

Sperry UTS 4000 Universal Terminal System



The newest addition to the Sperry UTS 4000 family is the UTS 60, a programmable terminal with color graphics capability. The UTS 60 features a 14½-inch display that features 16-color capability in graphics mode, and 8-color capability in alphanumeric mode. In addition to the terminal's standard Uniscope operating mode, the CP/M operating system is available for personal computer operation.

MANAGEMENT SUMMARY

Sperry's UTS 4000 Universal Terminal System is a family of products that provides a wide range of functionality, from a basic teletype-compatible terminal to a programmable color/graphics unit with personal computing capability. The UTS 4000 family supports both stand-alone and cluster configurations, with printers and disk or diskette drives available as add-on peripherals. Designed primarily for use with Sperry host computer systems, the UTS 4000 products provide compatibility with Sperry Uniscope 100 and 200 displays, UTS 400 terminal systems, and DCP/Telcon networks. Either Uniscope or UDLC line disciplines may be used. Introduced in 1980, the UTS 4000 system replaces the older Sperry UTS 400 line.

At the low end of the UTS 4000 product line are the UTS 10 and UTS 20, both of which are nonprogrammable stand-alone displays. The UTS 10 is a basic teletype-compatible unit, offering two teletype-compatible operating protocols: Keyboard Send/Receive 33 (for use with Sperry Series 1100 and Series 90 mainframes) and ANSI X3.64 (for use with Sperry V77 minicomputers). The UTS 10 is available in two versions: Unbuffered TTY for character-mode operation, and Buffered TTY for either character- or block-mode

The Sperry UTS 4000 is a family of terminals, controllers, printers, and peripherals available in stand-alone or cluster configurations. UTS 4000 terminals range from a basic teletype-compatible terminal to a programmable color/graphics terminal. Printers and mass storage units can be added to the terminal configurations.

MODELS: UTS 10 Teletype-compatible Terminal, UTS 20 Editing Terminal, UTS 20W Cluster Workstation, UTS 30 Editing/Programmable Terminal, UTS 40 Programmable Terminal, UTS 40W Cluster Workstation, UTS 60 Programmable Color/Graphics Terminal, UTS 4020 and UTS 4040 Cluster Controllers.

CONFIGURATION: The UTS 10, UTS 20, UTS 30, UTS 40, and UTS 60 are single-station terminals for stand-alone applications. The UTS 20W and UTS 40W are cluster workstations for attachment to the UTS 4020 and UTS 4040 cluster controllers. The UTS 4020 supports up to 12 cluster workstations and up to 16 peripherals (printers, diskettes, and/or disks). The UTS 4040 supports up to 32 cluster workstations and up to 48 peripherals (printers, diskettes, and/or disks). In addition, peripherals may also be attached to the UTS 40W workstations.

SOFTWARE: The UTS 4000 System Control Software, Uniscope Mode System Control Software, and DDP-4000 System Control Software control the various program products available for the UTS 4000. Application programs for the UTS 4000 are written in UTS Cobol. The CP/M operating system is available on the UTS 30, UTS 40, and UTS 60 for personal computing applications.

COMPETITION: Four-Phase Series 2000, Harris MIND, IBM 5280, Mohawk Data Sciences Series 21, and several others.

PRICE: Purchase prices for the UTS 4000 terminals range from \$1,428 to \$4,080. Basic purchase prices for the UTS 4020 and UTS 4040 controllers are \$7,000 and \$10,520, respectively.

CHARACTERISTICS

VENDOR: Sperry Corporation, Computer Systems, P.O. Box 500, Blue Bell, PA 19424-0001. Telephone (215) 542-4011.

DATE OF ANNOUNCEMENT: June 1980.

DATE OF FIRST DELIVERY: October 1981.

Sperry UTS 4000 Universal Terminal System

➤ operation). Operating modes are determined by the unit's program cartridge, which plugs directly into the terminal. The UTS 20 is an editing terminal which operates in any of two program cartridge-selectable modes: UTS 400 and Screen Bypass. The UTS 20 offers IBM Binary Synchronous Communications (BSC) compatibility, in addition to Sperry compatibility. A cluster workstation version of the UTS 20, the UTS 20W, is also available.

The UTS 30 is a stand-alone terminal which can operate either as an editing terminal or as a user-programmable terminal. The basic editing terminal can be upgraded to a programmable unit by replacing the editing program cartridge with a diskette interface and adding a diskette subsystem. The programmable UTS 30 supports either Uniscope or UDLC line protocols; it also supports the CP/M operating system for personal computing applications.

The UTS 40 is a programmable terminal available in single-station or cluster (UTS 40W) versions. The basic UTS 40 operates in UTS 400 Mode via a program cartridge, and contains 64K bytes of user memory. The UTS 40 may be programmed on Sperry Series 1100, Series 90, and System 80 hosts using the UTS Cobol compiler; CP/M operation is also available.

The newest member of the UTS 4000 family is the UTS 60, a programmable terminal with color graphics capability. The operating mode of the UTS 60 is loaded from diskette; Uniscope or CP/M operation may be selected. Up to 8 colors may be displayed in alphanumeric mode, with up to 16 colors available in graphics mode. Memory on the UTS 60 may be expanded from the standard 128K bytes up to 2M bytes.

The cluster workstations (UTS 20W and UTS 40W) attach directly to the UTS 4020 and UTS 4040 cluster controllers. The UTS 4020 holds a maximum memory of 1M bytes and supports up to 12 workstations and up to 16 peripheral devices (additional peripheral devices attach directly to the workstations). The UTS 4040 holds a maximum memory of 2M bytes and provides support for up to 32 workstations and up to 48 peripheral devices. When in programmable mode, the UTS 4020 and UTS 4040 cluster controllers may process data locally for the individual workstations, off-loading the host processor. Transmission rates up to 19,200 bits per second are supported by the controllers.

A variety of printers and disk and diskette subsystems can be configured as peripherals on the UTS 4000 systems. Both line and impact printers are available for draft and letter quality printing at a variety of speeds. A hard disk subsystem, plus 5¼-inch and 8-inch diskette drives provide additional mass storage capabilities. The peripherals can attach directly to the stand-alone workstations, or to the cluster controllers.

The UTS Cobol compiler provides host compilation and downline loading of user programs for the programmable members of the UTS 4000 family. An Edit Processor is ➤

➤ **NUMBER DELIVERED TO DATE:** Information not available.

SERVICED BY: Sperry Corporation.

CONFIGURATION

The UTS 4000 Universal Terminal System is a family of stand-alone and clustered terminal systems. The stand-alone terminals include: the UTS 10 Teletype-mode terminal; UTS 20 editing terminal; UTS 30 editing/programmable terminal; UTS 40 programmable terminal; and UTS 60 color/graphics terminal. The clustered systems consist of the UTS 4020 and UTS 4040 cluster controllers and UTS 20W and UTS 40W cluster workstations. Peripherals available for use with the UTS 4000 terminals and controllers include a variety of printers, diskette subsystems, and disk subsystems.

UTS 10: The UTS 10 is a stand-alone Teletype-compatible terminal which is available in two operating modes, buffered and unbuffered. The buffered version transmits data in either character or block modes, while the unbuffered version transmits in character-mode only. The operating mode of the UTS 10 is determined through the addition of a program cartridge, which plugs into the back of the unit.

UTS 20: The UTS 20 is an editing terminal available in two models, the single-station UTS 20 and cluster workstation UTS 20W. The single-station UTS 20 can operate in three modes: UTS 400 Mode, 3270 (BSC) Mode, or Screen Bypass. The operating mode is determined through the addition of a program cartridge, which plugs into the back of the terminal. The cluster workstation UTS 20W attaches directly to a UTS 4020 or UTS 4040 cluster controller. An optional feature available for the UTS 20 is direct connect, which allows the user to bypass the modem when the terminal is located at the host site. A version of the UTS 20 with an X.21 interface is also available.

UTS 30: The UTS 30 is a combination editing/programmable single-station terminal. The basic editing version of the UTS 30 can be upgraded to the programmable version by replacing the terminal's program cartridge with a diskette interface and attaching a diskette subsystem. The operating mode is then loaded from the diskette. The programmable UTS 30 supports either the Uniscope or UDLC (DCA-compatible) protocol, and can run UTS Cobol or CP/M Plus application programs.

UTS 40: The UTS 40 is a programmable terminal available in two models, the single-station UTS 40 and the cluster workstation UTS 40W. The single-station UTS 40 includes 64K bytes of user memory; the standard operating mode is UTS 400 Mode, which is implemented via a program cartridge. The UTS 40 may be programmed on Sperry Series 1100, Series 90, and System 80 host systems using the UTS Cobol compiler. A wide range of utility and application programs are available under UTS Cobol; the UTS 40 also supports CP/M applications via a CP/M program cartridge. The cluster workstation UTS 40W attaches directly to a UTS 4020 or UTS 4040 cluster controller.

UTS 60: The UTS 60 is a programmable color/graphics workstation. User memory is standard at 128K bytes, expandable to 2M bytes. Two operating modes are available, Uniscope (for terminal emulation) and CP/M 68K (for personal computer operation). The operating modes are loaded from the UTS 60 diskette subsystem. Up to 8 alphanumeric colors and up to 16 graphics colors are available.

UTS 4020/UTS 4040: The UTS 4020 is a cluster controller that supports a maximum of 1M bytes of memory and can control as many as 12 UTS 20W or UTS 40W workstations, plus up to 16 peripheral devices. The UTS 4040 cluster ➤

Sperry UTS 4000 Universal Terminal System

➤ available for text handling functions. The UTS 4000 System Control Software, Uniscope Mode System Control Software, and DDP-4000 System Control Software provide control for the UTS 4000 program products. UTS Basic and a variety of utilities are also available. The CP/M operating system is available to provide the UTS 30, UTS 40, and UTS 60 with personal computing capabilities. With CP/M, files on these systems may be converted between UTS 4000 and CP/M formats. A variety of program products is available for use with CP/M, both from Sperry and third-party vendors.

COMPETITIVE POSITION

The UTS 4000 Universal Terminal System is designed primarily for use with Sperry host computer systems, including the Series 1100, Series 90, and System 80 mainframes. Comparable general-purpose programmable terminal and distributed processing systems include the Four-Phase Series 2000, Harris MIND Series, IBM 5280, Mohawk Data Sciences Series 21, and Nixdorf 600 Series, among others. None of these systems provide direct competition for the UTS 4000 system, however.

ADVANTAGES AND RESTRICTIONS

The UTS 4000's wide range of functions and configurations stands as its chief advantage as a product line. A Sperry mainframe user can choose from a broad line of terminal products, ranging from a basic TTY terminal to a programmable unit with color and graphics. Each terminal, in addition, provides its own degree of flexibility in operating modes, via the implementation of program cartridges and/or diskette subsystems. In addition to stand-alone units, cluster configurations may be formed based on the UTS 4020 and UTS 4040 controllers, which support both programmable (UTS 40W) and nonprogrammable (UTS 20W) terminals.

Sperry has added personal computing to its line via the CP/M operating system, available with the UTS 30, UTS 40, and UTS 60 terminals. Once the premier operating system in the microcomputer world, CP/M (developed by Digital Research) has now taken a back seat to Microsoft's MS-DOS operating system, which is implemented on the IBM Personal Computer as PC-DOS. Despite this, the library of program products available for CP/M is still a considerable one, assuring a good selection of applications software for the Sperry terminals using CP/M. □

➤ controller can hold a maximum of 2M bytes of memory, and supports up to 32 UTS 20W or UTS 40W workstations and up to 48 peripherals. Workstations are attached to the UTS 4020 and UTS 4040 controllers via workstation interfaces and may be loaded up to 5000 feet from the controller.

A variety of peripherals are available for the UTS 4000 terminals and controllers. Printers offered include: 0797 80-column impact printer; 0789 line printer; Model 25 132-column impact printer; Model 31 correspondence quality printer; and Model 35 132-column impact printer. The UTS 10 can accommodate only the 0797 printer; the UTS 20 provides attachment for the 0797 printer; all of the remaining UTS 4000 terminals and controllers support all printer models. Also available are the 8439 5¼-inch diskette, 8406

8-inch diskette, and the 8409 disk subsystem. The UTS 10 and UTS 20 do not support the diskette or disk peripherals; the UTS 30 and UTS 60 support only the 8439 diskette. The 8409 disk subsystem can be used only with the UTS 4020 and UTS 4040 cluster controllers, while the 8439 5¼-inch diskette cannot be used with the cluster controllers. A multi-pen plotter is available for use with the UTS 60; a magnetic stripe reader is available for all models except the UTS 60.

TRANSMISSION SPECIFICATIONS

Transmission is synchronous in half-duplex mode. The UTS 10, UTS 20, UTS 30, UTS 40, and UTS 60 transmit data at speeds up to 9600 bps. The UTS 4020 and UTS 4040 cluster controllers support transmission at speeds up to 19,200 bps. A seven-level ASCII code, plus parity, is used, as is the standard UTS 400 transmission protocol. The UTS 400 protocol performs internal parity checking, and provides a single-bit error-detection scheme on all communications line and peripheral transfers. Data is automatically retransmitted upon detection of an error.

The UTS 4000 systems may be connected to a Sperry Series 1100, Series 90, System 80, or V77 host computer via direct or modem connection. (Note, however, that V77 systems do not support a UTS Cobol compiler.) An RS-232-C/V.24 interface is provided for modem connection. A direct-connect interface is also available. An X.21 interface is available for the UTS 20.

SOFTWARE

The UTS 20, UTS 30, and UTS 40 utilize program cartridges, which determine the "personality" of the workstation. The program cartridges plug directly into the terminal. The UTS 20 can be configured with any of three program cartridges. They are: UTS 400 Mode, which provides compatibility with applications employing Sperry Uniscope 100/200 or UTS 400 terminals; BSC Mode, which utilizes the Binary Synchronous Communications protocol for IBM emulation; and Screen Bypass Mode, which is UTS 400 Mode enhanced with a screen bypass capability. (Screen bypass permits the host to selectively address a workstation's peripherals and initiate a data transfer to or from a peripheral without interfering with the operator's use of the keyboard or display.) The UTS 30 can be configured with a program cartridge for UTS 400 Mode operation; the program cartridge is replaced with a diskette interface for programmable operation. The UTS 40 is also configured with a program cartridge for UTS 400 Mode operation with screen bypass capability as standard.

Sperry offers a variety of program products for use with the UTS 4020 and UTS 4040. A UTS Cobol compiler for the UTS 30, UTS 40, UTS 4020, and UTS 4040 is available on Series 1100, Series 90, and System 80 host computers. The UTS 4000 System Control Software is a prerequisite for all other program products used by the UTS 4020 or UTS 4040. This is a diskette-resident program that provides all basic system functions, including workstation support, peripheral handling, diskette file management, and communication with the host. The Uniscope Mode System Control Software consists of a supervisor, workstation logic, support for all peripherals, diskette or disk file management, support for the interface that links the controller to a host processor, and system utilities. The DDP-4000 System Control Software provides Sperry Distributed Communications Architecture (DCA) compatibility and operates in conjunction with DCP/Telcon and CMS 1100. DDP-4000 provides DDP verbs and remote batch commands that are used in conjunction with Series 1100 software to create a distributed data processing environment. Uniscope screen format control and Uniscope application program compatibility are retained by DDP-4000. The system control software supports the 8409 disk subsystem employing the Indexed Sequential Access Method (ISAM). ➤

Sperry UTS 4000 Universal Terminal System

► UTS Cobol provides host compilation and downline loading of user programs for execution in the UTS 4020, UTS 4040, UTS 30, and UTS 40. UTS Cobol conforms to ANSI Standard X3.23-1974 with syntax extensions that accommodate specific terminal functions, such as interactive data entry and program control, screen management and data formatting, and compressing. Under UTS Cobol, files may be either sequentially or randomly accessed, and either formatted or unformatted. Multiple files are also supported. Files may be dedicated to a specific workstation or shared, reassigned from one device to another similar device, or changed from dedicated to shared status or vice versa. The UTS Cobol compiler runs on a Sperry Series 1100, Series 90, or System 80 host computer.

The Edit Processor is available as a program development tool residing in the UTS 4020 and UTS 4040 cluster controllers, or in the UTS 30 and UTS 40 single-station terminals. The Edit Processor permits local files containing data or program source code to be created and updated off-line, without the assistance of the host. The Edit Processor provides line-oriented text handling and editing functions that can simplify off-line program development. Once compiled, programs created on a UTS 4020, UTS 4040, UTS 30, or UTS 40 may be run on any UTS 4020, UTS 4040, UTS 30, UTS 40, or UTS 400 interconnected through the host system.

UTS Basic is also available for generation of programs on a UTS 4020 or UTS 4040 in stand-alone mode. UTS Basic conforms to the ANSI Standard X3.60-1978 and has extensions for input/output, program manipulation, program control, additional arithmetic and string functions, and UTS terminal-oriented functions.

The Text Processing Utility (TPU), available on the UTS 4020, UTS 4040, UTS 30, and UTS 40, allows for the creation, modification, formatting, and printing of text and its transmission to the host. TPU also permits the storage of documents on diskette, document selection and retrieval, and other document maintenance procedures.

The Loadable Character Set Generator (LCSG) enables the user to interactively create, modify, and copy loadable character set definitions. The LCSG is generated on the Sperry host computer, and character sets are then downline loaded to a UTS 40.

The File Transfer Utility, operating in conjunction with the Edit Processor, provides for the bidirectional transfer of symbolic files between mass storage on the cluster controller and mass storage on a Sperry host computer. Printing of files from local or host mass storage is also controlled.

Personal computing capabilities are available on the UTS 30, UTS 40, and UTS 60 terminals through the addition of the CP/M operating system. The addition of CP/M allows the UTS 30, UTS 40, and UTS 60 to convert files between UTS 4000 and CP/M file formats. A variety of commercially available applications packages operating under CP/M may be obtained from independent software vendors and distributors. Sperry also provides several software products for use under CP/M operation. These include communications utilities (TTY Communications Utility and Uniscope Communications Utility), programming languages (CBasic, CBasic Compiler, CIS Cobol, Level II Cobol, Pascal/MT, and PL/1-80), and productivity tools (MAC, ZSID, BT-80, Display Manager, Access Manager, CP/M Graphics, GSX-80, GSS-Kernel, GSS-Plot, GSS-4010, GSC-Graph, and GSC-Draw).

COMPONENTS

UTS 4020 CLUSTER CONTROLLER: A microprocessor-based cluster controller that provides support for up to 12

UTS 20W or UTS 40W workstations and up to 16 peripheral devices. Main memory consists of up to four 256K-byte memory modules. Up to 128K bytes of RAM may be directly addressed; up to 1M byte of memory may be configured. Data is stored on double-sided, double-density diskettes.

UTS 4040 CLUSTER CONTROLLER: A microprocessor-based cluster controller that provides support for up to 32 UTS 20W or UTS 40W workstations and up to 48 peripheral devices. Main memory consists of up to eight 256K-byte memory modules. Up to 256K bytes of RAM may be directly addressed; up to 2M bytes of memory may be configured. Data is stored on double-sided, double-density diskettes.

UTS 10 TELETYPE-COMPATIBLE TERMINAL: Includes a 12-inch (diagonal) display with a 1920-character capacity, arranged in a 24-line by 80-character format. Characters are formed using a 7-by-11 dot matrix, and displayed in green (P31) phosphor. A tilt/rotate base is optional. The UTS 10 can operate as an unbuffered (character mode) or buffered (block or character mode) teletype terminal; the mode of operation is determined by the unit's program cartridge. Two detached keyboard styles are available: 70-key typewriter for use with an unbuffered terminal, and 90-key typewriter for use with a buffered terminal.

UTS 20 EDITING TERMINAL: Includes a 12-inch (diagonal) display with a 1920-character capacity, arranged in a 24-line by 80-character format. Characters are formed using a 7-by-11 dot matrix, and displayed in green (P31) phosphor. A tilt/rotate base is optional. The UTS 20 can operate in any of three modes: UTS 400 Mode, 3270 (BSC) Mode, and Screen Bypass Mode; the mode of operation is determined by the unit's program cartridge. The UTS 20W, a clustered workstation version, is also available. Four detached keyboard styles are available: Typewriter, Expanded Typewriter (full function with numeric keypad), Katakana (Japanese)/English, and UTS 400 format. The following national languages are available for the Typewriter and Expanded Typewriter keyboards: Danish/Norwegian, French, German, Spanish, Swedish/Finnish, United Kingdom, and Italian.

UTS 30 EDITING/PROGRAMMABLE TERMINAL: Includes a 12-inch (diagonal) display with a 1920-character capacity, arranged in 24 lines of 80 characters each. Characters are formed by using a 10-by-16 dot matrix, and displayed in green (P31) phosphor. A tilt/rotate base is optional. The UTS 30 can operate in UTS 400 Mode (with screen bypass) when configured with a program cartridge; it operates as a programmable terminal when the program cartridge is replaced with a diskette interface and a 5/4-inch diskette subsystem. The programmable version supports Uniscope and DDP-4000 operating modes. The UTS 30 includes a detached, low-profile Expanded Typewriter (full function with numeric keypad) keyboard. The following national languages are available: Danish/Norwegian, French, German, Spanish, Swedish/Finnish, United Kingdom, and Italian.

UTS 40 PROGRAMMABLE TERMINAL: Includes a 12-inch (diagonal) display with a 1920-character capacity, arranged in 24 lines of 80 characters each. Characters are formed using a 7-by-11 dot matrix, and displayed in green (P31) phosphor. A tilt/rotate base is optional. The UTS 40 can operate in UTS 400 Mode or CP/M Mode; the operating mode is determined by the unit's program cartridge. The UTS 40 contains up to 64K bytes of user memory, and can be configured with a diskette interface that supports up to four 5/4-inch diskette drives. The UTS 40W, a clustered workstation version, is also available. Four detached keyboard styles are available: Expanded Typewriter (full function with numeric keypad), Expanded Typewriter with a low-profile design, Expanded Typewriter with text processing keys, and UTS 400 format. The following national lan- ►

Sperry UTS 4000 Universal Terminal System

► guages are available for the Expanded Typewriter keyboards: Danish/Norwegian, French, German, Spanish, Swedish/Finnish, United Kingdom, and Italian.

UTS 60 COLOR/GRAPHICS PROGRAMMABLE TERMINAL: Includes a 14½-inch (diagonal) color display with a 1920-character capacity, arranged in 24 lines of 80 characters each. Characters are formed using a 9-by-15 dot matrix. Up to 8 alphanumeric and 16 graphics colors may be displayed. A tilt/rotate base is optional. The UTS 60 features a diskette interface that supports up to four 5¼-inch diskette drives (each with a capacity of 737K bytes). The operating mode is loaded from the diskette; operating modes available for the UTS 60 include Uniscope and CP/M. The UTS 60 contains 128K bytes of user memory as standard, and is expandable to 2M bytes of memory. A multipen plotter is also supported. A detached, low-profile Expanded Typewriter (full function with numeric keypad) keyboard is included. The following national languages are available: Danish/Norwegian, French, German, Spanish, Swedish/Finnish, United Kingdom, and Italian.

0797 IMPACT PRINTER: An 80-column printer that prints at 80 cps using a 9-by-7 half-space dot matrix. Horizontal spacing is 10 cpi, while vertical spacing is selectable at 6 or 8 lpi. A variety of fonts is available. An original plus two copies may be printed.

0789 LINE PRINTER: A 132-column line printer that is available in three models, printing at 180, 300, and 640 lpm with a 48-character set. (The 640 lpm model can be attached only to a UTS 4020 or UTS 4040.) Vertical spacing is selectable at 6 or 8 lpi.

MODEL 25 IMPACT PRINTER: A 132-column printer that prints in draft-quality or high-quality modes. Draft quality provides bidirectional printing at 160 cps using a 9-by-7 dot matrix; high quality prints unidirectionally at 40 cps using an 18-by-40 dot matrix. Horizontal spacing is selectable at 10, 12.5, or 16.6 cpi; vertical spacing is selectable at 6 or 8 lpi. The 96-character ASCII and 128-character Katakana sets are available. Forms from 3 to 16 inches wide are fed via a tractor feed mechanism; an original plus three copies may be generated.

MODEL 31 CORRESPONDENCE QUALITY PRINTER: Prints correspondence-quality (Shannon) text bidirectionally at 55 cps via a daisywheel mechanism. More than 100 different 96-character sets and type styles are available. Horizontal spacing is selectable at 10, 12, or 15 cpi; vertical spacing is selectable at 6 or 8 lpi. Forms up to 15 inches wide can be fed via a friction platen, continuous-forms tractor, and cut-forms feeder.

MODEL 35 IMPACT PRINTER: A 132-column printer that prints in draft-quality or high-quality modes, and provides two- or four-color printing capability as an option. Draft quality provides bidirectional printing at 400 cps using a 9-by-7 dot matrix; high quality provides unidirectional printing at 167 cps using an 18-by-40 dot matrix. Eight resident 96-character sets and a 128-character Katakana set are available. Horizontal spacing is selectable at 10, 12, or

15 cpi, while vertical spacing is selectable at 6 or 8 lpi. In addition to the Model 35's color capabilities, a mosaic graphics feature is also available. Single forms, continuous folded forms, and cut forms are accepted; a friction feed and cut-forms feed mechanism are available. An original plus five copies may be generated.

8409 DISK SUBSYSTEM: A nonremovable hard disk drive with a maximum storage capacity of 47.5M bytes. Each subsystem cabinet can house up to two disk drives. Disk drives are offered with the following storage capacities: 23.75MB, 14.25MB, and 4.75MB; disk drives of different capacities can be mixed in the same cabinet. Disk latency is an average of 8.33 ms with a maximum of 16.6 ms; minimum and maximum access times are 12 ms and 45 ms, respectively. The data transfer rate is 625K bytes per second.

8439 5¼-INCH DISKETTE SUBSYSTEM: Diskette drives with a storage capacity of 655K bytes when formatted at 512 bytes per sector (UTS 30). When used with the UTS 40 and UTS 60, maximum storage capacity is 737K bytes. A maximum of two diskette drives per subsystem is allowed. Transfer rate is 31.25K bytes per second.

8406 8-INCH DISKETTE SUBSYSTEM: Diskette drives with a storage capacity of 1M byte, 77 data tracks, and a track format of 26 sectors at 128 bytes per sector. Average access time is 260 ms, with an average latency time of 83 ms. The transfer rate is 62.5K bytes per second. One double-sided drive is standard; a second drive may be optionally added.

PRICING

The UTS 4000 products are available for purchase, on a one-year rental plan, or on a five-year lease plan. (The UTS 10 is available for purchase only.) Quantity discounts are available for equipment purchased or on a five-year lease. The discount scale is 10 percent for quantities of 25 or more, 20 percent for quantities of 50 or more, and 30 percent for quantities of 100 or more. Certain quantity discounts are also available for optional features and peripherals; contact Sperry for details.

A separate maintenance contract is available for all equipment, whether it is purchased, rented, or leased. (Rental and lease prices below do not include the monthly maintenance fee.) As an alternative for purchased equipment only, Sperry's Central Repair Service (CRS) is available for selected products on an annual basis. CRS requires the customer to ship units in need of repair to a Sperry maintenance depot, where they are serviced and returned to the user.

The UTS 4000 family components are designated customer set-up units, with the customer assuming the responsibility for unpacking, inspecting, installing, and testing the equipment in accordance with Sperry's instructions. Sperry Customer Engineers are available by telephone (or for on-site assistance, when necessary).

Contact Sperry for software pricing. ►

Sperry UTS 4000 Universal Terminal System

EQUIPMENT PRICES

	Monthly Charges			
	Purchase Price (\$)	Monthly Maint. (\$)	Monthly Rental (\$)	5-Year Lease (\$)
UTS 10				
UTS 10 Unbuffered TTY; includes display, keyboard, and program cartridge	1,428	*91	—	—
UTS 10 Buffered TTY; includes display, keyboard, and program cartridge	1,720	*91	—	—
Tilt/rotate base	160	—	—	—
Security Keylock	60	—	—	—
*Annual maintenance charge (Central Repair Service).				
UTS 20				
UTS 20 Editing Terminal; requires keyboard and program cartridge	1,562	31	69	46
UTS 20 3270 Mode (BSC) Terminal; requires 3270 BSC mode Typewriter keyboard and 3270 BSC Mode Program Cartridge	2,227	31	100	66
UTS 20 X.21 Terminal; requires keyboard and program cartridge	1,862	33	83	55
UTS 20W Cluster Workstation; requires keyboard and program cartridge	1,405	26	63	42
Typewriter Keyboard	200	2	9	6
Expanded Typewriter Keyboard	428	3	20	13
UTS 400-format Keyboard	453	4	20	13
Low-profile Typewriter Keyboard	453	4	20	13
3270 (BSC) Mode Typewriter Keyboard	478	4	21	14
UTS 400 Mode Program Cartridge	200	—	9	6
Screen Bypass Mode Program Cartridge	505	—	23	15
UTS 400 Mode Program Cartridge (for UTS 20 X.21 only)	200	—	9	6
3270 (BSC) Mode Program Cartridge	505	—	23	15
Tilt/Rotate Base	160	—	8	5
UTS 30				
UTS 30 Editing/Programmable Terminal; requires a keyboard and either a program cartridge or diskette subsystem	2,277	29	101	67
Low-profile Expanded Typewriter Keyboard	453	4	20	13
Program Cartridge (Uniscopes Mode)	505	—	23	15
Diskette Interface	505	5	23	15
Diskette Subsystem; requires Diskette Interface	1,085	10	53	35
128KB RAM Memory Expansion	1,000	4	45	30
Tilt/Rotate Base	160	—	9	7
UTS 40				
UTS 40 Programmable Terminal; requires keyboard and program cartridge	2,333	43	104	69
UTS 40W Cluster Workstation; requires keyboard and program cartridge	2,024	34	90	60
Expanded Typewriter Keyboard	428	3	20	13
UTS 400-format Keyboard	453	4	20	13
UTS 400 Mode Program Cartridge	505	—	23	15
UTS 400 Mode w/Screen Bypass Program Cartridge	595	—	21	17
CP/M Program Cartridge	595	—	27	18
32KB RAM Memory Expansion	1,600	3	50	40
Second 32KB RAM Memory Expansion	800	2	24	20
Peripheral Interface (provides for up to 4 devices on UTS 40 or 2 devices on UTS 40W)	560	3	21	14
Tilt/Rotate Base	160	—	8	5
UTS 60				
UTS 60 Programmable Color/Graphics Terminal; requires keyboard and diskette subsystem	4,080	33	—	—
Low-profile Expanded Typewriter Keyboard	453	4	—	—
Diskette Subsystem	1,085	10	—	—
Dot Graphics Module	900	8	—	—
256KB RAM Memory Expansion	800	7	—	—
0.5MB RAM Memory Expansion	1,200	10	—	—
1MB RAM Memory Expansion	1,800	14	—	—
Tilt/Rotate Base	160	—	—	—
UTS 4020/UTS 4040				
UTS 4020 Cluster Controller	7,000	66	311	203
UTS 4040 Cluster Controller	10,520	81	468	312
64KB RAM Memory Expansion	2,000	10	74	58
128KB RAM Memory Expansion (UTS 4020 only)	3,500	13	156	104
128KB RAM Memory Expansion (UTS 4040 only)	4,000	20	148	115
256KB RAM Memory Expansion (UTS 4020 only)	6,000	20	267	178
256KB RAM Memory Expansion (UTS 4040 only)	7,000	20	311	207
Workstation Interface (provides for attachment of up to 6 UTS 20W or UTS 40W workstations)	800	4	36	24

Sperry UTS 4000 Universal Terminal System

EQUIPMENT PRICES

	Monthly Charges			
	Purchase Price (\$)	Monthly Maint. (\$)	Monthly Rental (\$)	5-Year Lease (\$)
Peripheral Interface (provides for attachment of up to 4 peripherals)	560	3	26	17
Dual Peripheral Interface (provides for attachment of up to 8 peripherals)	820	3	36	24
Printers				
0797 Impact Printer	750	29	67	50
0798 Impact Printer	4,000	70	188	156
0789 Line Printer	15,650	170	417	313
Model 25 Draft Quality Printer	1,275	38	55	45
Model 25 High Quality Printer	1,595	44	60	50
Model 31 Impact Printer	2,025	30	117	78
Model 35 Impact Printer	3,900	40	174	116
Model 35 Color Impact Printer	4,500	45	201	134
Peripherals				
8409 Disk Subsystem	9,650	82	378	280
8439 5¼-inch Diskette Subsystem	1,160	10	56	37
8406 8-inch Diskette Subsystem	2,700	22	120	80
Magnetic Stripe Reader	280	5	12	8

