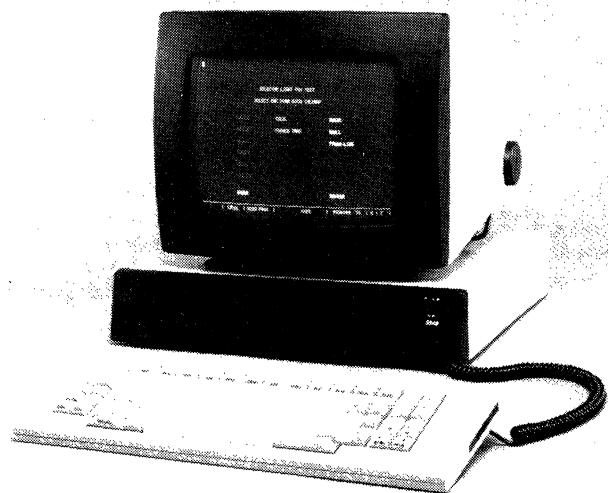


AT&T E4540 Series Display Terminals



The E4549 is a four-color display terminal available in two models. The E4549-42 provides a 1,920-character display capacity; the E4549-43 provides selectable 1,920- and 2,560-character display capacities. Both models include a 13-inch screen and choice of detachable keyboards.

MANAGEMENT SUMMARY

UPDATE: This report reflects the removal of the Teletype name from all AT&T display terminals. Teletype (based in Skokie, IL) has been absorbed into the Computer Systems Division of AT&T Information Systems; it remains the manufacturing arm of AT&T-IS.

Since 1930, Teletype Corporation was responsible for manufacturing and supplying the Bell System's teletypewriter equipment and, in recent times, computer display terminals and printers. The Bell System used Teletype products internally and resold them to end users on a tariffed basis. In addition, Teletype marketed its own products on a nontariffed basis directly to end users, and through a large network of dealers, distributors, leasing companies, and OEMs.

The AT&T divestiture and deregulation have changed most of that. Teletype has been absorbed into the Computer Systems Division of AT&T Information Systems, and its Teletype and Dataspeed labels have disappeared from view. The company was known for a while as "AT&T Teletype," but now products coming out of Skokie display only the AT&T logo. (In January 1986, AT&T announced that it will phase out the manufacturing of data terminals and teleprinters at the Skokie plant over the next two years.) Some AT&T-IS terminal equipment is obtained from other OEMs, as well.

The E4540 Series (formerly known as the 5540) is a family of IBM 3270-compatible products. The E4540 components are not plug-compatible with IBM's products; in other

The E4540 Series is AT&T's third generation of IBM 3270-compatible display terminal products, replacing the AT&T Teletype 4540 product line. An enhanced version of the older 4540 family, the E4540 line features local and remote cluster controllers, monochrome and color display terminals, and printers. As part of the product line, AT&T also makes available an asynchronous host adapter and a personal computer attachment feature. E4540 displays and printers attach to E4540 controllers via twisted-pair wire or coaxial cable.

MODELS: E4544 and E4546 Controllers; E4548-12 and E4548-25 Display Terminals; E4549-42 and E4549-43 Color Display Terminals.

DISPLAY: The E4548-12 contains a 12-inch display screen; the E4548-25, E4549-42, and E4549-43 feature a 13-inch screen. The E4548-25 features 80/132-column display capability; the E4548-12, E4549-42, and E4549-43 feature 80-column display capability only. All models have a tiltable display.

KEYBOARD: A variety of IBM 3270-style keyboard layouts are available for the E4540 Series displays, including typewriter and data entry; all keyboard models feature 24 function keys. Keyboards for the E4540 displays are detachable, and are available in both high-profile and low-profile designs.

COMPETITION: IBM, ITT Courier, Telex, Lee Data, Memorex, and several others.

PRICE: Purchase prices for the E4540 Series terminals range from \$1,495 to \$2,265; E4540 Series controllers are priced from \$4,000 to \$16,300.

CHARACTERISTICS

VENDOR: AT&T Information Systems, 1 Speedwell Avenue, Morristown, NJ 07960. Telephone (201) 898-2000. In Canada: AT&T Canada, 1500 Don Mills Road, Ontario M3B 3K4. Telephone (416) 449-4300.

DATE OF ANNOUNCEMENT: E4544, E4546, and E4548—April 1983; E4549—May 1984.

DATE OF FIRST DELIVERY: E4544, E4546, and E4548—Third quarter 1983; E4549—May 1984.

NUMBER DELIVERED TO DATE: Information not available.

SERVICED BY: AT&T Information Systems.

MODELS

The E4540 Series is a family of IBM 3270-compatible display terminals, controllers, and printers. As with the

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words, they cannot be mixed in with IBM devices in the same configuration.

The E4540 family consists of local and remote cluster controllers (E4544 and E4546), monochrome displays (E4548-12 and E4548-25), color displays (E4549-42 and E4549-43), and a line of printers. Printers and displays attach to the controllers via twisted-pair wire or coaxial cable. Recent additions to the E4540 line include the E4540 Asynchronous Adapter, that allows E4540 terminal users to access asynchronous hosts via the keyboard; and the SSI IRMA Emulator, that provides for PC attachment (AT&T PC 6300, IBM PC/PC XT/PC AT, and IBM-compatible PCs) to an E4540 controller.

The E4544 is an IBM 3274-compatible control unit. Available in 16-port and 32-port versions, the E4544 is a floor-standing unit. The E4546 is an IBM 3276-compatible, tabletop control unit available in 6-port and 12-port versions. Both controller models provide 5¼-inch dual diskettes for software storage. Users can switch from BSC to SNA/SDLC line protocol by changing disks.

The E4548-12 Display Terminal is an IBM 3278 Model 2 and 3178-compatible unit containing a 12-inch display and a 1,920-character (24 lines by 80 columns) display capacity. The E4548-25 is compatible with the IBM 3278 Model 5; it features a 13-inch screen while providing selectable display capacities of 1,920 and 3,564 (27 lines by 132 columns) characters. The E4549-42 is a 4-color display that includes a 13-inch screen and a display capacity of 1,920 characters; the E4549-43 also contains a 13-inch screen, but includes selectable 1,920- and 2,560-character (32 lines by 80 columns) display capacities. All of the E4540 displays can be configured with a choice of keyboards, including typewriter, typewriter with external numeric pad, and data entry styles (all of which contain 24 programmable function keys). The keyboards can be chosen with high- or low-profile designs.

AT&T also provides a variety of character matrix and full-character belt printers for use as part of an E4540 Series configuration.

COMPETITIVE POSITION

Prior to AT&T's divestiture, Teletype Corporation possessed what was, essentially, a built-in market. The company's products were sold primarily to the Bell Operating Companies (BOCs) for their internal use or for resale to their customers. At that time, as much as 40 percent of Teletype's revenues were attributed to their business with the BOCs. As part of Computer Inquiry II, Teletype was prohibited from selling new premises equipment to users during 1983. Also as part of Computer Inquiry II, Teletype was prohibited from selling its products directly to end users. With the AT&T divestiture, the BOCs were divested from AT&T, thus loosening, to some extent, Teletype's hold on them. Teletype remains a part of AT&T, while the

older AT&T Teletype 4540 family, the E4540 products operate under both BSC and SDLC line protocols. Members of the E4540 line include:

- E4544—a control unit that is compatible with the IBM 3274 and is available in 16- and 32-port configurations, as well as in remote and local versions;
- E4546—a remote control unit that is compatible with the IBM 3276 and is available in 6- and 12-port versions;
- E4548-12—a monochrome display terminal that is compatible with the IBM 3178 and 3278 Model 2; includes a 12-inch display screen with a 1,920-character capacity and a detachable keyboard;
- E4548-25—a monochrome display terminal that is compatible with the IBM 3278 Model 5; includes a 13-inch display screen with selectable 1,920- and 3,564-character capacities and a detachable keyboard;
- 4549-42—a 4-color display terminal that is compatible with the IBM 3279 Model S2A; includes a 13-inch screen with a 1,920-character capacity and a detachable keyboard; and
- 4549-43—a 4-color display terminal that is compatible with the IBM 3279 Model 3X; includes a 13-inch display screen with selectable 1,920- and 2,560-character capacities and a detachable keyboard.

AT&T also provides a variety of printers for use with the E4540 family, including serial and line printers.

TRANSMISSION SPECIFICATIONS

For the E4540 Series terminals, transmission is synchronous, in half- or full-duplex, at speeds up to 9600 bits per second (except for the E4544 Local Cluster Controller, which supports speeds up to 1M bps). Both BSC and SNA/SDLC protocols are supported. The E4544 remote controllers are compatible with the IBM 3274 "C" models, while the E4546 controllers are compatible with the IBM 3276 remote controller. The following SNA descriptors are supported: Physical Unit (PU) Type 2, Logical Units (LU) Types 1, 2, and 3, and Format Identification (FID) Type 2. Displays and printers connect to the control unit via 4-pair twisted wire or coaxial cable, at distances up to 5,000 feet (up to 2,000 feet only for the line printer models). Over nonswitched transmission facilities, half-duplex terminal operation is supported.

The E4544 and E4546 remote controllers can attach to the following IBM host computers: S/360, S/370, 3030, 3081, and 4300 via a channel-attached 2701, 2703, 3704, or 3705 communication processor or front-end; S/370 Models 115, 125, 135, and 138 via integrated adapters. A single host processor can be attached. The E4544 local controller communicates with the IBM S/370, 43XX, 303X, or 308X hosts in SNA or Extended 3272 modes.

Communications with asynchronous host computers is enabled via the AT&T E4540 Asynchronous Adapter. The adapter provides for full-duplex asynchronous transmission at 300, 1200, or 2400 bps. The E4540 Asynchronous Adapter provides eight asynchronous modem ports.

When operating in asynchronous mode, the E4540 remote controllers use the SSI/EIA Multiplexer attachment. The multiplexer connects to any port on a remote controller and provides eight RS-232-C interfaces to asynchronous modems. The E4544-31 SB can accommodate two multiplexers; all others can accommodate one.

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▷ BOCs are now free to purchase equipment from whatever source they prefer.

All of this forced Teletype (which soon became AT&T Teletype) to change its strategy in the new, deregulated, marketplace. As a result, the company poured more money into research and development, beefed up marketing, cut manufacturing costs in order to reduce prices, and established new distribution channels.

In 1985, AT&T Teletype became a wholly owned subsidiary of the Computer Systems Division of AT&T Information Systems. All sales and marketing for Teletype terminals were relocated to AT&T-IS headquarters in Morristown, New Jersey. Teletype, based in Skokie, Illinois, remains (for the time being) the manufacturing arm for the production of data terminals; however, the Teletype logo will no longer be found on the terminals.

In January 1986, AT&T announced that it will phase out the manufacturing of printers and data terminals at the Teletype plant in Skokie. This move will result in the layoffs of approximately 800 of the 2,000 workers now employed at the former Teletype headquarters. The move comes as part of AT&T Information Systems' planned reduction of 24,000 jobs. The manufacturing of printers and data terminals will be transferred to AT&T's Little Rock, Arkansas facility, which was formerly also a Teletype facility. It would seem that Teletype, as a company, is slowly disappearing. The Teletype name remains a legal entity for trademark, product brand name, and other purposes.

The E4540 Series is AT&T's replacement for the older Teletype 4540 family of IBM 3270 replacement products. The new components are also compatible with the existing Teletype 4540 products, a line which boasts a very large installed base (approximately 300,000) and a high degree of user acceptance in the competitive 3270 replacement market.

Within this market, the E4540 Series competes against IBM, as well as with the 3270 product lines from independent vendors such as Telex, ITT Courier, Memorex, Lee Data, Harris, and several others.

ADVANTAGES AND RESTRICTIONS

Teletype's products have gained a reputation for functionality and reliability, as well as for their rather high price tags. The AT&T E4540 Series terminals retain the functionality offered by their predecessors, but prices have fallen to reflect the realities of competing in a deregulated market. In addition, a variety of enhancements (thus, the E in E4540) have been made in this new family of products. Color terminals, compact monochrome terminals, and a wider variety of printers are now a part of the E4540 product line. In addition, selectable synchronous and asynchronous operation from a single terminal is now possible through the addition of the E4540 Asynchronous Adapter. ▷

▶ DEVICE CONTROL

The E4540 family of components are compatible with the corresponding members of the IBM 3270 Information Display System. The E4540 Series is also compatible with the older AT&T Teletype 4540 family, the company's previous line of IBM 3270-compatible equipment.

The E4540 terminals feature a separate user information/status line, block or underline cursor with selectable blink, and self-test diagnostics. A selector light pen is optional. The displays connect to a cluster controller via twisted-pair wire or coaxial cable at distances up to 5,000 feet.

All software for the E4540 controllers is stored on dual 5¼-inch diskettes; a user can switch from BSC to SDLC protocol by switching disks. The first port on the controller is reserved for the controller console, for communicating with the host and for setting options such as station addresses, configurations, and printer authorization matrix.

The E4540 Asynchronous Adapter allows an E4540 display terminal to access both IBM 3270-compatible networks and asynchronous data bases. The Asynchronous Adapter consists of a small module and a program diskette. The module connects to an E4544 or E4546 remote controller; each module provides the E4540 display terminals connected to the controller with access to eight RS-232-C asynchronous modem ports with line speeds up to 2400 bps. Once the program is downloaded from the diskette, the user of an E4540 display can select synchronous or asynchronous operation by pressing a single key. When in asynchronous mode, the E4540 display is compatible with application programs based on the ANSI X3.64 protocol and Digital Equipment Corporation VT100 and VT52 terminal operation. A horizontal split screen mode is selectable for displaying and interacting with synchronous and asynchronous data simultaneously.

The SSI IRMA Emulator allows an AT&T 6300 personal computer, an IBM PC, PC XT, PC AT, or IBM-compatible PC to attach to an E4540 Series controller. The SSI IRMA Emulator consists of a plug-in circuit card and an emulator program on diskette. The emulation program allows the PC to emulate an E4540 display.

COMPONENTS

E4544-31 SA REMOTE CLUSTER CONTROLLER: A floor-standing control unit that is compatible with the IBM 3274 Control Unit. The E4544-31 SA is based on a 16-bit microprocessor; software is stored on 5¼-inch dual diskettes. The controller provides for the attachment of up to 16 devices (1 display minimum; 8 printers maximum) in a remote cluster. Support for both BSC and SNA/SDLC line protocols is provided by changing diskettes. Built-in local and remote test features are included.

The E4544-31 SA provides for the attachment of E4540 Series display terminals and printers; it does not support attachment of IBM devices.

E4544-31 SB REMOTE CLUSTER CONTROLLER: A floor-standing control unit that is compatible with the IBM 3274 Control Unit (C models). The E4544-31 SB is based on a 16-bit microprocessor; software is stored on 5¼-inch dual diskettes. The controller provides for the attachment of up to 32 (1 display minimum; 8 printers maximum) devices in a remote cluster. Support for both BSC and SNA/SDLC line protocols is provided by changing diskettes. Built-in local and remote test features are included.

The E4544-31 SB provides for the attachment of E4540 Series display terminals and printers; it does not support attachment of IBM devices. ▶

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▶ Another important trend in the 3270-replacement market is the addition of personal computers to a standard 3270 configuration. With the SSI IRMA Emulator (a version of the industry's most popular micro-mainframe link, the Irma board from DCA), E4540 Series users can connect an AT&T 6300 Personal Computer, an IBM PC, PC XT, or PC AT, or certain IBM-compatible PCs to an E4540 controller.

A disadvantage of the E4540 Series is the product line's lack of plug-compatibility with the IBM 3270 family of products. AT&T E4540 components cannot be mixed in with IBM 3270 components in the same configuration; thus, the product line must be sold as a complete package. AT&T has recently introduced the 6500 Multifunction Communication System, a new generation of 3270-compatible products. The question now would seem to be whether or not AT&T will phase out the E4540 Series in favor of the new 6500 product line. □

▶ **E4544 LOCAL CLUSTER CONTROLLER:** A floor-standing local control unit that can operate in SNA or Extended 3272 modes. The E4544 Local Cluster Controller is based on a 16-bit microprocessor; software is stored on 5¼-inch dual diskettes. It supports up to 32 devices (1 display minimum; 8 printers maximum) in a local cluster.

The E4544 local controller provides for the attachment of E4540 Series display terminals and printers; it does not support attachment of IBM devices.

E4546-31 SA REMOTE CLUSTER CONTROLLER: A tabletop control unit that is compatible with the IBM 3276 Control Unit (it does not include an integral display like the 3276). The E4546-31 SA is based on a 16-bit microprocessor; software is stored on 5¼-inch dual diskettes. The E4546-31 SA provides for the attachment of up to 6 devices (1 display minimum; 5 printers maximum) in a remote configuration. Support for both BSC and SNA/SDLC line protocols is provided by changing diskettes. Built-in local and remote test features are included.

The E4546-31 SA provides for the attachment of E4540 Series display terminals and printers; it does not support attachment of IBM devices.

E4546-31 SB REMOTE CLUSTER CONTROLLER: A tabletop control unit that is compatible with the IBM 3276 Control Unit (it does not include an integral display like the 3276). The E4546-31 SB is based on a 16-bit microprocessor; software is stored on 5¼-inch dual diskettes. The E4546-31 SB provides for the attachment of up to 12 devices (1 display minimum; 6 printers maximum) in a remote configuration. Support for both BSC and SNA/SDLC line protocols is provided by changing diskettes. Built-in local and remote test features are included.

The E4546-31 SB provides for the attachment of E4540 Series display terminals and printers; it does not support attachment of IBM devices.

E4548-12 DISPLAY TERMINAL: A monochrome display terminal that includes a 12-inch (diagonal) display screen with a 1,920-character capacity arranged in a 24-line by 80-column format. A user status line is also available. The E4548-12 is designed for compatibility with the IBM 3178 Display Station. Characters are formed utilizing a 7-by-9 dot matrix, and are displayed in white on a dark background. The 96 EBCDIC/ASCII character set is displayable. The screen features a nonglare finish, brightness control, and is tiltable.

The E4548-12 attaches to the E4540 Series controllers; it does not attach to IBM controllers.

E4548-25 DISPLAY TERMINAL: A monochrome display terminal that includes a 13-inch (diagonal) screen with selectable display capacities of 1,920 (24 lines by 80 columns) or 3,564 (27 lines by 132 columns) characters. A user status line is also available. The E4548-25 is compatible with the IBM 3278 Model 5 Display Station. Display formats are operator- or program-selectable. Characters are formed via a 7-by-9 dot matrix (5-by-7 dot matrix in 132-column mode), and are displayed in white on a dark background. The 96 EBCDIC/ASCII character set is displayable. The screen features a nonglare finish, brightness control, and is tiltable.

The E4548-25 attaches to the E4540 Series controllers; it does not attach to IBM controllers.

E4549-42 COLOR DISPLAY TERMINAL: A 4-color display terminal that includes a 13-inch (diagonal) screen with a 1,920-character (24 lines by 80 columns) display capacity. A user status line is also available. The E4549-42 is compatible with the IBM 3279 Model S2A. Characters are formed using a 7-by-9 dot matrix. Displayable colors are blue, green, red, and white. The 96 EBCDIC/ASCII character set is displayable. The screen features a nonglare finish, brightness control, and is tiltable.

The E4549-42 attaches to the E4540 Series controllers; it does not attach to IBM controllers.

E4549-43 COLOR DISPLAY TERMINAL: A 4-color display terminal that includes a 13-inch (diagonal) screen with selectable display capacities of 1,920 (24 lines by 80 columns) or 2,560 (32 lines by 80 columns) characters. A user status line is also available. The E4549-43 is compatible with the IBM 3279 Model S2A, as well as the basic versions of the IBM 3279 Models 3X. Characters are formed using a 7-by-9 dot matrix. Displayable colors are blue, green, red, and white. The 96 EBCDIC/ASCII character set is displayable. The screen features a nonglare finish, brightness control, and is tiltable.

The E4548-43 attaches to the E4540 Series controllers; it does not attach to IBM controllers.

E4540 KEYBOARDS: The E4548 display terminals are configured with the T5 keyboard as standard, which is a typewriter-style keyboard available in either high- or low-profile designs. Also available are two additional keyboards: a low-profile keyboard with a typewriter-style layout, and a low-profile keyboard with a data entry layout.

All keyboards are detached, plug-compatible with each other, and feature an IBM 3270-type layout. All keyboard styles feature 24 programmable function keys; up to 12 of the keys (PF1 through PF12) can be executed via a single keystroke. All alphanumeric keys repeat, and audible key click is selectable; tactile feedback is standard. The keyboard is connected to the display monitor via a coiled cord. When not in use, the keyboard stores on a shelf underneath the display (monochrome displays only). The low-profile keyboards feature a design that meets the 30 mm DIN height standard, and include tilt adjustments of 5, 8, or 12 degrees.

T5 High-Profile Keyboard—an 87-key keyboard with a typewriter-style key layout and a 12-degree (70 mm) stepped keyrow profile.

T5 Low-Profile Keyboard—an 87-key keyboard with a typewriter-style key layout and a 5-degree (30 mm) stepped keyrow profile. ▶

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► **Low-Profile Typewriter Keyboard**—an 87-key keyboard with a typewriter-style key layout, an external numeric pad, and a 5-degree (30 mm) stepped keyrow profile.

Low-Profile Data Entry Keyboard—an 87-key keyboard with a data entry-style key layout and a 5-degree (30 mm) stepped keyrow profile.

E4540 PRINTERS: A variety of character and line printers are available for attachment to the E4540 Series controllers. The printers use the AT&T Standard Serial Interface (SSI) signaling method for communications with the E4544 and E4546 controllers, and operate with data streams in the 3270 Data Stream Compatibility (DSC) format, Logical Unit Type 3, or the SNA Character String (SCS) format, Logical Unit Type 1.

The E4540 Series low-speed character matrix printer (E45AP102AAA) prints at 10 cpi and 6 lpi, handling forms 3 to 15 inches wide and 11 inches long. The high-speed character matrix printer (E45AP201AAA) prints at 5, 10, or 16.7 cpi and 6 or 8 lpi; forms can be 3 to 16 inches wide, and up to 14 inches long. The Letter Quality Printer prints at 12, 10, or 15 cpi and 3, 6, or 8 lpi.

E45AP102AAA Matrix Printer—a floorstanding character printer with a print speed of 30 cps. Printing is bidirectional, using a 4-by-7 dot matrix and a 132-column tractor feed mechanism. The upper-/lowercase EBCDIC character set is used.

E45AP201AAA Matrix Printer—a tabletop character printer with print speeds of 200 or 340 cps. Printing is bidirectional, using a 4-by-7 dot matrix and a 132-column tractor feed mechanism. The upper-/lowercase EBCDIC character set is used.

Letter Quality Printer—a tabletop daisywheel printer with a print speed of 55 cps. A form-length dial, top-of-form feed switch, reset switch, alarm/clear switch, and word proportional spacing switch are standard. The upper-/lowercase EBCDIC character set is used.

The E4540 Series line printers are full-character, impact belt printers which print at 10 cpi and 6 lpi. Forms can be from 4 to 9.5 or 15 inches wide, and 3.75, 5.5, or 11 inches long.

E4011-3BXO Belt Printer—a tabletop belt printer with print speeds of 220 or 300 lpm. An 80-column friction feed mechanism is standard; the monospace EBCDIC character set is used.

E4011-3EXO Belt Printer—a tabletop belt printer with print speeds of 220 or 300 lpm. An 80-column friction feed mechanism is standard; the upper-/lowercase EBCDIC character set is used.

E4011-4GXO Belt Printer—a tabletop belt printer with print speeds of 220 or 300 lpm. An 80-column tractor feed mechanism is standard; the monospace EBCDIC character set is used.

E4011-4JXO Belt Printer—a tabletop belt printer with print speeds of 220 or 300 lpm. An 80-column tractor feed mecha-

nism is standard; the upper-/lowercase EBCDIC character set is used.

E4011-4LXO Belt Printer—a tabletop belt printer with print speeds of 220 or 300 lpm. A 132-column tractor feed mechanism is standard; the monospace EBCDIC character set is used.

E4011-4MXO Belt Printer—a tabletop belt printer with print speeds of 220 or 300 lpm. A 132-column tractor feed mechanism is standard; the upper-/lowercase EBCDIC character set is used.

E4011-4AXN Belt Printer—a floorstanding belt printer with print speeds of 220 or 300 lpm. An 80-column tractor feed mechanism and forms access are standard; the monospace EBCDIC character set is used.

E4011-4DXN Belt Printer—a floorstanding belt printer with print speeds of 220 or 300 lpm. An 80-column tractor feed mechanism and forms access are standard; the upper-/lowercase EBCDIC character set is used.

E4504-1CEF Belt Printer—a floorstanding belt printer with print speeds of 220 or 300 lpm. A 132-column tractor feed mechanism is standard; the monospace EBCDIC character set is used.

E4504-1CFF Belt Printer—a floorstanding belt printer with print speeds of 220 or 300 lpm. A 132-column tractor feed mechanism is standard; the upper-/lowercase EBCDIC character set is used.

E4540 ASYNCHRONOUS ADAPTER: Diskette-resident emulation software that allows an E4540 Series display terminal to emulate Digital VT100 asynchronous terminal operation and normal synchronous operation. The E4540 Asynchronous Adapter consists of a small module (which connects to a BSC cluster controller) and a program diskette. The module provides the displays connected to the controller with access to eight asynchronous modem ports; two E4540 Asynchronous Adapter modules may be used with 32-port controllers.

SSI IRMA EMULATOR: Allows a personal computer to attach to an E4540 Series controller, emulating an E4540 Series display terminal. The AT&T 6300 Personal Computer, IBM PC, PC XT, and PC AT, or IBM-compatible PCs may be attached. The SSI IRMA Emulator consists of a plug-in circuit card (for the PC) and emulation software on a diskette. The SSI IRMA is an OEMed version of the Digital Communications Associates (DCA) Irma product.

PRICING

The AT&T E4540 Series components are available for purchase only; quantity discounts are available.

Maintenance service for the E4540 Series components is available from AT&T Information Systems field personnel. Maintenance charges are billed on a monthly basis; monthly rates vary depending on user location. The maintenance rates shown in this report are the maximum maintenance charges. ►

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EQUIPMENT PRICES

		Purchase Price (\$)	Monthly Maintenance (\$)
E4544-31 SA	Remote Cluster Controller	6,800	33
E4544-31 SB	Remote Cluster Controller	12,350	34
E4544	Local Cluster Controller	16,300	65
E4546-31 SA	Remote Cluster Controller	4,000	30
E4546-31 SB	Remote Cluster Controller	4,400	31
E4548-12TA	Display Terminal; w/low-profile T5 keyboard	1,495	12
E4548-12TF	Display Terminal; w/high-profile T5 keyboard	1,695	12
E4548-25TA	Display Terminal; w/low-profile T5 keyboard	2,065	12
E4548-25TF	Display Terminal; w/high-profile T5 keyboard	2,265	12
E4549-42	Color Display Terminal; requires keyboard	1,840	—
E4549-43	Color Display Terminal; requires keyboard	1,840	—
T5	High-Profile Keyboard	425	—
T5	Low-Profile Keyboard	225	—
	Low-Profile Typewriter Keyboard; w/external numeric pad	335	—
	Low-Profile Data Entry Keyboard	225	—
E45AP102AAA	Matrix Printer	2,498	17
E45AP201AAA	Matrix Printer	3,868	32
	Letter Quality Printer	4,950	—
E4011-3BXO	Belt Printer	3,973	28
E4011-3EXO	Belt Printer	3,973	28
E4011-4GXO	Belt Printer	4,208	28
E4011-4JXO	Belt Printer	4,208	28
E4011-4LXO	Belt Printer	5,170	30
E4011-4MXO	Belt Printer	5,170	30
E4011-4AXN	Belt Printer	4,785	28
E4011-4DXN	Belt Printer	4,785	28
E4504-1CEF	Belt Printer	5,595	30
E4504-1CFF	Belt Printer	5,595	30
E4540	Asynchronous Adapter	1,500	2
	SSI IRMA Emulator	1,045	11
	SSI/EIA Multiplexer	1,500	2 ■