

## 5-Slot Housing with AC Power Supply Installation Instructions

Document Number 9000-A2-GN16-50

May 1999

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The 5-slot housing is designed for use in both commercial and central office environments, and is available as either a desktop or rack-mount unit.

This product consists of a configuration with at least a Network Access Module (NAM) in Slot 01 and up to four optional Application Modules (APMs) in Slots 02–05. All LEDs (light-emitting diodes) are visible from the front of the housing and all I/O cables are accessible from the rear. The housing's bezel must be removed to install/access the power supply, NAM, and APM, or to access a T1 Access Mux's test jacks.

### Product Documentation on the World Wide Web

We provide complete product documentation online. This lets you search the documentation for specific topics and print only what you need, reducing the waste of surplus printing. It also helps us maintain competitive prices for our products.

Complete documentation for this product is available at **[www.paradyne.com](http://www.paradyne.com)**.  
Select *Library* → *Technical Manuals* → *NextEDGE Multiservices Access System*.

Select the following document:

9191-A2-GH20

*NextEDGE Multiservices Access System Technical Reference*

To request a paper copy of a Paradyne document:

- Within the U.S.A., call 1-800-PARADYNE (1-800-727-2396)
- Outside the U.S.A., call 1-727-530-8623

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## Before You Begin

Make sure you have:

- A grounded outlet within 6 feet of the housing that is protected by a circuit breaker.
- A clean, well-lit, and ventilated site that is free from environmental extremes.
- One-to-two feet of clearance for cable connections.
- A small, flat-blade screwdriver.
- A large Phillips screwdriver.
- A small or medium Phillips screwdriver.
- A short, large Phillips screwdriver if mounting two housings together.
- Contacted your network provider to coordinate installing the housing and its associated cards to the network.

See the Technical Reference for additional information on:

- *Troubleshooting*
- *Technical Specifications*
- *Cables, Connectors, and Pin Assignments*

## Package Checklist

The desktop model is designed to be placed on a table or desk. The rack-mount model is designed to be mounted in either a cabinet or a rack.

Verify that your package contains the following:

- 5-slot housing
- ac power supply and power cord (the ac power supply I/O card is already installed)
- Alarm relay connector
- COM port-to-PC cable (14 feet/4.3 meters)
- Four sets of filler panels with screws for any unused APM and I/O card slots

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If the rack-mount model was ordered, the following additional items are included:

- Bracket with screws for installing the housing in a cabinet or rack (already mounted on the left side of the housing in the 19-inch rack position)
- Two additional flathead screws for mounting two housings side-by-side

**NOTE:**

The NAM and its I/O card may already be installed, depending on the configuration that you ordered.

When your equipment arrives, inspect it for physical damage and tighten any screws that may have worked loose. Contact your sales representative immediately if there are any signs of shipping damage, or if anything is missing from your package. Otherwise, proceed with the installation.

## Available Options

The following options are separately orderable:

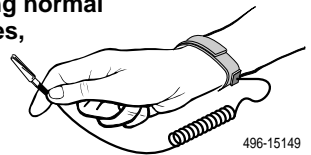
- 72-inch EIA standard cabinet, 19 inches wide
- Replacement power supply
- Wall mounting kit

## Safety Instructions

Please read the *Important Safety Instructions* and *EMI Warnings* starting on page 18.

### HANDLING PRECAUTIONS FOR STATIC-SENSITIVE DEVICES

This product is designed to protect sensitive components from damage due to electrostatic discharge (ESD) during normal operation. When performing installation procedures, however, take proper static control precautions to prevent damage to equipment. If you are not sure of the proper static control precautions, contact your nearest sales or service representative.



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### WARNING:

Never install the housing on its side. If installing the housing on a desktop, place the unit upright on the feet provided. If installing the housing in a cabinet or rack, make sure that it is installed in an upright position. You **MUST** ensure that the cards remain in a vertical, upright position while the unit is operating.

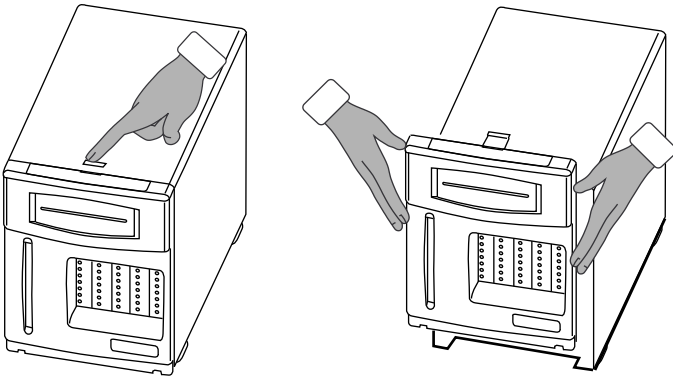
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## Removing the Housing's Bezel

Before installing the NAM, APMs, and their I/O cards, remove the housing's bezel.

### ► Procedure

1. Depress the latch at the top of the housing to open the bezel.
2. Lift upward to remove the bezel from the two slots at the bottom of the housing.



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Save the bezel so it can be reattached once the NAM and the APM have been installed. See *Replacing the Housing's Bezel* on page 17.

## Installing the Housing on a Desktop

The housing is designed for desktop operation. Once the housing is placed in its planned location, make sure that you:

- Allow clearance for cable connections and space for ventilation.
- Do not block the air vents on the top and bottom of the housing.

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# Converting a Desktop Model to a Rack-Mount Model

If you have the desktop model housing and would like to mount it in a rack or cabinet, you must:

- Order a rack-mount bracket.
- Remove the bezel (see *Removing the Housing's Bezel* on page 4).
- Remove the housing's external sleeve (see *Removing the Housing's External Sleeve*).
- Remove the firescreen (see *Removing the Housing's Firescreen* on page 6).

## **⚠ WARNING:**

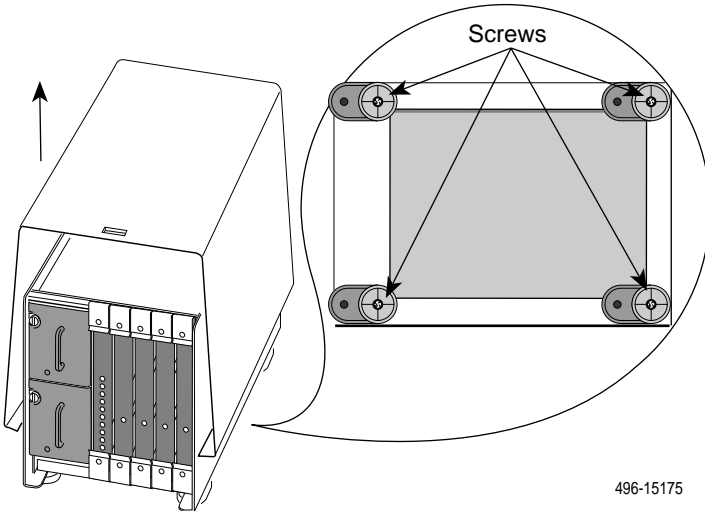
**If you have ordered this unit without the sleeve, or have exercised the above conversion option, you are responsible for ensuring that in the final configuration the unit complies with all of your country's applicable safety standards and regulatory requirements. If necessary, consult with the appropriate regulatory agencies and inspection authorities to ensure full compliance.**

## Removing the Housing's External Sleeve

Before installing the housing into a cabinet, remove its external sleeve.

### ► Procedure

1. Unscrew the Phillips-head screw on each foot of the housing and remove the feet.
2. Remove the external sleeve.



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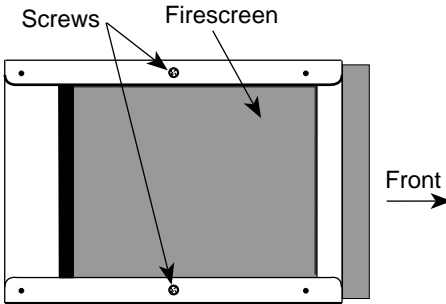
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## Removing the Housing's Firescreen

Next, remove the firescreen from the bottom of the unit to allow for adequate ventilation in the rack.

### ► Procedure

1. Unscrew the two flathead screws on the bottom of the unit that attach the firescreen to the housing.
2. Slide the firescreen away from the housing.



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Save the two flathead screws if you intend to mount two housings side-by-side (see *Mounting Two Housings Side-by-Side* on page 10).

## Installing the Housing into a Cabinet/Rack

The 5-slot housing fits into either a 19-inch or 23-inch wide cabinet or rack. You can either place the desktop housing on a shelf in a cabinet or install the rack-mount housing in a cabinet or rack. If installing the rack-mount housing, you can mount:

- The housing on either the right or left rail of the cabinet, using only one mounting bracket
- Two housings side-by-side

### NOTE:

It is recommended that you mount the housing on the left side for proper weight distribution, unless you are mounting two housings side-by-side.

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## Mounting the Housing into a Cabinet/Rack

One 72-inch cabinet can hold up to twelve housings; however, a cabinet does not need to be fully populated. The minimum vertical distance between housings is 1U (1.75-inch, EIA-310-C standard). Follow these guidelines during installation.

- Install housings from the bottom of the cabinet and work up. This provides:
  - Proper alignment for subsequent housings.
  - Easier installation since the housings can be lowered onto the mounting screws from above.
  - Convenient connection of the interface cables.
  - Proper cabinet balance. Bottom-up installation keeps the cabinet from becoming top heavy.
- Install the housing into the cabinet/rack before installing any cards in the unit.
- Use cable ties or some other type of strain relief to support multiple cables.
- When vertically stacking housings in a cabinet, place a 1U (1.75 inch, EIA-310-C standard) high baffle between vertical, stacked housings.

The cabinet/rack may or may not have threaded screw holes.

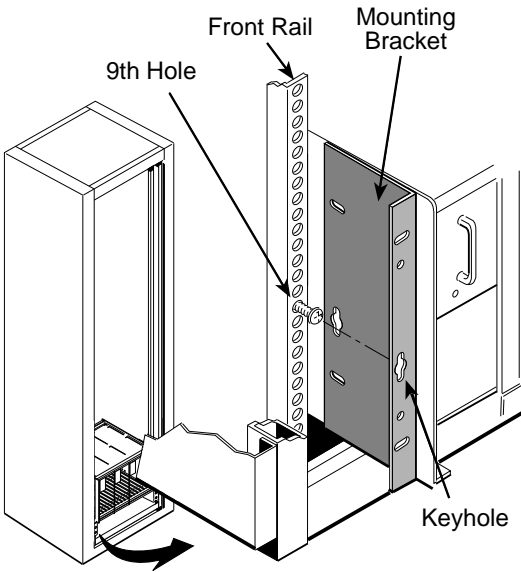
<b>If the cabinet/rack . . .</b>	<b>Then use the . . .</b>
Has threaded screw holes	Short Phillips-head screws included in the hardware package and follow the procedure in <i>Installing in a Cabinet/Rack with Threaded Screw Holes</i> on page 8.
Does not have threaded screw holes	Speed Nuts and the longer Phillips-head screws included in the hardware package and follow the procedure in <i>Installing a Cabinet/Rack without Threaded Screw Holes</i> on page 9.

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## Installing in a Cabinet/Rack with Threaded Screw Holes

### ► Procedure

1. Use a screwdriver to install the screw loosely enough to allow the bracket keyhole to drop under the screw head during installation. Use the 9th hole as shown when mounting the housing on the left side. If mounting the housing on the right side, use the 12th hole.



**Front of 19-Inch Carrier Cabinet**

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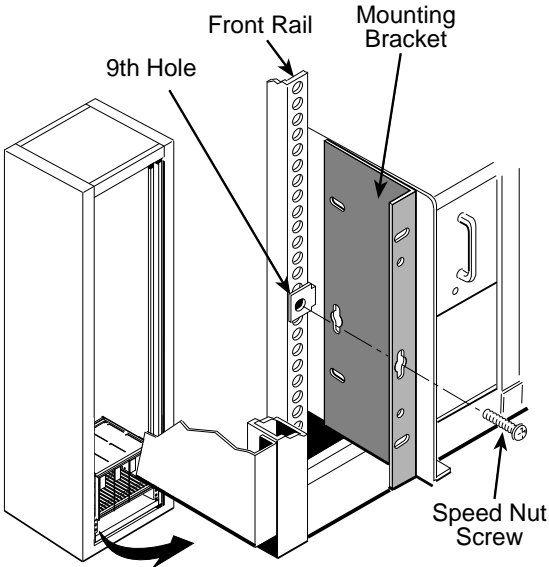
2. Place the housing against the front rail of the cabinet, allowing the installed machine screw to pass through the keyhole.
3. Lower the housing into place, allowing the keyhole to slide under the screw head. This positions and supports the housing correctly for installation of the remaining machine screws.
4. Install the remaining machine screws at the top and bottom of the bracket and tighten them.
5. Install the next housing in the same manner (to the other side, then from the bottom up) using Steps 1 through 4.

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## Installing a Cabinet/Rack without Threaded Screw Holes

### ► Procedure

1. Slip a Speed Nut into the 3rd, 9th and 16th rail holes if installing the housing on the left side, or the 3rd, 12th and 16th holes if installing the housing on the right side of the rack. Align the hole of the Speed Nut with the hole in the rail.
2. Place the housing against the front rail of the cabinet, allowing the installed machine screw to pass through the keyhole.



**Front of 19-Inch Carrier Cabinet**

496-15132

3. Install the remaining machine screws at the top and bottom of the brackets, then tighten them.
4. Install the next housing in the same manner (to the other side, then from the bottom up) using Steps 1 and 2.

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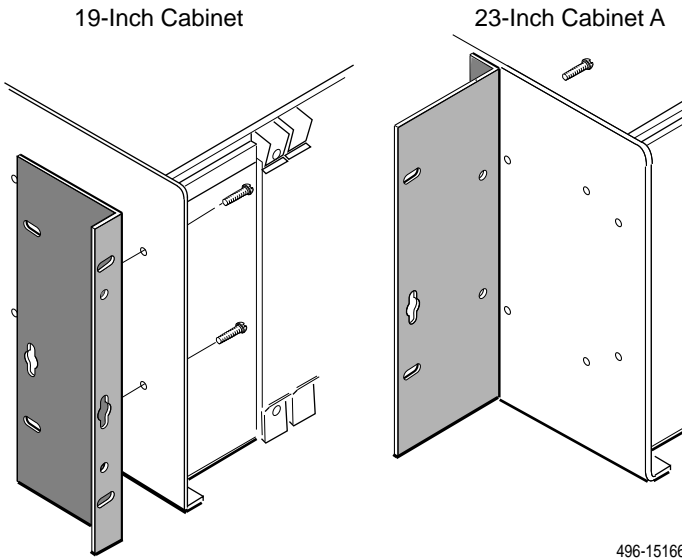
## Mounting Two Housings Side-by-Side

You can mount two housings side-by-side in a rack. To do so, you must:

- Remove power supply and power supply I/O card, as well as all other cards.
- Mount the bracket on the right side.
- Attach the two housings together.

## Positioning the Mounting Bracket on the Right Side of the Housing

The rack-mount housing includes a universal mounting bracket that allows installation into a 19-inch or 23-inch wide cabinet. You can attach the bracket to either the right or left side of the housing as shown in the following figures.



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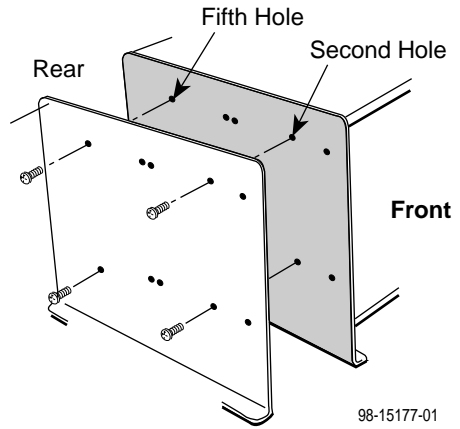
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## Attaching Two Housings Together

Two housings mounted side-by-side must be attached to each other before each is fastened to the cabinet/rack.

Use the four 1/4" flathead screws provided in the second and fifth holes on the side of the housing as shown.

Always insert the screws into the housing installed on the left first.



## Power Supply

The housing obtains low voltage power from the power supply. The power supply is visible once you remove the bezel (see *Removing the Housing's Bezel* on page 4).

- The power supply, with I/O card, is part of your housing package.
- You can order an additional power supply for backup.
- The power receptacle is part of the power I/O card.

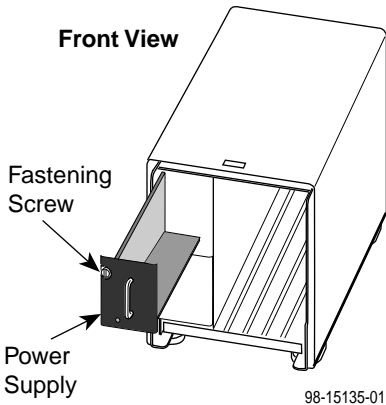
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## Installing the Power Supply

Install the power supply into the top slot. Use the bottom slot for the redundant power supply, if included.

### ► Procedure

1. Remove the power supply from the shipping box.
2. At the front of the housing, use the attached handle on the power supply to carefully slide the card into the top left slot towards the midplane until you feel it connect. Be sure that you slide the card in using the card guides provided on the housing.



3. Locate the screw in the top left corner of the power supply. Using a flat-blade screwdriver, turn the screw counter clockwise until it stops turning. Then turn the screw clockwise until it locks the power supply in place.

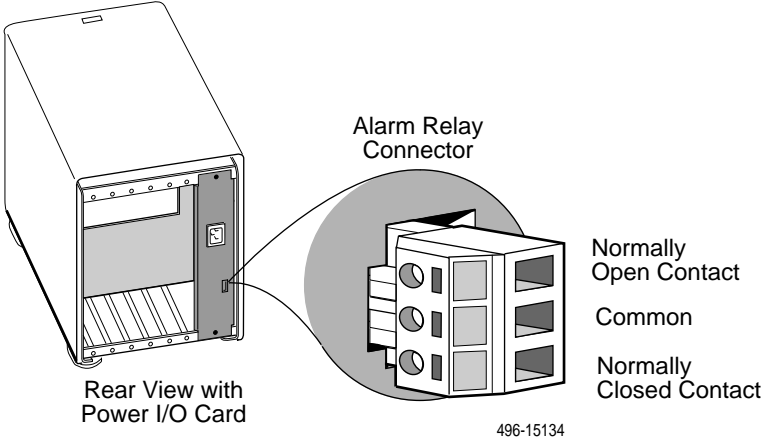
## Installing the Redundant Power Supply

The redundant ac power supply must be ordered separately. Refer to the instructions that came with the power supply, *AC Power Supply for 5-Slot Housing and FrameSaver 9000 Series Access Carrier Installation Instructions* (Document No. 9000-A2-GN17), for installation information.

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# Alarm Relay Connector

The housing provides one independent alarm relay for a system alarm light or buzzer. This relay uses SPDT (Single Pole Double Throw) contacts (common, normally open, and normally closed). After making any necessary connections to your alarm system, plug the connector that you received in the box with the housing into the socket on the Power I/O card.



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# Card Installation and Removal

A NAM and its associated APM are installed from the front of the housing. Their I/O cards are installed from the rear. The I/O cards provide the interface connections for the cards they support.

### NOTE:

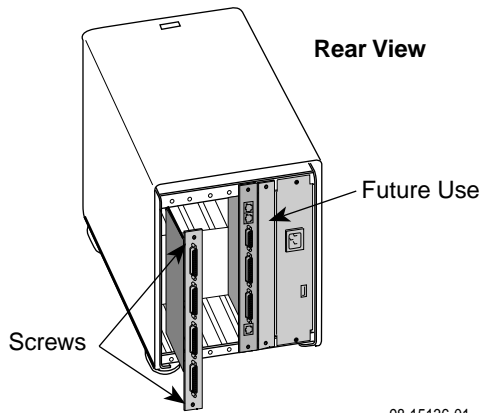
You can add or remove cards without powering off the unit. In addition, insertion or removal of an APM will not interrupt data flow on the NAM. See *Hot Swapping of APMs* in the appropriate user manual for more information about removing and reinstalling cards.

## I/O Card Installation

The NAM's or APM's I/O card is installed onto the rear of the housing and provides the interface connections for the NAM or APM it supports.

### ► Procedure

1. Insert the I/O card into the appropriate slot.
2. Screw the I/O card into place.



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## Installing Rear Filler Panels

Once you have completed I/O card installation, you must install a filler panel for each unfilled I/O card slot to ensure compliance with safety requirements.

### ⚠ WARNING:

You *must* install filler panels on the unused slots to avoid possible injury from electrical shock.

- Your housing package contains rear filler panels for unused I/O card slots.
- Fasten the rear filler panels to the housing using two screws for each panel that came with your package.

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## NAM/APM Card Installation

A NAM and its associated APM are installed from the front of the housing.

- A NAM is required for network access and ***should only be installed in Slot 01.*** It acts as an interface between the network and the customer premises equipment.
- An APM provides additional applications; for example, synchronous data ports or voice ports. ***APMs should only be installed in Slots 02–05.***

### CAUTION:

**You must insert the cards in the correct slot so that they mate with their corresponding I/O cards. APMs are keyed to mate only with their matching I/O cards.**

Refer to the installation instructions that came with your NAM and APM cards for installation information.

## Installing Front Filler Panels

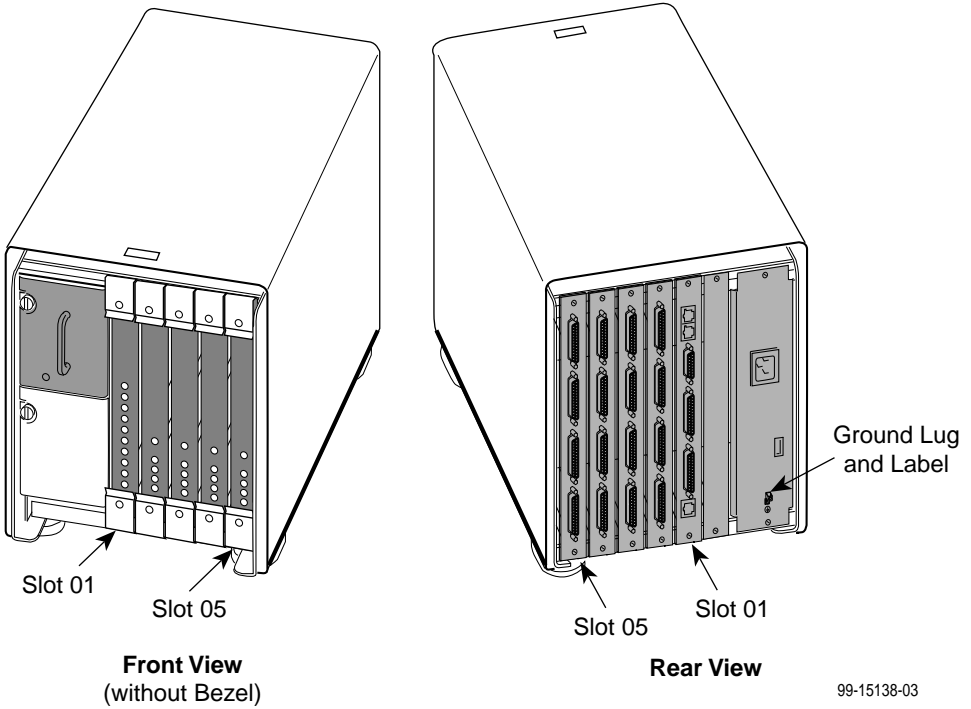
Once you have completed card installation, you must install a filler panel for each unfilled APM slot to ensure compliance with safety requirements.

### WARNING:

**You *must* install filler panels on the unused slots to avoid possible injury from electrical shock.**

- Your housing package contains filler panels and their associated captive-type screws.
- Latch the panel into place using the upper and lower ejector latches. Screw the bottom ejector screw into the panel using the captive screw already installed. Screw the top ejector into the panel using the extra captive screw provided.

# Fully Loaded Housing




The ground lug shown in this illustration indicates an auxiliary ground when connecting to a PBX. Connect the chassis ground from the PBX to the ground lug.

**APPLICATION:**

To identify the terminals, when connected together, and bring the various parts of the equipment to the same potential for local bonding.


**NOTE:**

The value of the potential may be indicated adjacent to the symbol .

**APPLICATION:**

Pour marquer les bornes dont l'interconnexion a pour but de maintenir diverses parties d'un équipement à un même potentiel pour réaliser une liaison équipotentielle locale.

**NOTE:**

La valeur du potentiel peut être indiquée à côté du symbole .

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## Power-On Verification

### CAUTION:

The power cord contains a 3-wire grounding-type plug which has a grounding pin. This is a safety feature. Grounding of the housing is vital to ensure safe operation. Do not defeat the purpose of the grounding plug by modifying it or by using an adapter.

Prior to installation, use an outlet tester or voltmeter to check the ac receptacle for earth ground. If the power source does not provide a ground connection, consult an electrician to determine another method of grounding the housing before proceeding with the installation.

Insert the power cord into the I/O card's power connector, then plug the other end into a power outlet.

### Verification Check:

- Did the green power supply LED light? If not:
  - Check the power cord for loose connections.
  - Check the wall receptacle power by plugging in some equipment that is known to be working.
  - Check the circuit breaker.
  - Reinstall the power supply, making sure it is fully inserted into the house.

If problems persist, contact your service representative.

## Power Failure Recovery

In cases of simultaneous and abrupt restoration of nominal voltage conditions, this product automatically restores itself to service without manual intervention.

## Replacing the Housing's Bezel

If you have a desktop model, you should replace the housing's bezel to complete the installation.

### ► Procedure

1. Insert the bezel into the two slots at the bottom of the front of the housing.
2. Snap the bezel in place using the latch at the top.

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## **▲ Important Safety Instructions**

1. Read and follow all warning notices and instructions marked on the product or included in the manual.
2. All installation and service must be performed by qualified service personnel, as opening or removing covers may expose dangerous voltage points or other risks.
3. This product is intended to be used with a 3-wire grounding type plug – a plug which has a grounding pin. This is a safety feature. Equipment grounding is vital to ensure safe operation. Do not defeat the purpose of the grounding type plug by modifying the plug or using an adapter.

Prior to installation, use an outlet tester or a voltmeter to check the ac receptacle for the presence of earth ground. If the receptacle is not properly grounded, the installation must not continue until a qualified electrician has corrected the problem.

If a 3-wire grounding type power source is not available, consult a qualified electrician to determine another method of grounding the equipment.

The rear I/O panel has provision for a permanently connected protective earthing (grounding) conductor. Connect a 6–14 AWG conductor to this solderless lug connector, identified by the protective earth symbol.

4. Slots and openings in the cabinet are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, these slots and openings must not be blocked or covered. Always install the housing in a vertical, upright position to allow for proper cooling.
5. Do not allow anything to rest on the power cord and do not locate the product where persons will walk on the power cord.
6. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous high voltage points or other risks. Refer all servicing to qualified service personnel.
7. General purpose cables are provided with this product. Special cables, which may be required by the regulatory inspection authority for the installation site, are the responsibility of the customer.
8. When installed in the final configuration, the product must comply with the applicable Safety Standards and regulatory requirements of the country in which it is installed. If necessary, consult with the appropriate regulatory agencies and inspection authorities to ensure compliance.
9. A rare phenomenon can create a voltage potential between the earth grounds of two or more buildings. If products installed in separate buildings are **interconnected**, the voltage potential may cause a hazardous condition. Consult a qualified electrical consultant to determine whether or not this phenomenon exists and, if necessary, implement corrective action prior to interconnecting the products.
10. Filler panels are installed on the housing to cover unused slots. You *must* have filler panels on the unused slots to avoid possible injury from electrical shock and to maintain compliance with FCC rules.
11. In addition, if the equipment is to be used with telecommunications circuits, take the following precautions:

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- Never install telephone wiring during a lightning storm.
  - Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
  - Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
  - Use caution when installing or modifying telephone lines.
  - Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
  - Do not use the telephone to report a gas leak in the vicinity of the leak.

## EMI Warnings

### WARNING:

**This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case, the user will be required to correct the interference at his own expense.**

**The authority to operate this equipment is conditioned by the requirements that no modifications will be made to the equipment unless the changes or modifications are expressly approved by Paradyne.**

### WARNING:

***To Users of Digital Apparatus in Canada:***

**This Class A digital apparatus meets all requirements of the Canadian interference-causing equipment regulations.**

**Cet appareil numérique de la classe A respecte toutes les exigences du règlement sur le matériel brouilleur du Canada.**

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# Government Requirements

Certain governments require that instructions pertaining to connection to the telephone network be included in the installation and operation manual. Specific instructions are listed in the following sections.

## United States

### Notice to Users of the Telephone Network

This equipment complies with Part 68 of the FCC rules. On the bottom of the housing is a label that contains, among other information, the FCC registration number for this equipment. If the unit comes with an integral modem, the ringer equivalence number (REN) will also be labeled. If requested, please provide this information to your telephone company.

The REN is used to determine the number of devices that may be connected to the telephone line. Excessive RENs on the line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that can be connected to the line, as determined by the total RENs, contact the local telephone company.

If your T1 equipment causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But if advance notice is not practical, you will be notified as soon as possible. You will be advised of your right to file a complaint with the FCC.

Your telephone company may make changes in facilities, equipment, operations, or procedures that could affect the proper operation of your equipment. If so, you will be given advance notice so as to give you an opportunity to maintain uninterrupted service.

No repairs may be performed by the user. Should you experience difficulty with this equipment, refer to the *Warranty, Sales, Service, and Training Information* on page 24.

Make the T1 network connection using a Universal Service Order Code (USOC) type RJ48C jack for single-line installations and type RJ48H jack for multiline installations. Specify both the Service Order Code 6.0N, as well as the proper Facility Interface Code, to the telephone company when ordering the T1 line. The T1 equipment can be configured to support any of the framing format and line signaling techniques shown in the table below. The T1 equipment's configuration must correspond to the T1 line's parameters.

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## T1 Facility Interface Codes

Code	Description
04DU9-BN	1.544 Mbps superframe format (SF) without line power
04DU9-DN	1.544 Mbps SF and B8ZS without line power
04DU9-1KN	1.544 Mbps ANSI ESF without line power
04DU-1SN	1.544 Mbps ANSI ESF and B8ZS without line power

If the NAM is equipped with a PRI DBM, make the ISDN PRI connection using a USOC-type RJ48C jack. When ordering an ISDN line from the telephone company, specify the following:

- Service Order Code 6.0F
- Facility Interface Code 04DU-1SN
- Up to 23B Service for an ISDN PRI DBM – Supports up to 23 circuit-switched B-channels, with one local phone number for the entire T1 network connection.
- Circuit Switched Data capability should be specified.

If the NAM is equipped with a BRI DBM, make the ISDN BRI connection using a USOC-type RJ49C jack. When ordering an ISDN line from the telephone company, specify the following:

- Facility Interface Code 02IS5
- Calling Number Identification Service (CNIS) for both the originating and answering units for data traffic on the B-channel.
- Capability Package B for 1B-service or Capability Package (I) for 2B Service for an ISDN BRI DBM – Supports up to two circuit-switched B-channels, BRI-B1 and BRI-B2, each with one Service Profile Identification (SPID) number and one local phone number.
- Busy Fixed Call Forwarding for the answering unit (typically the central site unit) is recommended if getting Capability Package I (2B service). This feature is only required if all remote units will call the same phone number. Busy Fixed Call Forwarding forwards a call to the BRI-B2 channel when the BRI-B1 channel is busy.

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If the NAM is equipped with an internal modem, make the modem connection using a USOC-type RJ11C jack. The modem cannot be used on public coin phone service provided by the telephone company. Connection to party-line service is subject to state tariffs. Contact the state public utility commission, public service commission, or corporation commission for tariff information.

The Federal Communication's Commission (FCC) requires that the end user (person responsible for operation and maintenance of the equipment) file an affidavit with the local exchange carrier when connecting unprotected Customer Premises Equipment (CPE) to the public T1 network. The T1 equipment is considered an unprotected CPE because the analog through transmission gain paths, associated with the voice cards, are user adjustable. This affidavit is required whenever digital terminal equipment without encoded analog content and billing protection is used to transmit digital signals containing encoded analog content which is intended for eventual conversion into voice-band analog signals and retransmitted on the network. This affidavit shall affirm that either no encoded analog content or billing information is being transmitted or that the output of the device meets Part 68 encoded analog content or billing protection specifications. An affidavit form has been provided for your convenience.

 **WARNING:**

**In order to maintain compliance with Part 68, FCC Rules and Industry Canada's CS-03 Specification, the transmit gain settings associated with the E&M and FXS Voice APMs must be set to ensure that:**

- **The absolute signal power of the encoded analog signals, other than live voice and network control signaling, will not exceed -12 dBm when averaged over any 3-second interval.**
- **For network control signals (such as DTMF), the level will not exceed -3 dBm.**

**The E&M and FXS voice lines are to be connected to locally attached equipment only. Under no circumstances should voice lines be used on exposed (outside) plant lines.**

After the telephone company has installed the requested services and jacks, you can connect the unit to the network with the cable provided. An FCC-compliant telephone cord and modular plug are provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible modular jack that is Part 68 compliant.

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## Canada

### Notice to Users of the Canadian Telephone Network

The Industry Canada label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

#### **CAUTION:**

**Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.**

The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

If your equipment is in need of repair, refer to the *Warranty, Sales, Service, and Training Information* on page 24.

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## Warranty, Sales, Service, and Training Information

Contact your local sales representative, service representative, or distributor directly for any help needed. For additional information concerning warranty, sales, service, repair, installation, documentation, training, distributor locations, or Paradyne worldwide office locations, use one of the following methods:

- **Internet:** Visit the Paradyne World Wide Web site at **www.paradyne.com**. (Be sure to register your warranty there. Select *Service & Support* → *Warranty Registration*.)
- **Telephone:** Call our automated system to receive current information by fax or to speak with a company representative.
  - Within the U.S.A., call 1-800-870-2221
  - Outside the U.S.A., call 1-727-530-2340

## Document Feedback

We welcome your comments and suggestions about this document. Please mail them to Technical Publications, Paradyne Corporation, 8545 126th Ave. N., Largo, FL 33773, or send e-mail to **userdoc@eng.paradyne.com**. Include the number and title of this document in your correspondence. Please include your name and phone number if you are willing to provide additional clarification.

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