

## SECTION 116643

### MODEL 8650-4 INDOOR SCOREBOARD

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Four-face electronic scoreboard and control console for indoor use.

##### 1.02 REFERENCES

- A. Standard for Electric Signs, UL-48, 14th Edition.
- B. Standard for Control Centers for Changing Message Type Signs, UL-1433, 4th Edition.
- C. Federal Communications Commission Regulation Part 15.
- D. National Electric Code.

##### 1.03 SUBMITTALS

- A. Scoreboard owner's handbook provides drawings and other information needed for installation, operation, and maintenance of the scoreboard and accessories.

##### 1.04 QUALITY ASSURANCE

- A. Source limitation: Obtain all components including scoreboard, control console, data cable, mounting hardware, and other accessories from a single manufacturer.
- B. Manufacturer qualifications: Require company specializing in manufacturing electronic scoreboards with a minimum of ten years experience.
- C. Adherence to nationally recognized standards.
  - 1. ETL listed to UL Standards 48 and 1433.
  - 2. NEC compliant.
  - 3. FCC compliant.
- D. For indoor use only.

##### 1.05 DELIVERY, STORAGE, AND HANDLING

- A. Product delivered to installation site unless otherwise specified.
- B. Scoreboard and accessories to be stored in a clean, dry environment.
- C. Special precautions for the scoreboard face.
  - 1. Each scoreboard section will be protected during shipment by a layer of cardboard or other sheet material. Avoid removing this protective sheet until the installation begins.
  - 2. Never lay a scoreboard face down or stack other objects on a scoreboard lying on its back.
  - 3. Avoid sliding objects (like another scoreboard) along the plane of the scoreboard face even if the protective sheet is in place. This can result in LEDs being sheared.

## 1.06 PROJECT CONDITIONS

- A. Scoreboard and accessories should not be installed until the area has been made weatherproof.
- B. The customer determines location of scoreboard, control console, and other accessories.
- C. The customer is responsible for making certain the placement of the scoreboard does not violate local building codes or league rules regarding overhead clearance or interfere with play in the rink, visibility from the stands, or lighting.
- D. The customer is responsible for verifying that the mounting structure is capable of supporting the weight of the scoreboard, additional panel, and other accessories.
- E. The scoreboard location requires four standard grounded 120 VAC electrical outlets.
- F. The control console location requires one standard grounded 120 VAC electrical outlet.

## 1.07 WARRANTY

- A. Five year limited warranty includes factory labor and material costs for repairing or replacing defective parts. Refer to the warranty document included in the scoreboard owner's handbook for specific information.
- B. Warranty coverage based on the date of manufacture.

## 1.08 MAINTENANCE

- A. Replacement parts and factory repair options available from manufacturer.
- B. Product support provided by experienced technicians and online documentation available via phone, web, and email at no cost to customer.

## PART 2 PRODUCTS

### 2.01 MANUFACTURER

- A. Electro-Mech Scoreboard Co., 120 Industrial Parkway, Wrightsville, GA 31096.
  - 1. Phone 800-445-7846.
  - 2. Fax 478-864-0212.
  - 3. Email [score@electro-mech.com](mailto:score@electro-mech.com)
  - 4. Click [www.electro-mech.com](http://www.electro-mech.com)

### 2.02 SCOREBOARD

- A. General.
  - 1. Functions and Features: Model 8650-4 Indoor Scoreboard is designed to present information pertinent to hockey and other indoor sports. Each of the four faces is a complete scoreboard that can be configured to operate in tandem with or separately from the other faces. Presentation on each face includes:
    - a. Four-digit Clock with illuminated colon/decimal indicator that can count up in MM:SS format, count down in MM:SS or SS.T format, or show time of day in HH:MM format. Clock digits are 12 inches tall and made from red LEDs.

- b. Guest and Home Scores to 199. Score digits are 12 inches tall and made from amber LEDs.
  - c. Period to 9. The Period digit is 9 inches tall and made from green LEDs.
  - d. Two sets of three-digit Guest and Home Penalty Clocks with illuminated colon that can count down in M:SS format. Penalty Timer digits are 9 inches tall and made from green LEDs.
  - e. Integrated Horn.
  - f. Two dedicated 120 VAC outputs for optional goal light indicators.
  - g. One data output for daisy chaining additional scoreboards. Typically the four scoreboard sections are synchronized by bringing data cable from the console to the data input jack one section, running a provided jumper cable from the data output jack of that scoreboard section to the data input jack of the next scoreboard section, and so on until all four sections are connected.
2. Cabinet Size (of each scoreboard section).
    - a. Standard model (with no bottom ID panel): 9 feet (2748 mm) wide, 60 inches (1529 mm) tall, 6 inches (152 mm) deep.
    - b. With optional ID panel on bottom: 9 feet (2748 mm) wide, 81 inches (2062 mm) tall, 6 inches (152 mm) deep.
  3. Cabinet Weight (of each scoreboard section).
    - a. Standard model (with no bottom ID panel): 145 pounds (66 kg).
    - b. With optional bottom ID panel: 170 pounds (77 kg).
  4. Size of completed assembly.
    - a. Standard model (with no bottom ID panel): 138 inches (3510 mm) square at the top, 60 inches (1529 mm) tall.
    - b. With optional bottom ID panel: 142-1/4 inches (3617 mm) square at the top, 81 inches (2062 mm) tall.
  5. Weight of completed assembly.
    - a. Standard model (with no bottom ID panel): 800 pounds (363 kg).
    - b. With optional bottom ID panel: 900 pounds (408 kg).

## 2.03 ACCESSORIES

- A. Standard accessories.
  1. Control Console.
    - a. Supports all features of Electro-Mech 8000 series hockey scoreboards without the need to enter codes or other information to configure the device.
    - b. Provides direct data outputs for up to four scoreboards all synchronized to the data (including the time) generated by the control console. Additional displays may be controlled in synchronization by daisy chaining from the data outputs of scoreboards connected to the control console.
    - c. Constructed of a heavy-duty ABS plastic housing holding a 0.1-inch thick keypad panel with stainless steel metal dome switches that provide tactile feedback and are rated for one million actuations.
    - d. Requires one standard grounded 120 VAC electrical outlet.
  2. Extension Cables: 10-foot long shielded data cable with male stereo connectors at each end allows control console to be connected to a junction box (or ScoreLink

transmitter) at the point of operation and later unplugged for storage. Three 25-foot long extension cables are provided as optional interconnects between the four scoreboard sections to allow the four sections to be synchronized to one output of a control console.

3. Junction Box: Provides a point of termination for the data cable with a stereo socket for quick connection to the control console.
4. Stereo Plug With Pigtail: Provides a connector to be spliced onto the data cable at the scoreboard end.
5. Mounting hardware: The main assembly is shipped in eight sections - four scoreboard sections and four corner sections. Hardware is provided for attaching the corners to the scoreboards. Each scoreboard section includes two eye-bolts along the top of the cabinet frame. The entire assembly is designed to be suspended from the ceiling above the center of the court or rink via cables or chains that attach to the eight eye-bolts. Many facilities install either a manual or a powered wench system allowing the scoreboard assembly to be easily raised and lowered. Electro-Mech does not provide cables, chains, or wench systems.

B. Optional accessories.

1. Data Cable: A shielded two-conductor cable with a drain line is the typical means of providing a path for data from the control console to the scoreboard. One run of data cable can supply information to the entire four-sided assembly if the scoreboard sections are always to work in synchronization. Individual cables must be run to each scoreboard section if the customer desires independent control of each section.
2. ScoreLink Wireless RF Modem System: This RF communications system may be substituted for the data cable at the time of installation or as a replacement for the cable at any time after the installation. ScoreLink requires a standard electrical outlet for the transmitter at the point of operation and another for the receiver at the scoreboard. One ScoreLink set (a transmitter and receiver pair) can supply information to the entire four-sided assembly if the scoreboard sections are always to work in synchronization. Individual ScoreLink sets must be supplied with separate ScoreLink receiver units attached to each scoreboard section if the customer desires independent control of each section.
3. ID Panels: This scoreboard may be ordered with an ID panel integrated into the cabinet along the bottom of each scoreboard section. These panels may be purchased blank or with simple text, multi-colored text and graphics, or screen-printed processed-color logos applied to their faces.
4. Carrying Case For Control Console: Included with the ScoreLink system, this option is also available for scoreboards with hard-wired data cables.
5. Handheld Clock Start/Stop Control: Provides a hand-held pendant that allows the clock operator to start and stop the Game Clock without touching the control console.
6. Team Name In Place of "HOME".

## 2.04 FINISH

- A. Standard scoreboard faces, digit masks, and the exposed areas of the corner pieces are coated with low gloss black polyester resin paint for maximum contrast and resistance to scratches.

1. Baked on automotive grade low gloss paint in a selection of standard colors is available from the manufacturer for the scoreboard faces and corners.
  2. Non-standard colors and finishes may be applied to the scoreboard faces and corners at the customer's request.
- B. Scoreboard and corner framing and back are mill-finished aluminum.
- C. Captions and other decorative elements on the face of the scoreboard are vinyl.

## 2.05 SOURCE QUALITY CONTROL

- A. Tests and inspection.
1. Manufacturer requires sub-contracted printed circuit board subassemblies to undergo functional testing at the point of manufacture.
  2. Manufacturer inspects incoming components prior to installation in scoreboard and accessories.
  3. Manufacturer functionally tests major electrical subcomponents prior to installation in scoreboard and accessories.
  4. Manufacturer inspects and tests scoreboards and accessories at full power prior to shipment.
  5. Manufacturer performs a test assembly on all scoreboard sections and corner sections prior to packaging to ensure proper fit.

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Verify 120 VAC outlets at scoreboard and control console locations are properly grounded.
- B. If data cable is used, verify continuity from scoreboard to control console locations.
- C. Verify data cable and AC power cable are not run in the same conduit or wire tray.
- D. Verify data cable and AC power cable are secure and run in conduit where they might be exposed to abuse or where local, state, or national codes require.
- E. Verify location of scoreboard, junction box (or boxes), and accessories with customer.
- F. Test each scoreboard section and control console by attaching units to power and plugging console output into scoreboard data input prior to hanging the complete assembly.

### 3.02 INSTALLATION

- A. Refer to scoreboard owner's handbook for installation instructions.

### 3.03 PROTECTION

- A. The most common sources of damage to scoreboards and accessories are electrical surges running through power or data connections. The usual causes are lightning, power equipment problems (floating neutrals, bad transformers, etc.), and improper connections. To minimize these problems:
  1. Ensure electrical wiring is properly grounded.

2. Unplug control console from power outlet and from data cable when not in use.
  3. Turn off the breaker to disconnect scoreboard from power when not in use.
  4. Label scoreboard data cable junction box and all connectors near junction box, scoreboard, and accessories so that public address systems and other devices with similar connections are not accidentally plugged into the scoreboard.
- B. Avoid loss or damage of control console, extension cable, and other accessories by storing when not in use.

END OF SECTION