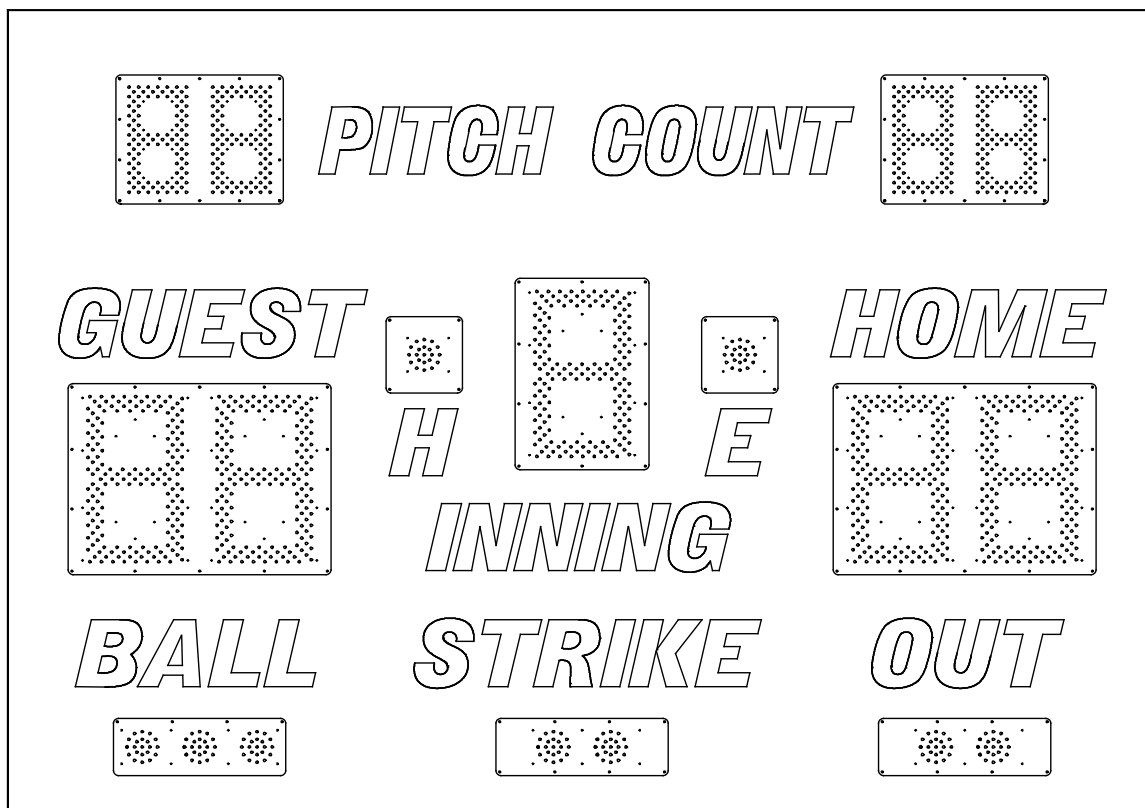# ELECTRO-MECH SCOREBOARD CO.

PITCH COUNT

GUEST   H   E   HOME

INNING

BALL   STRIKE   OUT

1160 BASEBALL SCOREBOARD

OWNER'S HANDBOOK

Thank you for choosing an Electro-Mech Scoreboard for your athletic complex. We are confident that your new scoreboard will give many years of reliable service.

Rev. 1 Revised: 03/28/2008

TABLE OF CONTENTS

SCOREBOARD SPECIFICATIONS

GENERAL: This ETL listed scoreboard includes the scoreboard cabinet, mounting hardware, control console, 10 ft. extension cable, and junction box.

DIMENSIONS: 10' L x 7' H x 6" D (with no ID panels)

WEIGHT: 200 lbs (with no ID panels)

SCOREBOARD CONSTRUCTION: The outer frame is made from extruded aluminum. Internal structural parts may be extruded aluminum or formed from aluminum sheet. The face and back are made from aluminum sheet. The face and masks are finished with enamel paint. Black is the standard color. The captions are white exterior grade vinyl.

DISPLAY: The 1160 baseball scoreboard displays Home and Guest Scores to 99, Home and Guest Pitch Count to 99, Inning to 9, Ball, Strike, Out, Hit, and Error

DIGITS AND INDICATORS: Red or amber light emitting diodes mounted on printed circuit boards form the digits and indicators. The Score and Inning digits are 18 inches tall. Pitch Count digits are 11 inches tall. Circular clusters of light emitting diodes form the 4 inch diameter Ball, Strike, Out, Hit, and Error indicators.

POWER REQUIREMENTS: Scoreboard - 120 VAC, 1 A, 60 Hz **Control Console -** 120 VAC, 0.5 A, 60 Hz

SCOREBOARD ELECTRONICS: 100% solid state fully enclosed.

CONTROL CONSOLE: The control console features a microprocessor, 37-key sealed membrane keypad, and an attached 6 foot power cord. The console housing consists of ABS plastic base and top with a steel back plate.

CONTROL CABLE: The cable has two 22 AWG stranded copper conductors with semi-rigid PVC insulation. It also has a braided shield and a foil shield. The polyethylene jacket is rated at 300 volts. The cable is direct burial rated and measures approximately ¼" in diameter. This item is sold separately from the scoreboard.

JUNCTION BOX AND EXTENSION CABLE: A 4 ¼" x 2 ¼" x 2" junction box with a ¼" stereo jack mounted on the face plate is attached to the control cable at the point of operation. A 10 ft. extension cable connects the control console to the junction box.

SL-230 / 330 RF MODEM SYSTEM: This accessory can be used in place of control cable and junction box for this scoreboard. Refer to the SL-230 / 330 RF MODEM INSTALLATION MANUAL for more information.

WARRANTY: Five year limited warranty.

SCOREBOARD INSTALLATION

This part of the manual describes the mechanical and electrical installation of the scoreboard.

One of the following two items must be purchased in order to complete the installation:
- Control cable (length dependent upon installation site layout)
- SL-230 / 330 RF Modem System

Items not provided by Electro-Mech Scoreboard Company that are necessary for installation:
- Two posts (some installations may require additional posts)
- Power cable to connect the scoreboard to the power source
- Grounding hardware
- A grounded NEMA 5-15R 120 VAC receptacle for the control console at the scorekeeper's table.

Items not provided that are recommended by Electro-Mech Scoreboard Company for installation:
- A weatherproof power disconnect at the scoreboard

Electro-Mech Scoreboard Company performs installations in some areas. In other areas, we can help you contact an independent installer. In areas in which installation service is not available from Electro-Mech Scoreboard Company, we will make every effort to answer your installation questions. Qualified personnel should perform the scoreboard installation. Consult national and local codes before installation.

MECHANICAL INSTALLATION

The mechanical installation includes installing the posts and mounting the scoreboard and the optional ID panels (if purchased) to the posts.

Post Installation

The standard version of the scoreboard mounts on two posts, although customized mounting options are available. Typically installers will use steel pipes or I-beams. In order to reduce the glare from the sun on the front of the scoreboard, position the posts so that the front of the scoreboard is angled away from the afternoon sun, if possible. The mounting hardware will accommodate posts up to 4.5 inches outer diameter. Sink the posts in reinforced concrete footings. Figure 1 shows the spacing of the posts for a Model 1160 scoreboard. The specifications for the posts and concrete footings are dependent upon the expected local wind and soil conditions, the height of the scoreboard from the ground, and the local building codes. Electro-Mech Scoreboard Company assumes no responsibility for the installation of scoreboards by others.
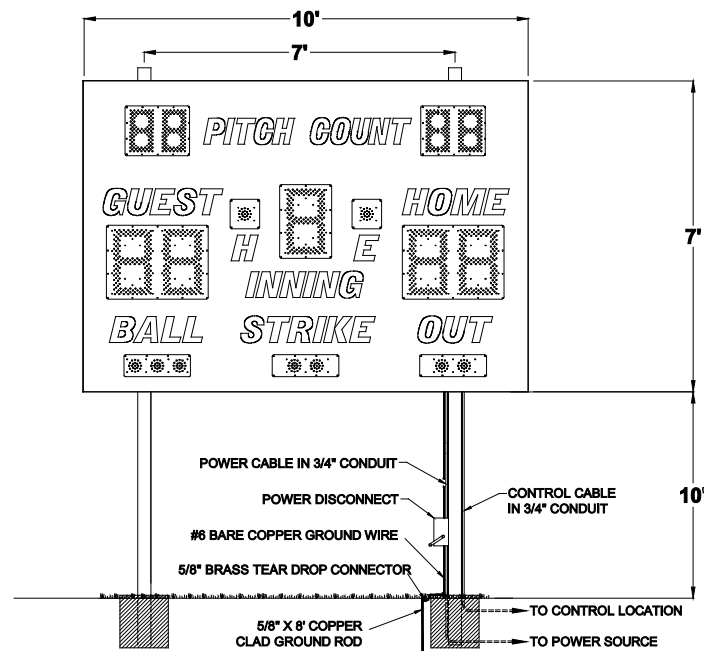
Figure 1 Model 1160 Post Spacing

Figure 2 shows the spacing of the posts for a Model 1160 scoreboard with an optional side ID panel. The ID panel is built into the scoreboard cabinet.
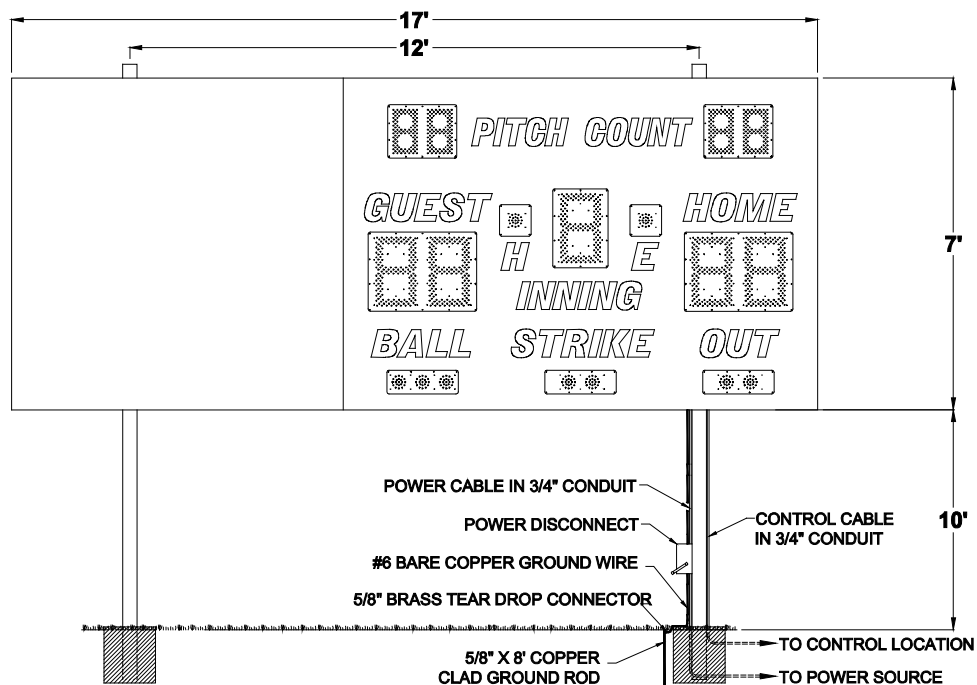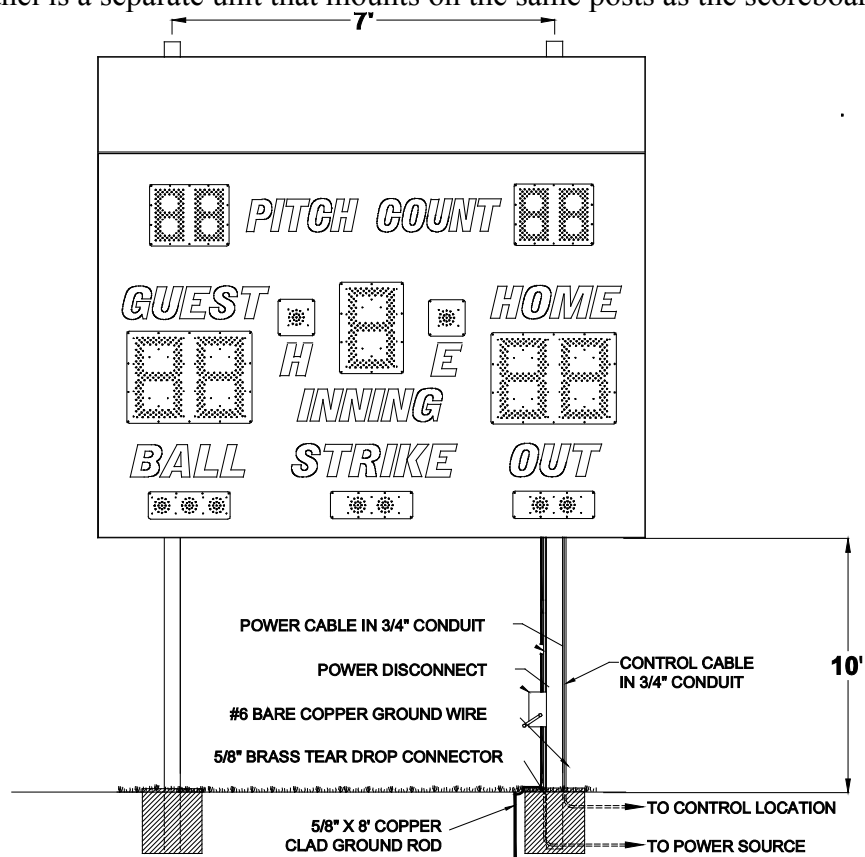

Figure 2 Model 1160 with Side ID Panel Post Spacing

Figure 3 shows the spacing of the posts for a Model 1160 scoreboard with an optional top ID panel. This panel is a separate unit that mounts on the same posts as the scoreboard.

Figure 3 Model 1160 with Top ID Panel Post Spacing

Mounting The Scoreboard

The scoreboard is attached to the posts at four points. Figures 4 and 5 show the location of the mounting points on the rear of the scoreboard.
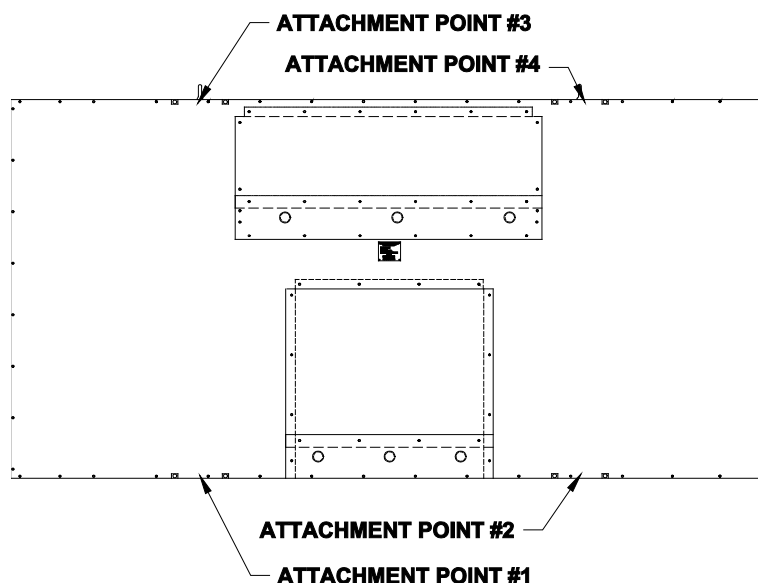
Figure 4 Mounting Points (for Model 1160 with no side ID panels)

Figure 5 Mounting Points (for Model 1160 with left side ID panel)

MOUNTING HARDWARE

Four sets of mounting hardware are provided to attach the scoreboard to the posts. Additional hardware sets are provided to attach the optional ID panels, if ordered. A mounting hardware set consists of a steel angle bracket, two threaded rods, two washers, and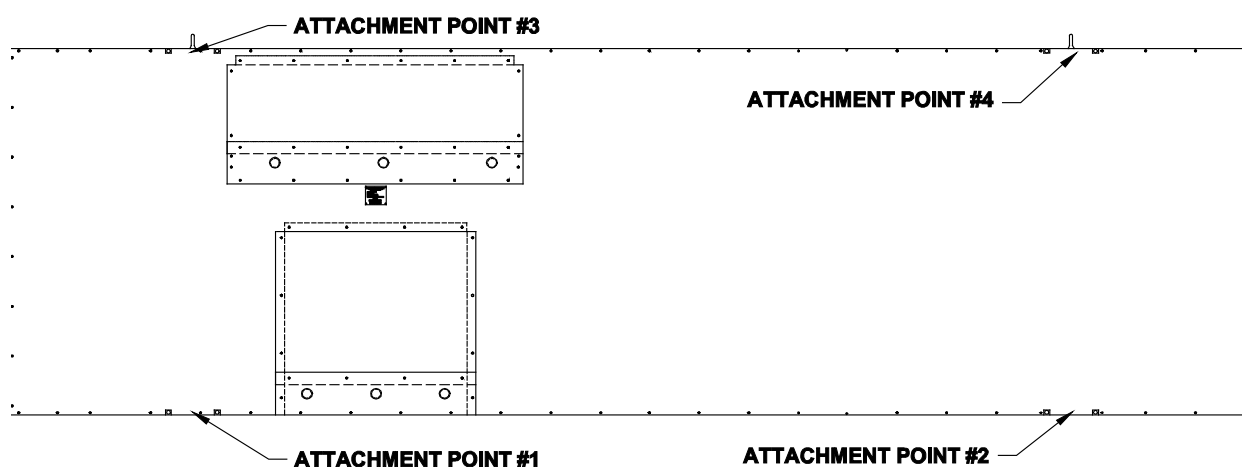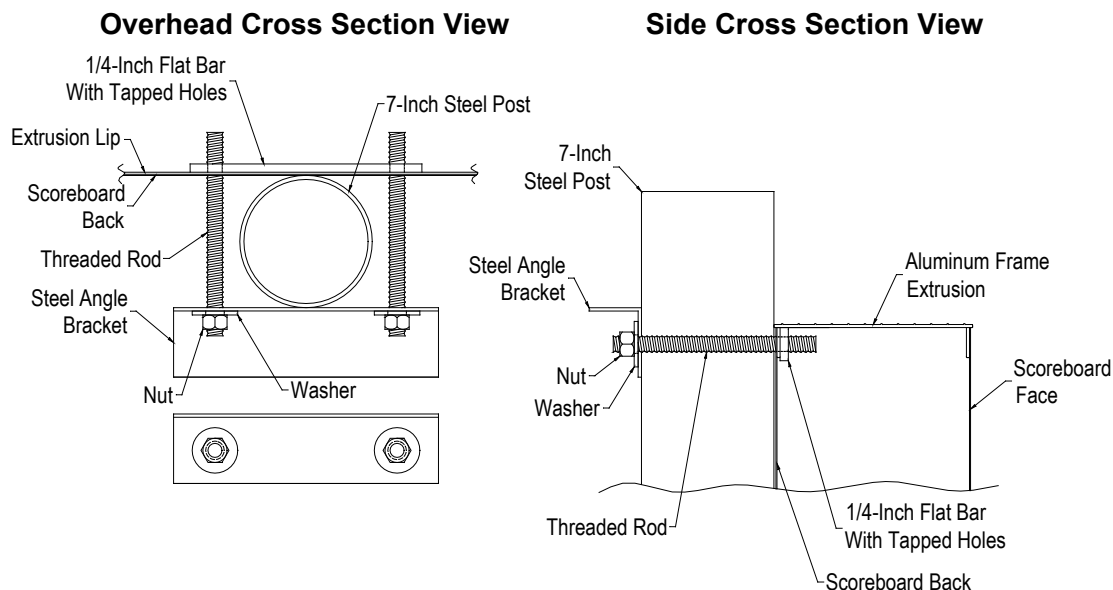 two nuts. Figure 6 shows an overhead cross section view and a side cross section view of the scoreboard attached to a post at a mounting point using the hardware. A steel bracket is riveted to the scoreboard's aluminum extrusion frame. The bracket has two tapped holes. The threaded rods screw into these tapped holes. The washers and nuts are used to clamp the steel angle bracket against the steel post and hold the scoreboard in place.

Overhead Cross Section View   **Side Cross Section View**

1/4-Inch Flat Bar
With Tapped Holes
7-Inch Steel Post
Extrusion Lip
7-Inch Steel Post
Scoreboard Back
Threaded Rod
Steel Angle Bracket
Nut   Washer
Steel Angle Bracket
Aluminum Frame Extrusion
Nut
Washer
Scoreboard Face
Threaded Rod
1/4-Inch Flat Bar With Tapped Holes
Scoreboard Back

Figure 6 Standard Mounting Method

The following steps describe how to mount the scoreboard on the posts:
1. Place the scoreboard cabinet against the posts on the ground. Make sure the mounting points are aligned with the posts.
2. Screw the threaded rods into the tapped holes in the scoreboard.
3. Place a steel angle bracket over the threaded rods at a mounting point.
4. Place a washer over each threaded rod.
5. Screw the nuts onto the threaded rods so that the bracket is loosely held in place.
6. Repeat steps 3 - 6 at the other mounting points.
7. Raise the scoreboard into place and tighten the nuts to clamp the scoreboard in place on the posts.

Note: Be sure to leave enough space on the posts above the scoreboard for the optional top ID panel, if purchased.

Mounting The Optional Top ID Panel

Additional hardware sets are provided to attach the optional top ID panels, if purchased. The following steps describe how to mount the top ID panel on the posts:

1. Raise the top ID panel in place above the scoreboard. Make sure the mounting points are aligned with the posts.
2. Screw the threaded rods into the tapped holes in the top ID panel.
3. Place a steel angle bracket over the threaded rods at a mounting point.
4. Place a washer over each threaded rod.
5. Screw a nut onto each threaded rod so that the bracket is loosely held in place.
6. Repeat steps 3 - 5 at the other mounting points.
7. Tighten the nuts to clamp it in place on the posts.

ELECTRICAL INSTALLATION

We recommend a qualified electrician perform the needed electrical connections to ensure proper operation of the scoreboard. These connections include grounding the scoreboard, connecting the scoreboard to a power source, installing the SL-230 / 330 or the control cable, and connecting the control console.

Ground Connection

The National Electrical Code **requires** a scoreboard (electric sign) to be grounded. Grounding the scoreboard helps the scoreboard electronics operate properly and helps minimize damage if it is struck by lightning. Metal posts do **not** provide an adequate ground path. The following steps describe how to connect the scoreboard to the power source:

1. Drive one or more 5/8" x 8' copper clad ground rods in the soil near the scoreboard.
2. Connect #6 bare copper wire to the ground rods using 5/8" brass tear drop connectors.
3. Remove the lower rear access panel and the dome plugs on the plate below the access panel. Figure 7 (on the next page) shows the location of the access panel and the dome plugs.
4. Figure 8 (on the next page) shows the view behind the access panel.
5. Pass the ground conductor through the right hand hole in the plate below the access panel and connect it to the ground lug (**Ground**) on the junction chassis.
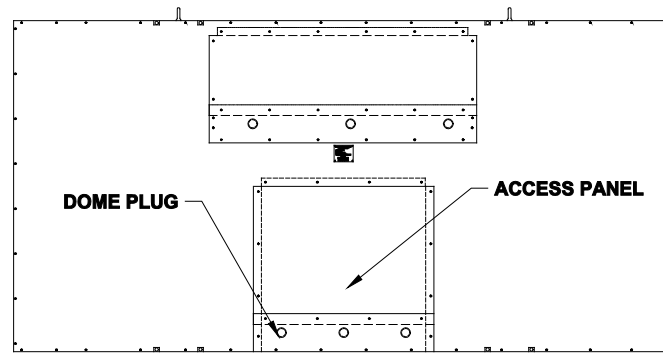
Figure 3a Rear Access Panel (for Model 1160 with no ID panels)
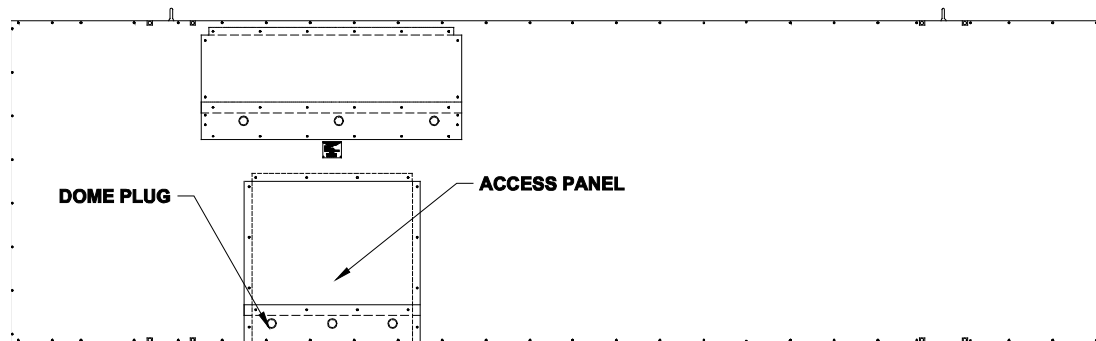
Figure 4b Rear Access Panel (for Model 1160 with left side ID panel)

| **Top Chassis** | **Bottom Chassis** |
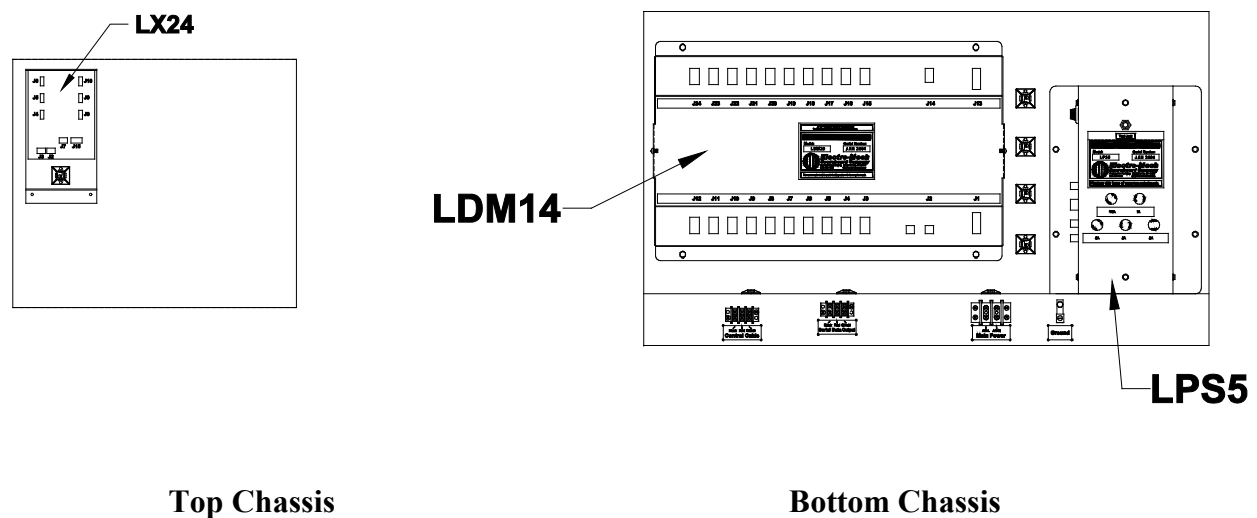
Figure 5 Access Panel Removed

Power Connections

The scoreboard requires 120 VAC service at the scoreboard to operate properly. Install the power cable in conduit. **Avoid** running the power cable in close proximity to the control cable. The following steps describe how to connect the scoreboard to the power source:
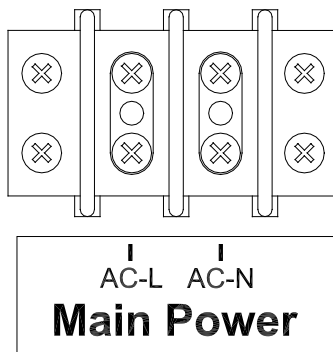1. Feed the power cable through the middle hole in the plate below the lower access panel.
2. Crimp fork terminals to the power cable wires.
3. Connect the AC line wire and AC neutral wire to the **Main Power** terminal block on the junction chassis according to figure 9.


Figure 6 Power Connections

Install a power disconnect that isolates all current carrying conductors on one of the posts below the scoreboard (not the ground conductor). If a secondary switch is installed near the scorekeeper's table, it should also isolate these conductors. Place the power disconnect in the **OFF** position between games to help protect the scoreboard from lightning damage. A power disconnect on the scoreboard post also provides a convenient way of turning the scoreboard off during maintenance or repairs.

SL-230 / 330

The SL-230 / 330 RF MODEM SYSTEM is designed to eliminate the control cable between the scoreboard and the control console on Electro-Mech Scoreboard MM and MP series scoreboards as well as all LED scoreboards. If you have purchased this accessory, disregard the section of this manual titled **Control Cable Installation**. Refer to the installation manual provided for this product.

Control Cable Installation

The control cable connects the scoreboard to the control console. Install the control cable in conduit. If the cable is ever damaged, it is easier and less expensive to replace a cable in conduit. A small junction box with a ¼" stereo jack mounted on the face plate is attached to the control cable at the point of operation of the scoreboard. This junction box should be securely mounted in a clean, dry area within ten feet of the rear of the control console. Most customers order the control cable with the junction box attached. Some customers prefer to attach the junction box after the cable is installed. Those customers must solder the control cable to the ¼" stereo jack. Figure 10 shows the control cable wire connection points on the rear of the ¼" stereo jack.
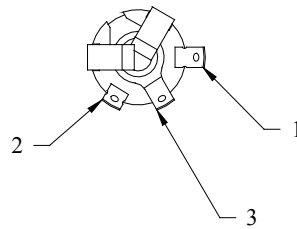
PIN 1 - BLACK WIRE
PIN 2 - RED WIRE
PIN 3 - SHIELD WIRE

Figure 7 ¼" Stereo Jack Wiring Diagram

The following steps describe how to connect the control cable to the scoreboard:
1. At the rear of the scoreboard, feed the control cable through the left hole in the plate below the lower access panel.
2. Crimp fork terminals to the control cable wires and the shield.
3. Connect the control cable to the **Control Cable** terminal block on the junction chassis according to Figure 11.

Black Red Shield
Control Cable
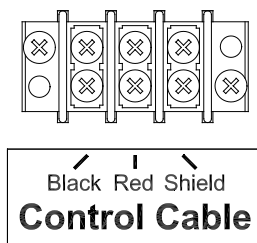
Figure 8 Control Cable Wiring Diagram

4. Reinstall the access panel.

Control Console Connections

The 10 ft. extension cable has two molded ¼" stereo plugs attached to it. It is used to connect the control console to the junction box. The following steps describe how to connect the control console:

1. Plug one end of the extension cable into ¼" stereo jack on the junction box.
2. Plug the other end into the ¼" stereo jack mounted on the control console back plate.
3. Plug the control console power cord into a grounded NEMA 5-15R 120 VAC receptacle.

Control Console Safety Warning

This product is equipped with a 3-wire grounding type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact a qualified electrician to replace your obsolete outlet. Do not defeat the purpose of the grounding-type plug.

SCOREBOARD OPERATION

SCOREBOARD STARTUP

1. Place the power disconnect for the scoreboard in the **ON** position.
2. Plug one end of the 10 ft. extension cable into ¼" stereo jack on the junction box.
3. Plug the other end into the ¼" stereo jack mounted on the control console back plate.
4. Plug the control console power cord into a grounded NEMA 5-15R 120 VAC receptacle.

GAME TIME OPERATION

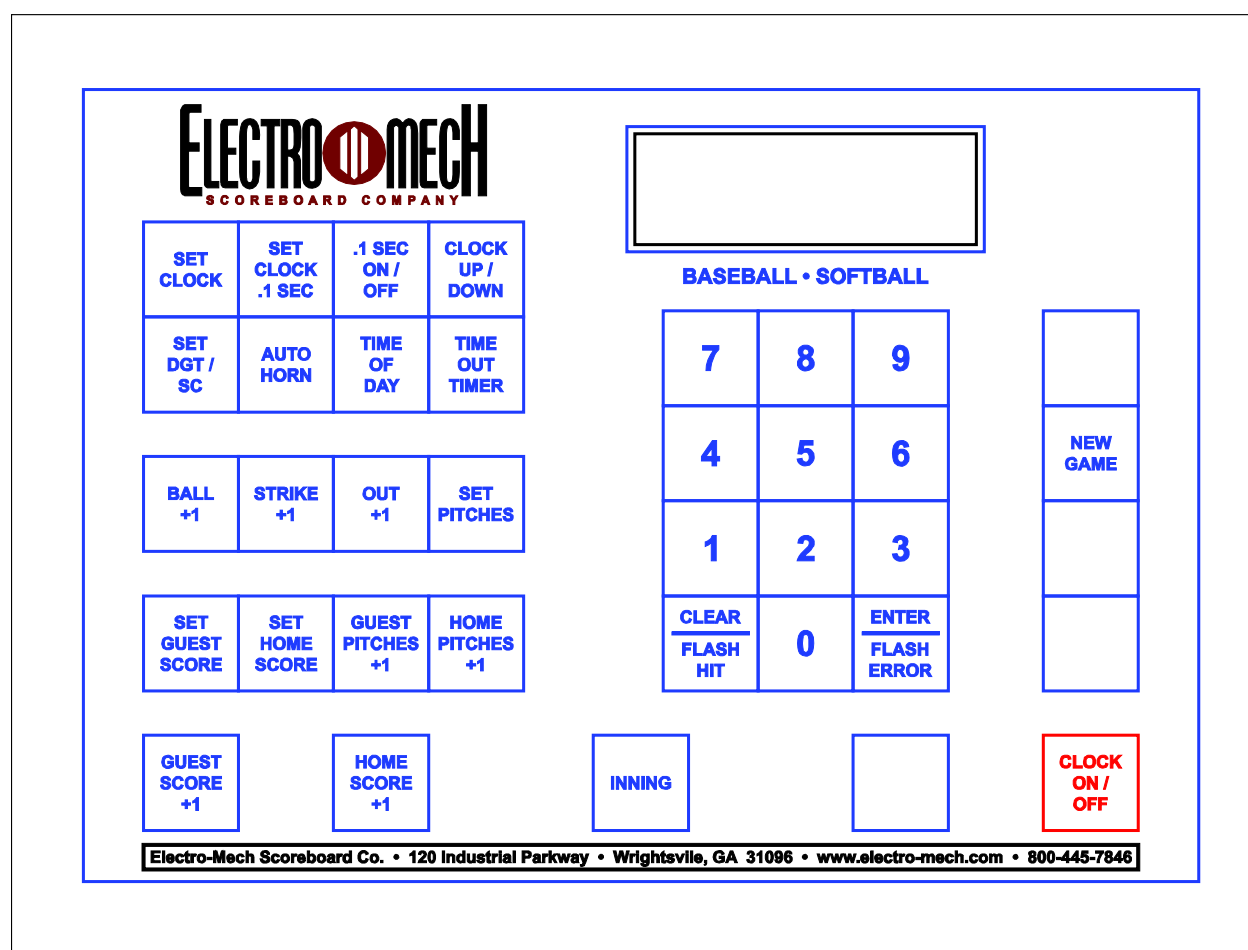This scoreboard is operated with a 37-key control console. Figure 12 shows the keypad layout on the control console.

Figure 9 Keypad Layout

Immediately after the control console power cord is plugged into a 120 VAC source, the console LCD display will read:

```
ELECTRO-MECH 278
SCOREBOARD MMCII
```

After a few seconds the display will read:

```
 00  D15:00  00
INNING  -
```

The scoreboard will display:

GUEST SCORE – 0
GUEST PITCH COUNT – 0
INNING – 0
HOME SCORE – 0
HOME PITCH COUNT – 0
BALL, STRIKE, OUT, H, AND E - BLANK

The control console LCD display shows the total runs for the HOME and GUEST teams. It also provides instructions to help the operator use some of the console functions. Note: The Guest and Home Pitch Counts, Ball, Strike, Out, Hit, and Error will be displayed on the scoreboard, but not on the console. There is a clock function displayed on the control console, not on the scoreboard. Likewise, the Inning is always displayed on the console with the word "TOP" (as in "top of the inning") which refers to a feature not available on this scoreboard model. The Model 1160 does not distinguish between the "top" and "bottom" of an Inning. Figure 12 explains the LCD display layout.
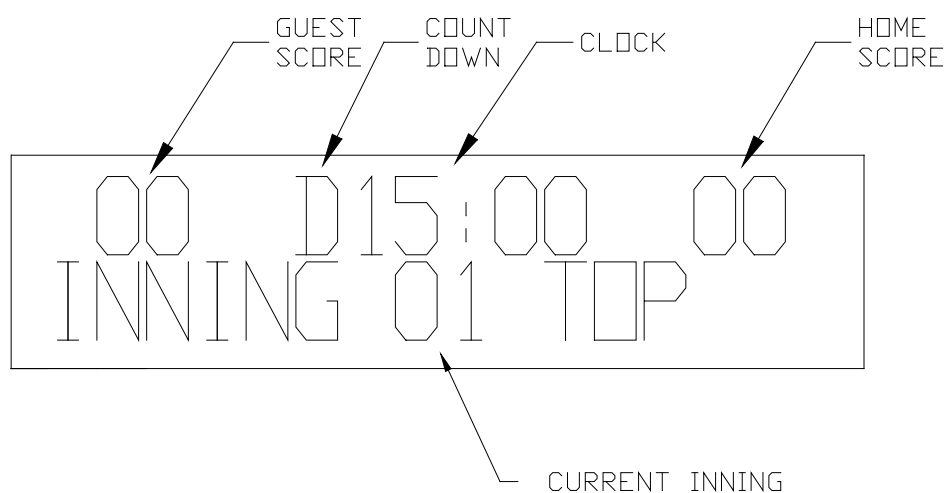
Figure 10 Control Console LCD Display

Control Console Key Functions

1. The clock functions (SET CLOCK, etc.) are not displayed on the Model 1160 scoreboard, so they will not be discussed here.

2. **BALLS +1** – This key will increment the Ball Count by 1.

3. **STRIKES +1** – This key will increment the Strike Count by 1.

4. **OUTS +1** – This key will increment the Out Count by 1.

5. **SET PITCHES** - This key allows the operator to set both the Guest and Home Pitch Counts. Press [SET PITCHES] and you will be prompted first to enter the Guest Pitch Count.

```
00   D15:00   00
     GUEST   <00>
```

Press [1] [2] [ENTER] to enter a Guest Pitch Count of 12. Next enter the Home Pitch Count.

```
00   D15:00   00
     HOME    <00>
```

6. **SET GUEST SCORE** – Press [SET GUEST SCORE]. The LCD display will read:

```
00   D15:00   00
  SET GUEST <00>
```

Press [2][1][ENTER] to set the Guest Scores to 21.

7. **SET HOME SCORE** – Press [SET HOME SCORE]. The LCD display will read:

```
21   D15:00   00
  SET HOME  <00>
```

Press [3][4] [ENTER] to set the Home Score to 34.

8. **GUEST PITCHES +1** – This key will increment the Guest Pitch Count by 1.

9. **HOME PITCHES +1** – This key will increment the Home Pitch Count by 1.

10. **GUEST SCORE +1** – This key will increment the Guest Score by 1.

11. **HOME SCORE +1** – This key will increment the Home Score by 1.

12. **INNING** – This key will increment the Inning by 1.

13. **CLEAR / FLASH HITS** – This key has two purposes. It can be used to clear incorrect keypad entries. It can also be used to flash the Hit indicator (H) on the scoreboard.

14. **ENTER / FLASH ERRORS** – This key has two purposes. It is used when entering game information. It can also be used to flash the Error indicator (E) on the scoreboard.

15. **NEW GAME** – This key is used to reset all the scoreboard functions to their default settings. To reset the scoreboard, press [NEW GAME]. The console LCD display will read:

```
RESET     YES<1>
SCOREBOARD NO<0>
```

Press [1], [ENTER] on the control console. The scoreboard will reset its functions.

You should reset (New Game) the scoreboard each time that it is turned on. Test all the functions to ensure that the scoreboard is operating properly.

SCOREBOARD SHUTDOWN

1. Place the power disconnect for the scoreboard in the **OFF** position.
2. Unplug the control console power cord.
3. Unplug the 10 ft. extension cable.
4. Store the control console in a dry location. This unit is not waterproof.

Proper scoreboard shutdown will help protect the scoreboard and control console from power surges and lightning strikes.

SERVICING THE SCOREBOARD

While your scoreboard was designed for years of trouble-free operation, some problems may occasionally occur. Electro-Mech Scoreboard Company offers onsite service in some areas. In other areas, we can help you contact an independent service technician. In areas in which service is not available from Electro-Mech Scoreboard Company, we will make every effort to answer your questions. Our trained personnel at Electro-Mech Scoreboard Company are ready to answer your questions from Monday to Friday during the hours of 8 AM to 5 PM Eastern Standard Time. Be sure to know your scoreboard model number when calling. Scoreboard replacement parts are always available. Damaged parts can usually be repaired at a significant cost savings. Our convenient toll free number is listed at the bottom of every page in this manual.

If the scoreboard turns on LEDs, but does not operate normally, make note of which functions are affected. If some LEDs either never turn on or always stay on, make note of their specific locations on the scoreboard. Refer to the COMPONENT REPLACEMENT section of this manual before changing parts.

COMPONENT REPLACEMENT

LED digits and indicators are serviced from the front of the scoreboard.

LED Digits And Indicators Replacement

The LEDs that form digits and indicators are soldered on circuit boards mounted behind metal masks. Do not attempt to replace individual LEDs. In case of a malfunction, the entire LED circuit board must be removed. **To avoid damage to the LED driver module, always turn off the power to the scoreboard when removing or replacing LED digits and indicators**. Figure 13 shows the components of an LED digit assembly. LED indicator assemblies are similar in construction.

1/8" SPACER —   —6-32 KEP LOCK NUT
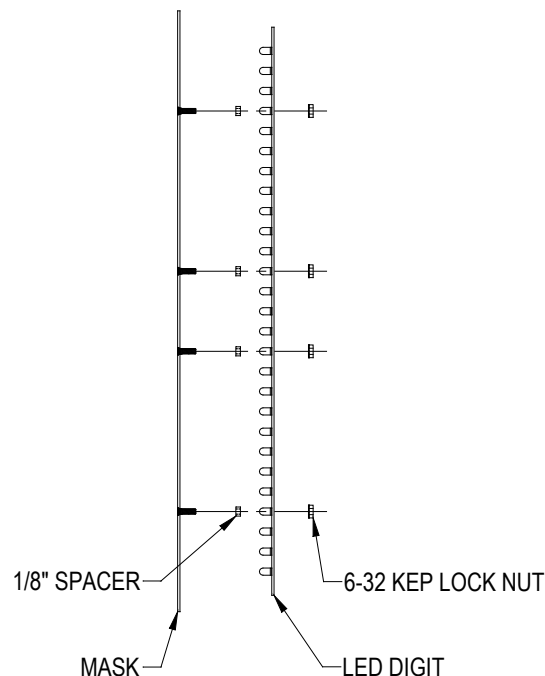
MASK —   —LED DIGIT

Figure 11 LED Digit Assembly

1. Remove the sheet metal screws that fasten the mask to the face of the scoreboard. **Caution:
   Support the mask before removing the last screw. The ribbon cable that connects to the
   rear of the circuit board is not designed to support the weight of the assembly.**
2. Disconnect the ribbon cable from the rear of the circuit board. **Caution: Do not let the
   cable hang outside of the scoreboard. It is easily cut by sharp metal edges. Damage to
   the ribbon cable may create short circuit paths that will damage the LED driver
   module.**
3. Place the assembly on a flat surface and remove the 6-32 kep lock nuts that hold the circuit
   board in place.
4. Remove the old circuit board.
5. Align the mounting holes in the new circuit board with the threaded studs on the mask and
   install the replacement digit on the mask.
6. Plug the ribbon cable onto the header on the back of the circuit board. Refer to Figure 14 in
   order to plug the ribbon cable IDC connector onto the circuit board in the proper orientation.
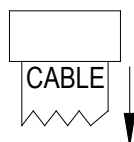
LED DIGIT HEADER   RIBBON CABLE
                                          IDC SOCKET

CABLE

CENTER KEY

CENTER KEY ON RIBBON CABLE IDC SOCKET
MUST POINT IN THE SAME DIRECTION AS THE
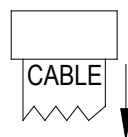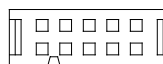ARROW ON THE REAR OF THE LED DIGIT.

Figure 12 LED Digit Ribbon Cable Connection Diagram

7. The circuit board used for the STRIKE and OUT indicators has two headers. Refer to Figure
    15 in order to plug the ribbon cable IDC connector onto the correct header on the circuit
    board in the proper orientation.

STRIKES / OUTS   RIBBON CABLE
CIRCUIT BOARD HEADERS   IDC SOCKET

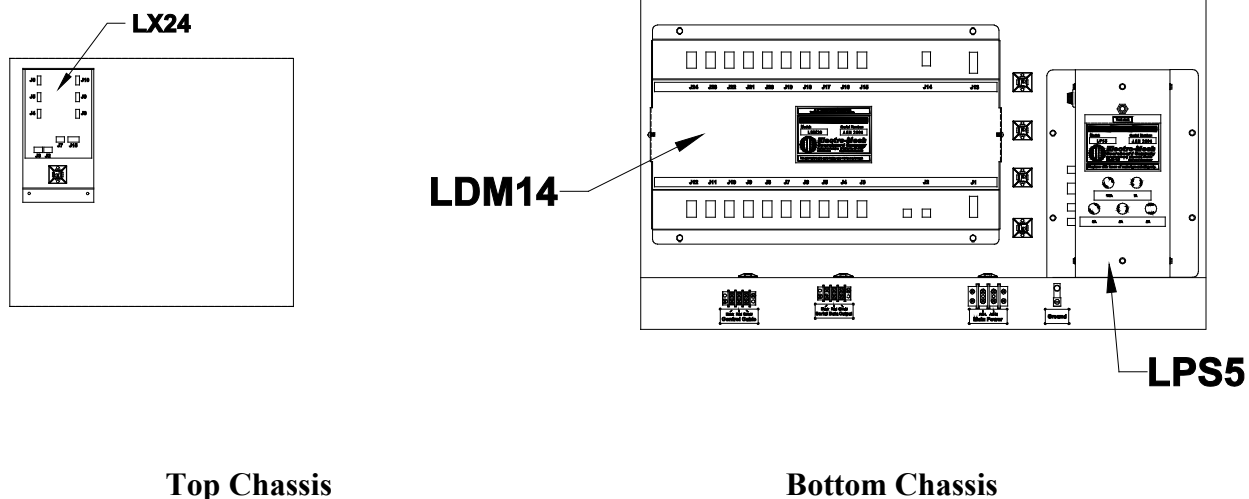STRIKES

OUTS

CENTER KEY

CABLE

CENTER KEY ON RIBBON CABLE IDC SOCKET
MUST POINT IN THE SAME DIRECTION AS THE
ARROW ON THE REAR OF THE CIRCUIT BOARD.

Figure 13 Strikes and Outs Ribbon Cable Connection Diagram

All other components are located behind the rear access panels. Figure 16 shows the view
behind the access panel.

Top Chassis   **Bottom Chassis**

Figure 16 Chassis Components

LDM14 LED DRIVER MODULE FUNCTIONS

DRIVER MODULE JACK	FUNCTION #1	FUNCTION #2	FUNCTION #3
J1	DRIVER MODULE DC POWER INPUT #1		
J2	SERIAL DATA INPUT		
J7	HOME SCORE UNITS DIGIT		
J8	HOME SCORE TENS DIGIT		
J9	GUEST SCORE UNITS DIGIT		
J13	DRIVER MODULE DC POWER INPUT #2		
J15	HIT		
J19	INNINGS UNITS DIGIT		
J20	GUEST SCORE TENS DIGIT	ERROR	
J21	BALLS	STRIKES	OUTS

LX24 LED DRIVER MODULE FUNCTIONS

DRIVER MODULE JACK	FUNCTION #1	FUNCTION #2	FUNCTION #3
J2	SERIAL DATA INPUT		
J3			
J4	HOME PITCH COUNT UNITS DIGIT		
J5	HOME PITCH COUNT TENS DIGIT		
J6	GUEST PITCH COUNT UNITS DIGIT		
J7	DC POWER INPUT		
J8			
J9	GUEST PITCH COUNT TENS DIGIT		
J10			
J15			

LED Driver Module Replacement

Electrical connections to the LDM14 LED DRIVER MODULE are made with ribbon cable polarized IDC sockets and locking ramp crimp terminal housings that mate with jacks on the module. The module is secured inside the scoreboard with six machine screws.
1. Unplug the electrical connections from the module. Do not cut the plastic tie wraps around the ribbon cables.
2. Remove the six screws.
3. Remove the module from the scoreboard.
4. Insert the replacement module in the scoreboard.
5. Secure the module with the six screws.
6. Insert the plugs into the jacks on the module.

LX Driver Module Replacement

Electrical connections to the LX24 LED DRIVER MODULE are made with ribbon cable polarized IDC sockets and locking ramp crimp terminal housings that mate with jacks on the circuit board. The circuit board is secured inside the scoreboard on a metal bracket with two hex nuts. The following steps describe how to replace the LX driver module:
1. Unplug the electrical connections from the circuit board.
2. Remove the two hex nuts.
3. Remove the circuit board from the scoreboard.
4. Insert the replacement circuit board on the metal bracket in the scoreboard.
5. Secure the circuit board with the two hex nuts.
6. Insert the plugs into the jacks on the circuit board.

To avoid damage to the modules, always turn off the power to the scoreboard when removing or replacing it.

LPS5 LED POWER SUPPLY MODULE FUNCTIONS

JACK	FUNCTION
J1	120 VAC INPUT
J2	20 VDC OUTPUT TO LED DRIVER MODULE
J3	SERIAL DATA INPUT / OUTPUT
J4	12 VDC RELAY FUNCTIONS (NOT USED ON THIS SCOREBOARD)
J5	SERIAL DATA TEST JACK

A relay inside the LPS5 Power Supply Module isolates the LDM14 and LX24 LED Driver Modules from the control cable when the scoreboard is shut down. Connecting the control console to J5 with the 10 ft. extension cable bypasses this relay. Figure 17 shows the location of the fuses in the LPS5 LED Power Supply Module. The table following the figure lists the fuse ratings, functions, and part numbers.
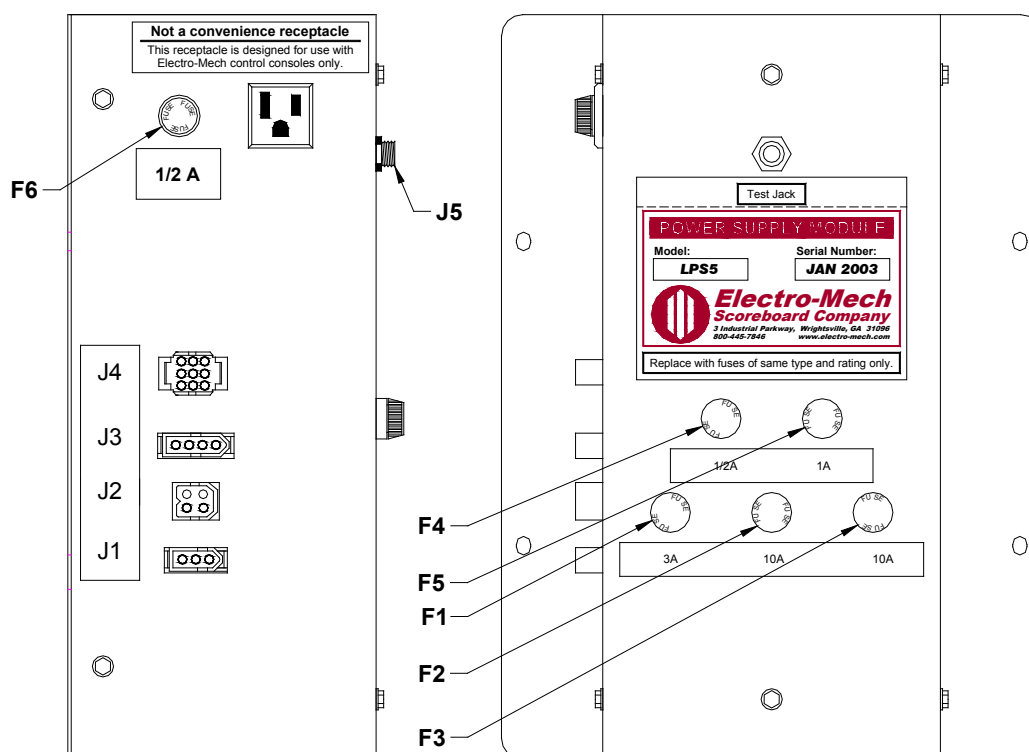
Figure 14 LPS5 Fuse Locations

LPS5 FUSES

FUSE	RATING	FUNCTION	BUSSMAN PART #
F1	3A 250V	TRANSFORMER PRIMARY	AGC-3
F2	10A 250V	DRIVER MODULE DC POWER INPUT #1	AGC-10
F3	10A 250V	DRIVER MODULE DC POWER INPUT #2	AGC-10
F4	½A 250V	SERIAL DATA ISOLATION RELAY	AGC-1/2
F5	1A 250V	12 VDC RELAY OUTPUT (NOT USED ON THIS SCOREBOARD)	AGC-1
F6	½A 250V	120 VAC ELECTRICAL RECEPTACLE	AGC-1/2

Note: Other manufacturers' fuses may be substituted for the Bussmann fuses.

LED Power Supply Module Replacement

Electrical connections to the LPS5 LED Power Supply Module are made with three keyed plugs that mate with jacks on the left side of the module. The module is secured inside the scoreboard with four machine screws.
1. Disconnect the plugs from the jacks on the side of the module.
2. Remove the four screws.
3. Remove the module from the scoreboard.
4. Insert the replacement module in the scoreboard.
5. Secure the module with the four screws.
6. Insert the plugs into the jacks on the side of the module.

To avoid damage to the module, always turn off the power to the scoreboard when removing or replacing it.

ELECTRO-MECH SCOREBOARD CO.
FIVE YEAR LIMITED WARRANTY

THE ELECTRICAL COMPONENTS OF ALL ELECTRO-MECH SCOREBOARDS ARE GUARANTEED FOR A PERIOD OF FIVE (5) YEARS FROM THE DATE OF INVOICE AGAINST DEFECTS IN WORKMANSHIP OR MATERIAL AND WILL BE REPLACED OR REPAIRED WITHOUT COST TO THE OWNER PROVIDED THE EQUIPMENT OR PARTS ARE RETURNED POSTAGE-PAID TO THE FACTORY IN WRIGHTSVILLE, GA. SHIPPING BACK TO THE OWNER WILL BE VIA UPS GROUND SERVICE EXCEPT WHEN AIR OR SPECIAL METHOD OF RETURN IS SPECIFIED BY THE OWNER, IN WHICH CASE SHIPPING WILL BE FREIGHT COLLECT.

EXCLUDED FROM THIS WARRANTY ARE FUSES.

THIS WARRANTY DOES NOT INCLUDE LABOR CHARGES INCURRED IN THE REMOVAL OF COMPONENT PARTS, SERVICE CALLS, OR DAMAGES RESULTING FROM IMPROPER INSTALLATION, IMPROPER OPERATION, OR PROBLEMS CAUSED BY ANY REPAIR, ALTERATION OR MODIFICATION OF THE SCOREBOARD NOT PERFORMED BY ELECTRO-MECH.

EQUIPMENT WHICH IS SUBJECTED TO ACCIDENT, NEGLECT, ABUSE, MISUSE OR OTHER NATURAL DISASTERS, INCLUDING BUT NOT LIMITED TO FIRE, WIND, LIGHTNING, OR FLOOD, IS NOT COVERED BY THIS GUARANTEE.