

Application Note: AN10031

# How to measure elapsed time using a timer

This application note is a short how-to on programming/using the xTIMEcomposer tools. It shows how to measure elapsed time using a timer.

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## Required tools and libraries

This application note is based on the following components:

- xTIMEcomposer Tools - Version 14.0.0

## Required hardware

Programming how-tos are generally not specific to any particular hardware and can usually run on all XMOS devices. See the contents of the note for full details.

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## 1 How to measure elapsed time using a timer

Timers can be used to measure the amount of time elapsed between two statements. First input the current time from the timer:

```
t :=> start_time;
```

After performing the action you wish to time, input the time from the timer again:

```
t :=> end_time;
```

The difference between the two times gives you the number of timer ticks elapsed.

```
printstr("Number of timer ticks elapsed: ");  
printintln(end_time - start_time);
```

This method can be used to measure durations of up to  $2^{32} - 1$  timer ticks (approximately 42 seconds).