



IBM Remote Multiplexers and Communications Terminals Installation Manual—Physical Planning

This publication contains physical planning information for IBM remote multiplexers and communications terminals. Included are physical specifications, electrical and environmental requirements and cabling requirements for the following devices:

- IBM 1001 Data Transmission Terminal
- IBM 1013 Card Transmission Terminal
- IBM 1092 and 1093 Programmed Keyboards
- IBM 2712 Remote Multiplexer
- IBM 2740 Communications Terminal
- IBM 2741 Communications Terminal
- IBM 2760 Optical Image Unit
- IBM 2780 Data Transmission Terminal
- IBM 2845 Display Control, including
 - IBM 2265 Display Station and Keyboard
 - IBM 1053 Printer Model 4
 - IBM 3287 Printer Models 1 and 2
- IBM 3705 Communications Controller (With Remote Program Loader)
- IBM 3735 Programmable Buffered Terminal, including
 - IBM 5496 Data Recorder
 - IBM 3286 Printer Model 3
- IBM 3767 Communication Terminal
- IBM 3770 Data Communication System, including
 - IBM 2502 Card Reader Models A1, A2, and A3
 - IBM 3203 Printer Model 3
 - IBM 3262 Printer Models 2 and 12
 - IBM 3411 Magnetic Tape Unit and Control Model 1
 - IBM 3501 Card Reader
 - IBM 3521 Card Punch
- IBM Communication Terminal
 - 3771 Communication Terminal
 - 3773 Communication Terminal
 - 3774 Communication Terminal
 - 3775 Communication Terminal
 - 3776 Communication Terminal
 - 3777 Communicaton Terminal
- IBM 3782 Card Attachment Unit Models 1 and 2
- IBM 3784 Line Printer
- IBM 3780 Data Communication Terminal
 - IBM 3781 Card Punch
- IBM 5275 Direct Numerical Control Station

Federal Communications Commission (FCC) Statement

Warning: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the Limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

The FCC statement above applies to machines of the following types which are newly manufactured after January 1, 1981, and which will be used in the United States.

3287 Printer Models 1 and 2
3705 Communications Controller (With Remote Program Loader)
3767 Communication Terminal
3203 Printer Model 3
3262 Printer Models 2 and 12
3776 Communication Terminal
3777 Communication Terminal
3782 Card Attachment Unit Models 1 and 2
3784 Line Printer

Machines subject to part 15 of the FCC Rules will bear appropriate compliance labels. Other communication terminals mentioned in this manual are either out of production or are not in new production.

Ninth Edition (November 1980)

This is a revision of, and obsoletes, GA27-3006-7 and Technical Newsletters GN27-3241, GN27-3237, GN27-3250, GN27-3253, GN27-3281, and GN27-3289. Refer to the "Summary of Changes" for the changes included in this edition.

Changes are made periodically to the information herein; before using this publication in connection with the operation of IBM systems or equipment, consult the latest *IBM System/370 and 4300 Processors Bibliography*, GC20-0001, for the editions that are applicable and current.

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Preface

This manual presents detailed physical-planning information about stand-alone remote terminals and multiplexers. It is intended for use by those responsible for planning and preparing customer facilities and by those responsible for installing these devices upon delivery.

Installation-planning information of a general nature, applicable to all devices, is presented first, and includes such things as site preparation and location of terminals, communication facilities, and product and environmental safety. This general information is followed by detailed unit specifications (in numerical sequence by machine-type number) for each device. The Appendix includes charts showing the types of power cords and plugs referred to in the unit specification pages for individual devices, and also includes information on IBM line adapter cable terminations and telegraph line terminations.

Summary of Changes for GA27-3006-8

This edition:

- Adds planning information for the 3262 Line Printer Models 2 and 12 (attaches to the 3777-4)
- Adds planning information for the 3777-4 Communication Terminal

A change to the text is indicated by a vertical line to the left of the change.

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This manual contains physical planning information for various IBM communications terminals and multiplexers. Following the text portion of the manual, specifications peculiar to each terminal and multiplexer are listed. The page number of each specification page indicates the type of information contained on the page (e. g., 2741.2 is the second page of specifications pertaining to the IBM 2741. Appendixes contain common information concerning cables, power cord plugs, and receptacles.

This manual will serve as a guide in preparing facilities for installation of IBM remote multiplexers or communications terminals. Consult IBM sales representatives and physical-planning representatives for assistance. For planning information of a more general nature, order the

Communication Services Systems Reference Library publication, *Planning and Installation of a Data Communications System Using IBM Line Adapters*, GA24-3435, through the local IBM sales office. Careful planning will ensure that physical and environmental requirements are satisfied. Adherence to the specifications and recommendations eliminates costly rework of the facilities when receiving the equipment, and enhances equipment performance and availability after it is operating.

When planning for the installation of IBM equipment, consider site preparation (including location of terminals) and selection of the communications facilities. These topics are expanded in the following sections.

TEMPERATURE AND HUMIDITY

Specific temperature and humidity requirements are given on the specification pages. In general, IBM communication products will work under conditions typical of most commercial environments.

ATMOSPHERIC

IBM products are designed to operate in normal commercial environments. However, in unusual cases, the effects of contamination in the air may make it necessary for the customer to provide suitable enclosures for protection from oil, grease, dirt, and corrosive gases. In some cases, filtered air may be necessary to eliminate potentially contaminating particles and gases. If in doubt, consult your IBM installation planning representative.

ELECTRICAL REQUIREMENTS

Power to IBM machines is usually provided through a separate power cord connected to each machine. Power should not be supplied from the same electrical circuit that supplies power to machines producing electrical noise. For certain small machines, power is provided from another IBM machine. See the specification page for detailed requirements for each machine. Where more than one voltage and/or more than one type of attachment cord plug (60 Hz) is indicated as being available, the required voltage and type of plug must be specified at the time the unit is ordered. See Appendix A for description of various cord plug types. Cord plugs are not supplied with some 50 Hz machines; this permits customers to use locally approved plugs and receptacles.

Unless otherwise noted on individual specification pages, voltage tolerance is $\pm 10\%$, and frequency tolerance is ± 0.5 Hz of the values listed.

Grounding

A green-wire grounding conductor is supplied in each power cord. Each customer-supplied branch circuit should have an insulated wire conductor for the purpose of grounding equipment. This equipment grounding wire is a dedicated ground, not a neutral. All branch-circuit grounding wires should be tied to a common ground point at the distribution panel, and a single insulated grounding wire run from the distribution panel to the nearest suitable grounding station. Conduit must not be used as the only grounding means. See 3767 pages for unique considerations. Unless otherwise required by local codes, the grounded neutral conductor must be electrically isolated from the system grounding conductor except at the building grounding

station. IBM installation planning representatives should be consulted for further details.

Convenience Outlets

A suitable number of grounded convenience outlets should be installed in a computer room and Customer Engineer room for use by building maintenance personnel, porter service, customer engineers, etc. A convenience outlet should be near each remote machine location for use during servicing.

FLOOR PLANNING

Efficient operation and servicing of equipment depend primarily on convenient access to the equipment by both operator and service personnel. A properly-oriented workflow pattern should be a major objective of the machine area layout. Equipment should be arranged to allow adequate space for servicing.

IBM provides templates of the units of its equipment, drawn to a scale of 1/4 inch = 1 foot (1:48; W.T., 1:50). Each template may be cut out and moved about to a number of different possible locations on a scale drawing of the proposed area. If the scale drawing is on reproducible type paper, the templates may be lightly fastened to the paper with transparent tape, and copies of the proposed floor plans can be made in many standard reproducing machines. The *Communications Terminals* template is order number X27-2900.

CUSTOMER SET-UP DESIGNATED UNITS

The 3287, 3767, and 3262 Models 2 and 12 are designated customer Set-Up (CSU) units, thereby offering the customer early availability and relocation flexibility. For additional information on CSU, contact your IBM Marketing Representative and obtain the *3287 Printer Site Planning Guide*, GA18-2018, the *IBM 3767 Communication Terminal Site Planning Guide*, GA27-3104 or the *IBM 3262 Printer Site Planning and Preparation Guide*, GA24-3734.

MODULATION/DEMODULATION DEVICES

Data modulation/demodulation devices are used to convert data bits to signals suitable for transmission over common-carrier or private-wire facilities. The devices (integrated modems, line adapters, modems, and data sets) are used by IBM teleprocessing equipment. The integrated modems and line adapters are supplied by IBM. The modems and data sets may be supplied by IBM, the common carrier, or the customer.

Definitions

For the purposes of this manual, the following definitions will apply.

Data set — a stand-alone, modulation/demodulation device; supplied by the common carrier or the customer. (Sometimes referred to as data modems by suppliers.)

Integrated modem or IBM Line Adapter — a modulation/demodulation device incorporated as a feature within the IBM teleprocessing equipment. In general older devices are referred to as “Line Adapters”, and the newer devices are referred to as “Integrated modems”.

Modem — a stand-alone, modulation/demodulation device supplied by IBM.

Installation

The customer must arrange for installation of non-IBM supplied communications equipment and services. IBM teleprocessing representatives will assist in defining requirements. Communications facilities must be ordered sufficiently in advance to ensure their availability when the IBM equipment is installed.

The selection of the type of communication lines to be used depends on the specifications of the terminal; type of application; specifications of line adapters, modems, and data sets; and volume of interchanged data. The types of communications lines that can be used by a particular terminal are described in the publication referenced under Communications Facilities heading on the specification page for that terminal.

IBM LINE ADAPTERS and INTEGRATED MODEMS

IBM line adapters and IBM integrated modems perform the modulation/demodulation function on a communications facility at speeds up to 4800 bits per second. When IBM line adapters or IBM integrated modems are used, common-carrier or customer supplied data sets are not required. Detailed information regarding IBM line adapters and IBM integrated modems can be found in the System Reference Library publication, *Planning and Installation*

of a Data Communications System Using IBM Line Adapters, order number GA24-3435. IBM line adapters or IBM integrated modems cannot be intermixed with other modulation/demodulation devices on the same communications lines, with the exception of the 2400 bps and 4800 bps Integrated Modems which may be intermixed with the IBM 3872 and IBM 3874 modems.

Since the Integrated Modem features are IBM 3872 or 3874 Modems which have been incorporated into the terminal, the *IBM 3872 Modem User's Guide*, order GA27-3058 and the *IBM 3874 Modem User's Guide*, GA33-0002, will provide useful information.

IBM MODEMS

The following modems are available from IBM:

| IBM Type Number | Maximum Speed in bits per second | Domestic Use | World Trade Use |
|-----------------|----------------------------------|--------------|-----------------|
| 3863 | 2400 | yes | yes |
| 3864 | 4800 | yes | yes |
| 3865 | 9600 | yes | yes |
| 3872 | 2400 | yes | yes |
| 3874 | 4800 | yes | yes |
| 3976 | 1200 | no | yes |
| 3977 | 1200 | no | yes |
| 3978 | 4800 | no | yes |

DATA SETS

Common-carrier or customer-provided data sets are used to perform the modulation/demodulation function on a common-carrier switched telecommunications network or a voice-grade, private-line data channel when IBM Integrated Modems, IBM line adapters, or IBM modems are not used. IBM telegraph adapters are used to interface directly to common-carrier telegraph lines, thereby eliminating the need for modems.

CONNECTORS

Appendixes C and E describe the connectors used between IBM Integrated Modems or IBM line adapters and the customer's or common carrier's lines. Appendix D describes the interface connections between IBM terminals and telegraph circuits.

When common-carrier or customer-supplied data sets are used, IBM supplies a cable terminated with a 25-pin data set connector that mates with the receptacle normally furnished with common-carrier or customer-supplied data sets.

Safety is a major consideration in the design of all IBM products. Whenever possible, mechanical and electrical hazards are either eliminated or carefully shielded. Extensive testing of new products further ensures that products are safe before they are shipped; all IBM machines conform to national safety codes and are listed by Underwriters' Laboratories.

Another aspect of safety—environmental safety—is the customer's responsibility. He should:

1. Abide by national and local electrical codes. Terminals described in this manual are not designed for installation in hazardous locations as described in NEC (National Electrical Code) 70, Article 500.
2. Provide the recommended service clearances, for both operating and service personnel.
3. Provide adequate portable fire suppression equipment near the units for protection from fire.
4. Provide manually-operated power-off switches for electrical circuits serving units of the equipment.
5. Train personnel in accident prevention and in appropriate measures to be followed in case of accident.

STANDARD SYMBOLS

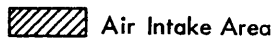
In Plan Views



Cable Entry and Exit



Power Cord Exit (See Note)



Air Intake Area



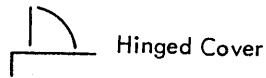
Gate Swings



Optional Equipment



CE Service Panel



Hinged Cover



Service Area Boundary



Casters



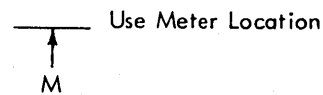
Leveling Pads or Glides



Legs

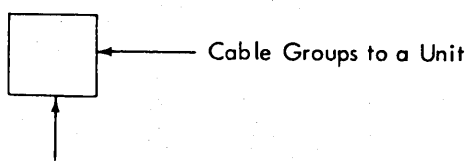
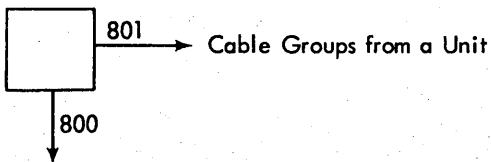


Non-Raised Floor Cable Exit



Use Meter Location

In Cabling Schematics



Note: Power cords are supplied in 14-foot (4,27m) lengths, unless otherwise noted on the specifications page. The length is measured from the symbol ⊕.

Shipping Dimensions

Unless otherwise noted on individual specification pages, the following statement applies: All systems components can be reduced to 29-1/2 inches by 60 inches (75 cm by 152 cm) or smaller sections for shipment.

Scale

Unless otherwise noted, plan views are to the scale of 1/4" = 1'.

IBM 1001 Data Transmission Terminal

SPECIFICATIONS

PLAN VIEW (Scale: 1/2" = 1')

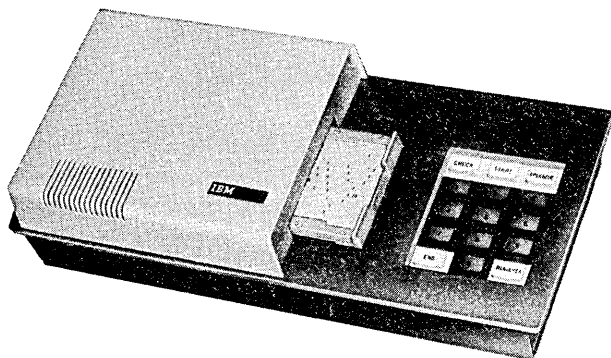
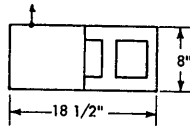


Figure 1001-1. IBM 1001 Data Transmission Terminal

Dimensions:

| | Front | Side | Height |
|------------------|--------|------|--------|
| Installed inches | 18-1/2 | 8 | 5 |
| Centimeters | 47,0 | 20,3 | 12,7 |

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|------|-------|------|
| Inches | 0 | 0 | 0 | 0 |
| Centimeters | 0 | 0 | 0 | 0 |

Weight

| | |
|---------|--------|
| 21 lbs. | 9,5 kg |
|---------|--------|

Heat Output

| | |
|---------|----------|
| — BTU/h | — kcal/h |
|---------|----------|

Air Flow

| | |
|-------|-----------------------|
| — CFM | — m ³ /min |
|-------|-----------------------|

Power Requirements

Power supplied from telephone circuit

Environment, Operating

| | | |
|---------------|------------|--------------|
| Temp. | 50 to 90°F | 10 to 32.2°C |
| Rel. Humidity | 8 to 80% | 8 to 80% |
| Max. Wet Bulb | 85°F | 29.4°C |

Environment, Non-operating

| | | |
|---------------|-------------|--------------|
| Temp. | 30 to 110°F | -1.1 to 43°C |
| Rel. Humidity | 8 to 90% | — |
| Max. Wet Bulb | 85°F | 29.4°C |

Communication Facilities — See Product Reference Literature manual — IBM 1001 Data Transmission System, GA24-1029.

IBM 1013 Card Transmission Terminal

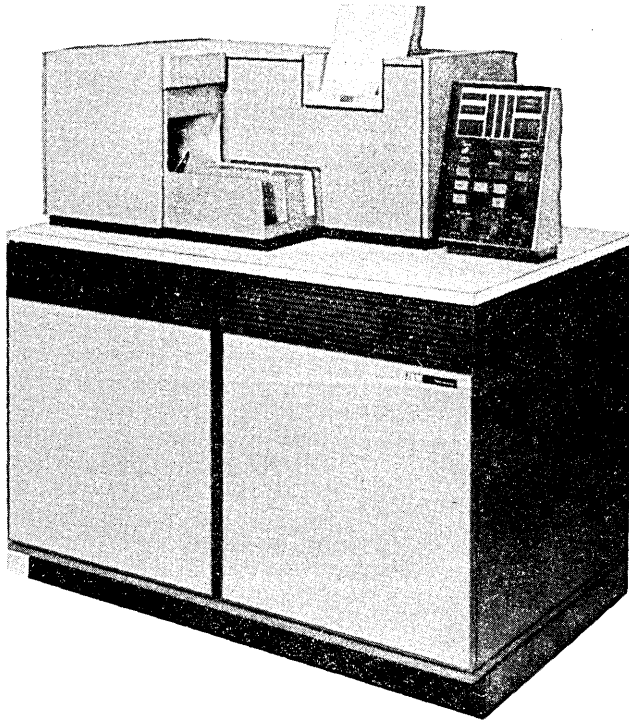
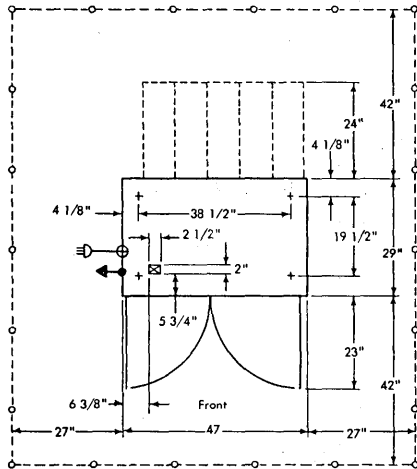


Figure 1013-1. IBM 1013 Card Transmission System

1013 CARD TRANSMISSION TERMINAL – SPECIFICATIONS

PLAN VIEW



| Inches | Centimeters |
|--------|-------------|
| 2 | 5,1 |
| 2-1/2 | 6,4 |
| 4-1/8 | 10,5 |
| 5-3/4 | 14,6 |
| 6-3/8 | 16,2 |
| 19-1/2 | 49,5 |
| 23 | 58,4 |
| 24 | 61,0 |
| 27 | 68,6 |
| 29 | 73,7 |
| 38-1/2 | 96,8 |
| 42 | 106,7 |
| 47 | 119,4 |

Dimensions

| | Front | Side | Height |
|------------------|-------|------|--------|
| Installed inches | 47 | 29 | 54 |
| Centimeters | 119,4 | 73,7 | 137,2 |

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|-------|-------|------|
| Inches | 42 | 42 | 27 | 27 |
| Centimeters | 106,7 | 106,7 | 68,6 | 68,6 |

Weight

800 lbs. 362,9 kg

Heat Output

2525 BTU/h 636,3 kcal/h

Air Flow

— CFM — m³/min

Power Requirements

| | 60 Hz. | 50 Hz. |
|---------------------------|--------------------|-------------|
| Volts | 115 | 112.5/123.5 |
| kVA | 1.0 | 1.1 |
| Phase | 1 | 1 |
| Branch Circuit (A) | 15 | |
| Max. Cont. Load (A) | 8.5 | 8.5 |
| Plug Type (Note 1) | H,J | None |
| Power Cord Style (Note 2) | — | A6 |
| Power Cord Length | 7-1/2 ft. (2.29 m) | |

Environment, Operating

| | | |
|---------------|------------|--------------|
| Temp. | 50 to 90°F | 10 to 32.2°C |
| Rel. Humidity | 20 to 80% | |
| Max. Wet Bulb | 78°F | 26°C |

Environment, Non-operating

| | | |
|---------------|-------------|------------|
| Temp. | 50 to 110°F | 10 to 43°C |
| Rel. Humidity | 8 to 80% | |
| Max. Wet Bulb | 80°F | 27°C |

Communication Facilities — See SRL, *IBM 1013 Card Transmission Terminal*, GA21-1068.

Cable Information

Connecting Units: 1013 to Dataset
Available Length: 20 ft. (609,6 cm)

The cable is supplied with this unit. The cable is terminated with a 25-pin data set connector as described in EIA RS-232-C.

Notes:

1. Description of plug type with matching receptacles and connectors — see Appendix A (Figure A-1).
2. Description of World Trade power cord styles — see Appendix B.
3. Chip box is accessible from the rear of the machine.

1092 AND 1093 Programmed Keyboards

PLAN VIEW (Scale: 1/2" = 1')

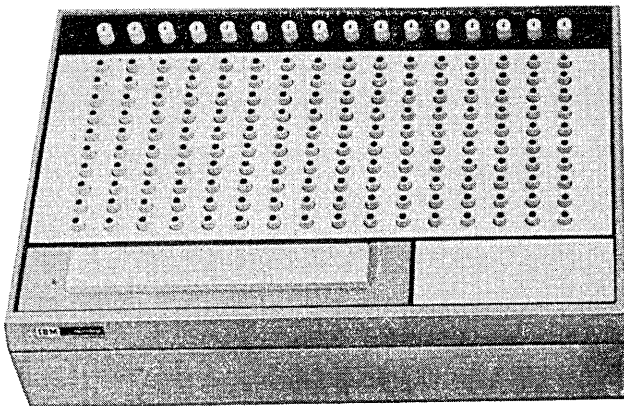
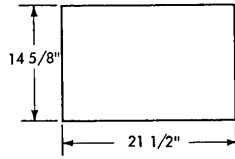


Figure 1092-1. IBM 1092 Programmed Keyboard

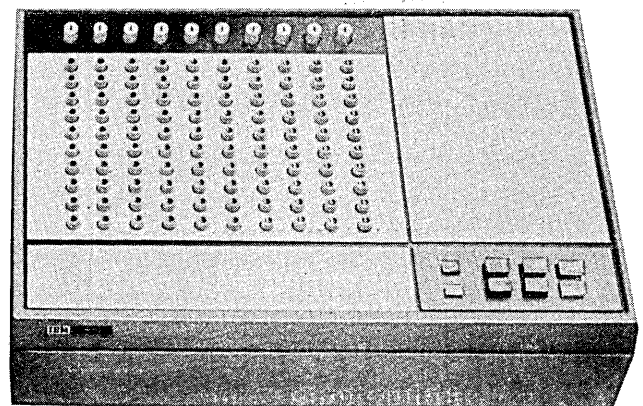
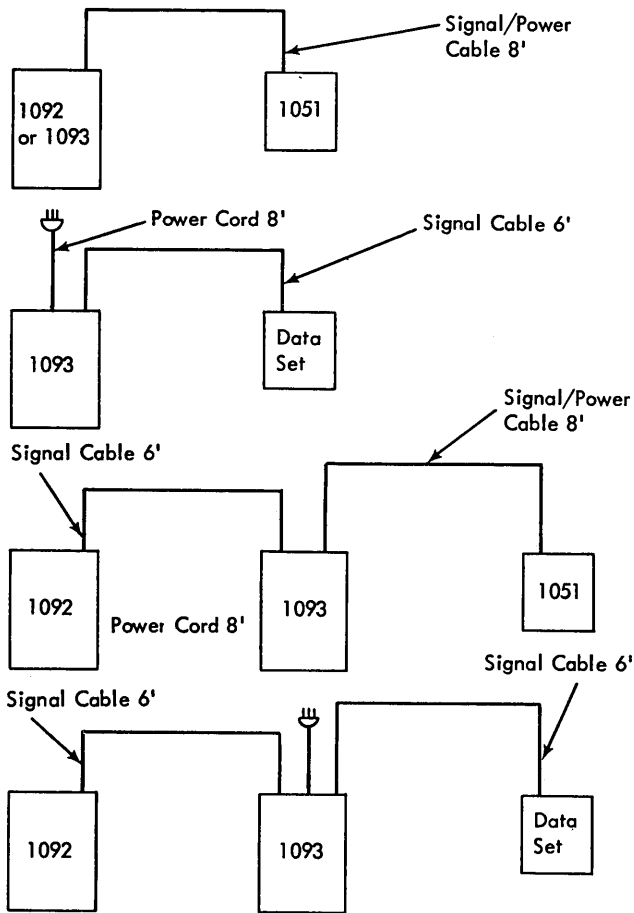


Figure 1092-2. IBM 1093 Programmed Keyboard

1092 AND 1093 PROGRAMMED KEYBOARDS – SPECIFICATIONS AND CONFIGURATIONS

TYPICAL CONFIGURATIONS



| Feet | Meters |
|------|--------|
| 6 | 1.83 |
| 8 | 2.44 |

Dimensions

| | Front | Side | Height |
|------------------|--------|--------|--------|
| Installed inches | 21-1/2 | 14-5/8 | 8-1/8 |
| Centimeters | 54,6 | 37,1 | 20,6 |

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------------------------|------|-------|------|
| Inches | Operator Clearance Only | — | — | — |
| Centimeters | — | — | — | — |

Weight (max.)

| | |
|---------|----------|
| 38 lbs. | 17,2 kg. |
|---------|----------|

Heat Output

| | |
|---------|----------|
| — BTU/h | — kcal/h |
|---------|----------|

Air Flow

| | |
|-------|-----------------------|
| — CFM | — m ³ /min |
|-------|-----------------------|

Power Requirements

| | 60 Hz. | 50 Hz. |
|-------------------------------|--------|-------------------------|
| Volts | 115 | 112.5/123.5 195/220/235 |
| kVA | 0.1 | 0.1 |
| Phase | 1 | 1 |
| Branch Circuit (A) | 15 | — |
| Max. Cont. Load (A) | 0.9 | 0.9 |
| Plug Type (Notes 1 and 4) | H | — |
| Power Cord Style | — | — |
| Power Cord Length (Note 4) | 8 ft. | (2.44m) |

Environment, Operating

| | | |
|---------------|-------------|--------------|
| Temp. | 30 to 110°F | -1.1 to 43°C |
| Rel. Humidity | 10 to 90% | — |
| Max. Wet Bulb | 85°F | 29.4°C |

Environment, Non-operating

| | | |
|---------------|-------------|--------------|
| Temp. | 30 to 110°F | -1.1 to 43°C |
| Rel. Humidity | 10 to 90% | — |
| Max. Wet Bulb | 85°F | 29.4°C |

Communication Facilities – See SRL, *IBM 1092 and 1093 Programmed Keyboards*, GA24-3266.

Notes:

1. Description of plug type with matching receptacles and connectors – See Appendix A (Figure A-1).
2. Electrical requirements, except for kVA, apply only to 1093 attached to a data set. Otherwise power is provided to 1092 from 1093 or 1051, and to 1093 from 1051.
3. The effects of airborne contamination are minimized. However, in unusual cases, it may be necessary to provide additional protection.
4. 1093 only.

IBM 2712 Remote Multiplexer

MODELS AND CONFIGURATIONS

The IBM 2712 bit-multiplexes data received from remote terminals over low-speed lines and retransmits over a single high-speed line to the IBM 2702 or 2703. The 2712 Model 1 can serve a maximum of ten point-to-point or multipoint low-speed lines. Model 2 can serve a maximum of 14 telegraph lines. See Figures 2712-1 and 2712-2.

To facilitate servicing, the 2712 must be installed within sight at one of the terminals. This local terminal requires the same type of service as the other terminals on the line if it is part of a multi-drop line. If the local terminal is a 1050 and is the only one on the line, it can be connected to the 2712 Model 1 by using IBM Adapter 4630.

High-speed communication between the 2712 and the 2702 or 2703 requires four-wire full-duplex leased private-line service.

LINE ASSIGNMENTS

The assignment of line-adapter features must be shown on the Cable Order and Line Assignment Form (120-1292).

COMMUNICATION CABLES

The required length of the IBM-supplied cables from the 2712 to their termination with the communication facilities must be indicated on the Cable Order and Line Assignment Form (120-1292).

All communication cables enter the raised-floor cutout or cable channel and have a maximum length of 40 feet. (12.2m).

- Cables to data sets terminate in a 25-pin connector as described in EIA RS-232-C.
- Cables from Limited-Distance Line Adapters terminate at a four-prong pin connector P/N 341200 (Western Electric 283B plug or equivalent) supplied by IBM. See Appendix C. The customer or common carrier is responsible to provide and attach the matching socket connector (Western Electric 404B surface-mount receptacle, or 493A flush-mount receptacle, or equivalent) to the line.
- Cable to local adapter (1050 only within sight of 2712 Model 1) has IBM connector.
- Cables to telegraph terminals termination is described in Appendix D. Each telegraph cable services two telegraph lines: Line 1 – Black wire is plus (+) or “Ring”; black and orange wire is minus (-) or “Tip.” Line 2 – Black and yellow wire is plus (+) or “Ring”; black and red wire is minus (-) or “Tip.”

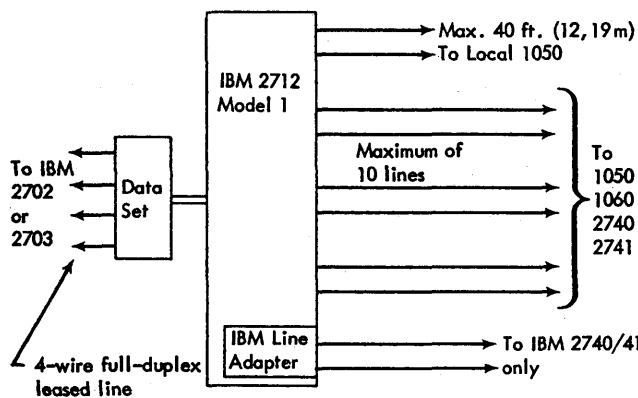


Figure 2712-1. IBM 2712 Model 1 Configuration

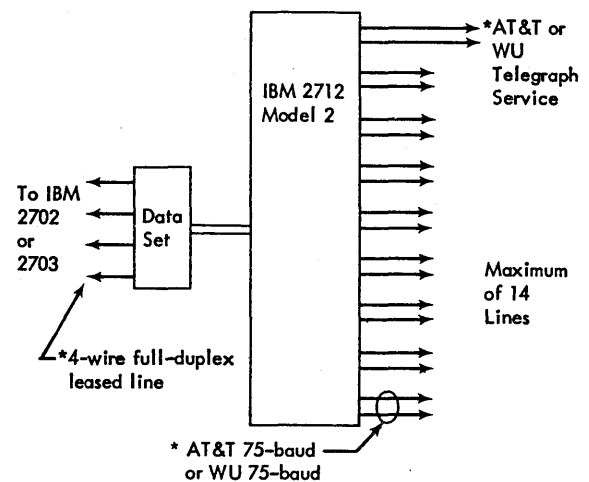
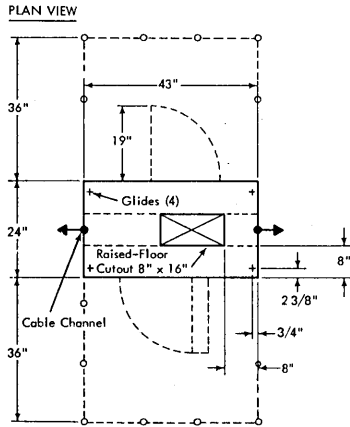


Figure 2712-2. IBM 2712 Model 2 Configuration

2712 REMOTE MULTIPLEXER, MODELS 1 AND 2 – SPECIFICATIONS



| Inches | Centimeters |
|--------|-------------|
| 3/4 | 1,9 |
| 2-3/8 | 6,0 |
| 8 | 20,3 |
| 16 | 40,6 |
| 19 | 48,3 |
| 24 | 61,0 |
| 36 | 91,4 |
| 43 | 109,2 |

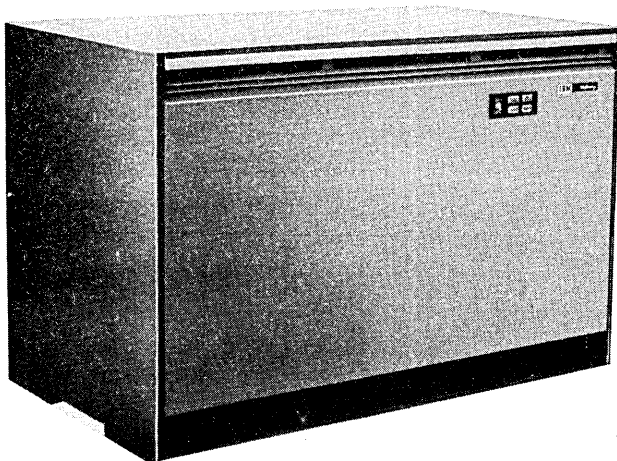


Figure 2712-3. IBM 2712 Remote Multiplexer

Dimensions

| | Front | Side | Height |
|------------------|-------|------|--------|
| Installed inches | 43 | 24 | 29 |
| Centimeters | 109,2 | 61,0 | 73,7 |

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|------|-------|------|
| Inches | 36 | 36 | 0 | 0 |
| Centimeters | 91,4 | 91,4 | 0 | 0 |

Weight

400 lbs. 181,4 kg.

Heat Output

| | | |
|----------|------------|--------------|
| Model 1: | 1200 BTU/h | 302,4 kcal/h |
| Model 2: | 1350 BTU/h | 340,2 kcal/h |

Air Flow

50 CFM 1,4 m³/min

Power Requirements

| | 60 Hz. | 50 Hz. |
|---------------------|---------------|---------------|
| Volts | 115 | |
| kVA | Model 1: 0.38 | |
| | Model 2: 0.43 | |
| Phase | 1 | Not Available |
| Branch Circuit (A) | 15 | |
| Max. Cont. Load (A) | 3.3 3.7 | |
| Plug Type (Note 1) | H,J | |
| Power Cord Style | — | |
| Power Cord Length | 14 ft. | (4.27m) |

Environment, Operating

| | | |
|---------------|-------------|------------|
| Temp. | 50 to 110°F | 10 to 43°C |
| Rel. Humidity | 10 to 80% | |
| Max. Wet Bulb | 85°F | 29.4°C |

Environment, Non-operating

| | | |
|---------------|-------------|------------|
| Temp. | 50 to 110°F | 10 to 43°C |
| Rel. Humidity | 10 to 80% | |
| Max. Wet Bulb | 85°F | 29.4°C |

Notes:

1. Description of plug type with matching receptacles and connectors – see Appendix A (Figure A-1).

IBM 2740 Communications Terminal

SIGNAL-CABLE CHART

| Signal Cable | Length | Diameter | Connector Supplied by IBM | Matching Connector Supplied by Customer |
|--|------------------|-----------------------|--|---|
| From 2740 to Data Set | 8 ft. (2.44m) | 3/8 in. (0,95 cm) | EIA RS-232-C or equivalent | Supplied with Data Set by Common Carrier. |
| From IBM Line Adapter (Special Feature) to Com- munications Line | 8 ft. (2.44m) | 3/8 in. (0,95 cm) | Western Elec- tric 283B plug or equivalent | Western Electric 404B (or equivalent) for Surface Mounting, or Western Electric 493A (or equivalent) for Flush Mounting. See Appendix C for connections. |
| From Telegraph Line Adapter (IBM Special Fea- ture) to Commu- nications Line | 8 ft. (2.44m) | 5/16 in. (0,79 cm) | See Appendix D | Attaches to Common-Carrier Terminal Board. |

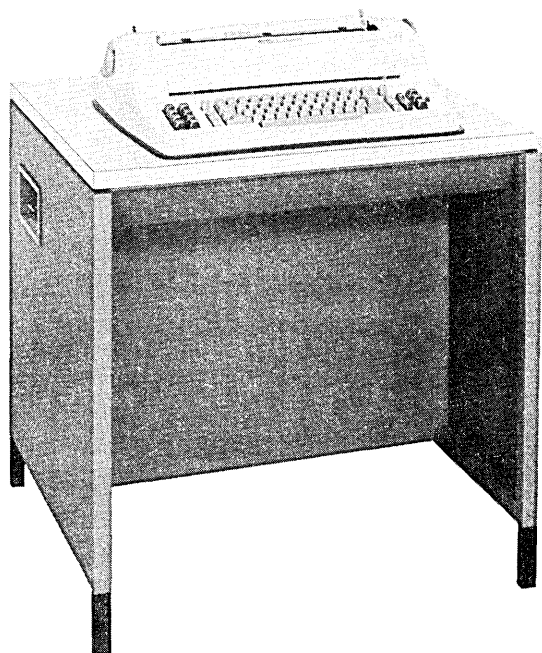


Figure 2740-1. IBM 2740 Model 1

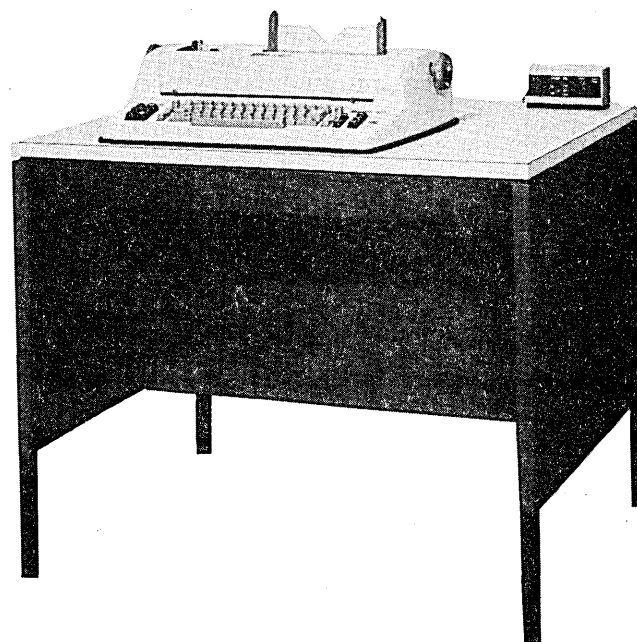
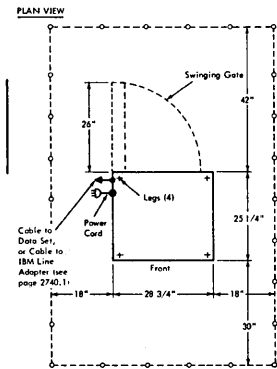


Figure 2740-2. IBM 2740 Model 2 with Document Insertion Feature

2740 COMMUNICATIONS TERMINAL MODEL 1 – SPECIFICATIONS



| Inches | Centimeters |
|--------|-------------|
| 18 | 45,7 |
| 25-1/4 | 64,1 |
| 26 | 66 |
| 28-3/4 | 73 |
| 28-7/8 | 73,3 |
| 30 | 76,2 |
| 36-1/2 | 92,7 |
| 42 | 106,7 |

| Feet | Centimeters |
|------|-------------|
| 6 | 182,9 |
| 8 | 243,8 |

Dimensions

| | Front | Side | Height |
|------------------|--------|--------|----------|
| Installed inches | 28-3/4 | 25-1/4 | (Note 3) |
| Centimeters | 72,7 | 63,8 | — |

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|-------|-------|------|
| Inches | 30 | 42 | 18 | 18 |
| Centimeters | 76,2 | 106,7 | 45,7 | 45,7 |

Weight

196 lbs. 88,9 kg

Heat Output

400 BTU/h 100,8 kcal/h

Air Flow

— CFM — m³/min

Power Requirements

| | 60 Hz. | | 50 Hz. | |
|---------------------------|--------|---------|-------------|-------------|
| Volts | 115 | 208/230 | 112.5/123.5 | 195/220/235 |
| kVA | 0.2 | 0.3 | 0.3 | 0.2 |
| Phase | 1 | | 1 | |
| Branch Circuit (A) | 15 | | | |
| Max. Cont. Load (A) | 1.6 | 1.3 | 2.4 | 1.1 |
| Plug Type (Note 1) | H,J | K,L | — | |
| Power Cord Style (Note 2) | — | | G3 | |

Power

Cord Length 6 ft. (1.83m)

Environment, Operating

| | | |
|---------------|-------------|------------|
| Temp. | 50 to 110°F | 10 to 43°C |
| Rel. Humidity | 10 to 80% | |
| Max. Wet Bulb | 85°F | 29.4°C |

Environment, Non-operating

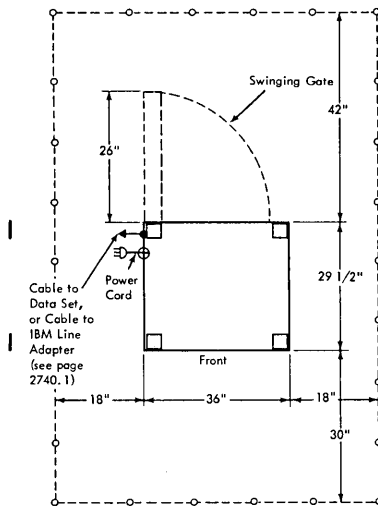
| | | |
|---------------|-------------|------------|
| Temp. | 50 to 110°F | 10 to 43°C |
| Rel. Humidity | 10 to 80% | |
| Max. Wet Bulb | 85°F | 29.4°C |

Notes:

- Description of plug type with matching receptacles and connectors – see Appendix A (Figure A-1).
 - When the terminal's power supply is 208/230 volts and the terminal is to be used on a raised floor installation, plug type J should be used.
- Description of World Trade power cord styles – see Appendix B.
- Overall height is 36-1/2 inches (92,7 cm).
Desk top is 28-7/8 inches (73,3 cm).

2740 COMMUNICATIONS TERMINAL MODEL 2 – SPECIFICATIONS

PLAN VIEW



| Inches | Centimeters |
|--------|-------------|
| 18 | 45,7 |
| 26 | 66 |
| 28 7/8 | 73,3 |
| 29 1/2 | 74,9 |
| 30 | 76,2 |
| 36 | 91,4 |
| 36 1/2 | 92,7 |
| 42 | 106,7 |

| Feet | Centimeters |
|------|-------------|
| 6 | 182,9 |
| 8 | 243,8 |

Dimensions

| | Front | Side | Height |
|------------------|-------|--------|----------|
| Installed inches | 36 | 29-1/2 | (Note 3) |
| Centimeters | 91,4 | 74,9 | — |

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|-------|-------|------|
| Inches | 30 | 42 | 18 | 18 |
| Centimeters | 76,2 | 106,7 | 45,7 | 45,7 |

Weight

| | |
|----------|----------|
| 235 lbs. | 106,6 kg |
|----------|----------|

Heat Output

| | |
|-----------|--------------|
| 400 BTU/h | 100,8 kcal/h |
|-----------|--------------|

Air Flow

| | |
|-------|-----------------------|
| — CFM | — m ³ /min |
|-------|-----------------------|

Power Requirements

| | 60 Hz. | | 50 Hz. | |
|---------------------------|--------|---------|-------------|-------------|
| Volts | 115 | 208/230 | 112.5/123.5 | 195/220/235 |
| kVA | 0.2 | 0.3 | 0.3 | 0.2 |
| Phase | 1 | | 1 | |
| Branch | | | | |
| Circuit (A) | 15 | | | |
| Max. Cont. Load (A) | 1.6 | 1.3 | 2.4 | 1.4 |
| Plug Type (Note 1) | H,J | K,L | — | |
| Power Cord Style (Note 2) | — | | G3 | |
| Power Cord Length | 6 ft. | | (1.83m) | |

Environment, Operating

| | | |
|---------------|-------------|------------|
| Temp. | 50 to 110°F | 10 to 43°C |
| Rel. Humidity | 10 to 80% | |
| Max. Wet Bulb | 85°F | 29.4°C |

Environment, Non-operating

| | | |
|---------------|-------------|------------|
| Temp. | 50 to 110°F | 10 to 43°C |
| Rel. Humidity | 10 to 80% | |
| Max. Wet Bulb | 85°F | 29.4°C |

Notes:

- Description of plug type with matching receptacles and connectors — see Appendix A (Figure A-1).
 - When terminal supply voltage is 208 or 230 and terminal is to be on a raised floor-plug type A must be used.
- Description of World Trade power cord styles — see Appendix B.
- Overall height is 36-1/2 inches (92,7 cm). Desk top is 28-7/8 inches (73,3 cm).

IBM 2741 Communications Terminal

SIGNAL-CABLE CHART

| Signal Cable | Length | Diameter | Connector Supplied by IBM | Matching Connector Supplied by Customer |
|---|------------------|----------------------|--|---|
| From 2741 to Data Set | 8 ft. (2.44m) | 3/8 in. (0,95 cm) | EIA RS-232-C or equivalent | Supplied with Data Set by Common Carrier. |
| From IBM Line Adapter (Special Feature) to Com- munications Line | 8 ft. (2.44m) | 3/8 in. (0,95 cm) | Western Elec- tric 283B plug or equivalent | Western Electric 404B (or equivalent) for Surface Mounting or Western Electric 493A (or equivalent) for Flush Mounting. |

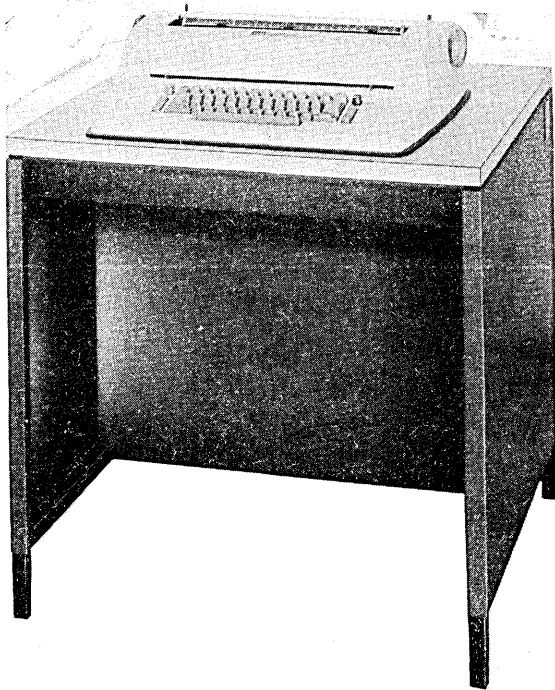
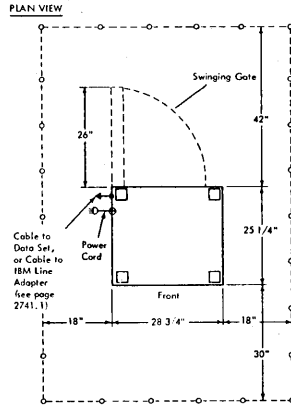


Figure 2741-1. IBM 2741 Communications Terminal

2741 COMMUNICATIONS TERMINAL – SPECIFICATIONS



| Inches | Centimeters |
|--------|-------------|
| 18 | 45,7 |
| 25-1/4 | 64,1 |
| 26 | 66,0 |
| 28-3/4 | 73,0 |
| 28-7/8 | 73,3 |
| 30 | 76,2 |
| 42 | 106,7 |

| Feet | Meters |
|------|--------|
| 6 | 1.83 |
| 8 | 2.44 |

Dimensions

| | Front | Side | Height |
|------------------|--------|--------|----------|
| Installed inches | 28-3/4 | 25-1/4 | (Note 3) |
| Centimeters | 73 | 64,1 | — |

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|-------|-------|------|
| Inches | 30 | 42 | 18 | 18 |
| Centimeters | 76,2 | 106,7 | 45,7 | 45,7 |

Weight

196 lbs. 88,9 kg

Heat Output

400 BTU/h 100,8 kcal/h

Air Flow

— CFM — m³/min

Power Requirements

| | 60 Hz. | | 50 Hz. | |
|---------------------------|--------|---------|-------------|-------------|
| Volts | 115 | 208/230 | 112.5/123.5 | 195/220/235 |
| kVA | 0.2 | 0.3 | 0.3 | 0.2 |
| Phase | 1 | | 1 | |
| Branch Circuit (A) | 15 | | | |
| Max. Cont. Load (A) | 1.6 | 1.3 | 2.4 | 1.1 |
| Plug Type (Note 1) | HJ | K,L | — | |
| Power Cord Style (Note 2) | — | | G3 | |
| Power Cord Length | 6 ft. | | (1.83m) | |

Environment, Operating

| | | |
|---------------|-------------|------------|
| Temp. | 50 to 110°F | 10 to 43°C |
| Rel. Humidity | 10 to 80% | |
| Max. Wet Bulb | 85°F | 29.4°C |

Environment, Non-operating

| | | |
|---------------|-------------|------------|
| Temp. | 50 to 110°F | 10 to 43°C |
| Rel. Humidity | 10 to 80% | |
| Max. Wet Bulb | 85°F | 29.4°C |

Notes:

- Description of plug type with matching receptacles and connectors – see Appendix A (Figure A-1). When terminal supply voltage is 208 or 230 and terminal is to be on a raised floor-plug type A must be used.
- Description of World Trade power cord styles – see Appendix B.
- Overall height is 36-1/2 inches (92.7 cm). Desk top is 28-7/8 inches (73.3 cm).

IBM 2760 Optical Image Unit

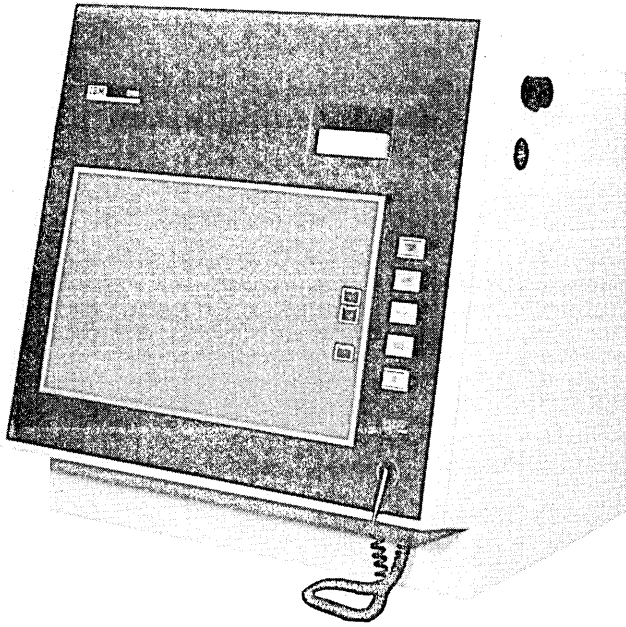
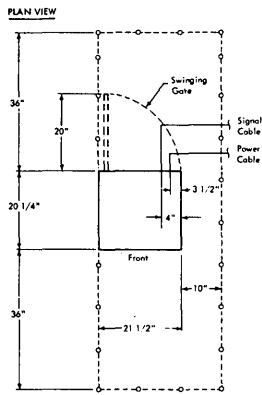


Figure 2760-1. IBM 2760 Optical Image Unit

2760 OPTICAL IMAGE (ATTACHES TO 2740 MODEL 1 ONLY) – SPECIFICATIONS



| Inches | Centimeters |
|--------|-------------|
| 3-1/2 | 8,9 |
| 4 | 10,2 |
| 10 | 25,4 |
| 20 | 50,8 |
| 20-1/4 | 51,4 |
| 21-1/2 | 54,6 |
| 36 | 91,4 |

Dimensions

| | Front | Side | Height (Note 1) |
|------------------|--------|--------|--------------------|
| Installed inches | 22-1/2 | 20-1/4 | 22 |
| Centimeters | 57,2 | 51,4 | 55,9 |

Service Clearances

| | Front (Note 4) | Rear (Note 5) | Right | Left |
|-------------|-------------------|------------------|-------|------|
| Inches | 36 | 36 | 10 | 0 |
| Centimeters | 91,4 | 91,4 | 25,4 | 0 |

Weight

90 lbs. 40,8 kg

Heat Output

573 BTU/h 144,4 kcal/h

Air Flow

75 CFM 2,0 m³/min

Power Requirements

| | 60 Hz. | 50 Hz. |
|---------------------|------------------------|----------|
| Volts | (Must agree with 2740) | |
| kVA | 0.2 | — |
| Phase | — | — |
| Branch Circuit (A) | (Power from 2740) | |
| Max. Cont. Load (A) | (Power from 2740) | |
| Plug Type | — | — |
| Power Cord Style | — | — |
| Power Cord Length | (Note 2) | (Note 2) |

Environment, Operating

| | | |
|---------------|-------------|------------|
| Temp. | 50 to 110°F | 10 to 43°C |
| Rel. Humidity | 8 to 80% | |
| Max. Wet Bulb | 85°F | 29.4°C |

Environment, Non-operating

| | | |
|---------------|-------------|------------|
| Temp. | 50 to 125°F | 10 to 52°C |
| Rel. Humidity | 8 to 80% | |
| Max. Wet Bulb | 85°F | 29.4°C |

Notes:

1. Height above table top. Customer must provide table for 2760.
2. Two 8' (2,44m) cables are provided with the 2760 Optical Image Unit for connecting to the 2740 Model 1.
3. Avoid rear or overhead high intensity lighting.
4. From front edge of table.
5. From rear of unit or 24" (61 cm) from rear edge of table.

IBM 2780 Data Transmission Terminal

MODELS AND CONFIGURATIONS

The IBM 2780 is available in four models, permitting a variety of system configurations. The four models are:

- Model 1 – Card read and print
- Model 2 – Card read, card punch, and print
- Model 3 – Print only (used as a receive terminal only)
- Model 4 – Card read and card punch

COMMUNICATIONS FACILITIES

The communication facilities used by the IBM 2780 must have appropriate modulation/demodulation capability. They can be either leased common-carrier private lines, common-carrier switched telephone networks, or equivalent privately owned facilities.

When transmission speed is a primary consideration on private-line facilities, the use of a four-wire (full-duplex) private line may be advantageous because it provides the means to reduce significantly the time required to reverse the direction of transmission for control purposes. Although use of a four-wire (full-duplex) communication channel can

minimize turn-around delay, the IBM 2780 cannot receive and transmit data simultaneously; it is capable of half-duplex data transmission only. (Whether or not full-duplex charges apply depends on the local common carrier.) Transmission speed, 600, 1200, 2000, 2400, or 4800 bps (bits per second), depends on the type of communication facilities used, and must be specified at the time of ordering the IBM 2780.

The type of data set, and whether terminal is to be used on a two-wire or four-wire communication line, must be specified at the time of ordering the IBM 2780.

DATA SET CABLES

A 20-foot (6.1m) cable from the 2780 to the data set will be provided as standard unless a different length is specified at the time of the order. A maximum length up to 40 (12.2m) feet is available. Excessively long cables should be avoided. Consult your IBM sales representative for further information.

Data set cables are equipped with a connector that is compatible with the type of data set specified.

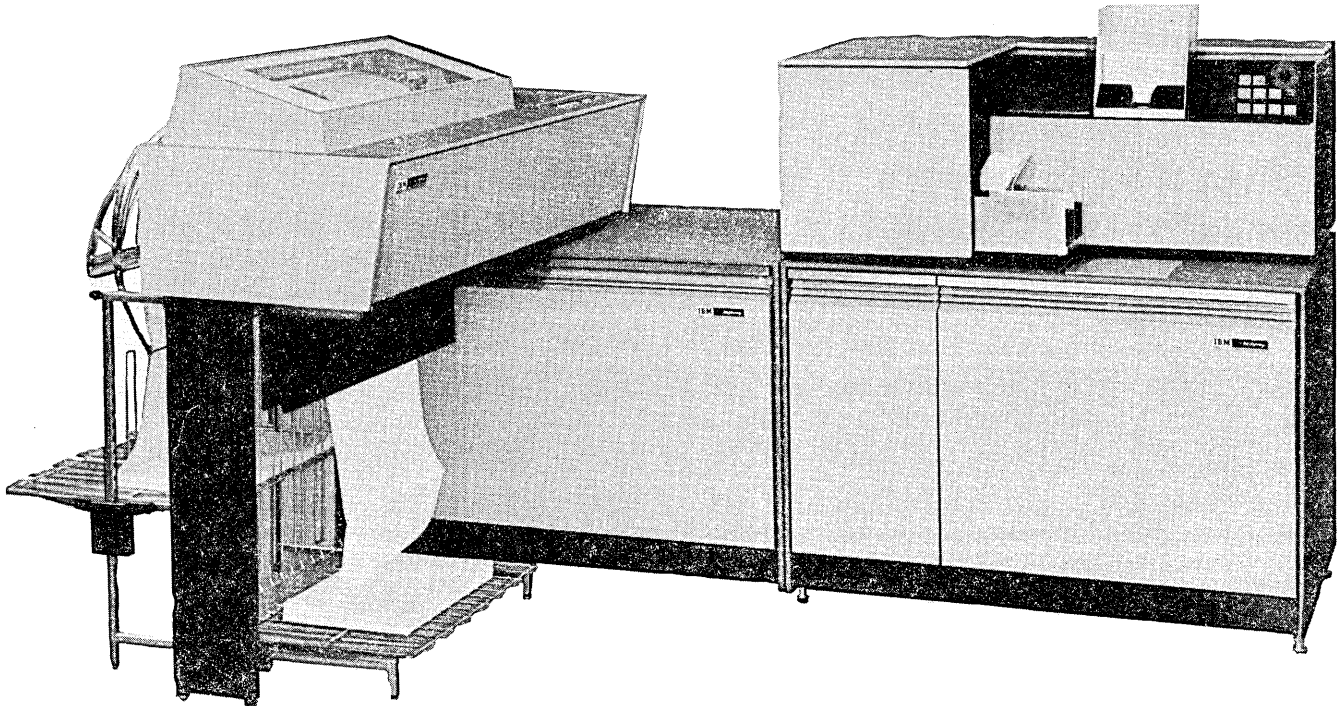
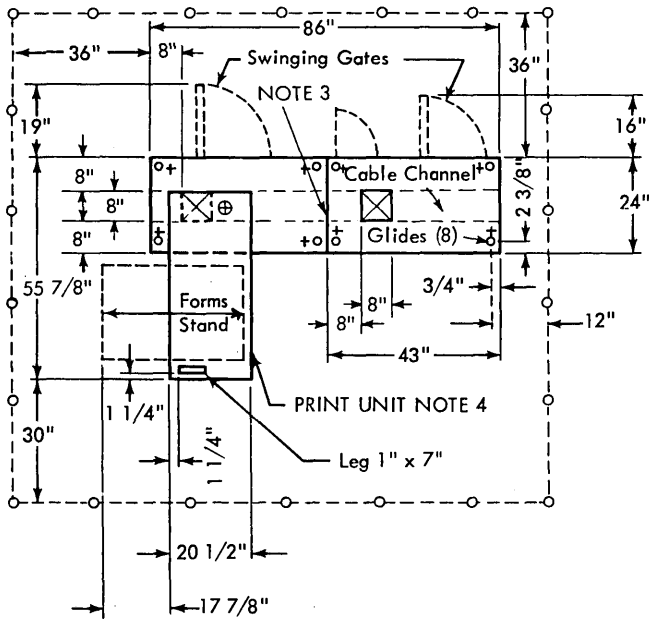


Figure 2780-1. IBM 2780 Data Transmission Terminal (Applies to Models 1 and 2)

2780 DATA TRANSMISSION TERMINAL MODEL 1 – SPECIFICATIONS

PLAN VIEW



| Inches | Centimeters |
|--------|-------------|
| 3/4 | 1,9 |
| 1 | 2,5 |
| 1-1/4 | 3,2 |
| 2-3/8 | 6,0 |
| 7 | 17,8 |
| 16 | 40,6 |
| 17-7/8 | 45,4 |
| 19 | 48,3 |
| 20-1/2 | 52,1 |
| 24 | 61,0 |
| 43 | 109,2 |
| 55-7/8 | 141,9 |
| 86 | 218,4 |

| Feet | Meters |
|------|--------|
| 14 | 4,27 |
| 40 | 12,19 |

Dimensions

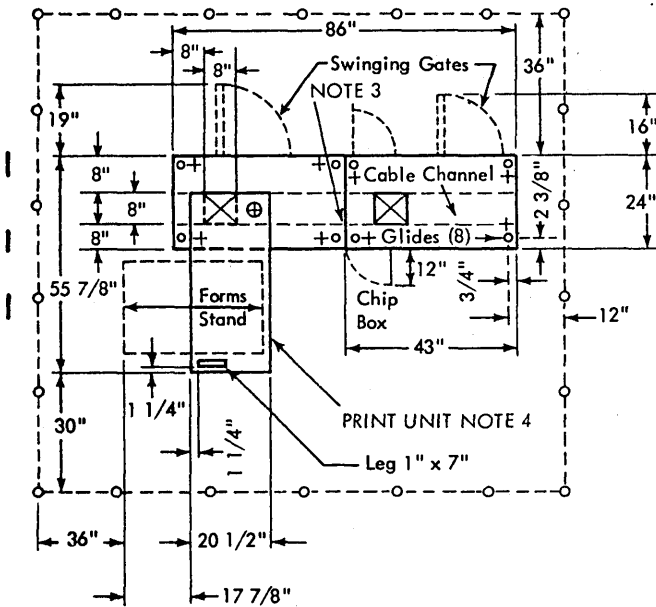
| | Front | Side | Height | |
|----------------------------|------------|-----------------------|-------------|------|
| Installed inches | 86 | 55-7/8 | 49 | |
| Centimeters | 218,4 | 141,9 | 124,5 | |
| Service Clearances | Front | Rear | Right | Left |
| Inches | 30 | 36 | 12 | 36 |
| Centimeters | 76,2 | 91,4 | 30,5 | 91,4 |
| Weight | 1650 lbs. | 748 kg. | | |
| Heat Output | 4800 BTU/h | 1210 kcal/h | | |
| Air Flow | — CFM | — m ³ /min | | |
| Power Requirements | | 60 Hz. | 50 Hz. | |
| Volts | | 208/230 | 195/220/235 | |
| kVA | | 1.8 | 2.0 | |
| Phase | | 1 | 1 | |
| Branch Circuit (A) | | 15 | | |
| Max. Cont. Load (A) | | 7.8 | 8.3 | |
| Plug Type (Note 1) | | A | — | |
| Power Cord Style (Note 2) | | — | A1 | |
| Power Cord Length | | 14 ft. | (4.27m) | |
| Environment, Operating | | | | |
| Temp. | | 60 to 90°F | 16 to 32°C | |
| Rel. Humidity | | 8 to 80% | | |
| Max. Wet Bulb | | 78°F | 25°C | |
| Environment, Non-operating | | | | |
| Temp. | | 50 to 110°F | 10 to 43°C | |
| Rel. Humidity | | 8 to 80% | | |
| Max. Wet Bulb | | 80°F | 27°C | |

Notes:

1. Description of plug type with matching receptacles and connectors – see Appendix A (Figure A-1).
2. Description of World Trade power cord styles – see Appendix B.
3. Units separated for shipment. Bolt together for installation.
4. For shipment, print unit is rotated over the cabinet. Dimensions are then: 24 in. x 48-1/8 in. x 46 in. (61 cm x 122 cm x 116,8 cm)

2780 DATA TRANSMISSION TERMINAL MODEL 2 – SPECIFICATIONS

PLAN VIEW



| Inches | Centimeters |
|--------|-------------|
| 3/4 | 1,9 |
| 1 | 2,5 |
| 1-1/4 | 3,2 |
| 2-3/8 | 6,0 |
| 7 | 17,8 |
| 12 | 30,5 |
| 16 | 40,6 |
| 17-7/8 | 45,4 |
| 19 | 48,3 |
| 20-1/2 | 52,1 |
| 24 | 61,0 |
| 43 | 109,2 |
| 55-7/8 | 141,9 |
| 86 | 218,4 |

| Feet | Meters |
|------|--------|
| 14 | 4,27 |
| 40 | 12,19 |

Dimensions

| | Front | Side | Height |
|------------------|-------|--------|--------|
| Installed inches | 86 | 55-7/8 | 40 |
| Centimeters | 218,4 | 141,9 | 124,5 |

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|------|-------|------|
| Inches | 30 | 36 | 12 | 36 |
| Centimeters | 76,2 | 91,4 | 30,5 | 91,4 |

Weight

1650 lbs. 748 kg

Heat Output

4800 BTU/h 1210 kcal/h

Air Flow

— CFM — m³/min

Power Requirements

| | 60 Hz. | 50 Hz. |
|---------------------------|---------|-------------|
| Volts | 208/230 | 195/220/235 |
| kVA | 1.8 | 2.0 |
| Phase | 1 | 1 |
| Branch Circuit (A) | 15 | |
| Max. Cont. Load (A) | 8.0 | 8.7 |
| Plug Type (Note 1) | A | — |
| Power Cord Style (Note 2) | — | A1 |
| Power Cord Length | 14 ft. | (4.27m) |

Environment, Operating

| | | |
|---------------|------------|------------|
| Temp. | 60 to 90°F | 16 to 32°C |
| Rel. Humidity | 8 to 80% | |
| Max. Wet Bulb | 78°F | 25°C |

Environment, Non-operating

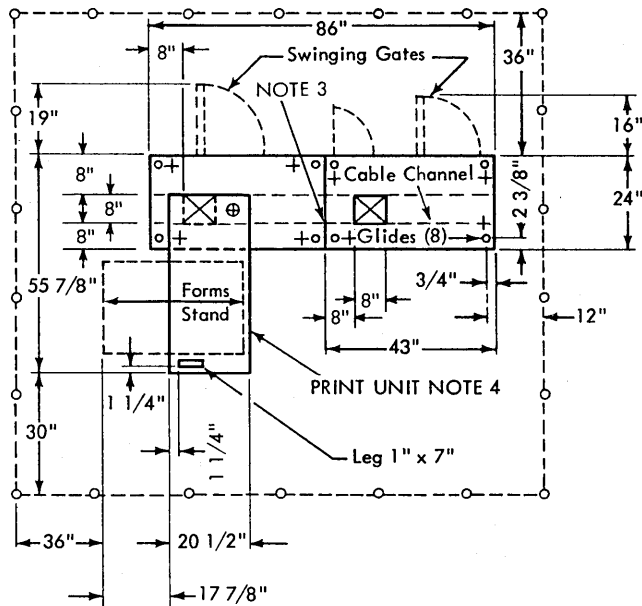
| | | |
|---------------|-------------|------------|
| Temp. | 50 to 110°F | 10 to 43°C |
| Rel. Humidity | 8 to 80% | |
| Max. Wet Bulb | 80°F | 27°C |

Notes:

1. Description of plug type with matching receptacles and connectors — see Appendix A (Figure A-1).
2. Description of World Trade power cord styles — see Appendix B.
3. Units separated for shipment. Bolt together for installation.
4. For shipment, print unit is rotated over the cabinet. Dimensions are then: 24 in. x 48-1/8 in. x 46 in. (61 cm x 122 cm x 116,8 cm)
5. See page 2780.1 for photo; Models 1 and 2 are identical in appearance.

2780 DATA TRANSMISSION TERMINAL MODEL 3 – SPECIFICATIONS

PLAN VIEW



| Inches | Centimeters |
|--------|-------------|
| 3/4 | 1,9 |
| 1 | 2,5 |
| 1-1/4 | 3,2 |
| 2-3/8 | 6,0 |
| 7 | 17,8 |
| 16 | 40,6 |
| 17-7/8 | 45,4 |
| 19 | 48,3 |
| 20-1/2 | 52,1 |
| 24 | 61,0 |
| 43 | 109,2 |
| 55-7/8 | 141,9 |
| 86 | 218,4 |

| Feet | Meters |
|------|--------|
| 14 | 4,27 |
| 40 | 12,19 |

Dimensions

| | Front | Side | Height |
|------------------|-------|--------|--------|
| Installed inches | 86 | 55-7/8 | 49 |
| Centimeters | 218,4 | 141,9 | 124,5 |

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|------|-------|------|
| Inches | 30 | 36 | 12 | 36 |
| Centimeters | 76,2 | 91,4 | 30,5 | 91,4 |

Weight

1350 lbs. 612 kg

Heat Output

3950 BTU/h 995,6 kcal/h

Air Flow

—CFM —m³/min

Power Requirements

| | 60 Hz. | 50 Hz. |
|---------------------------|---------|-------------|
| Volts | 208/230 | 195/220/235 |
| kVA | 1.7 | 1.9 |
| Phase | 1 | 1 |
| Branch Circuit (A) | 15 | |
| Max. Cont. Load (A) | 7.4 | 8.1 |
| Plug Type (Note 1) | A | — |
| Power Cord Style (Note 2) | — | A1 |
| Power Cord Length | 14 ft. | (4.27) |

Environment, Operating

| | | |
|---------------|------------|------------|
| Temp. | 60 to 90°F | 16 to 32°C |
| Rel. Humidity | 8 to 80% | |
| Max. Wet Bulb | 78°F | 25°C |

Environment, Non-operating

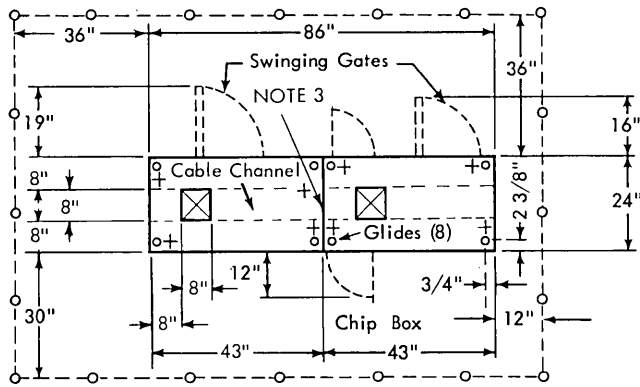
| | | |
|---------------|-------------|------------|
| Temp. | 50 to 110°F | 10 to 43°C |
| Rel. Humidity | 8 to 80% | |
| Max. Wet Bulb | 80°F | 27°C |

Notes:

1. Description of plug type with matching receptacles and connectors – see Appendix A (Figure A-1).
2. Description of World Trade power cord styles – see Appendix B.
3. Units separated for shipment. Bolt together for installation.
4. For shipment, print unit is rotated over the cabinet. Dimensions are then: 24 in. x 48-1/8 in. x 46 in. (61 cm x 122 cm x 116,8 cm)

2780 DATA TRANSMISSION TERMINAL MODEL 4 – SPECIFICATIONS

PLAN VIEW



| Inches | Centimeters |
|--------|-------------|
| 3/4 | 1,9 |
| 2-3/8 | 6,0 |
| 12 | 30,5 |
| 16 | 40,6 |
| 19 | 48,3 |
| 24 | 61,0 |
| 43 | 109,2 |
| 86 | 218,4 |

| Feet | Meters |
|------|--------|
| 14 | 4,27 |
| 40 | 12,19 |

Dimensions

| | Front | Side | Height |
|------------------|-------|------|--------|
| Installed inches | 86 | 24 | 49 |
| Centimeters | 218,4 | 61,0 | 124,5 |

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|------|-------|------|
| Inches | 30 | 36 | 12 | 36 |
| Centimeters | 76,2 | 91,4 | 30,5 | 91,4 |

Weight

1060 lbs. 480,8 kg

Heat Output

3700 BTU/h 932 kcal/h

Air Flow

—CFM —m³/m

Power Requirements

| | 60 Hz. | 50 Hz. |
|---------------------------|---------|-------------|
| Volts | 208/230 | 195/220/235 |
| kVA | 1.7 | 1.8 |
| Phase | 1 | 1 |
| Branch Circuit (A) | 15 | |
| Max. Cont. Load (A) | 7.2 | 7.8 |
| Plug Type (Note 1) | A | — |
| Power Cord Style (Note 2) | — | A1 |
| Power Cord Length | 14 ft. | 427 cm |

Environment, Operating

| | | |
|---------------|------------|------------|
| Temp. | 60 to 90°F | 16 to 32°C |
| Rel. Humidity | 8 to 80% | |
| Max. Wet Bulb | 78°F | 25°C |

Environment, Non-operating

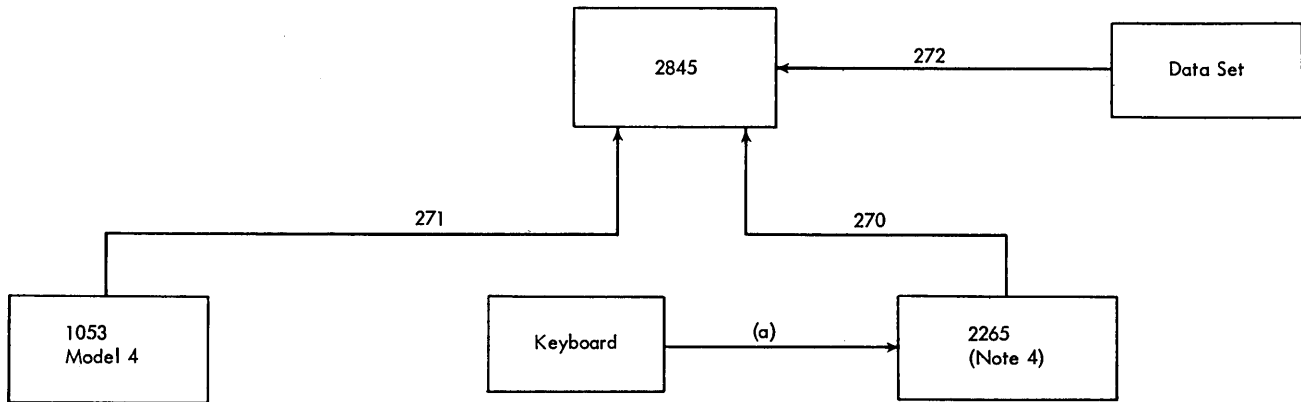
| | | |
|---------------|-------------|------------|
| Temp. | 50 to 110°F | 10 to 43°C |
| Rel. Humidity | 8 to 80% | |
| Max. Wet Bulb | 80°F | 27°C |

Notes:

1. Description of plug type with matching receptacles and connectors – see Appendix A (Figure A-1).
2. Description of World Trade power cord styles – see Appendix B.
3. Units separated for shipment. Bolt together for installation.

IBM 2845 Display Control, Including IBM 2265 Display Station and Keyboard, and IBM 1053 Printer Model 4

CABLE INFORMATION

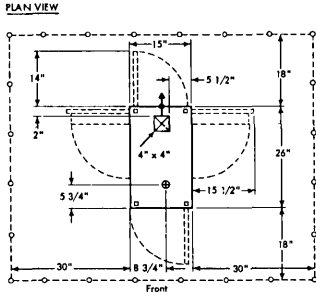


| Group No. | No. of Cables | To | From | Max. Length (M) | Note |
|-----------|---------------|------|----------|------------------|------|
| (a) | 1 | 2265 | Keyboard | 7 1/2 Fixed 2.28 | 1,3 |
| 270 | 1 | 2845 | 2265 | 40 12.19 | 2 |
| 271 | 1 | 2845 | 1053 | 40 12.19 | 2 |
| 272 | 1 | 2845 | Data Set | 40 12.19 | 2 |

Notes:

1. Fixed-length cable provided with Keyboard Option (SF 4766).
2. Order on System/360 Cable Order Form 120-1080.
3. Cable exits at back of 2265 but may be run under the 2265.
4. The Display Station (2265) must be in the same room with the Display Control (2845). The Display Station should be visible from the Display Control.

2845 DISPLAY CONTROL (FOR USE WITH IBM 2265 AND 1053 MODEL 4) – SPECIFICATIONS



| Inches | Centimeters |
|--------|-------------|
| 2 | 5,1 |
| 4 | 10,1 |
| 5-1/2 | 14 |
| 5-3/4 | 14,6 |
| 8-3/4 | 22,2 |
| 14 | 35,6 |
| 15 | 38,1 |
| 15-1/2 | 39,4 |
| 26 | 66 |

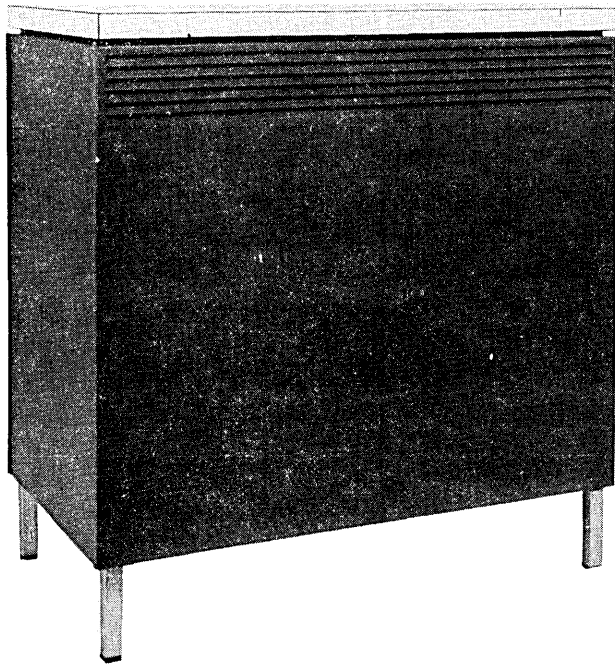


Figure 2845-1. IBM 2845 Display Control

Dimensions

| | Front | Side | Height |
|------------------|-------|------|--------|
| Installed inches | 15 | 26 | 27 |
| Centimeters | 38,1 | 66 | 68,6 |

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|------|-------|------|
| Inches | 18 | 18 | 30 | 30 |
| Centimeters | 45,7 | 45,7 | 76,2 | 76,2 |

Weight

110 lbs. 49,9 kg

Heat Output

680 BTU/h 171,4 kcal/h

Air Flow

— CFM — m³/min

Power Requirements

| | 60 Hz. | 50 Hz. | |
|---------------------|--------|-------------|-------------|
| Volts | 115 | 112.5/123.5 | 195/220/235 |
| kVA | 0.4 | 0.4 | 0.5 |
| Phase | 1 | 1 | |
| Branch Circuit (A) | 15 | | |
| Max. Cont. Load (A) | 3.0 | 3.0 | 2.0 |
| Plug Type (Note 1) | H | — | |
| Power Cord | | | |
| Style (Note 2) | — | G4 | |
| Power Cord Length | 6 ft. | (1.83m) | |

Environment, Operating

| | | |
|---------------|-------------|------------|
| Temp. | 50 to 110°F | 10 to 43°C |
| Rel. Humidity | 8 to 80% | |
| Max. Wet Bulb | 85°F | 29.4°C |

Environment, Non-operating

| | | |
|---------------|-------------|------------|
| Temp. | 50 to 125°F | 10 to 52°C |
| Rel. Humidity | 8 to 80% | |
| Max. Wet Bulb | 85°F | 29.4°C |

Cable Information – See page 2845.1

Notes:

1. Description of plug type with matching receptacles and connectors – see Appendix A (Figure A-1).
2. Description of World Trade power cord styles – see Appendix B.

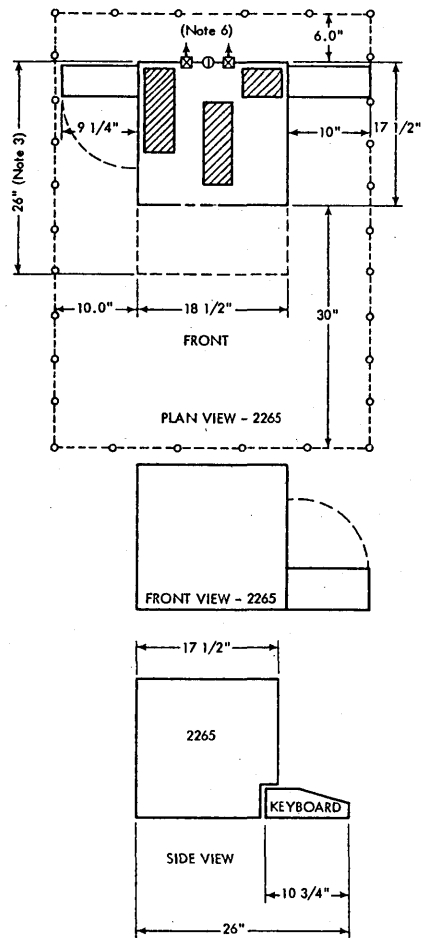
2265 DISPLAY STATION AND KEYBOARD (ATTACHED TO 2845)



Figure 2845-2. IBM 2265 Display Station and Keyboard

2265 DISPLAY STATION AND KEYBOARD (ATTACHED TO 2845) – SPECIFICATIONS

PLAN AND SIDE VIEWS (Scale: 1/2" = 1')



Dimensions

| | Front | Side | Height | |
|-----------------------------|----------|----------|----------|------|
| Display Station | | (Note 3) | (Note 5) | |
| Inches | 18-1/2 | 17-1/2 | 16-1/2 | |
| Centimeters | 47 | 44,4 | 41,9 | |
| Keyboard | | | | |
| Inches | 18-1/2 | 10-3/4 | 4-1/4 | |
| Centimeters | 47 | 27,3 | 10,8 | |
| Service Clearances (Note 6) | | | | |
| | Front | Rear | Right | Left |
| | (Note 4) | | | |
| Inches | 30 | 6.0 | 10.0 | 10.0 |
| Centimeters | 76,2 | 15,2 | 25,4 | 25,4 |

Weight

| | | |
|----------|---------|---------|
| Keyboard | 15 lbs. | 6,8 kg |
| Display | 87 lbs. | 39,5 kg |

Heat Output

| | |
|-----------|--------------|
| 545 BTU/h | 137.3 kcal/h |
|-----------|--------------|

Air Flow

| | |
|------|----------------------|
| —CFM | —m ³ /min |
|------|----------------------|

Power Requirements

| | 60 Hz. | 50 Hz. |
|---------------------|--------|-------------------------|
| Volts | 115 | 112.5/123.5 195/220/235 |
| kVA | 0.2 | 0.2 0.2 |
| Phase | 1 | 1 |
| Branch Circuit (A) | 15 | |
| Max. Cont. Load (A) | 2.0 | 2.0 1.0 |
| Plug Type (Note 1) | H | — |
| Power Cord | | |
| Style (Note 2) | — | G4 |
| Power Cord Length | 6 ft. | (1.83m) |

Environment, Operating

| | | |
|---------------|-------------|------------|
| Temp. | 50 to 110°F | 10 to 43°C |
| Rel. Humidity | 8 to 80% | |
| Max. Wet Bulb | 85°F | 29.4°C |

Environment, Non-operating

| | | |
|---------------|-------------|------------|
| Temp. | 50 to 125°F | 10 to 52°C |
| Rel. Humidity | 8 to 80% | |
| Max. Wet Bulb | 85°F | 29.4°C |

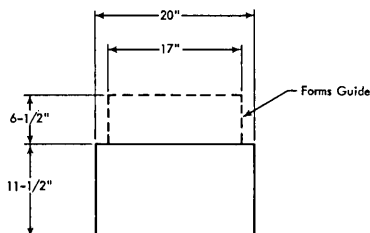
Cable Information – See page 2845.1

Notes:

1. Description of plug type with matching receptacles and connectors – see Appendix A (Figure A-1).
2. Description of World Trade power cord styles – see Appendix B.
3. 26 inches (66cm) with keyboard.
4. Operator clearance.
5. Height above table top. Customer must provide table for 2265.
6. Min. top clearance – 6" (15.2cm) for air circulation.

1053 PRINTER MODEL 4 (ATTACHED TO 2845) – SPECIFICATIONS

PLAN VIEW (Scale: 1/2" = 1')



| Inches | Centimeters |
|--------|-------------|
| 6-1/2 | 16,5 |
| 11-1/2 | 29,2 |
| 17 | 43,2 |
| 20 | 50,8 |

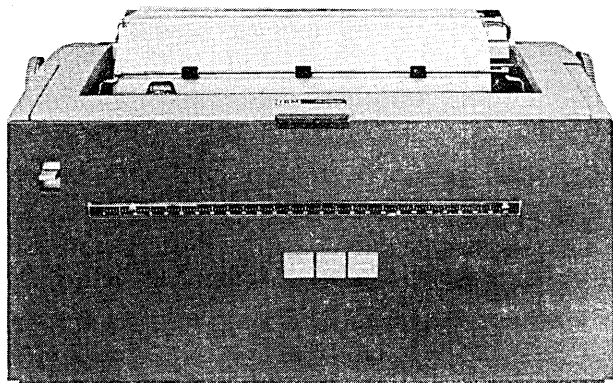


Figure 2845-3. IBM 1053 Printer Model 4

Dimensions

| | Front | Side | Height | |
|--------------------|----------|--------|--------|------|
| | (Note 3) | | | |
| Installed inches | 23 | 11-1/2 | 9 | |
| Centimeters | 58,4 | 29,2 | 22,9 | |
| Service Clearances | | | | |
| | Front | Rear | Right | Left |
| Inches | 0 | 0 | 0 | 0 |
| Centimeters | — | — | — | — |

Weight

35 lbs. 15,9 kg

Heat Output

520 BTU/h 131 kcal/h

Air Flow

— CFM — m³/min

Power Requirements

| | 60 Hz. | | 50 Hz. | | | |
|---------------------------|--------|---------|-------------|-------------|-----|---------|
| Volts | 115 | 208/230 | 112.5/123.5 | 195/220/235 | | |
| kVA | | 0.2 | | 0.2 | | |
| Phase | | 1 | | 1 | | |
| Branch | | | | | | |
| Circuit (A) | | 15 | | | | |
| Max. Cont. Load (A) | 1.2 | 0.6 | 1.0 | 0.9 | 0.7 | 0.6 0.5 |
| Plug Type (Note 1) | | H K | | | | — |
| Power Cord Style (Note 2) | | — | | | | G2 |
| Power Cord Length | 14 ft. | | | | | (4.27m) |

Environment, Operating

| | | |
|---------------|-------------|------------|
| Temp. | 50 to 110°F | 10 to 43°C |
| Rel. Humidity | 10 to 80% | |
| Max. Wet Bulb | 80°F | 27°C |

Environment, Non-operating

| | | |
|---------------|-------------|------------|
| Temp. | 50 to 110°F | 10 to 43°C |
| Rel. Humidity | 10 to 80% | |
| Max. Wet Bulb | 80°F | 27°C |

Cable Information — See page 2845.1

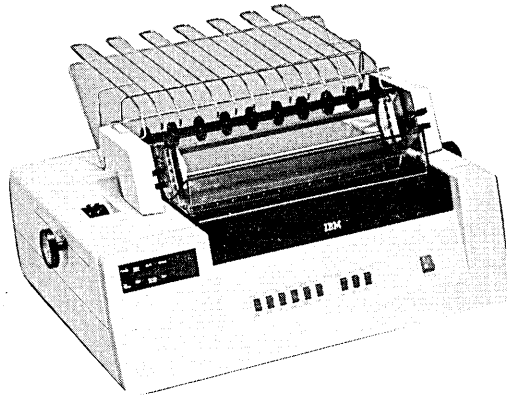
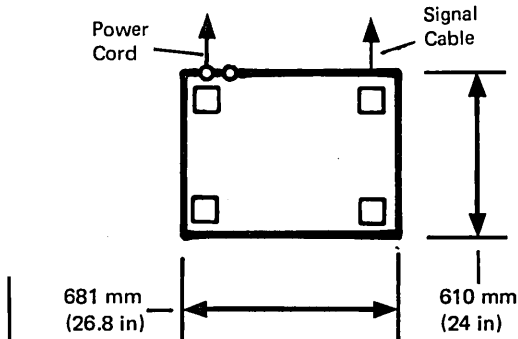
Notes:

1. Description of plug type with matching receptacles and connectors — see Appendix A (Figure A-1).
2. Description of World Trade power cord styles — see Appendix B.
3. Includes 1-1/2 inches (3,8 cm) each side for platen knobs.

IBM 3287 PRINTER Models 1, 2, 11 and 12 (CUSTOMER SETUP DESIGNATED)

PLAN VIEW

Dimensions shown in millimeters
Plan View scale drawn (1:25)



Note: The minimum distance between the 3287 and Display Terminals should be 762 mm (30 in)

| | Voltage Tolerance | Volts | | | | | | | | | |
|--------------------------------|-------------------|--------------|-----|-----|-----|--------------|-----|-----|-----|-----|-----|
| | | 60Hz + 0.5Hz | | | | 50Hz + 0.5Hz | | | | | |
| | | 100 | 110 | 120 | 127 | 100 | 110 | 200 | 220 | 230 | 240 |
| US & Canada | +6% -13% | | | | | | | | | | |
| Japan | ±10% | + | | | | + | | + | | | |
| American/ Far East | +8% -12.5% | + | + | + | + | + | + | + | + | + | + |
| Europe/Middle East & Africa | +8% -12.5% | | | + | | | | | | + | + |

For safety and proper machine operation each *Power Receptacle* must be grounded. To insure proper grounding a dedicated wire conductor is recommended.

CORD LENGTH: Power Cord Length, 2.8m (9 ft) supplied as standard, (optional lengths available; 1.8m (6 ft), 3.7m (12 ft), 4.5m (15 ft).

Plug - Power Cord - See appendix A (Figures A-2 and A-3).

Power Cord Type (for those countries supplied with power cord but not plug). Outside diameter 9.0mm (0.350 in); number of conductors-3 plus drain: wire conductor size 18 AWG/stranded (1.0mm); shield aluminum polyester tape.

SPECIFICATIONS

Dimensions

| | Front | Side | Height* |
|-------------|--------|-------|---------|
| Millimeters | 681 | 610** | 274* |
| Inches | (26.8) | 24 | 10.8 |

*356mm (14 in) with forms tractor

**584mm (23.0 in) with forms tractor

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|------|-------|------|
| Millimeters | 508 | 508 | 762 | 762 |
| Inches | 20 | 20 | 30 | 30 |

A 1016mm (40 in) clearance above the terminal is required during servicing.

127mm (5 in) at rear required for paper loading.

Weight

34.2kg (75-1/2 Lb)

36kg (79-1/2 Lb) (with forms tractor)

Heat output

220w (853 BTU/hr)

Air flow

1.5m³/min (55cfm)

3m³/min (105cfm) with Blower Feature

Power Requirements

KVA: 0.26

Phase: 1

Environment, Operating

Temperature 10° to 40.6°C (50° to 104°F)

Relative Humidity 8 to 80%

Maximum Wet Bulb 27°C (80°F)

*For Models 1, 2, 11 and 12, see specify feature for operation in environment above 32.2°C (90°F)

Environment, Non-Operating

Temperature 10° to 51.7°C (50° to 125°F)

Relative Humidity 8% to 80%

Maximum Wet Bulb 27°C (80°F)

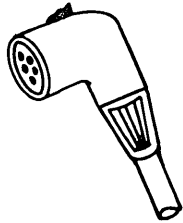
Signal Cables Models 1 and 2

For attachment to the 3138, 3148, 4331, or 4341, refer to the appropriate cabling schematic in the *IBM System/370 Installation Manual - Physical Planning, GC22-7004* or *IBM 4300 Processor Installation Manual - Physical Planning, GA24-3667*, respectively.

- For Signal Cable Description see page 3287.2 Signal Cables Models 11 and 12. (See next page.)

SIGNAL CABLE MODELS 11 AND 12

For attachment to the signal loop via a Loop Station Connector Box, a 3 m (10 Ft.) cable and a unique plug called a Loop Device Connector is shipped with the printer. For further information refer to the *IBM Multiuse Communications Loop Planning Guide*, GA23-0038.



SIGNAL CABLE MODELS 1 AND 2

| | |
|--------------------------------------|--|
| Type (Commerical Designation) | RG62A/U coaxial - Meeting MIL SPEC C-17D |
| Characteristic Impedance | 93 ohms |
| Capacitance (Nominal) | 14.5 pF/ft |
| Maximum Length | |
| When attaching via feature code 8330 | 610 meters (2000 feet) |
| When attaching via feature code 8331 | 1500 meters (4920 feet) |

User Responsibility

The user is responsible for the procurement installation and maintenance of the signal cable (coaxial) that connects the 3287 to its associated control unit.

IBM part numbers are provided for the user who wishes to purchase components or preassembled cables from IBM. RG62A/U is designated for indoor use. For outdoor cables, the RG62A/U must be designated as "modified for outdoor use"

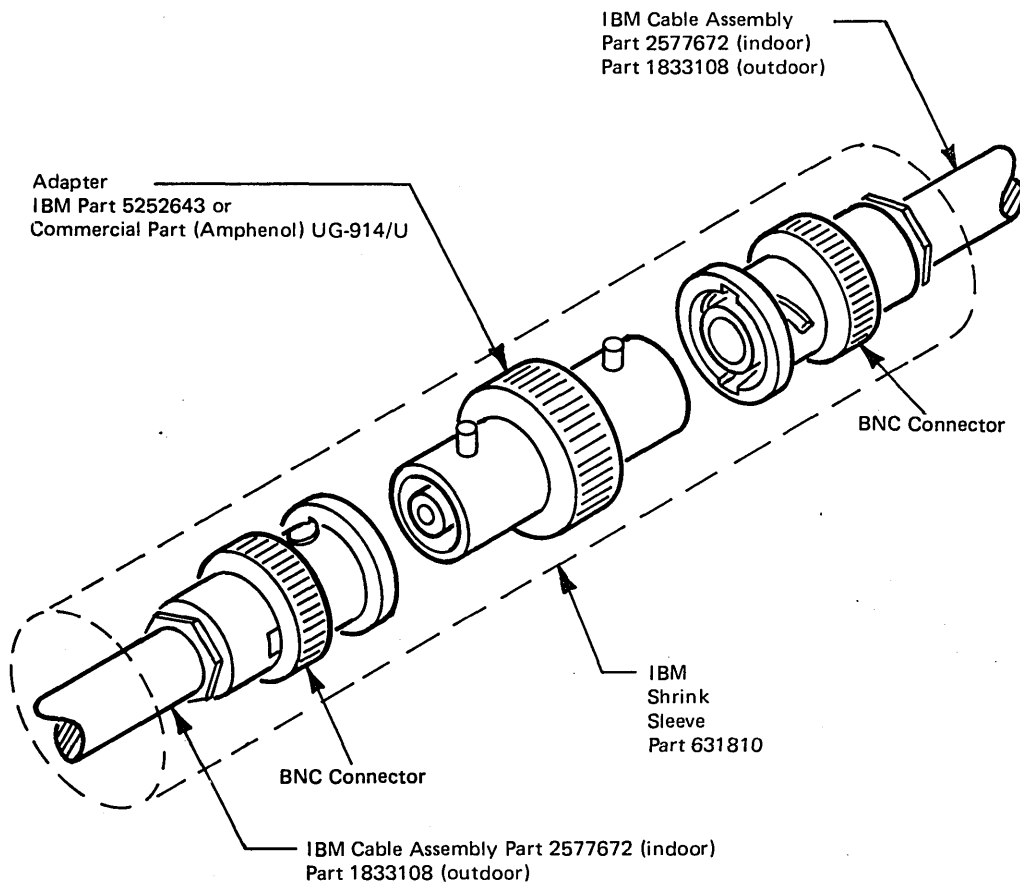
Bulk Cable Specifications (Note 1)

| | | |
|--------------------------|--|--|
| Conductor | AWG Wire Size Stranding Material Coating DC Resistance | 22 Solid Copper Covered Steel None 4.4 OHMS/100 Ft(Max) |
| Insulation | Material | Note 3 |
| Shield | Material Type Coverage | Copper AWG 34 Note 4 |
| Jacket | Material Color Avg Single Wall Thickness | PVC Note 1 Black 0.040 in (1.02 mm) min (outdoors) 0.031 in (0.79 mm) min (indoors) |
| Rating | Voltage Ambient Temperature | Note 5 60°C max |
| Capacitance Nominal | | 14.5 pF/ft |
| Impedance Characteristic | | 93±5 Ohms |
| Attenuation | | 8.0 dB/100 ft max |
| Velocity of Propagation | | 80% |

Notes

1. Cable commercially designated RG62 A/U Meeting MIL Spec C-17D, is approved (vinyl jacket with solid conductor having 40% conductivity). Cable commercially designated RG62 A/U Meeting MIL SPEC C-17D modified for outdoor use (which includes vapor barrier and thicker jacket) is an approved substitute. Outdoor cable jacket must meet the minimum requirements for underground feeder and branch circuit cable and must be weatherproof and sunlight resistant per UL Subject 493.
2. Outer diameter (nominal)
Indoor 6.15 mm (0.242 in)
Outdoor 6.6 mm (0.260 in)
3. Polyethylene (outdoor); flame retardant polyethylene (indoor).
4. Seven ends, 16 carriers, 8.2 ± 10% pick per inch, 90% minimum coverage.
5. Dielectric strength test, 3,000 volts rms.

| TO ORDER | SPECIFY | ON |
|--|-----------------------------------|--|
| Bulk cable (outdoor) | IBM part 5252750 and cable length | Miscellaneous equipment specification (MES) form |
| Bulk cable (indoor) | IBM part 323921 and cable length | MES form |
| Preassembled cables (outdoor) | IBM part 1833108 and cable length | MES form |
| Preassembled cables (indoor) | IBM part 2577672 and cable length | MES form |
| BNC-Type connectors (2) in kit form (outdoors). One kit per cable length | Connector group IBM part 1836419 | MES form |
| BNC-Type connectors in kit form (indoors). One kit per cable length | Connector group IBM part 1836418 | MES form |
| Adapter (for joining two coaxial cables) | IBM part 5252643 | MES form |



Cable Adapter for Joining Coaxial Cables

LIGHTNING STATION PROTECTORS

To protect personnel and prevent damage to IBM equipment from sudden surges of lightning energy, a station protector must be attached to the shield at each end of each coaxial cable that is run outdoors. This requirement applies to both overhead and buried cables.

The station protectors must be installed indoors as close as close as possible to where the cable enters or exits the building. Local and federal requirements must be observed when installing station protectors.

A common type of station protector is the gas-tube protector which has a useful life of approximately several hundred surges. The gas-tube protector is recommended for all geographic areas.

The following station protectors and attachment kit may be purchased from IBM on a Miscellaneous Equipment Specification (MES) form.

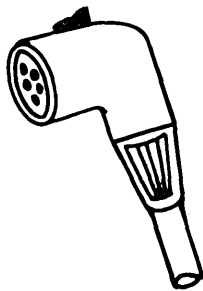
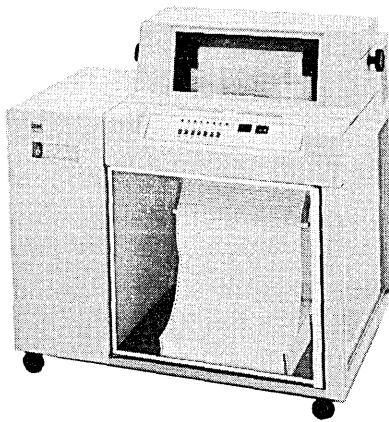
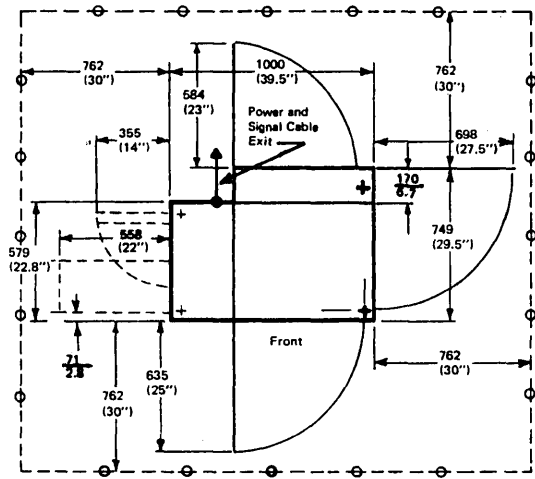
- Two gas-tube station protectors IBM part 1830818
- One attachment kit IBM part 1833106

Note: An attachment kit is required for each order of two station protectors. The kit contains the parts necessary to attach a station protector at each end of one coaxial cable.

3289 LINE PRINTER MODEL 3

Plan View

Scale (1 : 50)



Loop Device Connector

| | Voltage Tolerance | Volts | | | | | | | | | |
|-----------------------------|-------------------|--------------|-----|-----|-----|-----|--------------|-----|-----|-----|-----|
| | | 60Hz + 0.5Hz | | | | | 50Hz + 0.5Hz | | | | |
| | | 100 | 110 | 120 | 127 | 100 | 110 | 200 | 220 | 230 | 240 |
| US & Canada | +6% -13% | | | | | | | | | | |
| Japan | ± 10% | + | | | | + | | + | | | |
| American/Far East | +8% -12.5% | | + | + | + | + | + | | + | + | + |
| Europe/Middle East & Africa | +8% -12.5% | | | | | | | | + | | + |

Specifications

Dimensions:

| | F | S | H |
|----------|--------|--------|---------|
| mm | 1000 | 749 | 1040 |
| (Inches) | (39.5) | (29.5) | (40.95) |

Service Clearances:

| | F | R | L | Rt |
|----------|------|------|------|------|
| mm | 762 | 762 | 762 | 762 |
| (Inches) | (30) | (30) | (30) | (30) |

Weight: 150 kg (330 lb)

Heat Output: 405w (1400 BTU/hr)

Airflow: Convection

Power Requirements:

| | |
|-------------------|-----|
| kVA | 0.6 |
| Phase | 1 |
| Branch Circuit(A) | 15 |

Environment Operating:

| | |
|--------------|--------------------------------|
| Temperature | 10.0° to 40.6°C (50° to 105°F) |
| Rel Humidity | 8% to 80% |
| Max Wet Bulb | 27°C (80°F) |

Environment Non-Operating:

| | |
|--------------|--------------------------------|
| Temperature | 10.0° to 51.7°C (50° to 125°F) |
| Rel Humidity | 8% to 80% |
| Max Wet Bulb | 26.7°C (80°F) |

Optimum paper stacking will occur in a temperature range of 15.6° - 37.8°C (60° - 100° F) and a relative humidity range of 26% - 62%.

SIGNAL CABLE

For attachment to the signal loop via a Loop Station Connector Box, a 3.05 m (10 ft) cable and a unique plug called a Loop Device Connector is shipped with the printer. For further information refer to *IBM Multiuse Communications Loop Planning Guide*, Form Number GA23-0038.

For safety and proper machine operation each *Power Receptacle* must be grounded. To insure proper grounding, a dedicated wire conductor is recommended.

CORD LENGTH: Power Cord Length, 2.8m (9ft.) supplied as standard, (optional lengths available; 1.8m (6ft.), 3.7m (12ft.), 4.5m (15ft.).

Power Cord, plug type, see appendix A (Figures A-2 and A-3).

POWER CORD TYPE (for those countries supplied with power cord but no plug). Outside diameter 9.0 mm (0.350 in); number of conductors-3; conductor size # 18 AWG/stranded (1.0 mm), shield aluminum polyester tape plus drain wire;

| IBM 3705-II Communications Controller (With Remote Program Loader)

| The IBM 3705-II (With Remote Program Loader) is a programmable transmission control unit for System/370. It is attached to the CPU through a 3705 by a Type 3002 private line data channel with Type C2 conditioning, a CCITT recommended M102 data channel, or equivalent privately-supplied channel. The 3705-II (With Remote Program Loader) can handle line speeds from 45.5 bps to 230,400 bps.

| This machine has radio interference control circuits and requires that the total resistance of the grounding conductor measured between the power receptacle and building ground not exceed 3 ohms.

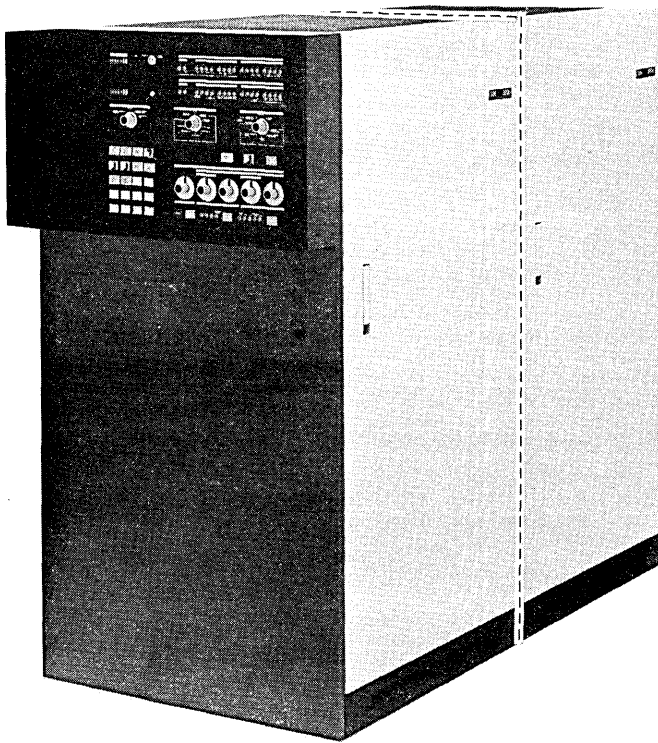
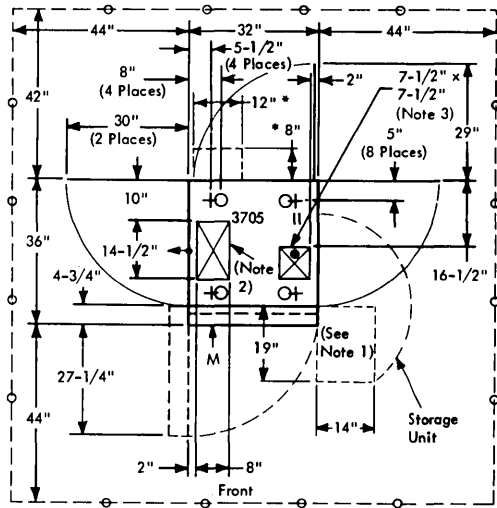


Figure 3705-1. IBM 3705-II Communications Controller (With Remote Program Loader)

**3705-II COMMUNICATIONS CONTROLLER WITH
REMOTE PROGRAM LOADER) - SPECIFICATIONS**

3705-II (WITH REMOTE PROGRAM LOADER)

PLAN VIEW

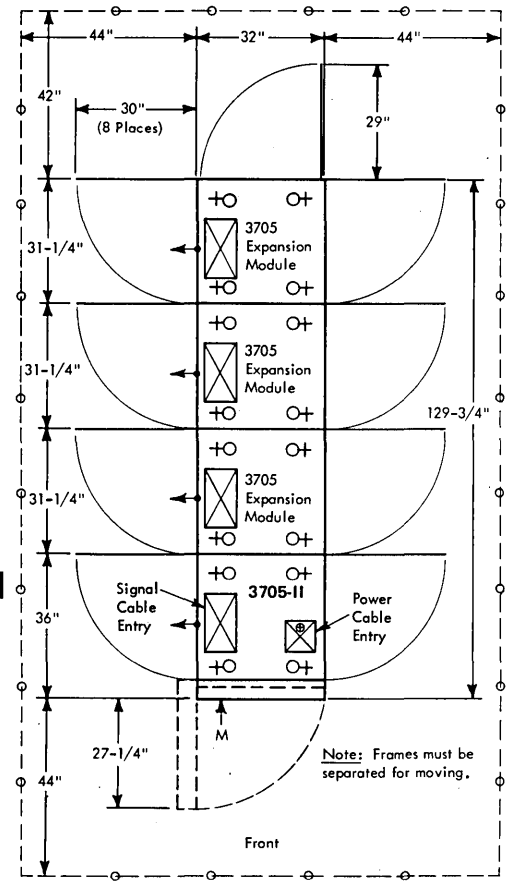


- Notes:**
1. For full 180° swing, remove adjacent machine cover.
 2. Signal cable entry.
 3. Power cable entry.
- * Storage Unit-In last Module Only

| Inches | Centimeters |
|---------|-------------|
| 2 | 5 |
| 4 | 10 |
| 4 3/4 | 12 |
| 5 | 13 |
| 5 1/2 | 14 |
| 7 1/2 | 19 |
| 8 | 20 |
| 10 | 25 |
| 14 | 36 |
| 14 1/2 | 37 |
| 16 1/2 | 42 |
| 18 | 46 |
| 27 1/4 | 69 |
| 29 | 74 |
| 30 | 76 |
| 31 1/4 | 79 |
| 32 | 81 |
| 36 | 91 |
| 42 | 107 |
| 44 | 112 |
| 129 3/4 | 330 |

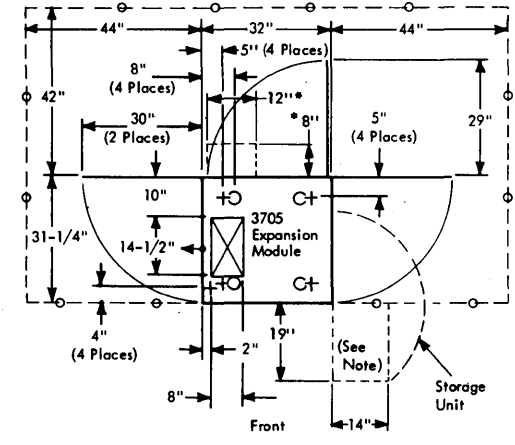
**3705-II (WITH REMOTE PROGRAM LOADER)
MAXIMUM CONFIGURATION**

PLAN VIEW



**3705-II EXPANSION MODULE (WITH REMOTE PROGRAM
LOADER)**

PLAN VIEW



- Note:** For full 180° swing, remove adjacent machine cover.
- * Storage Unit-In Last Module Only

**3705-II COMMUNICATION CONTROLLER (WITH
REMOTE PROGRAM LOADER) - SPECIFICATIONS**

| Model | Dimensions* in (cm) | | | Service Clearance in (cm) | | | | Weight lb (kg) |
|--------|------------------------|---------------|-------------|------------------------------|-------------|-------------|-------------|-------------------|
| | Front | Side | Height | Front | Rear | Right | Left | |
| E | 32 (81) | 36 (91) | 60 (152) | 44 (112) | 42 (107) | 44 (112) | 44 (112) | 1010 (460) |
| F or J | 32 (81) | 67½ (171) | 60 (152) | 44 (112) | 42 (107) | 44 (112) | 44 (112) | 1920 (880) |
| G or K | 32 (81) | 98½ (250) | 60 (152) | 44 (112) | 42 (107) | 44 (112) | 44 (112) | 2830 (1300) |
| H or L | 32 (81) | 129¾ (330) | 60 (152) | 44 (112) | 42 (107) | 44 (112) | 44 (112) | 3740 (1700) |

*Shipping dimensions are 32" x 36" x 60" (81 cm x 91 cm x 152 cm). Removal of the covers reduces the width to 29½" (75 cm). The front panel can be removed to make the unit 29½" x 30" x 60" (75 cm x 76 cm x 152 cm).

| Model | Heat Output BTU/h (Kcal/h) | |
|-------|-------------------------------|------------------|
| | 60 Hz | 50 Hz |
| E | 6400 (1650) | 7170 (1850) |
| F | 12,800 (3250) | 14,340 (3650) |
| G | 19,200 (4850) | 21,510 (5450) |
| H | 25,600 (6500) | 28,680 (7250) |
| J | 11,300 (2850) | 12,900 (3250) |
| K | 16,900 (4300) | 19,400 (4900) |
| L | 22,500 (5700) | 25,800 (6500) |

| Specification | Model | 60 Hz | | | 50 Hz † * | | | | |
|---|------------------|-------|------|------|-----------|------|------|------|------|
| | | 200* | 208 | 230 | 200 | 220 | 235 | 380 | 408 |
| Volts | All | 200* | 208 | 230 | 200 | 220 | 235 | 380 | 408 |
| Phase | All | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| KVA | E | 2.5 | 2.5 | 2.5 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 |
| | F | 5.0 | 5.0 | 5.0 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 |
| | G | 7.5 | 7.5 | 7.5 | 8.4 | 8.4 | 8.4 | 8.4 | 8.4 |
| | H | 10.0 | 10.0 | 10.0 | 11.2 | 11.2 | 11.2 | 11.2 | 11.2 |
| | J | 5.3 | 5.3 | 5.3 | 5.9 | 5.9 | 5.9 | 5.9 | 5.9 |
| | K | 7.9 | 7.9 | 7.9 | 8.9 | 8.9 | 8.9 | 8.9 | 8.9 |
| | L | 10.6 | 10.6 | 10.6 | 11.9 | 11.9 | 11.9 | 11.9 | 11.9 |
| Branch Circuit (Amp) | E | — | 30 | 30 | — | — | — | — | — |
| | F or J | — | 30 | 30 | — | — | — | — | — |
| | G or K | — | 60 | 60 | — | — | — | — | — |
| | H or L | — | 60 | 60 | — | — | — | — | — |
| Max. Cont. Load (Amp) | E | 11.3 | 10.8 | 9.8 | 13.6 | 12.3 | 11.6 | 4.2 | 3.9 |
| | F | 22.6 | 21.6 | 19.6 | 27.2 | 24.6 | 23.2 | 8.4 | 7.8 |
| | J | 23.9 | 22.8 | 21.2 | 28.8 | 26.1 | 24.6 | 8.9 | 8.3 |
| | G | 33.9 | 32.4 | 29.4 | 40.8 | 36.9 | 34.8 | 12.6 | 11.7 |
| | K | 35.9 | 34.7 | 31.1 | 43.2 | 39.1 | 36.8 | 13.3 | 12.4 |
| | H | 45.2 | 43.2 | 39.2 | 54.4 | 49.2 | 46.4 | 16.8 | 15.6 |
| | L | 47.8 | 45.7 | 41.5 | 57.6 | 52.1 | 49.0 | 17.8 | 16.5 |
| Power Cord Style** | E | F1 | — | — | D2 | D2 | D2 | D2 | D2 |
| | F or J | F2 | — | — | E1 | E1 | E1 | D2 | D2 |
| | H, K, or L | F2 | — | — | E2 | E2 | E2 | E1 | E1 |
| Plug Type | E, F, or J | — | D | D | — | — | — | — | — |
| | G, H, K, or L | — | E | E | — | — | — | — | — |
| Power Cord Length (ft) Length (m) | All | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| | All | 4.27 | 4.27 | 4.27 | 4.27 | 4.27 | 4.27 | 4.27 | 4.27 |

*World Trade

**When Field converting to Models E, F, or J from Models G, H, K, or L a new Power Cord will not be shipped. Existing cord assembly should be used.

†For the 3705-II, 50 Hz only, the phase may be unbalanced to a ratio of 1.3 to 1.

I 3705-II COMMUNICATION CONTROLLER (WITH REMOTE PROGRAM LOADER) - SPECIFICATIONS

Air Flow

800 ft³/min (25 m³/min)

Environment, Operation

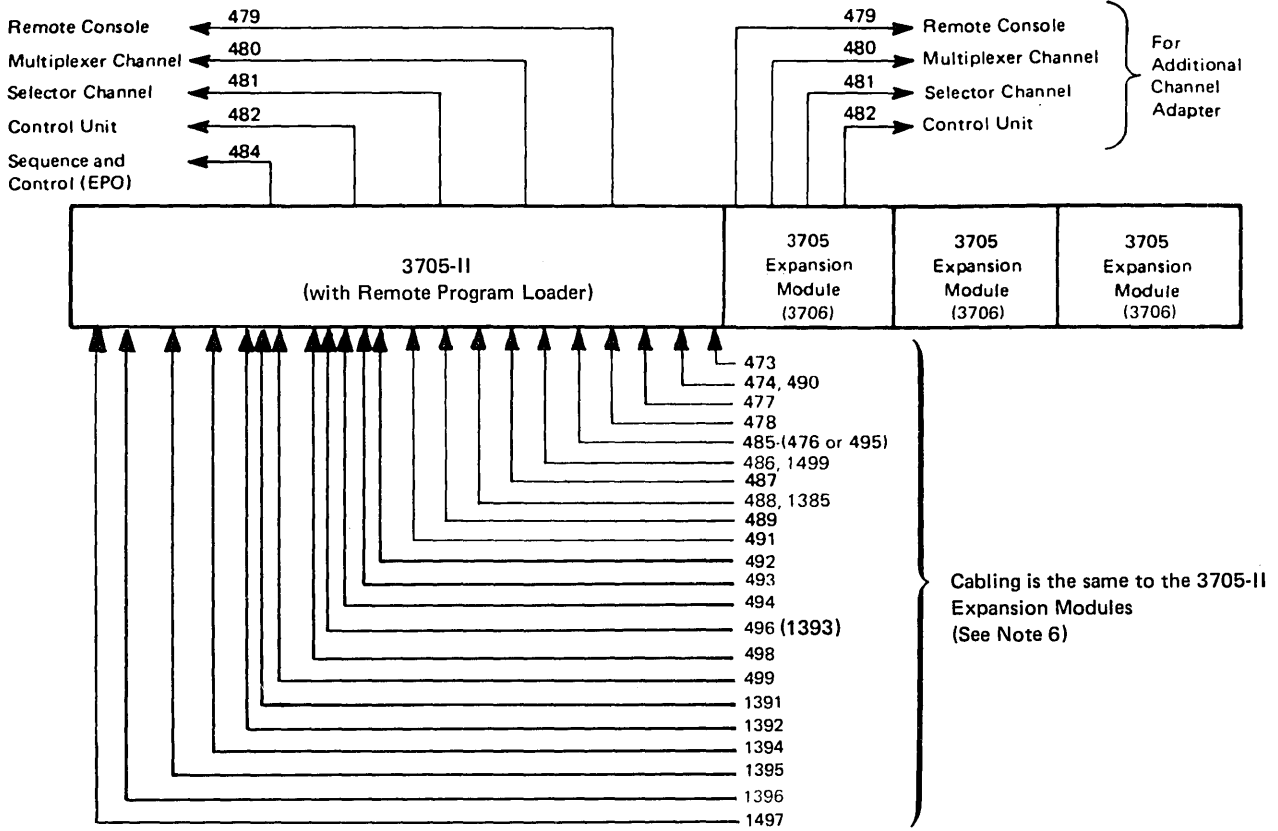
Temp. 50 to 100° F 10 to 38° C (3705-II)*
Rel. Humidity 8 to 80%
Max. Wet Bulb 78° F 26° C

Environment, Non-operating

Temp. 50 to 110° F 10 to 40° C
Rel. Humidity 8 to 80%
Max. Wet Bulb 80° F 26.7° C

* The upper temperature limit must be derated 1° F
(0.6° C) for each 250 feet (76 m) of elevation
above 3000 feet (914 m).

I 3705-II COMMUNICATIONS CONTROLLER AND 3705 EXPANSION MODULE CABLING SCHEMATIC



Cables for IBM and Non-IBM Devices

| Group No. | Termination |
|---|--|
| 473 } 492 } | 1 25-Pin EIA RS-232C or CCITT Connector (Male) |
| 474 } 490 } | 2 Pair #8 Ring Lugs |
| 476 } 495 } | 1 25-Pin EIA RS-232C Connector (Male) (See Note 2) |
| Attaches to Group 485 203mm Fixed Length (8 inches) | |
| 477 } 478 } 485 } 486 } | 2 25-Pin EIA RS-232C or CCITT Connectors (Male) |
| 487 } 488 } 1385 } 1499 } | 2 25-Pin EIA RS-232C or CCITT Connectors (Female) |
| 489 | 12-Pin Burndy Connector for Wide-Band Modem (Male) |
| 491 } 493 } | 2 WE-283B Plugs; Customer Provides 404B Surface Mount, 493A Flush Mount, 549A Surface Mount Jacks, or Equivalent Receptacles |
| 494 } | #8 Ring Lugs (8 for each leg) |
| 496 } 1497 } | 1 34-Pin Winchester or CCITT V.35 Connector (Male) or Equivalent. |
| 498 | #8 Ring Lugs (8) |
| 499 | 1 WE-283B Plug; Customer Provides 404B Surface Mount, 493A Flush Mount, 549A Surface Mount Jacks, or Equivalent Receptacles |
| 1391 | 1 15-Pin CCITT X.21 Connector (Male) |
| 1392 } | 2 15-Pin CCITT X.21 Connectors (Female) |
| 1393 | 1 34-Pin CCITT V.35 Connector (Male) |
| Attaches to Group 496 203mm Fixed Length (8 inches) | |
| 1396 | 1 15-Pin CCITT X.21 Connector (Male) |
| Attaches to Group 1392 610mm Fixed Length (24 inches) | |
| 1394 } 1395 } | 1 34-Pin Winchester or V.35 Connector (Female) or Equivalent |

**| 3705-II COMMUNICATIONS CONTROLLER AND
3705 EXPANSION MODULE CABLING SCHEMATIC**

| Feature Code | Group No. | Line Set | | From | To | Max Length | | Notes |
|--------------|-----------|----------|---------------|-----------------------------------|----------------------------------|------------|--------|--------------|
| | | Type | No. of Cables | | | (ft) | Meters | |
| 1543 | 479 | | 1 | 3705-I, II, 3705 Expansion Module | Remote Console | 150 | 45.7 | 4 |
| - | 480 | | 2 | 3705-I, II, 3705 Expansion Module | Multiplexer Channel | - | | 1 |
| - | 481 | | 2 | 3705-I, II, 3705 Expansion Module | Selector Channel | - | | 1 |
| - | 482 | | 2 | 3705-I, II, 3705 Expansion Module | Control Unit | - | | 1 |
| - | 484 | | 1 | 3705-I, II | Channel | 150 | 45.7 | 15 |
| 2944 | 496 | 1K | 1 | One High-Speed Modem | 3705-II or 3705 Expansion Module | 45 | 13.7 | 7 |
| 4707 | 498 | LIB 7 | 2 | | 3705-II or 3705 Expansion Module | 45 | 13.7 | 18 |
| 4711 | 477 or | 1A | 2 | Two IBM Modems | 3705-II or 3705 Expansion Module | 45 | 13.7 | 7, 10, 20 |
| | 478 or | 1A | 2 | Two Non-IBM Modems | 3705-II or 3705 Expansion Module | 45 | 13.7 | 7, 10, 20 |
| | 485 | 1A | 2 | Two Modems | 3705-II or 3705 Expansion Module | 45 | 13.7 | 8, 10, 20 |
| 4712 | 492 | 1B | 1 | One Low-Speed Duplex Modem | 3705-II or 3705 Expansion Module | 45 | 13.7 | 20 |
| 4713 | 487 | 1C | 2 | Two Directly Attached Terminals | 3705-II or 3705 Expansion Module | 195 | 59.4 | 12, 20 |
| 4714 | 473 or | 1D | 1 | One-Medium Speed Duplex Modem- | | | | |
| | | | | BSC, SDLC | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| | 477 or | 1D | 2 | Two IBM Modems | 3705-II or 3705 Expansion Module | 45 | 13.7 | 5, 7, 10 |
| | 478 or | 1D | 2 | Two Non-IBM Modems | 3705-II or 3705 Expansion Module | 45 | 13.7 | 5, 7, 10 |
| | 485 or | 1D | 2 | Two Modems-S/S, BSC, SDLC | 3705-II or 3705 Expansion Module | 45 | 13.7 | 2, 5, 10, 11 |
| | 487 or | 1D | 2 | Two Directly Attached Terminals | | | | |
| | | | | S/S | 3705-II or 3705 Expansion Module | 195 | 59.4 | 19 |
| | 488 or | 1D | 2 | Two Directly Attached Terminals | | | | |
| | | | | BSC | 3705-II or 3705 Expansion Module | 95 | 28.9 | 12 |
| | 1385 or | 1D | 2 | Two Directly Attached Terminals | | | | |
| | | | | SDLC | 3705-II or 3705 Expansion Module | 95 | 28.9 | 12, 13 |
| | 492 | 1D | 1 | One Low-Speed Duplex Modem S/S | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4715 | 486 or | 1E | 2 | Two Autocall Units | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| | 1499 | 1E | 2 | Two W.T. Autocall Units | 3705-II or 3705 Expansion Module | 45 | 13.7 | 7,14 |
| 4716 | 488 or | 1F | 2 | Two Directly Attached Terminals | 3705-II or 3705 Expansion Module | 95 | 28.9 | 12, 20 |
| | 1385 | 1F | 2 | Two Directly Attached Terminals | 3705-II or 3705 Expansion Module | 95 | 28.9 | 12,13 |
| 4717 | 489 | 1G | 1 | Wide-Band Modem | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4718 | 473 | 1H | 1 | One-Medium Speed Duplex Modem | 3705-II or 3705 Expansion Module | 45 | 13.7 | 20 |
| 4719 | None | 1J | 0 | | | | | 3 |
| 4720 | 496 | 1S | 1 | One High-Speed Modem | 3705-II or 3705 Expansion Module | 45 | 13.7 | 8 |
| 4721 | 490 or | 2A | 1 | Common-Carrier Terminal Strip | 3705-II or 3705 Expansion Module | 45 | 13.7 | 8,9 |
| | 474 | 2A | 1 | Common-Carrier Terminal Strip | 3703-II or 3705 Expansion Module | 45 | 13.7 | 7,9 |
| 4722 | 489 | 1GA | 1 | Wide-Band Modem | 3705-II or 3705 Expansion Module | 45 | 13.7 | 16 |
| 4723 | 489 | 1TA | 1 | Wide-Band Duplex Modem | 3705-II or 3705 Expansion Module | 45 | 13.7 | 16 |
| 4725 | 489 | 1T | 1 | One Wide-Band Duplex Modem | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4726 | 1497 | 1U | 1 | One High-Speed Duplex Modem | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4727 | 1394 | 1W | 1 | One Directly Attached Device | 3705-II or 3705 Expansion Module | 145 | 44.2 | |
| 4728 | 1395 | 1Z | 1 | One Directly Attached Device | 3705-II or 3705 Expansion Module | 145 | 44.2 | |
| 4731 | 491 | 3A | 1 | Common-Carrier Telephone Jack | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4732 | 491 | 3B | 1 | Common-Carrier Telephone Jack | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4741 | 491 | 4A | 1 | Common-Carrier Telephone Jack | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4742 | 491 | 4B | 1 | Common-Carrier Telephone Jack | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4743 | 491 | 4C | 1 | Common-Carrier Telephone Jack | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4751 | 499 | 5A | 1 | Common-Carrier Telephone Jack | 3705-II | 45 | 13.7 | 6 |
| 4752 | 499 | 5B | 1 | Common-Carrier Telephone Jack | 3705-II | 45 | 13.7 | 6 |
| 4754 | 499 | 11A | 1 | Common-Carrier Telephone Jack | 3705-II | 45 | 13.7 | 6 |
| 4755 | 499 | 11B | 1 | Common-Carrier Telephone Jack | 3705-II | 45 | 13.7 | 6 |
| 4761 | 498 | 6A | 1 | | 3705-II or 3705 Expansion Module | 45 | 13.7 | 18 |
| 4781 | 493 | 8A | 1 | Common-Carrier Telephone Jack | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4782 | 494 | 8B | 2 | | 3705-II or 3705 Expansion Module | 45 | 13.7 | 18 |
| 4784 | 499 | 10A | 1 | Common-Carrier Telephone Jack | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4785 | 493 | 12A | 1 | Common-Carrier Telephone Jack | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4786 | 494 | 12B | 2 | | 3705-II or 3705 Expansion Module | 45 | 13.7 | 18 |
| 4791 | 498 | 9A | 1 | | 3705-II or 3705 Expansion Module | 45 | 13.7 | 18 |

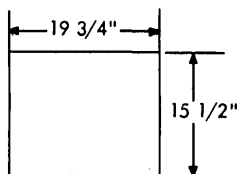
| | | | | | | | | |
|------|---------------------------|----------|--------|--|--|----------|--------------|----|
| 5655 | 1391 or 1392 & 1396 | 1N 1N | 1 2 | One Duplex DCE Two Half-Duplex DCEs | 3505-II or 3705 Expansion Module 3705-II or 3705 Expansion Module | 45 45 | 13.7 13.7 | 17 |
| 5656 | 1391 | 1R | 1 | One Duplex DCE | 3705-II or 3705 Expansion Module | 45 | 13.7 | |

Notes:

1. Total cable length of 60.96m (200 feet) (unless modified by general control-to-channel cabling schematic) is available to attach up to eight control units.
2. SF #4714 requires cable group 485 and may require either group 476 or 495 as specified below:
 - a. One or two of group 476 is required for switched network modems that use either "Ring-Indicate" or "Coupler-Cut-Through" on pin 23. (Pins 18 and 23 are not used.)
 - b. One or two of group 495 is required for modems using a contact closure interface between pins 19 and 20. Group 495 provides compatibility between the 3705 25-pin EIA RS-232C voltage interface and the modem contact closure interface. Cable includes a jumper between pins 19 and 20 and removes the "Data Terminal Ready" voltage from pin 20.
3. Cable-connecting hardware is supplied for SF #4719; external cable is not supplied. See *IBM 3704 and 3705 Communications Controllers, Original Equipment Manufacturer's Information, GA27-3053*, for pin designations. Any customer-supplied protective conduit must not extend above the lower machine frame 6.6cm (2.6 inches).
4. In addition to the two sets of channel cables chosen, one cable group 479 is required of the type 3 channel adapters interface enable/disable switch is to be placed on the remote console (3058 or 3068).
5. The maximum cable length is 7.62m (25 feet) when the rate exceeds 7,200 bps in U.S. and Canada or 4,800 bps in World Trade countries.
6. SF #4751, #4752, #4754, and #4755 do not apply to the 3705 Expansion Module.
7. For World Trade countries only. If SF #2944 is for attachment to a French 48K modem, one cable group 1393 is also required.
8. For U.S. and Canada.
9. In World Trade countries *except* Germany, SF #4721 requires one cable group 490. In Germany, SF #4721 requires one cable group 474 (provides a shielded cable).
10. In World Trade countries *except* Germany, SF #4711 and SF #4714 require one cable group 485. In Germany, SF #4711 and SF #4714 require either one group 477 when using IBM modems (provides a shielded cable) or one group 478 when using PTT mandatory modems (pins 14 and 18 are not used). United States and World Trade—for SF #4714 at transmission rates above 7200 bps U.S. or 4800 bps W.T. the cable maximum length is 7.62m (25 feet).
11. For SF #4714 (Line Set Type ID, cable group 485). If a longer cable length is desired at the higher speeds, contact the IBM DP Special Products Marketing Representative.
12. The total cable length (including any directly-attached terminal cable) must not exceed 30.48m (100 feet) for SF #4716 and SF #4714 nor 60.96m (200 feet) for SF #4713.
13. If attaching a IBM SNA Terminal, Group 1385 must be used, otherwise order group 488.
14. SF #4715 requires one group 1499 when attaching French Caducee Automatic Calling Units, otherwise order group 486.
15. Sequence and control cable (EPO).
16. Operates only with a Type 3HS Communication Scanner.
17. SF #5655 using cable group 1392 also requires one cable group 1396. Each 3705 or 3705 expansion module (3706) requires only one 1396 cable group.
18. FCC registered protective coupler (CBS type) or equivalent.
19. For SF #4714 (Line Set Type 1D, cable group 487), the total cable length must not exceed 30.48m (100 feet) for S/S operation at 2400 bps or 60.96m (200 feet) for S/S operation at line speeds up to and including 1200 bps.
20. This line set will not be available for a 3705 after December 1, 1980. Its functions can now be performed by a 1D line set if appropriate cables are installed. See SF #4714.

IBM 3735 Programmable Buffered Terminal, Including IBM 5496 Data Recorder and IBM 3286 Printer Model 3 – Specifications

PLAN VIEW (Scale: 1/2" = 1')



| Inches | Centimeters |
|--------|-------------|
| 8 3/4 | 22,2 |
| 15 1/2 | 39,4 |
| 19 3/4 | 50,2 |
| 23 | 58,5 |
| 29 | 73,7 |
| 30 | 76,2 |
| 42 | 106,7 |

PLAN VIEW (Scale: 1/4" = 1')

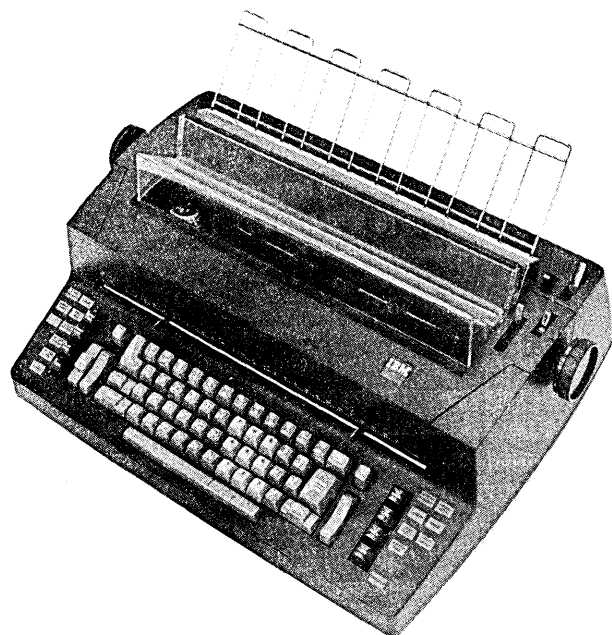
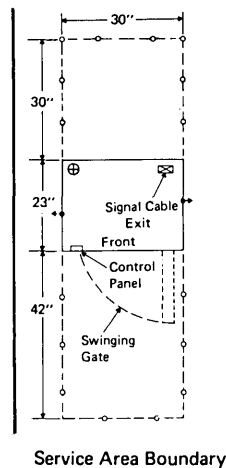


Figure 3735-1. Selectric I/O II

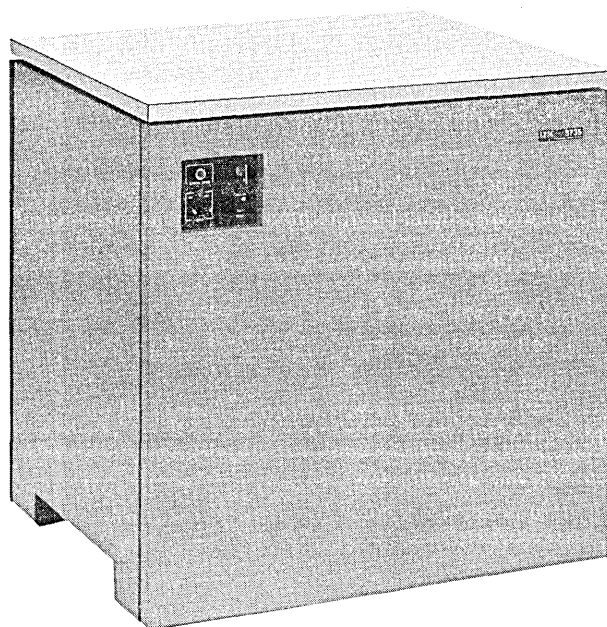


Figure 3735-2. Control Unit

3735 PROGRAMMABLE BUFFERED TERMINAL – SPECIFICATIONS

Dimensions

Selectric I/O II

| | Front | Side | Height |
|-------------|--------|--------|--------|
| Inches | 19-3/4 | 15-1/2 | 8-3/4 |
| Centimeters | 50,2 | 39,4 | 22,2 |

Dimensions do not include platen knobs or paper guide.

Control Unit

| | Front | Side | Height |
|-------------|-------|------|--------|
| Inches | 30 | 23 | 29 |
| Centimeters | 76,2 | 57,2 | 73,7 |

Weight

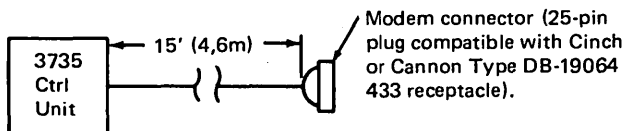
| | | |
|------------------|----------|----------|
| Selectric I/O II | 55 lbs. | 25,0 kg |
| | 240 lbs. | 108,9 kg |

Cables – IBM-Provided and shipped with unit

Selectric I/O II to Control Unit (2 cables): 8' (2,4m)

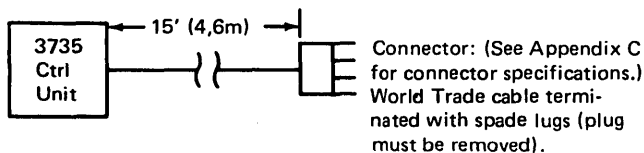
Control Unit to Communications Line: (Signal Cables)

1. Using external modem (data set)

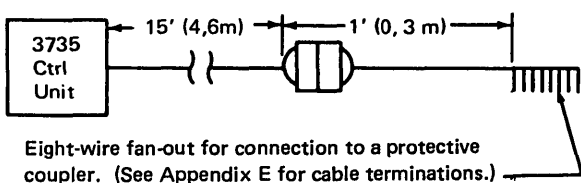


2. Using an IBM Integrated Modem feature:

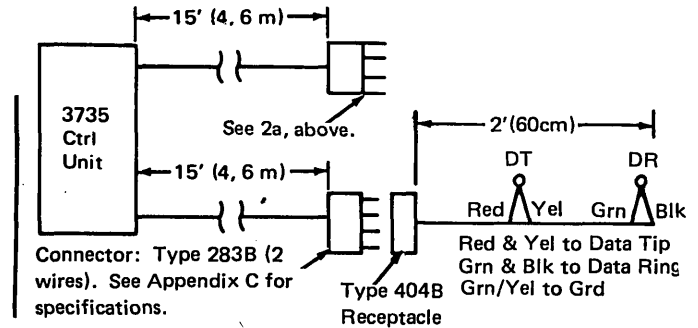
- a. Connecting to leased or privately owned communications line:



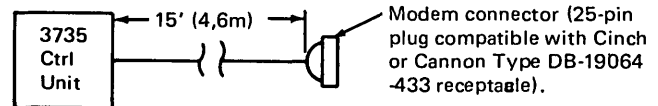
- b. Connecting to common-carrier switched network through an FCC registered protective coupler (CBS type) or equivalent:



- c. Connecting switched network backup feature through an FCC registered protective coupler (CDT type) or equivalent:



d. Connecting to CADUCEE Switched Network:



Heat Output

| | | |
|------------|------------|------------|
| Both units | 2000 BTU/h | 504 kcal/h |
|------------|------------|------------|

Air Flow

| | | |
|--------------|-------------------------|--------------------------|
| Control Unit | 15 ft ³ /min | 0,42 m ³ /min |
|--------------|-------------------------|--------------------------|

Environment, Operating

| | | |
|---------------|---------------------------------------|--------------------------------------|
| Temp. | 50 ^o to 110 ^o F | 10 ^o to 43 ^o C |
| Rel Humidity | 8 to 80% | |
| Max. Wet Bulb | 85 ^o F | 29,4 ^o C |

Environment, Non-operating

| | | |
|---------------|---------------------------------------|--------------------------------------|
| Temp. | 50 ^o to 125 ^o F | 10 ^o to 52 ^o C |
| Rel Humidity | 8 to 80% | |
| Max. Wet Bulb | 85 ^o F | 29,4 ^o C |

Power Requirements (Control Unit*)

| | 60 Hz. | | | | 50 Hz. | | |
|---------------------|---------|-----|----------|----------------|-----------------|-----|-----|
| Volts | 100/115 | 100 | 110 | 123.5 | 200 | 220 | 235 |
| kVA | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| Phase | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Branch | | | | | | | |
| Circuit (A) | 15 | | | | | | |
| Max. Cont. Load (A) | 6.0 | 6.5 | 6.5 | 5.7 | 3.5 | 3.1 | 3.0 |
| Plug Type** | H,J | | | | Power Cord Only | | |
| Power Cord Style | — | | G4 | See Appendix B | | | |
| Power Cord Length | 6 ft. | | (18.26m) | | | | |

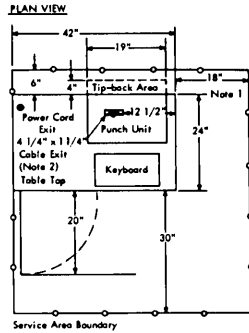
* Selectric I/O II power is supplied by the Control Unit.

** See Appendix A (Figure A-1) for description of power

Communications Facilities

See *IBM 3735 Programmable Buffered Terminal Concept and Application*, GA27-3043, for description of communication facilities.

5496 DATA RECORDER (ATTACHED TO 3735) – SPECIFICATIONS



Notes:
1. Right service clearance needed above table top only.

| Inches | Centimeters |
|--------|-------------|
| 1 1/4 | 3,2 |
| 4 | 10,2 |
| 4 1/4 | 10,8 |
| 6 | 15,2 |
| 12 1/2 | 31,8 |
| 18 | 45,7 |
| 19 | 48,3 |
| 20 | 50,8 |
| 24 | 61 |
| 30 | 76,2 |
| 37 1/2 | 95,3 |
| 42 | 106,7 |

| Feet | Meters |
|------|--------|
| 7 | 2,1 |
| 15 | 4,6 |
| 9 | 2,77 |

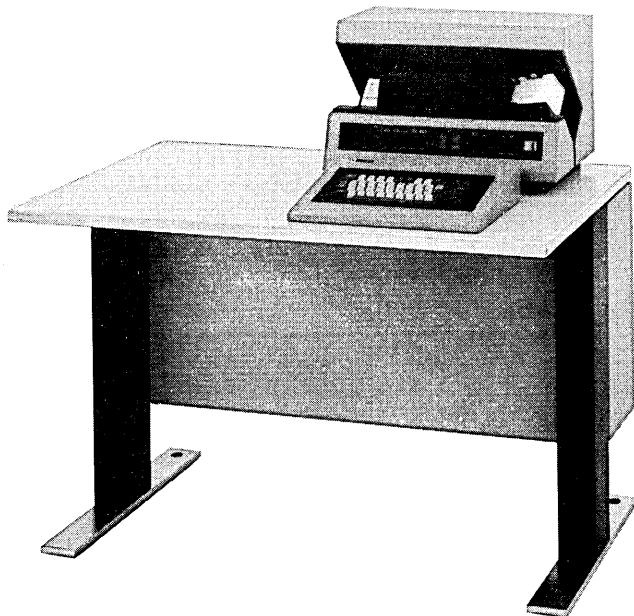


Figure 3735-3. IBM 5496 Data Recorder

Dimensions

| | Front | Side | Height |
|-------------|-------|------|--------|
| Inches | 42 | 24 | 37-1/2 |
| Centimeters | 106,7 | 61 | 95,3 |

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|------|-------|------|
| Inches | 30 | 6 | 18 | — |
| Centimeters | 76,2 | 15,2 | 45,7 | — |

Weight

250 lbs 113,4 kg

Heat Output

| | | |
|----------|------------|------------|
| 60 hertz | 850 BTU/h | 214 kcal/h |
| 50 hertz | 1225 BTU/h | 309 kcal/h |

Air Flow

— CFM — m³/min

Signal Cable—IBM Provided and shipped with unit

5496 to Control Unit: 12 ft. (3,66 meters)

Environmental Requirements

See Page 3735.2

Power Requirements **

| | 60 Hz. | | 50 Hz. | | | | | |
|---------------------|--------|-----|--------|-----|-------|-----|-----|-----|
| Volts | 115 | 100 | 100 | 110 | 123.5 | 200 | 220 | 235 |
| kVA | 0.4 | 0.4 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| Phase | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Branch | | | | | | | | |
| Circuit (A) | 15 | 15 | | | | | | |
| Max. Cont. Load (A) | 3.1 | 3.6 | 5.2 | 4.7 | 4.1 | 2.6 | 2.3 | 2.2 |

Plug Type* H,J

Power

| | | |
|-------------|-------|-------------------------|
| Cord Length | 9 ft. | (2.77m) |
| Cord Style | G4 | G4 G4 G4 G4 G4 G4 G4*** |

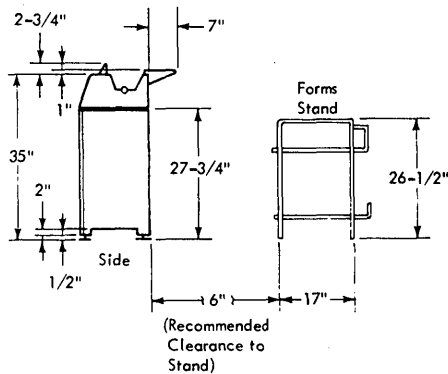
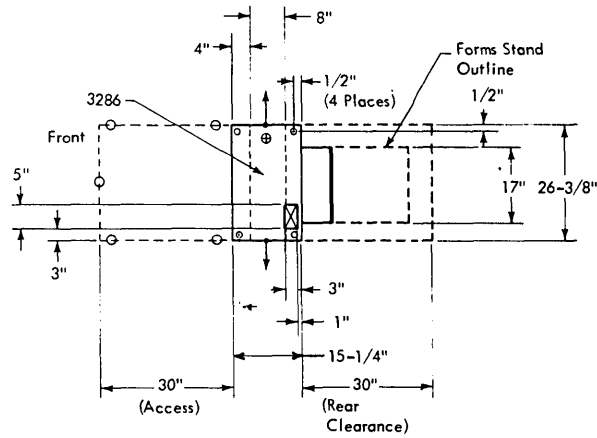
*See Appendix A (Figure A-1) for description of power plugs.

** This unit is equipped with radio interference control circuitry and requires a good insulated wired earth or building ground. Total resistance of the ground conductor, measured between the receptacle and the building grounding point, may not exceed 3 ohms. For proper operation, all components of the system or systems to which this unit is attached must have the same ground reference.

***See Appendix B for description of cord styles.

**3286 PRINTER MODEL 3 (ATTACHED TO 3735)
SPECIFICATIONS**

PLAN VIEW



| Inches | Centimeters |
|--------|-------------|
| 1/2 | 1 |
| 1 | 3 |
| 2 | 5 |
| 2-3/4 | 7 |
| 3 | 8 |
| 4 | 10 |
| 5 | 13 |
| 6 | 15 |
| 7 | 18 |

| Inches | Centimeters |
|--------|-------------|
| 8 | 20 |
| 15-1/4 | 39 |
| 17 | 43 |
| 26-1/2 | 67 |
| 26-3/8 | 68 |
| 27-3/4 | 70 |
| 30 | 76 |
| 35 | 89 |

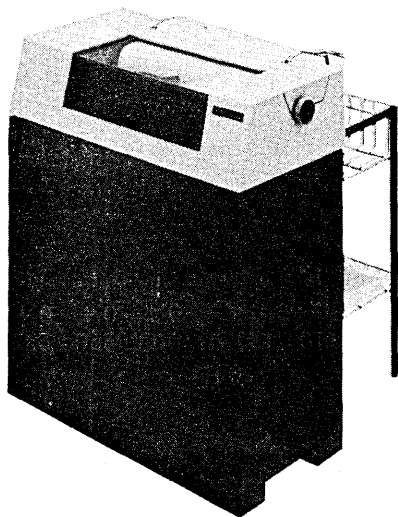


Figure 3735.4 IBM 3286 Printer Model 3

Dimensions

| | Front | Side | Height |
|-------------|--------|--------|--------|
| Inches | 26-3/8 | 15-1/4 | 37-3/4 |
| Centimeters | 68 | 39 | 96 |

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|------|-------|------|
| Inches | 30 | 30 | 0 | 0 |
| Centimeters | 76 | 76 | 0 | 0 |

Weight

135 lbs 62 kg

Heat Output

770 BTU/h 200 kcal/h

Air Flow

Convection only

Signal Cable – IBM Provided and shipped with unit
3286 to Control Unit: 13 ft (3,96 meters)

Environment, Operating

Temp. 50° to 110°F 10° to 43°C
Rel Humidity (See Note) 8 to 80%
Max. Wet Bulb 85°F 29.4°C

Note: Optimum forms feeding and stacking will be achieved in the operating range of 26 to 62% relative humidity. More frequent forms handling intervention may be required when operating in environments outside this range.

Environment, Non-operating

Temp. 50° to 125°F 10° to 52°C
Rel Humidity 8 to 80%
Max. Wet Bulb 85°F 29.4°C

Power Requirements:

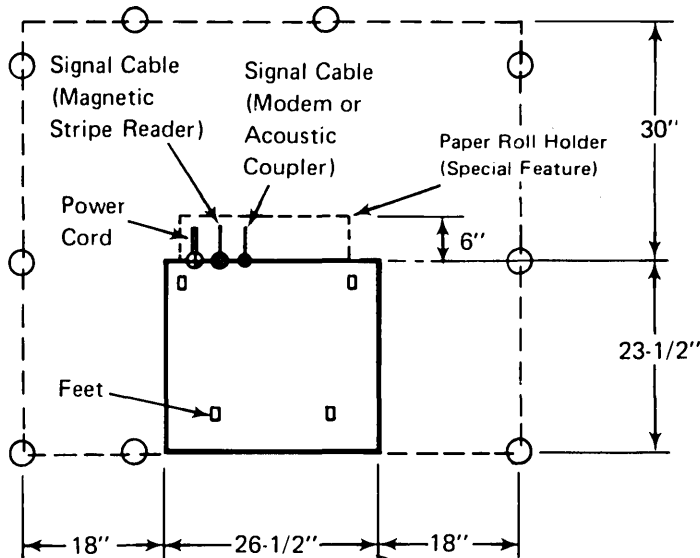
| | 60 Hz. | | 50 Hz. | | | | |
|---------------------|---------------------|------|--------|------|------|-------|------|
| | Volts | 115 | 100 | 100 | 110 | 123.5 | 200 |
| kVA | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 |
| Phase | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Branch | | | | | | | |
| Circuit (A) | 15 | - | - | - | - | - | - |
| Max. Cont. Load (A) | 2.6 | 2.6 | 2.6 | 2.4 | 2.1 | 1.2 | 1.1 |
| Plug Type* | H,J Power Cord Only | | | | | | |
| Power Cord Style | A9-See Appendix B | | | | | | |
| Power Cord Length | 8 ft. | | 2.44 m | | | | |

*See Appendix A (Figure A-1) for description of power plugs.

IBM 3767 Communication Terminal Model 1, 2 and 3 (CUSTOMER SET-UP DESIGNATED)

SPECIFICATIONS

Plan View



Dimensions

| | Front | Side | Height* |
|-------------|--------|--------|---------|
| Inches | 26-1/2 | 23-1/2 | 10 |
| Centimeters | 67.3 | 59.7 | 25.4 |

* 11-1/2 inches (29,2 cm) with forms tractor

Service Clearances*

| | Front** | Rear | Right | Left |
|-------------|---------|------|-------|------|
| Inches | 0 | 20" | 30" | 30" |
| Centimeters | 0 | 50.8 | 76.2 | 76.2 |

* A 50" inch (127cm) service clearance (measured from the table) above the terminal is required.

** Operator access must be provided.

Weight

78 lbs. 35.4 kg

Heat Output

853 BTU/hr. 215 kcal/hr.

Air Flow

Model 1 and 2 - 1.5m³/min (55 CFM)

Model 3 3m³/min (105 CFM)

Model 1 and 2 - 3m³/min (105CFM) order Blower Feature

Power Requirements

| | 60 Hz. | | | 50Hz. + | | | | |
|-------------|--------|------|--------|---------|------|-------|-------|------|
| | 100 | 115 | 220 | 100 | 110 | 123.5 | 220 | 235 |
| Volts | | | | | | 112.5 | | 240 |
| kVA | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25* | 0.25 |
| Phase | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Branch | | | | | | | | |
| Circuit (A) | - | 15 | - | - | - | - | - | - |
| Max. Cont. | | | | | | | | |
| Load (A) | 2.5 | 2.1 | 1.1 | 2.5 | 2.2 | 2.0 | 1.1 | 1.0 |
| Plug Type* | | | | | | | | |
| Non-Locking | H | H | - | H | - | - | - | - |
| Locking | J | J | - | - | - | - | - | - |
| Power Cord | | | | | | | | |
| Style** | | | G4 | G4 | G4 | G4 | G4 | G4 |
| Length*** | | | 10 ft. | (3.5m) | | | | |

| Inches | Centimeters |
|----------|-------------|
| 3-1/4 | 8.2 |
| 4-1/4 | 10.8 |
| 5-1/4 | 13.3 |
| 6 | 15.2 |
| 10 | 25.4 |
| 10-1/4 | 26.1 |
| 10-13/32 | 26.4 |
| 11-1/2 | 29.2 |
| 18 | 45.7 |
| 23-1/2 | 59.7 |
| 26-1/2 | 67.3 |
| 30 | 76.2 |
| 36 | 91.4 |
| 90 | 228.6 |

| Feet | Meters |
|------|--------|
| 6 | 1.8 |
| 10 | 3.5 |
| 20 | 6.1 |
| 25 | 7.6 |
| 30 | 9.1 |
| 35 | 10.6 |
| 40 | 12.1 |

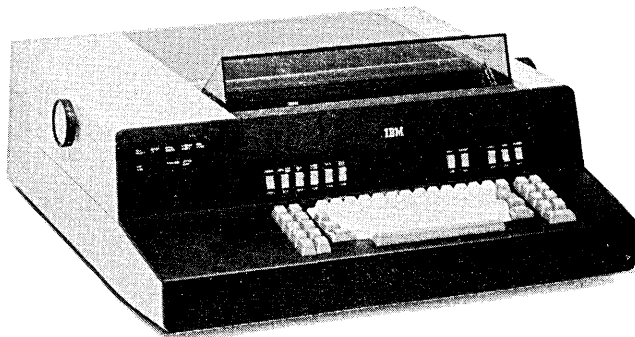


Figure 3767. IBM 3767 Communication Terminal

! *Refer to Appendix A (Figure A-1).

**Refer to Appendix B.

***A 6-foot (1.83m) cord may be specified at the time of the order.

For safety each branch ckt must be grounded. A dedicated wire conductor or a continuous metal conduit may be used for the purpose of grounding. The dedicated wire conductor is recommended.

!

+World Trade Only

Operating Environment*

| | | |
|------------------|----------|------|
| Temperature | | |
| Rel. Humidity | 8 to 80% | |
| Max. Wet Bulb | 80°F | 27°C |
| Also see note 2. | | |

Non-Operating Environment

| | | |
|---------------|--------------|-------------|
| Temperature | 50° to 125°F | 10° to 52°C |
| Rel. Humidity | 8 to 80% | |
| Max. Wet Bulb | 80°F | 27°C |

*See sales feature for operation in environment above 90°F (32.2°C).

Notes:

1. Magnetic Stripe Reader (special feature) attaches at a rear cable exit with a 7 foot (2.13 m) provided signal cable. The reader's dimensions are: front 2 1/2 inches (6.4 cm); side 6 inches (15.2 cm); height 3 1/2 inches (6.9 cm).
2. Acoustic Coupler (special feature) attaches at a rear cable exit with a 36-inch (91.4 cm) provided signal cable. The coupler's dimensions are: front 6 inches (15.2 cm); side 10 1/2 inches (26.7 cm); height 5 3/4 inches (14.6 cm)

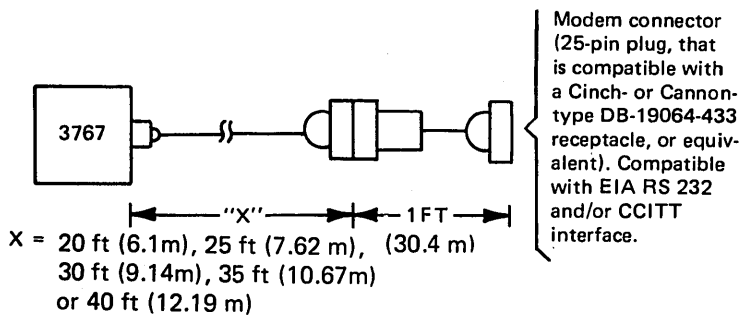
With the Acoustic Coupler feature attached, the ambient room noise level should not exceed 80 dBamb, with impulse noise not greater than 90dB. A normal office environment meets these criteria. When the 3767 is transmitting or receiving, avoid loud sharp noises near the Acoustic Coupler.

SIGNAL CABLES AND CONNECTORS

A 20-foot (6.1m) cable is provided as standard. Different lengths may be specified at the time of the order as follows: 25 feet (7.62m), 30 feet (9.14m), 35 feet (10.67m), 40 feet (12.19m).

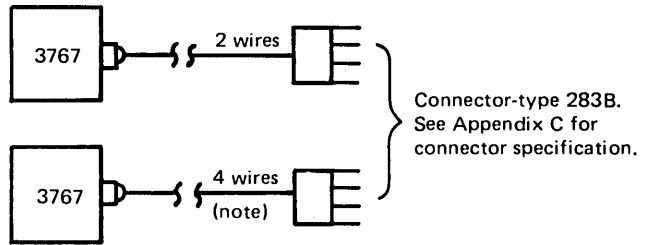
Connectors used for the various modem and line configurations are as follows:

With an External Modem

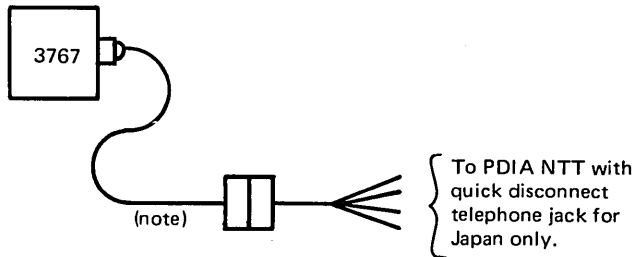
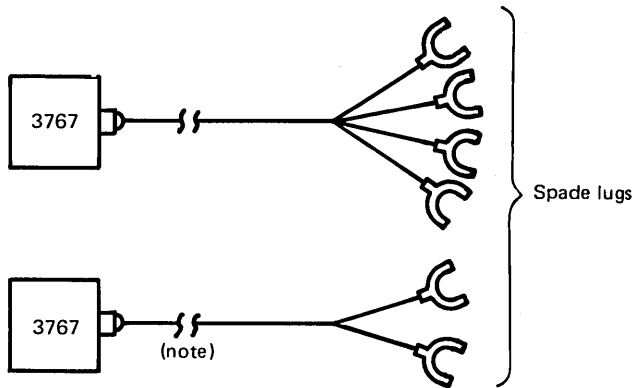


With the IBM Integrated Modem Feature

USA/Canada:



Countries except USA/Canada:



Note: Available for a leased or privately-owned communications line only.

IBM 3770 Data Communication System

CONFIGURATIONS

| Machine Type | Maximum I/O Attachments | | Integrated Modems | | |
|--------------|-------------------------|---------|-------------------|----------|----------|
| | Machine | Feature | 1200 bps | 2400 bps | 4800 bps |
| 3771 | 1 | 0 | Yes | No | No |
| 3773 | 0 | 1 | Yes | No | No |
| 3774 | 3 | 3 | Yes | Yes | No |
| 3775 | 2 | 3 | Yes | Yes | No |
| 3776-1,2 | 2 | 2 | No | Yes | Yes |
| 3776-3,4 | 3 | 3 | No | No | No |
| 3777-1 | 2 | 2 | No | No | No |
| 3777-2 | 3 | 3 | No | No | No |
| 3777-3 | 4 | 3 | No | No | No |
| 3777-4 | 5 | 3 | No | No | No |

The configuration shown is suggested for convenient access to the I/O devices. Any device may occupy any I/O position shown, depending on the customer's preference.

| Attachable To | I/O Feature | | | |
|---------------|---------------------|---------------------|---------|-----------------|
| | 1st Diskette Device | 2nd Diskette Device | Display | Key Pad Numeric |
| 3771 | No | No | No | No |
| 3773 | Std.* | No | No | Yes** |
| 3774 | Yes | Yes | Yes** | Yes** |
| 3775 | Yes | Yes | Yes** | Yes** |
| 3776-1-2 | Yes | Yes | No | No |
| 3776-3-4 | Yes | Yes | Yes | No |
| 3777-1-2 | Yes | Yes | Yes | No |
| 3777-3,4 | Yes | Yes | Yes | No |

* One diskette storage device is standard on the 3773.

** These features are available for programmable models only.

| Attachable To | I/O Machines | | | | | | |
|---------------|-----------------|-----------------|-------|------|------|------|-------|
| | 2502† 3782-2 | 3521† 3782-1 | 3501† | 3784 | 3203 | 3411 | 3262 |
| 3771 | No | Yes†† | Yes†† | No | No | No | No |
| 3773 | No | No | No | No | No | No | No |
| 3774 | Yes | Yes | Yes | Yes | No | No | No |
| 3775 | Yes | Yes | Yes | No | No | No | No |
| 3776-1,2 | Yes | Yes | Yes | No | No | No | No |
| 3776-3,4 | Yes | Yes | No | No | No | Yes | No |
| 3777-1 | Yes†† | No | No | No | Std* | No | No |
| 3777-2 | Yes†† | Yes | No | No | Std* | No | No |
| 3777-3 | Yes†† | Yes | No | No | Std* | Yes | No |
| 3777-4 | Yes†† | Yes | No | No | No | Yes | Yes** |

* 3777 Models 1, 2, and 3 must have a 3203 Printer attached.

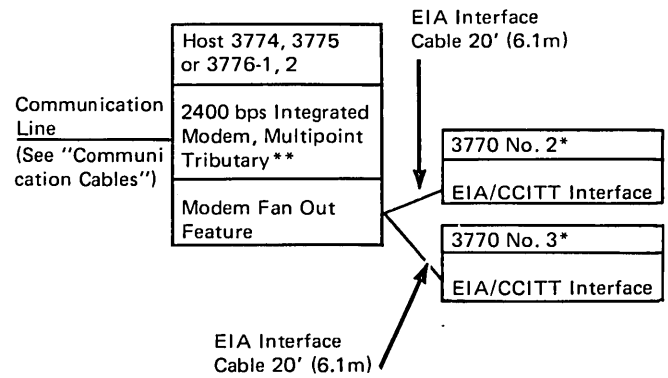
† Only one card reader can be attached. If a 2502 or 3501 Card Reader and a 3521 Card Punch with the Card Read feature are attached, the 3521 Card Read feature can be used only for punch checking.

†† Either a 3501 or a 3521/3782-1 (not both) can be attached to the 3771.

‡‡ A 2502 can be attached directly to the 3777; the 3782-2 is not required. (The 3777 Model 2 requires either the 2502 Card Reader Attachment Feature or the combination of the disk input device and the console display features.)

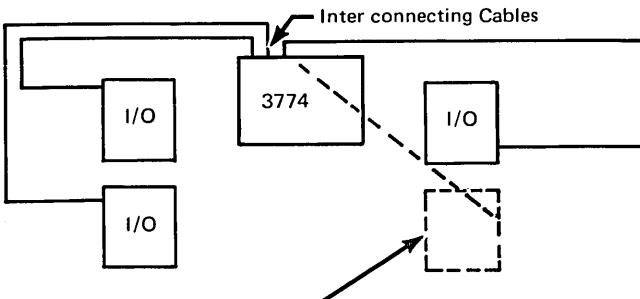
** Two 3262s may be attached.

Modem Fan Out Configuration, Integrated Modem



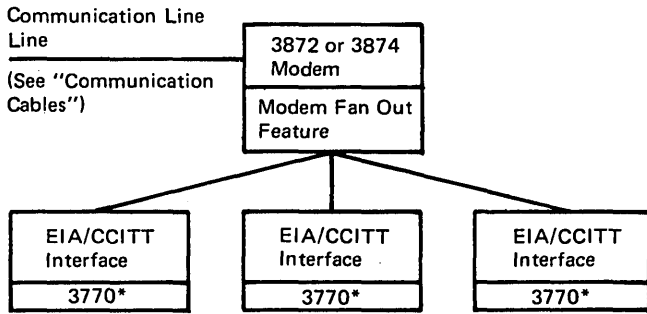
* 3771, 3773, 3774, 3775, or 3776

** Or 4800 bps Integrated Modem, Multipoint Tributary on the 3776.

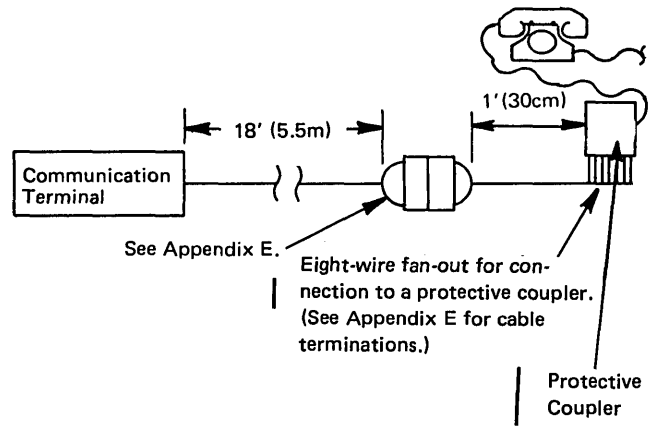


Without raised floor, I/O device should not be placed here because of restricted cable length.

Modem Fan Out with 3872 or 3874



*3771, 3773, 3774, 3775, or 3776

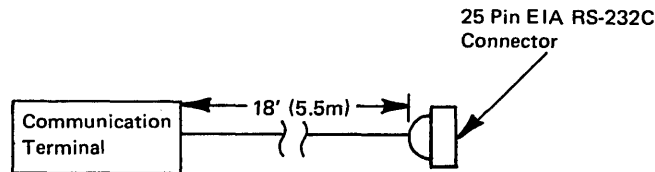


COMMUNICATION CABLES FOR 3771, 3773, 3774, 3775 and 3776-1, 2

For 3777, see "Communication Cables for 3777."
For 3776 Models 3 and 4, see "Communication Cables for 3776 Models 3 and 4."

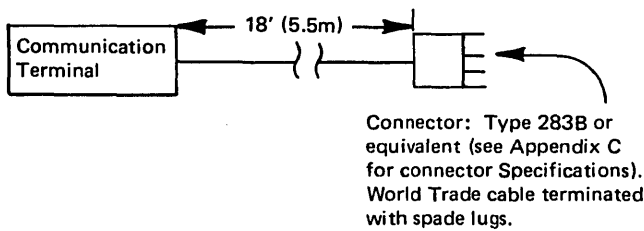
Communication Terminal to Communication Line

- Using external modem, or (with Modem Fan Out feature) EIA/CCITT Interface connection to host terminal:



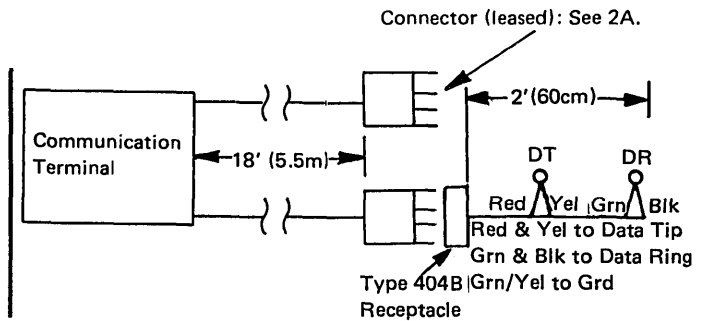
- Using an IBM Integrated Modem feature (not available on 3776-3, 4 or 3777):

- Connecting to Leased or privately owned communication lines:

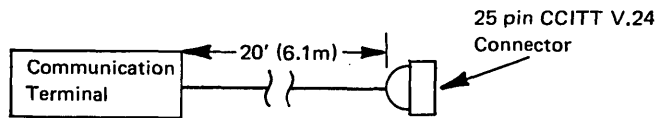


- Connecting to common-carrier switched network through an FCC registered protective coupler (CBS type) or equivalent:

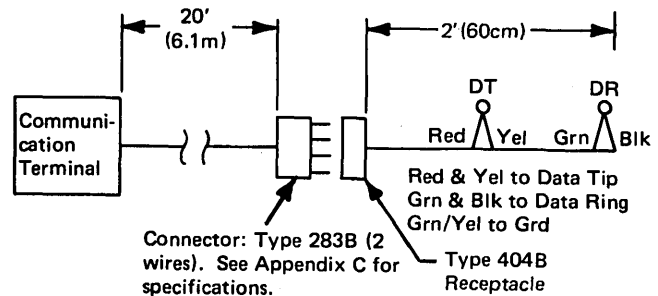
- Switched Network Backup: Connecting to common-carrier switched network through an FCC registered protective coupler (CDT type) or equivalent:



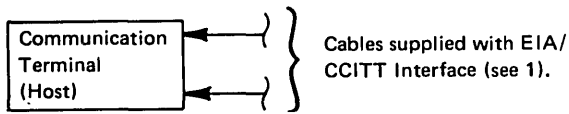
- Connecting to French CADUCEE switched network:



- Connecting to common-carrier switched network with manual answer through an FCC registered protective coupler (CDT type) or equivalent:



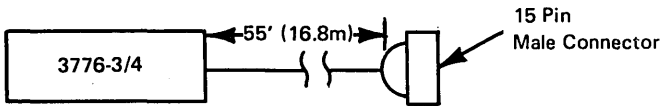
- f. Modem Fan Out feature: 2400 bps or 4800 bps Integrated Modem, Non-Switched. Cable supplied by EIA/CCITT Interface (see 1), Connector compatible with 25 pin EIA RS-232C connector.



WT Switched Network (Dial) Ext Modems

- a. Business machine answer tone required
 (Modem generated if not)
- b. Modem Connection DTR
 CDSTL

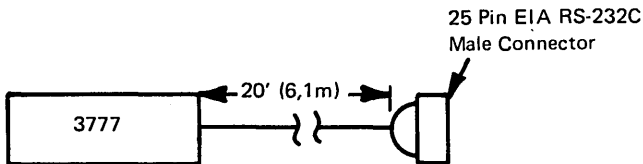
COMMUNICATION CABLES FOR 3776 MODELS 3 AND 4 Data-Phone* Digital Service Attachment



COMMUNICATION CABLES FOR 3777

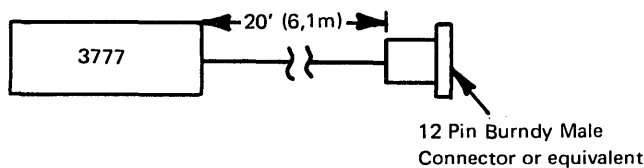
3777-1 or 3777-2

Using External Modem - EIA/CCITT V.24 Interface
 EIA: 2400 – 19,200 bps
 CCITT: 2400–9600 bps

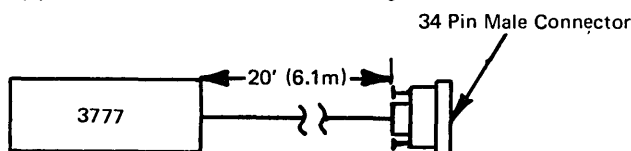


For 19,200 bps Wide Band Interface Operation

- (a) High Speed Digital Interface Connector at 19,200 bps

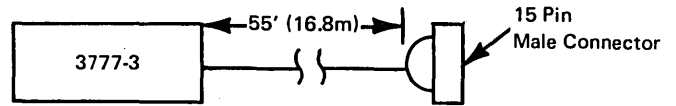


- (b) For CCITT V.35 at 20,400 bps



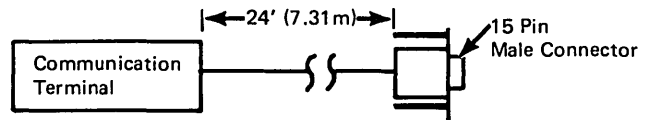
*Trademark of American Telephone and Telegraph Co.

| 3777-3 and 3777-4 Data-Phone* Digital Service Attachment



COMMUNICATION CABLE FOR CCITT X.21 FEATURE

For attachment to CCITT X.21 DCE (Data Circuit-Terminating Equipment) on a non-switched network.
 (3771, 3774, 3775, 3776, 3777-1, 3, 4 using SDLC only)



3770 SYSTEM ENVIRONMENT (except 3777/3203 or 3776/3777 with 3411)

Operating

| | |
|-------------------|------------------------------|
| Temperature | 10° to 40.6°C (50° to 105°F) |
| Relative Humidity | 8% to 80% |
| Maximum Wet Bulb | 27°C (80°F) |

Non-Operating

| | |
|-------------------|----------------------------|
| Temperature | 10° to 52°C (50° to 125°F) |
| Relative Humidity | 8% to 80% |
| Maximum Wet Bulb | 27°C (80°F) |

3777/3203 ENVIRONMENT

Operating

| | |
|-------------------|----------------------------|
| Temperature | 16° to 38°C (60° to 100°F) |
| Relative Humidity | 8 - 80% |
| Maximum Wet Bulb | 23°C (73°F) |

Non-Operating

| | |
|-------------------|----------------------------|
| Temperature | 10° to 43°C (50° to 110°F) |
| Relative Humidity | 8% to 80% |
| Maximum Wet Bulb | 27°C (80°F) |

3776 MODELS 3 and 4/3411 ENVIRONMENT

| 3777 MODELS 3 and 4/3411 ENVIRONMENT

Operating

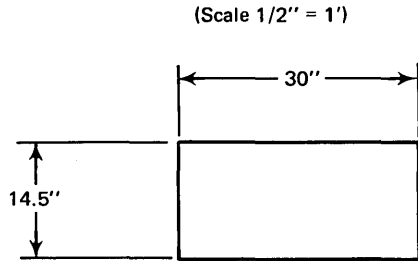
| | |
|-------------------|---------------------------|
| Temperature | 16° to 32°C (60° to 90°F) |
| Relative Humidity | 8 - 80% |
| Maximum Wet Bulb | 23°C (73°F) |

Non-Operating

| | |
|-------------------|----------------------------|
| Temperature | 10° to 43°C (50° to 110°F) |
| Relative Humidity | 8% to 80% |
| Maximum Wet Bulb | 27°C (80°F) |

**IBM 2502 CARD READER MODELS A1 AND A2
(ATTACHES TO 3782 MODEL 2)
IBM 2502 CARD READER MODELS A1, A2, AND A3
(ATTACHES TO 3776 MODELS 3 AND 4 AND
3777 COMMUNICATION TERMINAL**

Plan View



| Inches | Centimeter |
|--------|------------|
| 14.5 | 37 |
| 16 | 41 |
| 30 | 76 |

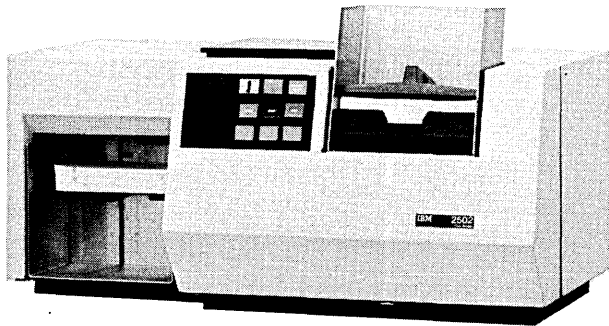


Figure 3770-1. IBM 2502 Card Reader Models A1, A2, and A3

Dimensions

| | Front | Side | Height |
|-------------|-------|------|--------|
| Inches | 30 | 14.5 | 16 |
| Centimeters | 76 | 37 | 41 |

Service Clearances

Applicable only in a system configuration. See the 3782 Card Attachment Unit Model 2 or the 3777 Communication Terminal.

Weight

110 lb (58 kg)

Heat Output

480 BTU/hr (120 kcal/hr)

Air Flow - Convection only

Environmental Requirements:

See "3770 System Environment"

Power Requirements:

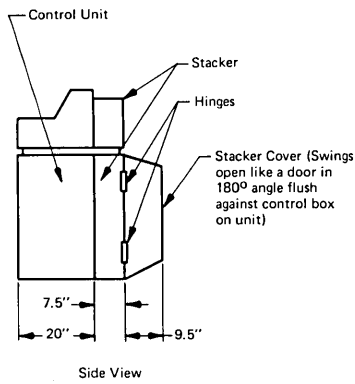
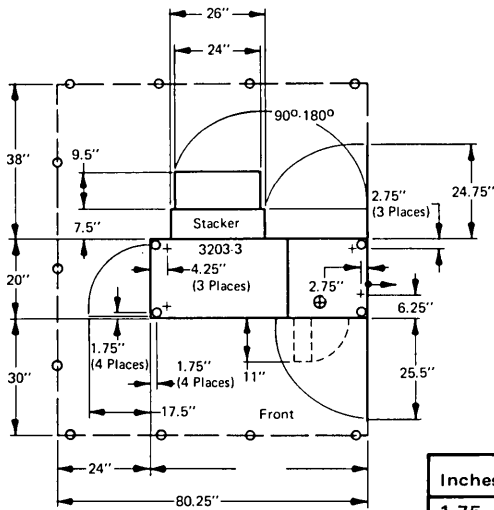
| | | | |
|------|----------|--|----------|
| | 60 hertz | | 50 hertz |
| kVA* | 0.2 | | 0.2 |

*Power is provided from the 3782 Model 2 or the 3777. The 2502 must be ordered for 115V operation with all 60Hz 3782s or 3777s, or for 220V operation with all 50Hz 3782s or 3777s.

IBM provides cables to attach the 2502 to the 3782 Model 2 or the 3777.

3203 PRINTER MODEL 3 – SPECIFICATIONS (ATTACHES TO 3777-1, 2, 3 COMMUNICATION TERMINALS)

PLAN VIEW



| Inches | Centimeters |
|--------|-------------|
| 1.75 | 4,5 |
| 2.75 | 7 |
| 4.25 | 11 |
| 6.25 | 16 |
| 7.5 | 19 |
| 9.5 | 14 |
| 11 | 28 |
| 17.5 | 45 |
| 20 | 51 |
| 24 | 61 |
| 24.75 | 63 |
| 25.5 | 65 |
| 26 | 66 |
| 30 | 76 |
| 38 | 97 |
| 46.25 | 117 |
| 56.25 | 143 |
| 80.25 | 204 |

Dimensions

| | Front | Side | Height |
|-------------|-------|------|--------|
| Centimeters | 143 | 51 | 117 |
| Inches | 56.25 | 20 | 46.25 |

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|------|-------|------|
| Centimeters | 76 | 97 | 0 | 61 |
| Inches | 30 | 38 | 0 | 24 |

Weight

390 kg 860 lbs.

Heat Output

1,600 kcal/hr 6200 BTU/hr

Airflow

10 m³/min 350 cfm

Environment

See "3777/3203 Environment"

Power Requirements:

Note: Different from 3777.

| | 60 Hz | | | 50 Hz* | | | | |
|--------------------|-----------------|-----|-----|--------|-----|-----|-----|-----|
| Volts | 200* | 208 | 230 | 200 | 220 | 235 | 380 | 408 |
| kVa | 1.9 | 1.9 | 2.1 | 1.9 | 1.9 | 2.1 | 2.2 | 2.3 |
| Phase | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Branch | | | | | | | | |
| Circuit(A) | - | 15 | 15 | - | - | - | - | - |
| Max. Cont. | | | | | | | | |
| Load(a) | 5.5 | 5.3 | 5.3 | 5.5 | 5.0 | 5.2 | 3.4 | 3.3 |
| Plug Type† | - | B | B | - | - | - | - | - |
| Power Cord | | | | | | | | |
| Style†† | G7 | - | - | G7 | G7 | G7 | G8 | G8 |
| Power Cord Length: | 14 ft. (4.27 m) | | | | | | | |

*World Trade only

† See Appendix A (Figure A-1) for power plug description.

†† See Appendix B for power cord description.

Note: Signal Cables are provided to attach the 3203 to the 3777. The cables are 20 feet long (6.1 m).

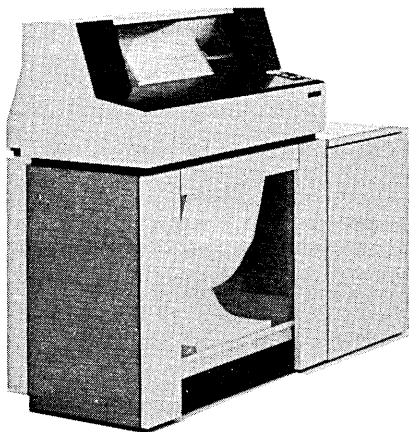


Figure 3770-2. IBM 3203 Printer Model 3

**3411 MAGNETIC TAPE UNIT AND CONTROL MODEL 1
(ATTACHES TO 3776 MODELS 3 AND 4 AND 3777
MODELS 3 AND 4)**

Plan View

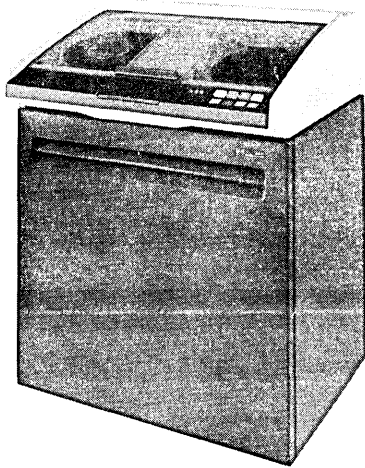
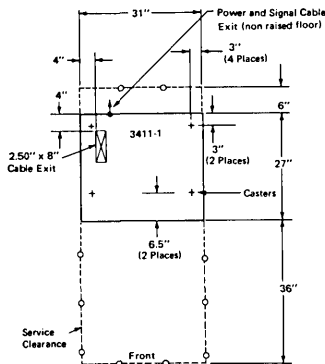
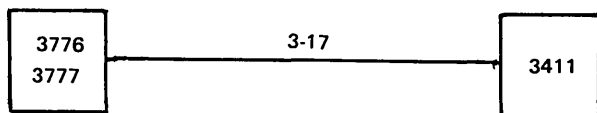


Figure 3770-4. IBM 3411 Magnetic Tape Unit and Control Model 1.

Cables and Cabling Schematic

3411 Signal and Emergency Power Off Cable – order cable group 3-17 (a System/3 group) but for system 3770 usage (length variable) Cable Group 3-17 MUST be ordered separately.

| Group No. | No. of Cables | From | To | Max. Length |
|-----------|---------------|------|-----------|----------------|
| 3-17 | 3 | 3411 | 3776/3777 | 26 ft. (7.9 m) |



SPECIFICATIONS

Dimensions:

| | Front | Side | Height |
|--------|-------|------|--------|
| Inches | 31 | 27 | 39 |
| (cm) | (79) | (69) | (99) |

Service Clearances:

| | Front | Rear | Right | Left |
|--------|-------|------|-------|------|
| Inches | 36 | 6 | 0* | 0* |
| (cm) | (91) | (15) | (0*) | (0*) |

Weight: 325 lb (150 kg)

Heat Output: 554 kcal/hr 2200 BTU/hr

Air Flow: 200 cfm (6 m³/min)

Environment Operating

| | |
|-------------------|---------------------------|
| Temperature | 16° to 32°C (60° to 90°F) |
| Relative Humidity | 8-80% |
| Maximum Wet Bulb | 23°C (73°F) |

Environment Non-Operating

| | |
|-------------------|----------------------------|
| Temperature | 10° to 43°C (50° to 110°F) |
| Relative Humidity | 8% to 80% |
| Maximum Wet Bulb | 27°C (80°F) |

Power Requirements

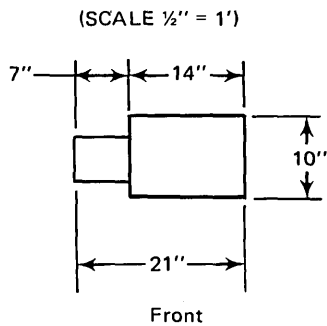
| | 60 Hz | | | 50 Hz | | |
|--------------------------------|---------|-----|-----|-------|-----|---------|
| | +++ 200 | 208 | 230 | 200 | 220 | +++ 235 |
| Volts | 200 | 208 | 230 | 200 | 220 | 235 |
| kVA | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| Phase | 1 | 1 | 1 | 1 | 1 | 1 |
| Branch Circuit (A) | - | 15 | 15 | - | - | - |
| Max. Cont. Load (A) | 6 | 5.8 | 5.2 | 6 | 5.4 | 5.1 |
| Plug Type ⁺ | - | C | C | - | - | - |
| Power Cord Style ⁺⁺ | A7 | - | - | A7 | A7 | A7 |

Power Cord Length 11 ft. (3.4 m)

- + See Appendix A (Figure A-1) for power plug description.
- ++ See Appendix B for power cord description.
- +++ World Trade only.

IBM 3501 CARD READER (ATTACHES TO 3289 MODEL 3, 3771, 3774, 3775 OR 3776 MODELS 1 AND 2)

Plan View



| Millimeters | Inches |
|-------------|--------|
| 180 | 7 |
| 250 | 10 |
| 360 | 14 |
| 530 | 21 |

Dimensions

| | Front | Side | Height |
|-------------|-------|------|--------|
| Millimeters | 530 | 250 | 250 |
| (Inches) | 21 | 10 | 10 |

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|------|-------|------|
| Millimeters | * | * | * | * |
| (Inches) | * | * | * | * |

Minimum of 150m (6 in) clearance recommended above and to the left of the 3501 for operator access. Unit can be moved for servicing.

Weight

11kg (25 lbs.)

Heat Output

75 kcal/hr (300 BTU/hr)

Air Flow

Negligible

Power Requirements

kVA 0.3
Phase 1

Powered from 3289 Model 3 3771, 3774, 3775, or 3776 Models 1 and 2.

The 3501 must be ordered for 115 V for operation with all 60 Hz terminals or for 220 V for operation with all 50 Hz terminals.

Operating Environment

Temperature 10° to 40.6°C (50° to 105°F)
Relative Humidity 8% to 80%
Maximum Wet Bulb 27°C (80°F)

Non-Operating

Temperature 10° to 52°C (50° to 125°F)
Relative Humidity 8% to 80%
Maximum Wet Bulb 27°C (80°F)

Cables

IBM provides signal and power cables to attach 3501 to 3289 Model 3, 3771, 3774, 3775, or 3776 Model 1 and 2. Length: 3.5 m (10 Ft.).

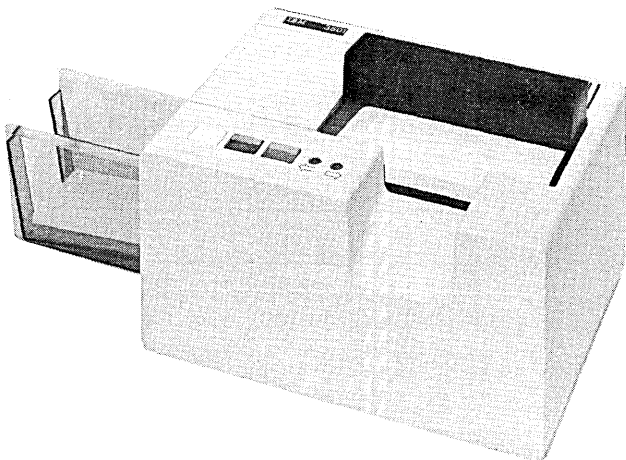


Figure 3770-5. IBM 3501 Card Reader

IBM 3521 CARD PUNCH (ATTACHED TO 3782 MODEL 1)

Plan View

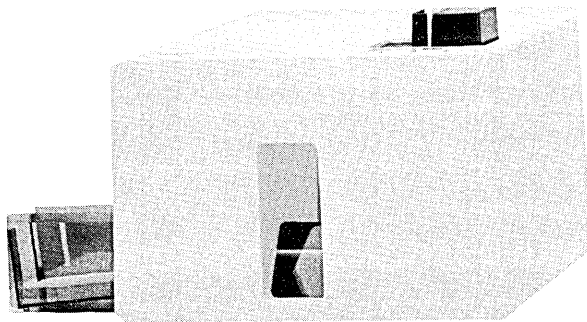
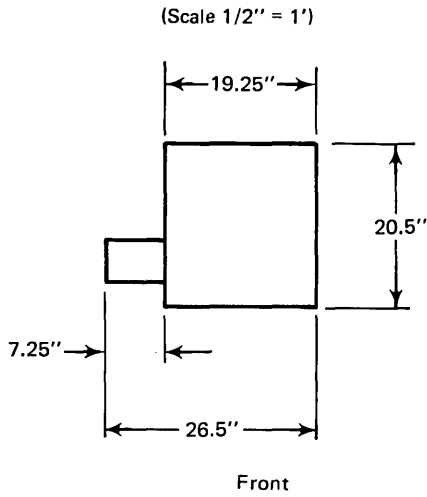


Figure 3770-6. IBM 3521 Card Punch

Dimensions

| | Front | Side | Height |
|-------------|-------|------|--------|
| Millimeters | 670 | 520 | 370 |
| Inches | 26.5 | 20.5 | 14.5 |

Service Clearances

Applicable only in a system configuration. See the 3782 Card Attachment Unit Model 1.

Weight

34 kg (75 lb)

Heat Output

230 kcal/hr. (900 BTU/hr.)

Air Flow

Environmental Requirements:

See "3770 System Environment"

Power Requirements

kVA 0.5

Power is provided from the 3782 Model 1. The 3521 must be ordered for 115 V operation with all 60 Hz 3782s, or for 220 V operation with all 50 Hz 3782s.

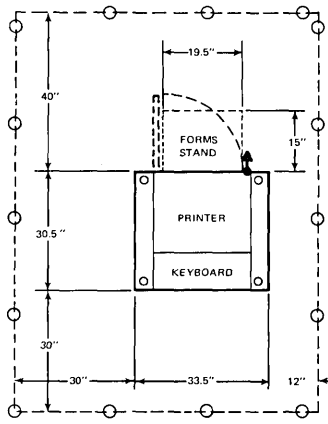
Cables

Cables are IBM provided for attachment of 3521 to 3782 Model 1

| Millimeters | Inches |
|-------------|--------|
| 185 | 7.25 |
| 370 | 14.5 |
| 490 | 19.25 |
| 520 | 20.5 |
| 670 | 26.5 |

IBM 3771 COMMUNICATION TERMINAL MODELS 1, 2, AND 3 – SPECIFICATIONS

Plan View

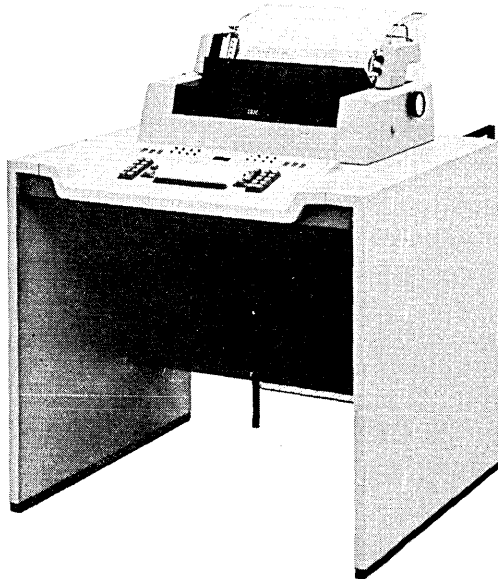


Front

| Inches | Centimeters |
|--------|-------------|
| 12 | 30 |
| 15 | 38 |
| 19.5 | 49 |
| 30 | 76 |
| 30.5 | 77.5 |
| 33.5 | 85 |
| 38.12 | 97 |
| 40 | 102 |

| | | | | | |
|--------------------|--------------------------------|--------|--------|------|--|
| Dimensions | Front | Side** | Height | | |
| Inches | 33.5 | 30.5 | 38.12 | | |
| Centimeters | 85 | 77.5 | 97 | | |
| Service Clearances | Front | Rear | Right | Left | |
| Inches | 30 | 40 | 12 | 30 | |
| Centimeters | 76 | 102 | 30 | 76 | |
| Weight | 150 lbs. 68 kg | | | | |
| Heat Output | 1100 BTU/hr 277 kcal/hr | | | | |
| Air Flow | 75 cfm 2,1 m ³ /min | | | | |
| Power Requirements | | | | | |

| | 60 Hz + | | | | 50 Hz + | | | | | |
|---------------------|---------------|-----|-----|--------|---------|-----|-------|-----|-----|-----|
| Volts | 100 | 115 | 200 | 220 | 100 | 110 | 123.5 | 200 | 220 | 235 |
| kVA | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| Phase | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Branch | | | | | | | | | | |
| Circuit (A) | - | 15 | - | - | - | - | - | - | - | - |
| Max. Cont. Load (A) | 6.0 | 5.4 | 3.0 | 2.7 | 6.0 | 5.5 | 4.9 | 3.0 | 2.7 | 2.6 |
| Plug Type* | - | H,J | - | - | - | - | - | - | - | - |
| Power Cord Style | G6 | - | G6 | A1 | G6 | A1 | A1 | G6 | A1 | A1 |
| Power Cord Length | 8 ft. (2.44m) | | | 2,44 m | | | | | | |



| *See Appendix A (Figure A-1) for power plug description.
 **Side dimension reduced to 29.5" (74.93 cm) by removing keyboard cover.

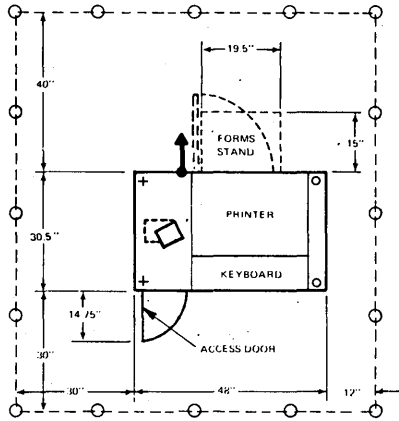
+ World Trade Only

Note: A mounting surface will be necessary for cord attached *Operator ID Reader*. Cord is 6 ft. long. Unit is approximately 5¾" (14.6 cm) x 2½" (6.35 cm) x 2" (5.1 cm) high and weighs 2 lbs. (0.91 kg).

| Figure 3770-7. IBM 3771 Communication Terminal (With Variable Width Forms Tractor)

IBM 3773 COMMUNICATION TERMINAL MODELS 1, 2, AND 3 AND P1, P2, AND P3 – SPECIFICATIONS

Plan View



Front

| Inches | Centimeters |
|--------|-------------|
| 12 | 30 |
| 14.75 | 37 |
| 15 | 38 |
| 19.5 | 49 |
| 30 | 76 |
| 30.5 | 77,5 |
| 38.12 | 97 |
| 40 | 102 |
| 48 | 122 |
| 62 | 157 |

Dimensions

| | Front | Side*** | Height* |
|-------------|-------|---------|---------|
| Inches | 48 | 30.5 | 38.12 |
| Centimeters | 122 | 77,5 | 97 |

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|------|-------|------|
| Inches | 30 | 40 | 12 | 30 |
| Centimeters | 76 | 102 | 30 | 76 |

Weight

200 lbs. 90 kg

Heat Output

1050 BTU/hr 260 kcal/hr

Air Flow

75 cfm 2,1 m³/min

Power Requirements

| | 60 Hz + | | | | 50 Hz + | | | | | |
|---------------------|---------------|-----|-----|-----|---------|-----|-------|-----|-----|-----|
| Volts | 100 | 115 | 200 | 220 | 100 | 110 | 123.5 | 200 | 220 | 235 |
| kVA | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| Phase | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Branch | | | | | | | | | | |
| Circuit (A) | - | 15 | - | - | - | - | - | - | - | - |
| Max. Cont. Load (A) | 4.0 | 3.3 | 2.0 | 1.8 | 4.0 | 3.6 | 3.2 | 2.0 | 1.8 | 1.7 |
| Plug Type** | - | H,J | - | - | - | - | - | - | - | - |
| Power Cord Style | G6 | - | G6 | A1 | G6 | A1 | A1 | G6 | A1 | A1 |
| Power Cord Length | 8 ft. (2.44m) | | | | | | | | | |

*Desk top height is 29.12" (74 cm).

**See Appendix A (Figure A-1) for power plug description.

***Side dimension reducible to 29.5" (74.93 cm) by removal of keyboard cover.

+ World Trade Only

Note: A mounting surface will be necessary for cord attached attached *Operator ID Reader*. Cord is 6 ft. long.

Unit is approximately 5¾" (14.6 cm) x 2½" (6.35 cm) x 2" (5.1 cm) high and weighs 2 lbs. (0.91 kg).

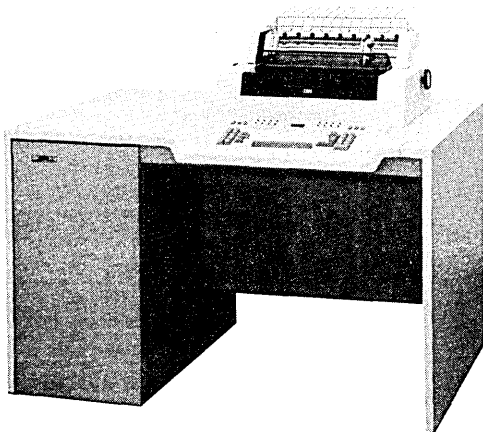
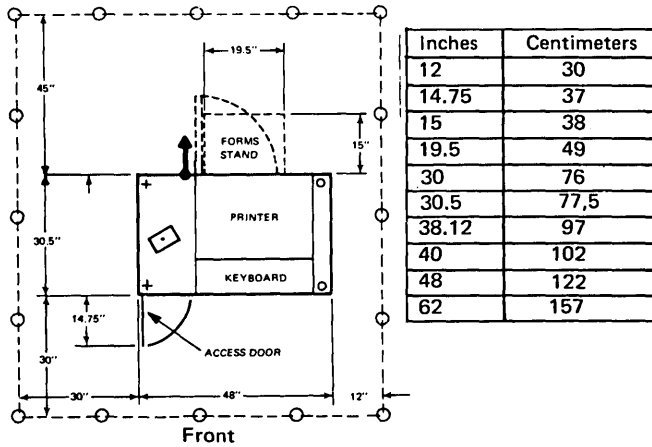


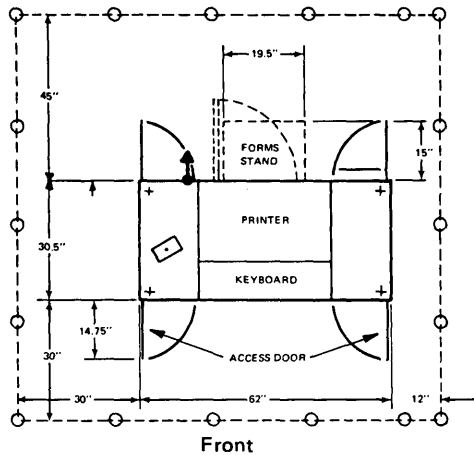
Figure 3770-8. IBM 3773 Communication Terminal (with Variable Width Forms Tractor)

**IBM 3774 COMMUNICATION TERMINAL
MODELS 1 AND 2, P1 AND P2 – SPECIFICATIONS**

Plan View



Plan View w/Second Diskette Storage



* Display on Models P1 and P2 only.

Dimensions

| | Front* | Side**** | Height** |
|-------------|--------|----------|----------|
| Inches | 48 | 30.5 | 38.12 |
| Centimeters | 122 | 77.5 | 97 |

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|------|-------|------|
| Inches | 30 | 40 | 12 | 30 |
| Centimeters | 76 | 102 | 30 | 76 |

Weight, W/Single Diskette Storage

425 lbs. 193 kg

Weight, W/Second Diskette Storage

500 lbs. 227 kg

Heat Output

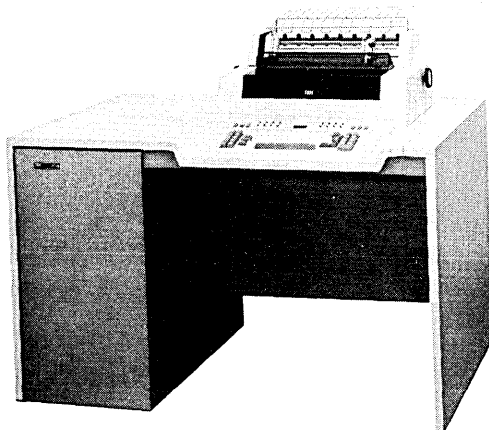
2100 BTU/hr 529 kcal/hr

Air Flow

150 cfm 4.2 m³/min

Power Requirements

| | 60 Hz + | | | | 50 Hz + | | | | | |
|---------------------|---------------|-----|-----|-----|---------|------|-------|-----|-----|-----|
| | 100 | 115 | 200 | 220 | 100 | 110 | 123.5 | 200 | 220 | 235 |
| Volts | 100 | 115 | 200 | 220 | 100 | 110 | 123.5 | 200 | 220 | 235 |
| kVA | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |
| Phase | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Branch | | | | | | | | | | |
| Circuit (A) | - | 15 | - | - | - | - | - | - | - | - |
| Max. Cont. Load (A) | 10.7 | 9.3 | 5.8 | 4.8 | 10.7 | 10.0 | 8.5 | 5.8 | 4.8 | 4.5 |
| Plug Type*** | - | H,J | - | - | - | - | - | - | - | - |
| Power Cord Style | G6 | - | G6 | A1 | G6 | A1 | A1 | G6 | A1 | A1 |
| Power Cord Length | 8 ft. (2.44m) | | | | | | | | | |



*Dimension shown is for machines without second Diskette Storage. Front dimension for machines with this feature is 62" (157 cm). The 2nd Diskette can be unbolted, if necessary, to reduce length during placement.

**Desk top height is 29.12" (74 cm).

***See Appendix A (Figure A-1) for power plug description.

****Side dimension reducible to 29.5" (74.9 cm) by removal of keyboard cover
+ World Trade Only

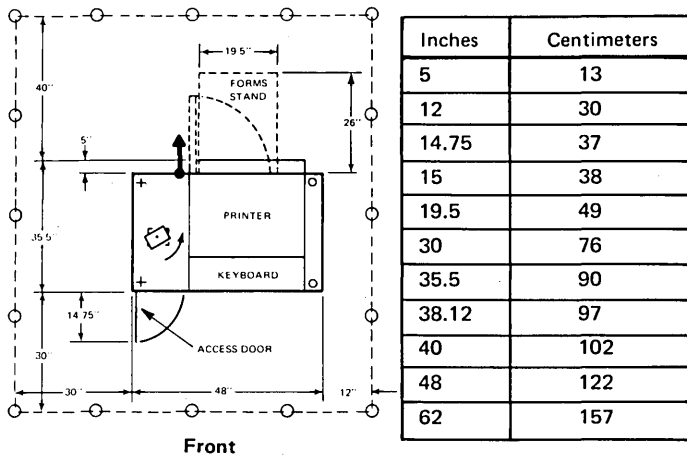
Note:

1. Clearance to floor is 0.75" (1.9 cm). Avoid carpet which might block air flow from bottom of machine.

Figure 3770-9. IBM 3774 Communications Terminal (With Variable Width Forms Tractor)

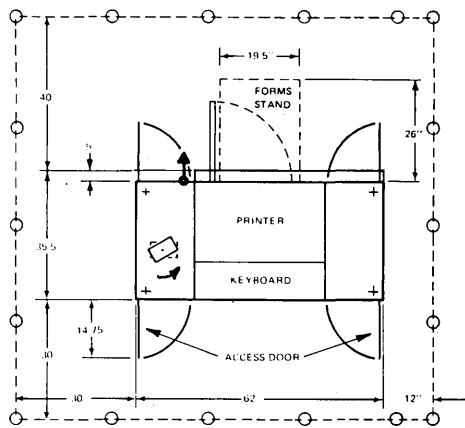
**IBM 3775 COMMUNICATION TERMINAL
MODEL 1 OR P1 - SPECIFICATIONS**

Plan View



Front

Plan View - W/Second Diskette Storage



Front

* Display on 3775 Model P1 only.

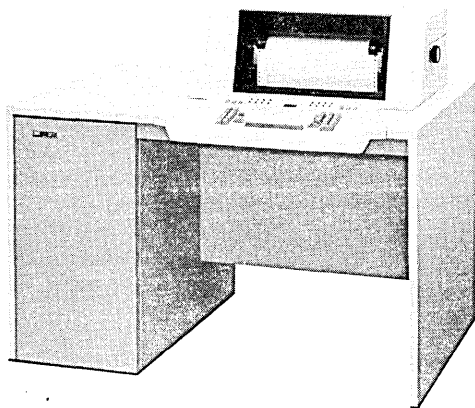


Figure 3770-10. IBM 3775/3776 Communication Terminal

Dimensions

| | Front* | Side**** | Height** | |
|---|-------------------------|----------|----------|------|
| Inches | 48 | 35.5 | 38.12 | |
| Centimeters | 122 | 90 | 97 | |
| Service Clearances | | | | |
| | Front | Rear | Right | Left |
| Inches | 30 | 40 | 12 | 30 |
| Centimeters | 76 | 102 | 30 | 76 |
| Weight W/Single Diskette Storage | | | | |
| 500 lbs. | 227 kg | | | |
| Weight W/Second Diskette Storage | | | | |
| 575 lbs. | 261 kg | | | |
| Heat Output | | | | |
| 2200 BTU/hr | 560 kcal/hr | | | |
| Air Flow | | | | |
| 150 cfm | 4.2 m ³ /min | | | |

Power Requirements

| | 60 Hz + | | | | 50 Hz + | | | | | |
|---------------------|---------------|------|-----|-----|---------|------|-------|-----|-----|-----|
| | 100 | 115 | 200 | 220 | 100 | 110 | 123.5 | 200 | 220 | 235 |
| Volts | 100 | 115 | 200 | 220 | 100 | 110 | 123.5 | 200 | 220 | 235 |
| kVA | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| Phase | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Branch | | | | | | | | | | |
| Circuit (A) | - | 15 | - | - | - | - | - | - | - | - |
| Max. Cont. Load (A) | 12.3 | 10.7 | 6.1 | 5.5 | 12.3 | 10.9 | 10.0 | 6.1 | 5.5 | 5.2 |
| Plug Type*** | - | H,J | - | - | - | - | - | - | - | - |
| Power Cord Style | G6 | - | G6 | A1 | G6 | A1 | A1 | G6 | A1 | A1 |
| Power Cord Length | 8 ft. (2.44m) | | | | | | | | | |

*Dimension shown is for machines without second Diskette Storage. Front dimension for machines with this feature is 62" (158 cm). The 2nd Diskette can be unbolted, if necessary, to reduce length during placement.

**Desk top height is 29.12" (74 cm).

***See Appendix A (Figure A-1) for power plug description.

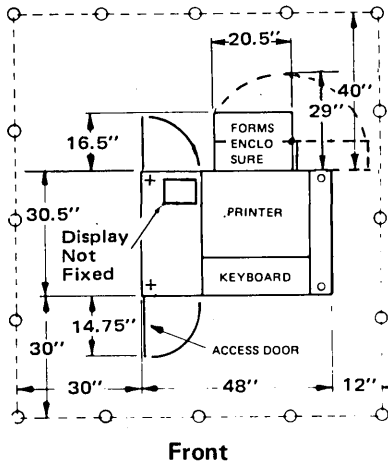
****Side dimension reducible to 29.5" (74.9 cm) by removal of keyboard cover and acoustic hood.
+ World Trade Only

Note:

Clearance to floor is 0.75" (1.9 cm). Avoid carpet which might block airflow from bottom of machine.

IBM 3776 COMMUNICATION TERMINAL MODELS 1, 2, 3, AND 4

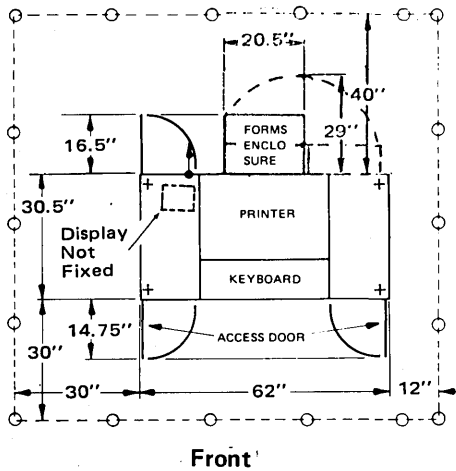
Plan View



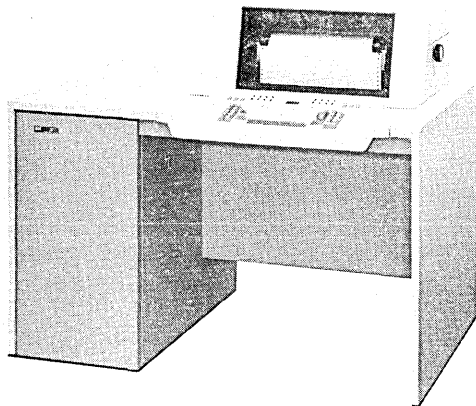
| Inches | Centimeters |
|--------|-------------|
| 12 | 30 |
| 14.75 | 37 |
| 16.5 | 42 |
| 20.5 | 52 |
| 30 | 76 |
| 30.5 | 76 |
| 38.12 | 97 |
| 40 | 102 |
| 48 | 122 |
| 62 | 157 |

Front

Plan View - W/Second Diskette Storage



Front



Dimensions

| | Front* | Side*** | Height** |
|-------------|--------|---------|----------|
| Inches | 48 | 116 | 38.12 |
| Centimeters | 122 | 45.5 | 97 |

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|------|-------|------|
| Inches | 30 | 40 | 12 | 30 |
| Centimeters | 76 | 102 | 30 | 76 |

Weight W/Single Diskette Storage****

500 lbs 227 kg

Weight W/Second Diskette Storage****

600 lbs. 272 kg

Heat Output

2500 BTU/hr 636 kcal/hr

Air Flow

150 cfm 4.2 m³/min

Power Requirements

| | 60 Hz | | | | 50 Hz | | | | | |
|---------------------|-------|------|-----|-----|-------|------|-------|-----|-----|-----|
| | +++ | +++ | +++ | +++ | +++ | +++ | +++ | +++ | +++ | |
| Volts | 100 | 115 | 200 | 220 | 100 | 110 | 123.5 | 200 | 220 | 235 |
| kVA | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| Phase | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Branch | | | | | | | | | | |
| Circuit(A) | - | 15 | - | - | - | - | - | - | - | - |
| Max. Cont. Load (A) | 12.3 | 10.7 | 6.1 | 5.5 | 12.4 | 10.8 | 10.0 | 6.1 | 5.5 | 5.2 |
| Plug Type+ | - | HJ | - | - | - | - | - | - | - | - |
| Power Cord Style++ | G6 | - | G6 | A1 | G6 | A1 | A1 | G6 | A1 | A1 |

Power Cord Length: 8 ft. (2.44 m)

*Dimension shown is for machines with one diskette storage device. Front dimension for machines with two diskette storage devices is 157 cm (62"). The second diskette device can be unbolted, if necessary, to reduce length during placement.

**Desk top height is 74 cm (29.12")

***Side dimension reducible to 74.9 cm (29.5") by removal of keyboard cover and forms enclosure

****Excluding forms enclosure.

+See Appendix A (Figure A-1) for power plug description.

++See Appendix B for power cord description.

+++World Trade only.

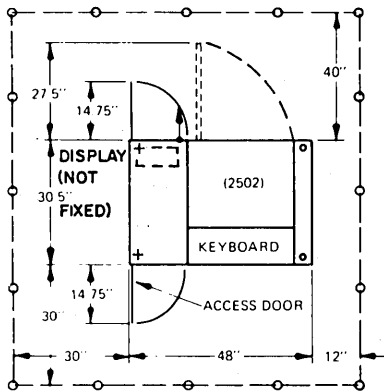
Note:

Clearance to floor is 0.75" (1.9 cm). Avoid carpet which might block airflow from bottom of machine.

Figure 3770-11. IBM 3776 Communication Terminal

IBM 3777 COMMUNICATION TERMINAL MODELS 1, 2, 3, and 4

Plan View



Front

| Inches | Centimeters |
|--------|-------------|
| 12 | 30 |
| 14.75 | 37 |
| 15 | 38 |
| 27.5 | 70 |
| 30 | 76 |
| 30.5 | 77.5 |
| 40 | 102 |
| 45.12 | 115 |
| 45.5 | 116 |
| 48 | 122 |
| 62 | 157 |

Dimensions

| | Front* | Side*** | Height** |
|-------------|--------|---------|----------|
| Inches | 62 | 30.5 | 45.12 |
| Centimeters | 157 | 77.5 | 115 |

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|------|-------|------|
| Inches | 30 | 40 | 12 | 30 |
| Centimeters | 76 | 102 | 30 | 76 |

‡ Weight W/Single Diskette Storage

179 kg 395 lbs.

‡ Weight W/Second Diskette Storage

220 kg 495 lbs.

Heat Output

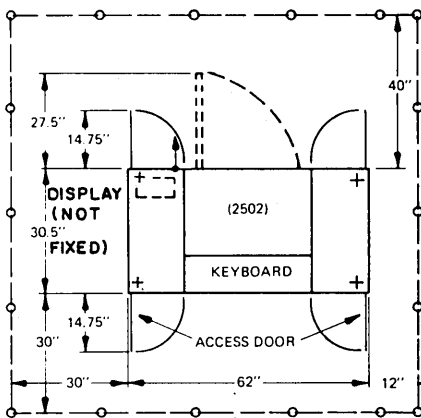
916 kcal/hr 3600 BTU/hr****

Air Flow

5.88 m³/min 210 cfm

Environment: See "3777/3203 Environment".

Plan View - W/Second Diskette Storage



Power Requirements

Note: Different from 3203.

| | ††† 60 Hz ††† ††† | | | | ††† 50 Hz | | | | | |
|--------------------|-------------------|------|-----|-----|-----------|------|-------|-----|-----|-----|
| | 100 | 115 | 200 | 220 | 100 | 110 | 123.5 | 200 | 220 | 235 |
| Volts | 100 | 115 | 200 | 220 | 100 | 110 | 123.5 | 200 | 220 | 235 |
| kVA | 1.6 | 1.7 | 1.7 | 1.7 | 1.6 | 1.6 | 1.7 | 1.7 | 1.7 | 1.8 |
| Phase | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Branch | | | | | | | | | | |
| Circuit(A) - | 20 | - | - | - | - | - | - | - | - | - |
| Max. Cont. Load(A) | 16.0 | 14.5 | 8.5 | 7.8 | 16.0 | 15.0 | 13.7 | 8.4 | 7.7 | 7.5 |
| Plug Type† | - | M,N | - | - | - | - | - | - | - | - |
| Power Cord Style†† | A1 | - | G6 | G6 | A1 | A1 | A1 | G6 | G6 | G6 |

Power Cord Length: 8 ft. (2.44 m)

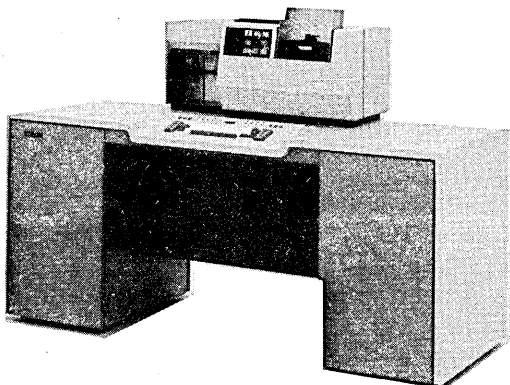


Figure 3770-12. IBM 3777 Communication Terminal (with 2502 Card Reader)

*Dimension shown is for machines with two diskette storage devices. Front dimensions for machines with one diskette. Storage device is 122 cm (48"). The second diskette device can be unbolted, if necessary to reduce length during placement.

**Dimension shown includes 2502 Card Reader (optional I/O attachment). Desk top height of the 3777 is 74 cm (29.12").

***Side dimension reducible to 74.9 cm (29.5") by removing keyboard cover.

****Heat output is 4500 BTU/hr (1135 kcal/hr with 2502).

† See Appendix A (Figure A-1) for power plug description.

†† See Appendix B for power cord description.

††† World Trade only

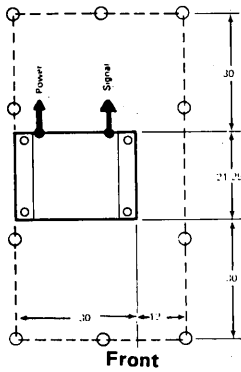
‡ Weight does not include the 2502 which weighs 49.9 kg (110 lbs).

Note:

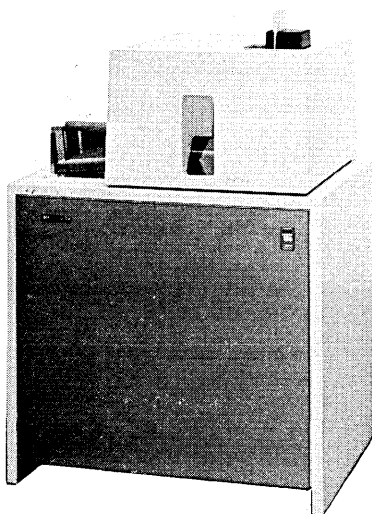
Clearance to floor is 0.75" (1.9 cm). Avoid carpet which might block airflow from bottom of machine.

**IBM 3782 CARD ATTACHMENT UNIT, MODEL 1, WITH
3521 CARD PUNCH (ATTACHES TO 3289 MODEL 3,
3771, 3774, 3775, 3776, OR 3777 MODEL 2, 3, AND 4)**

Plan View



| Millimeters | Inches |
|-------------|--------|
| 300 | 12 |
| 540 | 21.25 |
| 740 | 29.12 |
| 760 | 30 |
| 1100 | 43.5 |



**Figure 3770-13. IBM 3782 Card Attachment Unit
Model 1 with 3521 Card Punch**

Dimensions

| | Front | Side | Height |
|-------------|-------|-------|--------|
| Millimeters | 760 | 540 | 1100 |
| Inches | 30 | 21.25 | 43.5 |

Overall height, including 3521. 3782 height is 740mm (29.12in.).

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|------|-------|------|
| Millimeters | 760 | 760 | 300 | - |
| Inches | 30 | 30 | 12 | - |

Weight

61 kg (135 lbs.)

Heat Output

420 kcal/h (1650 BTU/h)

Air Flow

Operating Environment

Temperature 10° to 40.6°C (50° to 105°F)
Relative Humidity 8% to 80%
Maximum Wet Bulb 27°C (80°F)

Non-Operating

Temperature 10° to 52°C (50° to 125°F)
Relative Humidity 8% to 80%
Maximum Wet Bulb 27°C (80°F)

Power Requirements

The 3521 is powered from the 3782-1. The 3521 must be ordered for 115V for operation with 60Hz 3782 or for 220V for operation with 50Hz 3782.

| | 60Hz | | | | 50Hz | | | | | |
|---------------------|------|-----|-----|-----|------|-----|-------|-----|-----|-----|
| | 100 | 115 | 200 | 220 | 100 | 110 | 123.5 | 200 | 220 | 235 |
| Volts | 100 | 115 | 200 | 220 | 100 | 110 | 123.5 | 200 | 220 | 235 |
| kVA | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| Phase | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Branch | | | | | | | | | | |
| Circuit (A) | - | 15 | - | - | - | - | - | - | - | - |
| Max. Cont. Load (A) | 6.9 | 6.0 | 3.5 | 3.2 | 6.9 | 6.3 | 5.6 | 3.5 | 3.2 | 3.0 |
| Plug Type | - | H.J | - | - | - | - | - | - | - | - |

See Appendix A (Figure A-1) for description of power plugs.

Power Cord

Style G6 - G6 A1 || G6 A1 A1 G6 A1 A1

See Appendix B for description of power cords.

Power Cord Length: 2.44 m (8 Ft.)

+World Trade Only

Signal Cables: IBM provided for attachment of 3782 to 3289

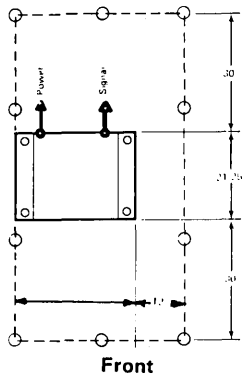
Model 3, 3771, 3774, 3775, 3776 or 3777.

Basic Machine cable length: 3.5 m (10 Ft.)

Read/Print Feature Cable length: 3.5 m (10 Ft.)

**IBM 3782 CARD ATTACHMENT UNIT, MODEL 2 WITH
2502 CARD READER (ATTACHES TO 3289 MODEL 3,
3774, 3775 OR 3776)**

Plan View



| Millimeters | Inches |
|-------------|--------|
| 300 | 12 |
| 540 | 21.25 |
| 740 | 29.12 |
| 760 | 30 |
| 1150 | 45 |

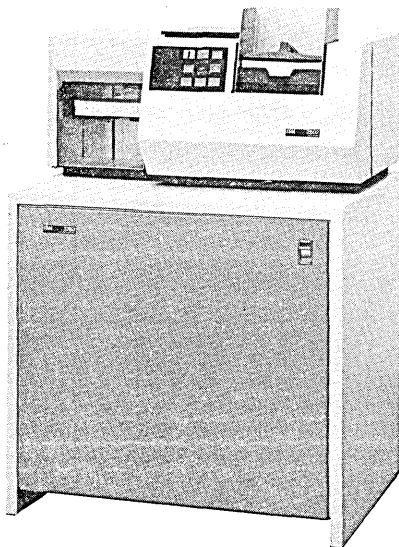


Figure 3770-14. IBM 3782 Card Attachment Unit Model 2 with 2502 Card Reader

Dimensions

| | Front | Side | Height* |
|-------------|-------|-------|---------|
| Millimeters | 760 | 540 | 1150 |
| Inches | 30 | 21.25 | 45 |

Overall height, including 2502. 3782 height is 740 mm (29.12 in.)

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|------|-------|------|
| Millimeters | 760 | 760 | 300 | 300 |
| Inches | 30 | 30 | 12 | 12 |

Weight

84kg (185 lbs.)

Heat Output

530 kcal/hr (2100 BTU/hr)

Air Flow

Operating Environment

Temperature 10° to 40.6°C (50° to 105°F)
Relative Humidity 8% to 80%
Maximum Wet Bulb 27°C (80°F)

Non-Operating

Temperature 10° to 52°C (50° to 125°F)
Relative Humidity 8% to 80%
Maximum Wet Bulb 27°C (80°F)

Power Requirements

The 2502 is powered from the 3782-2. The 2502 must be ordered for 115V for operation with all 60Hz 3782s, or for 220V for operation with all 50Hz 3782s.

| | 60Hz + | | | | 50Hz † | | | | | |
|---------------------|--------|------|-----|-----|--------|-----|-------|-----|-----|-----|
| | 100 | 115 | 200 | 220 | 100 | 110 | 123.5 | 200 | 220 | 235 |
| Volts | 100 | 115 | 200 | 220 | 100 | 110 | 123.5 | 200 | 220 | 235 |
| kVA | 0.8 | 0.8 | 0.8 | 0.8 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
| Phase | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Branch | | | | | | | | | | |
| Circuit (A) | - | 15 | - | - | - | - | - | - | - | - |
| Max. Cont. Load (A) | 8.0 | 7.5 | 4.0 | 3.6 | 9.0 | 8.2 | 7.3 | 4.5 | 4.1 | 3.8 |
| Plug Type | - | H, J | - | - | - | - | - | - | - | - |

See Appendix A (Figure A-1) for description of power plugs.

Power Cord

| Style | G6 | - | G6 | A1 | G6 | A1 | A1 | G6 | A1 | A1 |
|-------|----|---|----|----|----|----|----|----|----|----|
|-------|----|---|----|----|----|----|----|----|----|----|

See Appendix B for description of power cords.

Power Cord Length: 2.44 (8 Ft.)

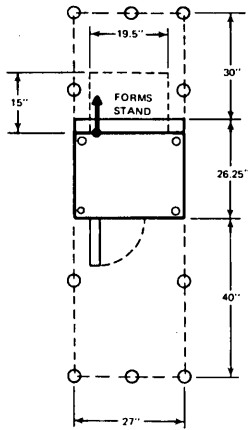
+World Trade only

Signal Cable - IBM provided for attachment of 3782 to 3289 Model 3, 3774, 3775 or 3776. Two basic cables length 3.66 m (12 Ft.)

One OMR feature cable length 3.66 m (12 FT.) Not supported with 3289 Model 3.

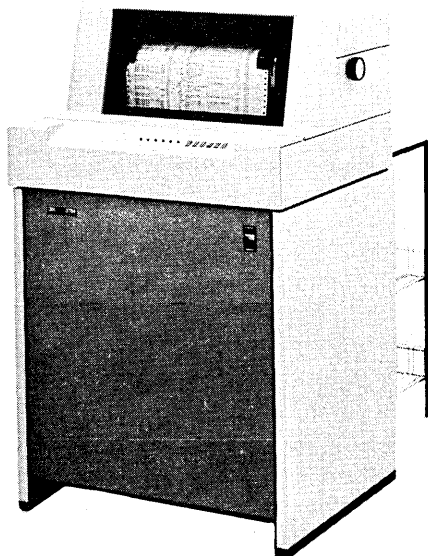
3784 LINE PRINTER (ATTACHES TO 3774 COMMUNICATION TERMINAL)

Plan View



Front

| Inches | Centimeters |
|--------|-------------|
| 12 | 30 |
| 15 | 38 |
| 19.5 | 49 |
| 26.25 | 67 |
| 27 | 69 |
| 30 | 76 |
| 40 | 102 |



Dimensions

| | Front | Side | Height |
|-------------|-------|-------|--------|
| Inches | 27 | 26.25 | 42.5 |
| Centimeters | 69 | 67 | 108 |

Service Clearances

| | Front | Rear | Right | Left |
|-------------|-------|------|-------|------|
| Inches | 40 | 30 | - | - |
| Centimeters | 102 | 76 | - | - |

Weight

275 Lbs. 125 kg

Heat Output

1380 BTU/h 348 kcal/h

Air Flow

75 CFM 2,1 m³/min

Environment

See "3770 System Environment"

Power Requirements

| | 60Hz + | | | | 50Hz + | | | | | |
|---------------------|--------|-----|-----|-----|-------------|-----|-------|-----|-----|-----|
| | 100 | 115 | 200 | 220 | 100 | 110 | 123.5 | 200 | 220 | 235 |
| Volts | 100 | 115 | 200 | 220 | 100 | 110 | 123.5 | 200 | 220 | 235 |
| kVA | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| Phase | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Branch | | | | | | | | | | |
| Circuit (A) | - | 15 | - | - | - | - | - | - | - | - |
| Max. Cont. Load (A) | 5.2 | 4.5 | 2.6 | 2.4 | 5.2 | 4.7 | 4.2 | 2.6 | 2.4 | 2.2 |
| Plug Type* | - | H,J | - | - | - | - | - | - | - | - |
| Power Cord Length | 8 ft. | | | | 2,44 meters | | | | | |
| Power Cord Style** | G6 | - | G6 | A1 | G6 | A1 | A1 | G6 | A1 | A1 |

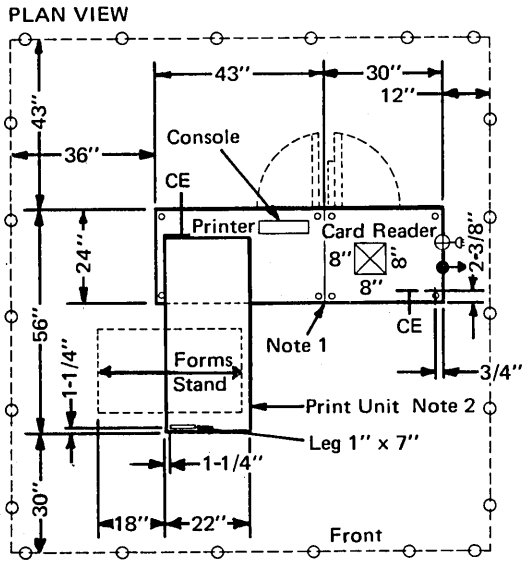
Signal Cables - IBM Provided with 3784: 3874 to 3774
12 ft. (3.66 meters)

*See Appendix A (Figure A-1) for description of power plugs.

**See Appendix B for description of power cords.

Figure 3770-15. IBM 3784 Line Printer

IBM 3780 Data Communication Terminal Specifications



| Inches | Centimeters |
|--------|-------------|
| 3/4 | 1,9 |
| 1 | 2,5 |
| 1 1/4 | 3,2 |
| 2 3/8 | 6,0 |
| 7 | 17,8 |
| 8 | 20 |
| 12 | 30,5 |
| 18 | 45,4 |
| 22 | 55,9 |

| Inches | Centimeters |
|--------|-------------|
| 24 | 61,0 |
| 30 | 76,2 |
| 36 | 91,4 |
| 43 | 109,2 |
| 46 | 116,8 |
| 56 | 142,2 |
| 73 | 185,4 |

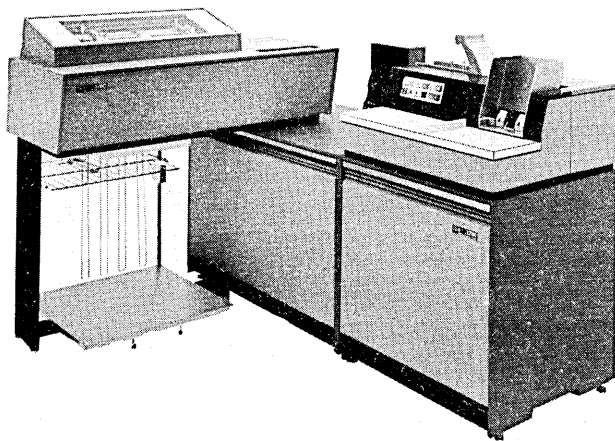


Figure 3780-1 IBM 3780 Data Communication Terminal

Dimensions

| | Length | Depth | Height |
|------------------|--------|-------|--------|
| Installed inches | 73 | 56 | 46 |
| Centimeters | 185 | 142 | 117 |

Service Clearance

| | Front | Left | Rear | Right |
|-------------|-------|------|------|-------|
| Inches | 30 | 36 | 43 | 12 |
| Centimeters | 76 | 91 | 109 | 30 |

Weight

1275 lbs. 567 kg.

Heat Output

4916 BTU/h 1238 kcal/h

Air Flow

410CFM 11,6m³/min

Environment, Operating

| | | |
|---------------|-------------|-------------|
| Temp. | 60° to 90°F | 16° to 32°C |
| Rel. Humidity | 8 to 80% | |
| Max. Wet Bulb | 78°F | 26°C |

Environment, Non-Operating

| | | |
|---------------|--------------|-------------|
| Temp. | 50° to 110°F | 10° to 43°C |
| Rel. Humidity | 8 to 80% | |
| Max. Wet Bulb | 80°F | 27°C |

Notes:

1. Units separated for shipment. Bolt together for installation.
2. For shipment, print unit is rotated over the cabinet. Dimensions are then 24 in. x 48 in. x 46 in. (61 cm x 122 cm x 117 cm)

IBM 3780 Data Communication Terminal – Specifications

Power Requirements

| | 60 Hz. | | | | | 50 Hz.* | | | | | |
|---------------------------|--------|--------|---------|-----|-----|-----------------|--------|-------|-------|-----|-----|
| | 100* | 115 | 200* | 208 | 230 | 100 | 110 | 123.5 | 200 | 220 | 235 |
| Volts | 100* | 115 | 200* | 208 | 230 | 100 | 110 | 123.5 | 200 | 220 | 235 |
| kVa | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| Phase | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Branch Circuit (A) | | 20 | | 15 | 15 | | | | | | |
| Plug/Power Cord (Note 1) | | | | | | Power Cord Only | | | | | |
| Locking | Power | NA | Power | A | A | | | | | | |
| Non-Locking | Cord | M | Cord | K | K | | | | | | |
| | Only | | Only | | | | | | | | |
| Power Cord Style (Note 2) | A3 | — | A3 | — | — | A3 | G5 | G5 | A3 | G5 | G5 |
| Power Cord Length | | 14 ft. | (4.27m) | | | | 14 ft. | | 4.3 m | | |

*World Trade

Notes:

1. Description of plug type with matching receptacles and connectors – see Appendix A (Figure A-1).
2. Description of World Trade power cord styles – see Appendix B.

COMMUNICATIONS FACILITIES

The type of modem (data set) to be used must be specified at the time of ordering the IBM 3780. See SRL., *Component Information for the IBM 3780 Data Communication Terminal*, GA27-3063.

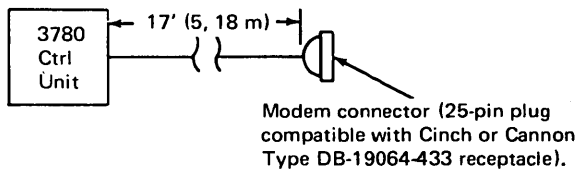
COMMUNICATIONS INTERFACE CABLE (IBM PROVIDED)

A 20-foot* (6.1m) cable from the 3780 will be provided as standard unless a different length is specified at the time of the order. Available ordering lengths are: 20, 25, 30, 35, and 40 feet (6.1, 7.22, 9.14, 10.67, 12.19m). The shortest permissible length should be used. Consult your IBM representative for further information.

*Part of total length required for gate connection. Actual available length 17 ft (5.2m) from cable exit.

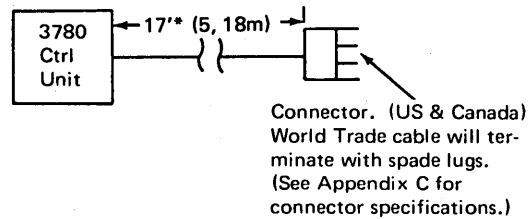
Control Unit to Communications Line:

1. Using external modem (data set)

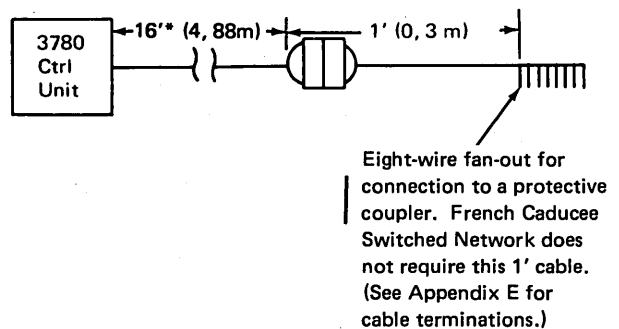


2. Using an IBM 2400/1200 bps Integrated Modem feature:

a. Connecting to leased or privately owned communications line:

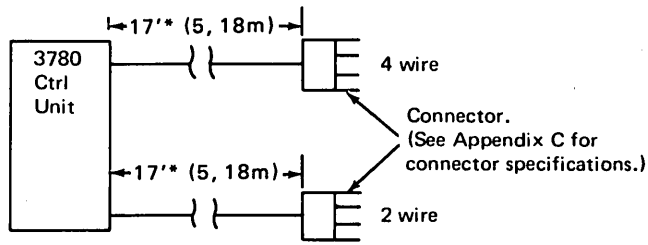


b. Connecting to common-carrier switched network through an FCC registered protective coupler:



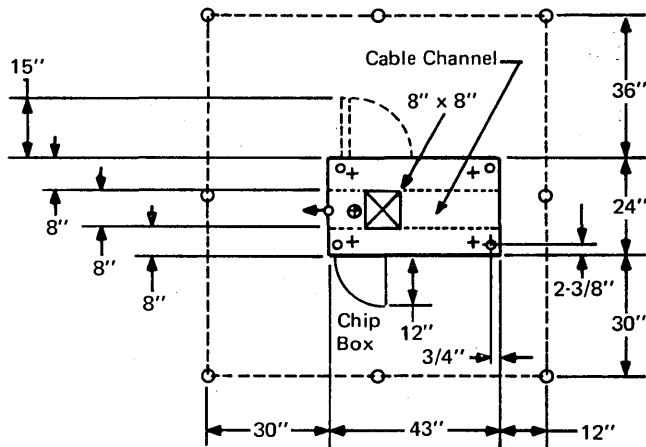
IBM 3780 Data Communication Terminal — Specifications

- c. Connecting to communication lines when the IBM 2400 bps Switched Network Backup feature is installed:



IBM 3781 Card Punch-Specifications

PLAN VIEW



| Inches | Centimeters |
|--------|-------------|
| 3/4 | 1,9 |
| 2-3/8 | 6,0 |
| 8 | 20 |
| 12 | 30,5 |
| 15 | 38,1 |
| 24 | 61,0 |
| 43 | 109,2 |

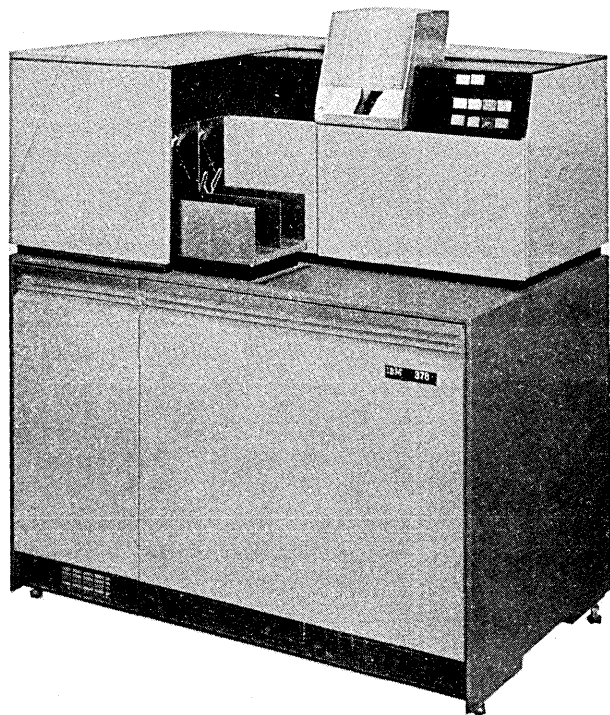


Figure 3780-2. IBM 3781 Card Punch

Dimensions

| | Front | Side | Height |
|------------------|-------|------|--------|
| Installed Inches | 43 | 24 | 49 |
| Centimeters | 109 | 61 | 125 |

Service Clearance

| | Front | Rear | Right | Left |
|-------------|-------|------|-------|------|
| Inches | 30 | 36 | 12 | 30 |
| Centimeters | 76 | 91 | 30 | 76 |

Weight

560 lbs. 254 kg.

Heat Output

1,700 BTU/h 430 kcal/h

Air Flow

100 CFM 3,0m³/min

Environment, Operating

| | | |
|---------------|-------------|---------------|
| Temp | 60° to 90°F | (16° to 32°C) |
| Rel. Humidity | 8 to 80% | |
| Max. Wet Bulb | 78°F | (26°C) |

Environment, Non-Operating

| | | |
|---------------|--------------|---------------|
| Temp | 50° to 110°F | (10° to 43°C) |
| Rel. Humidity | 8 to 80% | |
| Max. Wet Bulb | 80°F | (27°C) |

Interconnecting Signal Cable

17 ft. (5.2m)

Note: The signal cable (provided) is 17 feet (5.2m) from the 3781 cable exit to the 3780 cable entry.

IBM 3781 Card Punch-Specifications

Power Requirements

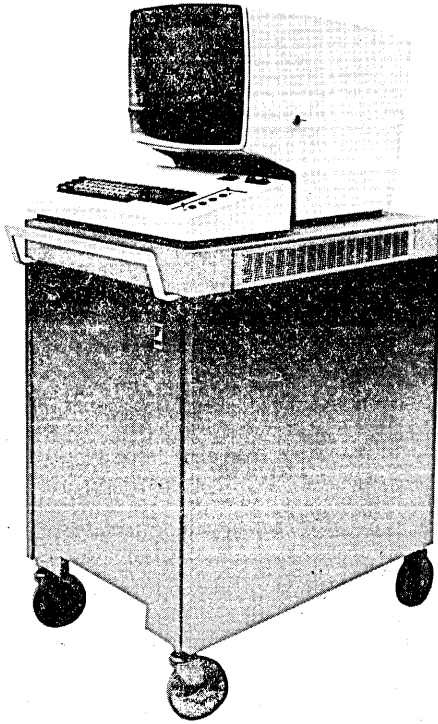
| | 60 Hz. | | | | | 50 Hz. * | | | | | |
|---------------------------|--------|--------|-------|---------|-----|-----------------|-----|--------|-----|--------|-----|
| | 100* | 115 | 200* | 208 | 230 | 100 | 110 | 123.5 | 200 | 220 | 235 |
| Volts | 100* | 115 | 200* | 208 | 230 | 100 | 110 | 123.5 | 200 | 220 | 235 |
| kVa | .6 | .6 | .6 | .6 | .6 | .6 | .6 | .6 | .6 | .6 | .6 |
| Phase | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Branch Circuit (A) | — | 15 | — | 15 | 15 | — | — | — | — | — | — |
| Plug-Power Cord (Note 1) | | | | | | | | | | | |
| Locking | Power | NA | Power | A | A | Power Cord only | | | | | |
| Non-Locking | Cord | H | Cord | K | K | | | | | | |
| | Only | | Only | | | | | | | | |
| Power Cord Style (Note 2) | A3 | — | A3 | — | — | A3 | G5 | G5 | A3 | G5 | G5 |
| Power Cord Length | | 14 ft. | | (4.3 m) | | | | 14 ft. | | (4.3m) | |

*World Trade

Notes:

1. Description of plug type with matching receptacles and connectors - see Appendix A (Figure A-1).
2. Description of World Trade power cord styles - see Appendix B.

5275 DIRECT NUMERICAL CONTROL STATION – SPECIFICATIONS



Dimensions

| | Front | Side | Height |
|--------|---------|---------|----------|
| Inches | 23 | 33 | 56 |
| (mm) | (584.2) | (838.2) | (1422.4) |

Service Clearances

| | Front | Rear | Right | Left |
|--------|---------|---------|---------|---------|
| Inches | 30 | 30 | 30 | 30 |
| (mm) | (762.0) | (762.0) | (762.0) | (762.0) |

Weight

375 lb 170.9 kg

Heat Output

1700 BTU/hr (430 kcal/hr)

Airflow

Forced Air

Power Requirements

| | |
|------------------------|----------------------|
| Branch Circuit Voltage | 115 |
| kVA | 0.70 |
| Phases | 1 |
| Branch Circuit (A) | 15 |
| Max. Cont. Load (A) | 5.7 |
| Power Cord Length | 15 ft. (4.57 Meters) |

Locking

Plug (locking) J

Environment, Operating

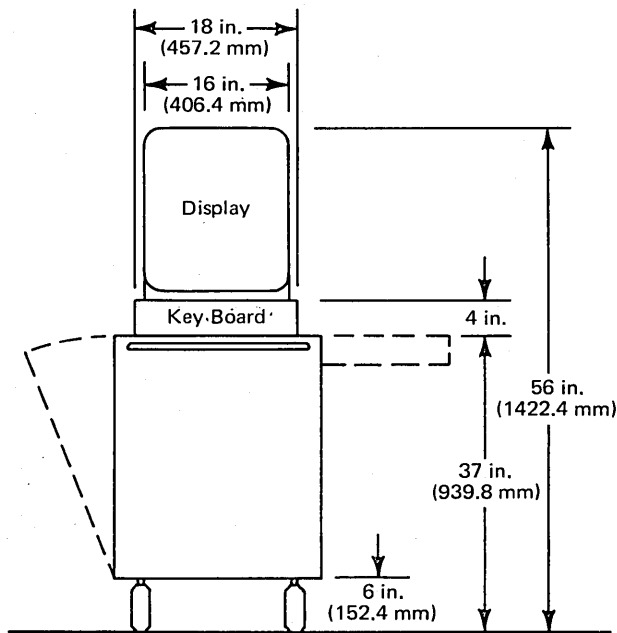
| | |
|---------------|----------------------------|
| Temperature | 50 to 105°F (10 to 40.6°C) |
| Rel. Humidity | 8 to 80% |
| Max. Wet Bulb | 85°F (29°C) |

Environment, Nonoperating

| | |
|---------------|--------------------------|
| Temperature | 50 to 125°F (10 to 52°C) |
| Rel. Humidity | 8 to 80% |
| Max. Wet Bulb | 85°F (29°C) |

Notes:

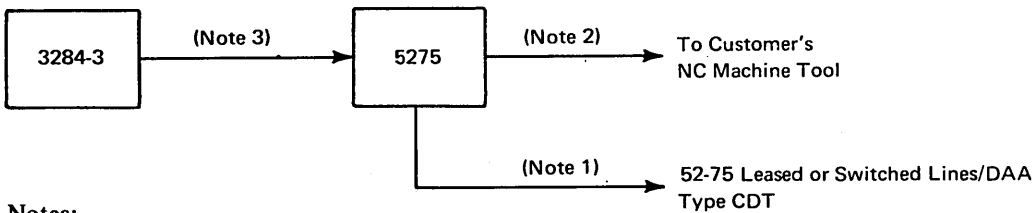
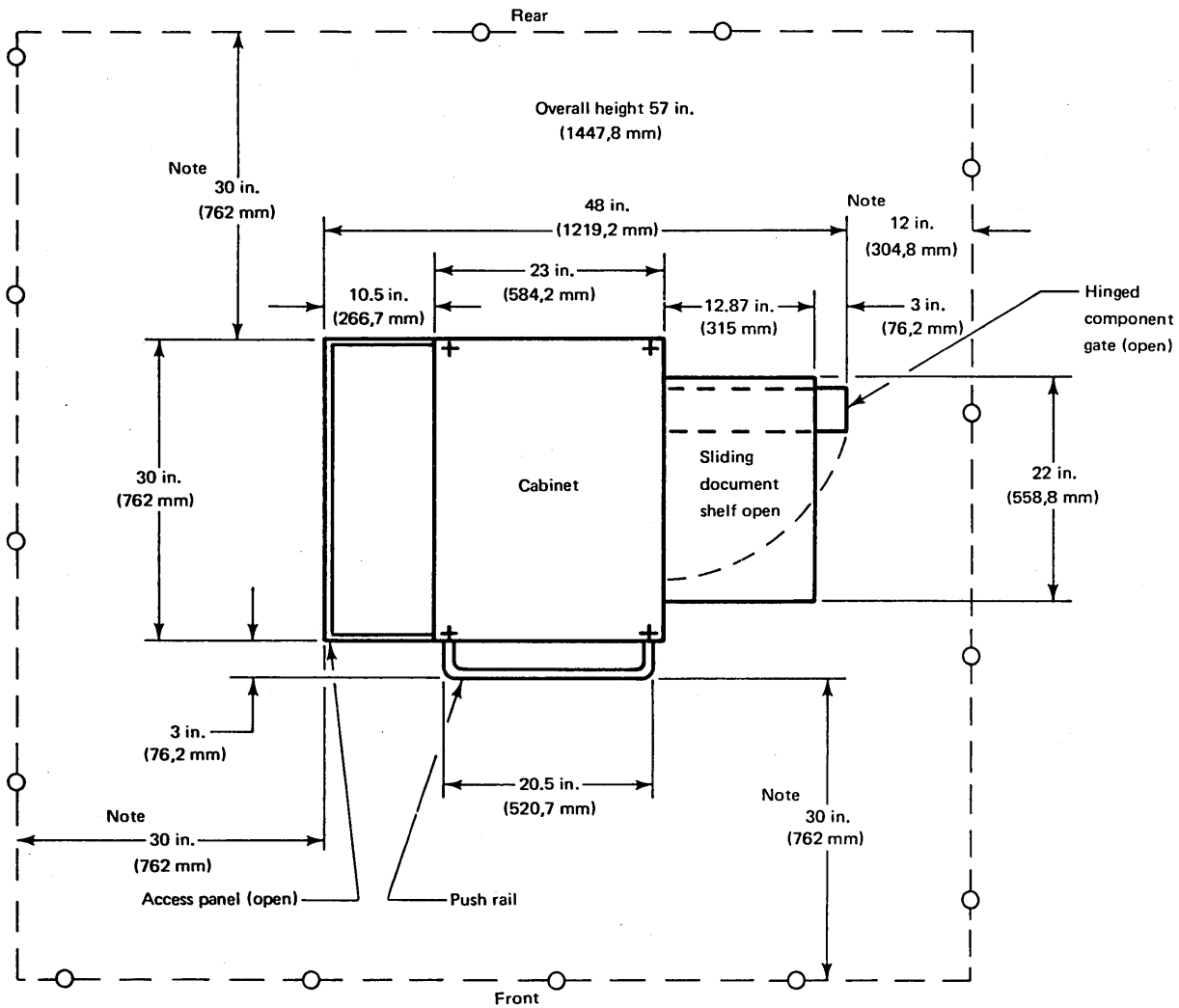
If a convenience outlet for servicing the equipment is not available near the 5275, use NEMA 5-15R or equivalent, (Type H). See Appendix A (Figure A-1) for plug description.



Front Elevation

5275 DIRECT NUMERICAL CONTROL STATION













PLAN VIEW (Scale None)



Notes:

1. Cable group no. 52-75 max length 40 ft. (12.19m) connected to Leased or Switched Line/DAA Type CDT.
2. Variable cable lengths in increments of 10 ft. (3.05m) up to 100 ft. (30.48m) max. can be ordered from IBM via RPO.
3. Fixed length of 10 ft. (3.05m) supplied with 3284-3.
4. For specification on the optional 3284-3 Printer, see appropriate pages in System/370 Manual.

5275 Direct Numerical Control Station Cabling Schematic

| 60 Hz Power Receptacles and Plugs | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| PLUG TYPE | A†† | B†† | C†† | D†† | E†† | H | J† | K | L† | M | N† | R |
| PLUG** | (R&S) 3720 | (R&S) 3730 | (R&S) 3750 | (R&S) 3760 | (R&S) 7328 | NEMA 5-15P | NEMA L5-15P | NEMA 6-15P | NEMA L6-15P | NEMA 5-20P | NEMA L5-20P | NEMA 5-30P |
| RECEPTACLE NEMA OR ** R&S IN-LINE | (R&S) 3743 | (R&S) 3744 | (R&S) 3753 | (R&S) 3754 | (R&S) 7324 | NEMA 5-15R | NEMA L5-15R | NEMA 6-15R | NEMA L6-15R | NEMA 5-20R | NEMA L5-20R | NEMA 5-30R |
| | (R&S) 3913 | (R&S) 3914 | (R&S) 3933 | (R&S) 3934 | (R&S) 7428 | NEMA 5-15R | NEMA L5-15R | NEMA 6-15R | NEMA L6-15R | NEMA 5-20R | NEMA L5-20R | NEMA 5-30R |
| SCHEMATIC— FACE OF PLUG |  |  |  |  |  |  |  |  |  |  |  |  |
| SERVICE RATING AMPS VOLTS | 20 208/230 | 15 208/230 | 30 208/230 | 30 208/230 | 60 208/230 | 15 115 | 15 115 | 15 208/230 | 15 208/230 | 20 115 | 20 115 | 30 115 |
| PHASE | 1 | 3 | 1 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| WIRES**** | 3 | 4 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |

* These plug types (or equivalent) are supplied with the machines. Customer provides matching receptacle.

** For US and Canada Ref: NEMA = National Elect Manufacturer's Association. R&S = Russell & Stoll

***The 3 phase receptacle must be wired for correct phase rotation.

**** Number of wires includes one insulated equipment grounding conductor (Grn/Grn-Yel)

† Plug types J, L, and N are locking style.

†† Plug types A, B, C, D and E are watertight.

Figure A-1. 60 Hz Power Receptacles and Plugs

**3262 MODELS 2, 12; 3287 MODELS 1, 2 AND 3289
MODEL 3 ONLY**

IBM supplies the power cord with attached plug that corresponds to the power receptacle (power outlet) that is most commonly used in your country, unless you have ordered a different plug. The letters in Figure A-2 direct

you to a power plug diagram (in Figure A-3) that shows the plug provided for your country. Install a matching receptacle (or connector) before the printer arrives.

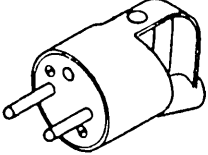
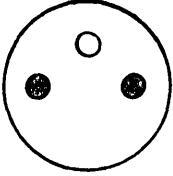
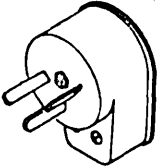
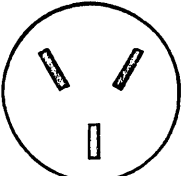
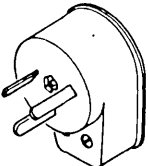
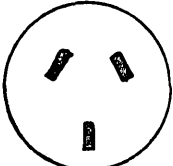
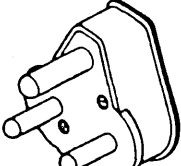
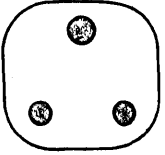
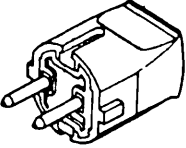
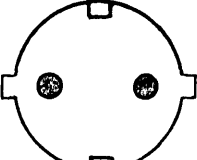


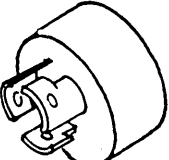
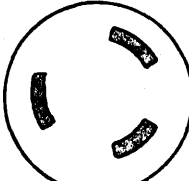
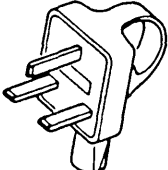
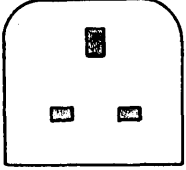
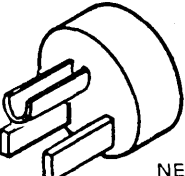
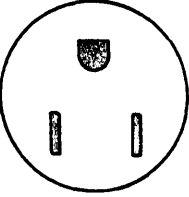
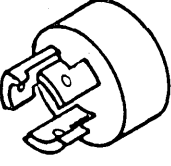
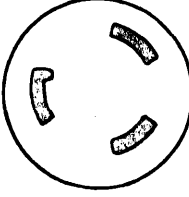

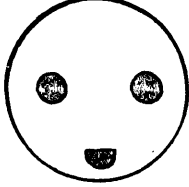
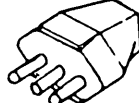

| Country | Voltage Group | | Country | Voltage Group | |
|--------------------|---------------|---------|----------------|---------------|---------|
| | 125 VAC | 250 VAC | | 125 VAC | 250 VAC |
| Algeria | | A | Italy | | N |
| Argentina | | B | Jamaica | E | |
| Australia | | B | Japan | E, D | |
| Austria | | C | Malaysia | | A |
| Bahamas | E | | Mexico | E | |
| Barbados | E | | Netherlands | | C |
| Belgium | | A | Netherlands | | |
| Bermuda | E | | Antilles | E | |
| Bolivia | E | | New Zealand | | B |
| Brazil | E | B | Nicaragua | E | |
| Bulgaria | | C | Norway | | C |
| Canada | E, M* | | Panama | E | |
| Chile | | B | Paraguay | | B |
| Columbia | | B | Peru | E | |
| Costa Rica | E | | Phillipines | E | |
| Denmark | | G | Poland | | C |
| Dominican Republic | E | | Portugal | | C |
| Ecuador | E | | Rumania | | C |
| El Salvador | E | | Saudi Arabia | M | |
| Finland | | C | South Africa | | J |
| France | | A | Spain | | C |
| Germany | | C | Sweden | | C |
| Guatemala | E | | Switzerland | | K |
| Honduras | E | | Taiwan | E | |
| Hungary | | A | Thailand | E | |
| Iceland | | C | United Kingdom | | L |
| Indonesia | | C | United States | E, M* | |
| Iran | | C | Uruguay | | B |
| Ireland | | L | Venezuela | | B |
| Israel | | H | Yugoslavia | | A |

- Letters refer to the plug diagram in "Power Plug Diagrams" chart (Figure A-3).
- Asian and Latin American countries not listed are shipped cords with plug E attached.
- European, Middle East, and African countries not listed are shipped cords with plug C attached.

*Watertight plug (R & S) 3720 (Figure A-1) is also available for the 3262 Models 2 and 12.

Figure A-2. Power Plug Usage Chart

**3262 MODELS 2, 12; 3287 MODELS 1, 2 AND 3289
MODEL 3 ONLY**

| Plug Three-Dimensional View | Plug Pin-Side View | Plug Three-Dimensional View | Plug Pin-Side View |
|--|---|---|---|
| A 250V 16A  |  | H 250V 10A  |  |
| B 250V 10A  |  | J 250V 15A  |  |
| C 250V 16A  |  | K 250V 10A  |  |
| D 125V 15A Locking  |  | L 250V 13A  |  |
| E 125V 15A NEMA 5-15P  |  | M 125V 15A Locking NEMA L5-15P  |  |
| G 250V 10A  |  | N 250V 16A  |  |

Note: All power plugs except **M** and **D** are nonlocking.

Figure A-3. Power Plug Diagrams

Appendix B. Power Cord Types

| Power Cord Style | Cable O D | | Shield | Conductor | | | |
|------------------|-----------|------|--------|-----------|-------------|------|---------|
| | (in.) | (cm) | | Quantity | Nominal O D | | AWG No. |
| | | | | | (in.) | (cm) | |
| A1 | 0.520 | 1.3 | 1 | 3 | 0.064 | 0.2 | 14 |
| A2 | 0.620 | 1.6 | 1 | 3 | 0.080 | 0.2 | 12 |
| A3 | 0.571 | 1.5 | 1 | 3 | 0.102 | 0.3 | 10 |
| A6 | 0.560 | 1.4 | 0 | 3 | 0.064 | 0.2 | 14 |
| A7 | 0.510 | 1.30 | 1 | 3 | 0.081 | 0.21 | 12 |
| D1 | 0.815 | 2.1 | 2 | 5 | 0.102 | 0.3 | 10 |
| D2 | 0.750 | 1.9 | 1 | 5 | 0.102 | 0.3 | 10 |
| E1 | 1.079 | 2.7 | 1 | 5 | 0.129 | 0.3 | 8 |
| E2 | 1.40 | 4.0 | 0 | 5 | 0.232 | 0.6 | 4 |
| F1 | 0.540 | 1.3 | 1 | 4 | 0.080 | 0.2 | 12 |
| F2 | 0.920 | 2.3 | 1 | 4 | 0.102 | 0.3 | 10 |
| F3 | 1.340 | 3.4 | 1 | 4 | 0.232 | 0.6 | 4 |
| G1 | | | 0 | 3 | 0.040 | 0.1 | 18 |
| G2 | 0.372 | 0.9 | 0 | 3 | 0.115 | 0.3 | 18 |
| G3 | 0.365 | 0.9 | 0 | 3 | 0.051 | 0.1 | 16 |
| G4 | 0.360 | 0.9 | 1 | 3 | 0.040 | 0.1 | 18 |
| G5 | 0.703 | 1.8 | 1 | 3 | 0.104 | 0.3 | 10 |
| G6 | 0.38 | 1.0 | 1 | 3 | 0.051 | 0.1 | 16 |
| G7 | 0.420 | 1.1 | 1 | 4 | 0.051 | 0.1 | 16 |
| G8 | 0.504 | 1.2 | 1 | 5 | 0.051 | 0.1 | 16 |

Appendix C. IBM Line Adapter/Integrated Modem Cable Terminations

Unless otherwise specified, the cable provided from the IBM Integrated Modem or the IBM Line Adapter to the customer-provided communication line is terminated with a Western Electric Type 283B Plug. The customer must provide, and make connections to, either a Western Electric Type 404B Surface Mount or a Western Electric Type 493A Flush Mount (or equivalent) Receptacle.

IBM cables as shipped from the factory are wired as shown in Figure C-1 for 2-wire systems and in Figure C-2 for 4-wire systems. This is in agreement with the operating procedures for a majority of the common carriers; however, some companies interchange their Transmit and Receive leads. Where this condition exists, it will be

necessary to secure local agreement between IBM and the common carrier. Figure C-3 shows the Western Electric type 283B connector attached to the cable from the IBM Line Adapter Feature or the IBM Integrated Modem Feature (see Note). See GA27-3435 for the required termination for the various types of IBM line adapters or IBM integrated modems.

Note: Other connecting arrangements may be encountered especially when IBM modems are displacing/replacing other manufacturers modems. These arrangements can be either a 50 pin connector or a terminal board/spade wire type arrangement.

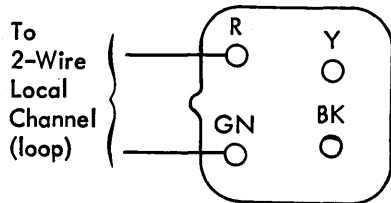


Figure C-1. Two-Wire Termination Jack

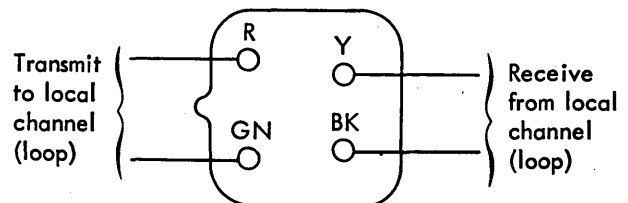


Figure C-2. Four-Wire Termination Jack

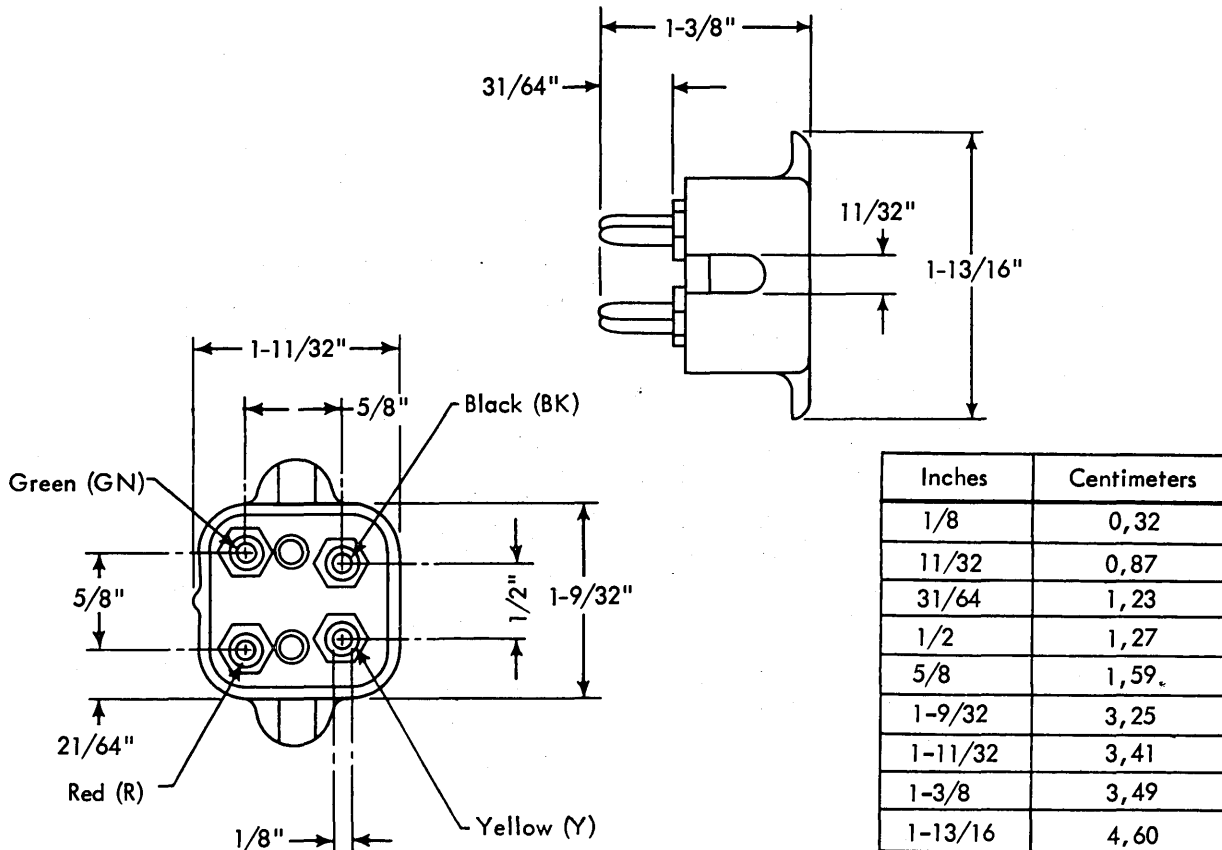


Figure C-3. Connector Attached to Cable from IBM Line Adapter/Integrated Modem Feature

Appendix D. Telegraph Line Terminations

When an IBM unit is to be connected to a common-carrier leased telegraph circuit, IBM will terminate its cable using ring lugs to fit over 8-32 screw terminals. To facilitate

servicing, the common-carrier should provide the terminal board in the same room as the IBM equipment.

Appendix E. IBM Switched Network Integrated Modem Cable Terminations

Unless otherwise specified, the cable provided from the IBM terminal to the customer-provided FCC registered protective coupler (CBS type) or equivalent is terminated with eight No. 8 lugs. The customer is responsible for having this cable connected to the Data Coupler. It is also suggested that the customer secure this cable with a wall fastener to prevent possibly serious strain at the coupler.

IBM cables as shipped from the factory are wired as shown in Figures E-1 and E-2.

The coupler must be mounted vertically.

Note: If the Integrated Modem does not have Auto Answer capability, the cable will be terminated with a 4 prong plug described in appendix C.

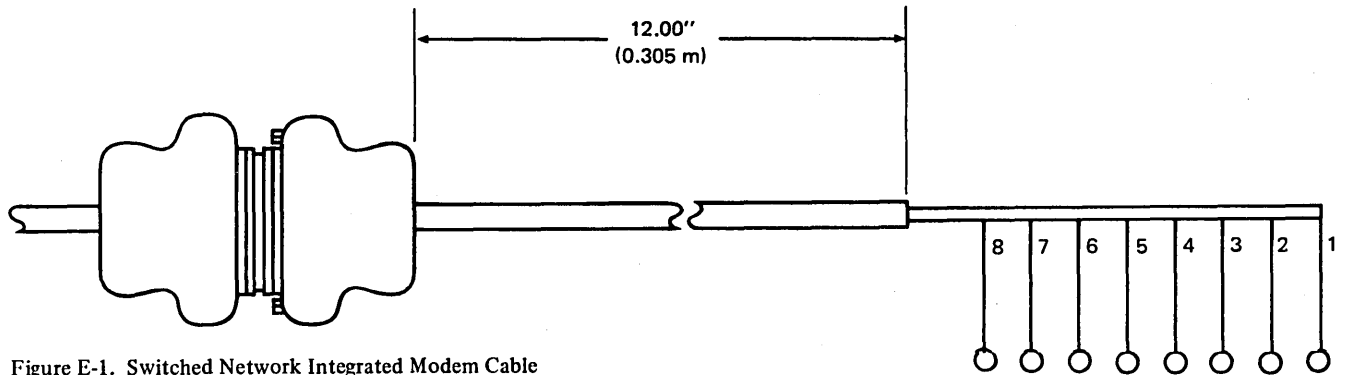


Figure E-1. Switched Network Integrated Modem Cable

| Wire No. | Color | Connector Pin No. | Coupler Termination |
|----------|--------|-------------------|---------------------------|
| 1 | black | 15 | Data Ring (DR) |
| 2 | white | 14 | Data Tip (DT) |
| 3 | violet | 5 | Ring Indicate (RI) |
| 4 | blue | 8 | Off Hook (OH) |
| 5 | brown | 3 | Coupler Cut Through (CCT) |
| 6 | yellow | 6 | Data Modem Ready (DA) |
| 7 | gray | 7 | Signal Ground (SG) |
| 8 | red | 4 | Switch Hook (SH) |
| | shield | 1 | (no connection) |

Figure E-2. Cable Connections to the Data Protective Coupler (CBS Type)



International Business Machines Corporation
Data Processing Division
1133 Westchester Avenue, White Plains, N.Y. 10604

IBM World Trade Americas/Far East Corporation
Town of Mount Pleasant, Route 9, North Tarrytown, N.Y., U.S.A. 10591

IBM World Trade Europe/Middle East/Africa Corporation
360 Hamilton Avenue, White Plains, N.Y., U.S.A. 10601

Order No. GA27-3006-8

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Department _____

Street Address _____

City _____ State _____ Zip Code _____

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Remote Multiplexers and Terminals Installation Manual — Physical Planning (File No. TP-15) Printed in U.S.A. GA27-3006-8

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Technical Newsletter

| | |
|----------------------|-------------|
| This Newsletter No. | GN27-3302 |
| Date | 27 Feb 1981 |
| Base Publication No. | GA27-3006-8 |
| File No. | TP-15 |
| Previous Newsletters | None |

IBM Remote Multiplexers and Communications Terminals Installation Manual – Physical Planning.

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This Technical Newsletter provides replacement pages for the subject publication. Pages to be inserted and/or removed are:

3705.1, 3705.2
3705.3, 3705.4
3705.5, 3705.6
3705.7, 3705.8
3705.9 (added)
3705.10 (added)
3770.1, 3770.2
3770.3, 3770.4

A technical change to the text or to an illustration is indicated by a vertical line to the left of the change.

Summary of Changes

This Technical Newsletter provides physical planning and cable information for the IBM 3705-80 Communications Controller. This TNL also includes updates to IBM 3770 cable information.

Note: Please file this cover letter at the back of the manual to provide a record of the changes.

IBM Corporation, Publications Development, Dept. E02, P.O. Box 12195, Research Triangle Park, N.C. 27709

IBM 3705-II or 3705-80 Communications Controller (With Remote Program Loader)

The IBM 3705-II and 3705-80 (With Remote Program Loader) are programmable transmission control units for the IBM System/370, 4300 Processor, or the 3031, 3032, 3033, or 3081 Processor Complex. The controllers are attached to the host processor through a 3705 by a Type 3002 private line data channel with Type C2 conditioning, a CCITT recommended M102 data channel, or equivalent privately-supplied channel. The 3705-II (With Remote Program Loader) can handle line speeds from 45.5 bps to 230,400 bps. The 3705-80 (With Remote Program Loader) consists of a single frame only (no expansion modules) and can handle line speeds from 50 bps to 57,600 bps.

This machine has radio interference control circuits and requires that the total resistance of the grounding conductor measured between the power receptacle and building ground not exceed 3 ohms.

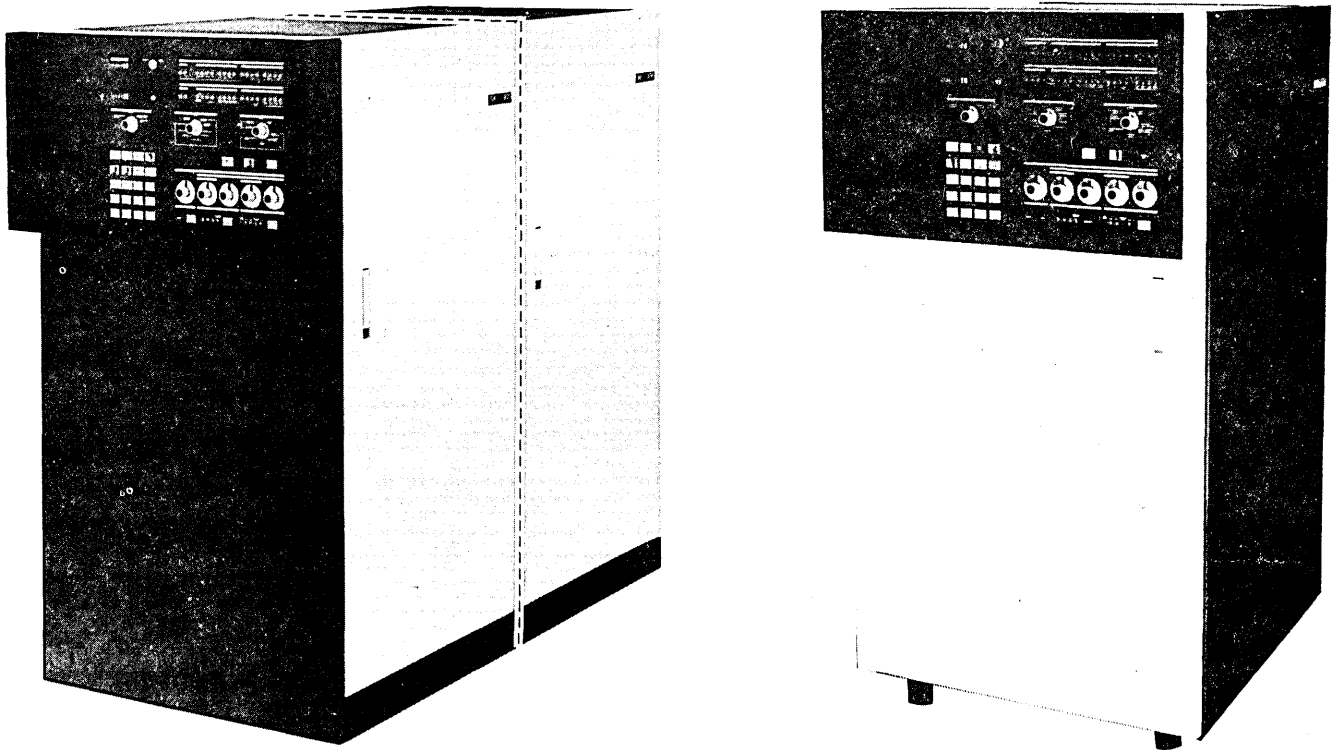
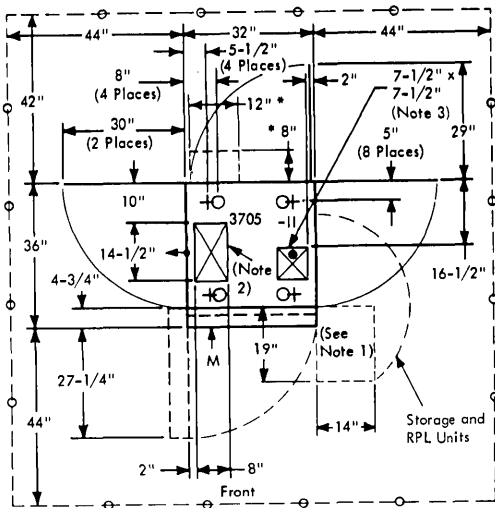


Figure 3705-1. IBM 3705-II or 3705-80 Communications Controller (With Remote Program Loader)

**3705-II OR 3705-80 COMMUNICATIONS CONTROLLER
WITH REMOTE PROGRAM LOADER) - SPECIFICATIONS**

**3705-II BASIC MODULE (NOT APPLICABLE TO 3705-80)
(WITH REMOTE PROGRAM LOADER)**

PLAN VIEW

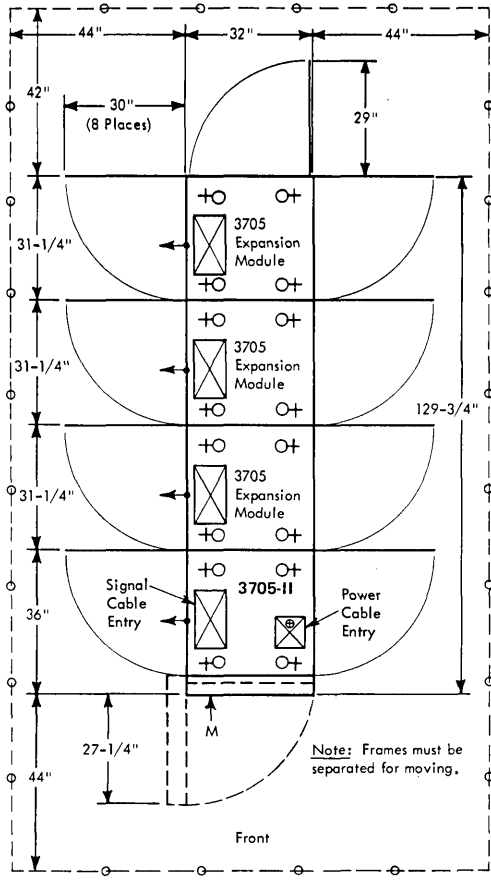


- Notes:**
1. For full 180° swing, remove adjacent machine cover.
 2. Signal cable entry.
 3. Power cable entry.

| Inches | Centimeters |
|---------|-------------|
| 2 | 5 |
| 4 | 10 |
| 4 3/4 | 12 |
| 5 | 13 |
| 5 1/2 | 14 |
| 7 1/2 | 19 |
| 8 | 20 |
| 10 | 25 |
| 14 | 36 |
| 14 1/2 | 37 |
| 16 1/2 | 42 |
| 18 | 46 |
| 27 1/4 | 69 |
| 29 | 74 |
| 30 | 76 |
| 31 1/4 | 79 |
| 32 | 81 |
| 36 | 91 |
| 42 | 107 |
| 44 | 112 |
| 129 3/4 | 330 |

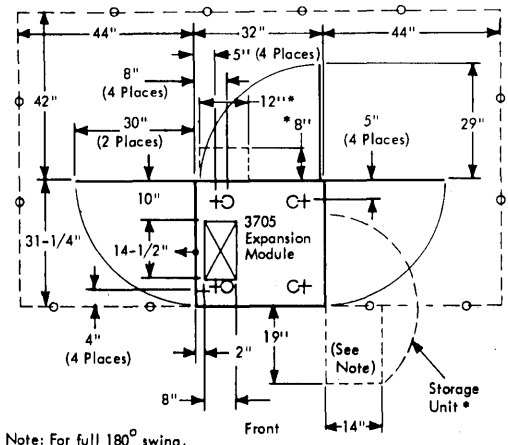
**3705-II (WITH REMOTE PROGRAM LOADER)
MAXIMUM CONFIGURATION (NOT APPLICABLE
TO 3705-80)**

PLAN VIEW



**3705-II EXPANSION MODULE (WITH REMOTE PROGRAM
LOADER) - (NOT APPLICABLE TO 3705-80)**

PLAN VIEW



- Note:** For full 180° swing, remove adjacent machine cover.
- * Storage Unit-In the first expansion module of 3705-II, Models J, K, L only.

**3705-II OR 3705-80 COMMUNICATION CONTROLLER
(WITH REMOTE PROGRAM LOADER) - SPECIFICATIONS**

3705-II

| Model | Dimensions* in (cm) | | | Service Clearance in (cm) | | | | Weight lb (kg) |
|--------|------------------------|----------------|-------------|------------------------------|-------------|-------------|-------------|-------------------|
| | Front | Side | Height | Front | Rear | Right | Left | |
| E | 32 (81) | 36 (91) | 60 (152) | 44 (112) | 42 (107) | 44 (112) | 44 (112) | 1010 (460) |
| F or J | 32 (81) | 67½ (171) | 60 (152) | 44 (112) | 42 (107) | 44 (112) | 44 (112) | 1920 (880) |
| G or K | 32 (81) | 98½ (250) | 60 (152) | 44 (112) | 42 (107) | 44 (112) | 44 (112) | 2830 (1300) |
| H or L | 32 (81) | 129 ¾ (330) | 60 (152) | 44 (112) | 42 (107) | 44 (112) | 44 (112) | 3740 (1700) |

*Shipping dimensions are 32" x 36" x 60" (81 cm x 91 cm x 152 cm). Removal of the covers reduces the width to 29½" (75 cm). The front panel can be removed to make the unit 29½" x 30" x 60" (75 cm x 76 cm x 152 cm).

3705-II

| Specification | Model | 60 Hz | | | 50 Hz † * | | | | |
|---|------------------|-------|------|------|-----------|------|------|------|------|
| Volts | All | 200* | 208 | 230 | 200 | 220 | 235 | 380 | 408 |
| Phase | All | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| KVA | E | 2.5 | 2.5 | 2.5 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 |
| | F | 5.0 | 5.0 | 5.0 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 |
| | G | 7.5 | 7.5 | 7.5 | 8.4 | 8.4 | 8.4 | 8.4 | 8.4 |
| | H | 10.0 | 10.0 | 10.0 | 11.2 | 11.2 | 11.2 | 11.2 | 11.2 |
| | J | 5.3 | 5.3 | 5.3 | 5.9 | 5.9 | 5.9 | 5.9 | 5.9 |
| | K | 7.9 | 7.9 | 7.9 | 8.9 | 8.9 | 8.9 | 8.9 | 8.9 |
| | L | 10.6 | 10.6 | 10.6 | 11.9 | 11.9 | 11.9 | 11.9 | 11.9 |
| Branch Circuit (Amp) | E | — | 30 | 30 | — | — | — | — | — |
| | F or J | — | 30 | 30 | — | — | — | — | — |
| | G or K | — | 60 | 60 | — | — | — | — | — |
| | H or L | — | 60 | 60 | — | — | — | — | — |
| Max. Cont. Load (Amp) | E | 11.3 | 10.8 | 9.8 | 13.6 | 12.3 | 11.6 | 4.2 | 3.9 |
| | F | 22.6 | 21.6 | 19.6 | 27.2 | 24.6 | 23.2 | 8.4 | 7.8 |
| | J | 23.9 | 22.8 | 21.2 | 28.8 | 26.1 | 24.6 | 8.9 | 8.3 |
| | G | 33.9 | 32.4 | 29.4 | 40.8 | 36.9 | 34.8 | 12.6 | 11.7 |
| | K | 35.9 | 34.7 | 31.1 | 43.2 | 39.1 | 36.8 | 13.3 | 12.4 |
| | H | 45.2 | 43.2 | 39.2 | 54.4 | 49.2 | 46.4 | 16.8 | 15.6 |
| | L | 47.8 | 45.7 | 41.5 | 57.6 | 52.1 | 49.0 | 17.8 | 16.5 |
| Power Cord Style** | E | F1 | — | — | D2 | D2 | D2 | D2 | D2 |
| | F or J | F2 | — | — | E1 | E1 | E1 | D2 | D2 |
| | H, K, or L | F2 | — | — | E2 | E2 | E2 | E1 | E1 |
| Plug Type | E, F, or J | — | D | D | — | — | — | — | — |
| | G, H, K, or L | — | E | E | — | — | — | — | — |
| Power Cord Length (ft) Length (m) | All | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| | All | 4.27 | 4.27 | 4.27 | 4.27 | 4.27 | 4.27 | 4.27 | 4.27 |

*World Trade

**When Field converting to Models E, F, or J from Models G, H, K, or L a new Power Cord will not be shipped. Existing cord assembly should be used.

†For the 3705-II, 50 Hz only, the phase may be unbalanced to a ratio of 1.3 to 1.

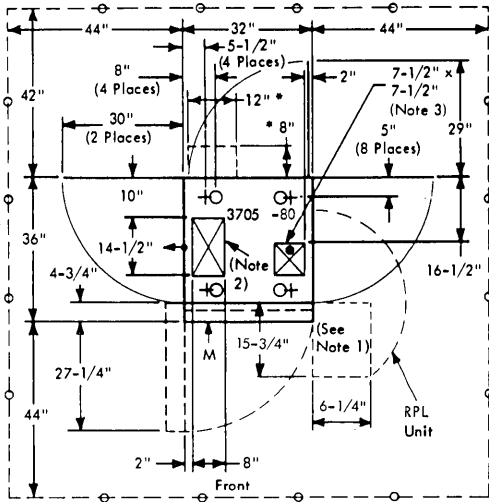
3705-II

| Model | Heat Output BTU/h (Kcal/h) | |
|-------|-------------------------------|------------------|
| | 60 Hz | 50 Hz |
| E | 6400 (1650) | 7170 (1850) |
| F | 12,800 (3250) | 14,340 (3650) |
| G | 19,200 (4850) | 21,510 (5450) |
| H | 25,600 (6500) | 28,680 (7250) |
| J | 11,300 (2850) | 12,900 (3250) |
| K | 16,900 (4300) | 19,400 (4900) |
| L | 22,500 (5700) | 25,800 (6500) |

**3705-II OR 3705-80 COMMUNICATION CONTROLLER
(WITH REMOTE PROGRAM LOADER) - SPECIFICATIONS**

3705-80 (WITH REMOTE PROGRAM LOADER)

PLAN VIEW



- Notes:**
1. For full 180° swing, remove adjacent machine cover.
 2. Signal cable entry.
 3. Power cable entry.

3705-80

| Model | Heat Output BTU/h (Kcal/h) | |
|-------|-------------------------------|----------------|
| | 60 Hz | 50 Hz |
| All | 6400 (1650) | 7170 (1850) |

3705-80

| Model | Dimensions* in (cm) | | | Service Clearance in (cm) | | | | Weight lb (kg) |
|-------|------------------------|------------|-------------|------------------------------|-------------|-------------|-------------|-------------------|
| | Front | Side | Height | Front | Rear | Right | Left | |
| All | 32 (81) | 36 (91) | 60 (152) | 44 (112) | 42 (107) | 44 (112) | 44 (112) | 1010 (460) |

*Shipping dimensions are 32" x 36" x 60" (81 cm x 91 cm x 152 cm). Removal of the covers reduces the width to 29½" (75 cm). The front panel can be removed to make the unit 29½" x 30" x 60" (75 cm x 76 cm x 152 cm).

3705-80

| Specification | Model | 60 Hz | | | 50 Hz † * | | | | |
|------------------------|-------|-------|------|------|-----------|------|------|------|------|
| Volts | All | 200* | 208 | 230 | 200 | 220 | 235 | 380 | 408 |
| Phase | All | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| KVA | All | 2.5 | 2.5 | 2.5 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 |
| Branch Circuit (Amp) | All | — | 30 | 30 | — | — | — | — | — |
| Max. Cont. Load (Amp) | All | 11.3 | 10.8 | 9.8 | 13.6 | 12.3 | 11.6 | 4.2 | 3.9 |
| Power Cord Style** | All | F1 | — | — | D2 | D2 | D2 | D2 | D2 |
| Plug Type | All | — | D | D | — | — | — | — | — |
| Power Cord Length (ft) | All | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| Power Cord Length (m) | All | 4.27 | 4.27 | 4.27 | 4.27 | 4.27 | 4.27 | 4.27 | 4.27 |

*World Trade
†For the 3705-80, 50 Hz only, the phase may be unbalanced to a ratio of 1.3 to 1.

Air Flow (3705-II or 3705-80)

880 ft³/min (25 m³/min)

Environment, Operation (3705-II or 3705-80)

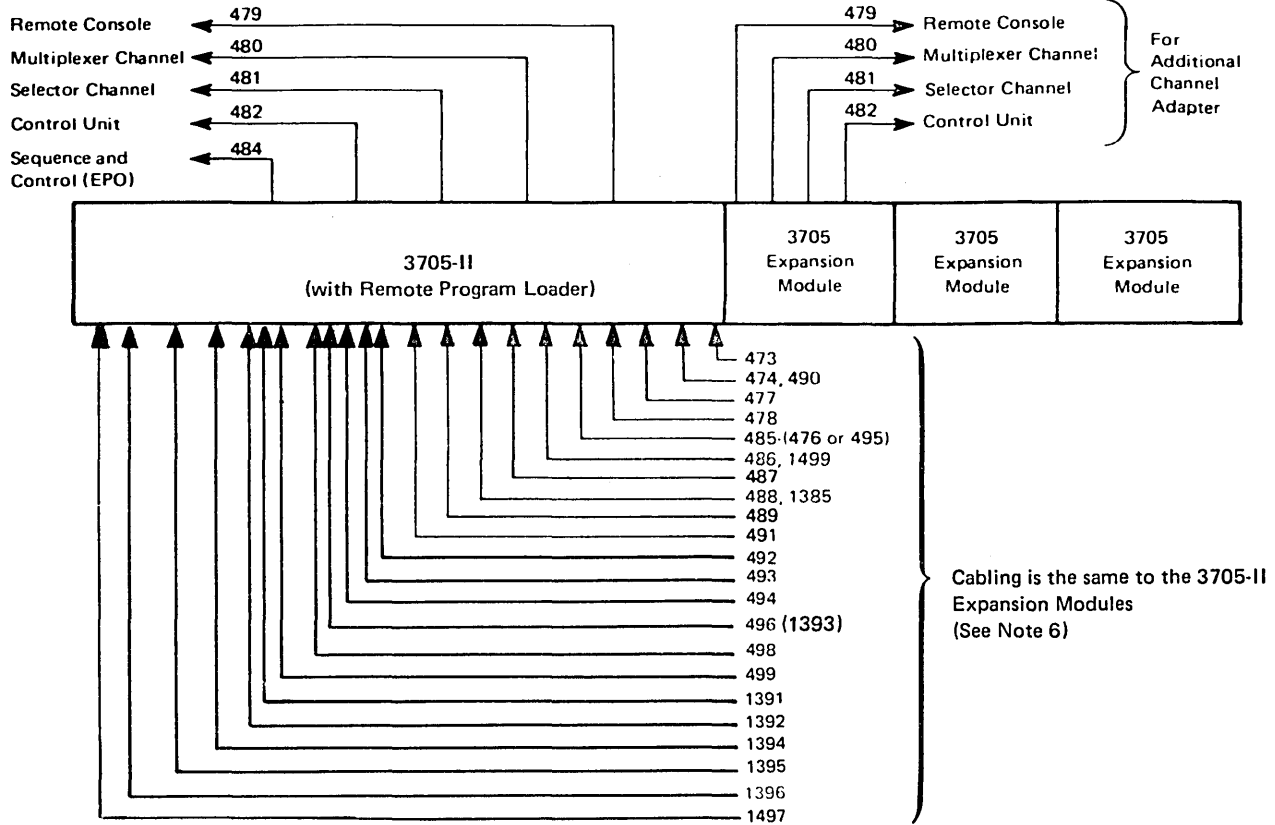
Temp. 50 to 100 °F 10 to 38 °C*
Rel. Humidity 8 to 80%
Max. Wet Bulb 78 °F 26 °C

*The upper temperature limit must be derated 1 °F (0.6 °C) for each 250 feet (76 m) of elevation above 3000 feet (914 m).

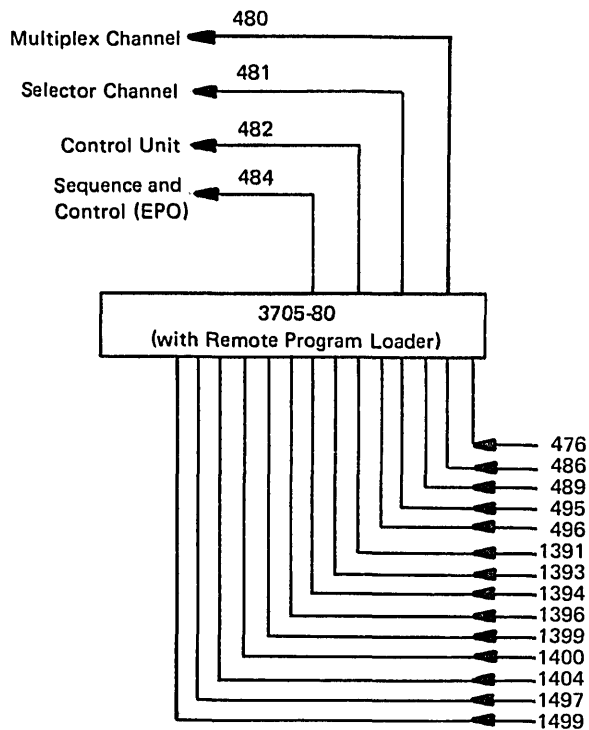
Environment, Non-operating (3705-II or 3705-80)

Temp. 50 to 110 °F 10 to 40 °C
Rel. Humidity 8 to 80%
Max. Wet Bulb 80 °F 26.7 °C

3705-II COMMUNICATIONS CONTROLLER AND 3705 EXPANSION MODULE CABLING SCHEMATIC



3705-80 COMMUNICATIONS CONTROLLER CABLING SCHEMATIC



Cables for IBM and Non-IBM Devices

| Group No. | Termination |
|------------------------------------|--|
| 473 } 492 } | 1 25-Pin EIA RS-232C or CCITT Connector (Male) |
| 474 } 490 } | 2 Pair #8 Ring Lugs |
| 476 } 495 } | 1 25-Pin EIA RS-232C Connector (Male) (See Note 2) Attaches to Group 485 or 1404 203mm Fixed Length (8 inches) |
| 477 } 478 } 485 } 486 } | 2 25-Pin EIA RS-232C or CCITT Connectors (Male) |
| 487 } 488 } 1385 } 1499 } | 2 25-Pin EIA RS-232C or CCITT Connectors (Female) |
| 489 | 12-Pin Burndy Connector for Wide-Band Modem (Male) |
| 491 } 493 } | 2 WE-283B Plugs; Customer Provides 404B Surface Mount, 493A Flush Mount, 549A Surface Mount Jacks, or Equivalent Receptacles |
| 494 } | #8 Ring Lugs (8 for each leg) |
| 496 } 1497 } | 1 34-Pin Winchester or CCITT V.35 Connector (Male) or Equivalent. |
| 498 | #8 Ring Lugs (8) |
| 499 | 1 WE-283B Plug; Customer Provides 404B Surface Mount, 493A Flush Mount, 549A Surface Mount Jacks, or Equivalent Receptacles |
| 1391 | 1 15-Pin CCITT X.21 Connector (Male) |
| 1392 } | 2 15-Pin CCITT X.21 Connectors (Female) |
| 1393 | 1 34-Pin CCITT V.35 Connector (Male) Attaches to Group 496 or 1391 203mm Fixed Length (8 inches) |
| 1396 | 1 15-Pin CCITT X.21 Connector (Male) Attaches to Group 1392 610mm Fixed Length (24 inches) |
| 1394 } 1395 } | 1 34-Pin Winchester or V.35 Connector (Female) or Equivalent |
| 1399 } 1400 } | 25-Pin EIA RS-232C Connector (Female) |
| 1404 } | 2 25-Pin EIA RS-232C Connectors (Male) |

**3705-II COMMUNICATIONS CONTROLLER AND
3705 EXPANSION MODULE CABLING SCHEMATIC**

| Feature Group Code | Group No. | Line Set | | From | To | Max Length | | Notes |
|--------------------|-----------|----------|---------------|---------------------------------|----------------------------------|------------|--------|--------------|
| | | Type | No. of Cables | | | (ft) | Meters | |
| 1543 | 479 | | 1 | 3705-II, 3705 Expansion Module | Remote Console | 150 | 45.7 | 4 |
| - | 480 | | 2 | 3705-II, 3705 Expansion Module | Multiplexer Channel | - | | 1 |
| - | 481 | | 2 | 3705-II, 3705 Expansion Module | Selector Channel | - | | 1 |
| - | 482 | | 2 | 3705-II, 3705 Expansion Module | Control Unit | - | | 1 |
| - | 484 | | 1 | 3705-II | Channel | 150 | 45.7 | 15 |
| 2944 | 496 | 1K | 1 | One High-Speed Modem | 3705-II or 3705 Expansion Module | 45 | 13.7 | 7,21 |
| 4707 | 498 | LIB 7 | 1 | Data Coupler | 3705-II or 3705 Expansion Module | 45 | 13.7 | 18 |
| 4711 | 477 or | 1A | 2 | Two IBM Modems | 3705-II or 3705 Expansion Module | 45 | 13.7 | 7, 10, 20 |
| | 478 or | 1A | 2 | Two Non-IBM Modems | 3705-II or 3705 Expansion Module | 45 | 13.7 | 7, 10, 20 |
| | 485 | 1A | 2 | Two Modems | 3705-II or 3705 Expansion Module | 45 | 13.7 | 8, 10, 20 |
| 4712 | 492 | 1B | 1 | One Low-Speed Duplex Modem | 3705-II or 3705 Expansion Module | 45 | 13.7 | 20 |
| 4713 | 487 | 1C | 2 | Two Directly Attached Terminals | 3705-II or 3705 Expansion Module | 195 | 59.4 | 12, 20 |
| 4714 | 473 or | 1D | 1 | One-Medium Speed Duplex Modem- | | | | |
| | | | | BSC, SDLC | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| | 477 or | 1D | 2 | Two IBM Modems | 3705-II or 3705 Expansion Module | 45 | 13.7 | 5, 7, 10 |
| | 478 or | 1D | 2 | Two Non-IBM Modems | 3705-II or 3705 Expansion Module | 45 | 13.7 | 5, 7, 10 |
| | 485 or | 1D | 2 | Two Modems-S/S, BSC, SDLC | 3705-II or 3705 Expansion Module | 45 | 13.7 | 2, 5, 10, 11 |
| | 487 or | 1D | 2 | Two Directly Attached Terminals | | | | |
| | | | | S/S | 3705-II or 3705 Expansion Module | 195 | 59.4 | 19 |
| | 488 or | 1D | 2 | Two Directly Attached Terminals | | | | |
| | | | | BSC | 3705-II or 3705 Expansion Module | 95 | 28.9 | 12 |
| | 1385 or | 1D | 2 | Two Directly Attached Terminals | | | | |
| | | | | SDLC | 3705-II or 3705 Expansion Module | 95 | 28.9 | 12, 13 |
| | 492 | 1D | 1 | One Low-Speed Duplex Modem S/S | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4715 | 486 or | 1E | 2 | Two Autocall Units | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| | 1499 | 1E | 2 | Two W.T. Autocall Units | 3705-II or 3705 Expansion Module | 45 | 13.7 | 7,14 |
| 4716 | 488 or | 1F | 2 | Two Directly Attached Terminals | 3705-II or 3705 Expansion Module | 95 | 28.9 | 12, 20 |
| | 1385 | 1F | 2 | Two Directly Attached Terminals | 3705-II or 3705 Expansion Module | 95 | 28.9 | 12,13,20 |
| 4717 | 489 | 1G | 1 | Wide-Band Modem | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4718 | 473 | 1H | 1 | One-Medium Speed Duplex Modem | 3705-II or 3705 Expansion Module | 45 | 13.7 | 20 |
| 4719 | None | 1J | 0 | | | | | 3 |
| 4720 | 496 | 1S | 1 | One High-Speed Modem | 3705-II or 3705 Expansion Module | 45 | 13.7 | 8 |
| 4721 | 490 or | 2A | 1 | Common-Carrier Terminal Strip | 3705-II or 3705 Expansion Module | 45 | 13.7 | 8,9 |
| | 474 | 2A | 1 | Common-Carrier Terminal Strip | 3705-II or 3705 Expansion Module | 45 | 13.7 | 7,9 |
| 4722 | 489 | 1GA | 1 | Wide-Band Modem | 3705-II or 3705 Expansion Module | 45 | 13.7 | 16 |
| 4723 | 489 | 1TA | 1 | Wide-Band Duplex Modem | 3705-II or 3705 Expansion Module | 45 | 13.7 | 16 |
| 4725 | 489 | 1T | 1 | One Wide-Band Duplex Modem | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4726 | 1497 | 1U | 1 | One High-Speed Duplex Modem | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4727 | 1394 | 1W | 1 | One Directly Attached Device | 3705-II or 3705 Expansion Module | 145 | 44.2 | 22 |
| 4728 | 1395 | 1Z | 1 | One Directly Attached Device | 3705-II or 3705 Expansion Module | 145 | 44.2 | 22 |
| 4731 | 491 | 3A | 1 | Common-Carrier Telephone Jack | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4732 | 491 | 3B | 1 | Common-Carrier Telephone Jack | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4741 | 491 | 4A | 1 | Common-Carrier Telephone Jack | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4742 | 491 | 4B | 1 | Common-Carrier Telephone Jack | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4743 | 491 | 4C | 1 | Common-Carrier Telephone Jack | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4751 | 499 | 5A | 1 | Common-Carrier Telephone Jack | 3705-II | 45 | 13.7 | 6 |
| 4752 | 499 | 5B | 1 | Common-Carrier Telephone Jack | 3705-II | 45 | 13.7 | 6 |
| 4754 | 499 | 11A | 1 | Common-Carrier Telephone Jack | 3705-II | 45 | 13.7 | 6 |
| 4755 | 499 | 11B | 1 | Common-Carrier Telephone Jack | 3705-II | 45 | 13.7 | 6 |
| 4761 | 498 | 6A | 1 | Data Coupler | 3705-II or 3705 Expansion Module | 45 | 13.7 | 18 |
| 4781 | 493 | 8A | 1 | Common-Carrier Telephone Jack | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4782 | 494 | 8B | 2 | Data Coupler | 3705-II or 3705 Expansion Module | 45 | 13.7 | 18 |
| 4784 | 499 | 10A | 1 | Common-Carrier Telephone Jack | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4785 | 493 | 12A | 1 | Common-Carrier Telephone Jack | 3705-II or 3705 Expansion Module | 45 | 13.7 | |
| 4786 | 494 | 12B | 2 | Data Coupler | 3705-II or 3705 Expansion Module | 45 | 13.7 | 18 |
| 4791 | 498 | 9A | 1 | Data Coupler | 3705-II or 3705 Expansion Module | 45 | 13.7 | 18 |

Note: Refer to the notes on the next page.

| | | | | | | | | |
|------|---------|----|---|----------------------|----------------------------------|----|------|----|
| 5655 | 1391 or | 1N | 1 | One Duplex DCE | 3505-II or 3705 Expansion Module | 45 | 13.7 | |
| | 1392 | 1N | 2 | Two Half-Duplex DCEs | 3705-II or 3705 Expansion Module | 45 | 13.7 | 17 |
| 5656 | 1391 | 1R | 1 | One Duplex DCE | 3705-II or 3705 Expansion Module | 45 | 13.7 | |

Notes:

1. Total cable length of 60.96m (200 feet) (unless modified by general control-to-channel cabling schematic) is available to attach up to eight control units.
2. SF #4714 requires cable group 485 and may require either group 476 or 495 as specified below:
 - a. One or two of group 476 is required for switched network modems that use either "Ring-Indicate" or "Coupler-Cut-Through" on pin 23. (Pins 18 and 23 are not used.)
 - b. One or two of group 495 is required for modems using a contact closure interface between pins 19 and 20. Group 495 provides compatibility between the 3705 25-pin EIA RS-232C voltage interface and the modem contact closure interface. Cable includes a jumper between pins 19 and 20 and removes the "Data Terminal Ready" voltage from pin 20.
3. Cable-connecting hardware is supplied for SF #4719; external cable is not supplied. See *IBM 3704 and 3705 Communications Controllers, Original Equipment Manufacturer's Information, GA27-3053*, for pin designations. Any customer-supplied protective conduit must *not* extend above the lower machine frame more than 6.6cm (2.6 inches).
4. In addition to the two sets of channel cables chosen, one cable group 479 is required if the type 3 channel adapters interface enable/disable switch is to be placed on the remote console (3058 or 3068).
5. The maximum cable length is 7.62m (25 feet) when the rate exceeds 7,200 bps in U.S. and Canada or 4,800 bps in World Trade countries.
6. SF #4751, #4752, #4754, and #4755 do not apply to the 3705 Expansion Module.
7. For World Trade countries only.
8. For U.S. and Canada.
9. In World Trade countries *except* Germany, SF #4721 requires one cable group 490. In Germany, SF #4721 requires one cable group 474 (provides a shielded cable).
10. In World Trade countries *except* Germany, SF #4711 and SF #4714 require one cable group 485. In Germany, SF #4711 and SF #4714 require either one group 477 when using IBM modems (provides a shielded cable) or one group 478 when using PTT mandatory modems (pins 14 and 18 are not used). United States and World Trade—for SF #4714 at transmission rates above 7200 bps U.S. or 4800 bps W.T. the cable maximum length is 7.62m (25 feet).
11. For SF #4714 (Line Set Type 1D, cable group 485). If a longer cable length is desired at the higher speeds, contact the IBM DP Special Products Marketing Representative.
12. The total cable length (including any directly-attached terminal cable) must not exceed 30.48m (100 feet) for SF #4716 and SF #4714 nor 60.96m (200 feet) for SF #4713.
13. If attaching a IBM SNA Terminal, Group 1385 must be used, otherwise order group 488.
14. SF #4715 requires one group 1499 when attaching French Caducee Automatic Calling Units, otherwise order group 486.
15. Sequence and control cable (EPO).
16. Operates only with a Type 3HS Communication Scanner.
17. SF #5655 using cable group 1392 also requires one cable group 1396. Each 3705 or 3705 expansion module (3706) requires only one 1396 cable group.
18. FCC registered protective coupler (CBS type) or equivalent.
19. For SF #4714 (Line Set Type 1D, cable group 487), the total cable length must not exceed 30.48m (100 feet) for S/S operation at 2400 bps or 60.96m (200 feet) for S/S operation at line speeds up to and including 1200 bps.
20. This line set will not be available for a 3705 after December 1, 1980. Its functions can now be performed by a 1D line set if appropriate cables are installed. See SF #4714. Consult your IBM marketing representative for details on cable requirements.
21. If SF #2944 is for attachment to a French 48K bps modem, one cable group 1393 is also required.
22. Total cable length, including the attached device cable, must not exceed 60.96m (200 feet).

3705-80 COMMUNICATIONS CONTROLLER CABLING SCHEMATIC

| Feature Group Code | Group No. | Line Set | | From | To | Max Length | | Notes |
|--------------------|-----------|----------|---------------|---|---------------------|------------|--------|--------|
| | | Type | No. of Cables | | | (ft) | Meters | |
| - | 480 | | 2 | 3705-80 | Multiplexer Channel | - | | 1 |
| - | 481 | | 2 | 3705-80 | Selector Channel | | | 1 |
| - | 482 | | 2 | 3705-80 | Control Unit | | | 1 |
| - | 484 | | 1 | 3705-80 | Channel | 150 | 45.7 | 3 |
| - | 1399 or | | 2 | Two Directly Attached S/S Terminals | 3705-80 | 195 | 59.4 | 8,9 |
| - | 1400 or | | 2 | Two Directly Attached Synchronous Terminals | 3705-80 | 95 | 29.0 | 8,10 |
| - | 1404 | | 2 | Two Modems | 3705-80 | 45 | 13.7 | 2,8,12 |
| - | 1391 | LS8 | 1 | One DCE | 3705-80 | 45 | 13.7 | 4,13 |
| 5657 | 1391 and | LS8 | 1 | One Duplex or Half-Duplex DCE Medium Speed | 3705-80 | 45 | 13.7 | 4 |
| | 1396 | | 1 | | | 2 | 0.7 | |
| 5658 | 1391 | LS9 | 1 | One Duplex or Half-Duplex DCE High Speed | 3705-80 | 45 | 13.7 | |
| 6712 | 496 | LS2 | 1 | One High-Speed Modem | 3705-80 | 45 | 13.7 | 5 |
| | 1497 | LS2 | 1 | One High-Speed Duplex Modem | 3705-80 | 45 | 13.7 | |
| 6713 | 489 | LS3 | 1 | Wide-Band Modem | 3705-80 | 45 | 13.7 | 6 |
| 6714 | 486 or | LS4 | 2 | Two Autocall Units | 3705-80 | 45 | 13.7 | 7 |
| | 1499 | LS4 | 2 | Two W.T. Autocall Units | 3705-80 | 45 | 13.7 | 7 |
| 6715 | 1394 | LS5 | 1 | One Directly Attached Terminal | 3705-80 | 145 | 44.2 | 11 |

Notes:

- Total cable length of 60.96m (200 feet) (unless modified by general control-to-channel cabling schematic) is available to attach up to eight control units.
- Cable group 1404 may require either group 476 or 495 as specified below:
 - One or two of group 476 is required for switched network modems that use either "Ring-Indicate" or "Coupler-Cut-Through" on pin 23. (Pins 18 and 23 are not used.)
 - One or two of group 495 is required for modems using a contact closure interface between pins 19 and 20. Group 495 provides compatibility between the 3705 25-pin EIA RS-232C voltage interface and the modem contact closure interface. Cable includes a jumper between pins 19 and 20 and removes the "Data Terminal Ready" voltage from pin 20.
- Sequence and control cable (EPO).
- The LS8 line set requires two cable group 1391 and one cable group 1396. Only one cable group 1396 is required for an individual 3705-80.
- For World Trade countries only:
 - If SF #6712 is for attachment to a single French 48K bps modem, one cable group 496 and one cable group 1393 are required.
 - If SF #6712 is for attachment to two half-duplex French 48K bps modems, two cable group 496 and two cable group 1393 are required.
- SF #6713 using a duplex modem requires one cable group 489. SF #6713 using two half-duplex modems requires two cable group 489.
- SF #6714 can handle a maximum of four autocall units. SF #6714 using four French Caducee autocall units requires two cable group 1499. Otherwise, order two cable group 486.
- Basic line attachment hardware is provided on all models of the IBM 3705-80. For information on the number of communication lines that can be attached to individual models of the 3705-80, refer to *Introduction to the IBM 3705-80 Communications Controller (GA27-3304)*.
- The total cable length (including any directly-attached terminal cable) must not exceed 30.48m (100 feet) for S/S operation at 2400 bps or 60.96m (200 feet) for S/S operation at line speeds up to and including 1200 bps.
- The total cable length (including any directly-attached terminal cable) must not exceed 30.48m (100 feet).
- The LS5 line set can handle two devices. SF #6715 requires one cable group 1394 to attach to each device. Total cable length, including the attached device cable, must not exceed 60.96m (200 feet).
- For operation at 19.2K bps, cable length must not exceed 6.85m (22.5 feet).
- Three LS8 line sets are provided as basic hardware segments on the 3705-80, Model 84.

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IBM 3770 Data Communication System

CONFIGURATIONS

| Machine Type | Maximum I/O Attachments | | Integrated Modems | | |
|--------------|-------------------------|---------|-------------------|----------|----------|
| | Machine | Feature | 1200 bps | 2400 bps | 4800 bps |
| 3771 | 1 | 0 | Yes | No | No |
| 3773 | 0 | 1 | Yes | No | No |
| 3774 | 3 | 3 | Yes | Yes | No |
| 3775 | 2 | 3 | Yes | Yes | No |
| 3776-1,2 | 2 | 2 | No | Yes | Yes |
| 3776-3,4 | 3 | 3 | No | No | No |
| 3777-1 | 2 | 2 | No | No | No |
| 3777-2 | 3 | 3 | No | No | No |
| 3777-3 | 4 | 3 | No | No | No |
| 3777-4 | 5 | 3 | No | No | No |

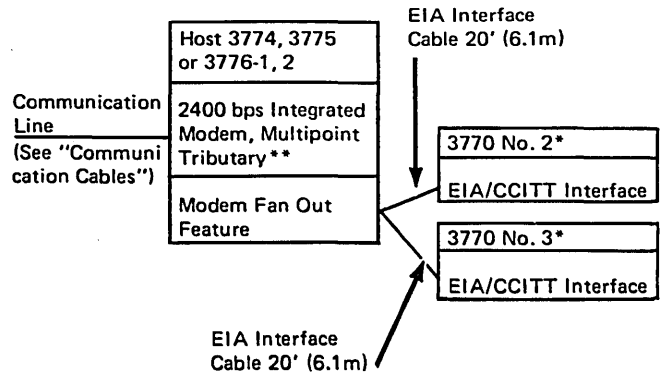
The configuration shown is suggested for convenient access to the I/O devices. Any device may occupy any I/O position shown, depending on the customer's preference.

| Attachable To | I/O Feature | | | |
|---------------|---------------------|---------------------|---------|-----------------|
| | 1st Diskette Device | 2nd Diskette Device | Display | Key Pad Numeric |
| 3771 | No | No | No | No |
| 3773 | Std.* | No | No | Yes** |
| 3774 | Yes | Yes | Yes** | Yes** |
| 3775 | Yes | Yes | Yes** | Yes** |
| 3776-1-2 | Yes | Yes | No | No |
| 3776-3-4 | Yes | Yes | Yes | No |
| 3777-1-2 | Yes | Yes | Yes | No |
| 3777-3,4 | Yes | Yes | Yes | No |

| Attachable To | I/O Machines | | | | | | |
|---------------|-----------------|-----------------|-------|------|------|------|-------|
| | 2502† 3782-2 | 3521† 3782-1 | 3501† | 3784 | 3203 | 3411 | 3262 |
| 3771 | No | Yes†† | Yes†† | No | No | No | No |
| 3773 | No | No | No | No | No | No | No |
| 3774 | Yes | Yes | Yes | Yes | No | No | No |
| 3775 | Yes | Yes | Yes | No | No | No | No |
| 3776-1,2 | Yes | Yes | Yes | No | No | No | No |
| 3776-3,4 | Yes | Yes | No | No | No | Yes | No |
| 3777-1 | Yes‡‡ | No | No | No | Std* | No | No |
| 3777-2 | Yes‡‡ | Yes | No | No | Std* | No | No |
| 3777-3 | Yes‡‡ | Yes | No | No | Std* | Yes | No |
| 3777-4 | Yes‡‡ | Yes | No | No | No | Yes | Yes** |

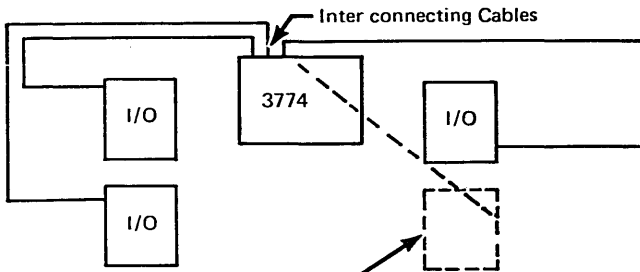
* One diskette storage device is standard on the 3773.
 ** These features are available for programmable models only.

Modem Fan Out Configuration, Integrated Modem



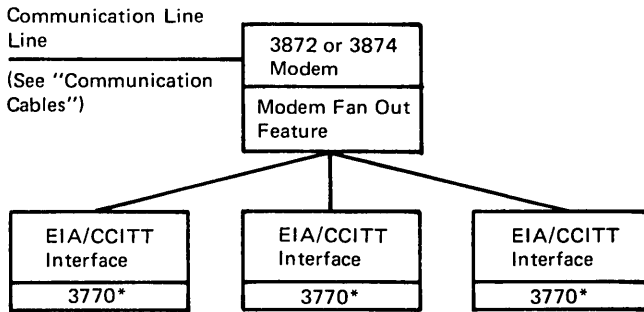
* 3771, 3773, 3774, 3775, or 3776
 ** Or 4800 bps Integrated Modem, Multipoint Tributary on the 3776.

- * 3777 Models 1, 2, and 3 must have a 3203 Printer attached.
- † Only one card reader can be attached. If a 2502 or 3501 Card Reader and a 3521 Card Punch with the Card Read feature are attached, the 3521 Card Read feature can be used only for punch checking.
- †† Either a 3501 or a 3521/3782-1 (not both) can be attached to the 3771.
- ‡‡ A 2502 can be attached directly to the 3777; the 3782-2 is not required. (The 3777 Model 2 requires either the 2502 Card Reader Attachment Feature or the combination of the disk input device and the console display features.)
- ** Two 3262s may be attached.

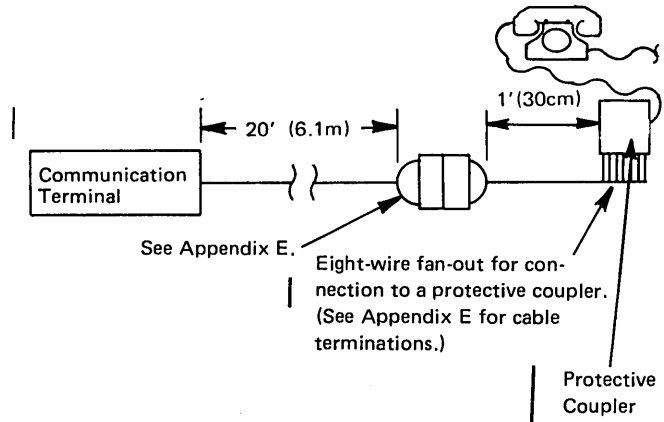


Without raised floor, I/O device should not be placed here because of restricted cable length.

Modem Fan Out with 3872 or 3874



*3771, 3773, 3774, 3775, or 3776



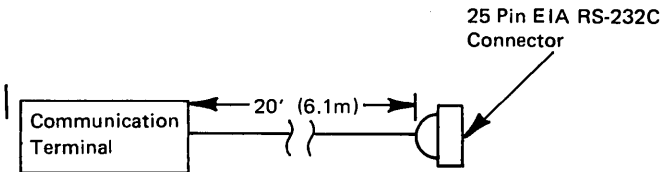
COMMUNICATION CABLES FOR 3771, 3773, 3774, 3775 and 3776-1, 2

For 3777, see "Communication Cables for 3777."

For 3776 Models 3 and 4, see "Communication Cables for 3776 Models 3 and 4."

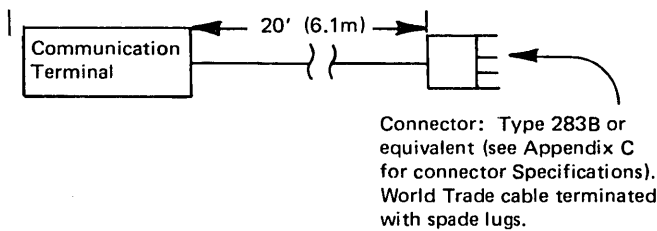
Communication Terminal to Communication Line

- Using external modem, or (with Modem Fan Out feature) EIA/CCITT Interface connection to host terminal:



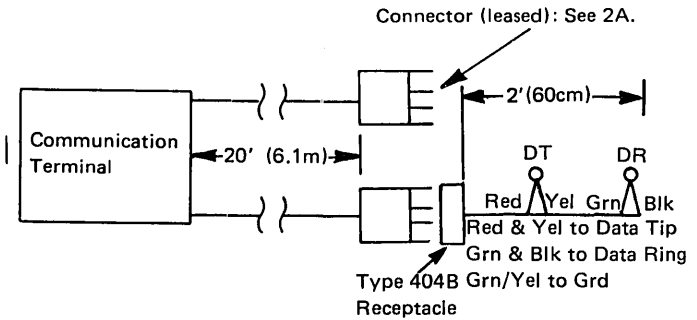
- Using an IBM Integrated Modem feature (not available on 3776-3, 4 or 3777):

- Connecting to Leased or privately owned communication lines:

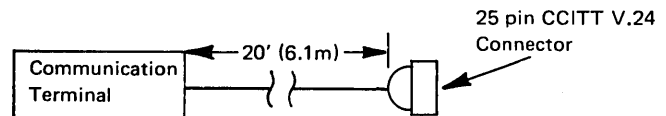


- Connecting to common-carrier switched network through an FCC registered protective coupler (CBS type) or equivalent:

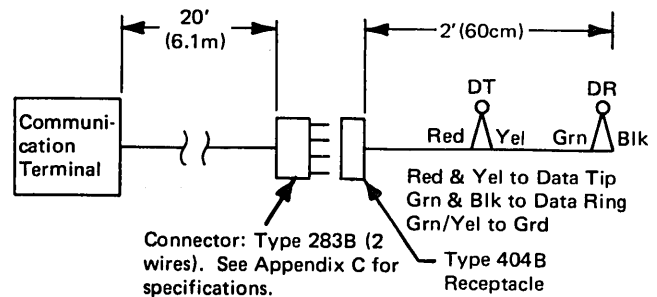
- Switched Network Backup: Connecting to common-carrier switched network through an FCC registered protective coupler (CDT type) or equivalent:



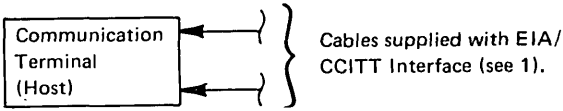
- Connecting to French CADUCEE switched network:



- Connecting to common-carrier switched network with manual answer through an FCC registered protective coupler (CDT type) or equivalent:



- f. Modem Fan Out feature: 2400 bps or 4800 bps Integrated Modem, Non-Switched. Cable supplied by EIA/CCITT Interface (see 1), Connector compatible with 25 pin EIA RS-232C connector.



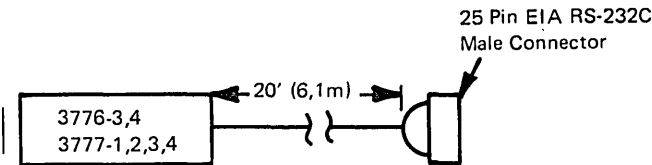
WT Switched Network (Dial) Ext Modems

- a. Business machine answer tone required
 (Modem generated if not)
- b. Modem Connection DTR
 CDSTL

COMMUNICATION CABLES FOR 3776 MODELS 3 AND 4 AND 3777 MODELS 1, 2, 3, AND 4

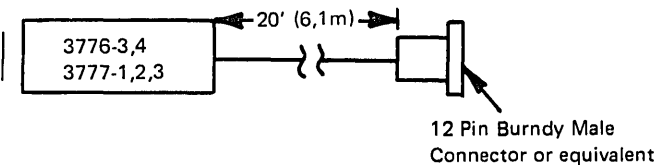
Using External Modem - EIA/CCITT V.24 Interface

EIA: 2400 – 19,200 bps
 CCITT: 2400–9600 bps

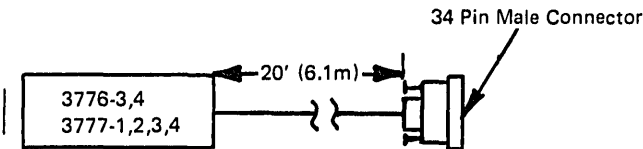


For 19,200 bps Wide Band Interface Operation

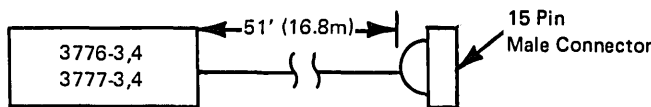
- (a) High Speed Digital Interface Connector at 19,200 bps



- (b) For CCITT V.35 at 20,400 bps



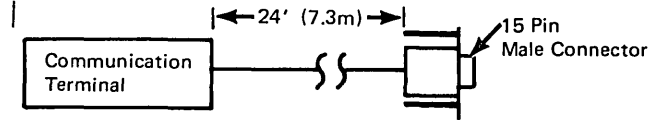
For Data-Phone* Digital Service Attachment



*Trademark of American Telephone and Telegraph Co.

COMMUNICATION CABLE FOR CCITT X.21 FEATURE

For attachment to CCITT X.21 DCE (Data Circuit-Terminating Equipment) on a non-switched network. (3771, 3774, 3775, 3776, 3777-1, 3, 4 using SDLC only)



3770 SYSTEM ENVIRONMENT (except 3777/3203 or 3776/3777 with 3411)

Operating

| | |
|-------------------|------------------------------|
| Temperature | 10° to 40.6°C (50° to 105°F) |
| Relative Humidity | 8% to 80% |
| Maximum Wet Bulb | 27°C (80°F) |

Non-Operating

| | |
|-------------------|----------------------------|
| Temperature | 10° to 52°C (50° to 125°F) |
| Relative Humidity | 8% to 80% |
| Maximum Wet Bulb | 27°C (80°F) |

3777/3203 ENVIRONMENT

Operating

| | |
|-------------------|----------------------------|
| Temperature | 16° to 38°C (60° to 100°F) |
| Relative Humidity | 8 - 80% |
| Maximum Wet Bulb | 23°C (73°F) |

Non-Operating

| | |
|-------------------|----------------------------|
| Temperature | 10° to 43°C (50° to 110°F) |
| Relative Humidity | 8% to 80% |
| Maximum Wet Bulb | 27°C (80°F) |

3776 MODELS 3 and 4/3411 ENVIRONMENT

3777 MODELS 3 and 4/3411 ENVIRONMENT

Operating

| | |
|-------------------|---------------------------|
| Temperature | 16° to 32°C (60° to 90°F) |
| Relative Humidity | 8 - 80% |
| Maximum Wet Bulb | 23°C (73°F) |

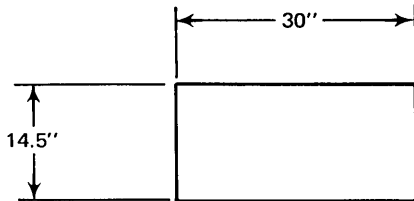
Non-Operating

| | |
|-------------------|----------------------------|
| Temperature | 10° to 43°C (50° to 110°F) |
| Relative Humidity | 8% to 80% |
| Maximum Wet Bulb | 27°C (80°F) |

**IBM 2502 CARD READER MODELS A1 AND A2
(ATTACHES TO 3782 MODEL 2)
IBM 2502 CARD READER MODELS A1, A2, AND A3
(ATTACHES TO 3776 MODELS 3 AND 4 AND
3777 COMMUNICATION TERMINAL**

Plan View

(Scale 1/2" = 1')



| Inches | Centimeter |
|--------|------------|
| 14.5 | 37 |
| 16 | 41 |
| 30 | 76 |

Dimensions

| | Front | Side | Height |
|-------------|-------|------|--------|
| Inches | 30 | 14.5 | 16 |
| Centimeters | 76 | 37 | 41 |

Service Clearances

Applicable only in a system configuration. See the 3782 Card Attachment Unit Model 2 or the 3777 Communication Terminal.

Weight

110 lb (58 kg)

Heat Output

480 BTU/hr (120 kcal/hr)

Air Flow - Convection only

Environmental Requirements:

See "3770 System Environment"

Power Requirements:

| | | | |
|------|----------|--|----------|
| | 60 hertz | | 50 hertz |
| kVA* | 0.2 | | 0.2 |

*Power is provided from the 3782 Model 2 or the 3777. The 2502 must be ordered for 115V operation with all 60Hz 3782s or 3777s, or for 220V operation with all 50Hz 3782s or 3777s.

IBM provides cables to attach the 2502 to the 3782 Model 2 or the 3777.

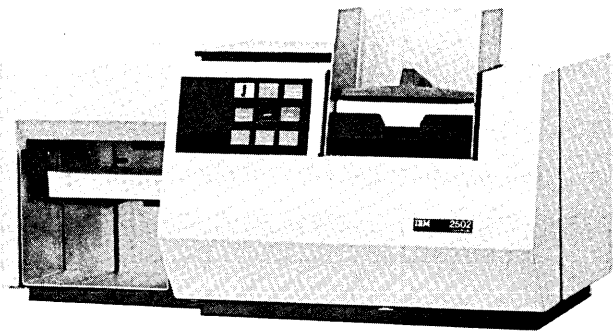


Figure 3770-1. IBM 2502 Card Reader Models A1, A2, and A3