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Video display terminal PC 1646



Display of up to 24 lines each of up to 80 characters

Internal memory to hold one screen content of up to 24 lines with 80 characters maximum

Extensive editing possibilities:
- correction or erasing of any portion of displayed data
- easy overwriting, insertion and deletion of characters and lines

Character flashing

5 x 7 dot matrix for character generation

64 ASCII characterset
(optionally 96 and 128 ASCII)

Formatting possibility

Detachable keyboard

Separate 10-key cluster for simple entering of numeric data

Teletype compatible keyboard

Extension interface to connect a V24 device

The PC 1646/10 is equipped with a printer interface

CCITT V24 (EIA RS232-C) or current loop interface

Application
The video display terminal PC 1646 is an ideal man machine interface in those situations requiring data retrieval, data preparation, enquiry-response communication, batch terminals etc. It is a reliable, silent, easy-to-operate, unit offering a convenient alternative to typewriter equipment.

The display has a formatting mode which reduces communication costs and eliminates error possibilities. The operator can place both fixed and variable fields on the screen. By pushing the tab key the variable data field is located; when transmitting only this variable data goes on to the CPU (Central Processing Unit). Data can be entered from computer or keyboard in easy-to-read upper case characters. Characters or whole lines can be added or deleted anywhere on the screen. New lines may be inserted up to a maximum of 24 lines. Character insertion, deletion is done per line with end-of-line overflow.
Using the format mode and edit facility

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a complete screen can be layed-out prior to transmitting to a CPU. The data content held on one screen can be transmitted in "block" mode when the screen lay-out is finished.
Using a special control character, one can also send parts of a screen lay-out (Message mode).
The flashing mode selection enables characters to flash to attract the operators' attention.
The PC 1644/10 is equipped with a printer interface. A special key on the keyboard activates an associated printer and a hard-copy is made of the data on the screen. This operation can also be initiated from an associated computer.

Functional description
The PC 1646 has a display capacity of 80 character positions per line and 24 lines. Each character is composed using a 5 x 7 dot matrix.
A video scanning technique is used to display information on the screen. The screen is a non-glare, bonded, etched front plate which uses phosphor P4 (white). These parameters result in excellent legibility.
The cursor appears as a white square on the screen (reverse video) and can be moved using four movement direction keys, to every place on the screen. A special HOME key places the cursor in the extreme left position of the top line. The cursor position is addressable from the CPU and its position indicated to the CPU.
The characters may be displayed at two intensities. If, for example, the format mode is used, the protected fields are indicated at a lower intensity than the variable fields.
The unit can be strapped to this dual intensity mode or to a flashing mode. When delivered, the terminal is set to the flashing mode, i.e. the protected fields to flash.
The detachable keyboard incorporates the normal teletype lay-out, plus edit keys, cursor control keys, transmission control keys, etc., while a numeric pad is standard available. The keyboard is logically arranged using functional colours.
The standard character set is 64 ASCII; optionally, 96 or 128 can be ordered.
The format mode (as described in "Application") is very useful when standard forms are used.
The standard text appears in the protected fields, whilst the variable fields are for completion by the operator. The tab key shifts the cursor directly to the next variable field.
The PC 1646 has a teletype-compatible communication procedure.
It is characterized by a-synchronous serial communication, in which data is transferred one character at a time or in blocks (message or memory). With block data transfer, it is possible to manipulate the data prior to sending. Operation may be in full- or half-duplex mode according to CCITT V24/V28 (EIA RS232-C) or current loop (20 mA).
The full-duplex capability permits the echo-plex technique in which the associated computer "echoes" each character back to the peripheral prior to display, thus enabling the operator to verify the transmitted data. Eight transmission rates can be chosen by hardware straps of which three are switch selectable. When delivered, the three switch selectable transmission rates are set to 300, 4800 and 9600 bits/s. The bit configuration to transmit a character can be selected by straps. When delivered, the PC 1646 is strapped to one start bit, 7 data bits, even parity and two stop bits.
The PC 1646 is equipped with an extension interface to connect another CCITT V24 (EIA RS232-C) device such as a printer, another display, a floppy disc, a cassette drive etc.
The information exchange via this extension interface is equal to the normal interface (they are connected in parallel) resulting in exactly the same data format as is visible on the screen.
If, for example, a printer is connected, the typed-in information via the keyboard of the display as well as the output of a computer will appear on that printer as well as on the screen of the display. The information exchange from a computer when a printer is connected will, naturally, be slower due to the speed of the printer. No special precautions are necessary. However, the only way to stop or start a printer connected via the extension interface is to switch the printer off or on.
The PC 1646/10 is equipped with a special printer interface having CCITT-V24 (EIA RS232-C) specifications. To this interface a V24 peripheral can be connected. A special key (PRINT) on the keyboard or a command from the computer causes the screen content of the display to be dumped on the connected peripheral, normally a printer. This facility is ideal in applications where hard-copy is only required occasionally. When delivered, the printer interface is set to 600 bit/s. transmission rate.

Options
- Upper- and lower case characters visible on the screen
- Composite video output

General specifications
Manufacturer: Teleprint (Lear Siegler)
Type: VT 5550 (ADM 1)
Style: Table top

Physical characteristics

Display part	–	depth	: 485 mm
		width	: 422 mm
		height	: 403 mm
		weight	: 22 kg
Keyboard part	–	depth	: 182 mm
		width	: 422 mm
		height	: 93 mm
		weight	: 2.9 kg

Cables : – Interface cable length 2.7 m ending in Cannon male plug (V24)
– Mains cable length 3 m

Power requirements
Voltage: 110/220 V a.c. 10 %
(Standard delivered 220 V)
Frequency: 50/60 Hz ± 1 Hz
(Standard delivered 50 Hz)
Power consumption: 130 W

Environmental conditions
Temperature operating: 5 - 55 °C
Relative humidity: 5 - 95 %

Display specifications
Characters per line: 80
Lines per display: 24
Character memory: 1920
Character repertoire: 64 ASCII
Character generation: 5 x 7 dot matrix
Character size: 0.19″ high x 0.125 width
Screen size diagonal: 12″
Displayable screen area: 7.5″ high x 9.25 wide
Screen: Non glare, bonded etched, front plate
Phosphor: P4 (white)
Refresh rate: 50/60 x per s. (line frequency)
Cursor: Reverse video (non-flashing)

Display functions
- Dual Intensity
- Field protect mode
- Automatic Tab to unprotected fields
- Tab to unprotected fields
- Horizontal TAB
- Single stop setting
- Overstrike
- Erase screen and Home cursor
- Cursor wrap around
- Page/Roll mode
- Function control

Keyboard
- Detachable
- High quality keys: 88
  of which:
  10 for numeric pad
  5 for direct cursor control
  6 for edit
  4 for direct control

Edit package
- Character insert
- Character Delete
- Line insert
- Line delete
- Erase to end of line/field
- Erase to end of page
- Back tab
- Sent partial page (Send Message)
- Programmed Mode control

Interface specifications
Interface standard: Serial CCITT V24/V28 (EIA RS232-C) or current loop (20 mA)
Transmit capability: Full- or half-duplex in character or in block mode
Transmit rates: 110, 300, 600, 1200, 1800, 2400, 4800, 9600 bit/s.
Operator switch selectable rates: 3 (when delivered set to 300, 4800 and 9600 bit/s.)
Word size: 1 start bit; 7 data bits; even, odd or no parity; 1 or 2 stop bits.
(When delivered set to 1 start bit, 7 data bits, even parity and two stop bits)
Extension interface: In parallel with normal interface
Interrupt mode: Break (key). Escape (key)
For PC 1644/10 printer interface: Specification CCITT V24 (EIA RS232-C)
Transmission rates 110 - 9600 bit/s.
(When delivered set to 600 bit/s.)