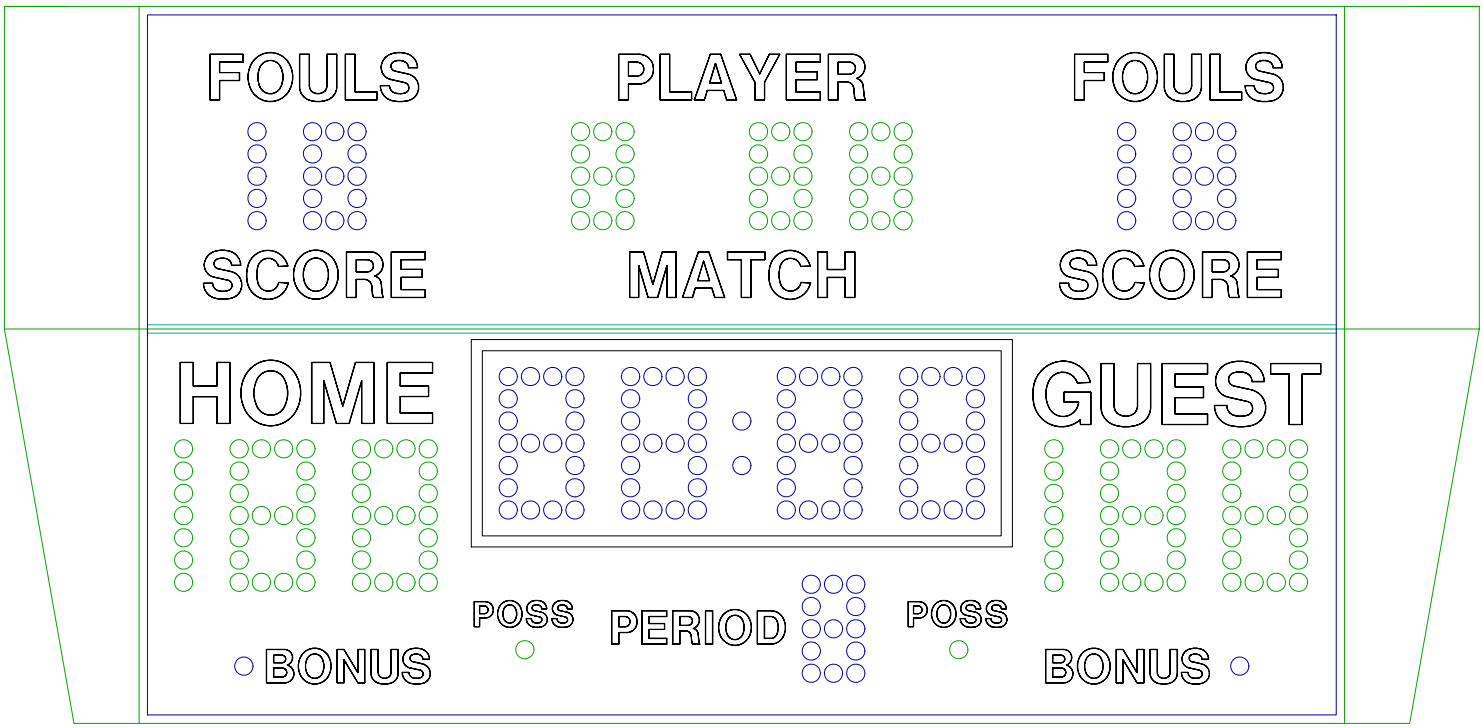
ALL AMERICAN SCOREBOARDS

A Product of Everbrite 401 S. Main St. Pardeeville, WI 53901 (608)429-2121 / (800)356-8146

OPERATING INSTRUCTIONS AND SERVICE MANUAL

BASKETBALL SCOREBOARD

MODEL MP-5284R With MP-5000R Control



EFFECTIVE S.N. 17,369 June 25, 2001

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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

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

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:

4 ea Basketball Display
4 ea Corners
1 ea Control Console
1 ea Service Manual
1 ea AC Power Adaptor

2.2 Inspection

Inspect each unit and tighten all screws, and fittings that may have loosened in shipment.

2.3 Pre-Test

Before installing the scoreboard, pre-test all functions.

(A) Connect the scoreboard to a 15 AMP, 120 Volt AC circuit.

(B) Plug the power adaptor into the control console and into a wall outlet.

(C) Make sure that the control console is at least 10' from the scoreboard display.

(D) Test operate all functions on the scoreboard according to operating instructions in section 3 of this manual.

(E) When all the functions test out, disconnect the power and the control console before hanging the scoreboard.

2.4 Electrical connections

This scoreboard requires a 120 V. 15 AMP AC circuit for the exclusive use of the scoreboard.

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 not yet approved, but 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 circuit to the scoreboard. The scoreboard will blank all figures.

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 hand held remote control into the scoreboard control console if you have a hand held time control.

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.

```
MULTISPORT CONTROL
 MP5000 VER 1.04  2000
```

3.4 To Use Scoreboard

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

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

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

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

Home and Guest scores will now show "0", and the timer will show ":00".

3.5 Time Of Day Timer (AVAILABLE AUGUST 2001)

To set the scoreboard for Time of Day; push **SET TOD** .

The LCD display should read as follows:

```
TIME OF DAY =
```

Push the keys for the current time, and then push **ENTER** .

Now push **DISPLAY TOD** **ENTER** .

The scoreboard will now display Time of Day.

If desirable, you may disconnect the control console and put it away.

If at this time you want to use the scoreboard for a ball game, input the code and it will be set for the game.

After the game, if you push **DISPLAY TOD** **ENTER** , you may disconnect the control, the scoreboard will again show the time of day.

3.6 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** , with the timer stopped, to return the timer to the previously set value.

3.7 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. An 'E' 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.

3.8 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** .

3.9 Horn

The horn will blow 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.

3.10 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.

3.11 Period Indicators

Push **PERIOD** once to increment the period indicator. The LCD display will show the period directly below the time.

3.12 Timeout Period

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

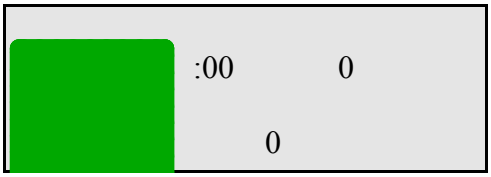
Push: **TIME OUT TIMER** to start the 1 minute timer. The LCD will show "TIME OUT = 1:00" and start to count down. When 1 minute has elapsed the internal beeper sounds, and the display returns to the current game time.

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

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

3.13 Time Outs Left

When turned on, the LCD shows a little square box for Time Outs Left as indicated below:



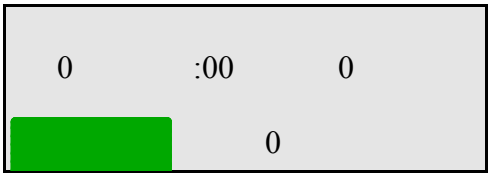
Push: Home or Guest **TIME OUTS LEFT**

The LCD will show:

H TIME OUTS LEFT = 0 or **G TIME OUTS LEFT = 0**

To set Home or Guest to 3 time outs left, Push: **3** **ENTER** .

Now set the other side to 3 fouls. The LCD will show:



The three horizontal marks equals 3 Time Outs Left.

The next time out, if you switch the time switch to time out, and push home or guest time Out, it will start the time out timer and subtract a time out from the home or guest team. At the end of the one minute Time Out period the LCD will go to game time and be ready to go. If you wish to start the game again before the one minute

Time Out period ends, just push: **TIME OUT** **CLEAR** and the LCD will again go to the game display.

3.14 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.

Push: **POSS.** **CLEAR** to clear both possession symbols.

3.15 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.

3.16 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 up to 20 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 5 player numbers entered, and their fouls are displayed.

Push the **HOME STATS** or **G UEST STATS** key a second time to display the next 5 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** .

3.17 Wrestling Operation

When using the MP-5214 scoreboard for wrestling, replace the basketball slipsheet with the wrestling slipsheet, The code is 60 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.

To enable the advantage timer, push: **ADV SET** **0** **0** **ENTER** .

Use the home or guest **ADV** key to indicate who has the advantage.

When the main timer is running, the **ADV OFF** key will stop the advantage timer.

The home or guest **BONUS** indicator will light to show which side has the advantage.

Pushing home or guest **ADV** will restart the timer.

Push **ADV CLEAR** to clear the timer back to :00.

3.18 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.

> WARNING !!!
>
> 120 VAC wires are exposed whenever the cover over the power supply 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.

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

(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) Check to see that the Green LED on the power supply is lit.
(e) Check for 12 VDC at the power supply terminal.
(f) Contact the customer service department.

(B) Control console doesn't turn on

(a) Check that the AC power to the AC adaptor is turned on.
(b) Replace any defective or blown fuses.
(c) Check the power connections and voltages in the control.
(d) Contact the customer service department.

(C) The scoreboard digits light, the console works, but there is no control of the scoreboard.

(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) Turn the control console on and enter the code.

If LED D1 on the receiver board is flashing rapidly call the customer service department.

(D) 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 voltage between the positive and negative terminal strips on the power supply for 12 VDC with a voltmeter set on the 12 VDC or higher scale.

If the voltage is 12 VDC or greater, go to (e).

If the voltage is less than 12 VDC check the power supply input voltage for 120 VAC and contact the customer service department.

(e) Check LED D4 on the receiver board. It should be medium brightness. Change the Dim level on the control console. D4 brightness should change.

(f) Check if LED D5 on the receiver board is on.

If D5 is on, check if D2 and D6 are flashing and call customer service department. The flash will be very fast. The LED's may appear to be on at half brightness.

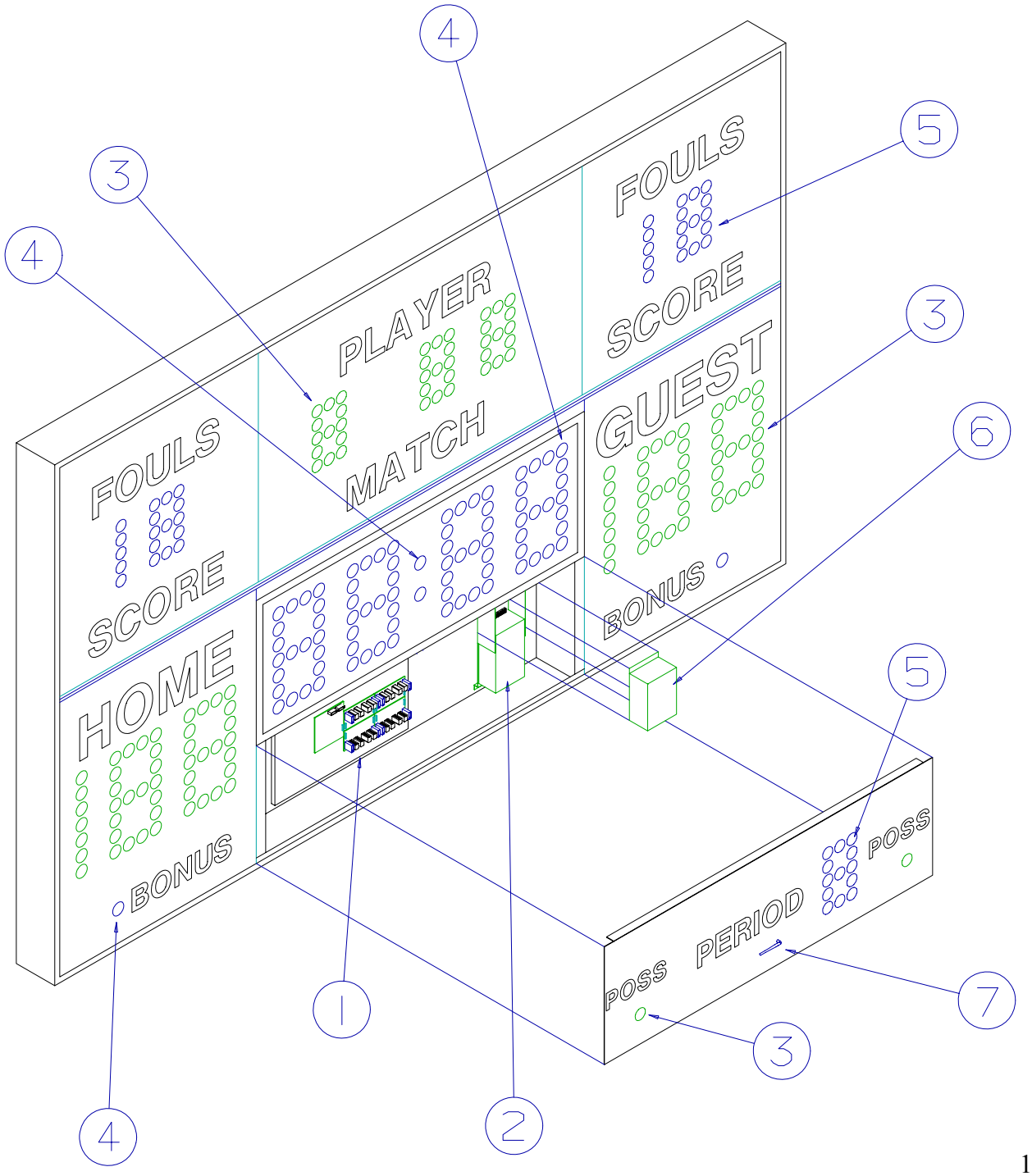
If D5 is not on, check that the receiver board is plugged into the power supply and call the customer service department.

(E) The scoreboard works, but some digits do not change.

(a) Find the driver board that controls the first digit in the shift order that is not working.
(b) Check for 12 VDC at the driver board.
(c) Reseat the data in ribbon cable connectors.
(d) Swap the driver board with a driver further down the shift order.
(e) If the digit still doesn't work call the customer service department.

5. REPLACEMENT PARTS LIST

5.1 Scoreboard Display Parts



1

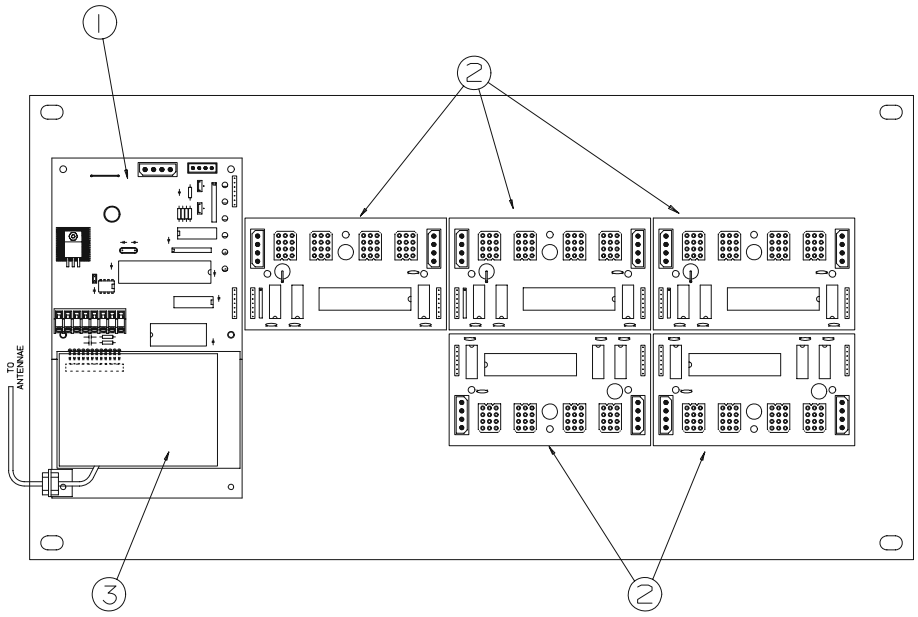
figure 1

DISPLAY ASSEMBLY

REPLACEMENT PARTS LIST (MP-5284R Basketball)

fig.& index	MFG PART NUMBER	DESCRIPTION	REF DES	VENDOR PART #
1-	150783X	Display Assembly		150783X
1-1	151036	Controller Assembly SEE FIGURE 2	A2	151032
1-2	151731	Power Supply Plate Assy SEE FIGURE 3	A9	151731
1-3	150822	Cluster, Green		150822
1-4	150820	Cluster, Red		150820
1-5	150821	Cluster, Amber		150821
1-6	151727	Power Supply Cover		151727
1-7	EL00474P	Antenna, 2.4 GHZ External Maxrad		RFX-A7P
1-7A	WI00018P	Antenna Cable, 8' Coaxial		RFX-C8
1-8	703609	Horn, 350N		703609
	151742	Control Console, 5000R		151742
	151684	Slipsheet Pair		151684
	151785	Transmitter PCB Assembly ***** PROGRAM MP5.104 *****	A1	151681
	SW005100	Toggle Switch,	S1	SW005100
	EL00479P	Transceiver, 2.4 GHZ Radio OEM	A17	
	EL00473P	Antenna, 2.4 GHZ Internal		RFX-A5 Maxrad
	EL057700	LCD Display, 2 Line 20 Character		
	151682	Keyboard Assembly,		151682
	WH009100	Ribbon Cable Assembly, 14C 8"		WH009100
	122763	Enclosure,		
	EL00478P	Power Adaptor, 9 VDC 1 Amp		DPD090100-P5-TC
	151733	Cable Assy, 6' Dual		151733

5.2 Controller Assembly Parts



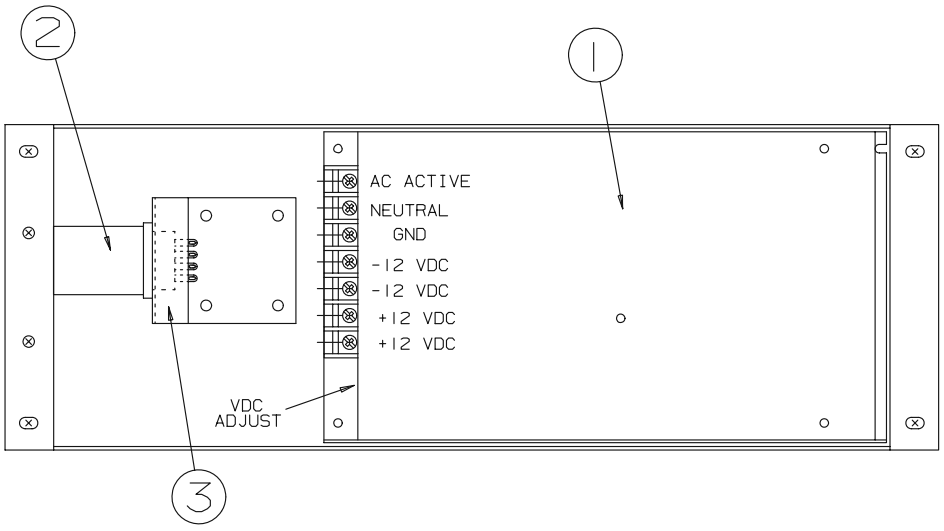
2

figure 2

CONTROLLER ASSEMBLY

REPLACEMENT PARTS LIST (MP-5284R) Controller Assy				
fig.& index	MFG PART NUMBER	DESCRIPTION	REF DES	VENDOR PART #
2-	151036	Controller Assembly	A2	151032
2-1	150635	PC Board Assy, 5000 Series Receiver ***** PROGRAM RX5.V102 *****	A3	150635
2-2	150634	PC Board Assy, 4 Pos. Driver	A4-A8	150634
2-3	EL00479P	Transceiver, 2.4 GHZ Radio	A17	
2-4	151718	Cable Set, DC Power 4"		151718
2-5	705723	Spacer, Amerlock		SPC# PCS-6
2-6	930674	Cable Assy, 3" Ribbon 7C Fem.		CE 100F22-7 Pand

5.3 Power Supply Assembly Parts



3

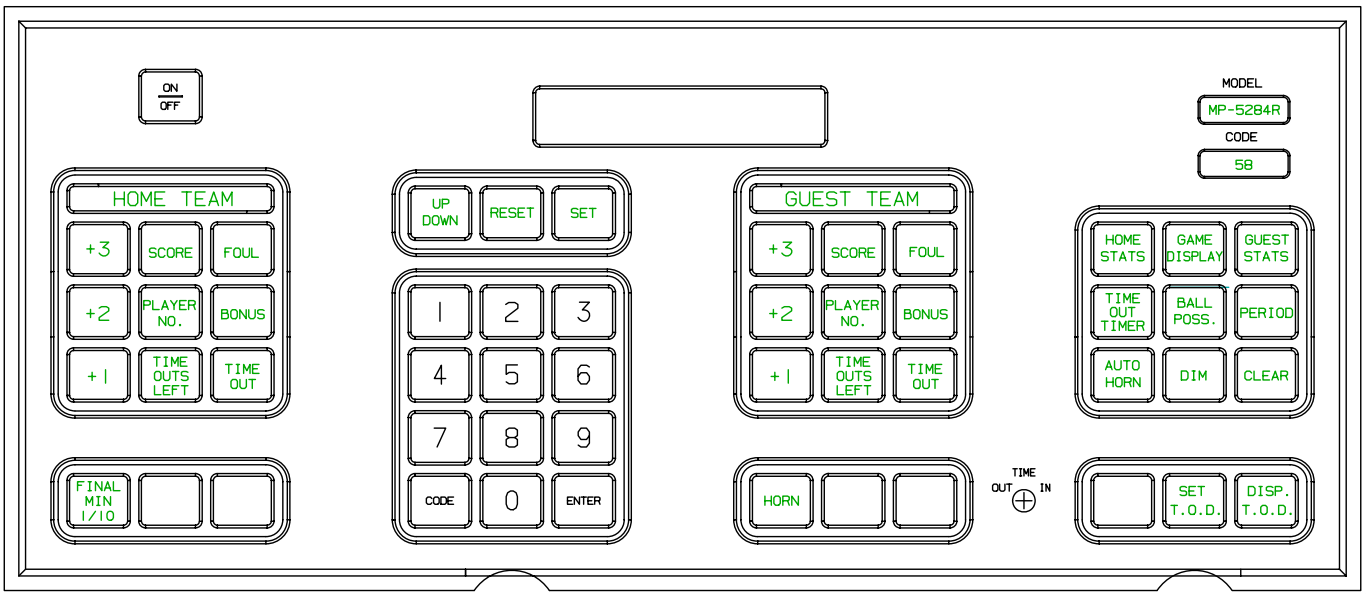
figure 3

POWER SUPPLY PLATE ASSEMBLY

REPLACEMENT PARTS LIST (MP-5284R) Power Suply Plate Assy				
fig.& index	MFG PART NUMBER	DESCRIPTION	REF DES	VENDOR PART #
3-	151731	Power Supply Plate Assembly	A6	151731
3-1	BL00054P	Power Supply, 12V 150 Watt		S-150-13-5
3-2	EL00525P	Relay, 12 VDC	K1	MY2DC12(S)
3-3	703118	Socket, Relay	A7	27E008
3-4	151716	Cable Assy, 3' Power		151716

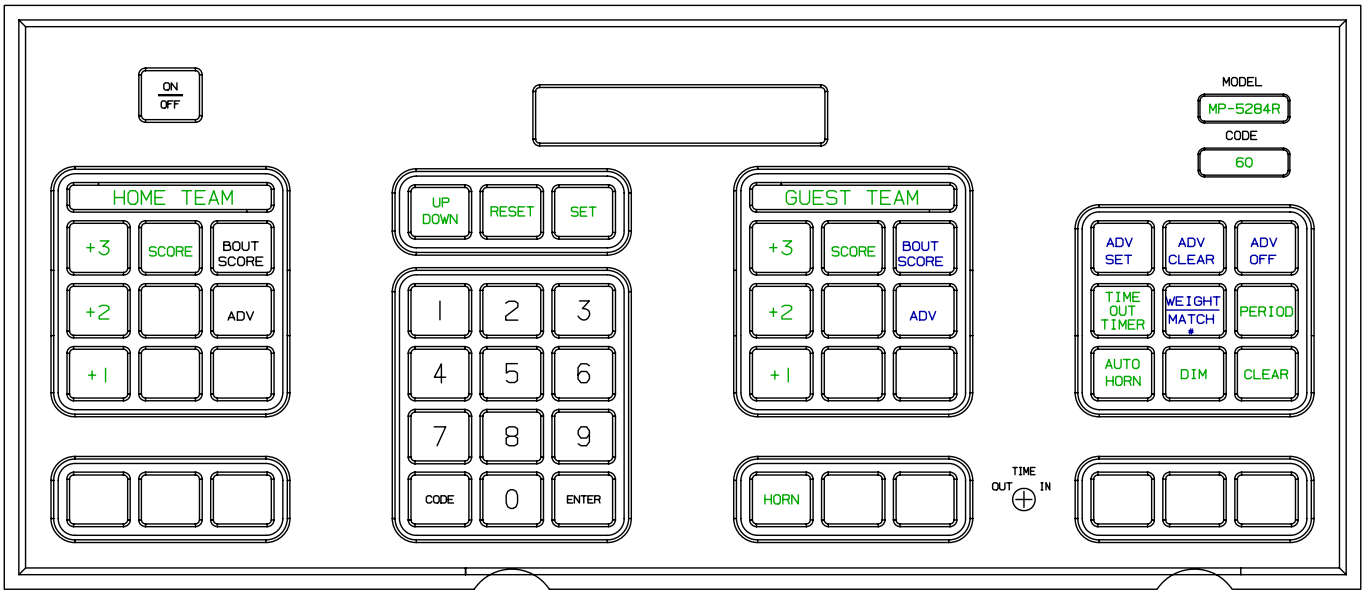
6. DIAGRAMS

6.1 Control Console Keyboard and Slipsheet Layout



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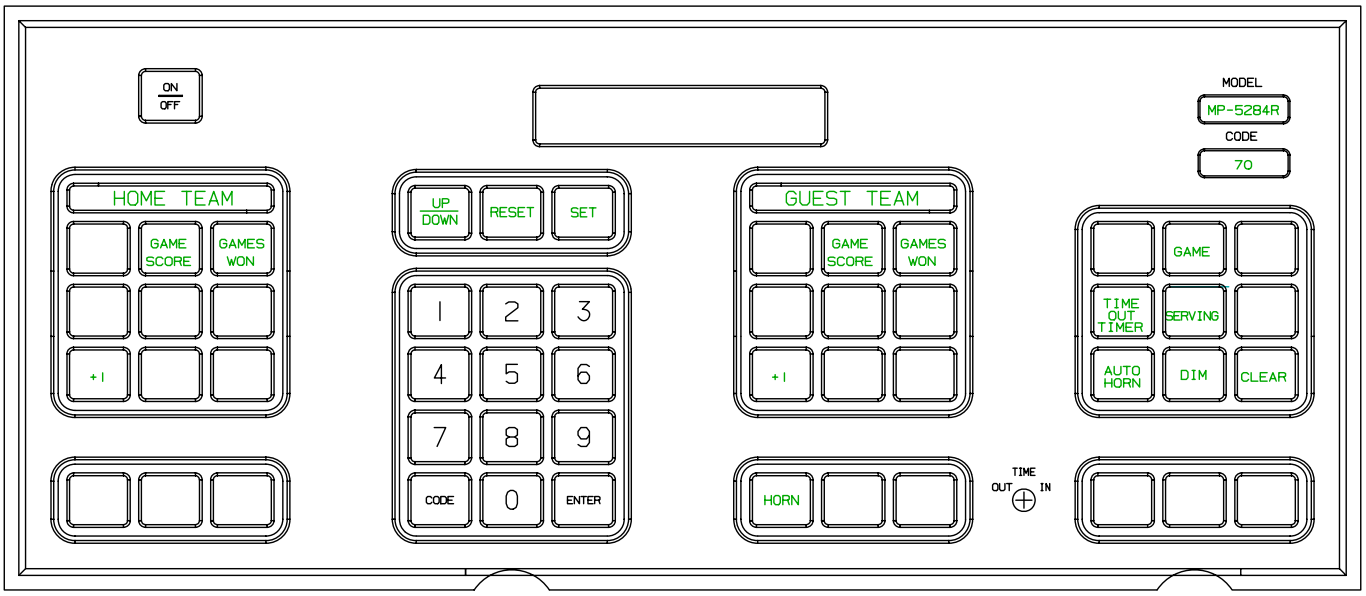
for Basketball Operation



5

for Wrestling Operation

6.1 Control Console Keyboard and Slipsheet Layout (cont.)

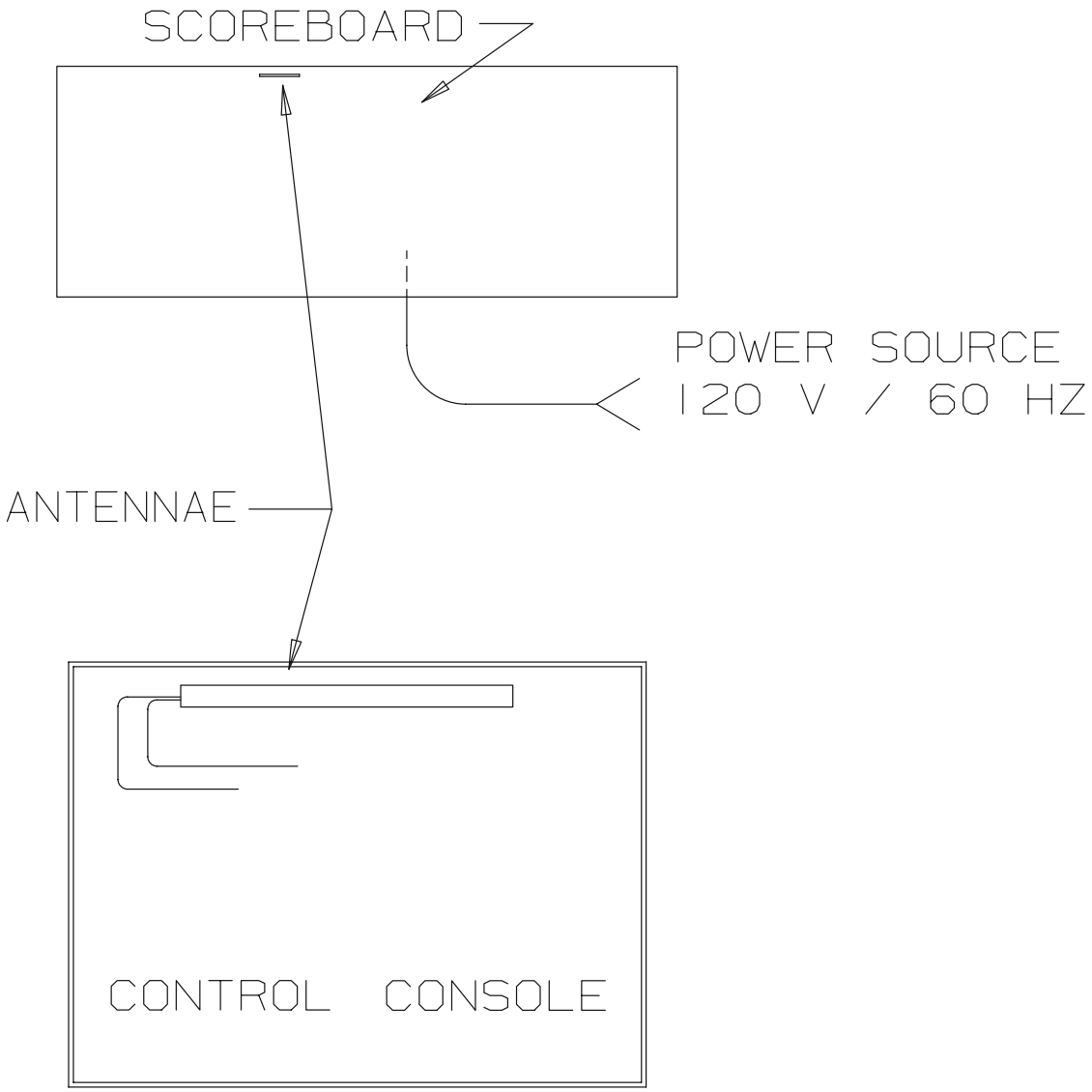


6

for Volleyball Operation

CONSOLE KEYBOARD

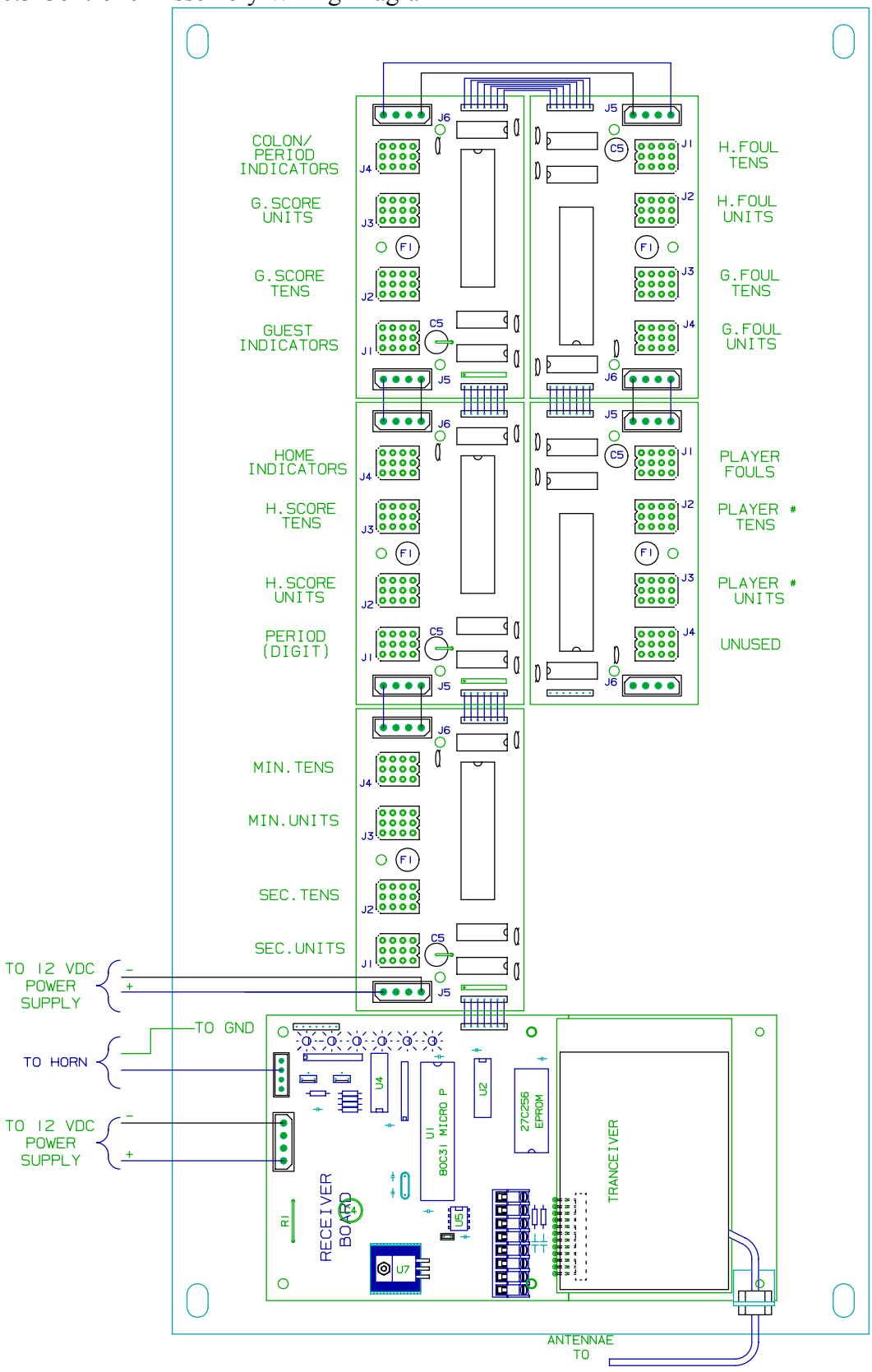
6.2 Scoreboard System Layout



7

SYSTEM LAYOUT

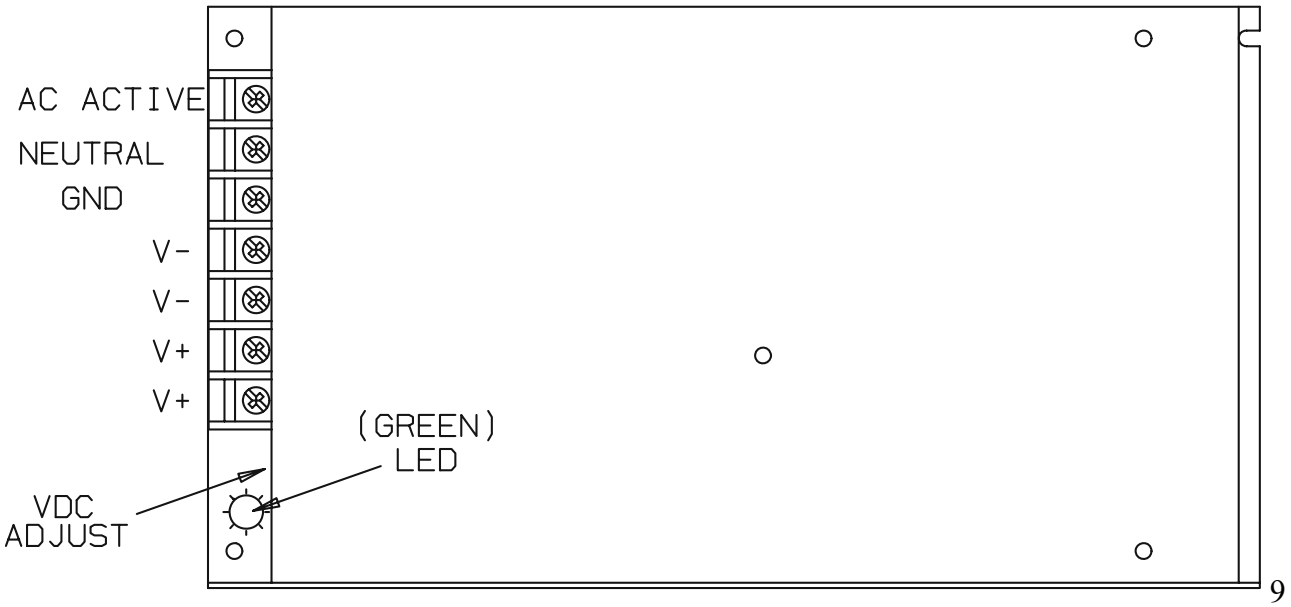
6.3 Controller Assembly Wiring Diagram



8

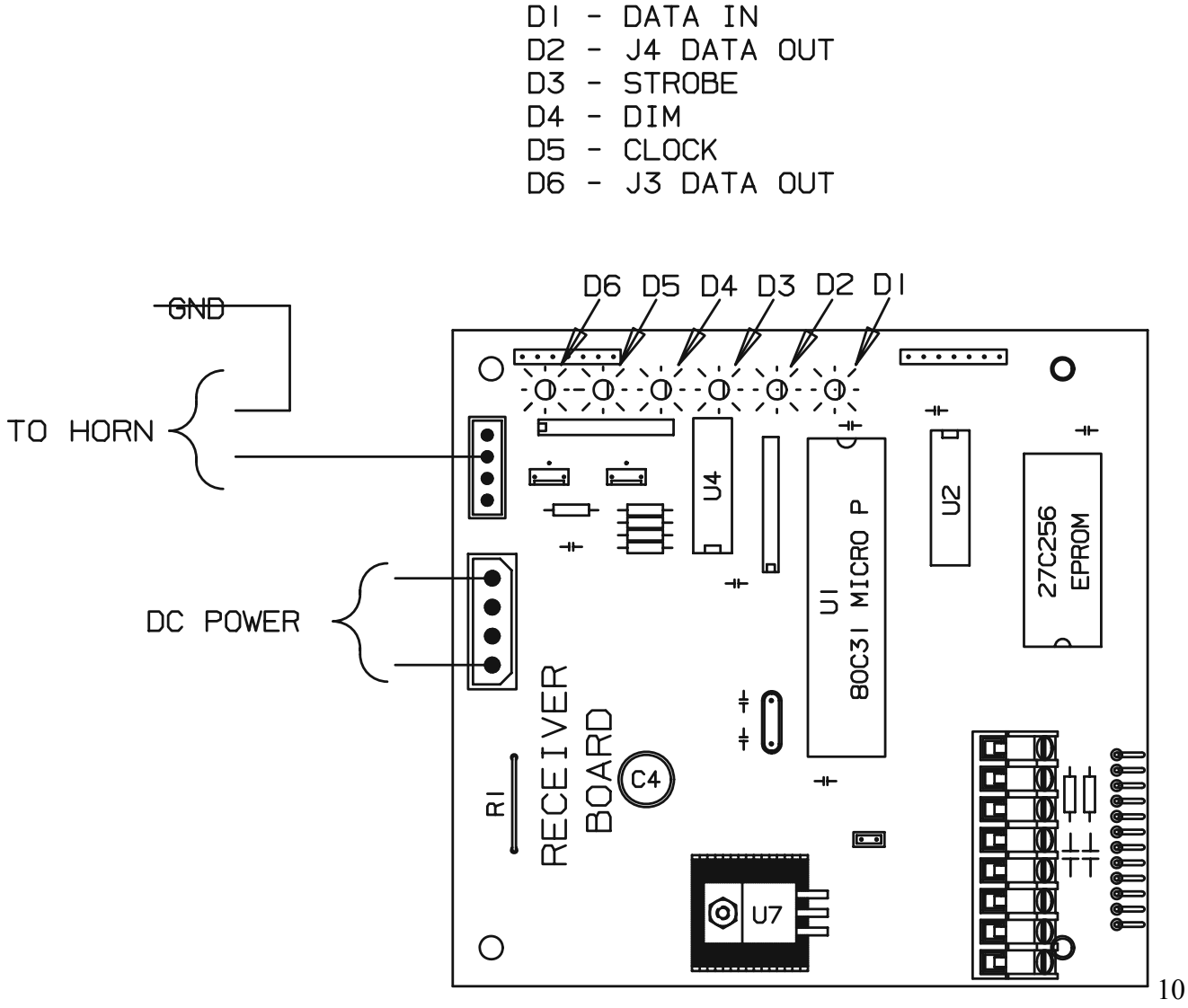
CONTROLLER WIRING

6.4 Power Supply Diagram



POWER SUPPLY

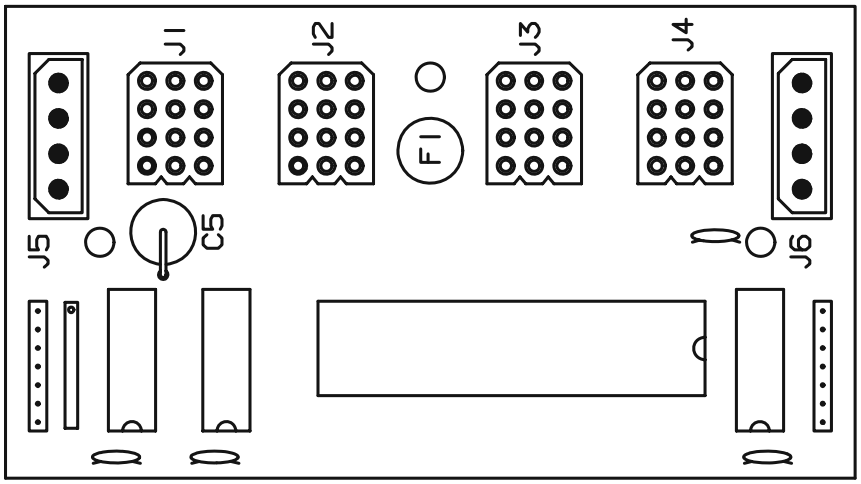
6.5 Receiver Board Diagram



10

RECEIVER BOARD

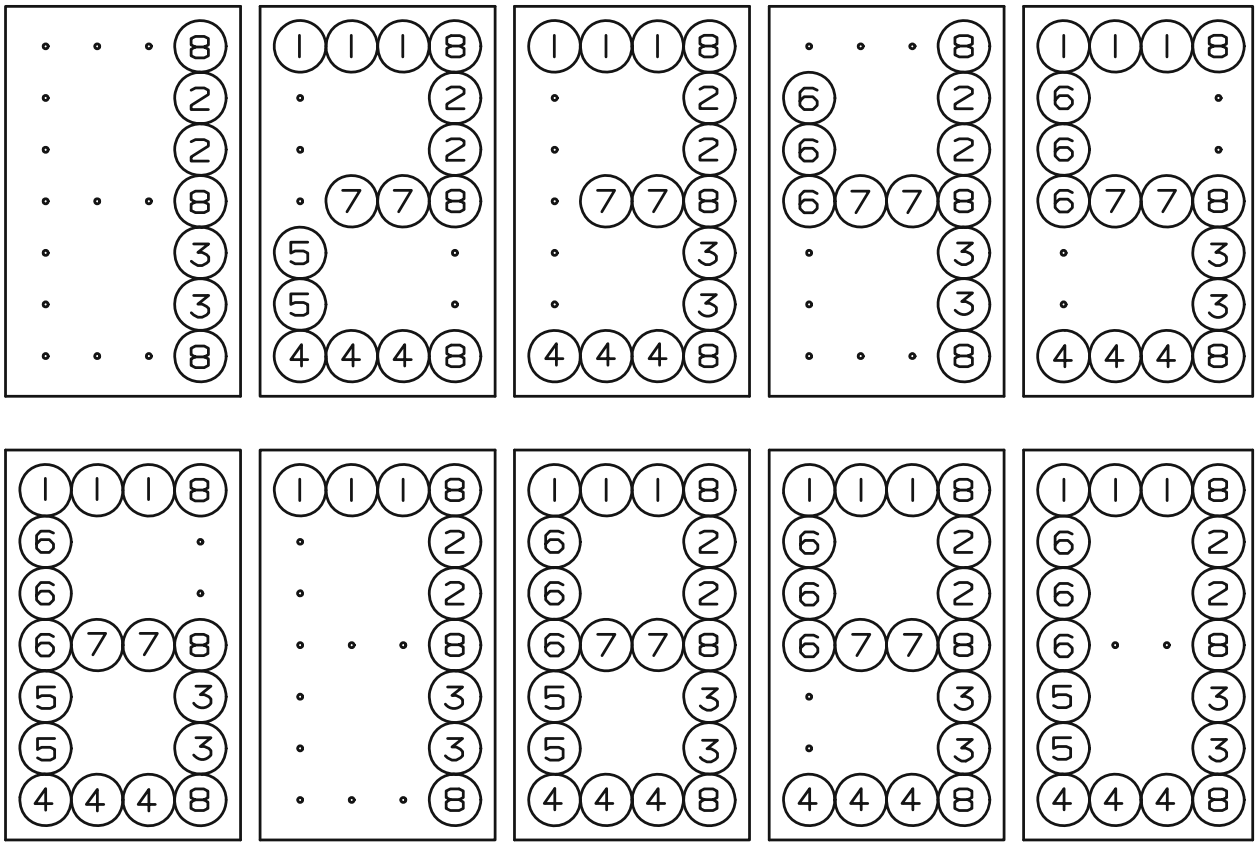
6.6 Driver Board Diagram

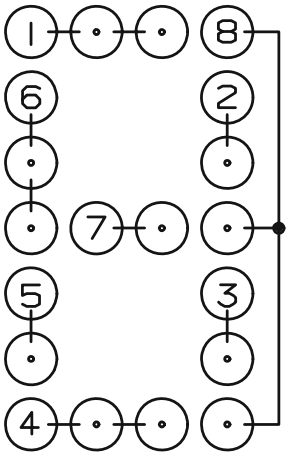


11

DRIVER BOARD

6.7 Microprocessor 4 X 7 LED Pattern (8 Bit)





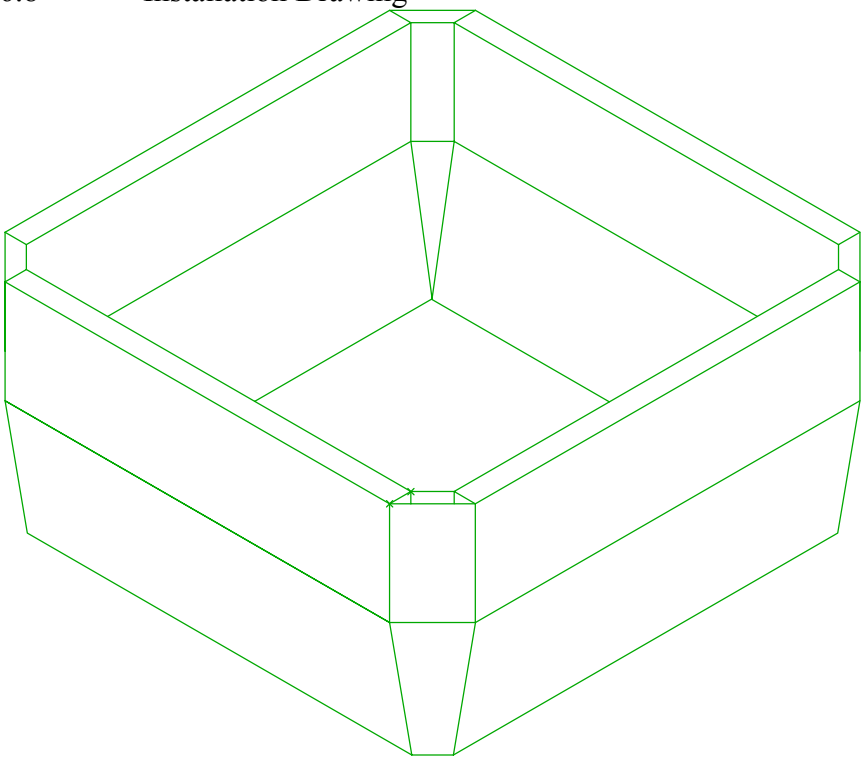
NUMERALS

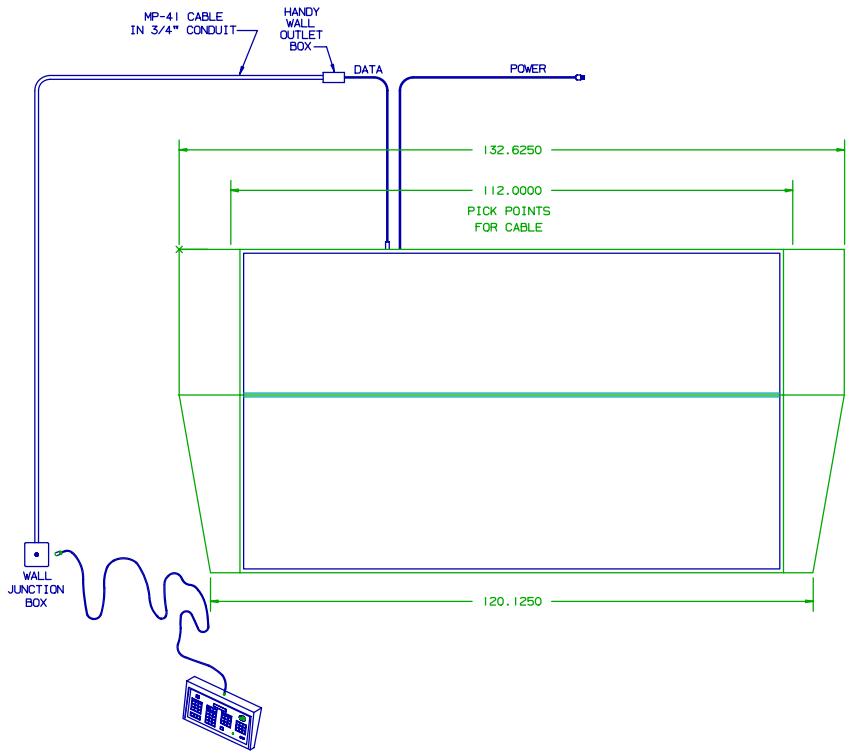
BIT NUMBERS	0	1	2	3	4	5	6	7	8	9
1	0	.	2	3	.	5	6	7	8	9
2	0	1	2	3	4	.	.	7	8	9
3	0	1	.	3	4	5	6	7	8	9
4	0	.	2	3	.	5	6	.	8	9
5	0	.	2	.	.	.	6	.	8	.
6	0	.	.	.	4	5	6	.	8	9
7	.	.	2	3	4	5	6	.	8	9
8	0	1	2	3	4	5	6	7	8	9

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MICROPROCESSOR 4 X 7 (8 BIT) LED PATTERN

6.8 Installation Drawing





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- INSTALLATION DRAWING