



BootAVR Rapid Development Board



Users Manual

Robokits India

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Thank you for purchasing the BootAVR Rapid Development Board. This unit has been carefully engineered and tested to provide superior performance. This document covers the features and operation of the BootAVR Rapid Development Board.

This is an easy-to-use board using the popular Atmel ATmega16/32 microcontroller. The board includes everything you need to learn, develop or using for rapid development. It is ideal for any kind of autonomous or manual controlled robot.

This Board is powered by internal powerful AVR Bootloader which allows the microcontroller to be programmed directly through on board serial link without need of any external programmer. Microcontrollers can be programmed at very high speeds compared to any other ISP programmer. Burns full ATmega16 in just 4 Seconds. Easy to use programming BootAVR Software is available for free.

The normal controller can also be used with this board and programmed with any of our programmers. This board is available with male or female pin out headers. Serial link can also be used for serial communication to exchange data with PC.

Features

- **Small board size - Just 90mm X 42mm**
- **On Board Regulator with filters and Operating voltage from 6V - 20 V**
- **Power on/off toggle switch**
- **16MHz crystal for maximum speed**
- **8 ADC/Standard servo compatible connectors**
- **All Pins accessible through Male/Female header pins**
- **PC-MCU serial link onboard**
- **No programmer required for programming**
- **Microcontroller without bootloader can also be used with this board**
- **Also hex files and fusebit setting are provided free to use your own microcontroller with this board**
- **Freeware software for programming through bootloader**



Optional items

- **LCD Module HD44780 compatible**
- **AVR Microcontroller**
- **AVR programmer (Selectable between none, serial, parallel and USB port)**
- **Motor Drier L293D(Selectable between none, one or two)**

This Product Includes

- **CD containing all required software's and sample codes in WINAVR**
- **BootAVR Rapid Development Board**
- **Serial Cable**

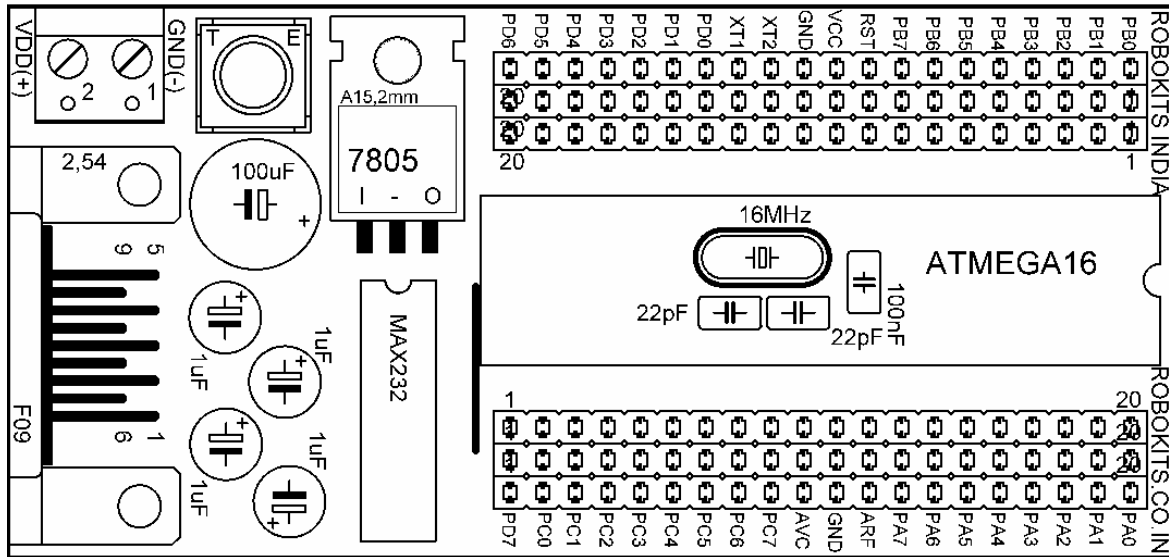
Setting up the Board

Providing Power Supply

- **You can provide the power supply to the board from any DC source from 6V to 20V.**
- **To provide the supply from AC adapter with red wire going to VDD terminal and white wire going to GND terminal.**
- **To power up the board using any DC source use VDD terminal as +VE terminal and GND as -VE terminal.**
- **Be careful while applying power otherwise the regulator IC will blow up.**
- **To give supply other than power supply provided open the screws, insert the supply wires and fasten them again.**



Board Top Layout



Programming the Microcontroller

- **Install Robokits BootAVR Software**
- **Open Hex or bin file from the folder you want to program**
- **Set COM port number and press connect**
- **Connect serial port and power source to your board**
- **Press "Detect AVR" button to verify connection between PC and MCU**
- **Press "Erase" button to Erase MCU**
- **Press "Program" button to program the open hex file**

Using sample codes

- **Sample codes are provided in WinAVR.**
- **WinAVR is free source GNU C compiler for AVR microcontroller series.**
- **First install WinAVR from CD.**
- **Open Programmers notepad which is IDE for WinAVR.**
- **Open any Robokits.c file provided in the CD in folder sample programs.**
- **Change related Makefile if using any different programmer or MCU (Need not to be changed for normal board with serial programmer).**
- **Use Programmer documentation which you are using.**
- **To compile use Tools – Make All. This generates hex file which can be used by the programmer software.**



Service and Support

Service and support for this product are available from Robokits India. The Robokits Web site (<http://www.robokits.co.in>) maintains current contact information for all Robokits products.

Limitations and Warrantees

The BootAVR Rapid Development Board is intended for personal experimental and amusement use and in no case should be used where the health or safety of persons may depend on its proper operation. Robokits provides no warrantee of suitability or performance for any purpose for the product. Use of the product software and or hardware is with the understanding that any outcome whatsoever is at the users own risk. Robokits sole guarantee is that the software and hardware perform in compliance with this document at the time it was shipped to the best of our ability given reasonable care in manufacture and testing. All products are tested for their best performance before shipping, and no warranty or guarantee is provided on any of them. Of course the support is available on all of them for no cost.

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