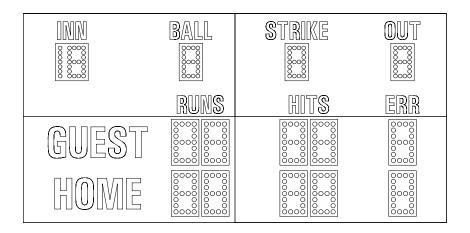
# ELECTRO-MECH SCOREBOARD CO.



# **MP-144 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. 2 Revised: 04/28/2006

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# **MP-144 BASEBALL SCOREBOARD SPECIFICATIONS**

- **GENERAL:** This ETL listed scoreboard includes the scoreboard cabinet, mounting hardware, control console, 10 ft. extension cable, and junction box.
- **DIMENSIONS:** 16' L x 8' H x 6" D (two sections which measure 16' L x 4' H x 6" D each). The optional side sponsor panel measures 8' L x 8' H x 6" D. The optional top sponsor panel measures 16' L x 33" H x 6" D
- **WEIGHT:** 424 lbs (The top section weighs 186 lbs and the bottom section weighs 238 lbs) The optional side sponsor panel weighs 110 lbs. The optional top sponsor panel weighs 125 lbs.
- **SCOREBOARD CONSTRUCTION:** The scoreboard consists of two aluminum cabinets. The outer frame is made from extruded aluminum. Internal structural parts may be extruded or formed from aluminum sheet. The face and back are made from aluminum sheet. The face is finished with enamel paint. Black is the standard face color. White is the standard color for the captions. Mounting hardware is included.
- **DISPLAY:** The MP-144 baseball scoreboard displays HOME and GUEST RUNS to 99, HITS to 99, ERRORS (ERR) to 9, INNINGS (INN) to 19, BALLS (BALL) to 3, STRIKES (STRIKE) to 2, and OUTS (OUT) to 2.
- LAMP BANKS: A 4 x 7 matrix of lamps forms each digit. The INNINGS tens digit is formed by a column of seven lamps. The INNINGS, BALLS, STRIKES, and OUTS are 15" tall. All other digits are 18" tall. The scoreboard uses 15 watt 120 VAC frosted medium based appliance lamps (also known as 15A15IF lamps). Recessed aluminum reflectors provide a crisp separation between each lamp. Expanded metal screens protect the lamps.
- **POWER REQUIREMENTS: Scoreboard -** 120 VAC, 35.9 A, 60 Hz, (50 A service recommended). The scoreboard may be connected to either 120 VAC or 240 VAC single phase. **Control Console** - 120 VAC, 0.5 A, 60 Hz
- SCOREBOARD ELECTRONICS: 100% solid state fully enclosed within 4 plug in modules.
- **CONTROL CONSOLE:** The control console features a microprocessor, 37 key sealed membrane keypad, a LCD display, an attached 6 foot power cord. 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 <sup>1</sup>/<sub>4</sub>" in diameter. This item is sold separately from the scoreboard.
- **JUNCTION BOX AND EXTENSION CABLE:** A 4 <sup>1</sup>/<sub>4</sub>" x 2 <sup>1</sup>/<sub>4</sub>" x 2" junction box with a <sup>1</sup>/<sub>4</sub>" 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:

- Two posts (Additional posts are needed if optional side sponsor panels are purchased.)
- 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
- A weatherproof NEMA 5-15R 120 VAC convenience receptacle at the scoreboard

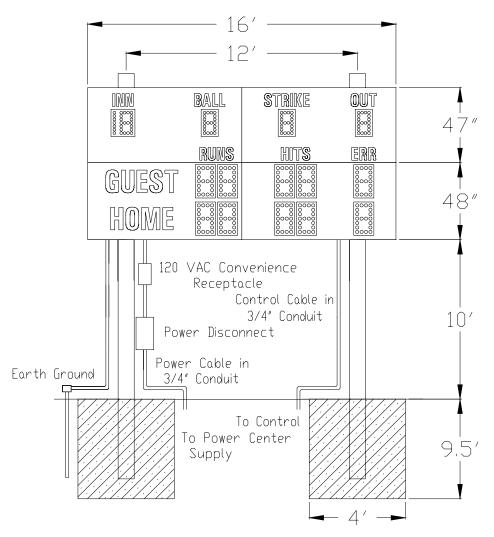
Electro-Mech Scoreboard Company performs installations in some areas. In other areas, we can help you contact an independent installer. In areas in which installation service is not available from Electro-Mech Scoreboard Company, we will make every effort to answer your installation questions. Qualified 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 sponsor panels (if purchased) to the posts.

# **Post Installation**

The scoreboard mounts on three posts. Typically installers will use steel pipes or Ibeams. 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 7 inches outer diameter. Sink the posts in reinforced concrete footings. Figure 1 shows the spacing of the posts for the 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 MP-144 Post Spacing

Figure 2 shows the spacing of the posts for a MP-144 with an optional top sponsor panel. This panel is a separate unit that mounts on the same posts as the scoreboard.

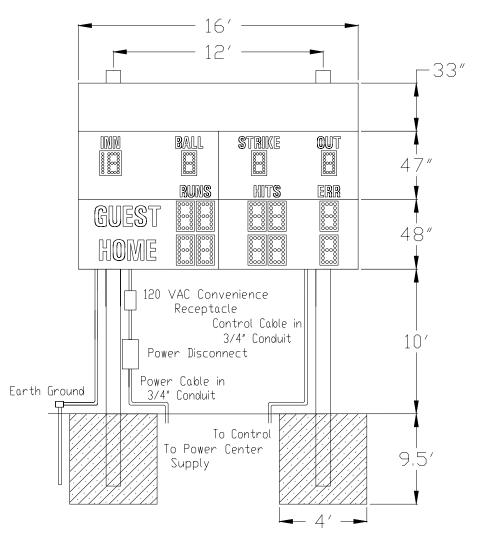


Figure 2 MP-144 with Optional Top Sponsor Panel Post Spacing

Figure 3 shows the spacing of the posts for a MP-144 with an optional side sponsor panel. The side sponsor panel is a separate assembly that bolts to the side of the scoreboard.

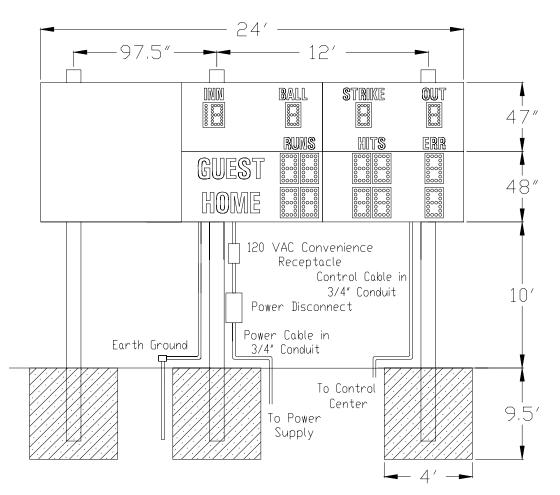
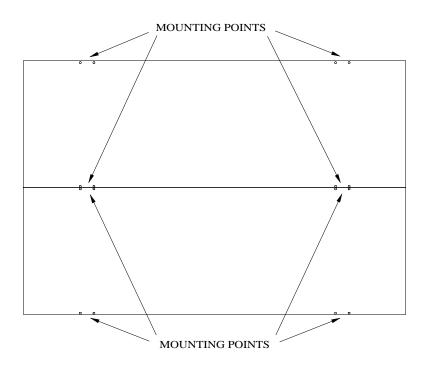


Figure 3 MP-144 with Optional Side Sponsor Panel Post Spacing

#### Mounting The Scoreboard

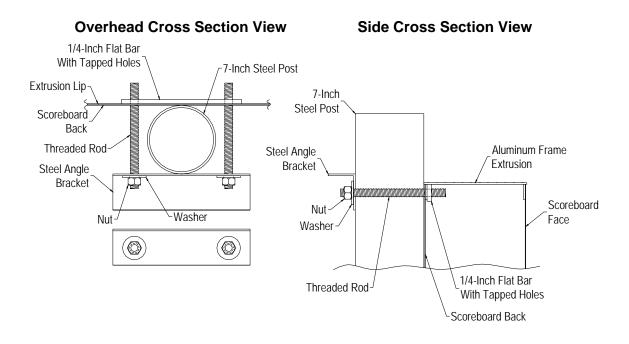
The scoreboard is attached to the posts at eight points. Figure 4 shows the location of the mounting points on the rear of the scoreboard.



**Figure 4 Mounting Points** 

# **MOUNTING HARDWARE**

Eight sets of mounting hardware are provided to attach the scoreboard to the posts. Additional hardware sets are provided to attach the optional sponsor panels, if ordered. A mounting hardware set consists of a steel angle bracket, two threaded rods, two washers, and two nuts. Figure 5 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.



#### Figure 5 Standard Mounting Method

The following steps describe how to mount the scoreboard on the posts:

- 1. Place the lower section of the scoreboard against the posts on the ground. Make sure the mounting points are aligned with the posts.
- 2. If the eyebolts are installed in the upper section of the scoreboard, unscrew them and screw them into the lower section of the scoreboard.
- 3. Screw the threaded rods into the tapped holes in the scoreboard.
- 4. Place a steel angle bracket over the threaded rods at a mounting point.
- 5. Place a washer over each threaded rod.
- 6. Screw the nuts onto the threaded rods so that the bracket is **loosely** held in place.
- 7. Repeat steps 4 -6 at the other mounting points.
- 8. Raise the section into place and tighten the nuts to clamp it in place on the posts.
- 9. Unscrew the eyebolts from the lower section of the scoreboard and screw them into the upper section of the scoreboard.
- 10. Place the upper section of the scoreboard on top of the lower section.
- 11. Attach the mounting hardware by the same method as the lower section.
- 12. Tighten the nuts to clamp it in place on the posts.

#### **Mounting The Optional Side Sponsor Panel**

If you purchased the optional side sponsor panel, the scoreboard has been modified so that the sponsor panel bolts to the side of the scoreboard cabinet. Four bolts and washers are provided to attach the side sponsor panel to the scoreboard. The following steps describe how to attach the sponsor panel to the scoreboard and mount the optional side sponsor panels on the posts:

- 1. There are four small access panels on the rear of the side sponsor panel. Remove these access panels.
- 2. Position the sponsor panel next to the scoreboard.
- 3. Screw the threaded rods into the tapped holes at one of the sponsor panel mounting points.
- 4. Place a steel angle bracket over the threaded rods at the mounting point.
- 5. Place a washer over each threaded rod.
- 6. Screw the nuts onto the threaded rods so that the bracket is loosely held in place.
- 7. Repeat steps 3 6 at the other mounting point.
- 8. Place a washer over a bolt.
- 9. Insert the bolt into the top sponsor access panel opening and through the hole in the frame.
- 10. Screw the bolt into the tapped hole in the scoreboard cabinet.
- 11. Repeat steps 8-10 at the other three access panel openings.
- 12. Tighten the nuts to clamp the sponsor panel in place on the post.
- 13. Re-install the access panels.

# **Mounting The Optional Top Sponsor Panel**

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

- 1. Raise the top sponsor panel in place above the scoreboard. Make sure the mounting points are aligned with the posts.
- 2. Place the threaded rods through the mounting holes in the top sponsor panel at one mounting point.
- 3. Place a washer over each threaded rod inside the frame of the top sponsor panel, and screw a nut onto each threaded rod behind the washers inside the frame of the top sponsor panel.
- 4. Place a steel angle bracket over the threaded rods at a mounting point.
- 5. Place a washer over each threaded rod.
- 6. Screw a nut onto each threaded rod so that the bracket is loosely held in place.
- 7. Repeat steps 2 6 at the other mounting points.
- 8. 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, the lower scoreboard cabinet power and data connections, connecting the scoreboard to a power source, installing the ScoreLink 300 or the control cable, and connecting the control console.

## **Ground Connection**

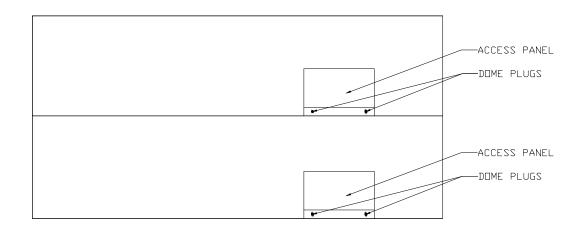
The National Electrical Code **requires** a scoreboard (electric sign) to be grounded. Grounding the scoreboard helps the scoreboard electronics operate properly and helps minimize damage if it is struck by lightning. Metal posts do **not** provide an adequate ground path. The following steps describe 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. Attach the ground conductor to the each section of the scoreboard and the 3 digit clock with copper mechanical lugs. Fasten the mechanical lugs to the scoreboard using self tapping sheet metal screws.

## **Power Connections**

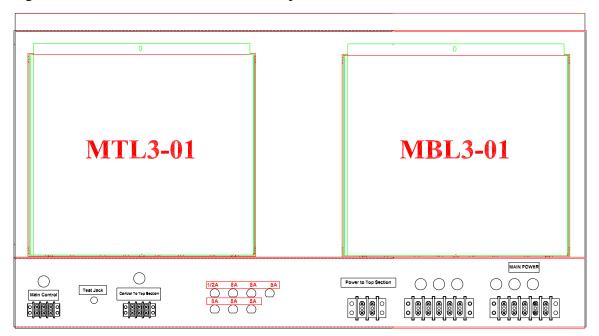
The scoreboard may be connected to 240 VAC single phase or 120 VAC service at the scoreboard. **Maximum power consumption of Model MP-144: 4305 Watts.** Make sure that the power cables are rated for this electrical load. Electro-Mech Scoreboard Company recommends that your power cable is installed in conduit. **Avoid** running your power cables in close proximity to your control cable. The following steps describe how to connect the scoreboard to your power source:

1. Remove the rear access panel and the dome plugs on the plate below the lower access panel. Figure 6 shows the location of the lower access panel and the dome plugs.



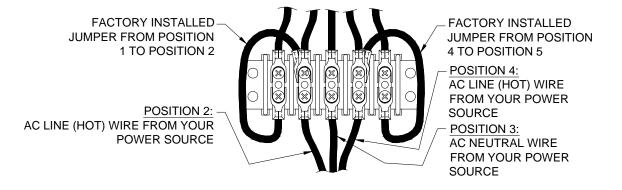
## Figure 6 Lower Section Rear Access Panel

Figure 7 shows the view behind the access panel.



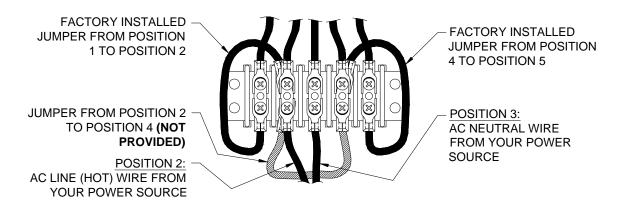
#### Figure 7 Lower Access Panel Removed

- 2. Remove the dome plugs from the plate below the access panel.
- 3. Feed the power cables through the right side hole in the plate.
- 4. If you are going to connect the scoreboard to a 240 VAC supply, connect one AC line wire to position 2, AC neutral wire to position 3, and the other AC line wire to position 4 of MAIN POWER terminal block on the junction chassis according to figure 8.



#### Figure 8 240 VAC Connections

If you are going to connect the scoreboard to a 120 VAC supply, connect the AC line wire to position 2 and the AC neutral wire to position 3 of the MAIN POWER terminal block on the junction chassis. Add a jumper from position 2 to position 4. This jumper is not provided. Refer to figure 9.



#### Figure 9 120 VAC 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..

### **Upper Section Power Connection**

The upper section of the scoreboard is rated at 10.9 A, 120 VAC, 60 Hz, 1305 watts. Connect a power cable between the terminal block labeled Power to Top Section on the junction chassis behind the lower access panel and the terminal block labeled Power from Bottom Section on the junction chassis behind the upper access panel according to the table below. Figure 10 shows the view behind the upper access panel. Install this cable in conduit.

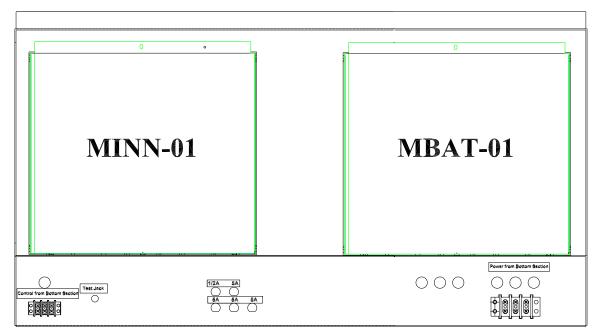


Figure 10 Upper Access Panel Removed

| WIRE | FROM                          | ТО                                   |
|------|-------------------------------|--------------------------------------|
|      | Power to Top Section position |                                      |
| AC-L | 1                             | Power from Bottom Section position 2 |
|      | Power to Top Section position |                                      |
| AC-N | 2                             | Power from Bottom Section position 3 |

## **Upper Section Control Cable Connection**

Use a length of control cable to connect the terminal block labeled Control from Bottom Section on the upper junction chassis to the terminal block labeled Control to Top Section on the lower junction chassis according to the table below. Install this cable in conduit.

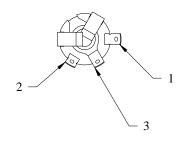
| WIRE   | FROM                                   | ТО                                |
|--------|--|-----------------------------------|
| black  | Control from Bottom Section position 1 | Control to Top Section position 1 |
| red    | Control from Bottom Section position 2 | Control to Top Section position 2 |
| shield | Control from Bottom Section position 3 | Control to Top Section position 3 |

### 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 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 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 <sup>1</sup>/<sub>4</sub>" 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 <sup>1</sup>/<sub>4</sub>" stereo jack. Figure 11 shows the control cable wire connection points on the rear of the <sup>1</sup>/<sub>4</sub>" stereo jack.

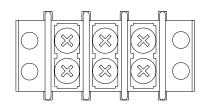


PIN 1 - BLACK WIRE PIN 2 - RED WIRE PIN 3 - SHIELD WIRE

#### Figure 11 <sup>1</sup>/<sub>4</sub>" 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 access panel.
- 2. Crimp fork terminals to the control cable wires and the shield.
- 3. Connect the control cable to **Main Control** terminal block on the junction chassis according to figure 12.



BLACK RED SHIELD WIRE WIRE WIRE

#### Figure 12 Control Cable Wiring Diagram

4. Reinstall the access panel.

#### **Control Console Connections**

The 10 ft. extension cable has two molded <sup>1</sup>/4" 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 <sup>1</sup>/<sub>4</sub>" stereo jack on the junction box or the ScoreLink 300 Transmitter, if purchased.
- 2. Plug the other end into the  $\frac{1}{4}$ " 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.

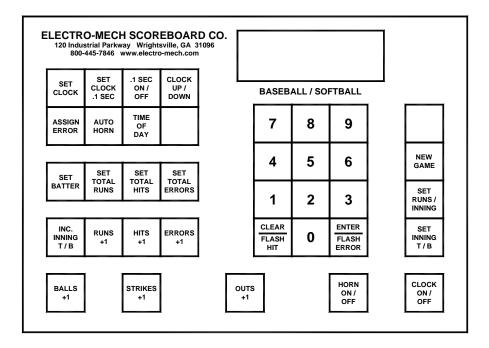
# **SCOREBOARD OPERATION**

## SCOREBOARD STARTUP

- 1. Place the power disconnect for the scoreboard in the **ON** position.
- 2. Plug one end of the extension cable into <sup>1</sup>/<sub>4</sub>" stereo jack on the junction box or the ScoreLink 300 Transmitter, if purchased.
- 3. Plug the other end into the  $\frac{1}{4}$ " 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 37-key control console. Figure 13 shows the keypad layout on the control console.



#### Figure 13 Keypad Layout

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

| ELECTRO-MEC | H 2, 2 |
|-------------|--------|
| SCOREBOARD  | MP14X  |

After a few seconds the display will read:

| 0.0 | D15:00 | 0.0 |
|-----|--------|-----|
|     | NG -   |     |

The scoreboard will display:

GUEST RUNS – 0 GUEST HITS – 0 GUEST ERR – 0 HOME RUNS – 0 HOME HITS – 0 HOME ERR – 0

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 INNING, total HITS, total ERRORS, BALLS, STRIKES, and OUTS 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. Figure 14 explains the LCD display layout.

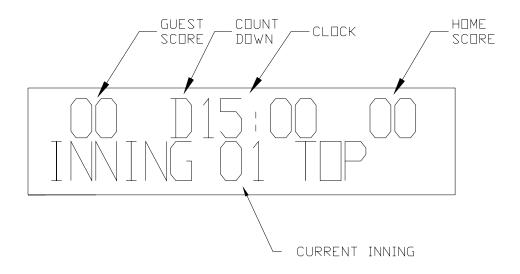


Figure 14 Control Console LCD Display

#### **Control Console Key Functions**

1. **INC INNING T / B** – This key increments the inning to the next half inning. When the console is turned on, the LCD display will read:



Press [INC INNING T / B]. The LCD display will then read:



The console is set to the top of the first inning. Pressing the key again increments the console to the bottom of the first inning. **Note**: The innings will increment from 1 to 19. For innings greater than 19, the INNING TEN digit will remain illuminated. The result is that innings 20 to 29 will be displayed on the scoreboard as innings 10 to 19.

2. SET TOTAL RUNS – Press [SET TOTAL RUNS]. The LCD display will read:

| 0 0 | D15:00 | 00    |
|-----|--------|-------|
| ΤΠΤ | RUNS 1 | P<00> |

Press [3][ENTER] to set the GUEST runs to 3. The LCD display will then read:

| 0.0 | D15: | 00   | 00  |
|-----|------|------|-----|
| TOT | RUNS | BOT< | 00> |

Press [2][ENTER] to set the Home runs to 2.

3. SET TOTAL HITS – Press [SET TOTAL HITS]. The LCD display will read:

| 00  | D15:00 00    |
|-----|--------------|
| ΤΠΤ | HITS TOP<00> |

Press [4][ENTER] to set the GUEST hits to 4. The LCD display will then read:

| 00  | D15: | 00   | 0.0 |
|-----|------|------|-----|
| TOT | HITS | BDT< | 00> |

Press [5][ENTER] to set the Home runs to 5.

4. **SET TOTAL ERRORS** – Press [SET TOTAL ERRORS]. The LCD display will read:



Press [7][ENTER] to set the GUEST errors to 7. The LCD display will then read:

| 00  | D15: | 00   | 00   |
|-----|------|------|------|
| TOT | ERRS | BOT< | (00> |

Press [1][ENTER] to set the Home errors to 1.

- 5. **RUNS** +1 This key will increment the total runs by 1.
- 6. **HITS** +1 This key will increment the total hits by 1. The Hit indicator (H) will flash four times.
- 7. **ERRORS** +1 This key will increment the total errors by 1. The Error indicator (E) will flash four times.
- 8. **BALLS** +1 This key will increment the Balls by 1.
- 9. **STRIKES** +1 This key will increment the Strikes by 1.
- 10. **OUTS** +1 This key will increment the Outs by 1.
- 11. **SET INNING T / B** This key is used to change the current inning. Press [SET INNING T / B] and the LCD display will read:

| 0.0 | D 1            | 5:00 | 00      |  |
|-----|----------------|------|---------|--|
| SET | $\top \square$ | INN  | < 0 0 > |  |

Press [5], [ENTER] to change to the fifth inning. The LCD display will read:

| 0 0  | D15:00               | 00      |
|------|----------------------|---------|
| TDP= | $= 0 / B \Box T = 1$ | < 0 0 > |

Press [1], [ENTER] to select the bottom of the inning. The LCD display will read:

| 0.0  | D 1 | 5: 0 | 0   | 00  |
|------|-----|------|-----|-----|
| INNI | NG  | 05   | BOT | ТПМ |

- 12. 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.
- 13. **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.

14. **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:



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

The SET CLOCK, SET CLOCK .1 SEC, .1 SEC ON / OFF, CLOCK UP / DOWN, ASSIGN ERROR, AUTO HORN, TIME OF DAY, SET BATTER, HORN ON / OFF, SET RUNS / INNINGS, CLOCK ON/OFF, and DIMMER keys are not used with the 1440 scoreboard.

You should reset the scoreboard each time that it is turned on. Test out 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 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. 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 modules 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.

If the MP-144 scoreboard turns on lamps, but does not operate normally, make note of which functions are affected. If some lamps either never turn on or always stay on, make note of their specific locations. Refer to the COMPONENT REPLACEMENT section of this manual before changing parts.

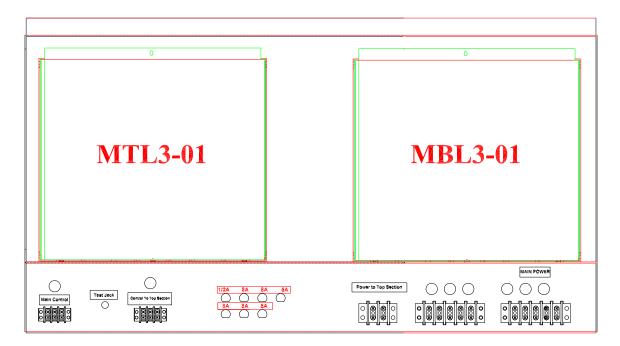
# **COMPONENT REPLACEMENT**

Lamps are serviced from the front of the cabinet.

## Lamp Replacement

Expanded metal screens protect the lamp banks. Remove the protective mask covering a lamp bank to access the lamps. **To avoid damage to the plug in module, always turn off the power when changing lamps**. We recommend using a felt pen or tape to mark lamps that will not light. This scoreboard uses 15 watt 120 VAC frosted medium based appliance lamps (also called 15A15IF lamps). **Never replace these with higher wattage lamps**.

All other components are located behind the rear access panels. Figure 15 shows the components behind the lower access panel.



## Figure 15 Lower Access Panel Components

Plug in module MTL3-01 operates GUEST RUNS, HITS, and ERRORS. Plug in module MBL3-01 operates HOME RUNS, HITS, and ERRORS.

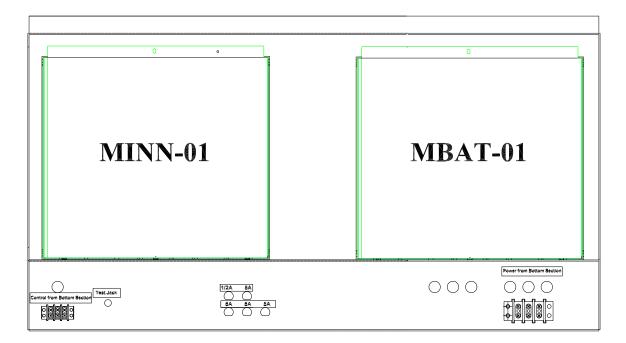
# Plug In Module Replacement

DIJODO

Each module has four bottom plugs that mate with sockets on the junction chassis. A screw located at the top of the module holds it against the junction chassis. Remove the screw and pull the module 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.

| FUSES |             |              |                |  |  |  |
|-------|-------------|--------------|----------------|--|--|--|
| FUSE  | RATING      | FUNCTION     | BUSSMAN PART # |  |  |  |
| F1    | 1/2 A 250 V | CONTROL LINE | AGC-1/2        |  |  |  |
| F2    | 8 A 250 V   | GUEST RUNS   | AGC-8          |  |  |  |
| F3    | 8 A 250 V   | GUEST HITS   | AGC-8          |  |  |  |
| F4    | 5 A 250 V   | GUEST ERRORS | AGC-5          |  |  |  |
| F5    | 1/2 A 250 V | HOME RUNS    | AGC-1/2        |  |  |  |
| F6    | 5 A 250 V   | HOME HITS    | AGC-5          |  |  |  |
| F7    | 8 A 250 V   | HOME ERRORS  | AGC-8          |  |  |  |

Note: Other manufacturers' fuses may be substituted for the Bussmann fuses. Figure 16 shows the components behind the upper access panel.



### Figure 16 Upper Access Panel Components

The plug in module MBAT-01 operates BALLS, STRIKES, and OUTS. The plug in module MINN-01 operates the INNINGS.

| FUSES |             |              |                     |  |  |  |
|-------|-------------|--------------|---------------------|--|--|--|
| FUSE  | RATING      | FUNCTION     | <b>BUSSMAN PART</b> |  |  |  |
|       |             |              | #                   |  |  |  |
| F1    | 1/2 A 250 V | CONTROL LINE | AGC-1/2             |  |  |  |
| F2    | 5 A 250 V   | INNING       | AGC-5               |  |  |  |
| F3    | 5 A 250 V   | BALLS        | AGC-5               |  |  |  |
| F4    | 5 A 250 V   | STRIKES      | AGC-5               |  |  |  |
| F5    | 5 A 250 V   | OUTS         | AGC-5               |  |  |  |

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

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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.

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