

Parallax Propeller

A Brief Introduction

By Ken Hewitt

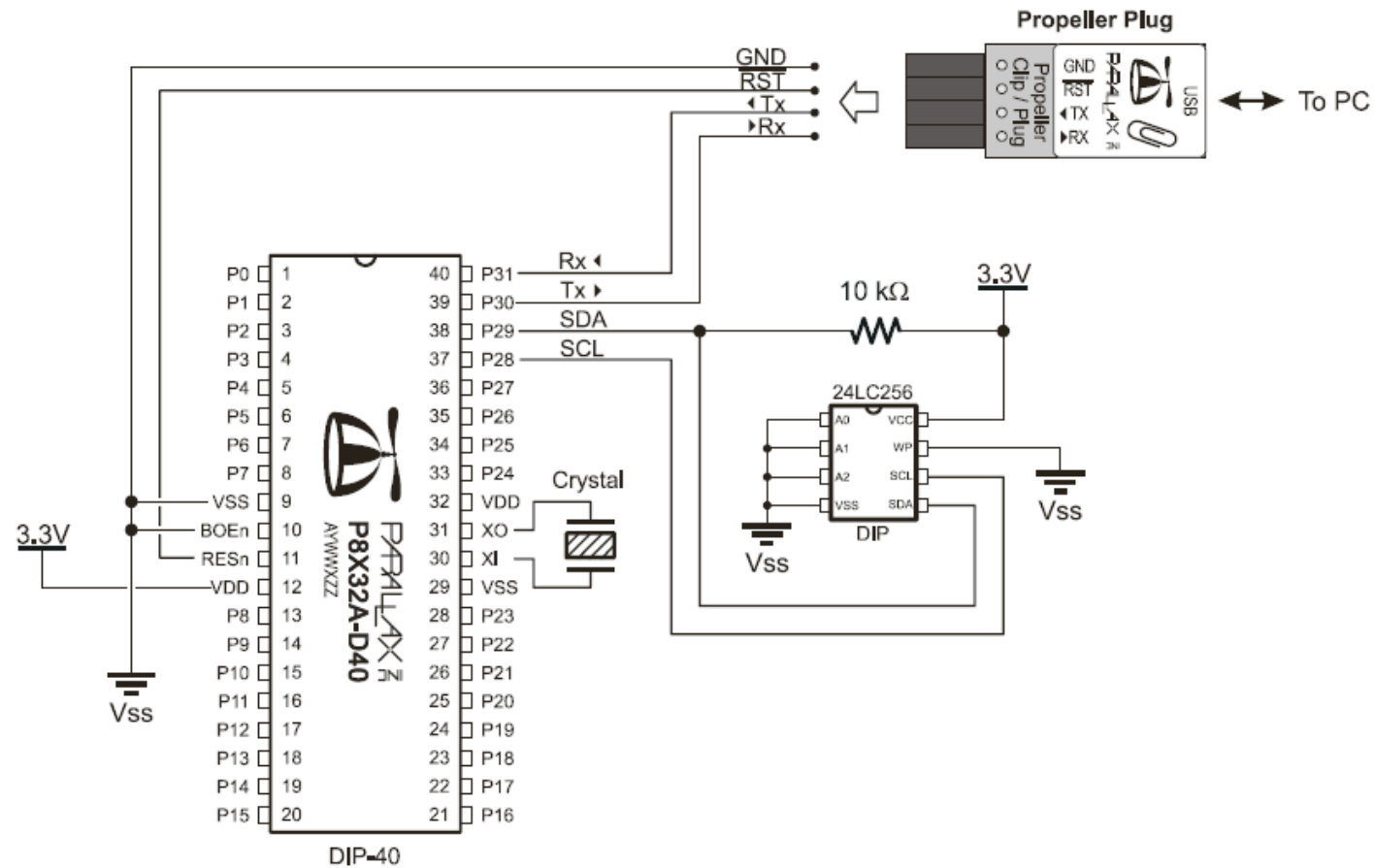
Basic Specification

- **Power Requirements** 3.3 volts DC
- **External Clock Speed** DC to 80 MHz
- **Internal RC Oscillator** 12 MHz or 20 KHz
- **System Clock Speed** DC to 80 MHz
- **Global RAM/ROM** 64 K bytes; 32K RAM / 32 K ROM
- **Processor RAM** 2 K bytes each (512 x 32)
- **RAM/ROM Organization** 32 bits (4 bytes or 1 long)
- **I/O Pins** 32
- **Current Source/Sink per I/O** 40 mA
- 40-pin DIP, 44-pin LQFP, 44-pin QFN

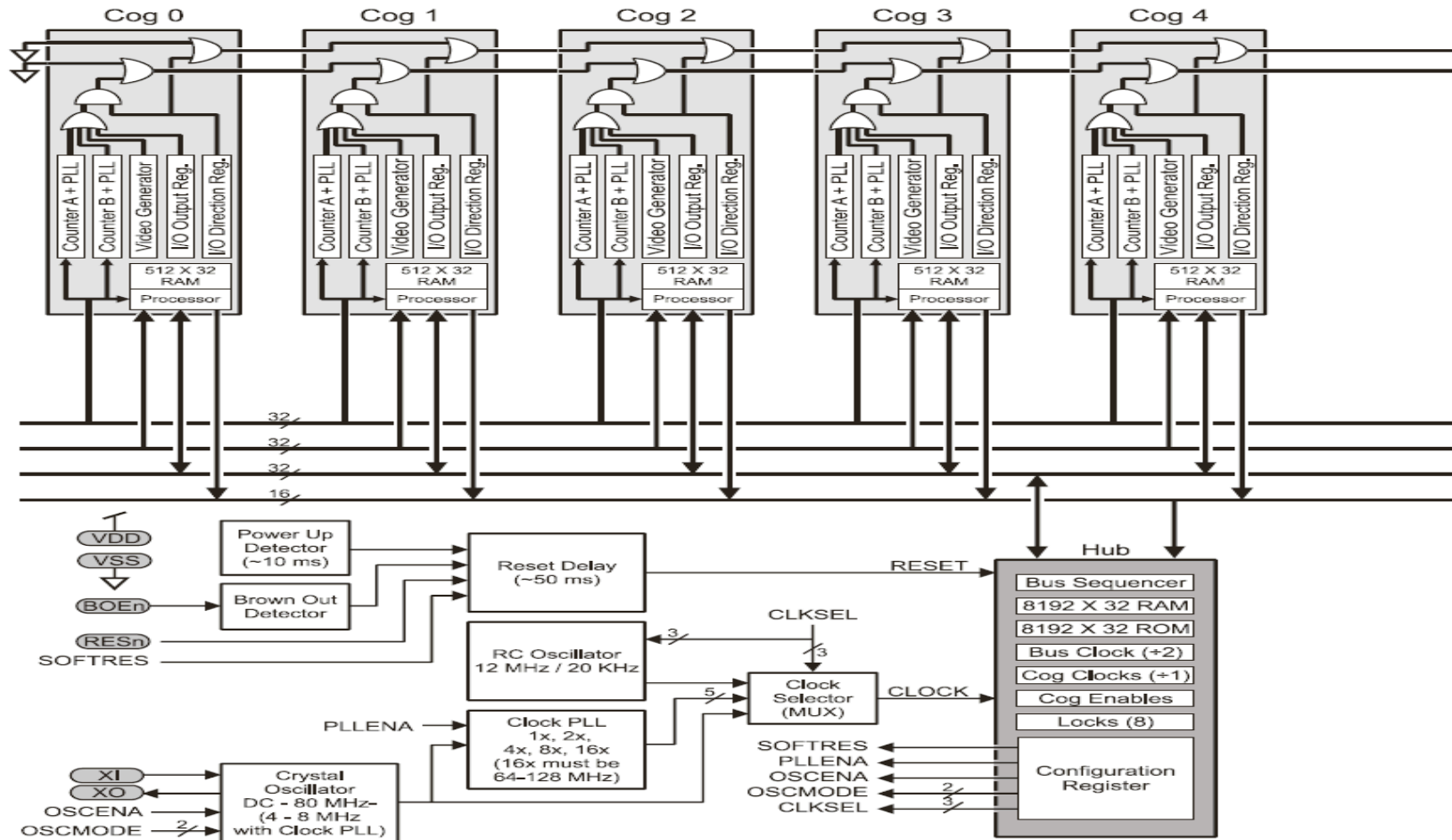
Novel Features

- Chip contains 8, 32 bit processors (Cogs)
- Each processor can run an independent program (motors, sensors, solver etc)
- Shared area of RAM
- Can be programmed in SPIN, ASM or C
- Program can be loaded to RAM or I2C
- 1 main system counter used by all Cogs

Simple Hardware



Block Diagram



Plus Points

- Reasonable price device (£11.50 +vat)
- Free development system
- Cheap USB programmer (£30.00 +vat)
- Built in Boot Loader
- Lots of ready to use software modules
- Any I/O pin can be used by any Processor
- Lots of Debug options

Minus Points

- 3.3 v so Interfacing may be an issue
- No on-board ADC (Propeller 2 ?)
- No Interrupts
- Program has to be stored in I2C EEPROM
- Cog / Hub multiplexing may cause add a delay ?
- No IDE available yet

That's All Folk's