

SECTION 116643

MODEL 2160 INDOOR SCOREBOARD SET

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Two single-face electronic scoreboards 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 scoreboards and accessories.

1.04 QUALITY ASSURANCE

- A. Source limitation: Obtain all components including scoreboards, 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. Scoreboards and accessories to be stored in a clean, dry environment.
- C. Special precautions for the scoreboard faces.
 - 1. Each scoreboard face 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 the 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. Scoreboards and accessories should not be installed until the area has been made weatherproof.
- B. The customer determines location of scoreboards, control console, and other accessories.
- C. The customer is responsible for verifying that the mounting structure is capable of supporting the weight of the scoreboards, additional panel, and other accessories.
- D. Each scoreboard location requires one standard grounded 120 VAC electrical outlet.
- E. 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
 - 4. Click www.electro-mech.com

2.02 SCOREBOARD

- A. General.
 - 1. Functions and Features: Model 2160 Shot Clock Set is designed to present information pertinent to basketball and other indoor sports. Presentation includes:
 - a. Two-digit Shot Clock that can count down from 99 seconds. Shot Clock digits are 12 inches tall and formed from red LEDs
 - b. Integrated Visual Horn Indicator made from red LEDs.
 - c. Integrated Horn.
 - d. Two dedicated 120 VAC outputs for optional visual horn indicators.
 - 2. Cabinet Size: 24 inches (614 mm) wide, 27 inches (691 mm) tall, 6 inches (152 mm) deep.
 - 3. Cabinet Weight: 20 pounds (9 kg).

2.03 ACCESSORIES

A. Standard accessories.

1. Control Console.
 - a. Often deleted from 2160 package when the customer is purchasing or already owns an Electro-Mech basketball scoreboard with a control console that will support shot clocks.
 - b. Supports all features of Electro-Mech 2000 series basketball scoreboards without the need to enter codes or other information to configure the device. Player stat panels require separate custom control consoles.
 - c. Provides direct data outputs for up to four scoreboards, shot clocks, or locker room clocks 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.
 - d. 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.
 - e. Requires one standard grounded 120 VAC electrical outlet.
2. Hand-held Shot Clock Controller.
 - a. Plugs into connector on control console.
 - b. Allows an operator to control the shot clocks during the game without touching the main control console.
3. Extension Cable: 10-foot long shielded data cable (one per display) with male stereo connectors at each end allows control console to be connected to junction boxes (or ScoreLink transmitters) at the point of operation and later unplugged for storage.
4. Junction Boxes: Provide a point of termination for the data cables with a stereo sockets for quick connection to the control console.
5. Stereo Plugs With Pigtail: Provide connectors to be spliced onto the data cables at the scoreboard end.
6. Mounting hardware: Each shot clock has mounting points in the back of the cabinet allowing the unit to be attached to a pole or other vertical member up to seven inches outer diameter. In addition, the sides of each cabinet contain mounting points to allow for alternate hardware to be provided by the customer. The manufacturer provides mounting hardware for clamping each cabinet to a pole using the rear mounting points. The manufacturer also provides a set of bolts and washers for attaching customer-provided hardware to the side mounting points.

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. The Model 2160 is a set of two shot clocks, and will therefore require two runs of data cable.
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. The Model 2160 is a set of two shot clocks and will therefore require two ScoreLink receivers (in addition to one transmitter) for complete elimination of data cables.

3. Carrying Case For Control Console: Included with the ScoreLink system, this option is also available for scoreboards with hard-wired data cables.

2.04 FINISH

- A. Standard scoreboard faces are coated with low gloss black polyester resin paint for maximum contrast and resistance to scratches.
- B. Scoreboard framing and back are mill-finished aluminum.

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.

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 scoreboards to control console location.
- 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 scoreboards, junction box (or boxes), and accessories with customer.
- F. Test scoreboards and control console by attaching units to power and plugging console output into scoreboard data input prior to hanging cabinets.

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 scoreboards from power when not in use.
 4. Label scoreboard data cable junction boxes and all connectors near junction boxes, scoreboards, and accessories so that public address systems and other devices with similar connections are not accidentally plugged into the scoreboards.
- B. Avoid loss or damage of control console, extension cable, and other accessories by storing when not in use.

END OF SECTION