

CD-236T

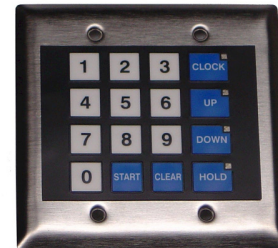
CLOCK / PROCEDURE TIMER

2.3"

The CD-236T digital clock/timers are designed as low voltage energy efficient clocks for use with any master clock system. When properly connected to a 24 VAC or 120 VAC source and to the master clock, the CD-236T digital clock will receive automatic time correction once each hour and twice a year for Daylight Savings Time adjustments. Additionally the clock can be used for *procedure timing* or as a up/down timer. A aural alert will sound when a destination time has been reached. The clock will maintain time in a background mode even when being used as a timer.

The companion **236C Control Station** features a 16 button sealed membrane key pad that allows selection of clock or timer operation. When in a timer mode, the key pad allows destination time entry (for procedure timing) , start, stop, hold, clear and silence alert. The clock or timer will continue to run in back ground mode even if they are not displayed. The key pad offers a low profile, user friendly lay out that is easy to use and understand. The key pad assembly mounts to a double gang electrical box and only requires 4 wires to connect it to the CD-236T.

During power outages, back up time keeping and correction is accomplished internally without batteries. These clocks are provided in a modern looking black textured metal case with a red plexiglass lens. They are also available in a black textured flush mounting bezel that fits a Simplex back box. Time display is by ultra bright LED characters. Battery back up for the entire system (keeping displays lighted) is now an option for this energy efficient system.



Features

- ◆ **Display Format** - LED, 2.3" & 1" 12 or 24 hour format.
- ◆ **Correction format** - Three wire synchronous Simplex, Latham, SET, or National Time, stand alone
- ◆ **Connection** - wire nuts, terminal block between clock and controller.
- ◆ **Back up timekeeping** 120 minutes (no batteries required) Optional 20 Hr.
- ◆ **Operating voltage** - 24VAC or 120 VAC
- ◆ **Energy efficient.** 2.4 Watts Fully illuminated.
- ◆ **Low acquisition cost** - Simple installation, low shipping cost, reduced cost for 24 VAC systems.
- ◆ **Easy mounting** - Clock to a single gang electrical box. Controller to a double gang electrical box. (no special hardware)
- ◆ **No preventive maintenance.**
- ◆ No batteries to install.
- ◆ **Easy to install.** - No special hardware and only 4 wires to hook up between clock and controller.
- ◆ **Internal switch settings** - field selectable.
 - Blinking / non-blinking colon.
 - 12 / 24 hour display.
 - Reset timer.
- ◆ **Key pad** – 16 button sealed membrane

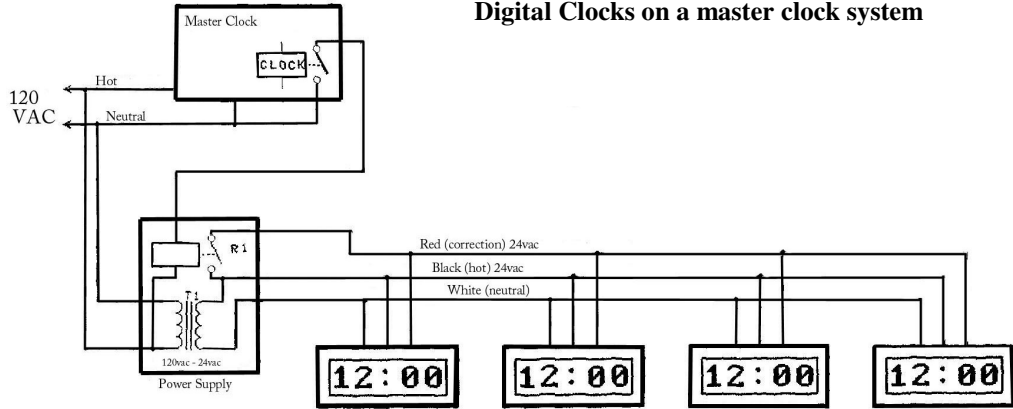
Seasons Clock Systems, Inc.

12480 W. 62nd. Terrace Suite 103
Shawnee, KS 66216

www.seasonsclock.com

913-631-2425 <> fax 913-631-2464

**Typical wiring for
CD- 236 series
Digital Clocks on a master clock system**



Electrical

Operating Voltage24 Vac 50/60 Hz
 range12 - 36 VAC
 Operating current (typical).....70 ma @ 24 VAC
 Correction format8 seconds duration corrects to 59th. minute
 14 seconds duration corrects to 5:59
 Back up time keeping (no display)120 minutes
 Correction Voltage.....24 VAC, 3 ma
 DisplayRed LED 7 bar characters

Mechanical

CaseBlack textured metal
 Flush mount Black textured metal, mounts to a Simplex back box.
 Case dimensions..... 12.75"Wx4.5"Hx2"D
 MountingKeyholes in back of case for #6 or #8 screw.
 Shipping weight2 Lbs.
 Key pad assembly mounts to a double gang electrical box.

Ordering Information

Digital Clock/TimerCD-236T
 Digital Clock/Timer – Flush mountCD-236TBZ
 Double Dial Digital Clock/TimerCD-236TD
 Add -120 to part number for 120VAC clocks, add E to part number for event timer.
 Timer Control Station 236C

Seasons Clock Systems, Inc.
 12480 W. 62nd. Terrace Suite 103
 Shawnee, KS 66216
 913-631-2425 <> fax 913-631-2464
www.seasonsclock.com

CD-236T Clock / Timer **236C Control Panel** **Operating Instructions.**

The CD-236T Clock/Timer is a six digit multi-function unit designed for applications where both time of day indication and timing functions are required. The CD-236T functions as a 12 hour or 24 hour secondary time indicating clock or simultaneously as a presettable up or down elapsed time counter.

The CD-236T uses the 236C control panel to control these functions which has a 16 button key pad for entering command and timing information. It includes four LED's for indication status. All the features of our standard CD-236 six digit clock are included in the CD-236T clock/timer.

OPERATION

Clock Mode is selected at any time by hitting the CLOCK key.. In this mode the unit is a 6 digit correctable clock equivalent to the model CD-236. The other switches and keys have no effect in this condition. The clock may be switched from Clock to Timer by toggling this switch at any time.

Timer mode is selected by hitting either the DOWN key (for count down operation) or the UP key for count up operation. The CLOCK LED goes off and either the DOWN or UP LED goes on. Timer mode is indicated on the main display by blinking colons.

Count Down Operation (down LED on) The start time is entered by using the number keys to key in the start time. For example, by hitting 2,1,7,3,0 in sequence, these numbers will roll into the display from right to left and be displayed as 02:17:30. Hitting START will start the count down which will continue until the display reads 00:00:00. The display then begins flashing the zero count and an audible alarm sounds. This continues until an operator pushes the CLEAR key. CLEAR may be hit at any time to terminate the present timer operation and start a new one as above. CLEAR can also be hit to just start over if an error is made while entering numbers.

Count Up Operation (up LED on) This is similar to Count Down except that after START is hit, the display jumps to 00:00:00 and starts counting up. When it reaches the target amount of time that was entered, it stops counting and flashes that time (like 02:17:30) and sounds the audible alarm. Again CLEAR is hit to turn off the audible alarm and return the display to 00:00:00.

HOLD (hold LED on) The timer may be held at any time during count down or count up by hitting the HOLD key. The HOLD LED lights and the display holds the last count. This continues until the START key is again hit and normal counting resumes.

Reset Timer works like the up timer except at the end of a count, press any number key to silence the audible alarm which allows the destination count to remain displayed. Pressing START will then start the timer again without entering the destination time again. This is useful when repeated procedures have the same destination time.

Clock / Timer Differentiation When in the TIMER mode, the CLOCK function continues internally in the CD-236T. Likewise, if a TIMER operation is on going and the unit is switched to CLOCK mode, The TIMER will continue to run internally. Thus the display may be changed between CLOCK and TIMER operation without losing time. If the display is left in CLOCK mode as a TIMER operation reaches completion, the digits will still flash and the audible alarm will sound until CLEAR is hit.

Technical Information
CD-236T 6 digit Digital Clock / Procedure Timer

- Dip switch settings.	<u>On</u>	<u>Off</u>
Switch 6:	colon on	colon blinks
Switch 7:	24 hr. display	12 hr. display
Switch 1:	Reset timer mode	no reset function

- Display:

6 digit red led with hour and minute being 2.3" high and the seconds being 1" high. The leading zero will be displayed when the clock is used in a 24 hour display mode (05:45:00), and not displayed when in a 12 hour display mode (5:45:00).

Two internal push buttons are available for setting the time from the front of the clock.

- Operating voltages:

Supply voltage: 115 VAC, 50/60 Hz or 24 VAC (specify)

Black wire – hot (24 or 120 VAC)

White wire– neutral

Red wire – correction input (24 or 120 VAC)

The correction voltage works with either 24 VAC or 120 VAC. See label on back of clock

- Correction schemes:

Four correction schemes are available from the factory.

59th. Minute three wire synchronous, National time, Rauland Borg, stand alone

They are not field selectable. Operates as a secondary clock to virtually any master clock.

- Time Keeping during a power outage:

Back up time keeping is done internally (with out batteries) during a power outage for approximately 2 hours. Optional backup to approximately 20 hours is available as a option.

The display is not illuminated during a power outage.

- Mounting :

The CD-236 may be ordered as a flush mount that fits a Simplex back box or with a black texture metal case for a surface mount. The surface mount case slopes down for easier viewing and mounts to a single gang electrical box.

- Start Up Routine:

At initial power up the clock will light up each number individually so you may check that all LED's are lighting up. It will then display 18:88:56 and the minutes and seconds will start counting. The clock will take correction any time after this start up routine. I.e. The first hourly correction will correct the minutes to 58:02. The first 12 hour correction at 5:57:54 will correct the clock to 5:58:08 and implement the back up time keeping. The clock will display hours as 18 until a 12 hour correction has been received. Clock may also be set using the manual set buttons.

- Testing Correction Circuit:

You may manually check the clocks correction circuitry by disconnecting the red wire from any system wiring and touching it to the black wire for 8 seconds. The clock will correct the minutes to 58:05.

- Other information

Time accuracy: 0.005%

Maximum time: 23 hours, 59 minutes, 59 seconds.

Display unit to control panel cable: 24 gauge 4 wire shielded, 75 feet max.

Control panel: 12 button key pad with Clock/timer and up/down switches.

Control panel mounting: To standard 4" electrical box.

Seasons Clock Systems
Shawnee, KS

913-631-2425
913-631-2464 fax