

INTRODUCTION

Congratulations on purchasing the **CED8000 Shot Activated Timer**, the most advanced timer on the market today, yet as easy to use as a mobile phone. The CED8000 Timer features a large backlit display, advanced programming, memory, and a range of features that make all other timers obsolete! Easy to use and so compact and lightweight, that it will fit into your shirt pocket! (95x89x33 mm / 3.75" x 3.5" x 1.35" closed)

New features / functions never before seen on timers include:

- Memory Recall / storage and unlimited shot record & review function
- Preprogrammed NRA Bianchi, PPC, & Field Shooting Events
- Sportsman Challenge Countdown Mode and Gunsmith Mode
- Earphone plug / jack for private training. When in use, the timer's buzzer is disconnected.
- Custom PAR allows single or multiple time settings with variable delay intervals
- Dual forward / reverse REVIEW function

In addition to:

- Large illuminated full function LCD display showing at a glance total time, splits, shot number, Par, & first shot time
- Month, Day, Date, & Time displayed in 12 or 24 hour clock selection
- Optional 50 yard RF remote capability for CED BigBoard or Time Keeper
- 999.99 second time record capacity
- Split & 1st shot times displayed on all shots fired
- Combined Comstock Function
- Repetitive Mode (Face / Edge Simulation)
- Fixed Time Function
- Virginia Count Function
- Instant, Fixed, Random or Custom Programmed Delays
- Digital sensitivity shot detector with adjustable software filter
- Auto rapid fire detection
- Auto shut-off to conserve battery drain
- Two stop plate input jacks (Man vs. Man), with multiple hit recording, ideal for air soft use. Displays both times and indicates winner.
- Auxiliary jack, for external loud horn or target turning related use
- Self-diagnostic test system
- Loud, low frequency buzzer
- Low battery LCD indicator
- Custom case for easy storage and protection included (\$16.95 value)
- Custom headphone ear plug with volume control included (\$7.95 value)

A table of contents listing each of these features is indicated on the following pages for your easy reference.

Please read this operation manual completely to familiarize you with all the features of the CED8000 and to ensure reliable operation.

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Special Notice!

There are two rubber tabs located on the bottom end of the CED8000 Timer. These tabs are designed to provide protection to and prevent dirt particles from entering the input & output jacks when not in use and to provide additional base support for the Timer to rest on. To use an input or output jack, simply remove the rubber tab. Each jack is labeled as described on page 18.

PREPARATION

BATTERY:

The CED8000 functions on a single 9-volt **Alkaline** battery. The battery compartment, located on the lower back panel of the timer, provides easy access for fast and simple battery replacement. Rotate the belt clip 45 degrees to access the battery compartment easier. A "Battery Indicator" is constantly displayed in the top right corner of the LCD display. As the battery drains power, the symbol will turn from all black to clear color showing the amount of battery life remaining. When the 9V battery reaches 5.0V, the battery symbol will begin flashing indicating time to replace the battery. This provides ample warning to change the battery in order to prevent timer failure due to loss of battery power. If the battery drains to 5.5V, a warning message (Low Battery shutting off timer) will appear on the LCD display and within 30 minutes of usage, the timer will shutdown. The retention of stored data in the CED8000 will remain intact as long as the battery has a minimum of 3.5V charge. The timer continues to consume a trickle amount of power, even when turned off in order to keep the internal clock (date / time) functioning and the memory storage intact. A new 9-volt alkaline battery will provide over 3 months of normal use and up to 6 months in stand-by or stored capacity. If the battery is removed to maintain longer life span, all stored data will be lost, and resetting the clock will be required when the timer is activated again. **HOWEVER**, memory retention will remain intact for 30 seconds upon removing the battery allowing sufficient time to replace a new one without data loss.

OPERATION

MENU / MODES:

The CED8000 Timer has a complete menu of functions / features many of which offer custom programs, settings, and capabilities that no other timer on the market today provides. Below is a list of the Menu options:

Menu > Delay		
PAR	> Normal	
Custom	> Manual	
	Automatic	
Mode	> Comstock	
Sensitivity	Repetitive	
Time & Date	Combined Comstock	
Auto-Start	Virginia Count	
Filter	Fixed Time	
Par-Buzzer	NRA-Bianchi > (3 events)	
Default Settings	NRA-PPC > (4 events)	
Self-Diagnostic	Australian PPC > (2 events)	
RFID (optional feature)	Field Shooting	
	Gunsmith	
	Countdown	5.

PROGRAMMING THE TIMER:

Press the “MENU” button to display the full range of settings & features of the CED8000 Timer. To the left of the Menu button are four keys with triangle emblems pointing up, down, left, & right. In the center of these keys is the “ENTER” button. The “UP & DOWN” keys allow the user to select a setting or function from the Menu, by moving the highlight up or down. The “LEFT & RIGHT” keys allow the user to select a setting or value within a given mode, or function. Each directional key moves the highlighted selector in the direction of the key pressed. When a value has been selected (highlighted), press the ENTER button to store (confirm) it. Example: Press MENU, press the DOWN key one time to highlight PAR, press ENTER. The display will show highlighted SINGLE PAR. Press ENTER to confirm this! The display will then highlight the “0” in the thousands column. To set 5.3 seconds PAR, continue pressing the RIGHT key two times till it highlights the correct column. Press the UP key five times to display the number “5”. Then, press the RIGHT key again to highlight the 0.1 column and the UP key till the number “3” is displayed. Once you have the correct time selected, press ENTER to store the selected PAR.

Press ENTER to save data

Press CLEAR to exit without saving data

DAY/DATE/TIME SETTING:

Select from the Menu “Time & Date” and enter the time (12 or 24 hour clock), am/pm, month, day, & year, which will then be displayed continuously on the timer. The timer will consume a small amount of battery power, even when shut off in order to keep this information accurately updated and in memory. The date/day/time display can be removed from the LCD display screen by selecting the “Time & Date” Menu option and highlighting “Display – OFF”. Although the information will then not be displayed, it will remain active in memory. If the battery is removed, stored data in memory will be lost, unless a new battery is reinstalled within 30 seconds.

RFID SETTING:

If this CED8000 Timer has been purchased with the optional RF capability function for use with the CED BigBoard or CED Timer Keeper, the following section will provide information for linking the timer to a specific CED BigBoard or CED Time Keeper.

The CED8000 Timer can be ordered with an optional RF wireless remote transmitter, which has an unobstructed broadcast range of up to 50 yards to either a CED BigBoard or CED Time Keeper. To link a “CED8000F” timer to one of these other CED products, press the Menu button and scroll down to RFID. Select a four-digit number of your choice and enter it into the timer. Then enter the same number into either the CED BigBoard or CED Time Keeper to be linked with. Once completed, the CED8000 timer will transmit recorded times at regular interval of 24 seconds to the linked unit as they are recorded on the timer. The CED Timer Keeper will also display the number of shots and the split times as well.

BASIC FUNCTIONS:

The CED8000 can be turned on or off by pressing (and holding) the "CLEAR" button (marked with On / Off symbol) located on the front panel of the timer, for a "one second" duration. It is recommended that the Timer be turned off when not in use to conserve battery power. **The CED8000 is designed to automatically shut-off after approximately thirty minutes if no input is received.** The LCD will blank-out, but no loss of recorded input will occur. The user can re-activate the timer by pressing (and holding for one second) the "CLEAR" button.

The CED8000 is automatically set in "Comstock" Mode. The International IPSC Rule book describes this as: 9.2.2 "Comstock": *Unlimited time stops on the last shot, unlimited number of shots to be fired, stipulated number of hits per target to count for score.*

To use the CED8000, simply turn on the Timer and press one of the two "START" buttons to activate it. A buzzer will sound, (after a three second fixed delay) while simultaneously starting the clock. Each shot fired will register on the LCD display and continue to do so up to a maximum of 999.99 seconds. There are two START buttons on the CED8000. The first one is located on the top end of the timer, while the other is positioned on the front center console. Upon completion of shooting, the LCD display will indicate the (first) 1st shot recorded, the total shots fired / received and the cumulative time recorded. It will also display the Split time, and Par time (if set). The display will always provide the day, month, year, and time as well, unless this function is turned off.

To review the time each shot was fired, press either the "REVIEW" button located on the top end of the timer or the one on the front center console, and the LCD display will return to the first shot and time recorded. This procedure can be continued throughout all shots recorded. The REVIEW function can be viewed in forward or reverse progression by using the UP/DOWN Directional keys. The memory stores ten strings, with up to 38 shots per string at all times. By pressing the LEFT/RIGHT Directional keys (when in REVIEW function), the user can move from one string to another.

In addition to the shot number and cumulative time, the split time (difference) between the most recently recorded shot and the preceding shot time will appear on the LCD display at all times. The CED8000 has the capability to record unlimited shots fired. The memory will retain the first 99 times received, and then replace the 99th time with the last shot time received thereafter. When the "REVIEW" button is pressed the first shot / time will always appear. You can then review through each shot recorded by pressing one of the REVIEW buttons.

By pressing the "START" button, the timer automatically stores in memory the previous data received and activates the buzzer/timer accordingly. However, **the CED8000 is designed to prevent accidental loss of results. In order to re-activate the "START" button, the "REVIEW" button must be pressed at least once. An exception to this rule, is when the "Combined Comstock" mode is in use. Refer to "Combined Comstock" section for further details. The user can also override this function by selecting the "AUTO START – ON" feature from the Menu options**

LCD DISPLAY:

The illuminated display provides constant review of the most recent cumulative time recorded, Split time, Par time, 1st shot received, and the total number of shots fired. It also indicates which start delay mode the timer is currently set in, the current function mode or event in use, and has a "battery symbol" indicator which will flash repeatedly when a battery change is required. In addition, an "A or B" will appear when both input jacks are in use to indicate the winner of "Man vs. Man" events.

The display will illuminate whenever input data is received or function buttons are pressed. This is ideal for "low light" or indoor shooting conditions.

MEMORY STORAGE:

The CED8000 Timer includes MEMORY STORAGE that allows previous times & splits, number of shots fired, and other displayed information to be recalled. The timer automatically stores each set of gathered shots & times in a STRING and saves it. Example: The Timer records 6 shots with a cumulative time of 3.58 seconds. When the timer is restarted by pressing the START button, the data from the previous set (6 shots with times and splits) is automatically saved as STRING 1. Each new String is stored in memory until it is full, at which point, the timer drops off the first string stored, moving each remaining string in memory down one position and continues to store into memory the latest string plus the previous nine ones before it. The timer has the capability of storing up to 10 strings, with each containing as many as 39 shots.

To review a previous STRING of shots recorded, press the REVIEW button, and then press either the right or left directional key to select the desired string from memory storage. Once the string is selected, the user can review shots within the string by pressing the up or down directional key. The latest (current) recorded string will always be shown as Record 1. The previous strings will then be stored as Record 2 through Record 10. String 10 would then be the oldest string maintained in memory and the next string to be dropped from memory.

CUSTOM PROGRAMMED FEATURES / FUNCTIONS:

The CED8000 Timer has a large range of custom programmable features and functions. The timer is designed to retain all customized settings even after being shut off. The user can reset the timer to the original default settings, by selecting from the menu "DEFAULT SETTINGS" and then selecting "YES", which will return the timer to the original factory settings.

FIXED/RANDOM/INSTANT DELAY SELECTION:

The CED8000 provides four types of start delays. A "Fixed" (F) three second delay from the time the START button is pressed to the activation of the buzzer and clock, provides sufficient time for preparation and standby. A "Random" (R) delay provides a randomly selected "two to five" second delay, designed to eliminate any anticipation during individual practice.

FIXED/RANDOM/INSTANT DELAY SELECTION: (Continued....)

An "Instant Go" (I) enables total control for the user by activating the timer instantly upon pressing the START button. Additionally, the user can choose a custom delay, by selecting the "Custom" (C) setting in the preference menu and entering a specific delay up to 9.9 seconds. To select a DELAY, press MENU and highlight DELAY and press ENTER. Scroll up or down to select the desired delay (FIXED, RANDOM, INSTANT, CUSTOM), highlight it, and press ENTER to confirm it. If a CUSTOM delay is confirmed, the display will then show the user two digits (0.0). Press the "right" key to highlight the first digit and then scroll up or down to select a value from 1 to 9 and then press the "right" key to highlight the second digit (.0) and select a value for it. Then confirm the time set by pressing ENTER.

AUTO-START:

The CED8000 Timer provides the ability for reactivating the timer without pressing the REVIEW button first. To disable this safety feature designed to prevent false starts or loss of data, scroll through the program menu highlighting the AUTO-START mode and press ENTER. Select "ON" and confirm it by pressing ENTER again. When AUTO-START is activated, the CED8000 Timer will restart each and every time the START button is pressed. To deactivate AUTO-START, follow the above procedure selecting "OFF".

Due to conflicts of various function keys, AUTO START will function ONLY in the following modes:

1. Comstock	2. Combined Comstock	3. Virginia Count	4. Fixed Time
5. Field Shooting	6. Gunsmith	7. Countdown	

PROGRAMMABLE PAR TIME SELECTION:

A single PAR time can be set allowing the user to create a fixed interval of time. Selection of a "Par time" from 0.6 to 999.9 seconds can be accomplished with the CED8000. Since the START buzzer duration beeps for 0.5 seconds, the minimum PAR time accepted by the timer is 0.6 seconds. To select a PAR time, press MENU. Scroll down to select the "PAR" mode, highlight it, and press ENTER to confirm it. Select Single Par, Manual Par, or Multiple Par and press ENTER again.

Press the "right" key to highlight the first column and then scroll up or down to select a value from 0 to 9 and then press the "right" key to highlight the second column and select a value for it and so on until all four value columns are set. Once the desired Par time is displayed, then confirm the time set by pressing ENTER.

To activate the timer and the selected "Par time", simply press the START button. A second "stop" beep will occur at the selected "Par time". The timer will continue to record shots even after the selected Par time has elapsed. This allows accurate review of all late shots and their exact time fired. **When in PAR time mode, the second beep will sound at the exact pre-set time for a 0.3 second duration!**

PROGRAMMABLE PAR TIME SELECTION: (Continued....)

(Example – If a 5.0 second PAR time is selected, the PAR time is counted from the instant the buzzer begins sounding (zero time) with the final 0.3 second beep sounding precisely at 5.0 seconds, ending at 5.3 seconds total time)

This is a factory default setting. If the user wants the ending PAR time beep to sound prior to the set PAR, with the buzzer ending precisely at the selected PAR time, press the Menu button, selecting PAR-BUZZER and then select “PRE-BEEP”. This function will change the timer default setting allowing the buzzer to begin sounding 0.3 seconds before the end of the selected PAR time, and stop exactly on the selected PAR. To revert back to the default setting, select “POST-BEEP”.

The CED8000 timer also features the ability to be programmed with up to eleven multiple PAR times as well as multiple delay intervals. Additionally, each PAR time and delay interval can be set to different time lengths. When programming strings in Manual or Automatic Par, the user can clear values for any string shown on the display by pressing the CLEAR button once. If the CLEAR button is pressed twice, it will erase all values set for the Par selection.

The CED8000 Timer features “MANUAL” or “AUTOMATIC” functions when in “Programmed PAR”. In MANUAL setting, only the PAR times are set for the number of desired strings up to a maximum of seven. The user then activates the timer by pressing the START button, which in turn runs each selected PAR string individually. The user must re-press the START button to activate the next string, but the timer moves forward to the next programmed PAR each time it is activated until it completes all strings programmed.

In AUTOMATIC setting, both PAR and DELAY times are selected for a number of strings up to a maximum of seven. Once the START button is pressed and the timer activated, it will run ALL strings programmed automatically until completed.

Example:

String 1 PAR	3.0 sec.
Delay	2.0 sec.
String 2 PAR	5.0 sec.
Delay	3.0 sec.
String 3 PAR	6.5 sec.
Delay	3.0 sec.
String 4 PAR	3.0 sec.

The example above shows that four PAR strings were programmed to function consecutively, each with a different PAR time and a different delay between each PAR setting. The timer will begin after the preset delay, with the first Par time of 3.0 seconds, followed by a 2 second delay. Each new PAR time string will begin with the buzzer and clock counting from ZERO and the buzzer resounding at the end of selected PAR time, followed by the given delay and then the starting of the next PAR string and so on until the last PAR time string programmed has been completed.

PROGRAMMABLE PAR TIME SELECTION: (Continued....)

* A programmed function may be stopped (interrupted) at any time during the running of the program by pressing the REVIEW button. The timer then proceeds to the next string. If the user wishes to repeat the first string again, press CLEAR button twice, which returns the timer to the first string Par / delay. If the user then wants to move forward to the next string, without running the first string, press the START button, followed by the REVIEW button BEFORE the countdown delay reaches zero (this will not work in INSTANT delay). This will progress the timer forward through the automatic Par sequences one by one.

REPETITIVE MODE:

This advanced feature of the CED8000 is ideal for PPC, UIT, Police, & Military qualification type courses where a series of simulated "exposures" at fixed intervals are required. This function simulates the effect of a turning target system where the "Face" and "Edge" times are selected by the user, as well as the desired number of times it is to be repeated.

Select MODE from the MENU and then the REPETITIVE Mode. The user then selects a given PAR time, followed by a specified EDGE time and then the number of times it is to be repeated. Use the right/left directional keys to move forward or backward and the up/down directional keys to select value for each setting.

The start of the selected "Face" period is indicated by the pressing of the "Start" button and the sounding of the buzzer. If the Auxiliary jack is in use, a 5 volt D.C. impulse will be emitted in direct conjunction with the buzzer, which allows the user to activate a real turning target replay if so desired. At the end of the set Par time, the buzzer (and 5 volt impulse if in use) will beep for 0.3 seconds indicating the end of the "Face" period, and the beginning of the "Edge" period. After the selected EDGE time expires, the sequence will start again, and continue doing so until it has completed the full amount of repeats that have been pre-set into the timer.

* A programmed function may be stopped (interrupted) at any time during the running of the program by pressing the REVIEW button. However, pressing the REVIEW button will return the program to the beginning.

COMBINED COMSTOCK MODE:

The CED8000 features the ability of combining several "Comstock" scores cumulatively. Designed for situations where the user wants to add the time of two or more strings together, but require separate start beeps. When the Timer is set in this mode, it will restart from the exact time and number of shots last displayed on the timer prior to restarting it and will continue to accumulate both from that point onward. The user can re-start the timer as many times as desired, with each new start resulting in a continued cumulative shot and time recording. To re-start the timer from zero, press the "CLEAR" button. To end the "Combined Comstock" function, enter the preference MENU, select MODE, and then select "COMSTOCK" & press enter.

VIRGINIA COUNT MODE:

The International IPSC Rule book describes Virginia Count as follows:

9.2.3 "Virginia Count" : Unlimited time stops on the last shot, limited number of shots to be fired, stipulated number of hits per target to count for score.

Virginia Count Mode highlights for the user all "extra" shots recorded. Any additional shot received above the selected number will appear on the LCD display in inverted shading. (Highlighted). To select a specified maximum shot count for a stage, press the MENU button, followed by MODE, and highlight VIRGINIA COUNT. Enter the specified maximum shot count and confirm it by pressing ENTER again.

FIXED TIME MODE:

The International IPSC Rule book describes Fixed Time as follows:

9.2.4 "Fixed Time" : Limited time, limited number of shots to be fired, stipulated number of overall hits to count for score.

Select the preference MENU, followed by MODE, and highlight FIXED TIME. This mode highlights for the user any and all shots recorded in overtime (received after a specific PAR time has expired) or extra shots fired beyond the required limit. Any extra or overtime shot received after the specified PAR allotted time will appear on the LCD display in inverted shading (Highlighted). This mode activates from the precise time selected as PAR. If a 5.0 second PAR is selected, with FIXED TIME, any shot recorded from 5.0 seconds onward will be highlighted, regardless of the buzzer duration or point of beep. (refer to PAR-BUZZER on page 17). Any extra shot recorded will be highlighted regardless of time.

NRA-BIANCHI MODE:

The CED8000 Timer has programmed into memory three of the most popular NRA-Bianchi events for training or match use. When an event is selected, the timer will run the entire sequence consecutively changing the PAR time and yardage settings automatically. The display will show the user the PAR time currently in use and the distance (yards). The display will change automatically as each segment is completed throughout the entire sequence until the event is fully completed.

This mode will function with any preset delay. The user does not need to press the REVIEW button to reactivate the timer. Each time the START button is pressed the timer will progress to the next sequence in the programmed event. **HOWEVER**, if the user wishes to repeat any given segment before proceeding forward in the program to the next one, the user can repeat the previously completed segment again, by pressing the CLEAR button before re-starting the timer. In doing this, the timer returns to the previously completed string, allowing it to be repeated again. If the user wishes to "jump" a string, press the START button, followed immediately by the REVIEW button during the timer countdown, BEFORE the timer reaches zero and the buzzer sounds. This will advance the string forward. If the user presses the REVIEW button followed by pressing the CLEAR button twice, the program returns to the beginning.

The Practical Event –

Consists of four stages, each with three strings fired at different yardage lengths.

10 yards 3 seconds
 4 seconds
 8 seconds

15 yards 4 seconds
 5 seconds
 6 seconds

25 yards 5 seconds
 6 seconds
 7 seconds

50 yards 7 seconds
 10 seconds
 15 seconds

The Barricade Event –

Consists of four stages, with two strings per stage.

10 yards 5 seconds
 5 seconds

15 yards 6 seconds
 6 seconds

25 yards 7 seconds
 7 seconds

35 yards 8 seconds
 8 seconds

The Falling Plate Event –

Consists of four stages, each with two strings.

10 yards 6 seconds
 6 seconds

15 yards 7 seconds
 7 seconds

20 yards 8 seconds
 8 seconds

25 yards 9 seconds
 9 seconds

NRA-PPC MODE:

The CED8000 Timer provides four of the most popular NRA Police Pistol Combat events preprogrammed in Timer memory for training or match use. When an event is selected, the Timer will run the entire sequence consecutively changing the PAR time and yardage settings automatically. The display will show the user the PAR time currently in use and the distance (yards). The display will change automatically as each segment is completed throughout the entire sequence until the event is completed.

The functions for NRA-PPC Mode are the same as those outlined above for NRA- Bianchi Mode. Read the above paragraph to provide details on using the four PPC events.

National Police Pistol Course-A –

Consists of four stages, each with a single PAR time

7 yards – 20 seconds
25 yards – 90 seconds
50 yards – 165 seconds
25 yards – 12 seconds

National Police Pistol Course-B –

Consists of five stages, each with a single PAR time

7 yards – 20 seconds
15 yards – 12 seconds
25 yards – 90 seconds
25 yards – 12 seconds
50 yards – 120 seconds

Modified Police Pistol Course –

Consists of four stages, each with a single PAR time

7 yards – 20 seconds
25 yards – 90 seconds
25 yards – 12 seconds
25 yards – 165 seconds

Service / Off-Duty Revolver / Stock Semi-Auto Course –

Consists of four stages, each with a single PAR time

3 yards – 8 seconds
7 yards – 20 seconds
15 yards – 20 seconds
25 yards – 90 seconds

AUSTRALIAN PPC MODE:

The CED8000 Timer provides two of the most popular Australian Police Pistol Combat events preprogrammed in Timer memory for training or match use. When an event is selected, the Timer will run the entire sequence consecutively changing the PAR time and distance (meters) automatically as each string is completed throughout the entire sequence until the event is finished.

The functions for Australian PPC Mode are the same as those outlined above for NRA-Bianchi Mode. Read the above paragraph to provide details on using the two PPC events.

APSM - Police & Service Match -

Consists of ten stages, each with a single PAR time

50 meters - 165 seconds
25 meters - 15 seconds
25 meters - 15 seconds
25 meters - 35 seconds
25 meters - 7 seconds
25 meters - 7 seconds
10 meters - 5 seconds
10 meters - 8 seconds
10 meters - 5 seconds
7 meters - 12 seconds

ASM - Service Match -

Consists of ten stages, each with a single PAR time

50 yards - 165 seconds
25 yards - 15 seconds
25 yards - 15 seconds
25 yards - 35 seconds
25 yards - 6 seconds
25 yards - 6 seconds
10 yards - 4 seconds
10 yards - 8 seconds
10 yards - 4 seconds
7 yards - 15 seconds

EUROPEAN PPC-1500 MODE:

The CED8000 Timer provides one of the most popular European NRA Police Pistol Combat events preprogrammed in Timer memory for training or match use. When selected, the Timer will run the entire PPC-1500 sequence consecutively changing the PAR time and yardage settings automatically. The display will show the user the PAR time currently in use and the distance (yards). The display will change automatically as each segment is completed throughout the entire sequence until the event is completed.

The functions for European PPC-1500 Mode are the same as those outlined above for NRA- Bianchi Mode. Read the above paragraph to provide details on using the PPC event.

PPC-1500—

Consists of ten stages, each with a single PAR time

7 yards -	20 seconds
15 yards -	20 seconds
25 yards -	90 seconds
50 yards –	165 seconds
25 yards -	35 seconds
25 yards -	35 seconds
7 yards -	20 seconds
25 yards -	90 seconds
50 yards –	165 seconds
25 yards -	12 seconds

FIELD SHOOTING MODE:

Designed for European field shooting events, this unique mode provides preprogrammed preparation beeps in segmented time frames and variable lengths providing the user warnings that the start & end time (selected PAR) is approaching. This event mode has a preset 10-second initial sequence, that is activated by pressing the START button and a preset 3-second ending sequence that will proceed any PAR time selected.

To use the Field Shooting Mode, set a given PAR time first, then select FIELD SHOOTING from the Mode section of the MENU, and then activate the CED8000 Timer by pressing the START button. This function will override any delay mode. When the timer is activated a 0.1 second beep sounds, warning the user to PREPARE (get ready) (**NOTE- the 0.5 second normal start buzzer is changed to 0.1 second duration only**). Then 6.9 seconds later, a second beep sounds for 0.2 sec duration followed by a 0.4 sec delay, followed by another beep of 0.2 sec duration, followed by a 0.4 sec delay, and then another beep 0.2 sec followed by a 1.6 sec delay. After which, the 0.5 sec normal start buzzer sounds and the timer clock begins counting down backward from the selected PAR time to zero. During countdown, the timer will not record shots fired. However, once the countdown reaches zero, the timer will record overtime shots received.

Regardless of the PAR time selected, (which can NOT be set for less than 3.1 seconds while in this mode) there is a FIXED range of buzzer beeps prior to the conclusion of the selected PAR time. 3.0 seconds BEFORE the selected end of PAR time, the following takes place. At the 3.0 second mark PRIOR to the end of PAR time, the buzzer sounds for 0.1 second duration, followed by a 0.7 sec delay, a 0.1 sec beep, followed by 0.6 sec delay, then a 0.1 sec. beep, followed by a 0.5 sec delay, and the final buzzer sounding for 0.9 seconds again, ending PAR.

(NOTE- the 0.9-second final buzzer sounds prior to the actual selected PAR time completion when in this mode. The conclusion of the beep sound matches PRECISELY the selected PAR time. Example – If a 5.0 second PAR time is selected, the final 0.9-second beep begins sounding at 4.1 seconds, ending precisely at 5.0 seconds time)

GUNSMITH MODE:

In Gunsmith mode, the CED8000 Timer begins counting time upon receipt of the first shot input instead of at the initial start of the buzzer. The timer is activated by pressing the START button and the buzzer will sound as in normal operation after the selected delay, but the timer will NOT actually begin counting time until receipt of the first shot. When the first shot is received, the timer will display “0.00” and begin counting from that point in time onward. When the second shot is recorded, it will be displayed as the “first shot” received by the timer. In this setting, any selected PAR time will NOT begin counting until the first shot is received matching that of the timer. The selected PAR time would begin from that point onward.

COUNTDOWN MODE:

In Countdown Mode, upon START activation, the CED8000 Timer counts down backward from any selected PAR time to zero! To activate Countdown mode, press the MENU button, then MODE and ENTER. Scroll down and highlight COUNTDOWN, press ENTER again. Countdown Mode will function with any delay setting.

NOTE - The timer will NOT record shots or accept input data while operating in this mode.

(This function is ideally suited for the National Shooting Complex “Sportsman’s Team Challenge National Championship” or similar types of events)

RPM (RAPID FIRE DETECTION) – FILTER:

The CED8000 Timer comes with a factory preset default software filter set at 8/100 of a second. Therefore, the Timer will only record shots as fast as 9/100 of a second. This filter is designed to prevent unwanted echo sounds, which cause erroneous recordings on timers. However, the CED8000 Timer allows the user to custom adjust the software filter from 9/100 down to 2/100 of a second or any level in between. Such adjustments modify the CED8000 allowing the Timer to detect rate of fire as fast as 33 shots per second or up to 1,980 shots per minute. To adjust the filter setting, select MENU, and then FILTER, and use the Directional buttons to select the desired amount of time to be filtered.

PAR - BUZZER:

The CED8000 Timer is programmed to provide “end PAR” time beeps that begin sounding at the precise time set in PAR and ending 0.3 seconds later. This is a factory default setting. The CED8000 can be modified to allow the ending PAR time buzzer to sound 0.3 seconds prior to the selected PAR, with the beep ending precisely at the selected PAR time.

To change the default setting, press the MENU button, select PAR – BUZZER and press ENTER. The timer’s default setting of “POST-BEEP” should be highlighted. To change this setting, scroll down highlighting “PRE-BEEP” and press ENTER. To revert back to the default setting, follow the above directions, highlighting “POST-BEEP” and ENTER.

(NOTE- When the CED8000 Timer is set to “PRE-BEEP”, the lowest possible PAR time allowed is 0.9 seconds. This is designed to prevent the initial buzzer, which beeps for 0.5 seconds and the PAR ending buzzer sounding for 0.3 seconds, from overlapping, which would prevent the user from distinguishing the beeps.)

SELF-DIAGNOSTIC TEST SYSTEM:

The CED8000 incorporates a self-diagnostic test program enabling the user to check systematically if the timer is functioning properly. This provides additional quality control with fast, and easy self check capabilities in case the timer has been dropped or possibly damaged in some way.

SELF-DIAGNOSTIC TEST SYSTEM: (Continued....)

Select "Self-Diagnostic" from the program MENU and press ENTER. The program will then give the user instructions to be followed, which will in turn test each button, key, and the LCD display segments for possible damage. When completed, if all parts and functions are operational, the program will indicate that the diagnostics have been completed. If a button or key function is defective, the program will not continue indicating to the user that repair is required. If the LCD display is damaged, the user will be able to visually see broken segments during the diagnostics program.

*** There are two rubber tabs located on the bottom end of the CED8000 Timer. These tabs are designed to provide protection to and prevent dirt particles from entering the input & output jacks when not in use and to provide additional base support for the timer to rest on. To use an input or output jack, simply remove the rubber tab. Each jack is labeled as detailed below.**

HEADPHONE EAR PLUG / JACK (E.P.):

The CED8000 Timer Earphone Plug set and Input Jack provide the ability of practicing privately without disturbing others who might be located close by on a line of fire. The CED8000 comes complete with earphone plug with volume control capability. When the earphone plug is inserted in the input jack located on the bottom of the timer (marked "E.P."), it deactivates the buzzer on the timer itself. All sound is directed through the earphone plug itself. The user can comfortably wear the earphone set under most safety hearing protectors and control the volume of the beep to a comfortable level, which will not disturb others nearby.

AUXILIARY JACK (AUX.):

An auxiliary output jack is located on the bottom end of the CED8000. When a male jack plug is inserted, a five-volt DC current is emitted in exact conjunction with the buzzer, matching the duration of the beep. When the PAR time setting is in use, the impulse emitted at the completion of Par matches that of the buzzer sound exactly. This feature can be utilized to operate a remote, self-powered buzzer, external horn (see the CED2000), light, loud speaker, or a low-voltage relay for target turning applications.

INPUT JACKS (A. / B.):

The CED8000 provides two input jacks located on the bottom end of the timer, marked "A" & "B". By connecting a "normally closed" type relay switch (not included) to a target or plate, an impulse can be relayed through the jack to the timer.

By inserting a male mono switch plug into either "A" or "B" input jacks, the timer **automatically deactivates the shot-detecting microphone and will only record shots/times received by impulse through the input jack.** The "START", "REVIEW", "SPLIT", "PAR," functions and buzzer continue to operate as normal. The switch can be vibration or sound activated (microphone), or one of several varieties of standard normally closed switches available in the market.

INPUT JACKS: (Continued....)

When using either the "A or B" jack by itself, unlimited shots can be recorded. This is ideal for use with "Air Soft" competitions, or when practicing plates. A parallel "closed" switch line can be designed using vibration type or condenser microphones to run from each plate. Each hit will activate a shot and time. When using both jacks simultaneously (**Man vs. Man**), the timer will record both times and indicate the winner! The first time received will appear in the "Time" column and the second time will appear under the "Split" column. Either "A" or "B" will also appear on the LCD to indicate the winner. The jacks are marked "A" and "B" to allow for clear distinction between competitors.

A special feature of the CED8000 is that it detects an open circuit. The next sequence cannot be started until the circuit is closed again. Therefore, both plates must be properly re-set before the timer will operate. This protects you from false starts.

SHOT DETECTION MICROPHONE:

A high sensitivity microphone is used in the CED8000 to insure accurate recording of shots. A digital "sensitivity adjustment" range setting allows for "fine tuning" of the timer to unusual environment conditions such as high berms & backstops, small indoor ranges, or dense fog conditions where gun fire can result in unusual amounts of echo's bouncing back at the timer. The digital numbered settings (1 to 8), provide a flexible range of adjustment of the microphone when needed, depending on the shooting location and conditions. (1 = least sensitive / 8 = most sensitive). To adjust the sensitivity, select MENU, then SENSITIVITY, and then scroll up or down using the Directional buttons to select the desired sensitivity level.

The CED8000 shot-detecting microphone is software designed and factory preset at a mid level range (4) that provides accurate function under most normal types of conditions. However, due to various changes in range conditions, climates, and locations, it is strongly recommended to test your timer on the range it is to be used, prior to competition use, to insure it is properly set. This will eliminate any chance of recording errors!

Always hold the timer with the front panel facing the Shooter! The microphone is located on the upper front panel, positioned under the display screen and should have direct, clear access to the Shooter. In cases where a person is shooting around walls, or other objects, the timer should be held in a manner that provides unobstructed view to the person shooting. The Range Official should be careful not to cover the microphone, or allow ejected cases to hit the timer during recording. Ideally, the timer should be within six feet of the person firing the shot to be recorded.

FCC & R&TTE CERTIFICATION / INFORMATION:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC ID: SVVCED8000

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

**(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.**

GUARANTEE

**** 30 DAY MONEY BACK GUARANTEE ****

The CED8000 was designed to provide the optimum Timer at an affordable price. We want you to be completely satisfied with our product. If you are not satisfied, simply return it to us with receipt of purchase, in undamaged condition within 30 days for a full refund.

WARRANTY

**** TWO YEAR LIMITED WARRANTY ****

If the CED8000 breaks due to defective parts or workmanship, we will replace it for you within the first two years. This warranty does not cover any failures attributable to abuse, mishandling, failure to follow operating instructions, alterations, or accident. If you accidentally break it, we will repair it at cost for you. All claims must be accompanied by the original sales receipt or written proof of purchase, and be returned in a properly packaged manner with shipping charges prepaid. We are proud of our product and we want you to be too.

Returns or warranty service should be directed through your purchase location or directly to Competitive Edge Dynamics. If you should encounter any problems or wish to correspond on any matter, please write or fax to one of the following locations with details of the problem and if needed, a return authorization will be provided.

**Competitive Edge Dynamics Ltd.
GPO Box 10590, Central, Hong Kong
Phone (852) 2866-6802 Fax: (852) 2866-6505
Email: info@CEDhk.com**

In the USA,

**Competitive Edge Dynamics, USA
P.O. Box 486, Orefield, PA 18069-0486
Phone: (610) 366-9752 Fax: (610) 366-9680
Email: info@CEDhk.com**

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