ELECTRO-MECH
SCOREBOARD COMPANY

Type
BASKETBALL

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 basketball. 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:

LX2160	LX2550	LX2645	2106	2350	2570
LX2180	LX2555	LX2655	2150	2370	2575
LX2330	LX2556	LX2665	2160	2545	2576
LX2340	LX2570	LX2745	2170	2550	2577
LX2350	LX2575	LX2770	2180	2555	2650
LX2370	LX2576	LX7230	2330	2556	2655
LX2545		LX7250		2557	2665
		LX7260			2770
		LX7406			7250

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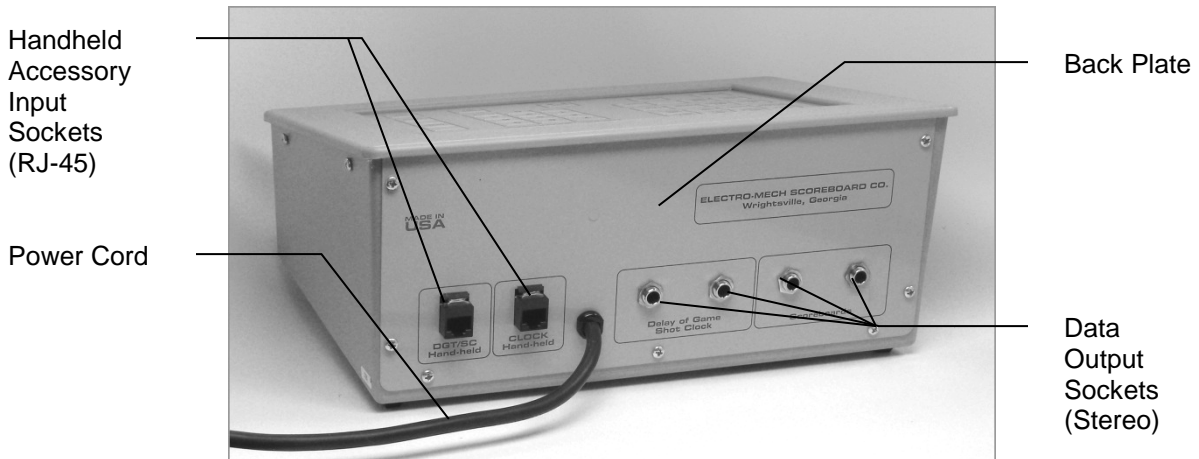## Seven Ways to Stay Safe and Make Your Console Last Longer

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 both indoor and 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. Those stereo connectors in the back plate of the console are the same kind used by audio equipment. The RJ-45 connectors for the hand-held devices are the same type you often see in wired computer networks. Accidently 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 Top or Lid

Screws

LCD Screen

Keypad

Console Base or Bottom

Console Front View

Handheld Accessory Input Sockets (RJ-45)
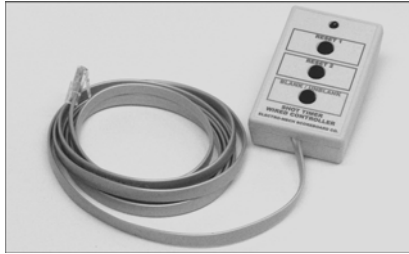
Power Cord

Back Plate

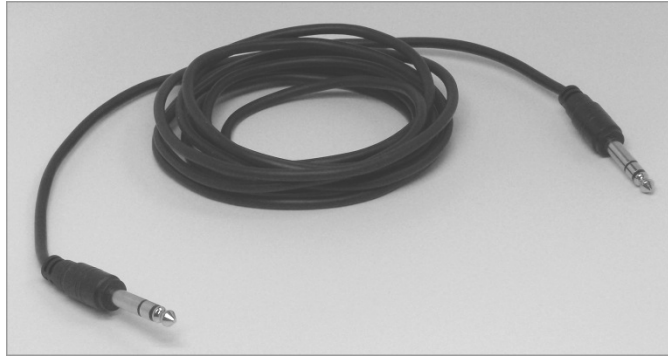Data Output Sockets (Stereo)
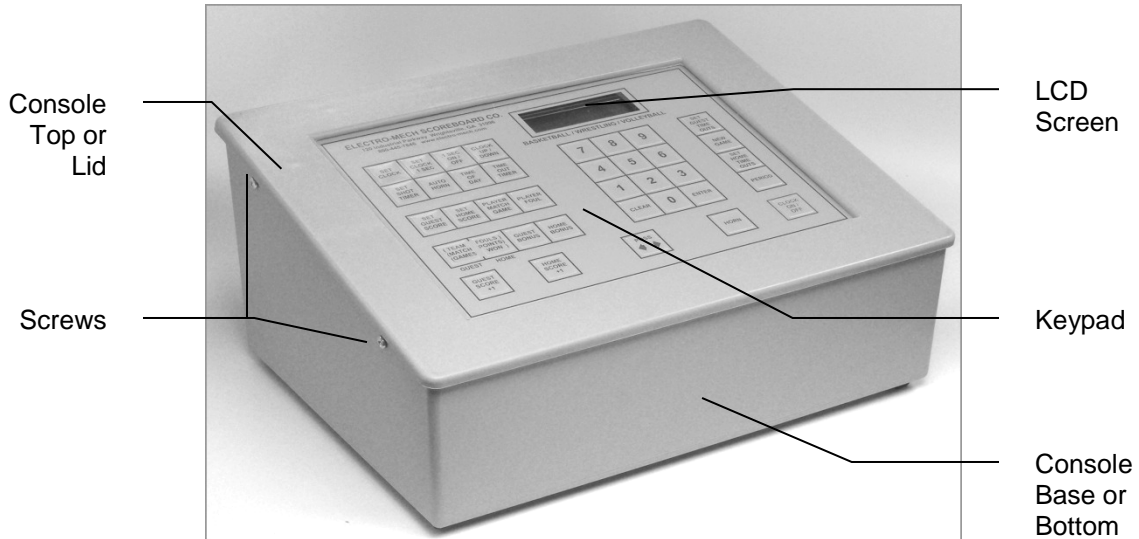
Console Rear View

Handheld Clock
Start / Stop Switch

Handheld Shot Clock
Three-Button Controller

Stereo Data Cable

Junction Box (with coil of data cable)

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. You may also have
    a three-button device to control Shot Clocks.
    These devices plug into the RJ-45
    connectors on the console's back plate. It
    does not matter which device is connected to
    which RJ-45 socket.

4 - Attach one end of the stereo data cable to one of the four data output connectors on
    the back plate of the console. Your console may have two outputs designated for
    the scoreboard and two for Shot Clocks or other optional displays. It doesn't really
    make a difference; all four outputs are the same. If you have multiple displays, go
    ahead and hook them up to whichever outputs are convenient.

5 - Attach the other end of the stereo data cable to the junction box. If you have more
    than one scoreboard or optional display, each one will typically have its own
    junction box and its own stereo data cable. 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
BASKETBALL  0000
```

The splash screen is telling you four things:

The software author	--	ELECTRO-MECH
The software version	--	402
The selected scoreboard type	--	BASKETBALL
The selected option jumpers	--	none

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>
```

If your console was previously in Practice Segment Timer mode, you will be prompted to restore the Practice Segment Timer Program you were running when you unplugged the console.

```
 RESTORE PGM  01
 1=YES  0=NO  <1>
```

This document will discuss the Practice Segment Timer Mode in detail a few pages later. For now, let's focus on how the console behaves in Basketball Mode and assume you are starting with new data rather than restoring a game.

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

```
 000 D08:00 1 000
     00 00 0 00
```

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

                     Left (Guest) Score -- 0
                      Left (Guest) TOL -- 5
               Left (Guest) Team Fouls -- 0
              Left (Guest) Possession -- blank
                    Left (Guest) Bonus -- blank
            Left (Guest) Double Bonus -- blank
                   Right (Home) Score -- 0
                     Right (Home) TOL -- 5
              Right (Home) Team Fouls -- 0
             Right (Home) Possession -- blank
                   Right (Home) Bonus -- blank
           Right (Home) Double Bonus -- blank
                          Game Clock -- 8:00
                     Quarter (Period) -- 1
                       Player Number -- blank
                          Player Foul -- blank

If you have Shot Clocks attached to the control console, they will show 35 seconds.

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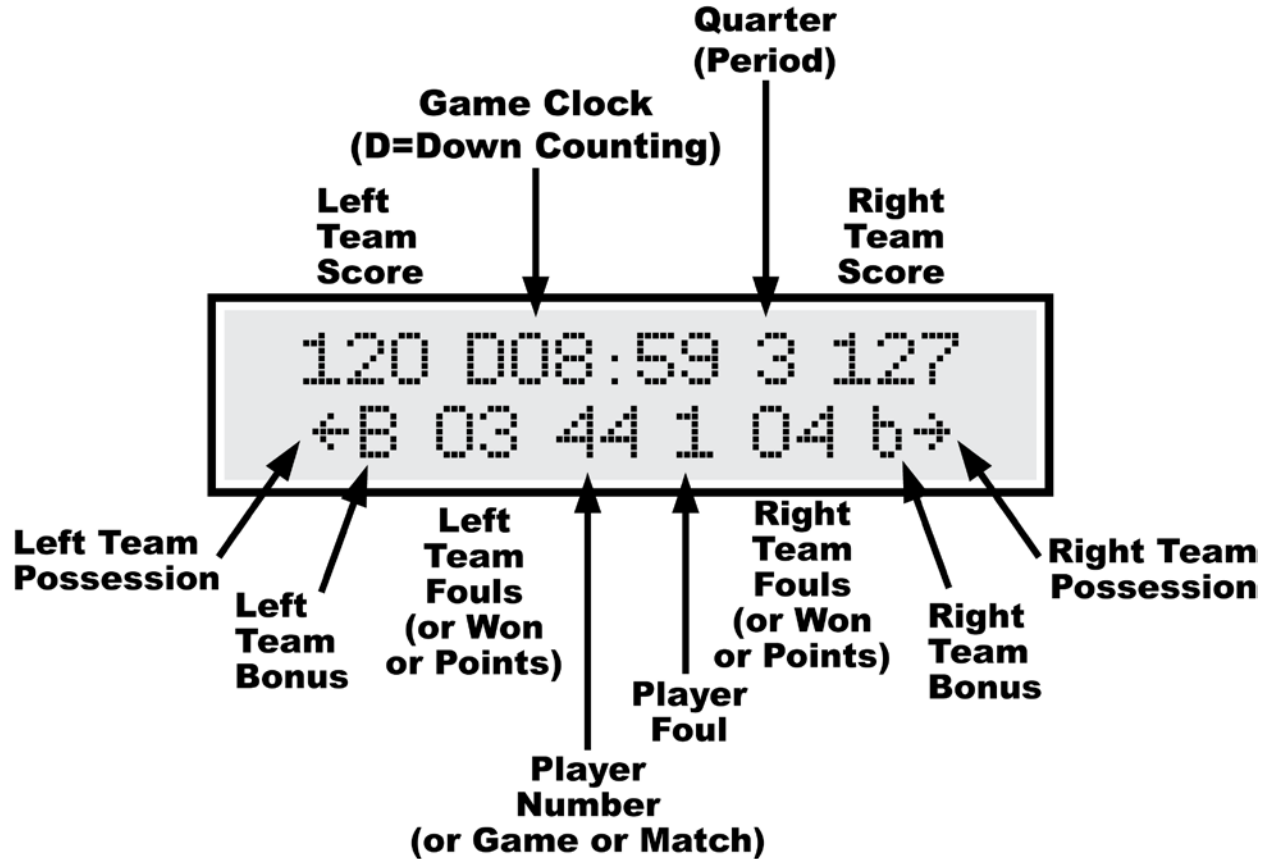
Numbers that display as "0" on the LCD may display as blanks on the scoreboard. For instance, when the Period reads "0" on the control console, the display on the scoreboard will be blank. Some scoreboard models do not include features like Team Fouls or Player Number, so, of course, the scoreboard will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

The illustration above refers to "Left Team" and "Right Team" to be as generic as possible. In most cases, the Left side is for the Guest team and the right side is for the Home team. Some scoreboard/console pairs ship with the positions swapped.

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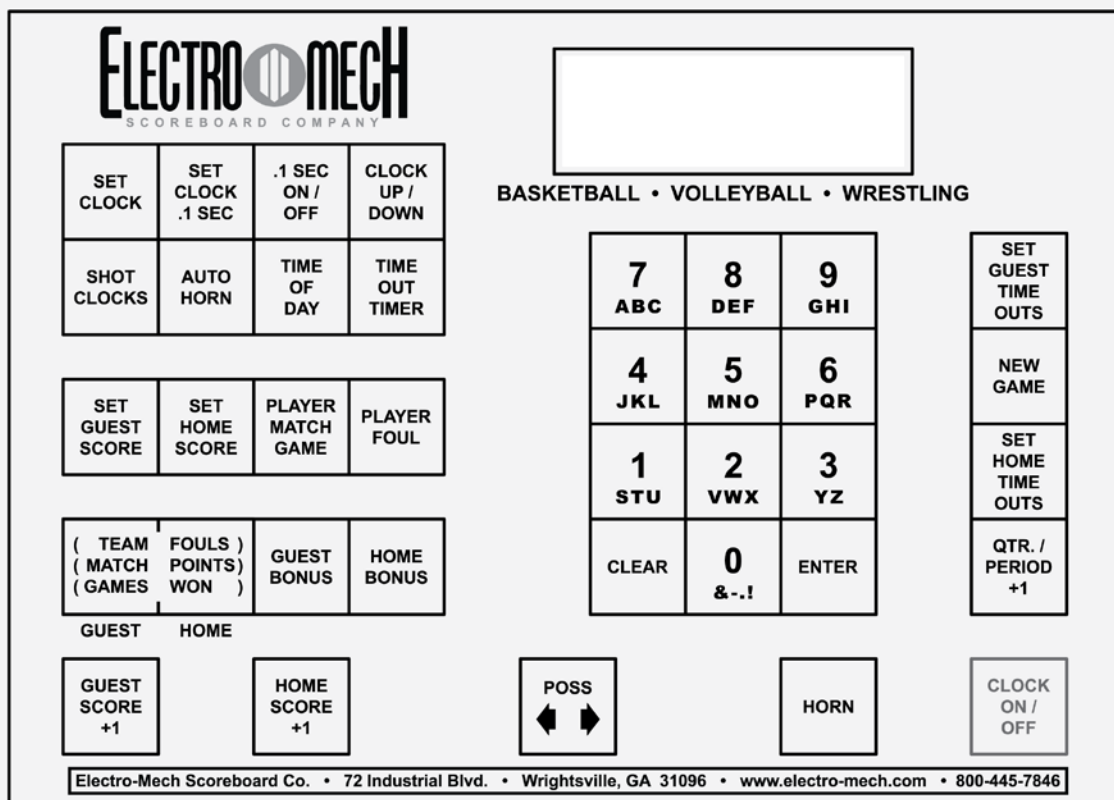
[SET CLOCK] - Available only when the Game Clock is NOT running. This button allows the operator to edit the time shown on the Game Clock. Pressing the button brings up an input prompt on the second line of the LCD screen.

```
SET CLK  <15:00>
```

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.

[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, including the Tenth of Seconds digit, shown during the final minute of the Period. Pressing the button brings up an input prompt on the second line of the LCD screen.

```
    SET SECS   <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, after 99:59, the Game Clock cycles to 0:00 and continues counting.

[SHOT CLOCKS] - Allows the operator to edit the current display value and the programmable reset values associated with Shot Timer displays. You must have these optional displays and the three-button handheld controller that ships with them for this function to be of any use. As long as the Shot Timers are not running (actively counting down), pressing the button produces this prompt:

```
CURRENT TIME<35>
```

To set the Shot Timers to show 12 Seconds, press [SHOT CLOCKS] [1] [2] [ENTER]. You can press [ENTER] at this prompt to skip to the next prompt without making changes. If the Shot Times had been running when the operator pressed [SHOT CLOCKS], this would have bypassed the first prompt, leading us to the second:

```
RESET 1 TIME<35>
```

This is where you program the first (top) button of the three-button handheld controller. If you want that button to reset the Shot Timers to 30 seconds every time you press it, type [3] [0] [ENTER] at this prompt. You can press [ENTER] to skip to the next prompt without making changes.

```
RESET 2 TIME<15>
```

This is where you program the second (middle) button of the three-button handheld controller. If you want that button to reset the Shot Timers to 5 seconds every time you press it, type [5] [ENTER] at this prompt. You can press [ENTER] to accept the current value without making changes.

Any changes you make to the values associated with Reset 1 and Reset 2 will be saved by the control console and used as the default values in the future.

[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 two 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. You can press [ENTER] to skip to the next prompt without making changes. The next prompt offers you control of the Shot Timers' Horns.

```
SHOT CLOCK HORN
1=AUTO 0=OFF <1>
```

By default the Shot Timers sound their Horns when they count to 0. You can turn off this feature by pressing [0] [ENTER] at this prompt. The next prompt offers you control of the Horn at the end of a Time Out.

```
END OF TIME OUT
1=AUTO 0=OFF <0>
```

By default the Automatic Horn at the End of Time Out is disabled, but you can enable it by pressing [1] [ENTER] here.

[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 Scores, Period, 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 Scores. 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].

[TIME OUT TIMER] - Available only when the Game Clock is NOT running and the console is not in Time of Day Mode. This button allows the operator to initiate a countdown of any duration less than ten minutes without losing track of the Game Clock information.

```
         TO SCOREBOARD?
     1=YES   0=NO   <0>
```

The first prompt asks the operator if the Time Out Time should temporarily replace the Game Clock display on the scoreboard. Otherwise the countdown will be seen only on the control console LCD. Press [1] [ENTER] to display the Time Out Time on the scoreboard.

```
         SET T-OUT <1:00>
```

At the second prompt, the operator should enter the duration of the Time Out (or whatever is being timed). To count down from Two Minutes, press [2] [0] [0] [ENTER]. As soon as you press [ENTER] the Time Out Countdown begins. The Clock on the LCD display will have a "T" prefix to indicate Time Out Timer Mode.

To stop the Time Out Countdown, press [TIME OUT TIMER] again. Pressing the [CLOCK ON / OFF] button while the Time Out Timer is running will abort the countdown and start the Game Clock running.

If the Auto Horn at End of Time Out feature has been turned on, the Horn will sound when the Time Out Timer reaches 0:00. The Time Out Timer is not affected by settings for Tenth of Second Mode (never shows Tenths) or Clock Direction (always counts down).

[SET GUEST SCORE] - Allows the operator to directly set or edit the Guest Score. Pressing the button brings up an input prompt on the second line of the LCD screen.

```
         SET SCORE  <000>
```

To set the Guest Score to 35, press [SET GUEST SCORE] [3] [5] [ENTER].

Some scoreboard/console pairs ship with the positions of the Guest and Home keys swapped.

[SET HOME SCORE] - Allows the operator to directly set or edit the Home Score. Pressing the button brings up an input prompt on the second line of the LCD screen.

```
         SET SCORE  <000>
```

To set the Home Score to 102, press [SET HOME SCORE] [1] [0] [2] [ENTER].

Some scoreboard/console pairs ship with the positions of the Guest and Home keys swapped.

[PLAYER MATCH GAME] - Allows the operator to set or edit the Player Number display. Pressing the button brings up an input prompt on the second line of the LCD screen.

```
PLAYER NUM  <00>
```

To set the Player Number display to 15, press [PLAYER MATCH GAME] [1] [5] [ENTER].

This button is tied to a display that on some scoreboards can represent three different pieces of information. For pure basketball scoreboards, the Player Number identifies the Player who committed the most recent Foul. For multi-sport scoreboards used to show wrestling information, this same set of numbers on the scoreboard should show the current Match Number. For multi-sport scoreboards used to show volleyball information, this same set of numbers on the scoreboards should show the current Game Number. There is no special way to configure the console for a "Wrestling Mode" or "Volleyball Mode". The change is made by swapping captions on the scoreboard.

[PLAYER FOUL] - Allows the operator to set or edit the Player Foul display. Pressing the button brings up an input prompt on the second line of the LCD screen.

```
PLAYER FOUL  <0>
```

To set the Player Foul display to 2, press [PLAYER FOUL] [2] [ENTER].

The purpose here is to show how many Fouls were committed by the Player shown on the Player Number display. Typically you will use the [PLAYER FOUL] key immediately after the [PLAYER MATCH GAME] key. For multi-sport scoreboards showing wrestling or volleyball information, this key and the Player Foul display have no meaning. Although you cannot blank this display once it has been turned on, it does initialize to blank when you use the [NEW GAME] [1] [ENTER] function to reset the console. So, if you want the Player Foul display to be blank, reset the console and stay away from this button.

[(TEAM (MATCH (GAMES GUEST] and [FOULS) POINTS) WON) HOME] - It makes sense to talk about these keys together -- especially given that you can only understand their labeling by reading across both keys. You use these two keys to increment the Guest Team Fouls and the Home Team Fouls on the scoreboard.

Like the Player Number, these displays serve other purposes on multi-sport scoreboards. For multi-sport scoreboards used to show wrestling information, the scoreboard display (for each team) is showing the Points earned during the current Match -- so these two keys increment the Guest Match Points and the Home Match Points. For multi-sport scoreboards used to show volleyball information, the scoreboard display (for each team) is showing the total number of Games Won -- so these two keys increment the Guest Games Won and the Home Games Won.

[GUEST BONUS] - Allows the operator to cycle through the Bonus states for the Guest team. The states are None (blank), Single Bonus, and Double Bonus. Single Bonus is indicated by a "b" on the LCD display on the control console and by a single indicator on the scoreboard. Double Bonus is indicated by a "B" on the LCD display and two indicators on the scoreboard. Some scoreboard models do not include the second "Double Bonus" indicator, in which case the "Single Bonus" indicator remains lit.

[HOME BONUS] - Allows the operator to cycle through the Bonus states for the Home team. The states are None (blank), Single Bonus, and Double Bonus. Single Bonus is indicated by a "b" on the LCD display on the control console and by a single indicator on the scoreboard. Double Bonus is indicated by a "B" on the LCD display and two indicators on the scoreboard. Some scoreboard models do not include the second "Double Bonus" indicator, in which case the "Single Bonus" indicator remains lit.

[GUEST SCORE +1] - Allows the operator to increment the Guest Score by one.

[HOME SCORE +1] - Allows the operator to increment the Home Score by one.

[POSS] - Toggles the Possession indicator between the Guest and Home sides.

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

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

[QTR. / PERIOD +1] - Allows the operator to increment the Period or Quarter display by one.

[SET HOME TIME OUTS] - Allows the operator to directly set or edit the Home Time Outs Left. Pressing the button brings up an input prompt on the second line of the LCD screen.

```
SET T.O.L.    <5>
```
To set the Home Time Outs Left to 3, presss [SET GUEST SCORE] [3] [ENTER].

Some scoreboard/console pairs ship with the positions of the Guest and Home keys swapped.

[SET GUEST TIME OUTS] - Allows the operator to directly set or edit the Guest Time Outs Left. Pressing the button brings up an input prompt on the second line of the LCD screen.

```
SET T.O.L.    <5>
```
To set the Guest Time Outs Left to 2, press [SET HOME SCORE] [2] [ENTER].

Some scoreboard/console pairs ship with the positions of the Guest and Home keys swapped.

"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 game-specific data to default values. For instance, Guest and Home Scores will be reset to 0. Any Practice Segment Timer programs you may have created are NOT affected by this Reset function. If you have customized your Shot Clock reset times, those numbers will NOT be changed. The console will also remember the current value for Time of Day.

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. The Decimal
Indicators on Game Clock displays that include them will remain on in some cases.

Exit this mode by pressing [NEW GAME] again.

This is also a handy trick for blanking the scoreboard during halftime 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. Two exceptions:
Horns are not supposed to sound in Lamp Test mode, although Visual Horn
Indicators should light up, and the Decimal indicators on some Game Clock displays
that include them will not light up in this 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 2012), 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 the left side of the scoreboard as Team 1; the Team on the right 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. In Practice Segment Timer Mode, the ETNs are blanked. 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].

[NEW GAME] [9] - This sub-function places the console in Practice Segment Timer mode. You may confirm entry into this mode by typing [1] [ENTER] in response to this prompt:

```
SEGMENT TIMER?
1=YES  0=NO  <0>
```

Practice Segment Timer Mode requires an in depth discussion that we will take up in the next section of this document. If you find yourself at the prompt by accident, press [0] [ENTER] to return to Basketball Mode. Otherwise you will need to work your way through the several questions required to set up the Practice Segment Timer before you can press [NEW GAME] [1] [ENTER] to return to Basketball Mode, which will also reset all your game data to the default values.

Practice Segment Timer Mode

The Practice Segment Timer (PST) mode of your basketball console is a powerful tool for creating, saving, editing, and running a set of programs, each defining the times that make up a practice schedule. You may have a simple practice schedule with two hours of practice broken into four 30-minute Segments, for instance. Or you may have a complicated practice schedule with several longer Segments interspersed with shorter Segments, break periods, one-minute drills, and more. A PST Program can include up to 90 Segments. You can create up to 45 of these PST Programs (each containing 1 to 90 different Segments). That's over 4,000 individual Segments in all. You store these Programs by assigning them a two-digit Program ID. You may call up the PST Programs to be run as many times as you like -- days, weeks, or years later.

Practice Segment Timer Mode can be used to control a basketball scoreboard, displaying the Segment Time in the Game Clock area and the Segment Count in the Home Score area. Or you may use your Shot Clocks as Practice Segment Timer displays. Or you may have purchased a special Practice Segment Timer display from Electro-Mech in one of several possible configurations. The multitude of options makes for a slightly complicated setup process. But, once you understand the questions the console asks you, it should make sense. The diagram below gives you four examples of how your displays can be configured to use the Practice Segment Timer Mode.

Practice Segment Timer Setup

If you are in Basketball Mode, press [NEW GAME] [9] [1] [ENTER] to go into Practice Segment Timer Mode. The LCD will prompt you to enter a Program ID.

```
┌─────────────────────────┐
│  ENTER PROGRAM ID       │
├─────────────────────────┤
│  NUMBER:        <01>     │
└─────────────────────────┘
```

You can get to this same prompt from within Practice Segment Timer Mode by pressing [NEW GAME] [9] [0] [ENTER].

This prompt is asking you to pick a two-digit number that you can use to refer to your collection of Segment Times. You can use this number to call up this Program over and over again in the future -- so you don't have to go through the setup process that follows every time you have a practice. You could use a different Program ID for each day of the week if your practice schedule varies by day. Or you could assign Program IDs to particular teams. If several people run practices using this control console, you can assign certain numbers to certain people. For instance, the athletic director might use Program IDs 10 through 19; another coach might be assigned Program IDs 20 through 29. Pick whatever two-digit number is meaningful to you (up to 45).

If you select a Program ID that has already been used, you will have the opportunity to completely overwrite that program with new information or edit the existing information.

```
┌─────────────────────────┐
│  OVERWRITE PROG?        │
├─────────────────────────┤
│  1=YES  0=NO   <0>       │
└─────────────────────────┘
```

Press [0] [ENTER] if you want to edit the program, or press [1] [ENTER] to begin fresh. This document will assume we are creating a new Program. Editing an existing Program is similar enough that an example of it would be redundant.

The LCD will prompt you to enter the number of digits in your Practice Segment Timer Clock.

```
┌─────────────────────────┐
│  NUMBER OF DIGITS       │
├─────────────────────────┤
│  IN CLOCK:      <4>      │
└─────────────────────────┘
```

If you are using your basketball scoreboard only as your Practice Segment Timer display, accept the default value of four digits by pressing [ENTER]. If you have a dedicated Practice Segment Timer display with a four-digit Clock, accept the default value by pressing [ENTER].   If you have a dedicated Practice Segment Timer display with a two-digit Clock or you want to use your Basketball Shot Clocks as your Timer, press [2] [ENTER] here.

Selecting a two-digit Clock skips over the next prompt.

Next you will choose the total number of Segments to be used in your Program.

```
  **90 AVAILABLE**
 TOTAL SEGS: <01>
```

For a Practice that consists of five timed periods, press [5] [ENTER].

Now you enter the length of each Segment.

```
 ENTER LENGTH OF
 SEG #01  <00:00>
```

The length of a Segment cannot be 0 nor some time with Seconds greater than 59. Any valid time from 1 Second to 99 Minutes 59 Seconds will work. Whether you're programming a two-digit or four-digit Clock, you are prompted for four digits here.

Let's assume your first Segment needs to be 12 Minutes 30 Seconds long. You press [1] [2] [3] [0] [ENTER]. Now the LCD will prompt you to enter the length of the second Segment.

```
 ENTER LENGTH OF
 SEG #02  <12:30>
```

These prompts will continue until you have given a length of each Segment up to however many Segments you requested in the previous step. Notice that the default length for a given Segment is the same as the length of the previous Segment you entered, so you can just press [ENTER] at these prompts if all your Segments are the same.

Next up: Clock Direction:

```
 CLOCK DIRECTION
 1=UP 0=DOWN  <0>
```

Count time up from 0:00 or down to 0:00. Pretty straightforward.

Tenth of Second Mode:

```
 1/10TH SECONDS?
 1=YES  0=NO  <1>
```

This prompt only shows up if you choose a four-digit Clock and select Down Counting at the previous prompt. Up-counting Clocks always show time in the MM:SS format. By default (that is, if you press [ENTER] here) your Clock will go into Tenth of Second Mode for times less than one Minute. In this mode the Time is displayed as Seconds and Tenths (SS.t format) rather than Minutes and Seconds (MM:SS format). You can turn off this behavior by pressing [0] [ENTER] at this prompt.

If you are setting up a two-digit Practice Segment Timer or if you've disabled Tenth of Second Mode for your four-digit PST, you will next be prompted for the Flash Zone. You can ignore this prompt by pressing [ENTER].

```
SET FLASH ZONE
(0=NONE)  <00:00>
```

The Flash Zone feature allows you to make the Segment Time blink on and off during the final portion of a Segment. The idea is to get your attention when the Segment is about to end. So, if you type [3] [0] [ENTER] at this prompt, you are saying that you want the Clock to flash during the last 30 Seconds of each Segment. The Flash Zone feature works specifically for dedicated Practice Segment Timers and Shot Clocks; it is not compatible with most scoreboards and will have no effect on the main scoreboard display.

Interval Time:

```
BETWEEN SEGMENTS
INTERVAL:<00:05>
```

This controls how long your PST Program pauses between each Segment. There are two reasons that you might want to change this value to 0. First, you may want the Clock to simply stop at the end of each Segment and wait for you to manually start it. Second, you may want to have absolutely no breaks between Segments. Setting it to 5 Seconds or more allows time for the Horn to die down between Segments. Or you could use the Interval Time to allow a break of several minutes between Segments. Whatever value you choose, it will be the same in between all Segments. If you want to stop between Segments and manually restart the Clock, set this value to 0, and disable the Continuous Play feature (more on this later). Remember that the Horn can be set to automatically sound at the end of each Segment but will never sound at the end of the Interval Time.

Display Interval:

```
DISPLAY INTERVAL
1=YES   0=NO   <0>
```

If you are programming for a four-digit Clock and you set you Interval Time to something other than 0 in the previous step, you'll be prompted to tell whether or not that Interval should be displayed on the Clock. The default is "No" -- meaning the Practice Segment Timer Clock will show 0:00 or 0.0 during the Interval (while the console's LCD will count down the Interval time). If you respond [1] [ENTER] to this prompt, you are allowing the Interval Time to be displayed in same places the Segment Time is normally shown. If you have a two-digit Clock, this is not an option, so the console skips the prompt. If you are using your basketball scoreboard to display PST information, the Interval Time displays whether you answer Yes or No to this question.

Automatic End of Segment Horn Feature:

```
┌─────────────────────────┐
│     END OF SEG HORN      │
├─────────────────────────┤
│    1=AUTO 0=OFF <1>      │
└─────────────────────────┘
```

By default (that is, if you press [ENTER] here) the Horn sounds at the end of each Segment. You may turn off this feature by pressing [0] [ENTER] here. If you have a dedicated Practice Segment Timer with a Visual Horn Indicator, the indicator will still illuminate at the end of the Segment no matter how you set the Horn to behave. You may still sound the Horn manually using the [HORN] button on the console. If you are using a Shot Clock as your PST, the Shot Clock Horn will NOT sound at the end of a Segment, although the Visual Horn Indicator will illuminate.

Segment Count Direction:

```
┌─────────────────────────┐
│     SEGMENT COUNT?       │
├─────────────────────────┤
│    1=UP 0=DOWN  <1>      │
└─────────────────────────┘
```

By default the Segment Count starts at 1 and continues up to how ever many Segments you programmed. You may select down-counting mode by pressing [0] [ENTER] here.

Continuous Play Mode:

```
┌─────────────────────────┐
│    CONTINUOUS PLAY?      │
├─────────────────────────┤
│   1=YES  0=NO  <1>       │
└─────────────────────────┘
```

You'll see this prompt only if you set the Interval Time to 0 a few prompts back. Continuous Play Mode means the Clock never stops (unless the operator manually stops it). Once Segment 1 is finished, Segment 2 automatically starts, etc. If you prefer to manually start the next Segment, press [0] [ENTER] at this prompt. By the way, because it only makes sense to have an Interval Time if you want Continuous Play, you will always be in Continuous Play Mode if you set Interval Time to anything other than 0.

Continuous Loop Mode:

```
┌─────────────────────────┐
│    CONTINUOUS LOOP?      │
├─────────────────────────┤
│   1=YES  0=NO  <0>       │
└─────────────────────────┘
```

You'll see this prompt only if you've enabled Continuous Play Mode. If you press [1] [ENTER] the Program will automatically start over at the end of the last Segment and continue from the beginning.

Practice Segment Timer Operation

Once you've created, loaded, or edited a Program, your LCD will show something like this:

SEG 01   25:00
PROGRAM 35

"PROGRAM 35" tells you that you are at the beginning of PST Program 35. Later, this area of the screen will provide other messages. The Segment Count is shown in the upper left part of the LCD. During an Interval Time you'll see the Next Segment displayed here. The upper right part shows the Segment Time (or Interval Time).

The following buttons on the control console are available for use when you are in Practice Segment Timer Mode:

[CLOCK ON / OFF] - This may be the only button you have to use once you've loaded your Program. Press [CLOCK ON / OFF] to start the Segment Timer Clock. If you've enabled Continuous Play Mode, the Clock will continue to run until all your Segments have been completed.

Once you start the Clock running, only two buttons on the keypad have any effect. You can either use [CLOCK ON / OFF] to stop the Clock or use [HORN] to sound the Horn.

[HORN] - Sounds the Horn for a one- to two-second burst. If your Practice Segment Timer has Visual Horn Indicators, they will illuminate as well. Shot Clock Horns are not tied to the regular Game Clock Horn, so you have no audible Horn available when using a Shot Clock as a Practice Segment Timer. This button will, however, illuminate the Visual Horn Indicators on your Shot Clocks.

[QTR. / PERIOD +1] - Available only when the Clock is NOT running. This button advances to the beginning of the next Segment. If you are currently showing the last Segment, pressing [QTR. / PERIOD] will cycle you back to the first.

[CLEAR] - Available only when the Clock is NOT running. This button allows you to reset the current Segment back to its starting time. If you press [CLEAR] at the beginning of a Segment, you'll go to the start of the previous Segment.

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

SET CLK   <15:00>

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. Any changes you make to the Time last only until the end of the current Segment or Interval. Afterwards, all times revert to their programmed values.

[SET CLOCK .1 SEC] - Available only when the Clock is NOT running. The button is disabled for two-digit Practice Segment Timer Programs. It allows the operator to edit the time shown on the Clock during the last minute of a Segment including the Tenth of Seconds digit. Pressing the button brings up an input prompt on the second line of the LCD screen.

```
SET SECS   <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. Any changes you make to the Time last only until the end of the current Segment. Afterwards, all times revert to their programmed values.

[.1 SEC ON / OFF] - Available only when the Clock is NOT running. The button is disabled for up-counting Segment Clocks. It is also disabled for two-digit Practice Segment Timer Programs.

This button allows the operator to set the behavior of the Clock during the final minute of a Segment. By default, during the final minute, the Segment 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]. Any changes you make to Tenth of Second Mode will last only as long as you continue to run the currently loaded Program. If you reload the Program or load a new one, the Tenth of Second Mode will revert to the programmed value.

If you created a Practice Segment Timer Program with a four-digit Clock and you disabled Tenth of Second Mode during setup, you may have enabled Flash Zone. If you then use the [.1 SEC ON / OFF] button to enable Tenth of Second Mode, Flash zone will be disabled. The two features are mutually exclusive.

[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 Segment. That is, when the 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:

```
 END OF SEG HORN
 1=AUTO 0=OFF <1>
```

To turn off the Automatic Horn at the End of each Segment, press [0] [ENTER] at this prompt. You can press [ENTER] to skip to the next prompt without making changes. The next prompt offers you control of the Horn at the end of a Time Out.

```
 END OF TIME OUT
 1=AUTO 0=OFF <0>
```

By default the Automatic Horn at the End of Time Out is disabled, but you can enable it by pressing [1] [ENTER] here.

If you are using a Shot Clock to serve as your Practice Segment Timer, there is no way to take advantage of the Shot Timer Horn. The Shot Clock will remain silent no manner how you set the Auto Horn features in PST mode.

[TIME OF DAY] - Available only when the Clock is NOT running; disabled for two-digit Practice Segment Timer Clocks. This button allows the operator to use the scoreboard or Practice Segment Timer to show the time of day.

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

Press [1] [ENTER] to continue.

At the next prompt, enter the current time. The LCD display on the control console will tell you that you are in Time of Day Mode:

```
      11:35
 TIME OF DAY MODE
```

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

[TIME OUT TIMER] - Available only when the Clock is NOT running and the console is not in Time of Day Mode; disabled for two-digit Practice Segment Timer Clocks. This button allows the operator to initiate a countdown of any duration less than ten minutes without losing track of the Segment Time information.

```
TO SCOREBOARD?
1=YES   0=NO   <0>
```

The first prompt asks the operator if the Time Out Time should temporarily replace the Clock display on the scoreboard. Otherwise the countdown will be seen only on the control console LCD. Press [1] [ENTER] to display the Time Out Time on the scoreboard.

```
SET T-OUT <1:00>
```

At the second prompt, the operator should enter the duration of the Time Out (or whatever is being timed). To count down from Two Minutes, press [2] [0] [0] [ENTER]. As soon as you press [ENTER] the Time Out Countdown begins.

To stop the Time Out Countdown, press [TIME OUT TIMER] again.

If the Auto Horn at End of Time Out feature has been turned on, the Horn will sound when the Time Out Timer reaches 0:00. The Time Out Timer is not affected by settings for Tenth of Second Mode (never shows Tenths) or Clock Direction (always counts down). Pressing the [CLOCK ON / OFF] button while the Time Out Timer is running will abort the countdown and start the Game Clock running.

[NEW GAME] - Available only when the Clock is NOT running. As it is in Basketball Mode, in PST Mode this button is a gateway to several menu functions including...
- [NEW GAME] [1] [ENTER] = reset scoreboard (returning to basketball mode).
- [NEW GAME] [4] = blank test.
- [NEW GAME] [5] = lamp test.

In addition, the New Game functions have special features available in Practice Segment Timer Mode.

[NEW GAME] [6] - Available only when the Clock is NOT running. This feature allows the console operator to hide either the Clock or the Segment Count or both. The first time you press [NEW GAME] [6], the LCD will show you what is about to happen:

```
┌─────────────────────────────┐
│        HIDE CLOCK           │
├─────────────────────────────┤
│        SHOW SEGMENT         │
└─────────────────────────────┘
```

Press [ENTER] to continue, and the Clock section of the scoreboard will go blank. You will continue to see the Clock on the LCD screen. Press [NEW GAME] [6] [ENTER] again to restore the Clock and hide the Segment Count. Press these keys again to hide both, and a fourth time to turn both back on. You can quickly cycle through the various combinations by pressing [NEW GAME] [6], then press [6] repeatedly until the LCD displays the condition you are looking for. Press [ENTER] to accept that condition and complete the command.

The feature will not be available if you are using a Program created for a two-digit Clock.

[NEW GAME] [9] - Available only when the Clock is NOT running. This feature allows you to edit your current Program or load or create a new Program.

```
┌─────────────────────────────┐
│      EDIT PROGRAM 36?       │
├─────────────────────────────┤
│     1=YES  0=NO  <0>        │
└─────────────────────────────┘
```

If you press [1] [ENTER] at this prompt, you will be taken through the same series of prompts that you saw when you set up the Program the first time. This time through, all the default values will be filled in with values from your Program. You can quickly cycle through your original Program values by pressing [ENTER] repeatedly until you reach a value that you want to change.

If you answer [0] [ENTER] to the "EDIT PROGRAM" prompt, you will be given a chance to enter a new Program ID. Here you may load an existing Program or start a new one.

Handheld Clock Start / Stop Switch
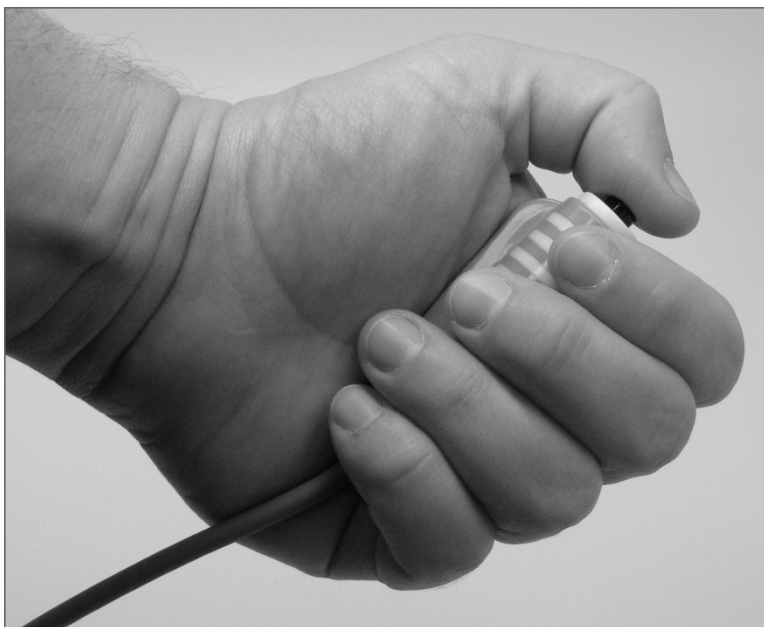
Some of our basketball scoreboard packages ship with a handheld pendant-style switch that plugs into the back of the control console and allows a separate operator the ability to start and stop the Game Clock (or the Segment Timer Clock). The RJ-45 style connector at one end of the handheld unit's cable can plug into the console socket labeled "CLOCK Hand-held" or the one labeled "DGT / SC Hand-held". 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.

Handheld Three-Button Controller for Shot Clocks
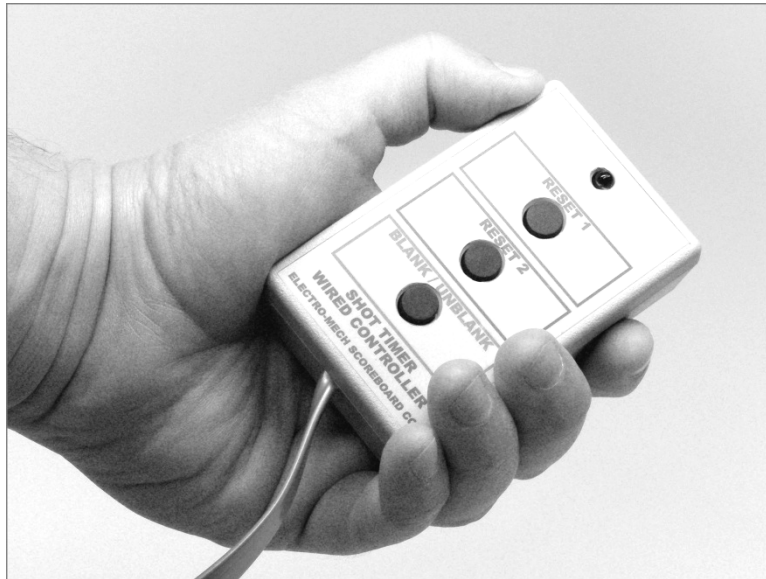
If you purchased a set of Shot Clocks, your package includes a handheld three-button controller. This controller plugs into the back of the control console using the RJ-45 style connector at the end of the handheld unit's cable. You may plug into the socket labeled "DGT / SC Hand-held" or the one labeled "CLOCK Hand-held". Here's what the buttons do:

       Top Button = Set the Shot Clock to Reset 1 value (default = 35 seconds).

    Middle Button = Set the Shot Clock to Reset 2 value (default = 15 seconds).

    Bottom Button = Blank / Restore the Shot Clock.

If the Shot Clock shows any value greater than 0, it will count down whenever the Game Clock is running (and stop whenever the Game Clock stops). If you press and hold the Top Button while the Game Clock is running, the Shot Clock time will hold at the Reset 1 value (usually 35 seconds) until you let go of the button. If you press and hold the Middle Button while the Game Clock is running, the Shot Clock time will hold at the Reset 2 value (usually 15 seconds) until you let go of the button.

You cannot display a time on the Shot Clock that is less than the time remaining in the Period. So, for instance, if your Reset 1 value is 30 seconds, and you have 0:28 showing on the Game Clock, pressing the Top Button will cause the Shot Clock displays to go blank.

Using the [SHOT CLOCKS] button on the main control console, you may assign any number, from 1 to 99 seconds, to Reset 1 and Reset 2. Unlike most other settings, these reset values are "sticky" through a [NEW GAME] [1] clearing of the game data.

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 or Practice Segment Timer Program. If you fail to respond to the prompt, the game data will restore automatically after a few seconds.

Jumper Settings
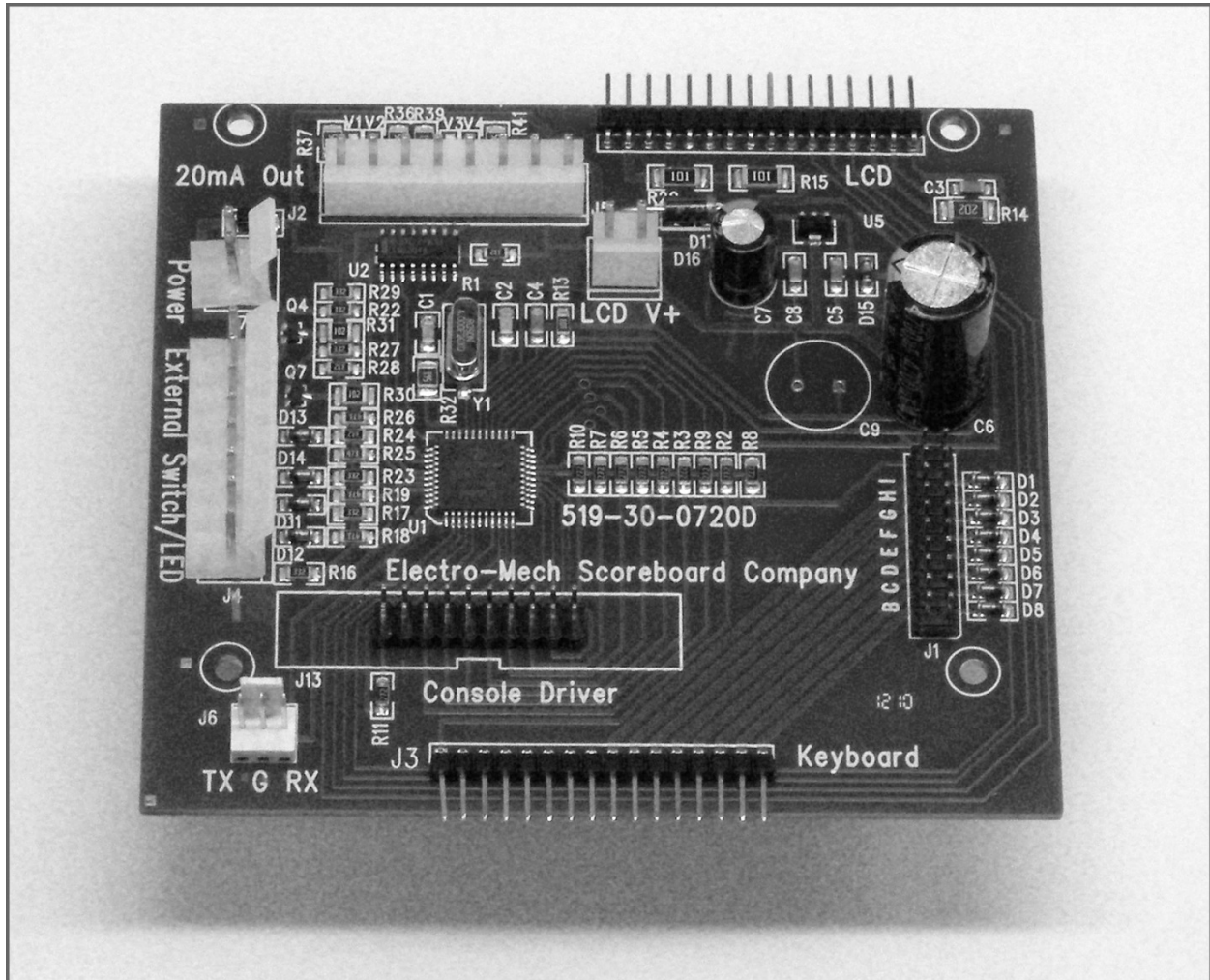
CX Driver

*** 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 basketball scoreboard. This table summarizes the jumper settings for the Board Type Jumpers:

Board Type	F	G	H	I	Models / Comments
BASEBALL_3					10xx, 12xx, 134x, MM-10x, MM-12x
BASEBALL_4				X	1360, MM-136
FOOTBALL_4			X		1360, 3150, MM-136 MM-335, MM-338
BASEBALL_1			X	X	10xx, 11xx, 12xx, 134x, MM-10x, MM-12x
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	15xx, 17xx
FOOTBALL_1	X		X		3xxx (except 3150), 7xxx (except 72xx, 73xx, and 79xx), MP-3xx
BASKETBALL	X		X	X	2xxx (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		137x, 1390
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 Basketball 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 = 9 Periods (Install this jumper to have 9 Periods instead of 4)
Jumper C = Incandescent with 2180 (Allows Model 2180 to work with Model MP-2xx)
Jumper D = Incandescent (Install this jumper for scoreboards with incandescent lamps)
Jumper E = Not used

Installing Jumper C accomplishes nothing unless Jumper D is also installed.

Installing Jumper D changes the way blanking is handled for some digits and selects bullet indicators for Period instead of a digit. This creates an incompatibility with the scoreboards listed on the front page of this document. With Jumper D installed, the console is set to operate the following incandescent scoreboard models (and LED-920, which was designed like an incandescent scoreboard):

MM-259	**MP-259**	**MP-259/220**	**MP-920**
MM-269	**MP-269**	**MP-269/220**	**LED-920**
	MP-9350		