

Commodore Assembler

RAM layout after loading utilities

Utility Name	Location (decimal)	Location (Hexadecimal)	Bytes
Editor64	49152-50761	\$C000-\$C649	1609
Screen Dump Work Area	50762-51762	\$C64A-\$CA32	1000
GetScrn	51763-51829	\$CA33-CA75	66
FREE	51830-52223	\$CA76-CBFF	393
Dos Wedge	52224-53080	\$CC00-\$CF58	856
FREE	53081-53087	\$CF59-\$CF5F	8
Util3 Append	53088-53099	\$CF60-\$CF6B	11
Link	53100-53109	\$CF6C-\$CF75	9
Blkscrn	53110-53119	\$CF76-\$CF7F	9
Scrndump	53120-53186	\$CF80-\$CFC2	66
FREE	53187-53247	\$CFC3-\$CFFF	60
Hiload64 (Overlaps with scrndump area!)	51200-51762	\$C800-\$CA22	562
Monitor\$8000	32768	\$8000	
Monitor\$C000 (Overlaps with Editor64!)	49152	\$C000	

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Monitor\$8000 Monitor\$C000

LOAD MONITOR\$8000",8,1
SYS32768

LOAD MONITOR\$C000",8,1
SYS49152

.A .A C000 20 44 E5
 .A C000 JSR \$E544

Enter Assembly Code

.S .S Program name ,08,C000,C004

Save ML to file named Program name
starting at memory location \$C000 and
ending at \$C004 (this saves a program 3
bytes long + 1)

.G .G C000

Run ML program starting at \$C000

.D .D C000 C003

Disassemble code locations C000-C003

.L .L ProgName ,08

Load a program

.M .M C000 COFF

Memory dump (view C000-COFF)

.R .R

Register display

.X .X

Exit monitor (should reset computer)

.C .C

Compare two areas of memory

.F .F 0400 0518 EA

Fill memory locations 0400-0518 with a
value (here it is EA).

.I .I C000 COFF

Display memory locations in ASCII format.

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Editor64

LOAD EDITOR64",8,1

SYS 49152

Command	Example	Description
Auto	Auto 10	Automatic line numbering (here by 10)
Format		Organize screen output
Number	Number x,x,x	Renumber line numbers - Old #, New start #, increment.
Put	Put filename	Save to drive #8
Cput	Cput filename	Compact save
Change	Change/JSR/SMP	Changes all JSR to JMP - changes x\$ to y\$
Delete	Delete 100-200	Delete line numbers within range (here, lines 100-200).
Find	Find RTS	Find a string (here, look for RTS).
;	; comment	; is just like REM in BASIC.
*=	*=\$C000	Starting point for a program (here-\$C000),
.End	.END	Place at the end of code (this is the last line).
Get	Get filename	Load FILENAME from drive #8.
Kill	KILL	Exit the editor to BASIC (Disengage Editor).
List	List	List line numbers (works just like BASIC).

C-64 / C-64c

Screen Locations

SCREEN STORAGE

COLOR STORAGE

<u>Decimal</u>	<u>Hex\$</u>	<u>Line #</u>	<u>Hex\$</u>	<u>Decimal</u>
1024	400	1	D800	55296
1064	428	2	D828	55336
1104	450	3	D878	55416
1144	478	4	D8A0	55456
1184	4A0	5	D8C8	55496
1224	4C8	6	D8F0	55536
1264	4F0	7	D918	55576
1304	518	8	D940	55616
1344	540	9	D968	55656
1384	540	10	D990	55696
1424	590	11	D9B8	55736
1464	5B8	12	D9E0	55776
1504	5E0	13	DA08	55816
1544	608	14	DA30	55856
1584	630	15	DA58	55896
1624	658	16	DA80	55936
1664	680	17	DAA8	55976
1704	6A8	18	DADO	56016
1744	6D0	19	DAF8	56056
1784	6F8	20	DB20	56096
1824	720	21	DB48	56136
1864	748	22	DB70	56176
1904	770	23	DB98	56216
1944	798	24	DBC0	56256
1984	7C0	25	DBE8	56296

Available RAM for ML programming (Commodore 64/64c)

Location		Description	#of bytes
Dec.	Hex\$		
0-143	0-8F	> ZERO PAGE < This area is available IF BASIC is NOT being used.	144
2	2	> ZERO PAGE <	1
251-254	FB-FE	> ZERO PAGE <	4
552-600	250-258	This area not normally used Free	8
679-767	2A7-2FF		88
787	313		1
820-1023	334-3FF	828-1019 is the cassette buffer	203
2048-40959	B00-9FFF	BASIC storage area available if NOT using BASIC.	38911
49152-53247	C000-CFFF	Popular ML working area.	4000
32768-36863	8000-8FFF	Autostart ROM cartridge	4095
36864-40959	9000-9FFF	Character ROM image for VIC-II chip when using bank 2.	4095