

CHAPTER 5

Specifications of the PC-8401A BIOS, Keyboard, Disk and Clock

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SECTION 1

KEYBOARD

The keyboard consists of the standard alphabetic characters, the 10 softkeys (function keys with shift), and other special function keys. The content of each softkey is user definable. A fifteen byte long string may be entered for each of the ten softkeys. The PC-8401A BIOS also supports character sets from many nations.

The map code of typed keys are stored in a keyboard type-ahead buffer by use of an interrupt driven keyboard driver. The length of the key buffer is 40 bytes. But, because some keys generate two byte map codes, the key buffer cannot always store 40 characters.

A locking numeric key (NUM) causes some of the alphabetic keys to generate numeric character codes. A locking alternate set key (ALT) causes the keyboard to generate certain special symbols, as in the case of the U.S. set, where certain Greek and mathematical symbols can be generated.

The keyboard driver allows most keys to be repeated by continued depression of the key.

SENSE KB STATUS (READ NON-DESTRUCTIVELY)

Name Kbsts

Entry C = 045H

Exit A = Next console input character.
 L = 00H STOP or cursor (arrow) key only.
 L = 01H STOP or cursor (arrow) key with CTRL key.
 L = 02H STOP or cursor (arrow) key with SHIFT key.
 Cy = Set if no character in key buffer

The character in the keyboard buffer is not picked out by this function. When the non-expansion mode is in effect, the softkeys (function keys) are assigned the following codes.

Softkey 1	0F0H
Softkey 2	0F1H
Softkey 3	0F2H
Softkey 4	0F3H
Softkey 5	0F4H
Softkey 6	0F5H
Softkey 7	0F6H
Softkey 8	0F7H
Softkey 9	0F8H
Softkey 10	0F9H

The assignment codes of non-expanded function keys are described below:

1. Definable function keys:

RIGHT CURSOR	1Ch
LEFT CURSOR	1Dh
UP CURSOR	1Eh
DOWN CURSOR	1Fh
STOP	03h
DEL	08h

2. Undefinable function keys:

TAB	09h
ESC	1Bh
RETURN	0Dh
INS	12h

The cursor keys (arrow keys) are expanded when the expansion mode is set. The Return key generates a two byte code (0DH,0AH) when the line feed/new line mode is set.

The cursor keys (arrow keys) and the STOP key provide information on whether the SHIFT or CTRL keys are being depressed or not when the non-expansion mode is in effect. When any cursor key or the STOP key is depressed, the BIOS returns the SHIFT/CTRL status in register L.

READ A CHARACTER FROM KEYBOARD BUFFER

Name Kbin
Entry C = 046H
Exit A = Gets the next character from the buffer.

If there are no characters in the type-ahead buffer, this routine waits until a character is typed.

FLUSH KEYBOARD BUFFER

Name Kbfllsh
Entry C = 047H
Exit None

The type-ahead buffer is emptied by this routine.

SET SOFTKEY STRING

Name Setsftky

Entry C = 048H
 B = 0 through 9 Softkey number to be set.
 DE = Address of string to be set.

Exit None

A 15 byte string is placed into a softkey. The string should be terminated by a null (15 bytes and 1 null.) If the length of the softkey string is less than 15, the remainder should be padded with nulls.

SET MODE OF SOFTKEYS EXPANSION

Name Expctl

Entry C = 049H
 E = Expansion mode:
 E = 0 Non-expansion mode is selected.
 E = 1 Expansion mode is selected.

Exit None

If the non-expansion mode is selected, softkeys are not expanded and the BIOS returns the key's map code. If the expansion mode is selected, depressing a softkey expands its contents.

If an invalid parameter is specified in the E register, nothing is done.

The following codes are generated by depression of the softkeys when in the non-expansion mode. These codes are not sent to console output (are not displayed:)

<i>Softkey Number</i>	<i>Assigned Code</i>
1	0F0h
2	0F1h
•	•
•	•
•	•
10	0F9h

SENSE NUMBER OF CHARACTERS IN KB BUFFER

Name Kbufsts
Entry C = 04BH
Exit A = Number of characters saved in keyboard type-ahead
 buffer

This function returns the number of characters that the keyboard type-ahead buffer contains.

The softkeys and cursor (arrow) keys return one byte in any mode. The expanded contents of those keys are not counted.

SCAN KB BUFFER FOR A PARTICULAR CHARACTER

Name Lookchr
Entry C = 04CH
 E = Character code to be searched.
Exit Cy = Set when the desired character is not found in the
 type-ahead buffer.
 A = Distance from the top of the type-ahead buffer to the
 searched character.

This function searches for a particular character in the keyboard type-ahead buffer. Softkeys and cursor keys are held in the form of the map code regardless of the expansion mode setting. The contents of those keys are ignored in this function. A character within the expanded softkeys or cursor keys can not be searched.

If the searched character is the next key (at the top of the type-ahead buffer,) an offset of 0 is returned. An offset of N-1 is returned if the search character is the Nth byte. If the type-ahead buffer contains more than one of the searched for characters, only the location of the first one is returned.

DEFINE CURSOR KEY

Name Defcsr

Entry C = 04DH
 DE = Address of string data.

Exit Cy = Set when invalid data is given.

The string pointed to by DE has the following construction:

If the cursor (arrow) key string is less than three bytes, the remainder should be padded with null characters. When defining the contents of the DEL or the STOP key, only one byte can be defined. Codes from 0F0H to 0FFH cannot be used as definition characters.

Construction of string data at (DE)

(DE) = Function key number.
(DE+1) = First character.
(DE+2) = Second character. (arrow keys only)
(DE+3) = Third character. (arrow keys only)

Function key numbers:

(DE) = 00 Up arrow
(DE) = 01 Down arrow
(DE) = 02 Right arrow
(DE) = 03 Left arrow
(DE) = 04 DEL
(DE) = 05 STOP

SELECT CURSOR KEY MODE

Name Csrmod

Entry C = 04EH
 E = Control code:
 E = 0 ANSI cursor control code.
 E = 1 Application control code.
 E = 2 User defined string.
 E = 3 Mapped code.

Exit Cy = Set when invalid value is given.

The following are the mapped codes for the cursor keys:

up	01EH
down	01FH
right	01CH
left	01DH

ASK CURSOR KEYS MODE

Name Askcmod

Entry C = 056H

Exit A = Control code:
 A = 0 ANSI cursor control code.
 A = 1 Application control code.
 A = 2 User defined string.
 A = 3 Mapped code.

This function returns the status of the currently set cursor key mode.

SET REPEAT COUNTER

Name Repcnt

Entry C = 05BH
 D = Short interval (n/64 sec.)
 E = Long interval (n/64 sec.)

Exit None.

This function specifies the duration of intervals of key repeat. Two kinds of interval are defined by this function. When a key is held down, the long interval specifies the interval between the first character that appears and the following repeated character. The short interval specifies the intervals between the repetition of that character thereafter. The interval is measured in 1/64th of a second (15.625 milliseconds.) If zero is given for D or E, 256/64ths of a second (4 seconds) is specified.

NOTES

1. Numeric (NUM) key

The following keys generate numeric codes when the (NUM) key is depressed:

Key	Generated Code	ASCII Character
M	30h	0
J	31h	1
K	32h	2
L	33h	3
U	34h	4
I	35h	5
O	36h	6

Note that the numeric keypad is arranged so that keys 7, 8, and 9 are utilized at their normal positions.

2. Control codes

Certain keys generate special control codes when the control key is depressed:

CTRL-SP	00h
CTRL-[1Bh
CTRL-\	1Ch
CTRL-]	1Dh
CTRL-~	1Eh
CTRL-?	1Fh

SECTION 2

RAM DISK

The PC-8401A has 64K bytes of RAM. It allocates 32K to the RAM-disk, and 32K to main memory in the standard 32K CP/M mode. The drive name of the inner RAM disk is A:.

In the 64K CP/M mode the internal RAM-disk is non-existent because the RAM memory used as the 32K RAM-disk is allocated to a different function. It becomes part of the 64K RAM main system memory.

The 64K mode requires external storage since all the internal RAM is being used by the CP/M system.

Any files residing in the internal RAM-disk will be lost if Option Mode is selected to cause the change from 32K to 64K modes. Therefore, any important files should be moved to an external memory device (RAM Cart. or micro floppy disk) before the selection to change modes.

An external RAM Cartridge RAM-disk in the 64K mode would use the drive name A:.

The CP/M RAM Disk Parameters are shown below:

SPT	16
BSH	3
BLM	7
EXM	0
DSM	31
DRM	31
AL0	080H
AL1	000H
CKS	0
OFF	0

The block size is 1K, which gives 32 blocks per disk. This is because EXM must be greater than or equal to 1K. The RAM disk has 16 sectors per track and a maximum of 32 directory entries. The RAM disk has no skew factor nor system track.

CLEAR RAM DISK

Name Rclrdsk

Entry C = 04FH
E = RAM used:
E = 0 Inner RAM.
E = 1 Optional RAM cartridge.

Exit Cy = Set if an invalid parameter is given or if the optional RAM disk is not correctly allocated to memory.

The entire RAM disk memory area is filled with 0E5H by this function.

NOTES

RAM Cartridges Bigger Than 32K

The PC-8401A can use a 32K RAM cartridge as a RAM disk. RAM disks with larger capacity are supported in the BIOS. In order to support this, the BIOS can recognize the type of cartridge that is connected and switch CP/M disk parameters:

	32K	64K	128K
SPT	16	16	16
BSH	3	3	3
BLM	7	7	7
EXM	0	0	0
DSM	31	63	127
DRM	31	63	127
AL0	080H	0C0H	0F0H
AL1	000H	000H	000H
CKS	0	0	0
OFF	0	0	0

SECTION 3

TIME OF DAY CLOCK

SET TIME AND DATE

Name Settime

Entry C = 040H
 DE = Address of data table (See explanation.)

Exit None.

Data table passed in (DE)

Seconds:	(DE)	=	bit0 - bit3 BCD second bit4 - bit7	(low digit) (high digit)	0 - 9 0 - 5
Minutes:	(DE+1)	=	bit0 - bit3 BCD minute bit4 - bit 7	(low digit) (high digit)	0 - 9 0 - 5
Hours:	(DE+2)	=	bit0 - bit3 BCD hour bit4 - bit7	(low digit) (high digit)	0 - 9 0 - 2
Date:	(DE+3)	=	bit0 - bit3 BCD day bit4 - bit7	(low digit) (high digit)	0 - 9 0 - 3
	(DE+4)	=	bit0 - bit3 BCD day of the week bit4 - bit 7 Hex month	(0:Sun, . . . ,6:Sat) 01H - 0CH	
	(DE+5)	=	bit0 - bit7 Hex lower 2 digits of year,		050H - 063H (upper digits are always 19)

<i>Hex</i>	<i>Decimal</i>	<i>Year</i>
50	80	1980
51	81	1981
•	•	•
62	98	1998
63	99	1999

If the wrong parameters are sent, nothing is done.

READ TIME AND DATE

Name Gettime

Entry C = 041H
 DE = Address of the buffer where the current time and date will be placed.

Exit None

The current time and date are read into a buffer. The buffer will contain the time and date encoded in the same format as described in Settime.

SECTION 4

CHARACTER SET

U.S.A.

The character set for the U.S. consists of ASCII, greek and graphics characters. The standard ASCII characters are assigned to 020H - 07EH. The Greek characters are assigned to 0A0H - 0DFH. Graphics characters are assigned to 080H - 09FH and 0E0H - 0EFH. KANA characters and the literal character representations of control codes are not included. Codes from 00H - 01FH have no character font.

U.K.

The U.K. character set differs from the U.S. set only in the pound (currency) mark. The U.K. character set has the pound mark at 023H instead of the number sign (a.k.a. pound, weight sign or hash mark.) All other characters are the same as in the U.S. set.

GERMANY

The German character set has some special characters, "A" umlaut, "O" umlaut, "U" umlaut, "a" umlaut, "o" umlaut, "u" umlaut, and "ss". These characters have the following codes:

"A" umlaut	05BH
"O" umlaut	05CH
"U" umlaut	05DH
"a" umlaut	07BH
"o" umlaut	07CH
"u" umlaut	07DH
"ss"	07EH

CHAPTER 6

Specifications of the PC-8401A Communication Driver

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SECTION 1

GENERAL COMMUNICATION CHANNEL SUPPORT FUNCTIONS

INITCOM - INITIALIZE COMMUNICATION CHANNEL

Name Initcom

Entry C = 02EH

D = Baud rate as encoded below:

0 = 150	2 = 600	4 = 2400	6 = 9600
1 = 300	3 = 1200	5 = 4800	7 = 19200

E = Data length, parity generation/detection and stop bits:

		b denotes bit n number n		b is e.g. 7 bit 7			
<i>bb</i>	<i>Stop Bits</i>	<i>bb</i>	<i>Parity</i>	<i>bb</i>	<i>Character Length</i>	<i>bb</i>	<i>USART x Factor</i>
76		54		32		10	
00	Invalid	00	No	00	5	00	Invalid
01	1	01	Odd	01	6	01	Invalid
10	1.5	10	No	10	7	10	x16
11	2	11	Even	11	8	11	x64

B = Controls RTS and DTR lines, and selects communication device:

<i>bbbbbb</i>	<i>Device</i>	<i>b</i>	<i>DTR</i>	<i>b</i>	<i>RTS</i>
765432		1		0	
000000	Invalid	0	Inactive	0	Inactive
000001	RS-232C	1	Active	1	Active
000010	Modem				
000011	Invalid				

Exit None

This function resets the communication interface and must be called at the Beginning of a communication session. The communication queue is cleared by this call.

One USART is shared by the RS-232C port, the modem, and the cassette. Bits b2 and b3 of the B register are used to select either the RS-232C port or a modem, as the current communication device. Successive send/receive or break generation requests are directed to the selected device.

The cassette device is not supported by the Communication Driver. The cassette interface can be accessed only through the Cassette Driver. Refer to the Cassette Driver specifications for further details. The Baud rate setting must not be higher than 300, if the built-in modem is to be used.

There are some special considerations to keep in mind when the optional 1200 baud modem is selected:

1. The 1200 Baud Modem operates at 1200 Baud only. In this case, the Initcom call's Baud rate parameter in register D is ignored.
2. The USART x Factor must be x64. It is the application program's responsibility to set the factor to this value (b1:b0 of E register).
3. The combination of character length, number of stop bits, and parity control is restricted to the following combinations only:
 - (a) 8 data bits, 1 stop bit and no parity bit
 - (b) 7 data bits, 1 stop bit and 1 parity bit
 - (c) 7 data bits, 2 stop bits and no parity bit

The driver does not check for the validity of the combination.

Note that the 300/1200 selection can only be made by the hardware switch at the rear of the unit. Bits b3:b2 of the B register selects either the DB-25 (25 pin RS-232C) connector or the modem specified by the hardware switch.

Bits b1 and b0 of the B register are ignored when the modem is selected.

This function preserves the current telephone line selection. Communication characteristics can be changed even after a link between the PC-8401A and the host computer has been established through the telephone line.

CLSCOM - DE-ACTIVATE COMMUNICATION CHANNEL

Name Clscom
Entry C = 02FH
Exit None

To reduce power consumption, the application program must call this function when the program is finished using the communication channel. This BIOS function forces the CMOS USART to enter the special power down mode.

If the current communication device is the modem, and the telephone line is connected to the modem, the line will be switched to the handset by this function.

RCVCOM - RECEIVE A CHARACTER FROM COMMUNICATION CHANNEL

Name Rcvcom
Entry C = 030H
Exit Cy = 1 if aborted by a STOP key depression

 Cy = 0
 and
 Z = 1 if successful
 and
 A = Character received

 Cy = 0
 and
 Z = 0 if error was detected during receive
 and
 A = Erroneous character

This is a destructive read function and if the communication queue is empty, this routine will wait for a character to come from the communication channel.

On exit, if the Z flag is reset, it indicates that a receive error was detected. In this case, A holds the erroneous character.

If the Cy flag is set, that indicates that a receive request was manually aborted by the depression of the STOP key. The character in A is undefined in this case.

SENDCOM - SEND A CHARACTER TO COMMUNICATION CHANNEL

Name Sendcom
Entry C = 031H
 E = Character to send
Exit Cy = 0 if successful
 Cy = 1 if aborted by a STOP key depression

POLLCOM - SENSE COMMUNICATION CHANNEL

Name Pollcom

Entry C = 032H

Exit Z = 1 if nothing has been received

Z = 0 if there is at least one character in the communication queue.
and
A = The first character in the queue.

This is a non-destructive read function and returns the current communication queue status. When one or more characters are in the communication queue, the first character in the queue is returned in the A register. However, the character also remains in the queue.

XONXOFF - ENABLE/DISABLE XON/XOFF FLOW CONTROL

Name Xonxoff

Entry C = 033H

E = Xon/Xoff flow control byte as encoded below:
 b0 = 0 disables the generation of Xon/Xoff
 b0 = 1 enables the generation of Xon/Xoff
 b1 = 0 disables the recognition of Xon/Xoff
 b1 = 1 enables the recognition of Xon/Xoff
All other bits must be zero.

Exit None

This function enables the generation and the recognition of the Xon and Xoff control characters. If bit 0 is set, the PC-8401A will generate and transmit Xon and Xoff characters, if reset, the generation of these characters will be disabled. If bit 1 is set, the PC-8401A will recognize and respond to the reception of these characters, if reset, any reception of these characters will be ignored.

SENDBRK - SEND BREAK SIGNAL

Name Sendbrk

Entry C = 034H

E = 0 sends a short break (approximately 0.3 second)
E = 1 sends a long break (approximately 3.5 seconds)

Exit None

CARRIER - SENSE CARRIER STATUS

Name	Carrier
Entry	C = 035H
Exit	A = 0 carrier is off A = 1 carrier is on

This function is used to sense the carrier's status through the current communication device. This function must be called after Initcom has been called, and the communication device selection has been established.

SECTION 2

MODEM RELATED FUNCTIONS

DSETUP - SETUP FOR DIALING

Name Dsetup
Entry C = 050H
Exit Cy = 1 if aborted by Shift+Stop

This function must be called prior to dialing. The function connects the modem to the telephone line and waits 2 seconds.

DIAL - DIALING

Name Dial
Entry C = 051H
 E = Number to dial. (Must be in the range 0-9)
 B = 0 Dial at 10 pps.
 B = 1 Dial at 20 pps.
Exit None

WAIT - WAIT FOR PREDETERMINED TIME

Name Wait
Entry C = 052H
 E = Number of seconds to wait
Exit Cy = 1 if aborted by Shift+Stop

This function is usually used to pause during dialing.

SELLINE - SELECT LINE CONNECTION

Name Selline

Entry C = 053H
 E = 0 selects the handset
 E = 1 selects the modem

Exit Cy = 1 if aborted by Shift+Stop

This function is used to select the device connected to the telephone line. When the modem is selected, the function waits for a carrier tone.

MODMODE - MODEM MODE CONTROL

Name Modmode

Entry C = 054H
 E = Set modem control as encoded below:
 b0 = 1 selects originate mode
 b0 = 0 selects answer mode
 b3 = 1 generates carrier
 b3 = 0 suspend carrier
 All other bits must be zero

Exit None

This function is usually used to select between originate or answer modes. This function must be called before the Selline function is used to select the modem. The carrier bit passed to this function is usually 0, and is automatically turned on by the Selline routine.

The last Originate/Answer selection is remembered by the Communication driver and, unless it is explicitly specified by this function, the previous selection will be used by the Selline call.

MODSTS - SENSE MODEM STATUS

Name Modsts

Entry C = 055H

Exit A = Modem status byte as encoded below.
 b0 = 0 when ring is off
 b0 = 1 when ring is on
 b1 = 0 when off hook
 b1 = 1 when on hook
 b2 = 0 when 300 baud modem is selected
 b2 = 1 when 1200 baud modem is selected
 All other bits are undefined.

CHAPTER 7

Functional Specifications of the PC-8401A Cassette Driver

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SECTION 1

FILE FORMAT

The PC-8401A cassette driver supports two file formats, the PC-8401A native format and the PC-8201A text file (.DO file) format.

PC-8401A NATIVE FILE FORMAT

Each PC-8401A native file consists of a header block, followed by one or more data blocks, and is terminated by an end of file block.

The record size is variable, but all the records in a file must be the same size that is specified in the header block.

The recommended record size is 1024 bytes. Using too small a record size will significantly reduce the throughput.

FILE HEADER FORMAT

2400 Hz	1200 Hz	2400 Hz	09BH	File Name
0.6 sec	1.0 sec	0.6 sec	1 byte	11 bytes

Record Size	Checksum	20 00H's	2400 Hz
2 bytes	1 byte	20 bytes	0.1 sec

The Checksum Byte in the header block is the 2's complement of the sum of each byte in the file name (11 bytes) plus the record size fields (2 bytes).

DATA BLOCK FORMAT

2400 Hz	1200 Hz	2400 Hz	08DH
0.6 sec	1.0 sec	0.6 sec	1 byte

N bytes data	Checksum	20 00H's	2400 Hz
N bytes	1 byte	20 bytes	0.1 sec

The length of the data field, N, in each data record, is determined by the record length field in the header recorded of the file.

The Checksum of the data block is the 2's complement of the sum of each byte in the N bytes of data.

END OF FILE BLOCK FORMAT

2400 Hz	1200 Hz	2400 Hz	09AH	20 00H's	2400 Hz
0.6 sec	1.0 sec	0.6 sec	1 byte	20 bytes	0.1 sec

PC-8201A TEXT FILE FORMAT

The PC-8201A text file format consists of a header block followed by one or more data blocks.

In contrast to the PC-8401A native file format, there is no End Of File Block. A PC-8201A would detect the end of the file by the presence of a CTRL-Z (01AH) character. It is the application program's responsibility to put a CTRL-Z at the end of the data. If the last data block is less than 256 bytes in size, a CTRL-Z is placed at the End Of File position and the rest of the record is padded with CTRL-Z's.

FILE HEADER FORMAT

2400 Hz	1200 Hz	2400 Hz	09CH	File Name
0.6 sec	1.0 sec	0.6 sec	1 byte	6 bytes

Undefined	Checksum	20 00H's	2400 Hz
10 bytes	1 byte	20 bytes	0.1 sec

The Checksum Byte in the header block is the 2's complement of the sum of each byte in the file name (6 bytes), and the 10 undefined (garbage) bytes.

DATA BLOCK FORMAT

2400 Hz	1200 Hz	2400 Hz	08DH
0.6 sec	1.0 sec	0.6 sec	1 byte

256 bytes data	Checksum	20 00H's	2400 Hz
256 bytes	1 byte	20 bytes	0.1 sec

The Checksum of the data block is the 2's complement of the sum of each byte in the 256 bytes of data (including the CTRL-Z EOF marker, and any padding CTRL-Z's).

SECTION 2

FILENAME

A filename of a PC-8401A native format file consists of an 8 byte primary name followed by a 3 byte secondary name (extension). A dot (.) should not be included in the filename. If either the primary name or the secondary name is less than its maximum size, the rest of the filename must be padded with space characters (" " ASCII, 020H, 32 decimal.)

Ambiguous filenames are not allowed. The cassette driver checks for a specific file name. Therefore, any "*" or "?" characters that are included in the filename are treated as part of filename.

A filename of a PC-8201A text format file consists of 6 characters. No extension is allowed (.DO is assumed.) If the name is less than 6 characters, the rest of the name must be padded with space characters.

SECTION 3

CASSETTE FUNCTIONS

INITCAS - INITIALIZE CASSETTE INTERFACE

Name *Initcas*

Entry *C = 036H*
 E = 0 selects 600 baud.
 E = 1 selects 1200 baud.

Exit *None*

This function must be called once at the very beginning of a cassette session to initialize the Baud rate for cassette I/O.

CLSCAS - DE-ACTIVATE CASSETTE INTERFACE

Name *Clscas*

Entry *C = 037H*

Exit *None*

This function de-activates the cassette interface and places the controller in the power-down mode. This function must be called when the cassette session has been completed.

SRCFILE - SEARCH FOR FILE HEADER

Name Srcfile

Entry C = 038H
 A = 0 when searching for PC-8401A native format file.
 A = 1 when searching for PC-8201A format file.
 DE = Address of file name string.

Exit Cy = 0 if file was found.
 Cy = 1 if search was aborted by a STOP key depression
 HL = Record length

The Srcfile function is used to search for a file header with the given file name, and to locate the file pointer at the top of the data block of the file. There is no File Not Found condition since the driver cannot know when the end of tape has occurred.

The file name buffer is 11 bytes long for PC-8401A native format file, and 6 bytes long for PC-8201A text format file. On exit, HL holds the record size of the file's data block. The following Readblk call must allow for a read buffer of this size. If the file searched for is a PC-8201A text file, the record size is always 256.

The cassette motor is automatically turned on when the function is called, and turned off at exit.

SKIPFILE - SKIP TO NEXT FILE

Name Skipfile

Entry C = 039H
 DE = Address of the file name buffer where the file name of the next file is passed.

Exit A = 0 indicates the next file is a PC-8401A native format file.
 A = 1 indicates the next file is a PC-8201A text file.
 Cy = 0 when successful
 Cy = 1 if operation was aborted by a STOP key depression
 HL = Record size of next file

The Skipfile function skips over the current file to the top of the data block of the next file. The name of the next file is passed into a user supplied file name buffer, pointed to by the DE register pair. The file name buffer must be 11 bytes long. When the file (to which the file pointer is advanced) is a PC-8201A text format file, the filename appears in the upper 6 bytes of the buffer.

MAKEFILE - WRITE FILE HEADER

Name Makefile

Entry C = 03AH
 A = 0 creates a PC-8401A native format file header
 A = 1 creates a PC-8201A text file format header
 DE = Address of file name string.
 HL = Record size

Exit Cy = 0 when successful
 Cy = 1 when aborted by a STOP key depression

The Makefile function writes a file header containing the given file name.

READBLK - READ NEXT DATA BLOCK

Name Readblk

Entry C = 03BH
 DE = Address of buffer

Exit Cy = 0
 and
 Z = 1 when successful
 and
 A = 0 indicates the block was not an EOF block
 or
 A = 01AH indicates that the block was an EOF block
 or
 A = undefined when reading a PC-8201A text format file.

Cy = 1 when aborted by a STOP key depression
Z = 0 when an error was detected

The Readblk function reads the next data block of the currently selected file into the user supplied buffer whose address is passed in DE.

The size of the record is determined by the value in the record size field of the header file of the current file. It is the application program's responsibility to allocate enough buffer space according to the record size returned by Srchead or Skiphead.

The file type is determined by the last Srcfile or Skipfile call.

VFYBLK - VERIFY DATA BLOCK

Name Vfyblk

Entry C = 03CH
 DE = Address of buffer

Exit Cy = 0
 and
 Z = 1 when successful
 and
 A = 0 indicates that the block was not an EOF block.
 or
 A = 01AH indicates that the block was an EOF block.

 Cy = 1 when aborted by a STOP.
 Z = 0 when an error occurs (this can either be a read error or a failure of
 verification.)

The Vfyblk call is used to compare the data in a user supplied buffer with a data block on tape.

WRTBLK - WRITE DATA BLOCK

Name Wrtblk

Entry C = 03DH
 DE = Address of buffer containing data to be written

Exit Cy = 0 when successful
 Cy = 1 when aborted by a STOP key depression

WRTEOF - WRITE END OF FILE BLOCK

Name Wrteof

Entry C = 03EH

Exit Cy = 0 when successful
 Cy = 1 when aborted by a STOP key depression

This function needs to be called only if the file being written is a PC-8401A native format file. Otherwise, the function is ignored.

MOTORCTL - TURN CASSETTE MOTOR ON OR OFF

Name Motorctl

Entry C = 03FH
 E = 0 turns motor off
 E = 1 turns motor on

Exit None