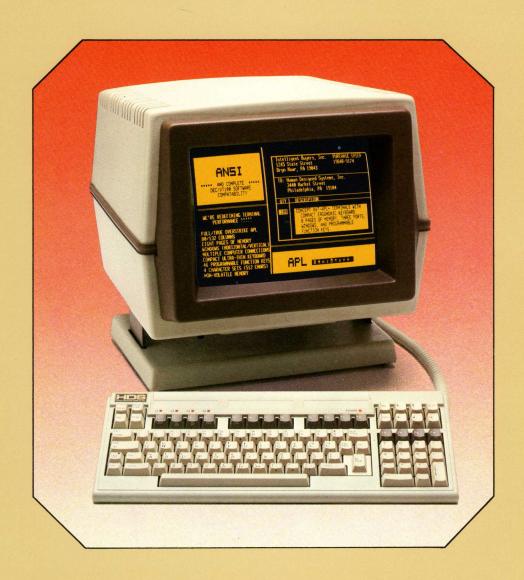# FOR APL TERMINAL USERS
THE *NEW* CONCEPT AVT-APL+™

human designed systems, inc.

THE NEW STANDARD FOR APL TERMINAL CAPABILITY

CONCEPT AVT-APL+ DISPLAY TERMINAL

The *concept* AVT-APL+™ — the industry's leading 132-column APL display conforming to the ANSI X3.64-1979 standard. It provides DEC software compatibility, and offers an extensive series of display, editing and communications features...at a surprisingly low price.

The *concept* AVT-APL+ terminal establishes a new standard for APL terminal capability, with features that include • full/true overstrike APL • 128-character upper/lower case ASCII • switchable 80/132 columns that retain the maximum memory contents • four pages of scrollable memory for easy refer-back (eight pages optional) • high-resolution amber phosphor monitor with etched faceplate for glare reduction (other colors available at no charge) • compact, ultra-thin, detached keyboard with retractile cord, adjustable tilt, full touch area keytops, four programmable LEDs, and VT-style numeric pad • 46 programmable function keys which store terminal commands and/or commonly used character sequences (e.g.)SAVE,)FNS,)VARS), enhanced further by a convenient labeling area • setup mode for easy terminal reconfiguration, and nonvolatile memory to permanently store that reconfiguration • optional printer port and flexible print commands to print any portion of display memory or "slave" print all newly displayed data • shared printer interface allows multiple *concept* terminals to share single hardcopy • character graphics and optional vector graphics.

Unique capabilities such as windows (rectangular areas treated as a display within a display), multiple character sets (512 total characters), and multiple computer capabilities (for interaction with up to three computers or the transfer of data between them) allow the development of applications not possible on other terminals. The *concept* AVT-APL+ terminal's full complement of display, editing, and communications features optimize productivity — and encourage creativity — for all APL users.

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; three standard. Set 1 — APL with full/true overstrike. Set 2 — ASCII (96 U/L case with lower case descenders, 32 control code display characters). Set 3 — VT100 graphics, form and line drawing, curve approximation, math symbols. 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 7⅝" 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.

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