The NINDY Page

The NINDY Page is intended to provide the collected current information on how to put Lucent INS hardware in debug mode. Usually this comes in handy when you install a software load that is defective in a way that locks up the box.

The information contained should not be shared with customers or anyone outside of Lucent Technologies. Opening the chassis of any of these products, and certainly applying jumpers to debug or NINDY pins is a violation of product warranty and will void all warranties on the product. Use this information internally only.

For additions, deletions, corrections or updates to this document, please contact Jay Wilson (POST entry)

This page contains:

Contributors

The list provided is intended to give credit to individuals that have been gracious enough to test, validate and document the NINDY procedures listed here. If you have been gracious enough to contribute any of the info contained herein, or know of someone that has, please contact Jay Wilson to have the appropriate contact info added.

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NINDY and Pass POST

NINDY and Pass POST (as well as DEBUG on some models) are debug modes for Lucent INS platforms and slot cards. They are indicated by a hardware jumper, or by shorting pins in a less convenient manner, read at boot time. You will probably need to use one or both at one time or another. Customers should not be encouraged to attempt this procedure, since opening the box to for any reason voids the warranty for Lucent INS hardware.

Exposing the jumpers requires considerable disassembly of some boxes. Many engineers connect a switch to each of these jumpers, accessible from outside the chassis. The switches range in design from exposed wires to mounted switches with indicator lights to a remote-controlled affair used by an engineer in another state. Installing a switch is well worth the effort.

Before you start

Before you NINDY your machine, you might want to test, just to be sure NINDY is required. It is possible, for example, that you have the termserver set to the wrong baud rate. Steve Long has whipped up an expect script that checks the condition of your machine. Send him email if you want a copy. You may want to personalize the script before running it.

When in the "nindy monitor", the box will default to its maximum baudrate for the serial line. The baud rate is 57600 for most boxes.

The nindy monitor prompt can look different on the various platforms. For example:

```
=>
```

or

```
PIPE50>
```

or

```
MAX 800>
```

NINDY

You have probably heard the term "NINDY" already. It derives from the name of the debug monitor for the i960 processor, incorporated into Lucent INS/Ascend boot ROMs. Often the term is used to mean an operational mode of Lucent INS/Ascend hardware platforms where the boot ROM offers a low-level diagnostic menu through a serial port rather than loading a code image from flash memory and commencing normal operation.

To get to that debug menu, you must indicate NINDY at boot time, usually by closing the NINDY jumper before booting the box. Sometimes you can switch the rotary dial to position zero instead of fooling with jumpers inside the box (then you don't have to open up the shelf controller just to NINDY

the shelf). You may have to short particular pins on some platforms to get debug mode. Once the box comes up, you can try to start a download to flash memory, using the `df(`"Download to Flash", not to be confused with the UNIX "Disk Free") command. The Pipe50 DEBUG mode is similar to NINDY; see the section *Platform-Specific Notes* for more information.

Pass POST

"POST" stands for Power-On Self-Test. Normally, when an Lucent INS/Ascend box fails its POST, it locks up. This usually makes debugging impossible. But if you close the Pass POST jumper and boot the box, it will continue initialization. Depending on the problem, this could allow you to get into the debugger to see debug messages produced during the failed POST test.

Jumper Location Quick Reference

In the table below, the location of each jumper is indicated by the label on the circuit board, for example, "P2". If you press your nose to the appropriate board, you should see the label silkscreened in tiny characters next to a jumper. Note that each platform is designed to use the baud rate indicated for serial communication. If you can add to (or correct) this list, contact Jay Wilson

Platform	NINDY or Debug	Pass POST	Debug Baud Rate
SOS BRI		P21	38400
SOS T1	P8	P9	38400
MAX	P6	P5	38400
MAX 2000	P10		57600
MAX-HP	P3	P2	57600
Pipe 15 (U-interface)	P3		38400
P25 PX / FX / Classic	P503 or LD501		9600
Pipe50-4WS56	C43	HS1	57600
Pipe50-BRI (rev 2)	P9	P10	57600
Pipe50 early models before 5xxxxx	U17 chip front right and left pins		9600
Pipe50 early models before 6xxxxx	JP9 or JP6		9600
Pipe50 later models (6xxxxx - 722xxxx)	JP9 or JP6		9600
Pipe50 (Rev 2 - Serial number 722xxxx and higher)	P1		9600
APX	DEBUG	POST	38400
Stinger	P16		9600 to 57600

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Platform-Specific Notes

This section contains information on unexpected jumper location and behavior in specific Lucent INS/Ascend platforms. If you are starting to debug a platform that is new to you, have a look here to see if there is something unusual about it.

TNT

Each slot card in a MAX TNT has its own NINDY and Pass POST jumper. A complete list of the locations of each jumper is not currently available.

Pipe50

On the original Pipe 50, there are no jumpers. You have to short two pins on a chip. You are not likely to work on this platform, as it is no longer supported. Some pin locations are noted in the table above and instructions for some of these platforms can be found in the The Book of NINDY.

In all Pipe 50 models except the original P50BRI, there is a pair of jumpers similar in function to the NINDY/Pass POST pair found on all other units. The debugger is not NINDY, but has similar functionality, including a `df` download to flash command.

MAX

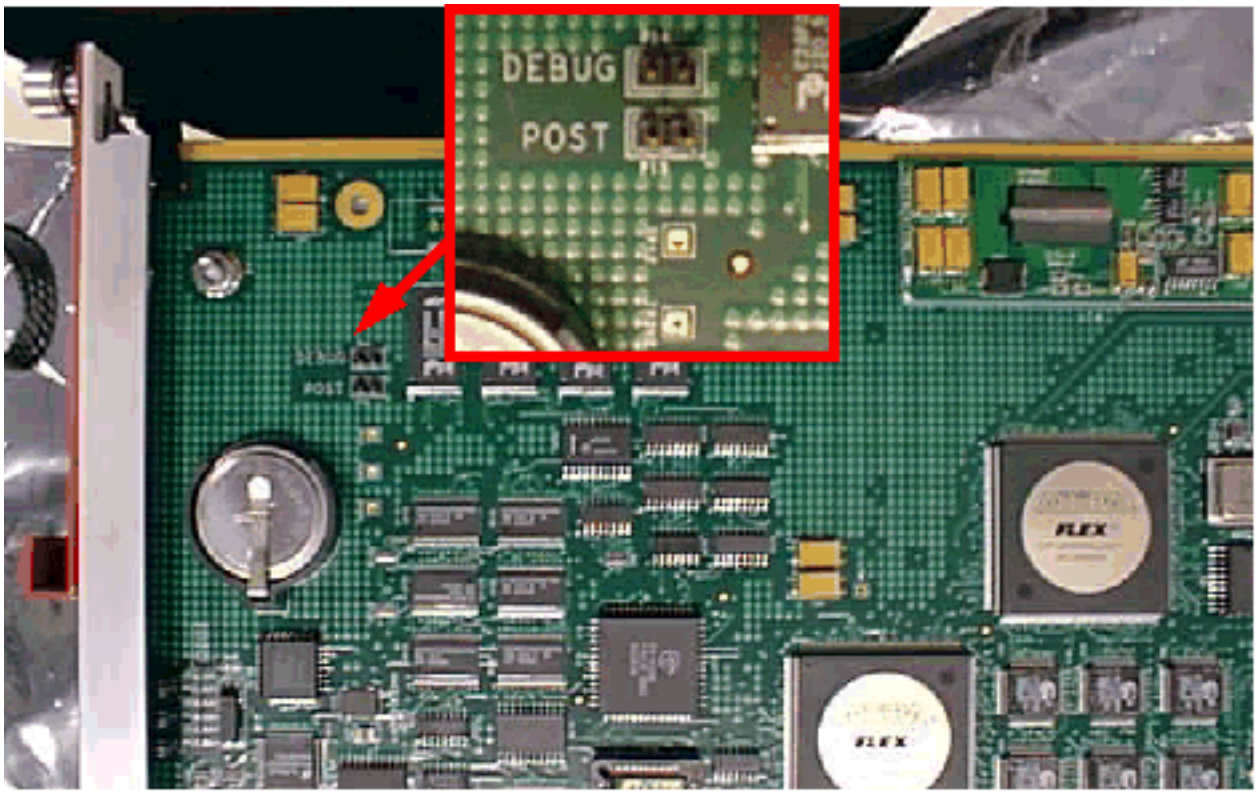
The MAX 6000, MAX 3000 and MAX 800 support "software nindy", and do not require hardware jumpering. Just type **ascend** on the console port within the first 10 seconds of booting, after powering up, and after boot prom identification. On the MAX 6000, if you have a valid flash card with a MAX 6000 load, you can boot from the flash card. The MAX 3000 displays a lot of diagnostics before the phrase, `Start debug menu request timeout` appears. You then have about 3 seconds to start typing **ascend** before the unit continues to boot.

The NINDY jumper on the MAX 2000 is located in the top, right, front, when you are facing the front of the box (where the display lights and logo are located, not where the ports are to be found). You can locate the jumper easily by following the cable that connects to the display lights, back to the board, where you will find the P10 jumper close by.

Setting the NINDY jumper causes a MAX to boot into the NINDY debugger, as it does elsewhere. Unlike other Lucent INS/Ascend boxes, NINDY doesn't use the console port. Instead, it uses a second, very minimal serial port on the motherboard. When you boot with the NINDY jumper, you must use a special cable. A few of these cables are kept in the lab and some engineers keep their own.

APX

The DEBUG (NINDY) and POST (PassPOST) jumpers are easy to find on the Rev. 5 APX board because they are labeled clearly. But just in case, and because there are two other sets of jumpers, here's a picture, thanks to photographer Josh Bailey.



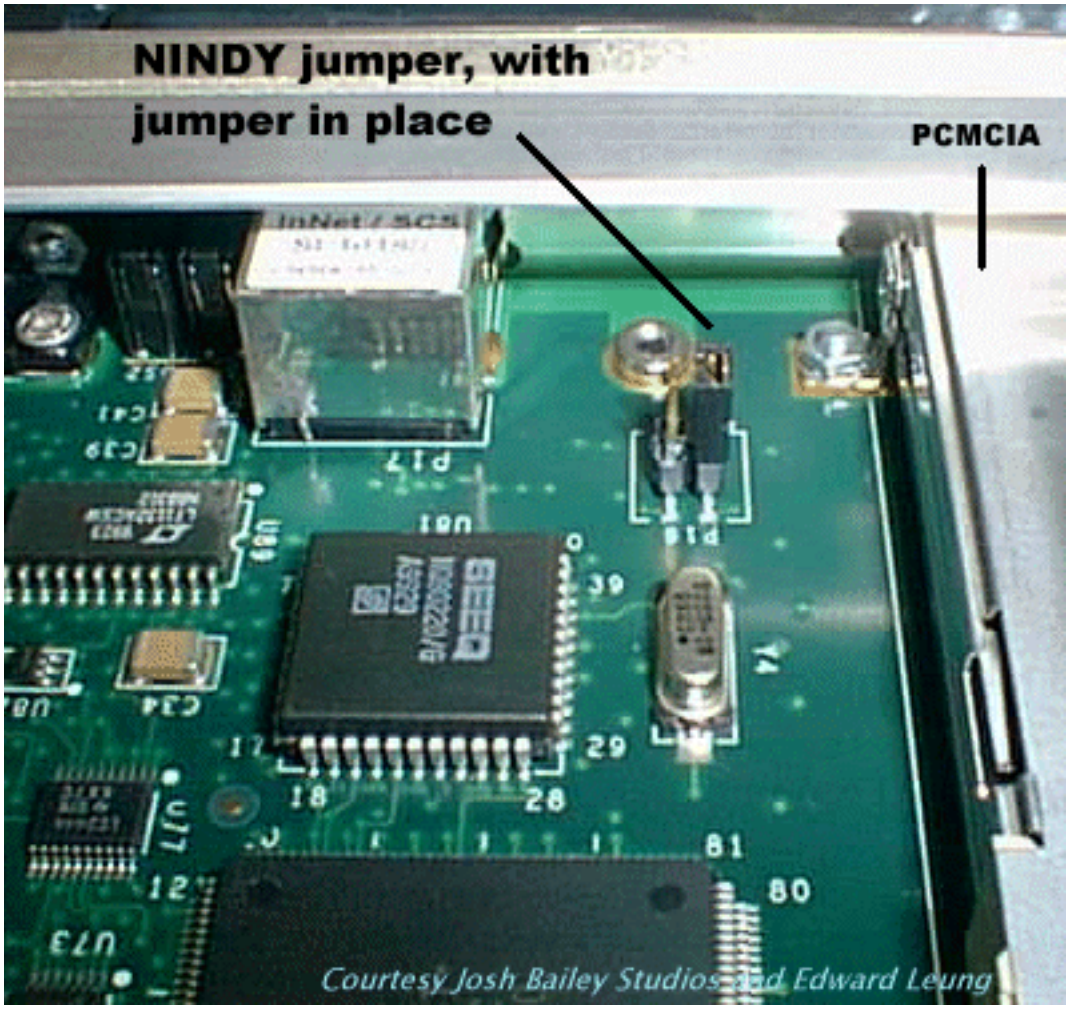
In order to put your APX into NINDY mode, follow these instructions.

1. Reboot your ailing APX. Power cycle, `reset -f`, `nvram -f`.
2. Assuming that your console is set to 38400, type **`ascend`** after the prompt appears. You can also install the jumper marked `DEBUG` if you want, but it's not necessary on the APX if you type the secret password. The prompt will soon be **`>`** to alert you that the boot prom is now accepting keystrokes.
3. Clear NVRAM if you'd like, using the `ef` command to clear all of NVRAM or just clear the config portion with `ec`.
4. Load a new SRB from your PC using a standard serial cable with the `do` command or take it off of a PCMCIA FLASH card with the `af` command. You can put an SRB onto a PCMCIA FLASH card (8 Mb only) with the `ap` command from a working system's boot prompt. Be aware that the boot prom does not understand TAOS file systems and it just plunks the SRB onto the FLASH card overwriting whatever may be on the card. You'll need to reformat the card to re-use it for TAOS file system storage. Also be aware that the card may appear to be OK to TAOS when in fact it is not. For example, `ls` may show files but you cannot load the files. Use of the FLASH card for SRB storage is intended for engineering/internal use only. Kids, don't try this at home.
5. Boot your new SRB with the `bo` command.
6. When the SRB has loaded, and you can see the `BOOT>` prompt, you can cancel the load of the shelf code by typing **`itp -c`**. Later, if you want to load your shelf code, type **`itp -l`**.

This information, subject to change, is for rev. 5.

Stinger

The Stinger has a NINDY jumper. The controller allows you to download a new binary from your PC using xmodem over a standard serial cable.



On the controller board, below the PCMCIA flash card, there is a 4-pin jumper (P16). Put a jumper on the top two pins, and push the controller back into the chassis. Don't worry, the Stinger controller board is hot-swappable. You should see the `Boot mon` prompt. Type **`help`** to display an extensive listing of commands.

Make sure you have an appropriate `stngrcmb.bin` on your PC. Connect your Windows NT machine to the controller serial port using a serial cable, not a serial dongle. Confirm that your serial baud rate matches the baud rate set on the Stinger controller. To change the baud rate on the Stinger, type **`t`**, followed by the baud rate you want. For example, to get 38400 baud, type **`t 38400`**. The default baud rate is 9600, which is quite slow.

Select `xmodem` to download `stngrcmb.bin`. To start your download, type **`l`** . After you download the binary, remove the jumper from the controller and reboot.

Recovering a TNT Shelf Controller

This section describes how to recover a TNT shelf controller that has had bad code loaded to it or otherwise won't boot. It also describes how to recover a box whose privileged password is lost or has some other uncorrectable configuration problem.

1. De-power the system.

Since the MAX TNT has no power switch, unplug the system.

2. Turn the "SHELF SEL" dial on the shelf controller card forward edge to zero.
3. Monitor the shelf controller's serial port at 38400.
4. Plug in the system to power it back up.
5. A "->" prompt should now appear. If it doesn't, the code on the shelf controller may not include the shelf-zero-NINDY feature (introduced in TNT v1.2ai2), or the unit may be suffering from a fundamental hardware or software problem that prevents it from working.

The routine that checks the dial setting and enters NINDY is invoked at the beginning of the `init` table, so the downloaded code has to function to some extent.

If the prompt does not appear, the only alternative is to remove the shelf controller from the unit, remove its metal casing, jumper P1, replace the shelf controller, and power up the unit.

Warning: The shelf controller is *not* hot-swappable. Power down the TNT before removing it, and never power up a unit without a shelf controller. Removal and insertion are difficult and not recommended for the novice.

If there is no fundamental hardware problem and the shelf controller comes up, you can now continue. Note that jumpered shelf controller will have a prompt that looks like this: "=>".

6. To download a new shelf controller boot load, type **df**. The unit will then accept an XMODEM download of `tntsr.bin` (or `tntsre.bin`) at 38400 baud.
7. If the problem requires a new configuration to resolve, type **ef**. This erases all profiles *and* the boot-sr load. Since the boot load has been erased, repeat the previous step.
8. Now you can power down the unit and return the `SHELF SEL` dial to its original setting. If you installed a jumper on P1, remove it.
9. Power up the unit. It should come up running its new code.

The box will be in an unconfigured state if you had to use the `ef` command. Refer to product documentation for configuring a new unit.

The Book of NINDY

The Book of NINDY contains a great deal of information on resetting the software, configuration, and passwords of Lucent INS/Ascend products (except simple GRF family information and equipment formerly from Cascade).

- For the Pipelines and Maxen, you will need to open the box up, invalidating the warranty (except DSL boxes). If you are working with a customer's MAX or Pipeline, you must inform the customer of this before proceeding!
- For all of these procedures you must have already downloaded or otherwise have ready a correct version of code for the box before you attempt to reset it.
- For all procedures you must upload the software using 1K Xmodem
- Take the necessary static discharge precautions before opening the box.
- Proceed with caution!

Pipelines

P15 (U-interface)

1. With all cables and power removed, open the case, take out the motherboard, turn over, and orient the LEDs toward you (the front).
2. Locate P3 in the left rear of the motherboard and short it.
3. Put the motherboard back in the case temporarily.
4. Connect power then the serial cable.
5. Set up the terminal software for 38400 N-8-1 no flow control. You should see the prompt `PIPE15>`
6. Type `DF` then upload the correct software. It will take 3:45 minutes for this to complete.
7. When complete, remove power and then the jumper.
8. Put the motherboard back in the case and reassemble the box halves.
9. The box is now ready to reconfigure from scratch using the wizard or setting the registers from a terminal program.

P25 PX / FX / Classic

1. With all cables and power removed, open the case and orient the LEDs toward you (the front).
2. In the front, between the LEDs, locate P503 or LD501 between the 4th and 5th LEDs from the left, and short it.
3. Attach the power, then the serial cable.
4. Configure the terminal software for 9600 N-8-1 no flow control.
5. After 30 seconds you should see a `PIPE25>` prompt. Type EF then DF. If EF returns an error,

don't worry.

6. After typing `DF`, upload the correct version of the software. The software is about 450K.
7. When complete (10-12 minutes), remove the power cord, then remove the jumper. Replace the box lid and power up the box. It's now running in a factory original configuration.
8. Reconnect the serial cable using 9600 N-8-1 no flow control and configure as desired or use the JBPC.

P50 very early models (earlier than 5xxxxx)

1. With all cables and power removed, open the case and orient the LEDs toward you (the front).
2. Locate the square chip U17 in the front center of the motherboard and short the pins on the front-right and right-front corner. Use a paperclip or wire.
3. Attach the power then the serial cable.
4. Configure the terminal software for 57600 N-8-1 no flow-control.
5. You should see a `PIPE50>` prompt. Type EF then DF. If EF returns an error, don't worry.
6. After typing `DF`, upload the correct version of the software. The software is about 450K.
7. When complete (2-4 minutes) remove the power cord then remove the jumper. Replace the box lid and power up. It's now running in a factory original configuration.
8. Reconnect the serial cable using 9600 N-8-1 no flowcontrol and configure as desired or use the JBPC.

P50 earlier models (earlier than 6xxxxx)

1. With all cables and power removed, open the case and orient the LEDs toward you (the front).
2. In the front left corner there are two jumpers. Locate JP1 and short it.
3. Attach the power cable, then the serial cable.
4. Configure the terminal software for 57600 N-8-1 no flow-control
5. You should see a `PIPE50>` prompt. Type EF then DF. If EF returns an error, don't worry.
6. After typing `DF`, upload the correct version of the software. The software is about 450K.
7. When complete (2-4 minutes) remove the power cord then remove the jumper. Replace the box lid and power up. It's now running in a factory original configuration.
8. Reconnect the serial cable using 9600 N-8-1 no flowcontrol and configure as desired or use the JBPC.

P50 later models (6xxxxx – 722xxxx)

1. With all cables and power removed, open the case and orient the LEDs toward you (the front).
2. Locate the large 1.5" square Motorola chip in the front right corner. At the top left corner of this chip there are 2 pairs of jumpers. You will need to short JP9 or JP6, depending on the silkscreening.
3. Attach the power cable, then the serial cable.

4. Configure the terminal software for 57600 N-8-1 no flow-control
5. You should see a `PIPE50>` prompt. Type EF then DF. If EF returns an error, don't worry.
6. After typing `DF,` upload the correct version of the software. The software is about 450K.
7. When complete (2-4 minutes) remove the power cord then remove the jumper. Replace the box lid and power up. It's now running in a factory original configuration.
8. Reconnect the serial cable using 9600 N-8-1 no flow control and configure as desired.

P50 (Rev 2 – Serial number 722xxxx and higher)

You will need to download an additional file of greater than 1MB (from the Max archives; `b.m18` works well).

1. With all cables and power removed, open the case and orient the LEDs toward you (the front).
2. Locate the 3 jumpers at the front center of the motherboard. Short P1.
3. Attach the power then the serial cable.
4. Configure the terminal software for 57600 N-8-1 no flow control.
5. You should see a `PIPE75>` prompt. Type `DF` and you will see CK appearing. First download the wrong file – it must be close to 1MB. This will clear both flash chips (primary and backup)
6. When that download has completed, repeat with the correct software. First type `DF` then download the correct version.
7. When complete (2-4 minutes) remove the power cord then remove the jumper. Replace the box lid and power up. It's now running in a factory original configuration.
8. Reconnect the serial cable using 9600 N-8-1 no flowcontrol and configure as desired or use the JBPC.

P75 – see P50 later models

- You will see a `pipe50>` prompt after powering up the unit, this is normal.

P75 (Rev 2 – Serial number 722xxxx and higher) – see P50 rev 2

- You will see a `pipe75>` prompt after powering up the unit, this is normal.

P85 – see P50 rev 2 (these are all rev 2 motherboards)

- You will see a `pipe75>` prompt after powering up the unit, this is normal.

P130 – see p50 later models

- You will see a `pipe50>` prompt after powering up the unit, this is normal.

P130 Plus – see p50 rev 2

P220

If the box is accessible and you can get into diagnostics mode, and type `nindy` at the > prompt, then download the correct software.

1. With all cables and power removed, open the case and orient the LEDs toward you (the front).
2. Locate the lithium battery at the right rear of the motherboard and remove it. Leaving the battery out for 3-4 minutes will clear the config and passwords. You can then replace and reconfigure from the factory settings.
3. If the incorrect load of software was uploaded or if something has gone very wrong, proceed to NINDY the box.
4. To NINDY, turn off and remove all cables.
5. With the battery still removed, short jumper P5.
6. Attach the serial and power cables.
7. Power up at 57600 N-8-1 no flow control.

à to download software

8. Press enter a few times and you should see the => prompt. Enter `DF` and download the correct version of software
9. When the download is complete, remove power then the jumper, replace the battery (small side down!) and replace the cover.
10. Power up the unit, and configure as necessary. Serial port speed is 9600.

P400

1. With all cables and power removed, open the case and orient the LEDs toward you (the front).
2. Drain the battery by slipping a business card between the battery and its clamp.
3. Let this sit for about 2-3 minutes
4. Attach the serial and power cables.
5. Power up at 57600 N-8-1 no flow-control
6. Upon powering back up, you should see the ">" prompt. Enter `DF` then upload software when you see the CKs appearing.
7. When the download is complete, power cycle the box.
8. Reconfigure the serial connection for 9600 and configure.

DSL

ADSL-COE-C

1. With all cables and power removed, open the case and orient the LEDs toward you (the front).
2. In the front, center of the board locate the Motorola chip. Behind this chip are 2 pairs of jumpers. Short P13.
3. Attach the power then the serial cable.
4. Configure the terminal software for 57600 N-8-1 no flow control
5. You should see a `DSLPipe>` prompt. Type `DF`.
6. After typing DF upload the correct version of the software. The software is about 450K.
7. When complete (2-4 minutes) remove the power cord then remove the jumper. Replace the box lid and power up. It's now running in a factory original configuration.
8. Reconnect the serial cable using 9600 N-8-1 no flowcontrol and configure as desired or use the JBPC.

DSL-S

1. With all cables and power removed, open the case and orient the LEDs toward you (the front).
2. In the center of the board locate the P3 and short it.
3. Attach the power then the serial cable.
4. Configure the terminal software for 57600 N-8-1 no flow control.
5. You should see a `DSLPipe>` prompt. Type `DF`.
6. After typing DF upload the correct version of the software. The software is about 450K.
7. When complete (2-4 minutes) remove the power cord then remove the jumper. Replace the box lid and power up. It's now running in a factory original configuration.
8. Reconnect the serial cable using 9600 N-8-1 no flowcontrol and configure as desired or use the JBPC.

SDSL-COE / SDSL-CPE

1. With all cables and power removed, open the case and orient the LEDs toward you (the front).
2. In the center of the board locate the P3 and short it.
3. Attach the power then the serial cable.
4. Configure the terminal software for 57600 N-8-1 no flow control.
5. You should see a `DSLPipe>` prompt. Type `DF`.
6. After typing DF upload the correct version of the software. The software is about 450K.
7. When complete (2-4 minutes) remove the power cord then remove the jumper. Replace the box lid and power up. It's now running in a factory original configuration.
8. Reconnect the serial cable using 9600 N-8-1 no flowcontrol and configure as desired or use the JBPC.

DSL-ACAP

1. With all cables and power removed, open the case and orient the LEDs toward you (the front).
2. In the front center of the board locate the Motorola chip. Behind this chip are 2 pairs of jumpers. Short P14.
3. Attach the power then the serial cable.
4. Configure the terminal software for 57600 N-8-1 no flow control.
5. You should see a `DSLPipe>` prompt. Type `DF`.
6. After typing DF upload the correct version of the software. The software is about 450K.
7. When complete (2-4 minutes) remove the power cord then remove the jumper. Replace the box lid and power up. It's now running in a factory original configuration.
8. Reconnect the serial cable using 9600 N-8-1 no flowcontrol and configure as desired or use the JBPC.

DSL-TNT (same as the standard "red stripe" TNT)

1. Remove power for the box.
2. Connect to the console port at 38,400 bps.
3. For release 1.2Ap5, set the shelf controller twist dial to 0 (zero), for Release 2.x,
4. remove the shelf controller, open it and short P1. Replace the shelf controller.
5. Power cycle or reset the TNT.
6. EF
7. DF
8. Load the boot-sr file (TNTSR.BIN or TNTSRE.BIN)
9. If you removed the shelf controller to short the jumper, remove the power, remove the
10. shelf controller again and remove the jumper from P1 and reassemble..

DSL-HS and HST

1. With all cables and power removed, open the case and orient the LEDs toward you
2. (the front).
3. On the right side of the board locate the P12 and short it.
4. Attach the power then the serial cable. Configure the terminal software for 57600 N-8-
5. 1 no flow-control
6. You should see a DSLPipe> prompt. Type DF.
7. After typing DF upload the correct version of the software. The software is about
8. 450K.
9. When complete (2-4 minutes) remove the power cord then remove the jumper.
10. Replace the box lid and power up. It' s now running in a factory original configuration.

11. Reconnect the serial cable using 9600 N-8-1 no flowcontrol and configure as desired

Cellpipe 20 Family

How to NINDY and restore FLASH software on the Cellpipe 20 family

Erasing the FLASH doesn't necessarily remove the entire configuration.

Comments begin with a pound sign. # this is a comment

Commands to be entered are shown immediately after the Cellpipe's ">>" prompt.

Example: >> restart # restarts the Cellpipe

Procedures to wipe Cellpipe 20 FLASH:

First, log into the Cellpipe's home/root menu to get the ">>" prompt. Next, enter the following commands:

>>

>> console # change into Admin mode

>> help # shows new menu options

>> flashfs wipe # erase FLASH contents; takes a few seconds and returns to prompt >>

>> flashfs ls # lists FLASH contents; should return "no flash contents"

>> restart # restarts the Cellpipe

Upon restart, CLI prompt should become MAC/hardware address, will get "Emergency Boot 1.0" message

0:1:38:1:79:69>

0:1:38:1:79:69> version # will list software version; should return "... version ... (...) ..."

Procedures to restore Cellpipe's IP address and FLASH. Before beginning, download and expand the FLASH software.

0:1:38:1:79:69>

0:1:38:1:79:69> ip device add ether ether //edd A.B.C.D # replace A.B.C.D with an IP address

For example:

0:1:38:1:79:69> ip device add ether ether //edd 192.168.10.1

0:1:38:1:79:69> config save

0:1:38:1:79:69> restart # enables IP address on Ethernet port, CLI prompt changes to IP address

192.168.10.1> ip enable ether 192.168.10.1 # this command may not be needed, but won't hurt

192.168.10.1> ip portname add tftp 69/udp # add TFTP service

192.168.10.1> snmp access write pass1234 # add SNMP read-write access with password "pass1234". NOTE: Use "pass1234" as the password to restore the FLASH.

192.168.10.1> config save

192.168.10.1> restart

From a DOS prompt, change directories to the Cellpipe software location, i.e. C:\TEMP. Enter the command "xupgrade 192.168.10.1", for example:

C:\TEMP>xupgrade 192.168.10.1

Once the script is done, indicated by an "Upgrade OK!" message in the DOS window, switch back to the Cellpipe and enter the following commands at the prompt.

192.168.10.1> restart

You should see the message “System start…” and be presented with a “password:” prompt. Use the “pass1234” password. The prompt will change to a >>, and enter the following commands:

>> ver # verify the software is installed

>> show # show Ethernet and ATM PVC settings

The Cellpipe FLASH should be restored now and ready for configuration.

Cellpipe 20A-gx

1. Use the Super Password Xavi7000 to access the unit.
2. At prompt ">>" <type> console <return>
3. <type> snmp config <return>
4. find the following string - Access Write XXXXX (XXXXX is the password for the unit)
5. <type> @gui <return> (Back to normal command mode)

Cellpipe IAD 4A,4S,8A,8S,MOD,SDSU

1. Connect the IAD to a PC on an isolated Ethernet network (A direct connection works best here). An isolated network is needed, since the utility broadcasts at the ENET MAC level to the IAD. Connect the Serial cable to the IAD. Open a console session (Hyperterm)
2. Power on the IAD
3. At the "Press B to enter Boot Utility" prompt, press B on the console.
4. You should see the following menu:

****

*** BOOT MANAGER ***

*** 50 MHz MPC855T ***

****

1. Program Main OS/Application

r. Reset Board

p. Program SYPCR register SWRI bit

z. Program Console Baud Rate

Make Selection:

5. Start the AcosFlasher program
6. Select the "Acos Flash" tab
7. Select the ACOS.BIN file to download (use any available good code)
8. On the IAD console, press 1 for "Program Main OS/Application". The IAD will wait for the download
9. On the AcosFlasher, press "Start Download" to transmit the selected ACOS.BIN to the IAD
10. After the download is complete, on the IAD console, press Enter, then R to restart the IAD. The IAD should reboot and startup with the downloaded ACOS.
11. You can now continue with the "Update Entire System" to the latest build, using the usual procedure.

NOTE: The acos flasher executable can be obtained at http://dsl.eng.ascend.com/cpe-iad

MAXen

Max 200+

This process requires additional hardware.

1. Remove power then remove all the cards
2. Insert a Socket I/O serial card to PCMCIA slot #8
3. Connect the serial port of the Socket I/O to a terminal or computer running a vt100 terminal program.
4. Attach the serial and power cables.
5. Power up at 57600 N-8-1 no flow-control.

6. At the > prompt enter DF then upload the correct version of firmware. It should be around 900k.
7. When the download is complete, power cycle the box.
8. Reconfigure the terminal/serial connection for 9600 and configure the Max, or use the configurator.

Max 1600(classic)

1. With all cables and power removed remove all cards from the box, open the box and separate the 2 parts, the motherboard and the backplane. Orient the LEDs toward you (the front).
2. Locate the battery on the right side of the motherboard, toward the rear of the box, and insert a business card or similar non-conductive device between the battery and the contact.
3. Leave the card in place for about 5 minutes. This will allow enough time for the Max to "forget" its configuration.
4. Remove the card and reassemble the two parts, being careful to align the slots for the backplane with the card interface.
5. Reattach the power cable and serial cable.
6. Power up at 9600 N-8-1 no flow-control.
7. Reconfigure the terminal/serial connection for 9600 and configure the Max.

Max 1800

1. With all cables and power removed remove all cards from the box, open the case and orient the LEDs toward you (the front).
2. Locate P5 and short it.
3. On the S interface box it is next to the battery.
4. On the U interface it is located at the top center of the box next to the ribbon cable.
5. Attach the serial and power cables.
6. Power up at 57600 N-8-1 no flow control.
7. At the > prompt enter DF then upload the correct version of firmware. It should be around 900k.
8. Down load the software using Xmodem 57600-N-8-1 no flow control.
9. Power down the unit then remove the Jumper from P5 and put the cover back on.
10. Reconfigure the terminal/serial connection for 9600 and configure the Max, or use the configurator.

Max 2000

1. With all cables and power removed remove all cards from the box, open the case and orient the LEDs toward you (the front).
2. Locate P10 and short it. It is located in the front right corner of the motherboard next to a ribbon cable.
3. Attach the serial and power cables. Power up at 57600 N-8-1 no flow control.

4. At the > prompt enter DF then upload the correct version of firmware. Down load the software using Xmodem 57600-N-8-1 no flow control.
5. Power down the unit, remove the jumper from P10 and put the cover back on.
6. Reconfigure the terminal/serial connection for 9600 and configure the Max, or use the configurator.

Max 4000 HP

1. With all cables and power removed remove all cards from the box, open the case and orient the LEDs toward you (the front).
2. Locate P3 and short it.
3. Attach the serial and power cables. Power up at 57600 N-8-1 no flow-control
4. At the > prompt enter DF then upload the correct version of firmware.
5. Down load the software using Xmodem 57600-N-8-1 no flow control.
6. Power down the unit, remove the jumper from P10 and put the cover back on.
7. Reconfigure the terminal/serial connection for 9600 and configure the Max, or use the configurator.

Max 4000

1. With all cables and power removed remove all cards from the box, open the case and orient the LEDs toward you (the front).
2. Locate P6 and short it.
3. Attach the serial and power cables.
4. Power up at 57600 N-8-1 no flow control.
5. At the > prompt enter DF then upload the correct version of firmware.
6. Down load the software using Xmodem 57600-N-8-1 no flow control.
7. Power down the unit, remove the jumper from P10 and put the cover back on.
8. Reconfigure the terminal/serial connection for 9600 and configure the Max, or use the configurator.

Max 6000

This process can be done without removing the case. However space will be very tight and it is recommended that you remove the cover.

Cover removal method.

1. With all cables and power removed, remove all cards from the box open the case and orient the LEDs toward you (the front).
2. Locate P10 and short it. It is in the right side card slot space toward the center of the board near the left rear corner of the CPU.

3. Attach the serial and power cables. Power up at 9600 N-8-1 no flow control.
4. At the => prompt enter `DF` then upload the correct version of firmware.
5. Down load the software using Xmodem 9600-N-8-1 no flow control.
6. Power down the unit, remove the jumper reassemble the case and power it back up.
7. Leaving the terminal/serial connection set at 9600, configure the Max through the onscreen menus, or use the configurator.

Cover in-place method.

1. With all cables and power removed, remove all cards from the box and orient the rear panel of box so the card openings are toward you. Remove the card covers on the left side.
2. Reach into the left side card opening and locate the 2 pairs of jumper about 2/3 of the way in. P10 is the left pin pair. Short this pair.
3. Attach the serial and power cables. Power up at 9600 N-8-1 no flow control
4. At the => prompt enter `DF` then upload the correct version of firmware.
5. Down load the software using Xmodem 9600-N-8-1 no flow control.
6. Power down the unit and remove the jumper. Reattach the serial and power cables and power it back up.
7. Leaving the terminal/serial connection set at 9600, configure the Max through the onscreen menus, or use the configurator.

Max TNT

1. Remove power for the box.
2. Connect to the console port at 38,400 bps.
3. For release 1.2Ap5, set the shelf controller twist dial to 0 (zero), for Release 2.x, remove the shelf controller, open it and short P1. Replace the shelf controller.
4. Power cycle or reset the TNT.
5. `EF`
6. `DF`
7. Load the boot-sr file (`TNTSR.BIN` or `TNTSRE.BIN`).
8. If you removed the shelf controller to short the jumper, remove the power, remove the shelf controller again and remove the jumper from P1 and reassemble.

GRF

1. Make sure the distribution files are on RAM disk somewhere (not on the internal flash!)
2. Run the `grmrflash` command as follows (for example, if you want to install version 1.3.6, put distribution files `A_1_3_6.TAR.gz` and `A_1_3_6.root.gz` in `/tmp`.)
3.
```
prompt# grmrflash --archive_dir=/tmp --target=internal
--force--release=A_1_3_6
```

NOTE: You need to use the `--force` option because the internal flash already has a file system on it.

4. Reboot the GRF by typing: `prompt# reboot -i`

NOTE: Make sure you use the `-i` option. This tells it to not check for any changes in `/etc`.

5. When the GRF comes back up, it will run you through the initial configuration script again.

Other sources of information

Other Lucent groups offer information on various aspects of NINDY debugging in web sites around the company. Here is an incomplete but growing list.

TACweb Tech Tips

The TAC web site is full of good information on this and other subjects. Here is a partial list of related pages:

- How to NINDY a MAX 6000 .
- Clearing Flash on MAX 1800.
- Debugging the MAX 4000.
- Getting Debug from MAX TNT.
- NINDY: TNT Procedure.
- How to hardware restart (Nindy) a Pipeline 130.
- Using coredump.
- MAX Diagnostic Command Reference (in PDF format).

SQA web site

The SQA site contains hidden treasures. Check for new material now and again. Here are a couple of tidbits.

- TAOS TNT/MAX Console Command Availability Listing.
- How to NINDY a TNT.

For additions, deletions, corrections or updates to this document, please contact Jay Wilson (POST entry)

This page last modified Monday, April 01, 2002