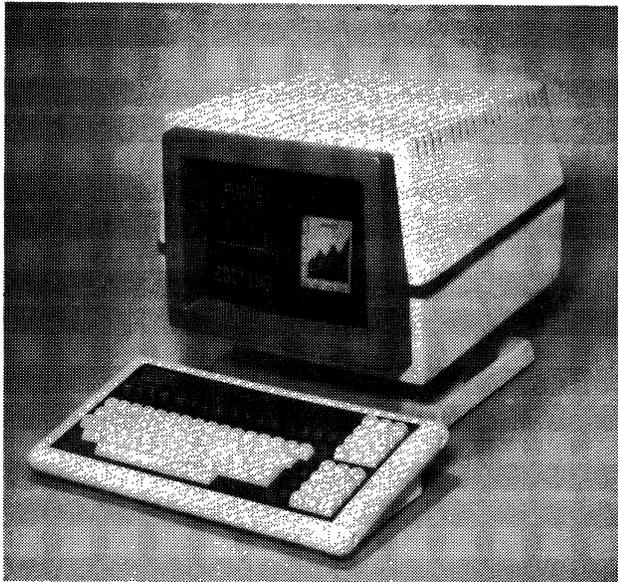


# Human Designed Systems Concepts Series Display Terminals



The Human Designed Systems (HDS) Concept Series features a 12" diagonal display mounted on a pedestal base. The keyboard (shown here with the 11 additional function keys) is detached. The photo reflects some style changes in the display console which were made recently by HDS.

## MANAGEMENT SUMMARY

Human Designed Systems' (HDS) Concept series of display terminals currently consists of four models. All models have the same physical appearance; however, the user can choose between standard teletype compatibility and DEC VT-52 compatibility, and each of these two models is available in an ASCII or APL version. Four full pages of display memory is standard for all Concept series terminals. (HDS recently discontinued their line of single page memory models, while lowering the prices of the four page memory units.)

The senior members of the HDS Concept family of terminals are the Concept 104, a teletype-compatible ASCII terminal, and the Concept APL/4, the APL version of the Concept 104. The newest members of the family are the DEC VT-52-compatible Concept 524, an ASCII terminal, and the Concept 524/APL, an APL terminal.

All models in the Concept series feature a 12" diagonal display screen with a 24-line by 80-character capacity. A 91-key typewriter-style keyboard with a 12-key numeric pad, 12-key cursor control pad, and 8 function keys is standard. An additional 11 function keys are available as an option. Characters are displayed in white on a black background (or in black on a white background for reverse video) and are formed by a 7 x 9 dot matrix in a 10 x 12 dot array.

Other features common to the Concept Series include "windowing" (dividing the display memory into multiple subscreens), programmable function keys, business ➤

A family of display terminals that offers the user a choice of either ASCII or APL versions.

All Concept Series models feature four pages of display memory. A 12-inch diagonal display screen which can accommodate 24 lines of 80 characters each is also standard on all models. A detached keyboard and tilt-adjustable console are included for ease of operation. Graphics capability is optional.

Purchase prices range from \$1,575 to \$1,850. Discounts for quantities of 10 or more are available.

## CHARACTERISTICS

**VENDOR:** Human Designed Systems, Inc., 3700 Market Street, Philadelphia, PA 19104. Telephone (215) 382-5000.

**DATE OF ANNOUNCEMENT:** Concept 104—January 1978; Concept APL—January 1978; Concept 524—December 1979; Concept 524/APL—December 1979.

**DATE OF FIRST DELIVERY:** Concept 104—March 1978; Concept APL—March 1978; Concept 524—January 1980; Concept 524/APL—January 1980.

**NUMBER DELIVERED TO DATE:** Information not available.

**SERVICED BY:** HDS.

## MODELS

All models are microprocessor-based, stand-alone units. They feature a tilt-adjustable, 12" diagonal display screen and a detached typewriter-style keyboard. The models are:

**Concept 104**—an ASCII terminal featuring four full pages of display memory.

**Concept APL/4**—an APL terminal featuring four full pages of display memory.

**Concept 524**—a DEC VT-52-compatible ASCII terminal featuring four full pages of display memory.

**Concept 520/APL4**—a DEC VT-52-compatible APL terminal featuring four full pages of display memory.

## TRANSMISSION SPECIFICATIONS

Transmission for all models is asynchronous 10 or 11 bit code in half- or full-duplex modes, by character or block. 15 transmission rates, from 50 to 9600 bits per second, are selectable. Even, odd, or no parity is also selectable. An EIA RS-232-C interface is provided, with a 20mA dc current loop interface available as an option.

## DEVICE CONTROL

All Concept Series terminals are microprocessor-controlled. All terminal functions are selectable from the keyboard and communication lines by control codes and escape sequences. ➤

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▷ graphics, and the option to choose from up to four additional character sets, including extended graphics, foreign languages, and special designs. A shared printer interface is optional, allowing multiple CRTs to share one printer for hardcopy of the display or terminal I/O.

“Human designed” features on the HDS terminals include a tilt-adjustable non-glare screen, detached keyboard, and audible key touch.

▶ The function keys as well as the escape character are programmable.

Transmission is performed in either Character or Block Mode. In Character mode, data is transmitted a character at a time as it is typed. In Block mode, the data can be edited on the screen without transmission; after editing, the data can be sent in a block by using the send key, or under program control. Other operating modes for the Concept Series are:

**User/Programmer modes.** User mode provides simple operation for the novice and application users by allowing execution of only a subset of the terminal functions. Programmer mode allows use of all terminal capabilities and overwriting of protected data.

**Page/Scroll modes.** In Page mode, overflow on the bottom line overwrites data on that line. In Scroll mode, overflow on the bottom line causes all data to be scrolled up one line and the bottom line to be cleared for new data.

**Text/Form modes.** Text mode automatically selects Scroll mode, for normal interactive terminal use and text editing applications. Form mode automatically selects Page mode, for field oriented data entry/retrieval applications through formatted screens.

**Normal/Transparent mode.** Normally (with Transparent/mode off), control codes are executed. With Transparent mode on, control codes are treated as characters and are displayed on the screen in their display representation.

Cursor controls include Left, Right, Up, Down, Home, Tab Set/Clear, Scroll, and Page. Control keys include Return, Line Feed, Back Space, Tab/Back Tab, Rub Out, and Break. Editing and transmission keys include Insert, Delete Character, Line Delete/Insert, Clear EOL (end of line)/EOP (end of page), and Send.

The Concept Series terminal functions, such as cursor control, carriage return, mode selections, and character attribute setting, are invoked by control codes or Mult-Code/Escape sequences and may be executed either from the keyboard or under program control from the communication

line. A Mult-Code/Escape sequence is achieved by pressing the Mult-Code key on the keyboard or transmitting the Escape character from the communication line followed by a function ID and parameters as necessary. Certain commonly used terminal functions (both control code and Mult-Code/Escape sequences) have individual keys for one-key execution. These keys have the same effect as typing the corresponding function sequence.

### COMPONENTS

**DISPLAY UNIT:** A 12" diagonal CRT with a display capacity of 1920 characters in 24 lines of 80 characters each. The 24th line can be used for status display. Characters are formed by a 7-by-9 dot matrix in a 10-by-12 dot array. A 128-character ASCII set, including upper and lower case characters with lower case descenders, is included for all ASCII models. APL models feature a 128-character APL set with full true overstrike and subscript/superscript characters. Additional character sets, including graphics, are optionally available. Characters are displayed in white on a black background (normal video), or in black on a white background (reverse video). The cursor appears on the screen as a blinking underline or a blinking block, selectable by the operator or the program. The console is mounted on a pedestal with a tilt adjustment within a 15 degree range.

**KEYBOARD:** A detached, 91-key typewriter-style keyboard. The keyboard contains a dedicated 12-key numeric pad, a 12-key cursor control cluster, and eight function keys. An additional 11 function keys are optionally available. The keyboard can generate 128 ASCII characters (ASCII models), or 96 APL characters (APL models).

### OPTIONS

**AUXILIARY COMMUNICATIONS INTERFACE:** An I/O interface for local peripheral support or remote connection.

**SHARED PRINTER INTERFACE:** An interface which allows multiple CRTs to share one printer (or other peripheral) for hardcopy from the display or terminal I/O.

**SPLIT SPEED OPERATION:** An option which allows the user to select different transmission rates for sending and receiving data.

### PRICING

The HDS Concept Series terminals are available for purchase only. Discounts for quantities of 10, 25, and 75 or more are available. The warranty is 90 days full parts and labor. Defective units are returned to the factory, where they are either repaired or replaced.

	Purchase Price
Concept 104	\$1,575
Concept APL/4	1,750
Concept 524	1,675
Concept 520/APL4	1,850
Graphics character set	100
Additional function keys (11)	55
20mA current loop interface	60
Auxiliary communications interface	60
Shared printer interface	495
Split-speed operation	80 ■