## 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.

## 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.

## 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).

## XMOS

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