



MasterBASIC BDOS ☐ automatic return

Any keyboard key in NORMAL, CAPS SHIFTED, SYM SHIFTED or CONTROL states can return any code (0-255). **KEY 23,134** makes key position 23 in the key map produce CHR\$ 134. **KEY 0,65** would make the normal 'b' key into CHR\$ 65 ('A').

When **codes 192-254** come from the keyboard (function keys), an **expanded definition** is used. If a definition does not exist, CHR\$ 192-254 will be used.

DEF KEYCODE 195: PRINT "Year ";: PRINT 2013 will cause any subsequent code of 195 coming from the keyboard to be expanded to: **PRINT "Year ";: PRINT 2013(RETURN)**. This makes: **Year: 2013** appear on the upper screen area. The entire line after DEF KEYCODE 195: is used.

If a final colon is added to the line, the automatic (ENTER) is suppressed, for example: **DEF KEYCODE 193: PRINT "Sam":** would produce: **PRINT "Sam"** in the editing area.

DEF KEYCODE can also be used with a string, rather than the rest of a line: **DEF KEYCODE 192,"TESTING"** will cause any subsequent code of 192 coming from the keyboard to be expanded to **"TESTING"(RETURN)**. (This would cause an error report). **DEF KEYCODE 192,"TESTING:"** would suppress the (RETURN) because the last character is a colon.

A particular definition can be cleared by: **DEF KEYCODE 195:** (followed by nothing) or **DEF KEYCODE 195,""**. **DEF KEYCODE ERASE** removes all definitions.

Load charset: **LOAD "file" CODE DPEEK SVAR 566 + 256** or **LOAD "file" CODE UDG " "**
Store and copy charset: **LET c\$=MEM\$ (UDG ":" TO UDG "@"+8): POKE 100000,c\$**
Save charset: **SAVE "filename" CODE UDG " ",number of chars * 8**

The character set base address, set through SVAR 566, is 20880, available for CHR\$ 32 to 168 in one continuous block. **DPOKE SVAR 566,20880-256**

23606	&5C36	566	2B address 256 bytes below start of main charset
23765	&5C7B	635	2B address of CHR\$ 144 (initially next to CHR\$143)
23767	&5C7D	637	2B address of CHR\$ 169 (initially undefined)

CHR\$ 128-143 are displayed as **block graphics** unless "BLOCKS 0" has been set. (The block graphic shapes are generated as needed – the character set itself does not contain them).

BLOCKS 0 turns the block graphics off and allows the pre-defined foreign character set CHR\$ 128 to 143 to act as user-defined graphics (UDGs).

BLOCKS 1 turns the block graphics back on.

BLOCKS 2 turns block graphics off and swap the entire set of user-defined graphics with the set stored within **MasterBASIC** (IBM standard).

F-Keys

F0 = 192
F1 = 193
F2 = 194
F3 = 195
F4 = 196
F5 = 197
F6 = 198
F7 = 199
F8 = 200
F9 = 201

SAM BASIC Key Codes

command: **KEY** posn(1-280), charcode(0-255)

23	68	59	50	41	32	31	40	49	58	67	22	13	4	24	15	6
14	69	60	51	42	33	30	39	48	57	66	21	12		25	16	7
5	70	61	52	43	34	29	38	47	56	20	11	65	26	17	8	
+70	62	53	44	35	28	37	46	19	10	1	+70	3	54	10		
+140	+210					64				2	+140	36	45	27		

add 70, 140 and 210 to obtain map position of a key plus [SHIFT], [SYMBOL], [CNTRL]

SAM Coupé BASIC Keyboard Mapping sam.speccy.cz

SAM BASIC Codes, Charset and Keywords

special: **keyboard-only control codes** MasterDOS MasterBASIC BLOCKS1

address of character matrix = UDG "A"

0 00	47 2F / USING\$	96 60 £ IN	145 91 æ FORMAT	194 C2 PAUSE	225 E1 POKE
1 01	48 30 0 TIME\$	97 61 a PEEK	146 92 Æ ERASE	195 C3 DRAW	226 E2 DPOKE
2 02	49 31 1 DATE\$	98 62 b DPEEK	147 93 ô MOVE	196 C4 DEFAULT	227 E3 RENAME
3 03	50 32 2 INP\$	99 63 c DVAR	148 94 ö SAVE	197 C5 DIM	228 E4 CALL
4 04	51 33 3 DIR\$	100 64 d SVAR	149 95 ò LOAD	198 C6 INPUT	229 E5 ROLL
5 05	52 34 4 FSTAT	101 65 e BUTTON	150 96 û MERGE	199 C7 RANDOMIZE	230 E6 SCROLL
6 06 comma (tab)	53 35 5 DSTAT	102 66 f EOF	151 97 ù VERIFY	200 C8 DEF FN	231 E7 SCREEN
caps lock toggle	54 36 6 FPAGES	103 67 g PTR	152 98 ÿ OPEN	201 C9 DEF KEYCODE	232 E8 DISPLAY
edit	55 37 7 SCRAD	104 68 h XVAR	153 99 ö CLOSE	202 CA DEF PROC	233 E9 BOOT
8 08 cursor left	56 38 8 INARRAY	105 69 i UDG	154 9A Ü CIRCLE	203 CB END PROC	234 EA LABEL
9 09 cursor right	57 39 9	106 6A j NVAL	155 9B ċ PLOT	204 CC RENUM	235 EB FILL
10 0A cursor down	58 3A :	107 6B k LEN	156 9C £ LET	205 CD DELETE	236 EC WINDOW
11 0B cursor up	59 3B ; PI	108 6C l CODE	157 9D ¥ BLITZ	206 CE REF	237 ED AUTO
12 0C delete left	60 3C < RND	109 6D m VAL\$	158 9E Pt BORDER	207 CF COPY	238 EE POP
13 0D carriage return	61 3D = POINT	110 6E n VAL	159 9F f CLS	208 D0	239 EF RECORD
14 0E number prefix	62 3E > FREE	111 6F o TRUNC\$	160 A0 á PALETTE	209 D1 KEYIN	240 F0 DEVICE
delete right	63 3F ? LENGTH	112 70 p CHR\$	161 A1 í PEN	210 D2 LOCAL	241 F1 PROTECT
key pad toggle	64 40 @ ITEM	113 71 q STR\$	162 A2 ó PAPER	211 D3 LOOP IF	242 F2 HIDE
15 0F PEN control	65 41 A ATTR	114 72 r BIN\$	163 A3 ú FLASH	212 D4 D0	243 F3 ZAP
16 10 PAPER control	66 42 B FN	115 73 s HEX\$	164 A4 ñ BRIGHT	213 D5 LOOP	244 F4 POW
17 11 FLASH control	67 43 C BIN	116 74 t USR\$	165 A5 Ñ INVERSE	214 D6 EXIT IF	245 F5 BOOM
18 12 BRIGHT control	68 44 D XMOUSE	117 75 u	166 A6 a OVER	215 D7 IF (long)	246 F6 ZOOM
19 13 INVERSE control	69 45 E YMOUSE	118 76 v NOT	167 A7 o FATPIX	216 D8 IF (short)	247 F7 BACKUP
20 14 OVER control	70 46 F XPEN	119 77 w	168 A8 ¿ CSIZE	217 D9 ELSE (long)	248 F8 TIME
21 15 AT control	71 47 G YPEN	120 78 x	169 A9 BLOCKS	218 DA ELSE (short)	249 F9 DATE
22 16 TAB control	72 48 H RAMTOP	121 79 y	170 AA MODE	219 DB END IF	250 FA ALTER
23 17 word left control	73 49 I	122 7A z MOD	171 AB GRAB	220 DC KEY	251 FB SORT
24 18 word right control	74 4A J INSTR	123 7B { DIV	172 AC PUT	221 DD ON ERROR	252 FC JOIN
25 19	75 4B K INKEY\$	124 7C BOR	173 AD BEEP	222 DE ON	253 FD EDIT
26 1A	76 4C L SCREEN\$	125 7D }	174 AE SOUND	223 DF GET	254 FE
27 1B	77 4D M MEM\$	126 7E ~ BAND	175 AF NEW	224 E0 OUT	255 FF not-usable
28 1C	78 4E N	127 7F @ OR	176 B0 RUN		
29 1D	79 4F O PATH\$	128 80 ¢ AND	177 B1 STOP		
30 1E	80 50 P STRING\$	129 81 ¢ ü <>	178 B2 CONTINUE		
31 1F	81 51 Q	130 82 é <=	179 B3 CLEAR		
32 20 space	82 52 R	131 83 â >=	180 B4 GO TO		
33 21 !	83 53 S SIN	132 84 ä	181 B5 GO SUB		
34 22 "	84 54 T COS	133 85 à USING	182 B6 RETURN		
35 23 #	85 55 U TAN	134 86 â WRITE	183 B7 REM		
36 24 \$	86 56 V ASN	135 87 ç AT	184 B8 READ		
37 25 %	87 57 W ACS	136 88 è TAB	185 B9 DATA		
38 26 & EXIT PROC	88 58 X ATN	137 89 é OFF	186 BA RESTORE		
39 27 ' EXIT DO	89 59 Y LN	138 8A è WHILE	187 BB PRINT		
40 28 (EXIT FOR	90 5A Z EXP	139 8B ï UNTIL	188 BC LPRINT		
41 29) LOCN	91 5B [ABS	140 8C í LINE	189 BD LIST		
42 2A * RESERVED	92 5C \ SGN	141 8D ï THEN	190 BE LLIST		
43 2B + EQU	93 5D] SQR	142 8E Ä TO	191 BF DUMP		
44 2C , TICS	94 5E ↑ INT	143 8F Ä STEP	192 C0 FOR		
45 2D - SHIFT\$	95 5F _ USR	144 90 É DIR	193 C1 NEXT		
46 2E . SVAL\$					

&5190 - &548F
20880 - 21647
chars patterns
CHR\$ (32-127)

&5490 - &55D7
21648 - 21975
UDG patterns
CHR\$ (127-168)

&5800 - &587F
22528 - 22655
DEF KEY definitions

&58E0 - &59FF
22752 - 23039
keyboard table

&58EE - &5C00
23534 - 23552
key scan table
2 tables , 72 bits each

23040	&5A00	0	cursor character for current line (usually '>')
23041	&5A01	1	(2) caps lock is off and on char (usually CHR\$ 128&129)
23043	&5A03	3	(2) BIN\$ as "1" and "0" char (usually "1" and "0")
23087	&5A2F	47	zero for tab by 16 columns, else an 8-column tab
23092	&5A34	52	zero if BLOCKS 1, 1 if BLOCKS 0
23502	&5BCE	462	(2) start of KEYCODE definitions
23504	&5BD0	464	(2) limit address of KEYCODE buffer
23512	&5BD8	472	(2) start of keyboard table
23553	&5C01	513	last key hit, zero if no key
23557	&5C06	517	(2) shift and key codes from last key press
23561	&5C09	521	key-auto-repeat delay (in 50ths. of a second), norm. 33
23562	&5C0A	522	key-auto-repeat speed (in 50ths. of a second), norm. 3
23609	&5C39	569	length of keyboard click (normally zero)
23655	&5C67	615	function keys if even, number pad if odd
23658	&5C6A	618	8 if caps lock is on, else zero