# DRILLClock ©

Avatar Custom Electronics

## The **COACH** Timer

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**DRILLClock** Electronics
THE **COACH** Timer
Quick Start Instructions


The **COACH** Timer is designed for athletics coaching. It has a keypad entry for setting a time schedule, or schedules to be used now or later. There are forty "PERIODS" in which each **PERIOD** can have up to forty nine "SEGMENTS" of the same duration.  The **Time** value for the **Segments** in each **PERIOD** can be **1 Second** up to **99 Seconds** in **Seconds Count Mode** or **1 Minutes** up to **99 Minutes** in **Minute Count** mode.


**GENERAL TIMER DESCRIPTION**
1. **PERIODS**
    >Use the **PERIOD +** and **PERIOD -** buttons to navigate between the forty **PERIODS.**
    >Each **PERIOD** has its own set of attributes for the Segments in it
    >The **TIME** duration for each **SEGMENT** in the current **PERIOD** is set as two digits
    >The **CNT MODE** button will toggle between **SEGMENT- TIME** value count as minutes or seconds
    >The LED display will *Scroll* the text "**SEC**" to indicate **seconds** or "**nnin**" to indicate minutes
    >Set how many of these **SEGMENTS** will run, use **SEGMENT ADD+** or **SEGMENT SUB–** buttons
    >To keep these settings press **SAVE** to store in non-volatile memory
    >Change or Edit the settings in a **PERIOD**, in any order, as many at once, with **SAVE** being pressed last


2. **VIEW DETAIL**
To give the coach needed information the **COACH** Timer will display text on the LED display. The messages are meant to be recognized easily as markers. They are not intended to give instruction details for timer operation.  Pressing **VIEW** will display the following information when the clock is stopped or started.
If the Clock is **RUNNING**
**Press One**:     Text message, "Run SEG  XX" where XX is the number of the segment currently running.
**Press Two**:     Text message, "SEG   XX" where XX is the total number of segments in this PERIOD.
**Press Three**:    Text message indicating the Count Mode.  Minutes "nnin" or Seconds "SEC" displayed.
**Press Four**:     Text message, "PERIOD XX" where XX is the number of the current PERIOD that is running.


 If the Clock is **NOT RUNNING**
**Press One**:  The **TIME** that is set for the SEGMENTS, shown as flashing numbers*
**Press Two**:  How many Time **SEGMENTS** are set to run in the currently viewed PERIOD
**Press Three**: What **COUNT** mode will be used in this PERIOD, (SEC or nnin)
**Press Four**:  What is the number of the **PERIOD** currently being viewed
 *If the timer clock has been started, then the first press will display, *Scrolling* "Run Seg 1"


3. **TIME** and **SEGMENTS** are button "pairs" that will "**Add or Subtract**" from their values. Holding these pressed will step slowly for six changes and then begin very fast changing to the max numbers. This allows you to set or change any of your settings very fast.  **PERIOD + and PERIOD—** will step up or down between the **40 PERIODS**. The **PERIOD** buttons are a change for each press.


4. Your practice schedule can include as many of the **PERIODS** as you need. To create a multiple time schedule, you must make sure that each **PERIOD** that is to be part of the routine, is in ascending order, and all of the **TIME** and **SEGMENTS** that are included are not set to zeros. When a **PERIOD** is started that has zero for **TIME** or **SEGMENTS**, the routine will **PAUSE** at that point.

5. The **START** button is pressed to start the clock running at the **PERIOD** that you select. When the timer is running, press **START** again to PAUSE the clock, the display begins flashing. Pressing the **RESTART** CLOCK (also the **Period** -) button will restart the clock. To STOP a running clock, Press the **STOP CLOCK RUN button,** four times (also the **SAVE** button) to Stop the clock.

6. **DELAY START** button will enable a time delay to be placed after a **SEGMENT** finishes, before the next **SEGMENT** starts. Each **PERIOD** has its own **DELAY START** timer. After pressing **DELAY START,** the LED display will show you the Time Delay that is set. To **ADD** or **SUBTRACT** seconds, use the Yellow **TIME** buttons. The **Delay Start** is settable for up to a 79 second delay. When the **Delay TIME** is set to "00", it is disabled. After changing the **TIME** value for this delay, press **SAVE** to keep your changes. To disable a **Delay Start** that was set earlier, press the **DELAY START** button, then press it again.

7. **CNT MODE** (Count Mode) is a toggle between two settings. It is a very important part of setting your practice schedule. For any of the **PERIODS**, pressing the **CNT MODE** button will *scroll text* displaying either "**SEC**" or "**nnin**" to indicate if the **SEGMENT TIME** value will be counted as Minutes or as Seconds.

8. Setting or editing the **TIME** value, number of **SEGMENTS** or the **COUNT MODE** for a **PERIOD** can be done in any order, as long as you press **SAVE** after you make the change and before you go to another **PERIOD** or **START** the clock. You do not have to go to an edit mode, simply make the change and then press **SAVE.**

9. Navigating between **PERIODS** you need to be able to see what is set for each **PERIOD**. The **VIEW DETAIL** button lets you view the **TIME** that is set for the current **PERIOD**. **TIME** is shown *blinking slowly 4 times* then turning OFF. Press it again, and the display shows "**SEG**" and then a number of how many **Segments** are set to run in this **PERIOD**. Press again and the **COUNT MODE** will be shown as *Scrolling* "**SEC**" for seconds or the letters "**nnin**" for minutes. Press one more time to see *Scrolling* "**PERIOD**" followed by the current **PERIOD** number. For convenience, pressing **PERIOD UP** or **DWN** will reset the **VIEW DETAIL** back to showing the **TIME** setting for the next **PERIOD's SEGMENTS**.

10. **SHOT/PLAY CLOCK DRILL** This is a count down in seconds, starting from a value that you set from 1 to 99 seconds. The **TIME** value that is set for **PERIOD 0** will be the **PLAY CLOCK** start time. To enable the **PLAY CLOCK** drill, you must press the *Delay Start* button on the remote control, as the first press after powering up the system. Press **START** to begin counting down, a short tone sounds when the clock reaches zero. Press **START** during the count down to **Pause** the clock. With the clock paused, the **TIME** remaining in the count can be modified using the **TIME + -** buttons. Press **START** to continue the count down to zero. To **RESET** the clock to the **START TIME**, press the red **SAVE** button. If the clock has been **PAUSED**, and then **RESET**, press **START** two times (double click) to begin the next count down.

# DRILL ROUTINES

## 1. A  BASIC  PRACTICE ROUTINE

This practice schedule is one that many Coaches will use for day to day schedules.
It consists of Twenty 5 Minute Segments.

A. **Power ON** the system and choose a **PERIOD** for the routine using **PERIOD +** and **-**

B. Press the **TIME+** button until the display shows "5"

C. Then Press the **SEGMENT+** button until the display shows "20"

D. Press **SAVE** to store these settings.

E. Press **START** to run the drill

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## 2. A WARM-UP DRILL ROUTINE BEFORE THE MAIN SCHEDULE OF TWENTY 5 MINUTE SEGMENTS

This drill routine will be a warm-up routine, that will begin with five 30 second stretch Segments, followed by a "fast in place" exercise routine with twenty 15 second Segments. The main practice can start here with twenty 5 minute Segments. For this routine you will need **3 PERIODS** in consecutive order.

For this example, the first **PERIOD** in the drill will be **PERIOD 1***

**PERIOD 1**:    Press **TIME +** button until you see 30 on the display

Press **CNT MODE** button to see text *Scrolling* "SEC" indicating Seconds count mode.

Press **SEGMENT+** button, five times to see "5" on the display

Press **SAVE** and then press **PERIOD+**  to move to the next PERIOD, PERIOD 2


**PERIOD 2**:    Press **TIME +** button, until you see 15 on the display

Press **CNT MODE** button to see text *Scrolling* "SEC" indicating Seconds count mode.

Press **SEGMENT+** button,  holding  the button down to count up to "20"

Press **SAVE** and then press **PERIOD+**  to move to the next PERIOD, PERIOD 3


**PERIOD 3**:   Press **TIME +** button, until you see 5 on the display

Press **CNT MODE** button to see "nnin" indicating Minutes count mode.

Press **SEGMENT+,**   holding  the button down to count up to "20"

Press **SAVE**            display text *Scrolling*  " SAVE "

Press **PERIOD–**        until you are on the first **PERIOD** in the routine.  (PERIOD 1)*

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*Tip:* After setting the **PERIOD** attributes, use the **VIEW** button to check your settings. You can make a change in any of the settings, then press **SAVE**.

**B1.1**  There are 40 **PERIODS**, each one has its own set of attributes that are independent of other **PERIODS**. The attributes are saved in non-volatile memory. The attributes include all user settings for **TIME**, **SEGMENTS**, **COUNT MODE** and **DELAY START**. A Master Reset of all **PERIODS** is also possible.

**B1.2**  **PERIOD** Attribute Description:

     A. **TIME** is the _duration_ that all SEGMENTS within the **PERIOD** will have. It is set using the **TIME ADD+** and **TIME SUB–** buttons for a value of "00" up to "99". Pressing **ADD+** will add 1 number, hold button pressed to step slow up to six steps and then begin fast counting up to "99". Press **SUB–** to decrease this number.

     B. **CNT MODE** The "numbers" that are set for **TIME,** can be counted as "Seconds" or as "Minutes". The **Count Mode** is selected by pressing the **CNT MODE** button, each press will toggle between the two settings. Seen as _scrolling text_ on the LED display.  **Minutes** are displayed as **"nnin"**.  **Seconds** are displayed as **"SEC"**.

     C. **SEGMENT** is a value that is set, representing the number of **SEGMENTS** that will run in the **PERIOD**. It is set using the **SEGMENT ADD+** and **SUB–** buttons, and will be a value of "00" up to "49". Pressing **ADD+** will add 1 number, hold button pressed to step slow up to six steps and then begin fast counting up to "49". Press **SUB–** to decrease this number in the same manner.

     D. **DELAY START** is a value, in Seconds that will be placed between each **SEGMENT** in a **PERIOD**. Delay Start is Disabled when the Time value is set to "00" Seconds. Delay Start is Enabled by setting its value  to a number greater than zero. Press **DELAY START**, text is displayed "**delay Start**", then press **TIME ADD+** to add one second for each press. Press **TIME SUB–** to decrease this number, each press down to zero. To keep changes made, press **SAVE**.  The message text "**SET SAVE**" will be _Scrolled_ on the LED display.

**B1.2b** The **Delay Start** value for any **PERIOD** can be reset to zero, (disabled) by Pressing **DELAY START** twice

**B1.3**  **SAVE** This button will update and save the settings of the "**PERIOD**" being viewed.  The **SAVE** button is the **STOP TIMER RUN** when the clock is running.  Press four times to **STOP** the clock.

**B1.4**  The **COACH** Timer will **End** one **PERIOD** and **Start** the next **PERIOD**, in an approximate time of two seconds. The Time duration between **SEGMENTS**, in a **PERIOD**, is less than 1 second. You can add up to 79 seconds to be placed between each **SEGMENT** in a **PERIOD** using the **DELAY START** feature. Each of the **40 PERIODS** has its own **DELAY START** value for the **SEGMENTS** in the **PERIOD**.

**B1.5**  **DELAY START** setting for a **PERIOD**, the timer should be Stopped, and then press **DELAY START**. You will see  _Scrolled_ message, next you will use the **TIME+** and **TIME–** yellow buttons to Add or Subtract Seconds from the **DELAY START** value.  After setting, press **SAVE** and see the _Scrolled_ message: "SET  SAVE".

**B1.6**  **PERIOD VIEW DETAILS** This button will not change what is set to memory. It's purpose is to give the operator a method to "see" the attribute settings for a particular **PERIOD**. Typical application is when you are stepping through **PERIODS** you might be looking for a **PERIOD** that is not currently being used. Pressing **PERIOD +** or **PERIOD—** followed by pressing the **VIEW DETAILS** button will display the **TIME** value that is set. To make it easier to identify what is being displayed, **TIME** will be shown with a slow blink **ON** then **OFF**, for four times, then blanking. For further details of the **PERIOD VIEW DETAILS** button, see **B2.1**.

**B2.1  VIEW RUNNING TIMER**  When the **PERIOD** clock is running, you might want to know what Segment number in the **PERIOD** is currently running. The following series of button presses of the **VIEW**  button.

Press #1  Scrolling text "Run Seg X" where X is the number of the current running **SEGMENT**.

Press #2  Scrolling text "SEG X" where X is the total number of **SEGMENTS** that are set to run in the **PERIOD**.

Press #3  Identify the **Counting MODE** being used in the **PERIOD**; "**nnin**" Minutes, "**SEC**" Seconds.

Press #4  Scrolling text "PERIOD X" where X is the number of the current running **PERIOD**.

**B2.2  DELAY START**  Each **PERIOD** has a **DELAY START Timer** that can insert a time delay of 1 to 99 seconds between each **SEGMENT** in the **PERIOD**. Press the **DELAY START** button to display how many delay seconds are set for this **PERIOD**. Timer must be Stopped, press the **TIME+** button to add one second, up to 99 or press **TIME−** to subtract one second, down to zero. If set to "00" the **DELAY START** is OFF.

> ***Shortcut*** to set the **DELAY START** to zero for a **PERIOD**.
>
> Press **DELAY START** to **View** what is set
>
> Press **DELAY START**  again to set to zero and save (Pressing **SAVE** is not required)

**B2.3  HORN**   Press to sound the audio horn with a series of tones. **Disabled** when in **SHOT/PLAY CLOCK** mode.

**The DRILLClock Timer Display**

Information that is displayed on the LED Display is limited by the seven display segments that make up the numbers. It has always been a major design goal for the display to be able to "pass on" certain information to the coaches and athletes. The **DRILLClock** *"Scrolling"* text messages go a long way to this end. For the **COACH** Timer, we have taken a different approach for messaging. The Scrolling text is still used, but used sparingly. Messaging is used not to instruct, but to give feedback or acknowledgement of a button being pressed for a desired output. All messages for the **COACH** Timer are the result of a button being pressed by the operator. Therefore it requires less of a detailed message, and is intended to be recognized as an acknowledgement of a user action. This allows for a much faster and cleaner interaction with the timer. The COACH Timer can be run from its keypad or it has a optional full function remote control.

THE **COACH** Remote allows timer programming of functions and operation of all features of the **COACH** Timer from over 100 yards. **DRILLClock** Timers have been developed over time to be a tool for coaches. Our products are designed to balance cost, functionality and longevity of service life.

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It is always a good idea to plan ahead of actually programming your practice schedule. It doesn't matter how easy things are to set, a minor confusion can make drastic changes in your practice outcome. Not as important if you only need one time duration and one PERIOD. The audio horn output has attributes as follows:

1. **SEGMENTS** Begin with one high pitch beep
2. **SEGMENTS** End with two short middle pitch short tones
3. Last **SEGMENT** in a **PERIOD** Ends with one low pitch long tone
4. **SHOT/PLAY CLOCK** ENDS with one high pitch short tone

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A team practice can have widely ranging dynamics as the practice progresses. The COACH Timer can be the common thread of marking time evenly and clearly for all of the participants. The Segment Timer function relieves a coaching staff from the job and distraction that keeping up with practice time can be.

**ABOUT USING THE COACH TIMER**

If you describe the purpose of having a Segment Timer to someone that was unfamiliar with Coaching or athletics training, it is not surprising that they might not understand. Doing the same to a group of Coaches brings out the similarities and differences in how training programs can be run by different Coaches. There are many "Segment Timers" on the market and they cover a range of pricing and features. What could the **COACH** Timer do for your training program?

While Coaches and their athletics training programs may take on many different facets, there is one thing that coaches share. A limited amount of "Time" that they have to teach, to inspire and basically make their group of athletes into a well oiled, winning team. To that end, **DRILLClock** has focused the **COACH** Timer development on features that would be most helpful to Coaches. How many steps does programming your timer take? How many steps does it take to edit your practice schedule when needed? Do you just leave your schedule alone in fear of screwing it up?  Looking for the owner manual to get instructions on setting your timer can be time consuming and lets face it, very frustrating!

How does the **COACH** Timer improve on these things? The manner in which the Coach interacts with the Timer would be number one. Instead of trying to remember which button to press first,  a quick glance at the **COACH** keypad shows pairs of buttons  that add or subtract your settings. The important things to remember when using the **COACH** Timer can be listed this way.

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**Quick List of Operation**

1. Always Press **SAVE** after you set or edit any part of the **PERIOD**

2. **PERIODS** will run and follow each other in ascending order, choose any of the **PERIODS** to be your first

3. When a **PERIOD** has **zero** set for **TIME** or **SEGMENTS**, the timer will **PAUSE** (Stop running)

4. Press **VIEW** to see what is set for the current **PERIOD**

**5.** Press **VIEW** while *timer is running*:

Press #1  Display *Scrolls*  "run SEG" then the number of the Running Segment

Press #2  Display *Scrolls* "SEG" then a number is shown, for the total Segments that are set to run

Press #3  Display *Scrolls* the **COUNT MODE** for the **PERIOD,**  "nnin" for minutes, "SEC" for Seconds

Press #4  Display *Scrolls* "PERIOD" then the **PERIOD** number is shown

NOTE:  The messages will be momentarily shown.

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**MASTER MEMORY RESET**
Use any time to get a clean slate of PERIODS to use.

With power OFF, Press and Hold the **START** button on the **COACH** Timer, next connect power and wait 5 seconds, then release the button.

This will reset all memory to its initial state of zero. (00)