



Coinel Technology Solutions LLP[®]

LPC1768 Header Board Overview

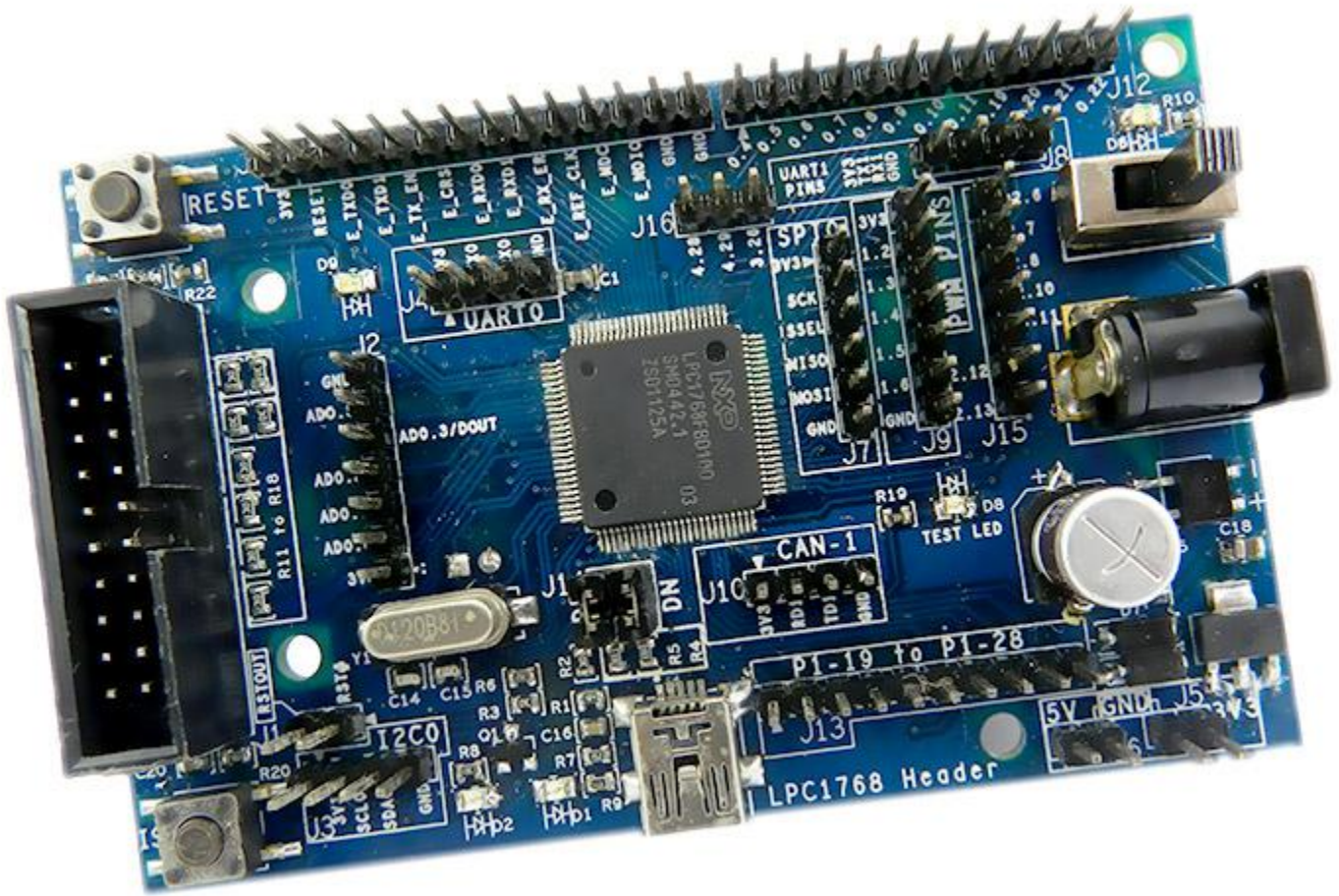
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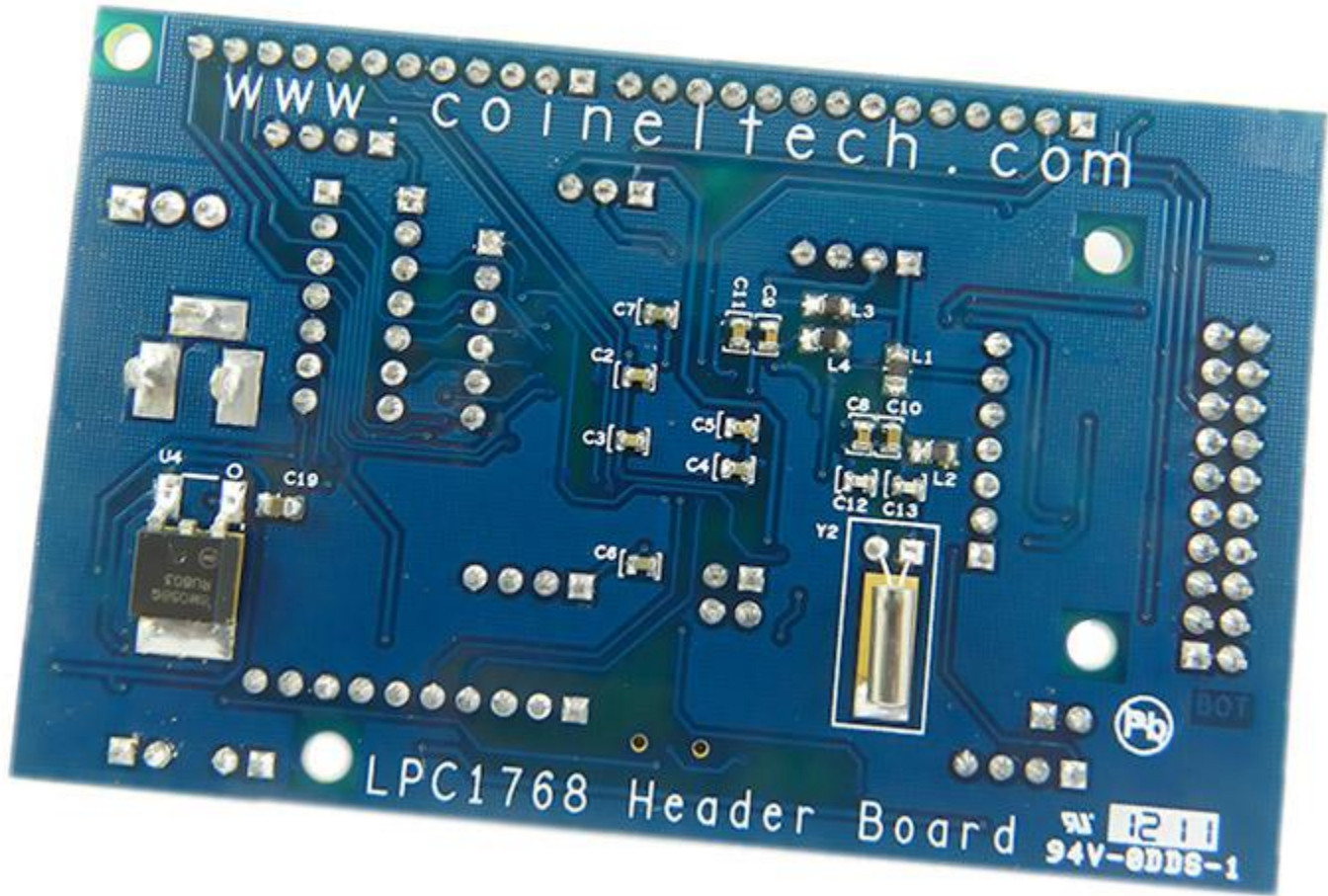
1. INTRODUCTION

LPC1768H is a Header Board designed for CORTEX M3 Based LPC1768 controller from NXP. The Board is a basic IO Pinout with options of onboard power and USB Device. The IO pins are taken out on 2.54 mm berg connector. The board has standard 20 PIN JTAG Connectivity for debug/programming. The Board also has reset and ISP switch for in system programming. UART 0 can be used for ISP Programming.



TOP View

Bottom View



2. FEATURES

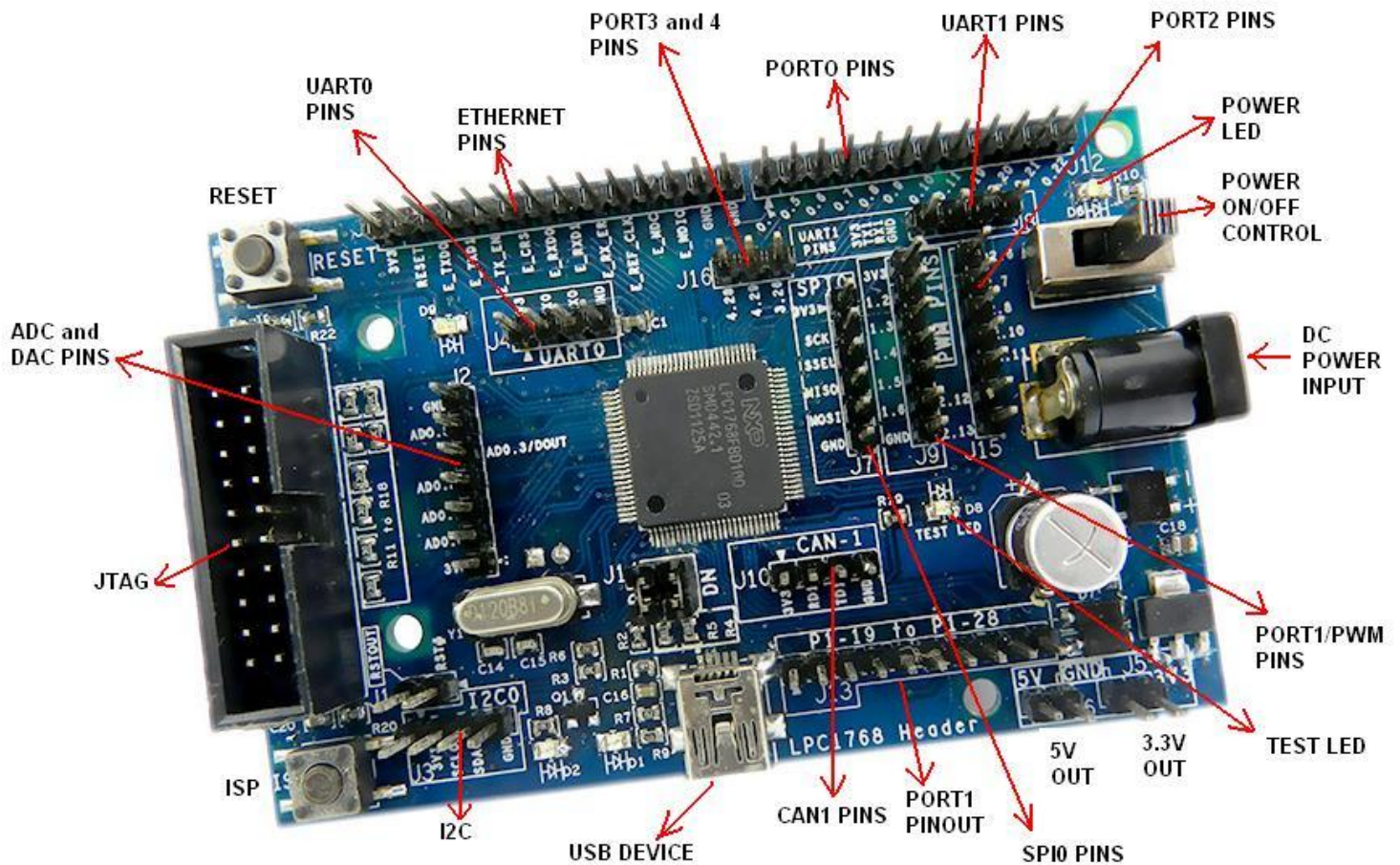
2.1 Features of LPC1768

- 100 MHz ARM Core with 64 KB of SRAM and 512 KB Flash.
- 8-channel general purpose DMA controller, 4 UARTs, 2 CAN channels, 2 SSP controllers, SPI interface, 3 I2C interfaces, 2-input plus 2-output I2S interface, 8-channel 12-bit ADC, 10-bit DAC, motor control PWM, Quadrature Encoder interface, 4 general purpose timers, 6-output general purpose PWM, ultra-low power RTC with separate battery supply, and up to 70 general purpose I/O pins.

2.2 LPC1768 Header Board

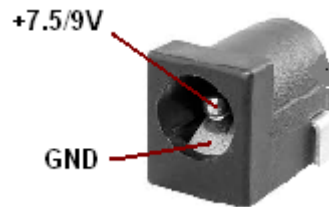
- Controller: Cortex M3 Based LPC1768 from NXP.
- Package: LQFP100.
- Clock Used: 12MHz for Controller, 32.768KHz for internal RTC.
- Power: On Board, 5V and 3.3V.
- On Board reset and ISP switches.
- JTAG Connectivity Option.
- Test LED via IO Pin.
- On Board USB Device.
- Can be USB or external Powered.
- Board Specifications:
 - Dimensions: 90 x 56 mm.
 - No of Layers: 2
 - FR4, Blue Solder Mask, ENIG, 1.6mm thickness.

2.3. HARDWARE RESOURCES



2.4 POWER INPUT

The Power supply to be used has to be 7.5V to 9V DC, 1Amp. The DC jack connectivity details are shown in the figure.



A slide switch is provided for power ON/OFF control. The slide switch is useful only when an external DC adapter is used. When USB is used to power the board, the switch condition will not have any effect on the power input.

3. PROGRAMMING THE BOARD

3.1 JTAG

The board can be programmed/debugged using standard JTAG. We offer various Parallel/USB JTAG that can also be used. Debuggers like ULink, JLink etc can also be used with this board. For more details, check [JTAG OPTIONS](#). You will find all relevant tools and plugins required in the download section of each product.

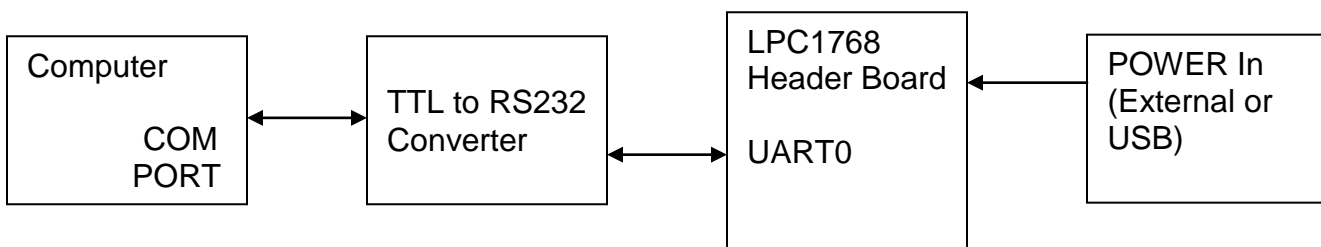
3.2 ISP PROGRAMMING

The board can also be programmed via UART. Follow the sequence given.

Note:

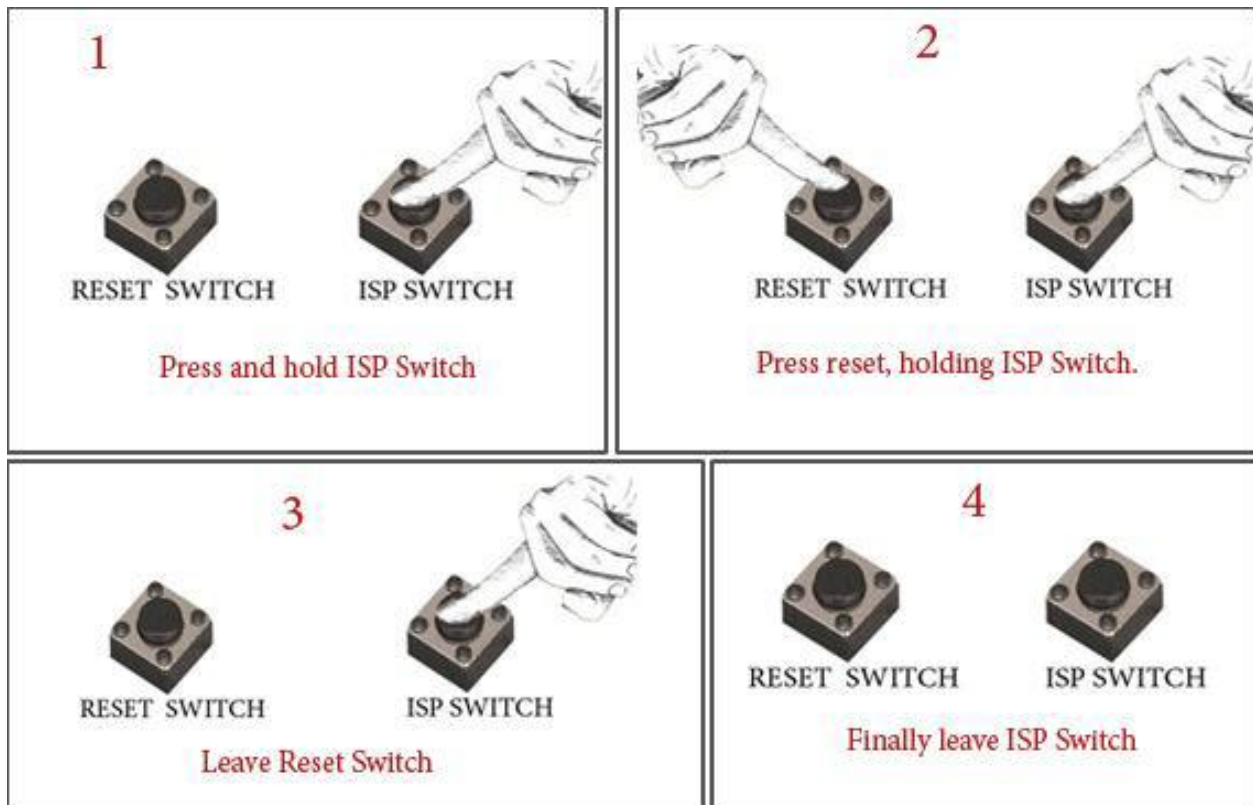
1. Make sure you have Flash Magic Installed in your Computer.
2. Make sure you have a TTL to RS232 converter (You can use MAX232) and a serial cable.

Make the connections for the board as per the block diagram.



Follow the sequence.

- Power ON LPC1768 Header Board.
- Enter into the ISP Programming mode by following procedure.



Doing this will make the controller enter into ISP mode (via UART0). You can now program the Hex file using [Flash Magic](#).

3.2 USB Boot Loader

You can also download your project hex file (binary file) on the controller using USB through the Bootloader. Check [LPC1768 USB Bootloader](#) (download Section) for more details.

For any technical discussion related to the product with our team and various users, visit and post your questions at

www.coineltech.com/forums

READER RESPONSE

It is our intention to provide you with the best documentation possible to ensure successful use of the product. If you wish to provide your comments on organization, clarity, subject matter, and ways in which our documentation can better serve you, please mail your comments to support@coineltech.com or call our Technical Publications Officer at (+91) 80-23154423.

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