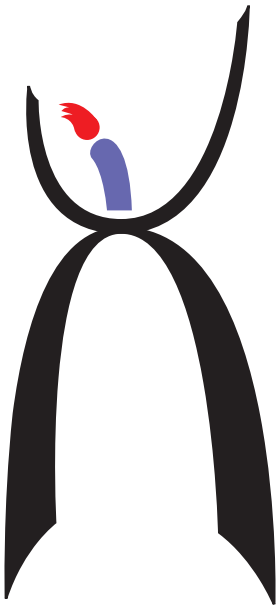
Xtreme Ideas Technology Development

RHP4K User's Guide

Andrew Huang



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Congratulations and thank you on your purchase of Xtreme Ideas Technology Development's RHP4K. This user's guide contains details on how to setup and use your RHP4K.

Specifications

General

- Size: 3.8" x 5.4" (9.6 cm x 13.6 cm)
- Power: +5V DC +/- 10% @ 400 mA nominal

Operating Conditions

- Operating Temperature: 0 - 70 °C
- Humidity: 5-95% non-condensing

Interfaces

- IEEE1284 parallel port plus scalable network enhancements for primary configuration and host data communications supporting 0.5 MB/s normal maximum transfer rate
- Standard 5-wire serial daisy chain configuration ports for scalable network option
- Proprietary memory expansion port supporting 64K x 16 synchronous SRAM module at up to 66 MHz
- Field programmable clock (FPC) compliant socket supporting two-wire clock programming interface

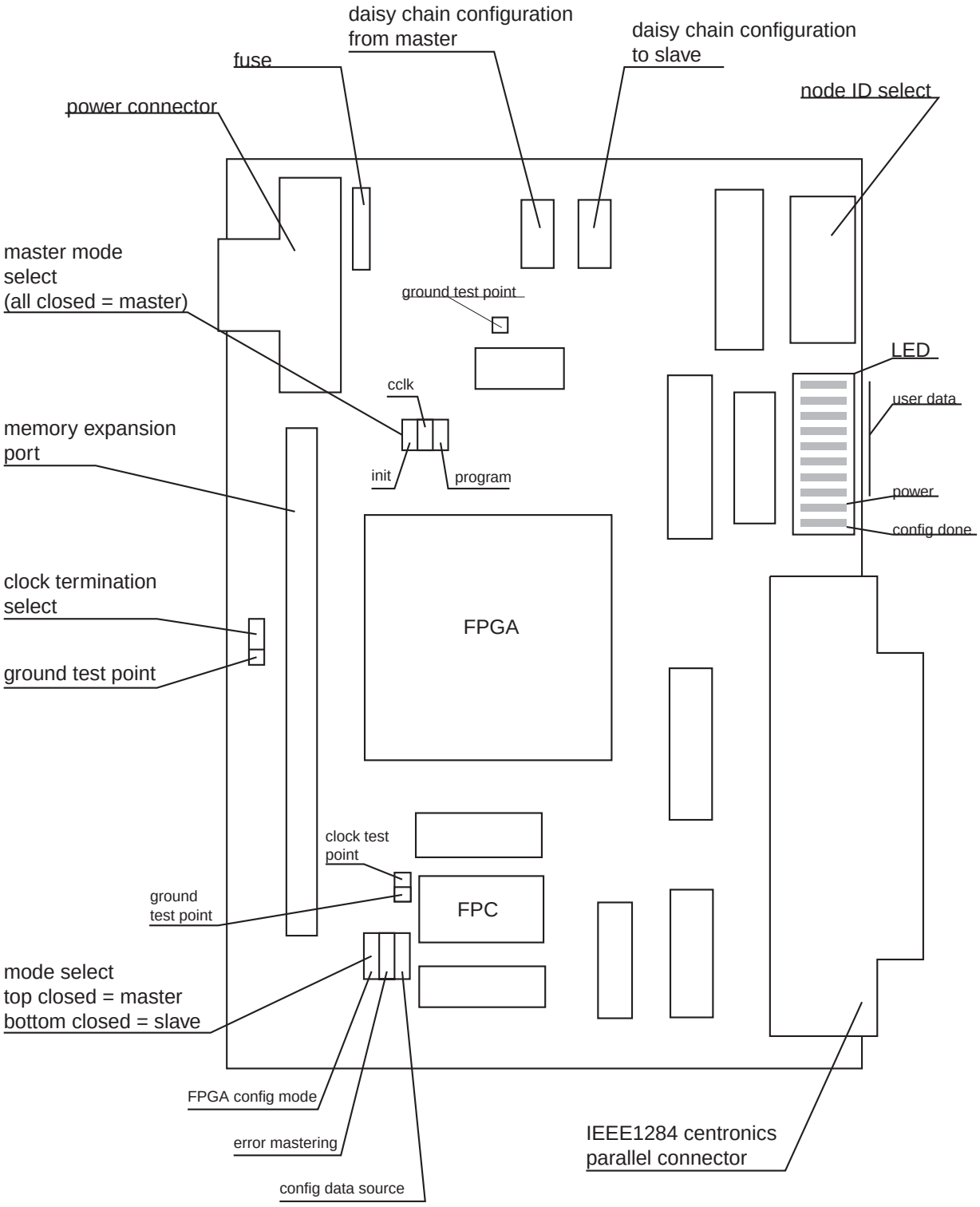
FPGA Support

- Xilinx 4000, 4000A, 4000E series 5V FPGAs in 84-pin PLCC package (4003 to 4010 offered in this package)

Clock

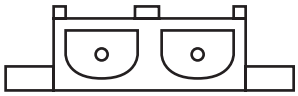
- 10 MHz crystal included with device; with FPC upgrade, 391KHz to 100 MHz programmable

Device Diagram



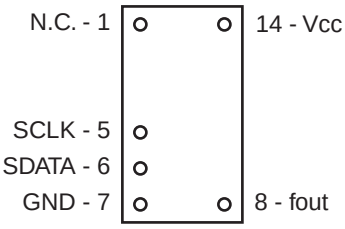
Port Pin-outs

Power Connector
front view

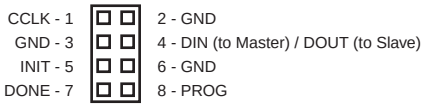


+5V GND

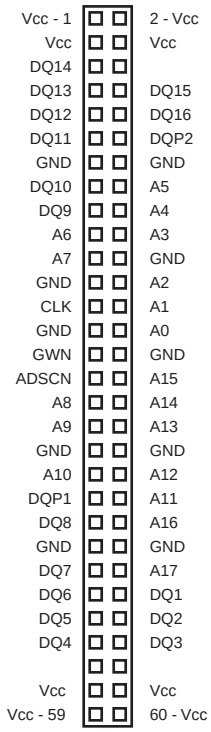
FPC Pinout
(top view)



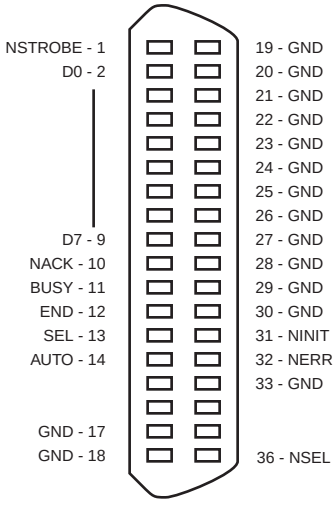
Daisy Chain
Configuration Port Pinout
(top view)



SSRAM Expansion Pinout
(top view)



IEEE 1284 Port



Setup and Usage

1. Make sure that all the ICs are properly mounted and that the FPGA is securely in its socket. The FPGA should be flush with the edges of the socket.

2. Install any option cards (RAM expansion and/or FPC).

3. Install the clock termination jumper if the RAM option card is not installed. Do not install the clock termination jumper if the RAM option card is installed since the RAM option card has a built-in clock terminator.

4. Install the master/slave select jumpers. Please refer to the diagram on the previous page for jumper installation orientation. Note that all the jumpers for each mode must be installed for the RHP4K to configure correctly. You should install a total of six jumpers.

5. Configure the node ID DIP switch if you are planning on using the scalable bus feature. If you are not planning on using the scalable bus feature, then the setting of the node ID DIP switch is ignored.

6. Install daisy-chain configuration cables if this device is part of a multiprocessor network.

7. Attach the RHP4K to the host computer via the IEEE1284 port using an IEEE1284 compliant cable.

8. Apply power to the board by plugging in the power connector.

9. The RHP4K is now ready for configuration via host software. Contact Xtreme Ideas Technology Development for sample code and programs for RHP4K configuration.

Notes