OMNIPORT* NETWORK CHANNEL TERMINATING EQUIPMENT
GENERAL DESCRIPTION

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1. GENERAL

1.01 This practice provides a general description of OMNIPORT NCTE (Network Channel Terminating Equipment). This equipment is designed for use at the customer premises to provide transmission and signaling enhancement on voice-frequency special service and analog data circuits.

1.02 This practice is reissued to provide information on new equipment offerings; to add new Tables C, D, and G; and to rewrite Part 5, "Ordering OMNIPORT NCTE." Tables C and D list the circuit pack and mounting features, respectively; Table G lists the data interface kits available. Change arrows are used to indicate information added to the practice.

1.03 ▶The following is a listing of the new equipment covered in this reissue:

- Circuit packs: BPT22, BPT24, BPT25, BPT42, BPT43, BPT61, BPT62, and BPT63
- Mounting arrangements: 146B, 146R, 146S, and 146T
- 10A Unit, Data Interface. ◀

1.04 The OMNIPORT NCTE provides the following features:

- Single-circuit mountings for analog data and maintenance applications.
- Universal mountings for 3, 6, and 12 circuit packs.
- ▶Universal mounting cabinets for 48, 72, and 84 circuit packs.◀
- Plug-in circuit packs compatible with 400-format general trade equipment.
- Plug-in circuit packs that combine transmission, signaling, and maintenance functions into a single unit.
- Network maintenance functions that allow remote testing to determine if a trouble is in the network facility or customer equipment.
- Receptacle-mounted power supplies that convert 117 volts commercial ac power to ±12 volts dc, −48 volts dc, ▶or 24 volts ac.
- A series of DIUs (data interface units) for analog data applications. These DIUs can be used as replacements for 829-type data auxiliary sets.◀
- A test extender for convenient alignment and testing of circuit packs.

These features, combined with a universal lead plan, provide a flexible and economical means of terminating voice-frequency and analog data services at the customer premises.

1.05 The OMNIPORT NCTE is designed to operate satisfactorily in heated, non-air-conditioned buildings over a temperature range of 0 to 50° Celsius with a relative humidity range of 5 to 95 percent.

1.06 Table A is a summary of the equipment available in the OMNIPORT NCTE System. General information on this equipment is given in this practice; more detailed information is given in the practices listed in Table A.

2. DESCRIPTION AND APPLICATION

A. Plug-In Circuit Packs

2.01 All plug-in circuit packs are approximately 1.45 inches wide, 5.60 inches high, and 5.90 inches deep. Circuit pack adjustments and option settings are typically located on the printed wiring board. The circuit packs can be mounted in any OMNIPORT NCTE mounting, or equivalent, that provides a proper powering arrangement to the unit. A typical OMNIPORT NCTE circuit pack is shown in Fig. 1.

2.02 A variety of OMNIPORT NCTE circuit packs are available for voice-frequency special service and analog data applications. Table B lists types of services and the OMNIPORT NCTE circuit packs used to provide that service. The facility interface codes the circuit packs are designed to operate with are included where applicable. Table C provides a summary of the major features of each circuit pack.

Maintenance and Provisioning Aid for 2-Wire Circuits

BPT10

2.03 The BPT10 is a dual 2-wire maintenance termination unit for use at the customer premises on voice-frequency special service circuits. This unit allows a tester at a remote location to evaluate the network facility and determine if a trouble condition is in the facility or in the customer equipment.

2.04 When activated, the BPT10 removes the customer equipment from the circuit and provides 1010-, 404-, and 2804-Hz test tones and 600-ohm quiet terminations for making loss, equalization, return loss, and noise tests on the network facility. When testing is completed, or on automatic time-out, the BPT10 restores the normal connection of network facility to the customer equipment.

2.05 The BPT10 is designed to provide maintenance terminating functions for two circuits and to allow selection of either a manual test routine or a SARTS (Switched Access Remote Testing System) test routine. This unit can be mounted in any OMNIPORT NCTE mounting, or equivalent, that provides either −48 or ±12 volts dc power to the circuit pack.

Range Extension for Off-Premises Stations

BPT20

2.06 The BPT20 is a 2-wire loop-start-only signaling repeater designed for use on off-premises stations that require signaling range extension. It provides passive transmission, −48 volt talk battery, and a means of sending 20-Hz ringing signals. The BPT20 automatically limits current on both the network and customer (PBX) side of the unit and is compatible with distinctive ringing. The BPT20 has no switch controls and, therefore, requires no user adjustments. The BPT20 can be used with the following facility interface codes: OL13A, OL13B, and OL13C.

2.07 The BPT20 requires a −48 volt dc power supply. A BPT1 20-Hz ringing generator, or equivalent, must be used with the unit to provide the necessary station-side ringing signal.

BPT21

2.08 The BPT21 provides the same transmission and signaling functions as the BPT20; plus, it provides a maintenance testing feature that allows a tester at a remote location to determine if a trouble condition is in the network facility or in the customer equipment.

2.09 When the maintenance feature is activated, the unit disconnects the customer equipment from the circuit and applies 30 seconds of 1010 Hz, −16 dBm tone to the network facility followed by 30 seconds of a 600-ohm quiet termination. The circuit is then returned to normal operation.

BPT1

2.10 The BPT1 ringing generator provides an 86-volt RMS, 20-Hz sine-wave ringing signal superimposed on −48 volts dc. The BPT1 20-Hz ringing generator, or equivalent, must be used with the BPT20 and BPT21 loop-start signaling repeaters to provide ringing signals toward the station equipment.

2.11 The BPT1 can be installed in any OMNIPORT NCTE multicircuit mounting, or equivalent, that supplies −48 volts dc power to the unit. One BPT1 ringing generator will supply ringing to all units on a shelf.

> ***Note:*** Because of its potentially high current drain during ringing, the BPT1 requires a −48 volt dc power supply rated at least 0.5 ampere.

◗*BPT22*

2.12 The BPT22 automatic terminal repeater can be used to provide transmission treatment on long off-premises station lines. The BPT22 is described in paragraphs 2.13 and 2.14.

PBX-to-Central-Office Trunks

BPT22

2.13 The BPT22 is a 2-2 wire automatic terminal repeater with through signaling (i.e., signaling is routed through the unit with no signaling treatment). Automatic terminal balance is provided through the PBX for a variety of facility types including nonloaded and loaded cable, mixed gauge cable,

and cable with bridged taps. This unit supplies 0 to 7.5 dB of gain in 0.5-dB steps in both directions of transmission. Slope equalization is also available in both directions of transmission to equalize nonloaded facilities with up to 10 dB of 1-kHz insertion loss.

2.14 The BPT22 can be mounted in any OMNIPORT NCTE multicircuit mounting, or equivalent, that provides −48 volts dc power to the unit.

PBX Tie Trunks

BPT24

2.15 The BPT24 is a 2/2-4 wire terminal repeater and E&M-to-DX signaling conversion unit. The BPT24 provides a 4-wire interface to the network facility and a switch selectable 2-wire or 4-wire interface toward the customer equipment.

2.16 The BPT24 presents a 600-ohm impedance to the customer equipment and a switch selectable 600- or 1200-ohm impedance to the network to match nonloaded or loaded facilities, respectively. Adjustable gain is provided in both directions of transmission: −12 to +15 dB in 1-dB steps for signals transmitted to the network and −12 to +15.5 dB in 0.5-dB steps for signals received from the network. Also, 0 to 7 dB of 2804-Hz equalization is available in 1-dB steps for signals received from the network. In addition, the unit converts DX signaling received from the network facility to Type I or Type II E&M signaling toward the customer. Either the DX1 or DX2 mode of E&M signaling can be selected. The BPT24 can be used with any of the following facility interface codes: TL11M, TL11E, TL12M, TL12E, TL31M, TL31E, TC31M, TC31E, TL32M, TL32E, TC32M, and TC32E.

2.17 The BPT24 can be mounted in any OMNIPORT NCTE multicircuit mounting, or equivalent, that supplies −48 volts dc power to the unit.

BPT25

2.18 The BPT25 provides the same transmission and signaling functions as the BPT24; plus, it provides a loopback feature that allows a tester at a remote location to evaluate the network facility and determine if a trouble condition is in the facility or in the customer equipment. When the loopback feature is activated, the unit disconnects the customer equipment from the circuit and maintains a 0-dB gain loopback connection for 4 minutes. During this time a busy indication is sent to the customer equipment on the E&M leads.

BPT40

2.19 The BPT40 is a 4-wire terminal repeater and E&M-to-DX signaling conversion unit designed to provide an interface between 4-wire PBX tie trunks and 4-wire customer equipment.

2.20 The BPT40 presents a 600-ohm impedance to the customer equipment and a switch selectable 600- or 1200-ohm impedance to the network to match nonloaded or loaded facilities, respectively. Adjustable gain is provided in both directions of transmission: −12 to +15 dB in 1-dB steps for signals transmitted to the network and −12 to +15.5 dB in 0.5-dB steps for signals received from the network. Also, 0 to 7 dB of 2804-Hz equalization is available in 1-dB steps for signals received from the network. In addition, the unit converts DX signaling received from the network facility to Type I or Type II E&M signaling toward the customer. Either the DX1 or DX2 mode of E&M signaling can be selected. The BPT40 can be used with any of the following facility interface codes: TL31M, TL31E, TC31M, TC31E, TL32M, TL32E, TC32M, and TC32E.

2.21 The BPT40 can be mounted in any OMNIPORT NCTE multicircuit mounting, or equivalent, that supplies −48 volts dc power to the unit.

BPT41

2.22 The BPT41 provides the same transmission and signaling functions as the BPT40; plus, it provides a maintenance loopback feature that allows a tester at a remote location to evaluate the network facility and determine if a trouble condition is in the facility or in the customer equipment. When the loopback feature is activated, the unit disconnects the customer equipment from the circuit and maintains a 0-dB gain loopback connection for 4 minutes. During this time a busy indication is sent to the customer equipment on the E&M leads.

▶*BPT42*

2.23 The BPT42 is a 4-wire terminal repeater and E&M-to-SF (single-frequency) signal conversion unit designed to provide an interface between 4-wire PBX tie trunks and 4-wire customer equipment.

2.24 The BPT42 presents a 600-ohm impedance to the customer equipment and a switch selectable 600- or 1200-ohm impedance to the network to match nonloaded or loaded facilities, respectively. Adjustable gain is provided in both directions of transmission: −12 to +15 dB in 1-dB steps for signals transmitted to the network and −12 to +15.5 dB in 0.5-dB steps for signals received from the network. Also, 0 to 7 dB of 2804-Hz equalization is available in 1-dB steps for signals received from the network. In addition, the unit converts 2600-Hz SF signaling received from the network facility to Type I or Type II E&M signaling toward the customer. Either the DX1 or DX2 mode of E&M signaling can be selected. The BPT42 can be used with any of the following facility interface codes: TL31M, TL31E, TC31M, TC31E, TL32M, TL32E, TC32M, and TC32E.

2.25 The BPT42 can be mounted in any OMNIPORT NCTE multicircuit mounting, or equivalent, that supplies −48 volts dc power to the unit.

BPT43

2.26 The BPT43 provides the same transmission and signaling functions as the BPT42; plus, it provides a maintenance loopback feature that allows a tester at a remote location to evaluate the network facility and determine if a trouble condition is in the facility or in the customer equipment. When the loopback feature is activated, the unit disconnects the customer equipment from the circuit and maintains a 0-dB gain loopback connection for 4 minutes.◀

4-Wire Analog Data Service

BPT60

2.27 The BPT60 DIU (data interface unit) is a 4-wire terminal repeater with a maintenance loopback feature and optional sealing current return path. This unit is designed for use on private line analog data circuits and can be used as a replacement for 829-type data auxiliary sets.

2.28 The BPT60 presents a 600-ohm impedance to the customer equipment and a switch selectable 600- or 1200-ohm impedance to the network to match nonloaded or loaded facilities, respectively. Adjustable gain is provided in both directions of transmission: −12 to +15 dB in 1-dB steps for signals transmitted to the network and −12 to +15.5 dB in 0.5-dB steps for signals received from the network. Also, 0 to 7-dB of 2804-Hz equalization is available in 1-dB steps for signals received from the network. A sealing current option is included on this unit to provide a return path for sealing current applied at the far end of the circuit.

2.29 When the maintenance loopback feature is activated, the unit disconnects the customer equipment from the circuit and inserts a 16-dB gain loopback connection for 4 minutes. During this time a busy indication is sent to the customer equipment on the SI and SIR leads. After 4 minutes the loopback connection will time-out and the circuit will return to normal operation.

2.30 The BPT60 can be mounted in any OMNIPORT NCTE mounting, or equivalent, that provides ±12 volts dc power to the unit.

▶*BPT61*

2.31 The BPT61 DIU is a 4-wire terminal repeater with a maintenance loopback feature and optional sealing current return path. This unit is designed for use on private line analog data circuits and can be used as a replacement for 829-type data auxiliary sets.

2.32 The BPT61 presents a 600-ohm impedance to the customer equipment and a switch selectable 150-, 600-, or 1200-ohm impedance to the network. The 600- and 1200-ohm impedance is used to match nonloaded or loaded facilities, respectively. The 150-ohm impedance is used to provide mismatch equalization on nonloaded facilities. Adjustable gain is provided from −20.0 to +26.5 dB in 0.1-dB steps in both directions of transmission. The unit also provides 0 to 7 dB of 2804-Hz equalization in 1-dB steps for signals received from the network. A sealing current option is included to provide a return path for sealing current applied at the far end of the circuit.

2.33 When the maintenance loopback feature is activated, the unit disconnects the customer equipment from the circuit and inserts a switch se-

lectable 8- or 16-dB gain loopback connection. The loopback connection can be released when facility tests are completed or allowed to automatically time out after 20 minutes. While the loopback connection is provided, a busy indication is sent to the customer equipment on the SI and SIR leads. The sealing current return path is opened as an indication to the central office that the maintenance feature is in use. After the loopback connection is released, or times out, the circuit is returned to normal operation.

2.34 The BPT61 can be mounted in any OMNIPORT NCTE mounting, or equivalent, that provides either −48 or ±12 volts dc power to the unit.

BPT62

2.35 The BPT62 DIU is a 2/4-4 wire terminal repeater with a maintenance loopback feature and optional sealing current return path. This unit provides a 4-wire interface to the network facility and a switch selectable 2-wire or 4-wire interface to the customer equipment. The BPT62 is designed for use on private line analog data circuits and can be used as a replacement for 829-type data auxiliary sets.

2.36 The BPT62 presents a 600-ohm impedance to the customer equipment and a switch selectable 150-, 600-, or 1200-ohm impedance to the network. The 600- and 1200-ohm impedance is used to match nonloaded or loaded facilities, respectively. The 150-ohm impedance is used to provide mismatch equalization on nonloaded facilities. Adjustable gain is provided from −20 to +26.5 dB in 0.1-dB steps in both directions of transmission. The unit also provides 0 to 15 dB of 2804-Hz equalization in 1-dB steps for signals received from the network. A sealing current option is included to provide a return path for sealing current applied at the far end of the circuit.

2.37 When the maintenance loopback feature is activated, the unit disconnects the customer equipment from the circuit and inserts a switch selectable 0-, 8-, or 16-dB gain loopback connection. The loopback connection can be released when facility tests are completed or allowed to automatically time out after 20 minutes. While the loopback connection is provided, a busy indication is sent to the customer equipment on the SI and SIR leads. The sealing current return path is opened as an indication to the central office that the maintenance feature is in use. After the loopback connection is released, or times out, the circuit returns to normal operation.

2.38 The BPT62 can be mounted in any OMNIPORT NCTE mounting, or equivalent, that provides either −48 or ±12 volts dc power to the unit.

BPT63

2.39 The BPT63 DIU is a 4-wire passive terminal repeater with a maintenance loopback feature and optional sealing current return path. The BPT63 is designed for use on private line analog data circuits and can be used as a replacement for the 829A data auxiliary set.

2.40 The BPT63 presents a 600-ohm impedance to the customer equipment and a switch selectable 600- or 1200-ohm impedance to the network to match nonloaded or loaded facilities, respectively. The unit provides 0 to 15 dB of attenuation in 1-dB steps in both directions of transmission. A sealing current option is included to provide a return path for sealing current applied at the far end of the circuit.

2.41 When the maintenance loopback feature is activated, the unit disconnects the customer equipment from the circuit and inserts a switch selectable 8- or 16-dB gain loopback connection. The loopback connection can be released when facility tests are completed or allowed to automatically time out after 20 minutes. While the loopback connection is provided, a busy indication is sent to the customer equipment on the SI and SIR leads. The sealing current return path is opened as an indication to the central office that the maintenance feature is in use. After the loopback connection is released, or times out, the circuit returns to normal operation.

2.42 The BPT63 can be mounted in any OMNIPORT NCTE mounting, or equivalent. This unit has a line power option that can be used to provide remote power to the unit from a −48 volt central office battery or a sealing current source, or the unit can be powered at the customer premises by either a −48 or ±12 volt dc power supply.

10A Unit

2.43 The 10A Unit is a self-contained DIU that is functionally equivalent to a BPT62 DIU permanently mounted in a 146B single-circuit mounting.

The 10A Unit can be powered by either −48 volts dc or 24 volts ac.◀

B. Mountings

2.44 The OMNIPORT NCTE circuit pack mountings are universal mountings for 400-format circuit packs. Single-circuit mountings and 3-, 6-, and 12-circuit mountings are available that can be wall mounted or placed on a desk or shelf. Figure 2 shows the single-circuit mountings and the 10A Unit, while Fig. 3 shows the multicircuit mountings. ▶Mounting cabinets are available to house up to 48, 72, or 84 circuit packs. These cabinets are equipped with −48 volt dc bulk power supplies. These cabinets are equipped with casters for ease of placement. The cabinets are shown in Fig. 3. Table D provides a listing of the major features of each mounting arrangement.◀

2.45 The 146A and 146B single-circuit mountings are designed primarily for analog data service. The remaining mountings and cabinets are universal mountings for voice-frequency special services, analog data, and digital data applications. These mountings will accept general trade 400-format circuit packs. Power is provided to the single- and multicircuit mountings by receptacle-mounted power supplies: −48 volt supplies for voice frequency special services; and either −48 or ±12 volt supplies for analog data services. ▶Power for the cabinets is supplied by built-in −48 volt dc power supplies. Outlet strips are included in the cabinets so receptacle-mounted power supplies can be used to provide ±12 volts dc if necessary.◀ External power may be used where available to power any of the mounting arrangements.

146A Single-Circuit Mounting

2.46 The 146A mounting consists of a formed metal base that holds one circuit pack and a molded plastic cover. The mounting is 2.38 inches high, 6 inches wide, 10.25 inches long, and weighs 1.25 pounds. The cover is molded from almond-colored plastic and can support the weight of a standard telephone set and modem, if desired.

2.47 The base houses one circuit pack and is powered by a ±12 volt dc power supply. Circuit connections are provided through a 56-pin card-edge connector, a 14-position screw terminal strip, and an 8-pin modular jack. The 14-position terminal strip terminates the network, power supply, and ground leads. The 8-pin modular jack terminates the customer equipment leads. An M8AA adapter is included with the 146A mounting to provide a 50-position miniature ribbon plug data interface, if desired.

▶146B Single-Circuit Mounting

2.48 Compared to the 146A mounting, the 146B mounting has a viewing window for checking the status of circuit pack indicators and a wider choice of means for connecting to the customer equipment. The 146B mounting consists of a formed metal base that holds one circuit pack and a molded plastic cover. The mounting is 2.38 inches high, 6 inches wide, 10.25 inches long, and weighs 1.25 pounds. The cover is molded from almond-colored plastic and can support the weight of a standard telephone set and modem, if desired.

2.49 The base houses one circuit pack and is powered by either a ±12 or −48 volts dc power supply. Circuit connections are provided through a 56-pin card-edge connector, a 16-position terminal strip, a 50-position miniature ribbon plug, and an 8-pin modular jack. The circuit pack is plugged into the card-edge connector; network and power connections are made to the terminal strip; and customer connections can be made to the terminal strip, the 50-position plug, or the 8-pin jack.◀

146C 3-Circuit Mounting

2.50 The 146C mounting consists of a metal frame that can hold up to three 400-type circuit packs, a printed wire backplane, and a black metal cover. The mounting is 8.38 inches high, 5 inches wide, 8.5 inches deep, and weighs 5 pounds.

2.51 The printed wire backplane provides all the required connections between the circuit packs and the network, customer, and power leads. Three 56-pin card-edge connectors connect to the circuit packs, while eight screw-type terminals accept power supply and ground leads, and a 50-position miniature ribbon plug terminates the network and customer leads.

146F 6-Circuit Mounting

2.52 The 146F mounting consists of a metal frame that can hold up to six 400-type circuit packs, a printed wire backplane, and a black metal cover.

The mounting is 8.38 inches high, 9.75 inches wide, 8.5 inches deep, and weighs 8 pounds.

2.53 The printed wire backplane provides all the required connections between the circuit packs and the network, customer, and power leads. Six 56-pin card-edge connectors connect to the circuit packs, while eight screw-type terminals accept power supply and ground leads, and two 50-position miniature ribbon plugs terminate the network and customer leads.

146L 12-Circuit Mounting

2.54 The 146L mounting consists of a metal frame that can hold up to twelve 400-type circuit packs, a printed wire backplane, and a black metal cover. The mounting is 8.38 inches high, 19 inches wide, 8.5 inches deep, and weighs 15 pounds.

2.55 The printed wire backplane provides all the required connections between the circuit packs and the network, customer, and power leads. Twelve 56-pin card-edge connectors connect to the circuit packs, while 15 screw-type terminals accept power supply and ground leads, and four 50-position miniature ribbon plugs terminate the network and customer leads.

▶146R 48-Circuit Mounting Cabinet

2.56 The 146R 48-circuit mounting cabinet contains four 12-circuit mounting shelves; a −48 volt, 6 ampere dc power supply; and a 5-outlet power strip. The 146R cabinet is 49.5 inches high, 26 inches wide, and 21.5 inches deep, and weighs about 220 pounds. If ±12 volt dc power is required for analog data services or the BPT10 maintenance termination unit, separately available ±12 volt dc power supplies can be mounted on the power strip located in the cabinet.

2.57 Customer and network connections are made to four 50-position miniature ribbon plugs on the printed wire backplane of each mounting shelf. The −48 volt dc power supply is factory wired to terminals on the shelf backplanes. If receptacle-mounted power supplies, or other power arrangements, are used, connections must be made to the appropriate terminals on the backplanes of each affected mounting shelf.

146S 72-Circuit Mounting Cabinet

2.58 The 146S 72-circuit mounting cabinet contains six 12-circuit mounting shelves; a −48 volt, 6 ampere dc power supply; and an 8-outlet power strip. The 146S cabinet is 75 inches high, 26 inches wide, and 20 inches deep, and weighs about 260 pounds. If ±12 volt dc power is required for analog data services or the BPT10 maintenance termination unit, separately available ±12 volt dc power supplies can be mounted on the power strip located in the cabinet.

2.59 Customer and network connections are made to four 50-position miniature ribbon plugs on the printed wire backplane of each mounting shelf. The −48 volt dc power supply is factory wired to terminals on the shelf backplanes. If receptacle-mounted power supplies or other power arrangements are used, connections must be made to the appropriate terminals on the backplanes of each affected mounting shelf.

146T 84-Circuit Mounting Cabinet

2.60 The 146T 84-circuit mounting cabinet contains seven 12-circuit mounting shelves; a −48 volt, 8 ampere dc power supply; and an 8-outlet power strip. The 146T cabinet is 75 inches high, 26 inches wide, and 21.5 inches deep, and weighs about 285 pounds. If ±12 volt dc power is required for analog data services, separately available ±12 volt dc power supplies can be mounted on the power strip located in the cabinet.

2.61 Customer and network connections are made to four 50-position miniature ribbon plugs on the printed wire backplane of each mounting shelf. The −48 volt dc power supply is factory wired to terminals on the shelf backplanes. If receptacle-mounted power supplies, or other power arrangements, are used, connections must be made to the appropriate terminals on the backplanes of each affected mounting shelf.◀

C. Power Supply Kits

2.62 Table E contains a listing of the power supply kits for use with the 146-type mountings. Each kit includes a power supply and a 6-foot cord terminated in spade lugs. If a longer cord is required, 22- or 24-gauge, plastic-insulated, inside telephone wire can be used to make a cord up to a maximum length of 15 feet (spade lugs are not required).

D. Mounting Kits

2.63 Complete mounting kits are available that include a 146-type mounting, a receptacle-mounted power supply, and a 6-foot power cord. Table F lists the available mounting kits.

2.64 The power supplies included in the mounting kits will be appropriate for most applications of the mounting. However, when plug-ins with high current drains (e.g., BPT1, 20-Hz ringing generator and some general trade plug-ins) are used, a power supply with a higher current rating may be required. If this is the case, the mounting and power supply must be ordered separately.

> ***Note:*** Because of its potentially high current drain during ringing, the BPT1 requires a −48 volt dc power supply rated at least 0.5 ampere.

▶E. Data Interface Kits

2.65 Data interface kits are available for use in analog data applications. These data interface kits consist of a data interface unit, a single-circuit mounting, and a receptacle-mounted power supply with a 6-foot power cord. Table G is a listing of the data interface kits available.◀

F. 43A Test Extender

2.66 The 43A test extender provides a convenient method of testing and aligning OMNIPORT NCTE circuit packs. It provides access for testing and monitoring all network and customer leads and for verifying proper performance of any circuit pack with which it is associated. It also provides test access to all the power and ringing leads.

G. M8AA Adapter

2.67 The M8AA adapter converts the 8-pin modular jack on the 146A single-circuit mounting to a 50-position miniature ribbon plug data interface.

H. 149A Mounting Hinge Assembly

2.68 The 149A mounting hinge assembly is a steel backplate with a dual-hinge arrangement to allow swing-out access to the backplane of the 146L mounting when wall mounted. Access to the backplane is obtained by compressing the levers on one of the hinges. This will disengage the hinge and allow the mounting to swing on the hinge at the opposite end of the mounting. The procedure is repeated to resecure the mounting to the backplate assembly.

3. COMPATIBILITY

3.01 The OMNIPORT NCTE products are compatible with central office equipment such as MFT (Metallic Facility Terminal) circuit packs, D3 and D4 channel banks, and F- and G-signaling equipment. The OMNIPORT NCTE products are also compatible with SLC* -96 Subscriber Carrier Systems.

4. MAINTENANCE

4.01 The OMNIPORT NCTE mountings, power supplies, and circuit packs require no routine maintenance. Defective equipment should be returned to the nearest AT&T Service Center for repair.

▶5. ORDERING OMNIPORT NCTE◀

5.01 There are three levels of ordering service available for OMNIPORT NCTE products.

(a) ***Order Invoice Service:*** Order invoice service provides next-day delivery for items stocked at AT&T Service Centers. If 3- to 5-day delivery is acceptable, a transship option offers a discount on the order invoice service charge. Requests for order invoice service and the order invoice service transship option must be on separate orders; they cannot be mixed on the same order. The cost of order invoice service is the unit price plus an order invoice service charge. The cost of the transship option is the unit price plus an order invoice service charge, less the transship discount.

(b) ***Stock Order Service:*** Stock order service provides 2- to 3-week delivery of items from an AT&T Material Management Center. The cost of stock order service is the unit price plus a stock order service charge.

(c) ***Schedule Order Service:*** Schedule order service provides 6- to 13-week delivery of items from an AT&T Material Management Center. The cost of schedule order service is the unit price with no additional service charge.

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5.02 A user friendly order placement service is available to assist customers not familiar with the procedures to place orders directly into AT&T mechanized ordering systems. The user friendly service consists of an AT&T Regional Customer Service/ Order Management representative who will assist the customer in placing an order. The customer service representative will determine the appropriate level of ordering service from the required delivery date and input the order into the appropriate ordering system. Orders requesting user friendly service can be placed in person, by telephone, terminal, or hardcopy. Your AT&T account representative can provide specific details on how to request user friendly service.◀

▶TABLE A◀

OMNIPORT NCTE PRODUCTS

UNIT NO.	DESCRIPTION	WORDING TO USE WHEN ORDERING OMNIPORT NCTE PRODUCTS	CLEI CODE	COMCODE	PRACTICE NO.	DATA SHEET
	OMNIPORT CIRCUIT PACKS					
BPT 1	20-Hz Ringing Generator	(Qty) Pack, Circuit, BPT1	NCRG000AXX	103805610	332-620-113	332-005-410
BPT10	Dual 2W MTU	(Qty) Pack, Circuit, BPT10	NCTM100AXX	103805628	332-620-111	332-005-411
BPT20	2W LSO Sig Rptr	(Qty) Pack, Circuit, BPT20	NC22100AXX	103805743	332-620-112	332-005-412
BPT21	2W LSO Sig Rptr + Maint	(Qty) Pack, Circuit, BPT21	NC22101AXX	103805750	332-620-112	332-005-413
BPT22	2W Auto. Rptr	(Qty) Pack, Circuit, BPT22	NC22200AXX	103805768	332-620-114	332-005-414
BPT24	2/4-4W Rptr/DX Sig	(Qty) Pack, Circuit, BPT24	NC24110AXX	103805784	332-620-115	332-005-420
BPT25	2/4-4W Rptr/DX Sig + Maint	(Qty) Pack, Circuit, BPT25	NC24111AXX	103805792	332-620-115	332-005-421
BPT40	4W Rptr/DX Sig	(Qty) Pack, Circuit, BPT40	NC44110AXX	103805966	332-620-110	332-005-422
BPT41	4W Rptr/DX Sig + Maint	(Qty) Pack, Circuit, BPT41	NC44111AXX	103805974	332-620-110	332-005-423
BPT42	4W Rptr/SF Sig	(Qty) Pack, Circuit, BPT42	NC44120AXX	103805982	332-620-116	332-005-424
BPT43	4W Rptr/SF Sig + Maint	(Qty) Pack, Circuit, BPT43	NC44121AXX	103805990	332-620-116	332-005-425
BPT60	4W Data Interface Unit	(Qty) Pack, Circuit, BPT60	NCDI000AXX	103806188	332-620-130	332-005-430
BPT61	4W Data Interface Unit	(Qty) Pack, Circuit, BPT61	NCDI020AXX	103806196	332-620-133	332-005-433
BPT62	2/4-4W Data Interface Unit	(Qty) Pack, Circuit, BPT62	NCDI010AXX	103806204	332-620-131	332-005-431
BPT63	4W Passive Data Interface Unit	(Qty) Pack, Circuit, BPT63	NCDI040AXX	103806212	332-620-132	332-005-432
	OMNIPORT MOUNTINGS					
146A	1-Ckt Mtg	(Qty) Mounting Apparatus, 146A	NCMA010A	103813440	332-620-101	
146B	1-Ckt Mtg	(Qty) Mounting Apparatus, 146B	NCMA060A	103813556	332-620-106	
146C	3-Ckt Mtg	(Qty) Mounting Apparatus, 146C	NCMA020A	103813564	332-620-102	
146F	6-Ckt Mtg	(Qty) Mounting Apparatus, 146F	NCMA030A	103813598	332-620-103	
146L	12-Ckt Mtg	(Qty) Mounting Apparatus, 146L	NCMA040A	103813648	332-620-104	
146R	48-Ckt Mtg With −48 V Pwr Sup	(Qty) Mounting Apparatus, 146R	NCMA070A	103813689	332-620-107	
146S	72-Ckt Mtg With −48 V Pwr Sup	(Qty) Mounting Apparatus, 146S	NCMA050A	103813697	332-620-105	
146T	84-Ckt Mtg With −48 V Pwr Sup	(Qty) Mounting Apparatus, 146T	NCMA080A	103813705	332-620-108	

▶TABLE A◀ (Contd)

OMNIPORT NCTE PRODUCTS

UNIT NO.	DESCRIPTION	WORDING TO USE WHEN ORDERING OMNIPORT NCTE PRODUCTS	CLEI CODE	COMCODE	PRACTICE NO.	DATA SHEET
	OMNIPORT POWER SUPPLY KITS					
11BC	±12 V dc 0.2 A	(Qty) Kit, Power Supply, 11BC	PWGQ00AA	103818589		
11BD	−48 V dc 0.25 A	(Qty) Kit, Power Supply, 11BD	PWGQ00CA	103818597		
11BF	±12 V dc 0.4 A	(Qty) Kit, Power Supply, 11BF	PWGQ00EAA	103818613		
11BG	−48 V dc 0.5 A	(Qty) Kit, Power Supply, 11BG	PWGQ00FA	103818621		
11BM	±12 V dc 1.0 A	(Qty) Kit, Power Supply, 11BM	PWGQ00HA	103818670		
11BN	−48 V dc 1.2 A	(Qty) Kit, Power Supply, 11BN	PWGQ00JA	103818688		
11BR	−48 V dc 0.1 A	(Qty) Kit, Power Supply, 11BR	PWGQ00LA	103818704		
11BS	24 V ac 0.3 A	(Qty) Kit, Power Supply, 11BS	PWGQ00MA	103818712		
	OMNIPORT MOUNTING KITS					
11A	146A 1-Ckt Mtg and 11BC ±12 V, 0.2 A Pwr Sup	(Qty) Kit, Mounting, 11A	NCGQ002A	103813143		
11C	146C 3-Ckt Mtg and 11BC ±12 V, 0.2 A Pwr Sup	(Qty) Kit, Mounting, 11C	NCGQ004A	103813267		
11D	146C 3-Ckt Mtg and 11BD −48 V, 0.25 A Pwr Sup	(Qty) Kit, Mounting, 11D	NCGQ005A	103813275		
11F	146F 6-Ckt Mtg and 11BF ±12 V, 0.4 A Pwr Sup	(Qty) Kit, Mounting, 11F	NCGQ007A	103813291		
11G	146F 6-Ckt Mtg and 11BG −48 V, 0.5 A Pwr Sup	(Qty) Kit, Mounting, 11G	NCGQ008A	103813309		
11M	146L 12-Ckt Mtg and 11BM ±12 V, 1.0 A Pwr Sup	(Qty) Kit, Mounting, 11M	NCGQ010A	103813358		
11N	146L 12-Ckt Mtg and 11BN −48 V, 1.2 A Pwr Sup	(Qty) Kit, Mounting, 11N	NCGQ011A	103813366		

▶TABLE A◀ (Contd)

OMNIPORT NCTE PRODUCTS

UNIT NO.	DESCRIPTION	WORDING TO USE WHEN ORDERING OMNIPORT NCTE PRODUCTS	CLEI CODE	COMCODE	PRACTICE NO.	DATA SHEET
	DATA INTERFACE KITS					
10A	DIU in Single-Circuit Mounting	(Qty) Unit, Data Interface, 10A	NCDI031A	104052162	332-620-134	
11AA	BPT60 DIU + 146A Mtg + 11BC Pwr Sup Kit + M8AA Cable Adapter	(Qty) Kit, Mounting, 11AA	NCGQ001A	103813150		
11AB	BPT60 DIU + 146B Mtg + 11BC Pwr Sup Kit	(Qty) Kit, Mounting, 11AB	NCGQ015A	103813168		
11AC	10A DIU + 11BS Pwr Sup Kit	(Qty) Kit, Mounting, 11AC	NCGQ016A	103813176		
11AD	BPT61 DIU + 146B Mtg + 11BC Pwr Sup Kit	(Qty) Kit, Mounting, 11AD	NCGQ017A	103813184		
	MISCELLANEOUS EQUIPMENT					
M8AA	Cable Adapter	(Qty) Adapter, Cable, M8AA		104006341		
149A	Mounting Hinge Assembly	(Qty) Mounting, 149A		103830790		
43A	Test Extender	(Qty) Extender, Test, 43A	NCTE100AXX	103832002	332-620-120	
	3-Outlet Power Strip	(Qty) Strip, Outlet No. 22.75-3-10WC		900662859		
	8-Outlet Power Strip	(Qty) Strip, Outlet No. 57.37-8-15WC		900637687		

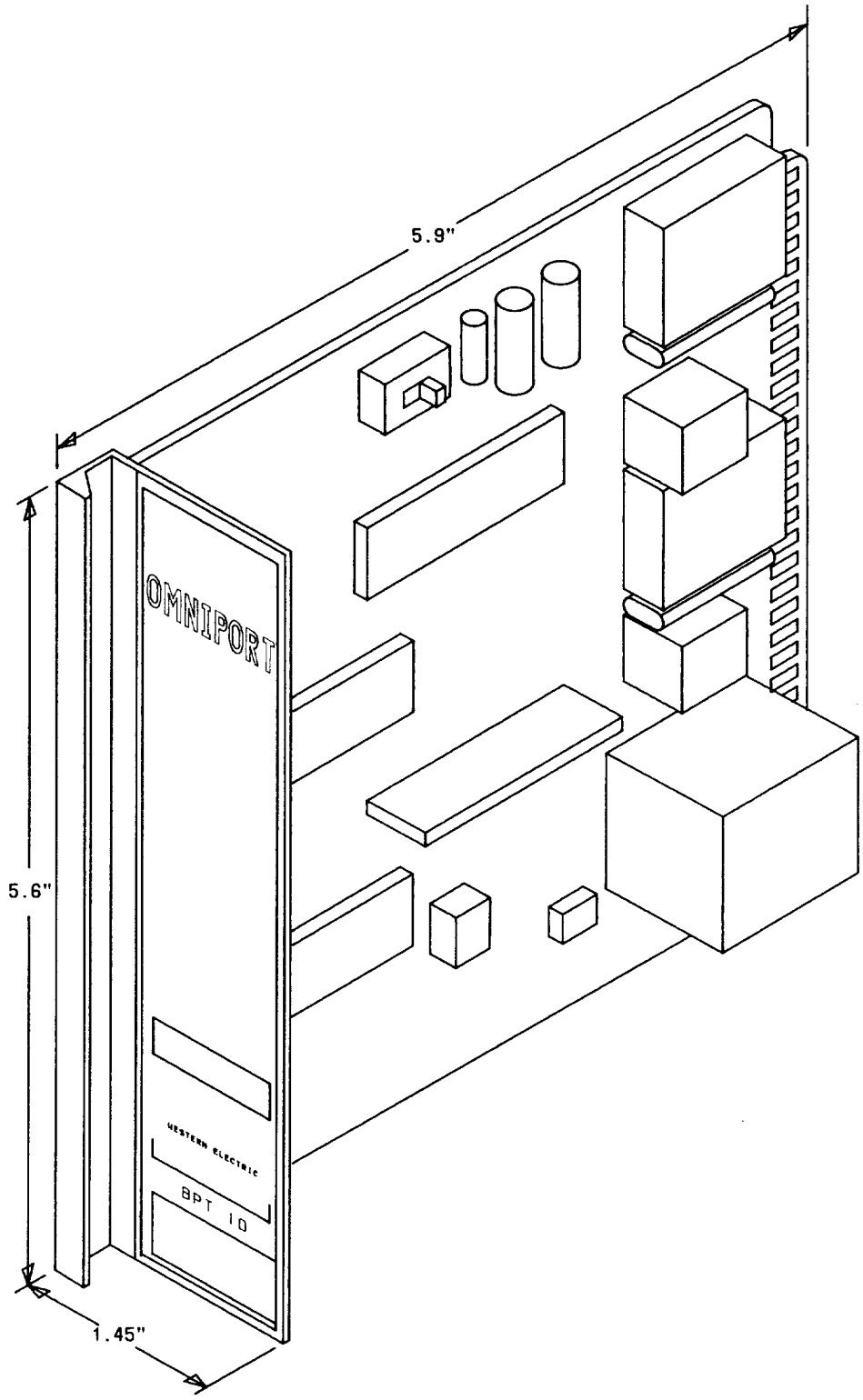


Fig. 1—Typical OMNIPORT NCTE Circuit Pack

TABLE B

CIRCUIT PACK APPLICATIONS

TYPE OF SERVICE	FACILITY INTERFACE CODE	RECOMMENDED CIRCUIT PACKS (NOTE)
2-Wire maintenance termination		BPT10 dual 2-wire MTU
Off-premises station	OL13A OL13B OL13C	BPT20*, 2-wire LSO signaling repeater BPT21*, 2-wire LSO signaling repeater with maintenance
2-Wire PBX-CO trunks requiring terminal balance		BPT22, 2-wire automatic repeater
4-Wire tie trunks with DX signaling (4-wire customer interface)	TL31M TL31E TC31M TC31E TL32M TL32E TC32M TC32E	BPT24, 2/4-4 wire repeater with E&M to DX signaling conversion BPT25, 2/4-4 wire repeater with E&M to DX signaling conversion with maintenance BPT40, 4-wire repeater with E&M to DX signaling conversion BPT41, 4-wire repeater with E&M to DX signaling conversion with maintenance
4-Wire tie trunks with DX signaling (2-wire customer interface)	TL11M TL11E TL12M TL12E	BPT24, 2/4-4 wire repeater with E&M to DX signaling conversion BPT25, 2/4-4 wire repeater with E&M to DX signaling conversion with maintenance
4-Wire tie trunks with SF signaling (4-wire customer interface)	TL31M TL31E TC31M TC31E TL32M TL32E TC32M TC32E	BPT42, 4-wire repeater with E&M to SF signaling conversion BPT43, 4-wire repeater with E&M to SF signaling conversion with maintenance
Analog data		BPT60, 4-wire data interface unit BPT61, 4-wire data interface unit BPT62, 2/4-4 wire data interface unit BPT63, 4-wire passive data interface unit 10A Unit†, 2/4-4 wire data interface unit hard-wired in mounting

Note: A circuit pack recommended for a type of service can be used with any of the listed facility interfaces.

* BPT20 and BPT21 circuit packs require a BPT1, 20-Hz ringing generator, or equivalent, to supply ringing to the station.

† The 10A Unit is a data interface circuit hard-wired in a single-circuit mounting.

TABLE C

CIRCUIT PACK FEATURES

UNIT	FEATURES
BPT1	20-Hz Ringing Generator • Provides an 86-volt RMS, 20-Hz sine-wave, ringing signal superimposed on −48 volts dc. • Can provide ringing for all circuit packs in a 12-circuit mounting shelf. • Powered by a −48 volt dc power supply (must be rated at least 0.5 ampere).
BPT10	Dual 2-Wire Maintenance Terminating Unit • Serves two 2-wire voice-frequency or analog data circuits. • Allows evaluation of a trouble condition from a remote test location. • Reduces maintenance costs. • Reduces provisioning costs on circuits with central office equipment. • Operates in manual or SARTS test modes. • Provides 404-, 1010-, and 2804-Hz tones at −16 dBm and a 600-ohm quiet termination for making loss, equalization, return loss, and noise tests on the network facility. • When idle, provides a lossless metallic connection between customer equipment and network facility. • Powered by either −48 volts dc or ±12 volts dc.
BPT20	2-Wire Loop-Start Only Signaling Repeater • Provides signaling range extension on off-premises station circuits. • Compatible with distinctive ringing signals. • Automatic current limiting toward network and customer. • Provides regenerated −48 volt talk battery and 20-Hz ringing signals to customer equipment (BPT1 ringing generator, or equivalent, required as a ringing signal source). • Provides a passive transmission path in both directions. • Powered by −48 volts dc.
BPT21	2-Wire Loop-Start Only Signaling Repeater With Remote Maintenance Feature • Has same features as BPT20 plus a maintenance feature for remote testing of the network facility. • Maintenance feature is activated by a 2-second 2713-Hz tone. • When the maintenance feature is activated, the unit disconnects the customer equipment and applies 30 seconds of 1010-Hz, −16 dBm tone to the network facility followed by 30 seconds of 600-ohm quiet termination. • The maintenance feature automatically returns the circuit to normal operation. • Powered by −48 volts dc.

TABLE C (Contd)

CIRCUIT PACK FEATURES

UNIT	FEATURES
BPT22	2-Wire Automatic Terminal Repeater • Provides 0 to 7.5 dB of gain in 0.5-dB steps in both directions of transmission. • Provides equalization in both directions of transmission for nonloaded facilities with up to 10 dB of 1-kHz insertion loss. • Through signaling provided (signaling is routed through unit with no treatment). • Provides automatic terminal balance through a PBX for various types of cable facilities including nonloaded cable, loaded cable, mixed-gauge cable, and cable with bridged taps. • Powered by −48 volts dc.
BPT24	2/4-4 Wire Terminal Repeater With DX Signaling • Provides a 4-wire interface to the network facility and a switch selectable 2-wire or 4-wire interface to customer equipment. • Converts E&M signals received from customer equipment to DX signals for use over the network facility. • Switch selectable 600- or 1200-ohm network-side impedance to match nonloaded or loaded facilities, respectively. • Provides −12 to +15 dB of gain in 1-dB steps for signals transmitted to the network. • Provides −12 to +15.5 dB of gain in 0.5-dB steps for signals received from the network. • Provides 0 to 7 dB of 2804-Hz post-equalization in 1-dB steps for signals received from the network. • Powered by −48 volts dc.
BPT25	2/4-4 Wire Terminal Repeater With DX Signaling and Maintenance Loopback Feature • Has the same features as BPT24 plus a maintenance loopback feature for remote testing of the network facility. • The maintenance feature is activated by a 2-second 2713-Hz tone. • When the maintenance feature is activated, the unit disconnects the customer equipment and provides a 0-dB gain loopback connection across the network facility. • The loopback connection will automatically time-out after 4 minutes and return the circuit to normal operation. • The unit presents a circuit busy indication to the customer equipment while the maintenance feature is activated. • Powered by −48 volts dc.
BPT40	4-Wire Terminal Repeater With DX Signaling • Converts E&M signals received from customer equipment to DX signals for use over the network facility. • Switch selectable 600- or 1200-ohm network-side impedance to match nonloaded or loaded facilities, respectively. • Provides −12 to +15 dB of gain in 1-dB steps for signals transmitted to the network. • Provides −12 to +15.5 dB of gain in 0.5-dB steps for signals received from the network. • Provides 0 to 7 dB of 2804-Hz equalization in 1-dB steps for signals received from the network. • Powered by −48 volts dc.

TABLE C (Contd)

CIRCUIT PACK FEATURES

UNIT	FEATURES
BPT41	4-Wire Terminal Repeater With DX Signaling and Maintenance Loopback Feature • Has the same features as BPT40 plus a maintenance loopback feature for remote testing of the network facility. • The maintenance feature is activated by a 2-second 2713-Hz tone. • When the maintenance feature is activated, the unit disconnects the customer equipment and provides a 0-dB gain loopback connection across the network facility. • The loopback connection will automatically time out after 4 minutes and return the circuit to normal operation. • The unit presents a circuit busy indication to the customer equipment while the maintenance feature is activated. • Powered by –48 volts dc.
BPT42	4-Wire Terminal Repeater With SF Signaling • Converts E&M signals received from customer equipment to 2600-Hz SF signaling for use over the network facility. • Switch selectable 600- or 1200-ohm network-side impedance to match nonloaded or loaded facilities, respectively. • Provides –12 to +15 dB of gain in 1-dB steps for signals transmitted to the network. • Provides –12 to +15.5 dB of gain in 0.5-dB steps for signals received from the network. • Provides 0 to 7 dB of 2804-Hz equalization in 1-dB steps for signals received from the network. • Switch adjustable SF tone levels. • Powered by –48 volts dc.
BPT43	4-Wire Terminal Repeater With SF Signaling and Maintenance Loopback Feature • Has same features as BPT42 plus a maintenance loopback feature for remote testing of the network facility. • The maintenance feature is activated by a 2-second 2713-Hz tone. • When the maintenance feature is activated, the unit disconnects the customer equipment and provides a 0-dB gain loopback connection across the network facility. • The loopback connection will automatically time-out after 4 minutes and return the unit to normal operation. • Powered by –48 volts dc.

TABLE C (Contd)

CIRCUIT PACK FEATURES

UNIT	FEATURES
BPT60	4-Wire Data Interface Unit • 4-Wire terminal repeater with maintenance loopback feature for remote testing of network facility. • Can be used as a replacement for 829-type data auxiliary sets. • Switch selectable 600- or 1200-ohm network-side impedance to match nonloaded or loaded facilities, respectively. • Provides −12 to +15 dB of gain in 1-dB steps for signals transmitted to the network. • Provides −12 to +15.5 dB of gain in 0.5-dB steps for signals received from the network. • Provides 0 to 7 dB of 2804-Hz equalization in 1-dB steps for signals received from the network. • An optional sealing current return path is available. • Monitor jacks provide test access to the customer-side transmit and receive paths. • The maintenance feature is activated by a 2-second 2713-Hz tone. • When the maintenance feature is activated, the unit disconnects the customer equipment and provides a 16-dB gain loopback connection across the network facility. • The loopback connection will automatically time out after 4 minutes and return the unit to normal operation. • The unit presents a circuit busy indication to the customer equipment while the maintenance feature is activated. • Powered by ±12 volts dc.
BPT61	4-Wire Data Interface Unit • 4-Wire terminal repeater with maintenance loopback feature for remote testing of network facility. • Can be used as replacement for 829-type data auxiliary sets and the BPT60 DIU. • Switch selectable 600- or 1200-ohm network-side impedances to match nonloaded or loaded facilities, respectively. • Provides −20 to +26.5 dB of gain in 0.1-dB steps in both directions of transmission. • Provides 0 to 7 dB of 2804-Hz equalization in 1-dB steps for signals received from the network. • A switch selectable 150-ohm network-side impedance can be used to provide impedance mismatch equalization for nonloaded cable. • An optional sealing current return path is available. • Monitor jacks provide test access to the customer-side transmit and receive leads. • The maintenance feature is remotely activated after removal of a 2-second 2713-Hz tone. • The maintenance feature is locally activated by shorting pins 37 and 39 (feature will remain activated until short is removed). • When the maintenance feature is activated, the unit disconnects the customer equipment and provides a switch selectable 8- or 16-dB gain loopback connection across the network facility. • The loopback connection can be remotely deactivated by a 1-second 2713-Hz tone. • If not remotely deactivated, the maintenance feature will automatically time out after 20 minutes and return the unit to normal operation. • Powered by either −48 volts dc or ±12 volts dc.

TABLE C (Contd)

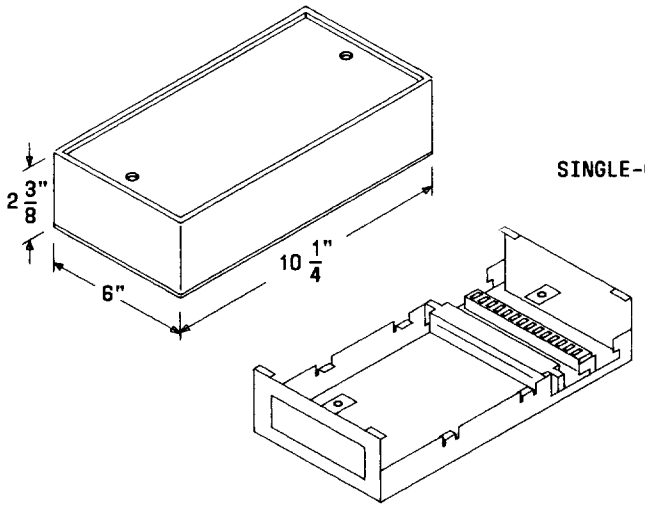
CIRCUIT PACK FEATURES

UNIT	FEATURES
BPT62	2/4-4 Wire Data Interface Unit • Provides a 4-wire interface to the network facility and a switch selectable 2-wire or 4-wire interface to customer equipment. • Can be used as a replacement for 829-type data auxiliary sets. • Switch selectable 600- or 1200-ohm network-side impedances to match nonloaded or loaded facilities, respectively. • Provides −20 to +26.5 dB of gain in 0.1-dB steps in both directions of transmission. • Provides 0 to 15 dB of 2804-Hz equalization in 1-dB steps for signals received from the network. • A switch selectable 150-ohm network-side impedance can be used to provide impedance mismatch equalization for nonloaded cable. • An optional sealing current return path is available. • Monitor jacks provide test access to the customer-side transmit and receive leads. • The maintenance feature is remotely activated after removal of a 2-second 2713-Hz tone. • The maintenance feature is locally activated by shorting pins 37 and 39 (feature will remain activated unit short is removed). • When the maintenance feature is activated, the unit disconnects the customer equipment and provides a switch selectable 0-, 8-, or 16-dB gain loopback connection across the network facility. • The loopback connection can be remotely deactivated by a 1-second 2713-Hz tone. • If not remotely deactivated, the maintenance feature will automatically time-out after 20 minutes and return the unit to normal operation. • Powered by either −48 volts dc or ±12 volts dc.
BPT63	4-Wire Passive Data Interface Unit • 4-Wire passive terminal repeater with a maintenance loopback feature for remote testing of the network facility. • Can be used as a replacement for 829A-type data auxiliary sets. • Switch selectable 600- or 1200-ohm network-side impedance to match nonloaded or loaded facilities, respectively. • Provides 0 to 15 dB of attenuation in 1-dB steps for both directions of transmission. • An optional sealing current return path is available. • Monitor jacks provide test access to the customer-side transmit and receive leads. • The maintenance feature is remotely activated after removal of a 2-second 2713-Hz tone. • The maintenance feature is locally activated by shorting pins 37 and 39 (feature will remain activated until short is removed). • When the maintenance feature is activated, the unit disconnects the customer equipment and provides a switch selectable 8- or 16-dB gain loopback connection across the network facility. • The loopback connection can be remotely deactivated by a 1-second 2713-Hz tone. • If not remotely deactivated, the maintenance feature will automatically time-out after 20 minutes and return the unit to normal operation. • The unit can be powered by −48 volts dc or ±12 volts dc applied at the customer premises. The line power option can be used to power the unit over the network facility by either a −48 volt central office battery or sealing current source.

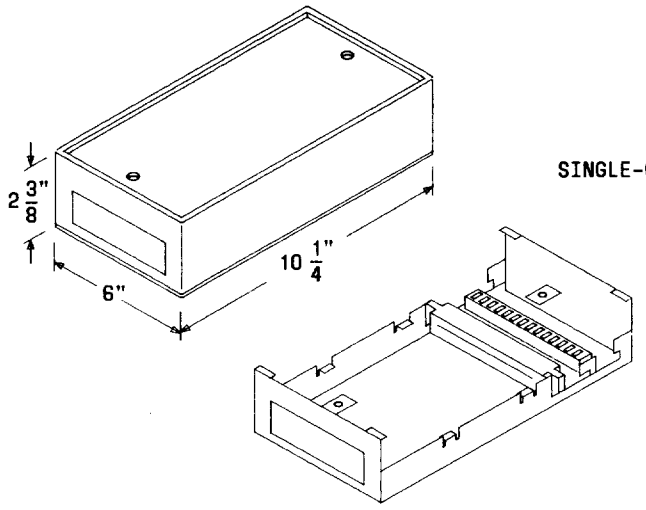
▶TABLE C◀ (Contd)

CIRCUIT PACK FEATURES

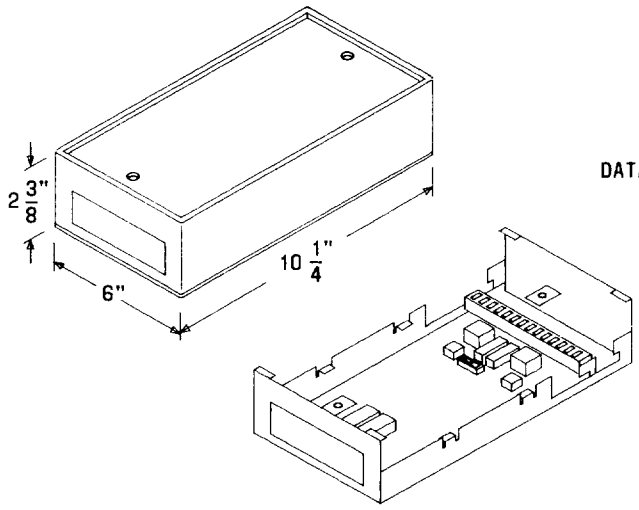
UNIT	FEATURES
10A Unit	Self Contained 2/4-4 Wire Data Interface Unit • Functionally equivalent to a BPT62 DIU permanently mounted in a 146B single-circuit mounting. • The unit can be powered by −48 volts dc or by 24 volts ac.



146A
SINGLE-CIRCUIT MOUNTING



146B
SINGLE-CIRCUIT MOUNTING



10A UNIT
DATA INTERFACE

Fig. 2—Single-Circuit Units

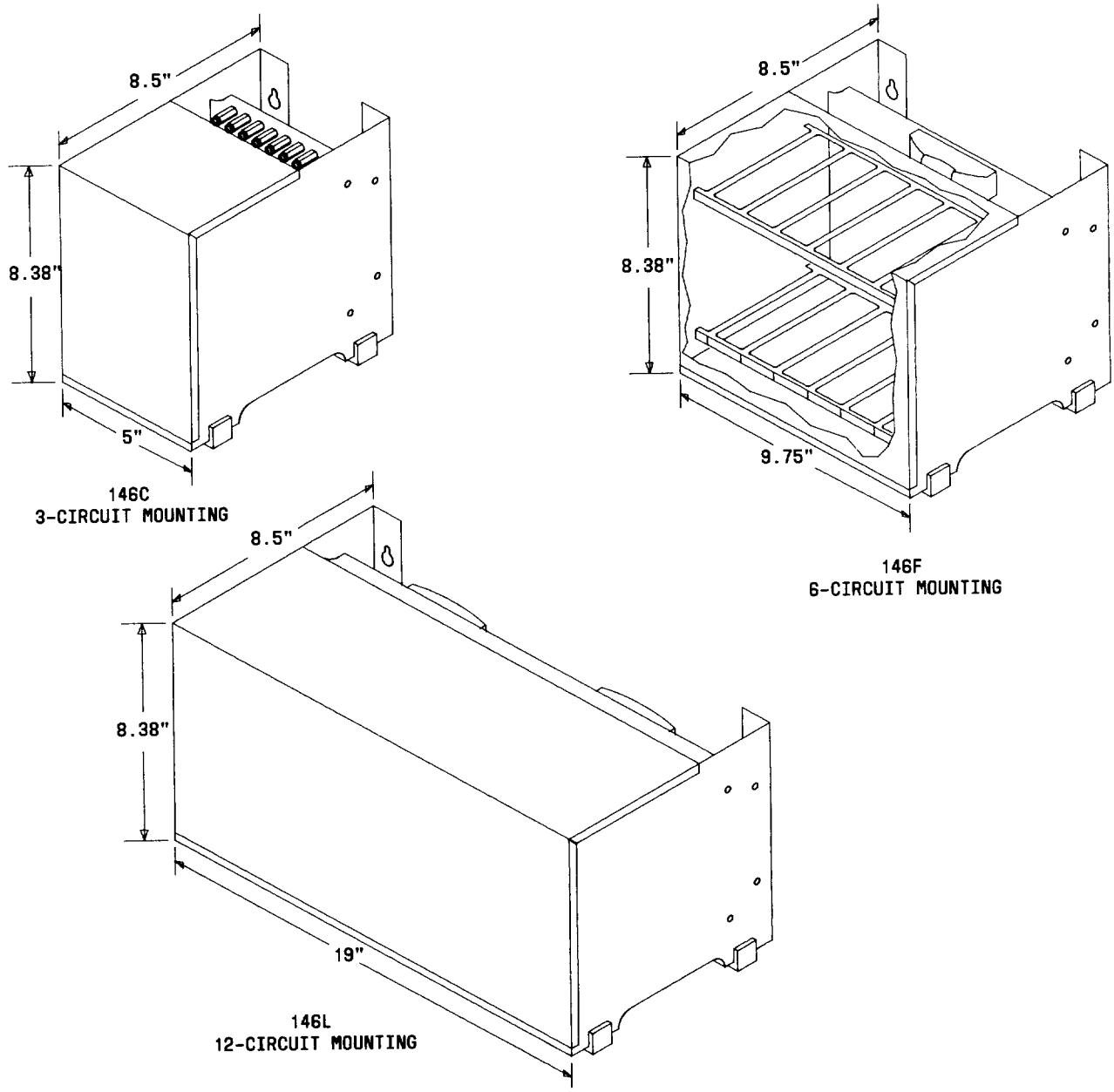
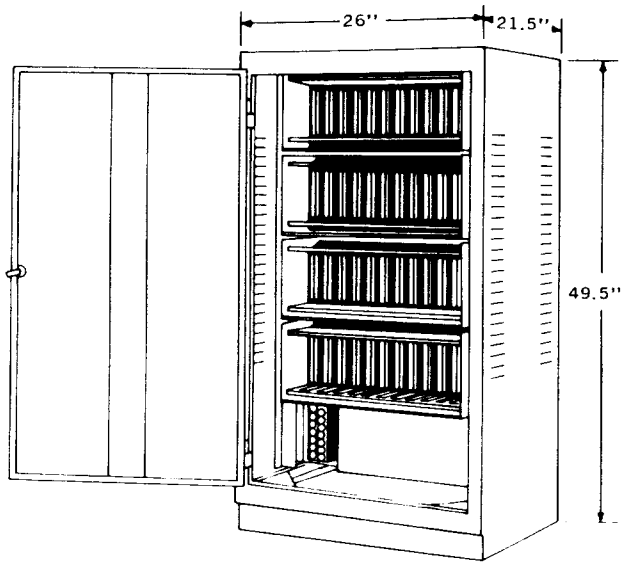
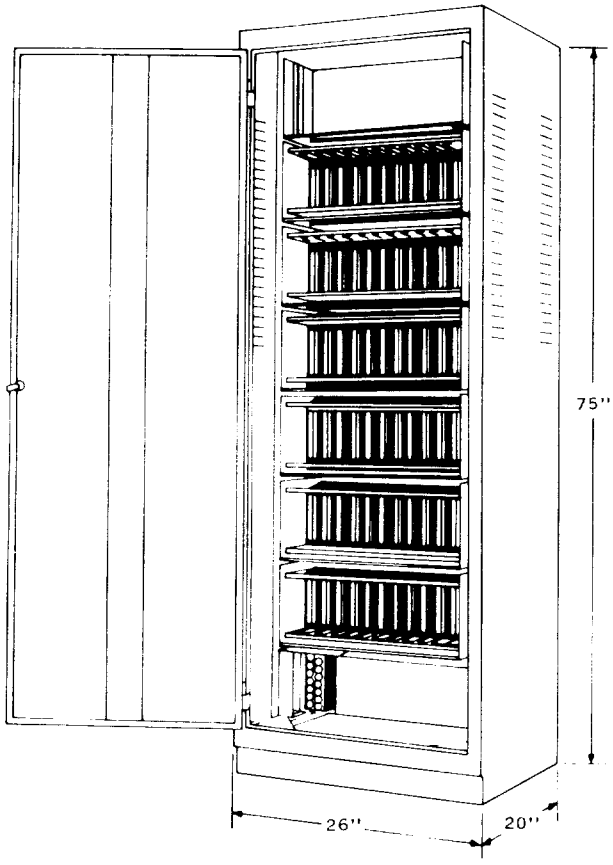


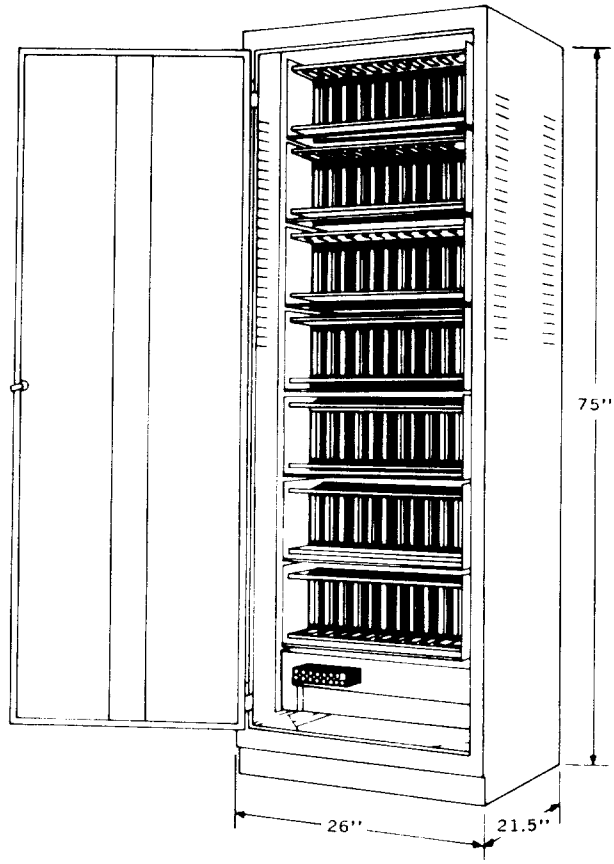
Fig. 3—Multi-Circuit Mountings



146R 48-CIRCUIT
CABINET



146S 72-CIRCUIT
CABINET



146T 84-CIRCUIT
CABINET

Fig. 4—Mounting Cabinets

▶TABLE D◀

CIRCUIT MOUNTING FEATURES

UNIT	FEATURES
146A	Single-Circuit Mounting • Houses one 400-format circuit pack. • Unit size: 10.25 inches long, 6 inches wide, and 2.38 inches high. • Network and power lead connections are made to a 14-position screw-down type terminal strip. • Customer equipment lead connections are made through an 8-pin modular jack. • An M8AA adapter is provided to convert the 8-pin modular jack to a 50-position miniature ribbon plug, if required. • Unit can be wall mounted or table mounted. • The unit cover can support the weight of a telephone set and modem when table mounted. • Unit can be powered by ±12 volts dc, or ±12 and +5 volts dc.
146B	Single-Circuit Mounting • Houses one 400-format circuit pack. • Unit size: 10.25 inches long, 6 inches wide, and 2.38 inches high. • Network and power lead connections are made to a 16-position screw-down type terminal strip. • Customer equipment lead connections can be made to one of three connectors: an 8-pin modular jack, a 50-position miniature ribbon plug, or the 16-position terminal strip. • Wire-wrap pins are available for connections to the MLB, MLBG, SXT, and SXR leads. • Can be wall mounted or table mounted. • The unit cover can support the weight of a telephone set and modem when table mounted. • A viewing window is provided in the unit cover for checking circuit pack faceplate indicators. • Wire-wrap pins are available at the bottom of the mounting for connecting to circuit packs that do not match the OMNIPORT NCTE lead plan. • Can be powered by −48 volts dc, ±12 volts dc, or ±12 and +5 volts dc.
146C	3-Circuit Mounting • Houses up to three 400-format circuit packs. • Unit size: 5 inches wide, 8.5 inches deep, and 8.38 inches high. • Network and customer lead connections are made through a 50-position miniature ribbon plug at the bottom of the printed wiring backplane. • Power leads are connected to terminal posts at the top of the printed wiring backplane. • Wire-wrap pins are available on the back of the circuit pack connectors for connecting to circuit packs that do not match the OMNIPORT NCTE lead plan. • Ringing can be supplied using either a circuit pack ringing generator or an external ringing generator. • Ringing leads are bused between circuit pack connectors so that applying ringing to one connector supplies ringing to the remaining connectors. • Can be wall or table mounted. • Can be powered by −48 volts dc, ±12 volts dc, or ±12 and +5 volts dc.

TABLE D (Contd)

CIRCUIT MOUNTING FEATURES

UNIT	FEATURES
146F	6-Circuit Mounting • Houses up to six 400-format circuit packs. • Unit size: 9-3/4 inches wide, 8-1/2 inches deep, and 8-3/8 inches high. • Network lead connections are made to the 50-position miniature ribbon plug at the bottom of the printed wiring backplane. • Power leads are connected to the terminal posts along the bottom of the printed wiring backplane. • Customer lead connections are made to the 50-position miniature ribbon plug at the top of the printed wiring backplane. • Wire-wrap pins are available on the back of the circuit pack connectors for connecting to circuit packs that do not match the OMNIPORT NCTE lead plan. • Ringing can be supplied using either a circuit pack ringing generator or an external ringing generator. • Ringing leads are bused between circuit pack connectors so that applying ringing to one connector supplies ringing to the remaining connectors. • Can be wall or table mounted. • Can be powered by −48 volts dc, ±12 volts dc, or ±12 and +5 volts dc.
146L	12-Circuit Mounting • Houses up to twelve 400-format circuit packs. • Unit size: 19 inches wide, 8-1/2 inches deep, and 8-3/8 inches high. • Network lead connections are made to the 50-position miniature ribbon plugs at the bottom of the printed wiring backplane. • Power leads are connected to the terminal posts at the center of the printed wiring backplane. • Customer lead connections are made to the 50-position miniature ribbon plugs at the top of the printed wiring backplane. • Wire-wrap pins are available on the back of the circuit pack connectors for connecting to circuit packs that do not match the OMNIPORT NCTE lead plan. • Ringing can be supplied using either a circuit pack ringing generator or an external ringing generator. • External ringing generator connections can be made to the RS, MS, and RR terminal posts located near the center of the printed wiring backplane. • Ringing leads are bused between the RS, MS, and RR terminal posts and the circuit pack connectors so applying ringing to the terminal posts or any connector supplies ringing to the remaining connectors on the shelf. • Can be mounted on wall or table or in 23-inch racks or cabinets. • Can be powered by −48 volts dc, ±12 volts dc, or ±12 and +5 volts dc.

▶TABLE D◀ (Contd)

CIRCUIT MOUNTING FEATURES

UNIT	FEATURES
146R	48-Circuit Mounting Cabinet • Four 146L 12-circuit mounting shelves mounted in cabinet provide housing for up to forty-eight 400-format circuit packs. • Cabinet size: 26 inches wide, 21.5 inches deep, and 49.5 inches high. • Lockable front and rear doors for easy access while providing equipment security. • The doors can be removed by lifting doors off their hinge pins. • Locking casters and screw-down type levelers simplify positioning the cabinet. • A −48 volt, 6 ampere dc power supply and fuse panel is provided with the cabinet. • A 5-outlet, 117-volt ac power strip is included so receptable-mounted power supplies can be used to provide voltages other than −48 volts dc as required. • Cabinet is powered by 117 volts commercial ac.
146S	72-Circuit Mounting Cabinet • Six 146L 12-circuit mounting shelves mounted in cabinet provide housing for up to seventy-two 400-format circuit packs. • Cabinet size: 26 inches wide, 20 inches deep, and 75 inches high. • Front and rear doors for easy access to the equipment. • The doors can be removed by lifting the doors off their hinge pins. • Casters and screw-down type levelers simplify positioning the cabinet. • A −48 volt, 6 ampere dc power supply and fuse panel is provided with the cabinet. • An 8-outlet, 117-volt ac power strip is included so receptacle-mounted power supplies can be used to provide voltages other than −48 volts dc as required. • Cabinet is powered by 117 volts commercial ac.
146T	84-Circuit Mounting Cabinet • Seven 146L 12-circuit mounting shelves mounted in cabinet provide housing for up to eighty-four 400-format circuit packs. • Cabinet size: 26 inches wide, 21.5 inches deep, and 75 inches high. • Lockable front and rear doors for easy access while providing equipment security. • The doors can be removed by lifting the doors off their hinge pins. • Locking casters and screw-down type levelers simplify positioning the cabinet. • A −48 volt, 8 ampere dc power supply and fuse panel is provided with the cabinet. • An 8-outlet, 117-volt ac power strip is included so receptacle-mounted power supplies can be used to provide voltages other than −48 volts dc as required. • Cabinet is powered by 117 volts commercial ac.

TABLE E

POWER SUPPLY KITS

KIT	POWER SUPPLY	VOLTAGE	CURRENT
11BC	KS-22696, L6	±12 V dc	0.2 A
11BD	KS-22696, L5	−48 V dc	0.25 A
11BF	KS-22696, L7	±12 V dc	0.4 A
11BG	KS-22696, L2	−48 V dc	0.5 A
11BM	KS-22696, L4	±12 V dc	1.0 A
11BN	KS-22696, L3	−48 V dc	1.2 A
11BR	KS-22696, L8	−48 V dc	0.1 A
11BS	KS-21239, L4	24 V ac	0.3 A

TABLE F

MOUNTING KITS

MOUNTING KIT	MOUNTING CODE	CIRCUIT CAPACITY	POWER SUPPLY KIT	VOLTAGE	CURRENT
11A	146A	1	11BC	±12 V dc	0.2 A
11C	146C	3	11BC	±12 V dc	0.2 A
11D	146C	3	11BD	−48 V dc	0.25 A
11F	146F	6	11BF	±12 V dc	0.4 A
11G	146F	6	11BG	−48 V dc	0.5 A
11M	146L	12	11BM	±12 V dc	1.0 A
11N	146L	12	11BN	−48 V dc	1.2 A

TABLE G

DATA INTERFACE KITS

DATA INTERFACE KIT	CIRCUIT PACK	MOUNTING	POWER SUPPLY KIT		
			KIT	VOLTAGE	CURRENT
11AA	BPT60	146A	11BC	±12 V dc	0.2 A
11AC	10A Unit*		11BS	24 V ac	0.3 A
11AD	BPT61	146B	11BC	±12 V dc	0.2 A

* The 10A unit is a data interface circuit hard-wired in a single-circuit mounting.