# Color Computer Disk VIDTEX (TM)
# USER'S GUIDE & REFERENCE MANUAL

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# 1.0 INTRODUCTION

Welcome to the world of videotex and the extensive capabilities VIDTEX brings to your disk-based TRS-80 (R) Color Computer system.

## VIDTEX Manual

This manual contains easy-to-follow instructions and helpful examples to assist you in using VIDTEX. A technical section and appendices are included for reference.

## Customer Support

Please contact CompuServe Customer Service if you have any questions in using this product.

## 1.1 VIDTEX Backup

The VIDTEX software is provided on a diskette. Care should be taken that this diskette is not exposed to heat, dust, high humidity or magnetic interference.

It is recommended that you make a backup copy of the program. Follow these steps to back up VIDTEX:

2 Drive System -
1. Insert blank diskette into drive 1 and VIDTEX diskette into drive 0.
2. Enter the DOS commands: DSKINI1 and BACKUP 0 to 1.

1 Drive System -
1. Insert blank diskette in drive 0.
2. Enter the command: DSKINI0.
3. Remove the formatted diskette.

4. Insert VIDTEX diskette into drive 0.

5. Enter the DOS command: BACKUP 0.

## 1.2 Equipment Requirements

The minimum system configuration for using VIDTEX is:

- TRS-80 Color Computer with 32K RAM
- disk drive
- modem
- a television set or video monitor

You can fully utilize the features and capabilities of VIDTEX by using the following additional items:

- printer
- an intelligent modem

## 2.0 PROGRAM OVERVIEW

VIDTEX is a sophisticated terminal program that enables your computer to be fully compatible with the CompuServe Information Service and other host computer systems.

VIDTEX provides the following powerful features:

### RAM Buffer

The RAM buffer is a segment of your computer's memory that can be controlled by special commands. Using the RAM buffer controls you can capture information received from the host computer and save it to disk or printer. The buffer can hold up to 12,000 characters of information.

### Printer Control

You can get printed copy of information received from the host computer.

### Function Keys

You can define the number keys (0-9) with any frequently typed commands. Definitions can be saved to disk and new sets of definitions loaded into the function keys at will.

### Video Special Effects

VIDTEX responds to commands from the host computer that employ color graphics and cursor positioning for creating special video effects. (Refer to ESCAPE Sequences.)

### Automatic Logon

By creating and executing special AUTOLOG files, you can automate logon, on-line menu navigation and logoff.

### Error Free File Transfer

You can protect important files from interference during transfers between your computer and CompuServe by using VIDTEX's exclusive "B" Protocol.

## 2.1 Operating Controls

**VIDTEX provides two classes of command keys, META and CONTROL.**

### 2.1.1 META Key

The META key performs VIDTEX operations on your computer. The UP ARI
key functions as the META key. By holding down the UP ARROW key a
pressing an appropriate letter key, you can operate such VIDTEX featu
as the RAM buffer. In most cases, META keys do not transmit anything
the host, but are used for local functions.

For example, to open the RAM buffer and begin capturing data, pr
META O (hold down the UP ARROW key and press the letter "O").

Refer to the section on VIDTEX Features for more details on META
functions. Also, APPENDIX C contains a convenient summary of the M
keys.

### 2.1.2 CONTROL Key

The DOWN ARROW key functions as the CONTROL key and is used to trans
special commands to the host computer. For example, to temporarily h
transmission from the host, you can press CONTROL S (hold down the D
ARROW key and press the letter "S").

See Appendix A for a list of CONTROL key functions.

# 3.0 GETTING STARTED

The following sections explain how to run VIDTEX and log onto the host computer system.

## 3.1 Running VIDTEX

First power up your system in the following order:

1. disk drive
2. video monitor
3. computer

Set your modem to FULL DUPLEX and ORIGINATE mode.

Then insert the VIDTEX diskette into your drive and enter:

```
LOADM "VIDTEX"
```

To execute VIDTEX, enter:

```
EXEC
```

The following will be displayed on your screen:

```
CompuServe Disk VIDTEX
  Ver. X.X   MM/YY
```

### 3.1.1 META Function Menu - META M

To assist you in operating VIDTEX, you can display a list of the of the META key functions by pressing META M (hold down the UP ARROW key and press the letter "M"):

First Menu

```
RAM Buffer Functions
O Open
C*Close
Z Zero
G Get Screen into Buffer
D Display
P Print
L Load from disk
S Save to disk
U Unedited Save to disk
V Transmit
Y Transmit W/Prompt
  Used:      0
  Free:  xxxxx
  Press your choice or <ENTER>
         for next menu
```

Second Menu

```
Local Control Functions

B Disable Clean
E*Enable Clean
K Invert Screen
: Print Screen
CLEAR Clear Screen

  Press your choice or <ENTER>
         for next menu
```

Third Menu

```
Miscellaneous Functions

A Abort
F Function Keys
H Help
M Menu
I New AUTOLOG
J Old AUTOLOG
Q Query/Set Status
X Exit

Press your choice or
Press <ENTER> for terminal mode
```

While the menu is on your screen, you can initiate any META function by simply pressing the appropriate letter; you do not have to hold the META key.

To abort most META functions, press META A. META A cancels any function key or RAM buffer transmission. Any META function which asks for a file name for disk I/O can be terminated by pressing META A at the file name prompt. However, once the file has been entered, it cannot be aborted.

"Used:" represents the number of characters currently stored in your RAM buffer; "Free:" indicates remaining buffer space.

If the RAM buffer is currently open, an asterisk (*) appears to the left of the "Open"; otherwise it appears to the left of "Close". Similarly, an asterisk indicates if word cleaning is enabled or disabled.

### 3.1.2 Help Page - META H

Beside the META Menu, VIDTEX also provides a handy reference guide of redefined keys. Press META H for the Help Page:

```
                KEY DEFINITIONS

Key SFT CTL  Key    NRM  SFT  CTL
 1   !   |   BREAK ^C   BRK  ^C
 5   %   ~   Left  BS   ^U   BS
 7   '   ^   Right HT   HT   HT
 8   (   [   CLEAR ESC  RUB  ESC
 9   )   ]   Up      - META KEY
 -   =   _   Down  - CONTROL KEY
 @   `  NUL
 ,   <   {
 .   >   }
 /   ?   \
 Shift-Zero Toggles Shift Lock
```

If any key is held down for two seconds, it will repeat automatically.

Pressing SHIFT/ZERO toggles the caps lock switch. When VIDTEX is first executed, the keyboard is initialized to caps lock mode. In this mode you can type only in upper case and received characters are displayed in upper case.

When caps lock is not in effect, you can type both upper and lower case. Lower case characters are displayed as inverted upper case.

Pressing SHIFT/BREAK causes a BREAK sequence of 250 milliseconds to be transmitted. This is used on some systems as an attention signal.

Refer to Mapped Characters for a list of characters not defined in the displayable character set of the Color Computer.

### 3.1.3 Communication Parameters

VIDTEX is initialized to the following communication parameters:

- full duplex
- modem baud rate 300
- flow control on
- 8 bit word
- parity bit zero
- 1 stop bit

These are the correct parameters for accessing CompuServe and most other host computer systems. You can use META Q to change these settings (see Communications Settings).

## 3.2 Logging On

Follow these steps to log onto CompuServe through the CompuServe Network:

1. Dial the local access phone number.

2. When you hear the high pitched tone, connect the telephone to the modem.

3. Initiate contact with the CompuServe Network by pressing ENTER or BREAK.

4. CompuServe prompts (your response is in upper case):

   a) Host Name:CIS
      and/or
      User ID:YOUR USER ID

   b) Password:YOUR PASSWORD

Check the "Logon Procedures" sheet that came in your CompuServe starter kit if you are accessing through another network.

### 3.2.1 On-Line

Once you connect to the host computer, a host information banner and possibly a menu are displayed on your screen. For example, the following is displayed when you access the CompuServe Information Service:

```
CompuServe Information Service

12:08 EDT  Saturday  20-Aug-83


CompuServe                Page CIS-1

CompuServe Information Service

1 Home Services
2 Business & Financial
3 Personal Computing
4 Services for Professionals

5 User Information
6 Index

Enter your selection number,
or H for more information.
1
```

### 3.2.2 Terminal Type

If this is the first time that you have accessed the host system using VIDTEX, you may need to inform the host of your communication parameters. Without this information, the host may transmit data in a form incompatible with VIDTEX.

For example, to inform the CompuServe Information Service that you are using VIDTEX, enter the following at the "!" prompt on Page CIS-1:

```
GO CIS-9
```

The following will be displayed on your screen:

```
Welcome to DEFALT


1 Instructions
2 Setting Your Terminal Type
3 Setting Your Logon Actions
```

```
4 Setting Delays for Printers
5 View or Change Current
    Terminal Parameters
6 Exit DEFALT

Last Menu Page.  Key digit
or M for previous menu.
!
```

Select option 2 (Terminal Type) and specify on the subsequent menu page that you are using a VIDTEX terminal program.

See the CompuServe Information Service User's Guide for more information on using DEFALT.

### 3.2.3 Logging Off

When you have completed an on-line session, you must inform the host that you wish to log off. To log off of CompuServe, simply enter the following at any menu page:

OFF

Avoid terminating contact with the host by simply disconnecting the modem. In many cases your job on the host computer will continue to incur connect time charges if not logged off properly.

### 3.2.4 Exit VIDTEX - META X

META X exits VIDTEX and returns the computer to the state it was in before VIDTEX was run.

Pressing the RESET button on the back of the computer will cause VIDTEX to be completely reinitialized. However, pressing RESET does not zero the RAM buffer or the function keys. Nor will it execute VIDTEX after a META X has been pressed. VIDTEX must be reloaded and EXEC'd.

# 4.0 VIDTEX FEATURES

VIDTEX provides you with many powerful features that enable you to effectively use CompuServe and other host systems. These features are described in the following sections.

## 4.1 RAM Buffer Controls

The following META key functions enable you to capture and manipulate information using your computer's RAM buffer.

### 4.1.1 Open Buffer - META O

VIDTEX enables you to save a copy of all characters received in the unused portion of your buffer.

The RAM buffer is empty and closed when VIDTEX is first run. To open the buffer and start saving data, press META O. All subsequently received characters are added to the buffer.

To confirm that the buffer is open, VIDTEX displays:

** Buffer Open **

This message is not sent to the host computer.

### 4.1.2 Close Buffer - META C

Close the RAM buffer by pressing META C.

VIDTEX displays the local message:

** Buffer Closed **

### 4.1.3 Zero Buffer - META Z

You can zero (erase) the buffer by pressing META Z.

VIDTEX displays:

** Buffer Zeroed **

### 4.1.4 Buffer Status

By pressing META M (META Menu) and reading the USED and FREE numbers yc can check the status of the RAM buffer.

If the RAM buffer becomes full, VIDTEX displays a message and halt transmission from the host. This gives you an opportunity to save an zero the buffer. Press CONTROL Q (hold down the DOWN ARROW key ar press the letter "Q") to resume transmission. If you press CONTROL without zeroing the buffer first, transmission resumes but the buffe will be closed.

### 4.1.5 Save Screen - META G

A copy of the screen can be added to the buffer by pressing META G (g screen). As each line from the screen is copied to the buffer, carriage return and line feed (CR/LF) are appended to the line. If line is entirely blank, only a LF is added. Thus the format of tl screen is retained.

This feature does not open or close the buffer.

### 4.1.6 Display Buffer - META D

You can display the contents of the buffer by pressing META D.

The following keys enable you to control the display:

CONTROL S - stop display immediately
CONTROL A - stop at end of line
CONTROL Q - resume display
CONTROL O - cancel display

When the display is done, press ENTER to continue.

### 4.1.7 Print Buffer - META P

You can print the current contents of your RAM buffer by pressing META P.

Note that this function may not display the contents of the RAM buffer properly if any cursor control sequences are stored in the buffer (see Cursor Control Sequences). Instead use META COLON (screen print) to print such information.

Press META A to abort buffer print.

### 4.1.8 Save Buffer To Disk - META S And META U

VIDTEX provides two ways to save the buffer to disk, edited and unedited.

Edited

The edited save converts standard ASCII text data in the buffer to a form compatible with BASIC and for processing by word processors.

If the RAM buffer contains no cursor control characters, then the edited save will output text and graphics in the Color Computer character set. The best way to ensure that the RAM buffer contains no cursor control characters is to use META G (Get screen) to obtain screen text. The output of an edited save is usable by BASIC but is no longer displayable using VIDTEX.

Press META S to initiate an edited save. VIDTEX prompts for a file name. Enter a name using BASIC's naming conventions. If you only press ENTER, the file VIDTEX/RB will be used. If you enter a filename without an extension, an extension of /RB will be assumed.

Note that when a full buffer is saved with editing, it may end up too big to reload into VIDTEX. (Refer to META S Editing for how the buffer is edited.)

Unedited

Press META U to save an unedited copy of the buffer to disk. Th method of saving should be used for text that you wish to view lat using VIDTEX.

The file VIDTEX/RB will be used if no file name is specified at the fi name prompt. If no extension is specified, /RB is assumed.

To abort, press META A at the file name prompt.

### 4.1.9 Load Buffer From Disk - META L

You can load the buffer from disk by pressing META L. The progr prompts for the name of the file from which to load. If you only pre ENTER, the file VIDTEX/RB will be used. If you enter a file na without an extension, an extension of /RB is assumed.

During a buffer load, the data in the file is appended to the curre contents of the buffer. Text is inserted into the buffer until t buffer is full. If the buffer becomes full, an error message will displayed. In this case, press ENTER to continue.

Press META A at the file name prompt to abort.

### 4.1.10 Transmit Buffer - META V And META Y

You can transmit the contents of the RAM buffer continuously by press META V. Abort with META A.

If you only want to send one line at a time, press META Y. VIDTEX a for a prompt character such as a "!". After a line has b transmitted, VIDTEX waits for the host to send the prompt charac before transmitting the next line.

For example, to transmit a message to a typical bulletin board, comp the message off-line. (The message must be in standard ASCII.) Load message file into your buffer (using META L) and access the bulle board.

A typical prompt from a bulletin board program might be:

```
Enter your message.  Use a blank
line or CONTROL Z to end message.

1:
```

At this point press META Y, and VIDTEX responds:

```
Enter Prompt Character:
```

Enter a colon (:) since this bulletin board prompts each line with a number followed by a colon. Your message then is transmitted one line at a time. After each line has been transmitted, VIDTEX waits for the colon to be received before sending the next line.

Abort the transmission with META A.

## 4.2 Printer Control

Since there is only one serial connector on the Color Computer, you cannot have your modem and printer active at the same time. VIDTEX compensates for this by enabling you to use one at a time.

Whenever you execute a function requiring the printer, VIDTEX prompts you to ready the printer and press ENTER. You can then disconnect your modem and connect your printer to the serial port. Disconnecting the modem does not log you off the host system.

After you have connected the printer, press the ENTER key and VIDTEX will perform the function you requested. After the function has completed, VIDTEX again prompts you to press ENTER. You can then disconnect your printer and reconnect the modem. Press ENTER to reconnect with the host.

To abort the printer function, press META A or BREAK at the ready printer prompt.

### 4.2.1 Printer Speed

BASIC initializes the printer to 600 baud. VIDTEX does not change the baud rate when it is executed.

You can reset the baud rate using the META Q function (see

Communications Settings). If you reset the printer speed, that baud rate remains in effect until you reset it again.

### 4.2.2 Screen Print - META COLON

A printed copy of the entire screen can be obtained by pressing META COLON (:). This function can be used to print information displayed using cursor control sequences.

## 4.3 Error Free File Transfers

You can transfer files directly between your system and CompuServe using "B" Protocol transfer.

"B" Protocol ensures the accuracy of the transmitted file by comparing each transmitted line of data with the original. Any errors are detected and corrected. Thus your important files are protected against possible damage from telephone line noise and other types of interference.

### 4.3.1 How To Use "B" Protocol Transfer

The procedure to perform a file transfer on CompuServe is described below. A few terms must first be defined in order to explain file transfers:

DOWNLOAD means to transfer a file from CompuServe to your computer.

UPLOAD means to transfer a file from your computer to CompuServe.

HOST refers to CompuServe's computers.

REMOTE refers to your computer.

Three types of file tranfers may be performed:

TEXT
MACHINE SPECIFIC
BINARY

For both an upload and a download, the CompuServe file extension determines the type of transfer performed. The valid extensions and transfer types are:

| | |
|---|---|
| .TXT | Text transfer |
| .IMG | Machine specific transfer |
| .BIN | Binary transfer |

If any other or no extension is used, a TEXT transfer is performed.

A TEXT transfer is used to transfer ASCII text files such as untokenized BASIC programs and text files. When uploading a text file, VIDTEX translates from the remote computer's character representation to standard ASCII. This includes adding line feeds to carriage returns. When a text file is downloaded, VIDTEX translates the text from standard ASCII to the Color Computer's character representation.

A MACHINE SPECIFIC transfer is used to transfer machine dependent files. This method is preferred over binary transfer since it transfers file specific to your Color Computer.

During a machine specific transfer, VIDTEX inserts all of the information it needs to recreate the file exactly as it originally existed. If an attempt is made to download a machine specific file to a microcomputer which is of a different type from the microcomputer from which the file was uploaded, VIDTEX will issue a warning message.

A BINARY transfer is used to transfer eight bit files such as tokenized BASIC programs and machine language programs. This can also be used to transfer most microcomputer's BASIC data files. VIDTEX does not alter any data during a binary file transfer. Machine specific information is not included in a binary transfer.

One way to initiate a file transfer is to enter at the CompuServe Programming Area (OK) prompt:

```
R FILTRN
```

CompuServe then responds:

```
CompuServe File Transfer Program
```

Your machine then is interrogated to see if you are running a version of VIDTEX which supports file transfers. If you are not running a VIDTEX program or if your version of VIDTEX does not support file transfers, an error message is printed and you are returned to the 'OK' prompt. If you are running a version of VIDTEX which supports file transfer, you are asked for the direction of the transfer:

```
Select direction-
     D if to your computer
     U if to CompuServe
:
```

Enter a U to upload or D to download. You then are prompted:

```
Enter the CompuServe file name:
```

Enter an appropriate file name and extension. Remember that the f extension determines the type of transfer performed. For a downl this is the name of the existing file to be transfered to y microcomputer. For an upload this is the name of the file tc created. You then are prompted:

```
Enter a file name for your computer:
```

Enter the file specification as required by your Color Computer. can specify any file following the naming rules of your system. T might include a drive designation or a file name extension.

Since the format for file names is different for every microcomputer, syntax checking is performed on the remote file name. The remote f name does not affect the type of transfer performed.

VIDTEX will not overwrite an existing file on a download; you f must delete the file yourself.

The file transfer then begins. As the transfer proceeds, a series digits are displayed on your screen. Plus signs (+) appear between digits.

When the transfer is completed, the message:

```
*** File Transfer Completed! ***
```

appears and you are returned to the 'OK' prompt.

Hold down META A to abort a file transfer.

### 4.3.2 Services Using "B" Protocol Transfer

"B" Protocol transfer also is used in many other CompuServe serv that require the accurate transfer of data. These include:

- MicroQuote (TM) is a series of programs for retrieving and storing current and historical stock data. Over 40,000 issues are represented in the historical database which contains quotes back to January 1, 1974.

The MicroQuote program, MQDATA, automatically stores stock information into a file which you can download using "B" Protocol.

- SOFTEX (TM) is an on-line software shopping service. You can purchase reasonably priced programs and download them directly to your computer for immediate use. "B" protocol ensures the reliability of your purchase.

- ACCESS (TM) is a database program used for facilitating the exchange of customer supplied software.

- QTRAN (TM) is a program that will take a VisiCalc (R) file in DIF format and convert it into a batch input file for QUBIT (TM). QTRAN is available to commercial CompuServe customers only.

Use of "B" Protocol transfer in these services is automated; you do not need to issue any special commands.

## 4.4 Function Keys

Frequently typed commands can be programmed into function keys, thus saving you time and effort.

The number keys (0-9) in conjunction with the META key can be used as function keys.

Your function key definitions can be saved to a file for future use. Any number of definition files can be created and used to load your keys. By loading different definition files for different needs, you can have a virtually unlimited number of function keys.

### 4.4.1 Define Function Keys - META F

The function key menu can be accessed by pressing META F:

```
Enter D to Display definitions
   or L to Load from disk
   or S to Save to disk
   or key to define (0-9):
```

Press the key you wish to define (0-9). If you select a key that

already has a definition, the existing definition is erased. You then type in your new definition. To end the definition, press META F again.

To clear a definition, simply select it for defining and immediately press META F.

The total number of characters for all the function key definitions cannot exceed 255.

Most host computers do not process a line until they receive a carriage return character. Thus command lines in function keys should be terminated with a carriage return.

All CONTROL characters (except CR, LF, BEL, and TAB) are displayed as "©" characters.

### 4.4.2 Execute Function Keys - META 0-9

To execute a function key, hold down the META key and press the number of the key. This initiates transmission of the key definition. Press META A to abort transmission of a function key.

### 4.4.3 Display Function Keys

To display the current definitions, press META F and select the display option (D). Each key number will be displayed followed by a colon and the key definition.

While the function keys are displayed, you can press the number of the key to execute it; you do not need to press the META key with it. Press ENTER for terminal mode or "F" for the function key menu.

### 4.4.4 Save Function Keys

To save a set of function key definitions, press "S" at the function key menu. You are prompted for a file name. If you only press ENTER, the name VIDTEX/KEY will be used. If you enter a file name without an extension, the extension /KEY is assumed.

Press META A at the file name prompt to abort.

### 4.4.5 Load Function Keys

Press "L" at the function key menu to load a set of definitions. VIDTEX prompts for the file name.

When VIDTEX is run, the function keys are loaded automatically from the file VIDTEX/KEY if it exists.

To abort a load, press META A at the file name prompt.

## 4.5 Automatic Logon

VIDTEX enables you to automate the host access process. Automatic logon is accomplished by creating and executing special files, called AUTOLOGs, that can contain all the information necessary for accessing the host computer.

### 4.5.1 Create Autolog - META I

Press META I to create an AUTOLOG file. VIDTEX prompts you as follows:

New Autolog
File to write:

Enter a file name using BASIC naming conventions. If you only press ENTER, the file VIDTEX/ATO will be used. If you enter a file name without an extension, the extension /ATO is assumed.

You can abort the process at this point by pressing META A.

Prompt:

Enter the prompt to wait for from the host. The maximum length for a prompt from the host is 64 characters. It is recommended that only the last 3-5 unique characters be entered. You can use upper or lower case since VIDTEX translates both your entry and the received characters to upper case for matching.

If you are preparing an AUTOLOG to access through the CompuServe

Network, press ENTER or ESCAPE (CLEAR key) since you do not want to wait for a prompt from the host.

**Response:**

Enter the response to transmit and press ENTER. The carriage return will be transmitted with the response. If you do not want a carriage return transmitted, press ESCAPE instead.

The maximum length of a response is 64 characters. A response of more than 64 characters can be transmitted by entering the response in two or more parts, each less than 64 characters, and pressing ESCAPE at each intervening prompt.

If you are preparing an AUTOLOG for accessing through the CompuServe Network, you can store a CONTROL C at this point (see Storing META and CONTROL Commands). Terminate the response by pressing ESCAPE.

The PROMPT/RESPONSE sequence can be repeated as many times as is necessary to complete the logon. To exit the sequence, press ESCAPE at both PROMPT and RESPONSE.

### 4.5.2 Storing META And CONTROL Commands

CONTROL and META commands (including function keys) can be entered into an AUTOLOG.

CONTROL commands are entered by pressing the UP ARROW and then the appropriate letter. META commands are entered by pressing the LEFT ARROW key and then the letter or special character.

VIDTEX defines the UP and LEFT ARROW keys as follows:

| Key | Definition |
|---|---|
| UP ARROW | CONTROL ^ |
| LEFT ARROW | CONTROL - |

For example, to enter the META command for opening the RAM buffer, you first hold down the DOWN ARROW key and press the dash (-) key, then press the letter "O". (The LEFT ARROW is represented in the following explanations as "<-", the UP ARROW as "^".

The following special META commands can only be entered within an AUTOLOG file and are not available at the META Menu.

| Command | Function |
|---|---|
| META & | Provides a one half second delay |
| META % | Provides a two second delay |

META & (ampersand) and META % (percent) are useful for creating dialing strings for modems that require a delay between dialing each digit in the phone number.

A single UP ARROW character is entered into a RESPONSE by pressing two consecutive UP ARROWs. Similarly a single LEFT ARROW is entered by pressing two consecutive LEFT ARROWs.

### 4.5.3 Autolog Examples

A sample AUTOLOG creation sequence to log on to CompuServe is shown below.

| | |
|---|---|
| New Autolog | |
| File to write: COMPUSRV/ATO | Select the file. |
| Prompt: <ESCAPE> | Don't wait for prompt, transmit immediately. |
| Response: ^C<ESCAPE> | (<UP ARROW><C>) Transmit a CONTROL-C with no carriage return. |
| Prompt: ID: | Wait for 'USER ID:', |
| Response: 71234,567 | Then send '71234,567'. |
| Prompt: word: | Wait for 'PASSWORD:'. |
| Response: SECRET | Then send 'SECRET'. |
| Prompt: ! | Wait until menu prompts for input. |
| Response: GO HOM-1 | Transmit 'GO HOM-1'. |
| Prompt: <ESCAPE> | Terminate the input |
| Response: <ESCAPE> | sequence by entering no prompt and no response. |

The AUTOLOG feature can also be used with intelligent modems to dial the telephone automatically. The following example shows how this could be done with a TRS-80 (R) Modem II. Note that the Modem II cannot be programmed at 300 baud continuously; an one half second delay must be inserted between the characters in the programming string.

This example programs the Modem II to dial '555-1234' using tone dialing. Refer to the Modem II manual for instructions on creating a programming string. In this example a left arrow is represented by "<-".

```
New Autolog
File to write: MODEM2/ATO          Select the file.
Prompt:   <ESCAPE>                 Don't wait for prompt,
                                   transmit immediately.
Response: <-&*<-&D<-&T<-&5<-&5<-&5<-&1<-&2<-&3<-&4<-&X
                                   Program the Modem II
                                   to dial 555-1234
                                   using tone dialing.
Prompt:   <ESCAPE>                 Don't wait for prompt.
Response: <-%<-%<-%<-%<-%<-%^C<ESCAPE>  Delay long enough
                                   to dial the number and
                                   establish carrier and
                                   transmit a CONTROL C
                                   with no carriage return.
Prompt:   ID:                      Wait for 'USER ID:'.
Response: 71234,567                Then send '71234,567'.
Prompt:   word:                    Wait for 'PASSWORD:'.
Response: SECRET                   Then send 'SECRET'.
Prompt:   !                        Wait until the menu
                                   prompts for input.
Response: GO HOM-1                 Transmit 'GO HOM-1'.
Prompt:   <ESCAPE>                 Terminate the input
Response: <ESCAPE>                 sequence by entering
                                   no prompt and no
                                   response.
```

For more AUTOLOG examples see Advanced Features later in this manual.

### 4.5.4 Execute Autolog - META J

After you create an autolog file, you can execute it by pressing META J. VIDTEX prompts:

```
Old Autolog
File to read:
```

If you press ENTER by itself, VIDTEX will execute VIDTEX/ATO if it exists. If you enter a file name without an extension, /ATO is assumed.

If you are using a non-dialing modem, be sure to wait until you have established telephone contact with the host before executing the AUTOLOG.

You can type on the keyboard during execution of an AUTOLOG without affecting its execution. VIDTEX exits the AUTOLOG mode when all PROMPTS are found and RESPONSES sent.

Press META A to abort execution of an AUTOLOG.

## 4.6 Other Features

The following META key functions provide you with additional capabilities.

### 4.6.1 Communication Settings - META Q

META Q enables you to query and set the communications characteristics of VIDTEX. With this feature, you can adjust VIDTEX to be compatible with host systems using different conventions. For information on a particular host system's communication conventions, consult the user's guide for that system.

Pressing a META Q displays the following menu:

```
1 Parity O
2 Duplex F
3 Flow   Y
4 A-Baud ? → PRINTER   6
5 B-Baud 3 → MODEM     3


     Press your choice or
Press <ENTER> for terminal mode
```

Select the option you want to change by typing the number next to it; you do not have to press the ENTER key. The cursor will then move over the current value of the selected parameter. Type in the new value for the parameter and press ENTER, or leave it unchanged by pressing ENTER by itself.

The following are valid values for the communication parameters:

Parity
- O - Set parity bit to zero
- 1 - Set parity bit to one
- E - Even parity
- O - Odd parity
- D - Disable parity

Duplex
- F - Full duplex
- H - Half duplex

DUPLEX refers to the echoing of your keyboard entries to your video screen. Full duplex means that VIDTEX will not echo your keyboard entries. When you access CompuServe, keyboard

echo is handled by the network.

HALF DUPLEX means that VIDTEX will echo your keyboard entries. All ESCAPE characters transmitted are displayed as "$" in half duplex to aid readability.

Flow Control
Y - Enable flow control
N - Disable flow control

FLOW CONTROL refers to whether VIDTEX recognizes the standard ASCII flow control characters <X-OFF> (CONTROL S) and <X-ON> (CONTROL Q). If VIDTEX receives an <X-OFF> from the host, it will halt transmission. If an <X-ON> is not received in approximately 5 seconds, then VIDTEX resumes transmission automatically.

VIDTEX expects the host to observe the same rules. Instances where VIDTEX may send the host an <X-OFF> are:

- RAM buffer is almost full
- a VIDTEX function menu is selected

If the host does not respond to flow control, characters may be lost.

Printer Baud Rate (A-Baud)
3 - 300 Baud
4 - 600 Baud
5 - 1200 Baud
6 - 2400 Baud
7 - 4800 Baud

Modem Baud Rate (B-Baud)
1 - 110 Baud
2 - 150 Baud
3 - 300 Baud
4 - 600 Baud

When you have finished making all changes, press the ENTER key to return to terminal mode. The communications parameters you selected will be in effect.

Below is a table of the communication conventions of popular host systems:

| | CompuServe | The SOURCE | Dow Jones |
|---|---|---|---|
| Parity | Zero | Even | Even |
| Duplex | Full | Full | Full |
| Flow Control | Yes | No | No |
| Baud Rate | 110-1200 | 110-300 | 110-300 |

### 4.6.2 Word Cleaning - META E And META B

VIDTEX contains a video driver that allows it to perform cursor control remotely and not break words across lines.

VIDTEX will not start a word on the right hand edge of the screen and finish it on the beginning of the following line. Instead, the entire word will be moved to the start of the next line and any part of the word which was on the previous line will be erased. This makes it easier for you to read text which is wider than your screen width.

META B breaks words; word cleaning can be enabled with META E.

If word cleaning is disabled, text would be displayed as follows:

```
Now is the time for all very good progra
mmers to come to the aid of their countr
y.
```

If cleaning is enabled, this would be displayed as:

```
Now is the time for all very good
programmers to come to the aid of their
country.
```

### 4.6.3 Video Control - META CLEAR And META K

VIDTEX provides two local video control functions. These functions do not transmit any characters to the host.

| Key | Function |
|---|---|
| META CLEAR | Clears the screen and positions cursor in the upper left corner. |
| META K | Toggles the screen between green characters on a black background and black on green. VIDTEX is initialized to green on black. |

# 5.0 ADVANCED FEATURES

**The following sections explain VIDTEX's advanced features.**

## 5.1 Advanced Autolog Files

**Because of their PROMPT/RESPONSE structure, AUTOLOG files are ideally suited for handling on-line menu navigation. Moreover, CONTROL and META commands can be coded into an AUTOLOG, thus enabling you to capture data and perform other operations automatically.**

To create an expanded AUTOLOG file, continue the PROMPT/RESPONSE sequence. For example, the following AUTOLOG could be used to access MegaWars, the interactive space war game. The page "GAM" and menu choices are examples only.

```
            (see Autolog Examples for logon portion)
                              .
                              .
                              .
Prompt: !                          Wait for CompuServe top
                                   menu prompt.
Response: GO GAM                   Go the games menu page.
Prompt: !                          Wait for the menu prompt .
Response: 10                       Select "MegaWars"
                                   (menu choice 10).
Prompt: !                          Wait for introduction page.
Response: 2                        Enter game (menu choice 2).
Prompt: <ESCAPE>                   Exit AUTOLOG.
Response: <ESCAPE>
```

### 5.1.1 On-line Navigation

**A knowledge of the prompts encountered on-line is necessary for creating an expanded AUTOLOG.**

**The following are examples of common prompts on the CompuServe Information Service:**

```
Last menu page.  Key digit
or M for previous menu.
  !

Key S or <ENTER> to continue
  !
Issue:
```

Make a list of the prompts encountered in accessing a particular service and use it as a guide in creating the AUTOLOG file. (This can be accomplished easily using RAM buffer controls.) Also, here are some tips that will help you use AUTOLOGs efficiently on the CompuServe Information Service:

- Only match the exclamation point for CompuServe menu prompts (e.g., Prompt:!).

- Use the GO command wherever possible. GO is a CompuServe menu navigation command that enables you to access any page on the service directly instead of going through menus. The format of the command is:

  GO page

  Specific page numbers can be obtained from the on-line Subject Index (GO IND) or by simply noting a service's page when you access it manually. The GO command can be entered at any CompuServe menu and within many services.

CAUTION: Page numbers may change occasionally. If you encounter a problem using the GO command, check the on-line Subject Index for the current page number.

The following other CompuServe navigation commands also may be useful:

T - Go to CompuServe Main (Top) Menu
M - Back up to previous menu
P - Back up to previous page
OFF - Log off
S - Scroll subsequent text continuously (only works at prompts that specify "Key S or <ENTER> to continue")
^C - Abort and return to CompuServe menu

### 5.1.2 Autolog Chaining

You can initiate the execution of a new AUTOLOG from an already executing AUTOLOG. To set up an AUTOLOG "chain", enter the following at a RESPONSE Prompt:

<-Jfilename

The LEFT ARROW J is the AUTOLOG equivalent of META J; "filename" represents the AUTOLOG file that you want to execute.

When the META J is executed, the current AUTOLOG is closed and the specified file is executed. The contents of the first AUTOLOG after the META J are ignored.

### 5.1.3 Advanced Autolog Examples

The following AUTOLOG retrieves the current-day stock quotes automatically from the CompuServe Information Service. The AUTOLOG is programmed to go directly to the Quick Quote (TM) program using the "GO" command, open the RAM buffer, request information on H&R Block, exit Quick Quote and log off.
The page "FIN-15" is used only as an example.

```
            (Logon sequence assumed)
                      .
                      .
                      .
Prompt: !                          Wait for top menu prompt.
Response: GO FIN-15                Go directly to Quick Quote.
Prompt: !                          Wait for introduction prompt.
Response: <ENTER>                  Send carriage return only.
Prompt: ISSUE:                     Wait for Quick Quote prompt.
Response: <-O<ESCAPE>              Open RAM buffer.
Prompt: <ESCAPE>                   Don't wait for prompt.
Response: HRB                      Request ticker symbol.
Prompt: ISSUE:                     Wait for Quick Quote prompt.
Response: <-C<ENTER>               Close buffer and exit
                                   Quick Quote with carriage
                                   return.
Prompt: !                          Wait for menu prompt.
Response: OFF                      Log off CompuServe.
Prompt: <ESCAPE>                   Exit AUTOLOG.
Response: <ESCAPE>
```

The following shows how this AUTOLOG might execute:

```
CompuServe Information Service

11:02 EDT  Friday    02-Sep-83



CompuServe              Page CIS-1

CompuServe Information Service

1 Home Services
2 Business & Financial
```

```
3 Personal Computing
4 Services for Professionals

5 User Information
6 Index

Enter your selection number,
or H for more information.
!GO FIN-15

CompuServe                    Page FIN-15

Request Recorded,
One Moment, Please

Thank You for Waiting

QQUOTE      Sep-83-1983     11:02

These quotes are updated peri-
odically during the day and
cover 2 major U.S. exchanges as
well as selected OTC.  CompuServe
does not edit this and is not
responsible or liable for its
content, completeness, or time-
liness.

Each current quote costs .02 in
addition to connect time.

Press the <ENTER> key for next
page or H for help.
!<ENTER>


Update times:
  NYSE Stocks 10:30 09/02/83
  AMEX Stocks 10:30 09/02/83
  OTC Stocks  10:30 09/02/83
  NYSE Bonds  10:30 09/02/83
  AMEX Bonds  10:30 09/02/83

    ** Buffer Open **

Press the carriage return or
ENTER key to exit, type ?
for instructions, or /HELP
for a list of options.

Issue: HRB


BLOCK H & R INC               HRB
```

```
                        09367110
Vol(00) Hi/ask Low/Bid    Last
   213   43.750  43.125  43.625
Updated: 10:30   Change:  +.000
Exch: N 09/02/83

Issue: <ENTER>

   ** Buffer Closed **

CompuServe                Page FIN-20

   INVESTMENTS & QUOTATIONS

$ 1 MicroQuote
$ 2 Quick Quote
$ 3 Standard and Poor's Analysis
  4 Value Line Data Base II
  5 Commodity News Service
  6 Rapaport <<Diamond System>>

$ Indicates charges in addition
to connect time may be incurred.


Last menu page.  Key digit
or M for previous menu.

!OFF

Off at 11:04 EDT  02-Sep-83
Connect time =   0:02
```

The following AUTOLOG could be used to enter the CB simulator program from any other menu page on CompuServe. The function key file named CB/KEY defines key number 1 to be 'GO CB-XX' where "XX" is the page number of CB and key number 2 as the handle you want to use while in CB. CB-1 is used for illustration.

```
Creating New Auto Logon
Enter file name: CB/ATO          Select the file.
Prompt: <ESCAPE>                 Don't wait for prompt.
Response: <-FLCB/KEY             Load Function Keys
                                 from CB/KEY.
Prompt: <ESCAPE>                 Don't wait for prompt.
Response: T                      Send T for TOP.
Prompt: !                        Wait until top menu
                                 is displayed.
Response: <-1<ESCAPE>            Transmit Function
                                 Key One.
Prompt: ?                        Wait until CB prompts
                                 for handle.
```

| | |
|---|---|
| Response: <-2<ESCAPE> | Transmit Function Key Two. |
| Prompt: <ESCAPE> | Terminate the AUTOLOG sequence by entering no prompt and no response. |
| Response: <ESCAPE> | |

The following shows how this AUTOLOG might execute. It is initiated pressing a META J and responding with the file name CB/ATO.

```
T

CompuServe                Page CIS-1
CompuServe Information Service
1 Home Services
2 Business & Financial
3 Personal Computing
4 Services for Professionals
5 User Information
6 Index
Enter your selection number,
or H for more information.
                                  !GO CB-1
CompuServe                Page CB-1

Request Recorded,
One Moment, Please
Thank You for Waiting
CB Simulator Ver 3(51) Band A
What's your handle? (your handle)
(Channel) users tuned in
(1)4 (4)7 (22)20 (33)6
Which channel: 1
(1,Susana) Hi, CB'er
```

HINT: Enter the META command to execute a function key for RESPON that might change. AUTOLOG files can be created to load the funct keys from a file and then transmit the function key as a RESPONSE. the RESPONSE changes, you only have to change the function definitions, not the entire AUTOLOG sequence.

### 5.1.4 Summary Of Autolog Commands

The following table summarizes the special AUTOLOG commands:

| Command | Key | Function |
|---|---|---|
| ESCAPE | CLEAR key | Enters response without sending a carriage return; exits AUTOLOG file. |
| ENTER | ENTER | Enters PROMPT/RESPONSE |
| CONTROL | DOWN ARROW,7 (UP ARROW) | Makes next character a CONTROL function. |
| META | DOWN ARROW,- (LEFT ARROW) | Makes next character a META function. |
| META & | LEFT ARROW,& | Sets 1/2 second delay. |
| META % | LEFT ARROW,% | Sets 2 second delay. |
| META J filename | LEFT ARROW,J, filename | Chains to specified AUTOLOG file. |

## 5.2 Auto Start

You can write your own BASIC programs to automate the startup of VIDTEX and execution of an AUTOLOG. Thus, by entering one command at BASIC level, you can logon, navigate the menus, retrieve data and logoff.

The following conditions must be met to accomplish AUTO START:

1. The key letters "AL" must be in memory locations 500 and 501 respectively to inform VIDTEX to perform an AUTO START.

2. The length of the AUTOLOG file name must be in location 502. The name's length can range from 1 to 13 characters.

3. The actual AUTOLOG file name must be stored beginning at 503.

The following BASIC program illustrates how this can be accomplished:

```
100 CLEAR 200,&H4000
120 EX$="EXIT"
300 P=550
310 V=ASC("E"):GOSUB 600
320 V=ASC("X"):GOSUB 600
330 V=LEN(EX$):GOSUB 600
340 FOR I=1 TO LEN(EX$)
350 V=ASC(MID$(EX$,I,I))
360 GOSUB 600
370 NEXT
400 LOADM"VIDTEX"
410 EXEC
500 END
600 POKE P,V:P=P+1:RETURN
```

Line 110 defines the file name for VIDTEX to AUTO START upon execution. Lines 200 to 270 insert the key letters "AL", the length, and the file name into the proper locations. Line 400 loads VIDTEX; and line 410 executes it.

VIDTEX will look in these locations, find the valid information and enter AUTOLOG mode using the file name provided in line 110.

### 5.2.1 Auto Exit

VIDTEX will load and run automatically a BASIC program when it exits if certain conditions are met:

1. The key letters "EX" must be in memory locations 550 and 551 respectively.

2. The length of the BASIC program file name must be in location 552 and must be between 1 and 13 characters.

3. The program file name must be stored beginning at 553.

The following BASIC program illustrates how this could be accomplished:

```
100 CLEAR 200,&H4000
120 EX$="EXIT"
300 P=550
310 V=ASC("E"):GOSUB 600
320 V=ASC("X"):GOSUB 600
330 V=LEN(EX$):GOSUB 600
340 FOR I=1 TO LEN(EX$)
350 V=ASC(MID$(EX$,I,I))
```

```
360 GOSUB 600
370 NEXT
400 LOADM"VIDTEX"
410 EXEC
500 END
600 POKE P,V:P=P+1:RETURN
```

Line 120 defines the file name for VIDTEX to RUN when exiting. Lines 300 to 370 insert the key letters "EX", the length, and the file name into the proper locations. Line 400 loads VIDTEX; and line 410 executes it. VIDTEX will look in these locations, find the valid information and run the BASIC program using the file name provided in line 120 when a META X is pressed.

## 6.0 VIDTEX ERROR MESSAGES

VIDTEX uses two letter codes for disk error messages which are the same as BASIC's. The following table is a list of all the possible error messages that might occur while using VIDTEX. For a complete explanation of these messages, refer to your disk system owners manual.

FD - Bad file data
AO - File already open
IO - I/O error
FM - Bad file mode
NO - File not open
IE - Input past end of file
DS - Direct statement in file
NE - Nonexistient file
BR - Bad record number
DF - Disk full
OB - Out of buffer space
WP - Write protected
FN - Bad file name
FS - Bad file structure
AE - File already exists
VF - Verification error
ER - Write/Input past end of record
AB - Operation aborted

# 7.0 TECHNICAL INFORMATION

The following sections provide VIDTEX technical information.

## 7.1 ESCAPE Sequences

VIDTEX responds to certain ESCAPE sequences when received from a host computer. These sequences cannot be performed locally; they must be received from a host.

### 7.1.1 Keyboard Lock And Unlock

When an <ESC><b> sequence is received, VIDTEX will lock the keyboard and not transmit any more characters entered. This condition is reset when VIDTEX receives an <ESC><c> sequence. These sequences can be used by a host program that does not want to be interrupted during critical processing.

### 7.1.2 Video Enable And Disable

When an <ESC><e> sequence is received, the video is disabled and subsequent characters are not displayed. The video is enabled again when an <ESC><f> sequence is received.

### 7.1.3 Cursor Control Sequences

VIDTEX allows the host computer to perform screen control functions through ESCAPE sequences. These are remote functions and cannot be performed from the keyboard. The following table summarizes the screen control sequences and the functions they perform. Note the difference between lower and uppercase.

| Sequence | Effect on VIDTEX |
|---|---|
| <ESC>A | Move cursor up one line |
| <ESC>B | Move cursor down one line |
| <ESC>C | Move cursor right one space |
| <ESC>D | Move cursor left one space |
| <ESC>H | Home cursor to the top left corner |
| <ESC>K | Clear from cursor to end of line |
| <ESC>J | Clear from cursor to end of screen |
| <ESC>j | Clear page - same as an ASCII Form Feed |

### 7.1.4 Cursor Positioning

VIDTEX supports remote cursor positioning sequences that allow the host to position text anywhere on the screen. Remember that this is a remote function and cannot be performed from the keyboard. The sequence to do this is:

<ESC><Y><line code><column code>

where "line code" and "column code" are from the following table:

Cursor Positioning

| --Line Code- | | -------Column Code------- | | | |
|---|---|---|---|---|---|
| Line | Char. | Col. | Char. | Col. | Char. |
| 1 | Space | 1 | Space | 17 | 0 |
| 2 | ! | 2 | ! | 18 | 1 |
| 3 | " | 3 | " | 19 | 2 |
| 4 | # | 4 | # | 20 | 3 |
| 5 | $ | 5 | $ | 21 | 4 |
| 6 | % | 6 | % | 22 | 5 |
| 7 | & | 7 | & | 23 | 6 |
| 8 | ' | 8 | ' | 24 | 7 |
| 9 | ( | 9 | ( | 25 | 8 |
| 10 | ) | 10 | ) | 26 | 9 |
| 11 | * | 11 | * | 27 | : |
| 12 | + | 12 | + | 28 | ; |
| 13 | , | 13 | , | 29 | < |
| 14 | - | 14 | - | 30 | = |
| 15 | . | 15 | , | 31 | > |
| 16 | / | 16 | / | 32 | ? |

If a line or column code falls outside the range valid values, the invalid code is replaced by the valid code of nearest magnitude.

### 7.1.5 Graphics Mode

An <ESC>G4 is used to enter semigraphics 2 x 2 mode. In this mode the parity bit is used to distinguish between graphic and ASCII characters. If the parity bit is zero, the character is a standard ASCII character. If the parity bit is one, the character is a graphics character. The format of a graphic character (byte) is:

```
!7 6 5 4!3 2 1 0!
+-+-+-+-+-+-+-+-+
!1!a!b!c!d!e!f!g!
+-+-+-+-+-+-+-+-+
```

Bits "abc" define the color as follows:

000 - Green
001 - Yellow
010 - Blue
011 - Red
100 - Buff or White
101 - Cyan
110 - Magenta
111 - Orange

Bits "defg" define the graphic character as a set of four picture elements. A one bit sets a picture element on. The bits map to the picture elements as follows:

```
+-+-+
!d!e!
+-+-+
!f!g!
+-+-+
```

An <ESC>GN is used to enter text mode. All received characters will be treated as ASCII.

An <ESC>GH is used to clear the screen and enter high resolution graphics (256 x 192) mode. In this mode data is sent as pairs of run length encoded characters. The first character of the pair indicates the number of background pixels and the second character indicates the number of foreground pixels. Each character of a pair is the actual count plus 32.

For example, the ASCII sequence <L><W> indicates 44 background pixels and 55 foreground pixels. The line drawing wraps from the last position on a line to the first position on the next line. Thus, if the last pixel set on a line was in position 250 and a sequence of 0 background and 10 foreground is received, then the last six pixels are set on the current line and the first four pixels are set on the next line. The keyboard is left active while in this mode.

An <ESC>GM is used to clear the screen and enter medium resolution

graphics (128 x 96) mode. This mode is identical to high resolution except for the pixel size.

### 7.1.6 Received ESCAPE Sequences Summary

The following table summarizes the function of ESCAPE sequences recognized by VIDTEX. These functions occur only when the ESCAPE sequence is received from the host computer. These functions cannot be typed from the keyboard as local commands.

| Sequence | Function |
|---|---|
| <ESC>A | Cursor up |
| <ESC>B | Cursor down |
| <ESC>C | Cursor right |
| <ESC>D | Cursor left |
| <ESC>G4 | Semi-graphics 4 mode |
| <ESC>GH | High-res graphics mode |
| <ESC>GM | Medium-res graphics mode |
| <ESC>GN | Text mode |
| <ESC>H | Home cursor |
| <ESC>J | Clear to end of page |
| <ESC>K | Clear to end of line |
| <ESC>Y <line><col> | Position cursor |
| <ESC>b | Lock keyboard |
| <ESC>c | Unlock keyboard |
| <ESC>e | Disable display |
| <ESC>f | Enable display |
| <ESC>j | Clear page |
| <ESC><ESC>O | Open RAM buffer |
| <ESC><ESC>C | Close RAM buffer |
| <ESC><ESC>Z | Zero RAM buffer |
| <ESC><ESC>V | Transmit RAM buffer |
| <ESC><ESC>Y pmt | Transmit RAM buffer with prompt |

## 7.2 ASCII Control Characters

VIDTEX responds to the ASCII control characters BS (BackSpace), HT (Horizontal Tab), LF (line feed), FF (form feed) and CR (Carriage Return).

## 7.3 Mapped Characters

Since some of the ASCII characters are not defined in the displayable character set of the Color Computer, they are mapped to other characters. The mapping is summarized in the following table.

Video Mapping

| ASCII | Hex | Displayed |
|---|---|---|
| ` | 60 | <@> (inverted) |
| { | 7B | <[> (inverted) |
| \| | 7C | <\> (inverted) |
| } | 7D | <]> (inverted) |
| ~ | 7E | <^> (inverted) |

## 7.4 Redefined Key Summary

VIDTEX simulates some characters which are not on the TRS-80 keyboard. The following table summarizes the keys which have been redefined.

| | Redefined Keys | | | | | |
|---|---|---|---|---|---|---|
| Key | —Normal— | | —Shifted— | | —Control— | |
| Label | ASCII | Hex | ASCII | Hex | ASCII | Hex |
| 1 | 1 | 31 | ! | 21 | \| | 7C |
| 5 | 5 | 35 | % | 25 | ~ | 7E |
| 7 | 7 | 37 | ' | 27 | ^ | 5E |
| 8 | 8 | 38 | ( | 28 | [ | 5B |
| 9 | 9 | 39 | ) | 29 | ] | 5D |
| - | - | 2D | = | 3D | _ | 5F |
| @ | @ | 40 | ` | 60 | NUL | 00 |
| , | , | 2C | < | 3C | { | 7B |
| . | . | 2E | > | 3E | } | 7D |
| / | / | 2F | ? | 3F | \ | 5C |
| BREAK | ^C | 03 | BREAK-SEQ | | ^C | 03 |
| <- | ^H(BS) | 08 | ^U | 15 | ^H(BS) | 08 |
| -> | ^I(HT) | 09 | ^I(HT) | 09 | ^I(HT) | 09 |
| CLEAR | ESC | 1B | RUB | 7F | ESC | 1B |
| Up | ——————Meta Key—————— | | | | | |
| Down | ——————Control Key—————— | | | | | |

## 7.5 META S Editing

When the RAM buffer is saved to disk with a META S, it is edited as follows:

- all graphic characters are discarded
- CR/LF and single LF's are converted to CR
- tabs are replaced by multiple spaces
- all CONTROL characters, except BS, are discarded

## 7.6 Printer Control Character Conversion

VIDTEX makes the following conversions when sending information to the printer:

- the correct number of spaces are substituted for the horizontal tab character
- CR/LF and single LF's are converted to CR
- all control characters, except the bell, BS and FF, are discarded
- all other characters, including graphic characters, are passed to the printer without any conversion

## 7.7 Using Disk With VIDTEX

There are several VIDTEX functions that read or write a disk file. Most files must be in ASCII mode. Most BASIC data files are in this mode. To save a BASIC program in this mode, enter the commands:

```
LOAD "file/BAS"
SAVE "file/ASC",A
```

where "file" is the name of the program you want to convert.

## 8.0 APPENDIX A: CONTROL CHARACTER FUNCTIONS

The following summarizes the CONTROL characters to which CompuServe responds:

To send a CONTROL character, hold down the DOWN ARROW key and press the appropriate letter.

| CONTROL | |
|---|---|
| A | Suspends output being displayed by CompuServe at the end of the current line. Repeated issuance of CONTROL A causes successive lines of output to be displayed, one line at a time. Running output is turned back on with a CONTROL Q. |
| S | Suspends output immediately. |
| Q | Restores the running display of output at the point where it had been interrupted by a CONTROL A or or CONTROL S. |
| C | Interrupts display or a program's execution so that you can enter another menu selection or command. ("^C" is displayed on your screen.) |
| B | Used as a type ahead CONTROL C, forcing an interrupt when CompuServe requests input. |
| P | Interrupts display or a program's execution so that you can enter another command to the program. ("^P" is displayed.) |
| H | Backspaces, deleting the character that was there. |
| U | Deletes the line currently being typed. ("^U" is displayed.) |
| V | View current line; redisplays the line you are currently typing. ("^V" is displayed.) |
| O | Tells host to turn off output currently being displayed. A subsequent issuance restarts output at a later point in the transmission ("fast forward"). ("^O" is displayed.) |

Note: If host transmission seems to stop abruptly at any time, be sur to press CONTROL Q to ensure that the host has not halted output due t a CONTROL S.

## 8.1 Keyboard CONTROL Characters

A subset of control characters is available to you during certain META key functions. During RAM buffer display the following are valid: CONTROL A, CONTROL S, CONTROL Q, CONTROL O. At any file name prompt you can press CONTROL H, CONTROL U, and CONTROL C.

## 9.0 APPENDIX B: GLOSSARY OF TERMS

This Glossary defines some of the more frequently used terms associated with terminal communications.

**ASCII**
An acronym for American Standard Code for Information Interchange. Represented in the ASCII character set are 96 printable and 32 non-printable (control) characters.

**baud rate**
Refers to the number of bits transmitted or received per second. For example, 300 baud = 300 bits per second. The actual number of characters sent depends on how many data, stop and start bits comprise each character. Generally, 300 baud = 30 characters per second.

**binary file**
A type of file that contains data which is not necessarily printable. Generally, binary files are used to hold executable programs.

**bit**
A contraction of BINARY DIGIT, a bit is the smallest unit of information in the binary numbering system. A choice between two possible states, ON and OFF or zero and one, is represented in a bit.

**buffer**
A storage area for information. VIDTEX reserves a portion of your computer's memory to be used as a RAM buffer.

**byte**
Eight bits which are interpreted as one unit of data. One character, such as the letter "A", is represented internally in one byte during data communications.

**carrier**
Transmission of data over the telephone line is accomplished by modulation of the carrier signal.

**database**
A collection of information which is stored on the computer.

**defaults**
Settings telling your terminal specific ways to respond. For example, how many lines on a screen you

want to have displayed while scrolling, the first page to see after logon, the number of characters to delay after issuing a command, etc. These default settings can be made permanent or can be in effect for the current session only.

disk storage
Refers to the storing or saving of data in the Programming Area on a device called disk. The data can then be retrieved for use. Each Standard and Prime Service customer is allocated 128,000 characters of disk space at no extra charge. Additional storage can be requested through Feedback for an extra charge.

DISPLAY
The program which accesses the Videotex Area from the Programming Area.

download
The process of transferring a file of data from your on-line tape storage to your own personal computer system.

EMAIL (TM)
The CompuServe Information Service Electronic Mail program.

ENTER
The specific key on the keyboard which enters the current line into the computer; acts like a carriage return on a typewriter. Same as RETURN.

Executive
See VIDTEX.

FEEDBK
The program which enables you to provide your comments, ask questions or get help with a problem from Customer Service.

file
A collection of data, uniquely identified by a name and optionally an extension.

FILGE (TM)
CompuServe's FIle Generator and Editor which is used for creating and modifying files, for use in EMAIL, the Bulletin Board, and the Programming Area files.

Full Duplex
As used in this manual, means that the echoing of keyboard entries is handled by the network and not by VIDTEX.

hardcopy

A printout or a paper copy of computer data.

**host**
The CompuServe computer to which you are connected.

**initial page**
The first page of information which is displayed after logon.

**job**
A user's individual session while logged onto the CompuServe computer.

**logoff**
The sequence of events which disconnects you from the CompuServe computer.

**logon**
The sequence of events which connects you with the CompuServe computer.

**menu**
Refers to the item choices from which you may select a page to be displayed in the Videotex Area.

**network**
The communications link equipment that enables you to connect to CompuServe's computers in Columbus, Ohio. CompuServe operates its own network in most major cities in the 48 contiguous United States. Access from other cities in the U.S. and Canada is available through a supplemental network (such as TYMNET, TELENET or DataPac) at an additional communications surcharge.

**node**
A specialized communications computer which allows many terminals to communicate through the same line to CompuServe's large computer complex in Columbus, Ohio.

**OK**
The prompt which is used in the Programming Area to indicate readiness to accept a command.

**page**
Any one of the 16-line displays which appears on your terminal.

**password**
A unique set of characters that secures entry into the service for a unique User ID. Your password is your key to safeguarding your data and usage charges. You are responsible for all usage by your User ID. The CompuServe Information Service strongly recommends that you keep your password in a secure place separate from your User ID and never give it to anyone, verbally or

through the service. The most secure password consists of two non-related words connected with a symbol.

pixel
A contraction of picture element, and refers to the smallest unit of measure in graphics.

program
A set of machine instructions which the computer uses to perform a defined function. References to particular programs used on the CompuServe Information Service are made by program name, such as EMAIL, FEEDBK, DISPLAY. When a program is requested, the host computer loads and executes (runs) the specified set of instructions (program).

prompt
The message which is displayed to alert you that the computer is waiting for input. For example, Key M for menu! in the Videotex Area, or OK in the Programming Area.

protocol
A computer communications convention for transferring data between a sender and receiver.

RS-232
A commonly used interface between a computer terminal and a modem. Since the computer deals with bytes and the modem only with bits, the RS-232 interface provides a way to "serialize" data sent to the modem.

Screen
Refers to one video page of information.

SIGS
The program which accesses the Special Interest Groups area. The SIGS offering contains many groups with mutual special interests which have been given a unique area to allow members to communicate with each other.

SOFTEX (TM)
The name for the Software Exchange program which allows a user who is equipped with the proper version of VIDTEX to purchase programs on-line that can be run on his/her personal computer. These programs can be downloaded to the personal computer system upon purchase.

SYSOP
An acronym for SYStem OPerator, who is the person responsible for maintaining a SIG on CompuServe.

terminal

A keyboard and printing or display mechanism used to enter data into a computer and to display output from a computer. A microcomputer which is running terminal emulation software is considered to be a terminal.

**upload**
The process of transferring a file from your personal computer system to your CompuServe disk storage area.

**User ID**
A unique number assigned to your account that, when used with the correct password, allows access to the CompuServe Information Service. For example, 77777,777.

**Videotex**
An easy to use interactive menu formatted system for accessing remote databases or programs. On CompuServe, the Videotex format is in pages of text.

**VIDTEX**
A terminal emulator program which is designed specifically for use with the CompuServe Information Service and which is in the CompuServe Videotex format.

# 10.0 APPENDIX C: VIDTEX REFERENCE SHEET

**First Menu**

```
RAM Buffer Functions
O Open
C*Close
Z Zero
G Get Screen into Buffer
D Display
P Print
L Load from disk
S Save to disk
U Unedited Save to disk
V Transmit
Y Transmit W/Prompt
  Used:      0
  Free: xxxxx
```

**Second Menu**

```
Local Control Functions

B Disable Clean
E*Enable Clean
K Invert Screen
: Print Screen
CLEAR Clear Screen
```

**Third Menu**

```
Miscellaneous Functions

A Abort
F Function Keys
H Help
M Menu
I New AUTOLOG
J Old AUTOLOG
Q Query/Set Status
X Exit
```

KEY DEFINITIONS

| Key | SFT | CTL | Key | NRM | SFT | CTL |
|---|---|---|---|---|---|---|
| 1 | ! | \| | BREAK | ^C | BRK | ^C |
| 5 | % | ~ | Left | BS | ^U | BS |
| 7 | ' | ^ | Right | HT | HT | HT |
| 8 | ( | { | CLEAR | ESC | RUB | ESC |
| 9 | ) | } | Up | - META KEY | | |
| - | = | _ | Down | - CONTROL KEY | | |
| @ | ` | NUL | | | | |
| , | < | { | | | | |
| . | > | } | | | | |
| / | ? | \ | | | | |

Shift-Zero Toggles Shift Lock

META Q Menu Options

Parity

- 0 - Set parity bit to zero
- 1 - Set parity bit to one
- E - Even parity
- O - Odd parity
- D - Disable parity

Duplex

- F - Full duplex
- H - Half duplex

Flow Control

- Y - Enable flow control
- N - Disable flow control

Modem Baud Rate

- 1 - 110 Baud
- 2 - 150 Baud
- 3 - 300 Baud
- 4 - 600 Baud

Printer Baud Rate

- 3 - 300 Baud
- 4 - 600 Baud
- 5 - 1200 Baud
- 6 - 2400 Baud
- 7 - 4800 Baud