## **PICSERIAL – Serial PIC Microcontroller Programmer**

## **User's Guide**

### 1. Features

No external power supply required High quality 3M ZIF socket for easy insertion and removal of devices Software upgradeable for future PIC Microcontrollers Can program most PIC devices LED indication of Active programming mode.

## 2. Introductions

**PICSERIAL** is low cost serial port programmer for PIC microcontroller. The programmer does not need external Power supply and it takes all necessary power and signal from RS232 Serial Port.

PICSERIAL is supplied ready to run with its serial cable, manual and software.

## **Getting Started**

#### 2.1 Installing PICSERIAL programming software

There are two software you can use with **PICSERIAL**, WinPIC & IC-Prog. Both are freely available on internet.CD-ROM provides setup of both software. Install both the setup and follow on screen setup instructions.









Software can also be downloaded from following site. http://freenet-homepage.de/dl4yhf/winpicpr.html

### 2.1.2 IC-Prog (Only for some devices not mentioned in WinPIC)

Software can be downloaded from following site. http://www.ic-prog.com

#### 2.2 Serial Port Connection

The Serial Port cable connects the PICEX1000 Microcontroller Programmer to the PC.

### 2.3 Status LED

Using WinPIC LED indicates power and using IC-Prog LED indicates busy status.

#### 2.4 ZIF Socket Device Position

Insert appropriate PIC device as shows below



#### 2.5 Setting

After installation, start the WinPIC Programming Software by selecting *Start > Programs > WinPIC > WinPIC* 

Go to Interface > Interface Type and Select JDM (2) for Serial Port and Select COM port. Click on Initialize button will glow LED on your PICSERIAL. If LED does not glow please make sure you have connected the serial cable properly and PICSERIAL is present on the selected COM Port.

| jie Edit Device )<br>🗁 🖬 🎄 🤞<br>Code   Data   Dev   | [ools Help<br>[]                             | femory Options Interface  | Messages  |   |
|---|--|---|---|---|
| Initialize !<br>Interface Test<br>Vpp (+13V)<br>Vdd on/of/<br>Clock<br>Data (to PIC)<br>Data (to PIC) | Vdd Select<br>C low<br>C norm (5V)<br>C high | Interfaces  | ? Help on ©0M84       ▼       ation       Inspect             | Interface Type = JDM2<br>Com Port on which<br>PICEX1000 is<br>connected |
| Clock Enable<br>Data Enable<br>Pull MCLR Joy<br>Connect larget  | Green LED<br>(no button)                     | SetInterfaceType ok.<br>SetInterfaceType ok.<br>extra delay before reading<br>extra lenghtening for cloc<br>slow mode (to check | g data line [µs] 3<br>k pulses [µs] 2<br>for timing problems) |   |

Install freely available PIC compiler from Microchip and provide a device directory. MPLAB is also provided on CDROM, latest version can download from <a href="http://www.microchip.com/mplab">http://www.microchip.com/mplab</a>

| 🛸 WIN PIC Programmer - PIC16F84A  |  |
|---|--|
| Eile Edit Device Iools Help   |  |
| ۵. 🛃 🜲 🌲 😐  | ×  |
| Code   Data   Device, Config   Config Memory  | Options Interface Messages   |
| Programmer options<br>program CODE memory<br>program DATA memory<br>program CONFIG memory<br>use BULK ERASE (to unprotect)<br>automatic disconnect from target<br>verify at different supply voltages<br>no special treatment for OSCCAL<br>no special treatment for BG calib | Other options Clear buffers before loading HEV.22 After installation of MPLAB, Browse to MPLAB Device Directory. Default path is C.VProgram Files/Microchip/MPLAB IDE/Device Code memory colors Data memory MPLAB DEV-file directory |
| I/O Port Access Driver  use SMPORT driver (slow but reliable)  use PortTalk / direct access (faster)  port access already granted before start  Couldn't find "devices/PIC16F84A.dev", please born  | Debugging    simulate only (ignore hardware)  generate verbose messages  Start test  ow/copy from MPLAB !  Software will show a warning at status bar each time you select a device if you ignore this step.                         |

## 2.6 Using WinPIC for Programming

### 2.7 Setting up IC-Prog software

After installation, start the IC-Prog Programming Software by selecting *Start > Programs > IC-Prog > IC-Prog* 

Following dialog box will show up if you are running for first time, Click OK.

| Inform | ation 🛛   |
|--------|---|
| (į)    | This is the first time you start IC-Prog. Please configure your hardware first! |
|        | OK  |

Select COM port and configure all settings as below and click OK.

| lardware settings   |  | Win98 Select Direct I/O and   |
|---|--|---|
| Programmer:<br>JDM Programmer                             | Interface     Orect I/O     Orect I/O     Orect I/O     Orect I/O     Orect I/O                        | skip following page for setting<br>up Driver.<br>WinXP/NT/2000 Select |
| Ports  C Com 1  C Com 2  C Com 0  C Com 4  I/O Delay (20) | Communication  | WINdows API   |
| Later on<br>delay of 2<br>lesser va                       | after testing programmer with I/O<br>20, you might like to change I/O to a<br>lue to speed up process. |   |

# 3. Using IC-Prog for Programming

1

2

3

Select appropriate PIC device to be programmed

Load a file, Click on open file...

Program All to write and verify the file into device.

| ie <u>E</u> dit | Buffer        | Settin         | gs 🖭       | mmand   | I            | ools <u>Y</u> | iew <u>H</u> e | lp          |             |           |       |                     |
|-----------------|---------------|----------------|------------|---------|--------------|---------------|----------------|-------------|-------------|-----------|-------|---------------------|
| £ .             |               | The contemport |            | Read A  | All .        |               | FB             | (F          | ោ           | PIC 16    | 8776  |                     |
|                 |               | a- (           | 3          | Progra  | m Al         | l.            | F5             |             | 0 -0        | junearer  | erro. |                     |
|                 | s - Progra    | n Car          |            | Progra  | m <u>C</u> o | onfig         | F4             | 3FFF        | 3FFF        | ******    | ~     | -Configuration ()   |
| 0008            | 3FFF          | SFFF           | з          | Erase   | All          |               |                | <b>3FFF</b> | <b>3FFF</b> | ******    | 1     | Oscillator:         |
| 0010:           | 3FFF          | <b>3FFE</b>    | 3          | Blank ( | hed          | k             |                | <b>3FFF</b> | <b>3FFF</b> | YYYYYYYY  |       | RC                  |
| 0018:           | <b>3FFF</b>   | 3FFF           | 3          | Verfy   |              |               | F6             | <b>3FFF</b> | <b>3FFF</b> | YYYYYYYY  |       | utita Enable:       |
| 0020:           | : SFFF SFFF 3 |                | 8          | -       | <b>3FFF</b>  | <b>3FFF</b>   | YYYYYYYY       |             | hand ore    |           |       |                     |
| 0028:           | <b>3FFF</b>   | <b>3FFE</b>    | ' <b>3</b> | Smarto  | ard          | Wizard        |                | <b>3FFF</b> | <b>3FFF</b> | YYYYYYYY  |       | IVAN OFF            |
| 0030:           | <b>3FFF</b>   | <b>3FFE</b>    | 3FF        | F 3F    | PF           | <b>3FFF</b>   | <b>3FFF</b>    | <b>3FFF</b> | <b>3FFF</b> | YYYYYYYY  |       |                     |
| 0038:           | <b>3FFF</b>   | <b>3FFF</b>    | 3FF        | F 3F    | FF           | <b>3FFF</b>   | <b>3FFF</b>    | <b>3FFF</b> | <b>3FFF</b> | YYYYYYYY  |       |                     |
| 0040:           | <b>3FFF</b>   | 3FFF           | 3FF        | F 3F    | FF           | <b>3FFF</b>   | 3FFF           | <b>3FFF</b> | <b>3FFF</b> | XXXXXXXXX |       |                     |
| 0048            | 3FFF          | <b>3FFF</b>    | 3FF        | F 3F    | FF           | <b>3FFF</b>   | 3FFF           | 3FFF        | <b>3FFF</b> | AAAAAAAA  |       | Fuses:              |
| 0050:           | 3FFF          | 3FFF           | 3FF        | F 3F    | FF           | <b>3FFF</b>   | <b>3FFF</b>    | <b>3FFF</b> | <b>3FFF</b> | AAAAAAAA  | -     | VVDT                |
| 0058:           | 3FFF          | 3FFF           | 3FF        | F 3F    | FF           | <b>3FFF</b>   | SFFF           | <b>3FFF</b> | <b>3FFF</b> | AAAAAAAA  | ~     | F PWRT              |
| Addres:         | s - Eepron    | n Data         |            |         |              |               |                |             |             |           |       | F BODEN             |
| 0000:           | FF FI         | FF             | FF F       | F FF    | FF           | FF            | YYYY           | YYYY        |             |           | ~     | VP LVP              |
| 0008            | FF FI         | FF             | FF F       | F FF    | FF           | FF            | YYYY           | YYYY        |             |           |       | CPD                 |
| 0010:           | FF FI         | F FF           | FF F       | F FF    | FF           | FF            | YYYY           | YYYY        |             |           |       | E CP                |
| 0018            | FF FI         | F FF           | FF F       | F FF    | FF           | FF            | YYYY           | YYYY        |             |           |       | T DEBUGGER          |
| 0020:           | FF FI         | FF             | FF F       | F FF    | FF           | FF            | YYYYY          | YYYY        |             |           |       |                     |
| 0028            | FF FI         | FF             | FF F       | F FF    | FF           | FF            | YYYY           | XXXX        |             |           |       | Checksum ID Valu    |
| 0030:           | FF FI         | FF             | FF F       | F FF    | FF           | FF            | YYYY           | YYYY        |             |           | 1     | OFCF FFFF           |
| 0038:           | FF FI         | FFF            | FF F       | F FF    | FF           | FF            | YYYYY          | XXXX        |             |           | ~     | Config word : 3FFFh |
|                 | D             | 1.0.4          |            |         | T.           |               |                |             |             |           |       |                     |

## 4. Supported Devices

#### IC-Prog and WinPIC Combined List

PIC10F200 PIC10F202 PIC10F204 PIC10F206 PIC12F629 PIC12F635 PIC12F675 PIC12F683 PIC16C61 PIC16C71 **PIC16C84** PIC16F76 PIC16F77 PIC16F627 PIC16F630 PIC16C710 PIC16C711 PIC16F627A PIC16F628 PIC16F628A PIC16F636 PIC16F648A PIC16F676 PIC16F684 PIC16F688 PIC16F716 PIC16F737 PIC16F73 PIC16F74 PIC16F873 PIC16F84 PIC16F874 PIC16F818 PIC16F628 PIC16F72 PIC16F84A PIC16F74 PIC16F819 PIC16F73 PIC16F76 PIC16F627 PIC16F77 PIC16F872 PIC16F871 PIC16F873A PIC16F870 PIC16F874A **PIC16F83** PIC16F876A PIC16F877A PIC16F628A

| PIC16F648A  |
|-------------|
| PIC16F88    |
| PIC16F877   |
| PIC16F876   |
| PIC16F676   |
| PIC16F630   |
| PIC16F819   |
| PIC16F870   |
| PIC16F871   |
| PIC16F872   |
| PIC16F873   |
| PIC16F874   |
| PIC16F876   |
| PIC16F818   |
| PIC16F84    |
| PIC16F84A   |
| PIC16F87    |
| PIC16F873A  |
| PIC16F874A  |
| PIC16F876A  |
| PIC16F877   |
| PIC16F877A  |
| PIC16F88    |
| PIC16F913   |
| PIC16F914   |
| PIC16F916   |
| PIC16F917   |
| PIC18F258   |
| PIC18F442   |
| PIC18F448   |
| PIC18F452   |
| PIC18F1320  |
| PIC18F458   |
| PIC18E6620  |
| PIC18F6720  |
| PIC18E8620  |
| PIC18E8720  |
| PIC18E4530  |
| PIC18E2320  |
| PIC18E/320  |
| DIC18E1220  |
| DIC18E252   |
| PIC18E242   |
|             |
|             |
|             |
| PIC 10F2320 |
|             |
|             |
|             |
| PIC10F2455  |
| PIC18F2480  |
| PIC18F252   |
| PIC18F2520  |
| PIC18F2525  |
| PIC18F2539  |
| DIGIOFESTE  |

| PIC18F2580   |
|--------------|
| PIC18F2585   |
| PIC18F2620   |
| PIC18F2680   |
| PIC18F442    |
| PIC18F4220   |
| PIC18F4320   |
| PIC18F4331   |
| PIC18F4420   |
| PIC18F4431   |
| PIC18F4480   |
| PIC18F4520   |
| PIC18F452    |
| PIC18F4525   |
| PIC18F4539   |
| PIC18F4455   |
| PIC18F4550   |
| PIC18F458    |
| PIC18F4580   |
| PIC18F4585   |
| PIC18F4620   |
| PIC18F4680   |
| PIC18F6585   |
| PIC18F6680   |
| dsPIC30F2010 |
| dsPIC30F2011 |
| dsPIC30F2012 |
| dsPIC30F3010 |
| dsPIC30F3011 |
| dsPIC30F3012 |
| dsPIC30F3013 |
| dsPIC30F3014 |
| dsPIC30F4011 |
| dsPIC30F4012 |
| dsPIC30F4013 |
| dsPIC30F6010 |

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