Table 6-2. Video I/O operations with Type 10 interrupt.

(AH)	*Operation*	*Additional Input Registers*	*Result Registers**
CRT Interface Routines			
0	Set video mode	(AL) = 0 40×25 B/W, Alpha (Default) = 1 40×25 Color, Alpha = 2 80×25 B/W, Alpha = 3 80×25 Color, Alpha = 4 320×200 Color, Graphics = 5 320×200 B/W, Graphics = 6 640×200 B/W, Graphics	None
1	Set cursor lines	CH Bits 0-4 = Start line for cursor CH Bits 5-7 = 0 CL Bits 0-4 = End line for cursor CL Bits 5-7 = 0	None
2	Set cursor position	(DH,DL) = Row, column (0,0) is upper left (BH) = Page number (0 for Graphics mode)	None
3	Read cursor position	(BH) = Page number (0 for Graphics mode)	(DH,DL) = Row,column of cursor (CH,CL) = Current cursor mode

Table 6-2. Video I/O operations with Type 10 interrupt (continued).

(AH)	*Operation*	*Additional Input Registers*	*Result Registers**
4	Read light pen position	None	(AH) = 0 Light pen switch not down or not triggered (AH) = 1 Valid light pen values in registers (DH,DL) = Row,column (CH) = Raster line (0-199) (BX) = Pixel column (0-319,639)
5	Select active display page (Alpha modes)	(AL) = New page value (0-7 for Modes 0 and 1; 0-3 for Modes 2 and 3)	None
6	Scroll active page up	(AL) = Number of lines, Input lines blanked at bottom of window. (AL) = 0 blanks entire window. (CH,CL) = Row,column of upper left corner of scroll (DH,DL) = Row,column of lower right corner of scroll (BH) = Attribute to be used on blank line	None

Table 6-2. Video I/O operations with Type 10 interrupt (continued).

(AH)	*Operation*	*Additional Input Registers*	*Result Registers**
7	Scroll active page down	(AL) = Number of lines, Input lines blanked at top of window. (AL) = 0 blanks entire window. (CH,CL) = Row,column of upper left corner of scroll (DH,DL) = Row,column of lower right corner of scroll (BH) = Attribute to be used on blank line	None
Character-Handling Routines			
8	Read attribute/ character at current cursor position	(BH) = Display page (Alpha modes)	(AL) = Character read (AH) = Attribute of character read (Alpha modes)
9	Write attribute/ character at current cursor position	(BH) = Display page (Alpha modes) (BL) = Attribute of character (Alpha) = Color of character (Graphics) (CX) = Count of characters to write (AL) = Character to write	None
10	Write character only at current cursor position	(BH) = Display page (Alpha modes) (CX) = Count of characters to write (AL) = Character to write	None
Graphics Interface			
11	Set color palette (320×200 graphics)	(BH) = ID of palette color (0-127) (BL) = Color value to be used with that color ID	None

Table 6-2. Video I/O operations with Type 10 interrupt (continued).

(AH)	*Operation*	*Additional Input Registers*	*Result Registers**
12	Write dot	(DX) = Row number (CX) = Column number (AL) = Color value If Bit 7 of AL = 1, the color value is exclusive-ORed with the current contents of the dot	None
13	Read dot	(DX) = Row number (CX) = Column number	(AL) = Dot read
ASCII Teletype Routine for Output			
14	Write character to screen, then advance cursor	(AL) = Character to write (BL) = Foreground color (Graphics) (BH) = Display page (Alpha)	None
Read Video State			
15	Read current video state	None	(AL) = Current mode—See (AH) = 0 for explanation (AH) = Number of character columns on screen (BH) = Current active display page

Note: Besides the registers listed here, these routines preserve CS, SS, DS, ES, BX, CX, and DX. All other registers should be considered destroyed.

Table 6-5. Function calls with the Type 21 interrupt.

(AH) Operation	*Additional Input Registers*	*Result Registers*
Keyboard Functions		
1 Wait for keyboard character, then display it (with Ctrl-Break check)*	None	(AL) = Character
6 Read keyboard character (no Ctrl-Break check)*	(DL) = 0FFH	(AL) = Character, if available = 0, if no character is available
7 Wait for keyboard character, but do not display it (no Ctrl-Break check)*	None	(AL) = Character
8 Same as function 7, but with Ctrl-Break check*	None	(AL) = Character
A Read keyboard string into buffer	(DS:DX) = Buffer address First buffer byte = Buffer size	Second buffer byte = Number of chars. read
B Read keyboard status	None	(AL) = 0FFH if no character is available = 0 if character is available
C Clear keyboard buffer and call a keyboard function	(AL) = Keyboard function number (1, 6, 7, 8, or A)	Per keyboard function
Display Functions		
2 Display a character (with Ctrl-Break check)	(DL) = Character	None
5 Print a character	(DL) = Character	None
6 Display a character (no Ctrl-Break check)	(DL) = Character	None

*Some key combinations generate "extended codes," and may require two function calls. See Section 6.4 for details.

Table 6-5. Function calls with the Type 21 interrupt (continued).

(AH)	*Operation*	*Additional Input Registers*	*Result Registers*
9	Display a string	(DS:DX) = String address String must end with $.	None
Asynchronous Communications Functions			
3	Wait for asynchronous input character	None	(AL) = Character
4	Output a character to asynchronous device	(DL) = Character	None
File Management Functions			
D	Reset default disk drive	None	None
E	Select default disk drive	(DL) = Drive number (0 = A, 1 = B, 2 = C)	(AL) = Number of disk drives (2 for single drive)
19	Get default drive code	None	(AL) = Default drive code (0 = A, 1 = B, 2 = C)
2E	Set verify state	(DL) = 0 (AL) = 0 to turn verify off = 1 to turn verify on	None
Date and Time Functions			
2A	Get date	None	(CX) = Year (1980-2099) (DH) = Month (1-12) (DL) = Day (1-31)
2B	Set date	(CX), (DX) = Date, in same format as function 2A	(AL) = 0 if date is valid = FF if date is invalid
2C	Get time	None	(CH) = Hours (0-23) (CL) = Minutes (0-59)

Note: See the DOS 1.1 manual of the *DOS Technical Reference* manual for other disk functions in the range (AH) = F through (AH) = 2F. DOS 2 users should use the Extended File Management functions.

Table 6-5. Function calls with the Type 21 interrupt (continued).

(AH) Operation	*Additional Input Registers*	*Result Registers*
		(DH) = Seconds (0-59) (DL) = 1/100 Seconds (0-99)
2D Set time	(CX), (DX) = Time, in same format as function 2C	(AL) = 0 if time is valid = FF if time is invalid
Interrupt Vector Functions		
25 Set interrupt vector	(DS:DX) = Vector address (AL) = Interrupt number (type)	None
35 Read interrupt vector address	(AL) = Interrupt number (type)	(ES:BX) = Vector address
Directory Functions (DOS 2 only)		
	Note: For "error returned" codes, see Table 6-6.	
39 Create a directory (MKDIR)	(DS:DX) = Address of ASCIIZ string for directory	Error returned is 3 or 5.
3A Remove a directory (RMDIR)	(DS:DX) = Address of ASCIIZ string for directory	Error returned is 3 or 5.
3B Change the directory (CHDIR)	(DS:DX) = Address of ASCIIZ string for new directory	Error returned is 3.
47 Get current directory	(DL) = Drive number (0 = default, 1 = A, etc.) (DS:SI) = Address of 64-byte buffer	(DS:SI) = Address of ASCIIZ string Error returned is 15.
Extended File Management Functions (DOS 2 only)		
Note: For "error returned" codes, see Table 6-6.		
36 Get free disk space	(DL) = Drive number (0 = default, 1 = A, etc.)	(AX) = 0FFFFH if invalid = Sectors per cluster (BX) = No. of free clusters (DX) = Total no. of clusters (CX) = Bytes per sector
3C Create a file	(DS:DX) = Address of ASCIIZ string (CX) = Attribute of file	(AX) = File handle Error returned is 3, 4, or 5.

Table 6-5. Function calls with the Type 21 interrupt (continued).

(AH)	*Operation*	*Additional Input Registers*	*Result Registers*
3D	Open a file	(DS:DX) = Address of ASCIIZ string (AL) = 0 to open for reading = 1 to open for writing = 2 to open for reading and writing	(AX) = File handle Error returned is 2, 4, 5, or 12
3E	Close a file handle	(BX) = File handle	Error returned is 6.
3F	Read from file or device	(BX) = File handle (CX) = No. of bytes to read (DS:DX) = Buffer address	(AX) = No. of bytes read = 0 if read from end of file Error returned is 5 or 6.
40	Write to a file or device	(BX) = File handle (CX) = No. of bytes to write (DS:DX) = Buffer address	(AX) = No. of bytes written Error returned is 5 or 6.
41	Delete a file	(DS:DX) = Address of ASCIIZ string	Errors returned are 2 or 5.
43	Get file attribute	(AL) = 0 (DS:DX) = Address of ASCIIZ string for file	(CX) = Attribute Error returned is 2 or 5.
43	Set file attribute	(AL) = 1 (DS:DX) = Address of ASCIIZ string for file (CX) = Attribute	Error returned is 2 or 5.
54	Get verify state	None	(AL) = 0 if verify is off = 1 if verify is on
56	Rename a file	(DS:DX) = Address of ASCIIZ string for old name (ES:DI) = Address of ASCIIZ string for new name	Error returned is 3, 5, or 17.

Table 7-3. Type 10 Interrupt options for 80×25, black and white, and Alphanumeric.

(AH)	*Operation*	*Additional Input Registers*	*Result Registers**
CRT Interface Routines			
0	*Set video mode*	*(AL) = 2 80×25, black and white, and alphanumeric*	*None*
2	Set cursor position	(DH,DL) = Row,column (0-24,0-79) *(BH) = Page number (0-4)*	None
3	Read cursor position	*(BH) = Page number (0-4)*	(DH,DL) = Row,column of cursor (CH,CL) = Current cursor mode
5	*Select active display page*	*(AL) = New page value (0-3)*	*None*
6	Scroll active page up	(AL) = Number of lines. Input lines blanked at bottom of window. (AL) = 0 blanks entire window. (CH,CL) = Row,column of upper left corner of scroll (DH,DL) = Row,column of lower right corner of scroll (BH) = Attribute to be used on blank line	None
7	Scroll active page down	Same as above, but input lines are blanked at top of window.	None

Character-Handling Routines			
8	Read attribute/ character at current cursor position	*(BH) = Display page (0-3)*	(AL) = Character read (AH) = Attribute of character read
9	Write attribute/ character at current cursor position	*(BH) = Display page (0-3)* (BL) = Attribute of character (CX) = Count of characters to write (AL) = Character to write	None
10	Write character only at current cursor position	*(BH) = Display page (0-3)* (CX) = Count of characters to write (AL) = Character to write	None
ASCII Teletype Routine for Output			
14	Write character to screen, then advance cursor	(AL) = Character to write *(BH) = Display page (0-3)*	None
Read Video State			
15	Read current video state	None	(AL) = Current mode. (See (AH) = 0 for explanation (AH) = Number of character columns on screen (BH) = Active display page

Note: Besides the registers listed here, these routines preserve CS, SS, DS, ES, BX, CX, and DX. All other registers should be considered destroyed.