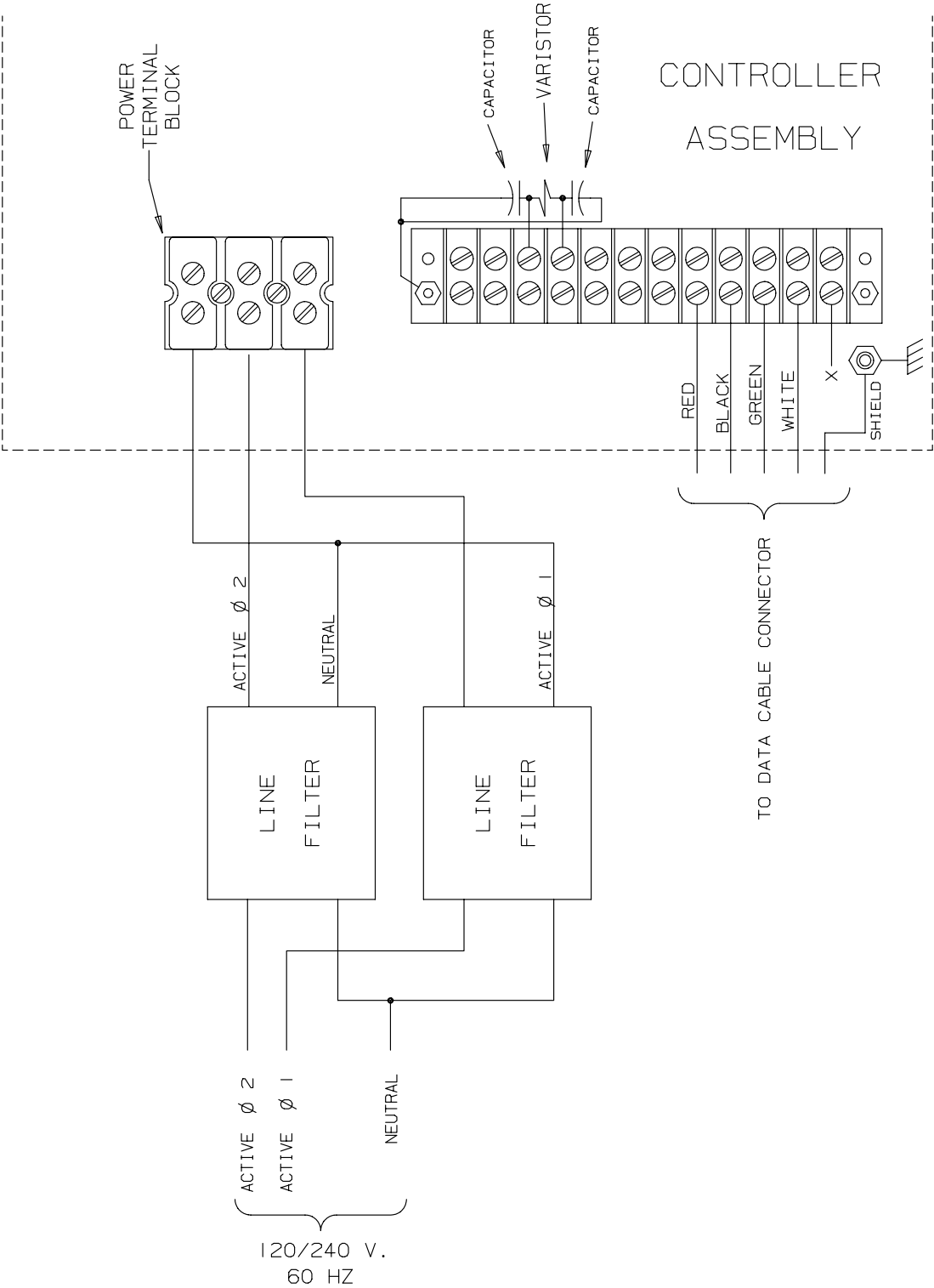
LINE FILTER WIRING

6.7 Microprocessor 4 X 7 Lamp Pattern (8 Bit)
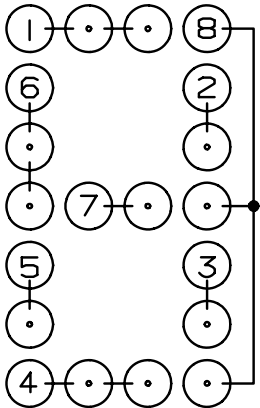
NUMERALS

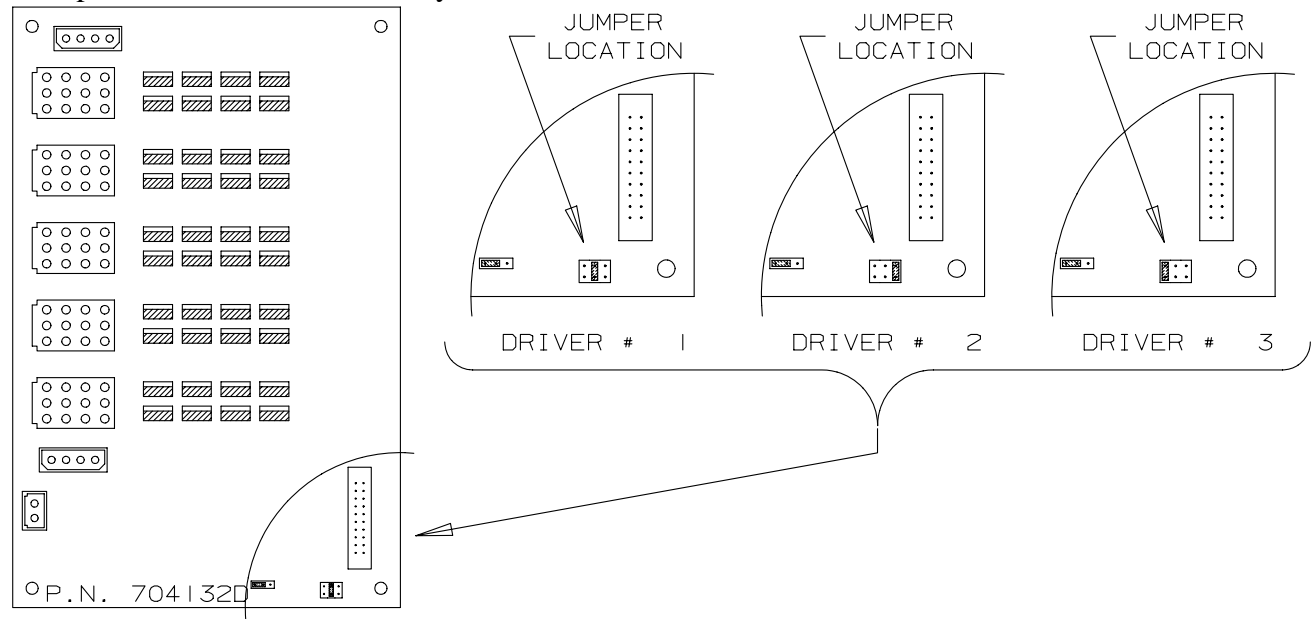|	0	1	2	3	4	5	6	7	8	9
1	0	.	2	3	.	5	6	7	8	9
2	0	1	2	3	4	.	.	7	8	9
3	0	1	.	3	4	5	6	7	8	9
4	0	.	2	3	.	5	6	.	8	9
5	0	.	2	.	.	.	6	.	8	.
6	0	.	.	.	4	5	6	.	8	9
7	.	.	2	3	4	5	6	.	8	9
8	0	1	2	3	4	5	6	7	8	9

BIT NUMBERS

MICROPROCESSOR 4 X 7 (8 BIT) LAMP PATTERN

6.8 Figuregram Wiring

BONUS, POSSESSION, & PERIOD WIRING

FIGUREGRAM WIRING

SINGLE ONES WIRING
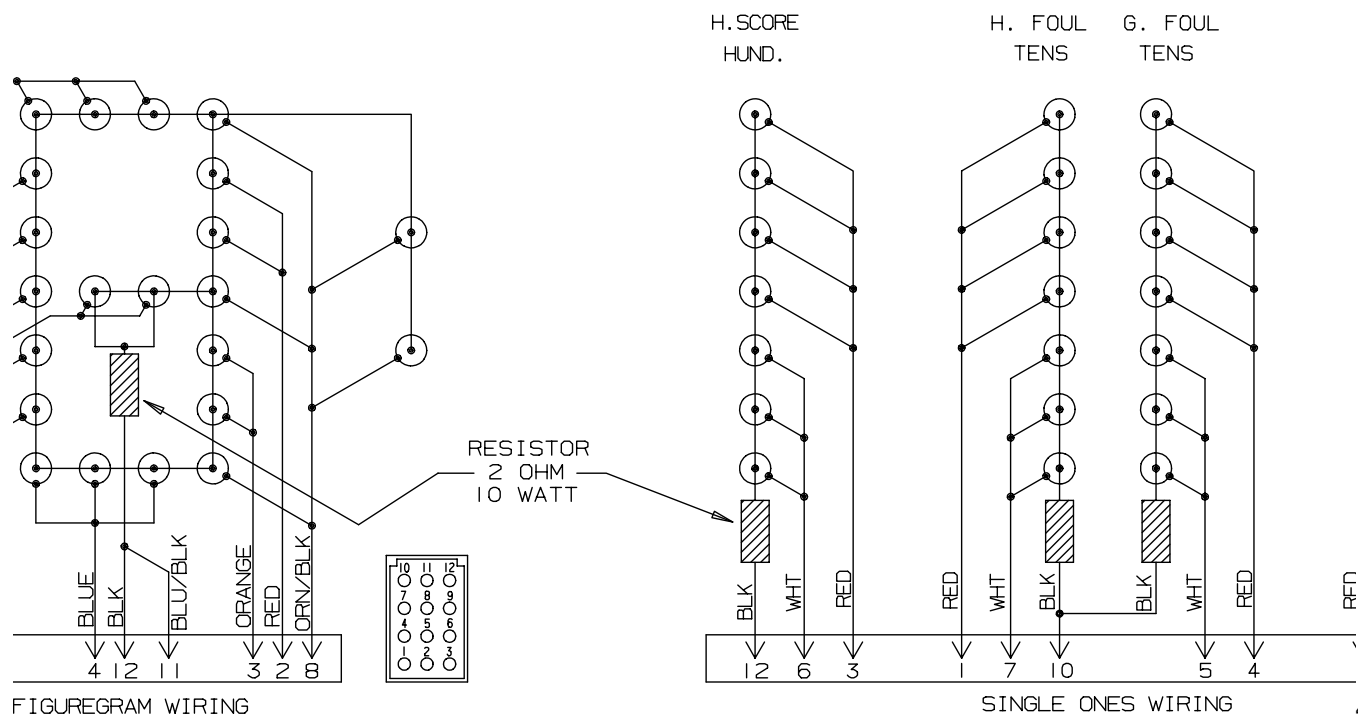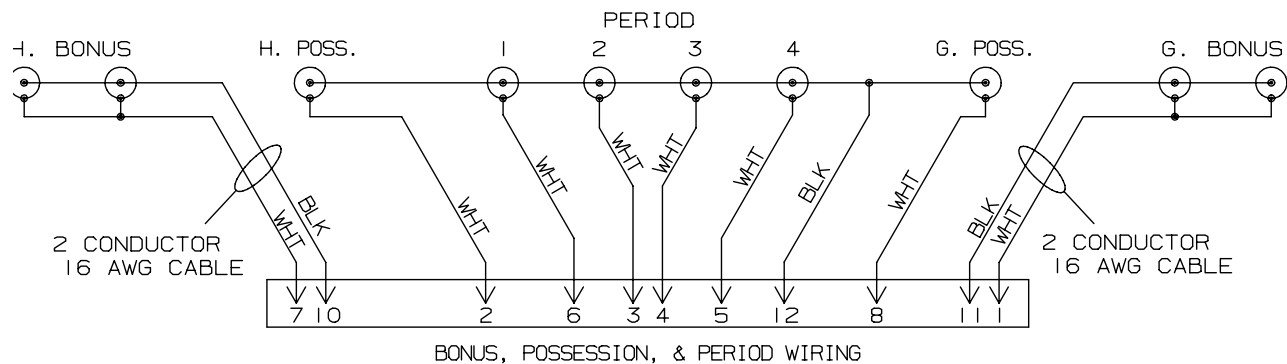
**8 BIT FIGUREGRAM WIRING**

6.9 Jumper Location on 5 Position System
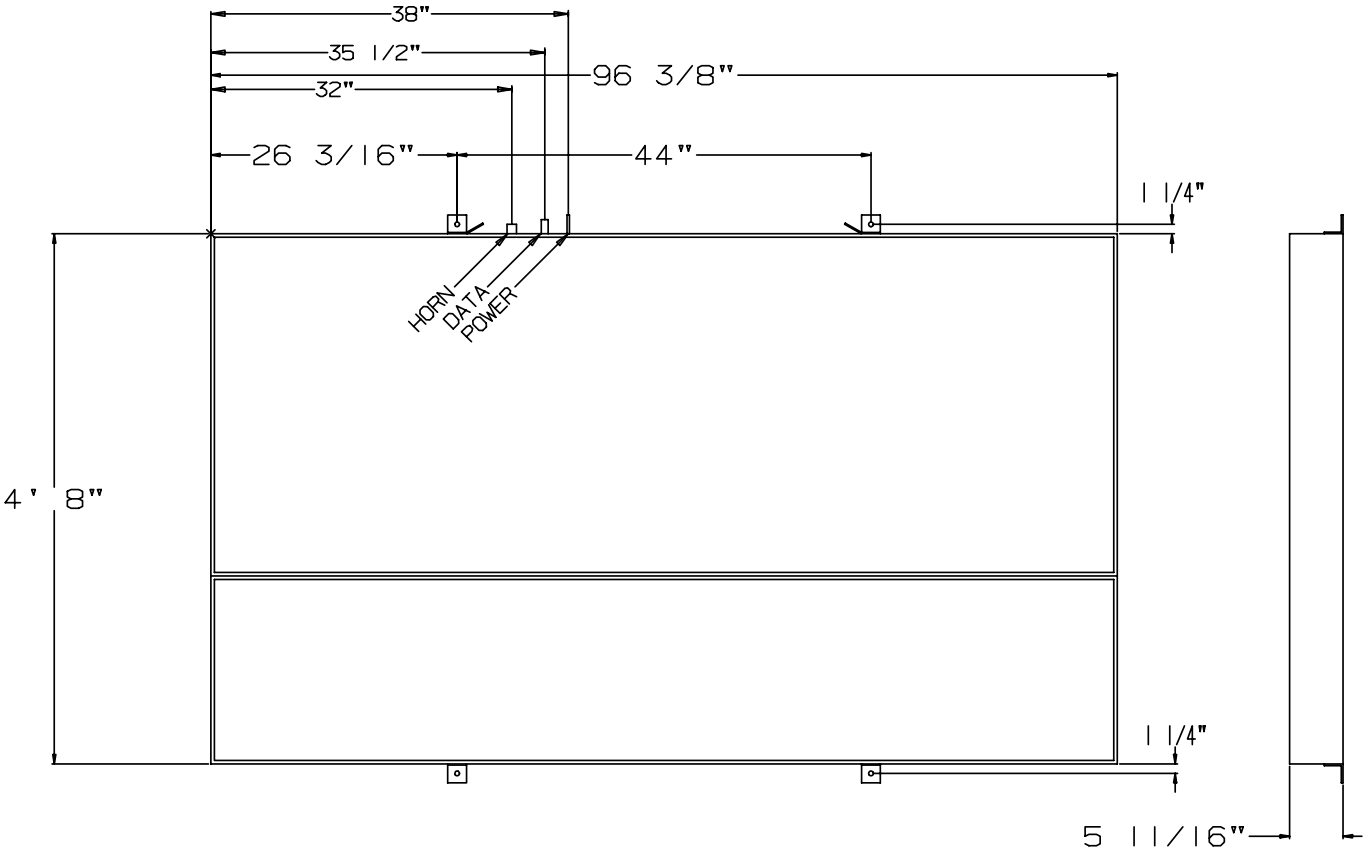

JUMPER LOCATION

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.
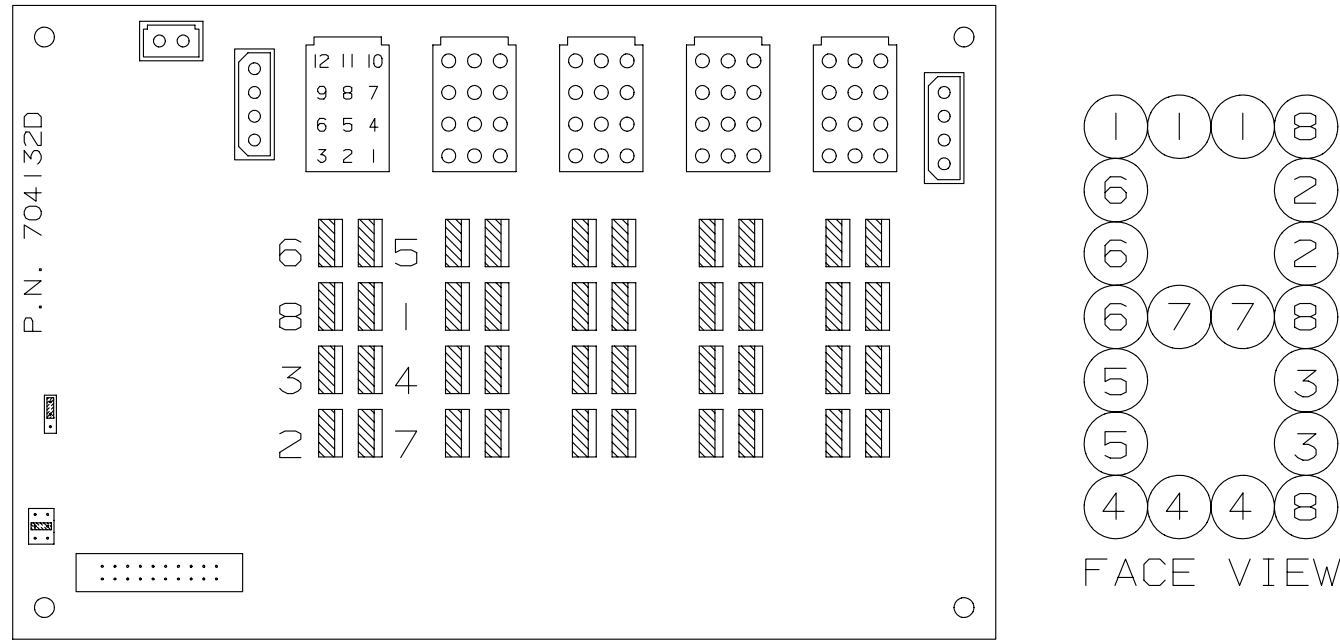
MP TRIAC PLACEMENT

6.11   Installation Drawing

INSTALLATION DRAWING