Acme Packet 4500

Transcoding NIU DSP Installation Guide

Formerly Net-Net 4500

April 2015

ORACLE

About This Guide

Overview

The Acme Packet 4500 and 3820 are high performance, high capacity session border controller that optimally delivers interactive communications—voice, video, and multimedia sessions—across wireline, wireless, and cable IP network borders.

Audience

This guide is written for network administrators, and telecommunications equipment installers and technicians. It provides information related to the hardware components, features, installation, start-up, operation, and maintenance of the Acme Packet 4500 and 3820. Only experienced and authorized personnel should perform installation, configuration, and maintenance tasks.

Revision History

This section contains a revision history for this document.

Date	Revision Number	Description
March 15, 2012	Revision 1.00	• Initial Release
May 16, 2012	Revision 1.1	• added 3820
April 27, 2015	Revision 1.2	• added the requirement for a high-speed fan module when running S-Cz7.2.0 and above

Acme Packet 4500 and 3820 Transcoding NIU DSP Installation

Introduction

This guide provides information about how to install the Transcoding NIU and DSP modules into your Acme Packet 4500 and 3820.

The following is a list of the major steps required to install Transcoding NIU and DSP modules into a Acme Packet 4500 and 3820.

- Follow preinstallation guidelines
- Ground yourself and follow proper ESD grounding procedures
- Remove the Transcoding NIU card from the Acme Packet 4500 and 3820 chassis
- Install the DSP Module's into the Transcoding NIU card.
- Install the Transcoding NIU card into the Acme Packet 4500 and 3820.

Shipped Parts

A Transcoding NIU and DSP Module upgrade order contains the following:

- Transcoding NIU with DSP Modules installed.
- The Transcoding NIU can support up to twelve DSP modules per card.

Installation Tools and Parts

The following tools and parts are required to install a Transcoding NIU and DSP modules into the Acme Packet 4500 and 3820.

- #2 Phillips-head screwdriver.
- ESD wrist strap.
- ESD safe location.

Preinstallation

- This upgrade should be performed during low-traffic periods or scheduled maintenance windows.
- When installing or removing DSP modules move the Transcoding NIU card to an ESD safe location.

System Requirements

- Minimum Operating System: nnSCX6.3.7F1 release.
- Acme Packet 4500 or 3820.
- Minimum Bootloader: 1.10 aug 2011.
- When running S-Cz7.2.0 and above, you must also have a high-speed fan module in the chassis in order to avoid overheating the system.

Caution

Before handling a Transcoding NIU card follow the proper ESD grounding procedures. Failure to do so could damage the Transcoding NIU card and its components.

ESD

When performing maintenance on Acme Packet 4500 and 3820 components you must ground yourself with an ESD wrist strap. An ESD wrist strap is used to channel static electricity to ground. Proper grounding is essential for handling static-sensitive equipment. Alternatively, you can ground yourself according to established grounding guidelines of the location where the Acme Packet 4500 and 3820 resides.

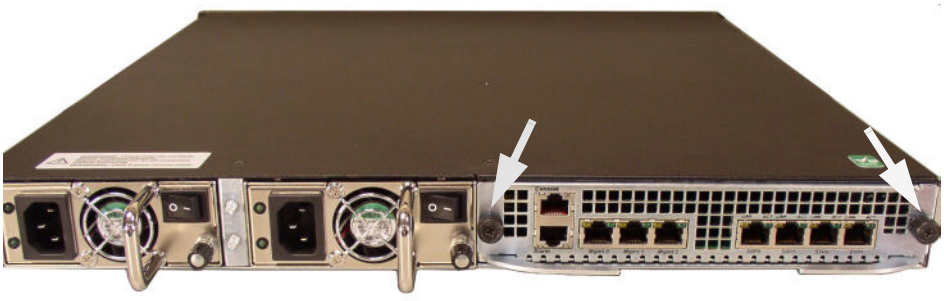
Note: An ESD wrist strap is not shipped with your Transcoding NIU install kit.

Transcoding NIU Removal

Note: The installation procedure below shows a Acme Packet 4500. The installation procedure is exactly the same for a Acme Packet 3820.

1. Front view of the Acme Packet 4500 chassis.

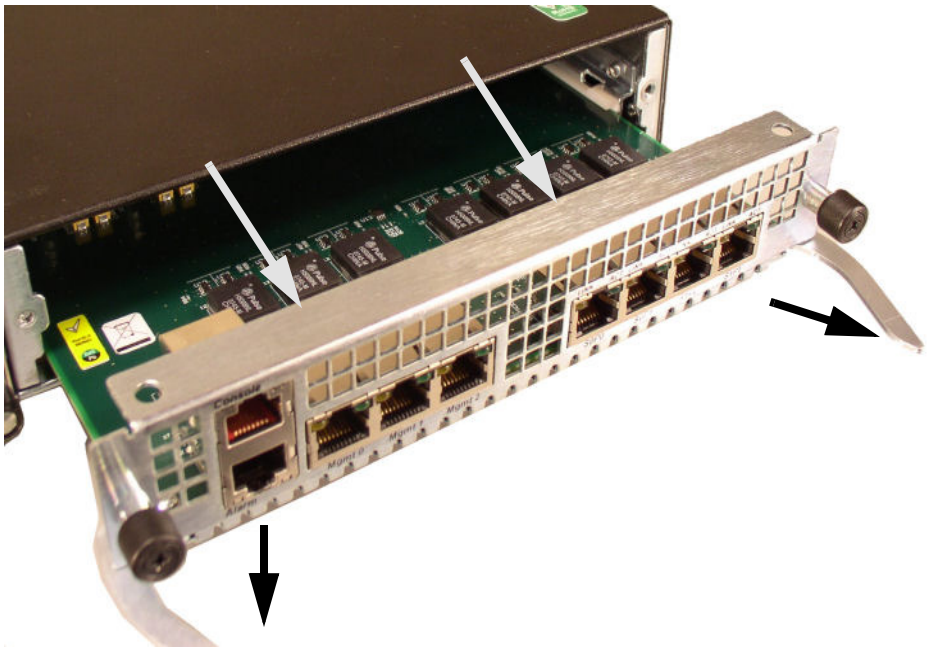
2. Rear view of the Acme Packet 4500 chassis.
3. Unscrew the two thumb screws located on each side of the Transcoding NIU card with a #2 Phillips screwdriver. The screws are spring-loaded and will be pushed forward, but will not fall out of the processing unit.



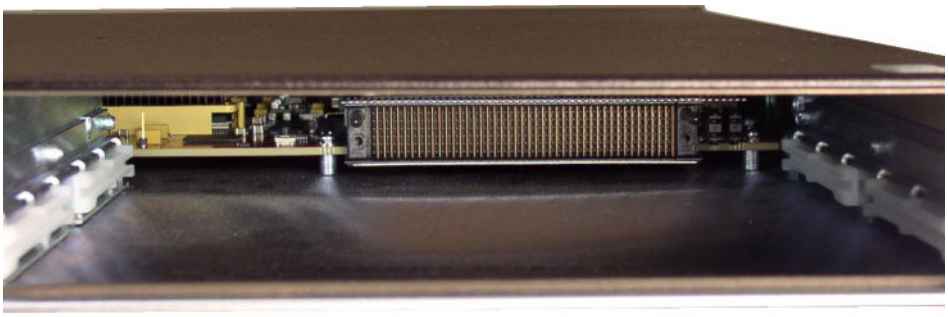
4. Pull the two ejector handles out and away from the chassis at the same time to disengage the Transcoding NIU card from the midplane and chassis.

   Note: Do not force the Transcoding NIU card out of the chassis. If there is any resistance. Check the alignment of the card and guide rails.

5. Remove the Transcoding NIU card from the Acme Packet 4500 chassis and move to an ESD safe location.

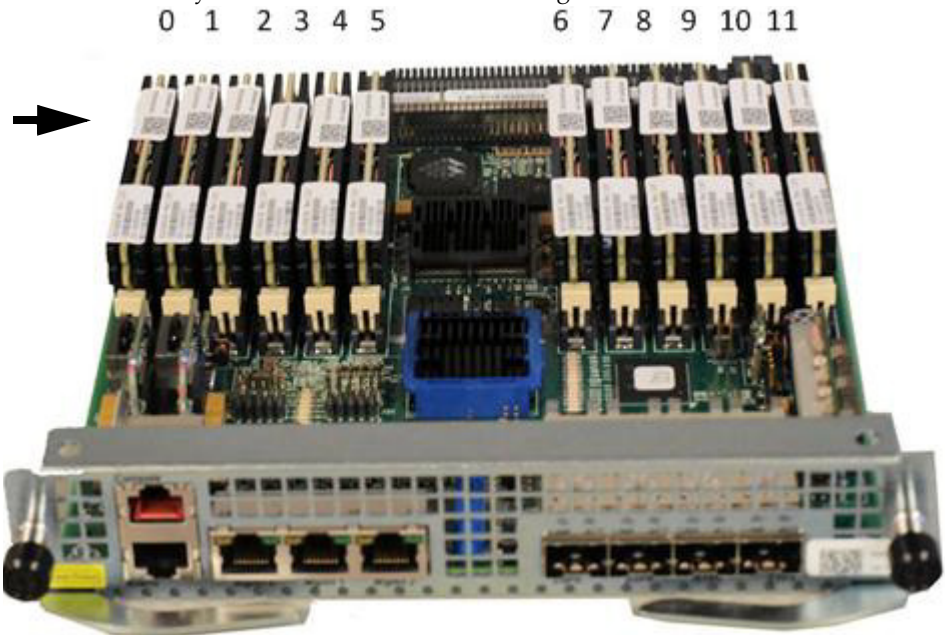


6. The Transcoding NIU card is removed from the chassis and moved to an ESD safe location.

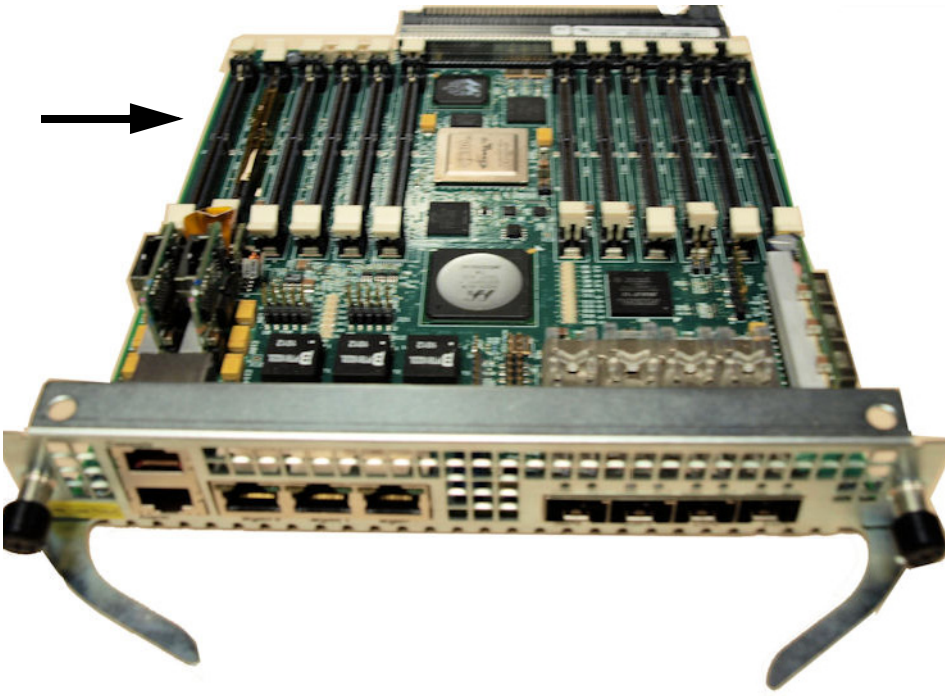


Transcoding NIU Identification, logical slot 0 - 11

Transcoding NIU card with **12** DSP modules installed in logical slots **0-11**. You must fill in slot **0** first, then slots **1**, **2** consecutively and work your way up to **11** or as many DSP modules as you have. The arrow is indicating the location of slot **0.**



Transcoding NIU with no DSP modules installed in slots **0-11.** The arrow is indicating the location of slot **0**.



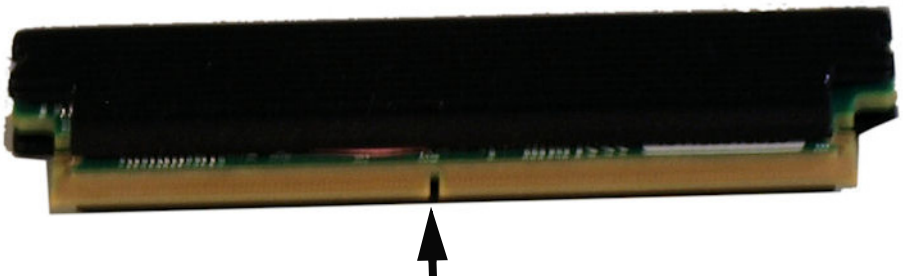
DSP module Installation

The Transcoding NIU card is populated with a minimum of **1** and a maximum of up to **12** DSP modules. The DSP modules must be inserted into slot **0** first and then consecutive until slot **11** is reached.

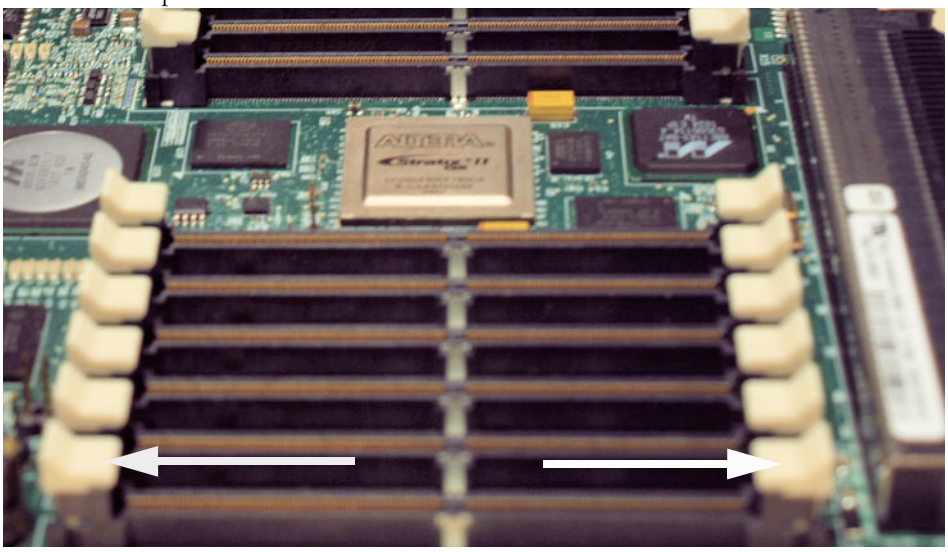
Caution

The DSP module is keyed and will only fir into the socket if the keyed position is correct.

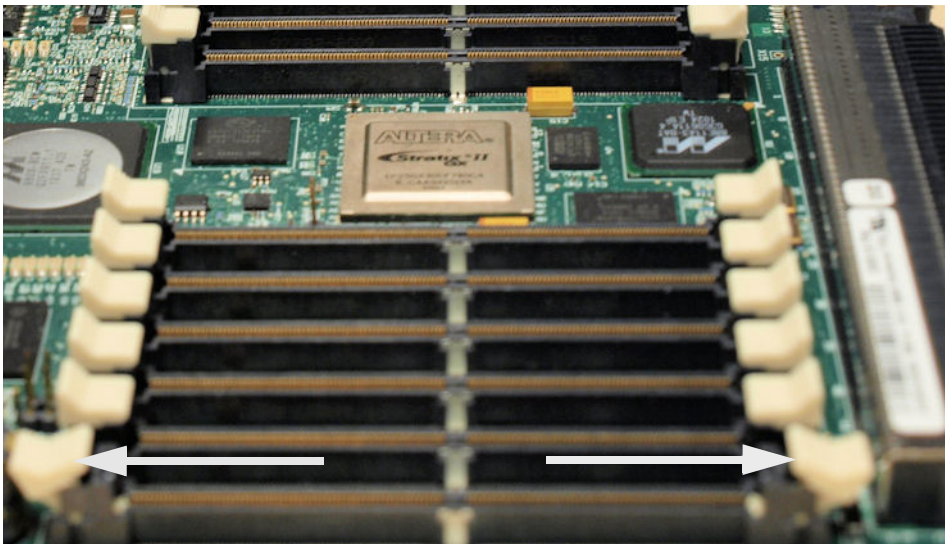
1. The arrow indicates the Keyed position on the DSP module. .



2. The two white ejector handles are in the closed position.
3. With you fingers and thumbs push the two white ejector handles out to the extended position. The arrows show the direction.



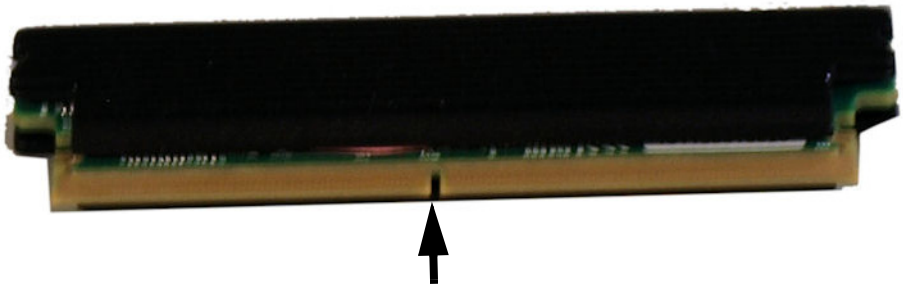
4. The two white ejector handles are in the extended position and ready for the DSP module to be inserted into the socket.



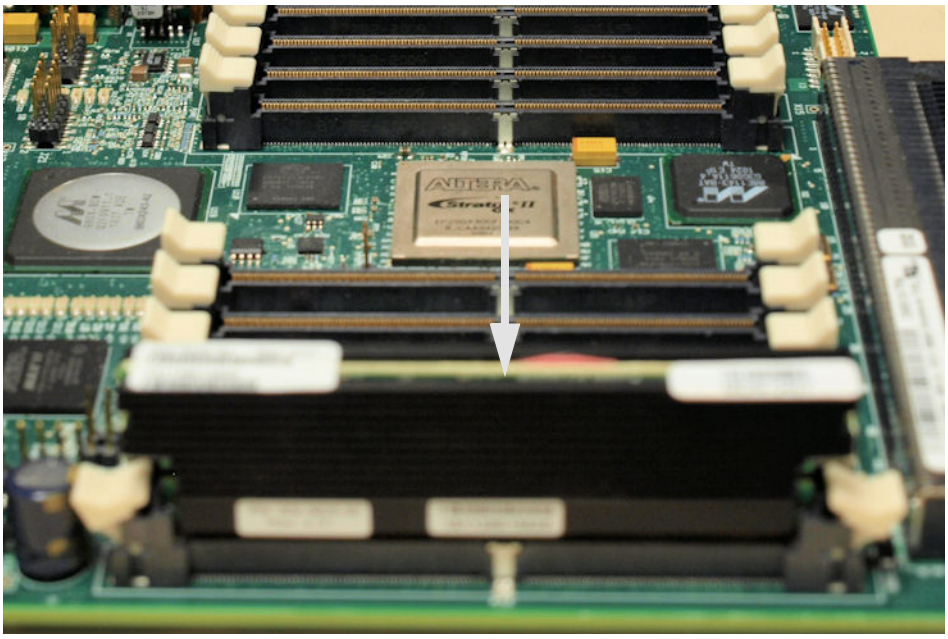
Caution

The DSP module is keyed and will only fit into the socket if the keyed position is correct.

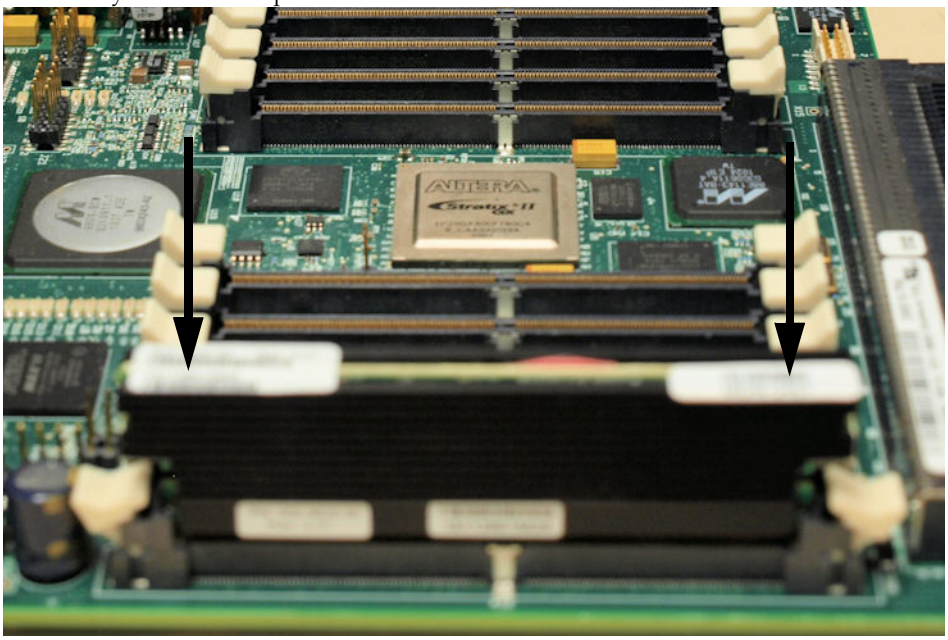
5. The arrow indicates the Keyed position on the DSP module. The DSP module will only go into the socket if the keyed position is correct.



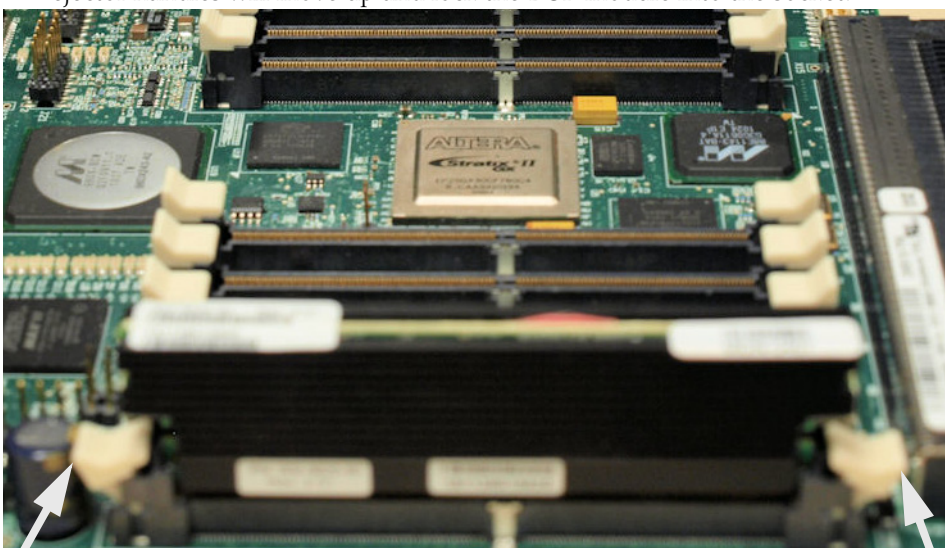
6. Make sure the keyed position is correct on the DSP module and the socket, then insert the DSP module into the socket.



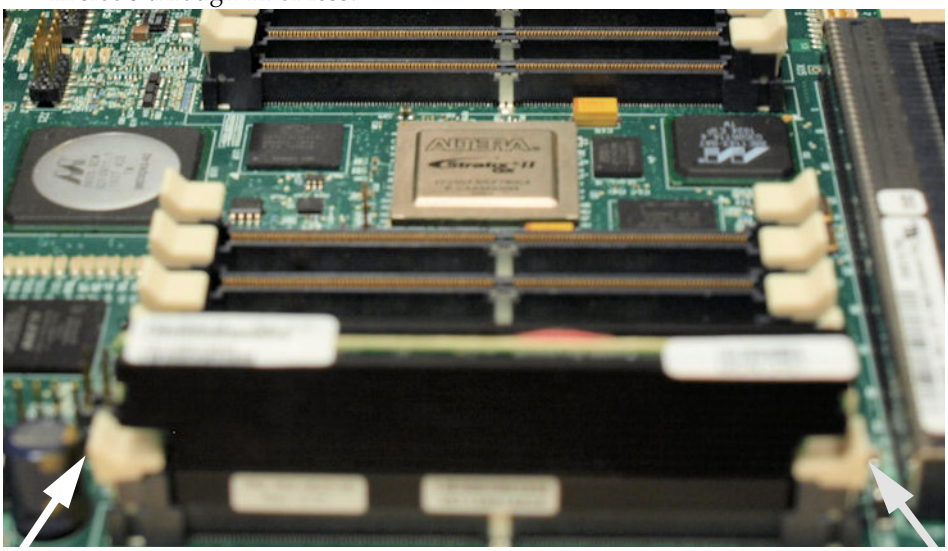
7. Once the DSP module is inserted into the socket properly. Apply pressure evenly across the top of the DSP module until it is inserted into the socket.



8. As you press down evenly across the top of the DSP module, the two white ejector handles will move up and lock the DSP module into the socket.

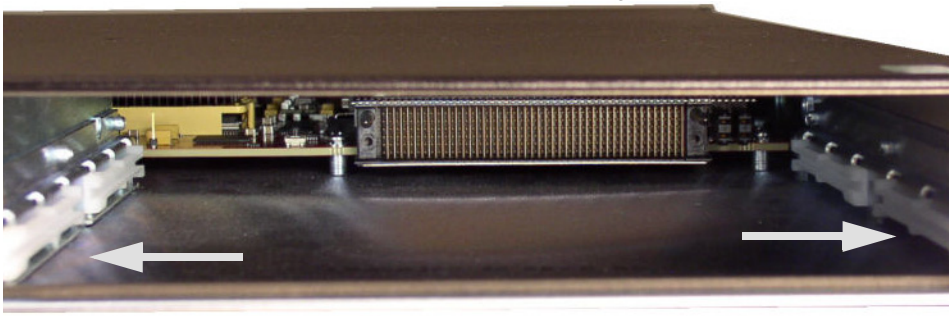


9. The two white ejector handles and the DSP are locked into the correct position in the socket. Repeat these steps for as many DSP modules you have, populating in slot 0 through 11 or less.



Transcoding NIU Installation

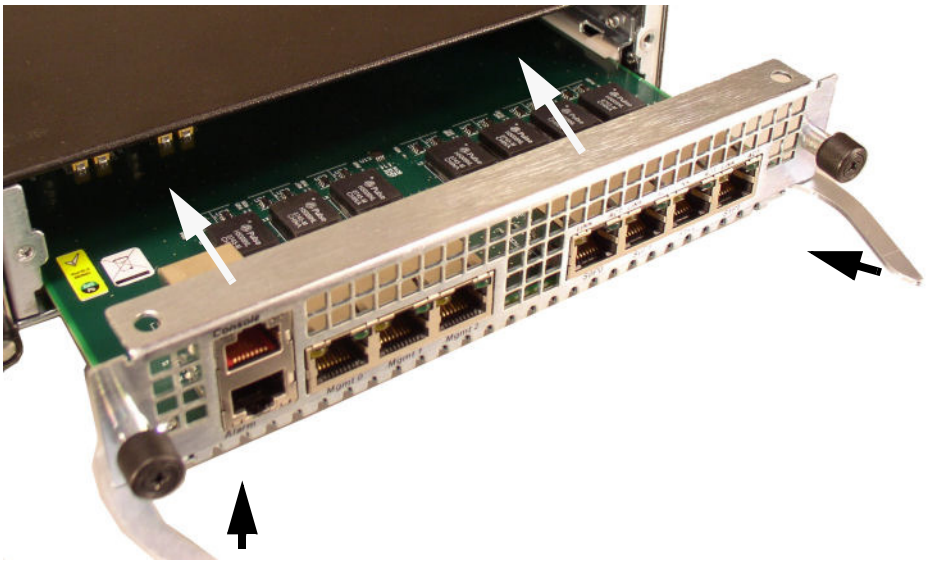
1. Acme Packet 4500 chassis without the Transcoding NIU card installed.



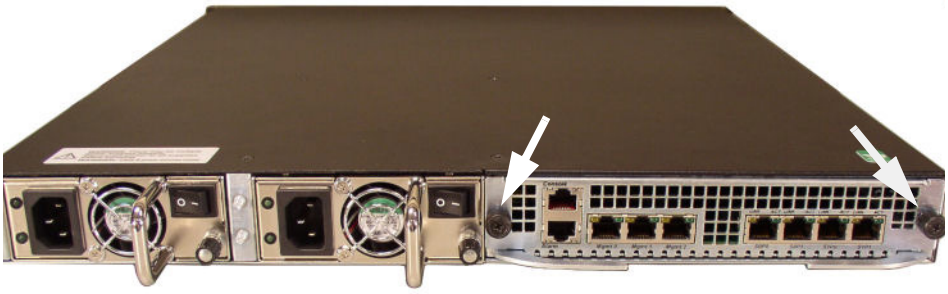
2. Insert the Transcoding NIU card into the chassis with both sides of the Transcoding NIU card inserted into the guide rails.

   Note: Do not force the Transcoding NIU card into the chassis. If there is any resistance remove the Transcoding NIU card and check the alignment of the card and guide rails.

3. Slide the Transcoding NIU card forward until it engages with the midplane and chassis.
4. Move the ejector handles from the extended position to the forward position and into the chassis.



5. With a #2 phillips head screw driver, screw in the two screws so the Transcoding NIU card is secured in the chassis.



System Startup

Once you have completed the Transcoding NIU DSP installation you must verify that all the DSP modules are recognize by the system.

Using the **show prom-info phy** command you can check if the DSP modules are recognized by the Acme Packet 4500. Make sure all the DSP modules you installed are present in the system. The example below shows a **Transcoding NIU (4 port SFP with QOS)** and **3 DSP** modules installed.

> **Note:** Logically the system sees the ports as **0 -11**. The DSP modules must be inserted into slot **0** first and then consecutive until slot **11** is reached. Physically the system sees the ports as **1-12**.

ACLI commands

1. From Superuser mode type **show prom-info phy** and press <Enter>

```
ACMESYSTEM#
ACMESYSTEM# show prom-info phy
Contents of PHY
       Assy, 4 Port SFP with QOS and DSP (This is the Transcoding NIU card.)
        Part Number:                    002-0619-58
        Serial Number:                  151152019048
        Functional Rev:                  03.03
        BoardRev:                       03.00
        PCB Family Type:                Quad port GiGE SFP PHY
        ID:                             4 Port GiGE w/QoS & DSP
        Format Rev:                     16
        Options:                        0
        Manufacturer: Plexus
        Week/Year:                      52/2011
        Sequence Number:                019048
Contents of PHY DSP
        DSP on port 1: (This is the first DSP module in logical slot 0)
                Assy:                   DSP on DIMM (translator)
                Part Number:            0620-50
                Serial Number:          151150018889
                FunctionalRev:          02.01
                Artwork Rev:            2.00
                PCB Family Type:        16
                ID:                     600e
                Format Rev:             10
                Options:                0
                Week/Year:              50/2011
                Sequence Number:        018889
        DSP on port 2: (This is the second DSP module in logical slot 1)
                Assy:                   DSP on DIMM (translator)
                Part Number:            0620-50
                Serial Number:          151148017998
                FunctionalRev:          02.01
                Artwork Rev:            2.00
                PCB Family Type:        16
                ID:                     600e
                Format Rev:             10
                Options:                0
```

```
                Week/Year:              48/2011
                Sequence Number:        017998
        DSP on port 3: (This is the third DSP module in logical slot 2)
                Assy:                   DSP on DIMM (translator)
                Part Number:            0620-50
                Serial Number:          151148018012
                FunctionalRev:          02.01
                Artwork Rev:            2.00
                PCB Family Type:        16
                ID:                     600e
                Format Rev:             10
                Options:                0
                Week/Year:              48/2011
                Sequence Number:        018012
        DSP on port 4: not present
        DSP on port 5: not present
        DSP on port 6: not present
        DSP on port 7: not present
        DSP on port 8: not present
        DSP on port 9: not present
        DSP on port 10: not present
        DSP on port 11: not present
        DSP on port 12: not present
ACMESYSTEM#
```