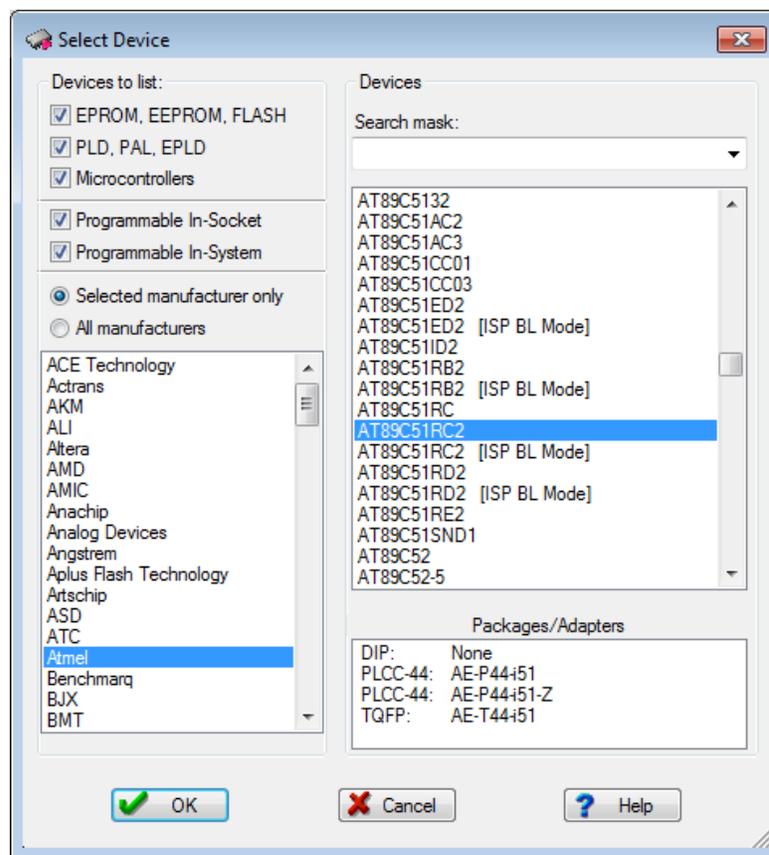
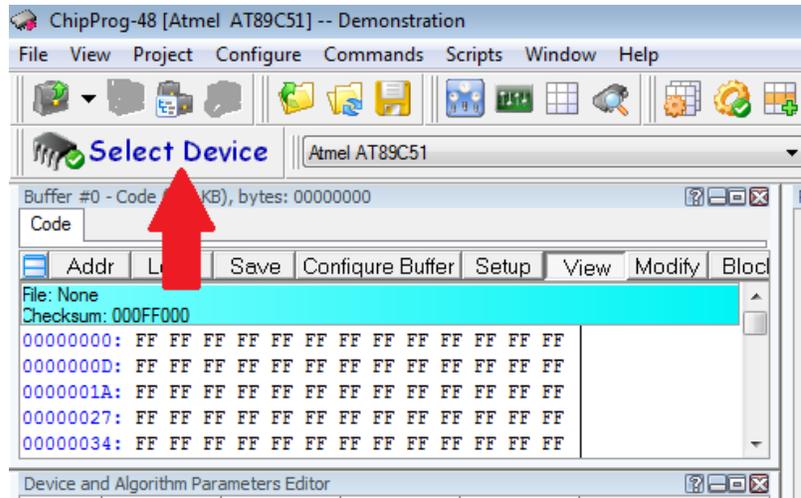


Programming an AT89C51RC2 using a Phyton ChipProg-48 Parallel Programmer

Step 0: Start the Phyton ChipProgUSB software program on the host computer.

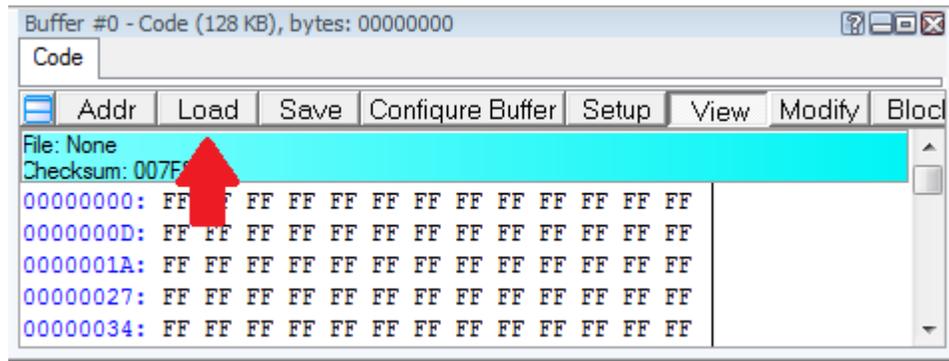
Step 1: Carefully insert the microcontroller into the device programmer. Do not insert the device upside down. You may damage the controller, or even the device programmer. Once inserted, select the device using “Select Device” option.



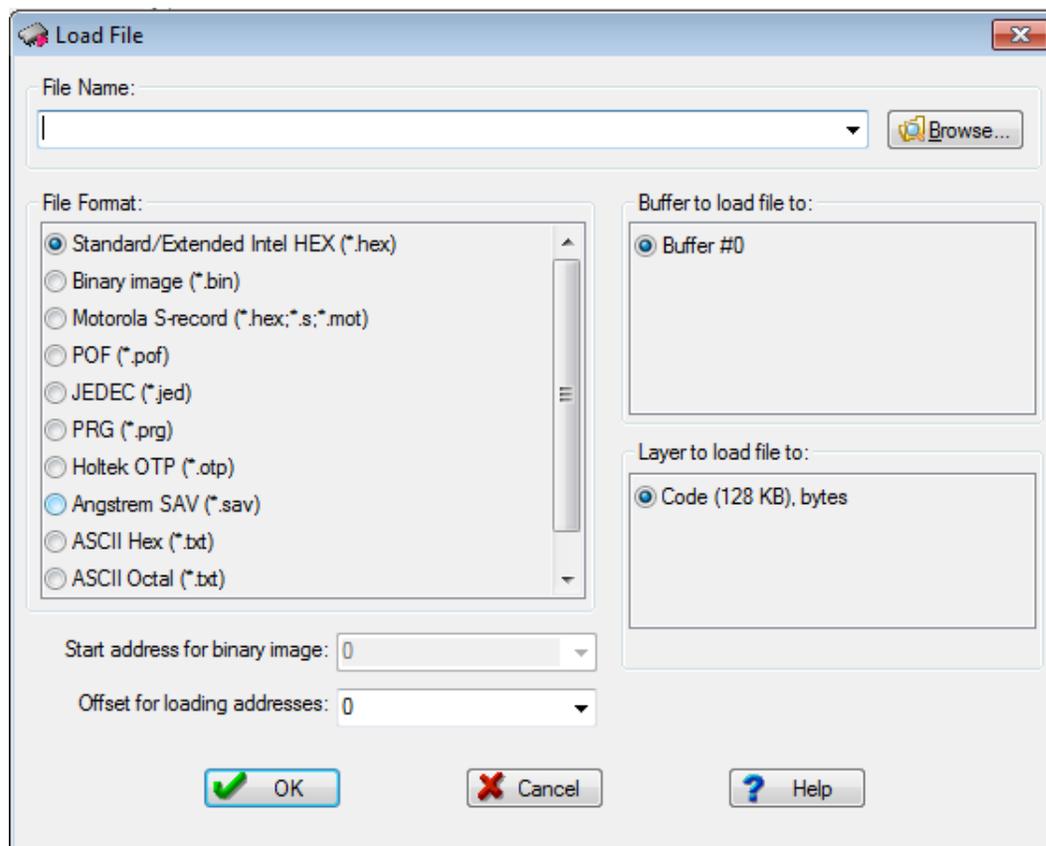
- Make sure to select the exact device you have inserted. Do NOT select the device with “ISP BL Mode”.

Step 2: Load hex file and perform erase, blank check.

- Click on Load to load a hex file.



- This will open a Load file prompt. Select the appropriate HEX file and file format, Buffer (if you have multiple buffers) and Code Layer in the prompt.



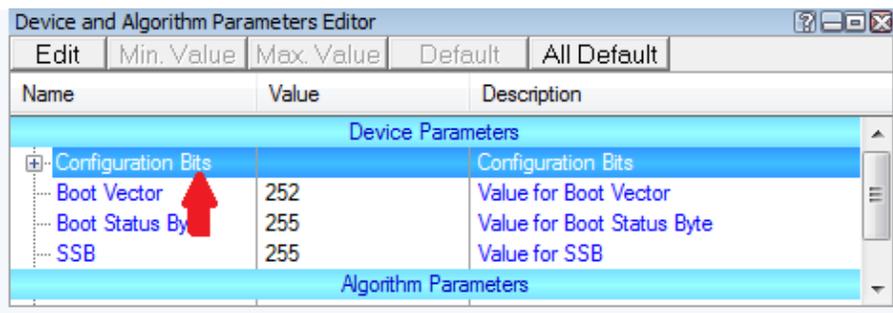
- Before programming the IC, use blank check to verify the device is blank. If not, use the Erase option to erase the device.

Step 3: Program and verify

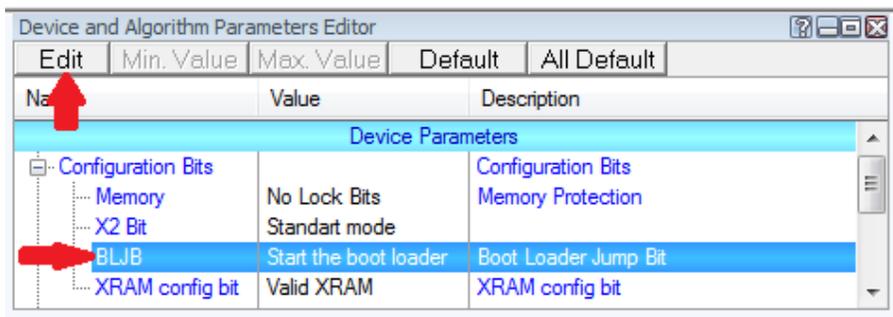
By default (e.g. with a new chip), the AT89C51RC2 starts execution from the boot loader location and not from 0000h. Hence, if you replace the C501 with the AT89C51RC2 and expect to execute code from external memory location 0000h (assuming /EA is low), it will not quite work that way and will instead jump to the bootloader. In order make the Atmel part act like a C501 and execute a program from external memory location 0000h automatically after reset, the Boot Loader Jump Bit (BLJB) of the AT89C51RC2 has to be programmed such that reset address is set at 0000h.

To program the Boot Loader Jump Bit:

- ➔ Click on Select Device option
- ➔ Select the correct device (AT89C51RC2)
- ➔ Select “Configuration Bits” from “Device and Algorithms Parameter Editor” Window.



- ➔ Select BLJB (Boot Loader Jump Bit) and click “Edit”.



- ➔ Select the start address as 0000h. By default, the boot loader is selected.



- ➔ **Since the configuration bit is changed, the device needs to be re-programmed for changes to come into effect.**

➔ Note: By default, the XRAM is enabled for the device. If desired, this parameter can be changed by modifying the “XRAM Config bit” from the “Device and Algorithms Parameter Editor” window above.

➔ Note: For more details, refer to the User’s Guide in the ChipProgUSB Help menu.