

gputils 0.10.1

James Bowman

February 24 2002

Contents

1	gpasm	3
1.1	Running gpasm	3
1.1.1	Using gpasm with “make”	3
1.1.2	Dealing with errors	4
1.2	Syntax	4
1.2.1	File structure	4
1.2.2	Expressions	4
1.2.3	Numbers	5
1.2.4	Preprocessor	6
1.3	Directives	
1.2.1s23.490(.)Tj 7.generat.TdPrepr1.181rs	4 Tf -399.207 -31.88 Td (1.

Introduction

gputils is a collection of tools for Microchip (TM) PIC


```
tree.hex: tree.asm treedef.inc
        gpasm tree.asm
```

This will rebuild “tree.hex” whenever either of the “tree.asm” or “treedef.inc” files change. A more comprehensive example of using gpasm with makefiles is included as example1 in the gpasm

base	general syntax	21 decimal written as
binary	B'[01]*'	B'10101'
octal	O'[0-7]*'	O'25'
decimal		

1.3.3 Conditional assembly

The IF, IFNDEF, IFDEF, ELSE and ENDIF directives enable you to assemble certain sections of code only if a condition is met. In themselves, they do not cause gpasm to emit any PIC


```
IF (this) ; {  
    ...  
ELSE      ; }{  
    ...  
ENDIF     ; }
```

After you’ve done this, you can use your text editor’s show-matching-brace to check matching parts of the IF structure. In vi this command is “%”, in emacs it’s M-C-f and M-C-b.

1.3.6 Directive summary

__BADRAM

`__BADRAM <expression>`

DA

```
<label> DA <expression> [, <expression>]*
```

Stores Strings in program memory. The data is stored as one 14 bit w ~~16~~ 16,07302 0 Td (ord)Tj 16.4196 0 Td (representing)Tj 5

ENDC

ENDC

Marks the end of a CBLOCK.

See also: CBLOCK

ENDIF

ENDIF

Ends a conditional assembly block.

See also: IFDEF, IFNDEF, ELSE, ENDIF

ENDM

ENDM

Ends a macro definition.

See also: MACRO

ENDW

ENDW

Ends a while loop.

See also: WHILE

EQU

<label> EQU <expression>

EXITM

EXITM

Immediately return from macro expansion during assembly.

See also: ENDM

EXPAND

EXPAND

Expand the macro in the listing file.

See also: ENDM

FILL

<label> FILL <expression>,<count>

GenILL

option	description
b=nnn	Sets the tab spaces
f=<format>	

1.4.2 Instruction set summary

12 bit Devices (PIC12C5XX)

Syntax	Description
ADDWF <f>,<dst>	Add W to <f>, result in <dst>
ANDLW <f>,<dst>	And W and literal, result in W
ANDWF <f>,<dst>	And W and <f>, result in <dst>
BCF <f>,<bit>	Clear <bit> of <f>

BS1.34980.1539 0 Td (<f>,<bit>)Tj ET Q q 4.8 0 0 -120 1876.68 6202.68 cm BI /IM true /W 1 /H 1 /BPC 1 ID EI Q q 10 0 0

14 Bit Devices (PIC16CXX)

Syntax	Description
ADDLW <imm8>	Add immediate to W
ADDWF <f>,<dst>	Add W to <f>, result in <dst>
ANDLW <f>,<dst>	And W and <f>, result in <dst>
BCF <f>,<bit>	Clear <bit> of <f>
BSF <f>,<bit>	Set <bit> of <f>
BTFSC <f>,<bit>	Skip next instruction if <bit> of <f> is clear
BTFSS <f>,<bit>	Skip next instruction if <bit> of <f> is set
CALL <addr>	

Special macros

There are also a number of standard additional macros. These macros are:

1.5.2 Warnings

201 Symbol not previously defined.

The symbol being #undefined was not previously defined.

202 Argument out of range

The argument does not fit in the allocated space.

211 Extraneous arguments

Extra arguments were found on the line.

215 Processor superseded by command line

The processor was specified on the command line and in the source file.

The ID locations value specified is too large.

305 Using default destination of 1 (file).

No destination was specified so the default location was used.

308 Warning level superseded by command line

The warning level was specified on the command line and in the source file. The command line has precedence.

309 Macro expansion superseded by command line

Macro expansion was specified on the command line and in the source file. The command line has precedence.

Chapter 3

gplink

gplink is a new and incomplete tool. When complete, it will provide the ability to link relocatable objects to produce an executable object.


```
gpvo test.obj > test.dump
```

This ~~script~~ ~~script~~ the file “test.dump”.

Index

ASCII, 6

B