

SPERRY
UTS 30
Single Station

*System Installation
Planning Guide*

This document contains the latest information available at the time of preparation. Therefore, it may contain descriptions of functions not implemented at manual distribution time. To ensure that you have the latest information regarding levels of implementation and functional availability, please consult the appropriate release documentation or contact your local Sperry representative.

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**PUBLICATIONS
 UPDATE**

UTS 30

**SPERRY®
 UTS 30
 Single Station**

**System Installation
 Planning Guide**

UP-9801 Rev. 2-A

This library memo announces the release and availability of Update Package A for "SPERRY UTS 30 Single Station System Installation Planning Guide," UP-9801 Revision 2. It is a Standard Library Item (SLI).

The UTS 30 is a low-cost, intelligent display terminal specially tailored in two different versions for sending, receiving, manipulating, and displaying data. The powerful UTS 30 capabilities are provided by a program cartridge that is easily installed through a door in the top of the terminal or loaded from diskette by a SPERRY 8439 Double-Sided Diskette Subsystem. The functions of the UTS 30 can be further enhanced by program products and user programmability implemented through the low-cost 8439 diskette subsystem.

This update contains the latest information available for connecting the UTS 30T single station and Model 30T desk station through the 8613 signal distribution module and the Telecom SL1 PBX. It also presents various configurations of Sperry equipment and the SL1.

This book is included in the standard library for the UTS 30. Copies may also be ordered by your Sperry representative.

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System Installation Planning Guide	
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Revision 2 contains the latest information available to assist the customer in planning and making preparations for installation of the UTS 30 Single Station and the SPERRYLINK Model 30 Desk Station and associated peripheral equipment. This revision covers such items as power and space requirements and environmental considerations; it also defines general customer responsibilities under customer setup, which includes unpacking, installation, and checkout of the equipment.

This book is included in the standard library for the UTS 30. Copies may also be ordered by your Sperry representative.

Destruction Notice: This revision supersedes and replaces "SPERRY UTS 30 Single Station System Installation Planning Guide," UP-9801 Rev. 1, released under library memo dated April, 1984. Please destroy all copies of UP-9801 Rev. 1 and/or its library memo.

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SPERRY UTS 30 Single Station

System Installation Planning Guide

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1. Introduction

1.1. GENERAL

This guide provides information on preparing your site for installation of the SPERRY Universal Terminal System 30 (UTS 30) Single Station (figures 1-1 and 1-2), the SPERRYLINK Model 30 Desk Station, the SPERRY 8609 Terminal Multiplexer, the 8610 Direct Connection Module (DCM), the 8613 Signal Distribution Module (SDM), and the following peripheral equipment:

- SPERRY 8439 Double-Sided Diskette Subsystem
- SPERRY Model 15 Printer
- SPERRY Model 25B Printer
- SPERRY Model 31 Printer
- SPERRY Model 35 Printer
- SPERRY 2712 Document Reader
- SPERRY Magnetic Stripe Reader

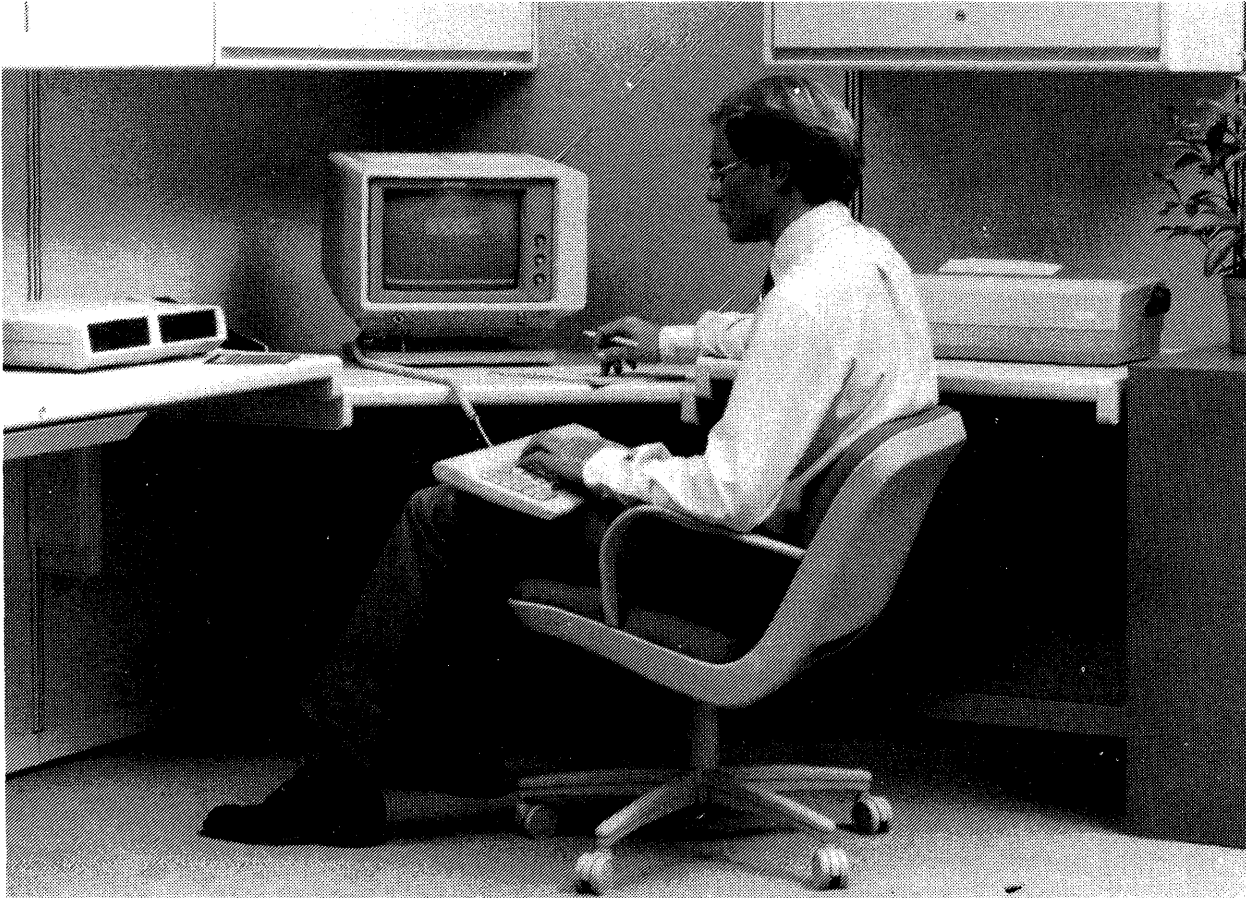
NOTE: The UTS 30 single station and the SPERRYLINK Model 30 Desk Station are available with an RS-232-C processor module, an X.21 processor module, or a twisted pair processor module. In this guide, the single stations with the RS-232-C and X.21 processor modules will be referred to as the UTS 30. The UTS 30 single station with the twisted pair processor module (UTS 30T) and the SPERRYLINK Model 30T desk station will be referred to as the Model 30T.

This equipment is designed to be unpacked, installed, and tested by the user. This guide will help you prepare your site for the equipment. The instructions for installing and testing the units will be packaged with the equipment. If you decide not to install the equipment yourself, Sperry will provide installation for a fee. If you have any questions about this alternative, contact your Sperry representative.

If you plan to attach the Model 30T to the 8613 Signal Distribution Module, you must have a correctly wired punch-down block in place before installing the SDM. See the twisted pair wiring considerations, UP-11139, and the 8613 SDM installation/operation guide, UP-10897, for more information about twisted pair wiring and punch-down block installation.

NOTE: If you plan to configure your system using the Northern Telecom SL1 PBX system, contact Northern Telecom about planning information. All SL1 installation must be done by qualified Northern Telecom personnel.*

*SL1 is a registered trademark of Northern Telecom, Inc.



9801.1

Figure 1-1. UTS 30 Single Station with Peripherals

1.2. SITE PLANNING CONSIDERATIONS

The UTS 30, Model 30T, and peripherals are designed to operate under various environmental conditions. Normally, little or no modification to existing site facilities is necessary for successful installation and operation. In planning your site, however, you should consider the following factors:

- The communication configuration you are using (Section 2)
- General environmental considerations, such as temperature, humidity, and lighting (Section 3)
- Power requirements, including placement of power receptacles (Section 4)
- Space for and placement of the equipment (Section 5)
- Cable routing (Section 6)



9801-2

Figure 1-2. UTS 30 with Double-Sided Diskette Subsystem

Before your equipment is installed, you need to make the necessary preparations for the following factors:

- **Cables**

You may need to route cables through walls, ceilings, or false floors, especially if you are installing a number of UTS 30 single stations at various places throughout your facility. You may also need cable raceways or similar materials to protect loose cables that interconnect the equipment. For additional information, refer to the applicable cable ordering guides.

- **Wiring**

If you are installing Model 30T desk stations, determine whether your facility has standard twisted pair telephone lines with 6-position wall outlets wired for 4-wire or 6-wire lines. For additional information on the twisted pair wiring requirements, refer to the twisted pair wiring considerations manual, UP-11139.

■ Equipment From Other Companies

If you are obtaining equipment (such as modems) from another company, you will need to order and install it before any SPERRY equipment is installed. The UTS 30 was designed to operate with any modem that meets EIA* RS-232-C/CCITT** Recommendation V.24 and V.28 requirements at a maximum of 9600 bits per second. The only requirement is that the clear-to-send (CTS) signal must be controlled by the request-to-send (RTS) signal and a delay of not less than 8 milliseconds must be provided between the RTS and CTS signals.

The SDM was designed to operate with any modem that meets EIA* RS-232-C/CCITT** Recommendation V.35 requirements at a maximum of 56000 bits per second. Data rates are determined by clock signals provided by the modems.

If you connect your SDM to the SL1 through the V.35 interface, contact Northern Telecom for information about compatible modems, couplers, etc.

■ Storage Facilities

If your equipment configuration includes a printer or the 8439 double-sided diskette subsystem, you should have the necessary paper, diskettes, print wheels, and ribbon cartridges ready for use when the equipment arrives. You should also consider providing additional storage facilities for the printer supplies and the reusable shipping containers.

■ Operator Training

The UTS 30/Model 30T desk stations have been designed to require little or no formal operator training. However, to facilitate installation and checkout, operators should become familiar with the equipment before it is delivered. Refer to the applicable publications for information on the UTS 30 single station and the SPERRYLINK Model 30 desk station.

When the equipment arrives, follow these procedures:

- Unpack and inspect the equipment. If you find any damaged or missing items, notify your Sperry representative immediately.
- Install the UTS 30/Model 30T and peripherals, make the necessary cable connections to communications equipment, and install the cables to the host processor so they will be ready for connection by Sperry personnel.
- Change factory-set operating parameters (as required) via keyboard entry.
- Verify correct operation according to the instructions in the installation guide.
- If an equipment failure occurs, use the checkout procedures in the verification guide to isolate and correct the problem.
- If you decide to relocate the equipment, follow the instructions provided for repacking and relocation, and notify your Sperry representative.

**Electronic Industries Association*

***International Telegraph and Telephone Consultative Committee*

1.3. RELATED PUBLICATIONS

Before you begin planning for installation of the UTS 30 or Model 30T, you should have the following publications available for reference:

- UP-9796, SPERRY UTS 30 System Description
- UP-9355, SPERRY 8609 Terminal Multiplexer and 8610 Direct Connection Module Site Preparation Guide
- UP-9797, SPERRY UTS 30 Single Station Introduction for Operators
- UP-9798, SPERRY UTS 30 Single Station Operator's Reference
- UP-9799, SPERRY UTS 30 Single Station System Reference
- UP-9800, SPERRY UTS 30 Single Station Ordering Guide
- UP-10101, SPERRY UTS 30 Single Station Cable Ordering Bulletin
- UP-9881, SPERRY 8439 Double-Sided Diskette Subsystem General Description
- UP-9884, SPERRY 8439 Double-Sided Diskette Subsystem Operation/Verification Guide
- UP-10201, SPERRY Model 15 Printer General Description
- UP-10699, SPERRY Model 15 Printer User Guide
- UP-10693, SPERRY Model 25B Printer General Description
- UP-10810, SPERRY Model 25B Printer User Guide
- UP-9868, SPERRY Model 31 Printer General Description
- UP-11130, SPERRY Model 31 SCI Printer General Description
- UP-11131, SPERRY Model 31 SCI Printer User Guide
- UP-10809, SPERRY Model 31 Printer User Guide
- UP-9863, SPERRY Model 35 Printer General Description
- UP-10807, SPERRY Model 35 Printer User Guide
- UP-10897, SPERRY 8613 Signal Distribution Module (SDM) Installation/Operation Guide
- UP-11139, Twisted Pair Wiring Considerations

The following publications are available to assist you in efficient site planning for the SPERRYLINK Model 30T Desk Station.

- UP-9751, SPERRYLINK Office System Model 30 Desk Station Installation Guide
- SL-0101, SPERRYLINK Office System Model 30 Desk Station Introduction
- PSL-0172, SPERRYLINK Office System Guide to Documentation

- UP-9349, SPERRYLINK Office System Concepts
- UP-9754, SPERRYLINK Office System DOPS/20 System Installation Planning Guide
- UP-9755, SPERRYLINK Office System DOPS/20 System Hardware Installation Guide
- UP-10897, SPERRY 8613 Signal Distribution Module Installation and Operation Guide
- UP-9873, SPERRY 2712 Document Reader General Description
- UP-9875, SPERRY 2712 Document Reader Installation and Operation Guide

To obtain copies of these publications, contact your Sperry representative.

2. Communication Configurations

The UTS 30 single station can be installed in point-to-point, multidrop, multiplexed, and cascaded communication configurations. These configurations are described briefly in 2.1 through 2.5 and illustrated in figures 2-1 through 2-5. The UTS 30T and SPERRYLINK Model 30T Desk Station configurations are described briefly in 2.6 and illustrated in figures 2-6 through 2-11. ←

2.1. POINT-TO-POINT CONFIGURATIONS

Point-to-point configurations (figure 2-1) allow direct communication between a UTS 30 and a host processor on a transmission line not shared by another UTS 30 (or similar device). The UTS 30 is connected directly to the host processor with onsite transmission lines using DCMs, or with telephone transmission lines using modems.

2.2. MULTIDROP CONFIGURATIONS

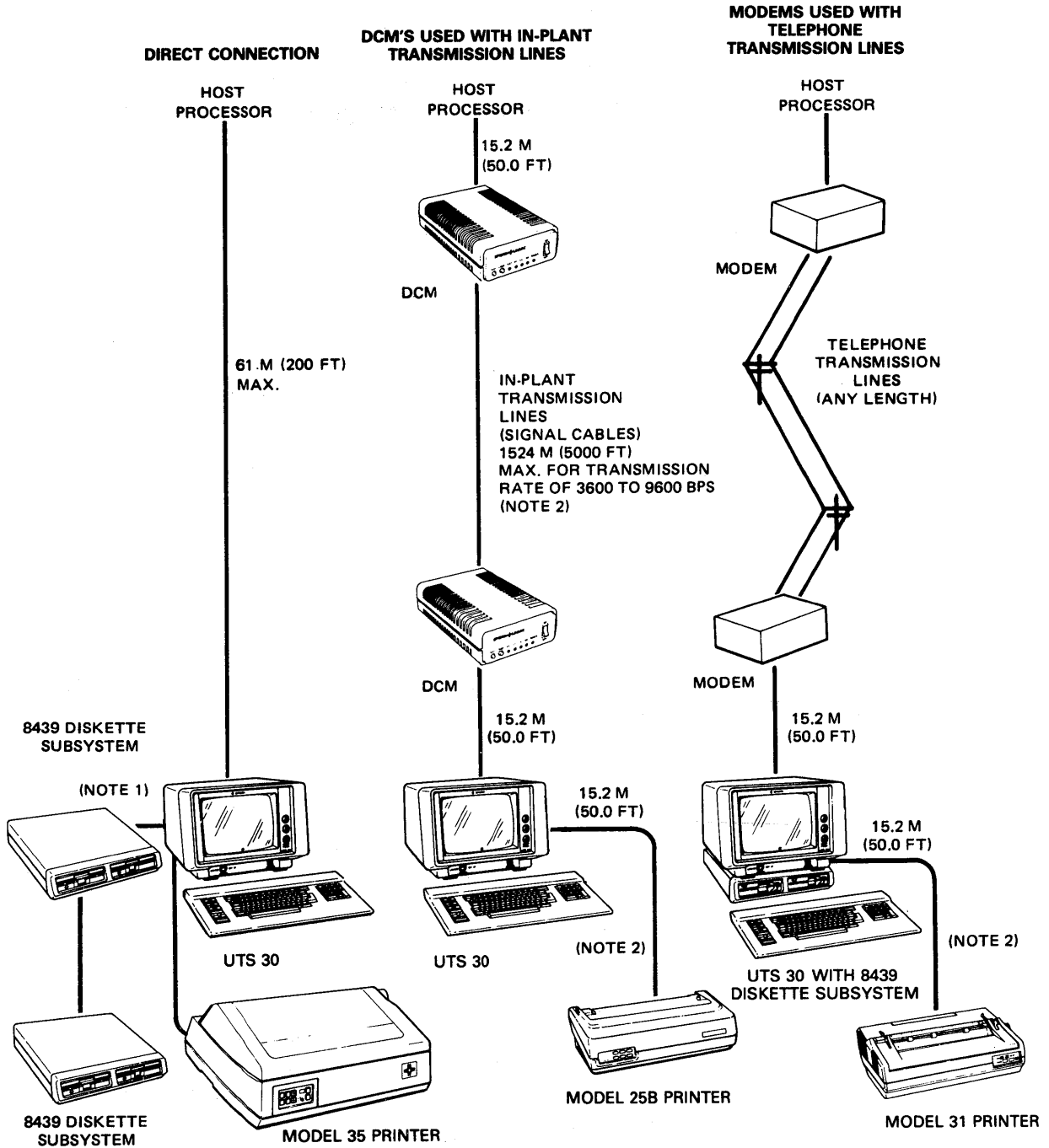
Multidrop configurations (figure 2-2) allow more than one terminal to share the same transmission line to a host processor. A modem or DCM must be used to connect each UTS 30 to the transmission line.

2.3. MULTIPLEXED CONFIGURATIONS

Multiplexed configurations (figure 2-3) allow up to 16 basic UTS 30 single stations (containing the UNISCOPE mode program cartridge) to be connected through a fully configured terminal multiplexer to a single, commonly shared transmission line. Data travels from the UTS 30 to a terminal multiplexer, then directly to the host processor, or from the UTS 30 to a terminal multiplexer, through a modem or DCM, and then to the host processor.

NOTES:

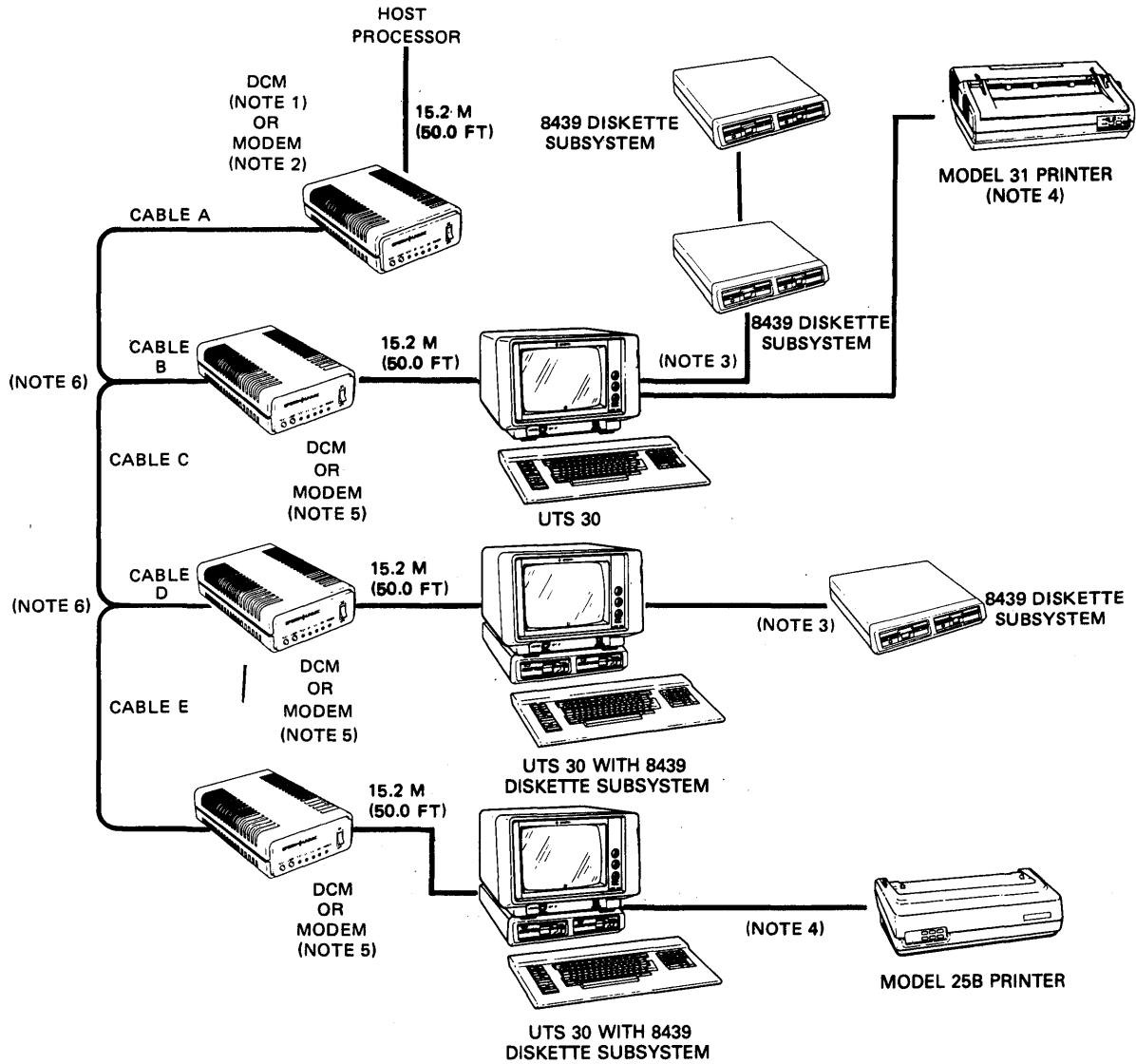
1. *When including multiplexed configurations in your planning, consider the access time required for your installation. As more devices are connected to multiplexers, the access time is increased.*
2. *UTS 30 single stations cannot be used with SPERRY 8609 terminal multiplexers having serial numbers lower than 8000.*



NOTES:

1. Up to two diskette subsystems can be connected to each UTS 30. Total length of cable from the UTS 30 to the second diskette must not exceed 2.7 meters (9 feet).
2. One printer can be connected to each UTS 30. Total length of cable from the UTS 30 to the printer must not exceed 15.2 meters (50 feet).
3. For a transmission rate of 2400 to 3600 bits per second (bps), the maximum cable length is 3048 meters (10,000 feet). For a transmission rate of 2400 bits per second or less, the maximum cable length is 4572 meters (15,000 feet).

Figure 2-1. Point-to-Point Communication Configurations

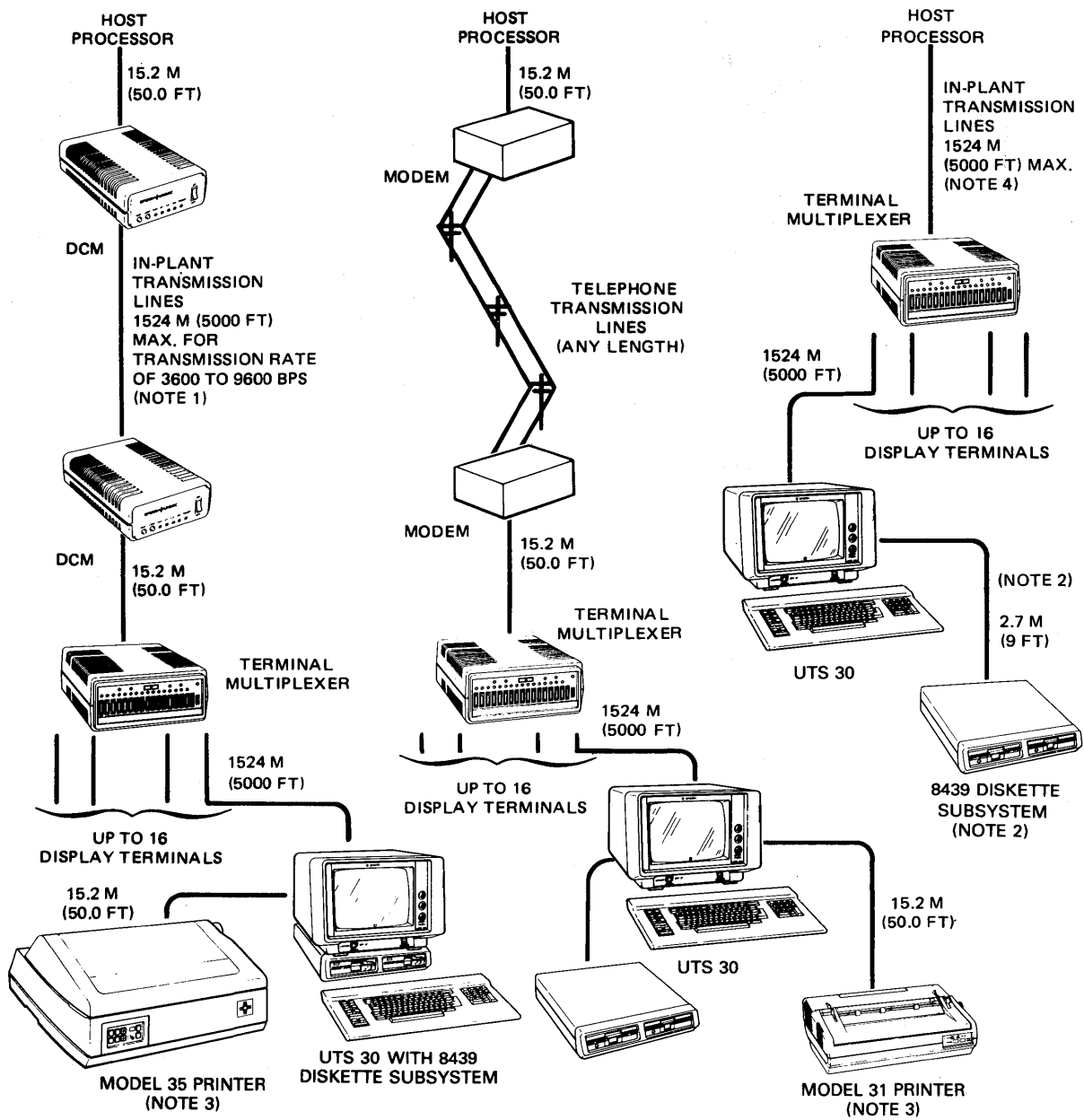


NOTES:

1. If DCMs are used, cables A, B, C, D, and E are in-plant transmission lines and their cumulative length (A + B + C + D + E) must not exceed 1524 meters (5000 feet) for a transmission rate of 3600 to 9600 bits per second. For a transmission rate of 2400 to 3600 bits per second, the maximum length is 3048 meters (10,000 feet). For a transmission rate of 2400 bits per second or less, the maximum cable length is 4572 meters (15,000 feet).
2. If modems are used, cables A, B, C, D, and E are telephone transmission lines and can be any length.
3. A diskette subsystem can be connected to each UTS 30. Total length of cable from the UTS 30 to the second diskette must not exceed 2.7 meters (9 feet).
4. One printer can be connected to each UTS 30. Total length of cable from the UTS 30 to the printer must not exceed 15.2 meters (50 feet).
5. Up to three DCMs can be multidropped. The number of modems that can be multidropped depends on telephone facilities and must be arranged with the telephone company. DCMs and modems cannot be multidropped on the same transmission line.
6. T-connectors are required when DCMs are used, but not when modems are used.

9801-4

Figure 2-2. Multidrop Communication Configurations



NOTES:

1. For a transmission rate of 2400 to 3600 bits per second (bps), the maximum cable length is 3048 meters (10,000 feet). For a transmission rate of 2400 bits per second or less, the maximum cable length is 4572 meters (15,000 feet).
2. Up to two diskette subsystems can be connected to each UTS 30. Total length of cable for the UTS 30 to the second diskette must not exceed 2.7 meters (9 feet).
3. One printer can be connected to each UTS 30. Total length of cable from the UTS 30 to the printer must not exceed 15.2 meters (50 feet).
4. For SPERRY Communications Terminal Module Controller (CTMC) at a transmission rate of 4800 bits per second or higher, transmission line length is 762 meters (2500 feet) maximum.

9801-5

Figure 2-3. Multiplexed Communication Configurations

2.4. CASCADED CONFIGURATIONS

Cascaded configurations (figure 2-4) allow one or more terminal multiplexers to be connected to another terminal multiplexer which is connected to the transmission line. The same parameters that apply to a multiplexed configuration apply to a cascaded configuration, except that one of the connections on the terminal multiplexer attached to the modem (or DCM) must be reserved for the second multiplexer. Up to 15 terminals can be connected to the first terminal multiplexer. Up to 16 terminals can be connected to the second terminal multiplexer, if it has been fully configured.

2.5. MIXED CONFIGURATIONS

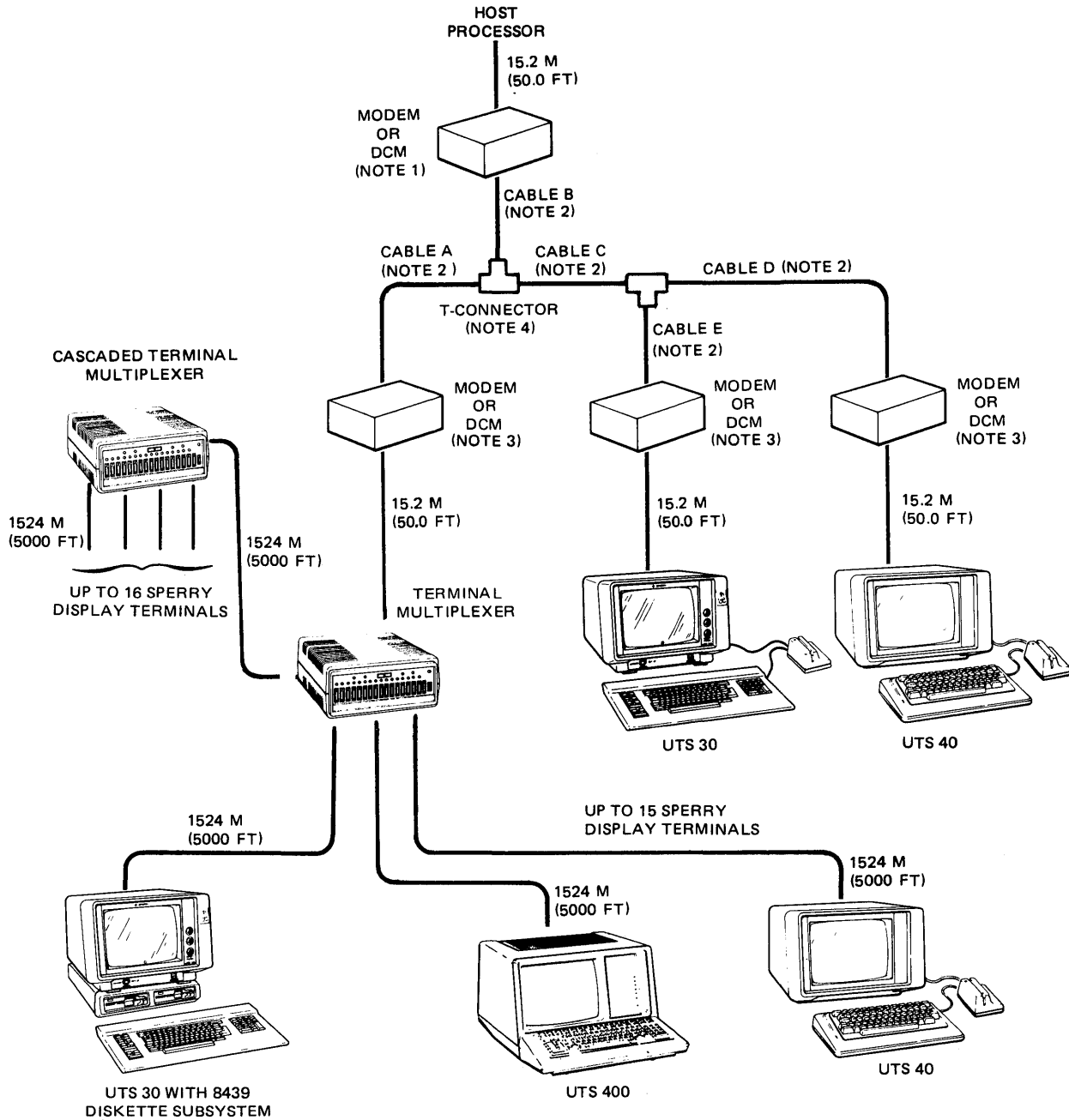
Multidrop, multiplexed, and cascaded configurations may be intermixed. Figure 2-5 illustrates an example of a mixed communication configuration.

2.6. UTS 30T AND SPERRYLINK MODEL 30T CONFIGURATIONS

The UTS 30T Single Station is connected to a host processor through the existing telephone lines in your building or through lines of the SL1 PBX system. The data is transferred from the single stations to the SPERRY 8613 Signal Distribution Module (SDM) and then to the host processor. The SPERRYLINK Model 30T Desk Station is connected to the SPERRY Distributed Office Processing Station Model 20 (DOPS/20) or to the SPERRY Series 1100 host computer via the SPERRY Distributed Communications Processor (DCP) through the SDM or SDM and SL1. The SDM controls the data flow from the desk stations to the host. Figures 2-6 through 2-11 illustrate possible UTS 30T and the SPERRYLINK Model 30T configurations.

2.7. UTS 30 X.25 PUBLIC DATA NETWORK CONFIGURATION

The UTS 30 single station, operating with X.25 Packet-Switched Communications Software (PSCS) can be connected to a host processor over foreign public data networks (PDN). The terminals are connected to the PDN through a modem. The UTS 30 X.25 can be configured to operate on one of the following networks: ARPAC (Argentina), AUSTPAC (Australia), DATEX-P (Austria and Germany), TRANSPAC (France), IBERPAC (Spain), PSS (United Kingdom), and TELENET (U.S.A.). Figure 2-12 illustrates the UTS 30 X.25 PDN configuration.



NOTES:

1. When the DCM is used, connection is made within a single building with a common primary power source. When a modem is used, the transmission lines are telephone lines.
2. For DCMs, total length of all cables (A+B+C+D+E) must not exceed 1524 meters (5000 feet) for a transmission rate of 3600 to 9600 bits per second. For a transmission rate of 2400 to 3600 bits per second, the maximum length is 3048 meters (10,000 feet). For a transmission rate of 2400 bits per second or less, the maximum cable length is 4572 meters (15,000 feet).
3. Up to three DCMs can be multidropped. The number of modems that can be multidropped depends on telephone facilities and must be arranged with the telephone company. DCMs and modems cannot be multidropped on the same transmission line.
4. T-connectors are not required with modems.

9801-7

Figure 2-5. Mixed Communication Configurations in UNISCOPE Mode

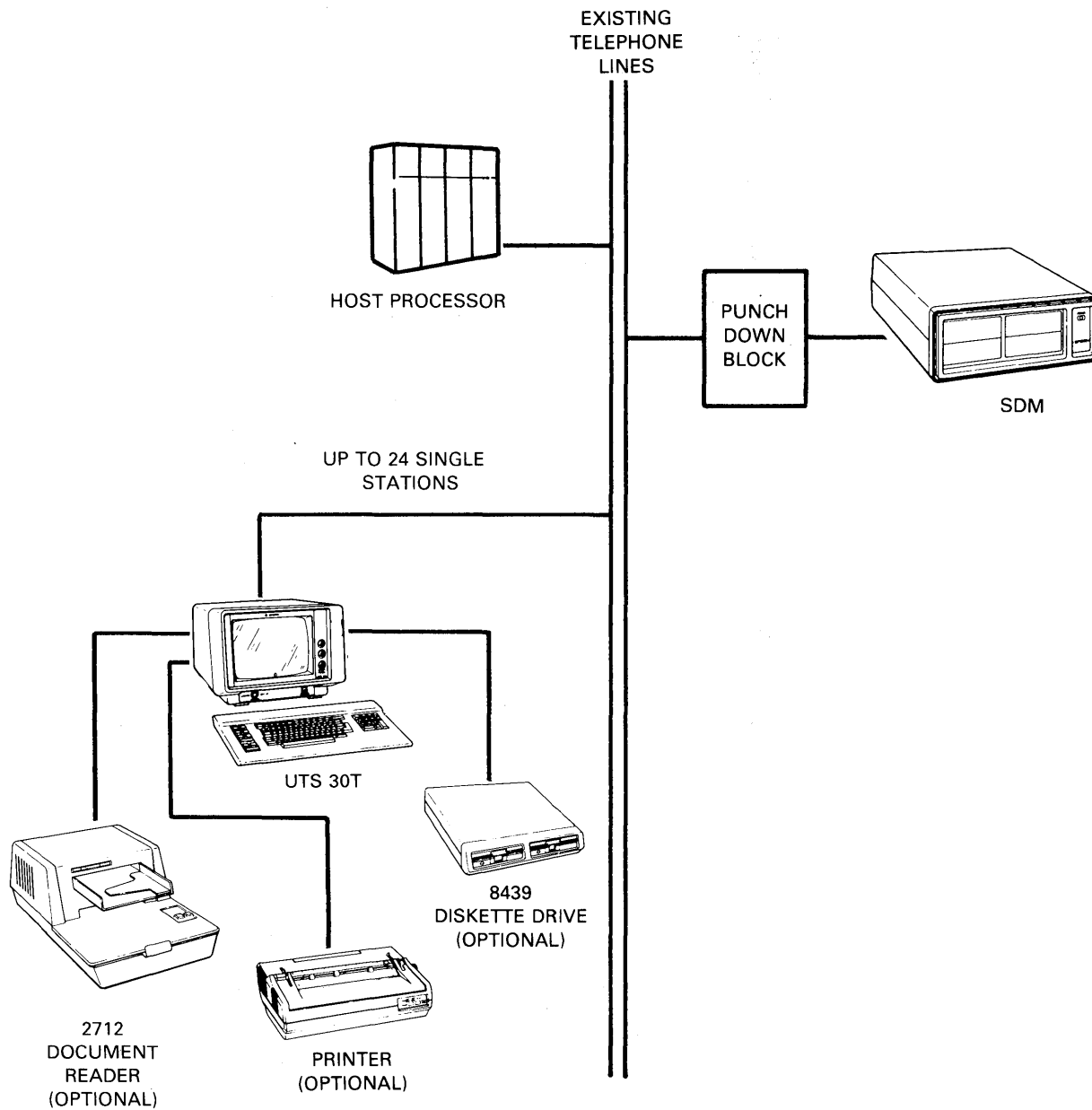
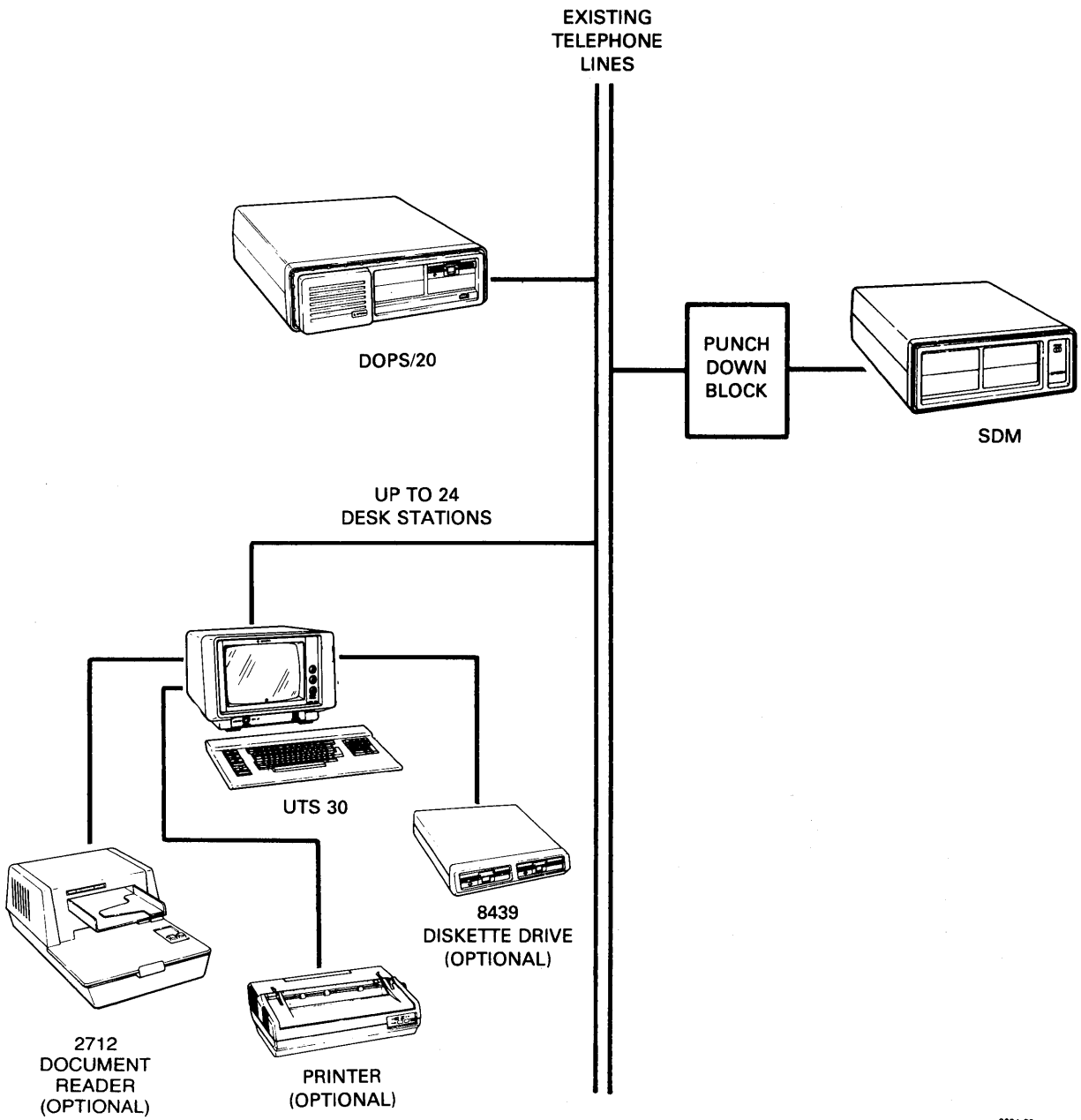
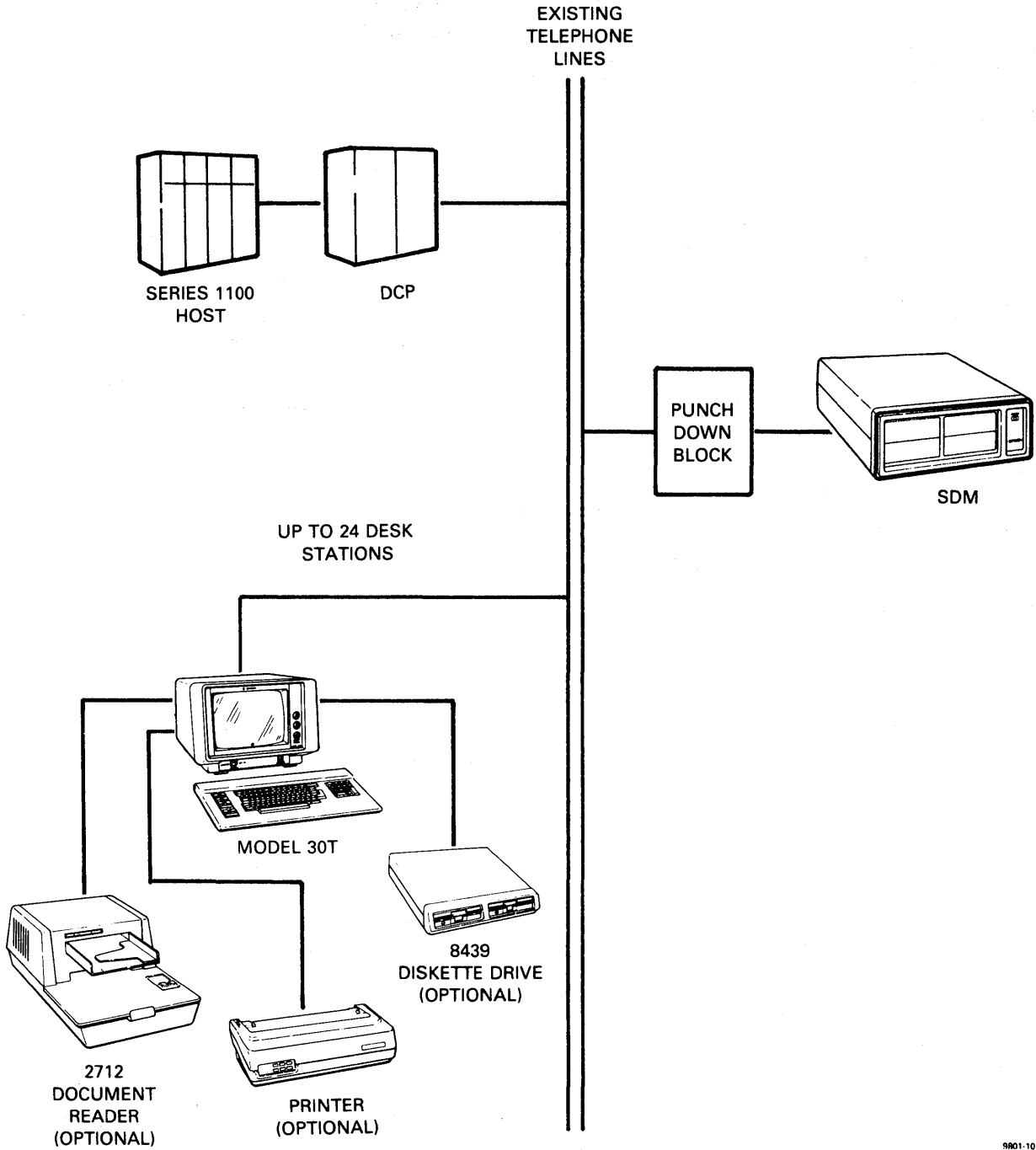


Figure 2-6. Configuration of UTS 30T Single Station with a Host Processor



9801-30

Figure 2-7. Configuration of SPERRYLINK Model 30T Desk Station With a DOPS/20 and a DCP



9801-10

Figure 2-8. Configuration of SPERRYLINK Model 30T Desk Station with a DCP and a Series 1100 Host Computer

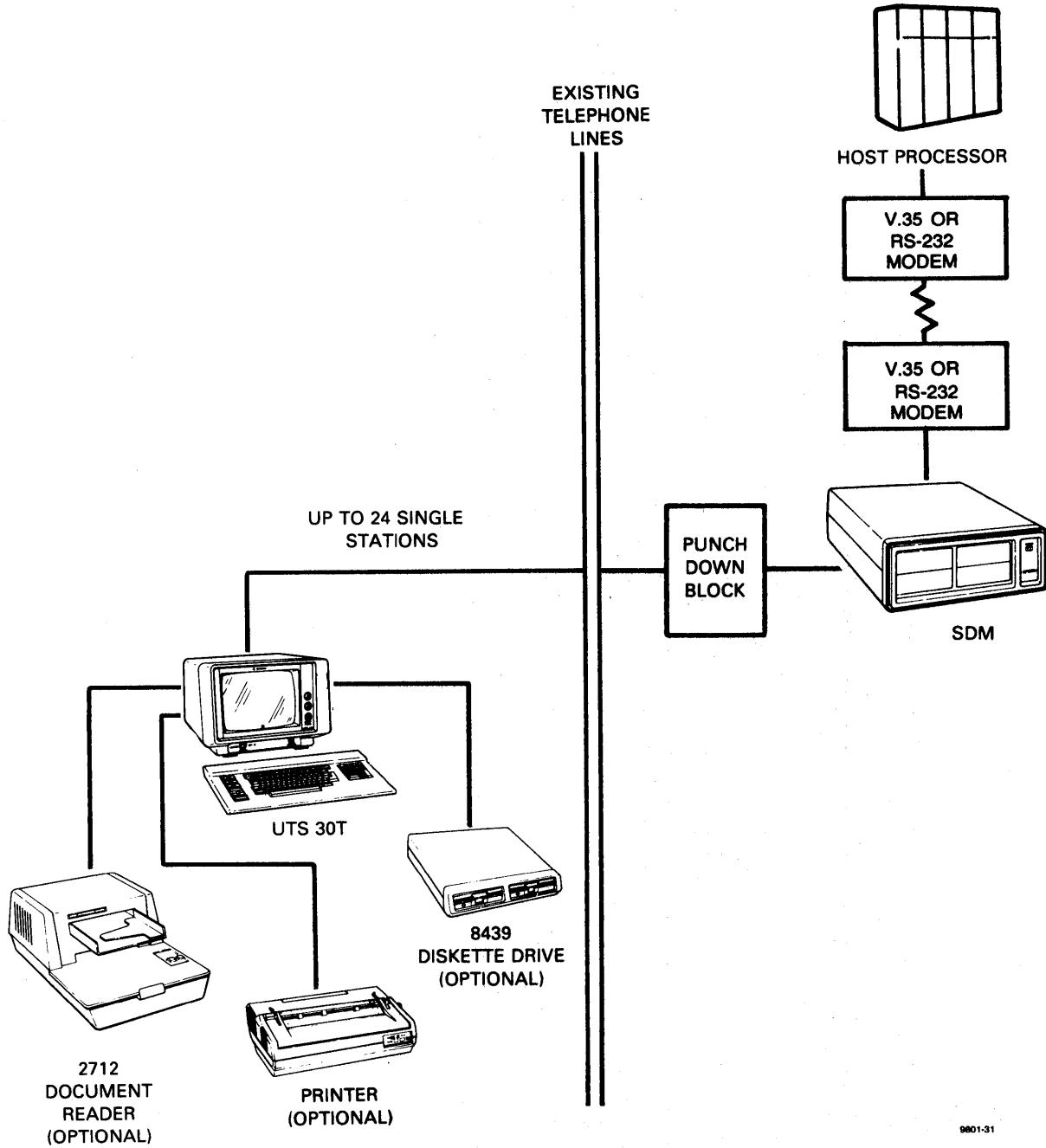
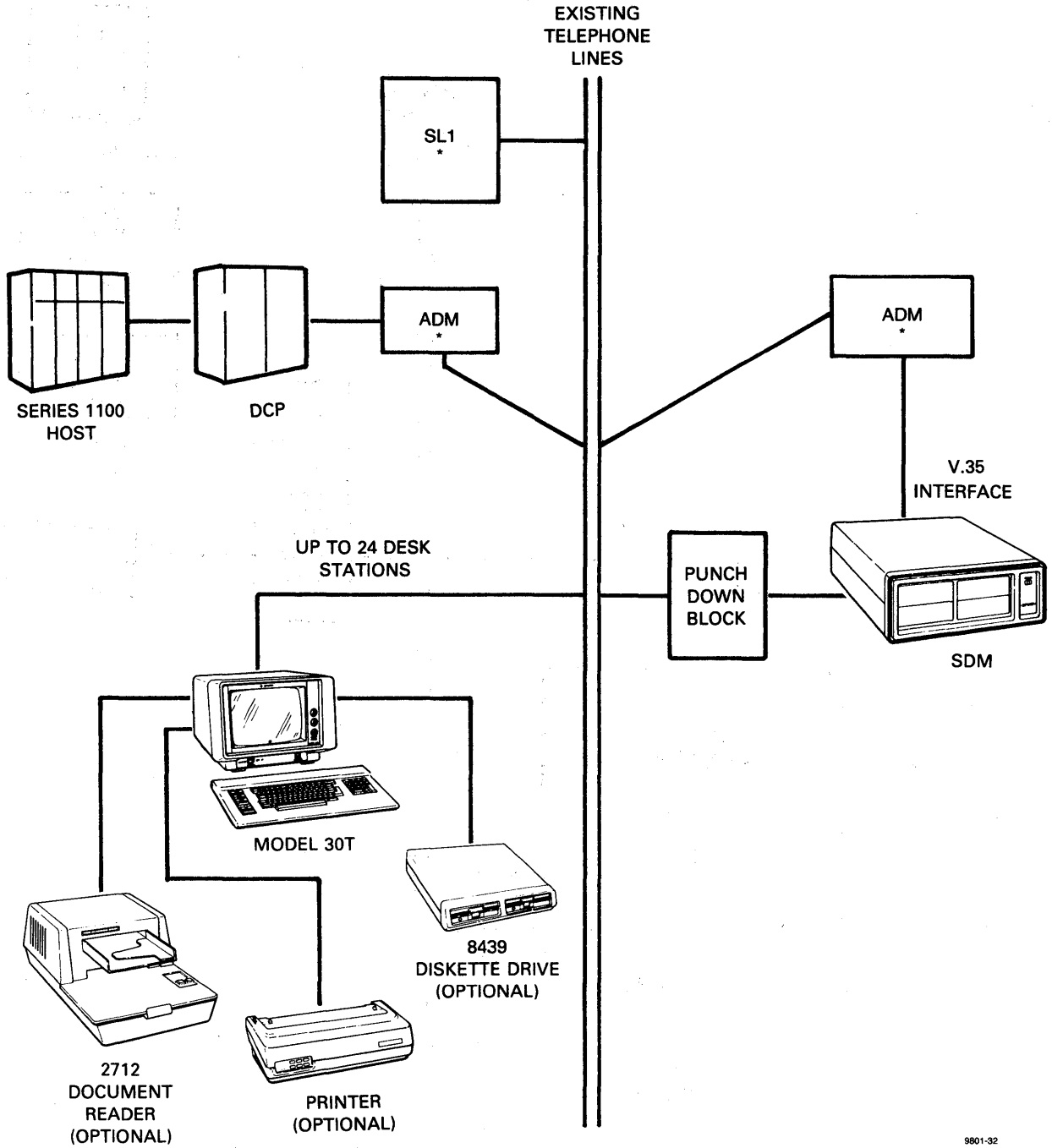


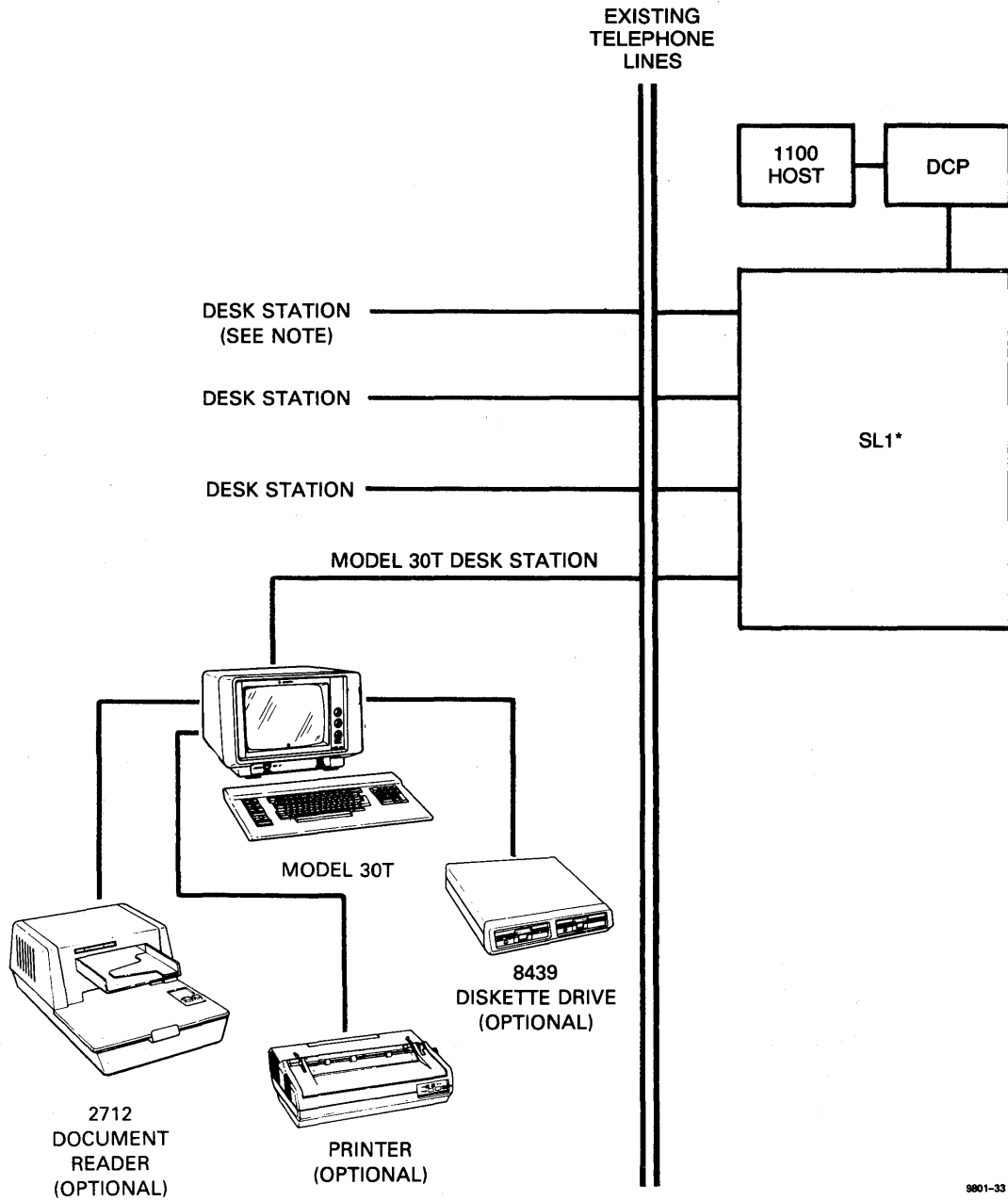
Figure 2-9. Configuration of UTS 30T Single Station With a Remote HOST Processor Through the SDM With V.35 or RS-232 Modems



9801-32

* Northern Telecom Equipment

Figure 2-10. Configuration of SPERRYLINK Model 30T Deskstation With a DCP and Series 1100 Host Through an SL1 Using the V.35 SDM Interface

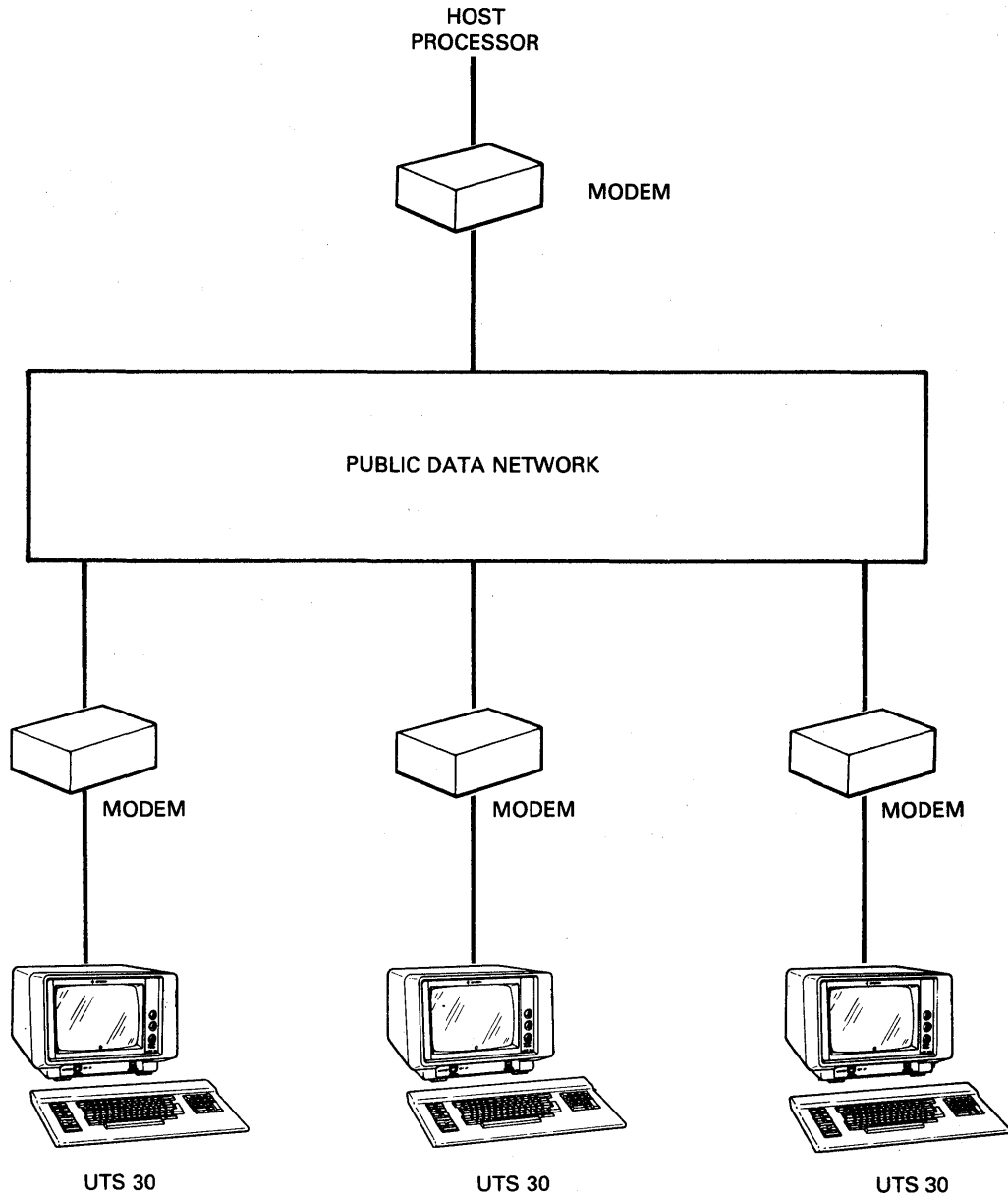


9801-33

* Northern Telecom Equipment

NOTE: The number of deskstations is limited only by number of lines in the SL1.

Figure 2-11. Configuration of SPERRYLINK Model 30T Desk Station Through the SL1



9801-11

Figure 2-12. UTS 30 in an X.25 PDN Configuration

3. Environmental Considerations

3.1. GENERAL

The UTS 30 single station and the SPERRYLINK Model 30T desk station, along with their associated peripherals, can operate efficiently in a wide range of environmental conditions. However, you should avoid installing this equipment in the following areas:

- Kitchens, air-conditioner exhaust areas, or similar areas having exceptionally high humidity
- Workshops or similar areas producing high levels of dust and grit
- Basements or similar areas susceptible to flooding

3.2. TEMPERATURE/HUMIDITY

Optimum temperature and humidity conditions for this equipment are 16 to 32 degrees Celsius (60 to 90 degrees Fahrenheit) and 20 to 70 percent relative humidity. Temperature changes should not exceed 11.1 degrees Celsius (20 degrees Fahrenheit) per hour, as condensation may form on or in the equipment.

The type of cooling and the maximum heat dissipation of this equipment are as follows:

	Heat Dissipation		Type of Cooling
	<u>kcal/hr</u>	<u>watts</u>	
UTS 30/30T	113	130	Fan
8439 diskette subsystem (per drive)	9.7	11	Convection
Model 15 printer	86	100	Fan
Model 25B printer	86	100	Convection
Model 31 printer	81	94	Fan
Model 35 printer	258	300	Fan
8610 terminal multiplexer (maximum configuration)	65	75	Convection
8609 direct connection module	10.3	12	Convection
8613 signal distribution module	51.4	60	Fan
2712 document reader	86	100	Fan

NOTE: Contact Northern Telecom, Inc., for information about cooling and heat dissipation requirements for the SL1 system.

3.3. ELECTROMAGNETIC INTERFERENCE

Although electromagnetic interference (EMI) will not cause problems in most installations, you should plan your equipment layout to minimize interference. Avoid installing equipment too close to the following:

- Electromagnetic fields radiating from radio or television antennas and radar installations
- Industrial equipment such as arc welders and insulation testers
- Three-phase power distribution lines and related distribution panels, electric heating units, or electric motors and generators

3.4. ELECTROSTATIC DISCHARGE

High electrostatic charges can accumulate when people, equipment, or furniture contact carpeting or other floor coverings. Interference with equipment operation can result when these charges are transferred to metal equipment parts, or to the desk or table on which the equipment is located. Use of antistatic floor coverings or commercial antistatic sprays will reduce static problems.

3.5. ELECTRICAL POWER IMBALANCE

Power imbalance (grounding voltage differential) caused by lightning or other serious electrical disturbances can damage equipment components. To prevent such damage, UTS 30 single stations, Model 30T desk stations, and their peripherals receive power from the same power distribution transformer and must share the same earth ground system. If a UTS 30/Model 30T is connected directly to the host or if terminal multiplexers are used in the communications line to the host, then the host and multiplexers must be powered from the same power distribution transformer and must share the same earth ground system as the UTS 30 or Model 30T.

If the host and the UTS 30/Model 30T are to be powered from different power distribution transformers or will not share the same earth ground system, then modems, multiplexers with internal DCMs, or DCMs must be used to isolate the power systems.

3.6. LIGHTING

The UTS 30/Model 30T is designed for use under average lighting conditions found in most office environments. The screen is etched and the faceplate is equipped with a neutral-density filter to reduce glare. Light should be balanced, however, to minimize distractions and eyestrain. The display unit should be oriented to avoid direct sunlight or shadows on the screen.

4. Power Considerations

4.1. PRIMARY POWER

For domestic use, the UTS 30/Model 30T and associated equipment are designed for a 120-volt, 60-Hertz, single-phase power source. Equipment for international use is designed for 50-Hertz or 60-Hertz power and can be ordered for use with any of the following voltages:

100 volts ac, single phase
120 volts ac, single phase
220 volts ac, single phase
240 volts ac, single phase

Primary input power requirements for this equipment are as follows:

UTS 30/Model 30T	0.13 kVA
8439 diskette subsystem (per drive)	0.02 kVA
Model 15 printer	0.10 kVA
Model 25B printer	0.10 kVA
Model 31 printer	0.15 kVA
Model 35 printer	0.22 kVA
8609 terminal multiplexer	0.07 kVA
8610 direct connection module	0.01 kVA
8613 signal distribution module	0.06 kVA
2712 document reader	0.25 kVA

NOTES:

1. *The 8439 diskette subsystem obtains power from the UTS 30 or SPERRYLINK Model 30T desk station.*
2. *Contact Northern Telecom, Inc. for information about power requirements for SL1 system.* ←

4.2. VOLTAGE/FREQUENCY

The UTS 30/Model 30T and associated equipment are designed to operate effectively despite significant variations that may occur in input voltage and frequency. If you have questions concerning voltage or frequency variations, contact your power company.

Acceptable input voltage variations:

<u>Nominal Voltage</u>	<u>Voltage Limits</u>
100 volts	88 to 110 volts
120 volts	102 to 127 volts
220 volts	187 to 233 volts
240 volts	204 to 254 volts

Acceptable input frequency variations:

<u>Nominal Frequency</u>	<u>Frequency Limits</u>
50 Hz	49.0 to 51.0 Hz
60 Hz	58.8 to 61.2 Hz

4.3. BRANCH CIRCUIT CONSIDERATIONS

Generally, you can connect the UTS 30/Model 30T and associated peripherals to existing power outlets. However, random or transient electrical noise in the power circuit may cause errors in data transmission. To avoid this problem, use branch circuits dedicated to the electronic equipment at your site for power.

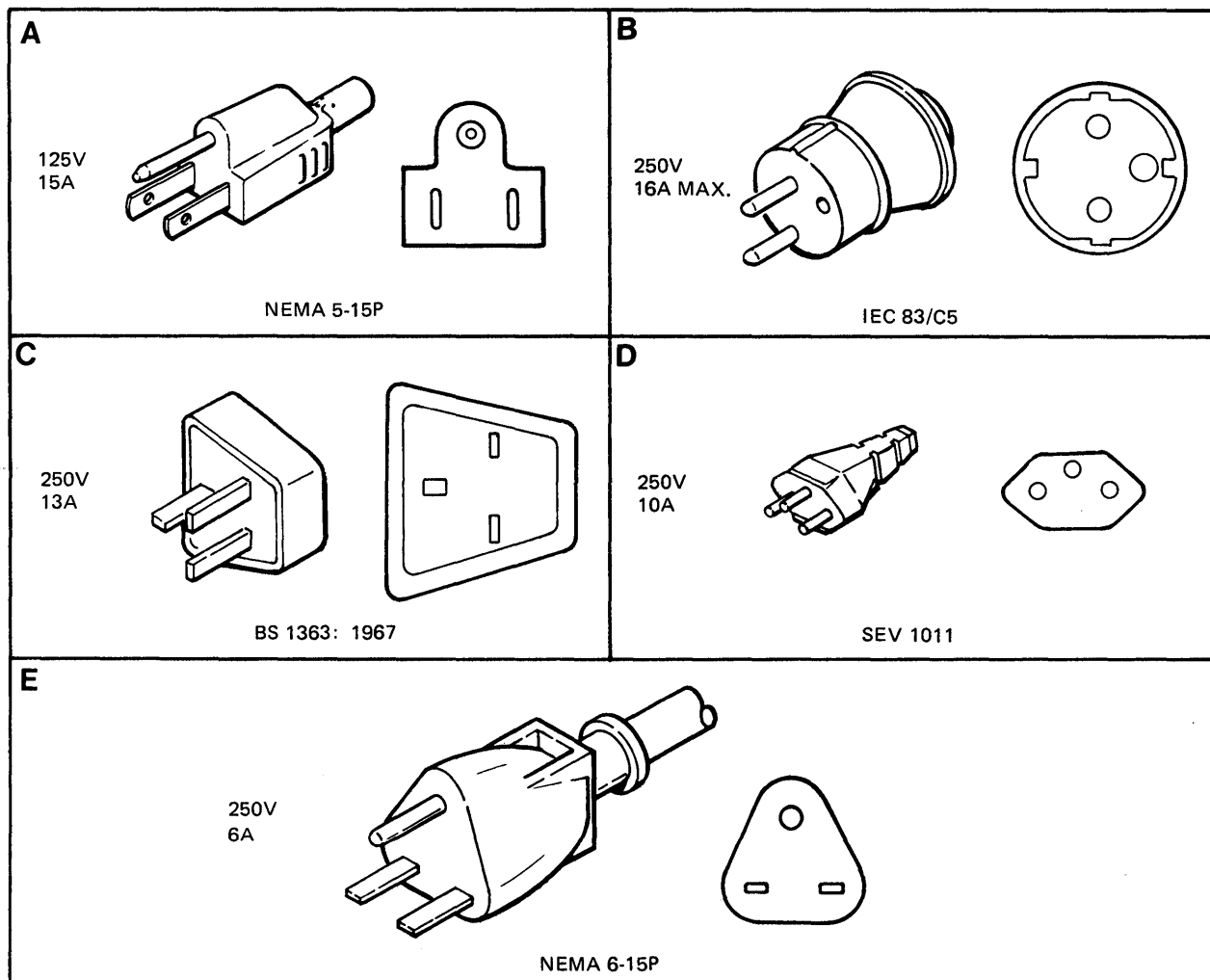
Data communications equipment such as modems and direct connection modules may be powered from the same branch circuit as the UTS 30/Model 30T and peripherals. However, other equipment (coffee pots, fans, calculators, or other electromechanical devices) should not be connected into the branch circuits used for your data communications equipment. The branch circuits should be separately fused or equipped with appropriate circuit breakers. These circuits must also be properly grounded.

If you are modifying power circuits or adding new ones, be sure you comply with local codes and ordinances.

4.4. POWER RECEPTACLES

As part of your site planning, make sure you have enough power receptacles located close to the equipment. A power cord 2 meters (6.6 feet) in length will be supplied with the UTS 30/Model 30T, the 8439 diskette subsystem, the printers, the direct connection module, and the signal distribution module. A power cord 1.5 meters (5.0 feet) in length will be supplied with the terminal multiplexer.

For domestic use, each power cord for the UTS 30/Model 30T and associated peripheral devices has a NEMA 5-15P 3-prong plug (figure 4-1), which is used in 3-wire power circuits where one wire is for ground. For international use, specify the plug required for your locality (refer to table 4-1 and figure 4-1). For power cords without plugs, make certain that during installation the green/yellow wire in the power cord is connected to ground in the power circuit. If you have any questions concerning selection of the correct plugs, contact your Sperry representative.



9355-6

Figure 4-1. Power Plug Diagrams

Table 4-1. International Plug Requirements

Country	Voltage	Plug (See Fig. 4-1)	Country	Voltage	Plug (See Fig. 4-1)
Algeria	250 V	None*	Malaysia	250 V	B
Australia	250 V	No cable or plug	Netherlands	250 V	B
Austria	250 V	B	New Zealand	250 V	No cable or plug
Belgium	250 V	B	Norway	250 V	B
Bulgaria	250 V	B	Poland	250 V	B
Canada	125 V 250 V	A E	Portugal	250 V	B
Denmark	250 V	None*	Rumania	250 V	B
Finland	250 V	B	South Africa	250 V	None*
France	250 V	B	Spain	250 V	None*
Germany	250 V	B	Sweden	250 V	B
Hong Kong	250 V	C	Switzerland	250 V	D
Hungary	250 V	B	United Kingdom	250 V	C
Iceland	250 V	B	United States	125 V 250 V	A E
Indonesia	250 V	B	Yugoslavia	250 V	B
Iran	250 V	B	Eastern Europe	250 V	None*
Ireland	250 V	None*	Some of Southern Ireland	250 V	C
Italy	250 V	B	Middle East	250 V	None*
Japan	125 V	A	Some Middle East Countries	250 V	C
Korea	125 V	A			

*Cable purchased without power plug. Plug must be added by customer.

5. Space Considerations

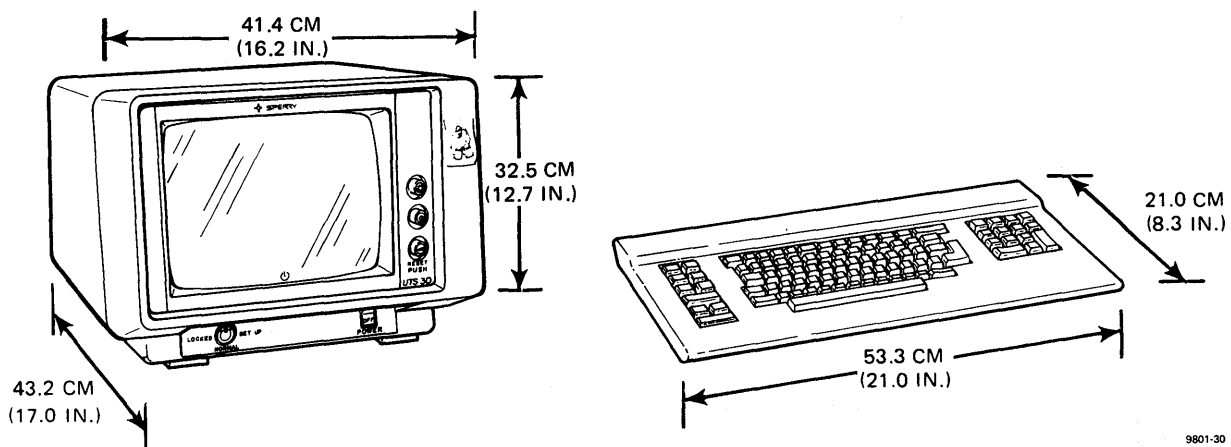
The way you plan your space will depend on the configuration of your UTS 30 single station or the SPERRYLINK Model 30T desk station, and the additional equipment you select for your system. The UTS 30 is available in two versions: the basic UTS 30 used with a program cartridge, and the programmable UTS 30 used with a diskette subsystem. The UTS 30T provides a downline load only version designed to operate without a program cartridge or a diskette subsystem.

The SPERRYLINK Model 30T desk station is available in three versions: the basic Model 30T used with a program cartridge, the programmable Model 30T used with a diskette subsystem, and a downline load only version designed to operate without a program cartridge or a diskette subsystem.

To help you plan your space requirements, the dimensions of the equipment are described briefly in the following paragraphs and in figures 5-1 through 5-12. The technical specifications for this equipment are summarized in the appendixes. Work space layout examples for the UTS 30 single station and the Model 25B and Model 35 printers are shown in figures 5-13 and 5-14.

5.1. UTS 30 SINGLE STATION

The UTS 30 single station or the Model 30T desk station consists of a display unit and detached keyboard (figure 5-1). A minimum of 10.2 centimeters (4.0 inches) clearance is required on each side of the UTS 30, and a minimum of 11.4 centimeters (4.5 inches) is recommended at the rear.

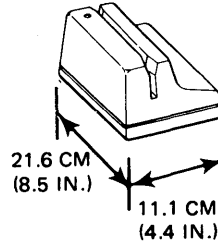


9801-30

Figure 5-1. Dimensions of UTS 30/Model 30T Desk Station and Keyboard

5.2. MAGNETIC STRIPE READER

The magnetic stripe reader is a small device requiring no special space considerations (figure 5-2). In almost all work areas there will be ample space on either side of the UTS 30 to accommodate the magnetic stripe reader.

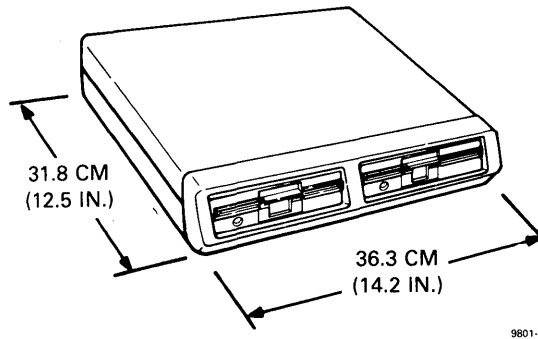


9801-13

Figure 5-2. Dimensions of Magnetic Stripe Reader

5.3. 8439 DOUBLE-SIDED DISKETTE SUBSYSTEM

The SPERRY 8439 Double-Sided Diskette Subsystem (figure 5-3) can be used on a desk or table. A clearance of 38.1 centimeters (15 inches) is required at the front of the diskette subsystem for inserting and removing the diskettes. A clearance of 10.2 centimeters (4 inches) is required at the rear.



9801-31

Figure 5-3. Dimensions of 8439 Diskette Subsystem

The UTS 30 and Model 30T desk stations can be used with a dot-matrix printer (Models 15, 25B, and 35) or a correspondence-quality printer (Model 31). If you have the RS-232 peripheral interface cartridge, your UTS 30 or Model 30T will support a second printer. The printers can be used on a desk or a table, or on specially designed stands that facilitate bottom loading of paper. The dimensions of each printer with its stand are briefly described in the following paragraphs and illustrated in figures 5-4 through 5-7.

5.4. MODEL 15 PRINTER

The Model 15 printer (figure 5-4) is a small desktop printer with a mini-stand. The printer on the stand occupies a space 39.6 centimeters (15.6 inches) wide and 40 centimeters (15.7 inches) deep. The stand has room underneath for a 4-inch stack of paper to be fed into the printer from the back while printouts accumulate on the desk behind the printers.

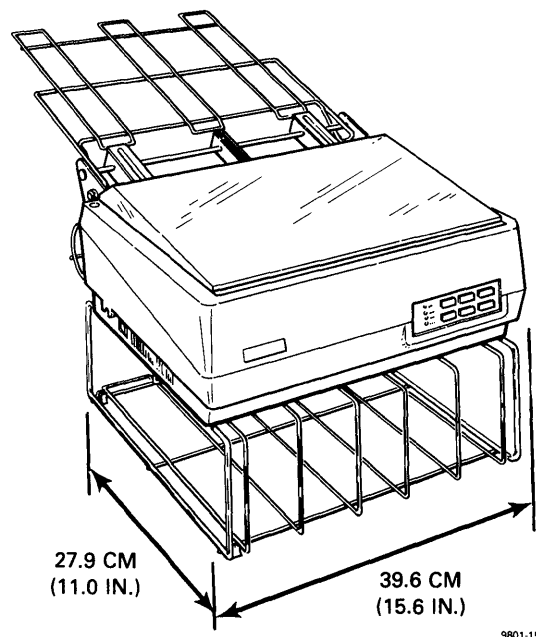
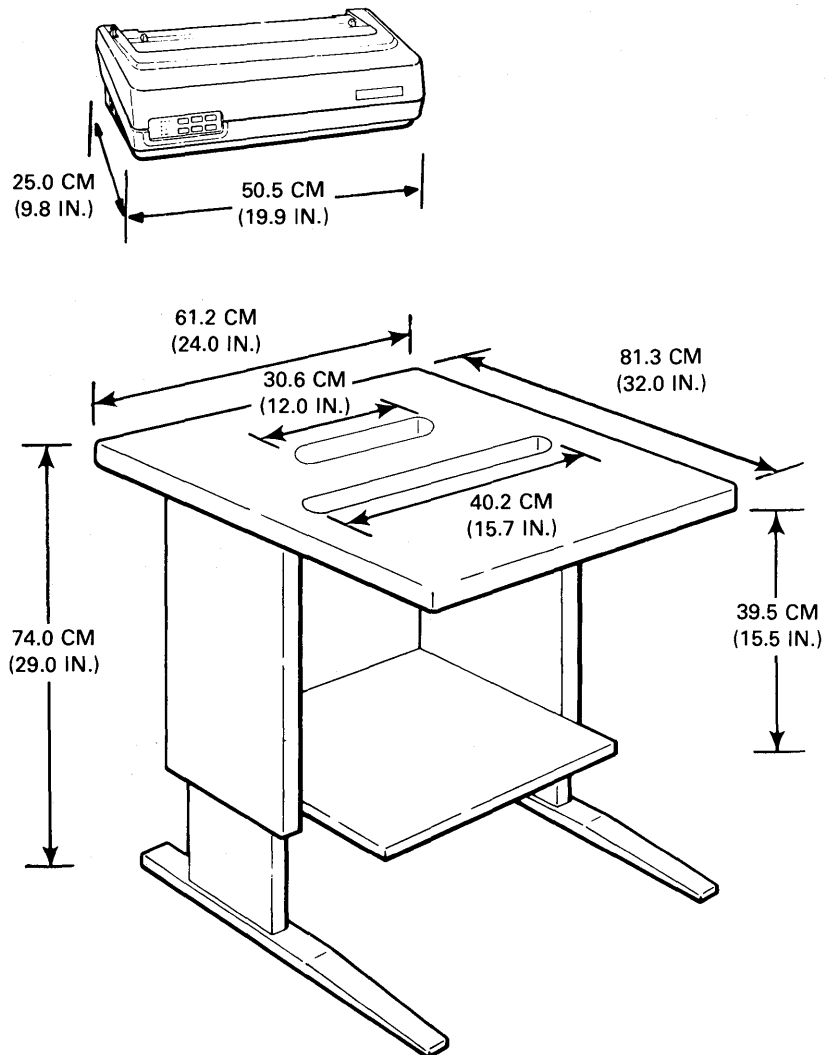


Figure 5-4. Dimensions of Model 15 Printer

5.5. MODEL 25B PRINTER

The Model 25B printer (figure 5-5) is normally used with its own stand. The printer on the stand occupies a space 61.2 centimeters (24 inches) wide and 81.3 centimeters (32 inches) deep. The stand has a slot for paper to feed into the printer from the bottom shelf while printouts accumulate on the shelf behind the printer. A second slot at the rear of the stand provides access for power cords. A clearance of 38.1 centimeters (15 inches) is needed at the rear and 15.2 centimeters (6 inches) is needed at the sides of the printer.



9801-16

Figure 5-5. Dimensions of Model 25B Printer with Stand

5.6. MODEL 31 PRINTER

The Model 31 correspondence-quality or graphics printer (figure 5-6) is normally used with its own stand. The stand has a slot for paper to feed into the printer from the bottom shelf while printouts accumulate on the top of the stand behind the printer. The Model 31 printer accommodates three cut-sheet feeders.

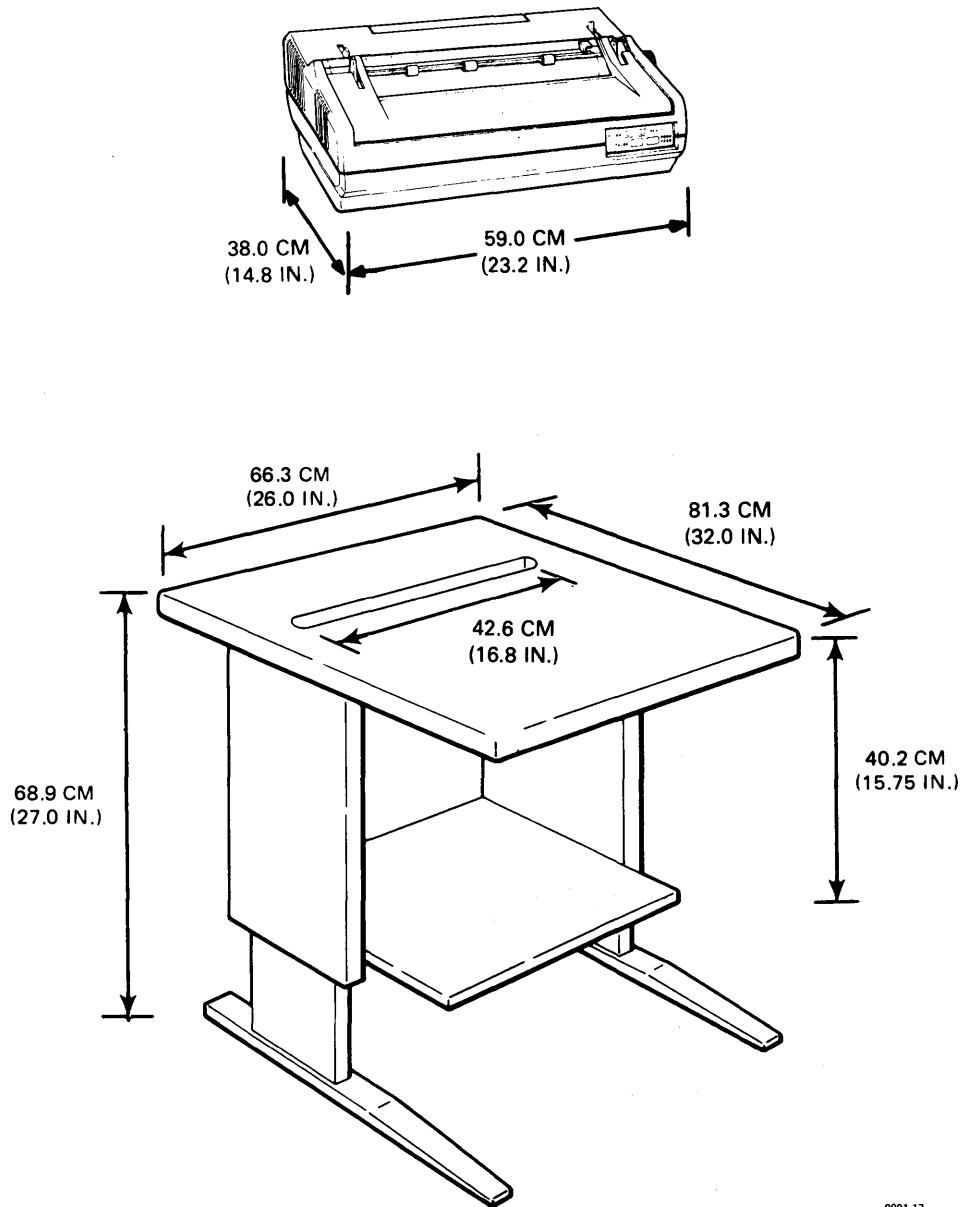


Figure 5-6. Dimensions of Model 31 Printer with Stand

5.7. MODEL 35 PRINTER

The Model 35 alphanumeric and graphics printer (figure 5-7) can be used on a desktop or on an optional printer stand. The stand has a slot for paper to feed into the printer from the bottom shelf while printouts accumulate on the top of the stand behind the printer. A second slot at the rear of the stand provides access for power cords.

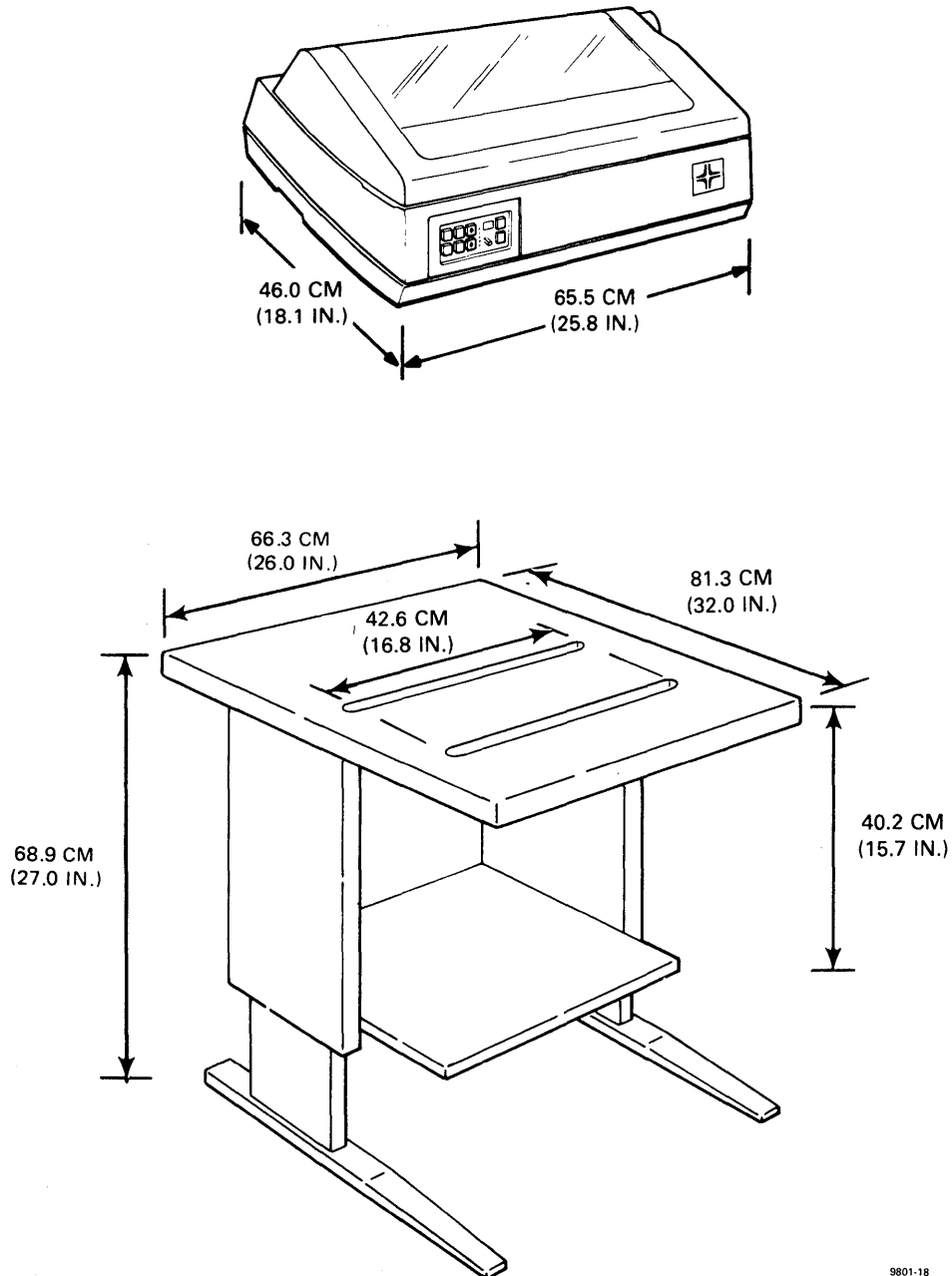


Figure 5-7. Dimensions of Model 35 Printer with Stand

5.8. 2712 DOCUMENT READER

The 2712 document reader (figure 5-8) is a device for entering typed documents automatically into the SPERRYLINK system. The document reader can be installed on a desk or table. The fan should be unobstructed with a minimum of 9 centimeters (3 inches) between the fan and vent openings (both sides) and any surrounding structure.

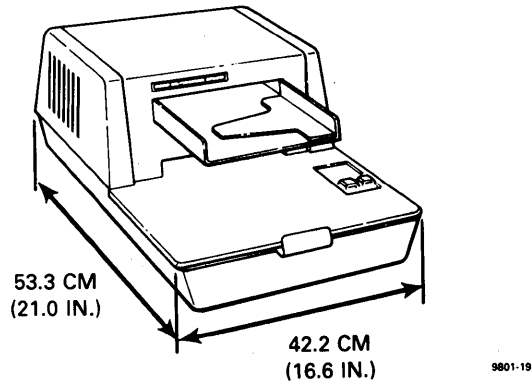


Figure 5-8. Dimensions of 2712 Document Reader

5.9. 8609 TERMINAL MULTIPLEXER

The 8609 terminal multiplexer (figure 5-9) provides communication between the terminals and a SPERRY Series 1100 host processor.

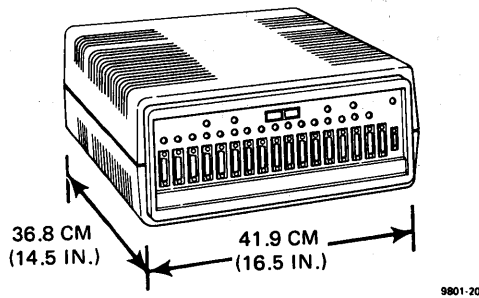
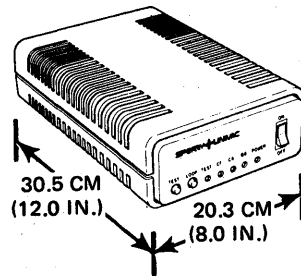


Figure 5-9. Dimensions of 8609 Terminal Multiplexer

5.10. 8610 DIRECT CONNECTION MODULE

The 8610 direct connection module (figure 5-10) is used in systems requiring extended communication distances.



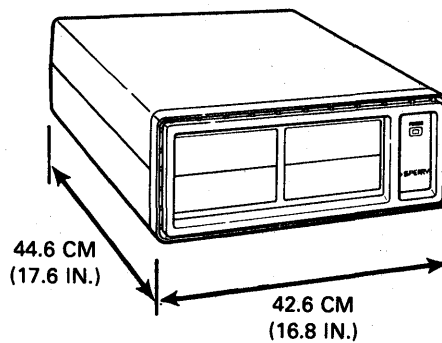
9801-21

Figure 5-10. Dimensions of 8610 Direct Connection Module

5.11. 8613 SIGNAL DISTRIBUTION MODULE

The 8613 signal distribution module (SDM) (figure 5-11) controls the transmission of data from the Model 30T desk stations to the host and prevents more than one desk station from transmitting at the same time. The SDM is designed to be stacked or mounted on the wall to save space. It can be installed in wiring closets, in computer rooms, under desks, or in other out-of-the-way places.

The SDM comes with two host interface boards — twisted pair or V.35/RS-232. The twisted pair interface is used to connect up to 24 Model 30Ts to the host or, in SPERRYLINK configurations, to the DCP or DOPS/20. The V.35/RS-232 host interface is used to connect the SDM to any V.35 or RS-232 device, such as a modem or the Northern Telecom SL1. Which interface, V.35 or RS-232, used for connection depends on the cable used. The twisted pair and V.35/RS-232 host interface boards are mutually exclusive, although all Model 30Ts are connected to a punch-down block through the SDM.



9801-22

Figure 5-11. Dimensions of 8613 Signal Distribution Module

5.12. DOPS/20 PROCESSOR AND 8441 MASS STORAGE SUBSYSTEM

If you are using the SPERRYLINK Model 30T desk station with the Distributed Office Processing Station Model 20 (DOPS/20), you will also need the SPERRY 8441 Mass Storage Subsystem. The dimensions of this equipment are shown in figure 5-12. Refer to the DOPS/20 system hardware installation guide, UP-9755, for site planning considerations.

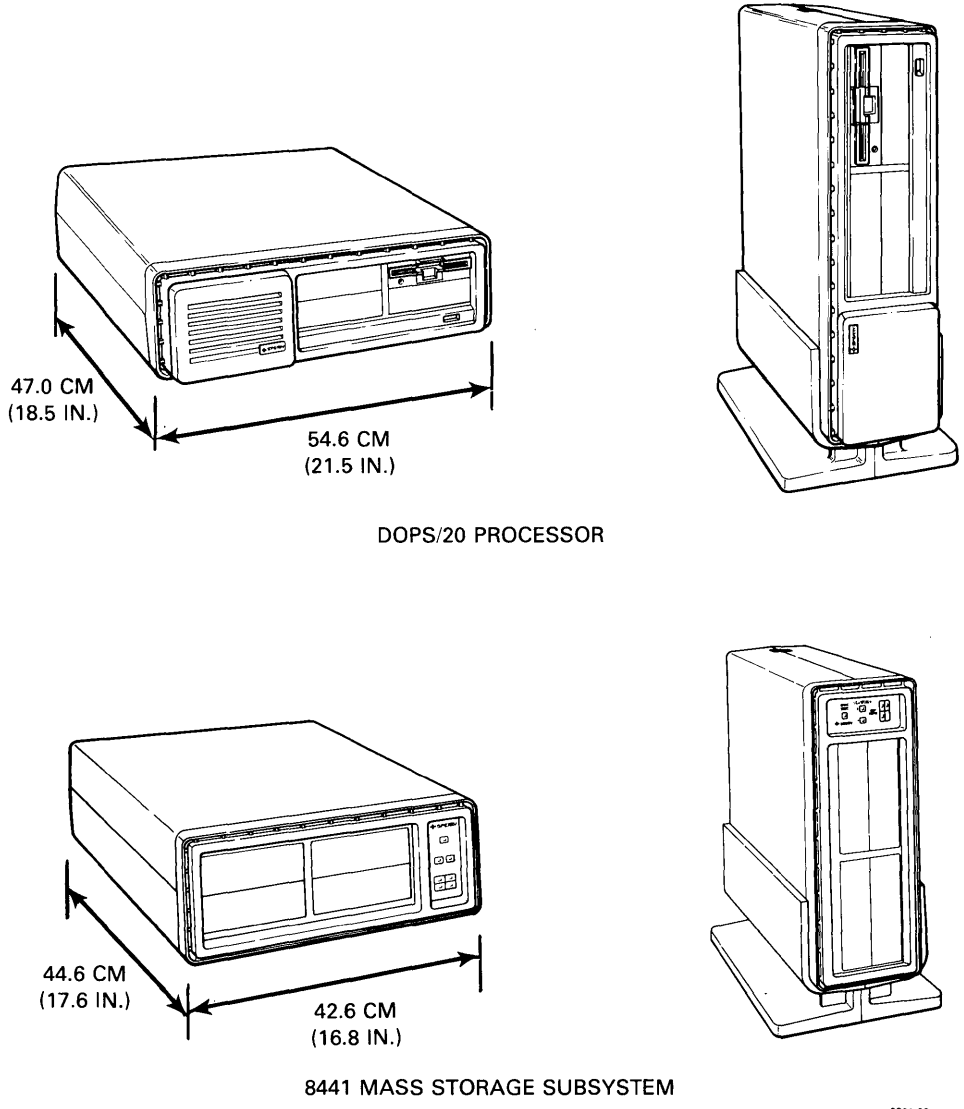


Figure 5-12. Dimensions of DOPS/20 and 8441 Mass Storage Subsystem

5.13. SPACE LAYOUT OF UTS 30 SINGLE STATION AND MODEL 25B PRINTER

The example in figure 5-13 shows a work area including the UTS 30 single station with the 8439 diskette subsystem and a Model 25B printer. The equipment is located on a table 152.4 centimeters (60 inches) wide, 76.2 centimeters (30 inches) deep, and 66 centimeters (26 inches) high. The magnetic stripe reader and the Model 25B printer are small and can both be located on the table. Sufficient space has been allowed for operator comfort and efficiency. The total space required is an area 152.4 centimeters (60 inches) wide and 171.4 centimeters (67.5 inches) deep.

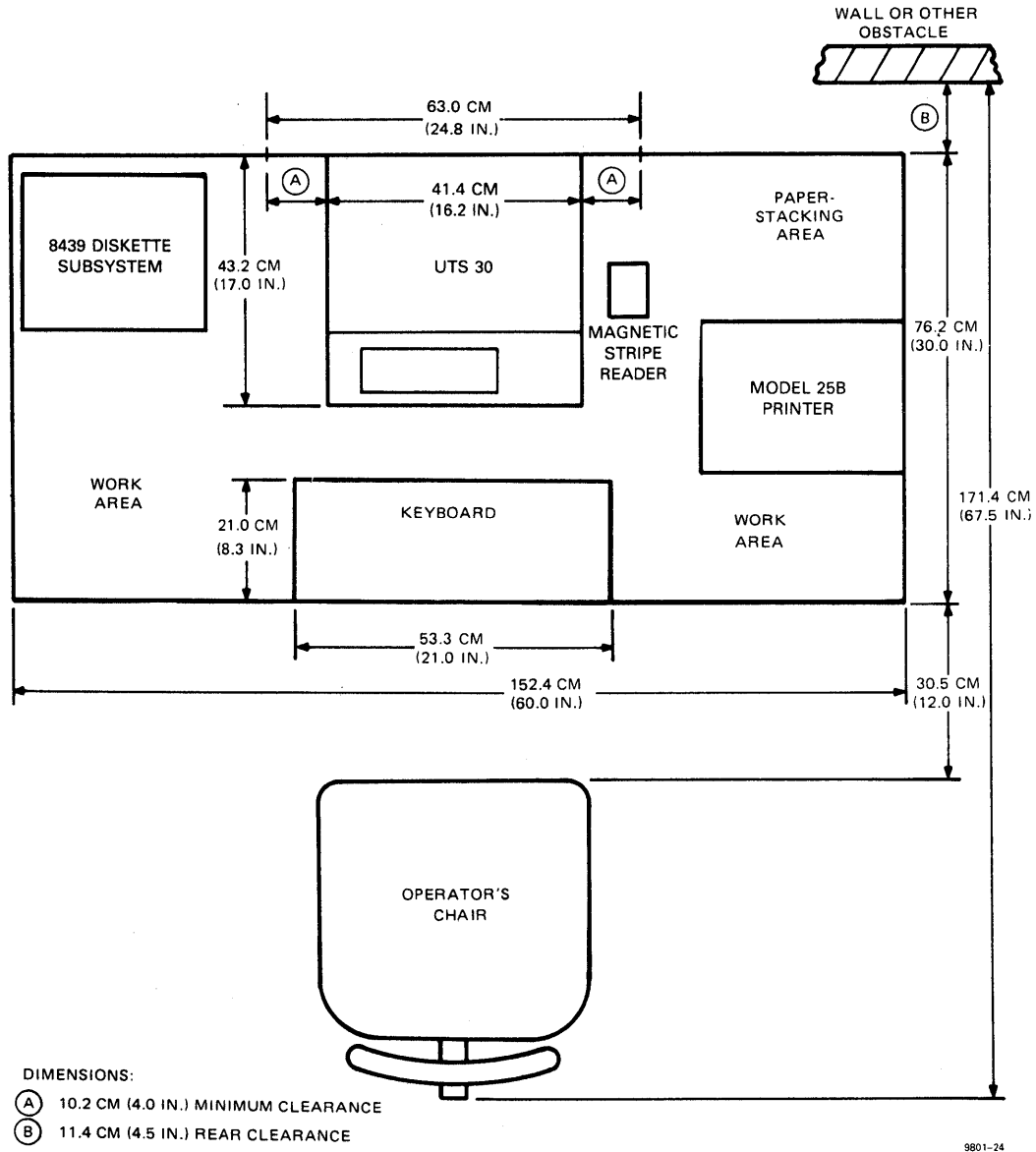
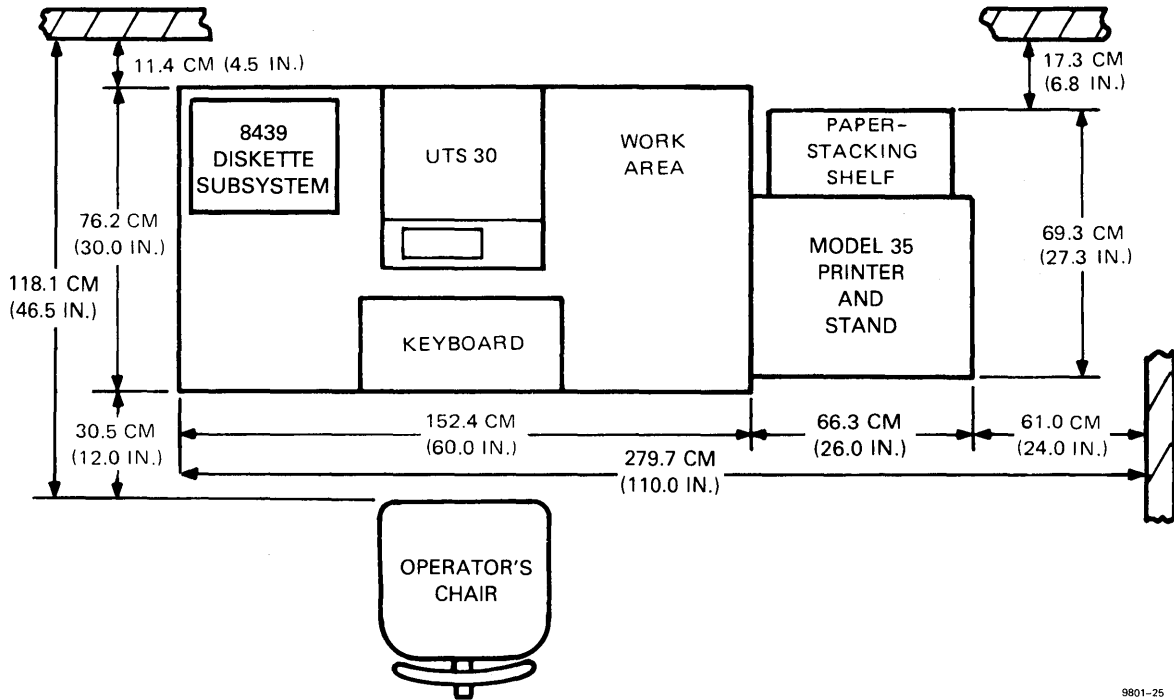


Figure 5-13. Space Layout of UTS 30 Single Station, Model 25B Printer, and Magnetic Stripe Reader

5.14. SPACE LAYOUT OF UTS 30 SINGLE STATION AND MODEL 35 PRINTER WITH STAND

The example in figure 5-14 shows a UTS 30 single station with the 8439 diskette subsystem and the Model 35 printer on a stand. The printer requires a clearance of 38.1 centimeters (15 inches) at the rear for the paper-stacking shelf, a clearance of 15.2 centimeters (6 inches) on the sides for air circulation and removal of printouts, and a vertical clearance of 38.1 centimeters (15 inches) for raising the top cover to access the controls and maintenance areas.

The equipment in this example requires an area 274.6 centimeters (108 inches) wide and 171.4 centimeters (67.5 inches) deep. Your space requirements may vary depending on the equipment, the desired location of the printer, and the space available for your installation. The cable between the UTS 30 and the keyboard allows considerable flexibility in positioning these units.

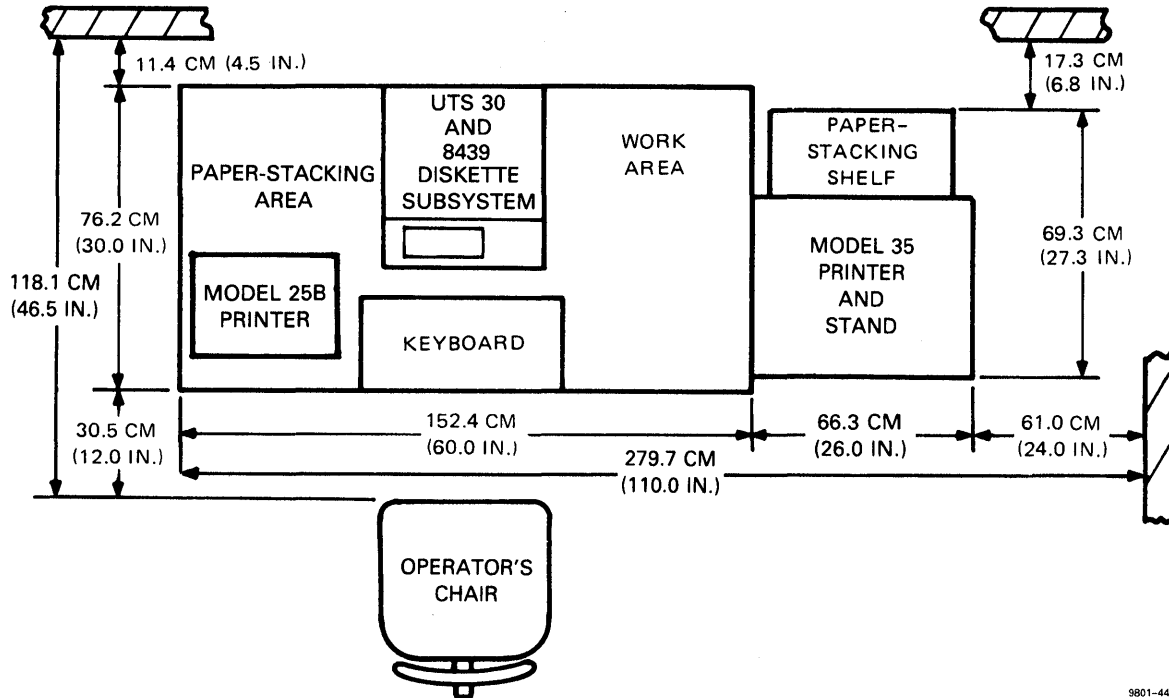


9801-25

Figure 5-14. Space Layout of UTS 30 Single Station and Model 35 Printer with Stand

5.15. SPACE LAYOUT OF UTS 30 SINGLE STATION WITH MODEL 25B PRINTER AND MODEL 35 PRINTER WITH STAND

The example in figure 5-15 shows a UTS 30 single station placed on top of the 8439 diskette subsystem, with a Model 25B printer on the desktop and a Model 35 printer on a stand. The equipment in this example requires an area 274.6 centimeters (108 inches) wide and 171.4 centimeters (67.5 inches) deep. The printers require a clearance of 38.1 centimeters (15 inches) at the rear for paper, and 15.2 centimeters (6 inches) on the sides for air circulation and removal of printouts. Your space requirements may vary depending on the equipment, the location of your printers, and the available space.



9801-44

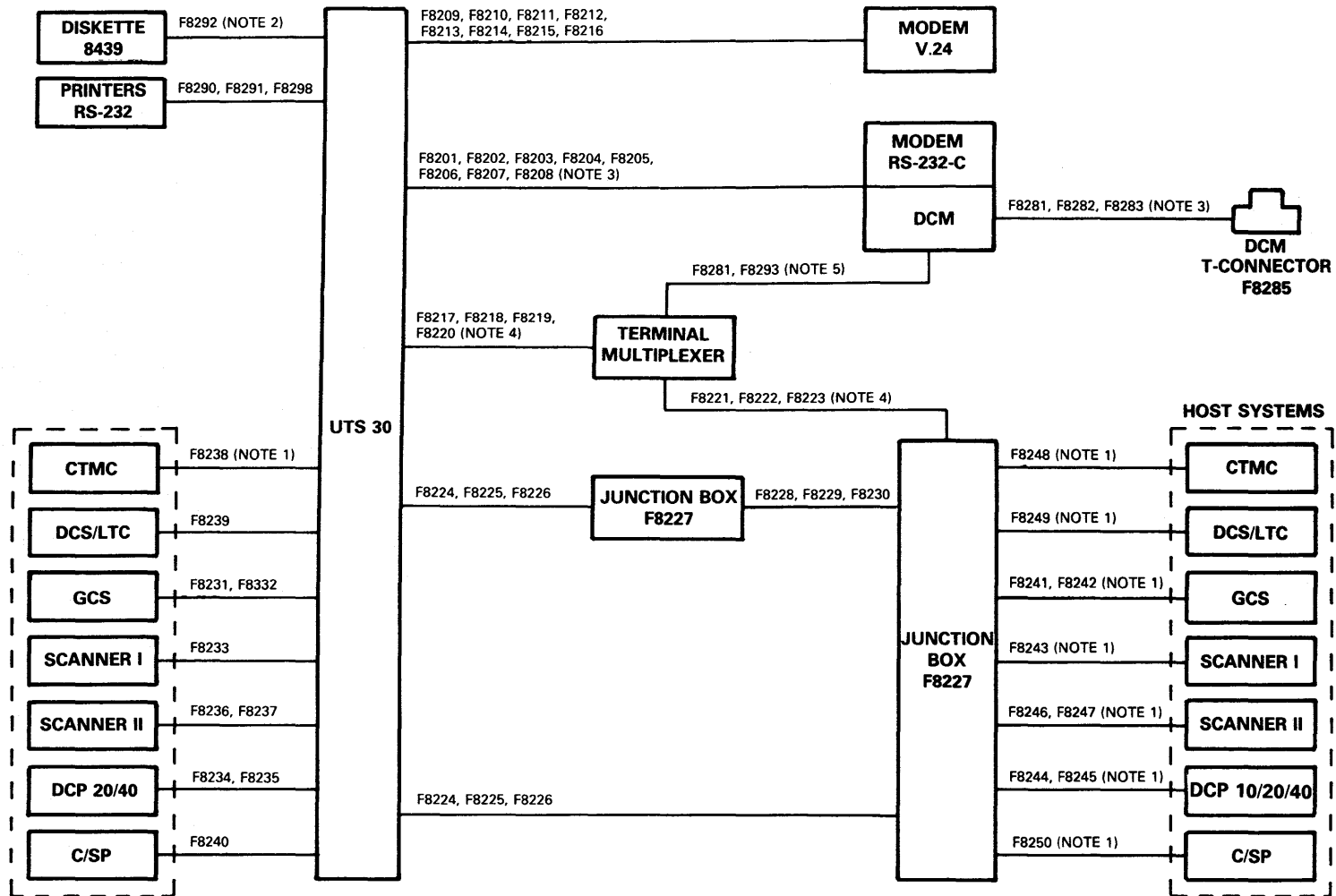
Figure 5-15. Space Layout of UTS 30 Single Station, Model 25B Printer, and Model 35 Printer With Stand

6. Cabling Considerations

Before planning cable routing and lengths, you need to determine the components of your system and their requirements. The only standard cables provided with the UTS 30 and its peripherals are the 10-foot coiled cable on the low-profile keyboard and the built-in 2-foot cable on the 8439 diskette subsystem. Figure 6-1 illustrates the cables required to install your UTS 30 system. Figure 6-2 illustrates the cables required to install your Model 30T desk station. Refer to the UTS 30 single station cable ordering bulletin, UP-10101, for the cable feature numbers and to determine the length and the ordering number for each group of cables you need.

NOTE: No cables are listed to connect modems, DCMs, or terminal multiplexers to a host. These cables are the responsibility of the host site. Refer to the 8609 terminal multiplexer and 8610 DCM site preparation guide, UP-9355, for additional information.

If you plan to use cables or cable connectors from vendors other than Sperry, contact your Sperry representative for compatibility information. In addition, you must include a no-cost feature number wherever appropriate to indicate that you will supply your own equipment. Refer to the UTS 30 single station cable ordering bulletin, UP-10101, for the no-cost feature numbers.



NOTES:

- Total cable length (with or without a junction box) from the UTS 30 to a host system cannot exceed 60m (200 ft).
- Total cable length from the UTS 30 to the diskette must not exceed 2.7m (9 ft).
- Total cable length from the UTS 30 to the host must not exceed:
 - 1524m (5,000 ft) for transmission rate of 3600-9600 baud;
 - 3048m (10,000 ft) for transmission rate of 2400-3600 baud;
 - 4572m (15,000 ft) for transmission rate of less than 2400 baud.
- Total cable length from the UTS 30 to the multiplexer and from the multiplexer to the host may each be a maximum of 1524m (5,000 ft).
- Total cable length from the terminal multiplexer to a DCM cannot exceed 15.2m (50 ft).

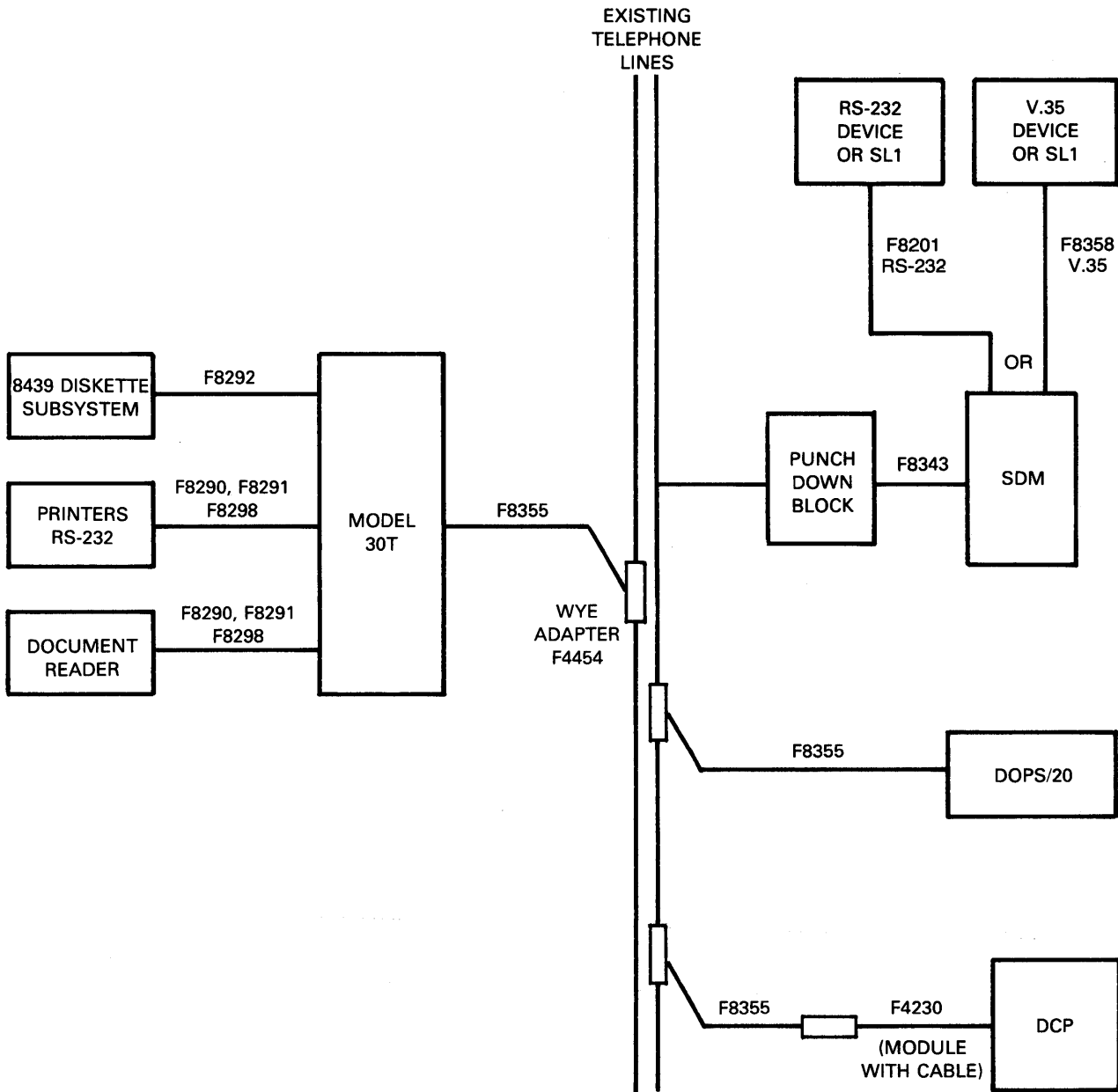
9801-26

Figure 6-1. Cable Feature Numbers for Connecting Components of a UTS 30 Configuration

NOTE: A Wye adapter (F4454-00) is provided to allow the data terminal to be connected to the same wall outlet as the telephone.

Sperry provides twisted pair cables in the following lengths:

- F8355 7 ft, 14 ft, and 25 ft
- F8343 5 ft, 10 ft, 15 ft, and 20 ft
- F8348 15 ft, 25 ft, 26 ft, and 52 ft
- F8201 3 ft, 10 ft, 26 ft, and 52 ft
- F8358 3 ft, 10 ft, 26 ft, and 52 ft



9801-34

Figure 6-2. Cable Feature Numbers for Connecting Components of a SPERRYLINK Model 30T Configuration

7. Other Considerations

7.1. UNPACKING/INSTALLATION

The SPERRY equipment described in this guide is designed to be unpacked and installed by our customers. Unpacking and installation instructions are included with each UTS 30 single station, printer, printer stand, and diskette subsystem.

When the equipment arrives, two people should be available to unpack the heavier devices and to place them at installation locations. (Refer to the applicable appendix for equipment weights.)

Each UTS 30 single station will be packed in a separate shipping container, which will contain the UTS 30 display unit, the keyboard, the magnetic stripe reader (if ordered), and the power cords. If you ordered the optional tilt/rotate base for the UTS 30, each base will be packed in a separate shipping container.

Each diskette subsystem with its attached 2-foot cable will be packed in a separate shipping container. If you order a second diskette drive for the diskette subsystem, it will be installed before the diskette subsystem is shipped.

Each of the printers will be packed in a separate shipping container. The forms tractor and cut-sheet feeder will be shipped separately. The special stands (if ordered) will be packed separately.

Each special-order cable will be packed in a separate shipping container.

You will need the following tools to unpack and install the UTS 30 and peripherals:

- A small screwdriver with a 1/8-inch flat tip and a 2½-inch (or longer) blade to connect the cables.
- A 6-inch (or longer) adjustable wrench to assemble the printer stand.
- Scissors or a sharp knife to open the containers.

7.2. RELOCATION

If you decide to relocate the UTS 30 and peripheral equipment, you must plan the new site as you did the initial location. If longer cable lengths are required, you can order new cables. Contact your Sperry representative for details.

Repack the equipment in the original shipping containers to minimize the possibility of damage during relocation. If the original shipping containers are not available, order replacements through your Sperry representative.

8. Site Planning and Preparation Checklist

Site requirements and work space planning are discussed in detail in Section 5. Refer to this section to aid in selecting, planning, and preparing your site. The checklist in table 8-1 is provided to assist you. The time period shown in the checklist is estimated and should be changed to fit your specific requirements. When ready, fill in the "Planned Date" column. As you complete each item in the checklist, record the date in the "Completion Date" column. In table 8-1, UTS 30 is interchangeable with UTS 30T, Model 30 desk station, and Model 30T desk station.

*Table 8-1. Recommended Site Planning and Preparation Checklist
(Part 1 of 3)*

Planning and Preparation Steps	Planned Date	Completion Date
INITIAL PLANNING		
<ol style="list-style-type: none"> 1. Review the UTS 30 system description to become familiar with the UTS 30, its options and peripherals, and the uses of this equipment. 2. Review thoroughly the contents of this site preparation guide. 3. Analyze your specific requirements and determine the total quantities of UTS 30 single stations and associated equipment required for your installation. 4. Prepare an initial layout showing locations of all equipment. Scale drawings of this equipment are provided in figure 8-1 for your convenience in preparing equipment layouts. These drawings may be cut out and used on ¼-inch grid (or quadrille) paper. 5. Prepare an initial layout of required data communications devices and cabling to meet the needs of your installation. If layout changes are planned for existing data communications equipment, indicate the present layout and the changed layout required for your UTS 30 installation. 6. Discuss your initial layout of data communications devices and cables and your initial layout of UTS 30 single stations, peripherals, and related cables with those responsible for the data communications installation. This could be either your Sperry representative or personnel from other vendors. 7. Discuss the initial layout of your UTS 30 and peripherals and related cables with your Sperry representative. 8. Decide whether the equipment is to be installed by Sperry personnel or whether you are going to make other arrangements for installation. Inform your Sperry representative of your decision. 		

Table 8-1. Recommended Site Planning and Preparation Checklist
(Part 2 of 3)

Planning and Preparation Steps	Planned Date	Completion Date
90 DAYS BEFORE DELIVERY		
<p>NOTE: If a peripheral is not included with your UTS 30, disregard references to the peripheral in the following steps.</p> <ol style="list-style-type: none"> 1. Determine space requirements for each UTS 30 and peripheral (Section 5). 2. Check site dimensions and building-access dimensions and prepare a layout showing each UTS 30 and peripheral located at its selected site. (Refer to Section 5.) Include any structural changes or relocation of other equipment which could affect the installation of the UTS 30 single stations, peripherals, auxiliary equipment, or cables. 3. Select the location of power receptacles to provide maximum flexibility for positioning the equipment and for ease of maintenance. 4. Determine the method of installation and suitable routing of signal cables, which include the following: <ul style="list-style-type: none"> ■ Cables between the modems, direct connection modules, terminal multiplexers, host processor (direct connection), and UTS 30 single stations. ■ Cables between each peripheral and its UTS 30. 5. Use the current version of the UTS 30 ordering guide, UP-9800, to order your UTS 30 and the UTS 4000 peripheral ordering guide, UP-9897, to order your printers. 6. Use the current version of the UTS 30 cable ordering information manual, UP-11731, to determine cable lengths available and order your cables. If any cables are to be installed during site preparation, request that they be delivered early enough for you to meet your site preparation schedules. 7. If necessary, revise your planning schedules to meet equipment delivery schedules. 		
60 DAYS BEFORE DELIVERY		
<ol style="list-style-type: none"> 1. Check environment at selected site for compliance with requirements. Arrange for necessary reworking of lighting and air conditioning. 2. Compare electrical facilities with power requirements of the ordered equipment to ensure they are compatible. If not compatible, call your Sperry representative or change the facilities, as required. 3. Select storage facilities for supplies such as boxes of printer paper, diskettes, ribbons, and other operator supplies, and for the reusable shipping containers. 4. Make final adjustments to planned layout of data communications devices and cables and of UTS 30 single stations, peripherals, and cables. 		

*Table 8-1. Recommended Site Planning and Preparation Checklist
(Part 3 of 3)*

Planning and Preparation Steps	Planned Date	Completion Date
30 DAYS BEFORE DELIVERY		
1. Start installation or improvement of air conditioning, if required.		
2. Start any structural modifications required for cable routing or for preparing the work area.		
3. Install wiring, circuit breakers, and required electrical receptacles.		
7 DAYS BEFORE DELIVERY		
1. Check electrical, structural, and air-conditioning installation. (This work should be completed by this time.)		
2. Ensure that any cables to be installed before arrival of the equipment have been properly installed.		
3. Ensure that preparations have been completed for cables to be installed when the equipment is installed.		
4. Determine the remote identifier (RID), system identifier (SID), and device identifier (DID) address codes for your equipment. (These codes are entered from the keyboard after the UTS 30 is installed. You may have to contact someone at your host processor site to obtain the specific codes for your equipment.)		
5. Notify installation/operating personnel of communications mode (modem/DCM connection, multiplexer connection, or direct host connection) and communications baud rate for the UTS 30. These are operating parameters to be established by operator entry.		
6. Complete painting, draping, and carpeting of the site, as required.		
7. Ensure that desks, tables, chairs, storage cabinets, and other furnishings required at the site are available for the installation.		
8. Clean site location.		
NOTE: If your site cannot be adequately prepared in time for the scheduled delivery of your equipment, please notify your Sperry representative.		

9. Telephone Interface Station (TIS) Planning Considerations

9.1. GENERAL

The SPERRY Telephone Interface Station (TIS) cartridge is a feature of the SPERRYLINK Model 30 Desk Station and provides the following telephone functions:

- Dialing telephone numbers
- Answering incoming calls with brief prerecorded messages
- Transmitting data to a host or remote terminal over public telephone lines (if your TIS cartridge has a built-in modem)
- Monitoring the foot pedal control switches to start, stop, and reverse the voice recording for easier transcription (if your desk station is connected to the SPERRY Voice Information Processing Station [VIPS]).

9.2. EQUIPMENT

The following list includes equipment you will need for the TIS operation, along with some optional equipment:

- Basic or programmable Model 30 desk station
- TIS cartridge (with modem or without modem)
- 8439 diskette subsystem (programmable Model 30)
- 5¼-inch diskette interface (programmable Model 30)
- SPERRYLINK Desk Station Support Package (DSSP)
- SPERRYLINK low-profile keyboard
- Optional foot pedal for use with VIPS

NOTE: If your Model 30 desk station has a serial number below 25,000, you will need an upgrade kit to be installed by customer engineering. Using the TIS cartridge without this installation may result in the loss of data.

9.3. RELATED PUBLICATIONS

If you are using the TIS cartridge with the SPERRYLINK desk station support package, you should be familiar with the following publications:

- PSL-0172, SPERRYLINK Office System Guide to Documentation
- UP-9751, SPERRYLINK Office System UTS 30 Desk Station Installation Guide
- UP-9349, SPERRYLINK Office Concepts

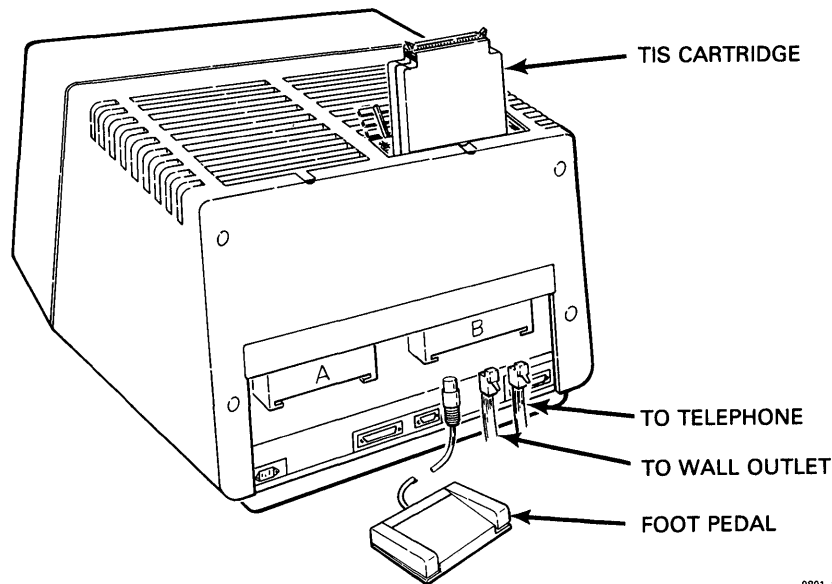
If you are using the optional foot pedal with the Voice Information Processing Station (VIPS), you should be familiar with the following publications:

- UP-9766, SPERRY Voice Information Processing Station Site Preparation Guide
- UP-9768, SPERRY Voice Information Processing Station Installation Guide

9.4. SPACE AND LOCATION CONSIDERATIONS

No additional space is required for the Model 30 desk station with the TIS cartridge installed. The TIS cartridge is connected to the desk station in the feature slot B on the back of the terminal and connects to the wall outlet and to your telephone (figure 9-1).

NOTE: The TIS cartridge can only be used with a Touch-tone telephone and telephone line. It cannot be connected to a party line or a pay telephone line.*



9801-29

Figure 9-1. Model 30 Desk Station with TIS Cartridge and Foot Pedal

*Touch-tone is a registered trademark of American Telephone and Telegraph (AT&T) Bell Laboratories.

The work area should be planned so you have convenient access to a telephone and one of the following standard telephone wall outlets.

- USOC-RJ11W, USOC-RJ11C — Single line connection
- USOC-RJ12W, USOC-RJ12C — Multiple key line connection
- USOC-RJ13W, USOC-RJ13C — Multiple key line connection

NOTE: If this type of telephone wall outlet is not available for your desk station, you will need to install one. Refer to the AT&T manual "Inside Wiring Maintenance" for installation information.

If you are using the foot pedal with the voice information processing station, refer to the VIPS site preparation guide, UP-9766, for space and location requirements for the VIP station. The foot pedal is a small device designed to fit beneath the desk and does not require additional space.

Dimensions, clearances required, and other technical specifications for the Model 30 desk station with keyboard, diskette subsystem, and printers are provided in Section 5.

9.5. ELECTROMAGNETIC INTERFERENCE

Although the TIS cartridge has been certified to comply with the regulations of the Federal Communications Commission (FCC), if it is not installed and used in strict accordance with the manufacturer's instructions, it may cause interference to radio and television reception. You should plan your equipment layout to minimize the possibility of any interference. If interference does occur, however, you may be able to correct the problem by trying one of the following measures:

- Changing the position of the receiving antenna.
- Changing the position of the computer.
- Moving the computer away from the receiver.
- Connecting the computer to a different outlet so that the computer and the receiver are on different branch circuits.

Refer to the following booklet prepared by the FCC for additional suggestions: "How to Identify and Resolve Radio/TV Interference Problems." (The booklet is available from the U.S. Government Printing Office, Washington, D.C. 20420, Stock No. 004-000.00345-4.)

Appendix A. UTS 30 Single Station Summary Data

PHYSICAL INFORMATION

Dimensions

Width	41.4 cm (16.2 in.)
Depth	
Without keyboard	43.2 cm (17.0 in.)
With keyboard	67.3 cm (26.5 in.)
Height	
Without tilt/rotate base	32.5 cm (12.8 in.)
With tilt/rotate base	
Nominal	40.43 cm (15.9 in.)
Maximum	47.2 cm (18.6 in.)
With 8439 diskette subsystem enclosure top with tilt base	
Nominal	44.6 cm (17.5 in.)
Maximum	49.0 cm (19.5 in.)

Weight

Without keyboard	20.0 kg (44.0 lb)
With keyboard	22.1 kg (50.0 lb)
Magnetic stripe reader	1.07 kg (2.4 lb)

Recommended Clearances

Front	As required by operator
Rear	11.4 cm (4.5 in.)
Left	10.2 cm (4.0 in.)
Right	10.2 cm (4.0 in.)

ENVIRONMENTAL INFORMATION

Maximum Heat Dissipation

120 kcal/hr (140 watts)

Air Circulation

Forced air (fan)

Temperature Range

Operating: 10° to 34° C (50° to 93° F)

Shipping and Storage:

To 72 hours: -40° to 62° C
(-40° to 144° F)
To 6 months: -22° to 47° C
(-8° to 117° F)

Relative Humidity Range

Operating: 20% to 85%

Shipping and Storage:

To 6 months: 1% to 95%

ELECTRICAL INFORMATION

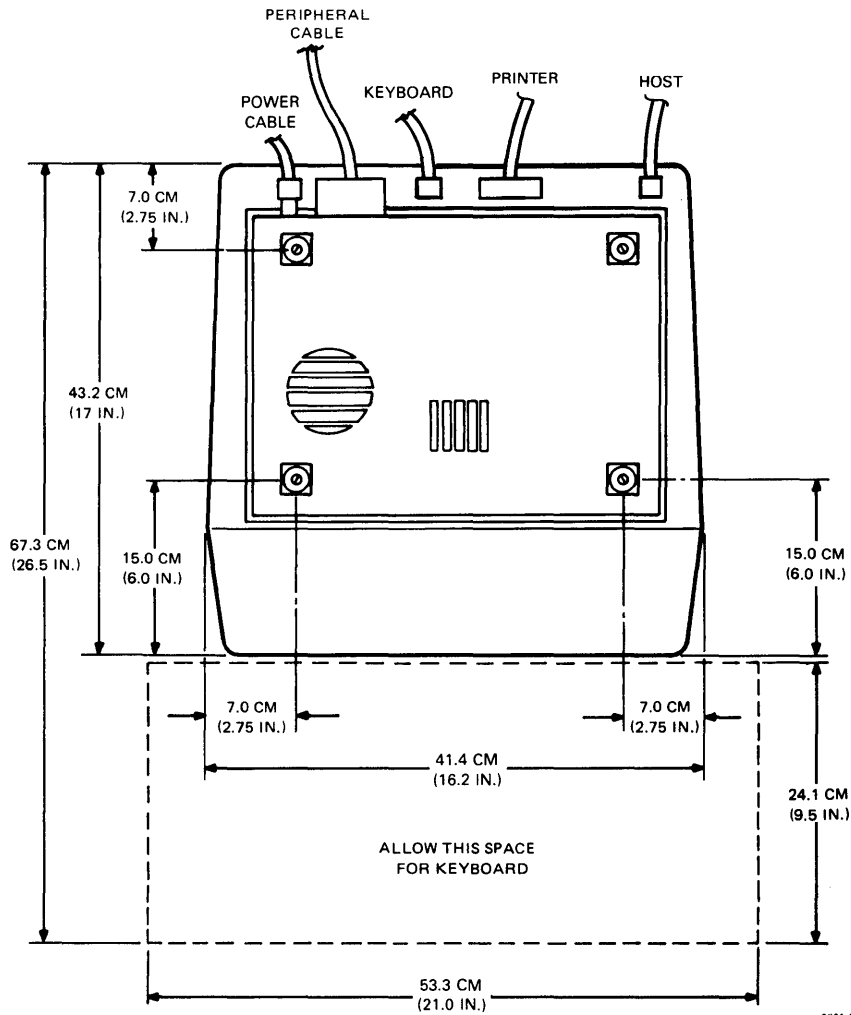
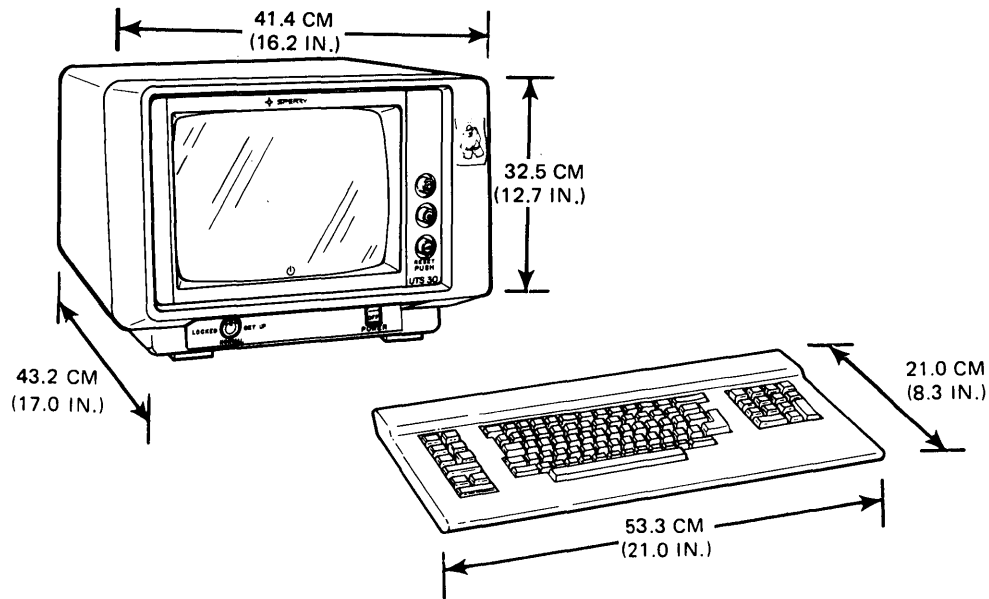
Power Requirements

0.13 kVA (130 watts)

Recommended User Circuits

Domestic: 60 Hz, 120 Vac, single phase, 2 wire and ground

International: 50 or 60 Hz, 100/120 Vac, single phase, 2 wire and ground, or
50 or 60 Hz, 220/240 Vac, single phase, 2 wire and ground



9801 30

Figure A-1. UTS 30 Single Station Installation Planning View

Appendix B. 8439 Double-Sided Diskette Subsystem Summary Data

PHYSICAL INFORMATION

Dimensions

Width	36.3 cm (14.2 in.)
Depth	31.8 cm (12.5 in.)
Height	8.4 cm (3.3 in.)

Weight

5.9 kg (13 lb)

Recommended Clearances

Front	38.1 cm (15.0 in.)
Rear	10.2 cm (4.0 in.)
Left	None required
Right	None required
Top	None required

ENVIRONMENTAL INFORMATION

Maximum Heat Dissipation (per drive)

9.74 kcal/hr (11.3 watts)

Air Circulation

Natural convection

Temperature Range

Operating: 4° to 46° C (40° to 115° F)

Shipping and Storage:

To 72 hours: -40° to 62° C (-40° to 144° F)

To 6 months: -22° to 47° C (-8° to 117° F)

Relative Humidity Range

Operating: 20% to 80%

Shipping and Storage:

To 6 months: 1% to 95%

NOTE:

Diskettes are limited to 80% maximum relative humidity, for operating, shipping, or storage.

ELECTRICAL INFORMATION

Power Requirements

0.0226 kVA

Recommended User Circuits

Domestic: 60 Hz, 120 Vac, single phase, 2 wire and ground

International: 50 or 60 Hz, 100/120 Vac, single phase, 2 wire and ground, or
50 or 60 Hz, 220/240 Vac, single phase, 2 wire and ground

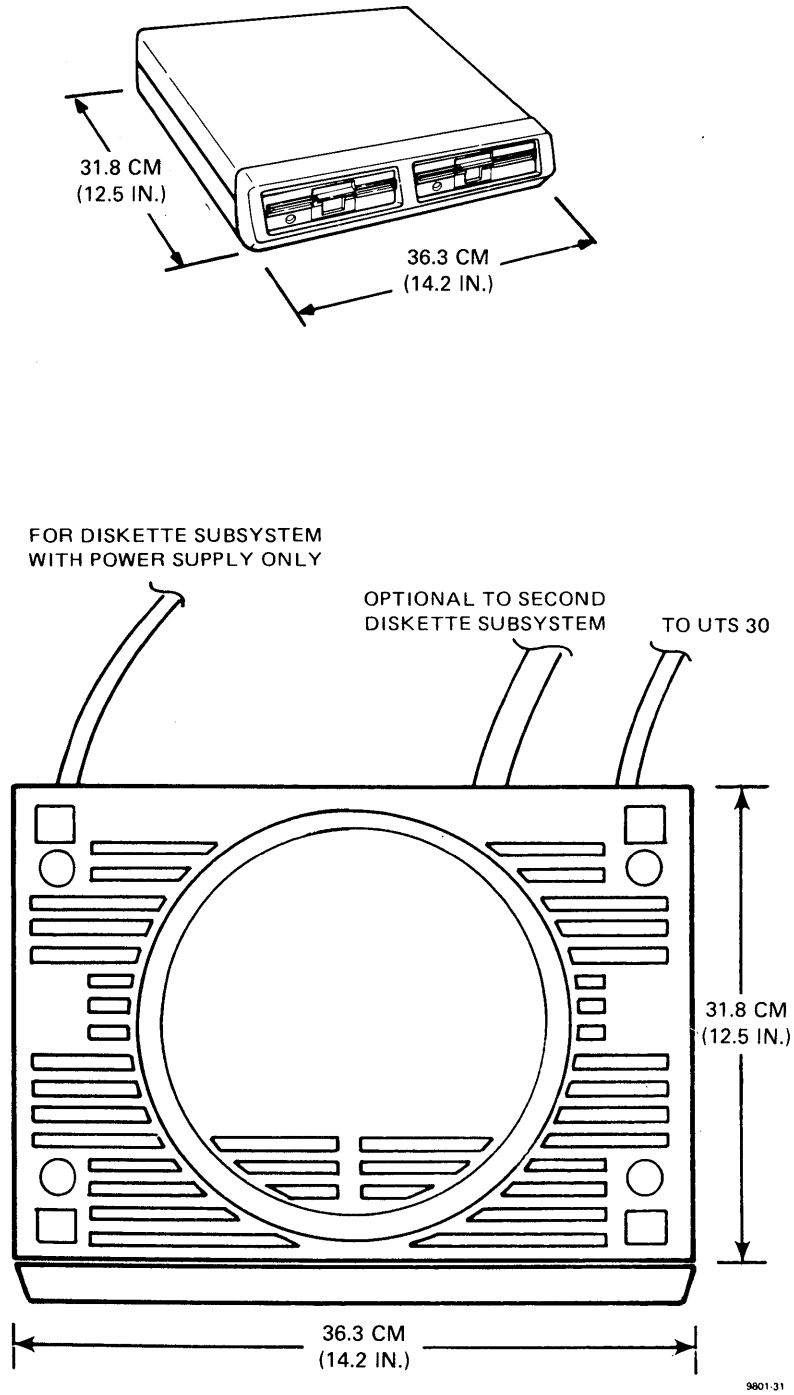


Figure B-1. 8439 Double-Sided Diskette Subsystem Installation Planning View

Appendix C. Model 25B Printer Summary Data

PHYSICAL INFORMATION

Dimensions

Width	50.5 cm (19.9 in.)
Depth	
Without tractor	25.0 cm (9.8 in.)
With tractor	30.7 cm (12.1 in.)
Height	
Without tractor	13.7 cm (5.4 in.)
With tractor	16.5 cm (6.5 in.)

Weight

Without tractor	7.5 kg (16.6 lb.)
With tractor	10.7 kg (23.5 lb.)

Recommended Clearances

Front	As required by operator
Rear	38.1 cm (15 in.)
Sides	15.2 cm (6 in.)
Top	38.1 cm (15 in.)

ENVIRONMENTAL INFORMATION

Maximum Heat Dissipation

86 kcal/hr (100 watts)

Air Circulation

Convection

Temperature Range

Operating: 10° to 34° C (50° to 93° F)

Shipping and Storage:

To 72 hours: - 40° to 62° C (- 40° to 144° F)

To 6 months: - 22° to 47° C (- 8° to 117° F)

Relative Humidity Range

Operating: 20% to 85%

Shipping and Storage:

To 6 months: 1% to 95%

ELECTRICAL INFORMATION**Power Requirements**

0.1 kVA (Approx. 100 W)

Recommended User Circuits

Domestic: 60 Hz, 120 Vac, single phase, 2 wire and ground

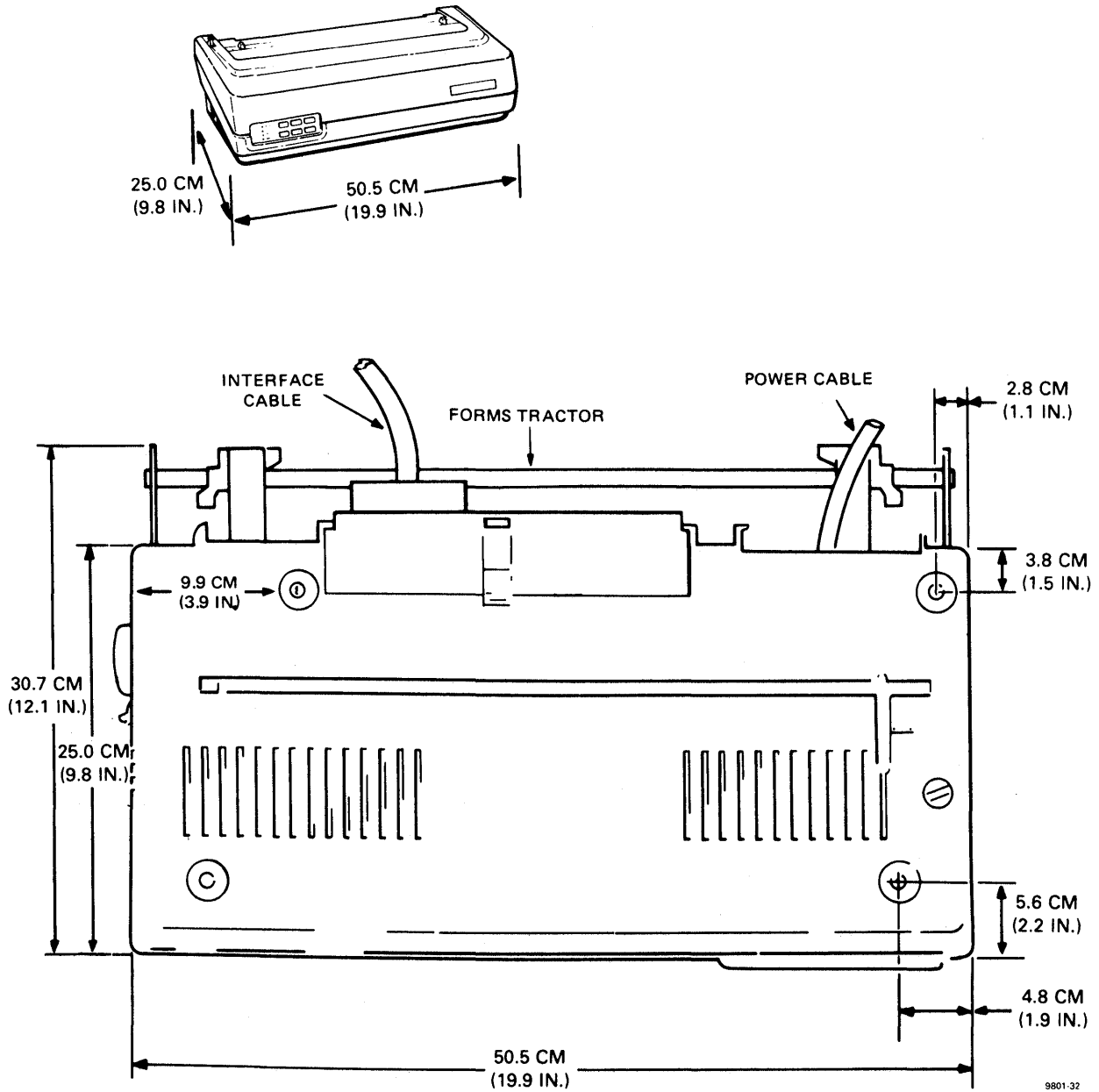
International: 50 or 60 Hz, 100/120 Vac, single phase, 2 wire and ground, or
50 or 60 Hz, 220/240 Vac, single phase, 2 wire and ground

Figure C-1. Model 25B Printer Installation Planning View

Appendix D. Model 31 Printer Summary Data

PHYSICAL INFORMATION

Dimensions

Width	59 cm (23.2 in.)
Depth	38 cm (14.8 in.)
Height	
With forms tractor	33 cm (13 in.)
With cut-sheet feeder	53.5 cm (21 in.)

Weight

Without forms tractor	16.7 kg (37 lb)
With forms tractor	19 kg (42 lb)
With cut sheet feeder	20 kg (49.2 lb)

Recommended Clearances

Front	As required by operator
Rear	10.2 cm (4 in.)
Sides	15.2 cm (6 in.)
Top	38.1 cm (15 in.)

ENVIRONMENTAL INFORMATION

Maximum Heat Dissipation (at 117 watts)

81 kcal/hr (94 watts)

Air Circulation

Forced air (fan)

Temperature Range

Operating: 10° to 34° C (50° to 93° F)

Shipping and Storage:

To 72 hours:	10° to 40° C (50° to 104°F)
To 6 months:	-40° to 60° C (-40° to 169° F)

Relative Humidity Range

Operating: 10% to 90%

Shipping and Storage:

To 6 months: 10% to 90%

ELECTRICAL INFORMATION

Power Requirements

0.15 kVA (approximately 150 watts)

Recommended User Circuits

Domestic: 60 Hz, 120 Vac, single phase, 2 wire and ground

International: 50 or 60 Hz, 100/120 Vac, single phase, 2 wire and ground, or
50 or 60 Hz, 220/240 Vac, single phase, 2 wire and ground

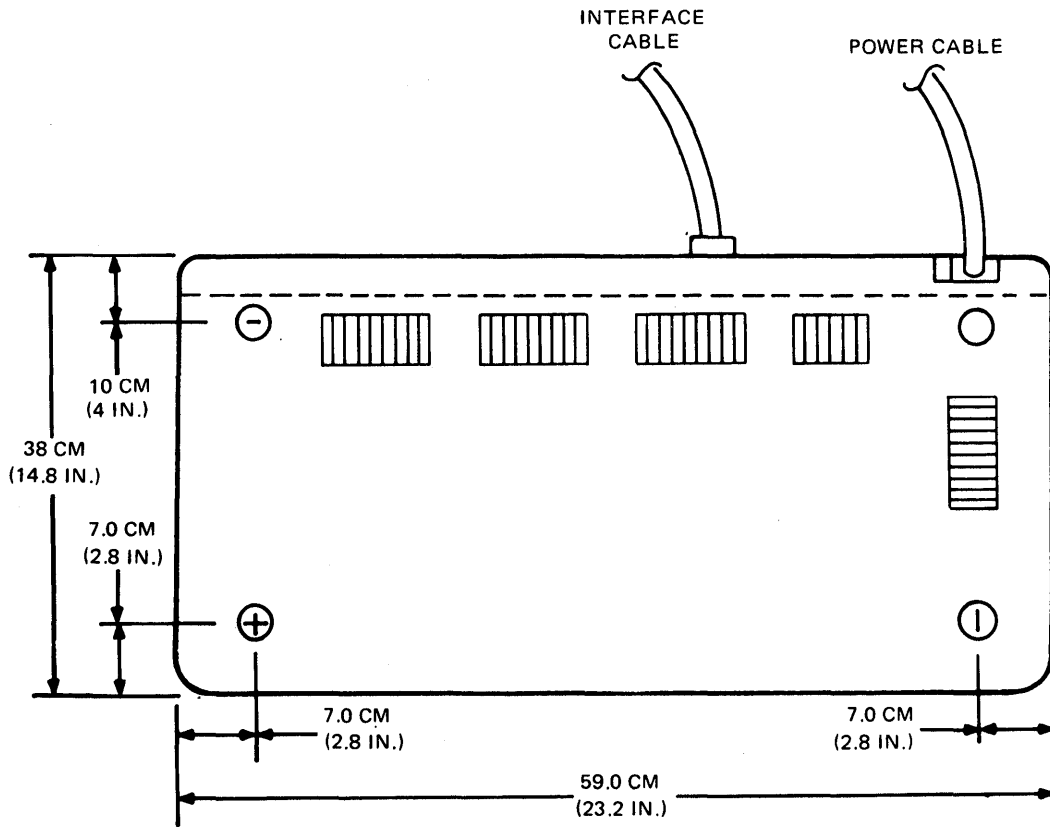
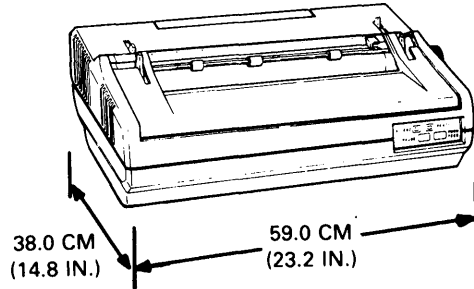


Figure D-1. Model 31 Printer Installation Planning View

Appendix E. Model 15 Printer Summary Data

PHYSICAL INFORMATION

Dimensions

Width	39.6 cm (15.6 in.)
Depth	27.9 cm (11.0 in.)
Height	13.7 cm (5.4 in)

Weight

8.5 kg (18.75 lb)

ENVIRONMENTAL INFORMATION

Maximum Heat Dissipation

86 kcal/hr (100 watts)

Air Circulation

Convection

Temperature Range

Operating: 10° to 34° C (50° to 93°F)

Shipping and Storage:

To 72 hours: -40° to 62° C (-40° to 144° F)

To 6 months: -30° to 47° C (-8° to 117° F)

Relative Humidity Range

Operating: 20% to 85%

Shipping and Storage:

To 6 months: 1% to 95%

ELECTRICAL INFORMATION

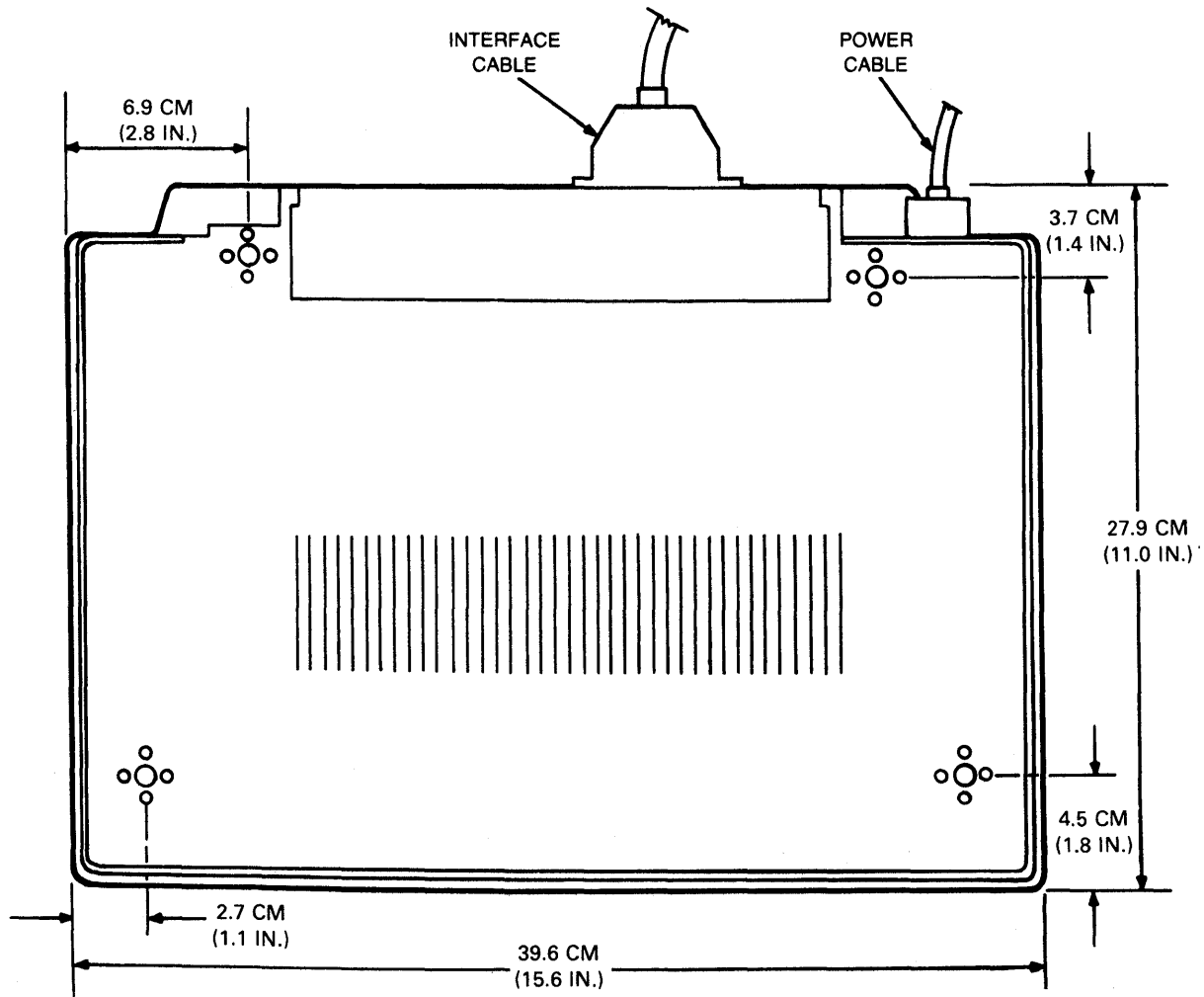
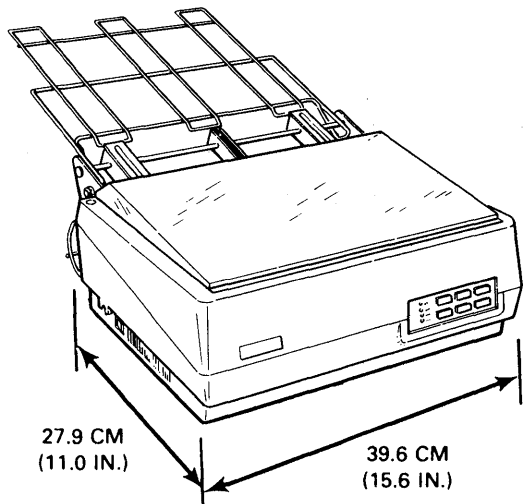
Power Requirements

0.1 kVA (Approx. 100 W)

Recommended User Circuits

Domestic: 60 Hz, 120 Vac, single phase, 2 wire and ground

International: 50 or 60 Hz, 100/120 Vac, single phase, 2 wire and ground, or
50 or 60 Hz, 220/240 Vac, single phase, 2 wire and ground



9801-34

Figure E-1. Model 15 Printer Installation Planning View

Appendix F. Model 35 Printer Summary Data

PHYSICAL INFORMATION

Dimensions

Width	65.5 cm (25.8 in.)
Depth	46.0 cm (18.1 in.)
Height	23.9 cm (9.4 in.)
With cut-sheet feeder	57.7 cm (22.5 in.)

Weight

32.0 kg (70 lb)

Recommended Clearances

Front	As required by operator
Rear	38.1 cm (15 in.)
Sides	15.2 cm (6 in.)
Top	38.1 cm (15 in.)

ENVIRONMENTAL INFORMATION

Maximum Heat Dissipation

142 kcal/hr (165 watts)
258 kcal/hr (300 watts)

Air Circulation

Forced air (fan)

Temperature Range

Operating: 10° to 34° C (50° to 93°F)

Shipping and Storage:

To 72 hours: -40° to 62° C
(-40° to 144° F)
To 6 months: -22° to 47° C
(-8° to 117° F)

Relative Humidity Range

Operating: 20% to 85%

Shipping and Storage:

To 6 months: 1% to 95%

ELECTRICAL INFORMATION

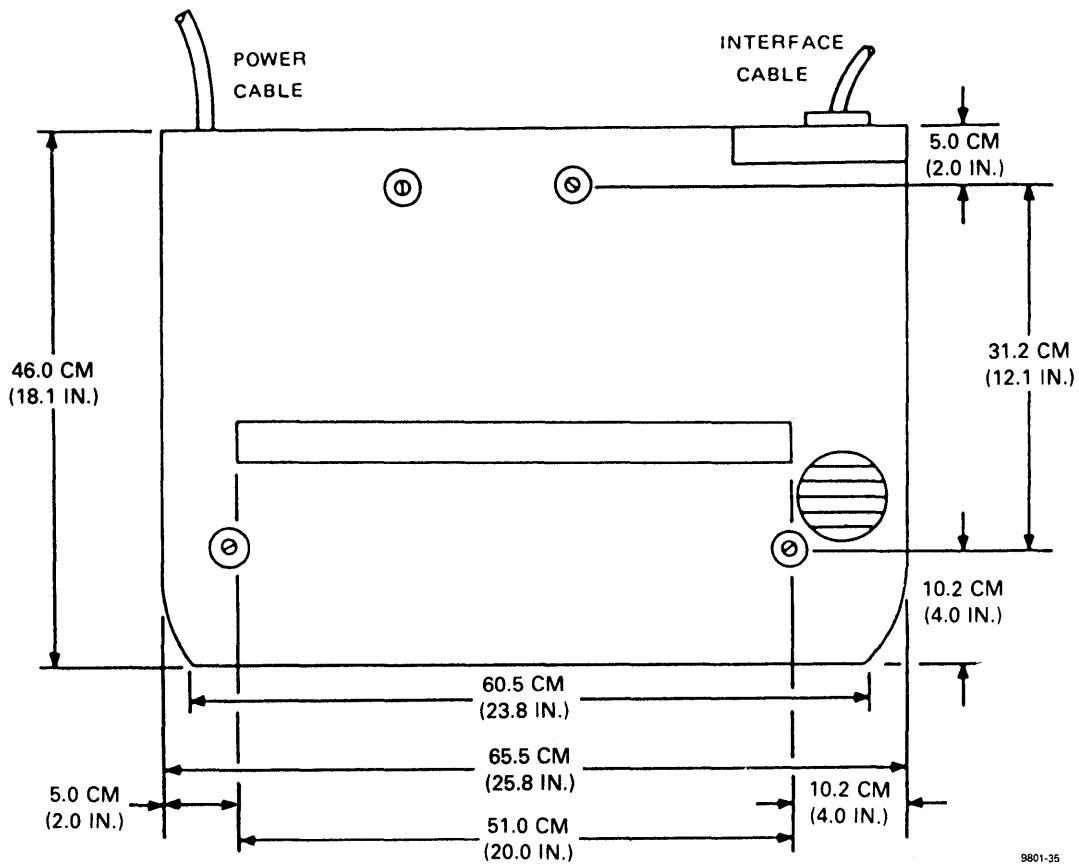
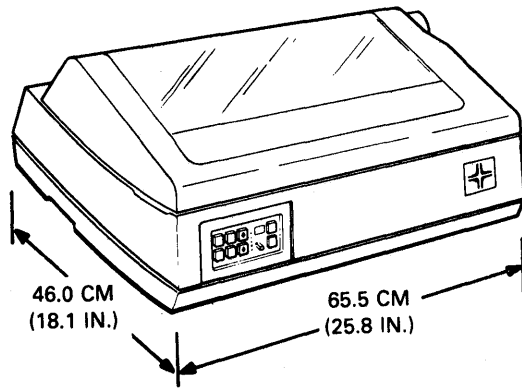
Power Requirements

0.22 kVA (Approximately 220 watts)

Recommended User Circuits

Domestic: 60 Hz, 120 Vac, single phase, 2 wire and ground

International: 50 Hz, 100 Vac, single phase, 2 wire and ground, or
50 Hz, 220/240 Vac, single phase, 2 wire and ground



9801-35

Figure F-1. Model 35 Printer Installation Planning View

Appendix G. 8610 Direct Connection Module Summary Data

PHYSICAL INFORMATION

Dimensions

Width	20.3 cm (8.0 in.)
Depth	31.1 cm (12.3 in.)
Height	9.2 cm (3.6 in.)

Recommended Clearances

Top	1.0 cm (0.38 in.)
Bottom	1.0 cm (0.38 in.)
Rear	10.2 cm (4.0 in.)

Weight	2.5 kg (5.5 lb)
---------------	-----------------

ENVIRONMENTAL INFORMATION

Maximum Heat Dissipation

10.3 kcal/hr (12 watts)

Temperature Range

5° to 43° C (40° to 110° F)

Air Circulation

Natural convection

Relative Humidity Range

5% to 95%

ELECTRICAL INFORMATION

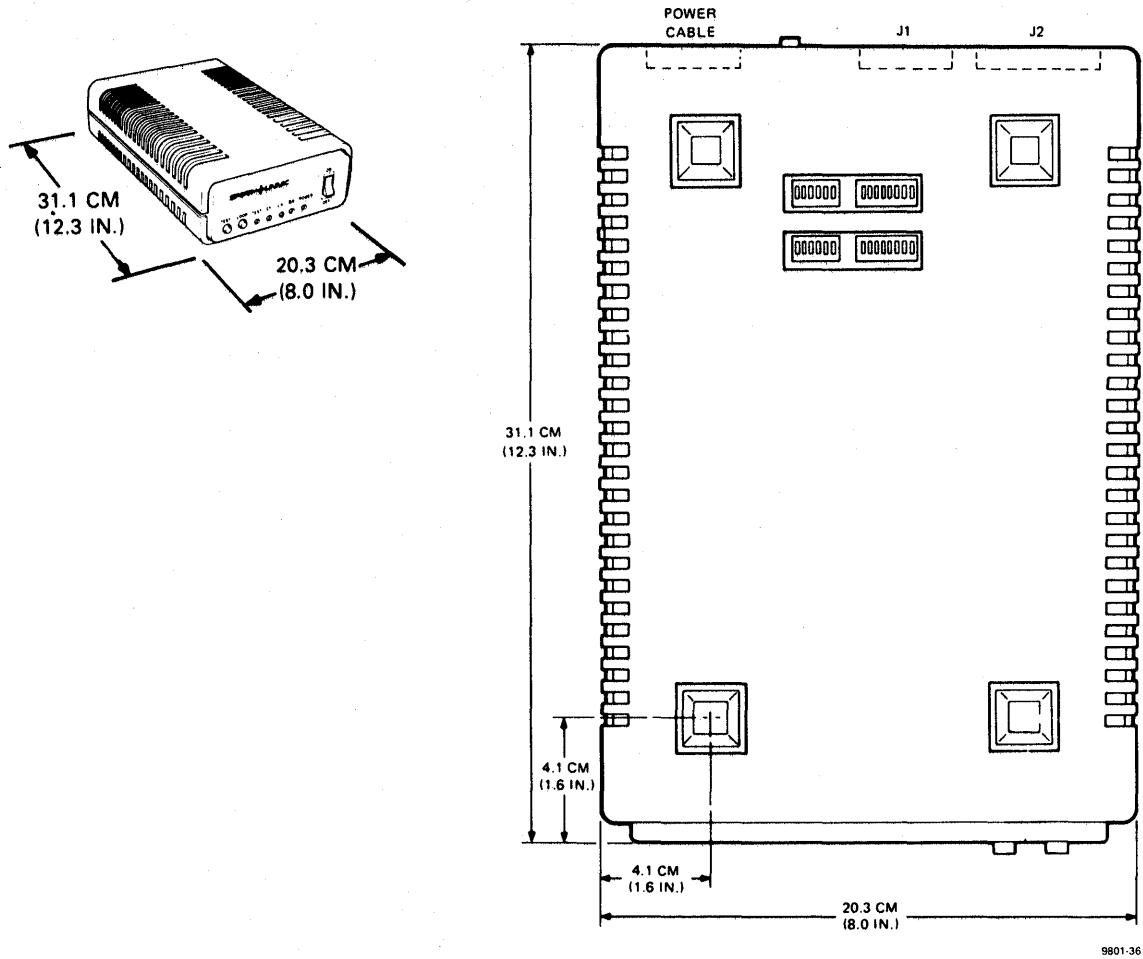
Power Requirements

0.012 kVA

NOTE: A common power source and power ground are not required between DCMs.

Recommended User Circuits

Domestic:	60 Hz, 120 Vac, single phase, 2 wire and ground
International:	50 or 60 Hz, 100/120 Vac, single phase, 2 wire and ground, or 50 or 60 Hz, 220/240 Vac, single phase, 2 wire and ground



9801-36

Figure G-1. 8610 Direct Connection Module Installation Planning View

Appendix H. 8609 Terminal Multiplexer Summary Data

PHYSICAL INFORMATION

Dimensions

Width	41.9 cm (16.5 in.)
Depth	36.8 cm (14.5 in.)
Height	20.3 cm (8.0 in.)

Weight

8.6 kg (19.0 lb)

Recommended Clearances

5 cm (2 in.) on all sides

ENVIRONMENTAL INFORMATION

Maximum Heat Dissipation

Minimum configuration
43.0 kcal/hr (50 watts)

Maximum configuration
64.5 kcal/hr (75 watts)

Temperature Range

5° to 43° C (40° to 110° F)

Relative Humidity Range

5% to 95%

Air Circulation

Natural convection

ELECTRICAL INFORMATION

Power Requirements

0.075 kVA (75 watts)

Recommended User Circuits

Domestic: 60 Hz, 120 Vac, single phase, 2 wire and ground, or

International: 50 or 60 Hz, 220/240 Vac, single phase, 2 wire and ground

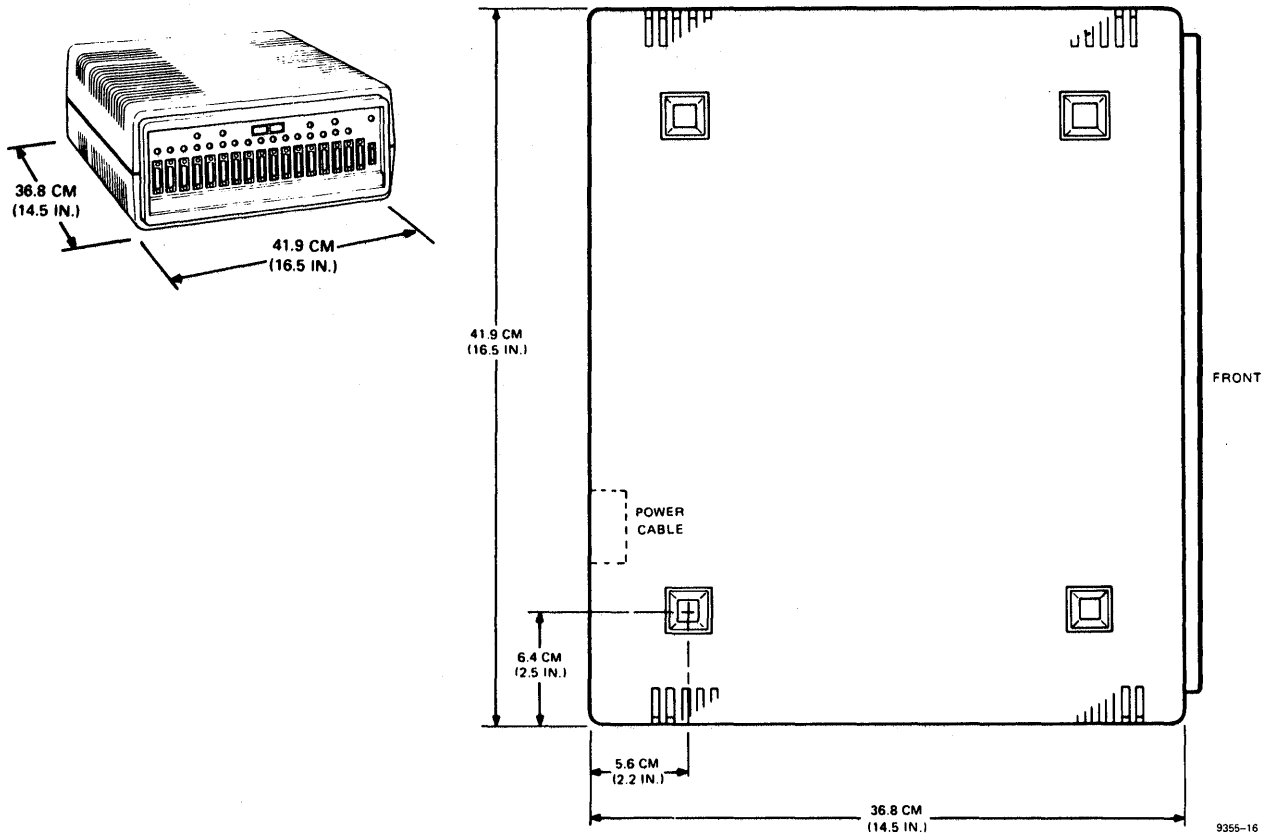


Figure H-1. 8609 Terminal Multiplexer Installation Planning View

Appendix I. 8613 Signal Distribution Module Summary Data

PHYSICAL INFORMATION

Dimensions

Width	42.6 cm (16.8 in.)
Depth	44.6 cm (17.6 in.)
Height	16.5 cm (6.5 in.)

Weight 9 kg (20 lb)

Recommended Clearances

10.2 cm (4.0 in.) on all sides

ENVIRONMENTAL INFORMATION

Maximum Heat Dissipation

Maximum configuration
51.4 kcal/hr (60 watts)

Air Circulation

Forced air (fan)

Temperature Range

Operating: 10° to 34° C (50° to 93° F)

Shipping and Storage:

To 72 hours: -42° to 62° C
(-40° to 144° F)

To 6 months: -22° to 47° C
(-8° to 117° F)

Relative Humidity Range

Operating: 5% to 95%

Shipping and Storage:

To 6 months: 1% to 95%

ELECTRICAL INFORMATION

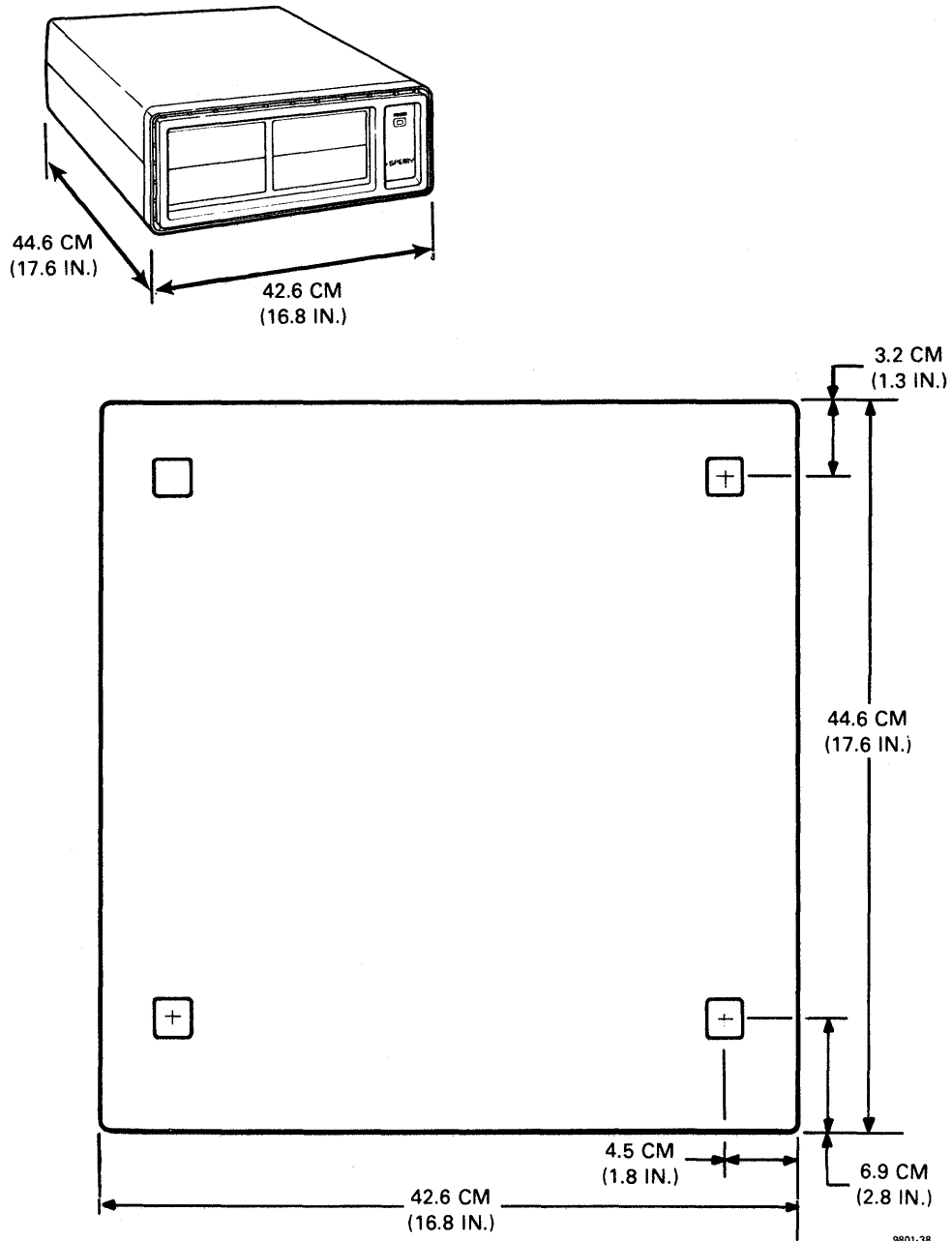
Power Requirements

0.06 kVA (60 watts)

Recommended User Circuits

Domestic: 60 Hz, 120 Vac, single phase, 2 wire and ground

International: 50 or 60 Hz, 100/120 Vac, single phase, 2 wire and ground, or
50 or 60 Hz, 200/240 Vac, single phase, 2 wire and ground



9801-38

Figure I-1. 8613 Signal Distribution Module Installation Planning View

Appendix J. 2712 Document Reader Summary Data

PHYSICAL INFORMATION

Dimensions

Width	42.2 cm (16.6 in.)
Depth	53.3 cm (21.0 in.)
Height	25.4 cm (10.0 in.)

Weight 18.6 kg (41.0 lbs)

Recommended Clearances

Front	As required by operator
Rear	10.2 cm (4 in.)
Sides	7.5 cm (3 in.)
Top	None required

ENVIRONMENTAL INFORMATION

Maximum Heat Dissipation

86 kcal/hr (100 watts)

Relative Humidity Range

Operating: 20% to 85%

Temperature Range

Operating: 10° to 35° C (50° to 95° F)

Shipping and Storage:

To 72 hours: -40° to 62° C
(-40° to 144° F)

To 6 months: -22° to 47° C
(-8° to 117° F)

Storage and Shipping:

To 6 months: 1% to 95%

Air Circulation

Fan

ELECTRICAL INFORMATION

Power Requirements

0.25 kVA (250 watts)

Recommended User Circuits

Domestic: 60 Hz, 120 Vac, single phase, 2 wire and ground

International: 50 or 60 Hz, 110/120 Vac, single phase, 2 wire and ground, or
50 or 60 Hz, 220/240 Vac, single phase, 2 wire and ground

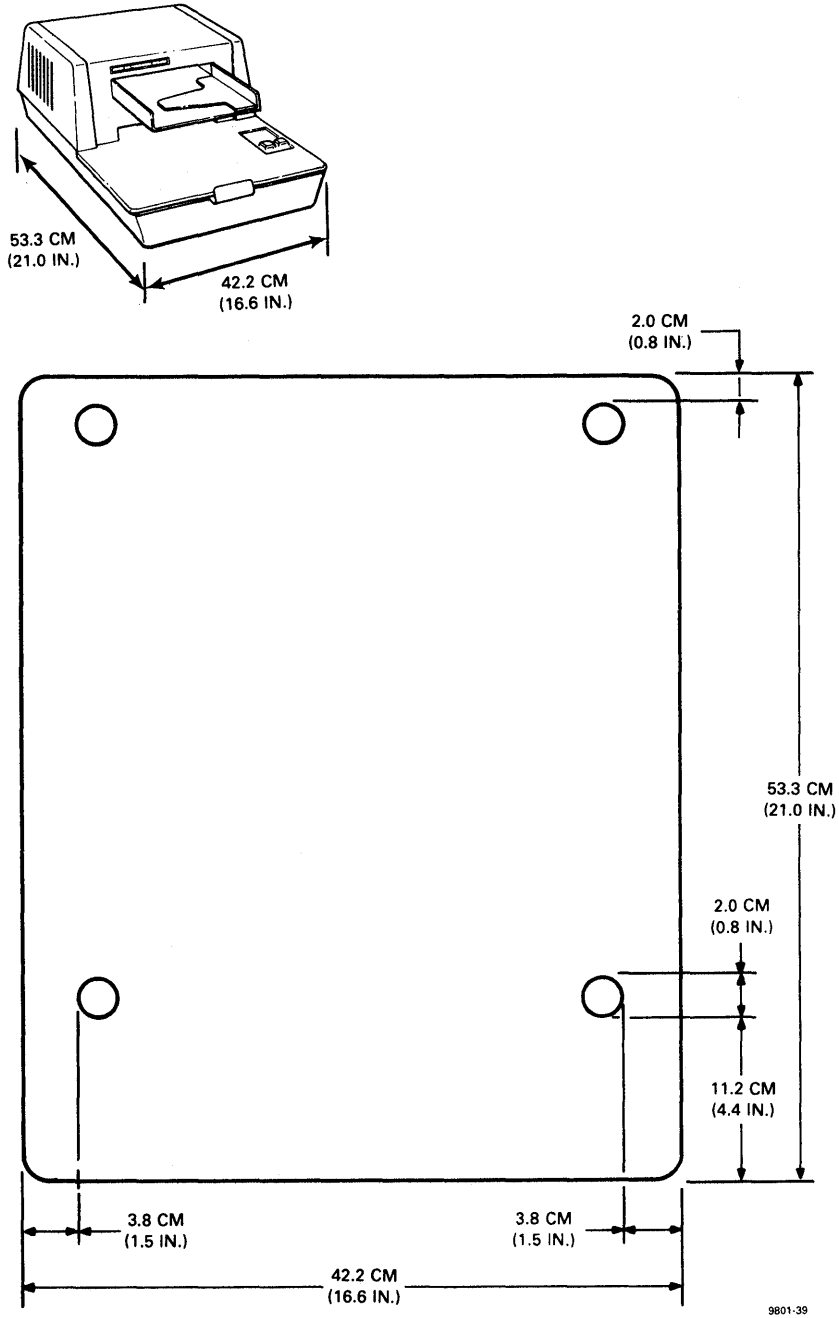


Figure J-1. 2712 Document Reader Installation Planning View

Appendix K. DOPS/20 Processor Summary Data

PHYSICAL INFORMATION

Dimensions

Width	54.6 cm (21.5 in)
Depth	
Without cable cover	47.0 cm (18.5 in)
With cable cover	54.6 cm (21.5 in)
Height	16.0 cm (6.3 in)

Weight 24.9 kg (55 lbs)

Recommended Clearances

Front	As required by operator
Rear	
Without cable cover	10.2 cm (4.0 in)
With cable cover	2.5 cm (1.0 in)
Sides	10.2 cm (4.0 in)
Power Cord Length	2 m (6.6 ft)

ENVIRONMENTAL INFORMATION

Maximum Heat Dissipation

189 kcal/hr (220 watts)

Temperature Range

Operating: 10° to 34° C (50° to 93° F)

Shipping and Storage:

Up to 72 hours: -40° to 62° C
(-40° to 144° F)

Up to 6 months: -22° to 47° C
(-8° to 117° F)

Relative Humidity Range

Operating: 10% to 80%

Storage and Shipping:

Limited to 80% because of integral diskette

Air Circulation

Fan

ELECTRICAL INFORMATION

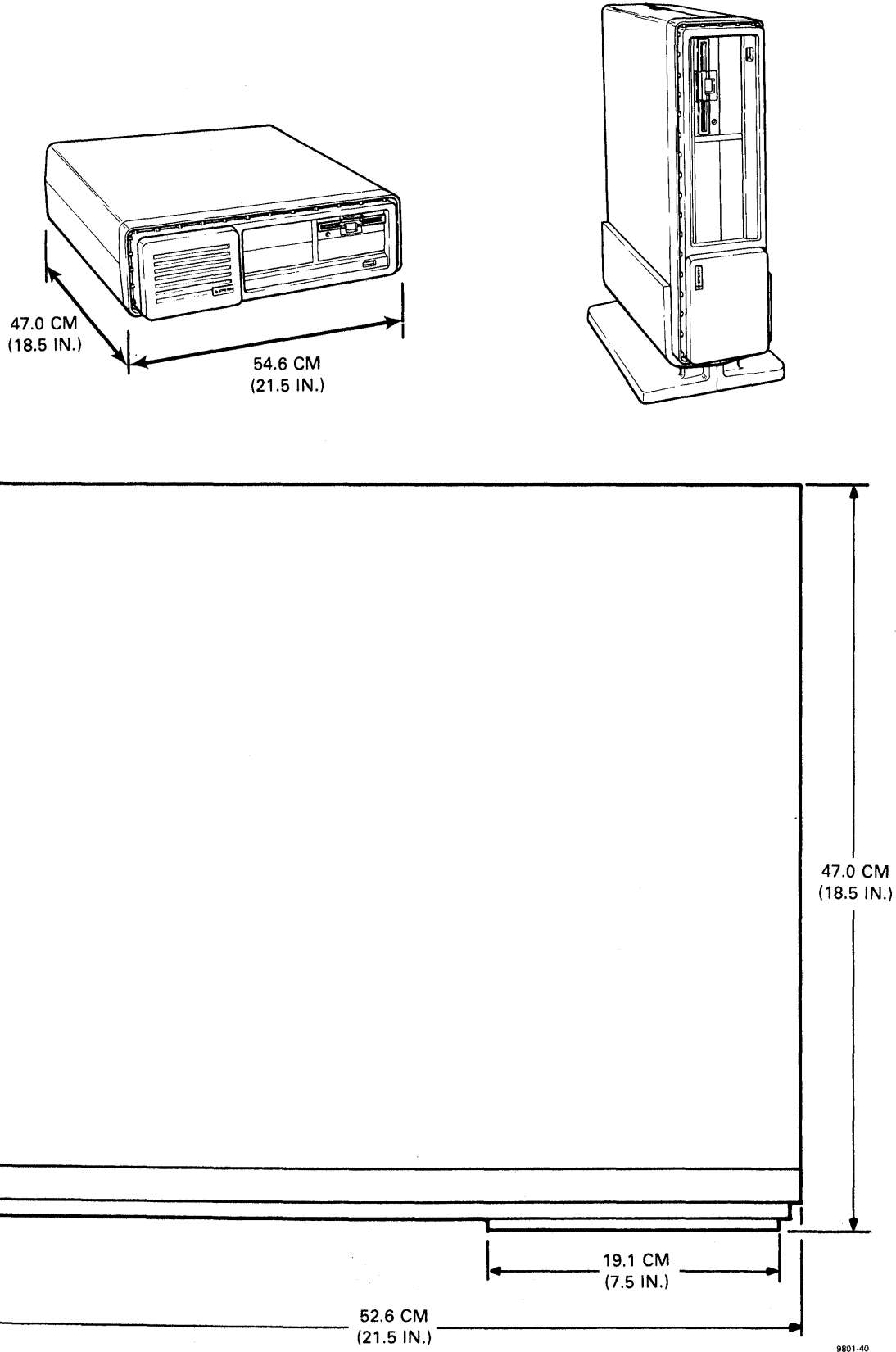
Power Requirements

0.26 kVA (26 watts)

Recommended User Circuits

Domestic: 60 Hz, 120 Vac, single phase, 2 wire and ground

International: 50 or 60 Hz, 110/120 Vac, single phase, 2 wire and ground, or
50 or 60 Hz, 220/240 Vac, single phase, 2 wire and ground



9801-40

Figure K-1. DOPS/20 Processor Installation Planning View

Appendix L. 8441 Mass Storage Subsystem Summary Data

PHYSICAL INFORMATION

Dimensions

Width	42.6 cm (16.8 in.)
Height	15.9 cm (6.25 in.)
Depth	44.6 cm (17.6 in.)

Weight 12.2 kg (27 lb)

Recommended Clearances

Front	As required for operating
Rear	As required for cabling
Sides	None required
Top	None required

Power Cord Length

2 m (6.6 ft)

ENVIRONMENTAL INFORMATION

Maximum Heat Dissipation

97 kcal/hr (113 watts)

Air Circulation

Forced air (fan)

Temperature Range

10° to 34° C (50° to 93° F)

Relative Humidity Range

20% to 80%

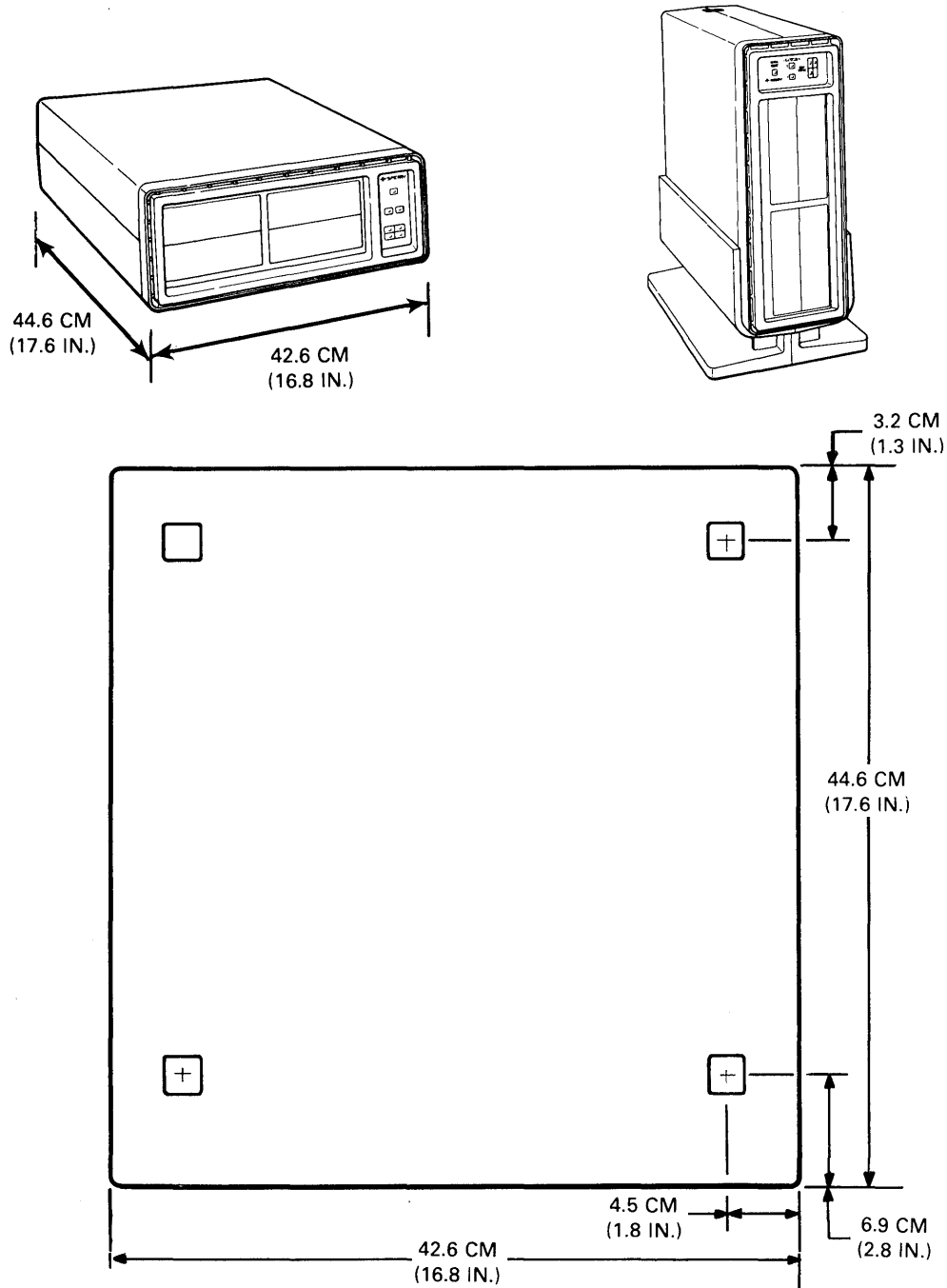
ELECTRICAL INFORMATION

Power Requirements 0.12 kVA (120 watts)

Recommended User Circuits

Domestic: 60 Hz, 120 Vac, single phase, 2 wire and ground

International: 50 or 60 Hz, 110/120 Vac, single phase, 2 wire and ground, or
50 or 60 Hz, 220/240 Vac, single phase, 2 wire and ground



9801-41

Figure L-1. 8441 Mass Storage Subsystem Installation Planning View

READER'S COMMENT SHEET

Your comments on this manual will help us improve it. Please fill in the requested information.

Name of manual: _____

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As a self-instructional text

As a classroom text

As _____

Please rate this manual

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For other uses: Good Adequate Not adequate

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Thank you for your cooperation.

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We feel that this manual is an essential part of our equipment. We want to be sure it is the best, most usable manual possible. Your comments will help us achieve this goal. When you have become familiar with the manual, please fill in the other side of this form and mail the form to us. Your reply will be carefully reviewed by the persons responsible for writing and publishing this manual.

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CUT