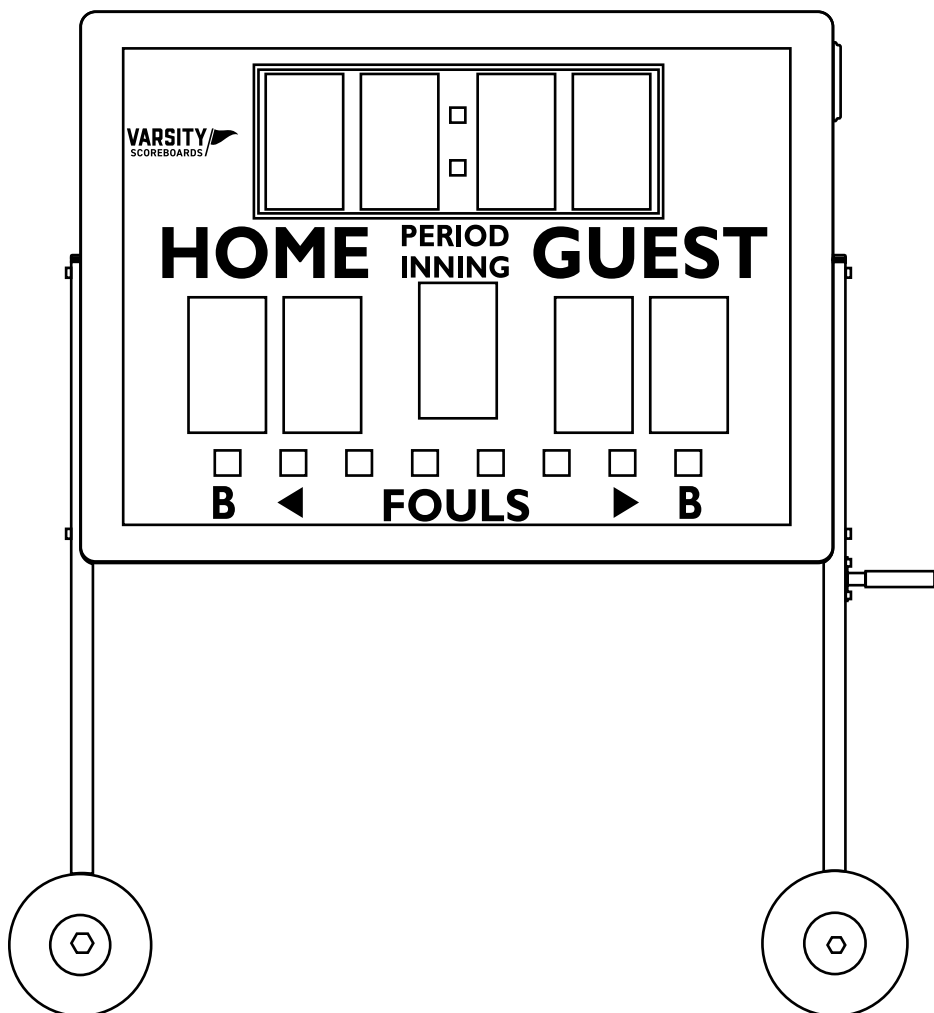# MODEL MS4

Installation & Operation Manual

MODEL MS4 INSTALLATION

WARRANTY

This product is warrantied against defects in materials and workmanship for the period specified in the warranty from the date of invoice.
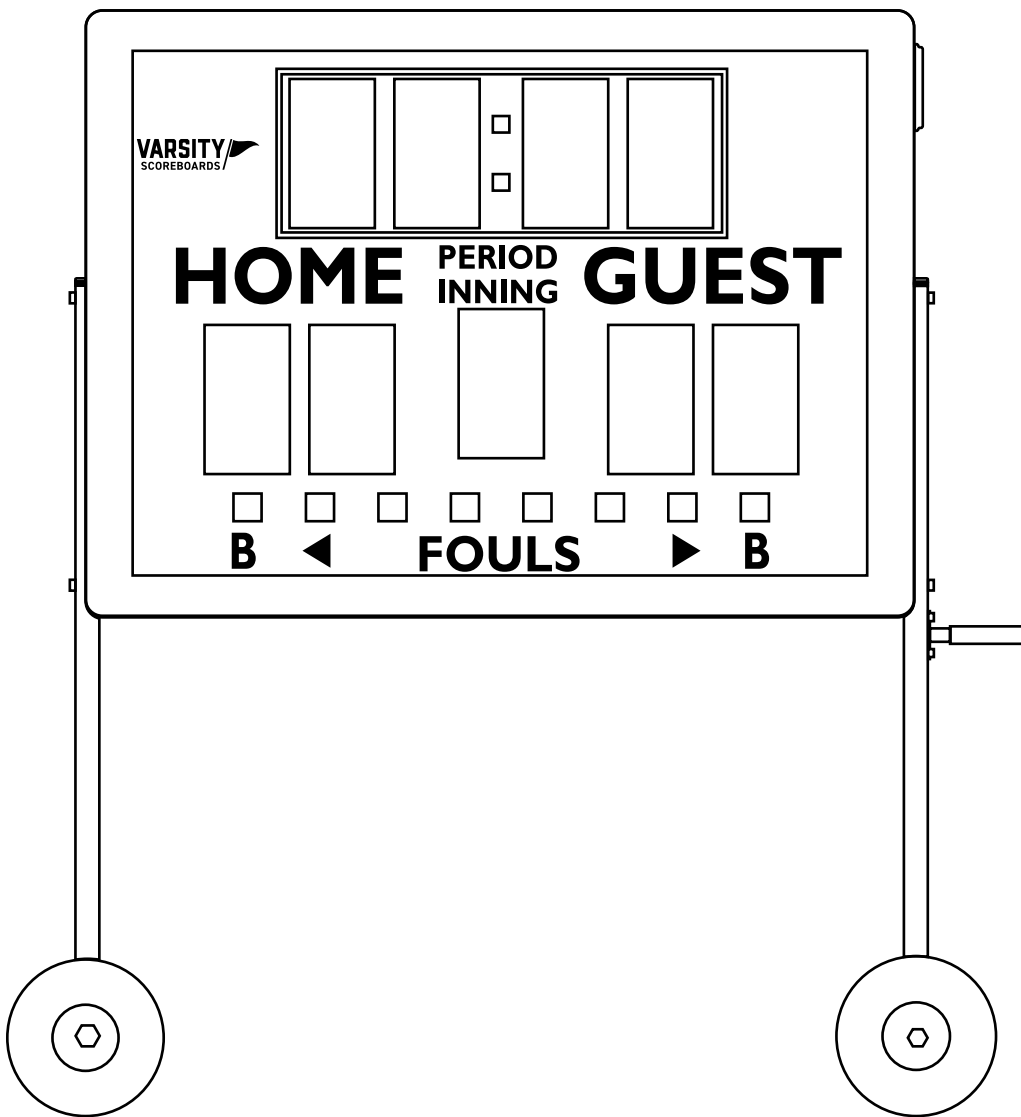
SERVICE

Technical support is available 24 hours a day, 7 days a week.
1-800-411-3136

https://www.varsityscoreboards.com/support/contact-support.html
(link to fill out support request on website)

A NOTE TO INSTALLERS

If you are installing this scoreboard for a client, please return the manual to the individual in charge of the scoreboard upon completion of installation.

SCOREBOARD DIMENSIONS

52" wide x 38" tall x 8" deep
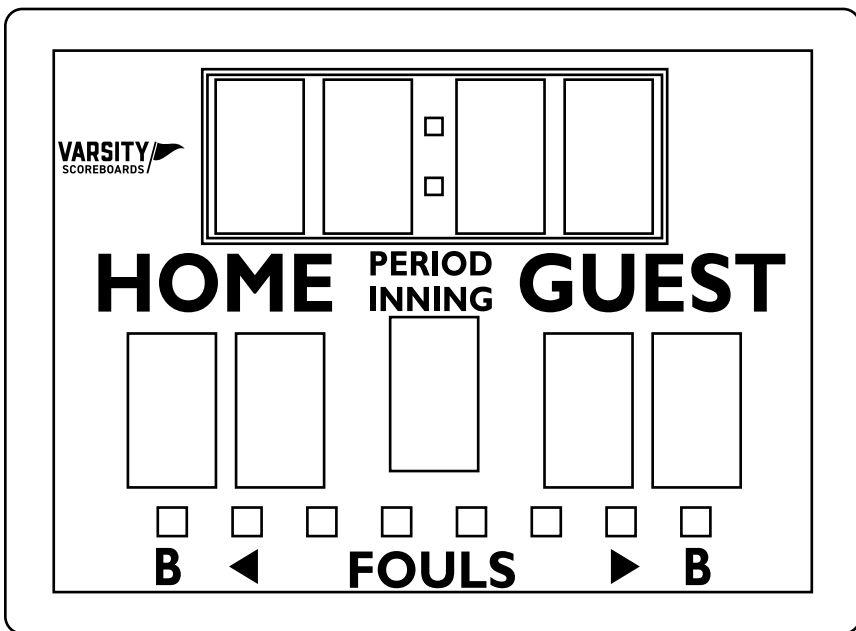
TABLE OF CONTENTS /

MODEL MS4 INSTALLATION

Please inspect all shipping containers upon arrival for damage and ensure that you have all of the parts listed below:
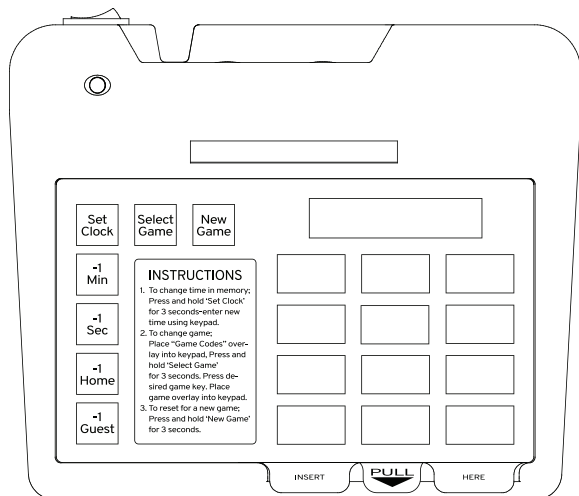
ITEMS IN
LARGE PACKAGE(S)

(1) 52" x 38" Multisport Scoreboard
Shipped in (1) section

ITEMS IN ACCESSORY BAG

(1) Handheld controller with keypad insert

(1) 10vAC/3A wall transformer

(1) 5-Pin DIN Cable
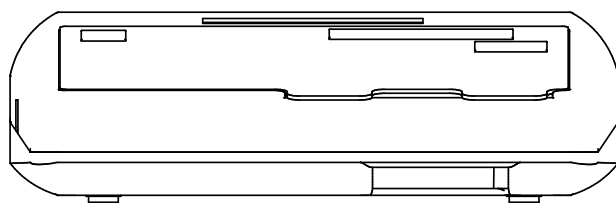
(1) Keypad insert set

(1) Leg assembly

INSTRUCTIONS FOR REPORTING SHIPPING DAMAGE

1 /

Note "DAMAGED" on the Delivery Receipt Form, including details of the type of damage to the freight and packaging.

2 /

Ask the delivery driver to call the local terminal and report immediately.

3 /

Contact Varsity Scoreboards immediately while the delivery driver is still present to report the damage

A. Phone number
B. Email

Shipping damage **must** be noted at the time of delivery. The shipper is **not responsible** for shipments that aren't sighted for as damaged upon arrival. The shipper is responsible for filing a claim, unless shipped 3rd party.

INSTALLATION OVERVIEW

BEFORE OPERATING

1 /

Review the product specifications below to determine your specific installation hardware.

2 /

Mount scoreboard to leg assembly

3 /

Run and connect electrical service to the scoreboard.

4 /

Test the installed system.

PRODUCT SPECIFICATIONS

OVERALL DIMENSIONS

52" W x 38" H x 8" D - shipped in one (1) section

WEIGHT

Hanging weight = approximately 90 lbs
Shipping weight = approximately 125 lbs

INSTALLATION RECOMMENDATIONS

Check local code for requirements. Anchors, bolts, chains, cables and related hardware must meet minimum weight requirements.

POWER REQUIREMENTS

The scoreboard is equipped to operate on a 110-volt external AC power, using the supplied 10-volt wall transformer.

The handheld controller is powered from the scoreboard when connected directly to it.

LEG ASSEMBLY INSTALLATION

1 (1) Pipe Handle 1/2" x 6"

2 (2) Leg Welded Assembly

3 (4) Bushing Reducer 1/2" Axle 5/8" OD X 2"

4 (1) Handle grip

5 (2) Tube Cap 1.5"

6 (2) Washer 1/4" Split Lock
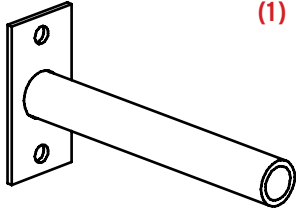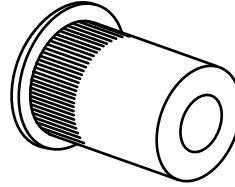
7 (4) RIVNUT 1/4-20 GRP.027-1.65 RIB
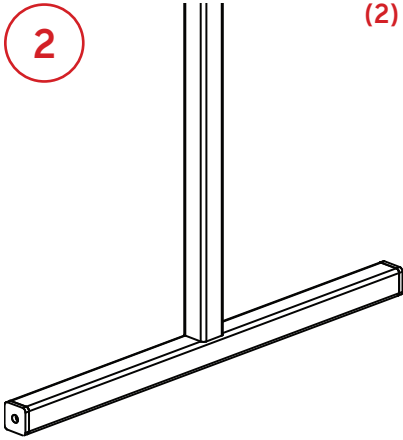
8 (2) Bolt 1/4-20 X 1 GR 5 Zinc Hex

9 (4) Washer 3/8" Split Lock
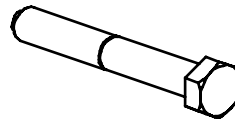
10 (4) Bolt 3/8-16X2-1/2 Zinc Hex
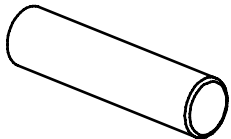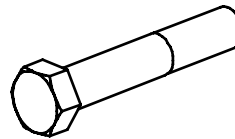
11 (4) Bolt 1/2-13UNC X 3"
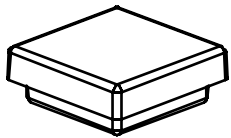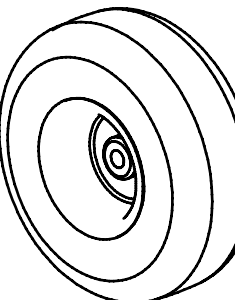
12 (4) Wheel Pneumatic 10" 5/8" Bore

LEG ASSEMBLY INSTALLATION

1 /

Attach the 8" wheels to the leg that has the factory-installed threated wheel inserts. Use the provided 1/2' hardware to do so. See image below.
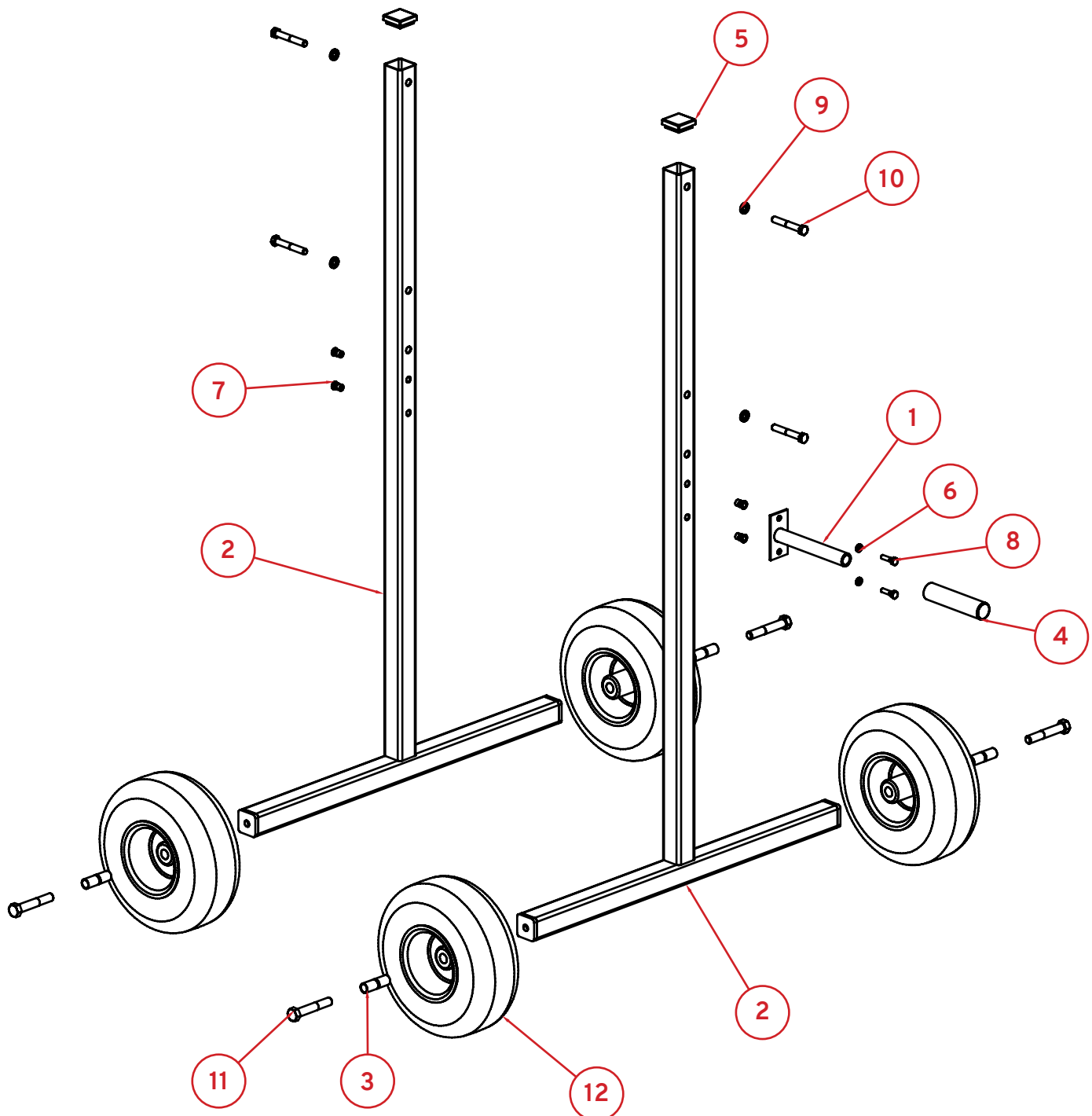
LEG ASSEMBLY INSTALLATION

2 /

Attach the legs to the MS-4 cabinet using the provided 3/8" hardware.

LEG

3/8-16UNC X 2-1/2" BOLTS, WASHERS

HANDLE

1/4-20UNC X 1" BOLTS, WASHERS

WHEEL

1/2" BUSHING

1/2-13UNC X 3" BOLTS
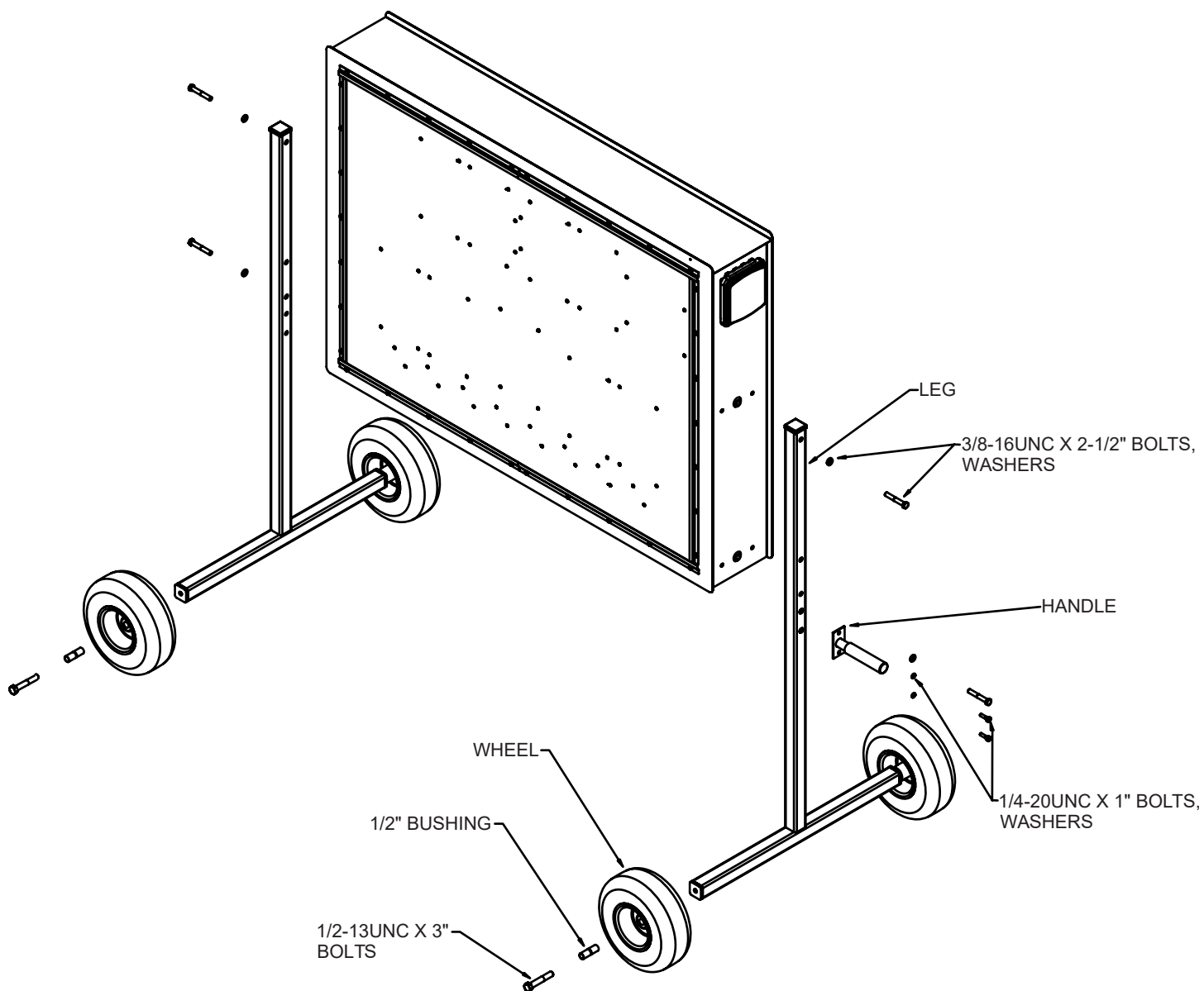
POWERING THE MS4

1 /

NOTE: The scoreboard is equipped to operate on a 110-volt external AC power, or rechargeable external battery power, using the supplied 10-volt wall transformer. Some units are additionally equipped with an internal rechargeable battery.

To power the scoreboard using the AC adapter, plug one end into the receptacle on the unit's switch plate labeled "AC POWER." Then plug the other end into a 120-volt, 60Hz, grounded AC outlet.

⚠️ **WARNING:** The 10-volt wall transformer can NOT be plugged into the handheld controller. The provided 10-Volt wall transformer is meant for use with the Scoreboard ONLY.

2 /

To turn the scoreboard ON, move the unit's power switch to the "AC/INT/EXT BATT" position. This position is used to power the board with the external power, internal battery power, or external battery power options.

3 /

To turn the scoreboard OFF, slide the switch to the "OFF" position. The handheld controller is powered from the display through the controller cable.

⚠️ **WARNING:** When using the cable option with the factory provided components, AA batteries can NOT be placed in the controller. Doing so will cause the device to receive too much power and damage the controller.

CHARGING THE INTERNAL AND EXTERNAL BATTERY (OPTIONAL)

The scoreboard's internal battery is charged whenever the AC wall adapter is connected to the scoreboard and plugged into a live AC outlet. This battery will be charged in the "ON" and the "OFF" positions. The built-in charger is completely automatic and will not overcharge your battery, making it safe to leave the timer plugged in when not in use.

The optional external battery is charged when the charging adapter is plugged into a live AC outlet. This is also safe to leave plugged in when not in use.

CONTROLLER DEFINITIONS

THE BACK
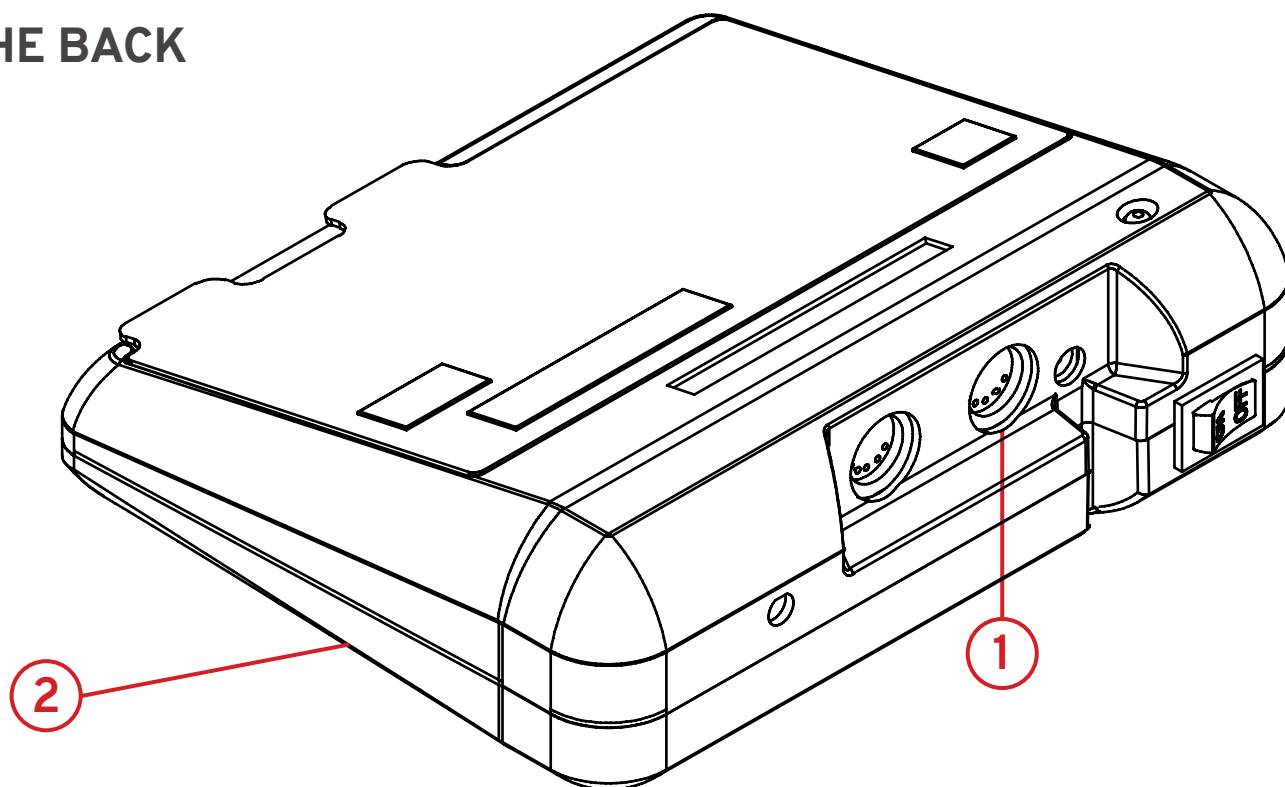
1 / DIN Socket

For DIN cables.

2 / Battery Access Panel

Uses 4 AA Batteries. Batteries are not rechargeable. With cable options, do not place batteries in the controller.

COMMUNICATION

CABLE: Connect the provided 5-pin DIN cable to the handheld controller and then to the provided junction box cover plate assembly.

WARNING: When using the cable option with the factory provided components, AA batteries can NOT be placed in the controller. Doing so will cause the device to receive too much power and damage the controller.

GETTING STARTED

CHANGING GAME MODES

Since this scoreboard is designed to score several different sports, it has several different modes- one for each sport that it is capable of scoring. Each game mode also has a corresponding keypad insert that helps the operator identify which keys to press for which function. When the scoreboard is first turned ON, a number appears briefly in the "HOME" score display. This number tells the operator what game mode the scoreboard is in. The number that appears corresponds directly to the sport's number as appears on the "GAME CODES" keypad insert. To change game modes:

1 /

Insert the "GAME CODES" insert into the handheld controller keypad.

2 /

Press and hold the "SELECT GAME" key for three seconds.

3 /

When the unit's display clears, press the key for the sport you want to score. The corresponding number for the sport you selected will appear briefly in the scoreboard's "HOME" score display. When the "HOME" score display returns to "0," the unit is ready to score the selected sport.

BASIC KEYPAD FUNCTIONS

SETTING THE CLOCK

1 /

Press and hold the "SET CLOCK" key for three seconds.

2 /

After the clock's display clears, use the number keys to enter the desired period time in a four-digit format. Example: to enter a period time of 8:00, press "0, 8, 0, 0." To enter a period time of 12:00, press "1, 2, 0, 0."

NOTE: This time will remain in the scoreboard's memory until it is changed using the same procedure.

OPERATING THE CLOCK

Press the "START/STOP CLOCK" key to start the clock, press the "START/STOP CLOCK" key again to stop the clock.

NOTE: When the clock expires, the horn will automatically sound and the clock will reset to the user-preset time.

SOUNDING THE HORN

The horn will sound automatically whenever the clock expires. To sound the horn manually at any time, press the "HORN" key (located at the top of the keypad).

RESETTING THE SCOREBOARD (NEW GAME)

To reset the scoreboard for a new game, press and hold the "NEW GAME" key for three seconds.

BASKETBALL OPERATION

GETTING STARTED

Put the scoreboard into "BASKETBALL" mode. Make sure the "BASKETBALL" keypad insert is in the controller.

HOME AND GUEST SCORING

HOME SCORE

To add one to "HOME," press the "HOME SCORE" key once. To subtract one from "HOME," press the "-1 HOME" key once.

GUEST SCORE

To add one to "GUEST," press the "GUEST SCORE" key once. To subtract one from "GUEST," press the "-1 GUEST" key once.

PERIOD, BONUSES, POSSESSION, FOULS

PERIOD

The "PERIOD" will automatically increase when the clock expires at the end of each period. To manually increase the "PERIOD" at any time, press the "PERIOD" key. To decrease the "PERIOD" at any time, press the "COUNT DOWN" key quickly followed by the "PERIOD" key.

BONUS

To display the "HOME" bonus, press the "HOME BONUS" key. To display the "GUEST" bonus, press the "GUEST BONUS" key. To clear both the "HOME" and "GUEST" bonus, press the "BONUS CLEAR" key.

POSSESSION

To change the "POSSESSION," press the "POSS. CHANGE" key once.

FOULS

To increase "PLAYER FOULS," press the "PLAYER FOULS" key.

CLOCK OPERATION

To add minutes to the clock, stop the clock by pressing the "START/STOP CLOCK" key, then press the "MINUTES" key once for each minute you want to add to the clock. To subtract one minute from the clock, press the "-1 MIN" key once for each minute you want to subtract from the clock.

To add seconds to the clock, stop the clock by pressing the "START/STOP CLOCK" key, then press the "SECONDS" key once for each second you want to add to the clock. To subtract one second from the clock, press the "-1 SEC" key once for each second you want to subtract from the clock.

FOOTBALL OPERATION

GETTING STARTED

Put the scoreboard into "FOOTBALL" mode. Make sure the "FOOTBALL" keypad insert is in the controller.

HOME AND GUEST SCORING

HOME SCORE

To add one to "HOME," press the "HOME SCORE" key once. To subtract one from "HOME," press the "-1 HOME" key once.

GUEST SCORE

To add one to "GUEST," press the "GUEST SCORE" key once. To subtract one from "GUEST," press the "-1 GUEST" key once.

PERIOD, POSSESSION, DOWNS

PERIOD

The "PERIOD" will automatically increase when the clock expires at the end of each period. To manually increase the "PERIOD" at any time, press the "PERIOD" key. To decrease the "PERIOD" at any time, press the "COUNT DOWN" key quickly followed by the "PERIOD" key.

DOWNS

To increase "DOWN," press the "DOWN" key. To display "FIRST DOWN," press the "FIRST DOWN" key.

POSSESSION

To change the "POSSESSION," press the "POSS. CHANGE" key once.

CLOCK OPERATION

To add minutes to the clock, stop the clock by pressing the "START/STOP CLOCK" key, then press the "MINUTES" key once for each minute you want to add to the clock. To subtract one minute from the clock, press the "-1 MIN" key once for each minute you want to subtract from the clock.

To add seconds to the clock, stop the clock by pressing the "START/STOP CLOCK" key, then press the "SECONDS" key once for each second you want to add to the clock. To subtract one second from the clock, press the "-1 SEC" key once for each second you want to subtract from the clock.

BASEBALL / SOFTBALL OPERATION

GETTING STARTED

Put the scoreboard into "SOFTBALL" or "BASEBALL" mode. Make sure the appropriate "SOFTBALL" or "BASEBALL" keypad insert is in the handheld controller.

NOTE: "SOFTBALL" mode has the same functions as "BASEBALL" mode, with a four-digit clock. In "SOFTBALL" mode, the clock counts down in minutes only until it reaches two minutes. For instructions on setting the game clock, please see "Setting the Game Clock"

HOME AND GUEST SCORING

HOME SCORE

To add one to "HOME," press the "HOME SCORE" key once. To subtract one from "HOME," press the "-1 HOME" key once.

GUEST SCORE

To add one to "GUEST," press the "GUEST SCORE" key once. To subtract one from "GUEST," press the "-1 GUEST" key once.

INNING, BALLS, STRIKES, OUTS, HITS, ERRORS

INNING

To increase "INNING," press the "INNING" key. To decrease "INNING," press the "EDIT" key quickly followed by the "INNING" key.

STRIKES

To increase "STRIKES," press the "STRIKES" key. After two strikes, "OUTS" automatically increases.

NEW BATTER

To clear "BALLS" and "STRIKES" for the next batter, press the "NEW BATTER" key.

BALLS

To increase "BALLS," press the "BALLS" key.

OUTS

To increase "OUTS," press the "OUTS" key.

ERRORS

To display an "ERROR," press the "H/E" key twice.

HITS

To display a "HIT," press the "H/E" key once.

CLOCK OPERATION

To add minutes to the clock, stop the clock by pressing the "START/STOP CLOCK" key, then press the "MINUTES" key once for each minute you want to add to the clock. To subtract one minute from the clock, press the "-1 MIN" key once for each minute you want to subtract from the clock.

To add seconds to the clock, stop the clock by pressing the "START/STOP CLOCK" key, then press the "SECONDS" key once for each second you want to add to the clock. To subtract one second from the clock, press the "-1 SEC" key once for each second you want to subtract from the clock.

SOCCER OPERATION

GETTING STARTED

Put the scoreboard into "SOCCER" mode. Make sure the "SOCCER" keypad insert is in the controller.

NOTE: This scoring mode and insert can also be used for "HOCKEY/F. HOCKEY" and "WATER POLO."

HOME AND GUEST SCORING

HOME SCORE

To add one to "HOME," press the "HOME SCORE" key once. To subtract one from "HOME," press the "-1 HOME" key once.

GUEST SCORE

To add one to "GUEST," press the "GUEST SCORE" key once. To subtract one from "GUEST," press the "-1 GUEST" key once.

PERIOD, GOALS

PERIOD

The "PERIOD" will automatically increase when the clock expires at the end of each period. To manually increase the "PERIOD" at any time, press the "PERIOD" key.

GOALS

To display a "GOAL" for the "HOME" team, press the "HOME GOAL" key. To display a "GOAL" for the "GUEST" team, press the "GUEST GOAL" key.

CLOCK OPERATION

To add minutes to the clock, stop the clock by pressing the "START/STOP CLOCK" key, then press the "MINUTES" key once for each minute you want to add to the clock. To subtract one minute from the clock, press the "-1 MIN" key once for each minute you want to subtract from the clock.

To add seconds to the clock, stop the clock by pressing the "START/STOP CLOCK" key, then press the "SECONDS" key once for each second you want to add to the clock. To subtract one second from the clock, press the "-1 SEC" key once for each second you want to subtract from the clock.

VOLLEYBALL OPERATION

GETTING STARTED

Put the scoreboard into "VOLLEYBALL" mode. Make sure the "VOLLEYBALL" keypad insert is in the controller.

HOME AND GUEST SCORING

HOME SCORE

To add one to "HOME," press the "HOME SCORE" key once. To subtract one from "HOME," press the "-1 HOME" key once.

GUEST SCORE

To add one to "GUEST," press the "GUEST SCORE" key once. To subtract one from "GUEST," press the "-1 GUEST" key once.

GAMES WON, GAME, POSS/SERVER, GAME SCORE, MATCH SCORE

GAMES WON

To add one to "HOME GAMES WON," press the "HOME GAMES WON" key once. To subtract one from the "HOME GAMES WON," press the "COUNT DOWN" key quickly followed by the "HOME GAMES WON" key.

To add one to the "GUEST GAMES WON," press the "GUEST GAMES WON" key once. To subtract one from the "GUEST GAMES WON," press the "COUNT DOWN" key quickly followed by the "GUEST GAMES WON" key.

MATCH SCORE

To reset the "MATCH SCORE," press the "MATCH SCORE RESET" key.

GAME

To add one to "GAME," press the "GAME" key. To subtract one from "GAME," press the "COUNT DOWN" key quickly followed by the "GAME" key.

POSSESSION/SERVER

To change the "POSSESSION/SERVER," press the "POSS. CHANGE" key once.

GAME SCORE

To reset the "GAME SCORE," press the "GAME SCORE RESET" key. "GAME" will automatically increase when the "GAME SCORE RESET" key is pressed.

CLOCK OPERATION

To add minutes to the clock, stop the clock by pressing the "START/STOP CLOCK" key, then press the "MINUTES" key once for each minute you want to add to the clock. To subtract one minute from the clock, press the "-1 MIN" key once for each minute you want to subtract from the clock.

To add seconds to the clock, stop the clock by pressing the "START/STOP CLOCK" key, then press the "SECONDS" key once for each second you want to add to the clock. To subtract one second from the clock, press the "-1 SEC" key once for each second you want to subtract from the clock.

WRESTLING OPERATION

GETTING STARTED

Put the scoreboard into "WRESTLING" mode. Make sure the "WRESTLING" keypad insert is in the controller.

HOME AND GUEST MATCH SCORING

HOME MATCH SCORE

To add one to "HOME MATCH SCORE," press the "HOME MATCH SCORE" key once. To subtract one from "HOME MATCH SCORE," press the "COUNT DOWN" key quickly followed by the "HOME MATCH SCORE" key.

GUEST MATCH SCORE

To add one to "GUEST MATCH SCORE," press the "GUEST MATCH SCORE" key once. To subtract one from "GUEST," press the press the "COUNT DOWN" key quickly followed by the "GUEST MATCH SCORE" key.

MATCH SCORE RESET

To clear the "HOME MATCH SCORE" and "GUEST MATCH SCORE," press the "CLEAR" key.

PERIOD, MATCH RESET

PERIOD

The "PERIOD" will automatically increase when the clock expires at the end of each period. To manually increase the "PERIOD" at any time, press the "PERIOD" key.

MATCH RESET

To reset for a new match, press the "COUNT DOWN" key quickly followed by the "CLEAR" key.

CLOCK OPERATION

To add minutes to the clock, stop the clock by pressing the "START/STOP CLOCK" key, then press the "MINUTES" key once for each minute you want to add to the clock. To subtract one minute from the clock, press the "-1 MIN" key once for each minute you want to subtract from the clock.

To add seconds to the clock, stop the clock by pressing the "START/STOP CLOCK" key, then press the "SECONDS" key once for each second you want to add to the clock. To subtract one second from the clock, press the "-1 SEC" key once for each second you want to subtract from the clock.

TENNIS OPERATION

GETTING STARTED

Put the scoreboard into "TENNIS" mode. Make sure the "TENNIS" keypad insert is in the controller.

LEFT AND RIGHT GAME SCORE

LEFT GAME SCORE

To increase the "LEFT GAME SCORE," press the "LEFT GAME SCORE" key once. The score will automatically increase from "0" to "15," to "30," to "40," and into tie-breakers.

To subtract one from the "LEFT GAME SCORE," press the "COUNT DOWN" key quickly followed by the "LEFT GAME SCORE" key.

RIGHT GAME SCORE

To increase the "RIGHT GAME SCORE," press the "RIGHT GAME SCORE" key once. The score will automatically increase from "0" to "15," to "30," to "40," and into tie-breakers.

To subtract one from the "RIGHT GAME SCORE," press the "COUNT DOWN" key quickly followed by the "RIGHT GAME SCORE" key.

SET, SET SCORES

LEFT SET SCORE

To increase the "LEFT SET SCORE," press the "LEFT SET SCORE" key once. To subtract one from the "LEFT SET SCORE," press the "COUNT DOWN" key quickly followed by the "LEFT SET SCORE" key.

RIGHT SET SCORE

To increase the "RIGHT SET SCORE," press the "RIGHT SET SCORE" key once. To subtract one from the "RIGHT SET SCORE," press the "COUNT DOWN" key quickly followed by the "RIGHT SET SCORE" key.

SET

To increase the "SET" of the game by one, press the "SET" key once.

SERVE, ADVANTAGE, DEUCES, GAME/SET SCORE RESET

SERVING

To indicate who is "SERVING," press the "SERVING" key.

GAME SCORE RESET

To reset both "LEFT GAME SCORE" and "RIGHT GAME SCORE," press the "GAME SCORE RESET."

DEUCE

To indicate a "DEUCE," press the "DEUCE" key.

ADVANTAGE

To indicate "LEFT" or "RIGHT ADVANTAGE," press the "ADVANTAGE" key.

SET SCORE RESET

To reset both "LEFT SET SCORE" and "RIGHT SET SCORE," press the "SET SCORE RESET."

NOTE: The horn will automatically sound whenever the clock expires.

TRACK / COUNT-UP OPERATION

GETTING STARTED

Put the scoreboard into "TRACK" mode. Make sure the "TRACK" keypad insert is in the controller.

NOTE: In "TRACK (COUNT UP)" mode, when the clock is started the time will be display in minutes and seconds. The 1/10's and 1/100's of a second will be blanked out until the clock is stopped, at which time the 1/10's and 1/100's of a second will be display in the "GUEST SCORE" display.

TRACK CLOCK OPERATION

STARTING / STOPPING THE CLOCK

To start the clock, press the "START/STOP CLOCK" key. To stop the clock, press the "START/STOP CLOCK" key.

LAPS / LAP TIME

To view the "LAP TIME" while allowing the clock to continue counting internally, press the "START/STOP LAP" key. To return the clock to counting, press the "START/STOP LAP" key again.

To increase the "LAP" indicators, press the "LAPS" key.

OFFICIAL TIME / TIME ADJUSTMENT

With the clock stopped, the "1/100" key may be used to adjust the clock in order to display the official time. The clock will be increased by 1/100 of a second each time the "1/100 TIME" key is pressed.

To subtract 1/100 of a second from the clock, stop the clock by pressing the "START/STOP CLOCK" key, then press the "COUNT DOWN" key quickly followed by the "1/100" key.

TIMED WORKOUT OPERATION

GETTING STARTED

Put the scoreboard into "TRACK" mode. Make sure the "TRACK" keypad insert is in the controller.

NOTE: In "TIMED WORKOUT" mode, the clock will count up to or down from a user-preset time while displaying the current cycle number (up to 8 cycles). When the clock expires, the horn will sound, the cycle indicator will increase by one, and the clock will reset and immediately begin counting again.

WORKOUT CLOCK OPERATION

COUNTING UP / COUNTING DOWN

To start the clock "COUNTING UP," press the "START/STOP CLOCK" key. The clock will count up from "00:00" to the user-preset time.

To start the clock "COUNTING DOWN," press the "COUNT DOWN" key quickly followed by the "START/STOP CLOCK" key. The clock will count down from the user-preset time to "00:00."

To make the clock count up again, stop the clock by pressing the "START/STOP CLOCK" key and then start the clock again by pressing the "START/STOP CLOCK" key.

START/STOP THE CLOCK

To stop the clock, press the "START/STOP CLOCK" key.

CLOCK RESET

To reset the clock, press the "COUNT DOWN" key quickly followed by the "RESET" key.

TIME OF DAY OPERATION

GETTING STARTED

In "TIME OF DAY" mode, the scoreboard's clock displays the time of day in hours and minutes. The scoreboard can be placed in "TIME OF DAY" mode from any other game mode as long as the clock is stopped.

SETTING THE CLOCK

1 /

Press "COUNTDOWN" quickly followed by the "HORN" key (located at the top of the keypad).

2 /

After the clock blanks out, use the number keys to enter the time of day in a 12-Hour clock format. For example, to enter a time of "9:30," press "COUNT DOWN" quickly followed by "HORN" quickly followed by "0, 9, 3, 0." To enter a time of "12:15," press "COUNT DOWN" quickly followed by "HORN" quickly followed by "1, 2, 1, 5."

STARTING THE CLOCK

1 /

To start the clock in "TIME OF DAY" mode, press the "COUNT DOWN" key quickly followed by the key to its right (the lower right-hand corner of the keypad).

2 /

To return to game mode, press the "COUNT DOWN" key quickly followed by the key to its left (the lower left-hand corner of the keypad).

MS4 STORAGE

POWER AND STORAGE

Turn the "POWER" switch on both the scoreboard and controller "OFF." Disconnect the cable controllers from the scoreboard. Failure to do so may result in discharged batteries in both the scoreboard and controller.

If the scoreboard is equipped with an internal battery and an automatic battery charger, always leave the unit plugged in to an AC power source whenever the unit is not in use.

SPONSOR PANEL INSTALLATION

OPTIONAL SPONSOR PANEL INSTALLATION

Below are some diagrams showing how the optional sponsor panel is installed between the leg assembly with provided self-tapping screws.

(3) TEK SCREWS
EACH LEG

A

DETAIL A
SCALE 1 / 4

VARSITY/
SCOREBOARDS