

COMMODORE 8-BIT MULTI-CHART - page 1 of 9

PETASCII, SCREEN CODES, BASIC TOKENS, STANDARD ASCII & 6502/6510 INSTRUCTION SET

(compiled by Larry Anderson of www.portcommodore.com)

Screen Character Code

DEC	HEX	Uppercase/Graphics		Upper & Lower Case		PETASCII		STANDARD		DEC	HEX
				PET ASCII	in Print Statement	ASCII	BASIC TOKEN	6502/6510			
0	00			--		NULL	end of line	BRK	0	00	
1	01			--		START OF HEADING	--	ORA (I,X)	1	01	
2	02			--		START OF TEXT	--	--	2	02	
3	03			STOP		END OF TEXT	--	--	3	03	
4	04			--		END OF TRANSMISSION	--	--	4	04	
5	05			White*		ENQUIRY	--	ORA Z	5	05	
6	06			--		ACKNOWLEDGE	--	ASL Z	6	06	
7	07			BELL**		BELL	--	--	7	07	
8	08			disables sh-C=*		BACKSPACE	--	PHP	8	08	
9	09			TAB ** / enables sh-C=*		HORIZ. TAB	--	ORA #	9	09	
10	0A			--		LINE FEED	--	ASL A	10	0A	
11	0B			--		VERTICAL TAB	--	--	11	0B	
12	0C			--		FORM FEED	--	--	12	0C	
13	0D			RETURN		CARRIAGE RETURN	--	ORA	13	0D	
14	0E			Lower Case***		SHIFT OUT	--	ASL	14	0E	
15	0F			Top-Left**		SHIFT IN	--	--	15	0F	
16	10			--		DATA LINE ESCAPE	--	BPL	16	10	
17	11			Cursor Down		DEVICE CONTROL 1	--	ORA (I),Y	17	11	
18	12			Reverse On		DEVICE CONTROL 2	--	--	18	12	
19	13			Cursor Home		DEVICE CONTROL 3	--	--	19	13	
20	14			Delete		DEVICE CONTROL 4	--	--	20	14	
21	15			Delete Line**		NEGATIVE-ACKNOWLEDGE	--	ORA Z,X	21	15	
22	16			Ers Start**		SYNCHRONOUS IDLE	--	ASL Z,X	22	16	
23	17			--		END OF TRANS. BLOCK	--	--	23	17	
24	18			--		CANCEL	--	CLC	24	18	
25	19			Scroll Down**		END OF MEDIUM	--	ORA Y	25	19	
26	1A			--		SUBSTITUTE	--	--	26	1A	
27	1B			Escape**		ESCAPE	--	--	27	1B	
28	1C			Red*		FILE SEPARATOR	--	--	28	1C	
29	1D			Cursor Right		GROUP SEPARATOR	--	ORA X	29	1D	
30	1E			Green*		RECORD SEPARATOR	--	ASL X	30	1E	
31	1F			Blue*		UNIT SEPARATOR	--	--	31	1F	

* available on VIC/64/128/264 **Available on 'fat forty' and 8000 series PET/CBMs (similar functions in 128 & B128 with escape sequences)

does not work on original and upgrade ROM PETS *Extended colors on 64 and 128 *****264 Series Computers (16, 116, +/4)

COMMODORE 8-BIT MULTI-CHART - page 2 of 9
PETASCII, SCREEN CODES, BASIC TOKENS,
STANDARD ASCII & 6502/6510 INSTRUCTION SET
 (compiled by Larry Anderson of www.portcommodore.com)

		Screen Character Code							
DEC	HEX	PETASCII		STANDARD		BASIC TOKEN	6502/6510	DEC	HEX
		PET ASCII	in Print Statement	ASCII					
32	20	☐	☐		[space]		JSR	32	20
33	21	! !	!	!	!		AND (I,X)	33	21
34	22	" "	"	"	"		--	34	22
35	23	# #	#	#	#		--	35	23
36	24	\$ \$	\$	\$	\$		BIT Z	36	24
37	25	% %	%	%	%		AND Z	37	25
38	26	& &	&	&	&		ROL Z	38	26
39	27	' '	'	'	'		--	39	27
40	28	( (	(	(	(		PLP	40	28
41	29	) )	)	)	)		AND #	41	29
42	2A	* *	*	*	*		ROL A	42	2A
43	2B	+ +	+	+	+		--	43	2B
44	2C	, ,	,	,	,		BIT	44	2C
45	2D	- -	-	-	-		AND	45	2D
46	2E	. .	.	.	.		ROL	46	2E
47	2F	/ /	/	/	/		--	47	2F
48	30	0 0	0	0	0		BMI	48	30
49	31	1 1	1	1	1		AND (I),Y	49	31
50	32	2 2	2	2	2		--	50	32
51	33	3 3	3	3	3		--	51	33
52	34	4 4	4	4	4		--	52	34
53	35	5 5	5	5	5		AND Z,X	53	35
54	36	6 6	6	6	6		ROL Z,X	54	36
55	37	7 7	7	7	7		--	55	37
56	38	8 8	8	8	8		SEC	56	38
57	39	9 9	9	9	9		AND Y	57	39
58	3A	:	:	:	:		--	58	3A
59	3B	;	;	;	;		--	59	3B
60	3C	<	<	<	<		--	60	3C
61	3D	=	=	=	=		AND X	61	3D
62	3E	>	>	>	>		ROL X	62	3E
63	3F	?	?	?	?		--	63	3F

NOTE The minor difference between the PET/CBM sets to those used on the Commodore 64, 128 VIC-20 and Plus/4.. On the PET the ' ' was replaced by the British pound symbol. The thinner PET/VIC-20 sets are represented in this chart for better readability.

COMMODORE 8-BIT MULTI-CHART - page 3 of 9
PETASCII, SCREEN CODES, BASIC TOKENS,
STANDARD ASCII & 6502/6510 INSTRUCTION SET
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		Screen Character Code							
DEC	HEX		PET ASCII	PETASCII in Print Statement	STANDARD ASCII	BASIC TOKEN	6502/6510	DEC	HEX
64	40			@ @	@		RTI	64	40
65	41			A a	A		EOR I,X)	65	41
66	42			B b	B		--	66	42
67	43			C c	C		--	67	43
68	44			D d	D		--	68	44
69	45			E e	E		EOR Z	69	45
70	46			F f	F		LSR Z	70	46
71	47			G g	G		--	71	47
72	48			H h	H		PHA	72	48
73	49			I i	I		EOR #	73	49
74	4A			J j	J		LSR A	74	4A
75	4B			K k	K		--	75	4B
76	4C			L l	L		JMP	76	4C
77	4D			M m	M		EOR	77	4D
78	4E			N n	N		LSR	78	4E
79	4F			O o	O		--	79	4F
80	50			P p	P		BVC	80	50
81	51			Q q	Q		EOR (I),Y	81	51
82	52			R r	R		--	82	52
83	53			S s	S		--	83	53
84	54			T t	T		--	84	54
85	55			U u	U		EOR Z,X	85	55
86	56			V v	V		LSR Z,X	86	56
87	57			W w	W		--	87	57
88	58			X x	X		CLI	88	58
89	59			Y y	Y		EOR Y	89	59
90	5A			Z z	Z		--	90	5A
91	5B			[ [	[		--	91	5B
92	5C			\ \	\		--	92	5C
93	5D			] ]	]		EOR X	93	5D
94	5E			^ ^	^		LSR X	94	5E
95	5F			_ _	_		--	95	5F

COMMODORE 8-BIT MULTI-CHART - page 4 of 9
PETASCII, SCREEN CODES, BASIC TOKENS,
STANDARD ASCII & 6502/6510 INSTRUCTION SET
 (compiled by Larry Anderson of www.portcommodore.com)

		Screen Character Code								
DEC	HEX			PET ASCII	How to type it PET • VIC/64	STANDARD			DEC	HEX
						ASCII	BASIC TOKEN	6502/6510		
96	60				shift-@ • shift-*	`	--	RTS	96	60
97	61				shift A	a	--	ADC (I,X)	97	61
98	62				shift B	b	--	--	98	62
99	63				shift C	c	--	--	99	63
100	64				shift D	d	--	--	100	64
101	65				shift E	e	--	ADC Z	101	65
102	66				shift F	f	--	ROR Z	102	66
103	67				shift G	g	--	--	103	67
104	68				shift H	h	--	PLA	104	68
105	69				shift I	i	--	ADC #	105	69
106	6A				shift J	j	--	ROR A	106	6A
107	6B				shift K	k	--	--	107	6B
108	6C				shift L	l	--	JMP (I)	108	6C
109	6D				shift M	m	--	ADC	109	6D
110	6E				shift N	n	--	ROR	110	6E
111	6F				shift O	o	--	--	111	6F
112	70				shift P	p	--	BVS	112	70
113	71				shift Q	q	--	ADC (I),Y	113	71
114	72				shift R	r	--	--	114	72
115	73				shift S	s	--	--	115	73
116	74				shift T	t	--	--	116	74
117	75				shift U	u	--	ADC Z,X	117	75
118	76				shift V	v	--	ROR Z,X	118	76
119	77				shift W	w	--	--	119	77
120	78				shift X	x	--	SEI	120	78
121	79				shift Y	y	--	ADC Y	121	79
122	7A				shift Z	z	--	--	122	7A
123	7B				shift [• shift +	{	--	--	123	7B
124	7C				shift \ • C= -	\	--	--	124	7C
125	7D				shift-] • shift -	}	--	ADC X	125	7D
126	7E				(see char 255)	~	--	ROR X	126	7E
127	7F				shift <- • C= *	DEL	--	--	127	7F

NOTE: Even though PETASCII characters above 192 repeat PETASCII characters of lower values, it is suggested not to use the higher values for compatibility with older software. (except character 255, the pi symbol). Standard ASCII only has characters 0-127.

COMMODORE 8-BIT MULTI-CHART - page 5 of 9

PETASCII, SCREEN CODES, BASIC TOKENS, STANDARD ASCII & 6502/6510 INSTRUCTION SET

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





























































































































Screen Character Code

DEC	HEX		PET ASCII	PETASCII in Print Statement	BASIC TOKEN	6502/6510	DEC	HEX
128	80		--		END	--	128	80
129	81		Orange****		FOR	STA (I,X)	129	81
130	82		Flash On*****		NEXT	--	130	82
131	83		LOAD & RUN		DATA	--	131	83
132	84		Flsdh Off*****		INPUT#	STY Z	132	84
133	85		f1*		INPUT	STAZ	133	85
134	86		f3*		DIM	STX Z	134	86
135	87		BELL / f5*		READ	--	135	87
136	88		f7*		LET	DEY	136	88
137	89		Set-Clear Tab** / f2*		GOTO	--	137	89
138	8A		f4*		RUN	TXA	138	8A
139	8B		f6*		IF	--	139	8B
140	8C		f8* / Help*****		RESTORE	STY	140	8C
141	8D		SHIFT-RETURN		GOSUB	STA	141	8D
142	8E		Upper Case***		RETURN	STX	142	8E
143	8F		Bottom Right**		REM	--	143	8F
144	90		Black*		STOP	BCC	144	90
145	91		Cursor Up		ON	STA (I),Y	145	91
146	92		Reverse Off		WAIT	--	146	92
147	93		Clear & Home		LOAD	--	147	93
148	94		Insert		SAVE	STY Z,X	148	94
149	95		Insert Line**/Brown****		VERIFY	STA Z,X	149	95
150	96		ERS End**/Lt. Red****		DEF	STX Z,Y	150	96
151	97		Dk. Grey****		POKE	--	151	97
152	98		Med. Grey****		PRINT#	TYA	152	98
153	99		Scroll Up**/Lt. Green****		PRINT	STA Y	153	99
154	9A		Lt. Blue****		CONT	TXS	154	9A
155	9B		Sh-Escape**/Lt. Grey****		LIST	--	155	9B
156	9C		Purple*		CLR	--	156	9C
157	9D		Cursor Left		CMD	STA X	157	9D
158	9E		Yellow*		SYS	--	158	9E
159	9F		Cyan*		OPEN	--	159	9F

128 80 Col. Colors: 129-Dk.Purple / 149-Dk.Yellow / 150-Light Red / 151-Dark Cyan / 152-Med.Gray / 153- Lt.Green / 154-Lt.Blue / 155-Lt.Gray
 264 Series Colors: 129-Orange / 149-Brown / 150-Yellow-Green / 151-Pink / 152-Blue-Green / 153-Lt.Blue / 154-Dk.Blue / 155-Lt.Green

COMMODORE 8-BIT MULTI-CHART - page 6 of 9
PETASCII, SCREEN CODES, BASIC TOKENS,
STANDARD ASCII & 6502/6510 INSTRUCTION SET
 (compiled by Larry Anderson of www.portcommodore.com)

Screen Character Code

DEC	HEX		PET ASCII	How to type it PET • VIC/64	BASIC TOKEN	6502/6510	DEC	HEX
160	A0	 	 	shift-space	CLOSE	LDY #	160	A0
161	A1	 	 	shift ! • C= K	GET	LDA (I,X)	161	A1
162	A2	 	 	shift " • C= I	NEW	LDX #	162	A2
163	A3	 	 	shift # • C= T	TAB(	--	163	A3
164	A4	 	 	shift \$ • C= @	TO	LDY Z	164	A4
165	A5	 	 	shift % • C= G	FN	LDA Z	165	A5
166	A6	 	 	shift ' • C= +	SPC(	LDX Z	166	A6
167	A7	 	 	shift & • C= M	THEN	--	167	A7
168	A8	 	 	shift \ • C= £	NOT	TAY	168	A8
169	A9	 	 	shift (• shift £	STEP	LDA #	169	A9
170	AA	 	 	shift * • C= N	+	TAX	170	AA
171	AB	 	 	shift + • C= Q	-	--	171	AB
172	AC	 	 	shift , • C= D	*	LDY	172	AC
173	AD	 	 	shift - • C= Z	/	LDA	173	AD
174	AE	 	 	shift . • C= S	^	LDX	174	AE
175	AF	 	 	shift / • C= P	AND	--	175	AF
176	B0	 	 	shift 0 • C= A	OR	BCS	176	B0
177	B1	 	 	shift 1 • C= E	>	LDA (I),Y	177	B1
178	B2	 	 	shift 2 • C= R	=	--	178	B2
179	B3	 	 	shift 3 • C= W	<	--	179	B3
180	B4	 	 	shift 4 • C= H	SGN	LDY Z,X	180	B4
181	B5	 	 	shift 5 • C= J	INT	LDA Z,X	181	B5
182	B6	 	 	shift 6 • C= L	ABS	LDX Z,Y	182	B6
183	B7	 	 	shift 7 • C= Y	USR	--	183	B7
184	B8	 	 	shift 8 • C= U	FRE	CLV	184	B8
185	B9	 	 	shift 9 • C= O	POS	LDA Y	185	B9
186	BA	 	 	shift : • shift @	SQR	TSX	186	BA
187	BB	 	 	shift ; • C= F	RND	--	187	BB
188	BC	 	 	shift < • C= C	LOG	LDY X	188	BC
189	BD	 	 	shift = • C= X	EXP	LDA X	189	BD
190	BE	 	 	shift > • C= V	COS	LDX Y	190	BE
191	BF	 	 	shift ? • C= B	SIN	--	191	BF

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Screen Character Code

DEC	HEX	PET ASCII		PETASCII in Print Statement	BASIC TOKEN	6502/6510	DEC	HEX
192	C0	▬	▬	▭	TAN	CPY #	192	C0
193	C1	⬆	⬆	⬆	ATN	CMP (I),X	193	C1
194	C2	▮	▮	▮	PEEK	--	194	C2
195	C3	▬	⊙	▭	LEN	--	195	C3
196	C4	▬	D	▭	STR\$	CPY Z	196	C4
197	C5	▬	E	▭	VAL	CMP Z	197	C5
198	C6	▬	F	▭	ASC	DEC Z	198	C6
199	C7	▮	G	▮	CHR\$	--	199	C7
200	C8	▮	H	▮	LEFT\$	INY	200	C8
201	C9	⬆	I	⬆	RIGHT\$	CMP #	201	C9
202	CA	⬆	J	⬆	MID\$	DEX	202	CA
203	CB	⬆	K	⬆	GO	--	203	CB
204	CC	▮	L	▮	--	CPY	204	CC
205	CD	▮	M	▮	--	CMP	205	CD
206	CE	▮	N	▮	--	DEC	206	CE
207	CF	▮	⊙	▮	--	--	207	CF
208	D0	▮	P	▮	--	BNE	208	D0
209	D1	⊙	⊙	⊙	--	CMP (I),Y	209	D1
210	D2	▬	R	▭	--	--	210	D2
211	D3	♥	S	♥	--	--	211	D3
212	D4	▮	T	▮	--	--	212	D4
213	D5	⬆	U	⬆	--	CMP Z,X	213	D5
214	D6	⊗	V	⊗	--	DEC Z,X	214	D6
215	D7	⊙	W	⊙	--	--	215	D7
216	D8	⊕	⊗	⊕	--	CLD	216	D8
217	D9	▮	Y	▮	--	CMP Y	217	D9
218	DA	⬆	Z	⬆	--	--	218	DA
219	DB	⊕	⊕	⊕	--	--	219	DB
220	DC	▮	▮	▮	--	--	220	DC
221	DD	▮	▮	▮	--	CMP X	221	DD
222	DE	⬆	⊗	⬆	--	DEC X	222	DE
223	DF	▮	▮	▮	--	--	223	DF

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Screen Character Code

DEC	HEX		PET ASCII	How to type it PET • VIC/64	BASIC TOKEN	6502/6510	DEC	HEX
224	E0			--	--	CPX #	224	E0
225	E1			--	--	SBC (I),X	225	E1
226	E2			--	--	--	226	E2
227	E3			--	--	--	227	E3
228	E4			--	--	CPX Z	228	E4
229	E5			--	--	SBC Z	229	E5
230	E6			--	--	INC Z	230	E6
231	E7			--	--	--	231	E7
232	E8			--	--	INX	232	E8
233	E9			--	--	SBC #	233	E9
234	EA			--	--	NOP	234	EA
235	EB			--	--	--	235	EB
236	EC			--	--	CPX	236	EC
237	ED			--	--	SBC	237	ED
238	EE			--	--	INC	238	EE
239	EF			--	--	--	239	EF
240	F0			--	--	BEQ	240	F0
241	F1			--	--	SBC (I),Y	241	F1
242	F2			--	--	--	242	F2
243	F3			--	--	--	243	F3
244	F4			--	--	--	244	F4
245	F5			--	--	SBC Z,X	245	F5
246	F6			--	--	INC Z,X	246	F6
247	F7			--	--	--	247	F7
248	F8			--	--	SED	248	F8
249	F9			--	--	SBC Y	249	F9
250	FA			--	--	--	250	FA
251	FB			--	--	--	251	FB
252	FC			--	--	--	252	FC
253	FD			--	--	SBC X	253	FD
254	FE			--	--	INC X	254	FE
255	FF			shift ^	(pi)	--	255	FF

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COMMODORE BASIC TOKENS BEYOND BASIC V2

(compiled by Larry Anderson of www.portcommodore.com)

PET/CBM

DEC	4.0 BASIC	264 SERIES	128 BASIC 7	DEC	264 SERIES	128 BASIC 7	DEC	128 BASIC V7
204	CONCAT	RGR	RGR	240	DLOAD	DLOAD	254+13	DOPEN
205	DOPEN	RCLR	RCLR	241	HEADER	HEADER	254+14	APPEND
206	DCLOSE	RLUM	(see lower- right)	242	SCRATCH	SCRATCH	254+15	DCLOSE
207	RECORD	JOY	JOY	243	COLLECT	COLLECT	254+16	BSAVE
208	HEADER	RDOT	RDOT	244	COPY	COPY	254+17	BLOAD
209	COLLECT	DEC	DEC	245	RENAME	RENAME	254+18	RECORD
210	BACKUP	HEX\$	HEX\$	246	BACKUP	BACKUP	254+19	CONCAT
211	COPY	ERR\$	ERR\$	247	DELETE	DELETE	254+20	DVERIFY
212	APPEND	INSTR	INSTR	248	RENUMBER	RENUMBER	254+21	DCLEAR
213	DSAVE	ELSE	ELSE	249	KEY	KEY	254+22	SPRSV
214	DLOAD	RESUME	RESUME	250	MONITOR	MONITOR	254+23	COLLISION
215	CATALOG	TRAP	TRAP	251	USING	USING	254+24	BEGIN
216	RENAM*	TRON	TRON	252	UNTIL	UNTIL	254+25	BEND
217	SCRATCH	TROFF	TROFF	253	WHILE	WHILE	254+26	WINDOW
218	DIRECTORY	SOUND	SOUND	BASIC 7 2-BYTE TOKENS:			254+27	BOOT
219	--	VOL	VOL	206+2		POT	254+28	WIDTH
220	--	AUTO	AUTO	206+3		BUMP	254+29	SPRDEF
221	--	PUDEF	PUDEF	206+4		PEN	254+30	QUIT
222	--	GRAPHIC	GRAPHIC	206+5		RSPPOS	254+31	STASH
223	--	PAINT	PAINT	206+6		RESRITE	254+32	
224	--	CHAR	CHAR	206+7		RSPCOLOR	254+33	FETCH
225	--	BOX	BOX	206+8		XOR	254+34	
226	--	CIRCLE	CIRCLE	206+9		RWINDOW	254+35	SWAP
228	--	SSHAPE	SSHAPE	206+10		POINTER	254+36	OFF
229	--	DRAW	DRAW	254+2		BANK	254+37	FAST
230	--	LOCATE	LOCATE	254+3		FILTER	254+38	SLOW
231	--	COLOR	COLOR	254+4		PLAY		
232	--	SCNCLR	SCNCLR	254+5		TEMPO		
233	--	SCALE	SCALE	254+6		MOVSPR		
234	--	HELP	HELP	254+7		SPRITE		
235	--	DO	DO	254+8		SPRCOLOR		
236	--	LOOP	LOOP	254+9		RREG		
237	--	EXIT	EXIT	254+10		ENVELOPE		
238	--	DIRECTORY	DIRECTORY	254+11		SLEEP		
239	--	DSAVE	DSAVE	254+12		CATALOG		