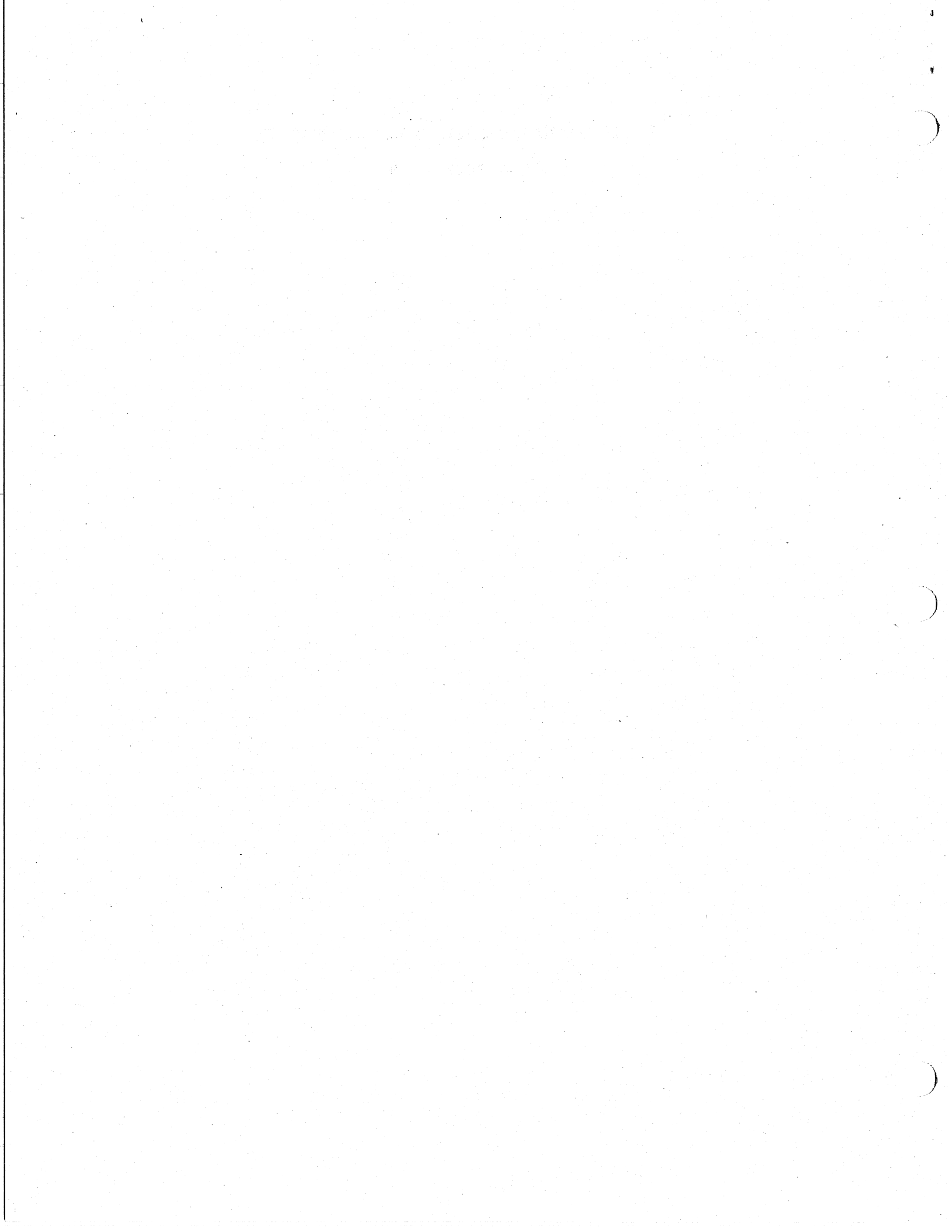
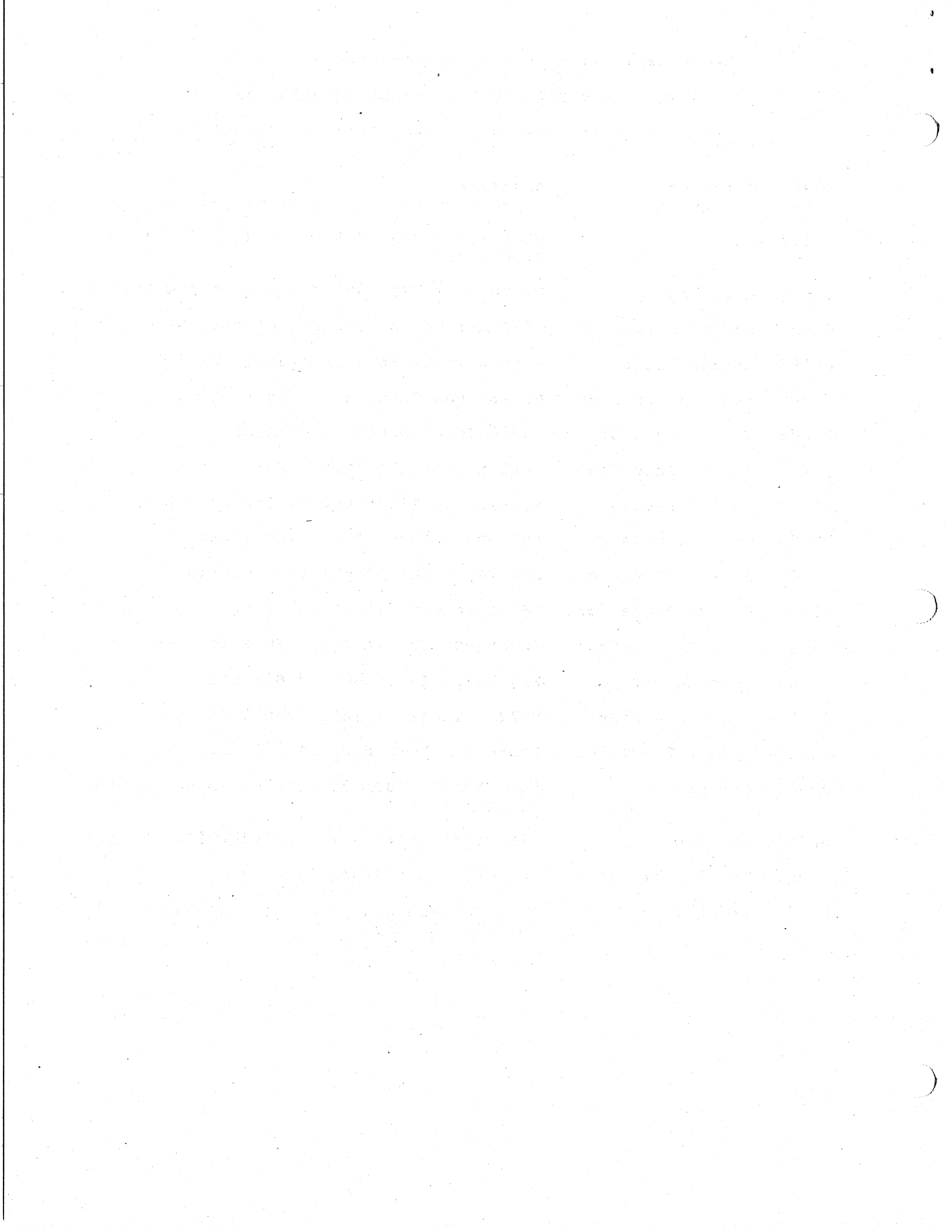


VT220 TERMINAL EMULATION INFORMATION  
FOR PCSA V2.0



\*\*\*\*\*  
 \*  
 \* PCSA V2.0 VT220 TERMINAL EMULATOR PROBLEMS \*  
 \*  
 \*\*\*\*\*

SPR#	Component	Abstract
-----	-----	-----
01333	Other	UDKs Won't Take 7-Bit Sequence To Be Programmed
01650	Printing	VT220 DOES NOT HANDLE XON/XOFF CONDITIONS
01828	Script Processor	DISPLAY: Needs <LF> For DEBUG:, SYSTEM:
01197	Window Title	Window Title Reinstantiation Fails
01242	Redefinable Icon	Dialog Box Tabbing Is Destructive
01265	User Interface	VT220 Icon Select Non-Standard
01371	Redefinable Icon	Script Causes A "Black Hole" Icon
01384	Script Processor	Marking Is Blind During Script Run
01405	User Interface	Actions Screen Is Un-highlighted
01563	Script Processor	UDK Value Not Displayed On Screen
01579	Script Processor	"Hold Screen" Incompatibility
01749	Script Processor	Incorrect Script File Names Ignored
01784	User Interface	Key Usage In Set-Up Is Bizzare
01829	User Interface	VT220 Window Doesn't Scroll Enough
01838	Script Processor	Line Nos. > 99 Show As 0 In Log File
00901	Printing	"<ESC>[5i" (Turn On Printer) Also Resets Printer
00902	Printing	"<ESC>[5i" Forces Extra "<ESC>[4i" To Printer
01257	Redefinable Icon	Icon File Not Properly Imaged
01679	Printing	Print Screen <F2> Doesn't Print To Local Parallel Printer



SPR #: 1333  
Product: VT220 TERMINAL EMULATOR  
VERSION: 2.0  
Class: Bug  
Component: Other

**PROBLEM: UDKs Won't Take 7-Bit Sequence To Be Programmed**

It looks like the VT220 emulator does not accept the 7-bit equivalent to the terminal commands. But, I am able to successfully program the function keys using the 8-bit character sequences.

The "VT220 Pocket Programmer Guide" outlines the command like this:

```
DCS Pc;Pl | Kyl/st1;ky2/st2;...kyn/stn ST
```

Where:

DCS is an 8-bit control character expressed as <ESC>P when coding for a 7-bit environment. DCS has an ASCII value of 144 Decimal.

Pc is for clearing key values

Pl is for locking keys against future redefinition

Kyn is a unique value assigned to each key

stn is a string of hex pairs on ASCII characters that will define the specific key

ST is an 8-bit control character expressed by <ESC>/ when coding for a 7-bit environment. ST has an ASCII value of 156 Decimal.

For example, to redefine the <Shift><F6> key sequence to print the string "Hi" (with no quotes), you would issue the following command:

```
<DCS>1;1|17/4869<ST>
```

After issuing that command, every time you type <Shift><F6>, you would get "Hi" on the screen. We are supposed to be able to substitute the 7-bit sequences in place of <DCS> and <ST> as described above, but it doesn't seem to work with those sequences.

**ACTION/REMARKS:**

SPR #: 1650  
Product: VT220 TERMINAL EMULATOR  
Version: 2.0  
Class: Bug  
Component: Printing

**PROBLEM: VT220 DOES NOT HANDLE XON/XOFF CONDITIONS**

When printing a large file to an attached LA75, if the printer hits a buffer full condition, VT220 returns a "Printer Error" message.

Under the test, the LA75 was put in Letter Quality mode to insure that the buffer fills due to the slow speed of the print head. In all cases VT220 returned this error.

Under the same conditions, SETHOST did not have this problem.

**ACTION/REMARKS:**

SPR #: 1828  
Product: VT220 TERMINAL EMULATOR  
Version: 2.0  
Class: Bug  
Component: Script Processor

PROBLEM: DISPLAY: Needs <LF> For DEBUG:, SYSTEM:

The DISPLAY: string command doesn't always work unless <LF> is included after the string. <CR> does not make a difference; only <LF> does. The two cases I've seen are:

- (1) The DEBUG: command causes the displayed lines to be overwritten. To see this, write a script with DEBUG: and DISPLAY commands:

```
debug:
display: first line
display: second line<CR>
display: third line<CR>
exit:
```

Run the script and watch how the debug lines overwrite the previous displayed lines, so that all you see are debug lines!

Now edit the three DISPLAY: commands to end with <LF> and it will work better, though with more white space.

- (2) The SYSTEM: command clears all but the last two DISPLAY: lines. To see this, write a script with 5 pairs of DISPLAY: and SYSTEM: commands and name the file DISPLAY.SCR:

```
display: 1
system: dir
display: 2
system: dir
...
display: 5
system: dir
```

(You need a COMMAND.PIF with Close on Exit, and a WIN.INI without the "command.com=32" line.) Run the script: WIN VT220 DISPLAY.SCR

Watch the VT220 window in between COMMAND.COM windows. Do not attempt to scroll or resize the vt220 window. Notice how only the last two numbers appear.

If you add <LF> to the DISPLAY: n commands and rerun the test, you will see all the numbers and a lot of white space.

Assuming the user figures out what's needed, they may not like it too much. DISPLAY: lines cannot be consecutive; the <LF> causes a blank line between them.

ACTION/REMARKS:

SPR #: 1197  
Product: VT220 TERMINAL EMULATOR  
Version: 2.0  
Class: Bug  
Component: Window Title

**PROBLEM: Window Title Reinstantiation Fails**

The following sequence of events results in a failure of the "Window Title" enhancement, an option on the Display Set-up Screen, to re-instantiate or PUT BACK the user's title selection after a default:

Start the emulator from a default.220 file  
Hit F3 (this refers to toggling {entering, exiting} Set-Up Mode)  
Select "Display" from the Set-up Screen Main Menu  
Select the "Window Title" option from the Display Screen  
BOTH the resultant Dialog Box title and the Parent VT220 title are identical<sup>1</sup>, i.e. reflect the user's "default.220" title choice --  
Eg. 'VT220 Modem Support' for purposes of this description  
Hit the DEL key (keypad period [.] ) then respond OK to force the default window title -- this is 'VT220 Emulator'  
BOTH the Dialog Box and the Parent titles are the same = 'VT220 Emulator' in both title bars  
Select "Actions" from the Main Menu  
Select "Recall Set-up Parameters" from the Actions Screen, respond OK  
Now, the parent title says 'VT220 Modem Support' once again, while the dialog box contains the 'VT220 Emulator' title; this is fine  
Select "Display" and "Window Title" once again  
The default title in the edit portion of the Window Title dialog box indicates 'VT220 Modem Support' -- the user's choice was "brought back" as the default during the parameter recall -- note here that the dialog box title still says 'VT220 Emulator'  
Select OK: THE DIALOG BOX TITLE BAR DOES NOT CHANGE!  
When the user selects OK, he expects, once again, to see a match between the PARENT window title and the modal DIALOG BOX window title -- in this example, 'VT220 Modem Support' in both windows

Hitting F3 twice (exit, then re-enter Set-Up) corrects the problem.

<sup>1</sup>with the exception, of course, of the words "Set-Up" following the title text in the dialog box window

**ACTION/REMARKS:**



SPR #: 1242  
Product: VT220 TERMINAL EMULATOR  
Version: 2.0  
Class: Bug  
Component: Redefinable Icon

**PROBLEM: Dialog Box Tabbing Is Destructive**

When using the "User Icon Name" dialog box, hitting TAB twice gets me by the Cancel button to the edit box where I carefully enter the name of my new icon. Hitting TAB again puts me at the 'Use standard VT220 icon' check box. As I do not wish this option, I TAB again to the 'Use special icon' check box. This is the one I want! When I hit the space bar (or click the mouse) to indicate this choice, the box is checked, the 'Use VT220 icon' box is unchecked, and my icon name is GONE.

**ACTION/REMARKS:**

SPR #: 1265  
Product: VT220 TERMINAL EMULATOR  
Version: 2.0  
Class: Bug  
Component: User Interface

**PROBLEM: VT220 Icon Select Non-Standard**

The selection of the STANDARD VT220 icon, whether by clicking on the icon with the mouse or by ALT-TABing to the icon and hitting ALT-space & ALT-M from the keyboard, results in a white void or abyss (a white square), "full of sound and fury, signifying nothing," rather than the icon UNCHANGED, as is the case with ALL OTHER application icons, even the generic terminal.exe's icon!

The VT220 icon select logic must change for reasons of Windows conformity and application compatibility.

**ACTION/REMARKS:**

SPR #: 1371  
Product: VT220 TERMINAL EMULATOR  
Version: 2.0  
Class: Bug  
Component: Redefinable Icon

**PROBLEM:** Script Causes A "Black Hole" Icon

When a script file is invoked from the command line, the iconic emulator is a black hole or black square. The invocation was as follows:

```
win vt220 viking.scr
```

where viking.scr is a 3-line script file that simply loads a .220 Set-Up file.

**ACTION/REMARKS:**

This is a problem with the definable Icon itself. Tested the conditions of this SPR once again, this time using the DOS command shown below to bring up the emulator in Windows:

```
win vt220 mosaic.scr
```

where mosaic.scr is a script file that loads the related Set-Up file. The latter contains the "Standard VT220 Icon," the one shown when the emulator is iconic.

A re-test shows the same "black square" icon problem as indicated above (09-Dec entry). This time, however, the Set-Up file used a valid REDEFINABLE icon rather than the Standard Icon.

SPR #: 1384  
Product: VT220 TERMINAL EMULATOR  
Version: 2.0  
Class: Bug  
Component: Script Processor

**PROBLEM: Marking Is Blind During Script Run**

While in the middle of running a script, Eg. waiting on a Read command, you can select the 'Mark' option from the emulator title box. When you go to actually mark some text with the mouse, the text is not highlighted, but the marking is taking place nevertheless! The latter is verified by looking at the clipboard when the 'Copy' option is selected next.

Further testing shows that, if the screen is repainted, the marked text shows up. This is accomplished by making the emulator iconic, then active again, or by bringing up another application alongside the emulator, forcing the latter, now sharing the client space, to repaint for the smaller window. Perhaps the easiest method to force a repaint is via the 'Zoom' selection, also possible during this 'script wait state.'

A similar situation obtains when a piece of text is UNMARKED, that is, the text returns to its un-highlighted state, but only after the screen is repainted.

**ACTION/REMARKS:**

This is only a cosmetic problem. Fixed in next release.

3  
SPR #: 1405  
Product: VT220 TERMINAL EMULATOR  
Version: 2.0  
Class: Bug  
Component: User Interface

**PROBLEM: Actions Screen Is Un-highlighted**

When in the emulator Set-Up mode, with the Actions Screen the currently selected (highlighted) screen, whether by default or by user selection, clicking on Set-Up's title box (clicking and releasing) or hitting Alt-Space and then Return (or Escape) UN-HIGHLIGHT's the 'Actions' screen selection. The screen, however, is still the selected one as its associated menu items remain the same and can be selected. Clicking on the 'Actions' screen selection itself, however, has no effect. An easy workaround is to hit the left arrow and then the right arrow to regain the reverse video on the option.

Another method to regain the reverse video is by hitting Alt-A. This action, however, is unsettling in that it disables F3, that is, you CANNOT LEAVE SET-UP MODE this way! Hitting the right and left arrow keys to highlight other screen titles is not a remedy. However, hitting the Return key (or the Escape key) enables the F3 option once again. Also, hitting Alt-?, where ? is the first letter of any of the other screen titles, THEN RELEASING the Alt key, re-enables everything.

The obvious conclusion from all this is that there is some missing logic related to the "default" Actions screen option in Set-Up mode.

**ACTION/REMARKS:**

SPR #: 1563  
Product: VT220 TERMINAL EMULATOR  
Version: 2.0  
Class: Bug  
Component: Script Processor

PROBLEM: UDK Value Not Displayed On Screen

If the UDK is terminated with a carriage return, the UDK value is not displayed on the screen. The value is read into the variable and the next line in the script is executed because a return was sent via the UDK. If the UDK is not terminated with a CR, the value is displayed on the screen and the processor waits for the user to type in a carriage return at some point in time.

ACTION/REMARKS:

To be fixed in next release.

SPR #: 1579  
Product: VT220 TERMINAL EMULATOR 31-DEC-1987  
Version: 2.0  
Class: Compatability  
Component: Script Processor

**PROBLEM: "Hold Screen" Incompatibility**

An incompatibility exists with the way the "Hold Screen" works outside scripting in VMS. If you're typing out a file and hit F1 (Hold Screen function key) or Ctrl/S, the display eventually stops. If the emulator is made iconic, then active again during this mode, no further output is evidenced. When this is done during a script, there is residual output beyond the cursor. Also, Ctrl/S does not appear to work during scripting as indicated above (along w/ Ctrl/Q).

The above problems are summarized here:

- (1) Residual output in "F1 mode," iconic then active
- (2) Ctrl/S standard terminal hold mode incompatibility

**ACTION/REMARKS:**

To be fixed in next release.

SPR #: 1749  
Product: VT220 TERMINAL EMULATOR  
Version: 2.0  
Class: Bug  
Component: Script Processor

**PROBLEM: Incorrect Script File Names Ignored**

The VT220 takes no action when you tell it to run a script file that doesn't exist. It does not prompt you to Change Disks, like Notepad does. It doesn't treat a non-existent script file like any other script error, either; there's no %SCR message and nothing is written to the log file.

To try this, do: (a) c:\>win vt220 missing.scr  
or: (b) put into win.ini: run missing.scr  
scr=vt220.exe ^.scr  
or: (c) choose Script from the VT220 system menu and type missing.scr as the filename

There is one way to invoke a script that does notice a missing file: Choose the Script File item from the Set-up Actions menu; that will display a "Cannot find file" dialog box.

**ACTION/REMARKS:**



SPR #: 1784  
Product: VT220 TERMINAL EMULATOR  
Version: 2.0  
Class: Documentation  
Component: User Interface

**PROBLEM: Key Usage In Set-Up Is Bizzare**

Running Set-Up by using the keyboard rather than the mouse is possible, but it's nonstandard and very messy. To see how this works, do the following:

(1) Start up the Vt220 and get into Set-Up (press F3 or use system menu). Move the cursor to the Printer choice.

(2) Enter keyboard-Set-up mode

Press Alt-spacebar once. Next, hit the right arrow key repeatedly, watching the second cursor (the first cursor is still on Printer) move from the System Menu to Actions to each of the Set-Up choices, until it "joins up" with the first cursor.

(3) Watch how this works ...

Keep pressing right-arrow; the cursor will jump from the last Set-up choice, Telephone, to the blank line below the Set-Up choices, to the first Printer setting, Print Extent. Keep pressing right-arrow; the cursor moves through the Printer settings, then over two blank lines below the last setting, and back to the System Menu!

(4) Change a setting and exit

Keep pressing right-arrow until you're back in the Print Extent Setting drop-down menu. This time, use the down-arrow key to put the cursor on the default setting and hit <Return>. The menu disappears.

Notice that there is now no cursor (most of the time) and Set-up looks dead. Press right-arrow, and now you're back into regular Set-up.

**Some additional observations:**

- o You cannot exit from Set-up by hitting F3 while you are in this funny mode you got into from alt-spacebar. You must first exit the mode by hitting Return, Esc, Alt-uparrow or Alt-downarrow (Prev and Next don't do anything), unless you're in a drop-down menu in which case these alt-arrow keys just move you in the menu.
- o Most of the time the cursor will not be displayed when you've exited this mode. The keys that worked in the mode, ESC, CR and alt-arrow, don't work now, and you must press Prev, Next, F3, Alt-spacebar, left or right arrow to restore the cursor.
- o The plain arrow keys work identically to the alt-arrow keys in moving through choices. I understand only the alt-arrow keys were

documented, for consistency.

- o Every Set-up screen has at least one blank line that you can highlight; the Telephone screen has four.
- o When you choose Manually Set Tabs, it is the spacebar key that toggles tabs, not the up and down arrows as documented. Also, ctrl-break doesn't choose the Cancel button in manual tab settings, though tabbing to Cancel and pressing spacebar does work.
- o You can move around the set-up screens by typing the first character of a set-up choice or setting.

The way this works is like no other Windows software that I've seen, and the Windows manual (needless to say) doesn't describe this very well. It's hard to imagine a customer figuring this out without considerable aggravation at best, if they figure it out at all.

**ACTION/REMARKS:**

SPR #: 1829  
Product: VT220 TERMINAL EMULATOR  
Version: 2.0  
Class: Bug  
Component: User Interface

**PROBLEM: VT220 Window Doesn't Scroll Enough**

On an IBM with a CGA, the VT220 window doesn't show the bottom 1-3 lines. To see this in a script, write a script with enough DISPLAY: commands to fill the screen:

```
display: 1<LF>  
display: 2<LF>  
...  
display: 11<LF>  
exit:
```

and run it. You will not see the last number or two, even though the script has completed. If you move the scroll box, or Zoom the window, you will see the last number.

The Vaxmate displays about 24 lines in a VT220 window; the IBM displays about 21 lines. I don't know if this problem is a natural consequence of the different number of lines displayed on the IBM or if the VT220 could take the number of displayed lines into account when scrolling. It was this problem that led me to attempt to move the scroll box during a SYSTEM: command.

**ACTION/REMARKS:**

SPR #: 1838  
Product: VT220 TERMINAL EMULATOR  
Version: 2.0  
Class: Bug  
Component: Script Processor

PROBLEM: Line Nos. > 99 Show As 0 In Log File

The error messages written into the ERROR.LOG file show a source script line number of 0 (zero) for source line numbers greater than 99. This means that users with scripts of greater than 100 lines (including comments and blank lines) may not be able to tell which line of their script caused an error. The script line is echoed in the log file, so this bug is not too troublesome unless the user has duplicate script lines past line 99.

ACTION/REMARKS:

3  
SPR #: 901  
Product: VT220 TERMINAL EMULATOR  
Version: 2.0  
Class: Bug  
Component: Printing

PROBLEM: "<ESC>[5i" (Turn On Printer) Also Resets Printer

This problem is demonstrated using the following configuration:

IBM PC/XT w/DEPCA, Epson printer connected to parallel printer port (LPT1) talking through the VT220 terminal emulator (ethernet connect) to an All-in-1 system. This can also be demonstrated from a VAXmate.

All-in-1 issues an "<ESC>[5i" command to the terminal emulator, which is a valid VT220 command that directs the emulator to turn on the local printer port in preparation for printing.

When the VT220 emulator receives this command, it responds by completing the task, then issues a "<ESC>[0w" command to the printer. For the DEC (ANSI) environment, this is the command to reset the default pitch on the printer.

The problem is that we are printing to a printer that does NOT recognize this command. It does swallow the "<ESC>[", but then it prints out the "0w" at the top of the document. This happens regardless of the printer used.

Considering that we are talking about the IBM environment where the user is very likely using a non-DEC printer, we cannot make the assumption that all printers at the other end of LPT1 can interpret this command.

I recommend that we either check with Windows to see whether the printer is a DEC printer or not before issuing this command, or that we do not issue this command at all.

The VT220 terminal does NOT issue this command to the printer.

**ACTION/REMARKS:**

Epson printers are not a supported printer.

SPR #: 902  
Product: VT220 TERMINAL EMULATOR  
Version: 2.0  
Class: Bug  
Component: Printing

PROBLEM: "<ESC>[5i" Forces Extra "<ESC>[4i" To Printer

This problem is demonstrated using the following configuration:

IBM PC/XT w/DEPCA, Epson printer connected to parallel printer port (LPT1) talking through the VT220 terminal emulator (ethernet connect) to an All-in-1 system. This can also be demonstrated with a VAXmate.

All-in-1 issues an "<ESC>[5i" command to the terminal emulator, which is a valid VT220 command that directs the emulator to turn on the local printer port in preparation for printing.

After this point, the very next character I type will be preceded by "<ESC>[4i". Which means that typing "a" after the printer port has been turned in will result in "<ESC>[4ia" being sent to the printer. It is only the first character typed that does this. All other characters are sent to the printer properly.

Note - this has NOTHING to do with All-in-1. This error can be demonstrated using the VT220 emulator in local mode.

There should be no extra characters sent to the printer at this point.

**ACTION/REMARKS:**

The EPSON printer is an unsupported printer.

SPR #: 1257  
Product: VT220 TERMINAL EMULATOR  
Version: 2.0  
Class: Bug  
Component: Redefinable Icon

**PROBLEM: Icon File Not Properly Imaged**

Depending upon the sophistication of the user in the creation of his own icons, there is the very real possibility that, with the proper tool, he can create an icon that is relatively uncommon among the diverse icons that already exist to represent a generous variety of Windows applications.

A tool such as EDITICON, for example, or nearly any of the other common icon editors, is all that is necessary to create an icon that does not follow the standard "black and white" convention that seems to predominate the selection of images for a tiled Windows environment almost to the present time. I believe, however, that with the nearly infinite possibilities in color provided by the EGA board, multiple greying and shadowing effects on a monochrome display, the introduction of Windows 2.0 and the more powerful DECwindows System, the trend toward fancier icons has already begun.

The ability to select a "screen" pencolor allows for an icon that has one or more "windows" inside the icon, that is, you can see the screen background through the icon as it sits in the icon area, or text and graphics in other portions of the Windows screen. An example of this type of icon may be found in the SPY program, a Public Domain Windows program written by Michael Geary, that actually "spies on all the open windows" and reports everything it can, Eg. active vs. iconic, window title and class names, window handles (in hex), parent handles, child windows, etc. It is this kind of espionage that leads me to the thrust of the SPR:

an icon having the "window effect" previously described is shown by the emulator as that icon with its window filled in, i.e. the 'screen color' becomes the icon background color, either white or black.

**ACTION/REMARKS:**

SPR #: 1679  
Product: VT220 TERMINAL EMULATOR  
Version: 2.0  
Class: Bug  
Component: Printing

PROBLEM: Print Screen <F2> Doesn't Print To Local Parallel Printer

Configuration:

IBM PC/AT, 640K, LK250, DEPCA, V2.0 software

I have a multi-function card in the AT with a single parallel port. I have plugged an IBM ProPrinter onto LPT1:. When I try to print from Windows through the PRINT function, it prints fine. I can print from DOS fine.

But, when I hit <F2> (VT220 print screen) it does not print properly. Either I get nothing, or I get a couple of lines, then it stops. Sometimes hitting the <F2> key repeatedly will get a couple of lines of output if the first time didn't do it.

This does work find with a LA75 Parallel, but since we are getting closer and closer to supporting non-DEC equipment, it is unreasonable to expect any user to automatically discard their printers for DEC gear, especially a printer as popular as the IBM ProPrinter.

ACTION/REMARKS:

In compliance with the VT220 specifications we support the following printers:

LA34/38, LA35/LA36, LA12, LA100, LA120, LA75, LA50, LQP02

Digital terminals use DEC standard 8-bit character sets & ESC sequences. It was never the intention to translate Digital standards to another vendor's format. This idea has not even been architected as of this date.

A way to achieve the results requested, the user can employ session logging. In Set-Up, the user can open a Receive file to capture all the information that appears on the screen. When the user wants to end session logging the user closes the Receive file. The file can then be printed using the MSDOS print function.



