

STOPWATCH

Version 3.4



Designed for the TI-83 Plus
MirageOS & ION Compatible

Features

Start | Pause

Easy to use interface and controls

Easily record multiple lap times with ease

Quit | Reset

Quickly reset or quit at any time

Resume right where you left off after exiting

Record | View

Unlimited saving and viewing support for lap times

Compare up to 7 laps per screen

Version History

(Descending)

Version	Build	Release	Priority	Size	Changes
3.4	Final	Aug. 2 nd 2010	High	4,085	<ul style="list-style-type: none">• Now full support for max time limit<ul style="list-style-type: none">- No longer able to go above 999:59:59.9• In the lap view screen, times over 100 hours now display without being cutoff• Removed a couple obsolete commands• Invalid dim bug fix for clearing lap times in the lap view screen when resuming the timer and recording new lap times• Variable security updates<ul style="list-style-type: none">- Better file manipulation support for the 'TIME' data file<ul style="list-style-type: none">▪ If the file has been deleted or altered, any previously stored lap times will be cleared▪ Issue fixed regarding failure to display '00:00:00.0'• Lap recording improvements<ul style="list-style-type: none">- Now minimal abruptness to the timer performance*- Added a 5th external program (STPR) to support faster lap storing• All external programs have been renamed• Synchronization update
3.3.2	Final	July 29 th 2010	High	3,952	<ul style="list-style-type: none">• 'UNDEFINED:ERR' fix while scrolling left in the lap view screen
3.3.1	Final	June 25 th 2010	Low	3,948	<ul style="list-style-type: none">• Minor update made to improve startup loading• 'View lap times' button disabled when no laps have been recorded

3.3	Final	June 21 st 2010	High	3,817	<ul style="list-style-type: none"> • Lap time improvements <ul style="list-style-type: none"> - Lap times now save while exited - More responsive control in the lap view screen - Smart variable-saving detection saves RAM space when possible - Slightly better lap time recording • Bug fixes and changes for lap viewing <ul style="list-style-type: none"> - If there are “no lap times stored” the ‘clear’ button is disabled and no longer an option - Incorrect placement of the ‘hours’ time when at 10 or above - While clearing the lap times and continuing the stopwatch, saving more lap times resulted in the ‘time difference’ column to display incorrectly • Other misc. bug fixes <ul style="list-style-type: none"> - Placement issue fixed while loading the stopwatch time above 100 hours - Issue resolved regarding not saving and restoring the user’s settings • Error handling fixes for ERR:UNDEFINED and ERR:INVALID DIM <ul style="list-style-type: none"> - Detects if a necessary list variable has been altered (If there is a mismatch/inconsistency the issue is corrected) - Detects if necessary data file(s) have been deleted and corrects the issue - Makes sure the correct variables are available • Reset function and bug fixes <ul style="list-style-type: none"> - Now clears the timer correctly when over 100 hours - Quicker response when resetting • Timer code fixes and improvements <ul style="list-style-type: none"> - Arithmetic changes - Smoother transitions through each second, minute, and hour - Code rewritten to work more ‘together’ - Program size reduced (prgmLBLC) - Better optimization commands - User key-press recognition issues fixed <ul style="list-style-type: none"> ▪ Abruption to the stopwatch timer ▪ Not able to ‘pause’ while milliseconds are at 0 ▪ Repeatedly pressing the start/pause button will not increment the timer anymore - Less significant input towards resetting the stopwatch timer – strictly for regulating the timer - Synchronization update • New button interfaces’ to speed up start/pause performance • Variable security update <ul style="list-style-type: none"> - Using custom list variables - More efficient and versatile data saving - Data can no longer be accessed/modified easily - Data is archived for long-term storage - Optimization improvements of storing/recalling variables - More secure and efficient data recognition on startup • Startup loading time slightly improved
3.2.1	Final	June 3 rd 2010	Medium	4,107	<ul style="list-style-type: none"> • Stopwatch timer now saves while exited • More difficult to alter initial startup time • Glitch fixed associated with the milliseconds displaying incorrectly while paused • Minor timer code update

3.2	Final	May 28 th 2010	High	3,897	<p style="text-align: center;">What's New?</p> <ul style="list-style-type: none"> • Now unlimited savable/viewable lap time support <ul style="list-style-type: none"> - Lap times display in ascending order by lap # - Shows what time the lap was recorded - Calculates the time difference between each recorded lap - View up to 7 lap times at once - Continue the stopwatch right where you left off after viewing lap times • Only 4 programs working together (not including the pic) • Clear lap times without resetting the timer and vice versa • Milliseconds are shown in 1/10s • Lap time recording greatly improved • New button controls • Stopwatch has more precise performance • Updated interface • Various bug fixes <hr/> <ul style="list-style-type: none"> • Button image flickering fixed • Variable consumption reduced • Counting time updated to be faster/smoother • Memory leaks fixed resulting in sluggish performance (after viewing lap times) • Timer support for up to 999:59:59.9 (about 40 days) • Total program size reduced about 170 bytes
	Beta 9	May 14 th 2010			<ul style="list-style-type: none"> • Lap viewing updates/fixes <ul style="list-style-type: none"> - Now able to view all of the lap times that were saved - Now calculates time differences larger than 60 seconds (59 mins and 59 seconds maximum) - More efficient display of lap times - Return right where you left off after viewing lap times (Stopwatch timer no longer resets) - Now delete lap times while in the lap view screen or by resetting the timer - Counting time slightly smoother when milliseconds go from .9 back to 0 - Directional arrows added to the lap view screen to show if more information exists on the next 'page' - Other small misc. updates and changes made - Bug fixes <ul style="list-style-type: none"> ▪ When going to a new page (right arrow) and there are less than 7 lap times to display, the old lap times from the previous page would not clear from the screen ▪ Incorrect difference of lap times showing up while going from any page back towards the first page (left arrow) ▪ Some lap times were displaying incorrect times ▪ Fixed displaying incorrect minute differences • Button interfaces' slightly altered • Small error fixed while trying to reset the timer when the milliseconds were at .9 • Domain error fixed when no lap times have been recorded <hr/> <p style="text-align: center;">Known Issues</p> <ul style="list-style-type: none"> • Memory leak after viewing lap times and resuming the stopwatch • Able to alter the stopwatch timer easily by changing specific variables • Minor button image flickering noticed

	Beta 8	Never Released			<ul style="list-style-type: none"> Major bug fixes <ul style="list-style-type: none"> Memory leak while recording lap times as the stopwatch was running Better lap saving (less abrupt to the timer) Misc. lap time viewing updates Small changes made to the interface Removed another external program (now only 4) <hr/> <p style="text-align: center;">Known Issues</p> <ul style="list-style-type: none"> Only able to view a max of 14 lap times (regardless of how many lap times where saved) After viewing lap times, the timer resets (lap times do not reset) Lap time differences are not shown when larger than 60 secs
	Beta 7	Never Released			<ul style="list-style-type: none"> Lap viewing function integrated into the program Reduced external programs (from 7 to 5) Slightly faster lap time storing <hr/> <p style="text-align: center;">Known Issues</p> <ul style="list-style-type: none"> Many bugs in the lap view Lap times do not display (even though they are saved)
	Beta 6	Never Released			<ul style="list-style-type: none"> Rewrote lap, sync, and button function codes Sync updates and improvements Lap function updates Reset and start/pause adjustments New button functionality <ul style="list-style-type: none"> Start/pause Reset/quit View/store lap times New button interfaces Reduced external programs (from 11 to 7)
	Beta 5	Never Released			<ul style="list-style-type: none"> Lap time viewing & storing preparation updates
	Beta 4	Never Released			<ul style="list-style-type: none"> Using a new lap time storing formula New button interface to support the lap time viewing feature
	Beta 3	Never Released			<ul style="list-style-type: none"> Redesigned the stopwatch timer code <ul style="list-style-type: none"> Smoother counting-time and more accurate Milliseconds are now shown in 1/10th Reduced external programs (from 13 to 11) Max timer support is now 99:59:59.9 (about 4 days) Fixed a lag in the program when storing the first lap
	Beta 2	Never Released			<ul style="list-style-type: none"> Misc. fixes and improvements Interface altered and simplified New lap time saving <ul style="list-style-type: none"> Faster response Less variable consumption Less abrupt to program performance Fewer external programs (from 18 to 13) & sizes reduced Fixed a memory-leak New timer code <ul style="list-style-type: none"> Counting time more efficient and smoother New start/pause function code results more responsive
	Beta 1	Never Released			<ul style="list-style-type: none"> Minor bug fixes Performance updates
3.1	Final	Oct. 3 rd 2008			<ul style="list-style-type: none"> Slight interface updates Minor efficiency improvements Other misc. improvements made Button control fixes Some bug fixes

3.0	Final	Sep. 30 th 2008	High	2,507	<ul style="list-style-type: none"> • 2x faster timer performance • 19 programs work together • Enhanced performance all around • Interface enhancements & button images updated • New control functions • Program size reduced • Program name changed • Improved button control images • Lap function more responsive • Better response with the start/pause function • Rewrote all code of the program • Misc. fixes • Sync update
2.1.2	Final (8.6)	Never Released	Low	N/A	<ul style="list-style-type: none"> • Minor updates
2.1.1	Final (8.5)	July 2 nd 2008	Low	N/A	<ul style="list-style-type: none"> • Couple misc. adjustments • Added 'total laps' counter
2.1	Final (8.4)	Aug 4 th 2007	Medium	1,926	<ul style="list-style-type: none"> • Minor fixes and few improvements • Optimizations made to the timer • Lap storing more precise • Lap display fixes
2.0.1	Final (8.3.06)	June 16 th 2007	Medium	N/A	<ul style="list-style-type: none"> • Stopwatch timer update • Several glitches resolved • Small interface updates
2.0	Final (8.3.05)	June 12 th 2007	High		<p style="text-align: center;">What's New?</p> <ul style="list-style-type: none"> • Interface completely redesigned <ul style="list-style-type: none"> - Removed 'seconds', 'minutes', and 'hours' - Time displays as "00:00:00.000" - Milliseconds display in 1/1000s - New, redesigned control buttons - Removed "Loading" & "Exiting" splash screens • Able to view and record one lap time at a time • Performance improvements all around • Program size reduced • Restores user's defined settings upon exit • Variable cleanup on exit saves RAM space • New timer code and improved performance • Faster startup loading • Removed the 'Menu' screen integration <hr/> <ul style="list-style-type: none"> • 3 displaying issues fixed <ul style="list-style-type: none"> - Specific time not displaying correctly - Misc. bugs fixed regarding the lap function - Timer code fix
	Beta 4 (8.3.04)	June 6 th 2007		About 1,026	<ul style="list-style-type: none"> • Improved performance all around • Utilized better program efficiency • Removed many "lagging" codes • Restores calculator's default settings that are used • Lap function updates and errors fixed • Used variables are deleted to save RAM • Interface update <ul style="list-style-type: none"> - Removed 'Seconds' - Removes 'Minutes' - Removed 'Hours' - Time is displayed as, "00:00:00.000" • Other misc. fixes

	<i>Beta 3</i> (8.3.03)	May 21 st 2007		About 1,226	<ul style="list-style-type: none"> • Major bug fix regarding syncing/accuracy • Stopwatch timer improved • Small other misc. updates • Interface altered
	<i>Beta 2</i> (8.3.02)	May 9 th 2007		About 1,426	<ul style="list-style-type: none"> • Startup/exiting improvements
	<i>Beta 1</i> (8.3.01)	May 8 th 2007		1,926	<ul style="list-style-type: none"> • Interface redesigned • Added new features <ul style="list-style-type: none"> - Lap function <ul style="list-style-type: none"> ▪ Displays the last lap time saved - New, redesigned control buttons <ul style="list-style-type: none"> ▪ Start/pause ▪ Reset/quit ▪ Lap view • New timer formula <ul style="list-style-type: none"> - No longer shows seconds, minutes, hours in decimal form simultaneously - Milliseconds shown in 1/1000th - Acts like an actual stopwatch • Removed the 'Menu' screen • Removed 'Loading' and 'Exiting' splash screens • Window variables are set for efficiency improvements for loading • Renamed the program
1.4	Final (6.5.14.5)	July 31 st 2005	High	~2,100	<ul style="list-style-type: none"> • Stop/reset bug fix • Altered "Loading" & "Exiting" splash screens • Improved interface load-time <ul style="list-style-type: none"> - New window variable settings - Corrected graph-clearing commands • Start/Pause button image changes respectively (pause/resume) • Removed the locked "ON" button due to instability in MirageOS • Program restores default calc settings that are used • Removed many misc. un-needed commands
1.3	Final (5.9.13.9)	N/A	Medium		<ul style="list-style-type: none"> • Added "Loading" & "Exiting" splash screens respectively • Window variables are set accordingly for improved interface load-time • Stop/reset command fixed • Counting-time code altered • Interface updated
1.2.1	Final (4.1.12.1)	N/A	Medium		<ul style="list-style-type: none"> • Fixed variable usage • Fixed several reset bugs • Removed unnecessary variable commands
1.2	Final (3.6.11.6)	N/A	High		<ul style="list-style-type: none"> • Fixed several window range & domain errors • Fixed startup & exiting errors • Interface update
1.1	Final (2.0.10.0)	N/A	High		<ul style="list-style-type: none"> • Many bug fixes for the following... <ul style="list-style-type: none"> - Reset function - Synchronization code - Startup/exit - Program initialization • Misc. error fixes • Several graph errors fixed (regarding the start/pause function) • New sync/timer code <ul style="list-style-type: none"> - New code formula to improve performance and accuracy • Pause function fix • Locked the 'ON' button to disable program breaking
1.0	Final (0.1.9.0)	N/A			<ul style="list-style-type: none"> • Integrated menu screen with options to start the stopwatch or quit respectively • Displays total seconds, minutes, and hours all at once