

Frame Relay Network Access Module (NAM) Installation Instructions

Feature Number 9621-F1-412

Document Number 9000-A2-GN12-10

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Before You Begin

Make sure you have:

- A small, flat-head screwdriver.
- 9000 Series Access Unit, 1-Slot Integrated Unit, Installation Instructions* (Document Number 9000-A2-GN10), if this is an initial installation and not a NAM replacement.

Package Checklist

Verify that your package contains the following:

- Network Access Module (NAM)
- Warranty card
- Safety, Regulatory, Technical Specifications, Warranty and Equipment Return Information* (Document Number 9000-A2-GX40)

Be sure to register your warranty.

Safety Instructions

Please read the EMI warning and Important Safety Instructions that come with this unit.

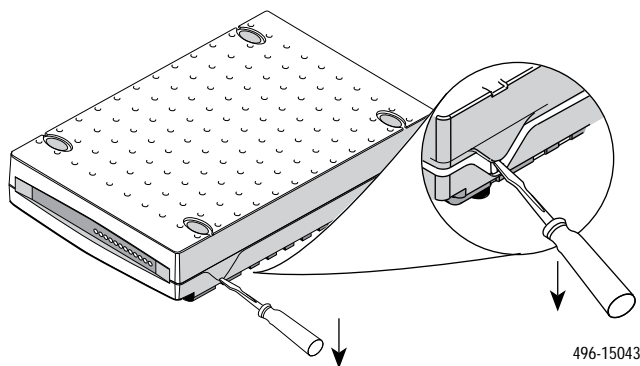
⚠ HANDLING PRECAUTIONS FOR STATIC-SENSITIVE DEVICES

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.

Removing a NAM from a 1-Slot Housing

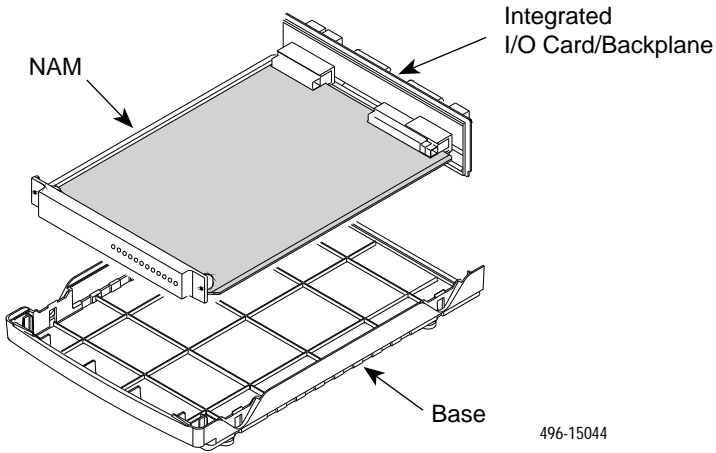
Before replacing a NAM, locate or record the access unit's configuration options.

1. Disconnect the power cord/transformer, first from the ac outlet, then from the rear of the access unit.
2. Disconnect the other cables.
3. Open the 1-slot housing using a small flat-head screwdriver. Gently pry open the housing at each of the four connecting tab points. However, if the screwdriver is too big or you do not open carefully, you could cause minor damage to the housing.

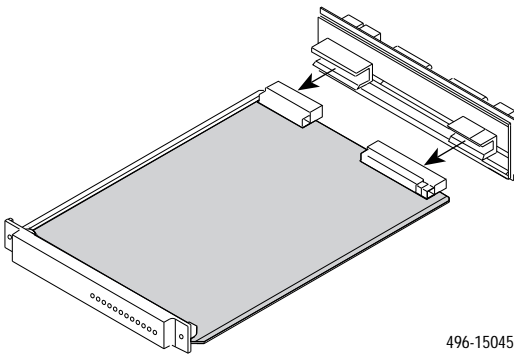


4. Remove the cover.

5. Lift the NAM and the integrated I/O card/backplane (rear panel) from the base.

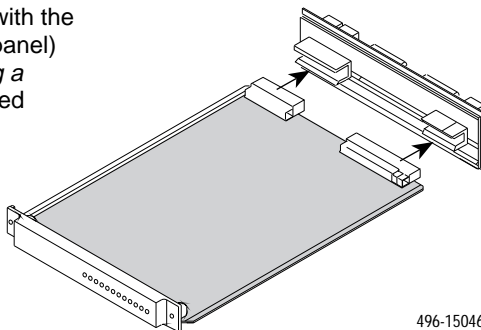


6. Work the NAM away from the I/O card (not the backplane, since the backplane might bend) by very carefully and gently pulling and rocking the NAM connectors away from the I/O card connectors. Work first from one side, then the other, until the NAM is separated from the I/O card. Set the NAM aside.



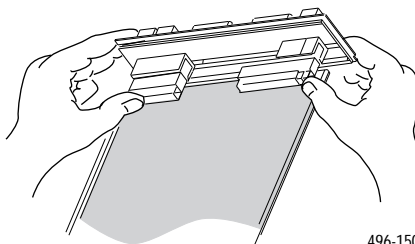
Installing a NAM in a 1-Slot Housing

1. Remove the NAM from its shipping box.
2. Carefully align the NAM connectors with the integrated I/O card/backplane (rear panel) connectors. (See step 3 of *Removing a NAM from a 1-Slot Housing* if you need to open the housing first.)



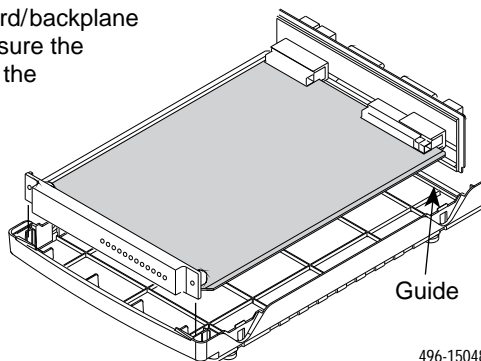
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3. Gently, but firmly press the connectors together until they are fully seated. Be careful not to force or bend any pins.



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4. Place the NAM and integrated I/O card/backplane into the 1-slot housing's base. Make sure the backplane rests inside the guides on the base at the rear of the access unit.



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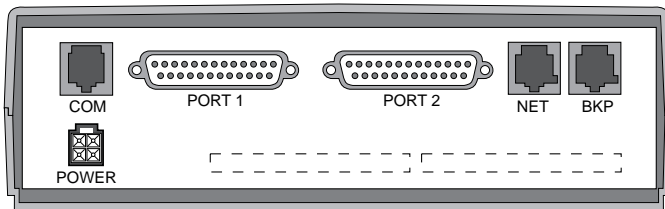
5. Place the cover over the base, aligning the four connecting tabs. Make sure the backplane rests inside the guides on the cover at the rear of the access unit.
6. Press the cover and base together until all four connecting tabs snap into place.
7. (Re)connect the cables and power cord/transformer.
If this is a new installation, refer to the *9000 Series Access Unit, 1-Slot Integrated Unit, Installation Instructions* (Document Number 9000-A2-GN10).

Technical Specifications

Specification	Criteria
Weight	2.59 lbs. (1.18 kg)
Power Normal service voltage range	120 Vac \pm 12 Vac, 60 Hz \pm 3
Physical Environment Operating temperature Storage temperature Relative humidity Shock and vibration	35°F to 122°F (1.7°C to 50°C) 4°F to 158°F (20°C to 70°C) 5% to 85% (nonconducting) Withstands normal shipping and handling
Approvals FCC Part 15 FCC Part 68 UL CSA Safety	Class A digital device Refer to the equipment's label for the Registration Number. Listed UL 1950 Certified CSA 22.2 No. 950-93
Interface/Connectors NET – DDS and frame relay network port PORT – DTE synchronous data ports COM – communications/ management port BKP – (reserved for future use)	One 8-position modular keyed USOC RJ48S jack Two 25-position (DB25) subminiature EIA-232E/V.24/V.35 connectors One 8-position modular unkeyed jack One 8-position modular keyed jack
NET Port/Interface Data rates Services supported	56 kbps and 64 kbps clear channel 4-wire service

Specification	Criteria
DTE Ports/Interfaces Data rates Interface types	Uncompressed: 4.8, 9.6, 14.4, 16.8, 19.2, 24, 28.8, 38.4, 48, 56, and 64 kbps Compressed: 4.8, 9.6, 14.4, 16.8, 19.2, 24, 28.8, 38.4, 48, 56, 64, 128, 192, and 256 kbps Two 25-pin EIA232E/V.24/V.35 connectors
COM Port/Interface Data rates Download rates	9.6, 14.4, 19.2, 28.8, and 38.4 kbps 38.4 kbps

Rear Panel



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Pin Assignments

NET Port/Interface

Function	Circuit	Pin #
Transmitted data to the local loop	R	1
Transmitted data to the local loop	T	2
Received data from the local loop	T1	7
Received data from the local loop	R1	8

COM Port/Interface

Signal	Direction	Pin #
DCE Transmit Clock (TXC)	From DCE (Out)	1
DCE Received Data (RXD)	From DCE (Out)	2
Signal Ground (SG)	—	3
DCE Transmit Data (TXD)	To DCE (In)	4
DCE Data Terminal Ready (DTR)	To DCE (In)	5
DCE Carrier Detect (CD)	From DCE (Out)	6
DCE Request to Send (RTS)	To DCE (In)	7
DCE Received Clock (RXC)	From DCE (Out)	8

DTE Ports/Interfaces

Signal	Circuit Mnemonic	ITU/ CCITT #	Direction	25-Pin EIA-232E Pin #
Shield	—	—	—	1
Transmitted Data (TXD)	BA	103	To DCE	2
Received Data (RXD)	BB	104	From DCE	3
Request to Send (RTS)	CA	105	To DCE	4
Clear to Send (CTS)	CB	106	From DCE	5
Data Set (or DCE) Ready (DSR)	CC	107	From DCE	6
Signal Ground/Common (SG)	AB	102A	—	7
Received Line Signal Detector (RLSD or LSD)	CF	109	From DCE	8
Reserved for future use	—	—	—	9
Not used	—	—	—	10
Reserved for future use	—	—	—	11
Reserved for future use	—	—	—	12
Not used	—	—	—	13
Reserved for future use	—	—	—	14

DTE Ports/Interfaces (continued)

Signal	Circuit Mnemonic	ITU/ CCITT #	Direction	25-Pin EIA-232E Pin #
Transmitter Signal Element Timing (TXC)	DB	114	From DCE	15
Reserved for future use	—	—	—	16
Receiver Signal Element Timing (RXC)	DD	115	From DCE	17
Local Loopback (LL)	LL	141	To DCE	18
Not used	—	—	—	19
Data Terminal (or DTE) Ready (DTR)	CD	108/1, /2	To DCE	20
Remote Loopback (RL)	RL	140	To DCE	21
Ring Indicator (RI)	RI	125	From DCE	22
Not used	—	—	—	23
Transmitter Signal Element Timing (TT)	DA	113	To DCE	24
Test Mode Indicator (TM)	TM	142	From DCE	25