# RouterBOARD 500r5
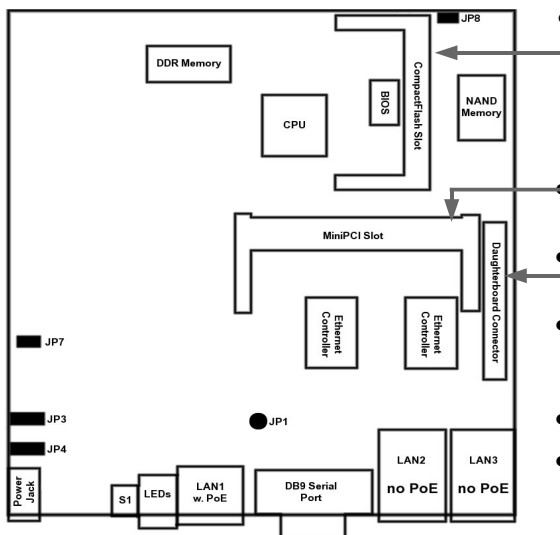## Quick Setup Guide and Warranty Information



## Board Build Versions

- **RB532** – 32MB version
- **RB532A** – 64MB version

## Assembling the Hardware

First use of the board:



- In most cases you do not need to use any additional boot devices, as you can boot the RouterBOARD from the onboard NAND memory. You can also install a CompactFlash module or Microdrive drive, which can be used as an alternative boot device or an additional storage medium. **Warning! The RouterBOARD 500 series does not support hot insert of CompactFlash/Microdrive devices**.

- MiniPCI socket. There is one more MiniPCI socket on the other side of the board.

- One of the RouterBOARD 500 Daughterboard options (ordered separately) may be secured on top of the main board.

- Configure jumpers. The board has 2 jumpers for configuring input voltage range and one for disabling PoE controller. Instructions on setting the jumpers are given in the next section of this manual.

- Install the board in a case and connect other peripherals and cables.

- Plug in power cable to turn on the board.

## Powering

The RouterBOARD has both power inputs – the **J13** power jack and the **J6** first Ethernet port (marked with "PoE" sticker, the closest one to the power jack) active at all times, but you may only use one of the power inputs at the same time, otherwise you may damage power suppies.

The **JP3** and **JP4** jumpers choose input voltage (**1-2** for 25..56V DC, **2-3** for 6..22V DC). Because of wire resistance, PoE requires higher voltage (it is recommended to use 11V minimum).
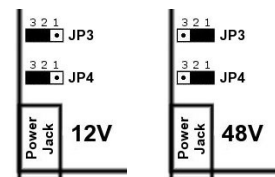
In case it is planned to power the board up from a standard 48V DC PoE injecor (note that power over datalines is supported in RB500r5), the **JP7** jumper should be opened (disconnected). In other cases, close (connect) the jumper.

## Booting process

First, RouterBOOT loader is started. It displays some useful information on the onboard RS232C asynchronous serial port. The serial port is set to 115200bit/s, 8 data bits, 1 stop bit, no parity, hardware (RTS/CTS) flow control by default. **Note** that some null-modem cables do not implement or implement incompletely the hardware (RTS/CTS) flow control, so it is suggested to try to disable hardware flow control in the terminal emulation program in case the serial console does not work as expected, and if it does not help, make a new cable using the pinout given in the User's manual. The loader may be configured to boot the system from an internal storage device (an onboard NAND or CompactFlash/Microdrive device), and/or from network. See the respective section of User's manual on how to configure booting sequence and other BIOS parameters.

DHCP or BOOTP (configurable in loader) protocols allow the RouterBOARD 500 series board to get an initial IP address, and provide the address of a TFTP server to download an ELF boot image from. It is especially useful for software installation purpose. See the User's manual for more information and protocol details. Note that you must connect the RouterBOARD you want to boot and the BOOTP/DHCP and TFTP servers to the same broadcast domain (i.e., there must not be any routers between them).

## Ports

The first Ethernet port is compatible with IEEE802.3af Power over Ethernet standard and passive PoE (non-standard). The board accepts either 12 or 48 V DC input voltage according to the configuration (see Powering section of this manual on how to select voltage). The second and third Ethernet ports do not support Power over Ethernet. **CAUTION! You may damage the board by connecting PoE injector to the ports, which do not support PoE powering.** Note that all three Ethernet ports support automatic cross/straight cable correction (Auto MDI/X), so you can use either straight or cross-over cables for connecting to other network devices.

## Operating System Support

Currently tested operating systems are: MikroTik RouterOS (version 2.9 and up) and GNU/Linux (kernel 2.4). Linux kernel patch required to boot up the board is downloadable form www.routerboard.com.

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**Hardware**. MikroTikls SIA warrants all RouterBOARD series equipment for the term of one year from the shipping date to be free of defects in materials and workmanship under normal use and service. All parts will be repaired or replaced with similar or functionally equivalent parts by MikroTikls SIA during the warranty term, except in case the returned parts have mechanical, electrical or other accidental or intended damages caused by improper use or due to wind, rain, fire or other acts of nature.

Parts (or systems) must be shipped pre-paid to our facility in Riga, Latvia. All items must have a Return Material Authorization (RMA) which you can get by contacting us via email, telephone or fax. RMA must be printed, signed, and enclosed with the shipment, also the RMA number must be written on the package itself. Parts sent without following the proper procedure will be treated as those not to be repaired or replaced due to the above mentioned conditions. Items proved to be free of defects in our lab will be returned to the customer at the customer's expense. Those that do meet the warranty repair requirements will be repaired or replaced, and returned to the customer's location at our expense, extending the warranty term for the time the items are being shipped to and from our facility and replaced or repaired.

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