ELECTRO-MECH SCOREBOARD CO.

GUEST   HOME

1 2   3 O.T.

TIME

PENALTY

PENALTY

MP-815/801-2 HOCKEY 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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HOCKEY SCOREBOARD SPECIFICATIONS

GENERAL: The scoreboard displays HOME and GUEST scores to 99, a 99:00 clock with $1/10^{th}$ of a second timing capability, two sets of penalty timers, periods, and a horn. This ETL listed scoreboard is remotely operated from one control console via a dedicated control cable.

DIMENSIONS: MP-815/801-2: 8' L x 70" H x 6" D, optional sponsor panel: 8' L x 2' H x 6" D

WEIGHT: MP-815/801-2: 300 lbs, optional sponsor panel: 120 lbs

SCOREBOARD CONSTRUCTION: The scoreboard is constructed of aluminum. Black is the standard color. Captions are white.

LAMP BANKS: A 4 x 7 matrix of lamps forms each 14" digit. Two lamps form the colon and four lamps form the quarter indicators. The scoreboard uses 7.5 watt 125 VAC painted medium based appliance lamps (also known as S11 lamps). Recessed aluminum reflectors provide a crisp separation between each lamp.

POWER REQUIREMENTS: Scoreboard - 120 VAC, 26.25 A, 60 Hz, 3150 watts maximum, (35 A service recommended). **Control Console** - 120 VAC, 0.5 A, 60 Hz

SCOREBOARD ELECTRONICS: 100% solid state fully enclosed within six plug in modules.

CONTROL CONSOLE: The microprocessor control console is constructed of a rugged plastic housing with a metal back plate. It features a lithium cell battery backup to retain game information, a 37 key sealed membrane keypad, and a LCD display of game information.

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. One length is required to run from the scoreboard to the point of operation.

**JUNCTION BOX:** A 4 ¼" x 2 ¼" x 2" junction box with a stereo jack mounted on the face plate is provided.

WARRANTY: Five year limited warranty.

SCOREBOARD INSTALLATION

This scoreboard is designed for indoor use only. Installation of the scoreboard consists of mounting the scoreboard cabinet to the wall and making the proper electrical connections.

MOUNTING THE SCOREBOARD

Be sure to mount the scoreboard close enough to the wall receptacle so that you can plug in the 9 foot power cord. There are two eyebolts mounted at the top of the cabinet which can be used to lift the scoreboard into place. Once the scoreboard is in the desired location, it can be fastened to the wall using lag bolts or other suitable hardware. Hanger brackets at the top of the scoreboard provide convenient mounting points. Figure 1 shows the mounting point locations for MP-815/801-2.
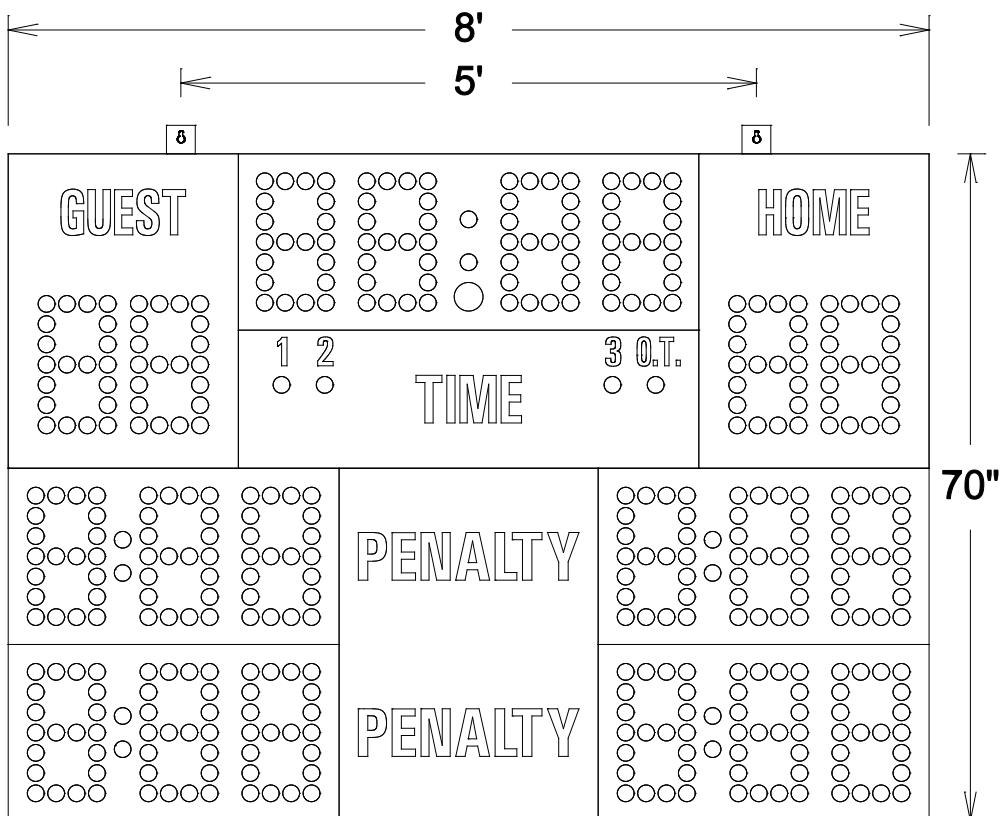

Figure 1 MP-815/801-2 Mounting Points

The optional sponsor panel is a separate cabinet which bolts to the bottom of the scoreboard.
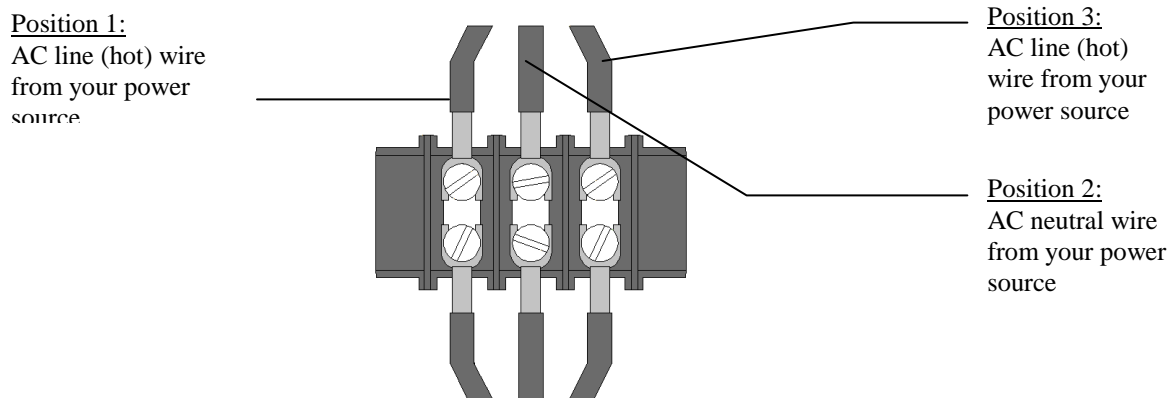
ELECTRICAL CONNECTIONS

This scoreboard was designed to make the electrical connections as easy as possible. These connections include connecting the scoreboard to a power source, installing the control cable, and connecting the control console. Figure 2 shows the electrical connection points on the scoreboard. The power connection is made to a terminal strip inside the box mounted on the top of the cabinet. The stereo jack is mounted on the fuse plate. We recommend a qualified electrician perform the needed electrical connections to ensure proper operation of your scoreboard.
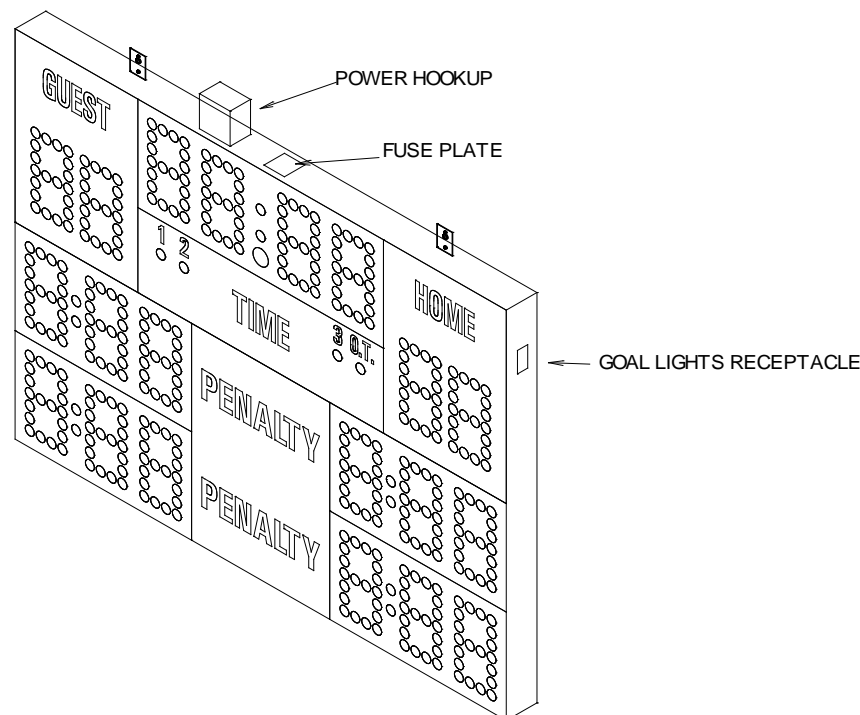
Figure 2 Electrical Connection Points

Connecting The Scoreboard To Your Power Source

The scoreboard may be connected to 240 VAC single phase or 120 VAC service at the scoreboard. **Maximum power consumption of Model MP-815/801-2: 3150 Watts.** Make sure that the power cables are rated for this electrical load. If you are going to connect the scoreboard to a 240 VAC supply, connect one AC line wire to position 1, AC neutral wire to position 2, and the other AC line wire to position 3 of terminal strip inside the box mounted on the top of the scoreboard according to figure 3.

Position 1:
AC line (hot) wire
from your power
source

Position 3:
AC line (hot)
wire from your
power source

Position 2:
AC neutral wire
from your power
source

Figure 3 240 VAC Connections

If you are going to connect the scoreboard to a 120 VAC supply, connect the AC line wire to position 1 and the AC neutral wire to position 2 of terminal strip. Add a jumper from position 1 to position 3. **This jumper is not provided**. Refer to figure 4.

Jumper from
position 1 to
position 3

Position 2:
AC neutral wire
from your power
source

Position 1:
AC line (hot) wire
from your power
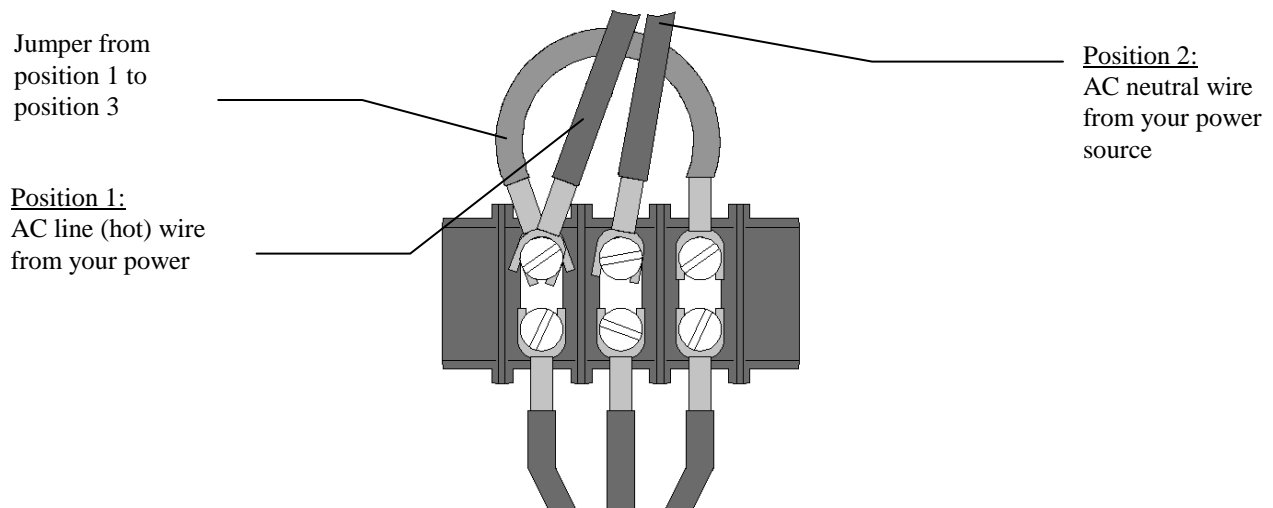
Figure 4 120 VAC Connections

Installing The Control Cable

The control cable connects the scoreboard to the control console. A small junction box with a stereo jack mounted on the face plate is attached to the control cable at the point of operation of the scoreboard. A stereo plug is attached to the scoreboard end of the control cable. The junction box should be securely mounted within ten feet of the rear of the control console. Most customers order the control cable with the junction box and stereo plug attached to the control cable. Some customers prefer to attach them after the cable is installed. Those customers must match their stereo jack to one of the stereo jacks in figure 5 in order to make the proper connections. These connections should be soldered.

STEREN
1/4" STEREO JACK

SWITCHCRAFT
1/4" STEREO JACK

ORANGE

TAN

PIN 1 - BLACK WIRE
PIN 2 - RED WIRE
PIN 3 - SHIELD
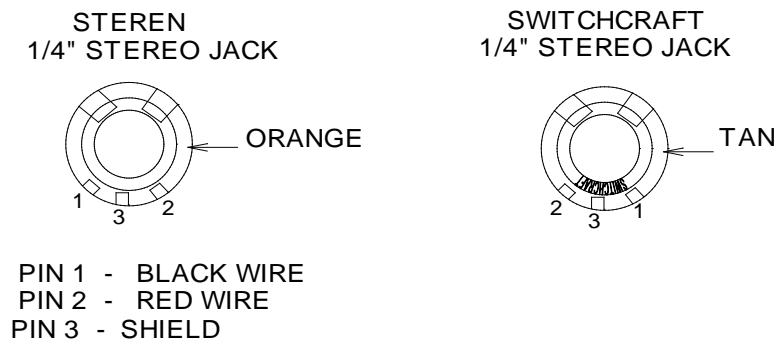
Figure 5 Stereo Jack Wiring Diagram

Attach a stereo plug to the scoreboard end of the cable according to the figure 6. Insert the stereo plug into the stereo jack mounted on top of the scoreboard.

PIN 1 - BLACK WIRE
PIN 2 - RED WIRE
PIN 3 - SHIELD WIRE
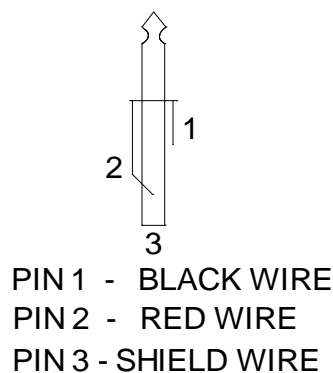
Figure 6 Stereo Plug Wiring Diagram

Connecting The Control Console

The control console is connected to the junction box via the extension cable. This extra length of cable allows the scoreboard operator some mobility and the ability to store the control console after the game. The control console requires a 120 VAC 1/2 A power source. The power cord can be plugged into a NEMA 5-15R receptacle.

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.

Step 1: Connect one end of the extension cable to the jack on the junction box.

Step 2: Connect the other end of the extension cable to the jack on the rear of the control console.

Step 3: Plug the control console power cord into a 120 VAC outlet.
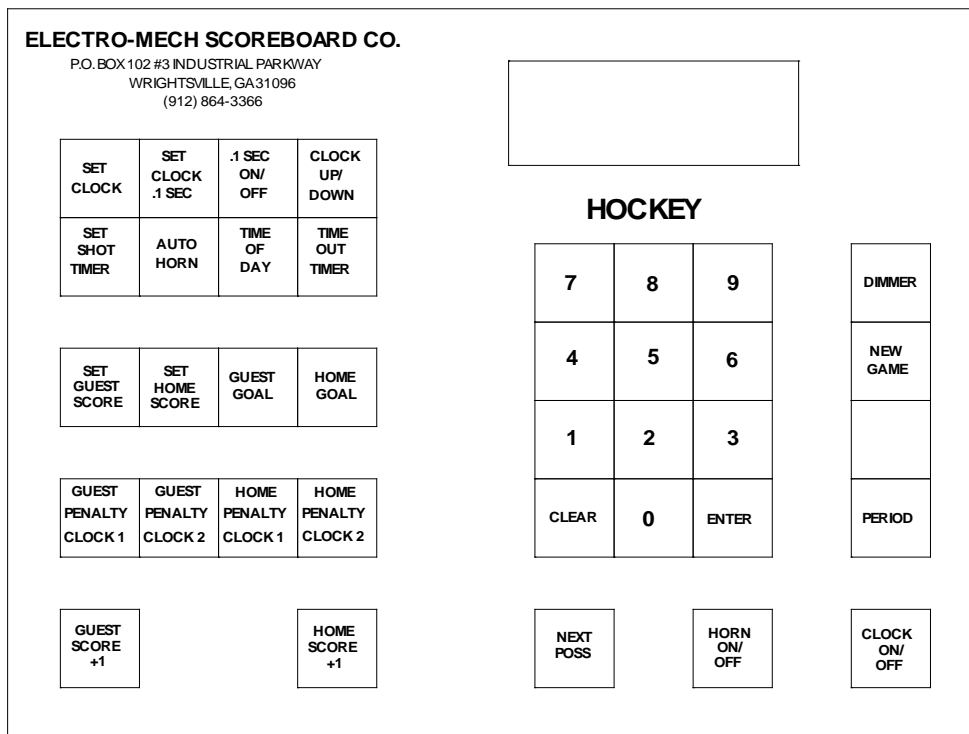

Installation of Two or More Scoreboards at the Same Site

It is possible to operate up to four scoreboards from the same console. Install a control cable line in the same manner as described previously for each additional scoreboard. Connect the additional control cable lines with extension cables to the control console. **Never operate two scoreboards from the same control cable.**

SCOREBOARD OPERATION

The MP-815/801-2 Scoreboard is operated by the control console. **No scoreboard functions will operate without connecting the control console.** Figure 7 shows the keypad layout on your control console. The various keypad functions are described in the text below the figure.

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WRIGHTSVILLE, GA 31096
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SET CLOCK	SET CLOCK .1 SEC	.1 SEC ON/ OFF	CLOCK UP/ DOWN
SET SHOT TIMER	AUTO HORN	TIME OF DAY	TIME OUT TIMER

HOCKEY

7	8	9	DIMMER
4	5	6	NEW GAME
1	2	3	
CLEAR	0	ENTER	PERIOD

SET GUEST SCORE	SET HOME SCORE	GUEST GOAL	HOME GOAL

GUEST PENALTY CLOCK 1	GUEST PENALTY CLOCK 2	HOME PENALTY CLOCK 1	HOME PENALTY CLOCK 2

GUEST SCORE +1	HOME SCORE +1	NEXT POSS	HORN ON/ OFF	CLOCK ON/ OFF

Figure 7 Keypad Layout

Control Console Key Functions

- **SET CLOCK** – This key sets the time displayed on the scoreboard clock. Press [SET CLOCK], the keypad numbers for the time, [ENTER]. Example: Press [SET CLOCK], [6], [0], [0], [0], [ENTER] on the control console. 60:00 will be displayed on the clock section of the scoreboard.

- **SET CLOCK .1 SEC** – This key is used when the clock is in the $1/10^{th}$ second mode. Press [SET CLOCK .1 SEC], the keypad numbers for the time, [ENTER]. Example: Press [SET CLOCK .1 SEC], [5], [3], [8], [ENTER] on the control console. 53.8 will be displayed on the clock section of the scoreboard.

- **.1 SEC ON OFF** – This key is used to enable or disable the $1/10^{th}$ second mode on the scoreboard. This mode is enabled when the control console is turned on. If it is disabled, the LCD display on the control console will still show $1/10^{th}$ second timing, but the scoreboard will not display it. To turn this function off, press [.1 SEC ON/OFF]. The console LCD display will read:

```
CLOCK ON - 1
.1 SEC OFF - 0
```

    Press [0], [ENTER] on the control console.

- **CLOCK UP / DOWN** – The clock can be set up to either count up or count down. The control console will reset to the clock down mode when it is turned on. To make the clock count up, press [CLOCK UP / DOWN]. The console LCD display will read:

```
GAME   UP      - 1
CLOCK DOWN - 0
```

    Press [0], [ENTER] on the control console. To reset the clock to count down mode, press [CLOCK UP / DOWN], [1], [ENTER] on the control console.

- **AUTO HORN** – This key allows the operator to control the end of period horn and / or the time out horn. The horn normally sounds for two seconds when the clock reaches 0:00. The end of period horn can be disabled by pressing [AUTO HORN]. The console LCD display will read:

  Press [0], [ENTER] to disable the horn. The console LCD display will then read:

  ```
  T-O    PRESS  <1>     ON
  HORN  PRESS  <0>     OFF
  ```

  The time out horn is normally disabled. To enable the horn to sound at the end of the time out,

  ```
  GAME  PRESS <1> ON
  HORN   PRESS <0> OFF
  ```

  press [1], [ENTER] on the control console.

- **TIME OF DAY** – The time of day can be displayed on the clock section of the scoreboard. **THE GAME CLOCK WILL BE INOPERABLE UNTIL THE TIME OF DAY FUNCTION IS TURNED OFF**. To turn the time of day clock on, press [TIME OF DAY]. The console LCD display will read:

  ```
  TIME OF              ON  <1>
  DAY  CLOCK        OFF <0>
  ```

  Press [1], [ENTER] on the control console. The console LCD display will then read:

  ```
  SET CLK  <__:__>
  ```

  Press the keypad numbers for the time, [ENTER]. The scoreboard will display the time of day.

- **SET GUEST SCORE** – To set the guest score, press [SET GUEST SCORE], the keypad numbers for the time, [ENTER]. EXAMPLE: To set the guest score to 53, press [SET GUEST SCORE], [5], [3], [ENTER].

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- **SET HOME SCORE** – To set the home score, press [SET HOME SCORE], the keypad numbers for the time, [ENTER]. EXAMPLE: To set the home score to 75, press [SET HOME SCORE], [7], [5], [ENTER].

- **GUEST GOAL** – If goal lights are installed, this key is used to indicate that the guest team has scored a goal.

- **HOME GOAL** – If goal lights are installed, this key is used to indicate that the home team has scored a goal.

- **GUEST PENALTY CLOCK 1** – This key allows the operator to time a guest team player's stay in the penalty box. To set the penalty clock, press [GUEST PENALTY CLOCK 1]. The console LCD display will then read:

  G-PENALTY1 <?:??>

  Press the keypad numbers for the time, [ENTER]. The console LCD display will then read:

  PLAYER NO. <00>

  Press [ENTER]. Note: Since the player number is not displayed on model MP-815/801-2, there is no need to enter a player number.

- **GUEST PENALTY CLOCK 2** – This key allows the operator to time a second guest team player's stay in the penalty box. To set the penalty clock, press [GUEST PENALTY CLOCK 2]. The console LCD display will then read:

  G-PENALTY2 <?:??>

  Press the keypad numbers for the time, [ENTER]. The console LCD display will then read:

  PLAYER NO. <00>

  Press [ENTER]. Note: Since the player number is not displayed on model MP-815/801-2, there is no need to enter a player number.

- **HOME PENALTY CLOCK 1** – This key allows the operator to time a home team player's stay in the penalty box. To set the penalty clock, press [HOME PENALTY CLOCK 1]. The console LCD display will then read:

$$\boxed{\text{H-PENALTY1 <?:??>}}$$

Press the keypad numbers for the time, [ENTER]. The console LCD display will then read:

$$\boxed{\text{PLAYER NO. <00>}}$$

Press [ENTER]. Note: Since the player number is not displayed on model MP-815/801-2, there is no need to enter a player number.

- **HOME PENALTY CLOCK 2** – This key allows the operator to time a second home team player's stay in the penalty box. To set the penalty clock, press [HOME PENALTY CLOCK 2]. The console LCD display will then read:

$$\boxed{\text{H-PENALTY2 <?:??>}}$$

Press the keypad numbers for the time, [ENTER]. The console LCD display will then read:

$$\boxed{\text{PLAYER NO. <00>}}$$

Press [ENTER]. Note: Since the player number is not displayed on model MP-815/801-2, there is no need to enter a player number.

- **GUEST SCORE +1** – This key increments the guest score by one point.

- **HOME SCORE +1** – This key increments the home score by one point.

- **HORN ON/OFF** – This key is used to sound the horn for ½ second.

- **CLOCK ON/OFF** – This key is used to start and stop the clock.

- **DIMMER** – This key will dim all the scoreboard lamps.

- **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.

- **PERIOD** – This key increments the period indicators.

- **CLEAR** – This key clears the information being entered into the control console.

The DELAY OF GAME TIMER, TIME OUT TIMER, and NEXT POSS keys are not used with the MP-815/801-2 scoreboard.

After applying power to the control console you should reset the scoreboard using **NEW GAME** key as described above. Test out all the other keys to ensure that the scoreboard is operating properly. It is a good idea to store the control console and the extension cable in a safe place when the scoreboard is not in use.

SERVICING THE SCOREBOARD

While your scoreboard was designed for years of trouble-free operation, some problems may occasionally occur. 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, including lamps, are always available. Electro-Mech Scoreboard Company can repair the control console and plug in module at a significant savings when compared to the price of new units. Our convenient toll free number is listed at the bottom of every page in this manual.

As seen in figure 8, the plug in modules are located behind the PERIOD panel and the PENALTY panel.
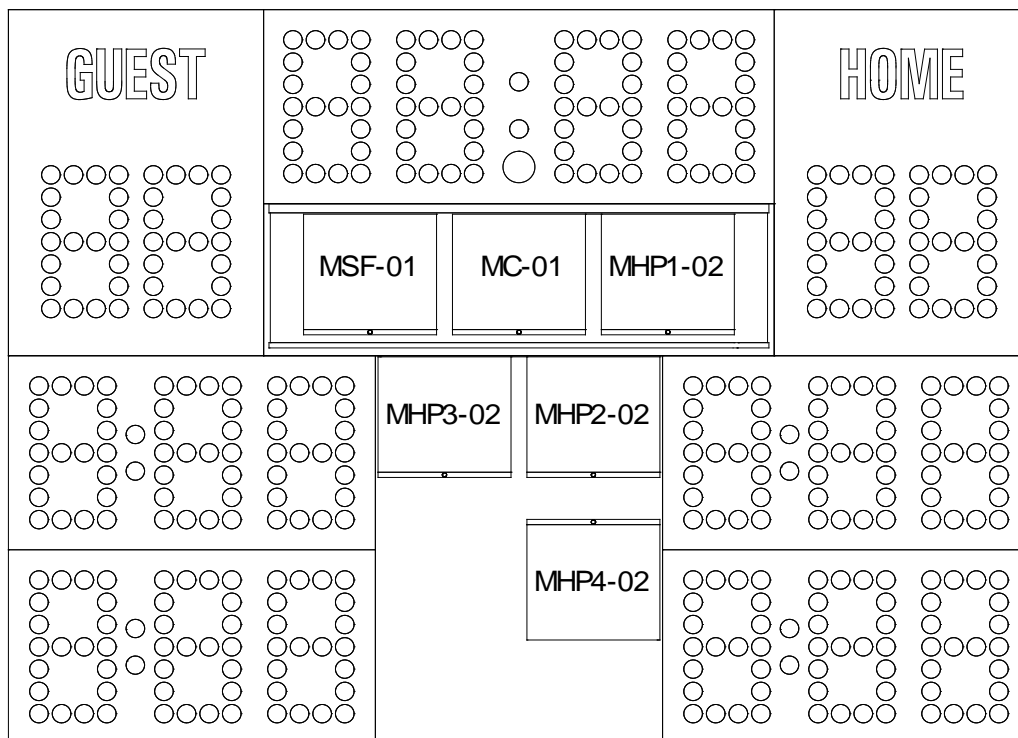
Figure 8 SCOREBOARD ELECTRONICS

The plug in module MSF-01 operates GUEST SCORE, HOME SCORE. The plug in module MC-01 operates the CLOCK, horn, and the PERIOD indicators. The plug in module MHP1-02

operates the GUEST PENALTY CLOCK 1. The plug in module MHP2-02 operates the HOME PENALTY CLOCK 1. The plug in module MHP3-02 operates the GUEST PENALTY CLOCK 2. The plug in module MHP4-02 operates the HOME PENALTY CLOCK 2. There are fuses mounted on a plate on the top of the scoreboard cabinet (figure 9) and behind the penalty panel (figure 10).
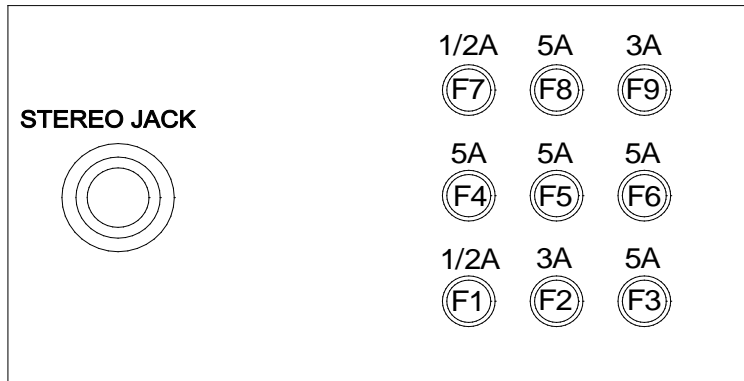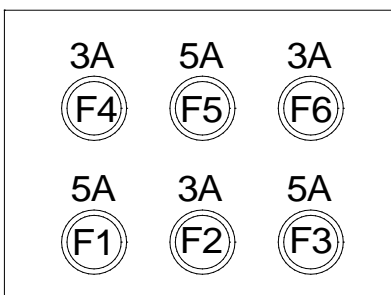

Figure 9 Top of Scoreboard Fuses

The table below lists the fuses located on top of the scoreboard, the fuse ratings, and their functions.

FUSE	RATING	FUNCTION
F1	1/2 A 250 V	CONTROL LINE
F2	3 A 250 V	HORN, QUARTER, COLON, GOAL LIGHTS
F3	5 A 250 V	HOME SCORE
F4	5 A 250 V	GUEST SCORE
F5	5 A 250 V	SECONDS
F6	5 A 250 V	MINUTES
F7	1/2 A 250 V	CONTROL LINE
F8	5 A 250 V	GUEST PENALTY CLOCK 1 SECONDS
F9	3 A 250 V	GUEST PENALTY CLOCK 1 MINUTES

Figure 10 Penalty Panel Fuses

The table below lists the fuses located behind the penalty panel, the fuse ratings, and their functions.

FUSE	RATING	FUNCTION
F1	5 A 250 V	GUEST PENALTY CLOCK 2 SECONDS
F2	3 A 250 V	GUEST PENALTY CLOCK 2 MINUTES
F3	5 A 250 V	HOME PENALTY CLOCK 1 SECONDS
F4	3 A 250 V	HOME PENALTY CLOCK 1 MINUTES
F5	5 A 250 V	HOME PENALTY CLOCK 2 SECONDS
F6	3 A 250 V	HOME PENALTY CLOCK 2 MINUTES

PLUG IN MODULE REPLACEMENT

The plug in modules can be accessed by removing the PERIOD and PENALTY panels. Remove the hex head screws which hold each panel in place. Unplug the cable which is attached to the rear side of the PERIOD panel. Each module has four top plugs which mate with sockets in the scoreboard. A screw located at the bottom of the module holds it against the scoreboard cabinet. Simply remove the screw and pull the module downward to unseat the module. **Exception**: The plug in module MHP4-02 has the screw mounted on the top of the module and it is pulled upward to unseat the module. **To avoid damage to the plug in module, always turn off the power to the scoreboard when removing or replacing it**.

LAMP REPLACEMENT

Replacing lamps may be the only service you ever perform on your Electro-Mech scoreboard. A rubber tool is provided with the scoreboard to aid the removal and replacement of lamps. **To avoid damage to the plug in module, always turn off the power to the scoreboard when changing lamps**. We recommend using a felt pen or tape to mark lamps that will not light. This scoreboard uses 7.5 watt medium base lamps (also called S11 lamps). **Never replace these with higher wattage lamps.**

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 LAMPS, FUSES AND SOCKETS.

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.