3-Channel Timer

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Welcome to 3-Channel Timer!

I work in a research laboratory where timing of ongoing experiments is a routine. I have been looking for a timer which has the functions that are needed by most research laboratories, but was unsatisfied. My CASIO digital watch only has one stopwatch function and one timer function and can not count down from less than 1 minute. My Fisher 4-Channel Timer does not offer audio and visual feedback for each different channel. The solution: a programmable software timer offers all the above features plus more with flexibility (upgrades) and you can never misplace it.

3C Timer was developed for my personal needs, but I think a lot of people will be benefited from it, too. There are two versions of 3C Timer. One is a HyperCard stack (b&w) and the other (color) is designed as a plug-in module for LabHelper 4.0, a great research laboratory software package, I programmed. CHECK IT OUT!

Features

Windows:

There are three different size windows in 3C Timer. The large size window (Fig. 1) allows one to see all three channels; the medium size window (Fig. 2) allows one to see only channel one, but does not disrupt functions of other two channels; the mini size window (Fig. 3.) allows one to see only a portion of channel one so it would be more visible while running in the background. There is also an external window "Timer" (Fig. 4) which displays status of all three channels, if in use, while the 3C Timer is not the active stack.
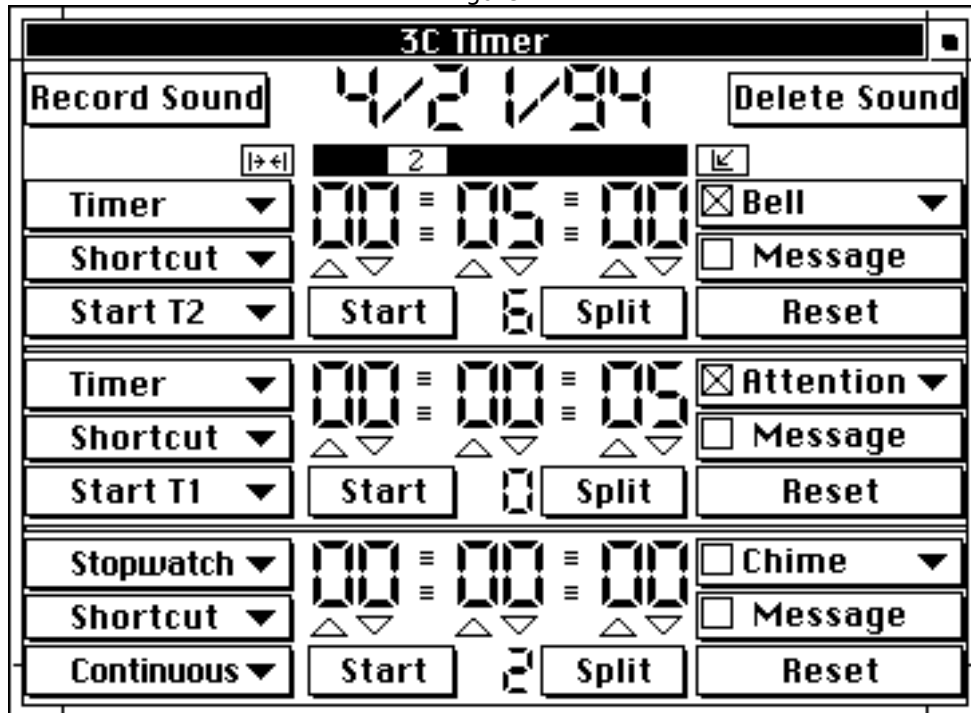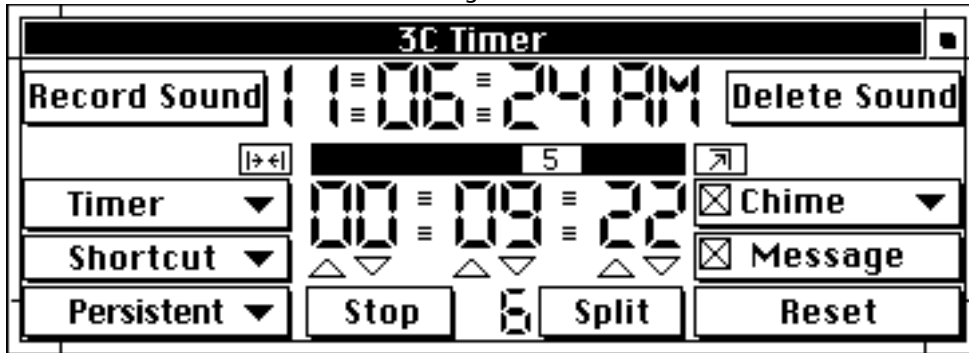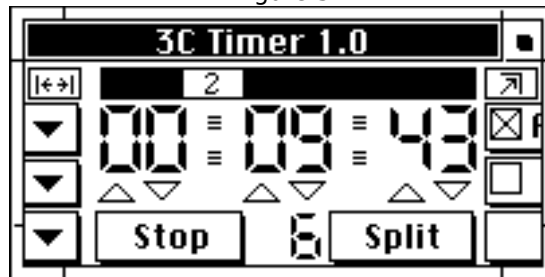
Figure 1

Figure 2

Figure 3

Figure 4

Pop-Up Menus: (Fig. 5)

Figure 5

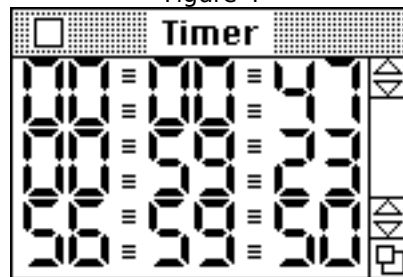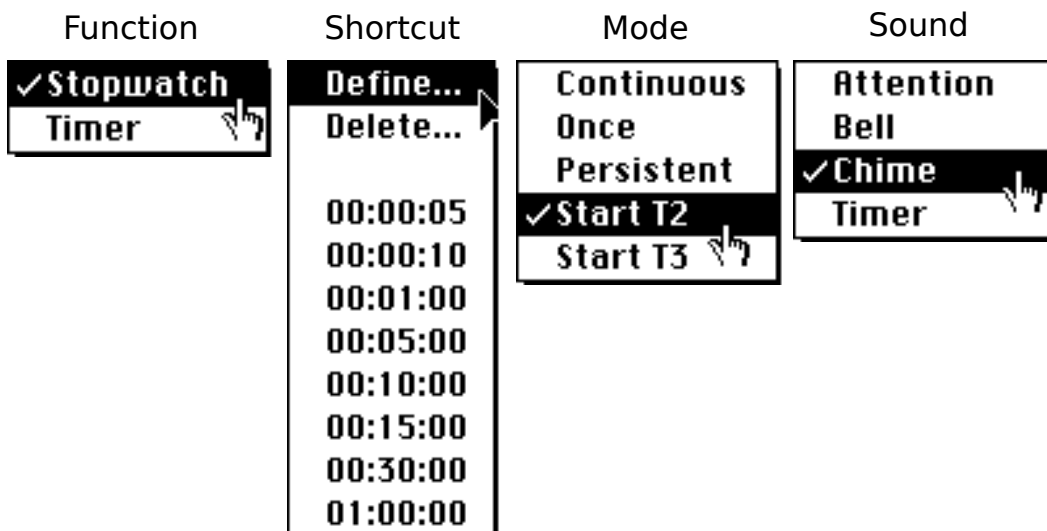| Function	Shortcut	Mode	Sound
✓Stopwatch Timer	Define... Delete... 00:00:05 00:00:10 00:01:00 00:05:00 00:10:00 00:15:00 00:30:00 01:00:00	Continuous Once Persistent ✓Start T2 Start T3	Attention Bell ✓Chime Timer

<u>Function menu:</u>
> Select the Stopwatch or the Timer function.

<u>Shortcut menu:</u>
> Select previously defined time, define new time or delete previously defined time from the menu.

<u>Mode menu:</u>
> •Continuous mode: repeat the count down continuously.
> •Once: stop at the end of count down.
> •Persistent: stop at the end of count down, but the audio and visual feedback, if selected, will persist till it gets the attention.
> •Start T1, Start T2 or Start T3: start count down (or up) of the selected timer at the end of count down. This mode is particularly useful. For example, if a researcher needs to sample every 10 minutes and it takes 5 seconds to process the sample. At the end of 5-second process time, the 10-minute count down needs to be restarted. After 10 cycles, then he needs to sample every 30 minutes for additional 5 times. One can set up Timer channels the following way (Fig. 6). At the end of 10 laps, set up timer 2 to <u>Start T3</u>. Please note that one can have different sounds for audio feedback.

Figure 6
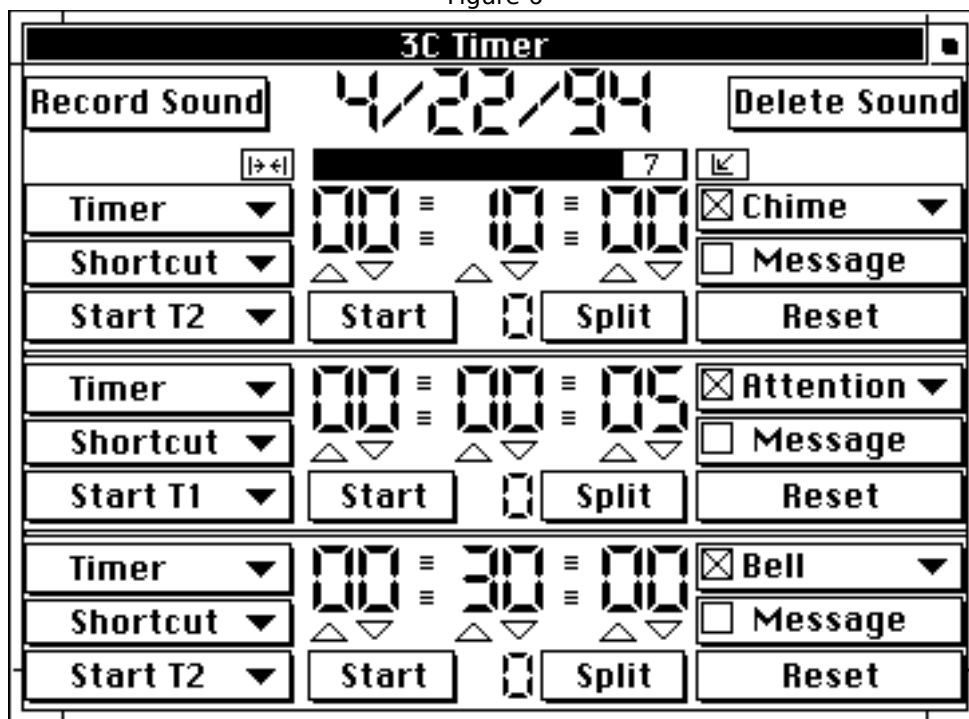
<u>Sound menu:</u>
> Select the sound for audio feedback. One can select different sound for each channel. Sound can also be added to or deleted from the menu. When Timer is running in the background, it will use the system beep sound instead of the selected sound.

Fields:

<u>Time/Date field:</u>
> Displays the current time or date. Click on the field to toggle between the two modes.

<u>Stopwatch/Timer display field:</u>
> Displays the count up or count down time for each channel.

<u>Lap field:</u>
      Displays the number of laps completed for each count down. Click on this field to reset count.

Buttons:

<u>Record Sound button:</u>
      Click on this button to record and add new sounds to the Timer if the computer has a sound input device. Sound (snd type) can also be added by copying prerecorded sound into the "snd" resource fork using ResEdit or other sound utilities. To hold more sounds in the Timer, you will need to allocate more memory to the application. Otherwise, the Sound pop-up menu will show <u>unnamed</u>.

Delete Sound button:
     Click on this button to delete sounds from the Timer.

⌐⊼⌐ ⌐↙⌐ buttons:
     Use this buttons to toggle between the large size window and the medium size window.

⌐|↔|⌐ ⌐|↦↤|⌐ buttons:
     Use these buttons to toggle between the medium size window and the mini size window.

████████████ 7   Slide button:
     Slide this button (0 - 7) to adjust the volume for audio feedback.

Message buttons:
     Click on this button to set up the message for visual feedback for each individual channel.

Sound check box:
     Check/uncheck this box to toggle audio feedback on or off.

Message check box:
     Check/uncheck this box to toggle visual feedback on or off.

Start/Stop button:
     Click on this button to start or stop a count down/count up.

Split/Resume button:
     Click on this button to temporary hold the reading without stopping the count down/count up.

Reset button:
     Click on this button to reset the stopwatch or timer.

Up/Down buttons:
     Use these buttons to adjust time displayed in the Stopwatch/Timer display fields.

Routines

     System requirement 6.05 or later and HyperCard 2.x. This software is provided as is. If you like what you see, please send me anything that you think is appropriate. I have a two-year old daughter Jessica who loves to read and sing and a two-month old son Albert who loves to eat and sleep. Anything for them would be greatly appreciated, too.

Credits

     This stack uses many of the XCMDs and XFCNs developed by Mr. Frédéric Rinaldi, my greatest appreciation. I contacted him before through e-mail but somehow I have lost his e-mail address. Please let me know if some one has his e-mail address or home address. getVolume and setVolume were developed by Steve Drazga, 1988.

History

1.21 (5/25/94) A misspelling in the script for channel 1 timer.

1.2 (5/17/94) Jonathan Brecher of mac.archive.umitch pointed out these two sounds are copyrighted, hence the "Attention" and "Bell" sounds were removed from timer stack. Thanks. The system beep sound was added to the sound list. Some codes modified accordingly. The display in the external window now gets updated only when necessary to decrease blinking. Is there a way to avoid the blinking totally?

1.11 (5/7/94) The TimeStamp script was located at the wrong layer, sorry.

1.1 (5/5/94) A HyperCard 2.x stack. The code is more robust and the time can now be updated even when Timer is not
the front most stack. An external window which displays status of all three channels has been added. Timer now
keeps track of the time of all three channels even when the system has been shot down. A time-stamp has been
added at the end of feedback message.

1.0 (4/22/94) Initial release. A stand-alone application.