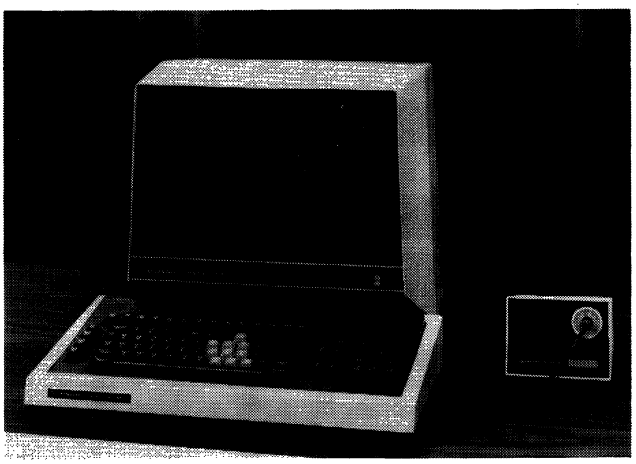
GTE IS/7800 Video Display Systems



Replaces the IBM 3270 Information Display System in a local or remote environment. Accommodates up to 26 display stations and printers in any combination plus one local copy printer per display station.

Features are identical with the IBM 3270, plus enhancements that include expanded character sets, extended transmission rates to 9600 bps, a limited graphics capability, non-impact printing, additional display capacities, high-speed printing, and display enhancements.

A typical 8-station remote terminal with 1920-character displays, but without printers, leases for $1,037 per month including maintenance on a one-year lease.

Complete compatibility with IBM 3270 is provided, and existing IBM cables can be used.

MANAGEMENT SUMMARY

GTE Information Systems introduced its IS/7800 Video Display Systems in May 1973 as direct replacements for the IBM 3270 Information Display System. Production deliveries began in February 1974. The IS/7800 systems are available for local or remote applications as clustered terminals combining as many as 26 display units and printers; a mini-cluster system for remote applications combines up to 5 display units and printers, but is priced the same as the larger systems on a per-display-unit basis.

The IS/7800 systems provide complete compatibility with the IBM 3270 with respect to the IBM BSC line discipline, commands and command-code structure, and addressing sequence. (GTE IS plans to implement the newer SDLC line protocol for future availability.) Moreover, the GTE terminals provide all features and functions that are currently available with the IBM 3270, as well as several worthwhile enhancements.

The salient features of the IS/7800 systems as compared with those of the IBM 3270 system include:

- *Display capacity*—The IS/7800 offers a choice of four screen sizes: 240, 480, 960, and 1920 characters. IBM provides two screen sizes: 480 and 1920 characters.

- *System configuration*—The clustered IS/7800 systems can accommodate up to 5 or up to 26 directly attached devices (printers and display units) as compared with 32 devices for the IBM 3270. However, the IS/7800 systems can accommodate additional printers, each operating as a local-copy printer to a directly attached display unit. In addition to a local-copy printer, each display unit can accommodate an auxiliary CRT monitor (12- or 23-inch screen). A light pen is optional, as with the IBM 3270. A badge reader is no longer offered.

- *Printed output*—Two printer models are available with the IS/7800 systems: a non-impact printer rated at 30 ➢

CHARACTERISTICS

VENDOR: GTE Information Systems, Inc., One Stamford Forum, Stamford, Connecticut 06904. Telephone (203) 357-2000.

DATE OF ANNOUNCEMENT: May 1973.

DATE OF FIRST DELIVERY: IS/7801 and IS/7802—February 1974; IS/7801A—May 1975.

NUMBER DELIVERED TO DATE: 3200 display stations; about 300 systems.

SERVICED BY: GTE Information Systems nationwide.

MODELS

The GTE IS/7800 Video Display Systems include Model IS/7801 and IS/7801A remote cluster display systems, and Model IS/7802, a local cluster display system.

The cluster display systems include a separate microprocessor-control unit which can accommodate up to 26 devices (Models IS/7801 and IS/7802) or up to 5 devices (Model IS/7801A), including any mix of CRT display units and printers. Each device is buffered and can be located up to 2,500 cable-feet from the control unit. Each display unit can support a local-copy printer, a light pen, and a 12- or 23-inch (measured diagonally) auxiliary CRT monitor. Buffer capacity of the local-copy printer corresponds to the screen capacity. A 165-cps impact printer is provided as a device-addressable systems printer; a 30-cps non-impact printer is provided for local-copy use.

The IS/7801 and IS/7801A display terminal systems connect to a communications facility via a modem. Cable length between modem and controller is 10 feet or (optionally) 50 feet. ➢

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GTE IS/7800 Video Display Systems

cps and a matrix printer rated at 165 cps. The 30-cps non-impact printer is available as a local-copy printer only, while the 165-cps impact printer is available as a systems printer (on-line) only. By contrast, IBM offers two matrix printers for use with its 3270, one rated at 40 cps and the other at 66 cps; each printer attached to the IBM 3270 operates essentially as an on-line device.

The IS/7800 system also permits printers to be pooled, meaning that a single printer can be assigned to respond as a local printer for a cluster of display units. Significantly, a printer dedicated to local-copy operation receives data into its print buffer directly from the display unit's refresh memory under operator control. By contrast, the IBM 3270 requires a Copy command to be issued by the remote computer to initiate a local-copy function; the operation cannot be manually initiated. The IS/7800 can also make use of the Copy command as an alternative to the direct local-copy function.

- *Display output*–The IS/7800 systems feature display enhancements over the IBM 3270. The IS/7800 systems can display any of 99 or 121 (optional) ASCII symbols (versus 64 symbols for the IBM 3270), including upper and lower case alphabetics as normal-size or double-width characters. The image can also be inverted to display black characters on a white background; individual characters and fields can be blinked; and data can be underscored. Like its IBM counterpart, the IS/7800 provides two beam intensity levels and a beam blanking level; individual characters or fields can be displayed at a brighter-than-normal intensity to contrast with data displayed at a normal level of brightness, or the data can be blanked (not displayed) for security purposes. The IS/7800 system, as an option; also offers a limited graphics capability that can produce bar charts, line drawings, and histograms.

- *Key entry*–Three keyboard styles are available with the IS/7800, which duplicate those offered with the IBM 3270: typewriter, data entry, and operator console. Noteworthy differences between the IBM and IS/7800 keyboards are in the total number of characters that can be generated, the number of Program Function and Attention keys provided on the data entry keyboard, and the optional 10-key numeric pad, available for GTE's operator console and typewriter keyboards. IBM's keyboards can generate 64 characters, versus 92 characters for the IS/7800 keyboards. The data entry keyboard for the IS/7800 includes 11 Program Function keys and 9 Program Attention keys, compared with 5 PF and 3 PA keys for the same keyboard style offered with the IBM 3270.

- *Communications*–Transmission speeds for the IS/7800 range from 1200 to 9600 bits per second, compared with 1200 to 4800 bits per second for the IBM 3270. Transmission is compatible with the IBM BSC line protocol.

The IS/7802 display system contains a channel interface for direct connection (via up to 200 feet of cable) to an IBM System/360 computer, Models 25 through 195, or an IBM System/370 computer, Models 115 through 195, via a Selector, Multiplexer, or Block Multiplexer channel. The maximum data transfer rate for local operation is 650,000 char/second.

TRANSMISSION SPECIFICATIONS

Transmission is half-duplex, synchronous at 9600, 7200, 4800, 2400, 2000 or 1200 bits/second using 8-level EBCDIC or ASCII (with parity). The IS/7801 and IS/7801A employ the IBM Binary Synchronous Communications (BSC) technique and are transmission-compatible with the IBM 3270 Information Display System. Compatibility with the IBM SDLC communication protocol is proposed for future availability.

The terminals provide an EIA Standard RS-232C interface and connect to a voice-grade communications facility via a modem. The following table shows the relationship between transmission speed and modem type; although Bell System modems are shown, equivalent modems from independent manufacturers can be used.

Transmission Rate	Bell System Modem
1200 bps	202C/D/E/R
2000 bps	201A
2400 bps	201B/C
4800 bps	208A/B
7200 bps	209A
9600 bps	209A

DEVICE CONTROL

The IS/7800 systems operate under the control of the program stored at the remote computer and provide complete compatibility with the addressing sequence, command code structure, and line discipline employed by the IBM 3270 Information Display System. The IS/7800 systems respond to and execute the full repertoire of IBM 3270 commands via a microprocessor with read-only memory. In addition, the IS/7800 systems feature some enhancements that are supported under the existing framework of IBM software and can be user-implemented through slight modification to individual application programs.

The Format Mode, initiated by a computer-generated message containing a fixed format, permits the operator to enter data into a displayed format. Data entry is restricted to the variable fields; format descriptors are protected from inadvertent entry by the operator. The cursor moves between non-protected (variable) fields by tabbing (if tab stops are provided) or automatically when the end of a field is reached. When transmitting, only the variable (keyed) data is transmitted. The format remains displayed for the next operation unless it is erased by the operator. Character insert and delete functions can be used to edit the keyed data prior to transmission. Format descriptors can be 1) made to blink, 2) underscored, or 3) displayed in reverse video via the use of attribute codes for ease of identification.

Features include all those provided by the IBM 3270 plus a few extra features such as additional editing and display functions. The extra editing features include line and memory erasure. The line erasure function erases the line occupied by the cursor. The memory erasure function erases the entire contents of the unit's display buffer and positions the cursor to Home. Additional display features include blink, underscore, double-width characters, and an

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GTE IS/7800 Video Display Systems

- *Software support*–The IS/7800 is compatible with all existing IBM software for the 3270. In addition, two separately priced communications monitor systems are available from GTE for use with the IS/7800.

USER REACTION

In Datapro's 1977 survey of alphanumeric display terminal users, three users reported on their experience with a total of 115 IS/7800 display terminals. Their ratings are presented below.

	Excellent	Good	Fair	Poor	WA*
Overall performance	0	3	0	0	3.0
Ease of operation	0	3	0	0	3.0
Display clarity	0	3	0	0	3.0
Keyboard feel & usability	0	3	0	0	3.0
Hardware reliability	0	2	1	0	2.7
Maintenance service	0	0	2	1	1.7
Software & technical support	0	0	3	0	2.0

*Weighted Average on a scale of 4.0 for Excellent.

Low cost was cited by all three users as the key advantage. Poor support was cited by two users as the only disadvantage.□

inverted display (black characters on a white background). These additional features are implemented through the use of one or more characters to blink or be underscored via program control.

Cursor control is functionally the same as in the IBM 3270, with the addition of a Home position. The cursor can be moved up, down, left, or right, step-by-step or repetitively (if the key remains depressed), backspaced one character position, moved to the beginning of the next line, tabbed to the beginning of the next unprotected data field, and backtabbed to the beginning of the previous unprotected data field.

Program Function and Program Attention keys, designated PFn and PAn, respectively, an optional feature of the IBM 3270, are a standard feature of the IS/7800 systems. Each of these keys generates a unique code recognized by the controlling software as a specific program request or data identifier. The two key functions differ in that the Program Function code accompanies the displayed data as it is transmitted to the computer, while the Program Attention code is transmitted separately.

A light pen is available as an option and functionally corresponds to IBM's Selector Pen, a 3270 option. Any one or several alphanumeric or numeric fields of fixed or variable format can be selected by the pen, which transmits the address of the selected entry to the computer to initiate the programmed function.

The IS/7800 systems are supported under existing IBM software support for the IBM 3270, including the DATA/360 and VIDEO/370 on-line data entry programs. Additional software support is provided by GTE Information Systems through two proprietary software packages, Intercomm and Minicomm; both are communications monitor systems and are products of Programming Methods, Inc., a subsidiary.

COMPONENTS

DISPLAY STATION: Via a 12-inch (diagonal measurement) CRT. The four standard display arrangements are as follows:

Characters/display:	240	480	960	1920
Lines/display:	6	12	12	24
Characters/line:	40	40	80	80

A character set of 99 ASCII characters, including upper and lower case alphabetics, numerics, fractions, and special symbols, is displayed in white against a dark background or in an inverted image where dark characters appear on an illuminated background (reverse video).

Beam intensity, via program control, can be switched between normal and bright intensity levels, or the beam can be turned off (blanked).

Each character is formed by one of two program-selectable dot matrices, 5-by-7 or 10-by-7; the latter forms a double-width character by illuminating two adjacent dots for each single dot position in a standard-width character.

An optional Extended Character Set includes symbols for creating bar charts, histograms, and line drawings. This feature extends the total displayable character set to 121 characters.

KEYBOARD: Any of three basic keyboard arrangements can be specified: typewriter, data entry, or operator console. The keyboards are identical in layout and key arrangement with the equivalent IBM 3270 keyboards, and include a separate group of 12 Program Function keys located at the right of the main keygroup and a row of 15 function keys located above the main keygroup. A 10-key numeric pad is optional for typewriter and operator console keyboards.

PRINTED OUTPUT: Two printers are available. The non-impact thermal page printer (Texas Instruments) prints up to 80 columns at 30 char/second on an 8.5-inch-wide, 300-foot roll of special paper. Any of 64 characters is formed within a 5-by-7 dot matrix.

The impact page printer (Centronics 101A) prints up to 132 columns at 165 char/second and accommodates pin-fed, continuous 5-part forms up to 14-7/8 inches wide via an adjustable tractor. Horizontal pitch is 10 char/inch, and vertical spacing is 6 lines/inch. Vertical format control is standard and is implemented via a paper tape loop. Any of 64 characters is formed within a 9-by-7 dot matrix.

PRICING

The GTE IS/7800 systems are available for purchase or on a one-year lease that includes maintenance. A separate maintenance contract is available for purchased equipment.

There is no installation charge. GTE IS states that no training is normally required because the 7800's typically replace existing 3270 equipment; however, on-site or factory (Mount Laurel, NJ) training is negotiable. The investment tax credit is passed along to the customer for purchased units.

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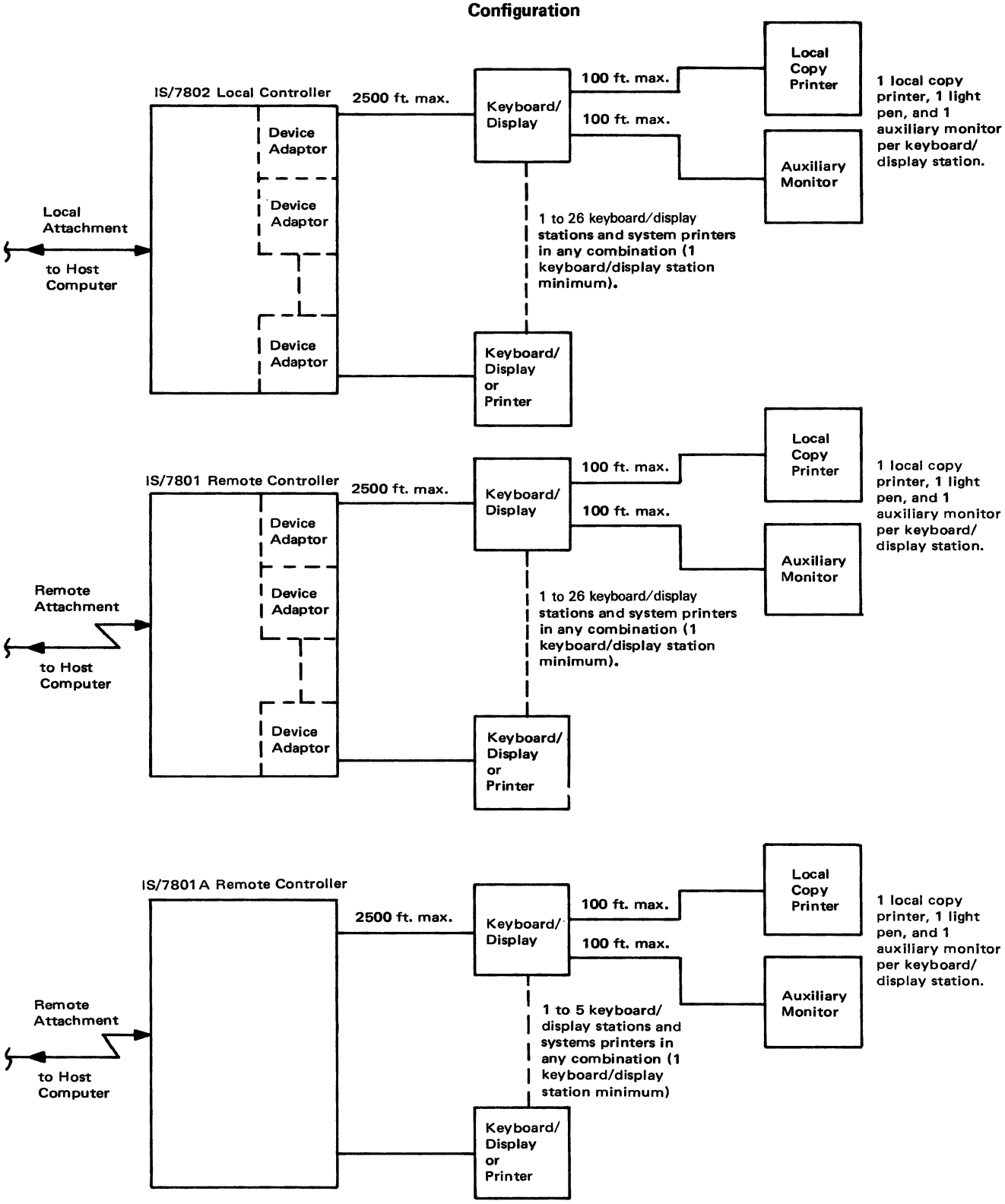
Configuration



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	Monthly Charge*	Purchase	Monthly Maint.
Control Units			
IS/7801 or IS/7801A (remote control units)	$157	$5,696	$22
IS/7802 (local control unit)	176	6,496	22
Display Monitors			
240-character screen**	94	2,536	16
480-character screen**	94	2,536	16
960-character screen**	94	2,536	16
1920-character screen**	94	2,536	16
Keyboards			
EBCDIC Typewriter	16	600	6
ASCII-A Typewriter	16	600	6
ASCII-B Typewriter	16	600	6
Operator Console	16	600	6
Data Entry	16	600	6
Auxiliary Monitors			
12-inch screen	21	470	6
23-inch screen	35	730	10
Printers			
Local Copy (30 cps thermal)	135	5,300	30
System (165 cps impact)	200	5,000	40
Options			
Expanded Character Set (line drawing & barchart characters)	5	164	0
Light Pen	26	935	5
Security Key Lock	35 OTC	35	0
Ten Key Numeric Pad	7	85	0
Desk Top (for IS/7801A control unit)	—	150	—

OTC—One time charge.

* Monthly charge under a one-year lease including prime-shift maintenance.

** Video monitor with channel interface; specify upper case character set (IBM compatible) or upper and lower case character set. ■

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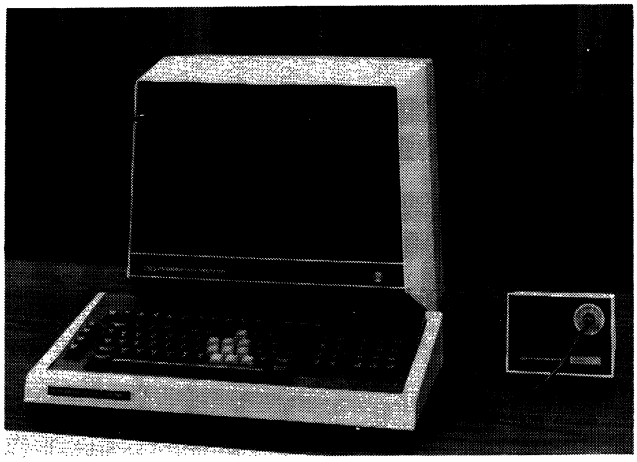
GTE IS/7800 Video Display Systems



Replaces the IBM 3270 Information Display System in a local or remote environment. Accommodates up to 26 display stations and printers in any combination plus one local copy printer per display station.

Features are identical with the IBM 3270, plus enhancements that include expanded character sets, extended transmission rates to 9600 bps, a limited graphics capability, non-impact printing, additional display capacities, high-speed printing, and display enhancements.

A typical 8-station remote terminal with 1920-character displays, but without printers, leases for $1,160 per month including maintenance one a one-year lease.

Complete compatibility with IBM 3270 is provided, and existing IBM cables can be used.

MANAGEMENT SUMMARY

GTE Information Systems introduced its IS/7800 Video Display Systems in May 1973 as direct replacements for the IBM 3270 Information Display System. Production deliveries began in February 1974. The IS/7800 systems are available for local or remote applications as clustered terminals combining as many as 26 display units and printers; a mini-cluster system for remote applications combines up to 5 display units and printers, but is priced the same as the larger systems on a per-display-unit basis.

The IS/7800 systems provide complete compatibility with the IBM 3270 with respect to the IBM BSC line discipline, commands and command-code structure, and addressing sequence. (GTE IS plans to implement the newer SDLC line protocol for future availability.) Moreover, the GTE terminals provide all features and functions that are currently available with the IBM 3270, as well as several worthwhile enhancements.

The salient features of the IS/7800 systems as compared with those of the IBM 3270 system include:

- *Display capacity*—The IS/7800 offers a choice of four screen sizes: 240, 480, 960, and 1920 characters. IBM provides two screen sizes: 480 and 1920 characters.

- *System configuration*—The clustered IS/7800 systems can accommodate up to 5 or up to 26 directly attached devices (printers and display units) as compared with 32 devices for the IBM 3270. However, the IS/7800 systems can accommodate additional printers, each operating as a local-copy printer to a directly attached display unit. In addition to a local-copy printer, each display unit can accommodate an auxiliary CRT monitor (12- or 23-inch screen). A light pen is optional, as with the IBM 3270. A badge reader is no longer offered.

- *Printed output*—Two printer models are available with the IS/7800 systems: a non-impact printer rated at 30 ➢

CHARACTERISTICS

VENDOR: GTE Information Systems, Inc., One Stamford Forum, Stamford, Connecticut 06904. Telephone (203) 357-2000.

DATE OF ANNOUNCEMENT: Information not available.

DATE OF FIRST DELIVERY: IS/7801 and IS/7802—February 1974; IS/7801A—May 1975.

NUMBER DELIVERED TO DATE: 3200 display stations; about 300 systems.

SERVICED BY: GTE Information Systems nationwide.

MODELS

The GTE IS/7800 Video Display Systems include Model IS/7801 and IS/7801A remote cluster display systems, and Model IS/7802, a local cluster display system.

The cluster display systems include a separate microprocessor-control unit which can accommodate up to 26 devices (Models IS/7801 and IS/7802) or up to 5 devices (Model IS/7801A), including any mix of CRT display units and printers. Each device is buffered and can be located up to 2,500 cable-feet from the control unit. Each display unit can support a local-copy printer, a light pen, and a 12- or 23-inch (measured diagonally) auxiliary CRT monitor. Buffer capacity of the local-copy printer corresponds to the screen capacity. A 165-cps impact printer is provided as a device-addressable systems printer; a 30-cps non-impact printer is provided for local-copy use.

The IS/7801 and IS/7801A display terminal systems connect to a communications facility via a modem. Cable length between modem and controller is 10 feet or (optionally) 50 feet. ➤

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GTE IS/7800 Video Display Systems

cps and a matrix printer rated at 165 cps. The 30-cps non-impact printer is available as a local-copy printer only, while the 165-cps impact printer is available as a systems printer (on-line) only. By contrast, IBM offers two matrix printers for use with its 3270, one rated at 40 cps and the other at 66 cps; each printer attached to the IBM 3270 operates essentially as an on-line device.

The IS/7800 system also permits printers to be pooled, meaning that a single printer can be assigned to respond as a local printer for a cluster of display units. Significantly, a printer dedicated to local-copy operation receives data into its print buffer directly from the display unit's refresh memory under operator control. By contrast, the IBM 3270 requires a Copy command to be issued by the remote computer to initiate a local-copy function; the operation cannot be manually initiated. The IS/7800 can also make use of the Copy command as an alternative to the direct local-copy function.

- *Display output*—The IS/7800 systems feature display enhancements over the IBM 3270. The IS/7800 systems can display any of 99 or 121 (optional) ASCII symbols (versus 64 symbols for the IBM 3270), including upper and lower case alphabetics as normal-size or double-width characters. The image can also be inverted to display black characters on a white background; individual characters and fields can be blinked; and data can be underscored. Like its IBM counterpart, the IS/7800 provides two beam intensity levels and a beam blanking level; individual characters or fields can be displayed at a brighter-than-normal intensity to contrast with data displayed at a normal level of brightness, or the data can be blanked (not displayed) for security purposes. The IS/7800 system, as an option; also offers a limited graphics capability that can produce bar charts, line drawings, and histograms.

- *Key entry*—Three keyboard styles are available with the IS/7800, which duplicate those offered with the IBM 3270: typewriter, data entry, and operator console. Noteworthy differences between the IBM and IS/7800 keyboards are in the total number of characters that can be generated, the number of Program Function and Attention keys provided on the data entry keyboard, and the optional 10-key numeric pad, available for GTE's operator console and typewriter keyboards. IBM's keyboards can generate 64 characters, versus 92 characters for the IS/7800 keyboards. The data entry keyboard for the IS/7800 includes 11 Program Function keys and 9 Program Attention keys, compared with 5 PF and 3 PA keys for the same keyboard style offered with the IBM 3270.

- *Communications*—Transmission speeds for the IS/7800 range from 1200 to 9600 bits per second, compared with 1200 to 4800 bits per second for the IBM 3270. Transmission is compatible with the IBM BSC line protocol.

The IS/7802 display system contains a channel interface for direct connection (via up to 200 feet of cable) to an IBM System/360 computer, Models 25 through 195, or an IBM System/370 computer, Models 115 through 195, via a Selector, Multiplexer, or Block Multiplexer channel. The maximum data transfer rate for local operation is 650,000 char/second.

TRANSMISSION SPECIFICATIONS

Transmission is half-duplex, synchronous at 9600, 7200, 4800, 2400, 2000 or 1200 bits/second using 8-level EBCDIC or ASCII (with parity). The IS/7801 and IS/7801A employ the IBM Binary Synchronous Communications (BSC) technique and are transmission-compatible with the IBM 3270 Information Display System. Compatibility with the IBM SDLC communication protocol is proposed for future availability.

The terminals provide an EIA Standard RS-232C interface and connect to a voice-grade communications facility via a modem. The following table shows the relationship between transmission speed and modem type; although Bell System modems are shown, equivalent modems from independent manufacturers can be used.

Transmission Rate	Bell System Modem
1200 bps	202C/D/E/R
2000 bps	201A
2400 bps	201B/C
4800 bps	208A/B
7200 bps	209A
9600 bps	209A

DEVICE CONTROL

The IS/7800 systems operate under the control of the program stored at the remote computer and provide complete compatibility with the addressing sequence, command code structure, and line discipline employed by the IBM 3270 Information Display System. The IS/7800 systems respond to and execute the full repertoire of IBM 3270 commands via a microprocessor with read-only memory. In addition, the IS/7800 systems feature some enhancements that are supported under the existing framework of IBM software and can be user-implemented through slight modifciation to individual application programs.

The Format Mode, initiated by a computer-generated message containing a fixed format, permits the operator to enter data into a displayed format. Data entry is restricted to the variable fields; format descriptors are protected from inadvertent entry by the operator. The cursor moves between non-protected (variable) fields by tabbing (if tab stops are provided) or automatically when the end of a field is reached. When transmitting, only the variable (keyed) data is transmitted. The format remains displayed for the next operation unless it is erased by the operator. Character insert and delete functions can be used to edit the keyed data prior to transmission. Format descriptors can be 1) made to blink, 2) underscored, or 3) displayed in reverse video via the use of attribute codes for ease of identification.

Features include all those provided by the IBM 3270 plus a few extra features such as additional editing and display functions. The extra editing features include line and memory erasure. The line erasure function erases the line occupied by the cursor. The memory erasure function erases the entire contents of the unit's display buffer and positions the cursor to Home. Additional display features include blink, underscore, double-width characters, and an

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- *Software support*—The IS/7800 is compatible with all existing IBM software for the 3270. In addition, two separately priced communications monitor systems are available from GTE for use with the IS/7800.

USER REACTION

In Datapro's 1976 survey of alphanumeric display terminal users, three users reported on their experience with a total of 126 IS/7800 display terminals. Their ratings are presented below.

	Excellent	Good	Fair	Poor	WA*
Overall performance	0	3	0	0	3.0
Ease of operation	1	2	0	0	3.3
Display clarity	1	0	2	0	2.7
Keyboard feel & usability	1	1	1	0	3.0
Hardware reliability	0	3	0	0	3.0
Maintenance service	0	1	1	0	2.5
Software & technical support	0	1	2	0	2.3

*Weighted Average on a scale of 4.0 for Excellent.

Low cost was cited by all three users as the key advantage. Nonprogrammability, performance limitations, and poor support were cited as the disadvantages.□

inverted display (black characters on a white background). These additional features are implemented through the use of one or more characters to blink or be underscored via program control.

Cursor control is functionally the same as in the IBM 3270, with the addition of a Home position. The cursor can be moved up, down, left, or right, step-by-step or repetitively (if the key remains depressed), backspaced one character position, moved to the beginning of the next line, tabbed to the beginning of the next unprotected data field, and backtabbed to the beginning of the previous unprotected data field.

Program Function and Program Attention keys, designated PFn and PAn, respectively, an optional feature of the IBM 3270, are a standard feature of the IS/7800 systems. Each of these keys generates a unique code recognized by the controlling software as a specific program request or data identifier. The two key functions differ in that the Program Function code accompanies the displayed data as it is transmitted to the computer, while the Program Attention code is transmitted separately.

A light pen is available as an option and functionally corresponds to IBM's Selector Pen, a 3270 option. Any one or several alphanumeric or numeric fields of fixed or variable format can be selected by the pen, which transmits the address of the selected entry to the computer to initiate the programmed function.

The IS/7800 systems are supported under existing IBM software support for the IBM 3270, including the DATA/360 and VIDEO/370 on-line data entry programs. Additional software support is provided by GTE Information Systems through two proprietary software packages, Intercomm and Minicomm; both are communications monitor systems and are products of Programming Methods, Inc., a subsidiary.

COMPONENTS

DISPLAY STATION: Via a 12-inch (diagonal measurement) CRT. The four standard display arrangements are as follows:

Characters/display:	240	480	960	1920
Lines/display:	6	12	12	24
Characters/line:	40	40	80	80

A character set of 99 ASCII characters, including upper and lower case alphabetics, numerics, fractions, and special symbols, is displayed in white against a dark background or in an inverted image where dark characters appear on an illuminated background (reverse video).

Beam intensity, via program control, can be switched between normal and bright intensity levels, or the beam can be turned off (blanked).

Each character is formed by one of two program-selectable dot matrices, 5-by-7 or 10-by-7; the latter forms a double-width character by illuminating two adjacent dots for each single dot position in a standard-width character.

An optional Extended Character Set includes symbols for creating bar charts, histograms, and line drawings. This feature extends the total displayable character set to 121 characters.

KEYBOARD: Any of three basic keyboard arrangements can be specified: typewriter, data entry, or operator console. The keyboards are identical in layout and key arrangement with the equivalent IBM 3270 keyboards, and include a separate group of 12 Program Function keys located at the right of the main keygroup and a row of 15 function keys located above the main keygroup. A 10-key numeric pad is optional for typewriter and operator console keyboards.

PRINTED OUTPUT: Two printers are available. The non-impact thermal page printer (Texas Instruments) prints up to 80 columns at 30 char/second on an 8.5-inch-wide, 300-foot roll of special paper. Any of 64 characters is formed within a 5-by-7 dot matrix.

The impact page printer (Centronics 101A) prints up to 132 columns at 165 char/second and accommodates pin-fed, continuous 5-part forms up to 14-7/8 inches wide via an adjustable tractor. Horizontal pitch is 10 char/inch, and vertical spacing is 6 lines/inch. Vertical format control is standard and is implemented via a paper tape loop. Any of 64 characters is formed within a 9-by-7 dot matrix.

PRICING

The GTE IS/7800 systems are available for purchase or on a one-year lease that includes maintenance. A separate maintenance contract is available for purchased equipment.

There is no installation charge. GTE IS states that no training is normally required because the 7800's typically replace existing 3270 equipment; however, on-site or factory (Mount Laurel, NJ) training is negotiable. The investment tax credit is passed along to the customer for purchased units.

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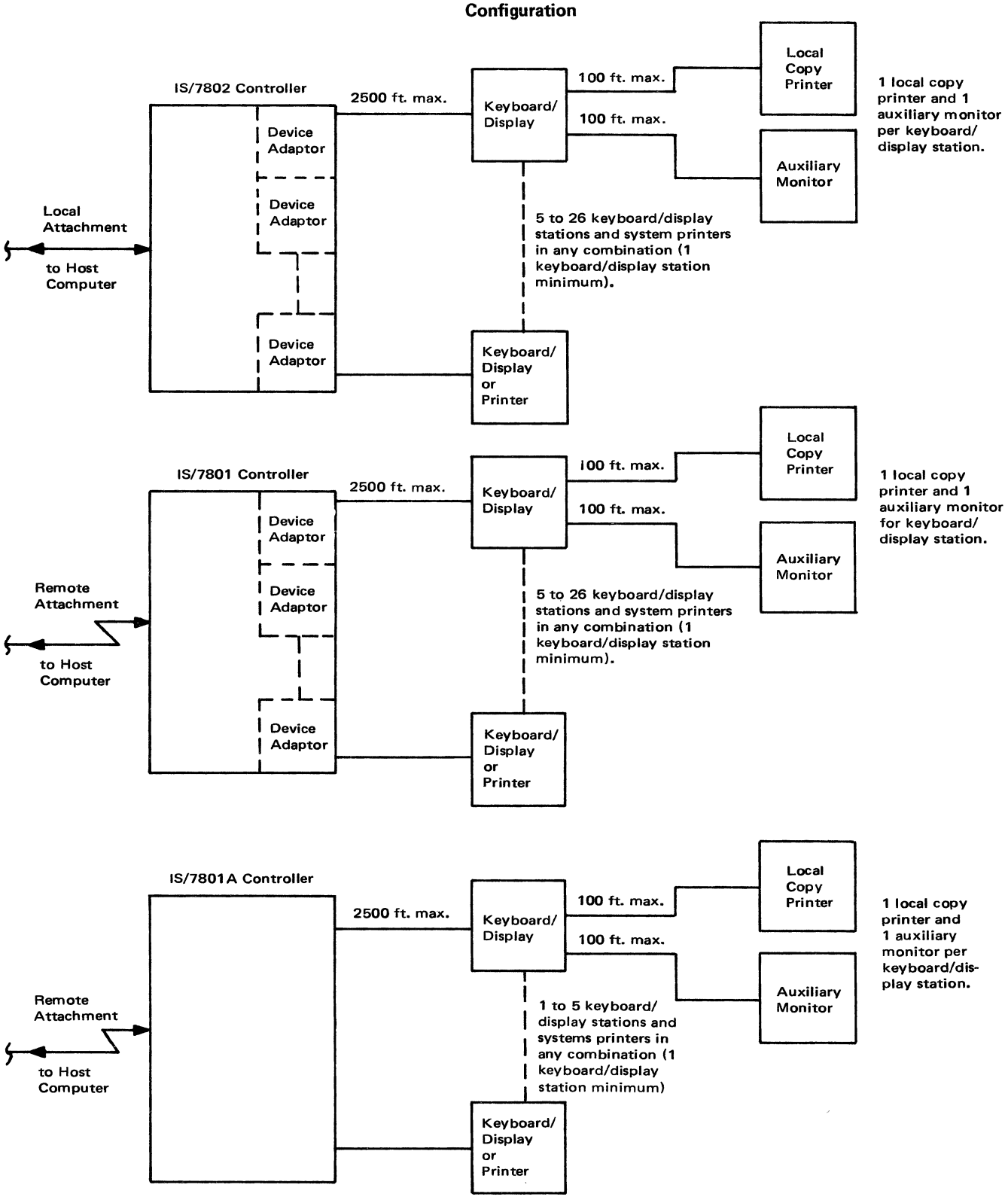
GTE IS/7800 Video Display Systems

Configuration



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GTE IS/7800 Video Display Systems

	Monthly Charge*	Purchase	Monthly Maint.
Control Units			
IS/7801 or IS/7801A (remote control units)	$200	$5,696	$22
IS/7802 (local control unit)	225	6,496	22
Display Monitors			
240-character screen**	104	2,536	16
480-character screen**	104	2,536	16
960-character screen**	104	2,536	16
1920-character screen**	104	2,536	16
Keyboards			
EBCDIC Typewriter	16	600	6
ASCII-A Typewriter	16	600	6
ASCII-B Typewriter	16	600	6
Operator Console	16	600	6
Data Entry	16	600	6
Auxiliary Monitors			
12-inch screen	21	470	6
23-inch screen	35	730	10
Printers			
Local Copy (30 cps thermal)	135	5,300	30
System (165 cps impact)	200	5,000	40
Options			
Expanded Character Set (line drawing & barchart characters)	5	164	0
Light Pen	26	935	5
Security Key Lock	35 OTC	35	0
Ten Key Numeric Pad	7	85	0
Desk Top (for IS/7801A control unit)	—	150	—

OTC—One time charge.

* Monthly charge under a one-year lease including prime-shift maintenance.

**Video monitor with channel interface; specify upper case character set (IBM compatible) or upper and lower case character set. ■

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