
Getting started with the I2C PLL clock module

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Revision 11
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1 I2C PLL module

1.1 Introduction

The “I2C PLL module” plugs in a DIL8 oscillator socket. It consists of one PLL controlled from I2C in a DIL8 form factor. It generates a frequency like any oscillator with the advantage of being programmable. It also has an EEPROM so can work in standalone mode.

An I2C control panel software is provided which makes changing the frequency or programming the EEPROM easy.

1.2 Characteristics

- Powered from the I2C bus, or from the target board. Automatically switches to any power present. Power can be 3.3V or 5V.
- The PLL output is guaranteed up to 125MHz (200MHZ+ typical). The PLL output can change frequency in a glitch free manner. This allows glitch-free frequency sweeps.
- EEPROM allows I2C-free operation.
- I2C control panel works in Windows PC with KNJN I2C master boards (all KNJN FX2 FPGA boards and KNJN I2C master boards).

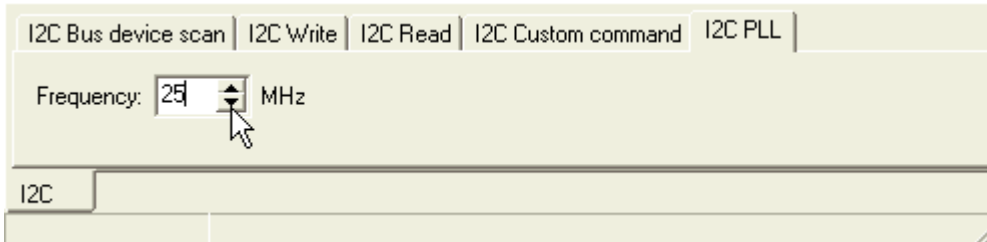
2 Mode of operation

You can:

- Control of the PLL frequency
- Program the PLL EEPROM
- Use in standalone mode

2.1 PLL frequency

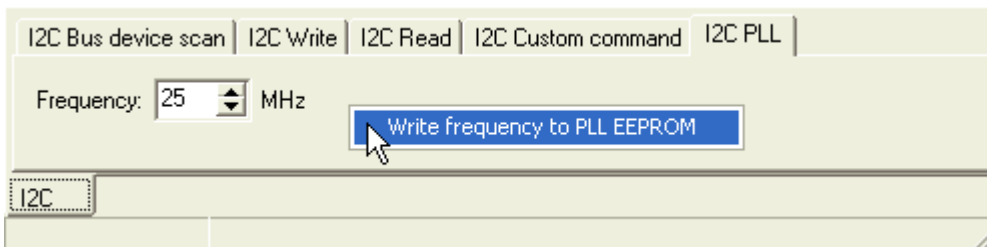
Start the I2C control panel.



Simply type the frequency you want, or use the spin control to change the frequency. The frequency change is immediate. The module power comes either from the I2C cable, or the target board, whichever is higher.

2.2 EEPROM

Right-click on the window and select "Write frequency to PLL EEPROM".



The frequency programmed is used in standalone mode.

2.3 Standalone mode

- Disconnect the I2C cable.
- Power-cycle the target board. The PLL module reads the EEPROM value as soon as it is powered-on by the target board.

You can reconnect the I2C cable after power-up if you want to retake control of the PLL from I2C.