NAME

DASI450 − DASI450, DIABLO 1620, XEROX 1700 terminals

DESCRIPTION

The DASI450 is a useful general-purpose terminal, often used in document production. The primary advantages of this terminal include its wide variety of features, availability of many type fonts, high print quality, and ease of changing the print element and ribbon.

The terminal normally produces output 10 or 12 characters to the inch horizontally, allowing total line widths of 132 and 158 characters, respectively. Horizontal spacing is normally controlled by the SPACING switch (see below), but the setting of that switch can be *dynamically overridden* by appropriate control sequences, either from the keyboard or remotely. Vertical spacing is normally 6 lines per inch, and is independent of the horizontal spacing. Vertical spacing can be changed dynamically to 8 lines per inch and back to 6 by (different) control sequences. Using *graphics mode*, the print mechanism may be spaced in horizontal increments of 1/60 inch, and vertical increments of 1/48 inch. Combined with forward and reverse motions, *graphics mode* can be used to produce subscripts, superscripts, reverse line motion, Greek letters, and graphs. Output filters may be necessary for some of these functions: see *450(I)* and *graph(I)*. Graphics mode in entered or left by control sequences that can be generated dynamically, from the terminal or remotely (see COMMON PROBLEMS below).

COMMANDS TO ISSUE AFTER LOGIN

tabs +t450; stty nl0 cr2

This makes sure that tab stops are set. It also sets terminal delays appropriate for most output, especially that containing many contiguous blank lines. At this setting, it takes about 49 seconds per page of C program, and 84 seconds per page of *nroff(I)* output (UNIX manual page). A few rare types of output may not print properly at this setting. Usable settings and their approximate relative time ratios are as follows:

nl0 cr2	1.00
nl0 cr1	1.03
nl0 cr3	1.08
nl2 cr2	1.10
nl2 cr3	1.17

For output with many blank lines, the **cr2** and **cr3** settings seem to work best.

NORMAL SWITCH SETTINGS

Switches are inside the terminal cover, just above the keyboard. From left to right, they should be set as follows:

FORM LENGTH − 11
SPEED − 30
SPACING − 10 (or 12: see below; see also DESCRIPTION above.)
AUTO LF − OFF
PARITY − EVEN
DUPLEX − FULL

Switches at the lower left side of the keyboard should be set as shown:

LOCAL − not depressed
UC ONLY − normally not depressed

The switches at the upper right side of the keyboard should be set:

ERROR RESET − push this when red light at left goes on
FORM FEED − push to jump to top of form, as set by next button
SET TOF − at start of session, align paper to perforation, then push
SCROLL − normally OFF, although you may want to experiment with ON
POWER − ON

In 10-pitch mode, output is printed 10 characters/inch horizontally, 6 lines/inch vertically, so that a character is 6 plot increments wide, and 8 (vertical) plot increments high. This mode permits about 65 characters per line, 66 lines/page on normal 8 1/2" by 11" paper. This output size is compatible with many other terminals, and is expected as a default by many UNIX commands, such as *nroff(I)* and *pr(I).* For normal output, the following are appropriate:

nroff −h −T450 *file...* or **nroff −h** *file...* | **450**

In 12-pitch mode, output is printed 12 characters/inch, 6 lines/inch, so that a character is 5 increments wide and 8 high. This mode allows about 80 characters/line. The 12-pitch, 6 lines/inch combination is considered by many to be the most attractive output format. Use:
nroff −h −T450 −12 *files...* or **nroff −h** *files...* | **450**

SPECIAL CHARACTERS AND STATES

The interrupt signal can be generated by hitting either the DEL or BREAK key; the former is usually more convenient. At any point in time, a terminal is either in *graphics mode* or *character mode,* and the interpretations of some characters differ according to mode. In *graphics mode,* it is possible to space a single increment in each direction.

COMMON PROBLEMS

OUTPUT GENERATED IN ONE POSITION, OVERPRINTING − you may accidentally have gotten into *graphics mode.* Type ESC followed by '4' to leave that mode.

GARBAGE OUTPUT, WITH WILD SKIPPING − a DASI may go berserk when faced with many very long lines, long sequences of nonblank, nonidentical characters requiring extreme print wheel motion, or heavy amounts of tabbing. Remove some tab characters or increase terminal delays via *stty.*

PRINT HEAD ZOOMS TO RIGHT SIDE OF CARRIAGE − tab stops are not set. Set them with the *tabs* command.

POOR REGISTRATION AFTER REVERSE PLATEN MOTION − this is most likely to occur when using a forms tractor to perform reverse line feeds or half-line motions. Some (but not all) forms tractors have just enough slack in their mechanism that it is difficult to return exactly to the position you want. For best appearance of such text, or of Greek letters, take the forms tractor off, and use the friction feed instead. This problem is very dependent on the individual terminal.

NO LINE FEED OCCURS WHEN RETURN HIT; NO SYSTEM RESPONSE TO RETURN − you are in a mode where there is no conversion of RETURN to CR-LF echoed to your terminal. There are two situations. First, either the terminal or coupler switch may be set to HALF-DUPLEX, and you may have asked to suppress echoing because you were getting double characters. Change the switches to FULL-DUPLEX, and issue a **stty echo** command. The second case is that a **stty nl** command has been done, or some equivalent action, such as using LINE FEED rather than RETURN during your login sequence. Issue the command **stty −nl,** but terminate it with a LINE FEED, not a RETURN. This will restore the terminal to the normal state, allowing convenient use of RETURN again.

ERROR LIGHT ON, OTHER PECULIAR BEHAVIOR − push the RESET button found at the upper right side of the keyboard. If this does not help, take the cover off and push the CLEAR button at the extreme right. This resets the microprocessor, leaves graphics mode, clears all tabs, and returns the carriage. Then issue *tabs* command to reset the tabs. The error light also turns on if either you or the computer attempt to print while the front cover is off.

IDIOSYNCRASIES

A DASI can perform a high-speed skip when it receives a series of LF characters without other characters intermixed. Unfortunately, a newline is normally a CR-LF pair, and the terminal does not know that it is at the left margin, so that it does sequences of these pairs about 3 times slower than it needs to. As a result, the only way to assure high-speed skipping is to write code to convert a sequence of newlines into a single CR, followed by a sequence of LF's. PWB/UNIX does this under*stty* modes **nl0 cr2** and **nl0 cr3.**

SEE ALSO

450(I), graph(I), stty(I), tabs(I), terminals(VII)