Using the Linux Command Line Compilers under Kate.

Pre-release beta tester information v0.1
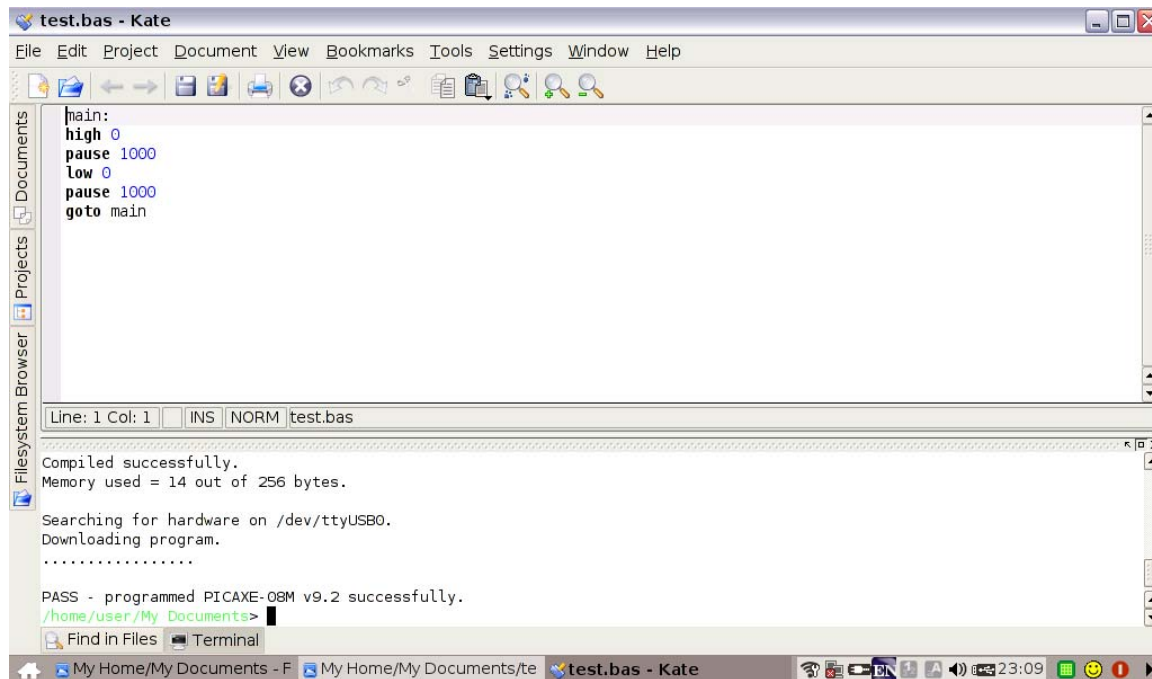*© Revolution Education Ltd 2008. Subject to change.*

Introduction.

Users of Linux (KDE) normally have a very powerful text editor, called Kate, pre-installed.

Kate is ideal for using with the PICAXE command line compiler as it:
1) Supports saving files in the raw text format as required by the PICAXE compiler.
2) Supports colour syntax coding of the program.
3) Allows a Terminal Console to be displayed on screen at the same time as the program.

Users of other versions of X (e.g. Gnome) may not have access to Kate, but can still use the compiler with programs entered in an alternate editor (e.g. gedit under Gnome).

The screenshot above is from an ASUS eeePC (Xandros distribution). We also assume that:

- you know how to open a console terminal (ctrl+alt+t on eeePC, different on other distributions)
- you are running KDE (not gnome)

Setting up Kate for use with the PICAXE Compiler

Installation:

Step 1 - Download and save the PICAXE compilers.
The PICAXE compilers are available in a compressed .tgz file from the software pages at
www.picaxe.co.uk
Download and save into your working folder e.g. "My Documents" or "Desktop".
Uncompress the files using a File Manager application or via the command line:

```
gunzip –c picaxe.tgz | tax –xvf –
```

or (on more modern systems) simply
```
tar -xvf picaxe.tgz
```

Step 2 – Setup Kate syntax colour coding
One of the files extracted, picaxe.xml, is the colour syntax file for Kate, which needs to be copied to
the correct /katepart/syntax folder e.g.

```
sudo cp picaxe.xml /usr/share/apps/katepart/syntax
```

*One of the restrictions of Kate's syntax colour coding is that is will only accept one single line
comment marker, whereas PICAXE compiler accepts two - ' (apostrophe) or ; (semi-colon). The file
may be edited (near bottom of file) to swap your personal preference.*

Step 3 – Patch the AXE027 driver (if using USB)
Patch the AXE027 driver as required (BEFORE the USB cable is inserted). Full details on how to do
this are given in the AXE027 datasheet available from www.picaxe.co.uk. A quick method is simply

```
sudo modprobe ftdi_sio vendor=0x0403 product=0xbd90
```

Step 4 – Open Kate
To use Kate simply type `kate` at the command prompt.

Use the Tools > Highlighting > Sources > PICAXE menu to select the correct colour coding.
After typing in the program, save it (e.g. test.bas) and then select the 'Terminal' tab at the bottom of
the screen.
Type in the appropriate command line, e.g.
```
      ./picaxe08m –c/dev/ttyS0 test.bas
```
(AXE026 serial cable on COM1)
or
```
      ./picaxe08m –c/dev/ttyUSB0 test.bas
```
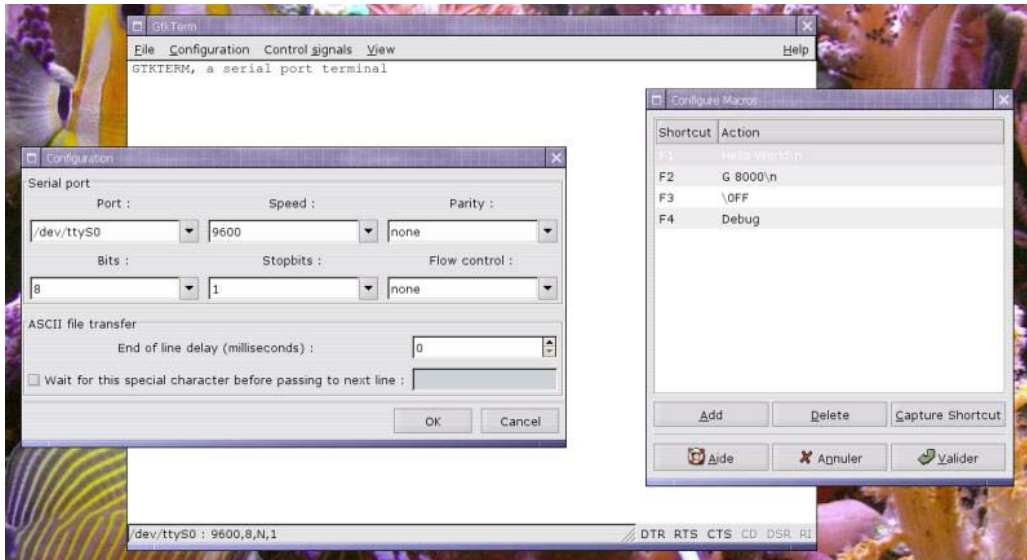(AXE027 USB cable)
to download the program.

Remember to save the file before each download. Note you can use the <up arrow> key within the
Terminal window to repeat the command line without retyping.

Serial Terminal

The compiler already supports display of serial data from both 'debug' and 'sertxd' commands. Simply add the –d or –t switch to the command line.

However for a much more powerful open source Serial terminal application we recommend 'gtkTerm'

To download gtkTerm visit

http://www.jls-info.com/julien/linux/

or for Debian/Ubunto/Xandros etc. simply use

```
sudo apt-get update
sudo apt-get install gtkterm
```

Note that on eeePC to do this you will first need to add a debian repository to sources.list e.g.
```
sudo kwrite /etc/apt/sources.list
```
add the line
```
deb ftp://ftp.nl.debian.org/debian stable main contrib non-free
```
and then save.
(Note ftp.nl repository is used above, but select a local one to you. Although Revolution are in the UK we tend to use ftp.nl as it is less busy, and hence faster, than the ftp.uk option!)