

# About this document

For all assembler-based applications, [MPLAB](#) is needed, that's only available for Windows (or Linux via Wine). But there is a solution, described below, with which you can compile asm code with MPASM, a tool that's available not only for Linux, but as well for Macs! Thanks to svens for sharing this!

## Compiling MIOS on Linux

If you ever tried to compile the MIOS source with gpasm on Linux, you've probably got a lot of error messages like:

```
svens@deprecated(1033)[0]:./src2$ gpasm main.asm
mios_isr.inc:76:Error [103] syntax error
mios_isr.inc:77:Error [103] syntax error
mios_isr.inc:78:Error [103] syntax error
mios_isr.inc:80:Error [103] syntax error
mios_isr.inc:81:Error [103] syntax error
mios_isr.inc:84:Error [103] syntax error
mios_isr.inc:133:Error [103] syntax error
mios_isr.inc:138:Error [103] syntax error
mios_isr.inc:174:Error [103] syntax error
mios_isr.inc:205:Error [103] syntax error
```

These errors are caused by a nice Feature from mpasm – you can pass instructions as Macro argument. Unfortunately, gpasm has (at least right now) no support for this, so i wrote a small quick&dirty script, that changes all these MACROS to the appropriate syntax. To use this script, copy the following files in your mios\_v\_1\_x\_src dir:

replace-macros.sed:

```
li;hey emacs, this is -*- asm -*-
/^[ \t]*;/b #skip commented line
/^\s*\w*\s*MACRO/b #skip macro definitions
s/\<BIFSET\s*\([^,]*\)\s*,\s*\([^,]*\)\s*,\s*\([^,]*\)\s*,\s*\([^,]*\)/btfsc \1,
\2, \3\n\t\4/g
s/\<BIFCLR\s*\([^,]*\)\s*,\s*\([^,]*\)\s*,\s*\([^,]*\)\s*,\s*\([^,]*\)/btfss \1,
\2, \3\n\t\4/g
s/\<IFSET\s*\([^,]*\)\s*,\s*\([^,]*\)\s*,\s*\([^,]*\)/btfsc \1, \2\n\t\3/g
s/\<IFCLR\s*\([^,]*\)\s*,\s*\([^,]*\)\s*,\s*\([^,]*\)/btfss \1, \2\n\t\3/g
s/\<IFNEQ\s*\([^,]*\)\s*,\s*\([^,]*\)\s*,\s*\([^,]*\)/cpfseq \1, \2\n\t\3/g
s/\<IFLEQ\s*\([^,]*\)\s*,\s*\([^,]*\)\s*,\s*\([^,]*\)/cpfsgt \1, \2\n\t\3/g
s/\<IFGEQ\s*\([^,]*\)\s*,\s*\([^,]*\)\s*,\s*\([^,]*\)/cpfslt \1, \2\n\t\3/g
s/\<rgoto\>/bra/g
```

fix-gpasm.sh:

```
#!/bin/sh
```

```
for i in src/*.inc src/*.asm src/*.h;do
  tr -d '\r' < $i|sed -f replace-macros.sed >${i}_ && mv ${i}_ $i
done
```

Now you can run `./fix-gpasm.sh`, which replaces all the problematic macros.

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