DATAPOINT

Datapoint 8220 Workstation

Table of Contents

Operating the 8220 Workstation

The Datapoint® 8220 Workstation is a general purpose, interactive video terminal designed for comfortable and easy operation. Used with Datapoint's Disk Operating System (DOS) or Resource Management System™ (RMS) operating systems, the 8220 is ideal for applications processing, program development, and word processing functions.

The ergonomic features of the 8220 include a large, 24 line by 80 column screen with an easy to read high-contrast amber display, a 7 by 9 dot character matrix, a detached keyboard that can be positioned up to a meter from the workstation enclosure, and an optional tilt/rotate base. The display angle and keyboard positions can be adjusted by the operator for the most comfortable keying and viewing angles. In addition, display brightness can be set by the operator via the keyboard to any of 16 levels.

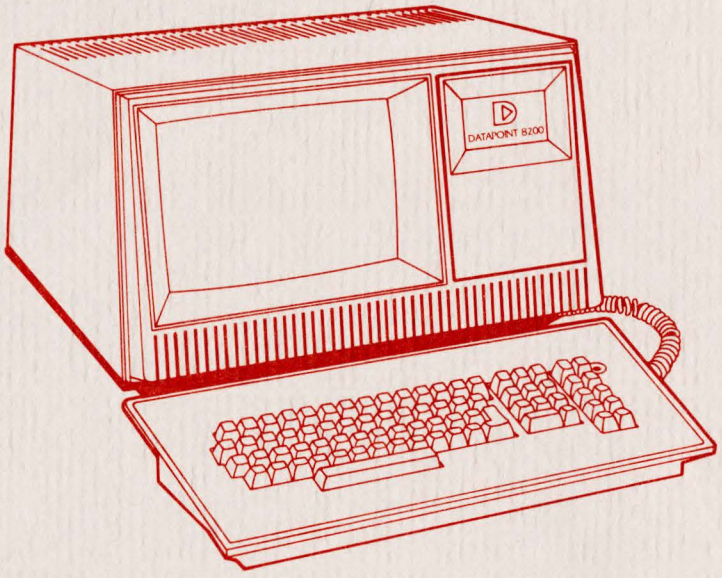

Figure 1: The 8220 Workstation

For more detailed information about the 8220 Workstation, see the Product Specification (Document No. 61295).

Five types of terminal functions can be specified by the operator or downline loaded by the host processor.

Operator Convenience Options

The 8220 allows the operator to adjust permanent display brightness to any of sixteen levels while in the configuration mode. Also, a Double Key option allows certain function keys to act as extensions of their adjacent keys to prevent keying errors. This feature is helpful if experienced 3600 operators use an 8220 with a Universal keyboard. (The General Purpose keyboard is standard.)

Communication Options

The communication options permit the selection of various baud rates, selection of parity format (even or odd, zero or one), and the generation of ASCII control characters for transmission to the host processor as system keycodes.

Character Options

The character options allow the operator to display additional characters, special character sets, or uppercase character sets only. In addition, the 8220 supports an ALPHA key configuration which allows an operator to display unshifted characters when in the SHIFT LOCK mode.

Cursor, Line Spacing, and Bell Options

These options permit the operator to select alternative controls and commands over cursor movement, line spacing, and the bell function.

Local Control Options

These options permit the operator to control the transmission of certain keycodes to the host processor.

Operator Controls

ON/OFF Switch

The ON/OFF switch is located on the right side of the 8220 base plate. To turn the 8220 on, push this switch to the rear. Turn it off by pushing the switch forward. A red light to the right of the keyboard indicates when power is on.

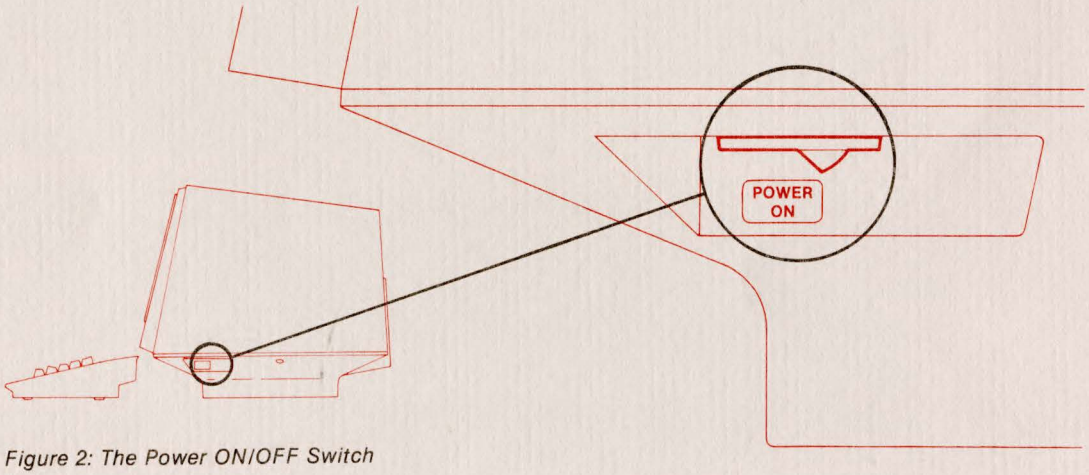

Figure 2: The Power ON/OFF Switch

Display Brightness

The operator can temporarily adjust the brightness level of the screen by taking the following actions:

To cause brightness to increase, hold down the CTRL key and press the key above the CTRL key.

To cause brightness to decrease, hold down the CTRL key and press the key below the CTRL key.

Note: Long term operation at maximum brightness is not recommended.

Repeat Action Keys

If the local display option is enabled, the repeat action feature causes a character to be displayed on the screen at the rate of 15 per second after its key has been held down for one-half second.

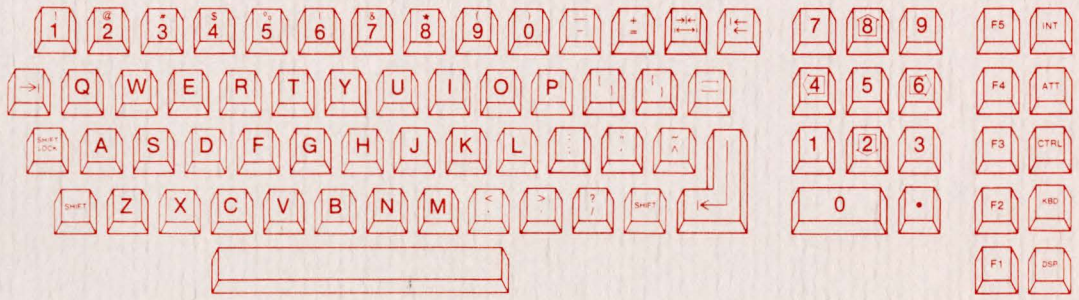

Figure 3: The Datapoint General Purpose Keyboard

Figure 4: The Datapoint Universal Keyboard

The 8220 keyboard has a 55-key pad arranged in standard typewriter layout, an 11-key numeric pad, and ten function keys. Information being keyed in can be visually monitored on the terminal's video screen and keying errors can be easily corrected using the BACKSPACE or CANCEL key at any time before the ENTER key is pressed. The SHIFT LOCK key in the 8220 keyboard has a light emitting diode (LED) which is illuminated whenever the keyboard is locked in the shifted position. The 11-key numeric pad duplicates the number and period keys, and allows you to make fast calculator-style numeric entries. The ten function keys are under program control. (See Operator Convenience Options, p. x, for more information.)

Keyboard Lockout

The 8220 keyboard may be locked with the following key sequence:

Press the CTRL key. While holding the CTRL key down, press the CANCEL key and up to 4 keys of your choice (excluding CANCEL, ENTER, or the function keys). Then press the ENTER key, and release the CTRL key.

To unlock the keyboard, the same sequence must be repeated in the same order. If any mistakes are made, the 8220 will beep and the operator must repeat the sequence correCTRLy. While the keyboard is locked, pressing any key (except the unlock sequence) will cause the 8220 to beep. If the 8220 is powered off, it will power back on with the keyboard unlocked.

Off-Line Operation

The 8220 configuration options are specified in Off-Line Mode. Off-Line operation can be selected through the 8220 keyboard.

To cause the 8220 to operate off-line, the following keyboard actions must be taken:

- Hold down the CTRL key,
- Depress the INT key twice in succession, then
- Release the CTRL key.

Any data displayed on the screen prior to going off-line will be erased, and the display shown will appear as in Figure 5.

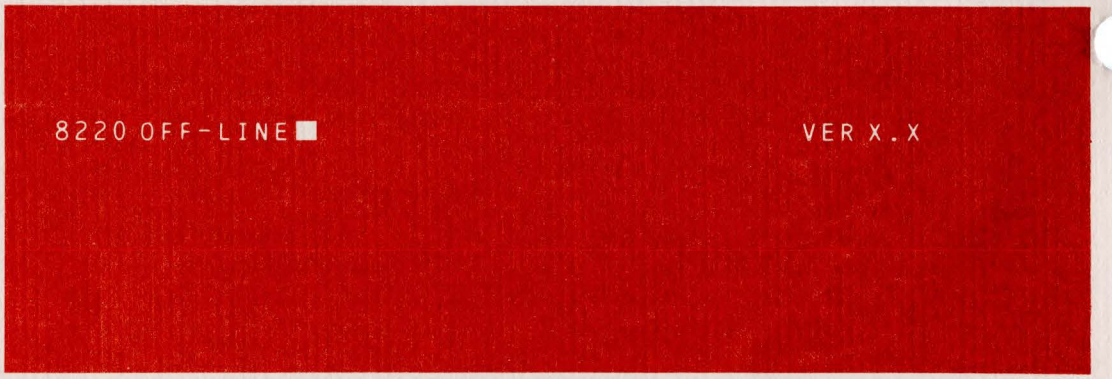

Figure 5: Workstation Screen in the Off-Line Mode

To return to on-line operation, the off-line access sequence must be repeated. The display will be erased and the cursor will appear in the first character position of the first line ("home up" position). The 8220 will also return to on-line operation after it is powered off and then powered on again.

Configuration Option Mode

The Configuration Option Mode is designed to permit the user to tailor the response of the 8220 so it can take advantage of the capabilities of the host processor. The Configuration Options provide five general areas of terminal features: Operator Convenience Options, Communication Options, Character Options, Cursor, Line Spacing and Bell Options, and Local Control Options.

When the workstation is in the off-line mode, the Configuration Option Mode may be selected by keying in the access sequence, '(OPT)'. Previously displayed data will be erased. An illegal key entered before or during the access sequence causes a beep, but leaves the workstation in the off-line mode.

NOTE: The SHIFT key must be held down when entering the parentheses, but not when entering OPT.

After the workstation enters the configuration mode, the CRT display shown in Figure 6 appears. A message describing each option is displayed along with the current setting of the option. Baud rate information is displayed in its numeric value. If the receive baud rate is set at 9600 baud, the display will show"RX BAUD 9600". Parity option information is displayed with the word "PARITY" followed by a 1 for one parity, a 0 for zero parity, an E for even parity, or an O for odd parity. The remaining options are displayed with a brief message followed by a"Y" or an"N" to indicate whether or not a particular option is enabled.

To set each option, enter the setting desired in the same manner it is displayed. (To set baud rates, enter the numeric value desired.) To skip an option where no change is required, press ENTER. When all the options have been selected, an"ADJUST BRIGHTNESS" message is displayed, followed by a"DONE?". To adjust brightness, see page 2.

After adjusting the display brightness, enter a Y in response to the"DONE?" message if no further changes are needed on the configuration option display. If a Y is entered, the display sceen will go blank and the new option settings will be written to the nonvolatile memory. If any other response is entered, the cursor is repositioned to the first option. Each option may then be corrected or changed as necessary.

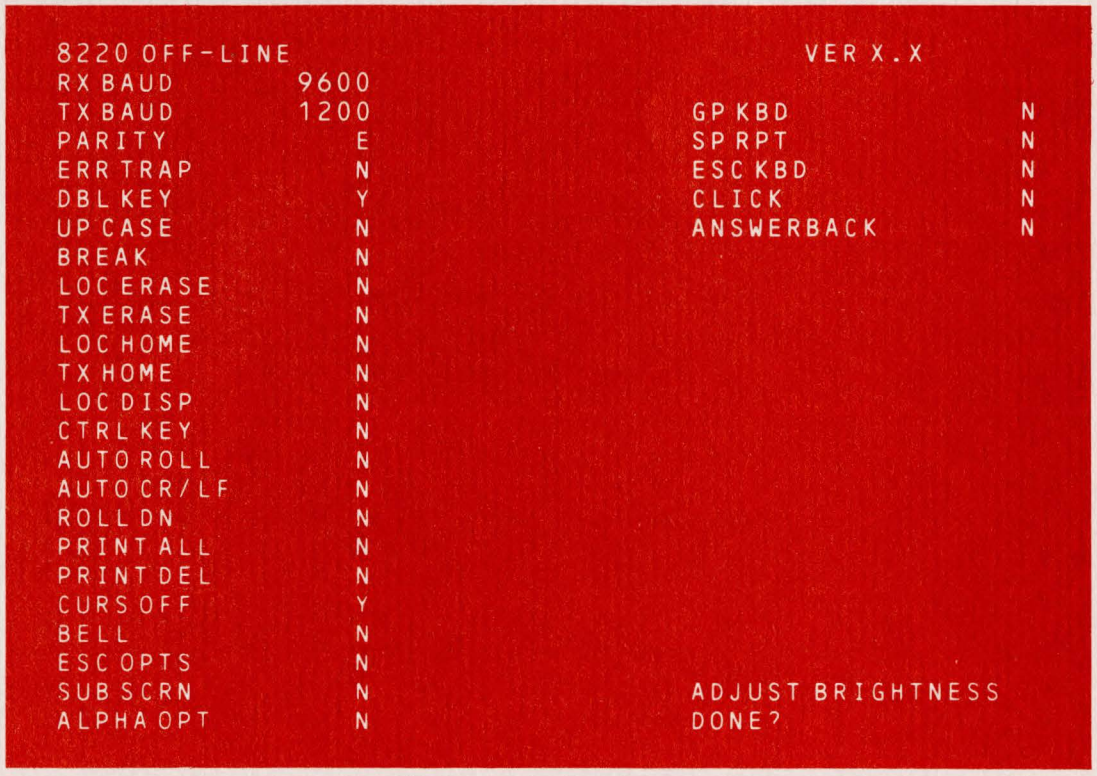

Figure 6: 8220 Sample Display Screen During Configuration Option Mode

Operator Convenience Options

These options allow the operator to change the display brightness or change keycodes to match a Datapoint 3600 keyboard.

Brightness Control

While in the configuration mode, brightness can be permanently adjusted. To increase the brightness one level, hold the control key (CTRL) down, and press the key above it once. Each momentary depression of the key above the CTRL key increases brightness one level. To decrease brightness one level, hold the control key (CTRL) down, and press the key below it once. Each momentary depression of the key below the CTRL key decreases brightness one level.

When the 8220 is powered off and powered on again, the brightness level will default to that specified during the Configuration Option Mode.

Double Key (DBL key)

The Double Key option may be used to prevent keying errors if experienced 3600 operators are using the 8220 Workstation. This option causes the F5 key to act as an extension of the INT key, and the F1 key to act as an extension of the NEW LINE key.

When this option is disabled, the F5 key and the F1 key return to the respective codes assigned to them. This option is not available if the general purpose keyboard option is set.

Click

This option allows the operator the convenience of controlling the click generated by the keyboard ROM on key depression. If the operator responds with N to CLICK, the keyboard ROM will not click on key depressions nor will the host processor software be allowed to turn on the keyboard ROM click. If the operator responds with Y to CLICK, the keyboard ROM will click on key depression and the software executing at the host processor will be allowed to enable or disable the click from key depression as desired.

Communications Options

The communications options allow the operator to select baud rates, parity format and modifications to character codes transmitted.

Baud Rates (RX BAUD and TX BAUD)

The baud rates option permits selection of the transmit and receive baud rates (independently) for the communications channel. These baud rates are listed below.

50	75	110	150
200	220	300	440
600	1200	1800	2400
4800	9600	19,200	

When the terminal is in the configuration mode and the cursor is flashing next to the"RX BAUD" or"TX BAUD" messages, the baud rate may be changed by entering the desired baud rate from the list above. If no change to the baud rate is necessary, press the ENTER key to advance the cursor to the next option. Baud rate options cannot be changed by a downline load.

Parity Options (PARITY)

The parity option permits selection of the type of parity bit to be appended to the seven bits of data transmitted to the host processor. When the 8220 is in the configuration mode and the cursor is flashing next to the"PARITY" message, the parity options may be entered. The workstation ignores the parity bit on incoming data unless the Error Trap option is enabled.

Even Parity:"E"
Enter the character"E" for even parity. An even parity bit will be appended to the seven data bits.

Odd Parity:"O"
Enter the character"O" for odd parity. An odd parity bit will be appended to the seven data bits.

One Parity:"1"
Enter the character"1" for 1 Parity. A"1" will be appended to the seven data bits.

Zero Parity:"0"
Enter the character"0" for 0 Parity. A"0" will be appended to the seven bits transmitted to the host processor.

Error Trap (ERR TRAP)

The Error Trap option allows the workstation to check data transmitted from the host processor for even or odd parity, framing errors, receiver overrun, and input FIFO overflow. If one of these conditions occurs while the option is enabled, the input character will be replaced with a delete character (0177) signaling the operator that an error condition exists. If the error condition should occur during a control sequence, that sequence wil be aborted and the delete character will be displayed on the screen in the current cursor location. Error conditions in downline load sequences will cause that sequence to be aborted. Escape sequences with errors will become undefined and result in no action.

Even or odd parity must be selected in the Parity option when the Error Trap option is enabled. Do not enable the Error Trap option if parity characters are not being transmitted by the host processor.

Control Key (Control Code Generation - CTRL KEY)

The Control Key option enables the operator to generate all the ASCII control characters for system keycode transmission to the host processor.

When a Y is entered in response to the"CTRL KEY" message, the workstation alters the system key code of any alphanumeric key depressed when the CTRL key is held down. Other functions of the CTRL key do not change.

Character Options

The character options allow the operator to either display additional characters or display only uppercase characters.

Uppercase Character Set Only (UP CASE)

If the Uppercase Only option is selected by entering a Y to the "UP CASE" message, the workstation will substitute uppercase system keycodes for lowercase codes before transmitting them to the host processor. The 26 alphabetic keycodes are the only codes which are modified. Display data received from the host processor is not affected.

Escape Sequences from Keyboard Option (ESC KBD)

This option provides for the transmission of escape sequences from the keyboard for certain keys. Refer to the 8220 Product Specification (Document No. 61295) for additional information.

If this option is enabled, the local display option is ignored. Whenever the CTRL key option and the ESC KBD option are both enabled, the CTRL key option will alter the character code of the second character of the escape sequence.

CURSOR, LINE SPACING, and BELL options

The Cursor, Linespacing and Bell options allow the user to select alternative controls over cursor movement, line spacing, and the bell function.

Line Feed and Carriage Return After Printing Rightmost Character of Line Option (AUTO CR/LF)

Each time a character is received by the terminal and displayed on the screen, the cursor is moved to the next character postion on the screen. The AUTO CR/LF option controls the character display after the rightmost character is received.

If the AUTO CR/LF option is not enabled and the rightmost character of a line has already been received, the last character of any additional characters received is displayed in the last character position. Characters previously in that position will be lost. All other characters in the line are not disturbed.

If the AUTO CR/LF option is enabled and the rightmost character of a line has already been received, the cursor will move to the next line and display any additional characters received. Upon displaying a character in the rightmost position of the 24th line (or the bottom line of the subscreen if the Subscreen option is enabled), the cursor moves to the first position of the current line. Additional characters received overwrite the line. However, if the auto roll up with bottom line feed option is enabled, a character displayed in the rightmost position of the last line causes the screen to be rolled up one line within the roll window. The cursor is positioned at the first character position of the 24th line (bottom line of subscreen if the Subscreen option is enabled).

Auto Roll Up with Bottom Line Feed Option (AUTO ROLL)

The Auto Roll option causes the displayed data to move up one line when the cursor is on the 24th line (bottom line of subscreen if the Subscreen option is enabled) and a LINE FEED control character is received.

If the Auto Roll option is enabled and the terminal receives a Line Feed control character while the cursor is on the 24th line (bottom line of subscreen), each displayed line moves up one line leaving the 24th line blank (bottom line of subscreen). The data previously displayed on the first line of the screen (top line of subscreen) will be lost.

If the Auto Roll option is disabled, the terminal will ignore Line Feed control characters received when the cursor is on the 24th line or bottom line of the subscreen.

Roll Down Option (ROLL DN)

The Roll Down option causes displayed data to move down one line, leaving line one blank (top line of subscreen if Subscreen option is enabled). If the Roll Down option is enabled, and a Roll Down control character is received, each displayed line will move down one line. Data previously displayed on line 24 (bottom line of subscreen) is lost. The cursor positon is not affected.

If the Roll Down option is disabled and a Roll Down control character is received, the workstation ignores the character.

Cursor Increment with Delete Character Option (PRINT DEL)

The PRINT DEL option selects alternate controls over cursor movement when it receives a Delete character (0177). If this option is enabled and a Delete character is received, the Delete symbol is displayed, and the cursor moves to the next character position.

If the PRINT DEL is disabled and a Delete character is received, the cursor position is not affected.

Cursor Off (CURS OFF)

The Cursor Off option allows the host processor to turn the cursor on or off. If this option is enabled, the workstation will respond to the Cursor On or Cursor Off commands from the host processor. Cursor positioning will not be affected by those commands. If this option is disabled, the cursor is displayed whenever it is on the workstation screen or subscreen. Cursor On or Off commands are ignored while the Cursor Off option is disabled.

Bell on Printing Character 64 Option (BELL)

The BELL option allows the operator to select alternate controls over the sounding of the bell. If the bell option is enabled, the workstation sounds a bell whenever a character is displayed in the 64th character position of any line or whenever the Bell character is received from the host processor. If this option is disabled, the workstation sounds a bell only when the Bell character is received from the host processor.

Local Control Options

The Local Control Options include Local Display (half-duplex), Local Erase, Local Home, Break, and Answerback.

Local Display Option (LOC DISP)

The Local Display option provides an echo mode capability for the workstation. Characters generated by the keyboard may be displayed on the CRT screen as well as sent to the host processor. This option should only be selected when the host processor is not echoing characters back to the workstation.

If the Local Display option is enabled, the workstation transmits system keycodes to the host processor and displays those keycodes on the screen. The workstation continues to display characters received from the host processor. If the Local Display option is disabled, the workstation transmits system keycodes to the host processor, but will display only those characters received from the host processor.

Local Erase Option (LOC ERASE)

The Local Erase option allows the operator to initiate the Erase to End of Frame function. This causes the screen to be erased from the current cursor position to the last line. If the LOCAL ERASE option is enabled, the workstation erases the screen from the current cursor position to the end of the frame whenever the operator depresses the erase key (key above CTRL key).

Transmit Erase Option (TX ERASE)

The Transmit Erase option allows the operator to transmit an EEOF system keycode to the host processor. If the Transmit Erase option is enabled, the terminal generates an EEOF system keycode and transmits it to the host processor whenever the operator depresses the designated ERASE key (key above the CTRL key).

Local Home Option (LOC HOME)

The Local Home option permits the operator to move the cursor to the home up position (first character of first line). If the Local Home option is enabled, the cursor moves to the home up positon whenever the operator depresses the home key (key below the CTRL key).

Transmit Home Option (TX HOME)

The Transmit Home option allows the operator to transmit a home up system key code whenever the operator depresses the designated Home key (key below the CTRL key).

Local Break Option (BREAK)

The Local Break option generates a break condition at the 8220 Workstation. If this option is enabled, the workstation generates a Break condition whenever the BREAK key is depressed. The duration of the Break condition is independent of the time length that the BREAK key is depressed. If this option is disabled, the workstation will take no local action when the BREAK key is depressed, but transmits whatever system keycode has been assigned to the key.

Answerback Option (ANSWERBACK)

The Answerback option allows the workstation to transmit a user-defined character string to the host processor. The operator can be prompted to press the F2 and CTRL keys together at any time by the program running on the workstation; the Answerback character string is then transmitted to the host processor.

To enable or change the Answerback character string, give a Y response to the option on the Configuration Option mode. A prompt of "A=" will then appear.

- First, keyin any character (except ENTER) that will not be a part of the message. This same character must also be used to terminate the string.
- Keyin the Answerback message (up to 20 characters). To generate characters with a value < 040, hold down the CTRL key while keying. These characters will be displayed so that the operator may detect keying errors.
- Key in the character from the first step to terminate the string.

The Answerback characters will be overwritten on the screen with asterisks (*) when the terminating character is received. Note that the Answerback message is displayed only when it is being entered so that it can be used as part of a security package.

Local printer

You can attach a local printer to an 8220 terminal. As data is received from the host processor, it can be routed to the printer while being displayed on the screen. Control of this capability is in the applications program.

Note: When a local printer is in use the terminal must receive data from the host processor only at the printer's baud rate.

Appendix

Preventive maintenance

The following procedures are presented as a guide to operators to ensure continued reliability of their Datapoint terminals.

Instructions on operator preventive maintenance should be given to all personnel when the terminals are installed. Frequency of maintenance can best be determined by a Datapoint Customer Service Representative on the basis of operating conditions.

Operator preventive maintenance on 8220 terminals is limited to cleaning the keyboard and the outside cabinet. Cleaning materials required are:

- Mixture of mild detergent and water (for cabinet only)
- Cleaning cloth
- Vacuum cleaner with brush attachment

Before performing any maintenance, switch off power to the terminal.

Operator preventive maintenance is not intended to replace scheduled maintenance by your Customer Service Representative.

CAUTION: The 8220 Workstation has air intake louvers which must not be obstructed. If air flow is obstructed, serious damage due to overheating could occur.

Note: Metal objects or liquids getting inside the terminal can cause damage. If liquids or metal objects should get inside the terminal, turn power off immediately and call your Customer Service Representative.

Keyboard maintenance (daily)

Inspect the keyboard visually for any object which might impede key travel. The keyboard may be vacuumed using a brush attachment to remove foreign objects.

Terminal cabinet maintenance (weekly)

It is desirable to keep the outside of the terminal clean and free of foreign objects. The cabinet may be cleaned with a mixture of mild detergent and water on a damp cloth.


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