

# PARADYNE<sup>®</sup>

# FrameSaver<sup>®</sup> NP

## Installation & Quick Reference Guide

FrameSaver NP Models 64+, 100, 110 and 120

Document Number 980-000-0272B

August 2000

This Quick Reference Guide provides an overview on how to install a FrameSaver NP Model 64+, 100, 110 or 120 unit. This includes making the physical connections between the unit, network, DTE device(s), and telephone line. It also tells you how to find more detailed information about your FrameSaver NP.

### 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 provide timely product update information and maintain competitive prices for our products.

Complete documentation for these products is available at [www.paradyne.com](http://www.paradyne.com).

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*FrameSaver NP (NetPath) Frame Relay Digital Access Units*

Select the appropriate document from the documentation list:

*FrameSaver NP 64+ User's Manual - Installation Guide*, Publication # 980-001-0221

*FrameSaver NP 100 User's Manual - Installation Guide*, Publication # 980-001-0210

*FrameSaver NP 110 User's Manual - Installation Guide*, Publication # 980-001-0240

*FrameSaver NP 120 User's Manual - Installation Guide*, Publication # 980-001-0230

## Getting Started

Before installing or starting to use the FrameSaver NP, you should:

- Install the User's Manual - Installation Guide so that you can access all the installation, configuration, and operating information about the unit.
- Print sections you may want to reference.

### User's Manual - Installation Guide

The manual is in PDF file format. Your PC should be using Microsoft Windows 3.1 or above, and have Adobe Acrobat Reader installed for browsing or printing this manual.

Adobe Acrobat Reader may be obtained free from Adobe Systems Incorporated, from their Web Site at [www.adobe.com](http://www.adobe.com).

### Using Adobe Acrobat Reader

Adobe Acrobat Reader is used just as you would most word processing or text editing programs. Start Adobe Acrobat Reader and open the file containing the *FrameSaver NP User's Manual - Installation Guide*. You can simply scroll through the pages, or use the Bookmarks along the left side to move around the manual or the tables in the front of the manual.

To print the manual or a selection of pages, select Print... from the File menu and then select the range of pages you wish to print. Select OK to begin printing.

### Ordering a Hard Copy of the User's Manual

Contact Paradyne Corporation at the address on the back of this Guide to obtain a printed copy of a *FrameSaver NP User's Manual - Installation Guide*. Always specify the "latest revision" for each publication number:

## Safety Instructions

Before proceeding with the installation, carefully read the Equipment Interference Notice, Important Safety Instructions and Preface sections of the *FrameSaver NP User's Manual - Installation Guide*.

## **Before You Begin**

Ensure you have the following:

- A dedicated, grounded, circuit breaker protected power outlet within six feet of the FrameSaver NP unit.
- A suitable location for the unit that is clean, well-lit, ventilated and free from environmental extremes.
- One to two feet of clearance for cable connections to the unit.

## **Package Checklist**

Verify that the packaging contains the following:

- FrameSaver NP unit
- Unit power cord or AC Power Pack with cord
- If ordered, optional wall-mount or rack-mount bracket assembly.

In addition, you will need Input/Output cables if not already supplied. These cables are listed for each FrameSaver NP Model on pages 13 - 15 of this guide.

## **Mounting the FrameSaver NP**

FrameSaver NP units come equipped with rubber feet for table or shelf-top placement. Optional adapter brackets are available for wall mounting (Model 64+ includes wall-mount key-holes in its base) and standard 19" or 24" rack mounting. To attach and mount adapter brackets, follow the instructions supplied with the mounting adapters.

Allow sufficient space for cooling and access to the front panel indicators for troubleshooting in all installations.

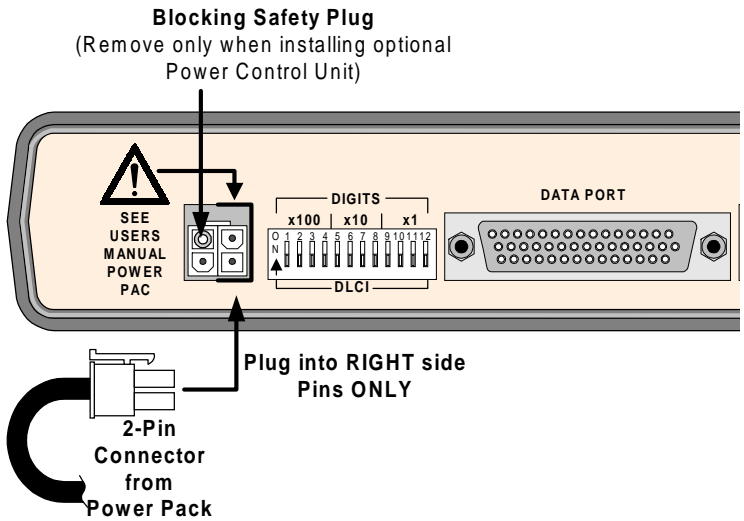
# Power Up a FrameSaver NP 64+

## Make Power Connections

1. Plug the 2-pin keyed and locking connector at the end of the cord from the AC Power Pack into the right-most pins of the 4-pin Power Connector located on the rear of the FrameSaver NP 64+, just to the right of the alert marking.

### **CAUTION**

***The power connectors are keyed and fit easily together when oriented correctly with the locking clip toward the top of the unit. Do not force the connectors together.***



### **CAUTION**

***The 2-pin keyed plug fits easily into the two RIGHT-SIDE pins of the 4-pin Power Connector, and must only be inserted there. The FrameSaver NP unit will be damaged if the plug is forced into the other side.***

2. Plug the Power Pac at the other end of the power cord into an AC outlet.
3. The unit will go through the following power-up sequence:

### FrameSaver NP 64+ Power-Up Sequence

Basic FrameSaver NP 64+	FrameSaver NP 64+ with ISDN
POWER LED lights and stays on.	
READY LED may flash several times, then remain OFF during self-test (approximately 45 seconds).	READY and ISDN READY LEDs may flash several times, then remain OFF during self-test (approximately 45 seconds).
READY LED is ON steady after completion of self-test.	READY and ISDN READY LEDs are ON steady after completion of self-test.
The DDS ALARM and FR MGMT. LEDs should <i>not</i> be flashing together.	
All other LED indications should be ignored at this time.	

If the LED indications are not as described above, refer to Section 5, “Diagnostics” of the *FrameSaver NP 64+ User’s Manual - Installation Guide*.

If operation looks normal, unplug the FrameSaver NP before making input/output connections.

If an optional Power Control Unit (PCU) is to be installed with this FrameSaver NP, refer to the instructions provided with the PCU and install it now.

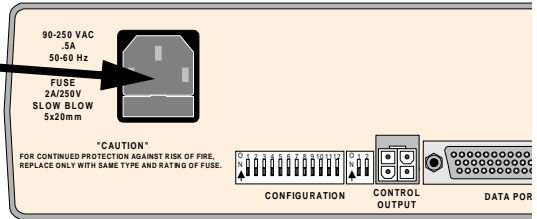
Proceed to Making Network and Input/Output Connections on page 9 of this guide.

# Power Up a FrameSaver NP 100

## Power Connections

1. Plug the IEC 320 end of the Power Cord into the connector on the rear of the FrameSaver NP.

**AC Power Connector**  
**IEC 320 (male)**



2. Plug the other end of the Power Cord into an AC outlet.
3. The unit will go through the following power-up sequence

## FrameSaver NP 100 Power-Up Sequence

Basic FrameSaver NP 100	FrameSaver NP 100 with ISDN
POWER LED lights and stays on.	
READY LED flashes during self-test (approximately 60 seconds).	READY and ISDN READY LEDs flash during self-test (approximately 60 seconds).
READY LED is ON steady after completion of self-test.	READY and ISDN READY LEDs are ON steady after completion of self-test.
The T1 ALARM and FR MGMT. LEDs should <b>not</b> be flashing together.	
All other LED indications should be ignored at this time.	

If the LED indications are not as described above, refer to Section 5, “Diagnostics” of the *FrameSaver NP 100 User’s Manual - Installation Guide*. If operation looks normal, unplug the FrameSaver NP before making input/output connections.

If an optional Power Control Unit (PCU) is to be installed with this FrameSaver NP, refer to instructions provided with the PCU and install it now.

Proceed to Making Network and Input/Output Connections on page 9 of this guide.

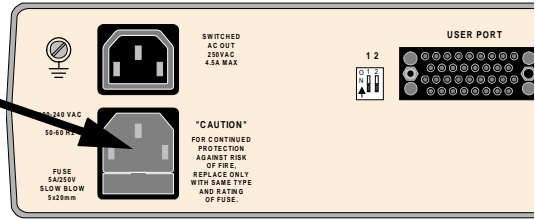
# Power Up a FrameSaver NP 110

## Power Connections

1. Plug the IEC 320 end of the Power Cord into the connector on the rear of the FrameSaver NP 120.

### AC Power Connector

### IEC 320 (male)



2. Plug the other end of the Power Cord into an AC outlet.
3. The unit will go through the following power-up sequence

### FrameSaver NP 110 Power-Up Sequence

Basic FrameSaver NP 110	FrameSaver NP 110 with ISDN
UNIT POWER LED lights and stays on.	
UNIT READY LED flashes during self-test (approximately 60 seconds).	UNIT READY and ISDN READY LEDs flash during self-test (approximately 60 seconds).
UNIT READY LED is ON steady after completion of self-test.	UNIT READY and ISDN READY LEDs are ON steady after completion of self-test.
NETW ALARM and UNIT FRM MGMT LEDs should <i>not</i> be flashing together.	
All other LED indications should be ignored at this time.	

If the LED indications are not as described above, refer to Section 5, “Diagnostics” of the *FrameSaver NP 110 User’s Manual - Installation Guide*. If operation looks normal, unplug the FrameSaver NP before making input/output connections.

If the unit is to supply switched power to another device, plug that device’s power cord into the Switched AC Out connector now.

Proceed to Making Network and Input/Output Connections on page 9 of this guide.

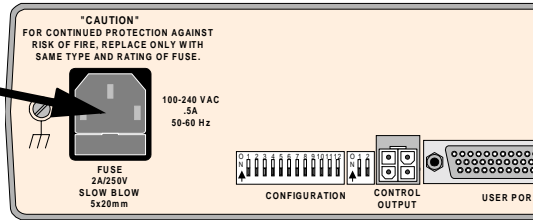
# Power Up a FrameSaver NP 120

## Power Connections

1. Plug the IEC 320 end of the Power Cord into the connector on the rear of the FrameSaver NP.

### AC Power Connector

#### IEC 320 (male)



2. Plug the other end of the Power Cord into an AC outlet.
3. The unit will go through the following power-up sequence

## FrameSaver NP 120 Power-Up Sequence

FrameSaver NP 120
POWER LED lights and stays on.
READY LED flashes during self-test (approximately 30 seconds).
READY LED is ON steady after completion of self-test.
The NETWORK ALARM and FR MGMT. LEDs should <b>not</b> be flashing together. Refer to <i>User's Manual - Installation Guide</i> if they are.
All other LED indications should be ignored at this time.

If the LED indications are not as described above, refer to Section 5, “Diagnostics” of the *FrameSaver NP 120 User's Manual - Installation Guide*. If operation looks normal, unplug the FrameSaver NP before making input/output connections.

If an optional Power Control Unit (PCU) is to be installed with this FrameSaver NP, refer to instructions provided with the PCU and install it now.

Proceed to Making Network and Input/Output Connections on the next page of this guide.



# Making Network and Input/Output Connections

## **CAUTION**

***Be sure you remove AC power from the FrameSaver NP before attaching input and output cables.***

All connectors are located on the FrameSaver NP's rear panel.

Make all the necessary connections using the cables listed for that model.

## **CAUTION**

***Use caution when connecting to an AUX Port. AUX Port connectors are similar to the Network connectors. Accidental connection of either of the AUX Ports to a Network facility may damage the AUX Port electrical interface.***

## **NOTES:**

1. FrameSaver NP 64+, 100, and 120 Data and User Ports support numerous electrical interface types; ITU-V.35, EIA-530, EIA-530-A, ITU-X.21-NS and EIA-232 (FrameSaver NP 64+ only). The Data Port connector is a DB-44 high density female. The adapter cables listed for each model are used to convert from the DB-44 to the appropriate connector type for the interface selected. The adapter cable also includes a special wiring pattern at the DB-44 connector, which automatically sets the port to the desired interface type. Refer to the tables on pages 13 - 15 of this guide for cable ordering information if necessary.
2. FrameSaver NP 110 User and Data Ports are configured for ITU-V.35 Interface.
3. FrameSaver NP 120 is designed for use in networks where it is ***not*** directly connected to the local PTT's (non-U.S.) facilities. All the Network connections are made to the customer's Private Network.

## **Making ISDN Option Connections**

FrameSaver NP units equipped with optional ISDN adapters have additional connectors on the rear panel for ISDN Line(s) and ISDN Data Port (DTE). The ISDN Data Port supports the same electrical interface types and uses the same connector as the base unit Data Port.

### Making DROP/DSX Option Connections (FrameSaver NP 110 only)

FrameSaver NP 110 units equipped with optional DROP/DSX adapters have additional connectors on the rear panel for the DROP and DSX Ports. The DROP Port supports the ITU-V.35 interface and the DSX Port is aT1 Network interface.

## FrameSaver NP 64+ Specifications

Item	Description
Dimensions	Table Top (with rubber feet): 3.0" H x 8.5" W x 11.5" D.  Wall Mount (with removable wall mounting bracket): 8.5" H x 11.5" W x 3.0" D.  Rack Mount (with removable rack mounting adapter): 3.5" H x 19.0" W ( or 24.0" W ) x 11.5" D.
Weight	As normally packaged including carton and accessories: 6 lbs. Unit alone (without packaging and accessories): 4 lbs.
Operating Range	Temperature: 0 to 50 degrees C. operating. Relative Humidity: 5 to 95% non-condensing. Altitude: 10,000 ft. max. operating, 50,000 ft. max. non-operating. Shock and Vibration: As normally encountered during shipping and handling.
Power Requirements	AC Power Pack (transformer/plug module). Input = 90 - 130 VAC, 0.2 A max., 60 Hz. Output = 22 VAC, 30 VA. Cable: 2-conductor, with 2-pin keyed locking connector, 7 ft. length.
Regulatory Compliance	UL - 1459, Third Edition and CAN/CSA C22.2 No. 225-M90 FCC Part 15, Class A Digital Device Canada's ICES003, Class A Digital Device FCC Part 68

## FrameSaver NP 100 (120) Specifications

Item	Description
Dimensions	Table Top (with rubber feet): 3.5" H x 10.5" W x 12.0"D. Wall Mount (with removable wall mounting bracket): 10.5" H x 12.0" W x 3.5" D. Rack Mount (with removable rack mounting adapter): 5.25" H x 19.0" W ( or 24.0" W ) x 12.0" D.
Weight	As normally packaged including carton and accessories: 8 lbs. Unit alone (without packaging and accessories): 6 lbs.
Operating Range	Temperature: 0 to 50 degrees C. operating. Relative Humidity: 5 to 95% non-condensing. Altitude: 10,000 ft. max. operating, 50,000 ft. max. non-operating. Shock and Vibration: As normally encountered during shipping and handling.
Power Requirements	90 - 250 VAC, 50 - 60 Hz.,15 Watts max. (100 - 240 VAC for FrameSaver NP 120) Fused - 2A/250V Slow Blow, 5x20mm. <u><b>CAUTION:</b></u> FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE FUSE ONLY WITH THE SAME TYPE AND RATING. <u><b>ATTENTION:</b></u> POUR NE PAS COMPROMETTRE LA PROTECTION CONTRE LE RISQUE D'INCENDIE REMPLACER PAR UN FUSIBLE DE MEMES TYPE ET CARACTERISTIQUE NOMINALES.
Regulatory Compliance	<b>FrameSaver NP 100:</b> UL - 1459, Third Edition and CAN/CSA C22.2 No. 225-M90; FCC Part 15, Class A Digital Device; FCC part 68;Canada's ICES003, Class A Digital Device <b>FrameSaver NP 120:</b> UL-1950; CAN/CSA C22.2 No. 225-M90; FCC Part 15, Class B Digital Device; Canada's ICES003, Class A Digital Device; EN 60950; EN 50082-1:1992; EN 55022:1995; EMI: EN 55022 Class B

# FrameSaver NP 110 Specifications

Item	Description
Dimensions	Table Top (with rubber feet): 3.5" H x 10.5" W x 12.0"D. Wall Mount (with removable wall mounting bracket): 10.5" H x 12.0" W x 3.5" D. Rack Mount (with removable rack mounting adapter): 5.25" H x 19.0" W ( or 24.0" W ) x 12.0" D.
Weight	As normally packaged including carton and accessories: 8 lbs. Unit alone (without packaging and accessories): 6 lbs.
Operating Range	Temperature: 0 to 50 degrees C. operating. Relative Humidity: 5 to 95% non-condensing. Altitude: 10,000 ft. max. operating, 50,000 ft. max. non-operating. Shock and Vibration: As normally encountered during shipping and handling.
Power Requirements	AC Input 100 - 240 VAC, 50 - 60 Hz., 5.0A max. 0.5A max. for the unit's internal power requirements. 4.5 A max. for device (if any) connected to the Switched AC Output. Fused - 5A/250V Slow Blow, 5x20mm. Switched AC Output: max, 250 VAC, 4.5 A. <b><u>CAUTION:</u></b> FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE FUSE ONLY WITH THE SAME TYPE AND RATING. <b><u>ATTENTION:</u></b> POUR NE PAS COMPROMETTRE LA PROTECTION CONTRE LE RISQUE D'INCENDIE REMPLACER PAR UN FUSIBLE DE MEMES TYPE ET CARACTERISTIQUE NOMINALES.
Regulatory Compliance	UL - 1950, Third Edition and CAN/CSA C22.2 No. 950-95, Third Edition, FCC Part 15, Class A Digital Device, Canada's ICES003, Class A Digital Device, FCC Part 68

### FrameSaver NP 64+ Cable List

Description	Part No.
DDS network cable, RJ-48, twisted pair	135-982-0006
Dial Line (POTS) cable, RJ-11 connector	135-007-7200
ISDN BRI network cable, RJ-49 connector	135-981-0006
EIA-232 Data Port (DTE) cable	135-000-0400
EIA-530 Data Port (DTE) cable	135-002-0400
EIA-530A Data Port (DTE) cable	135-003-0400
ITU-X.21-NS Data Port (DTE) cable	135-005-0400
ITU-V.35 Data Port (DTE) cable	135-001-0400
ITU-V.35 Data Port (DTE) cable to Cisco router serial port, HD-60 connector	135-006-0400
Console cable (to AUX2), DB-9 connector	135-000-0464
Console cable (to AUX2), DB-25 connector	135-007-0400
AUX Port to router console port cable, DB-25 connector	135-008-0400
AUX Port to Cisco router console port, RJ-45 type connector	135-990-0006

Contact your service representative, distributor or sales representative to order cables.

### FrameSaver NP 100 (120) Cable List

Description	Part No.
T1 network cable, RJ-48, twisted pair (NP 100 <u>only</u> )	135-982-0006
Dial Line (POTS) cable, RJ-11 connector (NP 100 <u>only</u> )	135-007-7200
ISDN BRI network cable, RJ-49 connector (NP 100 <u>only</u> )	135-981-0006
EIA-530 Data Port (DTE) cable (NP 100 <u>only</u> )	135-002-0400
EIA-530A Data Port (DTE) cable (NP 100 <u>only</u> )	135-003-0400
ITU-X.21-NS Data Port (DTE) cable (NP 100 <u>only</u> )	135-005-0400
ITU-V.35 Data Port (DTE) cable (NP 100 <u>only</u> )	135-001-0400
ITU-V.35 Data Port (DTE) cable to Cisco router serial port, HD-60 connector (NP 100 <u>only</u> )	135-006-0400
Console cable (to AUX2), DB-9 connector	135-000-0464
Console cable (to AUX2), DB-25 connector	135-007-0400
AUX Port to router console port cable, DB-25 connector	135-008-0400
AUX Port to Cisco router console port, RJ-45 type connector	135-990-0006
ITU-V.35 Compliant network cable (NP 120 <u>only</u> )	135-001-0480
ITU-X.21-NS network cable (NP 120 <u>only</u> )	135-005-0480
ITU-V.35 Compliant User Port cable (NP 120 <u>only</u> )	135-002-0480
EIA-530 User Port cable (NP 120 <u>only</u> )	135-003-0480
EIA-530A User Port cable (NP 120 <u>only</u> )	135-004-0480

Contact your service representative, distributor or sales representative to order cables.

### FrameSaver NP 110 Cable List

Description	Part No.
T1 or DSX network cable, RJ-48, twisted pair	135-982-0006
Dial Line (POTS) cable, RJ-11 connector	135-007-7200
ISDN BRI network cable, RJ-49 connector	135-981-0006
Console cable (to AUX2), DB-9 connector	135-000-0464
Console cable (to AUX2), DB-25 connector	135-007-0400
AUX Port to router console port cable, DB-25 connector	135-008-0400
AUX Port to Cisco router console port, RJ-45 type connector	135-990-0006

Contact your service representative, distributor or sales representative to order cables.

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- **Telephone:** 201-703-4800
- **Internet:** <http://www.paradyne.com>
- **FAX:** 201-703-4889
- **Mail:** Paradyne Corporation  
16-00 Pollitt Drive  
Fair Lawn NJ 07410

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