PERFORMANCE REPORTING OPTION (PRO) 150
IDENTIFICATION INFORMATION
CALL MANAGEMENT SYSTEM (CMS)

CONTENTS PAGE

*Trademark of the Digital Equipment Corporation.

†Registered trademark of AT&T.

‡Registered trademark of the Intelligent Systems Corporation.

CONTENTS PAGE

1. GENERAL

1.01 This practice provides identification of equipment and optional hardware of the Performance Reporting Option (PRO) 150. The PRO 150 is used with a DIMENSION* PBX which has Automatic Call Distribution (ACD) Service. The PRO 150 provides performance reports and other management information for up to 143 agents connected to the PBX.

1.02 Whenever this section is reissued, the reason(s) for reissue will be listed in this paragraph.

2. IDENTIFICATION

2.01 The PRO 150 equipment (Fig. 1) is located on customer premises and provides administrative and traffic reports. The PRO 150 works in conjunction with a PBX. The PRO 150 consists of the following equipment:

A. PDP 11V03 Minicomputer

2.02 The 11V03 minicomputer is the controller for the PRO 150. The cabinet measures approximately 54.6 cm wide by 76.2 cm deep by 78.7 cm high (21.5 in. by 30 in. by 31 in.) and weighs 93 kg (205 lb).

2.03 The minicomputer is always configured with the capacity to report on 143 agents. The basic minicomputer is equipped as listed in Table A.

2.04 The 11V03 minicomputer provides the capability to handle up to five terminal devices consisting of up to three video display terminals, one of which may be remotely located, a line printer, and a maintenance dial-up port.

*Registered trademark of AT&T.

B. RX02 Floppy Disk Drive Unit

2.05 The floppy disk drive unit is contained in the minicomputer cabinet and is the data storage device within the PRO 150. The RX02 is a double-density, dual-floppy disk system that can be used as a system device and a primary backup and load device. It provides performance data storage for 143 agents.

C. DATASPEED 40 Printer

2.06 This printer is used by the PRO 150 to produce a hard copy of reports. The printer is connected to the 11V03 minicomputer with an M12R modem cord and combinations of M25A or B6A cords (Fig. 2). A BC01V-25 cord (Table A) is provided to connect between the computer (DLV11-E serial interface) and the M12R cord. The printer may be used up to 91.4m (300 ft) from the 11V03 minicomputer.

2.07 The printer measures approximately 50.8 cm wide by 44.1 cm deep by 27.9 cm high (20 in. by 17.38 in. by 11 in.) and weighs 42.4 kg (93.5 lb). The pedestal and pedestal tabletop measures approximately 61 cm wide by 30.5 cm deep by 64.8 cm high (24 in. by 12 in. by 25.25 in.) and weighs 25.4 kg (56 lb). The printer is equipped with options specified in Table B in addition to any nonspecified factory standard options.

D. VT 100 Display Terminal

2.08 One VT100 display terminal provides a black and white display and is used by the PRO 150 for maintenance. This terminal can also be used by the customer as the primary terminal. Additional terminals are optional if the total number of terminals does not exceed three. Other terminals are listed in later paragraphs.

2.09 This terminal measures approximately 47.7 cm wide by 36.2 cm deep by 36.8 cm high (18 in. by 14.25 in. by 14.5 in.). The keyboard measures approximately 47.7 cm wide by 20.3 cm deep by 8.9 cm high (18 in. by 8 in. by 3.5 in.). The combined weight is 15.5 kg (34.5 lb).

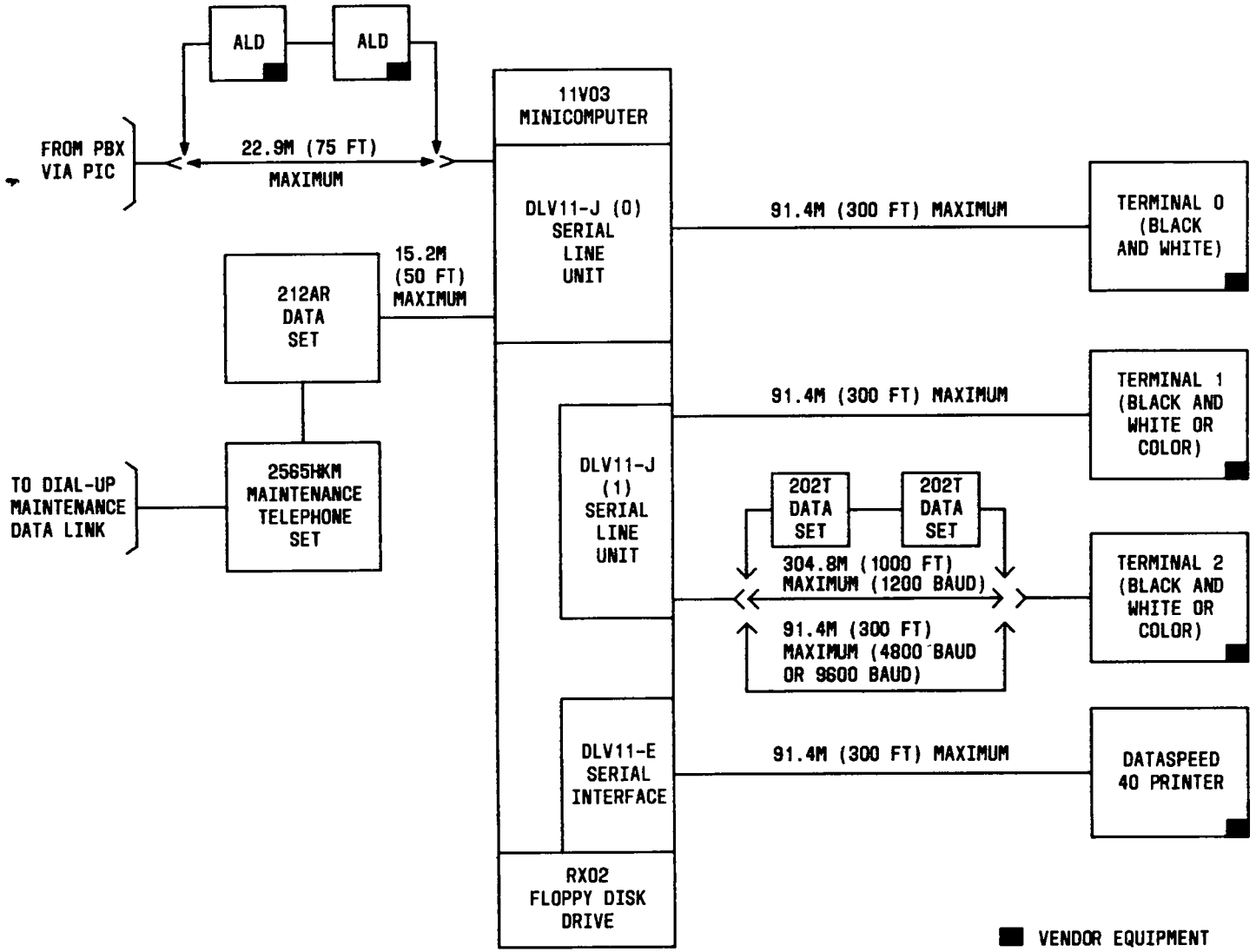
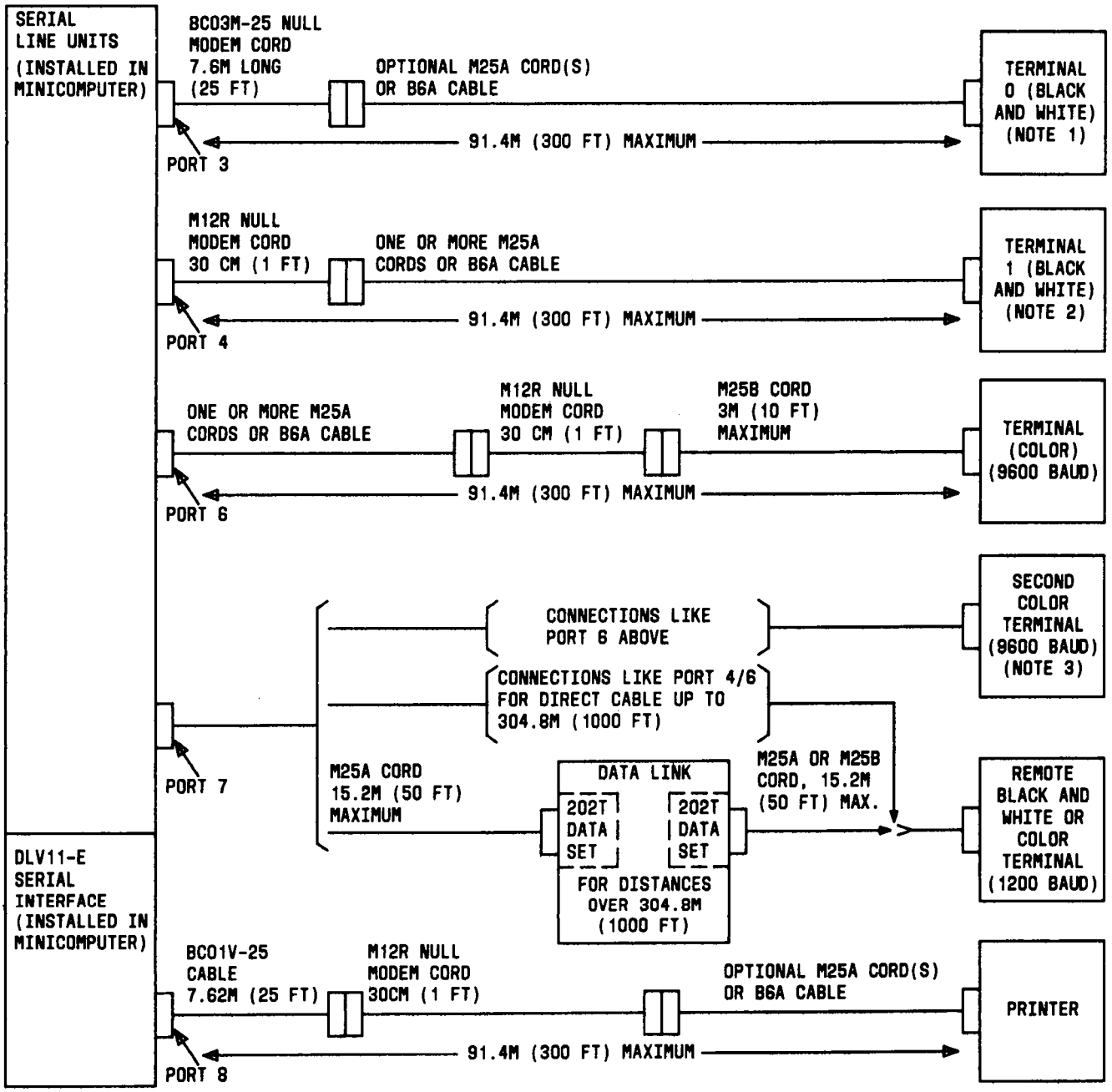


Fig. 1—Block Diagram of PRO 150 Equipment

TABLE A

MINICOMPUTER EQUIPMENT

ORDERING CODE	CODE INCLUDES	DESCRIPTION
SR-VXSSB-BK	KD11-HA	Processor
	MSV11-DD	32K words of memory
	DLV11-J	4-line serial interface
	BDV11-AA	ROM bootstrap
	RXV21	Floppy disk interface
	—	Processor power supply and backplane
	RX02	Double-density dual floppy disk drive
	H967-CA	Rollaround cabinet
DLV11-J	—	4-line serial interface
DLV11-E	—	Serial printer interface
BC01V-25	—	Adapts DLV11-E connector to RS232 (25-pin) cable



NOTES:
1. TERMINAL 0 SERVES AS COMPUTER FRONT PANEL. DURING MAINTENANCE, IT MUST BE CLOSE TO MINICOMPUTER.
2. ANOTHER BLACK AND WHITE TERMINAL MAY BE CONNECTED TO PORT 5 IF COLOR OR REMOTE TERMINALS ARE NOT USED.
3. PORT 7 MUST BE REWIRED FOR 9600 BAUD OPTION IF SECOND 9600 BAUD COLOR TERMINAL IS USED.

Fig. 2—Typical Terminal and Printer Connections

TABLE B

OPTIONS — "DATASPEED" 40 PRINTER

OPTION CODES (NOTE)	OPTION DESCRIPTION
18A	No printer paper feed out
19C	Parity error character symbol not printed
19D	Printer with 96-character set
101L	4800 baud operation
143B	Reverse channel used
146B	Paper alarm causes immediate disconnect
151B	Private line
156D	8-character bits, no parity
157A	1 stop bit
192B	16X baud rate factor
—	Tractor feed (80-column)
—	Pedestal 62.2 cm (24.5 in.) wide with a 29.2 cm (11.5 in.) paper slot (80-column)
—	Paper accumulation wire rack

Note: The order should specify the listed nonfactory options.

2.10 An M25A cord should be used to connect the terminal to the M12R null modem cord (Fig. 2). When the distance between the terminal and null modem exceeds the M25A cord length, combinations of M25A cords and/or B6A cables should be used. The M25A cords are available in 1.5, 2.7, 7.6, or 15.2m (5-, 9-, 25-, or 50-ft) lengths, and the B6A cables are supplied in standard 34.5m (100-ft) lengths or to specified lengths over 34.5m (100 ft) but less than 304.8m (1000 ft). Combinations of M25A cords and B6A cables should provide the desired length. This terminal should be ordered with options as listed in Table C.

2.11 This terminal can be connected for local or remote operation (Fig. 1). When the terminal is located 91.4m (300 ft) or less from the 11V03 minicomputer, the terminal operates at 4800 baud, and the equipment listed in Table D should be used. When the terminal is used in a remote location [more than 91.4m (300 ft) from the 11V03 minicomputer], the terminal operates at 1200 baud. Between 91.4m and 304.8m (300 and 1000 ft) the directly connected cables can be used. For remote operation over 304.8m (1000 ft) (1200 baud), two 202T data sets are required. One 202T data set is located near the minicomputer and the other near the terminal. Only one terminal may be used for remote operation [over 91.4m (300 ft)], and the equipment listed in Table E should be used.

> ***Note:*** Remote terminal operation (at 1200 baud) is not recommended since it slows down system response time and should be avoided if possible. Only one terminal can be operated at 1200 baud.

E. DATASPEED 40/2 Terminal Set

2.12 This terminal provides a black and white display for the supervisors.

2.13 The terminal measures approximately 43.2 cm wide by 63.5 cm deep by 47.9 cm high (17 in. by 25 in. by 18.88 in.) and weighs 41.7 kg (92 lb).

2.14 This terminal uses the same type cabling as the VT100 display terminal. The same cable length criteria apply for remote/local operation as for the VT100 display terminal (paragraph 2.11). See Table D or E and Fig. 2 for the required equipment. This terminal must be ordered with the options specified in Table F in addition to any nonspecified factory standard options.

F. INTECOLOR 8001GB Display Terminal

2.15 This terminal provides a color display for the supervisors. The color forecast reports are displayed on this terminal. One or two color terminals may be used with the PRO 150, but the total number of terminals must not exceed three (Fig. 1).

2.16 The terminal measures approximately 49.2 cm wide by 57.2 cm deep by 44.5 cm high (19.38 in. by 22.5 in. by 17.5 in.). The keyboard measures approximately 35.7 cm wide by 14 cm deep by 8.3 cm high (14.06 in. by 5.5 in. by 3.25 in.). The combined weight is 38.6 kg (85 lb).

2.17 A short M25B cord should be used to connect the terminal to the M12R null modem cord. ***The cord between the terminal and the null modem must not exceed 3m (10 ft).*** When the distance between the terminal and mincomputer or data set exceeds the M25B cord lengths, combinations of M25A cords and/or B6A cables should be used. The M25B cord is available in 15.2 and 27.9 cm (6- and 11-in.) lengths and in 1.2 and 3m (4- and 10-ft) lengths. See Table D or E and Fig. 2 for the required equipment and cable length criteria. This terminal must be ordered with the options listed in Table G. When used as a remote terminal [over 91.4m (300 ft)], it must be ordered with the 1200 baud option. The 9600 baud option is ordered for local operation.

G. 212AR L1/2 Data Set

2.18 This data set (or equivalent) is used as an interface to the 11V03 minicomputer for maintenance dial-up access (Fig. 1 and 3). One data set is used at the 11V03 minicomputer. The 212AR L1/2 data set operates at 1200 baud, in full duplex mode, and is used in combination with a 2565HKM telephone set. Data sets are locally provided.

2.19 This data set measures approximately 15.2 cm wide by 27.9 cm deep by 5.1 cm high (6 in. by 11 in. by 2 in.).

H. 202T Data Sets

2.20 These data sets (or equivalent) are used when the distance between the 11V03 minicomputer and terminal exceeds 304.8m (1000 ft). One data set is required at the minicomputer end and one at the terminal. Only one terminal can be remotely located; therefore, no more than two 202T data sets are needed in a system (Fig. 1 and 2).

TABLE C

OPTIONS — "VT" 100 DISPLAY TERMINAL

OPTION REQUIREMENT	OPTION DESCRIPTION
Full duplex	Simultaneously send and receive data
No parity	Parity check bit not used
1 start bit	1 data bit for beginning a character string
8 data bits	8-bit ASCII (American Standard Code Information Interchange) characters
1 stop bit	1 data bit to end character string
Uppercase and lowercase characters	Display is combination of uppercase and lowercase characters

TABLE D

DISPLAY TERMINAL DIRECT-CONNECTION REQUIREMENTS

CONNECTION	DESCRIPTION
M25A-87 Cord [7.6 to 15.2m (25 to 50 ft)]	Male-to-female extension cord used to connect terminal devices
B6A Cable [30.5 to 304.8m (100 to 1000 ft)]	Male-to-female extension cord used to connect terminal devices
M25B-87 Cord [3m (10 ft)]	Male-to-male cord used to connect color terminal (furnished with terminal)
M12R Cord [30cm (1 ft)]	Null modem cord required for terminal connection

TABLE E

DISPLAY TERMINAL CONNECTION REQUIREMENTS FOR DATA LINK

CONNECTION	DESCRIPTION
M25A-87 Cord [up to 15.2m (50 ft)]	Connects the minicomputer, black and white terminals to 202T data set
M25B-87 [up to 15.2m (50 ft)]	Male-to-male cord used to connect color terminal to 202T data set
202T Data Set*	Provides full-duplex transmission and reception of serial data between terminals and minicomputer via a 4-wire line
Private Line	4-wire private line (locally engineered)

* Two data sets are required for a remote terminal, one each at the near and far locations.

TABLE F

OPTIONS — "DATASPEED" 40/2 TERMINAL SET

OPTION (NOTE)	OPTION DESCRIPTION
3f	4800-baud operation [in distances greater than 304.8m (1000 ft), use 1200-baud operation which is the standard factory option]
10c	Line-ending sequence LF
42d	Send 8th bit as space
—	40/2 terminal with 61 cm (24-in.) pedestal
—	Editing features for 24 lines (or editing features for 72 lines and additional character storage)
—	Continuous scrolling
—	TP-402307 modification kit per specification 50855S (control character blanking)

Note: The order should specify the listed nonfactory options.

TABLE G

OPTIONS — "INTECOLOR" 8001GB DISPLAY TERMINAL

LIST NO.	OPTION (NOTE)	OPTION DESCRIPTION
1	—	Color terminal with graphic features
1	03LC	Lowercase character set
2	47	Full duplex, 9600 baud [required for distances not exceeding 91.4m (300 ft)]
3	47	Full duplex, 1200 baud [required for distances over 91.4m (300 ft)]

Note: One per list number. When a color terminal is to be used as a remote terminal, it must be ordered with the 1200 baud option unless minicomputer port 7 will be installed (optioned) as a 9600 baud port.

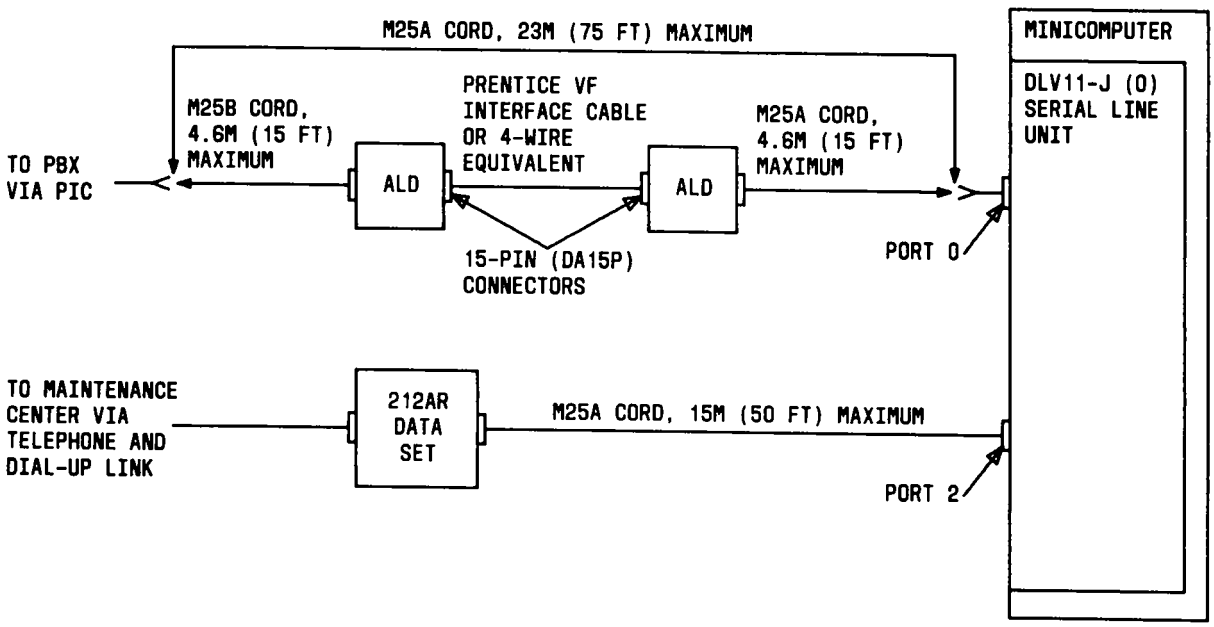


Fig. 3—Typical Connections to Maintenance Center and PBX

2.21 These data sets measure approximately 15.2 cm wide by 27.9 cm deep by 5.1 cm high (6 in. by 11 in. by 2 in.).

I. Prentice Electronics Corp Asynchronous Line Drivers (ALDs)

2.22 The ALDs used between the PBX Peripheral Interface Controller (PIC) and the PRO 150 interface when the distance is greater than 22.9m (75 ft). The ALDs operate at 1200 baud. The 4-wire line between the ALDs are locally engineered. Standard M25A cords are used to connect to the minicomputer port 0 (Fig. 3).

J. 2565HKM Telephone Set

2.23 This telephone set, or an equivalent, is used with the 212AR data set to provide a dial-up

maintenance port. See Section 502-503-104 for identification of the 2565-type telephone set.

K. Antistatic Floor Covering

2.24 An antistatic rug or mat equivalent to MISCO No. 8235, available from MISCO, INC, 963 Holmdel-Keyport Road, Holmdel, N.J., is required in front of the color terminal.

3. POWER REQUIREMENTS

3.01 Arrangements should be made to provide the installation and wiring of a locally approved panel board equipped with thermal magnetic circuit breakers and wall-mounted receptacles. The complete cost of providing the electrical service is borne by the customer. In all cases ac wiring and equipment must comply with local codes.

3.02 The PRO 150 power requirements are listed in Table H.

4. CONNECTIONS

4.01 In addition to terminal, printer, and data link cords (Fig. 1 through 3 and previous paragraphs), one 625S connecting block (or equivalent) is required for the dial-up port. Additional blocks may be required if a terminal is used in remote operation [over 304.8m (1000 ft) cable distance from the 11V03] . Only one terminal can be used in remote operation.

4.02 The PRO 150 connections to the 625S connecting block may come from the PBX cross-connect field or may be provided separately.

5. PREORDERING INFORMATION

5.01 Ordering questionaire E-8174 is available and should be used when ordering equipment and describing features needed in the PRO 150. The PRO 150 must be locally engineered to meet customer needs and may or may not include all equipment and optional features identified in this section. Table A provides cabinet information, Fig. 2 and 3 and Tables B through G provide printer and terminal information, Tables I provides miscellaneous information, and Table J provides J-coded equipment.

TABLE H

PRO 150 EQUIPMENT POWER REQUIREMENTS

DEVICE	POWER DESCRIPTION (WATTS)	WALL PLUG RECEPTACLE (NOTE 1) (NEMA NO.)	CIRCUIT (NOTE 2)
11V03 Minicomputer (Includes RX02)	940 watts at 115-Vac, ±10 percent, 60-Hz ±1 percent, single-phase, 2-wire plus ground	5-15R	15A
DATASPEED 40 Printer	230 watts at 115-Vac, ±10 percent, 60-Hz, ±0.5 percent, surge current 10A for 50 ms, single-phase, 2-wire plus ground	5-15R	15A
VT100 Display Terminal	95 watts at 90- to 128-Vac, 47- to 63-Hz, single-phase, 2-wire plus ground	5-15R	15A
INTECOLOR 8001G Display Terminal	250 watts at 115-Vac, ±10 percent, 60-Hz, ±1 percent, single-phase, 2-wire plus ground	5-15R	15A
DATASPEED 40/2 Terminal Set	260 watts at 115-Vac, ±10 percent, 60-Hz, ±0.5 percent, single-phase, 2-wire plus ground	5-15R	15A
212AR Data Set	9 watts at 115-Vac, ±10 percent, 60-Hz, ±5 percent single-phase, 2-wire plus ground	5-15R	15A
202T Data Set	7 watts at 115-Vac, ±10 percent, 60-Hz, ±5 percent, single-phase, 2-wire plus ground	5-15R	15A

Note 1: Or equivalent, customer provided.

Note 2: Three terminals and the data sets may be operated from the same 15A fused ac supply.

TABLE I

MISCELLANEOUS EQUIPMENT

625S Connecting Block	Maintenance dial-up connections*

* Additional blocks may be required for remote terminal operation.

TABLE J

J-CODED EQUIPMENT

LIST NO.	QTY PER LIST	CODE	DESCRIPTION
J59218A	1	SR-VXSSB-BK	Minicomputer (PDP 11V03)
1	1	DLV11-J	4-line serial interface
	1	DLV11-E	Serial printer interface
	1	BC01V-25	Cable for DLV11-E connection to printer cord
2	1*	VT100-AA	Keyboard display terminal
3	1 package of 10	RX01K	Floppy diskette
J59218B†	1	8001G	Color terminal with graphic features
1	1	Option 03LC	Lowercase character set
2‡	1	Option 47	Full duplex, 9600 baud
3‡	1	Option 47	Full duplex, 1200 baud

* The VT100 display terminal is a maintenance terminal and should be located close to the minicomputer. Additional terminals may be DATASPEED 40/2 terminal sets, INTECOLOR display terminals, or VT100 display terminals.

† One or two color terminals may be provided. One terminal may be used in local operation and another in remote operation or both terminals may be used in local operation.

‡ Terminal(s) should be ordered with either Lists 1 and 2 or Lists 1 and 3.

6. REFERENCES

6.01 This issue is based on the following drawings:

DRAWING	TITLE
SD-66959-01	PBX Systems—12A and 13A Customer Information Systems—Computer and Terminal Equipment
J59224A	Management Information System—Performance Reporting Option—Minicomputer Equipment Specification
J59224B	Management Information System—Software Equipment Specification

6.02 Other related PRO 150 documents are as follows:

DOCUMENT	TITLE
554-010-147	Performance Reporting Option (PRO) 150—Descriptive Information—Call Management System (CMS)

DOCUMENT	TITLE
554-010-149	Performance Reporting Option (PRO) 150—Preinstallation Information—Call Management System (CMS)
554-010-150	Performance Reporting Option (PRO) 150—Call Management System (CMS)—Installation, Test, and Maintenance (TOP)
999-500-141	Performance Reporting Option (PRO) 150—Operations Manual
809-160-155	Management Information System—Performance Reporting Option (PRO) 150—Equipment Design Requirements—PBX Systems
TLM-65200-01	12A Customer Information System (CIS) Error Messages
E-8174	Ordering Questionaire—Performance Reporting Option (PRO) 150