CP/M 2.2 BDOS Function Calls

Basic Disk Operating System - Quick Reference Guide

CP/M 2.2 BDOS (Basic Disk Operating System) provides system services through interrupt call 5. To invoke a BDOS function, load the function number into register C, set up any required parameters in other registers (typically DE or E), and execute CALL 0005H. Results are typically returned in register A or HL.

Register Conventions: C=function number, DE=address pointer, E=byte parameter, A=return status/character, HL=return address/value. FCB=File Control Block at address pointed to by DE.

Call	Name	Input	Output	Description
0	**P_TERMCPM**	C=0	None	System reset - warm boot
1	**C_READ**	C=1	A=character	Console input - wait for character
2	**C_WRITE**	C=2, E=char	None	Console output - display character
3	**A_READ**	C=3	A=character	Auxiliary (Reader) input
4	**A_WRITE**	C=4, E=char	None	Auxiliary (Punch) output
5	**L_WRITE**	C=5, E=char	None	List (Printer) output
6	**C_RAWIO**	C=6, E=char/0xFF	A=char/status	Direct console I/O (0xFF=input, 0xFE=status, else output)
7	**A_STATIN**	C=7	A=status	Get I/O byte (IOBYTE)
8	**A_STATOUT**	C=8, E=value	None	Set I/O byte (IOBYTE)
9	**C_WRITESTR**	C=9, DE=addr	None	Print string (terminated with $)
10	**C_READSTR**	C=10, DE=addr	None	Read console buffer (first byte=max, second=actual)
11	**C_STAT**	C=11	A=status	Get console status (0xFF=char ready, 0=no char)
12	**S_BDOSVER**	C=12	HL=version	Return version number (H=00, L=22h for CP/M 2.2)
13	**DRV_ALLRESET**	C=13	None	Reset disk system
14	**DRV_SET**	C=14, E=drive	None	Select disk drive (0=A:, 1=B:, etc)
15	**F_OPEN**	C=15, DE=FCB	A=dir code	Open file (0-3=success, 0xFF=not found)

Call	Name	Input	Output	Description
16	**F_CLOSE**	C=16, DE=FCB	A=dir code	Close file (0-3=success, 0xFF=error)
17	**F_SFIRST**	C=17, DE=FCB	A=dir code	Search for first (0-3=success, 0xFF=not found)
18	**F_SNEXT**	C=18	A=dir code	Search for next (0-3=success, 0xFF=no more)
19	**F_DELETE**	C=19, DE=FCB	A=dir code	Delete file (0-3=success, 0xFF=error)
20	**F_READ**	C=20, DE=FCB	A=status	Read sequential (0=OK, 1=EOF, 0xFF=error)
21	**F_WRITE**	C=21, DE=FCB	A=status	Write sequential (0=OK, 1=dir full, 2=disk full, 0xFF=error)
22	**F_MAKE**	C=22, DE=FCB	A=dir code	Make file (0-3=success, 0xFF=no space)
23	**F_RENAME**	C=23, DE=FCB	A=dir code	Rename file (0-3=success, 0xFF=error)
24	**DRV_LOGINVEC**	C=24	HL=bitmap	Return login vector (bit map of logged drives)
25	**DRV_GET**	C=25	A=drive	Return current disk (0=A:, 1=B:, etc)
26	**F_DMAOFF**	C=26, DE=addr	None	Set DMA address (default 0x0080)
27	**DRV_ALLOCVEC**	C=27	HL=addr	Get address of allocation vector
28	**DRV_SETRO**	C=28	None	Write protect current disk
29	**DRV_ROVEC**	C=29	HL=bitmap	Get read-only vector (bit map of R/O drives)
30	**F_ATTRIB**	C=30, DE=FCB	A=dir code	Set file attributes (0-3=success, 0xFF=error)
31	**DRV_DPB**	C=31	HL=addr	Get address of disk parameter block (DPB)
32	**F_USERNUM**	C=32, E=code	A=user	Set/get user code (0xFF=get, else set to E)
33	**F_READRAND**	C=33, DE=FCB	A=status	Read random (0=OK, 1=reading unwritten, 3=extent, 4=seek past EOF, 6=seek past physical, 0xFF=error)
34	**F_WRITERAND**	C=34, DE=FCB	A=status	Write random (0=OK, 3=cannot close extent, 5=dir full, 6=disk full, 0xFF=error)

Call	Name	Input	Output	Description
35	**F_SIZE**	C=35, DE=FCB	A=status	Compute file size (0=OK, 0xFF=error, result in r0,r1,r2)
36	**F_RANDREC**	C=36, DE=FCB	None	Set random record (from sequential record number)
37	**DRV_RESET**	C=37, DE=bitmap	None	Reset specified drives (bit map)
40	**F_WRITEZF**	C=40, DE=FCB	A=status	Write random with zero fill (0=OK, 3=cannot close, 5=dir full, 6=disk full, 0xFF=error)

Notes:
• FCB (File Control Block): 36-byte structure used for file operations
• DMA (Direct Memory Access): Data transfer buffer, default at 0x0080
• Directory codes 0-3 indicate success with directory entry number; 0xFF indicates error
• All function calls preserve BC, DE, and HL unless they return values in these registers
• Calls 38-39 are not implemented in CP/M 2.2