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Tutorial - How to Burn A MCU?

eXtreme Burner 51 An Easy To Use USB Programmer for AT89S series MCUs.

This document will give you step by step guide to burn a Intel HEX file to your target MCU (89S51 or 89S52) chip. For any problems contact the support department.

Insert the chip you want to program into the ZIF socket and Connect the programmer to the USB Port where you have installed it. The green light on Programmer should glow and your PC would give a "ding" sound. Now everything is ready.

NOTE:

If Windows Says "Found New Hardware" then you have connected the programmer to port other than where you have installed it or you may have not yet installed the drivers. For Driver Installation Steps see <u>this.</u>

NOTE:

Please disconnect the programmer from PC after programming.

Now launch the "eXtreme Burner 51" software from Windows Start Menu or Desktop, You will get a screen similar to the figure shown below.

| 🔹 LED4 | l.hex | eXtr | eme l | Burne | r 51 | | | | | | | | | | | | | |
|---|-------|---|--|---|--|---|---|---|--|---|--|--|--|--|--|---|--|---|
| <u>F</u> ile <u>V</u> iev | w Con | nmand | Chip | Help | | | | | | | | | | | | | | |
| B | | | | 6 | | | | | | | | | | | | | | |
| 0000 0010 0020 0030 0050 0050 0050 0080 0090 0080 0080 008 | | 02 00 00 22 D9 20 75 DB AF FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF | 00 00 00 C0 FC 00 90 7A 80 FF FF FF FF FF | 56 000 00 05 75 01 FFFFFFFFF FFFFFFFFFFFFFFFFFFFFFFFFF | 32 32 32 74 90 7A 11 00 FF FF FF FF | 00 00 00 00 00 00 55 7E 01 36 00 FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF | 00 00 00 11 22 7A 11 75 00 FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF | 00 00 7B 4A 78 01 36 90 00 FFFFFF FFFFFFFFFFFFFFFFFFFFFFFFF | 00 00 04 D0 FF 11 75 BD 06 FF FF FF FF FF FF | 00 00 74 20 26 90 7A 00 FFFFFF FFFFFFFFFFFFFFFFFFFFFFFFF | 00 00 FA 22 F6 75 E7 00 FF FF FF FF FF | 00 00 11 78 90 7A 11 00 FF FF FF FF | 32 32 00 4A F0 FD BD 01 36 00 FF FF FF FF FF | 00 00 00 00 79 75 7A 11 02 00 FF FF FF FF | 00 00 FA 02 81 01 36 00 FF FF FF FF FF FF | 00 00 DA D8 21 11 75 62 00 FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF | 00 00 00 FE 75 36 90 C2 00 FF FF FF FF FF FF | < |
| Ready | | | | | | | | | | | | | | | AT895 | 52 81 | 92 Byte | s |

Fig - eXtreme Burner 51 Main Screen

The software is fairly easy to use. To transfer a hex file from PC to MCU follow the steps given below.

Step I

Select the "Open Hex File" from "File" Menu or Toolbar. And select the hex file. Now the hex file will be loaded and its content will be show in main window.

| File View | v Command | Chip He | de | | | | | | | |
|--|--|--|---|----------------|--------------------|---|-------|-----------------------|-----|--|
| 0000 | | 00 5 00 0 | Open Look in: 🗁 | Test Hex Files | k. WEIRMWARE be | | G 🕫 I |) • 🛄 ق | 2 🔀 | |
| 0020 0030 0040 0050 0060 0070 | - 00 - 00 - 22 - D9 - 20 - 75 - DB | 00 0 00 0 C0 E FC E 00 7 90 E 7A 0 | I Kilichex LCDTest.ht LED1.HEX LED4.hex my_idea.ht myFirmwar | ex s e2.hex | dcc.hex | • | | | | |
| 0090 | AF | 00 I | 127 | | | | | | | |
| 0090 00A0 00B0 | - AF - FF - FF | FF F | File <u>n</u> ame: | | | | | Oper | n | |
| 0090 00A0 00B0 00C0 00C0 | - AF - FF - FF - FF - FF | FF F FF F FF F | File <u>n</u> ame: Files of type: | Intel HEX file | s (*.hex,*.ihx) | | | <u>O</u> per Cance | el | |
| 0090 00A0 00B0 00C0 00D0 00D0 | AF FF FF FF FF | FF F FF F FF F FF F | File <u>n</u> ame: Files of type: | Intel HEX file | s (*.hex,*.ihx) | | | Oper Cance | el | |

Step II

Select "Write Device" from "Command Menu" or Toolbar. The actual burn process will now start. You will get a screen similar to the image shown below.

Fig - Browse for HEX file.

| | Time | Tasks | |
|-----|-------------------|---|-------|
| 0 | 07:18:05 PM | Testing Programmer Hardware | |
| | 07:18:05 PM | Hardware Test OK | |
| | 07:18:05 PM | Powering On | |
| | 07:18:05 PM | Powered On | |
| | 07:18:05 PM | Auto Detecting Chip | |
| | 07:18:05 PM | Found : Atmel AT89S52 | |
| | 07:18:05 PM | Signature : 0x1E 0x52 0x06 | = |
| | 07:18:05 PM | Erasing Chip | |
| | 07:18:06 PM | Chip Erased | |
| | 07:18:06 PM | Burn Process Started at 750KHz | |
| | 07:18:06 PM | Burn Process Completed Successfully at 750KHz | |
| | 07:18:06 PM | Data Verification Started at 750KHz | |
| < | | | > |
| Pro | gress | Time Elapsed 00:00:21 | 1.2 % |
| www | .eXtremeElectroni | cs.co.in Abort C | lose |

Fig - eXtreme Burner 51 "Burn Progress"

The upper list box give the result of each operations as they are performed. While the lower part give information about total time elapsed and percentage of progress of burn process. If everything is ok the burn process will succeed and you will be informed.

Note:

You can select either AT89S51 or AT89S52 MCU from the "Chip" menu.

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