



Owner's Handbook
CX-Series MP Control Console for
Line-Score with 4-D Clock
Software Version 4.0.2

Type
LINESCORE5

Options
0000

Version
CXvF / CX_402_v1.HEX

The above information
should match the label
on the bottom of your
control console.



The purpose of this handbook is to explain how to use and maintain the Electro-Mech MP-Style scoreboard control console for line-score baseball. The explanations and examples are based on the CX-Series console driver hardware loaded with software version 4.0.2. Earlier versions of our hardware and software behave similarly, but not identically in all situations.

Scoreboards supported by this combination of hardware and software include these Electro-Mech models **LX1634, LX1714, LX1734, LX1744, LX1754, and LX1784.**

Although this is not the standard console configuration for the following scoreboards models, they are also supported:

LX1440	LX1700	LX1730	LX1750	1440	1730
LX1480	LX1710	LX1733	LX1753	1480	1737
LX1620	LX1713	LX1737	LX1780	1520	1750
LX1630	LX1717	LX1740	LX1783	1530	1753
LX1633	LX1720	LX1747		1550	1780
LX1637				1580	MP-150
				1720	MP-158

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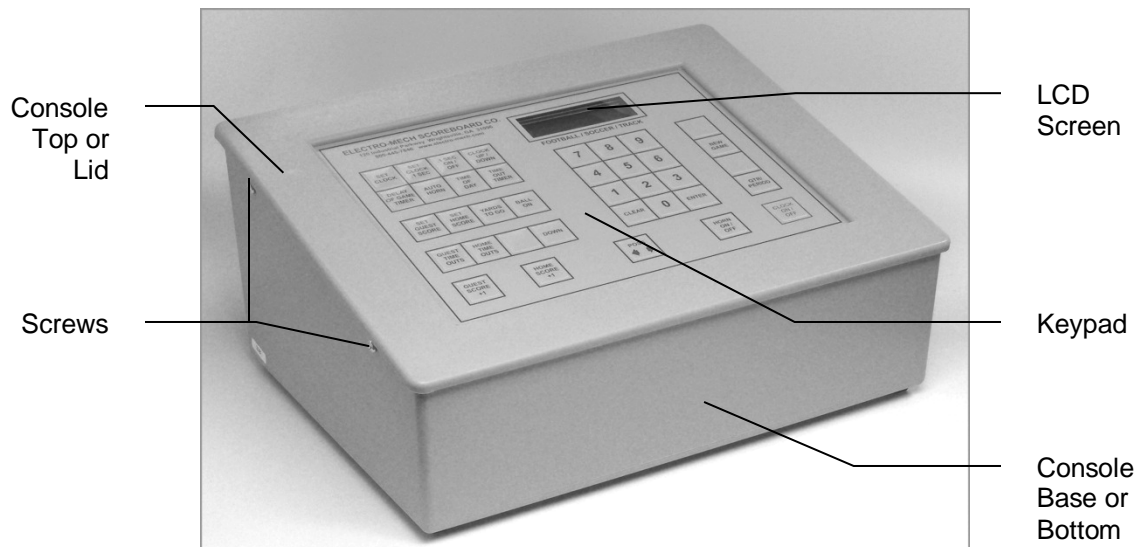
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Seven Ways to Stay Safe and Make Your Console Last Longer

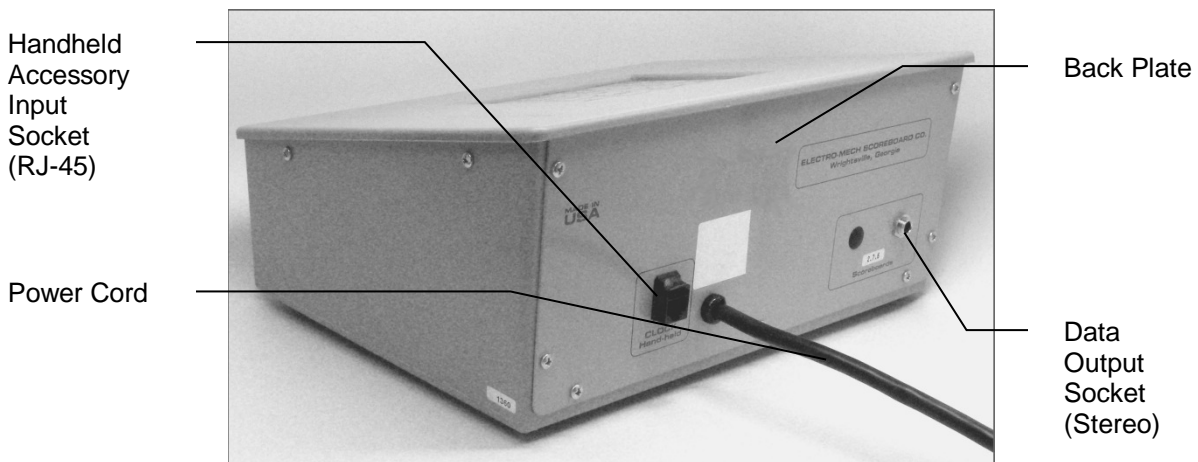
- 1 - Don't remove the grounding pin from the power cord.** It's there to help keep you from getting shocked. If your receptacle only handles two-pronged power cords then your wiring was probably installed sometime before President Hoover left office. It's time to upgrade.
- 2 - Keep your console dry.** We've designed our consoles with outdoor activities in mind, but find some shelter if it is raining. The box is not waterproof. Drinks spilled over the keypad can lead to trouble too.
- 3 - Unplug both the power and data cables when you are not using the console.** Noise over these cables -- either from lightning, glitches in the power line, or some other accident -- can damage the console. Leaving the console connected 24-7 just increases your risk of getting it fried.
- 4 - Store the console in a clean, dry, secure area.** Leave it where somebody can kick it, drop it, pile stuff on top of it, or steal it, and you can expect your console will get kicked, dropped, piled on, and stolen. See also the "keep your console dry" tip above. Neither sprinkler systems nor natural sources of precipitation are beneficial to your control console.
- 5 - If you must open the console box, unplug the power and data cables.** Yes, it is possible to get shocked if you go poking around inside the console.
- 6 - Don't plug something into the console that doesn't belong there.** The stereo connector in the back plate of the console is the same kind used by audio equipment. The RJ-45 connector for the hand-held clock switch is the same type you often see in wired computer networks. Accidentally plugging an audio amplifier or Ethernet access point into your scoreboard control console can cause problems - both to your console and to your audio and networking equipment. A common mistake we see our customers make is to accidentally plug public address equipment into the junction box that leads to the scoreboard. This often fries components in the scoreboard.
- 7 - Check out your equipment before game day.** We're always happy to answer questions, walk you through solutions, repair damage, or send replacement parts. But if your game starts in ten minutes, there is often not much we can do to help you. Make sure your scoreboard is in good working order a few days before the game so that, however unlikely the chance of a problem, there will be time to solve it.

Console Parts and Accessories

This is a generic set of photos identifying parts of the console and accessories. You should receive a packing slip or other paperwork with your order that tells specifically what parts you are supposed to have. Your configuration may be different.



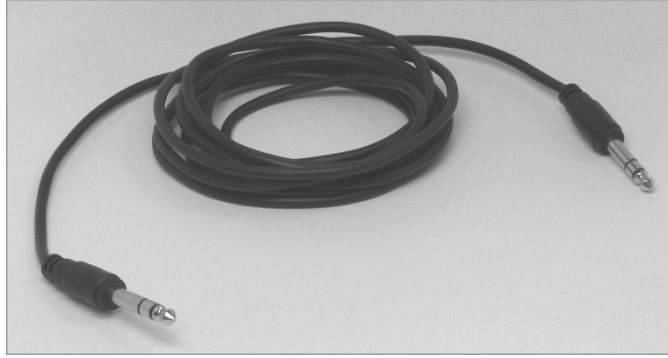
Console Front View



Console Rear View



Handheld Clock
Start / Stop Switch



Stereo Data Cable



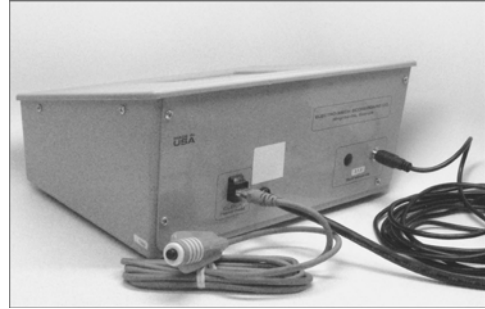
Junction Box (with coil of data cable)



ScoreLink Transmitter

Hooking Up and Powering Up the Console and Accessories

- 1 - Apply power to the scoreboard.
- 2 - Place the console on a sturdy desk or table so that you have a clear view of the game's action as well as the console's keypad and LCD screen. You may hold the console in your lap, if you find it comfortable that way.
- 3 - Attach hand-held devices. You may have an external switch to start and stop the Game Clock on the scoreboard. This corded switch plugs into the RJ-45 style socket on the back of the console.
- 4 - Attach one end of the stereo data cable to the data output connector on the back plate of the console.
- 5 - Attach the other end of the stereo data cable to the junction box. If you have the ScoreLink wireless RF system, refer to the ScoreLink owner's handbook for details.
- 6 - Plug in the console power cable to a standard electrical outlet.



About one out of every few hundred customers asks us the question, "How do you turn the console on and off?" There is no power button on the console. If it's plugged in, it's on. The logic here is that, for most installations, the scoreboard is not used very often. During the down time, the console needs to be disconnected from the scoreboard and from power to prevent damage from line noise and power surges. A power switch would discourage that good habit and provide a false sense of security.

Likewise, the scoreboard should be disconnected from power when not in use. Therefore the console has no means of turning the scoreboard on or off. However, a freshly powered on scoreboard will display no information until it receives a good signal from the control console. So in order to "turn on" the scoreboard display, you have to power up and connect the control console.

Control Console Initialization

Be quick. You only have about three seconds to see the splash screen when your console powers up. It should look like this:

ELECTRO-MECH 402
LINESCORE5 0000

The splash screen is telling you four things:

The software author -- ELECTRO-MECH

The software version -- 402

The selected scoreboard type -- LINESCORE5

The selected option jumpers -- none (supports a 4-digit Game Clock)

This information is important for diagnostics, and you can get back to this splash screen by pressing [NEW GAME] [1] [ENTER] on the keypad. If you see something different on your display, either this is the wrong owner's handbook for you or your console is not configured to the expected standard.

If your console has data from the previous game, you will be prompted to restore that data. Press [1] [ENTER] to reload the old Scores and other information. Press [0] [ENTER] to clear out memory and start over fresh. If you do not respond to this prompt, the console will restore the previous game data automatically after a few seconds.

RESTORE GAME?
1=YES 0=NO <1>

After the splash screen clears, you will see the main scoreboard information screen:

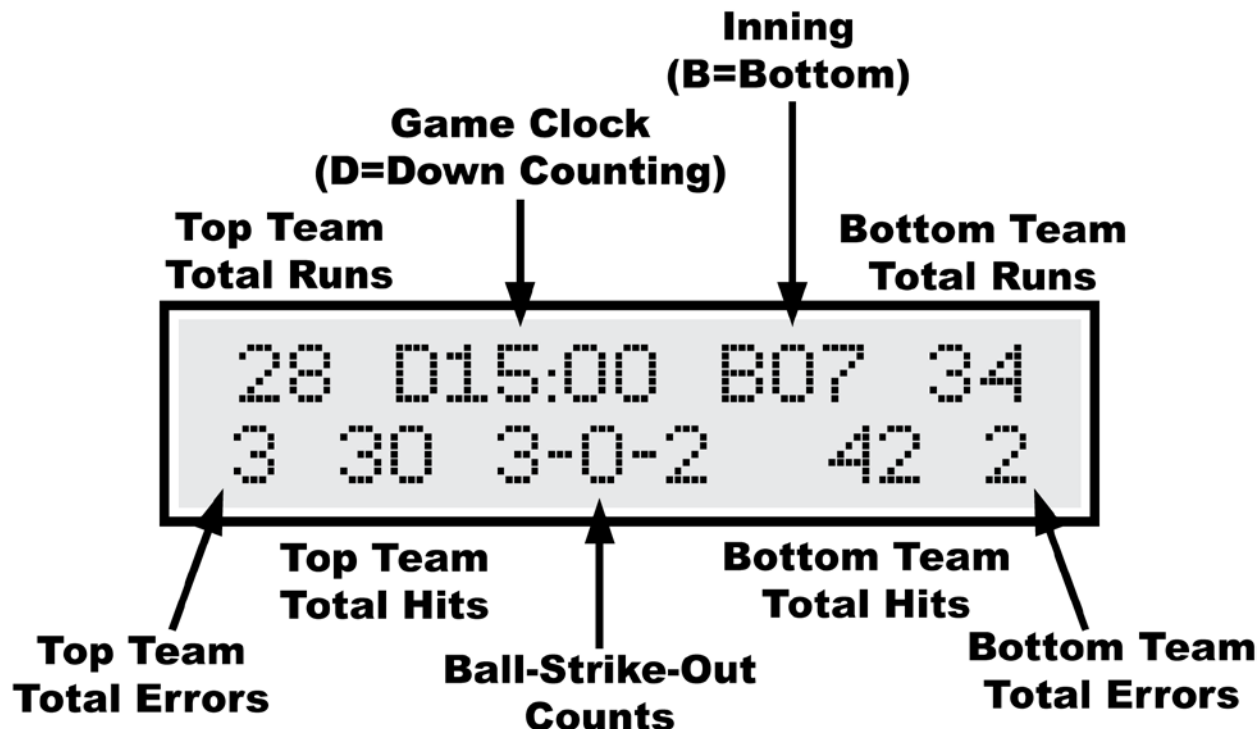
00	D12:00	B-	00
0	00	0-0-0	00 0

The scoreboard will display the following information (some scoreboard models do not display all the functions listed):

Top (Guest) Total Runs -- 0
Top (Guest) Total Hits -- 0
Top (Guest) Total Errors -- 0
Top (Guest) Runs-By-Inning -- All Blank
Bottom (Home) Total Runs -- 0
Bottom (Home) Total Hits -- 0
Bottom (Home) Total Errors -- 0
Bottom (Home) Runs-By-Inning -- All Blank
Inning -- Blank
Batter Number -- 0
Ball -- Blank
Strike -- Blank
Out -- Blank
Hit Indicator -- Blank
Error Indicator -- Blank
Error Fielder Position -- Blank
Pitch Count -- 0
Game Clock -- 12:00

Control Console LCD Screen

The LCD screen primarily shows you the main scoreboard data screen. Information shown here corresponds closely (but not exactly) to information shown on the scoreboard.




Numbers that display as "0" on the LCD may display as blanks on the scoreboard. For instance, when the Strike Count reads "0" on the control console, the display on the scoreboard will be blank. Some scoreboard models do not include features like Total Errors or Time, so, of course, the scoreboard will not match all the information on the LCD in those cases.

The illustration above refers to "Top Team" and "Bottom Team" to be as generic as possible. Traditionally the Guest Team is assigned to be at bat during the Top Half of each Inning, so you may want to think of the "Top Team" as the Guest Team and the "Bottom Team" as the Home Team.

Key-By-Key Operation

This section will provide a key-by-key explanation of the console features. Use the [0] ... [9] buttons to respond to prompts, pressing [ENTER] to complete or confirm your response. The [CLEAR] button backs you out of a prompt without making changes.

				<div style="border: 1px solid black; width: 150px; height: 50px; margin: 0 auto;"></div> <p style="text-align: center; margin: 5px 0;">LINESCORE BASEBALL</p> <table border="1" style="margin: 0 auto;"> <tr> <td style="text-align: center;">7 ABC</td> <td style="text-align: center;">8 DEF</td> <td style="text-align: center;">9 GHI</td> </tr> <tr> <td style="text-align: center;">4 JKL</td> <td style="text-align: center;">5 MNO</td> <td style="text-align: center;">6 PQR</td> </tr> <tr> <td style="text-align: center;">1 STU</td> <td style="text-align: center;">2 VWX</td> <td style="text-align: center;">3 YZ</td> </tr> <tr> <td style="text-align: center;">CLEAR FLASH HIT</td> <td style="text-align: center;">0 &--!</td> <td style="text-align: center;">ENTER FLASH ERROR</td> </tr> </table>				7 ABC	8 DEF	9 GHI	4 JKL	5 MNO	6 PQR	1 STU	2 VWX	3 YZ	CLEAR FLASH HIT	0 &--!	ENTER FLASH ERROR
7 ABC	8 DEF	9 GHI																	
4 JKL	5 MNO	6 PQR																	
1 STU	2 VWX	3 YZ																	
CLEAR FLASH HIT	0 &--!	ENTER FLASH ERROR																	
SET CLOCK	SET CLOCK .1 SEC	.1 SEC ON / OFF	CLOCK UP / DOWN	PITCHES +1															
ASSIGN ERROR	AUTO HORN	TIME OF DAY	SET PITCH COUNTS	NEW GAME															
SET BATTER	SET TOTAL RUNS	SET TOTAL HITS	SET TOTAL ERRORS	SET RUNS / INNING															
INC. INNING TOP / BOT	RUNS +1	HITS +1	ERRORS +1	SET INNING TOP / BOT															
BALL +1	STRIKE +1	OUT +1	HORN	CLOCK ON / OFF															
<p style="font-size: small; margin: 0;">Electro-Mech Scoreboard Co. • 72 Industrial Blvd. • Wrightsville, GA 31096 • www.electro-mech.com • 800-445-7846</p>																			

[SET CLOCK] - Available only when the Game Clock is NOT running. This button allows the operator to edit the time shown on the Game Clock. Pressing the button brings up an input prompt on the second line of the LCD screen.

SET CLK<0:12:00>

To set the time to 5:30, press [SET CLOCK] [5] [3] [0] [ENTER]. The console rejects time entries with a Seconds part greater than 59.

This function prompts for Hours, Minutes, and Seconds. Your scoreboard can show only Minutes and Seconds -- ignoring the Hours Digit. But the console is able to track up to nine Hours.

So that 4-Digit Clocks can show times up to 99:59, this prompt allows you to enter times with a Minutes part of up to 99. You could set the Time to 99:99:59 and count down a Period of 10 hours, 39 minutes, and 59 seconds.

When the time is set to one Hour or more, the LCD display shows Hours and Minutes -- dropping Seconds until the final hour (of a countdown). A blinking asterisk to the right of the Minutes on the LCD indicates a running Clock.

[SET CLOCK .1 SEC] - Available only when the Game Clock is NOT running and the Game Clock is in Down-Counting Mode with Tenth of Second Mode enabled. This button allows the operator to edit the time shown on the Game Clock during the final minute of the Period including the Tenth of Seconds digit. Pressing the button brings up an input prompt on the second line of the LCD screen.

SET SEC <00.0>

To set the time to 14.7 seconds, press [SET CLOCK .1 SEC] [1] [4] [7] [ENTER]. The console rejects entries greater than 59.9 Seconds.

[.1 SEC ON / OFF] - Available only when the Game Clock is NOT running and the Game Clock is in Down-Counting Mode. This button allows the operator to set the behavior of the Game Clock during the final minute of a Period. By default, during the final minute, the Game Clock shifts into Tenth of Second Mode, displaying Seconds in the area that usually shows Minutes and Tenths of Seconds in the place where the Seconds Tens digit is otherwise seen. The operator may override this feature by disabling Tenth of Second Mode so that the Minutes and Seconds stay put and Tenths of Seconds are not displayed at all. Pressing the button brings up a two-line prompt on the LCD screen.

1/10TH SECOND
1=YES 0=NO <1>

To turn off Tenth of Second Mode, press [.1 SEC ON / OFF] [0] [ENTER]. To turn it back on, press [.1 SEC ON / OFF] [1] [ENTER] or reset the console with the New Game function.

[CLOCK UP / DOWN] - Available only when the Game Clock is NOT running. This button allows the operator to change the direction of the Game Clock. By default the Game Clock counts down until reaching 0:00. The operator may set the Game Clock to count up starting from any valid time. Pressing the button brings up a two-line prompt on the LCD screen.

COUNT UP OR DOWN
1=UP 0=DOWN <0>

To count up, press **[CLOCK UP / DOWN] [1] [ENTER]**. The Game Clock on the LCD screen will show a "U" prefix to indicate Up Counting Mode. A "D" is for Down Counting Mode.

In up-counting mode, the Hours part of the Clock is ignored, so after 99:59, the Time cycles to 0:00 and continues counting.

[ASSIGN ERROR] - Indicates the Position of the Fielder who commits an Error. Pressing the button brings up a prompt on the second line of the LCD:

ERR POSITION <0>

Press **[ASSIGN ERROR] [2] [ENTER]** to indicate an Error committed by the person in Position 2. This causes a few things to happen. On the scoreboard, the "E" character (or other Error bullet) will flash four times. If your scoreboard has an Error Fielder Number display, it will flash (in this case, the number "2") along with the Error indicator. Also the console will automatically increment the Total Errors for the Team NOT currently At Bat. So, if it is currently the Top of the 5th Inning, the Bottom/Home Team Total Errors will increase by 1.

Here's a quick reference for the numbers associated with Fielder Positions:

- 1 = Pitcher
- 2 = Catcher
- 3 = First Base
- 4 = Second Base
- 5 = Third Base
- 6 = Short Stop
- 7 = Left Field
- 8 = Center Field
- 9 = Right Field

[AUTO HORN] - Allows the operator to set the behavior of the Horn. By default, the Main Horn attached to the scoreboard is activated for about four seconds at the end of each Period. That is, when the Game Clock counts down to 0:00, the Horn sounds. You can turn off this feature by using the [AUTO HORN] button. Pressing it brings up this prompt:

AT END OF PERIOD
1=AUTO 0=OFF <1>

To turn off the Automatic Horn at the End of Period, press [0] [ENTER] at this prompt. Of course, baseball scoreboards do not generally include Horns, so this feature is there only to accommodate the odd circumstance of a Horn added to a baseball scoreboard.

[TIME OF DAY] - Available only when the Game Clock is NOT running. This button allows the operator to use the scoreboard Game Clock to show the time of day. Since accidentally sending the scoreboard into Time of Day Mode in the middle of a game could be confusing, this function requires a confirmation before it will let the operator continue.

TIME OF DAY CLCK
1=YES 0=NO <0>

Press [1] [ENTER] to continue. The next prompt is asking whether Ball, Strike, and Out counts, and other features should remain illuminated on the scoreboard during Time of Day Mode or be blanked to show that a game is not underway.

BLANK OTHERS?
1=YES 0=NO <0>

Press [1] [ENTER] to turn off the rest of the scoreboard. This blanking feature doesn't work on many older scoreboards with incandescent light bulbs.

Finally, you will be prompted to enter the current time of day (in 12-hour format).

SET CLK <12:05>

Press [3] [4] [5] [ENTER] to set the clock to 3:45.

While the console is in Time of Day Mode, the Clock on the LCD display will have a "C" prefix. Most other keys on the console will work and update the values of their respective functions while the Game Clock is in Time of Day Mode. For instance, you can still change the Runs. You can even change the value of the Game Clock using the [SET CLOCK] button, and your new value will be in place when you exit Time of Day Mode.

To exit Time of Day Mode, press [TIME OF DAY] [0] [ENTER].

[SET PITCH COUNTS] - Allows the operator to directly set or edit the Pitch Counts for both Teams. At the first prompt you may change the Pitch Count for the Team at bat during the Top Half of the Inning.

TOP PITCHES<000>

At the second prompt you may change the Pitch Count for the Team at bat during the Bottom Half of the Inning.

BOT PITCHES<000>

[SET BATTER] - Allows the operator to set or edit the Player Number of person at bat. Pressing the button brings up an input prompt on the second line of the LCD screen.

BATTER NUM <00>

To set the Batter Number to 35, press [SET BATTER] [3] [5] [ENTER].

[SET TOTAL RUNS] - Allows the operator to directly set or edit the Total Runs for each Team. Pressing the button brings up an input prompt on the second line of the LCD screen.

TOT RUNS TOP<00>

The first prompt is for the Team that is at bat during the Top Half of each Inning. At the second prompt you may change the Total Runs for the Team at bat during the Bottom Half of each Inning

TOT RUNS TOP<00>

For scoreboards with Runs-By-Innings displays, it is possible change the Total Runs so that sum of the Runs-By-Innings is not equal to the Total. In general it is better to track the Runs as they happen using the [RUNS +1] button rather than relying on the [SET TOTAL RUNS] button. The primary purpose of this feature is to help you recover from accidentally logging an extra Run.

[SET TOTAL HITS] - Allows the operator to directly set or edit the Total Hits for each Team. Pressing the button brings up an input prompt on the second line of the LCD screen.

TOT HITS TOP<00>

The first prompt is for the Team that is at bat during the Top Half of each Inning. At the second prompt you may change the Total Hits for the Team at bat during the Bottom Half of each Inning

TOT HITS TOP<00>

In general it is better to track the Hits as they happen using the [HITS +1] button rather than relying on the [SET TOTAL HITS] button. The primary purpose of this feature is to help you recover from accidentally logging an extra Hit.

[SET TOTAL ERRORS] - Allows the operator to directly set or edit the Total Errors for each Team. Pressing the button brings up an input prompt on the second line of the LCD screen.

TOT ERRS TOP<00>

The first prompt is for the Team that is at bat during the Top Half of each Inning. At the second prompt you may change the Total Runs for the Team at bat during the Bottom Half of each Inning

TOT ERRS TOP<00>

In general it is better to track the Errors as they happen using the [ERRORS +1] button rather than relying on the [SET TOTAL ERRORS] button. The primary purpose of this feature is to help you recover from accidentally logging an extra Error.

[INC. INNING TOP / BOT] - Increments the Half Inning. Initially the Inning display on the scoreboard (if you have one) is blank and the LCD shows "B-". The first time you press this button, the Inning display on the scoreboard shows "1" and the LCD shows "T01" -- indicating the Top of the First Inning. The second time you press the button, the Inning display on the scoreboard remains at "1" while the LCD changes to "B01" -- indicating the Bottom of the First Inning. The next stop is, of course, "2" on the scoreboard and "T02" on the LCD.

Many other functions of the control console are affected by this button. For instance, [RUNS +1] acts on the Team currently at bat. So pressing [RUNS +1] increments the Team on the Top line of the scoreboard during the Top Half of an Inning. Pressing [INC. INNING TOP / BOT] will take you to the Bottom Half, thus changing the Team affected by [RUNS +1].

[RUNS + 1] - Increments the Runs for the Team currently at bat. If you have a scoreboard with Runs-By-Inning, the display for the current Inning will be updated along with the Total Runs display.

[HITS + 1] - Increments the Total Hits for the Team currently at bat. The Hit Indicator will flash four times when you press this button.

[ERRORS + 1] - Increments the Total Errors for the Team currently NOT at bat. The Error Indicator will flash four times when you press this button.

[BALL + 1] - Increments the Ball Count by one.

[STRIKE + 1] - Increments the Strike Count by one.

[OUT + 1] - Increments the Out Count by one.

[HORN] - Sounds the Horn for a two-second burst.

[CLOCK ON / OFF] - Starts and stops the Game Clock.

[CLEAR / FLASH HIT] - Flashes the Hit Indicator four times, but does NOT affect the Total Hits for either Team. This button is also used while entering numerical data to exit the function without change.

[ENTER / FLASH ERROR] - Flashes the Error Indicator four times, but does NOT affect the Total Errors for either Team. This button is also used while entering numerical data to confirm the entry and continue.

[SET INNING TOP / BOT] - Allows the operator to directly set the current Inning and Half. Pressing the button brings up an input prompt on the second line of the LCD screen.

SET INNING <02>

At this prompt you could press [5] [ENTER] to tell the console you are in the 5th Inning. The next prompt requires the operator to identify the Top or Bottom Half of the Inning

1=BOT 0=TOP <0>

At this prompt press [1] [ENTER] to indicate the Bottom Half. All functions that depend on the particular Half Inning will now work according to the new setting you have provided.

[SET RUNS / INNING] - Allows the operator to directly edit or set the Runs-By-Inning displays (if present on the scoreboard). Pressing the button brings up an input prompt on the second line of the LCD screen.

EDIT INNING <02>

At this prompt you could press [6] [ENTER] to change the Runs in the 6th Inning. The next prompt asks you to update the Runs for the Top Half of the Inning:

SET RUNS TOP <3>

You may edit the current number of Runs or press [ENTER] to accept the current number and skip to the Bottom Half.

SET RUNS BOT <2>

[PITCHES + 1] - Increments the Pitch Count for the Team currently NOT at bat.

"New Game" Features -- Including Electronic Team Name Setup

[NEW GAME] - Available only when the Game Clock is NOT running. This button is the doorway to one fairly obvious feature and a few other hidden features. Pressing it brings up the following display:

RESET SCOREBOARD
1=YES 0=NO <0>

Press [1] [ENTER] to reset all information to default values. For instance, Guest and Home Scores will be reset to 0.

In addition to this memory-clearing function, [NEW GAME] allows the operator to access other functions by entering other numbers at the prompt. These are listed below.

[NEW GAME] [2] - This sub-function controls the brightness (or dimming) of the scoreboard displays. You may set the brightness level to any value from 50% to 100% -- with 100% being the brightest.

SET BRIGHTNESS
MAX=100% <100%>

When you initially apply power to your scoreboard, the displays will always reset to 100% brightness. The scoreboard only receives a command to change brightness when you press [NEW GAME] [2] and enter a brightness value. So, if your scoreboard loses and regains power during a game, it will stay at 100% brightness until you walk through this function.

The brightness feature works on Electro-Mech LX-series scoreboards manufactured in 2012 or later. Older scoreboard models ignore the brightness command (and may flicker briefly in response).

[NEW GAME] [4] - This sub-function turns off all the scoreboard displays and shows the following message on the LCD screen:

BLANK TEST
NEWGAME=EXIT

Blank Test Mode is a diagnostic feature that allows you to check for display circuits that are damaged in a way that prevents them from being turned off. If anything remains lit on the scoreboard when the console is in this mode, there is a hardware problem that should be resolved by contacting technical support.

Exit this mode by pressing [NEW GAME] again.

This is also a handy trick for blanking the scoreboard between games or whenever it is convenient. Just remember that the scoreboard is not truly off in this state. The electronic components are still energized.

[NEW GAME] [5] - This sub-function turns on all the scoreboard displays and shows the following message on the LCD screen:

LAMP TEST
NEWGAME=EXIT

Lamp Test Mode is a diagnostic feature that allows you to check for display circuits that are damaged in a way that prevents them from being turned on. If anything is blank on the scoreboard when the console is in this mode, there is a hardware problem that should be resolved by contacting technical support. Horns are not supposed to sound in Lamp Test mode.

Exit this mode by pressing [NEW GAME] again.

[NEW GAME] [7] - This sub-function controls Electronic Team Name displays. If your scoreboard does not have Electronic Team Names (or if your scoreboard with ETNs was manufactured before 2011), the commands generated by this console feature will be ignored.

SET TEAM NAMES?
1=YES 0=NO <1>

The ETN feature refers to the Team displayed on top line of scoring information on the scoreboard as Team 1; the Team on the bottom is Team 2.

Team 1

Setting the name is much like using the text features of a phone that assigns text characters to the number keys. Each time you press a number key repeatedly, the next character associated with that key appears on the LCD display. For instance, to enter the name "BEARS" you would press...

[7] [7] = B

[8] [8] = E

[7] = A

[6] [6] [6] = R

[1] = S

If you make a mistake entering a character, press the [CLEAR] key to back up one space. To complete the text entry, press [ENTER].

The next prompt allows you to choose the font:

SELECT FONT
1-9 <3>

As of this writing, there are three available fonts:

1=Condensed, 2=Regular, 3=Bold.

The number of letters your ETN can show depends on the font you choose as well as the size of your display.

After choosing a font style, you must select a justification:

SELECT JUSTIFY
1-L 2-C 3-R <2>

Choose 1 for Left justification -- that is, the first letter in the Team Name will be flush with the left side of the display. Choose 2 for Center justification -- that is, the Team Name will be centered within the display. Choose 3 for Right justification -- that is, the last letter of the Team Name will be flush with the right side of the display.

The process is the same for Team 2. Note that font and justification settings for the two teams are independent of each other.

When your scoreboard with ETNs ships from Electro-Mech, the default Team Names are GUEST and HOME. Once you update the scoreboard with new Team Names, those names become the default that you will see when the scoreboard is

powered up. The console will only update the ETN displays when you work through the [NEW GAME] [7] function while the console is connected to the scoreboard. Because the text entry routine is designed to send characters to the scoreboard as you enter them in the console, it is not possible to program the Team Names "in advance" and update the scoreboard later.

Because of the occasional need to run a countdown time or other information on the Game Clock before the start of a game, you may be forced to program ETNs while the Game Clock is running. Since the [NEW GAME] button is disabled when the Game Clock runs, there is a "trick" to this. You must stop the Clock for the few seconds it takes to press [NEW GAME] [7]. Then you may start the Clock again. The Game Clock will continue to run while you update the ETNs.

There are a few ways to "turn off" the ETN displays. The [NEW GAME] [4] Blank Test Mode will blank the ETN displays (along with the rest of the scoreboard). Selecting the "Blank Others" option when entering Time of Day Mode will also blank the ETNs. If you disconnect the console while the ETNs are blank, reset the console, and then reconnect it to the scoreboard, the ETNs will remain blank. This is because the ETNs are only refreshed once, while the numeric scoreboard data is refreshed multiple times per second. You may restore blanked ETNs when the console is connected by entering and exiting "Lamp Test" Mode or "Blank Test" Mode or by resetting the console.

[NEW GAME] [8] - This sub-function configures the console to work with timing equipment provided by Precision Time Systems, Inc. You may confirm entry into this mode by typing [1] [ENTER] in response to this prompt:

PRECISION TIME?		
1=YES	0=NO	<0>

The practical results of being in Precision Time Mode are 1) the [CLOCK ON / OFF] button is disabled, and 2) the Game Clock only runs when the console hardware reads a switch closure from an external clock switch. You can simulate the behavior of the Precision Time equipment by plugging an Electro-Mech Hand-Held Clock Start/Stop Switch into one of the connectors on the back of the console and holding down the button on the handheld device to start the Clock. The Clock on the LCD screen will have a "P" prefix to indicate Precision Time Mode.

To exit Precision Time Mode, press [NEW GAME] [8] [0] [ENTER].

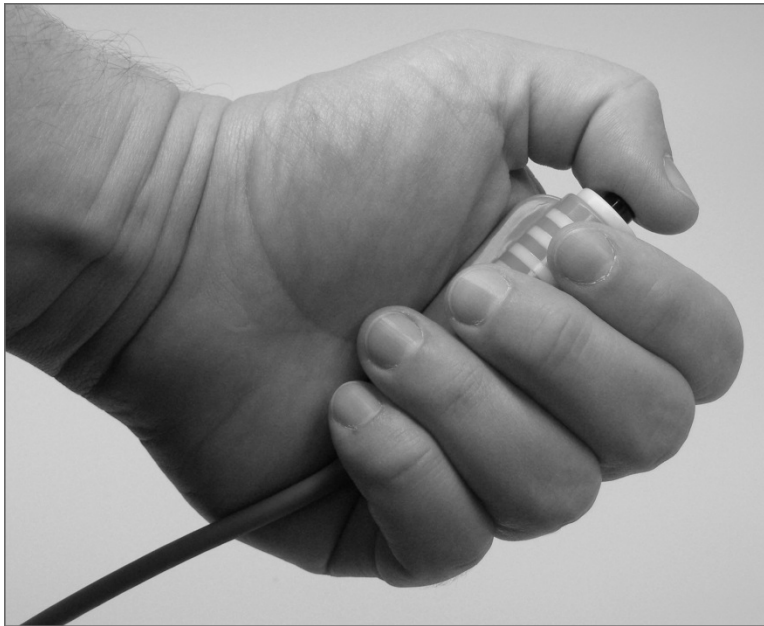
Summary of [NEW GAME] functions

- [0] = Exit
- [1] = Reset Game Data
- [2] = Brightness
- [3] = Not Used
- [4] = Blank Test
- [5] = Lamp Test
- [6] = Not Used
- [7] = Electronic Team Names
- [8] = Precision Time Mode
- [9] = Not Used

Long Press = Maintenance Sub-Menu

- [0] = Exit
- [1] = ScoreLink Signal Strength (not currently supported)
- [2] = AC Supply Voltage (not currently supported)
- [3] = Not Used
- [4] = Radar Gun (show data from gun)
- [5] = Not Used
- [6] = Not Used
- [7] = Not Used
- [8] = Not Used
- [9] = Not Used

Handheld Clock Start / Stop Switch



Unlike football and basketball, baseball rules don't require (as far as we know) a separate person to operate the Game Clock. But the feature is available if you want it. So you can purchase a handheld pendant-style switch that plugs into the back of the control console and allows a separate operator the ability to start and stop the Game Clock. The RJ-45 style connector at one end of the handheld unit's cable can plug into the matching socket on the back of the console. The pendant end fits nicely in your hand so that your thumb rests on the switch. Press the switch once to start the Clock. Press the switch again to stop the Clock.

Control Console Power Down and Storage

There is no "OFF" switch on the control console; nor is there a function on the console that turns the scoreboard off. The scoreboard should be disconnected from power when not in use. Electro-Mech recommends installing a disconnect switch for all permanently mounted scoreboards. You may simply unplug a portable scoreboard model and store it between games.

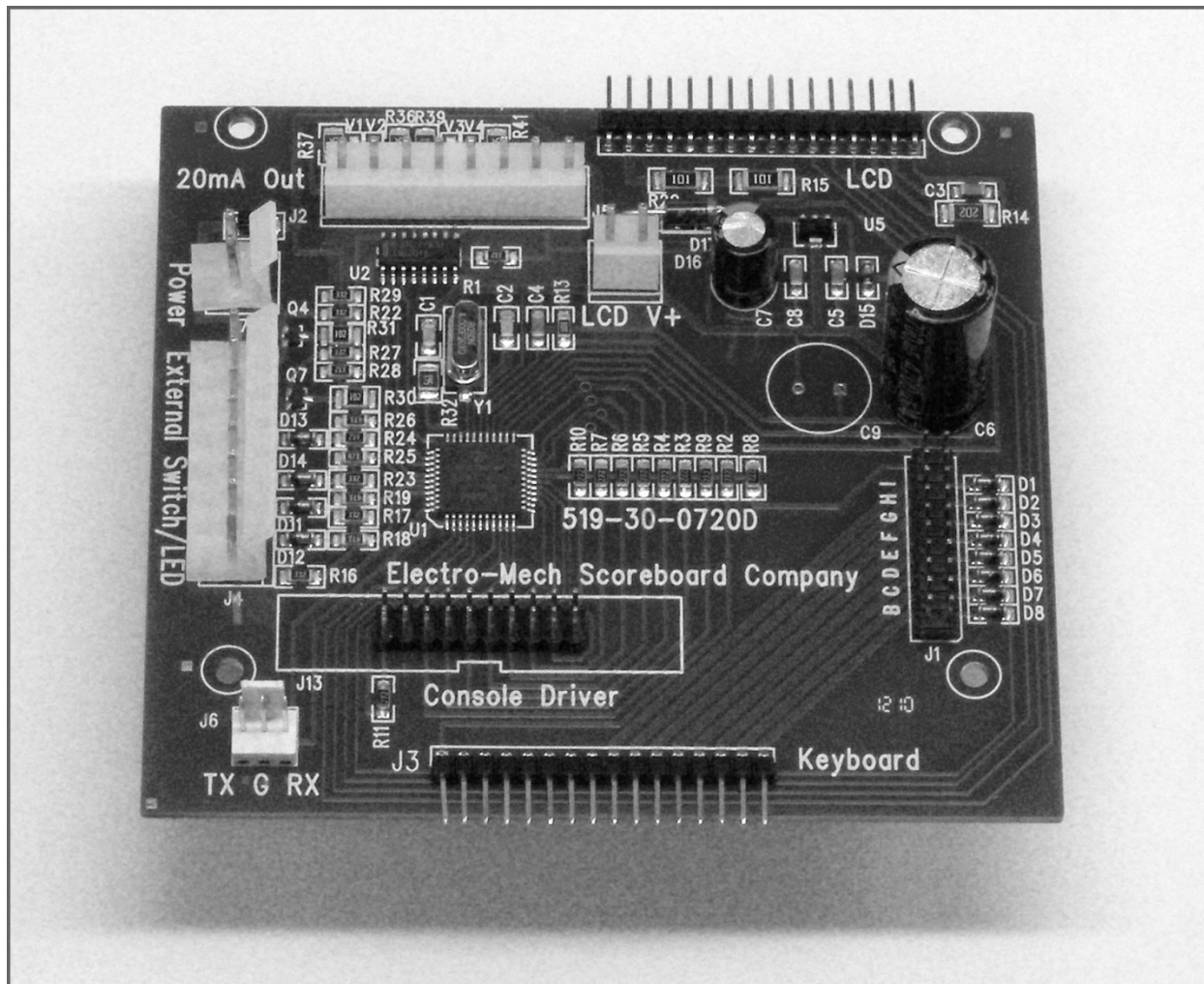
You should unplug your control console both from its power receptacle and from its data cable when you are not using it. Electro-Mech offers a carrying case that provides a convenient way to store and transport the console along with various cables and other accessories. Whether you have a case or not, you should store the console in a safe, dry location between games.

If the console loses connection with the scoreboard while the scoreboard is powered, the scoreboard will freeze up -- showing the last good Time, Score, and other information it received from the console. The scoreboard will synchronize with the console again as soon as you reestablish the connection.

If the scoreboard loses power with the console still connected and powered, nothing will happen other than the scoreboard display going blank. Again, the scoreboard will synchronize with the console as soon as it receives power.

If the console loses power -- either because you intentionally unplug it or because of something unexpected -- it will save the current game information to flash memory. When you next apply power to the console, the LCD will prompt you to restore the previous game. If you fail to respond to the prompt, the game data will restore automatically after a few seconds.

Jumper Settings



CX Driver

***** Important: If you plan to open up the console and do work inside the box, make sure the power cable is disconnected from the receptacle! *****

The PCB that is the heart of the CX console is called the CX driver. This driver contains a set of jumper pins that can be used to tell the software how to behave. By installing shunts across a pair of pins, you are, in essence, closing a switch that tells the program to do something. On some CX drivers these pins are labeled B through I, A through I, or A through J. On other drivers the A, B, C,... labels are missing, but you will find a corresponding diode next to pins B through I (A and J are not for jumpers). The diodes are labeled D8 through D1 (D8 = B, D7 = C, etc.).

Jumper pins A and J are used for attaching a programming cable to the CX driver and don't really do anything in this context. Pins F, G, H, and I are the "Board Type Jumpers" that determine the sport. So, for instance, by removing the shunt across the H pins, you can make your console think it is operating an Electro-Mech baseball scoreboard rather than a football scoreboard. This table summarizes the jumper settings for the Board Type Jumpers:

Board Type	F	G	H	I	Models / Comments
BASEBALL_3					LX10xx, LX12xx, LX134x, MM-10x, MM-12x
BASEBALL_4				X	LX1360, MM-136
FOOTBALL_4			X		LX1360, LX3150, MM-136 MM-335, MM-338
BASEBALL_1			X	X	LX10xx, LX11xx, LX12xx, LX134x
BASEBALL_2		X			Not used
SOCCER_LX		X		X	Not a part of CX_402 Software
SOCCER		X	X		Not a part of CX_402 Software
HOCKEY		X	X	X	Not a part of CX_402 Software
LINESCORE4	X				1440, 1480
LINESCORE5	X			X	LX14xx, LX16xx, LX17xx, 15xx, 17xx
FOOTBALL_1	X		X		LX3xxx, 74xx, LX75xx, LX76xx, MP-3xx
BASKETBALL	X		X	X	LX2xxx (except Player Stats), 72xx, MP-2xx
MP-14X	X	X			MP-140, MP-144, MP-148
MP-15X	X	X		X	MP-15x
MULTISPORT	X	X	X		LX137x, LX1390
HOCKEY_LX	X	X	X	X	Not a part of CX_402 Software

Pins B, C, D, and E are the "Option Jumpers". Each one typically controls one of four options for a given Board Type. This document discusses the options for the LINESCORE5 Board Type only. You'll have to look at the Owner's Handbooks for consoles configured for the other Board Types if you are curious about their Option Jumpers.

Jumper B = Pitch Speed (Install this jumper to use a radar gun -- disables Batter Num)
 Jumper C = 2-D/3-D Clock (Install this jumper to indicate H:MM or MM Game Clock)
 Jumper D = Double Pitch Count (Install this for separate Top/Bottom PC displays)
 Jumper E = B-S-O to 4-3-3 (Install this jumper for Balls to 4, Strikes & Outs to 3)

Installing Jumper C indicates an H:MM or MM Game Clock as found in Models LX16x1, LX16x2, LX17x1, and LX17x2. This would create an incompatibility with Models LX1634, LX1714, LX1734, LX1744, LX1754, and LX1784. Other Models would be unaffected.

Adding Jumper D would allow the console to operate a Pitch Count display that shows one set of digits for the Top/Guest Pitch Count and another set of digits for the Bottom/Home Pitch Count. This would create an incompatibility with Models LX1633, LX1713, LX1733, LX1743, LX1753, and LX1783.

Any Model listed on the front page of this document can be made to show the Ball, Strike, and Out Counts to 4, 3, and 3 when E Jumper is added to this console.