# Honeywell Display System, Model 7 (HDS 7)

MANAGEMENT SUMMARY

UPDATE: *The Honeywell Display Station, Model 7 (HDS 7), is the first in this series of display stations which replaces the VIP7800 Series Display Terminals. This terminal, which features a 14-inch display screen, transmits data synchronously or asynchronously and performs in environments requiring inquiry response, online data entry, inventory management, and a host of other functions.*

The Honeywell Display Station, Model 7, offers a choice between synchronous and asynchronous operation on the same terminal. It is designed for use with various Honeywell Computer Systems. The Honeywell Display Station Series is a replacement for the Honeywell VIP7800 Series models. The HDS 7 features a 14-inch (diagonally measured) display screen that displays characters in either green or amber phosphor. Characters can also be displayed in inverse video as dark characters against a green or amber background. The monitor has a tilt/swivel base that allows it to be tilted up to 25 degrees vertically and swiveled 45 degrees to either side from the center.

The HDS 7 can accommodate 24 lines of 80 or 132 characters each, with an additional line for system information, bringing the total of displayable character positions to 2,000 or 3,300. Double height and double width can be assigned to all characters displayed on a line. In the 80-column format, the characters are formed using a 10-by-14 dot matrix and in a 6-by-14 dot matrix in the 132-column format. The matrix provides for lower descenders that are below the line, and an underline that causes no interference with these descenders. ▷

The HDS 7 is the first in a planned series of display terminals to replace the Honeywell VIP7800 Display Terminals. This multiple mode terminal features both asynchronous and synchronous data transmission, and includes a multifunction, low-profile keyboard with overlays.

The Honeywell Display Station, Model 7 (HDS 7), is a versatile, high-resolution display terminal, capable of both synchronous and asynchronous transmission. Combining ergonomic design and advanced features, the microprocessor-based HDS 7 is designed for use in general business applications that take advantage of its enhanced visual presentation features, extensive data editing, and form validation. This unit is compatible with the Honeywell VIP7842.

MODELS: HDS 7.
DISPLAY: 14-inch (diagonal) display screen. The HDS 7 features a 2,000- or 3,300-character display capacity, arranged in 25 lines of 80 or 132 characters each.
KEYBOARD: A detached, low-profile, multifunction ANSI 4.23 keyboard with adjustable height mechanism is standard.
COMPETITION: Cybernex, Teleray, Thomas Engineering, Micro-Term, and Westinghouse Canada manufacture terminals with Honeywell VIP emulation.
PRICE: $1,200

CHARACTERISTICS

VENDOR: Honeywell Information Systems, Inc., 200 Smith Street, Waltham, MA 02154. Telephone (617) 895-6000. In Canada: 155 Gordon Baker Road, Willowdale, Ontario M2H 3N7. Telephone (416) 499-6111.

DATE OF ANNOUNCEMENT: November 1986.

DATE OF FIRST DELIVERY: January 1987.

NUMBER DELIVERED TO DATE:

SERVICED BY: Honeywell Information Systems.

MODELS

The HDS Series currently consists of one model, the HDS 7.

TRANSMISSION SPECIFICATIONS

Synchronous and asynchronous transmission is selectable. Data is sent full duplex at switch-selectable speeds from 300 bps to 9600 bps. RS-232-C and RS-422-A interfaces are standard in async mode, and RS-232-C only in sync mode. In sync mode, the terminal utilizes the RS-232-C interface via the Synchronous VIP Poll/Select Protocol, which allows a number of devices to share the same communication line. Asynchronous communications uses serial 7-bit or 8-bit ASCII code characters. In 7-bit mode parity can be even or mark, and in 8-bit mode parity can be even or none. Synchronous communications uses serial 7-bit, odd parity with LRC, or 8-bit, no parity with CRC, and Synchronous VIP Poll/Select Protocol.

DEVICE CONTROL

The HDS 7 is compatible with the Honeywell VIP7824 and the ANSI 3.64 command set. Visual and form attributes are ▶
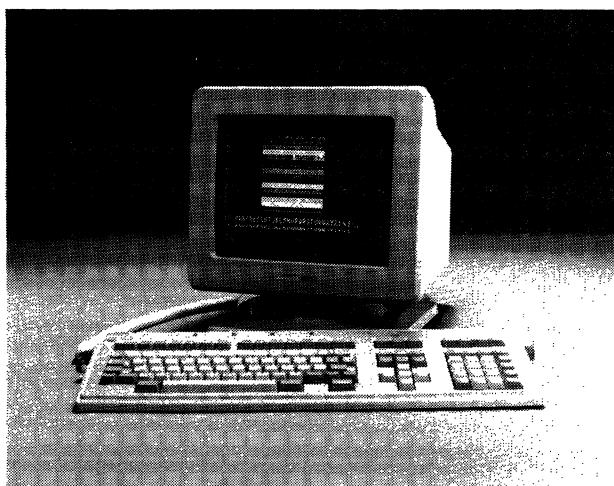
Honeywell Display System, Model 7 (HDS 7)

The detached, low-profile, multifunction ANSI 4.23 keyboard is designed for data and word processing and can be positioned up to three feet from the monitor. It contains 115 keys, arranged in five groups. These include 63 alphanumeric and typing control keys, a 20-key numeric keypad, 14 cursor control and editing keys, 6 device control keys, and 12 function keys. Color shaded keys are provided for easy reference. The n-key rollover feature is used to help ensure data integrity during high-speed typing. Overlays are available to identify the functions of the blank keys for software applications.

The HDS 7 terminal is compatible with the Honeywell VIP7824 and the ANSI 3.64 command set. In synchronous mode, the terminal utilizes Honeywell's VIP Synchronous Poll/Select Protocol, which allows a number of devices to coexist on the same communication line. In asynchronous mode, the HDS 7 provides as standard features: RS-232-C and RS-422-A interfaces; a 16K-byte buffered printer adapter; 72-line vertical scrolling; and a confidence test that is automatically invoked when the terminal is powered up. The display screen can be partitioned into up to five independent partitions, each of which has its assigned partition of data space. Only one partition is active at any time.

The HDS 7 is offered under Honeywell's Customer-Assisted Maintenance Program (CAMP). CAMP, an alternative to on-site maintenance, is considerably less expensive than Honeywell's conventional on-site maintenance program. The Honeywell Display System terminal features modular construction of two customer replaceable units and built-in diagnostics which allow the user to isolate and correct most equipment problems; the user may also telephone Honeywell's Technical Assistance Center for additional consultation.

Applications and operational functions of the HDS 7 terminal in async mode are identical to those found in sync mode; in this way, the same applications can be run on both asynchronous and synchronous HDS terminals.

COMPETITIVE POSITION

The Honeywell Display Station, Model 7, carries with it the reputation of its predecessors, the VIP7800 family of display terminals. As with the VIP Series, Honeywell faces a limited amount of competition with the HDS model. The HDS 7 is compatible with the Honeywell VIP7824; independent terminal vendors who manufacture display terminals with Honeywell VIP emulation include Cybernex, Teleray, Thomas Engineering, Micro-Term, and Westinghouse Canada.

ADVANTAGES AND RESTRICTIONS

The HDS 7 terminal can operate in both asynchronous and synchronous mode, via an external switch activated by the user. In synchronous mode, the terminal utilizes Honeywell's Synchronous VIP Poll/Select Protocol. The ability to access both asynchronous and synchronous applications from the same terminal is a key advantage of the HDS 7. ▷

USER REACTION

In Datapro's 1986 Terminal Users Survey, conducted in conjunction with *Data Communications* magazine, a total of 6 responses was received from users of Honeywell display terminals. Users reported on their experiences with a total installed base of 313 units. The ratings are summarized below.

	Excellent	Good	Fair	Poor	WA*
Overall performance	0	6	0	0	3.0
Ease of operation	0	6	0	0	3.0
Display clarity	1	4	1	0	3.0
Keyboard feel & usability	0	5	1	0	2.8
Ergonomics	0	0	5	1	**1.8
Hardware reliability	0	2	4	0	2.3
Mfr.'s maintenance service/technical support	2	4	0	0	3.3

*Weighted Average on a scale of 4.0 for Excellent.
**The HDS 7 contains new ergonomic features not found on older model Honeywell display terminals.

The users were also asked whether or not they would recommend their terminals to other users with similar applications. Of the six respondents, one answered that they would. The remaining users were undecided or did not respond to that question. □

assignable, in any combination, to every character position in data space. Data space consists of 24 lines of 80 or 132 characters each, plus a status line; 72-line vertical scrolling is provided. Visual attributes include low intensity, true underline, blank, blink, inverse video, double height, and double width. Form attributes include unprotected, protected, digits only, numeric only, numeric edited, alpha only, entry required, fill required, justify right, transmit always, modify transmit, and transmit immediate.

COMPONENTS

HDS 7 CRT DISPLAY UNIT: The HDS 7 is equipped with a 14-inch (diagonal measurement) display screen. A display arrangement of 24 and 72 lines of 80 or 132 characters plus status line is standard for a total display capacity of 2,000 and 3,300 characters. Characters are displayed in green or amber phosphor on a dark background, and are formed using a 10-by-14 dot matrix (80-column format) or 6-by-14 dot matrix (132-column format). The screen and data space can be divided into five independently operating partitions. A screen saver feature is standard, which shuts off the display after a 30-minute period of nonuse. A total of 223 characters are displayable; these include a 95-character ASCII set, 16 business graphics symbols, 14 word processing symbols, and two special-purpose symbols.

HDS 7 KEYBOARD: The HDS 7 features a detached, low-profile, multifunction ANSI 4.23 keyboard with an adjustable height mechanism. Interchangeable overlays are available to define the personality of the keyboard relative to its application. In addition to n-key rollover, this 115-key keyboard is divided into five groups of keys as follows:

- **Alphanumeric cluster and typing control group (63 keys).**

- **Numeric keypad (20 keys).**

- **Cursor control and editing mode (14 keys).**

- **Device control group (6 keys).**

- **Function keys (12 keys).** ▶

Honeywell Display System, Model 7 (HDS 7)

► PRICING

The HDS 7 is available for purchase or on a 3-year lease which includes maintenance. Separate maintenance agreements are available for purchased units. Quantity discounts are also available.

The HDS 7 terminal is available under Honeywell's Customer-Assisted Maintenance Program (CAMP) for an annual charge. Under CAMP, a walk-in/mail-in maintenance program, the user undertakes some of the responsibility for maintaining the terminal. The HDS 7 terminal features a modular construction and built-in diagnostics to facilitate customer maintenance. Honeywell also provides standard on-site service and CAMP Dispatch. Under CAMP Dispatch, Honeywell will dispatch parts via a courier, for customer maintenance.

EQUIPMENT PRICES

		Purchase Price ($)	Monthly Lease ($)	On-site Maint. ($)	CAMP* ($)	CAMP Dispatch ($)
HDS 7	14-inch display w/typewriter keyboard	1,200	51	100	60	80 ∎

Honeywell VIP7800 Display Terminals
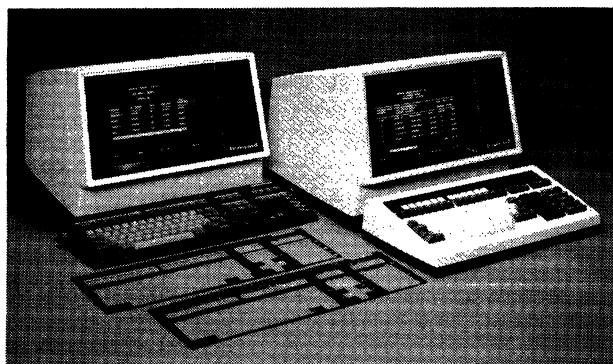
The VIP7826 (left) and VIP7816 are multiple mode terminals that feature both asynchronous and synchronous data transmission. The VIP7826 includes a multifunction, low-profile keyboard with overlays; the VIP7816 includes a standard typewriter-style keyboard.

MANAGEMENT SUMMARY

UPDATE: *This report has been revised to include information on the newest generation of VIP7800 display terminals. The VIP7800 family consists of models with both 12- and 15-inch displays, and with typewriter and multifunction keyboards.*

The Honeywell VIP (Visual Information Projection) 7800 family is a series of display terminals that offer a choice between synchronous or asynchronous operation on the same terminal. Designed for use with various Honeywell Computer Systems, the family currently consists of the following model groupings: VIP 7814/7824, VIP7815/ 7825, VIP 7816/7826, and VIP7817/7827. These models are replacements for older VIP7800 Series models, including the VIP 7801, VIP7802, VIP7804, and VIP7805. The VIP7814/7824 and VIP7816/7826 models feature a 12-inch display; the VIP7815/7825 and VIP7817/7827 models contain a 15-inch display. The lower numbered models in each grouping (VIP7814, VIP7815, VIP7816, and VIP7817) are equipped with a high-profile keyboard containing a typewriter-style key layout. The higher numbered models (VIP7824, VIP7825, VIP7826, and VIP7827) are equipped with a low-profile, multifunction ANSI 4.23 keyboard designed for data and word processing. All keyboards are detached.

The VIP7814/7824 terminals are compatible with the older VIP7801/7802 and VIP7804/7805 models. Users, via an external switch, can select either synchronous or asynchronous transmission, with speeds up to 9600 bps. In synchronous mode, the terminals utilize Honeywell's VIP poll/ select protocol and can coexist on communications lines with VIP7804/7805 terminals. In asynchronous mode, the VIP7814/7824 are compatible with the VIP7801/7802 models. The VIP7814/7824 provide as standard features: RS-232-C and RS-422-A interfaces; a 16K-byte buffered ▷

Honeywell's VIP7800 series is a family of display terminals that are designed for use on various Honeywell computer systems. The VIP7800 terminals are capable of both synchronous and asynchronous transmission, and are covered under Honeywell's Customer-Assisted Maintenance Program (CAMP).

MODELS: VIP7814/7824, VIP7815/7825, VIP7816/7826, and VIP7817/7827.
DISPLAY: The VIP7814/7824 and VIP7816/7826 feature a 12-inch (diagonal) display screen; the VIP7815/7825 and VIP 7817/7827 include a 15-inch (diagonal) display screen. All models feature a 2,000-character display capacity, arranged in 24 lines of 80 characters each, plus an 80-character system line.
KEYBOARD: The VIP7814, VIP7815, VIP7816, and VIP7817 include a high-profile keyboard with a typewriter-style layout. The VIP7824, VIP7825, VIP7826, and VIP7827 include a low-profile multifunction keyboard designed for word/data processing. All keyboards are detached.
COMPETITION: Cybernex, Tandberg Data, Teleray, Thomas Engineering, and Westinghouse Canada manufacture terminals with Honeywell VIP emulation.
PRICE: Purchase prices range from $2,700 to $3,095.

CHARACTERISTICS

VENDOR: Honeywell Information Systems, Inc., 200 Smith Street, Waltham, MA 02154. Telephone (617) 895-6000; In Canada: 155 Gordon Baker Road, Willowdale, Ontario M2H 3N7. Telephone (416) 499-6111.

DATE OF ANNOUNCEMENT: VIP7814—November 1982; VIP7815—May 1984; VIP7824, VIP7825, VIP7816/ 7826, VIP7817/7827—October 1984.

DATE OF FIRST DELIVERY: VIP7814—January 1983; VIP7815—August 1984; VIP7824, VIP7825, VIP7816/ 7826, VIP7817/7827—January 1985.

NUMBER DELIVERED TO DATE: Approximately 125,000 (including older VIP models).

SERVICED BY: Honeywell Information Systems.

MODELS

The VIP7800 Series currently consists of the following models:

• **VIP7814**—a display terminal capable of both synchronous and asynchronous transmission. The VIP7814 includes a 12-inch display and typewriter-style keyboard. ▶

Honeywell VIP7800 Display Terminals

printer adapter; 72-line vertical scrolling; and a confidence test that is automatically invoked when the terminal is powered up. The VIP7815/7825 terminals are large screen (15-inch) versions of the VIP7814/7824 models.

The VIP7816/7826 terminals are multiple mode terminals. They can emulate the Honeywell 7705R VIP and VIP7814 terminals in text and form modes, to perform transaction processing applications; the VIP7826 can also perform character mode, word processing mode, and data entry functions with its multifunction keyboard and related overlays. The VIP7817/7827 models are the large screen (15-inch) versions of the VIP7816/7826.

All VIP7800 models can accommodate 24 lines of 80 characters each, with a 25th line for system information, bringing the total of displayable character positions to 2,000. Characters on the 15-inch screens are 56 percent larger than those displayed on the 12-inch screens. Data space on all models is 72 lines of 80 characters each, with vertical scrolling.

The current members of the VIP7800 family are offered under Honeywell's Customer-Assisted Maintenance Program (CAMP). CAMP, an alternative to onsite maintenance, is considerably less expensive than Honeywell's conventional onsite maintenance program. The VIP7800 terminals feature modular construction and built-in diagnostics which allow the user to isolate and correct most equipment problems; the user may also telephone Honeywell's Technical Assistance Center for additional consultation.

Applications and operational functions of the VIP7800 terminals in async mode are identical to those found in sync mode; in this way the same applications can be run on both asynchronous and synchronous VIP7800 terminals. Potential uses for the VIP7800 family terminals include: on-line data entry, inventory management, customer file maintenance, production control and scheduling, sales order processing, inquiry/response, and financial applications.

COMPETITIVE POSITION

The Honeywell VIP7800 family of display terminals are intended for use with various Honeywell computer systems, including the DPS 6, DPS 7, DPS 8, DPS 88, and DPS 90 Series. As is the case with several other computer vendors (e.g., Data General, Control Data, Sperry) Honeywell faces a limited amount of competition with the VIP Series terminals. Independent terminal vendors who manufacture display terminals with Honeywell VIP emulation include Cybernex, Tandberg Data, Teleray, Thomas Engineering, and Westinghouse Canada.

ADVANTAGES AND RESTRICTIONS

The VIP7800 Series terminals can operate in both asynchronous and synchronous mode, via an external switch activated by the user. In synchronous mode, the terminals utilize Honeywell's VIP poll and select protocol. The abili-

- **VIP7824**—contains all of the features of the VIP7814, except that it includes a low-profile multifunction keyboard.

- **VIP7815**—contains all of the features of the VIP7814, except that it includes a 15-inch display.

- **VIP7825**—contains all of the features of the VIP7815, except that it includes a low-profile multifunction keyboard.

- **VIP7816**—a multiple mode display terminal capable of both synchronous and asynchronous transmission. The VIP 7817 includes a 12-inch display and typewriter-style keyboard.

- **VIP7826**—contains all of the features of the VIP7817, except that it includes a multifunction keyboard.

- **VIP7817**—contains all of the features of the VIP7816, except that it includes a 15-inch display.

- **VIP7827**—contains all of the features of the VIP7817, except that it includes a multifunction keyboard.

TRANSMISSION SPECIFICATIONS

Multipoint synchronous and point-to-point asynchronous transmission is selectable (via an external switch) for all models. Data is sent full-duplex at switch-selectable speeds up to 9600 bps. RS-232-C and RS-422-A interfaces are standard. In sync mode, the terminals utilize the RS-232-C interface with Honeywell's VIP poll/select protocol; the serial 7-bit ASCII code is used, with odd-character parity, even-block parity, and variable block transmission. In async mode, the terminals can operate with the RS-232-C interface, or communicate directly with the RS-422-A interface; the serial 7-bit ASCII code is used, plus parity, with start and stop bits; the parity bit may be even or mark; echo or nonecho character mode and variable block transmission may be chosen.

A 16K-byte buffered printer adapter is standard, with Asynchronous Serial Printer Interface (ASPI) protocol and an RS-422-A interface to connect a Honeywell bidirectional dot matrix printer.

DEVICE CONTROL

The VIP7814/7824 and VIP7815/7825 terminals are compatible with the older VIP7801/7802 (asynchronous) and VIP7804/7805 (synchronous) terminals. Visual and form attributes for the VIP7814/7824 and VIP7815/7825 terminals are assignable, in any combination, to every character position in data space. Data space consists of 72 lines of 80 characters each, plus an 80-character system line; 72-line vertical scrolling is provided. Visual attributes include low intensity, true underline, blank, blink, reverse video, and reset command. Form attributes include unprotected, digits only, numeric only, alpha only, entry required, fill required, justify right, transmit always, modify transmit, protected, and omit print.

The VIP7816/7826 and VIP7817/7827 are multiple mode terminals. In text and form modes, the terminals can emulate the 7705R VIP and VIP7814/7815 terminals. A keyboard command selects 7705R or VIP7814/7815 modes; enhanced 7705R operation provides 128 pairs of fields. Form mode provides data entry and data validation functions. Field attributes are used to specify unprotected fields, protected or modified fields to be transmitted, must enter or must fill fields, digits only, numerics only, alphabetics only, and right justify. Attributes are stored separately from data and do not displace data in the memory. In text mode, a

Honeywell VIP7800 Display Terminals

▷ ty to access both asynchronous and synchronous applications from the same terminal is a key advantage of the VIP7800 family. In addition, the newer VIP7800 family terminals are compatible with the older members of the product line, like the VIP7801/7802 and and VIP7804/7805.

Honeywell has yet to implement many ergonomic features that are found on terminals from most other vendors. A tilt feature for the display is optional; swivel is not available. The keyboards are detached; however, only the multifunction keyboard has the low-profile design now favored by most vendors.

USER REACTION

During the months of November and December 1984, Datapro, in conjunction with *Data Communications* magazine, conducted a mail survey of display terminal, voice/data workstation, and cluster controller users. The 1985 Terminal Users Survey was the result. Responding to this survey were a total of 19 users of Honeywell's VIP7800 family of display terminals. These users reported on their experiences with a total installed base of 762 terminals. Responses included older VIP7800 models as well as some newer members. The ratings given to the VIP7800 terminals by these users are summarized in the following table.

	Excellent	Good	Fair	Poor	WA*
Overall performance	4	15	0	0	3.2
Ease of operation	6	12	1	0	3.3
Display clarity	7	10	2	0	3.2
Keyboard feel & usability	0	13	6	0	2.7
Ergonomics	0	4	11	4	2.0
Hardware reliability	10	7	2	0	3.4
Mfr.'s maintenance service/technical support	4	10	5	0	2.9

*Weighted Average on a scale of 4.0 for Excellent.

The users were also asked whether or not they would recommend their VIP7800 terminals to other users with similar applications. Of the 19 respondents, 12 answered that they would; 4 said that they would not. The remaining users were undecided or did not respond to that question. □

message to be transmitted may be variable in length; either a single character, part of a line, several lines, or an entire screen.

Visual attributes available in 7705R VIP mode include blink and blank; in VIP7814/7815 mode, visual attributes available include low intensity, true underline, blank, blink, reverse video, and reset command. Form attributes available in 7705R VIP mode include alphabetic/numeric only or numeric punctuation only, transmit or nontransmit, and inhibit print or print. Form attributes available in VIP7814/7815 mode include unprotected, digits only, numeric only, alpha only, entry required, fill required, justify right, transmit always, modify transmit, protected, and omit print. Data space in 7705R mode is 24 lines of 80 characters each; in VIP7814/7815 mode, data space is 72 lines of 80 characters each, plus an 80-character system line.

▶ The VIP7826 and VIP7827 terminals can also perform character mode, word processing mode, and data entry functions with the multifunction keyboard and related overlays.

The VIP7800 terminals perform self-diagnostics each time power is switched on.

COMPONENTS

VIP7814/7824 and VIP7816/7826 CRT DISPLAY UNITS: The VIP7814/7824 and VIP7816/7826 terminals are equipped with a 12-inch (diagonal measurement) display screen. All models have a display arrangement of 24 lines of 80 characters each, plus an 80-character system line, for a total display capacity of 2,000 characters. Characters are displayed in green (P31 phosphor) on a dark background, and are formed using a 7-by-8 dot matrix (7-by-9 for lowercase) on a 9-by-12 dot matrix field. A screen saver feature is standard, which shuts off the display after a specified period of nonuse. A total of 139 characters are displayable; these include a 95-character ASCII set, 11 line graphic symbols, and 33 special symbols.

VIP7815/7825 and VIP7817/7827 CRT DISPLAY UNITS: The VIP7815/7825 and VIP7817/7827 terminals are equipped with a 15-inch (diagonal measurement) display screen. Characters on this screen are 56 percent larger than those displayed on the 12-inch screen models. All models have a display arrangement of 24 lines of 80 characters each, plus an 80-character system line, for a total display capacity of 2,000 characters. Characters are displayed in green (P31 phosphor) on a dark background, and are formed using a 7-by-8 dot matrix (7-by-9 for lowercase) on a 9-by-12 dot matrix field. A screen saver feature is standard, which shuts off the display after a specified period of nonuse. A total of 139 characters are displayable; these include a 95-character ASCII set, 11 line graphic symbols, and 33 special symbols.

VIP7814, VIP7815, VIP7816, and VIP7817 KEYBOARDS: These models include a high-profile design keyboard with a standard typewriter-style key layout. The keyboard is detached. A total of 108 keys are included; edit, control, function, and numeric keys are arranged in separate clusters. N-key rollover is standard.

VIP7824, VIP7825, VIP7826, and VIP7827 KEYBOARDS: These models are equipped with a low-profile design, multifunction, ANSI 4.23 keyboard designed for word/data processing. The keyboard is detached, and includes an adjustable tilt mechanism. A total of 113 keys are found on the keyboard. Separate typewriter, cursor control, and numeric keypad groupings are included, with sculptured and color-coded keys. A general-purpose overlay is included; other special-purpose, interchangeable overlays are available. N-key rollover is standard.

PRICING

The Honeywell VIP7800 family terminals are available for purchase or on a 3-year lease. Separate maintenance agreements are available for purchased and leased units. Discounts are available for quantities of 10 or more units.

The VIP7800 terminals are available under Honeywell's Customer-Assisted Maintenance Program (CAMP), for an annual charge. Under CAMP, the user undertakes some of the responsibility for maintaining the terminal. The VIP7800 terminals feature modular construction and built-in diagnostics to facilitate customer maintenance. Honeywell also provides additional assistance over the telephone via the company's Technical Assistance Center (TAC). Equipment that cannot be repaired by the customer will be repaired at Honeywell's nearest repair center. ▶

Honeywell VIP7800 Display Terminals

EQUIPMENT PRICES

		Purchase Price ($)	Monthly Maint. ($)	Annual Maint. ($)	CAMP* ($)
VIP7814	12-inch display w/typewriter keyboard	2,700	25	250	115
VIP7824	12-inch display w/multifunction keyboard	2,700	25	250	115
VIP7815	15-inch display w/typewriter keyboard	3,095	30	295	135
VIP7825	15-inch display w/multifunction keyboard	3,095	30	295	135
VIP7816	12-inch display w/typewriter keyboard	2,800	25	250	115
VIP7826	12-inch display w/multifunction keyboard	2,800	25	250	115
VIP7817	15-inch display w/typewriter keyboard	3,095	30	295	135
VIP7827	15-inch display w/multifunction keyboard	3,095	30	295	135

Computer-Assisted Maintenance Program. ■

Honeywell VIP7800 Family Display Terminals
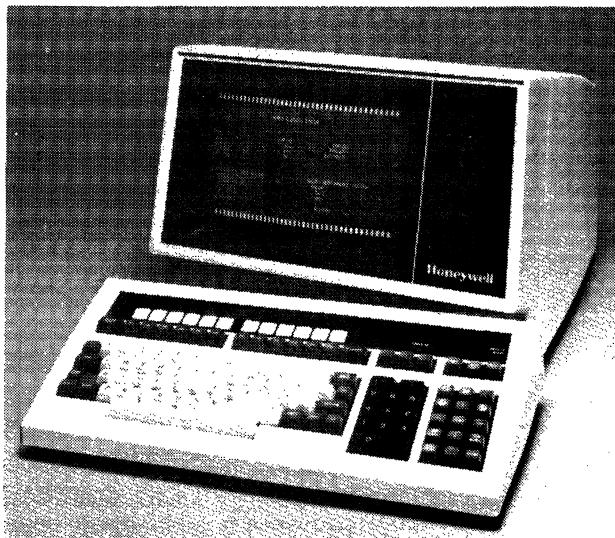
The VIP7814 is the newest member of the VIP7800 family. The terminal is offered under Honeywell's Customer-Assisted Maintenance Program (CAMP), which provides the user with a significant cost reduction over the conventional on-site maintenance plan. The VIP7814's modular Customer Replaceable Units (CRUs) and built-in diagnostic features enable it to be offered under CAMP.

MANAGEMENT SUMMARY

The Honeywell VIP (Visual Information Projection) 7800 family is a series of keyboard-display terminals that offer a choice between synchronous or asynchronous operation. Designed for use with various Honeywell Computer Systems, the family consists currently of five models: the VIP 7801, VIP7802, VIP7804, VIP7805, and the newest member of the family, the VIP7814. All models feature the same 108-key, detachable typewriter-style keyboard; display screens measure either 12 or 15 inches diagonally, depending on the model.

The VIP7801 and VIP7802 are the asynchronous members of the family. These models are capable of character or block transmission at speeds up to 19,200 bits per second. The synchronous members of the family, the VIP7804, VIP7805, and VIP7814, permit block transmission using Honeywell's VIP protocol, and can also transmit at speeds up to 19,200 bps (except the VIP7814, which transmits at a maximum speed of 9600 bps).

The VIP7801, VIP7804, and VIP7814 feature 12-inch diagonal display screens, while the VIP7802 and VIP7805 have 15-inch diagonal display screens. All models can accommodate 24 lines of 80 characters each, with a 25th line for status information bringing the total of displayable character positions to 2000. Characters on the 15-inch screens are 63 percent larger than those displayed on the 12-inch screens; in addition, the 15-inch screen models are equipped with a tilt adjustment. All models can display a ▷

CHARACTERISTICS

VENDOR: Honeywell Information Systems, Inc., 200 Smith Street, Waltham, MA 02154. Telephone (617) 895-6000; In Canada: 155 Gordon Baker Road, Willowdale, Ontario M2H 3N7. Telephone (416) 499-6111.

DATE OF ANNOUNCEMENT: VIP7801/7802/7804/7805—May 1978, VIP7814—November 1982.

DATE OF FIRST DELIVERY: VIP7801—August 1978; VIP7802/7804/7805—October 1978; VIP7814—January 1983.

NUMBER DELIVERED TO DATE: Information not available.

SERVICED BY: Honeywell Information Systems.

MODELS

The VIP7800 family consists of five stand-alone models: the VIP7801 and VIP7802, which are asynchronous conversational or editing terminals; the VIP7804 and VIP7805, which are synchronous conversational or editing terminals; and the VIP7814, a synchronous block mode editing terminal. The VIP7801, VIP7804, and VIP7814 are equipped with a 12-inch diagonal display screen, while the VIP7802 and VIP7805 are equipped with a 15-inch diagonal display screen. All models are configured with the same 108-key typewriter-style keyboard. The keyboard is detachable and can be positioned up to three feet away from the display.

TRANSMISSION SPECIFICATIONS

Transmission is asynchronous for the VIP7801 and VIP7802, and synchronous for the VIP7804, VIP7805, and ▶

Honeywell VIP7800 Family Display Terminals

▷ 95-character ASCII character set, plus 11 line graphic symbols. The keyboard contains a dedicated, 13-key numeric pad, editing and cursor controls, function keys, and an N-key rollover feature to insure data integrity during high speed typing

The VIP7814, introduced in November 1982, is functionally compatible with the VIP7804, while adding some standard functions that are extra-cost options on the other members of the family. These added features include a printer buffer and 72-line vertical scrolling. The VIP7814 is also the only member of the VIP7800 family that is offered under Honeywell's Customer-Assisted Maintenance Program (CAMP). CAMP, an alternative to on-site maintenance, is considerably less expensive than Honeywell's conventional on-site maintenance program. The VIP7814 features modular construction and built-in diagnostics which allow the user to isolate and correct most equipment problems; the user may also telephone Honeywell's Technical Assistance Center for additional consultation.

Applications and operational functions of the VIP7801 and VIP7802 are identical to those of their synchronous counterparts, the VIP7804, VIP7805, and VIP7814, in Text and Form modes. In this way the same applications can use both asynchronous and synchronous terminals. Potential uses for the VIP7800 family terminals include: on-line data entry, inventory management, customer file maintenance, production control and scheduling, sales order processing, inquiry/response, and financial applications.

USER REACTION

In the 1982 edition of Datapro's Terminal Users Survey, conducted in conjunction with *Data Communications* magazine, a total of four responses were received from users of Honeywell's VIP7800 family of display terminals. These users reported on their experiences with a total installed base of 225 terminals. The ratings given to the VIP7800 terminals by these users are summarized in the following table.

	Excellent	Good	Fair	Poor	WA*
Overall performance	2	2	0	0	3.5
Ease of operation	2	2	0	0	3.5
Display clarity	2	2	0	0	3.5
Keyboard feel & usability	2	2	0	0	3.5
Hardware reliability	1	3	0	0	3.3
Maintenance service/ technical support	0	4	0	0	3.0

*Weighted Average on a scale of 4.0 for Excellent.

The users were also asked whether or not they would recommend their terminals to other users with similar applications. The three users who responded to this question all answered that they would.□

► VIP7814. Data is sent in full-duplex mode at switch selectable speeds up to 19,200 bits per second for the 7801, 7802, 7804, and 7805; maximum transmission speed for the 7814 is 9600 bits per second. The 7-bit ASCII code is used. All models are equipped with an RS-232-C interface; in addition, the VIP7801 and VIP7802 are available with a current loop (20mA or 60mA) interface.

DEVICE CONTROL

Terminal control is performed via a microprocessor under the direction of ROM-resident firmware.

Transmission can be performed on a character-by-character basis as each character is keyed or on a block basis where a message or a full or partial page is transmitted. Transmission block sizes can be changed by command from the host. Received and keyed commands initiate the execution of all terminal functions.

Cursor control functions position the cursor up, down, left, right, and home. The cursor is also positioned by tab, back tab, return, line feed, space functions, and coordinate addressing.

Tab functions allow setting and clearing columnar tabs, or Forms mode fields, tabbing forward, and tabbing backward.

Edit functions include character and line insert and delete and full or partial field and page erasure.

Forms mode provides data entry and data validation functions. Field attributes are used to specify unprotected fields, protected or modified fields to be transmitted, must enter or must fill fields, digits only, numerics only, alphabetics only, and right justify. Attributes are stored separately from data and do not displace data in the memory.

In Text mode, a message to be transmitted may be variable in length; either a single character, part of a line, several lines, or an entire screen.

Graphics can be used to create forms, bar charts, or graphs.

An audible alarm is sounded by a received control code.

The auxiliary port can be switched on or off via keyed or received control codes. Also, the keyboard can be locked and unlocked via received control codes pending host computer validation of received terminal data.

The terminal performs self diagnostics each time power is switched on.

A communications Display All mode is provided for debugging. Command codes which are not normally displayed when received by the terminal are displayed, but not executed in this mode.

The status line displayed as the 25th line, displays operation status, error conditions via messages, and cursor row and column position. The status line can also be used to display host messages or operator messages to be separately transmitted to the host. The status line is accessed via Escape code sequences.

COMPONENTS

CRT DISPLAY UNIT: The VIP7801, VIP7804, and VIP7814 are equipped with a 12-inch (diagonal measurement) CRT; the VIP7802 and VIP7805 are equipped with a 15-inch diagonal CRT. All models have a display arrangement of 25 lines of 80 characters each for a total display capacity of 2000 characters. The 25th line is used to display terminal status and host- or operator-created messages. On the VIP7801/7802/7804/7805, characters are displayed in white (P4 phosphor) or green (P31 phosphor) on a dark background, and are formed using a 7-by-9 dot matrix (7-by-10 for lower case) on a 9-by-13 dot matrix field. The VIP7814 utilizes a 7-by-8 character matrix (7-by-9 for lower ▶

Honeywell VIP7800 Family Display Terminals

➤ case) on a 9-by-12 matrix field, and displays characters in green phosphor. Characters displayed on the 15-inch screens are 63 percent larger than those displayed on the 12-inch screens.

A total of 139 displayable characters are accommodated on the VIP7801 and VIP7802. These include a 95-character ASCII set, space, 11 line graphic symbols, and 33 symbols used only in communications Display All mode. The VIP7804 and VIP7805 accommodate a total of 129 displayable characters, including all of those mentioned above, but only 23 special symbols used in the Display All mode. The VIP7814 features 106 displayable characters, including no special symbols.

The cursor can be defined as a blinking or non-blinking underline or block. A variable brightness control is included, and highlighting attributes include dual intensity, inverse (reverse) video, blink, blank, and underline.

KEYBOARD: A 108-key numeric pad, cursor controls, editing controls, and function keys. An N-key rollover feature is included to reduce errors during high-speed typing. A

Data Set Ready indicator and a Power On indicator are provided. The keyboard can be locked or unlocked via a host system command; a keyboard keylock is available as an option.

PRICING

The Honeywell VIP7800 family terminals are available for purchase or on a 3-year lease. Separate maintenance agreements are available for purchased and leased units. Discounts are available for quantities of 10 or more units.

The VIP7814 is also available under Honeywell's Customer-Assisted Maintenance Program (CAMP), for an annual charge of $115. Under CAMP, the user undertakes some of the responsibility for maintaining the terminal. The VIP7814 features modular construction and built-in diagnostics to facilitate customer maintenance. Honeywell also provides additional assistance over the telephone via the company's Technical Assistance Center (TAC). Equipment that cannot be repaired by the customer will be repaired at Honeywell's nearest repair center.

	3-Year Lease	Purchase	Monthly Maint.	Annual Maint.
VIP7801	—	$3,175	$32	$355
VIP7802	—	3,515	36	400
VIP7804	$155	3,365	33	367
VIP7805	173	3,705	39	433
VIP7814	123	2,700	25	250 ∎

Honeywell VIP 7800 Family Display Terminals

The cabinet design pictured above is the same for both the VIP 7802 and VIP 7805, which feature the 15" diagonal display screen. The cabinet design for the 12" screen models, the VIP 7801 and VIP 7804, is slightly different. All four models feature the 108-key typewriter-style keyboard shown here. The keyboard is detachable.

A family of display terminals that offer the user a choice of either synchronous or asynchronous operation.

All models feature a detachable 108-key typewriter style keyboard which includes a dedicated numeric pad, editing and cursor controls, function keys, and an N-key roll-over feature. Both 12" and 15" diagonal display screens are available, which can accommodate 24 lines of 80 characters each, plus a 25th status line. Transmission can be in character or block mode.

Purchase prices for the VIP 7800 family range from $2,885 to $3,360. 3- to 6-year leases are available. Honeywell also offers discounts on quantities of 10 or more.

MANAGEMENT SUMMARY

The Honeywell VIP (Visual Information Projection) 7800 family is a series of keyboard-display terminals that offer a choice between synchronous or asynchronous operation in a conversational or editing terminal. The family consists currently of four models: the VIP 7801, VIP 7802, VIP 7804, and VIP 7805. All models feature the same 108-key, detachable, typewriter-style keyboard, but the user can choose either a 12" or 15" display screen.

The VIP 7801 and VIP 7802 are the asynchronous members of the family. These models are capable of character or block transmission at speeds up to 19,200 bits per second. The synchronous members of the family, the VIP 7804 and VIP 7805, permit block transmission using Honeywell's VIP protocol, and can also transmit at speeds up to 19,200 bps.

The VIP 7801 and VIP 7804 feature 12" diagonal display screens, while the VIP 7802 and VIP 7805 have 15" diagonal display screens. All four models can accommodate 24 lines of 80 characters each, with a 25th line for status information bringing the total of displayable character positions to 2000. Characters on the 15" screens are 63% larger than those displayed on the 12" screens; in addition, the 15" screen models are equipped with a tilt adjustment. Characters on the VIP 7800 family terminals are formed using a 7 x 9 dot matrix (7 x 10 for lower case) in a 9 x 13 matrix field. All models can display a 95-character ASCII character set, plus 11 line graphic symbols. The keyboard contains a dedi- ▷

CHARACTERISTICS

VENDOR: Honeywell Information Systems, Inc., 200 Smith Street, Waltham, MA 02154. Telephone (617) 895-6000.

DATE OF ANNOUNCEMENT: May 1978.

DATE OF FIRST DELIVERY: VIP 7801—August 1978; VIP 7802/7804/7805—October 1978.

NUMBER DELIVERED TO DATE: All models—over 5,000.

SERVICED BY: Honeywell Information Systems.

MODELS

The VIP 7800 family consists of four models: the VIP 7801 and VIP 7802, which are asynchronous conversational or editing terminals, and the VIP 7804 and VIP 7805, which are synchronous conversational or editing terminals. The VIP 7801 and VIP 7804 are equipped with a 12" diagonal display screen, while the VIP 7802 and VIP 7805 are equipped with a 15" diagonal display screen. All four models are configured with the same 108-key typewriter-style keyboard. The keyboard is detachable and can be positioned up to three feet away from the display.

TRANSMISSION SPECIFICATIONS

Transmission is asynchronous for the VIP 7801 and VIP 7802, and synchronous for the VIP 7804 and VIP 7805. Data is sent in full-duplex mode at switch selectable speeds up to 19,200 bits per second. The 7-bit ASCII code is used. All models are equipped with an RS-232-C interface; in addition, the VIP 7801 and VIP 7802 are available with a current loop (20 mA or 60 mA) interface.

DEVICE CONTROL

Terminal control is performed via a microprocessor under the direction of ROM-resident firmware.

Honeywell VIP 7800 Family Display Terminals

cated, 13-key numeric pad, editing and cursor controls, function keys, and an N-key rollover feature to insure data integrity during high speed typing.

Applications and operational functions of the VIP 7801 and VIP 7802 are identical to those of their synchronous counterparts, the VIP 7804 and VIP 7805, in Text and Form modes. In this way the same applications can use both asynchronous and synchronous terminals. Potential uses for the VIP 7800 family terminals include: on-line data entry, inventory management, customer file maintenance, production control and scheduling, sales order processing, inquiry/response, and financial applications.

Datapro was unable to obtain a list of users of the Honeywell VIP 7800 terminals; therefore, no user reaction section appears in this report.□

Transmission can be performed on a character-by-character basis as each character is keyed or on a block basis where a message or a full or partial page is transmitted. Transmission block sizes can be changed by command from the host. Received and keyed commands initiate the execution of all terminal functions.

Cursor control functions position the cursor up, down, left, right, and home. The cursor is also positioned by tab, back tab, return, line feed, space functions, and coordinate addressing.

Tab functions allow setting and clearing columnar tabs, or Forms mode fields, tabbing forward, and tabbing backward.

Edit functions include character and line insert and delete and full or partial field and page erasure.

Forms mode provides data entry and data validation functions. Field attributes are used to specify unprotected fields, protected or modified fields to be transmitted, must enter or must fill fields, digits only, numerics only, alphabetics only, and right justify. Attributes are stored separately from data and do not displace data in the memory.

In Text mode, a message to be transmitted may be variable in length; either a single character, part of a line, several lines, or an entire screen.

Graphics can be used to create forms, bar charts, or graphs.

An audible alarm is sounded by a received control code.

The auxiliary port can be switched on or off via keyed or received control codes. Also, the keyboard can be locked and unlocked via received control codes pending host computer validation of received terminal data.

The terminal performs self diagnostics each time power is switched on.

A communications Display All mode is provided for debugging. Command codes which are not normally displayed when received by the terminal are displayed, but not executed in this mode.

The status line displayed as the 25th line, displays operation status, error conditions via messages, and cursor row and column position. The status line can also be used to display host messages or operator messages to be separately transmitted to the host. The status line is accessed via Escape code sequences.

COMPONENTS

CRT DISPLAY UNIT: The VIP 7801 and VIP 7804 are equipped with a 12" (diagonal measurement) CRT; the VIP 7802 and VIP 7805 are equipped with a 15" diagonal CRT. All four models have a display arrangement of 25 lines of 80 characters each for a total display capacity of 2000 characters. The 25th line is used to display terminal status and host- or operator-created messages. Characters are displayed in white (P4 phosphor) or green (P31 phosphor) on a dark background, and are formed using a 7-by-9 dot matrix (7-by-10 for lower case) on a 9-by-13 dot matrix field. Characters displayed on the 15" screens are 63% larger than those displayed on the 12" screens.

A total of 139 displayable characters are accommodated on the VIP 7801 and VIP 7802. These include a 95-character ASCII set, space, 11 line graphic symbols, and 33 symbols used only in communications Display All mode. The VIP 7804 and VIP 7805 accommodate a total of 129 displayable characters, including all of those mentioned above, but only 23 special symbols used in the Display All mode.

The cursor can be defined as a blinking or non-blinking underline or block. A variable brightness control is included, and highlighting attributes include dual intensity, inverse (reverse) video, blink, blank, and underline.

KEYBOARD: A 108-key, detachable, typewriter-style keyboard including a dedicated 13-key numeric pad, cursor controls, editing controls, and function keys. An N-key rollover feature is included to reduce errors during high-speed typing. A Data Set Ready indicator and a Power On indicator are provided. The keyboard can be locked or unlocked via a host system command; a keyboard keylock is available as an option.

PRICING

The Honeywell VIP 7800 family terminals are available for purchase or on a 3-, 4-, 5-, or 6-year lease. Separate maintenance agreements are available for purchased and leased units. Discounts are available for quantities of 10 or more units.

	3-Year Lease	4-Year Lease	5-Year Lease	6-Year Lease	Purchase	Monthly Maint.
VIP 7801	$136	$114	$102	$ 93	$2,885	$32
VIP 7802	151	127	113	104	3,195	36
VIP 7804	143	121	107	98	3,060	33
VIP 7805	157	134	120	111	3,360	39■

Honeywell VIP 7801 Display Terminal

A general-purpose, Teletype-compatible, microprocessor-based CRT keyboard/display terminal with a host of usable features.

Standard features include formatted operation with programmable validity checks, editing, business graphics, program function keys, numeric keypad, highlighting, selectable transmission rates, an auxiliary serial interface, etc.

Configurations are stand-alone and the terminal can support an external user-supplied printer via the switchable auxiliary serial interface.

Lease prices range from $127 to $82 per month including maintenance under a 3- or 7-year lease, respectively. The VIP 7801 sells for $2,885. Quantity discounts are available.

MANAGEMENT SUMMARY

The VIP 7801 is a smart, asynchronous display terminal supported by vendor-supplied, PROM-resident firmware. Built around the Motorola M6800 microprocessor, the VIP 7801 features single-logic-board construction, Teletype compatibility, a firmware-defined, detachable keyboard, and 12-inch CRT monitor. The VIP 7801 is loaded with features designed to satisfy general business applications including on-line data entry, inquiry response, file maintenance, order entry, etc. It can be used as a local workstation in a system environment or a remote terminal to a host computer. Honeywell is offering the VIP 7801 to users of its Level 6 minicomputers for general business applications.

The terminal is equipped with a switchable auxiliary RS-232C port that can be used for an attached printer. Auxiliary port and display selection can be performed from the keyboard or remotely via host commands to select the display only, auxiliary port only, or both.

Honeywell's VIP 7801 also supports line drawing graphics. A set of 11 graphic symbols is provided for constructing bar charts, forms, or other simple graphic presentations.

The salient features of the VIP 7801 include:

● A 1920-character display capacity.

● 139 displayable ASCII symbols including upper and lower case alphabetics, line drawing symbols, and representative symbols for 33 received ASCII control codes.

CHARACTERISTICS

VENDOR: Honeywell Information Systems, Inc., 300 Concord Road, Bellerica, Massachusetts 01821. Telephone (617) 667-3111.

DATE OF ANNOUNCEMENT: May 1978.

DATE OF FIRST DELIVERY: Limited deliveries began in May 1978; production deliveries will begin in August 1978.

NUMBER DELIVERED TO DATE: 25.

SERVICED BY: Honeywell Information Systems.

TRANSMISSION SPECIFICATIONS

Transmission is asynchronous in the full-duplex mode at switch-selectable rates of 75, 110, 150, 300, 600, 1200, 1800, 2400, 4800, and 9600 bits/second. The 10- or 11-unit, 8-level ASCII code is used. Odd or even parity, mark or space is switchable. The terminal is equipped with an RS-232C or current loop (20 or 60 ma dc) interface.

DEVICE CONTROL

Terminal control is performed via a Motorola M6800 microprocessor under the direction of PROM-resident firmware. The VIP 7801 is equipped with a 16K PROM for microprogram storage and an 8K RAM for storage of tables, attribute codes, and 2K bytes of screen data.

Transmission can be performed on a character-by-character basis as each character is keyed or on a block basis where a message or a full or partial page is transmitted. Received and keyed commands initiate the execution of all terminal functions.

Cursor control functions position the cursor up, down, left, right, and home. The cursor is also positioned by tab, back tab, return, line feed, and space functions.

Tab functions allow setting and clearing tabs, tabbing forward, and tabbing backward.

Honeywell VIP 7801 Display Terminal

▷ ● High-resolution display via a 7-by-10 dot character matrix.

● A 25th line used to display status and separate messages received from the host or created by the operator.

● Typamatic keys.

● A numeric keypad.

● A set of 12 program function keys.

● Individual edit and cursor control keys.

● Character and line insert and delete.

● Self diagnostic testing on power-up.

● A programmable auxiliary interface.

● Highlighting.

● Validity checking.

● 10 operator-selectable asynchronous transmission speeds from 75 to 9600 bps.

● An RS-232C or current loop interface.

Honeywell emphasized its support of on-line data entry with programmable validity checks, highlighting, and field protection. These functions are software implemented via a set of attribute codes, which do not reside in display memory. As many as 16 sets of field attributes per line can be programmed.□

➤ Edit functions include character and line insert and delete and full or partial field and page erasure.

Forms mode provides data entry and data validation functions. Field attributes are used to specify unprotected fields, protected or modified fields to be transmitted, must enter or must fill fields, digits only, numerics only, alphabetics only, and right justify. A set of attribute codes consists of 17 bits (including 7 spare bits for custom applications). Up to 16 sets of field

attributes can be specified per display line. Attributes are stored separately from data and do not displace data in the memory.

Graphics can be used to create forms, bar charts, or graphs.

An audible alarm is sounded by a received control code.

The display interface and auxiliary port can be switched on or off via keyed or received control codes. Also, the keyboard can be locked and unlocked via received control codes pending host computer validation of received terminal data.

The terminal performs self diagnostics each time power is switched on.

The status line displayed as the 25th line, displays operation status, error conditions via messages, and cursor row and column position. The status line can also be used to display host messages or operator messages to be separately transmitted to the host. The status line is accessed via Escape code sequences.

COMPONENTS

DISPLAY UNIT: A 12-inch (diagonal measurement) CRT with a display arrangement of 25 lines of 80 characters each for a total display capacity of 2000 characters. The 25th line is used to display terminal status and host- or operator-created messages. A character set of 106 displayable ASCII symbols, including upper and lower case alphabetics, numerics, specials, and 11 business graphics is displayed in white. A set of 33 received ASCII control codes can also be displayed. Each symbol is formed via a 7-by-9 or 7-by-10 (lower case) dot matrix within a 9-by-13 dot cell to allow for lower case descenders and a true underline. The cursor can be defined as a blinking or nonblinking underline or block via DIP switches on the logic board. Highlighting attributes include dual intensity, reverse video, blink, blank, and underline.

KEYBOARD: A typewriter-style, detachable keyboard with typamatic keys, a numeric pad, and a control key cluster that contains cursor and editing keys. The keyboard also contains a row of 12 program function keys that produce 24 different codes via case shift. The keyboard generates the full 128-character set of ASCII character codes.

PRICING

The Honeywell VIP 7801 is available for lease or purchase. Lease terms are available for 3, 4, 5, 6, or 7 years and include maintenance. A separate maintenance agreement is available for purchased units. Quantity discounts are provided for leased or purchased units. Maintenance for purchased units is priced at $29 per month.

Monthly Charges*

	3-Year Lease	4-Year Lease	5-Year Lease	6-Year Lease	7-Year Lease	Purchase
Model VIP 7801:						
Units 1 to 9	127	107	95	87	82	2,885
Units 10 to 24	117	99	88	81	76	2,597
Units 25 to 74	112	95	85	78	74	2,452
Units 75 and over	107	91	82	76	71	2,308

* Lease prices include a maintenance charge of $29 per month.■