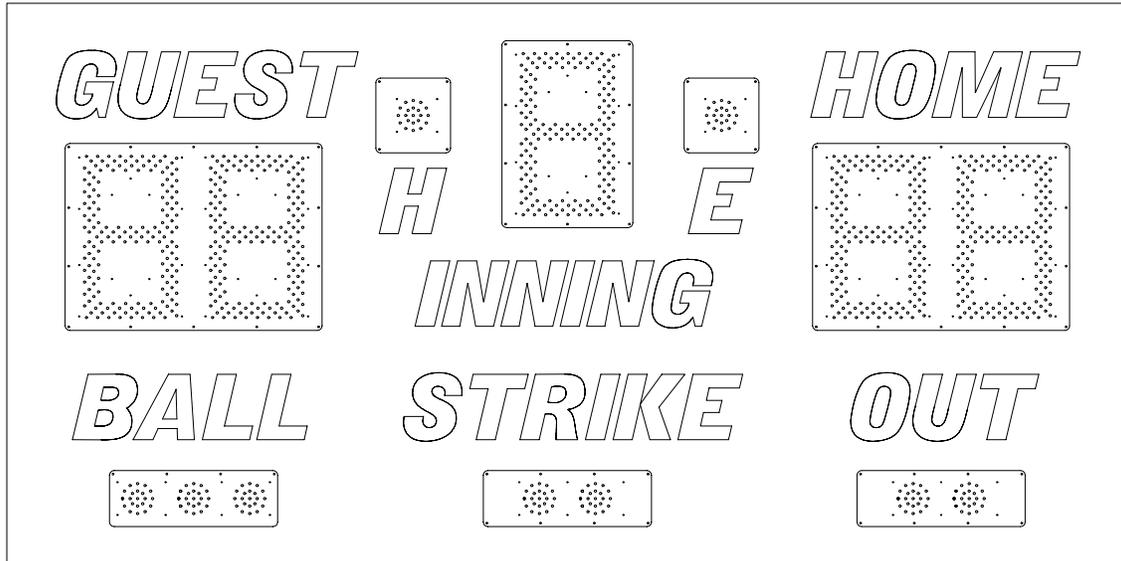


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## ELECTRO-MECH SCOREBOARD CO.



### 1060-I 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.

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## 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 5' H x 6" D (1060-I with a side sponsor panel measures 14' L x 5' H x 6" D, 1060-I with two side sponsor panels measures 18' L x 5' H x 6" D)

**WEIGHT:** 165 lbs (1060-I with a side sponsor panel weighs 210 lbs, 1060-I with two side sponsor panels weighs 255 lbs.)

**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 1060-I baseball scoreboard displays HOME and GUEST scores to 99, INNINGS (INNING) to 9, BALLS (BALL), STRIKES (STRIKE), OUTS (OUT), HIT (H), and ERROR (E).

**DIGITS AND INDICATORS:** Red light emitting diodes mounted on printed circuit boards form the digits and indicators. The digits are 18" tall. Circular clusters of light emitting diodes form the 4" diameter BALL, STRIKE, OUT, HIT, and ERROR indicators.

**POWER REQUIREMENTS:** Scoreboard - 120 VAC, 0.8 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, 15 key sealed membrane keypad, an attached 6 foot power cord, and a super capacitor to retain game information. The console housing consists of ABS plastic base and top pieces 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 1/4" in diameter. This item is sold separately from the scoreboard.

**JUNCTION BOX AND EXTENSION CABLE:** A 4 1/4" x 2 1/4" x 2" junction box with a 1/4" 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.

**SCORELINK 300 RF MODEM SYSTEM:** This accessory can be used in place of control cable and junction box for this scoreboard without internal modifications to the scoreboard or the control console. Refer to the SCORELINK 300 RF MODEM SYSTEM OWNER'S HANDBOOK 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 items listed below must be purchased in order to complete the installation:

- Control cable (length dependent upon installation site layout)
- ScoreLink 300 RF Modem System

Items not provided by Electro-Mech Scoreboard Company that are necessary for installation:

- Wall fasteners
- A grounded NEMA 5-15R 120 VAC receptacle for the control console at the scorekeeper's table.

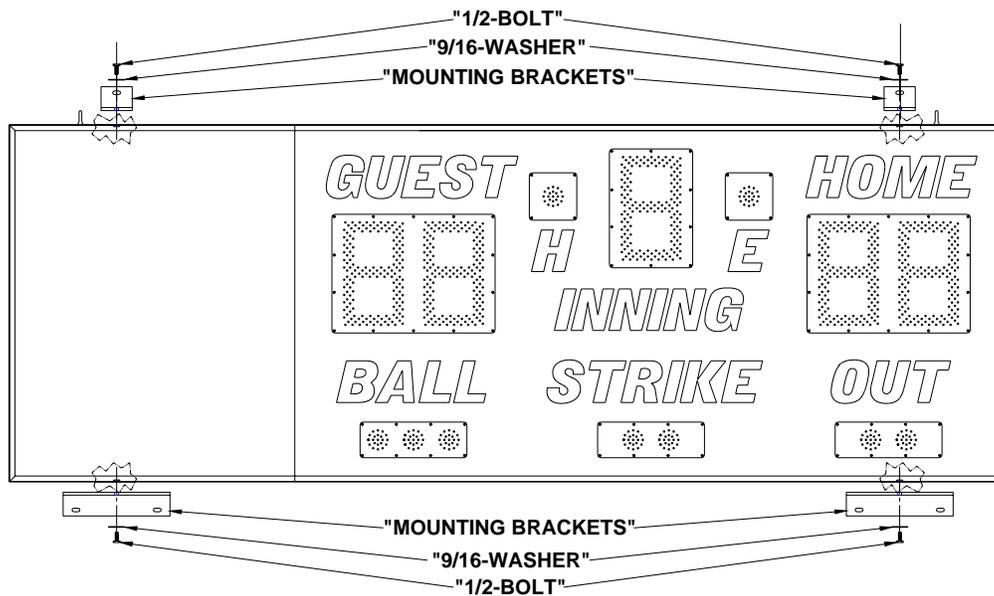
Electro-Mech Scoreboard Company performs installations in some areas. In other areas, we can help you contact an independent installer. In areas in which installation service is not available from Electro-Mech Scoreboard Company, we will make every effort to answer your installation questions. Qualified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

## MECHANICAL INSTALLATION

Install this scoreboard indoors only. Exposure to weather may result in significant component damage. Electro-Mech Scoreboard Company assumes no responsibility for the installation of scoreboards by others.

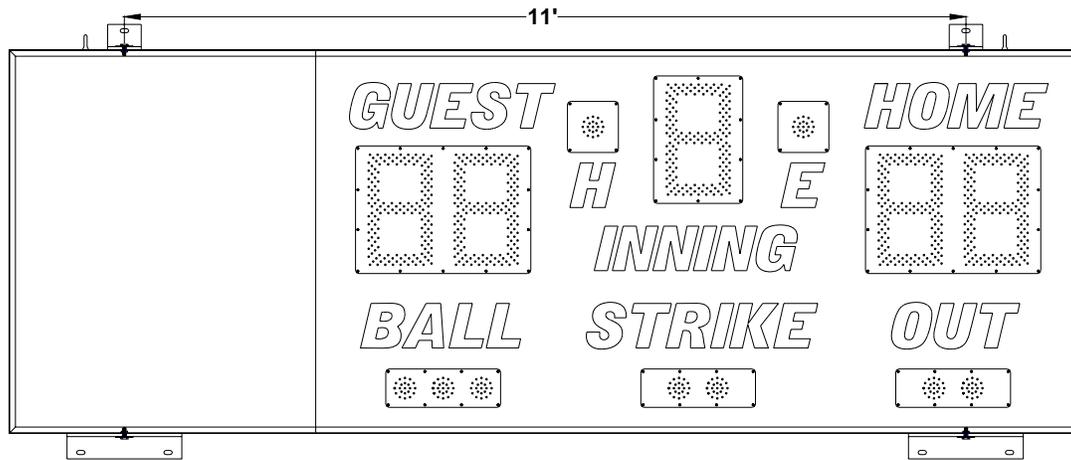
The scoreboard mounts to the wall with four steel brackets. The following steps describe how to attach the mounting brackets to the scoreboard:

1. There are two tapped holes in the top of the scoreboard cabinet. Fasten the two smaller mounting brackets to the top of the scoreboard cabinet using the provided bolts as shown in figure 1.



**Figure 1 Scoreboard Mounting Hardware**

2. Lift the scoreboard off the floor and attach the two larger brackets to the bottom of the scoreboard cabinet using the provided bolts and washers.
3. Move the scoreboard to its installed location on the wall.
4. Fasten the scoreboard to the wall at the mounting points using hardware appropriate for the wall construction and the weight of the scoreboard. Figure 2 shows the horizontal distance between the mounting brackets.



**Figure 2 Mounting Points**

## **ELECTRICAL INSTALLATION**

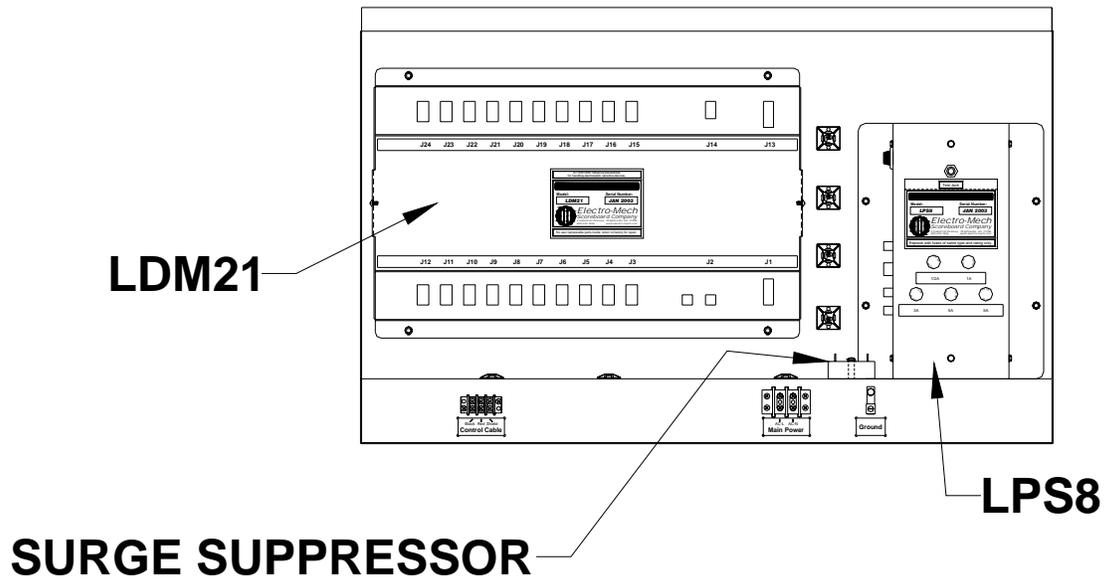
We recommend a qualified electrician perform the needed electrical connections to ensure proper operation of the scoreboard. These connections include connecting the scoreboard to a power source, installing the ScoreLink 300 or the control cable, and connecting the control console.

### **Power Connections**

The scoreboard requires 120 VAC service at the scoreboard to operate properly.

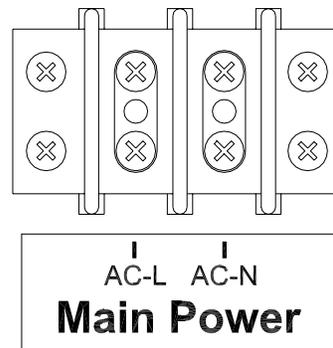
**Maximum power consumption of Model 1060-I: 96 Watts.** Make sure that power cable is rated for this electrical load. Install the power cable in conduit. The following steps describe how to connect the scoreboard to the power source:

1. Remove the front access panel (located below the INNING digit). Figure 3 shows the components located behind the access panel.



**Figure 3 Access Panel Removed**

2. There are two holes in the bottom of the scoreboard cabinet below the access panel. Feed the power cable through the right hole in the bottom of the scoreboard cabinet up to the access panel area.
3. Crimp fork terminals to the power cable AC-L and AC-N wires.
4. Connect the AC line wire and AC neutral wire to the **Main Power** terminal block on the junction chassis according to figure 4.



**Figure 4 Power Connections**

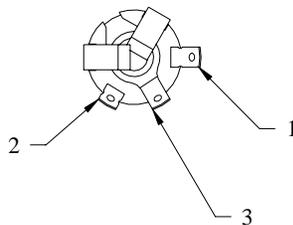
5. Connect the ground wire to the copper ground lug (**Ground**).
6. Connect the other end of the power cable wires to a 120 VAC power source on a dedicated circuit breaker. This will allow the scoreboard to be turned on and off without affecting other equipment in the facility.

## ScoreLink 300

The ScoreLink 300 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. If you have purchased this accessory, disregard the section of this manual titled **Control Cable Installation**. Refer to the ScoreLink 300 RF MODEM SYSTEM OWNER'S HANDBOOK for installation instructions.

### 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 1/4" 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 1/4" stereo jack. Figure 5 shows the control cable wire connection points on the rear of the 1/4" stereo jack.

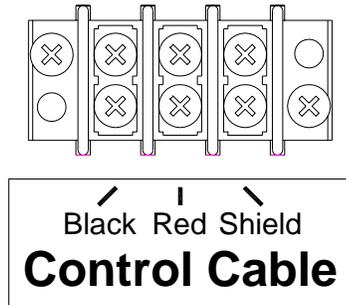


PIN 1 - BLACK WIRE  
PIN 2 - RED WIRE  
PIN 3 - SHIELD WIRE

### Figure 5 1/4" Stereo Jack Wiring Diagram

The following steps describe how to connect the control cable to the scoreboard:

1. Feed the control cable through the left hole in the bottom of the scoreboard cabinet up to the access panel area.
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 6.



**Figure 6 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 the ¼” stereo jack on the junction box or the ScoreLink 300 Transmitter, if purchased.
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.

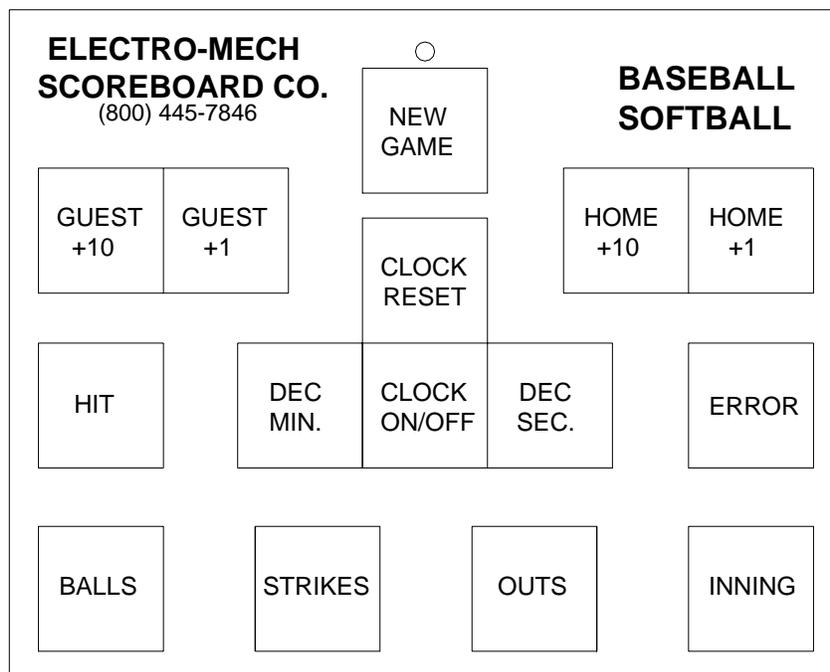
## SCOREBOARD OPERATION

### SCOREBOARD STARTUP

1. Place the circuit breaker 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 or the ScoreLink 300 Transmitter, if purchased.
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.
5. If a ScoreLink 300 RF MODEM SYSTEM is installed with this scoreboard, plug the wall mount DC power supply into a grounded NEMA 5-15R 120 VAC receptacle and the male plug on the end of the attached cable into the Power jack on the Transmitter.

### GAME TIME OPERATION

This scoreboard is operated with a simple 15-key control console. Figure 7 shows the keypad layout on the control console.



**Figure 7 Keypad Layout**

**Control Console Key Functions**

1. **GUEST +1** – This key increments the Guest score by 1.
2. **HOME +1** – This key increments the Home score by 1.
3. **GUEST +10** – This key increments the Guest score by 10.
4. **HOME + 10** – This key increments the Home score by 10.
5. **INNING** – This key increments the Inning by 1.
6. **BALLS** – This key increments the Ball count by 1.
7. **STRIKES** – This key increments the Strike count by 1.
8. **OUTS** – This key increments the Out count by 1.
9. **HIT** – This key activates the blinking Hit indicator.
10. **ERROR** – This key activates the blinking Error indicator.
11. **NEW GAME** – This key is used with the **CLOCK RESET** key to reset all scoreboard functions. Press [NEW GAME] and, within two seconds, press [CLOCK RESET]. The HOME score, GUEST score, and INNING will display zero. The BALLS, STRIKES, and OUTS will be blanked.
12. **CLOCK RESET** – This key is used only in conjunction with the **NEW GAME** key.

The **DEC. MIN.**, **DEC. SEC.**, and **CLOCK ON/OFF** keys are not used with the 1060-I scoreboard.

You should reset 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 circuit breaker for the scoreboard in the **OFF** position.
2. Unplug the control console power cord.
3. Unplug the 10 ft. extension cable.
4. If a ScoreLink 300 RF MODEM SYSTEM is installed with this scoreboard, unplug the Transmitter's wall mount power supply.
5. Store the control console and ScoreLink 300 transmitter in a dry location. These units are 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.

## TROUBLESHOOTING TIPS

Before calling Electro-Mech Scoreboard Co. for customer support of a scoreboard problem, it is helpful to make note of all the symptoms. If the scoreboard does not turn on LEDs, please check the following items:

1. Make sure the control console power cord and the extension cable are plugged in.
2. Verify that the red LED above the NEW GAME key on the control console keypad is lit.
3. Check the circuit breaker that supplies power to the scoreboard.
4. Remove the scoreboard access panel and check the voltages present at the **Main Power** terminal block.
5. Check the fuses on the LPS8 Power Supply Module.
6. Make sure all wire and ribbon cable connections are plugged in securely.
7. Take the control console and the 10 ft. extension cable to the scoreboard.

Temporarily disconnect the control cable from the **Control Cable** terminal block and plug the 10 ft. extension cable into the test jack on the LPS8 Power Supply Module. Plug the control console power cord into the 120 VAC receptacle on the left side of the LPS8 Power Supply Module. If the LEDs are now illuminated and the scoreboard reacts to control console entries, there may be a problem with the control cable or the ScoreLink 300 modem, if purchased.

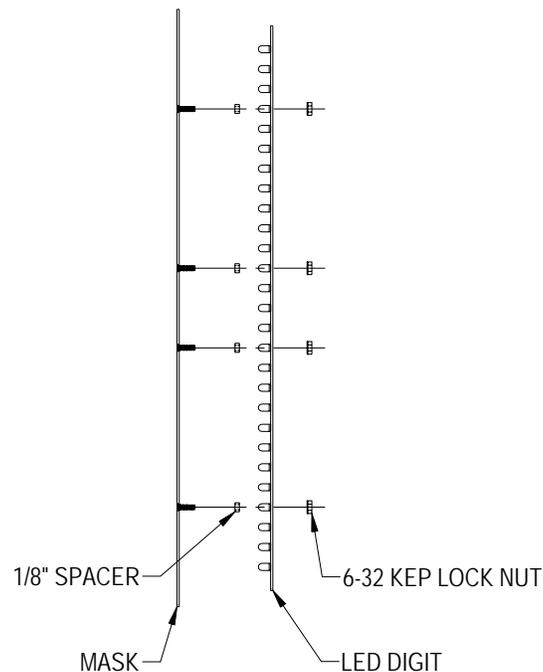
If the scoreboard turns on LEDs, but does not operate normally, make note of which functions are affected. If some LEDs either never turn on or always stay on, make note of their specific locations on the scoreboard. Refer to the COMPONENT REPLACEMENT section of this manual before changing parts.

## 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 8 shows the components of an LED digit assembly. LED indicator assemblies are similar in construction.



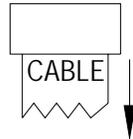
**Figure 8 LED Digit Assembly**

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 LDM21 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 9 in order to plug the ribbon cable IDC connector onto the circuit board in the proper orientation.

LED DIGIT HEADER

○ ○ ○ ○ ○  
○ ○ ○ ○ ○



RIBBON CABLE  
IDC SOCKET



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.

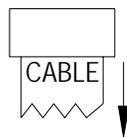
**Figure 9 LED Digit Ribbon Cable Connection Diagram**

7. The circuit board used for the STRIKE and OUT indicators has two headers. Refer to Figure 10 in order to plug the ribbon cable IDC connector onto the correct header on the circuit board in the proper orientation.

STRIKES / OUTS  
CIRCUIT BOARD HEADERS

STRIKES ○ ○ ○ ○ ○  
○ ○ ○ ○ ○

OUTS ○ ○ ○ ○ ○  
○ ○ ○ ○ ○



RIBBON CABLE  
IDC SOCKET

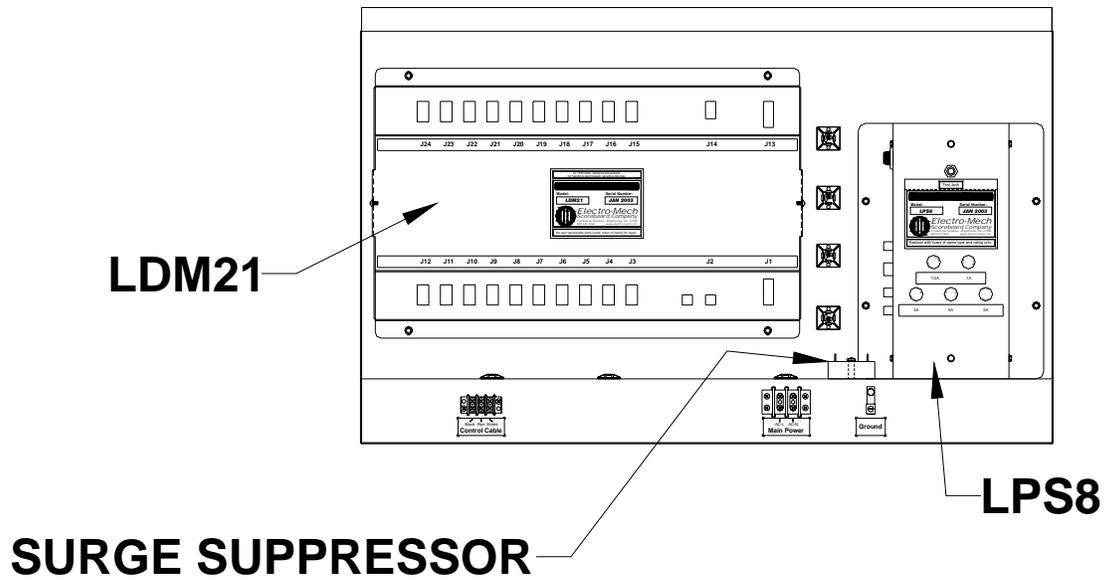


CENTER KEY

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

**Figure 10 Strikes and Outs Ribbon Cable Connection Diagram**

All other components are located behind the access panel. Figure 11 shows the view behind the access panel.



**Figure 11 Access Panel Components**

## LDM21 LED DRIVER MODULE FUNCTIONS

DRIVER MODULE JACK	FUNCTION #1	FUNCTION #2	FUNCTION #3
J1	DRIVER MODULE DC POWER INPUT #1		
J2	SERIAL DATA INPUT		
J3	NOT USED		
J4	NOT USED		
J5	NOT USED		
J6	NOT USED		
J7	HOME SCORE UNITS DIGIT		
J8	HOME SCORE TENS DIGIT		
J9	GUEST SCORE UNITS DIGIT		
J10	NOT USED		
J11	NOT USED		
J12	NOT USED		
J13	DRIVER MODULE DC POWER INPUT #2		
J14	NOT USED		
J15	HIT		
J16	NOT USED		
J17	NOT USED		
J18	NOT USED		
J19	INNINGS UNITS DIGIT		
J20	GUEST SCORE TENS DIGIT	ERROR	
J21	BALLS	STRIKES	OUTS
J22	NOT USED		
J23	NOT USED		
J24	NOT USED		

### LED Driver Module Replacement

Electrical connections to the LDM21 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.

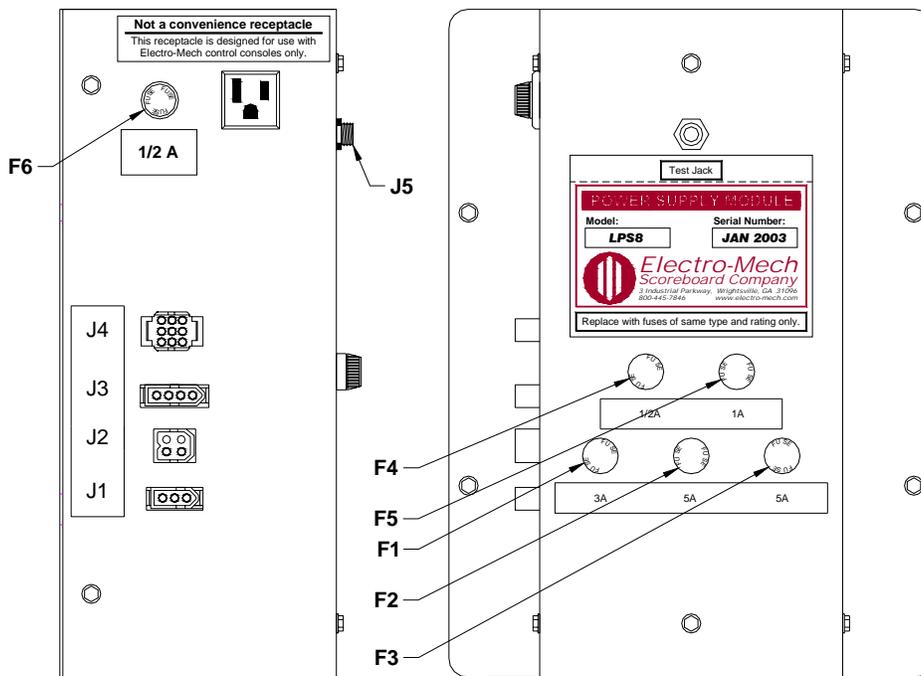
1. Unplug the electrical connections from the module. Do not cut the plastic tie wraps around the ribbon cables.
2. Remove the six screws.
3. Remove the module from the scoreboard.
4. Insert the replacement module in the scoreboard.
5. Secure the module with the six screws.
6. Insert the plugs into the jacks on the module.

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

**LPS8 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 LPS8 Power Supply Module isolates the LDM21 LED Driver Module 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 12 shows the location of the fuses in the LPS8 LED Power Supply Module. The table following the figure lists the fuse ratings, functions, and part numbers.



**Figure 12 LPS8 Fuse Locations**

**LPS8 FUSES**

FUSE	RATING	FUNCTION	BUSSMAN PART #
F1	3A 250V	TRANSFORMER PRIMARY	AGC-3
F2	5A 250V	DRIVER MODULE DC POWER INPUT #1	AGC-5
F3	5A 250V	DRIVER MODULE DC POWER INPUT #2	AGC-5
F4	1/2A 250V	SERIAL DATA ISOLATION RELAY	AGC-1/2
F5	1A 250V	12 VDC RELAY OUTPUT (NOT USED ON THIS SCOREBOARD)	AGC-1
F6	1/2A 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 LPS8 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.

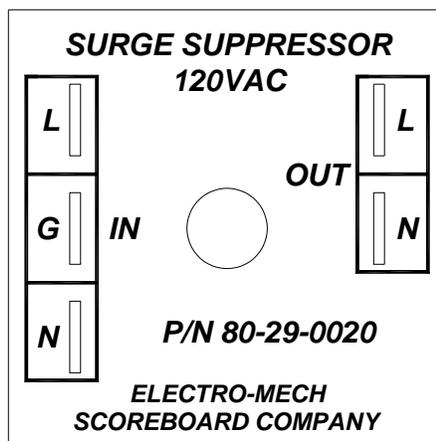
1. Disconnect the plugs from the jacks on the side of the module.
2. Remove the four screws.
3. Remove the module from the scoreboard.
4. Insert the replacement module in the scoreboard.
5. Secure the module with the four screws.
6. Insert the plugs into the jacks on the side of the module.

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

### Surge Suppressor Replacement

Electrical connections to the Surge Suppressor are made with ¼" quick disconnects that mate with ¼" tabs on the top of the module. The module is secured inside the scoreboard with one machine screw.

1. Unplug the electrical connections from the module.
2. Remove the screw.
3. Remove the module from the scoreboard.
4. Insert the replacement module in the scoreboard.
5. Secure the module with the screw.
6. Plug the ¼" quick disconnects on the ¼" tabs on the top of the module. The black wires should be connected to the ¼" tabs on the module labeled L. The white wires should be connected to the ¼" tabs on the module labeled N. The green wire should be connected to the ¼" tab on the module labeled G. Figure 13 shows the top view of the Surge Suppressor.



**Figure 13 Surge Suppressor Terminals**

## 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, NEGLIGENCE, ABUSE, MISUSE OR OTHER NATURAL DISASTERS, INCLUDING BUT NOT LIMITED TO FIRE, WIND, LIGHTNING, OR FLOOD, IS NOT COVERED BY THIS GUARANTEE.