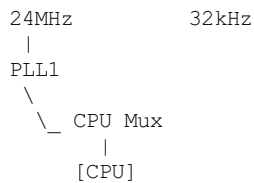# Frequently asked questions about the sunxi clock system

This document contains useful bits of information that people tend to ask about the sunxi clock system, as well as accompanying ASCII art when adequate.
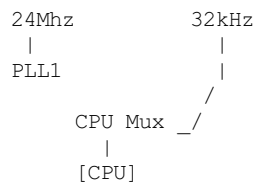
Q: Why is the main 24MHz oscillator gatable? Wouldn't that break the

system?

A: The 24MHz oscillator allows gating to save power. Indeed, if gated

carelessly the system would stop functioning, but with the right steps, one can gate it and keep the system running. Consider this simplified suspend example:
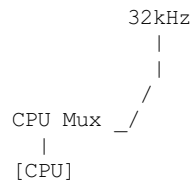
While the system is operational, you would see something like:

```
24MHz          32kHz
 |
PLL1
 \
  \_  CPU Mux
       |
     [CPU]
```

When you are about to suspend, you switch the CPU Mux to the 32kHz oscillator:

```
24Mhz          32kHz
 |               |
PLL1             |
                /
     CPU Mux _/
        |
      [CPU]
```

Finally you can gate the main oscillator::

```
               32kHz
                 |
                 |
                /
     CPU Mux _/
        |
      [CPU]
```

Q: Were can I learn more about the sunxi clocks?

A: The linux-sunxi wiki contains a page documenting the clock registers,

you can find it at

http://linux-sunxi.org/A10/CCM

The authoritative source for information at this time is the ccmu driver released by Allwinner, you can find it at

https://github.com/linux-sunxi/linux-sunxi/tree/sunxi-3.0/arch/arm/mach-sun4i/clock/ccmu