SmartCard-8
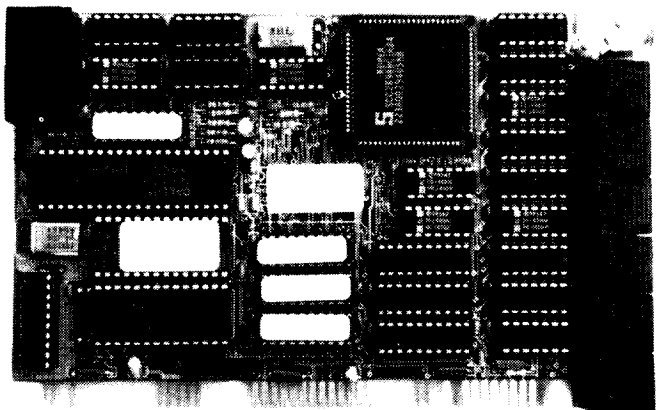
User Manual

G TEK ®, INC.

Congratulations!

You've purchased the most advanced intelligent multiport serial card available on the market today! Your SmartCard-8 will provide you with years of efficient and trouble free service. The installation of the SmartCard-8 is not difficult. However you must install the SmartCard-8 correctly to ensure optimum performance. Therefore, before installing your SmartCard-8, please thoroughly read this instruction manual.
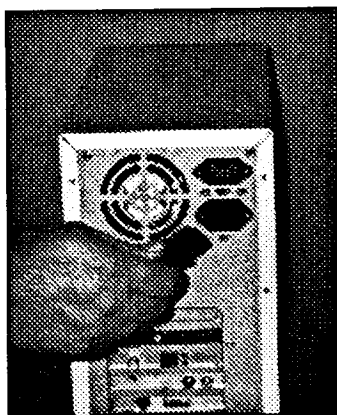
CAUTION

Be sure that the power switch on your computer is turned off and the power cord is removed from your computer before installing or removing any equipment.

Installation

Before installing your SmartCard-8, you must configure the base address and interrupt selection for the card. The factory default configuration is Base Address 2E0h and no interrupt selected.

Selecting a Base Address

Each SmartCard-8 that you install occupies 4 bytes of I/O space. You must select a 4 byte region of I/O which is not utilized by another I/O device. The chart below illustrates what types of devices use I/O space and at what address they may be located.

Hex Range
100 - 107 PS/2 type programmable option select registers
1F0 - 1FF Hard Dist (AT)
200 - 20F Game/Control Port
210 - 21F Expansion Unit (XT)
238 - 23B Bus Mouse
23C - 23F Alternate Bus Mouse
278 - 27F Parallel printer
2B0 - 2BF EGA Display Port
2C0 - 2CF EGA Display Port (alt)
2D0 - 2DF EGA Display Port (alt)
2E0 - 2E7 GPIB (AT)
2E8 - 2EF Serial Port (COM4)
2F8 - 2FF Serial Port (COM2)
300 - 30F Prototype Card
310 - 31F Prototype Card
320 - 32F Hard Disk (XT)
378 - 37F Parallel Printer
380 - 38F SDLC
3A0 - 3AF SDLC
3B0 - 3BB MDA
3BC - 3BF Parallel Printer
3C0 - 3CF EGA
3D0 - 3DF CGA
3E8 - 3EF Serial Port (COM3)
3F0 - 3F7 Floppy Disk
3F8 - 3FF Serial Port (COM1)

If you are not sure about which address range is available on your PC, you may run the program "IOMAP.EXE" which is supplied on your SmartCard-8 distribution diskette. This program will give you a visual snapshot of the I/O space in the 100-3FFh range. You will then be able to determine which I/O addresses are in use by another device. When running the I/O map program, each dot on the screen represents an available byte of I/O. Colored or solid rectangles indicate I/O space which is currently in use by another device.

Jumper block JB4 selects one of seven base addresses for the SmartCard-8. See diagram below for the location of JB4.

NOTE: The I/O map will not funcion properly if you have a network card installed.
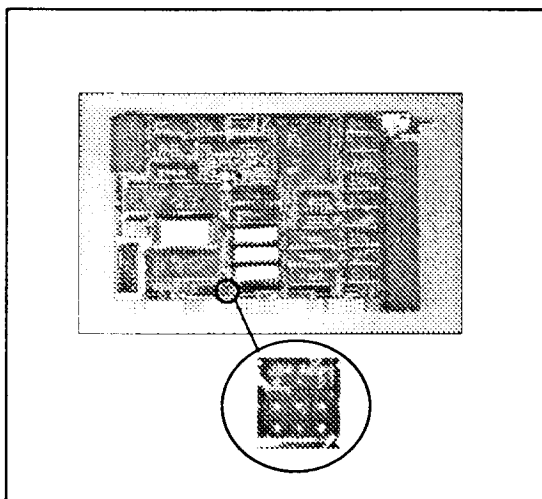
Location of JB4

In the following chart, "on" indicates that a jumper is installed between the two pins under the number indicated. "off" indicates that no jumper is installed. All three jumpers installed is not a valid selection.

| Base Address	JB4-0	JB4-1	JB4-2
2E0H	OFF	OFF	OFF
2E4H	ON	OFF	OFF
210H	OFF	ON	OFF
214H	ON	ON	OFF
218H	OFF	OFF	ON
21CH	ON	OFF	ON
220H	OFF	ON	ON
ILLEGAL	ON	ON	ON

JB4 Addr:

0   1   2

Simply place a shorting jumper as indicated. NOTE: you need only 2 jumpers to cover all possible selections, and you need NO jumpers to use the default selections

IRQ Selections

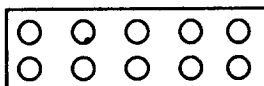It is not necessary to use any interrupts with the SmartCard-8. However, if special interrupting functions are desired, IRQ selections are made with a SINGLE shorting jumper on jumper block JB3. Interrupts 2,3,5,10 & 12 may be selected. Location of JB3 is shown below.
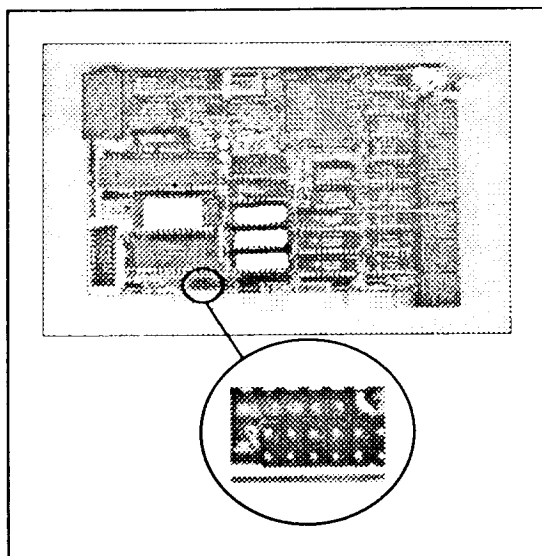
Location of IRQ Select
Jumper (JB3)

IRQ:	12	10	5	3	2
JB3	O	O	O	O	O
	O	O	O	O	O

Connecting the BBS Guardian Watchdog to the Motherboard.

A 2 conductor 15 inch cable is supplied with your GTEK product which is used to connect the watchdog circuit on the SmartCard to the reset circuitry on your computer. Follow the diagram to see how to install the watchdog circuit to your motherboard. Note that use of the Guardian Watchdog is NOT required in order to use the SmartCart-8.

RJ-45 on the upper rear of the SC-8

Connect your reset pushbutton here

Connect the proovided jumper wire between here and where your reset pushbutton used to connect.

U5

U8

Watchdo PAL

C9

U9

80C32 MPU

R7

JB2

JB1
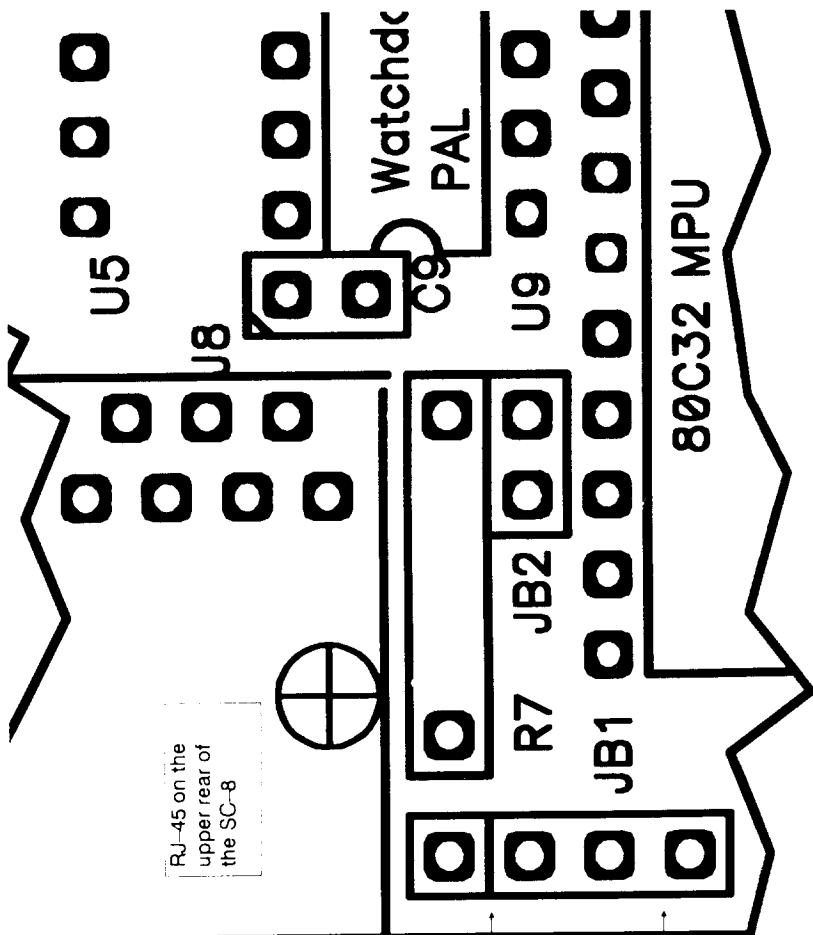
Physical Installation

After you have selected the base address and interrupt (if any) for your SmartCard-8, you may proceed with the physical installation of the card. You may wish to make a note of your current jumper settings for future use.
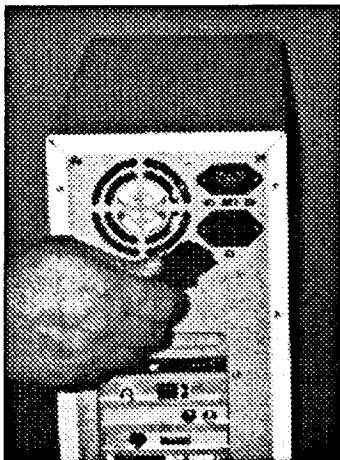
CAUTION

Be sure that the power switch on your computer is turned off and the power cord is removed from your computer before installing or removing any equipment.

Please refer to your computer's reference manual concerning the installation of expansion cards. If you are not familiar with the process of installing expansion cards in your computer or if you feel uncomfortable with this installation, refer the installation to qualified personnel. Failure to follow the instructions may result in damage to your compute, damage to the SmartCard or both.

Step 1 - Carefully remove the cover of your PC.

Case styles vary, so follow the instructions in your computer manual for removing the cover of your PC to expose the expansion slots.

Step 2 - Choose an available 8 or 16 bit expansion slot.

Eight bit slots will have only one card edge connector. 16 bit slots will have 2 card edge connectors. In order to access the higher (above IRQ7) interrupts, you will have to install your SmartCard in a 16 bit slot. You will need to remove the screw and bracket which covers the slot hole. Retain the screw for the

16 Bit Expansion Slot

8 Bit Expansion Slot
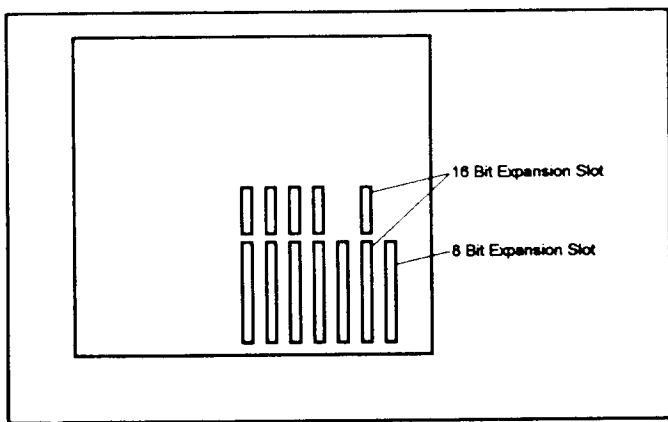
Top View of Computer

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Step 3 - Carefully insert the SmartCard into the available slot and secure it in place with the screw that you removed in step 2.
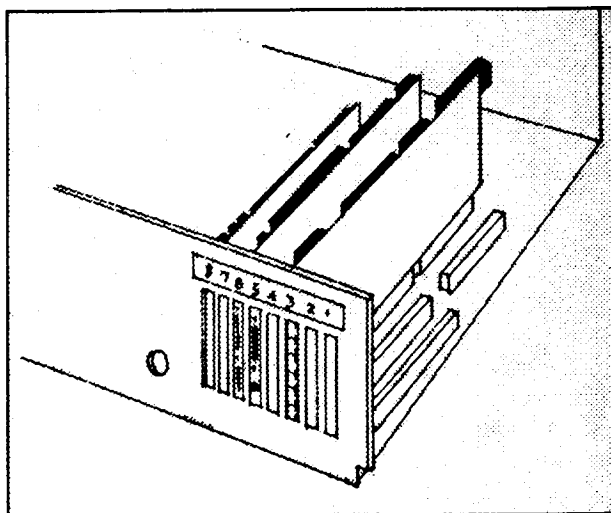
SmartCard inserted into slot

Step 4 - insert cable retaining bracket.

If you will be using the two ports on the rear of the SmartCard (Ports 6 & 7), you may wish to use the cable retaining bracket supplied with the unit. The cable retaining bracket has 2 cutouts which secure the 2 cables which plug into ports 6 & 7.
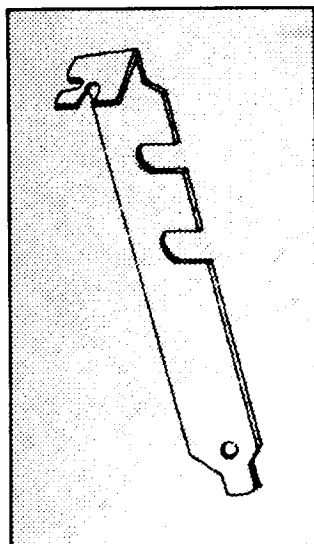
Cable Retaining Bracket

The 2 cables for ports 6 & 7 can be identified by the rubber grommets which are installed approximately 10 inches from the RJ-45 plug.
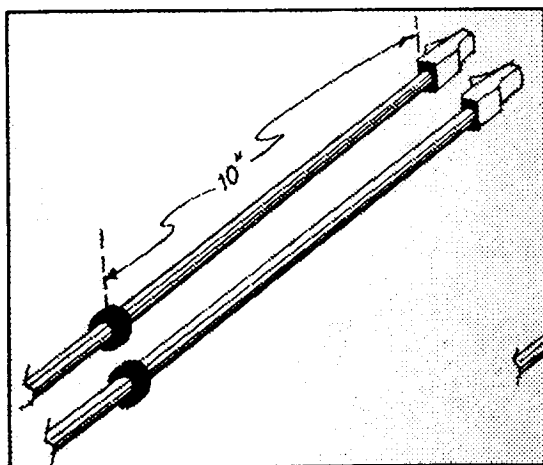
RJ-45 cables with rubber grommets (2)

To install the cable retaining bracket, you must first remove
an existing cover bracket and retain the screw. Locate the
cables for ports 6 & 7. Carefully route the cables through
the slot where you removed the existing cover.
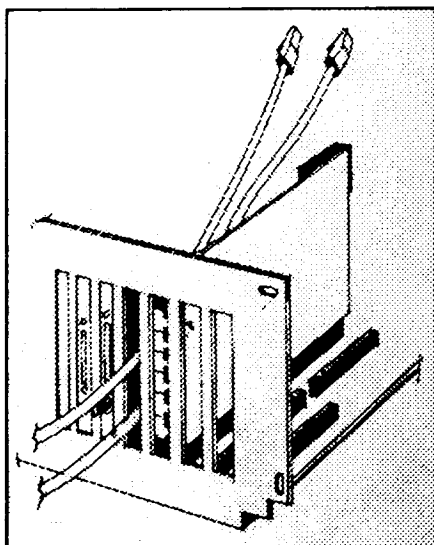
RJ-45 cables routed through opening

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Using G00

Before you may use your SmartCard with your BBS Software, you must load the G00 driver. The G00 program installs a FOSSIL driver on the SmartCard. It also loads a small TSR in your computer's memory which provides a link between the Software which sends and recieves FOSSIL commands and the SmartCard. See below for G00 command line parameters.

```
USAGE EXAMPLES:
  G00 u          ;uninstalls g00
  G00 2e0        ;install board at 2e0 to com1-8
  G00 2e0 w      ;install board at 2e0 with GUARDIAN
Watchdog.
  G00 i,2e0,3    ;install board at 2e0 starting com3
                 ;but no timer interupt intercept.
                 ;Allows fossil to be run in dos window
                 ;which might be switched out to disk.
  G00 2e0 2e4    ;installs two boards as com1-16
  G00 2e0, 2e4, 5 ;installs boards starting at com5
  G00 n, 2e0, 2e4 ;continues installation even if one
                 ;board is missing or inoperative.
  G00 2e0,2e4,2e8,2ec,1e0,1e4,1e8,1ec,3
                 ;install as com3 to com67
```

Upon the successful installation of G00 you will see the following message:

```
Smartcard(tm) Fossil Driver - Copyright 1994, GTEK Inc.
Version 5.20B - November 17, 1994


Card Base Address - 0218H
BBS-8F O.S. Version - 232A
Loading Smartcard Fossil O.S.!
Smartcard Opsys Version - 300D

Smartcard ports begin with COM-01

OPTION W - Guardian Watchdog has been enabled.

Driver installed successfully.
```

Smarts program

Included with every Smartcard is a Status/control program which allows the user to view and/or modify currently installed FOSSIL parameters. See below for a list of available commands

```
EXAMPLE USAGE:

   smarts S                       ;all kinds of status
   smarts W1 or W0                ;turn on or off watchdog
   smarts COM24:1200              ;sets baud only
   smarts COM1:38400,n,8,1        ;set port parameters
   smarts COM2:57600,e,7,1,L      ;set and lock port
parameters
   smarts COM1:U                  ;unlock port parmeters
   smarts COM1:L                  ;lock port parameters
   smarts COM7:C1 or C0           ;cd is reflection of dtr.
   smarts COM3:ON or OFF          ;turn fossil on/off
   smarts COM6:FT or FR or FB     ;buffer flush tx ,rx, or both!
```

Examples of the Smarts program status screens:

Smartcard(tm) Status / Control Program
Copyright 1994, GTEK Inc.
Version 1.00A - November 11, 1994

GTEK Smart Fossil version - 5.20B
Receiver Buffer Sizes - 1024
Transmit Buffer Sizes - 2048
There are 08 Smart ports beginning with COM01
The Guardian(tm) Watchdog is ENABLED.

Port	Baud	P I S	Fossil	Locked	NRxChar	NTxChar	Modem Status/Cntl	Other
COM01:19200,N,8,1			OFF		0000	0000	dt rs	
COM02:19200,N,8,1			OFF		0000	0000		
COM03:57600,N,8,1			ON	LOCK	0000	0000	cs dt rs	
COM04:19200,N,8,1			OFF		0000	0000	cs	ctod
COM05:19200,N,8,1			OFF		0000	0000		
COM06:19200,N,8,1			OFF		0000	0000		
COM07:19200,N,8,1			OFF		0000	0000		
COM08:19200,N,8,1			OFF		0000	0000		

Note: CtoD set/cleard with smarts c1/c0, can be used to do hardwire connect
with 6 conductor only. Causes sensed CD to be that of DTR. Thus only
txd,rxd,rts,cts, and ground are necesary. Tie Cd to DTR at terminal end.

Smartcard(tm) Status / Control Program
Copyright 1994, GTEK Inc.
Version 1.00A - November 11, 1994

Port Parameters set and UN-locked.
Port Parameters Locked.

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Should you have any questions concerning this Agreement, you may contact GTEK, Inc. by writing to:

GTEK, Inc. Sales and Service
P. O. Box 2310
Bay St. Louis, MS 39521-2310

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For warranty service or non warranty service, contact GTEK, INC. at (601) 467-8048 to obtain an RMA (Return of Material Authorization number).
We will need the serial number and date of purchase. Send the SmartCard freight prepaid to:

GTEK, INC.
RMA #####
399 Highway 90
Bay St. Louis, MS. 39520

Be sure to include the RMA number on and in the package so we will know what to do with it. Out of warranty service charges are determined on an hourly labor plus materials basis.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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FOSSIL functions supported by the SmartCard series

AH = 00h   Set baud rate

Parameters:
Entry: AL = Baud rate code
        DX = Port number
Exit: AX = Port status (see function 03h)

This works the same as the equivalent IBM PC BIOS call, except that it
ONLY selects a baud rate. This is passed in the high order 3 bits of AL
as follows:

```
010 =  300  baud
011 =  600   "
100 = 1200   "
101 = 2400   "
110 = 4800   "
111 = 9600   "
000 = 19200  " (Replaces old 110 baud mask)
001 = 38400  " (Replaces old 150 baud mask)
```

Bits 4-3 define parity: 0 0   no parity
                             1 0   no parity
                             0 1   odd parity
                             1 1   even parity

Bit 2 defines stop bits: 0 1 stop bit;
                             1 1.5 bits for 5-bit char:
                             2 for others

Bits 1-0 character length: 0 0   5 bits
                               0 1   6 bits
                               1 0   7 bits
                               1 1   8 bits

AH = 01h   Transmit character with wait

Parameters:
Entry: AL = Character
        DX = Port number
Exit: AX = Port status (see function 03h)

AL contains the character to be sent. If there is room in the transmit
buffer the return will be immediate, otherwise it will wait until there
is room to store the character in the transmit buffer. On return, AX is
set as in a status request (see function 03h).

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AH = 02h   Receive character with wait

Parameters:
   Entry: DX = Port number
   Exit: AH = 00h
          AL = Input character

If there is a character available in the receive buffer, returns with
the next character in AL. It will wait until a character is received if
none is available.

AH = 03h   Request status

Parameters:
   Entry: DX = Port number
   Exit: AX = Status bit mask (see below)

Returns with the line and modem status in AX. Status bits returned are:

In AH:
   Bit 0 = RDA - input data is available in buffer
   Bit 1 = OVRN - the input buffer has been overrun. All
            characters received after the buffer is
            full should be discarded.
   Bit 5 = THRE - room is available in output buffer
   Bit 6 = TSRE - output buffer is empty

In AL:
   Bit 3 = Always 1 (always return with this bit set to 1)
   Bit 7 = DCD - carrier detect

This can be used by the application to determine whether carrier detect
(CD) is set, signifying the presence/absence of a remote connection, as
well as monitoring both the input and output buffer status. Bit 3 of AL
is always returned set to enable programs to use it as a carrier detect
bit on hardwired (null modem) links.

AH = 04h   Initialize driver

Parameters:
   Entry: DX = port number
         BX = 4F50h
   Exit: AX = 1954h if successful
         BL = maximum function number supported
         (not counting functions 7Eh and above)
         BH = rev of FOSSIL doc supported

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This is used to tell the driver to begin operations, and to check that the driver is installed. This function should be called before any other communications calls are made. At this point all interrupts involved in supporting the comm port (specified in DX) should be set up for handling by the FOSSIL, then enabled. DTR is raised by this call.

AH = 05h   Deinitialize driver

Parameters:
    Entry: DX = Port number
    Exit: None

This is used to tell the driver that comm port operations are ended. The function should be called when no more comm port functions will be used on the port specified in DX. DTR is NOT affected by this call.

AH = 06h   Raise/lower DTR

Parameters:
    Entry: DX = Port number
            AL = DTR state to be set (01h = Raise, 00h = Lower)
    Exit: None

This function is used to control the DTR line to the modem. AL = 00h means lower DTR (disable the modem), and AL = 01h means to raise DTR (enable the modem).

AH = 07h   Return timer tick parameters

Parameters:
    Entry: None

This is used to determine the parameters of the timer tick on any given machine. Three numbers are returned:

    AL = Timer tick interrupt number
    AH = Ticks per second on interrupt number shown in AL
    DX = Milliseconds per tick (approximate)

AH = 08h   Flush output buffer

Parameters:
    Entry: DX = Port number
    Exit: None

This is used to force any pending output. It does not return until all pending output has been sent. You should use this call with care.

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AH = 09h   Purge output buffer

Parameters:
Entry: DX = Port number
Exit: None

This is used to purge any pending output. Any output data remaining in the output buffer (not transmitted yet) is discarded.

AH = 0Ah   Purge input buffer

Parameters:
Entry: DX = Port number
Exit: None

This is used to purge any pending input. Any input data which is still in the buffer is discarded.

AH = 0Bh   Transmit no wait

Parameters:
Entry: DX = Port number
Exit: AX = 0001h - Character was accepted
             = 0000h - Character was not accepted

This is exactly the same as the "regular" transmit call, except that if the driver is unable to buffer the character (the buffer is full), a value of 0000h is returned in AX. If the driver accepts the character (room is available), 0001h is returned in AX.

AH = 0Ch   Non-destructive read-ahead

Parameters:
Entry: DX = Port number
Exit: AH = 00h   - Character is
        AL = Next character   available
        AX = FFFFh   - Character is not available

Return in AL the next character in the receive buffer. If the receive buffer is empty, return FFFFh. The character returned remains in the receive buffer. Some applications call this "peek".

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AH = 0Dh   Keyboard read without wait

Parameters:
Entry: None
Exit: AX = IBM-style scan code (Character available)
         = FFFFh   (Character not available)

Return in AX the next character (non-destructive read ahead) from the keyboard; if nothing is currently in the keyboard buffer, return FFFFh in AX. Use IBM-style function key mapping in the high order byte. Scan codes for non-"function" keys are not specifically required, but may be included. Function keys return 00h in AL and the "scan code" in AH.

AH = 0Eh   Keyboard read with wait

Parameters:
Entry: None
Exit: AX = IBM-style scan code

Return in AX the next character from the keyboard; wait if no character is available.

AH = 0Fh   Enable or disable flow control

Parameters:
Entry: AL = Bit mask describing requested flow control
       DX = Port number
Exit: None

TRANSMIT flow control allows the "other end" to restrain the transmitter when you are over-running it. RECEIVE flow control tells the FOSSIL to attempt to do just that if it is being overwhelmed.

Bit 1 = 1   CTS/RTS (CTS on transmit, RTS on receive)
Flow control is enabled, or disabled, by setting the appropriate bits in AL for the types of flow control we want to ENABLE (value = 1), and/or DISABLE (value = 0), and calling this function.

Enabling CTS/RTS will cause the FOSSIL to cease transmitting when CTS is lowered. Transmission will resume when CTS is raised. The FOSSIL will drop RTS when the receive buffer reaches a predetermined percentage full The FOSSIL will raise RTS when the receive buffer empties below the predetermined percentage full.

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AH = 10h   Extended Control-C / Control-K checking and transmit on/off

Parameters:
Entry: AL = Bit mask (see below)
        DX = Port number
Exit: AX = 0001h - Control-C/K has been received
           = 0000h - Control-C/K has not been received

This is used for BBS operation, primarily. A bit mask is passed in AL with the following flags:

Bit 0   Enable/disable Control-C / Control-K checking
Bit 1   Disable/enable the transmitter

The Enable (bit 0 = 1) and Disable (Bit 0 = 0) Control-C/Control-K check function is meant primarily for BBS use. When the checking is enabled, the FOSSIL peeks at the last character received and checks for Control-C / Control-K.

The Disable (Bit 1 = 1) and Enable (Bit 1 = 0) Transmitter function lets the application restrain the asynchronous driver from output in much the same way as XON/XOFF would.

AH = 11h   Set current cursor location.

Parameters:
Entry: DH = Row (line)
        DL = Column
Exit: None

This function looks exactly like like INT 10h, subfunction 2, on the IBM PC. The cursor location is passed in DX: row in DH and column in DL. The function treats the screen as a coordinate system whose origin (0,0) is the upper left hand corner of the screen.

AH = 12h   Read current cursor location.

Parameters:
Entry: None
Exit: DH = Row (line)
        DL = Column

Looks exactly like INT 10h, subfunction 3, on the IBM PC. The current cursor location (using the same coordinate system as function 16h) is passed back in DX.

AH = 13h   Single character ANSI write to screen.

Parameters:
Entry: AL = Character to display
Exit: None

AH = 14h   Enable or disable watchdog processing

The G00 program connects to your computer's int 14h communications interupt
to include a FOSSIL function 14h which is customized for the Guardian
Watchdog controller chip on the BlackBoard-4.

The following functions are supported

Function AL=0   DISABLE GUARDIAN CONTROLLER. Returns ax=0 for success.

Function AL=1   ENABLE GUARDIAN CONTROLLER, AUTO REFRESH MODE.
                       The Guardian is refreshed periodically based on the
                       Time of Day interupt and on disk activity. If the
                       computer locks up, these functions cease to operate and
                       the Guardian resets the computer. Returns ax=0 for success.

Function AL=2   MANUAL REFRESH. This is for those who wish to supply
                       the watchdog updates via their code. It is more protective
                       than the auto mode. Once called, this function must be
                       repeatedly called at least once per second or the Guardian
                       will reset the computer. The time that it takes before
                       the reset occurs will be several seconds. The only way
                       to get out of the responsibility of making these calls is
                       to do a subfunction 0, disabling the contoller. You must
                       enable the contoller with subfunction 1 before you begin
                       making manual refresh subfunction 2 calls.
                       Returns ax=0 for success.

Function AL=3   RESET THE COMPUTER. This function does a hardware reset
                       to the computer. If it fails it returns with AX=0ffffh.
                       If it succeeds, the computer is reset.

Function AL=4   GUARDIAN STATUS. This function returns the status of the
                       controller. Upon return, the registers are as follows.
                       ax='G0'   ;fossil ident for GTEK
                       bx='WD'   ;Watchdog ident
                       ch= 10h   ;product code for BlackBoard-4
                       cl= 0bh   ;wdog fossil support vers id. BB4
              or   ch= 20h   ;product code for SmartCard-8
                       cl= 0ah   ;wdog fossil support vers id. SC8
                       dh= 0   ;wdog auto refresh mode
                       dh= 0ffh   ;wdog manual refresh mode
                       dl= 0   ;Guardian is disabled
                       dl= 0ffh   ;Guardian is enabled.

The function calls are made with registers set as follows
ah = 14h Fossil Function 14h
al = Fossil Sub function number 0,1,2,3, or 4
cx = 0ab69h   ,GTEK Key
dx = 0cdefh   ,GTEK Key

EXAMPLE:
          mov   ah,14h
          mov   al,1   ;enable watchdog
          mov   cx,0ab69h
          mov   dx,0cdefh

```
int      14
cmp      ax,0
jz       suceeded
```

AH = 15h   Write character to screen using BIOS support routines

Parameters:
Entry: AL = Character to display
Exit: None

The character in AL is sent to the screen using BIOS-level Input/Output routines. This differs from function 13h in that DOS I/O CAN NOT be used, as this function might be called from driver level.

AH = 16h   Insert or delete a function from the timer tick chain

Parameter:
Entry: AL = 01h - Add a function
            = 00h - Delete a function
        ES = Segment of function
        DX = Offset of function
Exit: AX = 0000h - Operation successful
            = FFFFh - Operation unsuccessful

This function is used to allow a central authority to manage the timer interrupts, so that as code is loaded and unloaded, the integrity of the "chain" is not compromised. Rather than using the traditional method of saving the old contents of the timer vector, storing the address of your routine there, and executing a far call to the "old" routine when yours is done, instead you call this function. It manages a list of such entry points and calls them on a timer tick (interrupt) using a FAR call.

AH = 17h   Reboot system

Parameters:
Entry: AL = 00h - "Cold boot"
            = 01h - "Warm boot"

AH = 18h   Read block (transfer from FOSSIL to user buffer)

Parameters:
Entry: CX = Maximum number of characters to transfer
        DX = Port number
        ES = Segment of user buffer
        DI = Offset into ES of user buffer

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Exit: AX = Number of characters actually transferred

A "no-wait" block read of 0 to FFFFh characters from the FOSSIL inbound ring buffer to the calling routine's buffer. ES:DI are left unchanged by the call; the count of bytes actually transferred will be returned in AX.

AH = 19h   Write block (transfer from user buffer to FOSSIL)

    Parameters: ·
        Entry: CX = Maximum number of characters to transfer
                DX = Port number
                ES = Segment of user buffer
                DI = Offset into ES of user buffer
        Exit: AX = Number of characters actually transferred

A "no-wait" block move of 0 to FFFFh characters from the calling program's buffer into the FOSSIL outbound ring buffer. ES:DI are left unchanged by the call, the count of bytes actually transferred will be returned in AX.

AH = 1Ah   Break begin or end
    Parameters:
        Entry: AL = 01h - Start sending 'break'
                   = 00h - Stop sending 'break'

                DX = port number
        Exit: None

Send a break signal to the modem. If AL=01h the driver will commence the transmission of a break. If AL=00h the driver will end the break. This is useful for communications with devices that can only go into command mode' when a BREAK is received. Note: the application is responsible for the timing of the BREAK. Also, if the FOSSIL has been restrained by an Xoff received from the modem, the flag will be cleared. An Init or Un-Init will stop an in-progress BREAK.

AH = 1Bh   Return information about the driver

    Parameters:
        Entry: CX = Size of user info buffer in bytes
                DX = Port number

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```
                    ES = Segment of user info buffer
                    DI = Offset into ES of user info buffer
          Exit:     AX = Number of bytes actually transferred
```

Transfer information about the driver and its current status to the user
for use in determining, at the application level, limits of the driver.
 The data structure currently returned by the driver is as follows (sorry
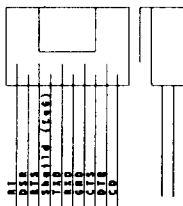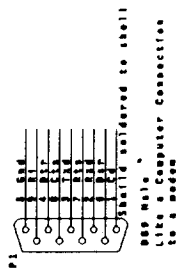
```
    info          equ    $                  ; define begin of structure
    strsiz        dw     info_size          ; size of the structure in bytes
    majver        db     curr_fossil        ; FOSSIL spec driver conforms to
    minver        db     curr_rev           ; rev level of this specific driver
    ident         dd     id_string          ; "FAR" pointer to ASCII ID string
    ibufr         dw     ibsize             ; size of the input buffer (bytes)
    ifree         dw     ?                  ;amount of unfilled buffer
    obufr         dw     obsize             ; size of the output buffer (bytes)
    ofree         dw     ?                  ; amount of unfilled buffer -1
    swidth        db     screen_width       ; width of screen on this adapter
    sheight       db     screen_height      ; height of screen   "    "
    baud          db     ?                  ; ACTUAL baud rate, computer to modem
    info_size     equ    $-info
```
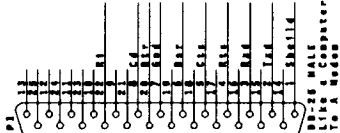
The baud rate byte contains the bits that Function 00h would use to set
the port to that speed.   The fields related to a particular port (buffer size, space left in the
buffer, baud rate) will be undefined if port FFh or an invalid port is
contained in DX.

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