XEROX

The Xerox 1760 Communications Terminal

Highlights

- 7 x 9 Impact Matrix Printer
- Up to 200 CPS Print Speed
- Automatic Bi-Directional Printing
- 300, 1200, 1800 or 4800 Baud Transmission
- ASCII Code
- Versatile Forms Handling
- EIA RS 232C Interface
- Upper & Lower Case

The Xerox 1760 Communications Terminal is a desktop, microprocessor-controlled matrix printer communications station featuring printing speeds of up to 200 characters per second. The 1760 utilizes a 100% duty-cycle 7 x 9 matrix printhead that provides upper and lower case printing, the quality of which is unsurpassed by other matrix printer terminals in the same speed and price range.

Microprocessor control enables the Xerox 1760 to achieve a wide range of standard operational and functional characteristics not found in most terminals. These include automatic bi-directional printing, conventional and absolute horizontal and vertical tabbing, control code functions and versatile forms handling features.

A Wide Range Of Applications. Being similar in size and mobility to the standard office typewriter, the Xerox 1760 may be used in a multitude of applications where hardcopy printout is required. In remote mode, the 1760 is ideally suited for such conversational time-sharing applications as document development and financial/statistical analysis where high speed data throughput from the terminal is essential. The 1760 may also be employed as an input/output device for on-line data entry/retrieval; as a computer console; as the output printer for a local storage device, such as a CRT; or, as an intermediate-speed printer of key reports at remote operating sites. In local mode, the unit may serve as a typewriter for correspondence and other documents... its style and decor blend into the office environment.

The Xerox 1760 is a fully-contained communications terminal incorporating the Diablo 2300 Matrix Printer mechanism, ASCII-compatible keyboard with numeric pad, integral power supply, EIA RS-232C interface, microprocessor and Read-Only Memory/Random Access Memory (ROM/RAM).

An original and five copies may be printed by the 1760. All 94 printable ASCII characters are available to the user at speeds of up to 200 characters per second.

Features To Enhance Throughput. Horizontal spacing is 10-pitch on the 132 position print line. Vertical spacing is six lines per inch. The printer microprocessor contains the intelligence required for the 1760's motion accumulation and *automatic* bi-directional printing capabilities, both of which contribute toward the enhancement of overall job throughput.

Document formatting is aided by the conventional and absolute tabbing capabilities, and by form length and top-of-form controls which, in addition, facilitate use of the 1760 when forms of various sizes must be used. An adjustable forms tractor for use with edge-perforated forms is standard equipment, and an optional pin-feed platen is available. Lastly, the terminal's quickly replaceable cloth ribbon cartridge minimizes operator inconvenience.

Maximum Performance and Reliability. The Xerox 1760's typewriter-paired keyboard employs n-key rollover for maximum reliability and data integrity and is able to generate all 128 ASCII characters. The keyboard has a standard alphanumeric section, a 15-key numeric pad on the right, and control keys at the left and above the alphanumeric section. Additionally, lesser-used switches are conveniently located under the front access cover.

The Xerox 1760 is supplied with an EIA RS-232C (serial) interface; typically, communication with a host computer or another terminal is via telephone lines through a pair of modems. The 1760 is compatible with Western Electric 103A, 113A, 202C and 212A data sets, or equivalent modems and acoustic couplers.

The 1760 employs ASCII code, transmitting and receiving data asynchronously (with start and stop bits) at 300, 1200, 1800 and 4800 baud. Parity generation/checking is switch-selectable and several line protocols are provided as standard to assure easy adaptability and compatibility with most systems.

Easy Serviceability. The microprocessor reduces the number of component parts in the printer mechanism and increases reliability. The standard self-test feature, modular plug-in circuit boards, solid die cast aluminum frame and 100% duty cycle ballistic head design combine to offer dependable operation and ease in maintainability.

Versatility, Performance, Reliability... The Xerox 1760 Communications Terminal.

Features

Keyboard

- 46-key, typewriter-paired (key layout like standard typewriter)
- n-key rollover
- 32 character send buffer
- All keys repeat
- Numeric pad, with comma, minus sign, decimal/period, tab and space
- Generates all 128 ASCII characters
- Print suppression
- Control Keys:

ATTN	transmits "Break"
HERE IS	transmits code*
RESET	resets indicator after error
AUTO LF	automatic LF after CR
DBL LF	2-line advance when LF received
UC ONLY	locks alphabetic section into upper case
LOCAL	local/remote mode
AUTO VIEW	printhead moves for last character visibility
FORM FEED	"local" FF to next top-of-form

- Control Switches:

Paper Out	sense or defeat
Speed	300, 1200, 1800, 4800 baud
Duplex	full or half
Parity	odd, even, mark, space
Rev. Chan.	on or off
Auto CR	on or off
Line	line control mode
ETX/EOT	on or off, and select
Test	on or off

- Status Indicator Lights:
  Receive mode
  Transmit mode
  Proceed
  Power on

Printer

- 7 x 9 impact dot matrix
- Automatic bi-directional printing
- Adjustable electronic form length
- Electronic left and right margins
- Print speed up to 200 cps
- Prints all 94 ASCII characters
- 1280 character print buffer
- Upper and lower case
- Automatic motion minimization
- 10-pitch horizontal spacing
- 6 lines/inch vertical spacing
- 132 print positions
- Original plus 5 copies
- Normal and absolute tabbing
- Snap-out ribbon cartridge
- Multiple fonts*
- Adjustable forms tractor standard
- Adjustable margins

Communications

- 8-bit ASCII code
- Full/half duplex
- Transmission speeds of 300, 1200, 1800, 4800 baud
- EIA RS-232C interface, 10′ cable
- Parity generation/checking-odd, even, mark, space
- Compatibility with 103A, 113A 202C, 212A or equivalents
- Interface protocols:
  —ETX/ACK
  —DC1(X-ON)/DC3(X-OFF)
  —ETX/EOT line control; reverse channel HDX

Alarm Signals

(light and/or audible alarm)

- Parity or framing error
- Paper out
- Printer check
- Cover open
- Buffer overflow
- Ribbon jam
- "Break" received
- Right margin exceeded

Mechanical

Carriage return time—200 ms. max.
Paper feed speed—4 inches/second, plus 40 ms settling delay
Paper width—15 inches (38.1 cm)
Paper thickness—original + 5 copies, up to .027 inch (.69 cm), manual adjustment

Physical Dimensions

Height	8.25 in.	(21 cm.)
Width	23.23 in.	(59 cm.)
Depth	21.38 in.	(51 cm.)
Weight	47 lbs.	(21.15 kg.)

Power

115 v.±15%
47-63 HZ.
200 watts

Options/Accessories

Pedestal stand and paper stacker
"Here is" answerback*
Multiple type fonts*
Pin-feed platen*

*Extra cost option (available early 1978)

ASCII Control Codes

Code	Keyboard Characters	Function/Description
ACK	F^{c}	ACKNOWLEDGEMENT: Affirmative response. Used in 1760 buffer overflow protection protocol. Also used in Line Control mode for reporting printer status.
BEL	G^{c}	BELL: Sounds audible alarm.
BS	H^{c} or BS	BACKSPACE: Move carriage one print position to the left.
CR	M^{c} or CR	CARRIAGE RETURN: Move to left margin; a line feed also performed if AUTO LF switch is on.
DEL	DEL	DELETE: Ignored by 1760 when received, may be used as idle code same as NUL.
DC1	Q^{c}	DEVICE CONTROL 1 (X-ON): Used in 1760 buffer overflow protection when selected at option switch on processor board. (See below)
DC3	S^{c}	DEVICE CONTROL 3 (X-OFF): Used in 1760 buffer overflow protection protocol when selected at option switch on processor board.
DLE	P^{c}	DATA LINE ESCAPE: Initiates various communication control sequences.
DLE EOT	P^{c} D^{c}	Mandatory Disconnect. In Line Control, Data Terminal Ready (DTR) and Printer Ready lines go false.
DLE?	P^{c} ?	In Line Control, Request for ENQ.
ENQ	E^{c}	ENQUIRE: Sends Here Is message when received; In Line Control, printer status (ACK/NAK) is sent.
EOT	D^{c}	END OF TRANSMISSION: May be selected as line turn character for turning the line around in Line Control mode.
ESC	ESC	ESCAPE: Initiates various functions show on next page.
ETX	C^{c}	END OF TEXT: Used in 1760 buffer overflow prevention protocol when selected at option switch on processor board. In Line Control mode, may be selected as line turn character for turning the line around.
FF	FF or L^{c}	FORM FEED: Moves paper to top of next form (or to a preset top margin on next form).
HT	TAB or I^{c}	HORIZONTAL TAB: Moves carriage to next preset horizontal tab stop.
LF	LF or J^{c}	LINE FEED: Moves paper up one line (moves paper 2 lines when DBL LF switch is on).
NAK	U^{c}	NEGATIVE ACKNOWLEDGEMENT: Used in Line Control only. When received by 1760, the ATTN lamp comes on, the line is turned around, and the keyboard is disabled.
NUL	I^{c}	NULL: Ignored by 1760 when received. May be used as idle code.
SP	SP	SPACE: Moves carriage one character position to the right.
VT	K^{c}	VERTICAL TAB: Moves paper to next preset vertical tab stop.

Escape Codes

Code	Function
ESC 0 (zero)	Sets right margin at present carriage position
ESC 1	Sets horizontal tab stop at present carriage position.
ESC 2	Clears all vertical and horizontal tab stops.
ESC 7	Enables print suppression (Cleared with a CR).
ESC 8	Clears individual horizontal tab stop at present carriage position.
ESC 9	Sets left margin at present carriage position.
ESC HT(n)	Initiates absolute horizontal tab to carriage position "n." "n" equals ASCII character whose decimal value indicates the carriage position to be addressed.
ESC VT(n)	Initiates absolute vertical tab to line "n." "n" equals the ASCII character whose decimal value indicates the line number to be addressed.
ESC -(hyphen)	Sets vertical tab stop at present paper position.
ESC FF(n)	Defines page size to "n." "n" equals the ASCII character whose decimal value indicates the number of lines desired.
ESC U	Initiates a half line feed.
ESC T	Sets top margin at present paper position.
ESC L	Sets lower margin at present paper position.
ESC C	Clears both top and lower margins.
ESC CR P	Clears 1760, performs initialization.

Option Switches (on processor board)

Option	Function
ENHANCE	Extends the Line Control mode of operation by enabling the 1760 to respond to all applicable Escape sequences other than just those Escape codes recognized by the G.E. Terminet 1200.
ETX/ACK	Selects the ETX/ACK buffer overflow prevention protocol.
DC3/DC1	Selects the DC3/DC1 buffer overflow prevention protocol.
BREAK (Printer Ready)	Causes the DATA Terminal Ready (DTR) interface line to the modem to go off (LO) when an error condition exists rather than sending a Break signal over the data link, provided 1760 is NOT in the Line Control mode.

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Printed in U.S.A.
500467