

**ASM-One\_V1.3x**

**COLLABORATORS**

	<i>TITLE :</i> ASM-One_V1.3x		
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# Contents

<b>1</b>	<b>ASM-One_V1.3x</b>	<b>1</b>
1.1	ASM-One V1.4x Manual . . . . .	1
1.2	Copyright notice . . . . .	2
1.3	About this Manual . . . . .	2
1.4	What is ASM-One . . . . .	3
1.5	Bugs and ideas . . . . .	3
1.6	Starting with ASM-One . . . . .	4
1.7	ASM-One's MENU Structure . . . . .	5
1.8	General MENU Structure . . . . .	6
1.9	Editor MENU Structure . . . . .	7
1.10	Debug MENU Structure . . . . .	7
1.11	Monitor MENU Structure . . . . .	7
1.12	Preference MENU Structure . . . . .	8
1.13	DLC Syntax . . . . .	8
1.14	DLCs . . . . .	8
1.15	The '!' DLC . . . . .	9
1.16	The '!!' DLC . . . . .	10
1.17	The '#' DLC . . . . .	10
1.18	The '=' DLC . . . . .	11
1.19	The '=C' DLC . . . . .	11
1.20	The '=A' DLC . . . . .	12
1.21	The '=F' DLC . . . . .	12
1.22	The '=M' DLC . . . . .	13
1.23	The '=P' DLC . . . . .	13
1.24	The '=R' DLC . . . . .	14
1.25	The '=S' DLC . . . . .	15
1.26	The '>' DLC . . . . .	15
1.27	The '?' DLC . . . . .	16
1.28	The '[' DLC . . . . .	16
1.29	The '@A' DLC . . . . .	17

1.30	The '@B' DLC	17
1.31	The '@D' DLC	18
1.32	The '@H' DLC	19
1.33	The '@N' DLC	19
1.34	The 'A' DLC	20
1.35	The 'AC' DLC	20
1.36	The 'AD' DLC	21
1.37	The 'AO' DLC	21
1.38	The 'AS' DLC	22
1.39	The 'B' DLC	23
1.40	The 'BS' DLC	23
1.41	The 'C' DLC	24
1.42	The 'CC' DLC	25
1.43	The 'CD' DLC	25
1.44	The 'CS' DLC	26
1.45	The 'D' DLC	26
1.46	The 'E' DLC	27
1.47	The 'EL' DLC	27
1.48	The 'F' DLC	28
1.49	The 'G' DLC	29
1.50	The 'H' DLC	29
1.51	The 'I' DLC	29
1.52	The 'IB' DLC	30
1.53	The 'ID' DLC	30
1.54	The 'IH' DLC	31
1.55	The 'IN' DLC	31
1.56	The 'IS' DLC	32
1.57	The 'J' DLC	32
1.58	The 'K' DLC	33
1.59	The 'L' DLC	33
1.60	The 'M' DLC	34
1.61	The 'N' DLC	34
1.62	The 'O' DLC	35
1.63	The 'P' DLC	35
1.64	The 'PS' DLC	36
1.65	The 'Q' DLC	36
1.66	The 'R' DLC	37
1.67	The 'RB' DLC	38
1.68	The 'RE' DLC	38

---

1.69	The 'RO' DLC	39
1.70	The 'RS' DLC	40
1.71	The 'RT' DLC	40
1.72	The 'S' DLC	41
1.73	The 'T' DLC	42
1.74	The 'U' DLC	42
1.75	The 'UA' DLC	43
1.76	The 'V' DLC	43
1.77	The 'W' DLC	44
1.78	The 'WB' DLC	44
1.79	The 'WE' DLC	45
1.80	The 'WL' DLC	45
1.81	The 'WN' DLC	46
1.82	The 'WO' DLC	46
1.83	The 'WP' DLC	47
1.84	The 'WS' DLC	47
1.85	The 'WT' DLC	48
1.86	The 'X' DLC	49
1.87	The 'Y' DLC	49
1.88	The 'ZA' DLC	50
1.89	The 'ZB' DLC	50
1.90	The 'ZF' DLC	50
1.91	The 'ZI' DLC	51
1.92	The 'ZS' DLC	51
1.93	Warnings & Errors	52
1.94	Errors	52
1.95	Errors	53
1.96	Errors	53
1.97	Errors	54
1.98	Warnings & Errors	54
1.99	Workspace Memory Full	55
1.100	Address Register Byte/Logic	55
1.101	Address Register Expected	55
1.102	Comma Expected	56
1.103	Data Register Expected	56
1.104	Double Symbol	56
1.105	Unexpected End of File	57
1.106	End of File	57
1.107	User made FAIL	57

1.108Illegal Command . . . . .	58
1.109Illegal Address Size . . . . .	58
1.110Illegal Operand . . . . .	58
1.111Illegal Operator . . . . .	58
1.112Illegal Operator in BSS Area . . . . .	59
1.113Illegal Order . . . . .	59
1.114Illegal Register Size . . . . .	59
1.115Illegal Section Type . . . . .	60
1.116Illegal Size . . . . .	60
1.117Illegal MACRO Definition . . . . .	61
1.118Immediate Operand Expected . . . . .	61
1.119Include Jam . . . . .	61
1.120MACRO Overflow . . . . .	61
1.121Invalid Addressing Mode . . . . .	62
1.122LOAD without ORG . . . . .	62
1.123Missing Quote . . . . .	62
1.124Conditional Overflow . . . . .	62
1.125No Operand Space Allowed . . . . .	63
1.126No Constant/Label . . . . .	63
1.127Not in MACRO . . . . .	63
1.128Out of Range 0/3/4/5/6/7/8/16/32 bit . . . . .	63
1.129Relative Mode Error . . . . .	64
1.130Reserved Word . . . . .	64
1.131Closing Parenthesis Expected . . . . .	64
1.132SECTION Overflow . . . . .	64
1.133String Expected . . . . .	65
1.134Undefined Symbol . . . . .	65
1.135Register Expected . . . . .	65
1.136Word at Odd Address . . . . .	65
1.137Not a Local Area . . . . .	66
1.138Code Moved During Pass 2.. . . . .	66
1.139Bcc.B Out of Range in MACRO . . . . .	66
1.140Out of Range (20 to 100) . . . . .	66
1.141Out of Range (60 to 132) . . . . .	67
1.142Include Overflow . . . . .	67
1.143Linker Limitation . . . . .	67
1.144Repeat Overflow . . . . .	67
1.145Not in Repeat Area . . . . .	68
1.146Double Definition . . . . .	68

1.147Relocation made to EMPTY Section . . . . .	68
1.148File Error . . . . .	68
1.149No Files . . . . .	69
1.150No Object . . . . .	69
1.151No File Space . . . . .	69
1.152Printer Device Missing . . . . .	70
1.153Not Done . . . . .	70
1.154Illegal Path . . . . .	70
1.155Illegal Device . . . . .	70
1.156Write Protected . . . . .	71
1.157No Disk in Drive . . . . .	71
1.158Illegal Option !! . . . . .	71
1.159REM without EREM . . . . .	71
1.160TEXT without ETEXT . . . . .	72
1.161Illegal Xn Scale Size . . . . .	72
1.162Field OFFSET Expected: {OFFSET:width} . . . . .	72
1.163Missing Brace . . . . .	72
1.164Colon Expected . . . . .	73
1.165Missing Bracket . . . . .	73
1.166FPU needed for Operation !! . . . . .	73
1.167To Many Watchpoints (maximal 8) . . . . .	74
1.168Illegal Source, not Activated !! . . . . .	74
1.169No Valid Memory Directory Present . . . . .	74
1.170Auto Command Overflow (more than 256 characters) . . . . .	75
1.171End should be Higher than Start ! . . . . .	75
1.172Illegal Source Number . . . . .	75
1.173Including Empty Source ? . . . . .	75
1.174Include Source Jam . . . . .	76
1.175Unknown Conversion Mode: should be RB or RN . . . . .	76
1.176Unknown CMAP Place: should be (B)EFORE,(A)FTER or (N)ONE . . . . .	76
1.177Unknown CMAP Mode: should be AGA or ECS . . . . .	77
1.178Trying to Include NON IFF File . . . . .	77
1.179IFF File is Not a ILBM File . . . . .	77
1.180Can't handle a BODY before BMHD Chunk . . . . .	77
1.181Illegal Floating Point Size: should be B, W, L, Q, S, D, X or P . . . . .	78
1.182Illegal Size for Data Register: should be B, W, L or S . . . . .	78
1.183Bcc.W Out of Range in MACRO . . . . .	78
1.184Floating Point Register Expected . . . . .	78
1.185This is not an ASM-One Project File . . . . .	79

1.186 Bitfield can't be Out of 32 Bit Range . . . . .	79
1.187 Illegal CMAP Mode Error: expecting 12, 24, CE or CA . . . . .	79
1.188 Illegal Color Offset (Bank) Specified . . . . .	79
1.189 IFF Color(s) Out of Range . . . . .	80
1.190 Too Many Errors . . . . .	80
1.191 Invalid Function Code: only SFC, DFC, Dn or #<data> Allowed . . . . .	80
1.192 Address Register Indirect Mode Expected, for Return Address Register . . . . .	81
1.193 Address Register Direct Mode Expected, for Return Address Register . . . . .	81
1.194 Level Out of 3 Bit Range . . . . .	81
1.195 Mask Out of 3 Bit Range . . . . .	82
1.196 Mask Out of 4 Bit Range . . . . .	82
1.197 Function Code Out of 3 Bit Range . . . . .	82
1.198 Function Code Out of 4 Bit Range . . . . .	82
1.199 Insufficient Memory to change Source . . . . .	83
1.200 MMU Register Expected as 1st Operand . . . . .	83
1.201 MMU Register Expected as 2nd Operand . . . . .	83
1.202 Invalid MMU Register as 1st Operand: CAL, VAL or SCC Expected . . . . .	83
1.203 Invalid MMU Register as 2nd Operand: CAL, VAL or SCC Expected . . . . .	84
1.204 Missing START address or Label !! . . . . .	84
1.205 Incorrect Index Register Specified. Only An, Dn or SP allowed . . . . .	84
1.206 PC/ZPC can't be used as Index Register. Only An, Dn or SP allowed . . . . .	84
1.207 We haven't come up with a nice text for this error Error !!!! . . . . .	84
1.208 The use of ZPC is not allowed in this addressing mode !! . . . . .	85
1.209 Field Width Expected: {offset:WIDTH} . . . . .	85
1.210 Field Width can't be ZERO . . . . .	85
1.211 Warnings . . . . .	85
1.212 >> Warning <<, Value Signed Extended to Longword . . . . .	86
1.213 >> Warning << 68010++ Command Used . . . . .	86
1.214 >> Warning << 68020++ Command Used . . . . .	87
1.215 >> Warning << 68030++ Command Used . . . . .	87
1.216 >> Warning << 68040++ Command Used . . . . .	87
1.217 >> Warning << 68010 Specific Command Used . . . . .	87
1.218 >> Warning << 68020 Specific Command Used . . . . .	88
1.219 >> Warning << 68030 Specific Command Used . . . . .	88
1.220 >> Warning << 68040 Specific Command Used . . . . .	88
1.221 >> Warning << 68060 Specific Command Used . . . . .	88
1.222 >> Warning << 68020/030/040 Specific Command Used . . . . .	89
1.223 Warning << 68020/030 Specific Command Used . . . . .	89
1.224 >> Warning << MOVEP not supported by the 68060 . . . . .	89

1.225>> Warning << 68030/68851 Command Used . . . . .	89
1.226>> Warning << 68851 Command Used . . . . .	90
1.227>> Warning << 68881/68882 Command Used . . . . .	90
1.228>> Warning << PFLUSHA Assembled with 68030/68851 . . . . .	90
1.229>> Warning << PFLUSHA Assembled with 68040 . . . . .	90
1.230Register Names & Private Symbols . . . . .	91
1.231Valid Register Tabel . . . . .	92
1.232ASM-One.Pref File . . . . .	93
1.233M68000 Family Instruction Set . . . . .	99
1.234M68000 Family Instruction Set . . . . .	100
1.235M68000 Family Instruction Set . . . . .	101
1.236M68000 Family Instruction Set . . . . .	102
1.237M68000 Family Instruction Set . . . . .	103
1.238M68000 Family Mnemonic Description . . . . .	104
1.239M68000 Family Mnemonic Description . . . . .	105
1.240M68000 Family Mnemonic Description . . . . .	105
1.241M68000 Family Mnemonic Description . . . . .	106
1.242M68000 Family Mnemonic Description . . . . .	107
1.243M68000 Family Mnemonic Description . . . . .	108
1.244Contacting the Author . . . . .	109
1.245Thanks to.... . . . .	109

# Chapter 1

## ASM-One\_V1.3x

### 1.1 ASM-One V1.4x Manual

The ASM-One V1.4x Manual

The COMPLETE guide to ASM-One

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THIRD DRAFT

Copyright  
About

What is ASM-One  
Bugs and ideas

Starting with ASM-One

ASM-One's MENU Structure  
DLCs  
Directive  
Register Names & Private Symbols

ASM-One.Pref File

Warnings & Errors

-- Advanced Techniques --

Conditional Branches with IF  
Building and Using MACRO's

-- MC68000 Family Information --

M68000 Family Instruction Set  
M68000 Family Mnemonic Description  
M68000 Family Addressing Modes

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Contacting the Autor  
Thanks to....

## 1.2 Copyright notice

Copyright  
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Copyright Notice  
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About  
-----

This document was written on an Amiga 3000, with an 1,5 Gb hd and 12MB ram. This guide is created with CygnusEd Professional V4.0.

## 1.3 About this Manual

About this Manual  
=====

Since the first release of ASM-One (V1.01, programmed by Rune Gram-Madsen), TFA added many new instructions, commands, directives etc. etc.

V1.01 probaly had a printed manual (German). V1.02 (released by Venture) had the printed manual as an ASCII file on disk, as well as a small english version.

Up untill version V1.15 of ASM-One, those manuals did cover most

---

of ASM-One's functions. But after V1.15, there were more and more differences after every new release of ASM-One. Those manuals were therefore left out.

Around version V1.20 I (Boushh) translated the original German manual to Dutch (mainly for my convenience). But this was on paper and the programs used to edit the text, were non-Amiga programs, so it was no good idea to include it into a new release.

Since then, many ideas have been sent to use. And we discovered that quite a lot of these ideas were already built into ASM-One. But nobody knew, because there were not documented. But also new users had absolutely no idea what ASM-One could do.

Therefore I decided to finally put all the features of ASM-One in one AmigaGuide. And you are looking at it B-)

I did my best to make it as complete as possible, but if you have any suggestions, they are welcome.

Boushh  
(remco.weg@endemol.nl)

P.S. ASM-One has been cloned quite much. Many of these clones (like Trash'm-One (Deftronic), AsmPro (Genetic), etc, etc, will have most of ASM-One's functionality. So, if you are a user of those clones, you can use the manual as well B-)

## 1.4 What is ASM-One

What is ASM-One ?  
=====

ASM-One is an integrated assembler developing environment. Where other assemblers (commercial or PD) offer some integration, or only CLI execution, ASM-One offers everything in one package.

ASM-One consists of:

- An Editor
- An Assembler
- A Debugger
- A Monitor

ASM-One gives you the possibility to develop your software without browsing through several programs. Everything you need is available right at your hands.

## 1.5 Bugs and ideas

---

### Bugs & Ideas

-----

We maintain webpages with the latest fixes.

It's located at:

<http://www.euronet.nl/users/jdm/>

Before mailing me a bug or an idea, READ this manual and check out the webpages !!!!

### Mailing Bugs & Ideas

-----

If you mail Ideas:

- Tell exactly as you can how it should work.
- If possible, include sourcecode of your idea (WB/KS 2.x compatible).

If you mail bugs:

- Be as detailed as possible.
- Write down what you did, AND what the result was.
- Include sample sourcecode, generating the error (if possible).
- Include your system configuration (get that with tools/Showconfig).
- Include your ASM-One.Pref file.

Boushh

(remco.weg@endemol.nl)

## 1.6 Starting with ASM-One

### Starting ASM-One

-----

Here's is an example of a first session with ASM-One:

Starting

-----

Start ASM-One from the CLI (a Shell) or by double clicking on it's icon.

First Steps

-----

After ASM-One is started, you will get the following line:

```
ALLOCATE Fast/Chip/Publ/Abs>
```

Here you can select in which kind of memory your source will be located.

---

F = FastMem  
C = ChipMem  
P = PublicMem (the largest available memory block)  
A = Absolute

After you have selected where your source should be allocated, you will have to choose how large the allocated block of memory should be:

WORKSPACE (Max.7680) KB>

After Max. is the largest available block of memory available.

Now you are ready to rock & roll B-)

Loading a source

-----

Type R after the >, and a requester will show up.

Select the source you want to work with.

Going to the Editor

-----

And press the ESC key to go into the Editor

(If you don't have a source to work with, press the ESC key to go into the Editor and make your own source.)

Assembling a source

-----

Press ESC to go to the > again.

Type A (Assemble), and ASM-One will assemble your source.

If any errors occure, press ESC and go into the Editor to correct them.

Writing an object

-----

After you have assembled a source, you have an object (executable file). You can save the object by typing WO (Write Object) at the >.

If you assembled a source that's not executable, type WB (Write Binary) at the >.

If you have made changes to your source, type U (Update) at the >.

If you made a new source, type W (Write) at the >.

## 1.7 ASM-One's MENU Structure

---

### ASM-One's MENU Structure

-----

ASM-One has different menu's for every part of ASM-One:

General MENU Structure  
 Editor MENU Structure  
 Debug MENU Structure  
 Monitor MENU Structure  
 Preference MENU Structure

## 1.8 General MENU Structure

### General MENU Structure

-----

The 'General MENU Structure' is available when you are at the CLI of ASM-One. You are there when you can type commands after the >.

This menu is divided into three parts:

Project	Assembler	Commands
Project Info	=P	Assemble » Editor »
Old	O	Assemble A Jump Top T
Read	»	Optimize O Jump Bottom B
Environment	RE	Check Only AC Search S
Source	R	Object Info = Zap Line(s) ZL
Binary	RB	----- Print Line(s) P
Object	RO	Editor E Extend Labels EL
Write	»	Debugger D Memory »
Environment	WE	Monitor M Edit M
Source +Mark	W	Preferences » Assemble D
Source -Mark	WN	Environment [ HEX Dump H
Binary	WB	Assembler ] ASCII N
Object	WO	AGA Guide = -----
Link	WL	DisassembleLine @D
Preferences	WP	Assemble @A
Insert	I	HEX Line @H
Update	»	ASCII Line @N
Source	U	Binary Line @B
Project	UA	-----
Zap Auto-Alloc	ZA	Search Memory S
Zap File	ZF	Fill Memory F
Zap Include	ZI	Copy Memory C
Zap Source	ZS	Compare Memory Q
-----		Create Sinus CS
Add WorkMem	=M	Insert »
-----		Disassembly ID
About	#	HEX Dump IH
-----		ASCII Dump IN
Quit/Restart	!	Binary Dump IB
Quick Quit	!!	Create Sinus IS
	Assemble	»

Assemble	A
Memory	@A
Optimize	AO
Debug	AD
Symbols	=S
Parameters Set	PS
Monitor	»
Jump	J
Go	G
Step	K
Status	X
Zap BPS	ZB
Disk	»
Read Sector	RS
Read Track	RT
-----	
Write Sector	WS
Write Track	WT
-----	
Calc. Checksum	CC
-----	
Extern	E
Output	>
Calculate	?
Calculate Float	[
Custom Registers	=R

## 1.9 Editor MENU Structure

### Editor MENU Structure

-----

The 'Editor MENU Structure' is available when you are in the Editor.

This menu is divided into three parts:

## 1.10 Debug MENU Structure

### Debug MENU Structure

-----

The 'Debug MENU Structure' is available when you are in the Debugger.

This menu is divided into two parts:

## 1.11 Monitor MENU Structure

### Monitor MENU Structure

-----

The 'Monitor MENU Structure' is available when you are in the Monitor.

This menu is divided into two parts:

## 1.12 Preference MENU Structure

### Preference MENU Structure

-----

The 'Preference MENU Structure' is available when you are in one of the Preference windows.

This menu is divided into two parts:

## 1.13 DLC Syntax

### DLC Sytnax

-----

#### NAME

<COMMAND> [short function description]

#### SYNTAX

- <command syntax>

[KEY-SHORTCUT]

#### FUNCTION

- <function description>

[EXAMPLE]

[INPUT]

[RESULT]

[REMARKS]

[SEE ALSO]

#### FROM VERSION

- <version number>

[BUGS]

## 1.14 DLCs

DLCs

=====

What means DLCs ?

-----

DLCs is short for: "Direct Line Command(s)". You issue a DLC at the Command Line Interpreter (CLI) of ASM-One. This CLI is the place where you normally start. It begins with the ">".

This part will cover all the DLCs from ASM-One in alphabetical order. Using the following SYNTAX .

So, here we go B-)

!	B	P	WS
!!	C	PS	WT
#	CC	Q	X
=	CS	R	Y
=C	D	RB	ZA
=F	E	RE	ZB
=M	EL	RO	ZF
=P	F		ZI
=R	G	RS	ZL
=S	H	RT	ZS
>	I	S	
?	IB	T	Leftovers:
[	ID	U	
@A	IH	UA	CD
@B	IN	V	=A
@D	IS	W	BS
@H	J	WB	AS
@N	K	WE	
A	L	WL	
AC	M	WN	
AD	N	WO	
AO	O	WP	

## 1.15 The '!' DLC

NAME

! - Quit/Restart ASM-One

SYNTAX

!

FUNCTION

This will bring up the QUIT-requester (when regtools is enabled). Here you can choose to QUIT ASM-One, to RESTART ASM-One or to cancel your action.

If you choose RESTART, ASM-One will reset itself and start like if you started ASM-One for the first time.

RESULT  
ASM-One will be quited/restarted.

SEE ALSO  
The '!!!' DLC

FROM VERSION  
V1.01

## 1.16 The '!!!' DLC

NAME  
!!

SYNTAX  
!! - Quick Exit

FUNCTION  
This will end ASM-One WITHOUT ANY REQUESTER.

RESULT  
ASM-One will be quited

REMARKS  
Note that nothing will be saved. If you have still unsaved sources, or are unsure, use the '!' DLC.

SEE ALSO  
The '!' DLC

FROM VERSION  
V1.25

## 1.17 The '#' DLC

NAME  
# - About...

SYNTAX  
#

FUNCTION  
This will show up the ASM-One 'About...' requester.

RESULT  
When ReqTools enabled, you will get the 'About...' requester.

FROM VERSION  
V1.01

---

## 1.18 The '=M' DLC

### NAME

= - Object Info

### SYNTAX

=

### FUNCTION

To show the memory usage of your current source.

### RESULT

Will show the memory usage of your current source.

### SEE ALSO

The '=M' DLC

### FROM VERSION

V1.01

## 1.19 The '=C' DLC

### NAME

=C - Change the colors of ASM-One

### SYNTAX

=C

### FUNCTION

When Reqtools enabled, you will get a Color Requester with the following functions:

- Copy - Will copy the selected color to another place
- Swap - Will swap the selected color with another color
- Spread - Will start to spread colors from the selected color up till the last color using the selected color as start
- Ok - Will install the new colors, but WILL NOT save them
- Undo - Will reset the colors as they where, but you will stay in the requester
- Cancel - Will reset the colors as they where before the =C DLC and quit the requester

### RESULT

Changed or NOT changed colors.

### REMARKS

Clicking on the requester's CLOSE gadget will have the same effect as CANCEL  
DO NOT FORGET to save your preferences if you have picked new colors (or the next time you start ASM-One, you will have the same old boring colors).

### FROM VERSION

V1.15 (approximaly)

---

## 1.20 The '=A' DLC

### NAME

=A - Show the 5 sections of ASM-One

### SYNTAX

=A

### FUNCTION

So you can see where ASM-One is located in memory.

### RESULT

Something like this:

ASM-One Location	Start	End	Total
	-----	-----	-----
1st Code section:	072B1628	072B18D4	684
2nd Code section:	073289B0	0733363B	44171
1st Data section:	07309AF8	07326902	118282
2nd Data section:	07326910	073289A2	8338
BSS Data section:	07333648	0733AE41	30713

(V1.3x values !!!)

### FROM VERSION

V1.20

## 1.21 The '=F' DLC

### NAME

=F - Change the Font of ASM-One

### SYNTAX

=F

### FUNCTION

When Regtools enabled, you will get a Font Requester with the following functions:

Ok - Will install the new font, but WILL NOT save it  
 Cancel - Will cancel the Font Requester

### RESULT

Changed or NOT changed font.

### REMARKS

ASM-One can ONLY handle 8\*8 fixed fonts. Default the requester will only show 8 pixels height fonts. But the font maybe to width for ASM-One. The only way to check this is to select the topaz.font, and remember where te last character was. And compare that position with the font you want to select.

Changes will be made directly, accept for the menu's.

Save the changes with Write Prefereces or by choosing SAVE within the Preferences.

FROM VERSION  
V1.30

#### BUGS

If you select a font, and the requester says: 'Couldn't open Font'. Than DON'T SELECT it. If you do, ASM-One will use the default font (currently: topaz.font). But '=F' will no longer work.

## 1.22 The '=M' DLC

#### NAME

=M - Add work memory

#### SYNTAX

=M

#### FUNCTION

Gives you the possibility to add workspace.

#### RESULT

More workspace.

#### REMARKS

No mater if you add or don't add memory, you will always get a nice overview of all memory your source uses:

	Start	End	Total
	-----	-----	-----
Workspace	: 004453C0	0045E3C0	102400
Source	: 004453C1	0044698B	5578
Label Pointers	: 00446B8E	0044BB8E	20480
Label	: 0044BB8E	0045E35C	75726
IncMem	: -----	-----	189628

If you have not assembled your source, you will get a shorter overview.

#### SEE ALSO

The '= ' DLC

FROM VERSION  
V1.01

## 1.23 The '=P' DLC

#### NAME

=P - Show Project Info

#### SYNTAX

=P

#### FUNCTION

When Regtools enabled, it will show up an requester with the current status of your Project.

#### RESULT

A Requester.

#### FROM VERSION

V1.28

## 1.24 The '=R' DLC

#### NAME

=R - Show Register Info

#### SYNTAX

=R [registernumber]

#### FUNCTION

Will show info on the requested Amiga Register.

#### INPUT

Nothing, or a [registernumber]. The [registernumber] should be the last three numbers of the hexadecimal address of the register

#### EXAMPLE

```
>=R 1EC
1EC    W    A           VRam (UHRES) bitplane pointer (hi 5 bits)..:
```

BPLHPTH - UHRES (VRAM) bit plane pntr (high 5 bits)

BPLHPTL - UHRES (VRAM) bit plane pntr (low 15 bits)

When UHRES is enabled, this pointer comes out on the 2nd 'free' cycle after the start of each horizontal line. It's modulo is added every time it comes out. 'free' means priority above the copper and below the fixed stuff (audio, sprites....).

BPLHDAT comes out as an identifier on the RGA lines when the pointer address is valid so that external detectors can use this to do the special cycle for the VRAMs, The SHRHDAT gets the first and third free cycles.

#### RESULT

If no [registernumber] was given, an explanation of the used symbols and a complete list of ALL Amiga registers.  
Otherwise the requested register (if the number was valid).

#### FROM VERSION

V1.--

## 1.25 The '=S' DLC

### NAME

=S - Show Symbols

### SYNTAX

=S[characters]

### FUNCTION

Will show ALL currently known Symbols.

You can also specify the first 2 characters of the symbol you are looking for at [characters].

That will list the symbols from that point.

### RESULT

List with Symbols (= Labels).

### REMARK

Think about UpperCase=LowerCase !!!

### FROM VERSION

V1.01

Extra [characters option] from V1.16 and up

## 1.26 The '>' DLC

### NAME

> - Redirect Output

### SYNTAX

>[filename]

### FUNCTION

Will redirect the output on the commandline to a file.

If no filename was given, and regtools is enabled, a file requester will show up to specify the filename.

Choose cancel if you don't want to redirect the output any longer.

### RESULT

File with output from ASM-One

### FROM VERSION

V1.01

### BUGS

The file contains a lot of trash characters.

---

## 1.27 The '?' DLC

### NAME

? - Calculate

### SYNTAX

?[value(s)]

### FUNCTION

Will convert between HEX, ASCII, Octal and binair. And will calculate between those formats.

### RESULT

An answer.

### FROM VERSION

V1.01

## 1.28 The '[' DLC

### NAME

[ - Calculate Float

### SYNTAX

[[value(s)]]

### FUNCTION

Will calculate floats.

### EXAMPLE

```
>[.s383.3827*56.54
2.16764579 E 4 $4D4EB90A.S
>

>[.x383.3827*56.54
2.16764579 E 4 $401A0000CEB90A2947AE2000.X
>

>[2/3
6.666666666»E-1 $401C00009EF21AAAAAAAAAAAA.X
|
+- This means the number continues untill infinity.

>[2/3
6.666666667\ensuremath{\pm}E-1 $401C00009EF21AAAAAAAA000.X
|
+- This means the number is inexact.
```

### RESULT

An answer B-)

### REMARKS

You can specify the the size (.S, .D, .X, .P), this will have

no effect on the calculation, but on the hexadecimal output.  
Extended Precision (.X) is default.

The inexact and infinity flags only work at the commandline !!  
Since during debugging ASM-One can not recognize which FPU register  
caused the inexact/infinity flag it will ignore them !!!

Entering a Hexadecimal number, you will have to enter the  
FLOATING-POINT representation, NOT the INTEGER representation !!

FROM VERSION  
V1.20

## 1.29 The '@A' DLC

NAME  
@A - Edit Memory

SYNTAX  
@A[address/label]

FUNCTION  
Will enable you to edit the memory at the adres after '@A' in  
hexidecimal.

EXAMPLE  
Here's an example:

```
>@A$400
00000400 4e75
00000400
```

INPUT  
Optional address or label, otherwise ASM-One will start  
at address \$00000000, or after the last address shown  
with @B, @D, @H, @N, D, H or N.

RESULT  
Unknown at the moment

REMARKS  
With [ESC] you end the session.

FROM VERSION  
V1.01

## 1.30 The '@B' DLC

NAME  
@B - Show lines in binary

SYNTAX

---

@B[address/label]

#### FUNCTION

Will show 8 lines starting from address/label in binary.

#### EXAMPLE

```
>@Bstart
004484F4 %01110000
004484F5 %00000000
004484F6 %01001110
004484F7 %01110101
004484F8 %00010010
004484F9 %00110100
004484FA %01010110
004484FB %01111000
```

#### INPUT

Address or label.

#### RESULT

Eight binary lines.

#### FROM VERSION

V1.01

## 1.31 The '@D' DLC

#### NAME

@D - Show disassembled lines

#### SYNTAX

@D[address/label]

#### FUNCTION

Will show 12 disassembled lines starting from address/label.

#### EXAMPLE

```
>@Dstart
004621F4 23CF004623DC      MOVE.L      A7,$004623DC
004621FA 2C780004             MOVE.L      $0004.W,A6
004621FE 23CE004623D0      MOVE.L      A6,$004623D0
00462204 93C9                SUBA.L      A1,A1
00462206 4EAEFEDA           JSR          -294(A6)
0046220A 2840                MOVE.L      D0,A4
0046220C 6100019C           BSR.W       $004623AA
00462210 4AAC00AC           TST.L       $00AC(A4)
00462214 6724               BEQ.B       $0046223A
00462216 2C79004623D8      MOVE.L      $004623D8,A6
0046221C 4EAEFFC4           JSR          -60(A6)
00462220 23C0004623E8      MOVE.L      D0,$004623E8
```

#### INPUT

Address or label.

## RESULT

Twelve disassembled lines.

## FROM VERSION

V1.01

## 1.32 The '@H' DLC

## NAME

@H - Show hexadecimal lines

## SYNTAX

@H[address/label]

## FUNCTION

Will show 8 hexadecimal lines starting from address/label.

## EXAMPLE

```
>@Hmenuname
004625CE 4D 65 6E 75 00 52 65 73 65 74 00 51 75 69 74 00 "Menu.Reset.Quit."
004625DE 47 30 00 47 31 00 47 32 00 53 6F 6D 65 20 47 61 "G0.G1.G2.Some Ga"
004625EE 64 67 65 74 73 00 4E 65 77 20 54 69 74 6C 65 00 "dgets.New Title."
004625FE 69 6E 74 75 69 74 69 6F 6E 2E 6C 69 62 72 61 72 "intuition.librar"
0046260E 79 00 64 6F 73 2E 6C 69 62 72 61 72 79 00 54 68 "y.dos.library.Th"
0046261E 69 73 20 70 72 6F 67 72 61 6D 20 6D 75 73 74 20 "is program must "
0046262E 62 65 20 72 75 6E 20 66 72 6F 6D 20 74 68 65 20 "be run from the "
0046263E 57 6F 72 6B 62 65 6E 63 68 0A 12 34 56 78 01 01 "Workbench..4Vx.."
```

## INPUT

Address or label.

If you use a brace ({} after the @H, you will get indirect memory access:

```
@h{4      will give you the hexdump starting at the ExecBase.
@h{.14    will give you the hexdump starting at the ExecBase in longwords
@h4       will give you the hexdump starting at adress 4
```

## RESULT

Eight hexadecimal lines.

## FROM VERSION

V1.01

Indirect option from V1.16 and up

## 1.33 The '@N' DLC

## NAME

@N - Show ASCII lines

## SYNTAX

@N[address/label]

FUNCTION

Will show 12 ASCII lines starting from address/label.

### EXAMPLE

```

>@Nmenuname
004625CE "Menu.Reset.Quit.G0.G1.G2.Some Gadgets.New Title.intuition.librar"
0046260E "y.dos.library.This program must be run from the Workbench..4Vx.."
0046264E ".....$.....6....P....V....\.....f.....n....x"
0046268E ".....\textdegree{ }.....`.....`.....0.....<.....L.....R ←
        .....^....."
004626CE ".f.....l.....z.....,.....`.....`.....`....."
0046270E "...(. :.....B.....\.....`.....`.....`.....b"
0046274E ".....H.....^.....b.....n.....¶.....`....."
0046278E ".....`....."

```

INPUT

Address or label.

## RESULT

Twelve ASCII lines.

## FROM VERSION

V1.01

### 1.34 The 'A' DLC

## NAME

A - Assemble the source currently in the editor.

## SYNTAX

A

## KEY-SHORTCUT

Right-Amiga+Shift+A

## FUNCTION

This will start the assembler. The source in the current editor will be assembled.

## RESULT

Various errors. If you encounter any errors, look them up in the list of errors

## FROM VERSION

V1.01

### 1.35 The 'AC' DLC

**NAME**

AC - Assemble and Check the source currently in the editor.

**SYNTAX**

AC

**FUNCTION**

Will only CHECK your source on syntax errors. But will NOT assemble the source.

ASM-One will ONLY do Pass 1, NOT Pass 2.

**RESULT**

Various errors. If you encounter any errors, look them up in the list of errors

**FROM VERSION**

V1.29

## 1.36 The 'AD' DLC

**NAME**

AD - Assemble and Debug

**SYNTAX**

AD

**KEY-SHORTCUT**

Right-Amiga+Shift+D

**FUNCTION**

This will first assemble the source currently in the editor, and will then start the debugger.

**RESULT**

Various errors. As with the 'A' DLC, you can encounter errors. If an error occurs, ASM-One will NOT go to the Debugger.

**FROM VERSION**

V1.01

**BUGS**

Some times ASM-One goes to the Debugger and will end up in the remark lines (those starting with ';' or '\*'). This will display 'End of Source reached !!' in the menubar. Just type 'AD' again.

**SEE ALSO**

The Source-Level Debugger

## 1.37 The 'AO' DLC

---

## NAME

AO - Assemble and Optimize

## SYNTAX

AO

## KEY-SHORTCUT

Right-Amiga+Shift+O

## FUNCTION

ASM-One will start assembling your source. And optimize it when needed.

ASM-One will only optimize branches from WORD to BYTE, and from BYTE to WORD.

When Optimizing from Byte to Word, ASM-One will ALWAYS start reassembling. Since locations of labels AFTER the optimization will be changed from those locations ASM-One got during it's Pass 1.

This also happens when you normally assemble a source. So the only advantage of AO is currently the optimization of WORD to BYTE.

An optimization will result in a CHANGED source !!

## RESULT

An optimized piece of code B-)

## REMARKS

ASM-One also optimizes CLR.L Dn -> MOVEQ #0,Dn during assembling.

ASM-One will also change CMP/ADD/SUB instructions to appropriate instructions (like CMP.x (An)+, (An)+ -> CMPM.x (An)+, (An)+) during assembling.

But ASM-One WILL NOT change your source for these optimizations !! ONLY the assembled code....

Other optimizations are under construction. Including changing your source.

Optimizing can take some time if your source is big and a lot has to be optimized. ASM-One has to move your source the be able to add characters to it.

## FROM VERSION

V1.01

## 1.38 The 'AS' DLC

## NAME

AS - Activate Source

## SYNTAX

AS[source-number]

## FUNCTION

Activates another source (same as F1-F10).

## INPUT

[source-number], can be in the range of 0 - 9.

## RESULT

The specified source is activated.

## FROM VERSION

V1.25

## 1.39 The 'B' DLC

## NAME

B - Bottom of source

## SYNTAX

B

## FUNCTION

With this command you will go to the bottom of the source.

## RESULT

When you go to the editor again, you will be at the bottom of the source.

## REMARKS

When your source is longer than 65535 lines, ASM-One will not go to the bottom of your source. This is due to the fact that the number of lines is calculated in WORD size.

## FROM VERSION

V1.01

## 1.40 The 'BS' DLC

## NAME

BS - Bootblock Simulator

## SYNTAX

BS

## FUNCTION

Allows you to simulate a BootBlock.

## INPUT

BEG> Start of the CODE in your bootblock.

---

## RESULT

At address/label specified by BEG> the code from your bootblock will start.

In other words: ASM-One will start at that address/label. All ather stuff in front of it will be forgotten.

## EXAMPLE

```

Boot:          DC.B          "DOS",0
               dc.l          0           ; for checksum
               dc.l          880         ; root block

Bootstart:     move.l        ...
               lea           ...
               ...           ...
               rts

```

Would be assembled and started at Bootstart: (so not Boot: !!)

## REMARKS

Also allows you to assemble source froma certain address/label

## FROM VERSION

V1.25

## 1.41 The 'C' DLC

## NAME

C - Copy Memory

## SYNTAX

C[.size]

## FUNCTION

Will copy memory from one place to another.

## INPUT

```

BEG> Start address or label
END> End address or label
DEST> Destination address or label

```

Nothing, or a [.size]. The [.size] can be BYTE (.B), WORD (.W) or LONGWORD (.L).

## RESULT

Copied memory.

## REMARKS

Be very CAREFULL with this DLC. Make sure you have saved all your work or otherwise you could destroy it !!!!

## FROM VERSION

V1.01

## 1.42 The 'CC' DLC

### NAME

C - Calculate Checksum

### SYNTAX

CC[drive-number]

### FUNCTION

Will calculate the Checksum of a floppy disk.

This is needed if you changed the bootblock of a floppy disk.

### INPUT

You may specify a Drive number. Legal numbers are:

0: DF0  
1: DF1  
2: DF2  
3: DF3

DF0 is default, so if you don't specify a Drive number, the Checksum of the disk in DF0 will be calculated.

### RESULT

A calculated Checksum.

### REMARKS

Disks NEED a legal Checksum, or the Amiga will not BOOT from them.

### FROM VERSION

V1.01

## 1.43 The 'CD' DLC

### NAME

CD - Create directory

### SYNTAX

CD [directory-name]

### FUNCTION

Will create a new directory without leaving ASM-One.

### INPUT

A [directory-name]

If none given, ASM-One will ASK for one:

DIRECTORYNAME>

### RESULT

If succesfull, the directory will be created. If not, it will not be created B-)

---

## REMARKS

ASM-One will create the directory in the current directory (unless an assign or drive label is used, ofcourse). Check where you are with The 'V' DLC .

## FROM VERSION

V1.06

## 1.44 The 'CS' DLC

## NAME

CS - Create Sinus

## SYNTAX

CS

## FUNCTION

Will create a sinus at the specified memory address.

## INPUT

DEST>	Memory destination address
BEG>	Begin angle
END>	End angle
AMOUNT>	Number of values generated
AMPLITUDE>	Amplitude
YOFFSET>	Yoffset
SIZE>	(B)ytes / (W)ords / (L)ongwords
MULTIPLIER>	Afterwards value multiplier (0 = 1)
HCORRECTION>	Half step correction (Against irritating ticks)
RCORRECTION>	ROUND instead of INT (0,7 = 1 instead of 0)

## RESULT

A Sinus.

## FROM VERSION

V1.05

## 1.45 The 'D' DLC

## NAME

D - Edit Disassembled Memory

## SYNTAX

D[address/label]

## FUNCTION

You will jump to the monitor starting at the specified address or label. If you didn't specify an address or label, the Monitor will disassemble memory from address \$0.

## INPUT

Address or label or nothing.

#### RESULT

Disassembled memory in the Monitor.

#### REMARKS

If you want to disassemble your source (by using a label) you first have to assemble your source, otherwise ASM-One will not recognize the label.

#### FROM VERSION

V1.01

#### SEE ALSO

The '@D' DLC , The Monitor

## 1.46 The 'E' DLC

#### NAME

E - Load External binaries

#### SYNTAX

E[number]

#### FUNCTION

Loads the External binaries which where defined in the source by >EXTERN .

Loads the External binary with the specified [number] if a number was specified by >EXTERN .

#### RESULT

The External binaries will be loaded at the specified addresse(s).

#### REMARKS

This command is here for backwards compatibility with SEKA. It's better (and saver) to use INCBIN for including binaries, becose EXTERN will load binaries at an ABSOLUTE memory address, while INCBIN will load binaries at a RELATIVE address.

#### FROM VERSION

V1.01

## 1.47 The 'EL' DLC

#### NAME

EL - Extend Labels

#### SYNTAX

EL

---

**FUNCTION**

Will put a prefix or postfix to ALL labels in the current source:

**INPUT**

Extend Labels with> Characters to extend labels with  
Prefix (Y/N)>        Y = Prefix, N = Postfix  
Pass 1..  
Pass 2..  
\*\* End of File

**RESULT**

New labels

**REMARK**

This is a very slow procedure, so be patient.

Y will generate a Prefix, any other answer a Postfix.

**FROM VERSION**

V1.25

**BUGS**

There is now way back after you entered the 'Extend labels with>'.

## 1.48 The 'F' DLC

**NAME**

F - Fill Memory

**SYNTAX**

F

**FUNCTION**

Will FILL the specified memory with the specified value.

**INPUT**

BEG> Start address or label  
END> End address or label  
DATA> Data to fill memory with

**RESULT**

A filled part of memory.

**REMARKS**

DATA can only by a BYTE.

Be EXTREMELY carefull with this DLC, becose it could trash your memory.

**FROM VERSION**

V1.01

**BUGS**

ASM-One will accept any type of DATA (ASCII, HEX, Octall, Decimal), but will ALWAYS take the last BYTE to fill the memory with.

---

ASM-One will not warn you if you use other sizes than BYTE.

## 1.49 The 'G' DLC

### NAME

G - Start executing at Address untill BREAKPOINT reached

### SYNTAX

G[address/label]

### FUNCTION

Will start program at address/label, untill the breakpoint is reached

### INPUT

An address or label. And if you wish, a breakpoint.

### RESULT

How the program effected the registers. And maybe an error.

### REMARKS

If NO address or label is given, ASM-One will start at address \$0, this will most certainly crash your Amiga !!!!

### FROM VERSION

V1.01

## 1.50 The 'H' DLC

### NAME

H - Edit Memory in HEX

### SYNTAX

H[address/label]

### FUNCTION

Will switch to the Monitor in HEX format.

See The Monitor for more information.

### FROM VERSION

V1.01

### SEE ALSO

The '@H' DLC , {@ " The Monitor " LINK "monitor"}

## 1.51 The 'I' DLC

---

**NAME**

I - Insert Source

**SYNTAX**

I [filename]

**FUNCTION**

Will insert the selected source.

If no filename is given, and reqtools is enabled, a file requester will show up to allow you to select a file to insert.

The new file will be inserted at the location of the cursor in the current source.

**RESULT**

An inserted source at the location of your cursor.

**FROM VERSION**

V1.01

## 1.52 The 'IB' DLC

**NAME**

IB - Insert Binary

**SYNTAX**

IB

**FUNCTION**

Will allow you to insert binary values as DC.B's into the source, starting at the current location of the cursor.

**INPUT**

BEG> Starting Address or Label  
END> Ending Address or Label

**RESULT**

Inserted DC.B's at the location of your cursor.

**FROM VERSION**

V1.01

## 1.53 The 'ID' DLC

**NAME**

ID - Insert Disassembly

**SYNTAX**

ID

---

**FUNCTION**

Will allow you to insert disassembled memory as source into the source, starting at the current location of the cursor.

**INPUT**

BEG> Starting Address or Label  
END> Ending Address or Label  
Remove unused labels (Y/N)? Y = Yes, No = No

**RESULT**

Inserted disassembled memory at the location of your cursor.

If you don't remove the unused labels, every line will be preceded by a label.

Y will remove the unused labels, they are not removed otherwise.

**FROM VERSION**

V1.01

**BUGS**

At the 'Remove unused labels (Y/N)?' question, there is no way back !!

## 1.54 The 'IH' DLC

**NAME**

IH - Insert HEX lines

**SYNTAX**

IH

**FUNCTION**

Will allow you to insert hexadecimal values as DC.B's into the source, starting at the current location of the cursor.

**INPUT**

BEG> Starting Address or Label  
END> Ending Address or Label

**RESULT**

Inserted DC.B's at the location of your cursor.

**FROM VERSION**

V1.01

## 1.55 The 'IN' DLC

**NAME**

IN - Insert ASCII lines

**SYNTAX**

IN

#### FUNCTION

Will allow you to insert ASCII values as DC.B's into the source, starting at the current location of the cursor.

#### INPUT

BEG> Starting Address or Label  
END> Ending Address or Label

#### RESULT

Inserted DC.B's at the location of your cursor.

#### FROM VERSION

V1.01

## 1.56 The 'IS' DLC

#### NAME

IS - Insert Sinus

#### SYNTAX

IS

#### FUNCTION

Will create a sinus at the current cursor location.

#### INPUT

DEST> Memory destination address  
BEG> Begin angle  
END> End angle  
AMOUNT> Number of values generated  
AMPLITUDE> Amplitude  
YOFFSET> Yoffset  
SIZE> (B)ytes / (W)ords / (L)ongwords  
MULTIPLIER> Afterwards value multiplier (0 = 1)  
HCORRECTION> Half step correction (Against irritating ticks)  
RCORRECTION> ROUND instead of INT (0,7 = 1 instead of 0)

#### RESULT

A Sinus.

#### FROM VERSION

V1.05

## 1.57 The 'J' DLC

#### NAME

J - Jump to address/label

#### SYNTAX

J[address/label]

---

**FUNCTION**

Will start program at address/label, as a subroutine.

**INPUT**

An address or label, if non given and the source was assembled, ASM-One will jump to the beginning of the source. If no source is assembled, ASM-One will return immediately.

**RESULT**

How the program effected the registers. And maybe an error.

**FROM VERSION**

V1.01

## 1.58 The 'K' DLC

**NAME**

K - Single step n steps

**SYNTAX**

K[steps]

**FUNCTION**

Will start program at address/label, step by step

**INPUT**

Number of steps, if non given , ASM-One will return immediately. If no source is assembled, ASM-One will return immediately.

**RESULT**

How the program effected the registers. And maybe an error.

**FROM VERSION**

V1.01

## 1.59 The 'L' DLC

**NAME**

L - Locate Text

**SYNTAX**

L[text]

**FUNCTION**

Text search function from the command line.

**INPUT**

Some text. If no text given, L will locate the last text it got with this DLC.

---

**RESULT**

First line which contains the located text.

**FROM VERSION**

V1.01

## 1.60 The 'M' DLC

**NAME**

M - Edit Memory

**SYNTAX**

M[address/label]

**FUNCTION**

Gives you the possibility to edit memory in HEX, Decimal and ASCII at the given address or label. If no address or label given, ASM-One will start at address \$0.

**RESULT**

Changed memory.

**REMARKS**

Becarefull, this DLC could ruine your day. Save your source before using this DLC.

**FROM VERSION**

V1.01

## 1.61 The 'N' DLC

**NAME**

N - Edit Memory in ASCII

**SYNTAX**

N[address/label]

**FUNCTION**

Gives you the possibility to edit memory in ASCII at the given address or label. If no address or label given, ASM-One will start at address \$0.

**RESULT**

Changed memory.

**REMARKS**

Becarefull, this DLC could really ruine your day. Save your source before using this DLC.

**SEE ALSO**

The Monitor

---

FROM VERSION  
V1.01

## 1.62 The 'O' DLC

NAME  
O - Rescue Source

SYNTAX  
O

FUNCTION  
If you by accident did ZS, O will restore your source.

RESULT  
Your source back.

REMARKS  
This may also work if the Amiga crashed. Be sure to allocate the same address space (alltough this maybe difficult with the ever increasing size of Memory B-), for the best results.  
  
You may also use the 'ASM-One Source Rescuer', to try to restore old sources from memory.

FROM VERSION  
V1.01

## 1.63 The 'P' DLC

NAME  
P - Print Lines

SYNTAX  
P[number-of-lines]

FUNCTION  
Gives you the possibility to print a given number of lines from the CURRENT cursor position.

RESULT  
Source lines on paper.

REMARKS  
Don't forget to mark 'Printer Dump' in the 'General Preferences'.  
Or press Ctrl+P.

FROM VERSION  
V1.01

---

## 1.64 The 'PS' DLC

### NAME

PS - Set CLI Parameters

### SYNTAX

PS

### FUNCTION

Some programs need CLI input (like DIR) to function properly.  
With PS you can set the CLI parameters.

### INPUT

Startup parameters> The parameters

### RESULT

The parameters (text) will be stored in a memory location.  
Every time you start debugging, the address of this location  
is put into A0 (just like the real thing B-)

D0 will contain how many characters there where (including  
the trailing \$a).

### REMARKS

PS will save the parameters, so you don't have to enter them  
every time you debug some source. So A0 will ALWAYS point  
to the parameters, and D0 will ALWAYS contain there number  
(only AFTER you once specified the parameters).

The text will always be ended with an \$a (= RETURN).

This ONLY works while DEBUGGING !!!

### FROM VERSION

V1.09

## 1.65 The 'Q' DLC

### NAME

Q - Compare Memory

### SYNTAX

Q

### FUNCTION

Compare Memory for differences.

### INPUT

BEG> Starting address/label of the first block  
END> Ending address/label of the first block  
DEST> Starting address/label of the second block

### RESULT

Will show TWO addresses. The first is the address from

---

the byte in the first block that is different from the byte at the address shown as the second address (which should be in the second block).

If no differences were found, you will get the following message:

\*\* Equal Areas

If any difference was found:

<first address> <second address>

\*\* NOT Equal Areas

#### REMARKS

You can't specify the end of the second block. That's not strange, since you will compare memory against the first block. Everything that's bigger than the first block, will not be interesting to compare.

So, the first block will specify the size of the second block (which is: (END-BEG)+DEST).

#### FROM VERSION

V1.01

## 1.66 The 'R' DLC

#### NAME

R - Read Source

#### SYNTAX

R [filename]

#### FUNCTION

Read a source in the currently selected source of the editor (with a maximum of ten).

#### INPUT

A [filename], if non given and reqtools is enabled, a requester will show up to allow you to select a source.

#### RESULT

A source to work with in the Editor.

#### REMARKS

ASM-One will read any file, it will NOT check if the file is a source file.

#### FROM VERSION

V1.01, without requester: V1.05

#### SEE ALSO

---

The 'W' DLC

## 1.67 The 'RB' DLC

### NAME

RB - Read Binary

### SYNTAX

RB [filename]

### FUNCTION

Read a binary file at the specified address/label.

### INPUT

BEG> Starting address or label

END> Ending address or label

A [filename], if non given and reqtools is enabled, a requester will show up to allow you to select a source.

### RESULT

A part of your memory filled with a binary file.

### REMARKS

ASM-One will read any file, it will NOT check if the file is a binary file.

If a file is longer than specified by END>, it will be truncated to fit in the specified block.

### FROM VERSION

V1.01, without requester: V1.05

### SEE ALSO

The 'WB' DLC

## 1.68 The 'RE' DLC

### NAME

RE - Read Environment (Project)

### SYNTAX

RE [filename]

### FUNCTION

Read a complete Environment (Project).

### INPUT

A [filename], if non given and reqtools is enabled, a requester will show up to allow you to select a source.

---

**RESULT**

Every one of the 10 source you where working on, is loaded at the same place they where before..

**REMARKS**

This options doesn't work right yet. Many people (including me) have no idea how it really works. Another problem is that the same thing has different names, which is very confusing (like Read Environment (RE), Project Info (=P) and Update All (UA)).

**SEE ALSO**

The 'WE' DLC , The '=P' DLC , The 'UA' DLC

**FROM VERSION**

V1.29

**BUGS**

Many... Use at your own risk..

## 1.69 The 'RO' DLC

**NAME**

RO - Read Object

**SYNTAX**

RO [filename]

**FUNCTION**

Read an object (executable) file at the specified address/label.

**INPUT**

BEG> Starting address or label  
END> Ending address or label

A [filename], if non given and reqtools is enabled, a requester will show up to allow you to select a source.

**RESULT**

A part of your memory filled with an object file.

The address where the file was loaded.

**REMARKS**

Memory is allocated for the object file, it's read into memory link if it was a program. The address that's returned is the first line of coding of the loaded binary (and can be executed by jumping to it).

**SEE ALSO**

The 'WO' DLC

**FROM VERSION**

V1.01, without requester: V1.05

## 1.70 The 'RS' DLC

### NAME

RS - Read Sector(s) from floppy disk

### SYNTAX

RS[drive-number]

### FUNCTION

Read some sectors from the floppy disk which is in the specified drive.

### INPUT

RAM PTR> Address/label where the sectors should be placed  
DISK PTR> Sector on disk to start with  
LENGHT> Number of sectors to read

You may specify a Drive number. Legal numbers are:

0: DF0  
1: DF1  
2: DF2  
3: DF3

DF0 is default, so if you don't specify a Drive number, the sectors will be read from the disk in DF0.

### RESULT

The sectors read from the disk will be located at the specified address or label.

### REMARKS

The Amiga floppy disk (880 Kb formatted) has 1760 sectors.  
Each sectors is 512 bytes in size.

### SEE ALSO

The 'WS' DLC

### FROM VERSION

V1.01

## 1.71 The 'RT' DLC

### NAME

RT - Read Track(s) from floppy disk

### SYNTAX

RT[drive-number]

### FUNCTION

Read some tracks from the floppy disk which is in the specified drive.

#### INPUT

RAM PTR> Address/label where the tracks should be placed  
DISK PTR> Track on disk to start with  
LENGHT> Number of tracks to read

You may specify a Drive number. Legal numbers are:

0: DF0  
1: DF1  
2: DF2  
3: DF3

DF0 is default, so if you don't specify a Drive number, the tracks will be read from the disk in DF0.

#### RESULT

The tracks read from the disk will be located at the specified address or label.

#### REMARKS

The Amiga floppy disk (880 Kb formatted) has 80 tracks.  
Each divided into 11 sectors.

#### SEE ALSO

The 'WT' DLC

#### FROM VERSION

V1.01

## 1.72 The 'S' DLC

#### NAME

S - Search Memory

#### SYNTAX

S

#### FUNCTION

Search the specified block of memory for the specified data.

#### INPUT

BEG> Starting address/label of the memory block  
END> Ending address/label of the memory block  
DATA> Data to be searched for

To search more specific, DATA can be specified with a size:

.B = Byte  
.W = Word  
.L = Longword

---

**RESULT**

If the data was found, every address at which it was found will be displayed.

**REMARKS**

Any DATA is allowed: ASCII, Hex or decimal.

For anyone interested, this DLC is perfect for cracking save-games B-)

**FROM VERSION**

V1.01

## 1.73 The 'T' DLC

**NAME**

T - Top of Source

**SYNTAX**

T[line-number]

**FUNCTION**

Jumps to the top of your source, or the specified line-number.

**INPUT**

Nothing or al line number.

**RESULT**

See 'FUNCTION'.

**REMARKS**

ASM-One will not jump to the top of the source if the source has more than 65535 lines. This is becose ASM-One stores the number of lines in WORDs..

**SEE ALSO:**

The 'B' DLC

**FROM VERSION**

V1.01

## 1.74 The 'U' DLC

**NAME**

U - Update current source in the Editor

**SYNTAX**

U

**FUNCTION**

If the source has changed, ASM-One will update your source.

**RESULT**

An updated source.

**REMARKS**

ASM-One will check if the source is still there. If not, ASM-One will update the source anyway.

**FROM VERSION**

V1.09, Deleted-source check from: V1.3x and up

## 1.75 The 'UA' DLC

**NAME**

UA - Update ALL source currently open

**SYNTAX**

UA

**FUNCTION**

Will update all changed sources open at the moment.

**RESULT**

Updated sources.

**REMARKS**

This function is not completely perfect yet. And it may have something to do with the Project and Environment DLCs

**SEE ALSO**

The 'RE' DLC , The 'WE' DLC , The '=P' DLC

**FROM VERSION**

V1.29

## 1.76 The 'V' DLC

**NAME**

V - Change current directory or view a directory

**SYNTAX**

V [directory-name]

**FUNCTION**

You can change your current working directory, or see the contents of a specified directory.

**INPUT**

A [directory-name], if none given, ASM-One will show

---

you the current directory.

**RESULT**

New working directory, or contents of the specified directory.

**REMARKS**

If you do 'V' more than once in a directory, ASM-One will show the directory from memory the second and following times. The directory is only really read the first time.

**FROM VERSION**

V1.08

## 1.77 The 'W' DLC

**NAME**

W - Write source currently in the Editor

**SYNTAX**

W [file-name]

**FUNCTION**

Will write the current source, including the 10 Marks.

**INPUT**

A [file-name], if non given and reqtools enabled, a file requester will open to allow you to specify the file name.

**RESULT**

If good, the file will be written.

**SEE ALSO**

The 'R' DLC

**FROM VERSION**

V1.01, without requester: V1.05

## 1.78 The 'WB' DLC

**NAME**

WB - Write binary

**SYNTAX**

WB [file-name]

**FUNCTION**

Will write binary data to the specified file.

**INPUT**

BEG> Starting address/label of the binary

---

END> Ending address/label of the binary

A [file-name], if non given and reqtools enabled, a file requester will open to allow you to specify the file name.

#### RESULT

If good, the file will be written.

#### REMARKS

You can write an assembled source as binary, but you can also save blocks of memory as binary.

#### SEE ALSO

The 'RB' DLC

#### FROM VERSION

V1.01, without requester: V1.05

## 1.79 The 'WE' DLC

#### NAME

WE - Write Environment (Project)

#### SYNTAX

WE [file-name]

#### FUNCTION

Will save all sources currently loaded in ASM-One.

#### INPUT

A [file-name], if non given and reqtools enabled, a file requester will open to allow you to specify the file name.

#### RESULT

If good, the file (with extension .Aprj) will be written.

#### REMARKS

Doesn't work correct yet.. Use at own risk.

#### SEE ALSO

The 'RE' DLC , The '=P' DLC , The 'UA' DLC

#### FROM VERSION

V1.29

## 1.80 The 'WL' DLC

#### NAME

WL - Write Link file

---

## SYNTAX

WL [file-name]

## FUNCTION

Will save an assembled source as an Link file, to be linked with an (for example: C) compiler.

## INPUT

A [file-name], if non given and reqtools enabled, a file requester will open to allow you to specify the file name.

## RESULT

If good, the file will be written.

## REMARKS

The Link file is ALink and BLink compatible.

## FROM VERSION

V1.29

## BUGS

Seems to be giving problems with it's SECTIONs !!

## 1.81 The 'WN' DLC

## NAME

WN - Write Source WITHOUT Marks

## SYNTAX

WN [file-name]

## FUNCTION

Will save the source currently in the editor as a plane ASCII file.

## INPUT

A [file-name], if non given and reqtools enabled, a file requester will open to allow you to specify the file name.

## RESULT

If good, the file will be written.

## FROM VERSION

V1.3x

## 1.82 The 'WO' DLC

## NAME

WO - Write Object

---

## SYNTAX

WO [file-name]

## FUNCTION

Will save an assembled source as an object (executable).

## INPUT

A [file-name], if non given and regtools enabled, a file requester will open to allow you to specify the file name.

## RESULT

If good, the file will be written.

## SEE ALSO

The 'RO' DLC

## FROM VERSION

V1.01, without requester: V1.05

## 1.83 The 'WP' DLC

## NAME

WP - Write Preferences

## SYNTAX

WP

## FUNCTION

Will save the current setting of the Preferences to the ASM-One.pref file.

## RESULT

New ASM-One.pref file.

## REMARKS

This action CAN NOT be reversed !!! So take care..

## FROM VERSION

V1.01

## 1.84 The 'WS' DLC

## NAME

WS - Write Sector(s) to floppy disk

## SYNTAX

RS[drive-number]

## FUNCTION

Write specified sectors to the floppy disk which is in the specified drive.

---

## INPUT

RAM PTR> Starting address/label of data to be written  
DISK PTR> Sector on disk to start with  
LENGHT> Number of sectors to read

You may specify a Drive number. Legel numbers are:

0: DF0  
1: DF1  
2: DF2  
3: DF3

DF0 is default, so if you don't specify a Drive number, the sectors will be written to the disk in DF0.

## REMARKS

The Amiga floppy disk (880 Kb formatted) has 1760 sectors.  
Each sectors is 512 bytes in size.

Don't forget to use The 'CC' DLC if you have written something over the bootblock (sector 0 and 1), if you want your disk to be bootabel...

## FROM VERSION

V1.01

## 1.85 The 'WT' DLC

## NAME

WT - Write Track(s) to floppy disk

## SYNTAX

WT[drive-number]

## FUNCTION

Write specified tracks to the floppy disk which is in the specified drive.

## INPUT

RAM PTR> Starting address/label of data to be written  
DISK PTR> Track on disk to start with  
LENGHT> Number of tracks to read

You may specify a Drive number. Legel numbers are:

0: DF0  
1: DF1  
2: DF2  
3: DF3

DF0 is default, so if you don't specify a Drive number, the tracks will be written to the disk in DF0.

## REMARKS

The Amiga floppy disk (880 Kb formatted) has 80 tracks.  
Each divided into 11 sectors.

Don't forget to use The 'CC' DLC if you have written  
something over the bootblock (sector 0 and 1), if you want your  
disk to be bootabel...

FROM VERSION  
V1.01

## 1.86 The 'X' DLC

NAME  
X - Look at/Change registers

SYNTAX  
X[register]

FUNCTION  
Allows you to change the contents of a register.

INPUT  
If no [register] given, ASM-One will show the values of the  
registers. Changes from the last time you saw the registers  
are printed inverted.

RESULT  
Changed registers (they now look like you intended them  
to look B-)

REMARKS  
Be very carefull, save your source before using this DLC.

FROM VERSION  
V1.01

## 1.87 The 'Y' DLC

NAME  
Y - Execute DOS program

SYNTAX  
Y [file-name]

FUNCTION  
Allows you to start DOS programs from within ASM-One.

INPUT  
A [file-name], if non given and reqtools enabled, a  
file requester will open to allow you to specify the file  
name.

---

## RESULT

New DOS program started.

## REMARKS

Very simple version of the DOS 'RUN' command.

## FROM VERSION

V1.07

## 1.88 The 'ZA' DLC

## NAME

ZA - Zap Auto-Alloc memory

## SYNTAX

ZA

## FUNCTION

Will remove any memory that was Automatically allocated by ASM-One during the assembly of a source.

## RESULT

More free memory.

## REMARKS

Free's memory allocated during assembly. Memory is automatically allocated if you have the 'Auto-Alloc' option in the Preferences ON.

## FROM VERSION

V1.29

## 1.89 The 'ZB' DLC

## NAME

ZB - Zap Breakpoints

## SYNTAX

ZB

## FUNCTION

Zap Breakpoint set with The 'G' DLC

## RESULT

No more breakpoints

## FROM VERSION

V1.01

## 1.90 The 'ZF' DLC

---

## NAME

ZF - Zap File

## SYNTAX

ZF [file-name]

## FUNCTION

Delete specified file.

## INPUT

A [file-name], if non given and reqtools enabled, a file requester will open to allow you to specify the file name.

## RESULT

Your file is GONE !!

## REMARK

NO questions ar asked..

## FROM VERSION

V1.01

## 1.91 The 'ZI' DLC

## NAME

ZI - Zap Includes

## SYNTAX

ZI

## FUNCTION

Remove all loaded includes.

## RESULT

No more resident includes.

## REMARK

Files which are loaded with INCBIN will stay resident. If you have changed some of your include files, you will have to use this DLC to remove the resident includes, so ASM-One will read your changed includes.

## FROM VERSION

V1.01

## 1.92 The 'ZS' DLC

## NAME

ZS - Zap Source

## SYNTAX

ZS

## FUNCTION

Remove source currently in the editor.

## RESULT

An empty editor (only current source !!)

## REMARK

You will get a requester, besides The 'O' DLC it's your last change to SAVE your source...

## FROM VERSION

V1.01

## 1.93 Warnings & Errors

### Warnings & Errors

-----

ASM-One knows more than 100 errors. Currently most errors are very cryptic, and in some cases you can get different errors for what is actually the same problem.

This problem will be addressed as soon as possible.

Most of the errors are generated when assembling. The rest will show up when using DLCs .

Warnings are ONLY generated when assembling. They warn you about the CPU/MMU/FPU you where programming.

Errors

Warnings

## 1.94 Errors

Workspace Memory Full  
 Address Register Byte/Logic  
 Address Register Expected  
 Comma Expected  
 Data Register Expected  
 Double Symbol  
 Unexpected End of File  
 End of File  
 User made FAIL  
 Illegal Command  
 Illegal Address Size  
 Illegal Operand  
 Illegal Operator  
 Illegal Operator in BSS Area  
 Illegal Order

Illegal Register Size  
Illegal Section Type  
Illegal Size  
Illegal MACRO Definition  
Immediate Operand Expected  
Include Jam  
MACRO Overflow  
Invalid Address Mode  
LOAD without ORG

## 1.95 Errors

Missing Quote  
Conditional Overflow  
No Operand Space Allowed  
No Constant/Label  
Not in MACRO  
Out of Range 0/3/4/5/6/7/8/16/32 bit  
Relative Mode Error  
Reserved Word  
Closing Parenthesis Expected  
SECTION Overflow  
String Expected  
Undefined Symbol  
Register Expected  
Word at ODD Address  
Not a Local Area  
Code Moved During Pass 2..  
Bcc.B Out of Rang in MACRO  
Out of Range (20 to 100)  
Out of Range (60 to 132)  
Include Overflow  
Linker Limitation  
Repeat Overflow  
Not in Repeat Area  
Double Definition

## 1.96 Errors

Relocation made to EMPTY Section  
File Error  
No Files  
No Object  
No File Space  
Printer Device Missing  
Not Done  
Illegal Path  
Illegal Device  
Write Protected  
No Disk in Drive  
Illegal Option !!  
REM without EREM

---

TEXT without ETEXT  
Illegal Xn Scale Size  
Field Offset Expected: {OFFSET:width}  
Missing Brace  
Colon Expected  
Missing Bracket  
FPU needed for Operation !!  
To Many Watchpoints (maximal 8)  
Illegal Source, not Activated !!  
No Valid Memory Directory Present  
AUTO Command Overflow (more than 256 characters)

## 1.97 Errors

End should be Higher than Start !  
Illegal Source Number  
Including Empty Source ?  
Include Source Jam  
Unknown Conversion Mode: should be RB or RN  
Unknown CMAP Place: should be (B)EFORE, (A)FTER or (N)ONE  
Unknown CMAP Mode: should be AGA or ECS  
Trying to Include NON IFF File  
IFF File is Not a ILBM File  
Can't handle a BODY before BMHD Chunk  
Illegal Floating Point Size: should be B, W, L, S, D, X or P  
Illegal Size for Data Register: should be B, W, L or S  
Bcc.W Out of Range in MACRO  
Floating Point Register Expected  
This is not an ASM-One Project File  
Bitfield can't be Out of 32 Bit Range  
Illegal CMAP Mode Error: expecting 12, 24, CE or CA  
Illegal Color Offset (Bank) Specified  
IFF Color(s) Out of Range  
To Many Errors  
Invalid Function Code: only SFC, DFC, Dn or #<data> Allowed  
Address Register Indirect Mode Expected, for Return Address Register  
Address Register Direct Mode Expected, for Return Address Register  
Level Out of 3 Bit Range  
Mask Out of 3 Bit Range  
Mask Out of 4 Bit Range

## 1.98 Warnings & Errors

Function Code Out of 3 Bit Range  
Function Code Out of 4 Bit Range  
Insufficient Memory to change Source  
MMU Register Expected as 1st Operand  
MMU Register Expected as 2nd Operand  
Invalid MMU Register as 1st Operand  
Invalid MMU Register as 2nd Operand  
Missing START address or Label  
Incorrect Index Register Specified

---

PC/ZPC can't be used as Index Register  
We haven't come up with a nice text for this error Error  
ZPC Not allowed in this addressing mode  
Field Width Expected {offset:WIDTH}  
Field Width can't be ZERO

## 1.99 Workspace Memory Full

### MESSAGE

Workspace Memory Full

### CAUSE

When starting ASM-One, you are allocating an certain amount of memory for the source.

If you assemble the source, some of the allocated memory is used to store pointers, reloc tabels, the assembled source (depending on the type of sections) and other stuff. This is done to reduce memory fragmentation.

The allocated memory maybe enough to load the source, but not to assemble it.

### SALVE

Use the The '=M' DLC to allocate more memory.

## 1.100 Address Register Byte/Logic

### MESSAGE

Address Regsiter Byte/Logic

### CAUSE

- 1) You can't access an Address Register Direct with a Byte size
- 2) You can't use an Address Register in an logical opcode (like OR.x)

### EXAMPLE

- 1) Address Register Direct with Byte size:

MOVE.B A0,D0

- 2) Address Register Direct in logical opcode:

OR.W A0,D0

### SALVE

Move the Address Register to a Data Register.

## 1.101 Address Register Expected

---

**MESSAGE**

Address Register Expected

**CAUSE**

Some opcodes need an Address Register as source and/or destination operand.

**EXAMPLE**

```
CMPPA.L (A0),D0
```

**SALVE**

Use another opcode with the same functionality but which accepts the operand you want (not possible in all cases).

## 1.102 Comma Expected

**MESSAGE**

Comma Expected

**CAUSE**

Most opcodes need two operands. These must be separated by a comma.

**EXAMPLE**

```
MOVE.L (A0)
```

**SALVE**

Supply the missing operand.

## 1.103 Data Register Expected

**MESSAGE**

Data Register Expected

**CAUSE**

Some opcodes need a Data Register as source and/or destination operand.

**EXAMPLE**

```
MOVEQ #4,A0
```

**SALVE**

Use another opcode with the same functionality but which accepts the operand you want (not possible in all cases).

## 1.104 Double Symbol

---

**MESSAGE**

Double Symbol

**CAUSE**

It's not possible to have two labels with the same name.

**SALVE**

Come up with another name for the label.  
Set 'UCase=LCase' off.  
Use local labels.

## 1.105 Unexpected End of File

**MESSAGE**

Unexpected End of File

**CAUSE**

Generated because a MACRO definition, REPT block, or IF statement was not properly closed.

**SALVE**

Check you MACRO , REPT and IF definitions.

## 1.106 End of File

**MESSAGE**

End of File

**CAUSE**

The End of File mark was reached.

Mostly generated after a search/replace operation.

**SALVE**

It's not really an error, more some kind of notification to the user.

## 1.107 User made FAIL

**MESSAGE**

User made FAIL

**CAUSE**

Generated when during assembling the FAIL directive is encountered.

**SALVE**

Remove this directive.  
See FAIL

---

## 1.108 Illegal Command

### MESSAGE

Illegal Command

### CAUSE

While assembly, ASM-One found a word in the command colom, that's unknown to ASM-One.

### SALVE

Remove that word.  
Check your spelling.

## 1.109 Illegal Address Size

### MESSAGE

Illegal Address Size

### CAUSE

- You used the Absolute Addressing mode with a Byte size
- You tried to clear a byte of an Address Register

### EXAMPLE

```
MOVE.L ($FE).B,D0
```

```
CLR.B A0
```

### SALVE

Use another size.

## 1.110 Illegal Operand

### MESSAGE

Illegal Operand

### CAUSE

The operand(s) used are illegal for this opcode  
There's an illegal operand somewhere on the source line

### EXAMPLE

### SALVE

Remove the offending operand.  
Check for spelling.

## 1.111 Illegal Operator

---

MESSAGE

Illegal Operator

CAUSE

A misspelled data directive.

EXAMPLE

```
test:  dcg.w $0
```

SALVE

Check your spelling.

## 1.112 Illegal Operator in BSS Area

MESSAGE

Illegal Operator in BSS Area

CAUSE

Only the DS may be used in a BSS area.  
A misspelled data directive.

EXAMPLE

```
SECTION TEST,BSS_P  
test:  DC.W $0
```

SALVE

Check for spelling.  
See DS

## 1.113 Illegal Order

MESSAGE

Illegal Order

CAUSE

MOVEM expects Address and Dataregister as operands. The list should first contain the Data Registers and then the Address Registers, in an increasing order.

EXAMPLE

```
MOVEM.L A0,D4-D0.-(A7)
```

SALVE

Swap the Registers.

## 1.114 Illegal Register Size

---

**MESSAGE**

Illegal Register Size

**CAUSE**

Index registers can only have a WORD or LONGWORD size.

**EXAMPLE**

```
MOVE.L (A0,D0.B),D1
```

**SALVE**

Remove the size, default is WORD.

Change the size to WORD or LONGWORD.

## 1.115 Illegal Section Type

**MESSAGE**

Illegal Section Type

**CAUSE**

The SECTION directive allows the following section types:

CODE = A code section

DATA = A data section

BSS = A BSS section

**EXAMPLE**

```
SECTION TEST,CHIP_P
```

**SALVE**

Use one of the legal section types

Remove the section.

See SECTION

## 1.116 Illegal Size

**MESSAGE**

Illegal Size

**CAUSE**

You specified an illegal size for an operand, or for the index register in the used addressing mode.

**EXAMPLE**

```
ADDA.B D0,A0
```

```
MOVE.L ([A0],D1.B*8),D3
```

**SALVE**

Change the size.

---

## 1.117 Illegal MACRO Definition

MESSAGE

Illegal MACRO Definition

CAUSE

You specified a MACRO within a MACRO.

SALVE

Recode your MACRO definition.

See MACRO .

## 1.118 Immediate Operand Expected

MESSAGE

Immediate Operand Expected

CAUSE

Some opcodes allow ONLY Immediate Operands as first operand.

EXAMPLE

ADDI.B D0, (A0)

SALVE

Use another opcode (possible in most cases).

## 1.119 Include Jam

MESSAGE

Include Jam

CAUSE

A very unique error, only happens when you include includes during pass two.

SALVE

Check your include(s).

Check conditional directives.

## 1.120 MACRO Overflow

MESSAGE

MACRO Overflow

CAUSE

MARCO's can only be nested 25 levels deep.

SALVE

See MACRO .

---

## 1.121 Invalid Addressing Mode

MESSAGE

Invalid Addressing Mode

CAUSE

Not all operands allow all addressing modes.

SALVE

Check your Programmers Manual.

## 1.122 LOAD without ORG

MESSAGE

LOAD without ORG

CAUSE

LOAD can't be used without ORG.

SALVE

Add an ORG directive.

See LOAD and ORG .

## 1.123 Missing Quote

MESSAGE

Missing Quote

CAUSE

Text blocks should have an ending Quote.

EXAMPLE

```
test: DC.B 'hallo
```

SALVE

Check your Quotes.

## 1.124 Conditional Overflow

MESSAGE

Conditional Overflow

CAUSE

Conditional directives can only be nested 25 deep

SALVE

Check your conditional directives.

---

## 1.125 No Operand Space Allowed

MESSAGE

No Operand Space Allowed

CAUSE

Operands can't be seperated with spaces or tabs

EXAMPLE

```
MOVE.L D0, (A0)
```

SALVE

Remove offending space(s) . and/or tab(s) .

## 1.126 No Constant/Label

MESSAGE

No Constant/Label

CAUSE

Occurs when you use MACRO names in calculations.

SALVE

- Remove the MACRO name.
- Check your spelling.

## 1.127 Not in MACRO

MESSAGE

Not in MACRO

CAUSE

Some directives (like ENDM , MEXIT or CMEXIT ) are not allowed outside a MACRO.

SALVE

Check you MACRO's.

## 1.128 Out of Range 0/3/4/5/6/7/8/16/32 bit

MESSAGE

Out of Range 0/3/4/5/6/7/8/16/32 bit

CAUSE

The used value is bigger than the maximum size allowed.

SALVE

Check you spelling.

---

## 1.129 Relative Mode Error

### MESSAGE

Relative Mode Error

### CAUSE

PC related addressing modes are only allowed in the SAME section.

### SALVE

Use a non PC related addressing mode.

## 1.130 Reserved Word

### MESSAGE

Reserved Word

### CAUSE

You used a Register name as label or constant.

### EXAMPLE

```
srp:   JSR do_somthing_good
```

### SALVE

Check the Register Names list.

## 1.131 Closing Parenthesis Expected

### MESSAGE

Closing Parenthesis Expected

### CAUSE

ASM-One found the opening parenthesis, but missed the closing parenthesis.

### EXAMPLE

```
test:  MOVE.L  (A0,D0.W,D0
```

### SALVE

Check you spelling.

## 1.132 SECTION Overflow

### MESSAGE

SECTION Overflow

### CAUSE

---

The maximum number of SECTION's is 255.

SALVE

Delete some SECTION's .

### 1.133 String Expected

MESSAGE

String Expected

CAUSE

Some directive (like PRINTT ) expect a string as operand.

SALVE

Give them a string.

### 1.134 Undefined Symbol

MESSAGE

Undefined Symbol

CAUSE

The label/constant was not defined, and ASM-One doesn't recognize it either.

SALVE

Check your spelling.

### 1.135 Register Expected

MESSAGE

Register Expected

CAUSE

The index register in addressing modes (Xn) must be an Address or Data Register.

EXAMPLE

```
MOVE.L ([ $45,A0],#$43,$23),D1
```

SALVE

Check your spelling.

### 1.136 Word at Odd Address

---

**MESSAGE**

Word at Odd Address

**CAUSE**

The 68020++ CPU allows data to be at an ODD address.  
Code, however, may not be on an ODD address.

**SALVE**

Set the data even with ALIGN , EVEN , ODD or CNOP

## 1.137 Not a Local Area

**MESSAGE**

Not a Local Area

**CAUSE**

Local labels are sperated by global labels.

**SALVE**

Read more about Labels .

## 1.138 Code Moved During Pass 2..

**MESSAGE**

Code Moved During Pass 2..

**CAUSE**

In Pass 1 all labels get an address, they may NOT  
move during Pass 2 of the assembling process.

**SALVE**

Check your conditional directives.  
Check your spelling.

## 1.139 Bcc.B Out of Range in MACRO

**MESSAGE**

Bcc.B Out of Range in MACRO

**CAUSE**

Bcc.B's within MACRO's ar not optimized to Bcc.W's if needed.

**SALVE**

Check your MACRO's .

## 1.140 Out od Range (20 to 100)

---

**MESSAGE**

Out of Range (20 to 100)

**CAUSE**

PLEN accepts ONLY values from 20 to 100.

**SALVE**

Check PLEN .

## 1.141 Out od Range (60 to 132)

**MESSAGE**

Out of Range (60 to 132)

**CAUSE**

LLEN accepts ONLY values from 60 to 132.

**SALVE**

Check LLEN .

## 1.142 Include Overflow

**MESSAGE**

Include Overflow

**CAUSE**

Includes can be nested 5 levels deep. Normal includes are 3 levels deep nested.

**SALVE**

Check your includes.

Check INCLUDE

## 1.143 Linker Limitation

**MESSAGE**

Linker Limitation

**CAUSE**

You can't make calculations with two XREF's

**SALVE**

Check your calculations.

Check XREF , XDEF , GLOBAL , ENTRY and EXTRN

## 1.144 Repeat Overflow

---

MESSAGE  
Repeat Overflow

CAUSE  
REPT can be nested 4 levels deep.

SALVE  
Check REPT .

### 1.145 Not in Repeat Area

MESSAGE  
Not in Repeat Area

CAUSE  
ENDR can only be used in conjunction with REPT.

SALVE  
Check REPT and ENDR .

### 1.146 Double Definition

MESSAGE  
Double Definition

CAUSE  
A register can only be defined once with BASEREG. Or ENDB should be between two BASEREG's for the same register.

SALVE  
Check BASEREG and ENDB .

### 1.147 Relocation made to EMPTY Section

MESSAGE  
Relocation made to EMPTY Section

CAUSE  
You made an reference to an empty SECTION, so you can't write an object (executable) file.

SALVE  
Check your SECTION's .

### 1.148 File Error

---

## MESSAGE

File Error

## CAUSE

Occurs when your file couldn't be loaded or written.

## SALVE

Check your (hard)drive, or the device you are using.

## 1.149 No Files

## MESSAGE

No Files

## CAUSE

When you changed to an empty directory with V, and do V again. ASM-One will have no files to show.

## EXAMPLE

> V empty:

> V

-----  
Name : empty 0 Bytes Free 346624 Bytes Used  
-----

\*\* No Files

>

## SALVE

See The 'V' DLC .

## 1.150 No Object

## MESSAGE

No Object

## CAUSE

Occurs when you didn't assemble something, and tried to write an object (executable) anyway.

## SALVE

See The 'A' DLC .

## 1.151 No File Space

## MESSAGE

No File Space

## CAUSE

Occurs when there is no space to write a file to the selected device.

SALVE

See The 'ZF' DLC and The 'Y' DLC.

## 1.152 Printer Device Missing

MESSAGE

Printer Device Missing

CAUSE

Occurs when (one of) the following files are missing, while you try to print:

- printer.device
- port.handler
- parallel.device
- serial.device (if printer connected to the serial port)

SALVE

Check your Amiga configuration, and the Manual of your Printer or your Amiga about Printers.

## 1.153 Not Done

MESSAGE

Not Done

CAUSE

Occurs whenever an action was canceled.

## 1.154 Illegal Path

MESSAGE

Illegal Path

CAUSE

Occurs when do V to an illegal/non-existing path.

SALVE

See The 'V' DLC and The 'CD' DLC LINK .

## 1.155 Illegal Device

---

**MESSAGE**

Illegal Device

**CAUSE**

Occurs when [drive-number] is higher than 3 or lower than 0.

**SALVE**

See The 'WT' DLC , The 'WS' DLC , The 'RT' DLC and The 'RS' DLC.

## 1.156 Write Protected

**MESSAGE**

Write Protected

**CAUSE**

Occurs when try to write to a write protected device.

**SALVE**

Remove the protection from the device, or those another device.

## 1.157 No Disk in Drive

**MESSAGE**

No Disk in Drive

**CAUSE**

Occurs when try to write to a device which does NOT contain a disk.

**SALVE**

Insert a disk in the selected device.

## 1.158 Illegal Option !!

**MESSAGE**

Illegal Option !!

**CAUSE**

Implemented but not used at the moment.

## 1.159 REM without EREM

**MESSAGE**

REM without EREM

**CAUSE**

A REM block MUST be closed with the EREM directive.

---

SALVE

See REM and EREM .

## 1.160 TEXT without ETEXT

MESSAGE

TEXT without ETEXT

CAUSE

A TEXT block MUST be closed with the ETEXT directive.

SALVE

See TEXT and ETEXT .

## 1.161 Illegal Xn Scale Size

MESSAGE

Illegal Xn Scale Size, only nothing, 1, 2, 4 or 8 allowed

CAUSE

If an addressing mode allows scaling of the index register, the scaling MUST be 0 (or nothing), 2, 4 or 8.

SALVE

Use a valid scaling size.

## 1.162 Field OFFSET Expected: {OFFSET:width}

MESSAGE

Field OFFSET Expected: {OFFSET:width}

CAUSE

Some 68020++ bit functions expect an offset and a width as operand.

EXAMPLE

```
test: BFEXTU D0{1:5},D1
```

SALVE

Provide a correct offset and width.

## 1.163 Missing Brace

**MESSAGE**

Missing Brace

**CAUSE**

Occurs when a brace is missing in the operand

**EXAMPLE**

```
test:  BFEXTU  D0{1:5,D1
```

**SALVE**

Check your operands.

## 1.164 Colon Expected

**MESSAGE**

Colon Expected

**CAUSE**

Occurs when the offset and width are not separated by a colon.

**EXAMPLE**

```
test:  BFEXTU  D0{1515},D1
```

**SALVE**

Check your operands.

## 1.165 Missing Bracket

**MESSAGE**

Missing Bracket

**CAUSE**

Some 68020++ addressing modes use brackets. If one of them is missing, or not at the expected place, you will get this error.

**EXAMPLE**

```
test:  MOVE.L  ([ $45,A0,D4.W*8,$2439),D2
```

**SALVE**

Check your operands.

## 1.166 FPU needed for Operation !!

---

**MESSAGE**

FPU needed for Operation !!

**CAUSE**

To calculate floats (both with the '[' DLC or in your source, you will need a FPU.

**SALVE**

Buy a FPU.  
See The '[' DLC

## 1.167 To Many Watchpoints (maximal 8)

**MESSAGE**

To Many Watchpoints (maximum is 8)

**CAUSE**

The number off Watch Points (in the debugger) is currently limited op to 8.

## 1.168 Illegal Source, not Activated !!

**MESSAGE**

Illegal Source, not Activated !!

**CAUSE**

With the 'AS' DLC you can switch between the 10 sources of ASM-One. The number must be, preferable, between 0 and 9.

Other characters will generate this error

**SALVE**

See The 'AS' DLC .

## 1.169 No Valid Memory Directory Present

**MESSAGE**

No Valid Memory Directory Present

**CAUSE**

If you use the 'V' DLC to examine an illegal directory, and do 'V' again, this error will be shown.

**SALVE**

See The 'V' DLC .

---

### 1.170 Auto Command Overflow (more than 256 characters)

#### MESSAGE

AUTO Command Overflow (more than 256 characters)

#### CAUSE

If you specify more than 256 characters long commands for the AUTO directive, then this error message is generated.

#### SALVE

See AUTO .

### 1.171 End should be Higher than Start !

#### MESSAGE

End should be Higher than Start !

#### CAUSE

When using DLCs which need starting and ending addresses/labels, this error may occur when the start is higher than the end.

There's no negative block possible.

#### SALVE

See The 'C' DLC (for example).

### 1.172 Illegal Source Number

#### MESSAGE

Illegal Source Number

#### CAUSE

With the INCSRC directive you can switch between the 10 sources of ASM-One. The number must be, preferably, between 0 and 9.

Other characters will generate this error

#### SALVE

See INCSRC .

### 1.173 Including Empty Source ?

#### MESSAGE

Including Empty Source ?

#### CAUSE

When the source you wanted to include with the INCSRC directive is empty, you will get this error.

---

SALVE

Include a source with something in it.  
See INCSRC .

## 1.174 Include Source Jam

MESSAGE

Include Source Jam

CAUSE

This error will occur when you try to include the source which is currently active into the source that's currently active with the INCSRC directive.

SALVE

Include another source.  
See INCSRC .

## 1.175 Unknown Conversion Mode: should be RB or RN

MESSAGE

Unknown Conversion Mode: should be RB or RN

CAUSE

This error will occur when you use anything else than RB (RawBlit) or RN (RawNorm) as one of operand of the INCIFR directive.

SALVE

Use RB or RN.  
See INCIFR .

## 1.176 Unknown CMAP Place: should be (B)EFORE,(A)FTER or (N)ONE

MESSAGE

Unknown CMAP Place: should be (B)EFORE, (A)FTER or (N)ONE

CAUSE

This error will occur when you use anything else than B (Before), A (After) or N (None) as one of operand of the INCIFR directive.

SALVE

Use A, B or N.  
See INCIFR .

---

### 1.177 Unknown CMAP Mode: should be AGA or ECS

#### MESSAGE

Unknown CMAP Mode: should be AGA or ECS

#### CAUSE

This error will occur when you use anything else than AGA or ECS as one of operand of the INCIFF directive.

#### SALVE

Use AGA or ECS.  
See INCIFF .

### 1.178 Trying to Include NON IFF File

#### MESSAGE

Trying to Include NON IFF File

#### CAUSE

This error will occur when you try to include a non IFF file with the INCIFF directive.

#### SALVE

Select a valid IFF file.  
See INCIFF .

### 1.179 IFF File is Not a ILBM File

#### MESSAGE

IFF File is Not a ILBM File

#### CAUSE

This error will occur when you try to include an IFF which is not of the ILBM (picture) type with the INCIFF directive.

#### SALVE

Select an ILBM IFF file.  
See INCIFF .

### 1.180 Can't handle a BODY before BMHD Chunk

#### MESSAGE

Can't handle a BODY before BMHD Chunk

#### CAUSE

This error will occur when you try to include an IFF which has its chunk at the wrong place, or is simply missing chunks, with the INCIFF directive.

---

SALVE  
Select an ILBM IFF file.  
See INCIFF .

### 1.181 Illegal Floating Point Size: should be B, W, L, Q, S, D, X or P

MESSAGE  
Illegal Floating Point Size: should be B, W, L, Q, S, D, X or P

CAUSE  
Strange ?

SALVE  
There are no other sizes ???

### 1.182 Illegal Size for Data Register: should be B, W, L or S

MESSAGE  
Illegal Size for Data Register: should be B, W, L or S

CAUSE  
Strange ?

SALVE  
There are no other sizes ???

### 1.183 Bcc.W Out of Range in MACRO

MESSAGE  
Bcc.W Out of Range in MACRO

CAUSE  
Bcc.W's within MACRO's are NOT optimized.

SALVE  
Keep the MACRO within a 16 bit range.  
See MACRO .

### 1.184 Floating Point Register Expected

MESSAGE  
Floating Point Register Expected

CAUSE  
FPU opcodes always expect an FPU register as first  
or second operand AT LEAST..

---

SALVE

Possible are FP0 - FP7, for the rest see the  
Register Names List.

### 1.185 This is not an ASM-One Project File

MESSAGE

This is not an ASM-One Project File

CAUSE

This error will occur when you try to load a NON .Aprj  
file with the 'RE' DLC.

SALVE

See The 'RE' DLC.

### 1.186 Bitfield can't be Out of 32 Bit Range

MESSAGE

Bitfield can't be Out of 32 Bit Range

CAUSE

When specifying the offset and the width of a bitfield with  
immediates, the total of offset+width may not exceed 32.

SALVE

Legal is 0 to 31. If you are unsure, add the offset to the width.  
Remember: a width of ZERO is actually a 32 bit width !!!!

### 1.187 Illegal CMAP Mode Error: expecting 12, 24, CE or CA

MESSAGE

Illegal CMAP Mode Error: expecting 12, 24, CE or CA

CAUSE

This error will occur when you use anything else than 12 (12 Bit),  
24 (24 Bit, CE (ECS Copper) or CA (AGA Copper) as 'mode' in the  
INCIFFP directive.

SALVE

Use 12, 24, CE or CA.  
See INCIFFP .

### 1.188 Illegal Color Offset (Bank) Specified

---

## MESSAGE

Illegal Color Offset (Bank) Specified

## CAUSE

This error will occur when you use the wrong 'offset' with the INCIFFP directive.

## SALVE

See INCIFFP .

## 1.189 IFF Color(s) Out of Range

## MESSAGE

IFF Color(s) Out of Range

## CAUSE

Unknown.

## SALVE

Unknown.

## 1.190 Too Many Errors

## MESSAGE

To Many Errors

## CAUSE

If a source generates more than 100 errors/warnings when assembling, this error will be displayed.

## SALVE

Unselect 'Processor Warn'.

## 1.191 Invalid Function Code: only SFC, DFC, Dn or #<data> Allowed

## MESSAGE

Invalid Function Code: only SFC, DFC, Dn or #<data> Allowed

## CAUSE

If a MMU opcode uses a FC (Function Code) as operand, the FC should be one of the following types:

- SFC (Source Function Code Register)
- DFC (Destination Function Code Register)
- Dn (Data Register)
- #<data> (Immediate)

## SALVE

Check your Programmers Reference Manual.

---

## 1.192 Address Register Indirect Mode Expected, for Return Address Register

### MESSAGE

Address Register Indirect Mode Expected, for Return Address Register

### CAUSE

The PTESTR/W opcode expects another addressing mode for the Return Address on the 68030 than on the 68851.

For the 68030:

PTESTR/W FC,<ea>,#level,An ; DIRECT

For the 68851:

PTESTR/W FC,<ea>,#level,(An) ; INDIRECT

### SALVE

Check your Programmers Reference Manual.

## 1.193 Address Register Direct Mode Expected, for Return Address Register

### MESSAGE

Address Register Direct Mode Expected, for Return Address Register

### CAUSE

The PTESTR/W opcode expects another addressing mode for the Return Address on the 68030 than on the 68851.

For the 68030:

PTESTR/W FC,<ea>,#level,An ; DIRECT

For the 68851:

PTESTR/W FC,<ea>,#level,(An) ; INDIRECT

### SALVE

Check your Programmers Reference Manual.

## 1.194 Level Out of 3 Bit Range

### MESSAGE

Level Out of 3 Bit Range

### CAUSE

The level used in an MMU opcode may NOT exceed the 3 bit range (0 - 7).

### SALVE

---

Check your Programmers Reference Manual.

### 1.195 Mask Out of 3 Bit Range

#### MESSAGE

Mask Out of 3 Bit Range

#### CAUSE

The mask used in an 68030 MMU opcode may NOT exceed the 3 bit range (0 - 7).

#### SALVE

Check your Programmers Reference Manual.

### 1.196 Mask Out of 4 Bit Range

#### MESSAGE

Mask Out of 4 Bit Range

#### CAUSE

The mask used in an 68851 MMU opcode may NOT exceed the 4 bit range (0 - 15).

#### SALVE

Check your Programmers Reference Manual.

### 1.197 Function Code Out of 3 Bit Range

#### MESSAGE

Function Code Out of 3 Bit Range

#### CAUSE

The FC used in an 68030 MMU opcode may NOT exceed the 3 bit range (0 - 7).

#### SALVE

Check your Programmers Reference Manual.

### 1.198 Function Code Out of 4 Bit Range

#### MESSAGE

Function Code Out of 4 Bit Range

#### CAUSE

The FC used in an 68851 MMU opcode may NOT exceed the 4 bit range (0 - 7).

---

SALVE

Check your Programmers Reference Manual.

### 1.199 Insufficient Memory to change Source

MESSAGE

Insufficient Memory to change Source

CAUSE

The 10 loaded sources are kept in memory. This error occurs when there is not enough memory to switch from the current source, to another source.

SALVE

Buy more memory.

### 1.200 MMU Register Expected as 1st Operand

MESSAGE

MMU Register Expected as 1st Operand

CAUSE

You used a NON MMU Register as first operand.

SALVE

Check your Programmers Reference Manual.

### 1.201 MMU Register Expected as 2nd Operand

MESSAGE

MMU Register Expected as 2nd Operand

CAUSE

You used a NON MMU Register as second operand.

SALVE

Check your Programmers Reference Manual.

### 1.202 Invalid MMU Register as 1st Operand: CAL, VAL or SCC Expected

MESSAGE

Invalid MMU Register as 1st Operand: CAL, VAL or SCC Expected

CAUSE

PMOVE.B does only allow CAL, VAL or SCC as 1st operand.

SALVE

Check your Programmer's Reference Manual.

---

### 1.203 Invalid MMU Register as 2nd Operand: CAL, VAL or SCC Expected

MESSAGE

Invalid MMU Register as 2nd Operand: CAL, VAL or SCC Expected

CAUSE

POVE.B does only allow CAL, VAL or SCC as 2nd operand.

SALVE

Check your Programmer's Reference Manual.

### 1.204 Missing START address or Label !!

MESSAGE

Missing START address or Label !!

CAUSE

The RB DLC does expect a STARTing address.

SALVE

Give a STARTing address

### 1.205 Incorrect Index Register Specified. Only An, Dn or SP allowed

MESSAGE

Incorrect Index Register Specified. Only An, Dn or SP allowed

CAUSE

See MESSAGE

SALVE

Use the An, Dn or the SP..

### 1.206 PC/ZPC can't be used as Index Register. Only An, Dn or SP allowed

MESSAGE

PC/ZPC can't be used as Index Register. Only An, Dn or SP allowed

CAUSE

See MESSAGE

SALVE

Use the An, Dn or the SP...

### 1.207 We haven't come up with a nice text for this error Error !!!!

**MESSAGE**

We haven't come up with a nice text for this error Error !!!!

**CAUSE**

An error that we haven't figured out what actually happens yet.

**SALVE**

Wait for a next release of ASM-One

## 1.208 The use of ZPC is not allowed in this addressing mode !!

**MESSAGE**

The use of ZPC is not allowed in this addressing mode !!

**CAUSE**

You used the ZPC in a mode that doesn't allow that

**SALVE**

Well, I can't think of an addressing mode at the moment, to be honest B-)

## 1.209 Field Width Expected: {offset:WIDTH}

**MESSAGE**

Field Width Expected: {offset:WIDTH}

**CAUSE**

You didn't specify a WIDTH.

**SALVE**

Check your Programmer's Reference Manual

## 1.210 Field Width can't be ZERO

**MESSAGE**

Field Width can't be ZERO

**CAUSE**

If you used an immediate operand to specify the width, only numbers from 1 to 31 are allowed.

**SALVE**

Not used at the moment...

## 1.211 Warnings

---

## ASM-One: Warnings

-----

ASM-One knows some warnings, which are genarly generated while assembling a source.

ASM-One will not stop assembling when it generates a warning.

Here's the list of known warnings:

```
>> Warning << Value Signed Extended to Longword
>> Warning << 68010++ Command Used
>> Warning << 68020++ Command Used
>> Warning << 68030++ Command Used
>> Warning << 68040++ Command Used
>> Warning << 68010 Specific Command Used
>> Warning << 68020 Specific Command Used
>> Warning << 68030 Specific Command Used
>> Warning << 68040 Specific Command Used
>> Warning << 68060 Specific Command Used
>> Warning << 68020/030/040 Specfici Command Used
>> Warning << 68020/030 Specific Command Used
>> Warning << MOVEP not supported by the 68060
>> Warning << 68030/68851 Command Used
>> Warning << 68051 Command Used
>> Warning << 68881/68882 Command Used
>> Warning << PFLUSHA Assembled with 68030/68851
>> Warning << PFLUSHA Assembled with 68040
```

### 1.212 >> Warning <<, Value Signed Extended to Longword

#### MESSAGE

```
>> Warning <<, Value Signed Extended to Longword
```

#### CAUSE

Implemented but not used at the moment.

### 1.213 >> Warning << 68010++ Command Used

#### MESSAGE

```
>> Warning << 68010++ Command Used
```

#### CAUSE

You used an 68010++ command, which could crash an 68000 CPU.

#### SALVE

Check your Programmers Reference Manual.

---

### 1.214 >> Warning << 68020++ Command Used

MESSAGE

>> Warning << 68020++ Command Used

CAUSE

You used an 68020++ command, which could crash an 68010 or lower CPU.

SALVE

Check your Programmers Reference Manual.

### 1.215 >> Warning << 68030++ Command Used

MESSAGE

>> Warning << 68030++ Command Used

CAUSE

You used an 68030++ command, which could crash an 68020 or lower CPU.

SALVE

Check your Programmers Reference Manual.

### 1.216 >> Warning << 68040++ Command Used

MESSAGE

>> Warning << 68040++ Command Used

CAUSE

You used an 68040++ command, which could crash an 68030 or lower CPU.

SALVE

Check your Programmers Reference Manual.

### 1.217 >> Warning << 68010 Specific Command Used

MESSAGE

>> Warning << 68010 Specific Command Used

CAUSE

You used an 68010 specific command, which could crash other 680x0 CPU's.

SALVE

Check your Programmers Reference Manual.

---

### 1.218 >> Warning << 68020 Specific Command Used

MESSAGE

>> Warning << 68020 Specific Command Used

CAUSE

You used an 68020 specific command, which could crash other 680x0 CPU's.

SALVE

Check your Programmers Reference Manual.

### 1.219 >> Warning << 68030 Specific Command Used

MESSAGE

>> Warning << 68030 Specific Command Used

CAUSE

You used an 68030 specific command, which could crash other 680x0 CPU's.

SALVE

Check your Programmers Reference Manual.

### 1.220 >> Warning << 68040 Specific Command Used

MESSAGE

>> Warning << 68040 Specific Command Used

CAUSE

You used an 68040 specific command, which could crash other 680x0 CPU's.

SALVE

Check your Programmers Reference Manual.

### 1.221 >> Warning << 68060 Specific Command Used

MESSAGE

>> Warning << 68060 Specific Command Used

CAUSE

You used an 68060 specific command, which could crash other 680x0 CPU's.

SALVE

Check your Programmers Reference Manual.

---

### 1.222 >> Warning << 68020/030/040 Specific Command Used

#### MESSAGE

>> Warning << 68020/030/040 Specific Command Used

#### CAUSE

When using MOVEC, the following registers are NOT supported by the 68060, or CPU's lower than the 68020:

CAAR  
MSP  
ISP  
MMUSR

#### SALVE

Check your Programmers Reference Manual.

### 1.223 Warning << 68020/030 Specific Command Used

#### MESSAGE

Warning << 68020/030 Specific Command Used

#### CAUSE

When using MOVEC, the CAAR is only allowed on the 68020 and 68030.

#### SALVE

Check your Programmers Reference Manual.

### 1.224 >> Warning << MOVEP not supported by the 68060

#### MESSAGE

>> Warning << MOVEP not supported by the 68060"

#### CAUSE

The MOVEP opcode is NOT supported by the 68060, and will therefore generate an Illegal Instruction Trap if executed on the 68060.

#### SALVE

MOVEP will be assembled according to the 68010/20/30/40.  
Check your Programmers Reference Manual.

### 1.225 >> Warning << 68030/68851 Command Used

#### MESSAGE

>> Warning << 68030/68851 Command Used

#### CAUSE

You used an 68030/68851 command, which could crash

---

other 68k MMU's.

SALVE

Check your Programmers Reference Manual.

## **1.226 >> Warning << 68851 Command Used**

MESSAGE

>> Warning << 68851 Command Used

CAUSE

You used an 68851 command, which could crash  
other 68k MMU's.

SALVE

Check your Programmers Reference Manual.

## **1.227 >> Warning << 68881/68882 Command Used**

MESSAGE

>> Warning << 68881/68882 Command Used

CAUSE

You used an 68881/68882 command, which could crash  
other 68k FPU's.

SALVE

Check your Programmers Reference Manual.

## **1.228 >> Warning << PFLUSHA Assembled with 68030/68851**

MESSAGE

>> Warning << PFLUSHA Assembled with 68030/68851

CAUSE

PFLUSHA is assembled according to the 68030/68851  
specifications.

SALVE

Check your Programmers Reference Manual.

## **1.229 >> Warning << PFLUSHA Assembled with 68040**

MESSAGE

>> Warning << PFLUSHA Assembled with 68040

CAUSE

---

PFLUSHA is assembled according to 68040/68060 specifications.

SALVE

Check your Programmers Reference Manual.

## 1.230 Register Names & Private Symbols

### Register Names & Private Symbols

-----

Some Names are used by ASM-One itself, and may NOT be used by the programmers.

Using those symbols will generally generate the following error:

Reserved Word

Most registers are only valid on certain processors. Check the Valid Register Tabel on which processor registers are valid.

Register Names:

An - Address Register (n stands for a number from 0 to 7)  
 Dn - Data Register (n stands for a number from 0 to 7)  
 FPn - FPU Register (n stands for a number from 0 to 7)  
 BADn - MMU Register (n stands for a number from 0 to 7)  
 BACn - MMU Register (n stands for a number from 0 to 7)  
 SR - Status Register  
 CCR - Condition Code Register  
 USP - User Stack Pointer  
 SFC - Source Function Code Register  
 DFC - Destination Function Code Register  
 CACR - Cache Control Register  
 CAAR - Cache Address Register  
 TC - Translation Control Register  
 ITT0 - Instruction Transparant Translation Register 0  
 ITT1 - Instruction Transparant Translation Register 1  
 IACR0 - Instruction Access Control Register 0  
 IACR1 - Instruction Access Control Register 1  
 DTT0 - Data Transparant Translaton Register 0  
 DTT1 - Data Transparant Translation Register 1  
 DACR0 - Data Access Control Register 0  
 DACR1 - Data Access Control Register 1  
 FPIAR - Floating-Point Instruction Address Register  
 FPSR - Floating-Point Status Register  
 FPCR - Floating-Point Control Register  
 VBR - Vector Base Register  
 MSP - Master Stack Pointer Register  
 ISP - Interrupt Stack Pointer Register  
 URP - User Root Pointer Register  
 SRP - Supervisor Root Pointer Register  
 DRP - DMA Root Pointer Register  
 CRP - CPU Root Pointer Register  
 CAL - Current Access Level Register



TT1					x					
CRP					x				x	
BADn									x	
BACn									x	
DRP									x	
CAL									x	
VAL									x	
SCC									x	
AC									x	
PSR									x	
PCSR									x	
AC0										68EC030
AC1										68EC030
ACUSR										68EC030
IACR0										68EC040
IACR1										68EC040
DACR0										68EC040
DACR1										68EC040

Note: ASM-One doesn't support the LC and EC versions of the 68030, 68040 and the 68060.

## 1.232 ASM-One.Pref File

ASM-One.Pref File

-----

The ASM-One.Pref file holds all the preferences that can be set and saved.

Sometimes it's handy to know WHAT it all means, so you can change preferences without starting ASM-One (or maybe you changed something so you can't start ASM-One anymore B-)

ASM-One also has some default preferences build-in. These are the preferences I (Boushh) use myself. They are ONLY used when no ASM-One.Pref file was found (it should be located in the ENVARC: directory).

Once you made a comfortable ASM-One.Pref file, make a copy ! It may come in handy..

Here are the possible codes that could be in your ASM-One.Pref file: (a PLUS sign means: Active, a MINUS sign means: INActive).

RS

--

Rescue Source - Believe it or not, but with this on ASM-One will try to save your source, so you can retrieve it using the O DLC.

L7

--

Level 7 - Will start ASM-One's own Level 7 code. A level 7 interrupt can only be activated by adding external/extra hardware to your Amiga (like the Action Replay Cartridge).

NL

--

NumLock - If ON, the keypad will function like cursor keys:

7 - Top    8 - Up    9 - Page Up  
4 - Left   5 - Center 6 - Right  
1 - Bottom 2 - Down   3 - Page Down

AA

--

AutoAlloc - if ON. ASM-One will locate the CORRECT memory for your section. If OFF: your sections will be placed where there is room in memory. It's a good thing to set this option ON, specially when you work with ChipMem.

RL

--

ReqTools - If ON, ASM-One will use the ReqTools.library for all it's requesters. If OFF, you will save some 8 Kb of memory.

XR

--

Extended ReqTools - If ON, also the search/replace functions will have requesters (instead of being in the menubar).

PD

--

Printer Dump - This option will activate the dumping of text to the printer. This includes the DLC's.

LF

--

List File - If ON, will list the complete file, with line numbers, addresses, the assembled code, the source as comment and a list of all used symbols.

PG

--

Paging - If ON, will start a new page after the previous one was full.

HP

--

Halt Page - If ON, will stop after the screen has been filled with data

---

(in combination with Paging).

AE

--

All Errors - If ON, will assemble, regardless of the errors found. ASM-One will keep the location of 100 errors/warnings, after assembly you can reach the with Amiga+e.

DB

--

Debug - If ON, could spare time when debugging. Because ASM-One will NOT reassemble the source if nothing was changed.

IL

--

InterLaced - If ON, will activate InterLace (not fully functional anymore in R399e, will be skipped in later releases).

1B

--

One Bitplane - If ON, will start ASM-One with only ONE bitplane, to save memory (partly functional in R399e, will be skipped in the next release).

.S

--

Source .S - If ON, will use the specified source-extension when writing source.

CW

--

Close WorkBench - If ON, ASm-One will try to close the WorkBench to save memory.

LN

--

Line Numbers - If ON, shows line numbers.

AI

--

Auto Indent - If ON, will set the tabs for you.

L:

--

Label : - If ON, ALL labels have to be ending with a colon.

DA

--

---

DisAssemble - If ON, will show the next line you want to debug, disassembled in the debugger.

SS  
--

ShowSource - If ON, will change the debugger in a SourceLevel Debugger. If OFF, the actual assembled code will be shown in the debugger, instead of the Source.

OA  
--

Only ASCII - If ON, will skip unreadable characters when viewing memory in ASCII.

UL  
--

UpperCase = LowerCase - If ON, ASM-One will make no difference between Upper- and LowerCase. Should be OFF when using the Official Amiga includes !!!!

;C  
--

;Comment - If ON, comments HAVE to be preceded by a semi-colon.

PI  
--

Progress Indicator - If ON, will show how much ASM-One has assembled of your source.

PL  
--

Progress Line - If ON, ASM-One will show which line is assembled.

PS  
--

Startup Parameters - If ON, will allow you to debug sources like if they were executed from the CLI with parameters. Use the PS DLC to set the parameters.

RR  
--

Resident Registers - If ON, will make the REGSDATA file resident in memory if called upon the first time. If OFF, the REGSDATA file will be closed after each action (see the =R DLC).

AU  
--

---

Update Check - If ON, ASM-One will only update sources that have been changed. If OFF, ASM-One will ALWAYS update the source.

SM

--

Save Marks - If ON, will save the 10 marks you can make in the source. If this is on, and you want to save a source without marks, use the WN DLC.

FW/PW

--

Processor Warn - If ON, Processor warns will not be displayed.

FP

--

FPU Present - If ON, makes ASM-One believe you have a real FPU in your Amiga (so ASM-One will skip FPU specific warnings and errors).

OD

--

68020++ Odd Data - If ON, ASM-One will NOT give any errors if data (and ONLY data) is at an odd address.

DC

--

DS Clear - If ON, ASM-One will clear BSS sections for you automatically. But remember, the Amiga will NOT clear BSS sections for you if you start your program outside ASM-One.

UD

--

CTRL Up/Down - If ON, using the CTRL key in combination with the cursor keys, change their function:

CTRL Up/Down OFF    CTRL Up/Down ON

Up    One line Up    To the Beginning of the source  
Down   One line Down    To the Bottom of the source

EP

--

Enable/Permit - If ON, ASM-One will call Enable/Permit before executing a program within ASM-One

LD

--

Libcalls dec - If ON, will show library calls in decimal instead of hexadecimal numbers.

---

KX

--

Keep X - If ON, ASM-One will try to keep the cursor in the same colom when going to another line.

MP

--

68851 Present - If ON, ASM-One will belive you actualy have an 68851 (MMU) on board.

SO

--

Safety - If ON, there will be NO default option when a requester pops up (normaly RETURN will activate the default option).

RD

--

Realtime Deb - Unkown

WF

--

WorkBench to Front - If ON, will bring the WorkBench to front when you execute a program.

!.xxx

-----

Source Extension: If you use .S, then this is the place to specify which extension should be used. The 'xxx' should be the 3 letter extension.

\*xxxxxxxx

-----

Default Directory - If specified, ASM-One will change to this directory on startup. The 'xxxxxx' should be the directory to change too.

|x1x|x2x|x3x|x4x|

-----

Colors - These are the colors used by ASM-One:

1)

2)

3)

4)

[CPUx

-----

---

Chooosen CPU - States the CPU you have choosen in your prefs:

```
0 = 68000
1 = 68010
2 = 68020
3 = 68030
4 = 68040
5 = 68060
```

[MMUx

-----

Unknown

```
^xxxxxxx|xxxxxxx|xxxxxxx|
-----
```

Selected Screen Mode - First the ScreenMode ID, then the screen heighth, and then the screen width. All in hexadecimal.

```
\<text>
-----
```

BootUp string - A string (command(s)) ASM-One will execute at startup.

```
&xxx.font
-----
```

Default Font - Specifies the selected font for ASM-One.

And that where ALL options currently available.  
These options can change in the feature. We don't guarentee that an option will be available in the next version of ASM-One

## 1.233 M68000 Family Instruction Set

M68000 Family Instruction Set

-----

Here is a quick overview of all known instructions.

		68000		68010		68020		68030		68040		68060		68881		68851		68882		
	-----	+	-----	+	-----	+	-----	+	-----	+	-----	+	-----	+	-----	+	-----	+	-----	+
ABCD		x		x		x		x		x		x		x						
ADD		x		x		x		x		x		x		x						
ADDA		x		x		x		x		x		x		x						
ADDI		x		x		x		x		x		x		x						
ADDQ		x		x		x		x		x		x		x						
ADDX		x		x		x		x		x		x		x						
AND		x		x		x		x		x		x		x						

ANDI		x		x		x		x		x					
ANDI to CCR		x		x		x		x		x					
ANDI to SR\$^1\$		x		x		x		x		x					
ASL, ASR		x		x		x		x		x					
Bcc		x		x		x		x		x					
BCHG		x		x		x		x		x					
BCLR		x		x		x		x		x					
BFCHG						x		x		x					
BFCLR						x		x		x					
BFEXTS						x		x		x					
BFEXTU						x		x		x					
BFFFO						x		x		x					
BFINS						x		x		x					
BFSET						x		x		x					
BGND															
BKPT				x		x		x		x					
BRA		x		x		x		x		x					
BSET		x		x		x		x		x					
BSR		x		x		x		x		x					
BTST		x		x		x		x		x					
CALLM						x									
CAS, CAS2						x		x		x, 3					
CHK		x		x		x		x		x					
CHK2						x		x		3					
CINV\$^1\$								x		x					
CLR		x		x		x		x		x					
CMP		x		x		x		x		x					
CMPA		x		x		x		x		x					

## 1.234 M68000 Family Instruction Set

		68000		68010		68020		68030		68040		68060		68851		68881		68882	
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----																			
CMPI		x		x		x		x		x		x							
CMPM		x		x		x		x		x		x							
CMP2						x		x		x		3							
cpBcc						x		x											
cpDBcc						x		x											
cpGEN						x		x											
cpRESTORE\$^1\$						x		x											
cpSAVE\$^1\$						x		x											
cpScc						x		x											
cpTRAPcc						x		x											
CPUSH\$^1\$										x		x							
DBcc		x		x		x		x		x		x							
DIVS		x		x		x		x		x		x, 3							
DIVSL		x		x		x		x		x		x							
DIVU		x		x		x		x		x		x, 3							
DIVUL		x		x		x		x		x		x							
EOR		x		x		x		x		x		x							
EORI		x		x		x		x		x		x							
EORI to CCR		x		x		x		x		x		x							
EORI to SR\$^1\$		x		x		x		x		x		x							
EXG		x		x		x		x		x		x							

EXT	x	x	x	x	x	x		
EXTB			x	x	x	x		
FABS					x,2	x,2	x	
FSABS, FDABS					x,2	x,2		
FACOS					2,3	2,3	x	
FADD					x,2	x,2	x	
FSADD, FDADD					x,2	x,2		
FASIN					2,3	2,3	x	
FATAN					2,3	2,3	x	
FATANH					2,3	2,3	x	
FBcc					x,2	x,2	x	
FCMP					x,2	x,2	x	
FCOS					2,3	2,3	x	
FCOSH					2,3	2,3	x	
FDBcc					x,2	x,2	x	
FDIV					x,2	x,2	x	
FSDIV, FDDIV					x,2	x,2		
FETOX					2,3	2,3	x	
FETOXM1					2,3	2,3	x	

## 1.235 M68000 Family Instruction Set

	68000	68010	68020	68030	68040	68060	68851	68881	68882
FGETEXP						2,3	2,3	x	
FGETMAN						2,3	2,3	x	
FINT						2,3	x,2	x	
FINTRZ						2,3	x,2	x	
FLOG10						2,3	2,3	x	
FLOG2						2,3	2,3	x	
FLOGN						2,3	2,3	x	
FLOGNP						2,3	2,3	x	
FMOD						2,3	2,3	x	
FMOVE						x,2	x,2	x	
FSMOVE						x,2	x,2		
FDMOVE						x,2	x,2		
FMOVECR						2,3	2,3	x	
FMOVEM						x,2	x,2,3	x	
FMUL						x,2	x,2	x	
FSMUL, FDMUL						x,2	x,2		
FNEG						x,2	x,2	x	
FSNEG, FDNEG						x,2	x,2		
FNOP						x,2	x,2	x	
FREM						2,3	2,3	x	
FRESTORE\$^1\$						x,2	x,2	x	
FSAVE\$^1\$						x,2	x,2	x	
FSCALE						2,3	2,3	x	
FScc						x,2	2,3	x	
FSGLDIV						2,3	2,3	x	
FSGLMUL						2,3	2,3	x	
FSIN						2,3	2,3	x	
FSINCOS						2,3	2,3	x	
FSINH						2,3	2,3	x	
FSQRT						x,2	x,2	x	

FSSQRT						x,2		x,2				
FDSQRT						x,2		x,2				
FSUB						x,2		x,2			x	
FSSUB, FDSUB						x,2		x,2				
FTAN						2,3		2,3			x	
FTANH						2,3		2,3			x	
FTENTOX						2,3		2,3			x	
FTRAPcc						2,3		2,3			x	
FTST						x,2		x,2			x	
FTWOTOX						2,3		2,3			x	

## 1.236 M68000 Family Instruction Set

		68000		68010		68020		68030		68040		68060		68851		68881		68882	
ILLEGAL		x		x		x		x		x		x		x					
JMP		x		x		x		x		x		x		x					
JSR		x		x		x		x		x		x		x					
LEA		x		x		x		x		x		x		x					
LINK		x		x		x		x		x		x		x					
LPSTOP														x					
LSL, LSR		x		x		x		x		x		x		x					
MOVE		x		x		x		x		x		x		x					
MOVEA		x		x		x		x		x		x		x					
MOVE from CCR				x		x		x		x		x		x					
MOVE to CCR		x		x		x		x		x		x		x					
MOVE from SR\$^1\$		4		x		x		x		x		x		x					↵
MOVE to SR\$^1\$		x		x		x		x		x		x		x					↵
MOVE USP\$^1\$		x		x		x		x		x		x		x					↵
MOVE16										x		x		x					
MOVEC\$^1\$				x		x		x		x		x		x					↵
MOVEM		x		x		x		x		x		x		x					
MOVEP		x		x		x		x		x									
MOVEQ		x		x		x		x		x		x		x					
MOVES\$^1\$				x		x		x		x		x		x					↵
MULS		x		x		x		x		x		x,3							
MULU		x		x		x		x		x		x,3							
NBCD		x		x		x		x		x		x							
NEG		x		x		x		x		x		x							
NEGX		x		x		x		x		x		x							
NOP		x		x		x		x		x		x							
NOT		x		x		x		x		x		x							
OR		x		x		x		x		x		x							
ORI		x		x		x		x		x		x							
ORI to CCR		x		x		x		x		x		x							
ORI to SR\$^1\$		x		x		x		x		x		x		x					↵
PACK						x		x		x		x							





## 1.239 M68000 Family Mnemonic Description

Mnemonic	Description
Bcc	Branch Conditionally
BCHG	Test Bit and Change
BCLR	Test Bit and Clear
BFCHG	Test Bit Field and Change
BFCLR	Test Bit Fields and Clear
BFEXTS	Signed Bit Field Extract
BFEXTU	Unsigned Bit Field Extract
BFFFO	Bit Field Find First One
BFINS	Bit Field Insert
BFSET	Test Bit Field and Set
BFTEST	Test Bit Field
BGND	Enter Background Mode
BKPT	Breakpoint
BRA	Branch
BSET	Test Bit and Set
BSR	Branch to Subroutine
BTST	Test Bit
CALLM	CALL Module
CAS	Compare and Swap Operands
CAS2	Compare and Swap Dual Operands
CHK	Check Register Against Bound
CHK2	Check Register Against Upper and Lower Bounds
CINV	Invalidate Cache Entries
CLR	Clear
CMP	Compare
CMPA	Compare Address
CMPI	Compare Immediate
CMPPM	Compare Memory to Memory
CMP2	Compare Register Against Upper and Lower Bounds
cpBcc	Branch on Coprocessor Condition
cpDBcc	Test Coprocessor Condition Decrement and Branch
cpGEN	Coprocessor General Function
cpRESTORE	Coprocessor Restore Function
cpSAVE	Coprocessor Save Function
cpScc	Set on Coprocessor Condition
cpTRAPcc	Trap on Coprocessor Condition
DBcc	Test Condition, Decrement and Branch
DIVS, DIVSL	Signed Divide
DIVU, DIVUL	Unsigned Divide

## 1.240 M68000 Family Mnemonic Description

Mnemonic	Description
-----+-----	
EOR	Logical Exclusive-OR
EORI	Logical Exclusive-OR Immediate
EORI to CCR	Exclusive-OR Immediate to Condition Code Register
EORI to SR	Exclusive-OR to Status Register
EXG	Exchange Registers
EXT, EXTB	Sign Extend
-----+-----	
FABS	Floating-Point Absolute Value
FSABS, FDABS	Floating-Point Absolute Value (Single/Double Precision)
FACOS	Floating-Point Arc Cosine
FADD	Floating-Point Add
FSADD, FDADD	Floating-Point Add (Single/Double Precision)
FASIN	Floating-Point Arc Sine
FATAN	Floating-Point Arc Tangent
FATANH	Floating-Point Hyperbolic Arc Tangent
FBcc	Floating-Point Branch
FCMP	Floating-Point Compare
FCOS	Floating-Point Cosine
FCOSH	Floating-Point Hyperbolic Cosine
FBDcc	Floating-Point Decrement and Branch
FDIV	Floating-Point Divide
FSDIV, FDDIV	Floating-Point Divide (Single/Double Precision)
FETOX	Floating-Point $e^{\$}$
FETOXM1	Floating-Point $e^{\$} \times -1$
FGETEXP	Floating-Point Get Exponent
FGETMAN	Floating-Point Get Mantissa
FINT	Floating-Point Integer Part
FINTRZ	Floating-Point Integer Part, Round-to-Zero
FLOG10	Floating-Point Log10
FLOG2	Floating-Point $\log^2$
FLOGN	Floating-Point Loge
FLOGNP1	Floating-Point $\log(e^{\$} + 1)$
FMOD	Floating-Point Modulo Remainder
FMOVE	Move Floating-Point Register
FSMOVE, FDMOVE	Move Floating-Point Register (Single/Double Precision)
FMOVECR	Move Constant ROM
FMOVEM	Move Multiple Floating-Point Registers
FMUL	Floating-Point Multiply
FSMUL, FDMUL	Floating-Point Multiply (Single/Double Precision)
FNEG	Floating-Point Negate
FSNEG, FDNEG	Floating-Point Negate (Single/Double Precision)

## 1.241 M68000 Family Mnemonic Description

Mnemonic	Description
-----+-----	
FNOP	Floating-Point No-Operation
FREM	IEEE Remainder
FRESTORE	Restore Floating-Point Internal State
FSAVE	Save Floating-Point Internal State
FSCALE	Floating-Point Scale Exponent
FScc	Floating-Point Set According to Condition

FSGLDIV	Single-Precision Divide
FGLMUL	Single Precision Multiply
FSIN	Sine
FSINCOS	Simultaneous Sine and Cosine
FSINH	Hyperbolic Sine
FSQRT	Floating-Point Square Root
FSSQRT, FDSQRT	Floating-Point Square Root (Single/Double Precision)
FSUB	Floating-Point Subtract
FSSUB, FDSUB	Floating-Point Subtract (Single/Double Precision)
FTAN	Tangent
FTANH	Hyperbolic Tangent
FTENTOX	Floating-Point 10 <sup>x</sup>
FTRAPcc	Floating-Point Trap on Condition
FTST	Floating-Point Test
FTWOTOX	Floating-Point 2 <sup>x</sup>
-----+-----	
ILLEGAL	Take Illegal Instruction Trap
-----+-----	
JMP	Jump
JSR	Jump to Subroutine
-----+-----	
LEA	Load Effective Address
LINK	Link and Allocate
LPSTOP	Low-Power Stop
LSL, LSR	Logical Shift Left and Right
-----+-----	
MOVE	Move
MOVEA	Move Address
MOVE from CCR	Move from Condition Code Register
MOVE from SR	Move from Status Register
MOVE to CCR	Move to Condition Code Register
MOVE to SR	Move to Status Register
MOVE USP	Move User Stack Pointer
MOVE16	16-Byte Block Move
MOVEC	Move Control Register

## 1.242 M68000 Family Mnemonic Description

Mnemonic	Description
-----+-----	
MOVEM	Move Multiple Registers
MOVEP	Move Peripheral
MOVEQ	Move Quick
MOVES	Move Alternate Address Space
MULS	Sign Multiply
MULU	Unsigned Multiply
-----+-----	
NBCD	Negate Decimal with Extend
NEG	Negate
NEGX	Negate with Extend
NOP	No Operation
NOT	Logical Complement
-----+-----	
OR	Logical Inclusive-OR
ORI	Logical Inclusive-OR Immediate

ORI to CCR | Inclusive-OR Immediate to Condition Code Register  
 ORI to SR | Inclusive-OR Immediate to Status Register

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PACK	Pack BCD
PBcc	Branch on PMMU Condition
PDBcc	Test, Decrement and Branch on PMMU Condition
PEA	Push Effective Address
PFLUSH	Flush Entry(ies) in the ATCs
PFLUSHA	Flush Entry(ies) in the ATCs
PFLUSHR	Flush Entry(ies) in the ATCs and RPT Entries
PFLUSHS	Flush Entry(ies) in the ATCs
PLOAD	Load an Entry into ATC
PLPA	Load Physical Address
PMOVE	Move PMMU Register
PRESTORE	PMMU Restore Function
PSAVE	PMMU Save Function
PScc	Set on PMMU Condition
PTEST	Test a Logical Address
PTRAPcc	Trap on MMU Condition
PVALID	Validate a Pointer

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RESET	Reset External Devices
ROL, ROR	Rotate Left and Right
ROXL, ROXR	Rotate with Extend Left and Right
RTD	Return and Deallocate
RTE	Return from Exception

## 1.243 M68000 Family Mnemonic Description

Mnemonic	Description
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RTM	Return from Module
RTR	Return and Restore
RTS	Return from Subroutine

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SBCD	Subtract Decimal with Extend
Scc	Set Conditionally
STOP	Stop
SUB	Subtract
SUBA	Subtract Address
SUBI	Subtract Immediate
SUBQ	Subtract Quick
SUBX	Subtract with Extend
SWAP	Swap Register Words

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TAS	Test Operand and Set
TBLS, TBLSN	Signed Table Lookup with Interpolate
TBLU, TBLUN	Unsigned Table Lookup with Interpolate
TRAP	Trap
TRAPcc	Trap Conditionally
TRAPV	Trap on Overflow
TST	Test Operand

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UNLK	Unlink
UNPK	Unpack BCD

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## 1.244 Contacting the Author

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Remco Weg (aka Boushh of TFA) likes you to contact him by E-Mail:

remco.weg@endemol.nl

## 1.245 Thanks to....

Thanks to...

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I like to thank:

- Rune Gram-Madsen, for the most excelent ASM-One V1.01
- Price, for developing ASM-One for the last 6 years
- All those people who use ASM-One (you keep me going B-)
- Amiga Inc., for developing one of the (if not THE) greatest computers of all time ↔

My taglines:

- Keep supporting the Amiga.
- TFA, Artists with an Attitude