

For ANSI terminal users THE *NEW* CONCEPT AVT+™



human
designed
systems,
inc.

The new standard for terminal capability

human designed systems, inc.

THE **NEW** CONCEPT AVT+

The definitive measure of terminal performance.

Since its founding, Human Designed Systems has pursued a singular corporate objective: to create a superior video terminal, which would be user oriented...not just in its physical design, but in its functional capabilities as well.

The *concept* AVT+™, the crowning achievement of that goal, starts with ANSI standard (X3.64-1979) conformance and DEC software compatibility, and incorporates superior human design features, advanced functionality and highest quality construction. This combination creates an environment which enables all terminal users — the terminal operator, the interactive user, and the applications developer — to maximize their productivity while at the same time allowing them to explore their creativity.

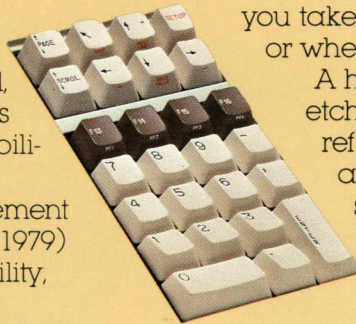
Productivity for the Terminal Operator

Human Designed Systems' commitment to using only the highest quality components means more operator comfort, more reliability, more productivity. It means taking nothing for granted.

A "CRT Saver" automatically reduces the brightness of the terminal when it's on but not in use, thereby extending the life of your amber phosphor. Self test and simplified diagnostics help you troubleshoot rare system problems.

The commitment to quality is reflected in each of the individual components.

An ergonomically ideal ultra-thin, tiltable keyboard with click positive touch, full width touch area and matte finish keytops, volume control on keyboard clacker and bell, a compact layout that puts everything where and how your fingers expect to find them (such as "up, down, right and left" arrows that are positioned where your fingers rest) and a minimum footprint all serve to maximize data input. The keyboard is detached with a retractile six-foot cable that lets



you take the keyboard to where the work is or where working is most comfortable.

A high-resolution, high-quality direct-etch amber phosphor monitor minimizes reflection, reduces eye fatigue, and allows productive use for hours. A tilt screen can easily be moved to the best position for your comfort and readability.

A large 10 x 12 dot array with lower case descenders optimizes display legibility for speed and accuracy and is typical of our attention to detail. The result: two separate character fonts that give you the best of both worlds — an editing quality 10 x 12 dot matrix for 80 columns and a 7 x 10 dot matrix for 132 columns. Competitive terminals offering 132 columns skimp and use the lower-resolution font for both 80 and 132 columns.

Productivity for the Interactive User

With productivity as the objective, the *concept* AVT+ provides a unique package. An easy-to-use Setup Mode allows quick terminal configuration; non-volatile memory permanently stores it. This means you can set it once and forget it. For quick and easy analysis, status lines display the entire terminal configuration (without destroying or interfering with the display).

The 80/132-column switchable display allows you to preview reports before printing. Of course, the *concept* AVT+ goes a step further: memory contents are retained when switching between formats.

Multiple pages of memory (four pages standard, eight pages optional) are continuous, allowing easy refer-back to previous work and eliminating the need to generate unnecessary hardcopy printouts.

Windows can be defined to "permanently" save



a portion of the display memory. Use one window to save a copy of the program being developed and a second window to execute that program.

Two additional communications lines can be used for local peripheral support of printers or other devices. And an optional Shared Printer Interface enables multiple *concept* terminals to share a single printer.

Forty-six programmable function keys allow storage of frequently used terminal commands (e.g. window selection) or character sequences (e.g. logon) or both, further reducing typing. A convenient function key labeling area built directly onto the keyboard extends flexibility.

Productivity for the Applications Developer

The *concept* AVT+ is ideal for applications development and implementation — maximizing developer and user productivity. The key word is productivity, and it's achieved by providing both a comfortable ergonomic working environment and extended functionality which allows the implementation of productive, user-friendly applications. Examples include:

<p>ANSI</p> <p>***** AND COMPLETE ***** DEC/VT100 SOFTWARE COMPATIBILITY</p> <p>WE'RE REDEFINING TERMINAL PERFORMANCE *****</p> <p>89-132 COLORS EIGHT PAGES OF MEMORY WINDOWS (HORIZONTAL/VERTICAL) MULTIPLE COMPUTER CONNECTIONS COMPACT ULTRA-THIN KEYBOARD 46 PROGRAMMABLE FUNCTION KEYS 4 CHARACTER SETS (512 CHARS) NON-VOLATILE MEMORY APPLICATIONS SUPPORT</p>	<p>Intelligent Bytes, Inc. PURCHASE OFFER 1245 State Street Bryn Mawr, PA 19004</p> <p>TO Human Designed Systems, Inc. 3449 Market Street Philadelphia, PA 19104</p> <p>QTY DESCRIPTION</p> <p>100 CONCEPT AVT+ TERMINALS WITH COMPACT ERGONOMIC KEYBOARD, 8 PAGES OF MEMORY, THREE PORTS, WINDOWS, AND PROGRAMMABLE FUNCTION KEYS.</p> <p>CONCEPT AVT+</p>
---	--

Full Screen Editors. Many full screen editor users (e.g. EMACS, FINE, VI) have standardized on the *concept* terminal, and many editors have been developed around its functionality — a reflection of the robustness of that functionality.

Multiple Computer Applications. A unique capability of the *concept* AVT+ terminal allows connection to up to three computers, either sequentially or simultaneously. Different windows

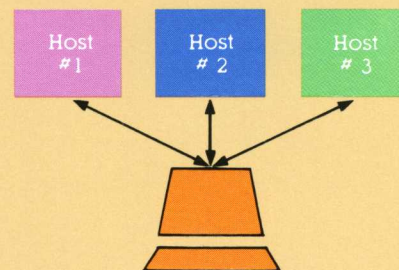
and attributes can be used by each computer. Applications range from alternate connection to two computers to transfer of information between systems.

Block Mode Forms Applications. Functionality for these applications is effective two ways — in creating a user-friendly environment for the operator and improving the effectiveness of the application through increased terminal responsiveness. Forms applications are just one example of many different types of block mode applications.

These are just a small sample of the *concept* AVT+ applications. Choose the capabilities you need for your applications; let your imagination lead the way. The end result is high productivity.

Unique Approach to Customer Support

Unique among video terminal manufacturers is Human Designed Systems' commitment to directly support its users. A commitment that is given real meaning by a direct sales force located in regional sales and service offices throughout the United States. More than this, Human Designed Systems' sales professionals are unique in their ability to provide technical expertise and applications support so that users will get all the abundant benefits built into the *concept* AVT+ display terminal.



CONCEPT AVT+ Display Terminal

GENERAL

Conforms to ANSI X3 64-1979, DEC software compatibility.

DISPLAY

Physical Dimensions: 15¼" W x 15½" H x 16½" D (38.7 cm x 39.4 cm x 41.9 cm).

Screen: 12" diagonal, direct-etch amber phosphor, "CRT Saver" for extended life. Tilt adjustment, recessed hooded screen. Amber on black or reverse presentation.

Format: 25 lines by 80 or 132 columns within a 96 x 80 or 56 x 132 memory (four pages). 25th line for status/alert/one line viewport.

Character Formation: 7 x 11 dot matrix within 10 x 12 cell (80 columns), 5 x 9 dot matrix within 7 x 10 cell (132 columns).

Character Sets and Attributes: Four character sets (128 characters each) available; two standard. Set 1 — ASCII (96 U/L case with lower case descenders, 32 control code display characters). Set 2 — VT100 graphics, form and line drawing, curve approximation, math symbols. One character set may allow overstrike. Attributes — blink, reverse video, underline, half bright, protection, non-display (secure). Attributes do not use a character position.

Cursor: Flashing underline or flashing reverse video block (selectable). Controls — home, left, right, up, down, carriage return, line feed, back space, index, reverse index, end of text, position cursor, read cursor position. Save and restore cursor position and attributes. Tabs — forward/backward typewriter, form, auto. Switchable line wraparound.

KEYBOARD

Physical Dimensions: 16¼" W x 1¾" H x 7¾" D (41.3 cm x 4.4 cm x 19.4 cm).

Size/Type: 101 keys with typewriter-style layout — numeric, cursor, command and function pads (46 programmable functions).

Design Features: Compact, ultra-thin, detached with retractile cord, three-position tilt, click positive touch, volume control on clacker and bell, matte finish, full touch-area keytops, N-key rollover, accelerating autorepeat on all keys, function key labeling area.

Functions: Four programmable LEDs,

keyboard lock, bell enable/disable.

Function Pad: Function keys, by default, generate character sequences or perform terminal commands but can be modified to execute user-specified terminal commands and/or character sequences. Memory is allocatable between display pages and functions. Functions are executable from communications lines.

Cursor and Command Pads: Convenient layouts. Individual keys can execute commands, transmit sequences, execute and transmit, or be disabled. Application mode for DEC compatibility.

Numeric Pad: DEC VT-style layout. Numeric mode, application mode (DEC compatibility), or programmable (as function keys).

COMMUNICATIONS

General: Two bidirectional asynchronous RS232C communications interfaces, 50-9600 baud (15 rates). Serial communications with one start bit, seven data bits, zero or one parity bit (even/odd/mark/space/none), one or two stop bits. Parity checking of input. Half/full duplex.

Communications Protocols: XON/XOFF, CTS/RTS.

STANDARD CONCEPT CAPABILITIES

General: All terminal commands are executable from the keyboard and communications line(s).

Self Test: RAM, ROM, NVM and communications.

Setup Mode: Convenient reconfiguration of basic terminal settings.

Status Lines: Show complete terminal configuration — either displayed or transmitted in whole or in part to computer.

Non-Volatile Memory: Permanent storage of terminal settings, power-on execute sequence, and answerback message.

Windows: Rectangular areas of display memory of any size and in any location treated as a display within a display. Scrolling regions are included for DEC VT compatibility (specified group of lines within window).

Text Editing: Insert character mode, delete character, insert/delete line. Editing extents — window, line, field. Erase in window, line,

field. Margin bell.

Form Editing: Protected/unprotected characters, normal/half-bright protected areas, form-drawing characters, horizontal/vertical line-drawing commands, insert/delete character in field, erase field/all unprotected fields/window.

Multiple Computers: Simple commands for directing data between communications lines, keyboard and display. Ability to treat any line as the main line with regard to keyboard input.

Multiple Windows/Attribute Lists: For switching between alternate windows and terminal configurations. Each communication line and keyboard can use its own window and/or attribute list.

Printer Port: The second communications interface can be used as a printer port to print memory contents or "slaved" so that all newly displayed data is printed.

Block Mode: Allows local editing of data before transmission. Transmit field, any portion of line or window — unprotected or all.

Transparent Mode: Execute control codes or display their character symbols.

Message Characters: Terminal control characters (including "escape") are modifiable.

Physical Characteristics: Power — 115 VAC; 60 Hz. Weight — 37 lbs. (16.82 kg).

OPTIONS

Additional Memory: Eight pages total (192 lines x 80 columns or 112 lines x 132 columns).

Video: Direct-etch white (P4) or green (P31). Video Output.

Keyboard: Meta Keys. Relegendable keytops.

Shared Printer Interface: Multiple CRTs may share one printer (or other peripheral).

Character Sets: Optional character sets for any of the four character set positions; standards include block graphics and foreign languages.

Communications: One additional bidirectional communications interface. 20 mA on first communications line.

Foreign Version: 220/240 VAC, 50 Hz power.

AVT+, AVT-APL+, GVT+, and GVT-APL+ are trademarks of Human Designed Systems, Inc. DEC and VT are trademarks of Digital Equipment Corporation.

The concept Family

Other members of the concept display terminal family include:

concept AVT-APL+™ Display Terminal
concept GVT+™ Graphics Display Terminal
concept GVT-APL+™ Graphics Display Terminal

HDS
human designed systems, inc.
3440 Market Street
Philadelphia, PA 19104
215-382-5000

