

Sperry Univac Uniscope 100 and 200 Display Terminals

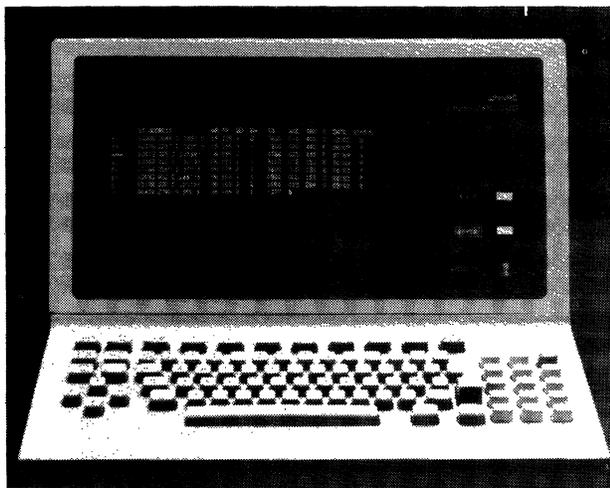
MANAGEMENT SUMMARY

The Uniscope 200 was introduced in September 1974 as a large-screen successor to the earlier Uniscope 100, which was introduced in early 1969 with initial customer deliveries in May 1970. The Uniscope 200 provides a screen capacity of 1920 characters—double that of the Uniscope 100 and comparable to the screen capacity of the IBM 3270. The hard-wired Uniscope 200 is a large-screen version of the Uniscope 100 and is operationally identical and communications compatible with its medium-screen counterpart.

The Uniscope 100 and 200 are general-purpose display terminals designed for use as computer peripheral subsystems in local environments or as communications terminals in remote environments. As a remote terminal, either Uniscope is designed to operate in a polling/addressing environment and respond to UNIVAC line protocol. The units can be used either as stand-alone terminals or in a cluster arrangement where as many as 31 Uniscope terminals share the same communications facility or channel on a UNIVAC host line controller via a UNIVAC-supplied multiplexer.

The features of the Uniscope 100 and 200 can be described and compared as follows:

- **Display capacity**—The Uniscope 200 is available with screen capacities of 1920 or 1536 characters, depending on display format. By comparison, the Uniscope 100 is available with screen capacities of 960 or 1024 characters.



Sperry Univac's Uniscope 100 and Uniscope 200 display terminals have been on the market since the early 1970's, and are still widely used. The Uniscope 200, pictured above, was introduced in 1974 as a large-screen version of the Uniscope 100.

A family of display terminals that can be used in a single-station arrangement or clustered for multiple-station use.

The Uniscope 100 and 200 are offered with any of five basic keyboards, with a protected format option available with four of the keyboard arrangements. The Uniscope 200, with its 1920 display positions and 7-by-9 dot matrix character formation, provides superior display output to that of the Uniscope 100, with its 960 display positions and stroke technique for forming characters. Peripherals for both models include impact or non-impact printers and cassette tape units.

A basic Uniscope 100 with 64-character set, typewriter keyboard, and communications interface rents for \$178 per month on a one-year arrangement, including maintenance.

A Uniscope 200 with 96 character set, 200 cps non-impact printer, full upper/lower case alphanumeric keyboard, full-feature dual tape cassette drives, and communications interface cost \$455 per month on a one-year arrangement, including maintenance.

CHARACTERISTICS

VENDOR: Sperry Univac Division, Sperry Corporation, P.O. Box 500, Blue Bell, Pennsylvania 19422. Telephone (215) 542-4011.

DATE OF ANNOUNCEMENT: Uniscope 100—early 1969; Uniscope 200—September 1974.

DATE OF FIRST DELIVERY: Uniscope 100—May 1970; Uniscope 200—February 1975.

NUMBER DELIVERED TO DATE: Over 25,000.

CONFIGURATION

The Uniscope 100 and 200, both stand-alone display terminals, can be used in a single-station or multiple-station arrangement with up to 31 display units connected to a computer I/O channel or a communications line via one or two multiplexers. The basic multiplexer provides 16 channels. A communications modem is required for operation over a communications facility.

Each display unit in a multiple-station configuration can operate up to 5000 cable-feet from the multiplexer.

REFERENCE EDITION. This is a mature product line, and no significant further developments are anticipated. Because of its importance, coverage is being continued, but no future update is planned.

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- • *Displayed output*—The Uniscope 100 and 200 are each available with a 64- or 96-character set of ASCII symbols. UNIVAC offers any of six additional character sets at no extra cost for the Uniscope 200. The display clarity of the Uniscope 200 is superior to that of the Uniscope 100 as a result of the 200's 7-by-9 dot matrix character formation technique as compared with the 100's stroke technique for forming characters.
- *Editing capability*—The Uniscope 100 and 200 both provide a full editing capability, including character and line insertion and deletion and character, line, and screen erase.
- *Formatting capability*—The Uniscope 100 and 200 are both available with a protected formatting capability for "fill-in-the-blanks" applications. Format descriptor fields are protected from inadvertent operator entry, and the descriptor fields can be made to blink for ease of identification. Only the keyed (variable) data is transmitted when operating in the Protected Format mode, thus providing line economy.
- *Printed output*—The Uniscope 100 and 200 are each available with both impact and non-impact printers, which can be mixed on the same terminal in quantities of up to eight printers. The printers include a one-line buffer and print directly from the display buffer under manual or program control.
- *Auxiliary storage*—The Uniscope 100 and 200 are each available with the Model 610 Tape Cassette System, a dual-drive cassette unit. The Model 610 provides a remote batch capability as well as off-line data and format storage for the Uniscope terminals. The basic unit responds to computer- or operator-initiated commands and features address search and paging functions, which permit a block to be located via its address and the tape to be reversed to the beginning of the previous block, respectively. With options, the cassette unit can perform off-line listing of single or multiple blocks or the entire tape, edit specific blocks, and search for data via a search key that corresponds to data within the initial 16 characters of a block. As many as three dual cassette units can be used on one display unit. The Model 610 Tape Cassette System was introduced in March 1973.
- *Key entry*—Both the Uniscope 100 and 200 are available with any of five basic keyboard arrangements, ranging from numeric only to upper and lower case alphanumeric with numeric pad. Each keyboard provides four program function keys.
- *Communications*—The Uniscope 100 and 200 are each available with transmission speeds ranging from 300 to 9600 bits per second. Modems are available for asynchronous or synchronous transmission.
- *Software support*—The Uniscope 100 and 200 are supported by standard Univac software on Univac 1100 and 90 Series systems, as well as the System 80. ➤

➤ The keyboard is optional; without it, the Uniscope 100 or 200 functions as a display monitor. Several keyboard arrangements are available.

Optional auxiliary devices include the Communications Output Printer, a 30-cps impact printer; the Model 800 Terminal Printer, a 300-cps non-impact printer; the 0786, a 200-cps matrix printer; and the Model 610 Tape Cassette System. The Uniscope 100 or 200 accommodates auxiliary devices via its auxiliary interface channel, which can handle up to 12 device addresses. Each Model 610 requires 4 device addresses, and each printer requires one device address.

TRANSMISSION SPECIFICATIONS

Asynchronous or synchronous in the half-duplex mode at data rates ranging from 300 to 9600 bits/second (1200 char/second). Transmission speed is determined by the internal clock of the specified modem. The transmission code is 8-level ASCII (including parity); asynchronous transmission uses a 10-unit code structure.

The Uniscope 100 and 200 are each equipped with an EIA Standard RS-232C interface and operate over a voice-band communications facility via a modem. When operating in a party-line environment, both single-station displays and multiple-station display configurations can share a common communications line. Transmission compatibility with the IBM 2701 and 2703 line controllers is available.

Character and longitudinal parity accompany each message transmitted and are checked for each received message. A detected parity error inhibits further acceptance of data, and the operator is alerted to the error condition. As a result of this situation, a partial message remains displayed.

The Uniscope 100 and 200 each reply with a negative or positive acknowledge to each received message, and will respond to a retransmission request from the remote computer. The number of automatic retransmissions is determined by the computer program.

Errors that occur during message composition are corrected by the operator via the edit controls.

DEVICE CONTROL

The Uniscope 100 and 200 are designed to operate in a polling and addressing environment where all communications traffic is under control of the stored program in the remote computer.

Data is transmitted to the remote computer when the terminal is interrogated via a polling message following operator initiation of the transmit function. Data entry is not interrupted by an unsolicited computer message; however, the operator is alerted to the pending message and can respond when ready by initiating the Message Writing function. Via program control, the remote computer can override any operator action and display an urgent message without waiting. Data can be transferred to an auxiliary device (printer or cassette unit) via manual initiation (Print key) or automatically under program control.

Cursor direction controls move the cursor in any of four directions (left, right, up, and down) and are designed for either step-by-step or repetitive operation. The cursor can also be returned to home position (initial display position) or to the beginning of the next line (carriage return). Horizontal tabulation allows the cursor to be advanced to the position immediately following a stored horizontal tab character, or to the home position if a horizontal tab character is not located between the cursor and the end of the screen. The cursor and the character located at the cursor position blink so that the cursor position can be easily located. ➤

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➤ USER REACTION

In the 1981 survey of alphanumeric display terminal users, Datapro received responses from five Uniscope terminal users. One user reported on his experiences with a total of 15 Uniscope 100 terminals, while the remaining four users reported on a total of approximately 160 Uniscope 200 terminals. Their ratings are summarized in the following chart:

	Excellent	Good	Fair	Poor	WA*
Overall performance	1	2	0	2	2.4
Ease of operation	1	2	0	2	2.4
Display clarity	1	2	2	0	2.8
Keyboard feel & usability	1	2	0	2	2.4
Hardware reliability	1	2	0	2	2.4
Maintenance service	1	1	3	0	2.6
Technical support	1	1	1	2	2.2

*Weighted Average based on a scale of 4.0 for Excellent.

The low ratings achieved by the Uniscope terminals can generally be attributed to the age of the products.

Three of the users maintain single station configurations, while the remaining two users have both single and clustered station configurations. The most frequent applications for the terminals mentioned by the users were: data entry and interactive inquiry (five users); text editing (three users); program development (three users); and as a system console (two users). □

➤ **Protective Format**, a standard feature, permits a terminal or computer-generated format to be displayed. Format descriptors can be made to blink and are protected from inadvertent entry by the display operator. The cursor moves between non-protected fields by tabbing or automatically when the end of a field is reached.

Edit controls provide insert, delete, and erase functions. Both character and line insert and delete functions are standard. Character insertion or deletion affects all data to the right of the cursor up to the end of the line occupied by the cursor. Line insertion or deletion affects all data to the right of the cursor up to the last displayable position of the screen. When formatted data is displayed, these functions affect only the variable fields; the fixed fields (format descriptors) are protected from inadvertent alteration. The standard erase functions include character, line, and screen erase. Character erase erases the character at the cursor position. Line erase erases all data from the cursor to the end of the line. Screen erase erases all data from, and including, the cursor position to the end of the screen. Space characters are inserted in all erased character positions.

Other standard functions include Cycle, a character repeat feature, Selective Blink, and Roll. Selected fields within a message to be displayed can be made to blink by bracketing the fields with special characters. Block lengths are variable up to screen capacity. The Roll feature is implemented via software using line insert and delete functions. Special function keys can be software-designated to perform the Roll function.

The basic Model 610 Tape Cassette System features paging, which reverses the tape by one block to permit editing recorded data, and Search, a bidirectional address search performed at 120 inches/second. Two Feature Group

options are available for the Model 610; Feature Groups A and B for a Model 610 used with the Uniscope 100, and Feature Groups D and E for a Model 610 used with the Uniscope 200. Feature Groups B and E combine the features of Groups A and D, respectively, with their own. A conversion option, Feature Group C, converts a Model 610 with Feature Group A to a Group B unit.

Feature Groups A and D add Read-After-Write, Protected Format (which allows fixed formats to be recorded for later use), List, and Edit. List permits off-line printing of a single block, multiple blocks, or all recorded data on the cassette. Edit allows the operator to selectively edit single blocks of data or to copy an entire tape on a second cassette.

Feature Groups B and E combine two additional features with those of Groups A or D. ASCII Record Separators can be used as file delimiters, blink characters, and cursor indication sequences. Alphanumeric Identifier Search permits the use of a search key that corresponds to data within the initial 16 characters of a tape block. In addition, Feature Group E permits copying to an address.

COMPONENTS

CRT DISPLAY: The display characteristics of the two models are presented in the following table.

Uniscope Model	Viewing Area		Display Format		Screen Capacity
	Width, inches	Height, inches	Char/Line	Lines/Display	Chars.
100	10	5	80	12	960
100	10	5	64	16	1024
200	10	7	64	24	1536
200	10	7	80	24	1920

Both models display a standard character set of 64 symbols, including upper case alphabets, numerics, and special symbols. As an option, both models are available with a 96-character set of displayable symbols that includes lower case alphabets and 6 additional special symbols. Data is displayed in green. Characters are formed via the stroke technique on the Uniscope 100 and via a 7-by-9 dot matrix on the Uniscope 200.

KEYBOARD: Any of nine keyboards can be specified. These include four key arrangements with or without the Protected Format feature and one key arrangement, numeric-only, without the feature. The key arrangements are: numeric-only, upper case alphanumeric, upper and lower case alphanumeric, upper case alphanumeric/numeric, and upper and lower case alphanumeric, upper case and upper and lower case alphanumeric/numeric. Four Program Function keys are standard with all key arrangements. The combined numeric keygroup includes 15 keys arranged in an adding machine format and is located at the right of the alphanumeric keygroup. The keys include three keys for the Protected Format feature. Cursor, edit, and other functions are implemented via up to 24 additional keys.

PRINTERS: Three printers are available for the Uniscope 100 or 200: the non-impact Model 800 Terminal Printer, the impact-type Communications Output Printer, and the 0786 serial impact printer.

Model 800 provides 80 print positions and prints up to 300 char/second using an electrostatic technique. The printer provides the full upper and lower case ASCII character set and forms each character via a 7-by-9 dot matrix. Horizontal pitch is 10 char/inch, and vertical spacing is 6 lines/inch. ➤

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► The Communications Output Printer is the same printer used in the UNIVAC DCT 500. Printing is performed at 30 char/second using a 63-symbol print set. The print set is specified by the user from available sets that include ASCII, EBCDIC, A/H (UNIVAC business or scientific), or ECMS/ISO (international). The unit prints 132 columns per line.

Horizontal pitch is 10 char/inch, and vertical spacing is 6 lines/inch. The printer accommodates six-part continuous forms (or three-part carbonless forms) from 3 7/8 inches to 14 7/8 inches wide. Forms are fed at 30 lines/second (manual feed); skipping speed is 12 inches or 72 lines per second.

The 0786 Printer is an impact matrix printer and is available in unidirectional or bidirectional models. The printer is equipped with 132 print positions and is rated at 200 characters/second, which translates to 37 lines/minute for the unidirectional model or 75 lines/minute for the bidirectional version. Several character sets are available including 64- or 96-character ASCII, as well as European and other national sets. The 96-character set includes upper and lower case symbols. Each character is formed via a 7-by-7 dot matrix. Horizontal and vertical spacing is 10 character/inch and 6 or 8 lines/inch, respectively. The printer accommodates continuous, 6-part forms from 1.6 to 15.3 inches wide and from 3 to 17 inches long. Format control is implemented via a two-channel tape loop. The printer includes a two-position stacker and stand.

CASSETTE TAPE INPUT/OUTPUT: The Model 610 Tape Cassette System features two independent cassette tape recorders with shared electronics and a common interface to the auxiliary interface channel of the Uniscope unit. Each

drive accommodates a Philips-type cassette containing 300 feet of 0.15-inch-wide magnetic tape. Phase-encoded data is recorded serially at 800 bits/inch. On-line data storage is rated at 700,000 characters per cassette (1.4 million characters per system). Tape speeds are: read/write, 6 inches/second; search, 6 or 120 inches/second; rewind, 120 inches/second.

PRICING

The Uniscope 100 and 200 are available for purchase, one-year rental, or five-year lease. A separate maintenance contract is offered for rented, leased, or purchased equipment.

Maintenance is covered under a contract that defines the Principal Period of Maintenance (PPM) as between the hours of 7AM and 6PM, Monday through Friday. An additional charge of 10 percent of the total prime-shift maintenance charges for the equipment is applied to maintenance contracted outside the Univac-defined PPM. Univac provides maintenance for emergency service calls outside the contracted PPM at a charge of \$73 per man hour for the initial hour (or less) and for each additional hour. Each additional one-quarter hour after the initial full hour of service is charged at \$18 (computed to the nearest 1/4 hour).

Customer locations beyond 15 miles from the service center are charged for travel time.

Except for field installations of features on existing customer equipment, no installation charges are applied.

		Monthly Rental*	5-Year Lease*	Purchase	Monthly Maint.
3536-89	Uniscope 100 Terminal (any display arrangement; 64 displayable symbols)	\$146	\$122	\$3,175	\$65
F1241-04	Generator Expansion (expands U-100 64-char. set to 96 chars.)	17	12	680	0
3542-99	Uniscope 200 Terminal (any display arrangement; 64 displayable symbols)	177	143	4,252	65
F2044-01	Generator Expansion (expands U-200 64-char. set to 96 chars.)	17	12	701	0
Keyboards					
F1844-00	Numeric Keyboard	9	7	270	2
F1844-01	Typewriter Keyboard, upper case only	15	10	300	2
F1844-02	Typewriter Keyboard, upper/lower case (requires Generator Expansion)	15	10	300	2
F1844-03	Alpha/Numeric Keyboard, combines upper case typewriter keyboard (F1844-01) and numeric keyboard (F1844-00)	22	16	490	2
F1844-04	Alpha/Numeric Keyboard, combines upper/lower case typewriter keyboard (F1844-02) and numeric keyboard (F1844-00); requires Generator Expansion	22	16	490	2
F1844-05	Typewriter Keyboard, upper case only, with protected format selection	15	10	300	2
F1844-06	Typewriter Keyboard, upper/lower case (requires Generator Expansion), with protected format selection	15	10	300	2
F1844-07	Alpha/Numeric Keyboard; combines upper case typewriter keyboard (F1844-01) and numeric keyboard (F1844-00), with protected format selection	22	16	490	2
F1844-08	Alpha/Numeric Keyboard, combines upper/lower case typewriter keyboard (F1844-02) and numeric keyboard (F1844-00); requires Generator Expansion; with protected format selection	22	16	490	2
F1466-00	Special Function Keypad B	4	3	108	1

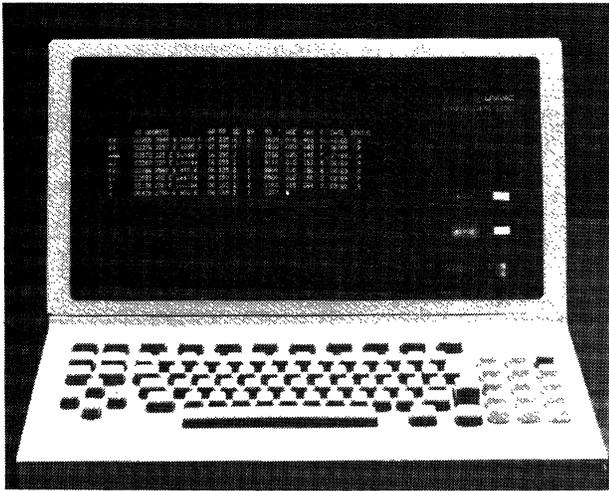
*Includes prime-shift maintenance.

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Display Terminals

		<u>Monthly Rental*</u>	<u>5-Year Lease*</u>	<u>Purchase</u>	<u>Monthly Maint.</u>
Interfaces					
F1245-00	Direct Interface (provides direct connection to a UNIVAC CTMC or DCS without a modem)	\$ 17	\$ 13	\$ 470	\$ 5
F1245-01	Synchronous Interface (interfaces with Bell System 201A, 201B, or 203 or equivalent modems)	17	13	470	5
F1245-02	Asynchronous Interface (interfaces with Bell System 103A, 103F, 202C, or 202D or equivalent modems or terminal multiplexer 8538)	17	13	470	5
F1245-13	IBM-Compatible synchronous (supports ASCII communication with IBM computers equipped with an IBM 2701 and SDA Type II or an IBM 2703 and SB Type I)	17	13	470	5
F1245-14	IBM-Compatible Asynchronous (supports ASCII communication with IBM computers equipped with an IBM 2701 and TA III)	17	13	470	5
F1247-00/-01	Auxiliary interface (a parallel channel for auxiliary devices such as printers and cassette tape drives)	11	8	327	0
Multiplexers					
8609-00	Display Terminal Multiplexer, 16 channels (requires F3780-00 or -01 Line Driver)	53	40	1,782	9
F3780-00	Line Driver (for use with RS-232-C lines connected to 8609-00 up to a maximum length of 500 ft.)	12	9	356	0
F3780-01	Line Driver (for use with RS-232-C lines connected to 8609-00 up to a maximum length of 5,000 ft.)	13	10	376	0
Printers					
0786-00	Receive Only Unidirectional Matrix Printer in separate cabinet; includes stand and requires F2656-01 Interface feature; choice of 12 character sets including 64- or 96-character ASCII or 96-character European character sets (for 120/100 volt operation)	171	146	4,540	38
0786-02	Receive Only Bidirectional Matrix Printer in separate cabinet; includes stand and full line buffer and requires F2656-01 Interface Feature; choice of 12 character sets including 64- or 96-character ASCII or 96-character European character sets (for 120/100-volt operation)	241	212	6,594	64
F2656-01	Terminal Interface (for 0786 printers; requires F1247)	11	9	422	0
F2696-00	Speed Upgrade; provides bidirectional printing and full line buffer for 0786-00-04 printers	69	65	1,710	25
F2648-00	Document parting bar; permits removal of single forms without removing paper from tractors	4	3	114	1
F2646-00	6/8 LPI Feature; switch selection of 6 or 8 lines per vertical inch	5	4	152	1
F2647-00	Vertical Form Unit; provides vertical format control via a 2-channel tape loop; 6 lpi spacing only	7	6	228	1
F2647-02	Vertical Form Unit; provides vertical format control via a 2-channel tape loop; 8 lpi spacing only; requires F2646-00)	7	6	228	1
F2647-02	Vertical Form Unit; provides vertical format control via a 2-channel tape loop; 8 lpi spacing only; requires F2646-00)	121	98	2,596	39
8541-06	Communications Output Printer (choice of three printwheels; ASCII, EBCDIC, or Univac A/H; requires the Auxiliary Interface)	7	6	195	1
F1780-00	Variable Forms Length	92	73	2,320	28
0774-96	Model 800 Terminal Printer (requires the Auxiliary Interface)	—	—	18	—
2816050	Spare Stylus				
Cassette Drive					
0866-99	Model 610 Dual Cassette Unit (a free-standing unit with two cassette drives), requires either F1247-00 or F1247-01 auxiliary interface	105	81	1,947	40
0866-97	Model 610 Dual Cassette Unit (a free-standing unit with two cassette drives), requires F1247-01 auxiliary interface	105	81	1,947	40
F1666-99	Feature Group A (for 0866-99)	8	6	312	0
F1666-98	Feature Group B (for 0866-99)	17	12	584	0
F1666-97	Feature Group C (for 0866-99)	7	5	272	0
F2142-00	Feature Group D (for 0866-97)	16	12	577	0
F2142-01	Feature Group E (for 0866-97)	27	21	906	0

*Includes prime-shift maintenance.■

UNIVAC Uniscope 100 and 200 Alphanumeric Display Terminals



MANAGEMENT SUMMARY

The Uniscope 200 was introduced in September 1974 as a large-screen successor to the earlier Uniscope 100, which was introduced in early 1969 with initial customer deliveries in May 1970. The Uniscope 200 provides a screen capacity of 1920 characters—double that of the Uniscope 100 and comparable to the screen capacity of the IBM 3270. The hard-wired Uniscope 200 is a large-screen version of the Uniscope 100 and is operationally identical and communications compatible with its medium-screen counterpart.

The Uniscope 100 and 200 are general-purpose display terminals designed for use as computer peripheral subsystems in local environments or as communications terminals in remote environments. As a remote terminal, either Uniscope is designed to operate in a polling/addressing environment and respond to UNIVAC line protocol. The units can be used either as stand-alone terminals or in a cluster arrangement where as many as 31 Uniscope terminals share the same communications facility or channel on a UNIVAC CTMC or DCS line controller via a UNIVAC-supplied multiplexer.

The salient features of the Uniscope 100 and 200 can be described and compared as follows:

- *Display capacity*—The Uniscope 200 is available with screen capacities of 1920 or 1536 characters, depending on display format. By comparison, the Uniscope 100 is available with screen capacities of 960 or 1024 characters.
- *Displayed output*—The Uniscope 100 and 200 are each available with a 64- or 96-character set of ASCII symbols. UNIVAC offers any of six additional character sets at no extra cost for the Uniscope 200. The ➤

A family of display terminals that can be used in a single-station arrangement or clustered for multiple-station use.

The Uniscope 100 and 200 are offered with any of five basic keyboards, with a protected format option available with four of the keyboard arrangements. The Uniscope 200, with its 1920 display positions and 7-by-9 dot matrix character formation, provides superior display output to that of the Uniscope 100, with its 960 display positions and stroke technique for forming characters. Peripherals for both models include impact or non-impact printers and cassette tape units.

A basic Uniscope 100 with 64-character set, typewriter keyboard, and communications interface rents for \$158 per month on a one-year arrangement, including maintenance.

A full blown Uniscope 200 with 96 character set, 200 cps non-impact printer, full upper/lower case alphanumeric keyboard, full-feature dual tape cassette drives, and communications interface cost \$406 per month on a one-year arrangement, including maintenance.

CHARACTERISTICS

VENDOR: UNIVAC Division, Sperry Rand Corporation, P.O. Box 500, Blue Bell, Pennsylvania 19422. Telephone (215) 542-4011.

DATE OF ANNOUNCEMENT: Uniscope 100—early 1969; Uniscope 200—September 1974.

DATE OF FIRST DELIVERY: Uniscope 100—May 1970; Uniscope 200—February 1975.

NUMBER DELIVERED TO DATE: Estimated 25,000 terminals, including Uniscope 100 and 200 models.

CONFIGURATION

The Uniscope 100 and 200, both stand-alone display terminals, can be used in a single-station or multiple-station arrangement with up to 31 display units connected to a computer I/O channel or a communications line via one or two multiplexers. The basic multiplexer provides 8 channels and can be expanded up to 16 channels in increments of four channels. A communications modem is required for operation over a communications facility.

Each display unit in a multiple-station configuration can operate up to 5000 cable-feet from the multiplexer.

The keyboard is optional; without it, the Uniscope 100 or 200 functions as a display monitor. Several keyboard arrangements are available. ➤

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- display clarity of the Uniscope 200 is superior to that of the Uniscope 100 as a result of the 200's 7-by-9 dot matrix character formation technique as compared with the 100's stroke technique for forming characters.
- *Editing capability*—The Uniscope 100 and 200 both provide a full editing capability, including character and line insertion and deletion and character, line, and screen erase.
 - *Formatting capability*—The Uniscope 100 and 200 are both available with a protected formatting capability for "fill-in-the-blanks" applications. Format descriptor fields are protected from inadvertent operator entry, and the descriptor fields can be made to blink for ease of identification. Only the keyed (variable) data is transmitted when operating in the Protected Format mode, thus providing line economy.
 - *Printed output*—The Uniscope 100 and 200 are each available with both impact and non-impact printers, which can be mixed on the same terminal in quantities of up to eight printers. The printers include a one-line buffer and print directly from the display buffer under manual or program control.
 - *Auxiliary storage*—The Uniscope 100 and 200 are each available with the Model 610 Tape Cassette System, a dual-drive cassette unit. The Model 610 provides a remote batch capability as well as off-line data and format storage for the Uniscope terminals. The basic unit responds to computer- or operator-initiated commands and features address search and paging functions, which permit a block to be located via its address and the tape to be reversed to the beginning of the previous block, respectively. With options, the cassette unit can perform off-line listing of single or multiple blocks or the entire tape, edit specific blocks, and search for data via a search key that corresponds to data within the initial 16 characters of a block. As many as three dual cassette units can be used on one display unit. The Model 610 Tape Cassette System was introduced in March 1973.
 - *Key entry*—Both the Uniscope 100 and 200 are available with any of five basic keyboard arrangements, ranging from numeric only to upper and lower case alphanumeric with numeric pad. Each keyboard provides four program function keys.
 - *Communications*—The Uniscope 100 and 200 are each available with transmission speeds ranging from 300 to 9600 bits per second. Modems are available for asynchronous or synchronous transmission.
 - *Software support*—The Uniscope 100 and 200 are supported by standard Univac software on Univac 1100 and 90 Series systems. ➤

- **Optional auxiliary devices include the Communications Output Printer, a 30-cps impact printer; the Model 800 Terminal Printer, a 300-cps non-impact printer; and the Model 610 Tape Cassette System. The Uniscope 100 or 200 accommodates auxiliary devices via its auxiliary interface channel, which can handle up to 12 device addresses. Each Model 610 requires 4 device addresses, and each printer requires one device address.**

TRANSMISSION SPECIFICATIONS

Asynchronous or synchronous in the half-duplex mode at data rates ranging from 300 to 9600 bits/second (1200 char/second). Transmission speed is determined by the internal clock of the specified modem. The transmission code is 8-level ASCII (including parity); asynchronous transmission uses a 10-unit code structure.

The Uniscope 100 and 200 are each equipped with an EIA Standard RS-232C interface and operate over a voice-band communications facility via a modem. Modems are available from UNIVAC that provide compatibility with the Bell System 201 or 202 Data Sets. When operating in a party-line environment, both single-station displays and multiple-station display configurations can share a common communications line. Transmission compatibility with the IBM 2701 and 2703 line controllers is available.

Character and longitudinal parity accompany each message transmitted and are checked for each received message. A detected parity error inhibits further acceptance of data, and the operator is alerted to the error condition. As a result of this situation, a partial message remains displayed.

The Uniscope 100 and 200 each reply with a negative or positive acknowledge to each received message, and will respond to a retransmission request from the remote computer. The number of automatic retransmissions is determined by the computer program.

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DEVICE CONTROL

The Uniscope 100 and 200 are designed to operate in a polling and addressing environment where all communications traffic is under control of the stored program in the remote computer.

Data is transmitted to the remote computer when the terminal is interrogated via a polling message following operator initiation of the transmit function. Data entry is not interrupted by an unsolicited computer message; however, the operator is alerted to the pending message and can respond when ready by initiating the Message Writing function. Via program control, the remote computer can override any operator action and display an urgent message without waiting. Data can be transferred to an auxiliary device (printer or cassette unit) via manual initiation (Print key) or automatically under program control.

Cursor direction controls move the cursor in any of four directions (left, right, up, and down) and are designed for either step-by-step or repetitive operation. The cursor can also be returned to home position (initial display position) or to the beginning of the next line (carriage return). Horizontal tabulation allows the cursor to be advanced to the position immediately following a stored horizontal tab character, or to the home position if a horizontal tab character is not located between the cursor and the end of the screen. The cursor and the character located at the cursor position blink so that the cursor position can be easily located. ➤

UNIVAC Uniscope 100 and 200 Alphanumeric Display Terminals

➤ USER REACTION

In Datapro's 1979 survey of alphanumeric display terminal users, 13 Univac users (including 5 Uniscope 100 users and 8 Uniscope 200 users) reported on their experience with 413 Uniscope 100 terminals and 159 Uniscope 200 terminals. Their ratings are presented below.

	Excellent	Good	Fair	Poor	WA*
Overall performance	1	11	1	0	3.0
Ease of operation	5	8	0	0	3.4
Display clarity	4	8	1	0	3.2
Keyboard feel and usability	2	9	2	0	3.0
Hardware reliability	4	5	3	1	2.9
Maintenance service	4	6	3	0	3.1
Software & technical support	2	3	6	1	2.3

*Weighted Average on a scale of 4.0 for Excellent.

These ratings were down slightly from last year's survey, though ease of operation was up to 3.4 from 3.2. Also, software & technical support was notably down from 2.8 to 2.3.

While site restriction was rated equally as a strength and weakness, the lack of programmability was considered to be a weakness by many. Cost and physical size were also considered to be weaknesses rather than strengths.

In response to questions on display usage, the "fill in the blanks" formatted data entry was the most often mentioned for the Uniscope 100 and 200 terminals. While free-form (text) data entry was noted for both models, four times as many Uniscope 100 users cited structured data entry than did Uniscope 200 users.

The Uniscope 100 was most often configured as remote single station. The use of the Uniscope 200 was divided between remote single stations and remote clustered stations. □

➤ **Protective Format**, a standard feature, permits a terminal or computer-generated format to be displayed. Format descriptors can be made to blink and are protected from inadvertent entry by the display operator. The cursor moves between non-protected fields by tabbing or automatically when the end of a field is reached.

Edit controls provide insert, delete, and erase functions. Both character and line insert and delete functions are standard. Character insertion or deletion functions are standard. Character insertion or deletion affects all data to the right of the cursor up to the end of the line occupied by the cursor. Line insertion or deletion affects all data to the right of the cursor up to the last displayable position of the screen. When formatted data is displayed, these functions affect only the variable fields; the fixed fields (format descriptors) are protected from inadvertent alteration. The standard erase functions include character, line, and screen erase. Character erase erases the character at the cursor position. Line erase erases all data from the cursor to the end of the line. Screen erase erases all data from, and including, the cursor position to the end of the screen. Space characters are inserted in all erased character positions.

Other standard functions include Cycle, a character repeat feature, Selective Blink, and Roll. Selected fields within a message to be displayed can be made to blink by bracketing the fields with special characters. Block lengths are variable up to screen capacity. The Roll feature is implemented via software using line insert and delete functions. Special function keys can be software-designated to perform the Roll function.

The basic Model 610 Tape Cassette System features paging, which reverses the tape by one block to permit editing recorded data, and Search, a bidirectional address search performed at 120 inches/second. Two Feature Group options are available for the Model 610; Feature Groups A and B for a Model 610 used with the Uniscope 100, and Feature Groups D and E for a Model 610 used with the Uniscope 200. Feature Groups B and E combine the features of Groups A and D, respectively, with their own. A conversion option, Feature Group C, converts a Model 610 with Feature Group A to a Group B unit.

Feature Groups A and D add Read-After-Write, Protected Format (which allows fixed formats to be recorded for later use), List, and Edit. List permits off-line printing of a single block, multiple blocks, or all recorded data on the cassette. Edit allows the operator to selectively edit single blocks of data or to copy an entire tape on a second cassette.

Feature Groups B and E combine two additional features with those of Groups A or D. ASCII Record Separators can be used as file delimiters, blink characters, and cursor indication sequences. Alphanumeric Identifier Search permits the use of a search key that corresponds to data within the initial 16 characters of a tape block. In addition, Feature Group E permits copying to an address.

COMPONENTS

CRT DISPLAY: The display characteristics of the two models are presented in the following table.

Uniscope Model	Viewing Area		Display Format		Screen Capacity, Chars.
	Width, inches	Height, inches	Char/Line	Lines/Display	
100	10	5	80	12	960
100	10	5	64	16	1024
200	10	7	64	24	1536
200	10	7	80	24	1920

Both models display a standard character set of 64 symbols, including upper case alphabetic, numerics, and special symbols. As an option, both models are available with a 96-character set of displayable symbols that includes lower case alphabetic and 6 additional special symbols. Data is displayed in green. Characters are formed via the stroke technique on the Uniscope 100 and via a 7-by-9 dot matrix on the Uniscope 200.

KEYBOARD: Any of nine keyboards can be specified. These include four key arrangements with or without the Protected Format feature and one key arrangement, numeric-only, without the feature. The key arrangements are: numeric-only, upper case alphanumeric, upper and lower case alphanumeric, upper case alphanumeric/numeric, and upper and lower case alphanumeric, upper case and upper and lower case alphanumeric/numeric. Four Program Function keys are standard with all key arrangements. The combined numeric keygroup includes 15 keys arranged in an adding machine format and is located at the right of the alphanumeric keygroup. The keys include three keys for the Protected Format feature. Cursor, edit, and other functions are implemented via up to 24 additional keys. ➤

UNIVAC Uniscope 100 and 200 Alphanumeric Display Terminals

► **PRINTED OUTPUT:** Three printers are available for the Uniscope 100 or 200: the non-impact Model 800 Terminal Printer, the impact-type Communications Output Printer, and the 0786 serial impact printer.

Model 800 provides 80 print positions and prints up to 300 char/second using an electrostatic technique. The printer provides the full upper and lower case ASCII character set and forms each character via a 7-by-9 dot matrix. Horizontal pitch is 10 char/inch, and vertical spacing is 6 lines/inch.

The Communications Output Printer is the same printer used in the UNIVAC DCT 500. Printing is performed at 30 char/second using a 63-symbol print set. The print set is specified by the user from available sets that include ASCII, EBCDIC, A/H (UNIVAC business or scientific), or ECMS/ISO (international). The unit prints 132 columns per line.

Horizontal pitch is 10 char/inch, and vertical spacing is 6 lines/inch. The printer accommodates six-part continuous forms (or three-part carbonless forms) from 3 7/8 inches to 14 7/8 inches wide. Forms are fed at 30 lines/second (manual feed); skipping speed is 12 inches or 72 lines per second.

The 0786 Printer is an impact matrix printer and is available in unidirectional or bidirectional models. The printer is equipped with 132 print positions and is rated at 200 characters/second, which translates to 37 lines/minute for the unidirectional model or 75 lines/minute for the bidirectional version. Several character sets are available including 64- or 96-character ASCII, as well as European and other national sets. The 96-character set includes upper and lower case symbols. Each character is formed via a 7-by-7 dot matrix. Horizontal and vertical spacing is 10 character/inch and 6 or 8 lines/inch, respectively. The printer accommodates continuous, 6-part forms from 1.6 to 15.3 inches wide and from 3 to 17 inches long. Format

control is implemented via a two-channel tape loop. The printer includes a two-position stacker and stand.

CASSETTE TAPE INPUT/OUTPUT: The Model 610 Tape Cassette System features two independent cassette tape recorders with shared electronics and a common interface to the auxiliary interface channel of the Uniscope unit. Each drive accommodates a Philips-type cassette containing 300 feet of 0.15-inch-wide magnetic tape. Phase-encoded data is recorded serially at 800 bits/inch. On-line data storage is rated at 700,000 characters per cassette (1.4 million characters per system). Tape speeds are: read/write, 6 inches/second; search, 6 or 120 inches/second; rewind, 120 inches/second.

PRICING

The Uniscope 100 and 200 are available for purchase, one-year rental, or five-year lease. A separate maintenance contract is offered for rented, leased, or purchased equipment.

Maintenance is covered under a contract that defines the Principal Period of Maintenance (PPM) as between the hours of 7AM and 6PM, Monday through Friday. An additional charge of 10 percent of the total prime-shift maintenance charges for the equipment is applied to maintenance contracted outside the Univac-defined PPM. Univac provides maintenance for emergency service calls outside the contracted PPM at a charge of \$44 per man hour for the initial hour (or less) and for each additional hour. Each additional one-quarter hour after the initial full hour of service is charged at \$11 (computed to the nearest 1/4 hour).

Customer locations beyond 15 miles from the service center are charged for travel time is charged for \$44 per hour for maintenance performed outside the PPM.

Except for field installations of features on existing customer equipment, no installation charges are applied.

		<u>Monthly Rental*</u>	<u>5-Year Lease*</u>	<u>Purchase</u>	<u>Monthly Maint.</u>
3536-89	Uniscope 100 Terminal (any display arrangement; 64 displayable symbols)	\$128	\$105	\$3,175	\$51
F1241-04	Generator Expansion (expands U-100 64-char. set to 96 chars.)	16	11	680	0
3542-99	Uniscope 200 Terminal (any display arrangement; 64 displayable symbols)	157	125	3,850	51
F2044-01	Generator Expansion (expands U-200 64-char. set to 96 chars.)	16	11	701	0
Keyboards					
F1844-00	Numeric Keyboard	9	7	270	2
F1844-01	Typewriter Keyboard, upper case only	14	10	300	2
F1844-02	Typewriter Keyboard, upper/lower case (requires Generator Expansion)	14	10	300	2
F1844-03	Alpha/Numeric Keyboard, combines upper case typewriter keyboard (F1844-01) and numeric keyboard (F1844-00)	21	15	490	2
F1844-04	Alpha/Numeric Keyboard, combines upper/lower case typewriter keyboard (F1844-02) and numeric keyboard (F1844-00); requires Generator Expansion	21	15	490	2
F1844-05	Typewriter Keyboard, upper case only, with protected format selection	14	10	300	2
F1844-06	Typewriter Keyboard, upper/lower case (requires Generator Expansion), with protected format selection	14	10	300	2
F1844-07	Alpha/Numeric Keyboard; combines upper case typewriter keyboard (F1844-01) and numeric keyboard (F1844-00), with protected format selection	21	15	490	2
F1844-08	Alpha/Numeric Keyboard, combines upper/lower case typewriter keyboard (F1844-02) and numeric keyboard (F1844-00); requires Generator Expansion; with protected format selection	21	15	490	2
F1466-00	Special Function Keyset B	4	3	108	1

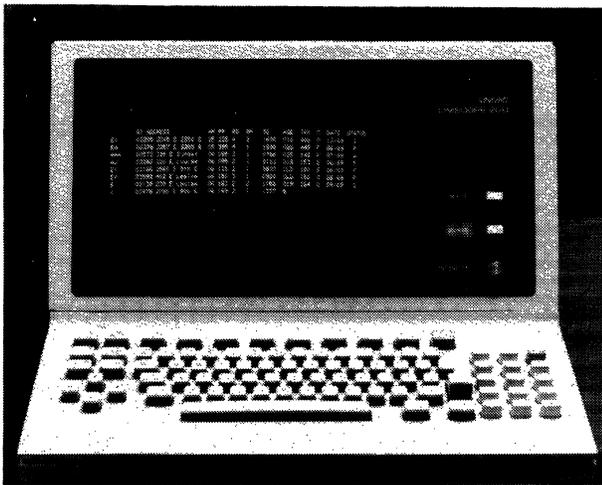
*Includes prime-shift maintenance.

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		<u>Monthly Rental*</u>	<u>5-Year Lease*</u>	<u>Purchase</u>	<u>Monthly Maint.</u>
Interfaces					
F1245-00	Direct Interface (provides direct connection to a UNIVAC CTMC or DCS without a modem)	16	13	470	5
F1245-01	Synchronous Interface (interfaces with Bell System 201A, 201B, or 203 or equivalent modems)	16	13	470	5
F1245-02	Asynchronous Interface (interfaces with Bell System 103A, 103F, 202C, or 202D or equivalent modems or terminal multiplexer 8538)	16	13	470	5
F1245-13	IBM-Compatible synchronous (supports ASCII communication with IBM computers equipped with an IBM 2701 and SDA Type II or an IBM 2703 and SB Type I)	16	13	470	5
F1245-14	IBM-Compatible Asynchronous (supports ASCII communication with IBM computers equipped with an IBM 2701 and TA III)	16	13	470	5
F1247-00/-01	Auxiliary interface (a parallel channel for auxiliary devices such as printers and cassette tape drives)	10	7	310	0
Multiplexers					
8538-99	Display Terminal Multiplexer, 8 channels	56	44	1,781	6
F1264-00	Multiplexer Extension (expands display multiplexer by 4 channels; maximum 2 expansion units for a total of 16 channels)	12	9	356	0
8538-97	Display Terminal Multiplexer, 8 channels (for use with Univac integral modems F1970-00 or F1970-01)	54	42	1,680	6
F1266-00	Sync./Asynch. Display Multiplexer Interface (provides an RS-232C interface for connection to a Bell System 103A, 103F, 201A, 202C, 202D, or equivalent modem or to cascade Display Multiplexers)	12	9	356	0
F1266-02	Direct Display Multiplexer Interface (provides a synchronous interface with clock for direct connection to a Univac CTMC or DCS without a modem)	11	8	320	0
Printers					
0786-00	Receive Only Unidirectional Matrix Printer in separate cabinet; includes stand and requires F2656-01 Interface feature; choice of 12 character sets including 64- or 96-character ASCII or 96-character European character sets (for 120/100 volt operation)	152	134	4,540	32
0786-02	Receive Only Bidirectional Matrix Printer in separate cabinet; includes stand and full line buffer and requires F2656-01 Interface Feature; choice of 12 character sets including 64- or 96-character ASCII or 96-character European character sets (for 120/100-volt operation)	210	194	6,250	54
F2656-01	Terminal Interface (for 0786 printers; requires F1247)	10	8	400	0
F2696-00	Speed Upgrade; provides bidirectional printing and full line buffer for 0786-00-04 printers	60	58	1,710	20
F2648-00	Document parting bar; permits removal of single forms without removing paper from tractors	4	3	114	1
F2646-00	6/8 LPI Feature; switch selection of 6 or 8 lines per vertical inch	5	4	152	1
F2647-00	Vertical Form Unit; provides vertical format control via a 2-channel tape loop; 6 lpi spacing only	7	6	228	1
F2647-02	Vertical Form Unit; provides vertical format control via a 2-channel tape loop; 8 lpi spacing only; requires F2646-00)	7	6	228	1
8541-06	Communications Output Printer (choice of three printwheels; ASCII, EBCCDIC, or Univac A/H; requires the Auxiliary Interface)	102	84	2,596	28
F1780-00	Variable Forms Length	7	6	195	1
0774-96	Model 800 Terminal Printer (requires the Auxiliary Interface)	81	63	2,320	20
2816050	Spare Stylus	—	—	18	—
Cassette Drive					
0866-99	Model 610 Dual Cassette Unit (a free-standing unit with two cassette drives), requires either F1247-00 or F1247-01 auxiliary interface	94	71	1,947	32
0866-97	Model 610 Dual Cassette Unit (a free-standing unit with two cassette drives), requires F1247-01 auxiliary interface	91	68	1,947	29
F1666-99	Feature Group A (for 0866-99)	8	6	312	0
F1666-98	Feature Group B (for 0866-99)	16	11	584	0
F1666-97	Feature Group C (for 0866-99)	7	5	272	0
F2142-00	Feature Group D (for 0866-97)	15	11	577	0
F2142-01	Feature Group E (for 0866-97)	26	20	906	0

*Includes prime-shift maintenance. ■

UNIVAC Uniscope 100 and 200 Alphanumeric Display Terminals



UNIVAC offers a wide choice of keyboard arrangements for the Uniscope terminals. The Uniscope 200 shown here has both a typewriter-style alphanumeric keygroup and a separate numeric keygroup (at right).

MANAGEMENT SUMMARY

The Uniscope 200 was introduced in September 1974 as a large-screen successor to the earlier Uniscope 100, which was introduced in early 1969 with initial customer deliveries in May 1970. The Uniscope 200 provides a screen capacity of 1920 characters—double that of the Uniscope 100 and comparable to the screen capacity of the IBM 3270. The hard-wired Uniscope 200 is a large-screen version of the Uniscope 100 and is operationally identical and communications compatible with its medium-screen counterpart. Both terminals are descendants of the discontinued Uniscope 300, once referred to as the “Cadillac” of display terminals for its elegance and sophistication. Many of the features exhibited by the Uniscope 100 and 200 terminals were first introduced on the Uniscope 300.

The Uniscope 100 and 200 are general-purpose display terminals designed for use as computer peripheral subsystems in local environments or as communications terminals in remote environments. As a remote terminal, either Uniscope is designed to operate in a polling/addressing environment and respond to UNIVAC line protocol. The units can be used either as stand-alone terminals or in a cluster arrangement where as many as 31 Uniscope terminals share the same communications facility or channel on a UNIVAC CTMC or DCS line controller via a UNIVAC-supplied multiplexer.

The salient features of the Uniscope 100 and 200 can be described and compared as follows:

- **Display capacity**—The Uniscope 200 is available with screen capacities of 1920 or 1536 characters, depend- ➤

A pair of stand-alone display terminals that can be clustered using UNIVAC multiplexers.

The Uniscope 100 has 960 display positions; the 200, 1920 positions. Both can be acquired with either 64 or 96 displayable symbols. Impact or non-impact printers and cassette tape units can be added to either model.

A basic Uniscope 100 with 64-character set, typewriter keyboard, and communications interface rents for \$150 per month on a one-year arrangement, including maintenance.

A full blown Uniscope 200 with 96 character set, 300 cps non-impact printer, full upper/lower case alphanumeric keyboard, full-feature dual tape cassette drives, and communications interface costs \$376 per month on a one-year arrangement, including maintenance.

CHARACTERISTICS

VENDOR: UNIVAC Division, Sperry Rand Corporation, P.O. Box 500, Blue Bell, Pennsylvania 19422. Telephone (215) 542-4011.

DATE OF ANNOUNCEMENT: Uniscope 100—early 1969; Uniscope 200—September 1974.

DATE OF FIRST DELIVERY: Uniscope 100—May 1970; Uniscope 200—February 1975.

NUMBER DELIVERED TO DATE: Estimated 25,000 terminals, including Uniscope 100 and 200 models.

CONFIGURATION

The Uniscope 100 and 200, both stand-alone display terminals, can be used in a single-station or multiple-station arrangement with up to 31 display units connected to a computer I/O channel or a communications line via one or two multiplexers. The basic multiplexer provides 8 channels and can be expanded up to 16 channels in increments of four channels. A communications modem is required for operation over a communications facility.

Each display unit in a multiple-station configuration can operate up to 5000 cable-feet from the multiplexer.

The keyboard is optional; without it, the Uniscope 100 or 200 functions as a display monitor. Several keyboard arrangements are available.

Optional auxiliary devices include the Communications Output Printer, a 30-cps impact printer; the Model 800 Terminal Printer, a 300-cps non-impact printer; and the Model 610 Tape Cassette System. The Uniscope 100 or 200 accommodates auxiliary devices via its auxiliary interface channel, which can handle up to 12 device addresses. Each ➤

UNIVAC Uniscope 100 and 200 Alphanumeric Display Terminals

▷ ing on display format. By comparison, the Uniscope 100 is available with screen capacities of 1024 or 960 characters.

- *Displayed output*—The Uniscope 100 and 200 are each available with a 64- or 96-character set of ASCII symbols. UNIVAC offers any of six additional character sets at no extra cost for the Uniscope 200. The display clarity of the Uniscope 200 is superior to that of the Uniscope 100 as a result of the 200's 7-by-9 dot matrix character formation technique as compared with the 100's stroke technique for forming characters.
- *Editing capability*—The Uniscope 100 and 200 both provide a full editing capability, including character and line insertion and deletion and character, line, and screen erase.
- *Formatting capability*—The Uniscope 100 and 200 are both available with a protected formatting capability for "fill-in-the blanks" applications. Format descriptor fields are protected from inadvertent operator entry, and the descriptor fields can be made to blink for ease of identification. Only the keyed (variable) data is transmitted when operating in the Protected Format mode, thus providing line economy.
- *Printed output*—The Uniscope 100 and 200 are each available with both impact and non-impact printers, which can be mixed on the same terminal in quantities of up to eight printers. The printers include a one-line buffer and print directly from the display buffer under manual or program control.
- *Auxiliary storage*—The Uniscope 100 and 200 are each available with the Model 610 Tape Cassette System, a dual-drive cassette unit. The Model 610 provides a remote batch capability as well as off-line data and format storage for the Uniscope terminals. The basic unit responds to computer- or operator-initiated commands and features address search and paging functions, which permit a block to be located via its address and the tape to be reversed to the beginning of the previous block, respectively. With options, the cassette unit can perform off-line listing of single or multiple blocks or the entire tape, edit specific blocks, and search for data via a search key that corresponds to data within the initial 16 characters of a block. As many as three dual cassette units can be used on one display unit. The Model 610 Tape Cassette System was introduced in March 1973.
- *Key entry*—Both the Uniscope 100 and 200 are available with any of five basic keyboard arrangements, ranging from numeric only to upper and lower case alphanumeric with numeric pad. Each keyboard provides four program function keys.

▶ Model 610 requires 4 device addresses, and each printer requires one device address.

TRANSMISSION SPECIFICATIONS

Asynchronous or synchronous in the half-duplex mode at data rates ranging from 300 to 9600 bits/second (1200 char/second). Transmission speed is determined by the internal clock of the specified modem. The transmission code is 8-level ASCII (including parity); asynchronous transmission uses a 10-unit code structure.

The Uniscope 100 and 200 are each equipped with an EIA Standard RS-232C interface and operate over a voice-band communications facility via a modem. Integral modems are available from UNIVAC that provide compatibility with the Bell System 201 or 202 Data Sets. When operating in a party-line environment, both single-station displays and multiple-station display configurations can share a common communications line. Transmission compatibility with the IBM 2701 and 2703 line controllers is available.

Character and longitudinal parity accompany each message transmitted and are checked for each received message. A detected parity error inhibits further acceptance of data, and the operator is alerted to the error condition. As a result of this situation, a partial message remains displayed.

The Uniscope 100 and 200 each reply with a negative or positive acknowledge to each received message, and will respond to a retransmission request from the remote computer. The number of automatic retransmissions is determined by the computer program.

Errors that occur during message composition are corrected by the operator via the edit controls.

DEVICE CONTROL

The Uniscope 100 and 200 are designed to operate in a polling and addressing environment where all communications traffic is under control of the stored program in the remote computer.

Data is transmitted to the remote computer when the terminal is interrogated via a polling message following operator initiation of the transmit function. Data entry is not interrupted by an unsolicited computer message; however, the operator is alerted to the pending message and can respond when ready by initiating the Message Writing function. Via program control, the remote computer can override any operator action and display an urgent message without waiting. Data can be transferred to an auxiliary device (printer or cassette unit) via manual initiation (Print key) or automatically under program control.

Cursor direction controls move the cursor in any of four directions (left, right, up, and down) and are designed for either step-by-step or repetitive operation. The cursor can also be returned to home position (initial display position) or to the beginning of the next line (carriage return). Horizontal tabulation allows the cursor to be advanced to the position immediately following a stored horizontal tab character, or to the home position if a horizontal tab character is not located between the cursor and the end of the screen. The cursor and the character located at the cursor position blink so that the cursor position can be easily located.

Protective Format, a standard feature, permits a terminal- or computer-generated format to be displayed. Format descriptors can be made to blink and are protected from inadvertent entry by the display operator. The cursor moves between non-protected fields by tabbing or automatically when the end of a field is reached.

UNIVAC Uniscope 100 and 200 Alphanumeric Display Terminals

- ▷ ● **Communications**—The Uniscope 100 and 200 are each available with transmission speeds ranging from 300 to 9600 bits per second. Integral modems are available for asynchronous or synchronous transmission.
- **Software support**—The Uniscope 100 is supported by standard IBM software as a remote terminal operating under System/360 OS or DOS via BTAM, which is modified by a UNIVAC-supplied "BTAM modifier" routine. The Uniscope 200 is supported under DOS versions 26 and 27, OS 21.8, VS 1.6, and DOS/VS 30 via extended BTAM.

USER REACTION

In Datapro's 1978 survey of alphanumeric display terminal users, 25 Univac users (including 11 Uniscope 100 users and 14 Uniscope 200 users) reported on their experience with 207 Uniscope 100 terminals and 386 Uniscope 200 terminals. Their ratings are presented below.

	Excellent	Good	Fair	Poor	WA*
Overall performance	9	13	3	0	3.2
Ease of operation.	9	14	1	1	3.2
Display clarity	7	16	1	1	3.2
Keyboard feel and usability	7	17	0	1	3.2
Hardware reliability	8	15	1	1	3.2
Maintenance service	11	8	5	1	3.2
Software & technical support	6	10	8	1	2.8

*Weighted Average on a scale of 4.0 for Excellent.

These ratings have improved markedly since last year's user survey. Strong vendor support was cited by almost two-thirds of the users as the most significant advantage of both the Uniscope 100 and 200 terminals. Flexibility, applicability, and reliability were cited as important advantages by about one-third of the Uniscope 100 users. About half of the Uniscope 200 users reported reliability as the second most important advantage, and about one-third of these users also cited flexibility and applicability as advantages. The majority of the users consider the Uniscope terminals to be overpriced. High cost was cited as the most significant disadvantage by over three-quarters of the Uniscope 100 users and about two-thirds of the Uniscope 200 users. The Uniscope 200 users also considered non-programmability as a disadvantage; about three-quarters of the users specifically identified this as a disadvantage. Almost one-third of the Uniscope 200 users noted performance limitations. Only one user reported poor maintenance at remote sites. □

- ▷ **Edit controls provide insert, delete, and erase functions.** Both character and line insert and delete functions are standard. Character insertion or deletion affects all data to the right of the cursor up to the end of the line occupied by the cursor. Line insertion or deletion affects all data to the right of the cursor up to the last displayable position of the screen. When formatted data is displayed, these functions affect only the variable fields; the fixed fields (format descriptors) are protected from inadvertent alteration. The standard erase functions include character, line, and screen erase. Character erase erases the character at the cursor position. Line erase erases all data from the cursor to the

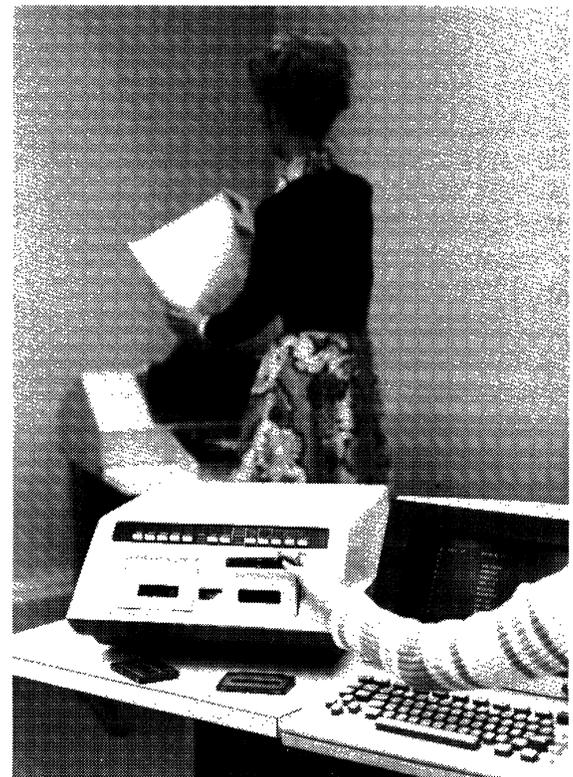
- end of the line. Screen erase erases all data from, and including, the cursor position to the end of the screen. Space characters are inserted in all erased character positions.

Other standard functions include Cycle, a character repeat feature, Selective Blink, and Roll. Selected fields within a message to be displayed can be made to blink by bracketing the fields with special characters. Block lengths are variable up to screen capacity. The Roll feature is implemented via software using line insert and delete functions. Special function keys can be software-designated to perform the Roll function.

The basic Model 610 Tape Cassette System features paging, which reverses the tape by one block to permit editing recorded data, and Search, a bidirectional address search performed at 120 inches/second. Two Feature Group options are available for the Model 610; Feature Groups A and B for a Model 610 used with the Uniscope 100, and Feature Groups D and E for a Model 610 used with the Uniscope 200. Feature Groups B and E combine the features of Groups A and D, respectively, with their own. A conversion option, Feature Group C, converts a Model 610 with Feature Group A to a Group B unit.

Feature Groups A and D add Read-After-Write, Protected Format (which allows fixed formats to be recorded for later use), List, and Edit. List permits off-line printing of a single block, multiple blocks, or all recorded data on the cassette. Edit allows the operator to selectively edit single blocks of data or to copy an entire tape on a second cassette.

Feature Groups B and E combine two additional features with those of Group A or D. ASCII Record Separators can be used as file delimiters, blink characters, and cursor indication sequences. Alphanumeric Identifier Search per-



UNIVAC's Model 610 Tape Cassette System adds useful remote batch or off-line data handling capabilities to the Uniscope 100 or 200.

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►mits the use of a search key that corresponds to data within the initial 16 characters of a tape block. In addition, Feature Group E permits copying to an address.

COMPONENTS

CRT DISPLAY: The display characteristics of the two models are presented in the following table.

Uniscope Model	Viewing Area		Display Format		Screen Capacity, Chars.
	Width, inches	Height, inches	Char/Line	Lines/Display	
100	10	5	80	12	960
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200	10	7	80	24	1920

Both models display a standard character set of 64 symbols, including upper case alphabets, numerics, and special symbols. As an option, both models are available with a 96-character set of displayable symbols that includes lower case alphabets and 6 additional special symbols. Data is displayed in green. Characters are formed via the stroke technique on the Uniscope 100 and via a 7-by-9 dot matrix on the Uniscope 200.

KEYBOARD: Any of nine keyboards can be specified. These include four key arrangements with or without the Protected Format feature and one key arrangement, numeric-only, without the feature. The key arrangements are: numeric-only, upper case alphanumeric, upper and lower case alphanumeric, upper case alphanumeric/numeric, and upper and lower case alphanumeric/numeric. Four Program Function keys are standard with all key arrangements. The combined numeric keygroup includes 15 keys arranged in an adding machine format and is located at the right of the alphanumeric keygroup. The keys include three keys for the Protected Format feature. Cursor, edit, and other functions are implemented via up to 24 additional keys.

PRINTED OUTPUT: Three printers are available for the Uniscope 100 or 200: the non-impact Model 800 Terminal Printer, the impact-type Communications Output Printer, and the 0786 serial impact printer.

Model 800 provides 80 print positions and prints up to 300 char/second using an electrostatic technique. The printer provides the full upper and lower case ASCII character set and forms each character via a 7-by-9 dot matrix. Horizontal pitch is 10 char/inch, and vertical spacing is 6 lines/inch.

The Communications Output Printer is the same printer used in the UNIVAC DCT 500. Printing is performed at 30 char/second using a 63-symbol print set. The print set is specified by the user from available sets that include ASCII, EBCDIC, A/H (UNIVAC business or scientific), or ECMA/ISO (international). The unit prints 132 columns per line.

Horizontal pitch is 10 char/inch, and vertical spacing is 6 lines/inch. The printer accommodates six-part continuous forms (or three-part carbonless forms) from 3-7/8 inches to 14-7/8 inches wide. Forms are fed at 30 lines/second (manual feed); skipping speed is 12 inches or 72 lines per second.

The 0786 Printer is an impact matrix printer and is available in unidirectional or bidirectional models. The printer is equipped with 132 print positions and is rated at 200 characters/second, which translates to 37 lines/minute for the unidirectional model or 75 lines/minute for the bidirectional version. Several character sets are available including 64- or 96-character ASCII, as well as European and other national sets. The 96-character set includes upper and lower case symbols. Each character is formed via a 7-by-7 dot matrix. Horizontal and vertical spacing is 10 character/inch and 6 or 8 lines/inch, respectively. The printer accommodates continuous, 6-part forms from 1.6 to 15.3 inches wide and from 3 to 17 inches long. Format control is implemented via a two-channel tape loop. The printer includes a two-position stacker and stand.

CASSETTE TAPE INPUT/OUTPUT: The Model 610 Tape Cassette System features two independent cassette tape recorders with shared electronics and a common interface to the auxiliary interface channel of the Uniscope unit. Each drive accommodates a Philips-type cassette containing 300 feet of 0.15-inch-wide magnetic tape. Phase-encoded data is recorded serially at 800 bits/inch. On-line data storage is rated at 700,000 characters per cassette (1.4 million characters per system). Tape speeds are: read/write, 6 inches/second; search, 6 or 120 inches/second; rewind, 120 inches/second.

PRICING

The Uniscope 100 and 200 are available for purchase, one-year rental, or five-year lease. A separate maintenance contract is offered for rented, leased, or purchased equipment.

Maintenance is covered under a contract that defines the Principal Period of Maintenance (PPM) as between the hours of 7AM and 6PM, Monday through Friday. An additional charge of 10 percent of the total prime-shift maintenance charges for the equipment is applied to maintenance contracted outside the Univac-defined PPM. Univac provides maintenance for emergency service calls outside the contracted PPM at a charge of \$35 per man hour for the initial hour (or less) and for each additional hour. Each additional one-quarter hour after the initial full hour of service is charged at \$9 (computed to the nearest ¼ hour).

Customer locations beyond 15 miles from the service center are charged for travel time at a rate of \$3 to \$15 per month. All travel time is charged for at \$35 per hour for maintenance performed outside the PPM.

Except for field installations of features on existing customer equipment, no installation charges are applied.

		Monthly Rental*	5-Year Lease*	Purchase	Monthly Maint.
3536-89	Uniscope 100 Terminal (any display arrangement; 64 displayable symbols)	\$120	97	\$3,175	\$43
F1241-04	Generator Expansion (expands U-100 64-char. set to 96 chars.)	16	11	680	0
3542-99	Uniscope 200 Terminal (any display arrangement; 64 displayable symbols)	139	110	3,850	43
F2044-01	Generator Expansion (expands U-200 64-char. set to 96 chars.)	16	11	701	0

**UNIVAC Uniscope 100 and 200
Alphanumeric Display Terminals**

		<u>Monthly Rental*</u>	<u>5-Year Lease*</u>	<u>Purchase</u>	<u>Monthly Maint.</u>
Keyboards					
F1844-00	Numeric Keyboard	9	7	270	2
F1844-01	Typewriter Keyboard, upper case only	14	10	300	2
F1844-02	Typewriter Keyboard, upper/lower case (requires Generator Expansion)	14	10	300	2
F1844-03	Alpha/Numeric Keyboard, combines upper case typewriter keyboard (F1844-01) and numeric keyboard (F1844-00).	21	15	490	2
F1844-04	Alpha/Numeric Keyboard, combines upper/lower case typewriter keyboard (F1844-02) and numeric keyboard (F1844-00); requires Generator Expansion	21	15	490	2
F1466-00	Special Function Keypad B	4	3	108	1
Interfaces					
F1245-00	Direct Interface (provides direct connection to a UNIVAC CTMC or DCS without a modem)	16	13	470	5
F1245-01	Synchronous Interface (interfaces with Bell System 201A, 201B, or 203 or equivalent modems)	16	13	470	5
F1245-02	Asynchronous Interface (interfaces with Bell System 103A, 103F, 202C, or 202D or equivalent modems or terminal multiplexer 8538)	16	13	470	5
F1245-13	IBM-Compatible synchronous (supports ASCII communication with IBM computers equipped with an IBM 2701 and SDA Type II or an IBM 2703 and SB Type I)	16	13	470	5
F1245-14	IBM-Compatible Asynchronous (supports ASCII communication with IBM computers equipped with an IBM 2701 and TA III)	16	13	470	5
F1247-00/-01	Auxiliary Interface (a parallel channel for auxiliary devices such as printers and cassette tape drives)	10	7	310	0
Multiplexers					
F2656-01	Terminal Interface (for 0786 printers; requires F1247)	10	8	400	0
8538-97	Display Terminal Multiplexer, 8 channels (for use with Univac integral modems F1970-00 or F1970-01)	54	42	1,680	6
8538-99	Display Terminal Multiplexer, 8 channels	56	44	1,781	6
F1264-00	Multiplexer Expansion (expands display multiplexer by 4 channels; maximum 2 expansion units for a total of 16 channels)	12	9	356	0
F1266-00	Synch./Asynch. Display Multiplexer Interface (provides an RS-232C interface for connection to a Bell System 103A, 103F, 201A, 202C, 202D, or equivalent modem or to cascade Display Multiplexers)	12	9	356	0
F1266-02	Direct Display Multiplexer Interface (provides a synchronous interface with clock for direct connection to a Univac CTMC or DCS without a modem)	11	8	320	0
Modems					
8574-00	201 Modem (2400 bps free-standing modem compatible with Bell Systems 201A or equivalent modem)	63	51	1,914	14
8549-00	202 Modem (asynch. data rates up to 1800 bps, private or 1200 bps switched; free-standing modem compatible with Bell System 202C, 202D, or equivalent)	46	37	1,336	11
F1970-00	201 Integral Modem (same as 8574-00, but housed in Univac Display Terminal Multiplexer 8538-97)	56	45	1,781	11
F1970-01	202 Integral Modem (same as 8549-00, but housed in Univac Display Terminal Multiplexer 8538-97)	41	33	1,202	9
F2004-00	Auto Answer (for 8574-00 only)	5	4	178	1
F2005-00	Auto Answer (for 8549-00 only)	5	4	178	1
Printers					
0786-00/-04	Receive Only Unidirectional Matrix Printer in separate cabinet; includes stand and requires F2656-01 Interface feature, choice of 12 character sets including 64- or 96-character ASCII or 96-character European character sets (for 120/100 volt operation)	150	132	4,540	30
0786-02/-06	Receive Only Bidirectional Matrix Printer in separate cabinet; includes stand and full line buffer and requires F2656-01 Interface Feature; choice of 12 character sets including 64- or 96-character ASCII or 96-character European character sets (for 120/100-volt operation)	210	190	6,250	50

UNIVAC Uniscope 100 and 200 Alphanumeric Display Terminals

		<u>Monthly Rental*</u>	<u>5-Year Lease*</u>	<u>Purchase</u>	<u>Monthly Maint.</u>
Printers (Continued)					
F2696-00	Speed Upgrade; provides bidirectional printing and full line buffer for 0786-00-04 printers	60	58	1,710	20
F2648-00	Document parting bar; permits removal of single forms without removing paper from tractors	4	3	114	1
F2646-00	6/8 LPI Feature; switch selection of 6 or 8 lines per vertical inch	5	4	152	1
F2647-00	Vertical Form Unit; provides vertical format control via a 2-channel tape loop; 6 lpi spacing only	7	6	228	1
F2647-02	Vertical Form Unit; provides vertical format control via a 2-channel tape loop; 8 lpi spacing only; requires F2646-00)	7	6	228	1
8541-06	Communications Output Printer (choice of three printwheels: ASCII, EBCDIC, or Univac A/H; requires the Auxiliary Interface)	102	84	2,596	28
F1780-00	Variable Forms Length	7	6	195	1
0774-06	Model 800 Terminal Printer (requires the Auxiliary Interface)	81	63	2,320	20
2816050	Spare Stylus	—		18	—
Cassette Drive					
0866-97/-99	Model 610 Dual Cassette Unit (a free-standing unit with two cassette drives)	89	66	1,947	27
F1666-99	Feature Group A (for 0866-99)	8	6	312	0
F1666-98	Feature Group B (for 0866-99)	16	11	584	0
F1666-97	Feature Group C (for 0866-99)	7	5	273	0
F2142-00	Feature Group D (for 0866-97)	15	11	577	0
F2142-01	Feature Group E (for 0866-97)	26	20	906	0

*Includes prime-shift maintenance. ■

Alphanumeric Display Terminals

UNIVAC Uniscope 100 and 200



UNIVAC offers a wide choice of keyboard arrangements for the Uniscope terminals. The Uniscope 200 shown here has both a typewriter-style alphanumeric keygroup and a separate numeric keygroup (at right).

MANAGEMENT SUMMARY

The Uniscope 200 was introduced in September 1974 as a large-screen successor to its earlier Uniscope 100, which was introduced in early 1969 with initial customer deliveries in May 1970. The Uniscope 200 provides a screen capacity of 1920 characters—double that of the Uniscope 100 and comparable to the screen capacity of the IBM 3270. The hard-wired Uniscope 200 is a large-screen version of the Uniscope 100 and is operationally identical and communications compatible with its medium-screen counterpart. Both terminals are descendants of the discontinued Uniscope 300, once referred to as the “Cadillac” of display terminals for its elegance and sophistication. Many of the features exhibited by the Uniscope 100 and 200 terminals were first introduced on the Uniscope 300.

The Uniscope 100 and 200 are general-purpose display terminals designed for use as computer peripheral subsystems in local environments or as communications terminals in remote environments. As a remote terminal, either Uniscope is designed to operate in a polling/addressing environment and respond to UNIVAC line protocol. The units can be used either as stand-alone terminals or in a cluster arrangement where as many as 31 Uniscope terminals share the same communications facility or channel on a UNIVAC CTMC or DCS line controller via a UNIVAC-supplied multiplexer.

The salient features of the Uniscope 100 and 200 can be described and compared as follows:

- **Display capacity**—The Uniscope 200 is available with screen capacities of 1920 or 1536 characters, depend- ➤

A pair of stand-alone display terminals that can be clustered using UNIVAC multiplexors.

The Uniscope 100 has 960 display positions; the 200, 1920 positions. Both can be acquired with either 64 or 96 displayable symbols. Impact or non-impact printers and cassette tape units can be added to either model.

A basic Uniscope 100 with 64 character set, typewriter keyboard, and communications interface rents for \$139 per month on a one-year arrangement, including maintenance.

A full blown Uniscope 200 with 96 character set, 300 cps non-impact printer, full upper/lower case alphanumeric keyboard, dual tape cassette drives, and communications interface costs \$308 per month on a one-year arrangement, including maintenance.

CHARACTERISTICS

VENDOR: UNIVAC Division, Sperry Rand Corporation, P.O. Box 500, Blue Bell, Pennsylvania 19422. Telephone (215) 542-4011.

DATE OF ANNOUNCEMENT: Uniscope 100—early 1969; Uniscope 200—September 1974.

DATE OF FIRST DELIVERY: Uniscope 100—May 1970; Uniscope 200—February 1975.

NUMBER DELIVERED TO DATE: About 25,000 terminals, including Uniscope 100 and 200 models.

CONFIGURATION

The Uniscope 100 and 200, both stand-alone display terminals, can be used in a single-station or multiple-station arrangement with up to 31 display units connected to a computer I/O channel or a communications line via one or two multiplexers. The basic multiplexer provides 8 channels and can be expanded up to 16 channels in increments of four channels. A communications modem is required for operation over a communications facility.

Each display unit in a multiple-station configuration can operate up to 5000 cable-feet from the multiplexer.

The keyboard is optional; without it, the Uniscope 100 or 200 functions as a display monitor. Several keyboard arrangements are available.

Optional auxiliary devices include the Communications Output Printer, a 30-cps impact printer; the Model 800 Terminal Printer, a 300-cps non-impact printer; and the Model 610 Tape Cassette System. The Uniscope 100 or 200 accommodates auxiliary devices via its auxiliary interface channel, which can handle up to 12 device addresses. Each ➤

UNIVAC Uniscope 100 and 200 Alphanumeric Display Terminals

▷ ing on display format. By comparison, the Uniscope 100 is available with screen capacities of 1024 or 960 characters.

- *Displayed output*—The Uniscope 100 and 200 are each available with a 64- or 96-character set of ASCII symbols. UNIVAC offers any of six additional character sets at no extra cost for the Uniscope 200. The display clarity of the Uniscope 200 is superior to that of the Uniscope 100 as a result of the 200's 7-by-9 dot matrix character formation technique as compared with the 100's stroke technique for forming characters.
- *Editing capability*—The Uniscope 100 and 200 both provide a full editing capability, including character and line insertion and deletion and character, line, and screen erase.
- *Formatting capability*—The Uniscope 100 and 200 are both available with a protected formatting capability for "fill-in-the blanks" applications. Format descriptor fields are protected from inadvertent operator entry, and the descriptor fields can be made to blink for ease of identification. Only the keyed (variable) data is transmitted when operating in the Protected Format mode, thus providing line economy.
- *Printed output*—The Uniscope 100 and 200 are each available with both impact and non-impact printers, which can be mixed on the same terminal in quantities of up to eight printers. The printers include a one-line buffer and print directly from the display buffer under manual or program control. Rated speeds and maximum print positions are 30 cps and 132 characters for the impact printer, and 300 cps and 80 characters for the non-impact printer.
- *Auxiliary storage*—The Uniscope 100 and 200 are each available with the Model 610 Tape Cassette System, a dual-drive cassette unit. The Model 610 provides a remote batch capability as well as off-line data and format storage for the Uniscope terminals. The basic unit responds to computer- or operator-initiated commands and features address search and paging functions, which permit a block to be located via its address and the tape to be reversed to the beginning of the previous block, respectively. With options, the cassette unit can perform off-line listing of single or multiple blocks or the entire tape, edit specific blocks, and search for data via a search key that corresponds to data within the initial 16 characters of a block. As many as three dual cassette units can be used on one display unit. The Model 610 Tape Cassette System was introduced in March 1973.
- *Key entry*—Both the Uniscope 100 and 200 are available with any of five basic keyboard arrangements, ranging from numeric only to upper and lower case alphanumeric with numeric pad. Each keyboard provides four program function keys.

▶ Model 610 requires 4 device addresses, and each printer requires one device address.

TRANSMISSION SPECIFICATIONS

Asynchronous or synchronous in the half-duplex mode at data rates ranging from 300 to 9600 bits/second (1200 char/second). Transmission speed is determined by the internal clock of the specified modem. The transmission code is 8-level ASCII (including parity); asynchronous transmission uses a 10-unit code structure.

The Uniscope 100 and 200 are each equipped with an EIA Standard RS-232C interface and operate over a voice-band communications facility via a modem. Integral modems are available from UNIVAC that provide compatibility with the Bell System 201 or 202 Data Sets. When operating in a party-line environment, both single-station displays and multiple-station display configurations can share a common communications line. Transmission compatibility with the IBM 2701 and 2703 line controllers is available.

Character and longitudinal parity accompany each message transmitted and are checked for each received message. A detected parity error inhibits further acceptance of data, and the operator is alerted to the error condition. As a result of this situation, a partial message remains displayed.

The Uniscope 100 and 200 each reply with a negative or positive acknowledge to each received message, and will respond to a retransmission request from the remote computer. The number of automatic retransmissions is determined by the computer program.

Errors that occur during message composition are corrected by the operator via the edit controls.

DEVICE CONTROL

The Uniscope 100 and 200 are designed to operate in a polling and addressing environment where all communications traffic is under control of the stored program in the remote computer.

Data is transmitted to the remote computer when the terminal is interrogated via a polling message following operator initiation of the transmit function. Data entry is not interrupted by an unsolicited computer message; however, the operator is alerted to the pending message and can respond when ready by initiating the Message Writing function. Via program control, the remote computer can override any operator action and display an urgent message without waiting. Data can be transferred to an auxiliary device (printer or cassette unit) via manual initiation (Print key) or automatically under program control.

Cursor direction controls move the cursor in any of four directions (left, right, up, and down) and are designed for either step-by-step or repetitive operation. The cursor can also be returned to home position (initial display position) or to the beginning of the next line (carriage return). Horizontal tabulation allows the cursor to be advanced to the position immediately following a stored horizontal tab character, or to the home position if a horizontal tab character is not located between the cursor and the end of the screen. The cursor and the character located at the cursor position blink so that the cursor position can be easily located.

Protective Format, a standard feature, permits a terminal- or computer-generated format to be displayed. Format descriptors can be made to blink and are protected from inadvertent entry by the display operator. The cursor moves between non-protected fields by tabbing or automatically when the end of a field is reached.

UNIVAC Uniscope 100 and 200 Alphanumeric Display Terminals

- ● **Communications**—The Uniscope 100 and 200 are each available with transmission speeds ranging from 300 to 9600 bits per second. Integral modems are available for asynchronous or synchronous transmission.
- **Software support**—The Uniscope 100 is supported by standard IBM software as a remote terminal operating under System/360 OS or DOS via BTAM, which is modified by a UNIVAC-supplied "BTAM modifier" routine. The Uniscope 200 is supported under DOS versions 26 and 27, OS 21.8, VS 1.6, and DOS/VS 30 via extended BTAM.

UNIVAC has no current plans to support the Uniscope terminals under IBM's Systems Network Architecture (SNA), which includes the SDLC communications protocol as a key element. It is doubtful that it ever will. If UNIVAC does enter this market in competition with the IBM 3270 and other IBM SDLC devices, it will most likely be with an entirely new product rather than an existing one.

USER REACTION

In Datapro's 1976 survey of alphanumeric display terminal users, 10 users reported on their experience with a total of 409 Uniscope 100 display terminals. Their ratings are summarized below.

	Excellent	Good	Fair	Poor	WA*
Overall performance	4	4	2	0	3.2
Ease of operation	0	9	1	0	2.9
Display clarity	1	7	1	1	2.8
Keyboard feel and usability	2	7	0	1	3.0
Hardware reliability	3	3	1	3	2.6
Maintenance service	3	2	5	0	2.8
Software & technical support	1	6	1	2	2.6

*Weighted Average on a scale of 4.0 for Excellent.

These ratings have slipped significantly below the 1975 user ratings, which were the highest received by any display terminal and which earned the Uniscope 100 a position on the Datapro Display Unit Honor Roll. Of the respondents, nine were generally well pleased with the Uniscope 100. One user, with over 180 terminals, rated the Display Clarity as Good; Overall Performance, Ease of Operation, and Maintenance Service as Fair and the rest of the categories as Poor. Users seem to be divided with their ratings of maintenance service; some have received excellent or good service, while the others only received fair service. Hardware reliability was rated as Excellent or Good by six users while four others noted it Fair or Poor.

User cited advantages included low cost (3 users), flexibility (5), strong vendor support (3), applicability (5), compact size (2), and reliability (5). Disadvantages were noted as high cost (3 users), maintainability (2), unreliability (2), non programmability (1), performance limitations including small screen size (2), poor support (1), and insufficient maintenance support locations (1).□

- Edit controls provide insert, delete, and erase functions. Both character and line insert and delete functions are standard. Character insertion or deletion affects all data to the right of the cursor up to the end of the line occupied by the cursor. Line insertion or deletion affects all data to the right of the cursor up to the last displayable position of the screen. When formatted data is displayed, these functions affect only the variable fields; the fixed fields (format descriptors) are protected from inadvertent alteration. The standard erase functions include character, line, and screen erase. Character erase erases the character at the cursor position. Line erase erases all data from the cursor to the end of the line. Screen erase erases all data from, and including, the cursor position to the end of the screen. Space characters are inserted in all erased character positions.

Other standard functions include Cycle, a character repeat feature, Selective Blink, and Roll. Selected fields within a message to be displayed can be made to blink by bracketing the fields with special characters. Block lengths are variable up to screen capacity. The Roll feature is implemented via software using line insert and delete functions. Special function keys can be software-designated to perform the Roll function.

The basic Model 610 Tape Cassette System features paging, which reverses the tape by one block to permit editing recorded data, and Search, a bidirectional address search performed at 120 inches/second. Two Feature Group options are available for the Model 610; Feature Groups A and B for a Model 610 used with the Uniscope 100, and Feature Groups D and E for a Model 610 used with the Uniscope 200. Feature Groups B and E combine the features of Groups A and D, respectively, with their own. A conversion option, Feature Group C, converts a Model 610 with Feature Group A to a Group B unit.



UNIVAC's Model 610 Tape Cassette System adds useful remote batch or off-line data handling capabilities to the Uniscope 100 or 200.

UNIVAC Uniscope 100 and 200 Alphanumeric Display Terminals

► Feature Groups A and D add Read-After-Write, Protected Format (which allows fixed formats to be recorded for later use), List, and Edit. List permits off-line printing of a single block, multiple blocks, or all recorded data on the cassette. Edit allows the operator to selectively edit single blocks of data or to copy an entire tape on a second cassette.

Feature Groups B and E combine two additional features with those of Group A or D. ASCII Record Separators can be used as file delimiters, blink characters, and cursor indication sequences. Alphanumeric Identifier Search permits the use of a search key that corresponds to data within the initial 16 characters of a tape block. In addition, Feature Group E permits copying to an address.

COMPONENTS

CRT DISPLAY: The display characteristics of the two models are presented in the following table.

Uniscope Model	Viewing Area		Display Format		Screen Capacity, Chars.
	Width, inches	Height, inches	Char/Line	Lines/Display	
100	10	5	80	12	960
100	10	5	64	16	1024
200	10	7	64	24	1536
200	10	7	80	24	1920

Both models display a standard character set of 64 symbols, including upper case alphabets, numerics, and special symbols. As an option, both models are available with a 96-character set of displayable symbols that includes lower case alphabets and 6 additional special symbols. Data is displayed in green. Characters are formed via the stroke technique on the Uniscope 100 and via a 7-by-9 dot matrix on the Uniscope 200.

KEYBOARD: Any of nine keyboards can be specified. These include four key arrangements with or without the Protected Format feature and one key arrangement, numeric-only, without the feature. The key arrangements are: numeric-only, upper case alphanumeric, upper and lower case alphanumeric, upper case alphanumeric/numeric, and upper and lower case alphanumeric/numeric. Four Program Function keys are standard with all key arrangements. The combined numeric keygroup includes 15 keys arranged in an adding machine format and is located at the right of the alphanumeric keygroup. The keys include three keys for the Protected Format feature. Cursor, edit, and other functions are implemented via up to 24 additional keys.

PRINTED OUTPUT: Two printers are available for the Uniscope 100 or 200: the non-impact Model 800 Terminal Printer and the impact-type Communications Output Printer.

Model 800 provides 80 print positions and prints up to 300 char/second using an electrostatic technique. The printer provides the full upper and lower case ASCII character set and forms each character via a 7-by-9 dot matrix. Horizontal pitch is 10 char/inch, and vertical spacing is 6 lines/inch.

The Communications Output Printer is the same printer used in the UNIVAC DCT 500. Printing is performed at 30 char/second using a 63-symbol print set. The print set is specified by the user from available sets that include ASCII, EBCDIC, A/H (UNIVAC business or scientific), or ECMA/ISO (international). The unit prints 132 columns per line. Horizontal pitch is 10 char/inch, and vertical spacing is 6 lines/inch. The printer accommodates six-part continuous forms (or three-part carbonless forms) from 3-7/8 inches to 14-7/8 inches wide. Forms are fed at 30 lines/second (manual feed); skipping speed is 12 inches or 72 lines per second.

CASSETTE TAPE INPUT/OUTPUT: The Model 610 Tape Cassette System features two independent cassette tape recorders with shared electronics and a common interface to the auxiliary interface channel of the Uniscope unit. Each drive accommodates a Philips-type cassette containing 300 feet of 0.15-inch-wide magnetic tape. Phase-encoded data is recorded serially at 800 bits/inch. On-line data storage is rated at 700,000 characters per cassette (1.4 million characters per system). Tape speeds are: read/write, 6 inches/second; search, 6 or 120 inches/second; rewind, 120 inches/second.

PRICING

The Uniscope 100 and 200 are available for purchase or one-year rental. A separate maintenance contract is offered for rented or purchased equipment.

Maintenance is covered under a contract that defines the Principal Period of Maintenance (PPM) as between the hours 7AM and 6PM, Monday through Friday. An additional charge of 10 percent of the total prime-shift maintenance charges for the equipment is applied to maintenance contracted outside the Univac-defined PPM. Univac provides maintenance for emergency service calls outside the contracted PPM at a charge of \$35 per man hour for the initial hour (or less) and for each additional hour. Each additional one-quarter hour after the initial full hour of service is charged at \$9 (computed to the nearest ¼ hour).

Customer locations beyond 15 miles from the service center are charged for travel time at a rate of \$3 to \$15 per month. All travel time is charged for at \$35 per hour for maintenance performed outside the PPM.

Except for field installations of features on existing customer equipment, no installation charges are applied.

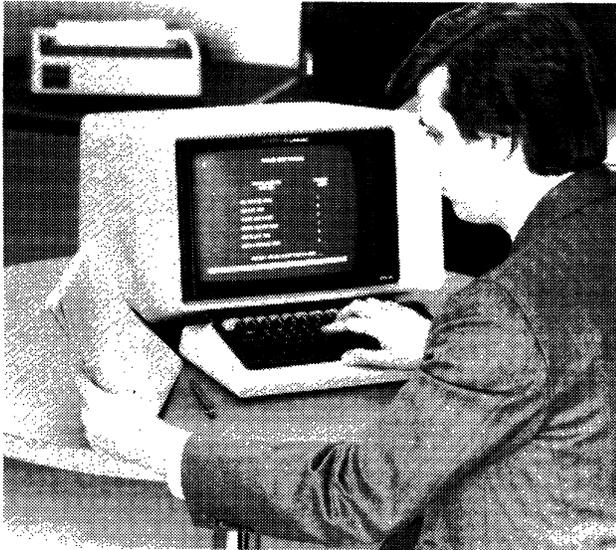
		Monthly Rental*	Purchase	Monthly Maint.
3536-89	Uniscope 100 Terminal (any display arrangement; 64 displayable symbols)	\$116	\$3,528	\$39
F1241-04	Generator Expansion (expands U-100 64-char. set to 96 chars.)	16	756	0
3542-99	Uniscope 200 Terminal (any display arrangement; 64 displayable symbols)	135	4,278	39
F2044-01	Generator Expansion (expands U-200 64-char. set to 96 chars.)	16	779	0
Keyboards				
F1844-00	Numeric Keyboard	7	303	2
F1844-01	Typewriter Keyboard, upper case only	12	331	2
F1844-02	Typewriter Keyboard, upper/lower case (requires Generator Expansion)	12	331	2

UNIVAC Uniscope 100 and 200 Alphanumeric Display Terminals

		<u>Monthly Rental*</u>	<u>Purchase</u>	<u>Monthly Maint.</u>
F1844-03	Alpha/Numeric Keyboard, combines upper case typewriter keyboard (F1844-01) and numeric keyboard (F1844-00).	19	547	2
F1844-04	Alpha/Numeric Keyboard, combines upper/lower case typewriter keyboard (F1844-02) and numeric keyboard (F1844-00); requires Generator Expansion	19	547	2
F1466-00	Special Function Keyset B	3	120	1
Interfaces				
F1245-00	Direct Interface (provides direct connection to a UNIVAC CTMC or DCS without a modem)	11	519	5
F1245-01	Synchronous Interface (interfaces with Bell System 201A, 201B, or 203 or equivalent modems)	11	519	5
F1245-02	Asynchronous Interface (interfaces with Bell System 103A, 103F, 202C, or 202D or equivalent modems or terminal multiplexer 8538)	11	519	5
F1245-13	IBM-Compatible Synchronous (supports ASCII communication with IBM computers equipped with an IBM 2701 and SDA Type II or an IBM 2703 and SB Type I)	11	519	5
F1245-14	IBM-Compatible Asynchronous (supports ASCII communication with IBM computers equipped with an IBM 2701 and TA III)	11	519	5
F1247-00/-01	Auxiliary Interface (a parallel channel for auxiliary devices such as printers and cassette tape drives)	10	346	0
Multiplexers				
8538-97	Display Terminal Multiplexer, 8 channels (for use with Univac integral modems F1970-00 or F1970-01)	44	1,680	6
8538-99	Display Terminal Multiplexer, 8 channels	45	1,781	6
F1264-00	Multiplexer Expansion (expands display multiplexer by 4 channels; maximum 2 expansion units for a total of 16 channels)	11	356	0
F1266-00	Synch./Asynch. Display Multiplexer Interface (provides an RS-232C interface for connection to a Bell System 103A, 103F, 201A, 202C, 202D or equivalent modem or to cascade Display Multiplexers)	11	356	0
F1266-02	Direct Display Multiplexer Interface (provides a synchronous interface with clock for direct connection to a Univac CTMC or DCS without a modem)	11	356	0
Modems				
8574-00	201 Modem (2400 bps free-standing modem compatible with Bell Systems 201A or equivalent modem)	49	1,914	14
8549-00	202 Modem (asynch. data rates up to 1800 bps, private or 1200 bps switched; free-standing modem compatible with Bell System 202C, 202D, or equivalent)	35	1,336	11
F1970-00	201 Integral Modem (same as 8574-00, but housed in Univac Display Terminal Multiplexer 8538-97)	45	1,781	11
F1970-01	202 Integral Modem (same as 8549-00, but housed in Univac Display Terminal Multiplexer 8538-97)	32	1,202	9
F2004-00	Auto Answer (for 8574-00 only)	4	178	1
F2005-00	Auto Answer (for 8549-00 only)	4	178	1
Printers				
8541-06	Communications Output Printer (choice of three printwheels: ASCII, EBCDIC, or Univac A/H; requires the Auxiliary Interface)	67	2,596	25
F1780-00	Variable Forms Length (for Comm. Output Printer)	5	195	1
0774-06	Model 800 Terminal Printer (requires the Auxiliary Interface)	61	2,320	18
2816050	Spare Stylus (for Mdl. 800 Printer)	—	18	—
Cassette Drive				
0866-97/-99	Model 610 Dual Cassette Unit (a free-standing unit with two cassette drives)	56	1,947	24
F1666-99	Feature Group A (for 0866-99)	8	312	0
F1666-98	Feature Group B (for 0866-99)	16	584	0
F1666-97	Feature Group C (for 0866-99)	7	273	0
F2142-00	Feature Group D (for 0866-97)	14	577	0
F2142-01	Feature Group E (for 0866-97)	24	906	0

*Monthly rental for one-year arrangement; includes prime-shift maintenance. ■

Sperry Univac UTS 10 and UTS 20 Display Terminals



The Sperry Univac UTS 10 is available in buffered (character mode transmission) or unbuffered (character or block mode transmission) versions. The operating mode is determined through the use of a program cartridge, which plugs into the back of the terminal.

MANAGEMENT SUMMARY

Sperry Univac's UTS 4000 family contains two non-programmable members, the UTS 10 and UTS 20. Physically similar, these two models are designed for different applications. The UTS 10 is a Teletype compatible terminal for operation as either a buffered (block or character operating mode) or unbuffered (character operating mode) TTY. The UTS 20 is an editing terminal which is compatible with UNIVAC's existing Uniscope 100, 200, and UTS 400 terminals. Both models are microprocessor-based and feature a 12" diagonal display screen and a detached keyboard. (For information on the programmable members of the UTS 4000 family, see report C21-877-201.)

The UTS 10 is available in two models: Unbuffered TTY or Buffered TTY. The Unbuffered TTY unit operates in the character mode. Characters are transmitted as they are entered, and the operator cannot correct previously keyed-in data prior to transmission. The unit features a 70-key typewriter-style keyboard and a program cartridge for unbuffered TTY mode of operation; the program cartridge plugs into the back of the unit. The Buffered TTY unit allows operation in either character or block mode. Unlike character mode, block mode operation allows the operator to edit data prior to transmission. The unit features a 94-key expanded keyboard and the program cartridge for buffered TTY mode of operation (the expanded typewriter keyboard can also be used with the unbuffered unit). Character or block mode is operator selectable.

The non-programmable members of the UTS 4000 family.

The UTS 10 is a Teletype-compatible terminal designed to operate as either an unbuffered or buffered TTY. The UTS 20 is an editing terminal designed to be compatible with the company's Uniscope 100, 200, and UTS 400 terminals. Both models feature a 12-inch diagonal CRT displaying up to 24 lines of 80 characters each, and a detached keyboard. Transmission rates up to 9600 bps can be accommodated. Operating modes for both units are selectable through the use of program cartridges which plug into the back of the unit.

Purchase prices for the UTS 10 are \$1,560 (buffered) and \$1,360 (unbuffered). Purchase price for the UTS 20 is \$3,225 for the single station version.

CHARACTERISTICS

VENDOR: Sperry Univac Division, Sperry Corporation, P.O. Box 500, Blue Bell, PA 19422. Telephone (215) 542-4011.

DATE OF ANNOUNCEMENT: June 1980.

DATE OF FIRST DELIVERY: October 1980.

NUMBER DELIVERED TO DATE: Information not available.

SERVICED BY: Sperry Univac.

MODELS

Both the UTS 10 and UTS 20 are available in two models. The UTS 10 consists of a buffered and an unbuffered model. The buffered model functions in either character or block operating modes, while the unbuffered model operates only in character mode. The UTS 20 editing terminal is available as either a single station or the cluster workstation UTS 20W. As a local workstation, up to 12 UTS 20W units can be directly attached to Sperry Univac's UTS 4020 or 4040 Cluster Controller.

The UTS 10 is equipped with a 70-key detached typewriter-style keyboard. A 94-key detached expanded typewriter keyboard is standard on the UTS 10 Buffered TTY. The UTS 20 can be configured with the typewriter or expanded typewriter keyboard; in addition, a UTS 400 mode keyboard and a Katakana (Japanese/English) keyboard are available for use with the UTS 20.

The UTS 10 can be configured optionally with Sperry Univac's 0797 Matrix Printer. The UTS 20 can accommodate either the 0797 or 0798 Matrix Printer. An optional magnetic stripe card reader is available for both models.

TRANSMISSION SPECIFICATIONS

The UTS 10 models transmit asynchronously in half- or full-duplex at speeds up to 9600 bits per second. Trans-

Sperry Univac UTS 10 and UTS 20 Display Terminals

▷ The UTS 20 is also available in two models: the single station UTS 20 and the cluster station UTS 20W. The UTS 20W is a peripheral of the 4020 or 4040 Cluster Controllers, and is covered in more detail in report C21-877-201. The UTS 20 can operate in either of two modes selectable through the use of a program cartridge. They are UTS 400 Mode, which adds compatibility with user applications now employing Uniscope and/or UTS 400 terminals; and optional Screen Bypass Mode, which is the same as UTS 400 Mode, except that screen bypass capability is added. Both models can be configured with either the 70-key typewriter-style keyboard or the 94-key expanded keyboard. Katakana (Japanese/English) and UTS 400-format keyboards are also available.

Characters on all models are formed using a 7 x 11 dot matrix. A tilt/rotate base is optional on all models. Other options supported for some models include Sperry Univac's 0797 and 0798 impact printers and a magnetic stripe card reader.

Datapro received an insufficient number of responses on the UTS 10 and UTS 20 in the 1982 alphanumeric display terminal survey; therefore, no User Reaction appears in this report.□

► mission code is 7-level ASCII plus selectable parity. The UTS 20 models transmit synchronously in half-duplex at speeds up to 9600 bps. Transmission code is 7-level ASCII plus parity. All models are equipped with EIA RS-232-C/CCITT V.24 interfaces; a 20mA current loop interface is available on the UTS 10.

A direct connect feature allows the user to bypass modems when the terminals are located at the host site. Line sharing on the UTS 20 single station is achieved by multidropping or multiplexing via the Sperry Univac Terminal Multiplexer.

DEVICE CONTROL

UTS 10: The UTS 10 is designed to operate as either as Unbuffered TTY in the character operating mode, or as a Buffered TTY in the character or block operating mode. The operating mode is selected by the user through the use of a program cartridge, which is plugged into the back of the unit.

In character operating mode, data is transmitted as it is keyed in. In block operating mode, data is keyed into the buffer, where it can be edited prior to transmission.

In character mode, when a LINE FEED is received, or RETURN is entered from the keyboard, lines 2 through 24 are moved up one line and the first line at the top of the screen is removed. In block mode, lines 1 through 24 display messages from the host or messages generated from the keyboard. Device control is provided for protected formats, field highlighting, and partial screen transmission. Block mode allows full-screen applications using operator prompts, menu selection, and source data entry forms.

UTS 20: The UTS 20 operates in two modes, selectable through the use of a program cartridge. UTS 400 Mode is compatible with user applications now employing UNISCOPE and/or UTS 400 terminals. The optional Screen Bypass Mode is the same as UTS 400 Mode, except that a screen bypass capability is added.

Field control is accomplished with the use of Field Control Characters (FCCs). FCCs were first introduced on Sperry Univac's UTS 400 terminal; however, unlike the UTS 400, there is no limit to the number of FCCs which may be used within one display line. Field control features include right justification, alpha/numeric checking, and automatic tabulation settings.

Parameters are set through the use of a supervisor key. The parameters include such features as field highlighting by reverse video or low intensity; destructive space bar; screen refresh rates and time-out values; and audible keystroke clicks.

COMPONENTS

CRT DISPLAY UNIT: All models contain a 12-inch (diagonal measurement) CRT with a viewing area 10 inches wide by 7 inches high. Each display has a capacity of 1920 characters arranged in 24 lines of 80 characters each, with a 25th line serving as the status line. Characters are formed within a 7-by-11 dot matrix, with a refresh rate of 50 or 60 times per second. A 128-character ASCII set (UTS 10) or a 96-character ASCII set (UTS 20) is displayed in green (P31 phosphor) on a dark gray background, or dark gray on a green background for reverse video.

KEYBOARDS: A 70-key detached typewriter-style keyboard is standard on the UTS 10 Unbuffered TTY. The alphanumeric keys are positioned in accordance with ISO 3243. The keyboard contains 69 keys on five rows and a space bar positioned at the bottom. The function keys and control keys are positioned along the outside border. The typewriter keyboard can be operated only in the character mode.

A 94-key detached expanded typewriter keyboard is standard on the UTS 10 Buffered TTY. The keyboard includes a 14-key numeric keypad and a 10-key function keypad. The numeric keypad is positioned on the right side of the keyboard and the function keypad is positioned on the left side. Functionality of some corresponding control keys is the same as that of the typewriter keyboard keys; other corresponding control keys have similarities, but distinct differences depending on which operating mode (character or block) is being used.

The UTS 20 can be configured with either the typewriter or expanded typewriter keyboard. In addition, a Katakana (Japanese/English) keyboard and a UTS 400-compatible keyboard with USA keycaps are offered for the UTS 20.

The following languages are available for the typewriter and expanded typewriter keyboards: Danish/Norwegian, French, German, Spanish, Swedish/Finnish, Italian, United Kingdom, and Domestic (U.S.).

PRINTERS: The UTS 10 can be configured optionally with the Sperry Univac 0797 Matrix Printer. The 0797 is an 80-column printer which operates at 80 characters per second. Characters are formed using a 9-by-7 half space dot matrix. A variety of national character sets are available.

The UTS 20 can be configured with either the 0797 or the 0798 Matrix Printer. The 0798 is a 132-column printer which operates at 200 characters per second. Characters are formed using a 7-by-7 dot matrix. A variety of national character sets are available.

PRICING

Sperry Univac offers the UTS 10 for purchase only. The UTS 20 is available for purchase, on a monthly rental plan, or on a five-year lease. Discounts are available for quantities ►

Sperry Univac UTS 10 and UTS 20 Display Terminals

▶ of 50 or more UTS 10's, and 25 or more UTS 20's. The maximum discount for the UTS 10 is 10 percent; maximum discount for the UTS 20 is 30 percent.

Maintenance for the UTS 10 is available only through Central Repair Service. This entails shipment of the

defective unit to a maintenance depot for repair. The annual charge for this service is \$91. Central Repair Service is optionally available for the UTS 20 at an annual charge of \$138, regular in-site service for the UTS 20 costs \$27 per month. The units are expected to be installed by the customer, therefore no installation charge applies.

	Monthly Rental*	5-Year Lease*	Purchase	Monthly Maint.**
UTS 10 Unbuffered TTY	—	—	\$1,360	—
UTS 10 Buffered TTY	—	—	1,560	—
Tilt/rotate base	—	—	160	—
Security keylock	—	—	60	—
Magnetic stripe reader	—	—	560	—
0797 matrix printer	—	—	1,900	—
UTS 20 single station (includes either typewriter, expanded typewriter, UTS 400, Katakana, or international keyboard)	\$159	\$128	3,225	\$31
UTS 20W cluster workstation (includes either typewriter, expanded typewriter, UTS 400, Katakana, or international keyboard)	134	106	2,665	27
Tilt/rotate base	9	7	160	—
Magnetic stripe reader	25	21	560	5
Screen bypass mode program cartridge	—	—	320	—
0797 matrix printer	111	90	1,900	27
0798 matrix printer	252	220	6,650	64

*Includes prime-shift maintenance.

**Central Repair Service only available for UTS 10.■

Sperry Univac UTS 10 and UTS 20 Display Terminals



The UTS 10 Unbuffered TTY terminal is shown here with the 70-key typewriter keyboard. As an unbuffered TTY, the UTS 10 operates in character mode only. In this mode, the UTS 10 can serve as a teletype replacement device for users who choose not to upgrade the functionality of their existing TTY equipment.

MANAGEMENT SUMMARY

Sperry Univac's announcement of the UTS 4000 family included two non-programmable members, the UTS 10 and UTS 20. Physically similar, these two models are designed for different applications. The UTS 10 is a Teletype compatible terminal for operation as either a buffered (block or character operating mode) or unbuffered (character operating mode) TTY. The UTS 20 is an editing terminal which is compatible with UNIVAC's existing Uniscope 100, 200, and UTS 400 terminals. Both models are microprocessor-based and feature a 12" diagonal display screen and a detached keyboard.

The UTS 10 is available in two models: Unbuffered TTY or Buffered TTY. The Unbuffered TTY unit operates in the character mode. Characters are transmitted as they are entered, and the operator cannot correct previously keyed-in data prior to transmission. The unit features a 70-key typewriter-style keyboard and a program cartridge for unbuffered TTY mode of operation; the program cartridge plugs into the back of the unit. The Buffered TTY unit allows operation in either character or block mode. Unlike character mode, block mode operation allows the operator to edit data prior to transmission. The unit features a 94-key expanded keyboard and the program cartridge for buffered TTY mode of operation (the expanded typewriter keyboard can also be used with the unbuffered unit). Character or block mode is operator selectable. ➤

Two physically similar, but functionally different display terminals.

The UTS 10 is a Teletype-compatible terminal designed to operate as either an unbuffered or buffered TTY. The UTS 20 is an editing terminal designed to be compatible with the company's Uniscope 100, 200, and UTS 400 terminals. Both models feature a 12" diagonal CRT display displaying up to 24 lines of 80 characters each, and a detached keyboard. Transmission rates up to 9600 bps can be accommodated. Operating modes for both units are selectable through the use of program cartridges which plug into the back of the unit.

Purchase prices for the UTS 10 are \$1,560 (buffered) and \$1,360 (unbuffered). Purchase price for the UTS 20 is \$3,200 for the single station version.

CHARACTERISTICS

VENDOR: Sperry Univac Division, Sperry Corporation, P.O. Box 500, Blue Bell, PA 19422. Telephone (215) 542-4011.

DATE OF ANNOUNCEMENT: June 1980.

DATE OF FIRST DELIVERY: October 1980.

NUMBER DELIVERED TO DATE: Information not available.

MODELS

Both the UTS 10 and UTS 20 are available in two models. The UTS 10 consists of a buffered and an unbuffered model. The buffered model functions in either character or block operating modes, while the unbuffered model operates only in character mode. The UTS 20 editing terminal is available as either a single station or the cluster workstation UTS 20W. As a local workstation, up to 12 UTS 20W units can be directly attached to Sperry Univac's UTS 4020 Cluster Controller.

The UTS 10 is equipped with a 70-key detached typewriter-style keyboard. A 94-key detached expanded typewriter keyboard is standard on the UTS 10 Buffered TTY. The UTS 20 can be configured with the typewriter or expanded typewriter keyboard; in addition, a UTS 400 mode keyboard and a Katakana (Japanese/English) keyboard are available for use with the UTS 20.

The UTS 10 can be configured optionally with Sperry Univac's 0797 Matrix Printer. The UTS 20 can accommodate either the 0797 or 0798 Matrix Printer. An optional magnetic stripe card reader is available for both models.

TRANSMISSION SPECIFICATIONS

The UTS 10 models transmit asynchronously in half- or full-duplex at speeds up to 9600 bits per second. Trans- ➤

Sperry Univac UTS 10 and UTS 20 Display Terminals

▷ The UTS 20 is also available in two models: the single station UTS 20 and the cluster station UTS 20W. The UTS 20W is a peripheral of the 4020 Cluster Controller, and is covered in more detail in report #C21-877-201. The UTS 20 can operate in either of two modes selectable through the use of a program cartridge. They are UTS 400 Mode, which adds compatibility with user applications now employing Uniscope and/or UTS 400 terminals; and optional Screen Bypass Mode, which is the same as UTS 400 Mode, except that screen bypass capability is added. Both models can be configured with either the 70-key typewriter-style keyboard or the 94-key expanded keyboard. Katakana (Japanese/English) and UTS 400-format keyboards are also available.

Characters on all models are formed using a 7 x 11 dot matrix. A tilt/rotate base is optional on all models. Other options supported for some models include Sperry Univac's 0797 and 0798 impact printers and a magnetic stripe card reader.□

▶ mission code is 7-level ASCII plus selectable parity. The UTS 20 models transmit synchronously in half-duplex at speeds up to 9600 bps. Transmission code is 7-level ASCII plus parity. All models are equipped with EIA RS-232-C/CCITT V.24 interfaces; a 20mA current loop interface is available on the UTS 10.

A direct connect feature allows the user to bypass modems when the terminals are located at the host site. Line sharing on the UTS 20 single station is achieved by multidropping or multiplexing via the Sperry Univac Terminal Multiplexer.

DEVICE CONTROL

UTS 10: The UTS 10 is designed to operate as either as Unbuffered TTY in the character operating mode, or as a Buffered TTY in the character or block operating mode. The operating mode is selected by the user through the use of a program cartridge, which is plugged into the back of the unit.

In character operating mode, data is transmitted as it is keyed in. In block operating mode, data is keyed into the buffer, where it can be edited prior to transmission.

In character mode, when a LINE FEED is received, or RETURN is entered from the keyboard, lines 2 through 24 are moved up one line and the first line at the top of the screen is removed. In block mode, lines 1 through 24 display messages from the host or messages generated from the keyboard. Device control is provided for protected formats, field highlighting, and partial screen transmission. Block mode allows full-screen applications using operator prompts, menu selection, and source data entry forms.

UTS 20: The UTS 20 operates in two modes, selectable through the use of a program cartridge. UTS 400 Mode is compatible with user applications now employing UNISCOPE and/or UTS 400 terminals. The optional Screen Bypass Mode is the same as UTS 400 Mode, except that a screen bypass capability is added.

Field control is accomplished with the use of Field Control Characters (FCC's). FCC's were first introduced on Sperry

Univac's UTS 400 terminal; however, unlike the UTS 400, there is no limit to the number of FCC's which may be used within one display line. Field control features include right justification, alpha/numeric checking, and automatic tabulation settings.

Parameters are set through the use of a supervisor key. The parameters include such features as field highlighting by reverse video or low intensity; destructive space bar; screen refresh rates and time-out values; and audible keystroke clicks.

COMPONENTS

CRT DISPLAY UNIT: All models contain a 12-inch (diagonal measurement) CRT with a viewing area 10 inches wide by 7 inches high. Each display has a capacity of 1920 characters arranged in 24 lines of 80 characters each, with a 25th line serving as the status line. Characters are formed within a 7-by-11 dot matrix, with a refresh rate of 50 or 60 times per second. A 128-character ASCII set (UTS 10) or a 96-character ASCII set (UTS 20) is displayed in green (P31 phosphor) on a dark gray background, or dark gray on a green background for reverse video.

KEYBOARDS: A 70-key detached typewriter-style keyboard is standard on the UTS 10 Unbuffered TTY. The alphanumeric keys are positioned in accordance with ISO 3243. The keyboard contains 69 keys on five rows and a space bar positioned at the bottom. The function keys and control keys are positioned along the outside border. The typewriter keyboard can be operated only in the character mode.

A 94-key detached expanded typewriter keyboard is standard on the UTS 10 Buffered TTY. The keyboard includes a 14-key numeric keypad and a 10-key function keypad. The numeric keypad is positioned on the right side of the keyboard and the function keypad is positioned on the left side. Functionality of some corresponding control keys is the same as that of the typewriter keyboard keys; other corresponding control keys have similarities, but distinct differences depending on which operating mode (character or block) is being used.

The UTS 20 can be configured with either the typewriter or expanded typewriter keyboard. In addition, a Katakana (Japanese/English) keyboard and a UTS 400-compatible keyboard with USA keycaps are offered for the UTS 20.

The following languages are available for the typewriter and expanded typewriter keyboards: Danish/Norwegian, French, German, Spanish, Swedish/Finnish, Italian, United Kingdom, and Domestic (U.S.).

PRINTERS: The UTS 10 can be configured optionally with the Sperry Univac 0797 Matrix Printer. The 0797 is an 80-column printer which operates at 80 characters per second. Characters are formed using a 9-by-7 half space dot matrix. A variety of national character sets are available.

The UTS 20 can be configured with either the 0797 or the 0798 Matrix Printer. The 0798 is a 132-column printer which operates at 200 characters per second. Characters are formed using a 7-by-7 dot matrix. A variety of national character sets are available.

PRICING

Sperry Univac offers the UTS 10 for purchase only. The UTS 20 is available for purchase, on a monthly rental plan, or on a five-year lease. Discounts are available for quantities

Sperry Univac UTS 10 and UTS 20 Display Terminals



of 50 or more UTS 10's, and 25 or more UTS 20's. The maximum discount for the UTS 10 is 10 percent; maximum discount for the UTS 20 is 30 percent.

Maintenance for the UTS 10 is available only through Central Repair Service. This entails shipment of the

defective unit to a maintenance depot for repair. The annual charge for this service is \$80. Central Repair Service is optionally available for the UTS 20 at an annual charge of \$150; regular in-site service for the UTS 20 costs \$25 per month. The units are expected to be installed by the customer, therefore no installation charge applies.

	Monthly Rental*	5-Year Lease*	Purchase	Monthly Maint.**
UTS 10 Unbuffered TTY	—	—	\$1,360	—
UTS 10 Buffered TTY	—	—	1,560	—
Tilt/rotate base	—	—	350	—
Security keylock	—	—	60	—
Magnetic stripe reader	—	—	560	—
0797 matrix printer	—	—	2,400	—
UTS 20 single station (includes either typewriter, expanded typewriter, UTS 400, Katakana, or international keyboard)	\$130	\$105	3,200	\$25
UTS 20W cluster workstation (includes either typewriter, expanded typewriter, UTS 400, Katakana, or international keyboard)	108	87	2,640	21
Tilt/rotate base	—	—	350	—
Magnetic stripe reader	23	19	560	5
Screen bypass mode program cartridge	—	—	320	—
0797 matrix printer	107	85	2,400	25
0798 matrix printer	237	207	6,650	59

*Includes prime-shift maintenance.

**Central Repair Service only available for UTS 10.■

