



# **Installing Dialogic® NaturalAccess™ Signaling Software Release 5.3**

## Copyright and legal notices

---

Copyright© 2008- 2010 Dialogic Corporation. All Rights Reserved. You may not reproduce this document in whole or in part without permission in writing from Dialogic Corporation at the address provided below.

All contents of this document are furnished for informational use only and are subject to change without notice and do not represent a commitment on the part of Dialogic Corporation or its subsidiaries ("Dialogic").

Reasonable effort is made to ensure the accuracy of the information contained in the document. However, Dialogic does not warrant the accuracy of this information and cannot accept responsibility for errors, inaccuracies or omissions that may be contained in this document.

INFORMATION IN THIS DOCUMENT IS PROVIDED IN CONNECTION WITH DIALOGIC® PRODUCTS. NO LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE, TO ANY INTELLECTUAL PROPERTY RIGHTS IS GRANTED BY THIS DOCUMENT. EXCEPT AS PROVIDED IN A SIGNED AGREEMENT BETWEEN YOU AND DIALOGIC, DIALOGIC ASSUMES NO LIABILITY WHATSOEVER, AND DIALOGIC DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY, RELATING TO SALE AND/OR USE OF DIALOGIC PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR INFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHT OF A THIRD PARTY.

Dialogic products are not intended for use in medical, life saving, life sustaining, critical control or safety systems, or in nuclear facility applications.

Due to differing national regulations and approval requirements, certain Dialogic products may be suitable for use only in specific countries, and thus may not function properly in other countries. You are responsible for ensuring that your use of such products occurs only in the countries where such use is suitable. For information on specific products, contact Dialogic Corporation at the address indicated below or on the web at [www.dialogic.com](http://www.dialogic.com).

It is possible that the use or implementation of any one of the concepts, applications, or ideas described in this document, in marketing collateral produced by or on web pages maintained by Dialogic may infringe one or more patents or other intellectual property rights owned by third parties. Dialogic does not provide any intellectual property licenses with the sale of Dialogic products other than a license to use such product in accordance with intellectual property owned or validly licensed by Dialogic and no such licenses are provided except pursuant to a signed agreement with Dialogic. More detailed information about such intellectual property is available from Dialogic's legal department at 9800 Cavendish Blvd., 5th Floor, Montreal, Quebec, Canada H4M 2V9. Dialogic encourages all users of its products to procure all necessary intellectual property licenses required to implement any concepts or applications and does not condone or encourage any intellectual property infringement and disclaims any responsibility related thereto. These intellectual property licenses may differ from country to country and it is the responsibility of those who develop the concepts or applications to be aware of and comply with different national license requirements.

Dialogic, Dialogic Pro, Brooktrout, Diva, Cantata, SnowShore, Eicon, Eicon Networks, NMS Communications, NMS (stylized), Eiconcard, SIPcontrol, Diva ISDN, TruFax, Exnet, EXS, SwitchKit, N20, Making Innovation Thrive, Connecting to Growth, Video is the New Voice, Fusion, Vision, PacketMedia, NaturalAccess, NaturalCallControl, NaturalConference, NaturalFax and Shiva, among others as well as related logos, are either registered trademarks or trademarks of Dialogic Corporation or its subsidiaries. Dialogic's trademarks may be used publicly only with permission from Dialogic. Such permission may only be granted by Dialogic's legal department at 9800 Cavendish Blvd., 5th Floor, Montreal, Quebec, Canada H4M 2V9. Any authorized use of Dialogic's trademarks will be subject to full respect of the trademark guidelines published by Dialogic from time to time and any use of Dialogic's trademarks requires proper acknowledgement.

Windows is a registered trademark of Microsoft Corporation in the United States and/or other countries. Other names of actual companies and product mentioned herein are the trademarks of their respective owners. The names of actual companies and products mentioned herein are the trademarks of their respective owners. This document discusses one or more open source products, systems and/or releases.

Dialogic is not responsible for your decision to use open source in connection with Dialogic products (including without limitation those referred to herein), nor is Dialogic responsible for any present or future effects such usage might have, including without limitation effects on your products, your business, or your intellectual property rights.

## Revision history

---

Revision	Release date	Notes
62747-10	June 2008	SRG, SS7 5.0 Beta
62747-11	September 2008	SRG, SS7 5.0
64-0428-01	May 2009	LBG, SS7 5.1 Beta
64-0428-02	July 2009	LBG, SS7 5.1 GA
64-0428-03	January 2010	LBG, SS7 5.3 RHEL ES 5.3
64-0428-04	February 2010	LBG, SS7 5.3 Windows 2008
Last modified: February 12, 2010		

Refer to [www.dialogic.com](http://www.dialogic.com) for product updates and for information about support policies, warranty information, and service offerings.

## Contents of this package

**Note:** The product to which this document pertains is part of the NMS Communications Platforms business that was sold by NMS Communications Corporation ("NMS") to Dialogic Corporation ("Dialogic") on December 8, 2008. Accordingly, certain terminology relating to the product has been changed. Below is a table indicating both terminology that was formerly associated with the product, as well as the new terminology by which the product is now known. This document is being published during a transition period; therefore, it may be that some of the former terminology will appear within the document, in which case the former terminology should be equated to the new terminology, and vice versa.

Dialogic® NaturalAccess™ Signaling Software Release 5.3 is binary backward compatible with Dialogic® NaturalAccess™ Software Release 5.1. It is not binary backward compatible with earlier releases. To migrate from Release 5.0 or Release 4.3, you must recompile applications. All structure packing from these releases was replaced with padding as needed to achieve pure natural alignment of all structures. NaturalAccess applications built against Release 5.0 or Release 4.3 do not require any source code changes but they do require a rebuild of the software to adopt the new field offsets and structure sizes.

Former terminology	Current terminology
NMS SS7	Dialogic® NaturalAccess™ Signaling Software
SS7 Software	NaturalAccess Signaling Software
All <i>readme</i> files	<i>release_notes.pdf</i>

Dialogic® NaturalAccess™ Signaling Software Release 5.3 requires Dialogic® NaturalAccess™ Development Environment Release 9.0.1 or higher to run properly.

Dialogic® NaturalAccess™ Signaling Software Release 5.3 includes the following products:

- TX Base 8.2
- MTP123 10.2
- MTP12 6.2
- SCCP 9.2
- TCAP 7.2
- ISUP 9.2
- TUP 9.2
- SIGTRAN 2.2
- Util 1.2
- MTPCore 1.2

NaturalAccess Signaling Software Release 5.3 software products support the following operating systems:

- Windows® Server 2008, Enterprise edition R2, 32-bit
- Windows® Server 2008, Enterprise edition R2, 64-bit
- Intel Solaris 10 (32 bit)
- SPARC Solaris 10 (mixed mode)
  - 32-bit applications, 32-bit libraries, 64-bit kernel, 64-bit drivers
- SPARC Solaris 10 (64-bit mode)
  - 64-bit applications, 64-bit libraries, 64-bit kernel, 64-bit drivers
- Red Hat Enterprise and Standard Linux, ES, version 5.3
  - 32-bit mode applications, 32-bit driver, kernel-2.6.18-128,(SNMP or PAE Kernel support)
- Red Hat Enterprise and Standard Linux, ES, version 5.3
  - 32-bit mode applications, 64-bit driver, kernel-2.6.18-128

The NaturalAccess Signaling Software installation program installs the following components:

- NaturalAccess Signaling Software development and runtime software
- Device drivers
- TX board software
- Host applications
- Libraries
- Sample applications

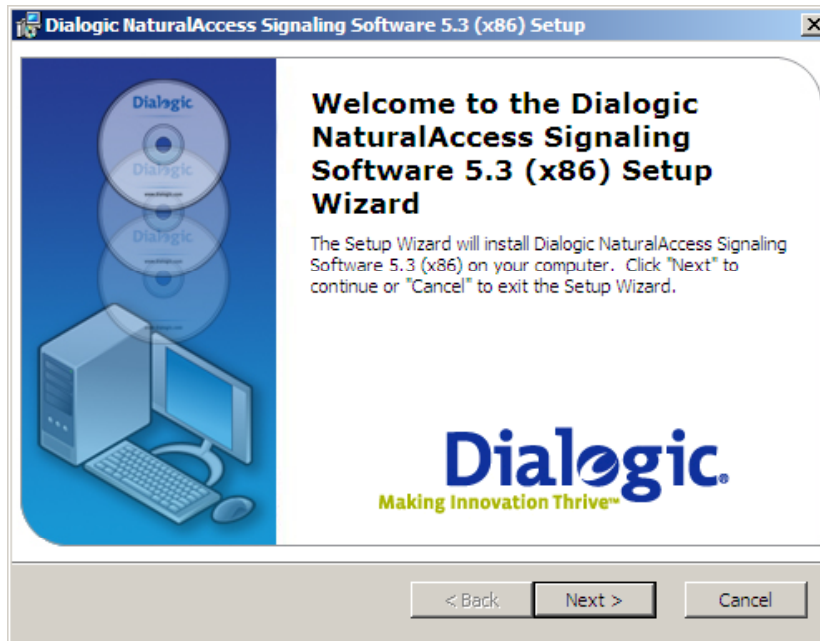
Refer to [www.dialogic.com](http://www.dialogic.com) for product updates and for information about support policies, warranty information, and service offerings. From this web site, you can download the NaturalAccess Signaling Software and documentation.

## Installing the software under Windows

**Note:** The NaturalAccess Signaling Software Release 5.3 installs the software files to a new location on your system: `\Program Files\Dialogic\tx\`

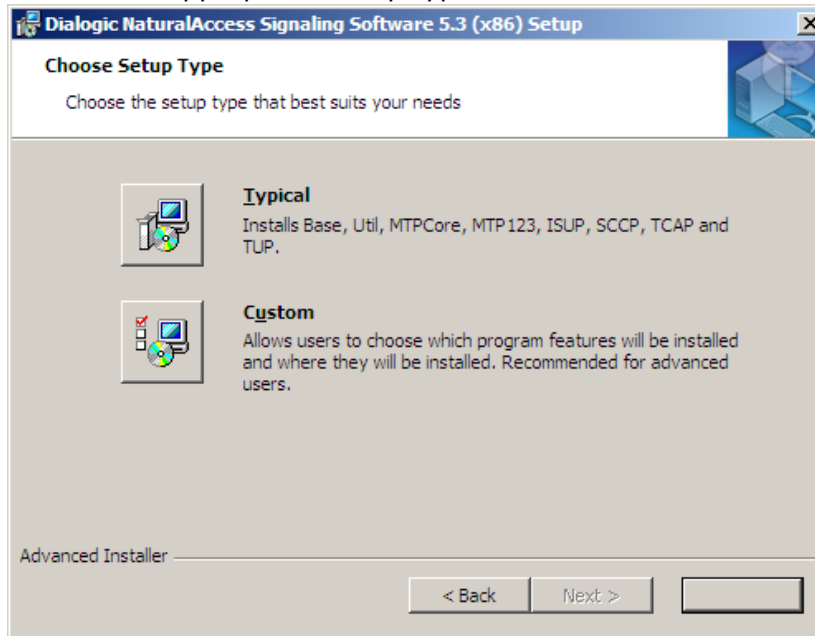
Complete the following steps to install the software under Windows:

1. Log on as a member of the Administrators group.
2. Download the Dialogic® NaturalAccess™ Signaling Software from [www.dialogic.com](http://www.dialogic.com).
3. Launch Windows® Explorer, and double-click on the downloaded file.
4. Click the `.msi` file to install the software. The Welcome screen appears:



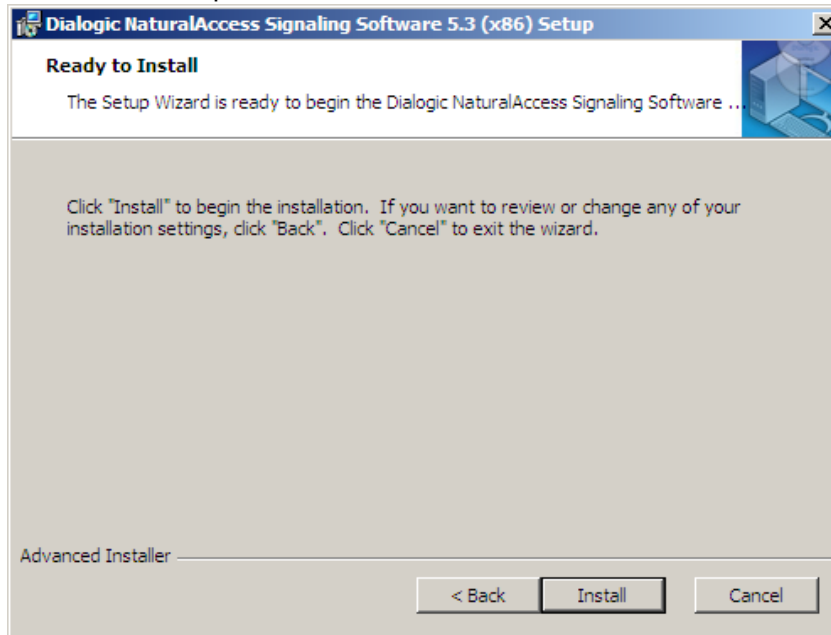
5. Click **Next** to continue.

6. Choose the appropriate setup type:



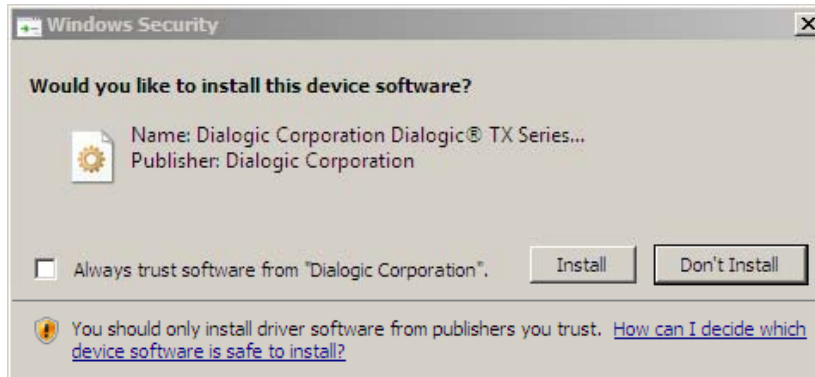
**Note:** Do not change the default install location.

7. Click **Install** and follow the prompts as the Setup Wizard guides you through the installation process.



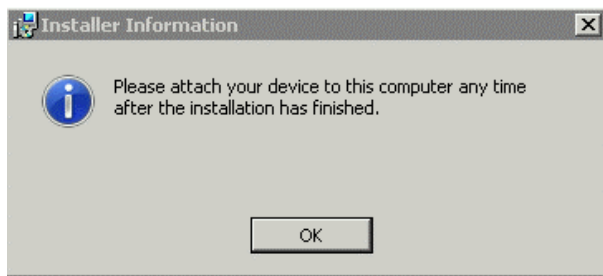
A status bar will appear.

8. If you have TX boards in your system, you will receive a Windows Security alert. Click **Install** to install the TX driver software.

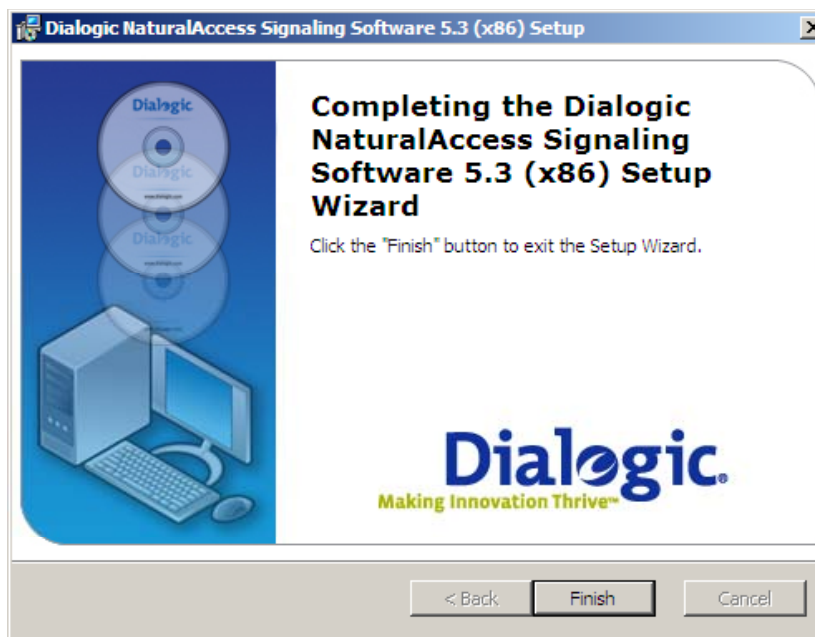


9. If you do not have any boards in the system, a notification to add the TX boards will appear.

**Note:** If you add TX boards after the software installation, the system will automatically update the driver software.



The wizard notifies you when the installation is complete:



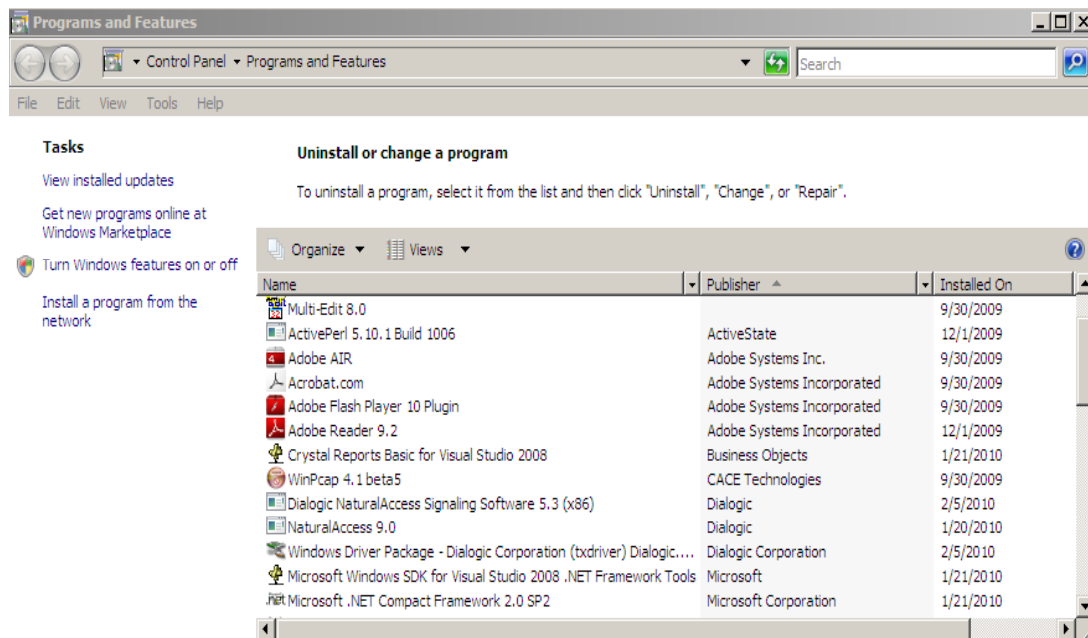
10. Click **Finish**.

11. Reboot Windows before configuring and using the NaturalAccess Signaling Software or power off the system if installing the TX boards.

### Locating the software in the Control Panel

After installation, the Dialogic® NaturalAccess™ Signaling and TX Driver Software Packages are listed separately under the Programs and Features window in the Control Panel:

- Dialogic NaturalAccess Signaling Software <**release number**>
- Windows Driver Package – Dialogic Corporation (txdriver) Dialogic Tx<**date version**>



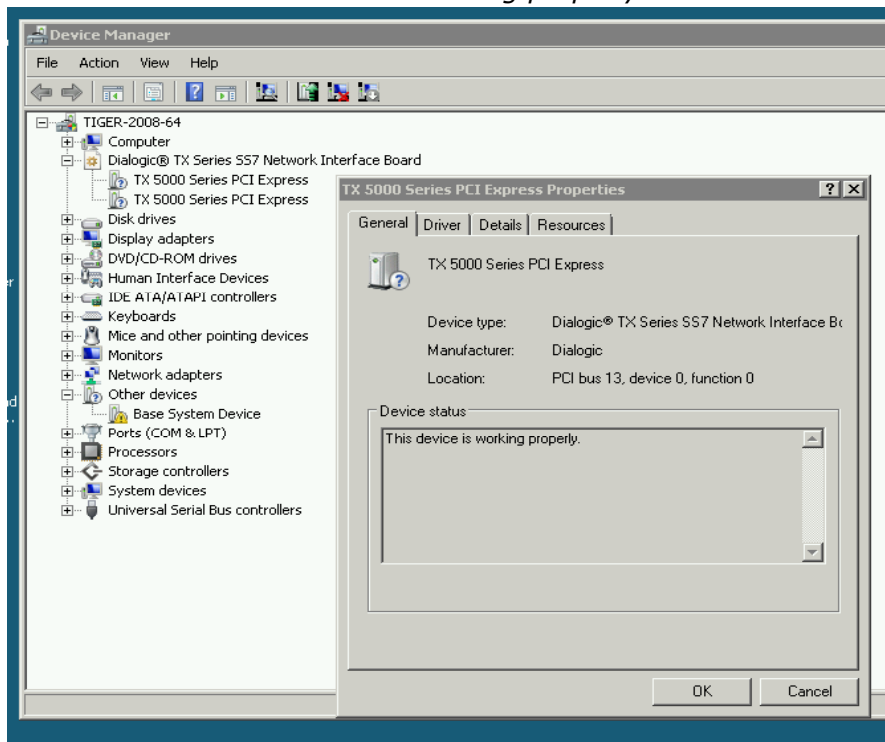
For additional release information, refer to the *release\_notes.pdf* file located in the software release package.



## Verifying the TX PCI device driver status

Complete the following steps to verify the TX PCI device driver status:

1. Click **Start > Control Panel**.
2. In the Control Panel, double-click **System**.
3. Click **Device Manager**.
4. Expand the **Dialogic® TX Series SS7 Network Interface Board** entry. TX PCI device drivers appear as **TX <board type> Series PCI** entries.
5. Opposite-mouse click each board to view the properties and verify that the Device status is *This device is working properly*.



## Installing the software under Solaris

**Note:** NaturalAccess Signaling Software Release 5.3 installs the software files to a new location on your system: `/opt/dialogic/tx/`.

Complete the following steps to install the software under Solaris:

1. Uninstall any prior versions of NaturalAccess Signaling Software. For more information, refer to *Removing the software* on page 13.
2. Update the environment variable settings in the `.bashrc` file:
  - Remove `/opt/nmstx/bin` from the PATH
  - Remove `/opt/nmstx/lib` from the LD\_LIBRARY\_PATH

Do not remove any variable settings for NaturalAccess Development Environment Software. The following environment settings should remain in the file:

- `/opt/nms/bin`
  - `/opt/nms/lib/`
  - `opt/nms/hotswap/lib`
3. After uninstalling any previous releases of software, enter the following command to remove the NaturalAccess Signaling Software `/opt/dialogic/tx` directory:

```
>rm -rf /opt/dialogic/tx
```

or

Enter the following command to remove the old NMS Communications `/opt/nmstx` directory, if applicable:

```
>rm -rf /opt/nmstx
```

4. Log on as root.
5. Download Dialogic® NaturalAccess™ Signaling Software from [www.dialogic.com](http://www.dialogic.com).
6. Enter the following commands to extract the NaturalAccess Signaling Software image from the file that you downloaded:

```
gzip -d filename .tgz  
tar -xvf filename.tar
```

where **filename** is the name of the file that you downloaded.

7. Run the `ss7_install` script located in the directory in which you opened the `tar` file, and follow the prompts from the script.

**Note:** Do not change the default install location.

For additional release information, refer to the *release\_notes.pdf* file located in the software release package.

When the installation process is complete, proceed with any additional configuration as needed. For more information, refer to the product documentation.

## Environment variable settings

---

To set up the system environment correctly, you must add the following system environment variables in the system login `.profile`:

```
DIALOGIC_ROOT=/opt/dialogic
export DIALOGIC_ROOT
TX_ROOT=${DIALOGIC_ROOT}/tx
export TX_ROOT
PATH=${TX_ROOT}/bin:$PATH
export PATH
LD_LIBRARY_PATH=${TX_ROOT}/lib:$LD_LIBRARY_PATH
export LD_LIBRARY_PATH
```

Reboot the system to set these environment variables.

## Installing the software under Red Hat Linux

---

**Note:** The NaturalAccess Signaling Software Release 5.3 installs the software files to the following location on your system: `/opt/dialogic/tx/`

Complete the following steps to install the software under Red Hat Linux:

1. Log on as root.
2. Download the Dialogic® NaturalAccess™ Signaling Software from [www.dialogic.com](http://www.dialogic.com).
3. Unzip and untar the download file by entering the following commands:

```
gzip -d filename.tgz
tar -xvf filename.tar
```

where ***filename*** is the name of the file that you downloaded.

4. Run the `ss7_install` script located in the directory in which you opened the `tar` file, and follow the prompts from the script.

**Note:** Do not change the default install location.

5. Run one of the following commands to implement the environment changes:
  - `./etc/profile.d/txbase.sh`
  - Reboot the system.

For additional release information, refer to the `release_notes.pdf` file located in the software release package.

**Note:** Hot Swap is not supported with the NaturalAccess Signaling Software Release 5.3 for Red Hat Enterprise Linux, ES, 5.3.

## Using NaturalAccess Signaling Software documentation

NaturalAccess Signaling Software documentation is available on [www.dialogic.com](http://www.dialogic.com). You can:

- Download all NaturalAccess Signaling Software manuals in HTML format. To access a master list, view *Start\_here\_SS7.htm* in the \doc\ directory.
- Download or view individual manuals in HTML format.
- Print individual manuals using the Adobe Acrobat Reader available from [www.adobe.com](http://www.adobe.com).

The following tables summarize the NaturalAccess Signaling Software documents according to subject.

### Installing and configuring the hardware

For information about...	Refer to the...
Configuring and installing a TX Series board and verifying its installation	<p><i>Dialogic® TX 4000 PCI SS7 Network Interface Board Installation Manual</i></p> <p><i>Dialogic® TX 4000C CompactPCI SS7 Network Interface Board Installation Manual</i></p> <p><i>Dialogic® TX 5000E PCI Express SS7 Boards Installation Manual</i></p>

### Configuring and managing the system

For information about...	Refer to the...
Configuring and operating the NaturalAccess Signaling Software	<i>Dialogic® NaturalAccess™ Signaling Software Configuration Manual</i>
Developing applications to monitor and control redundant and standalone configurations	<i>Dialogic® TX Series SS7 Boards Health Management Developer's Reference Manual</i>
Using TX utilities to load and configure a TX board, and to diagnose hardware and software issues	<i>Dialogic® TX Series SS7 Boards TX Utilities Manual</i>

### Developing layer applications

For information about...	Refer to the...
NaturalAccess Signaling Software layers and a reference of functions, parameters, events, and errors	<p><i>Dialogic® NaturalAccess™ MTP2 Layer Developer's Reference Manual</i></p> <p><i>Dialogic® NaturalAccess™ MTP3 Layer Developer's Reference Manual</i></p> <p><i>Dialogic® NaturalAccess™ SIGTRAN Stack Developer's Reference Manual</i></p> <p><i>Dialogic® NaturalAccess™ SCCP Layer Developer's Reference Manual</i></p> <p><i>Dialogic® NaturalAccess™ TCAP Layer Developer's Reference Manual</i></p> <p><i>Dialogic® NaturalAccess™ ISUP Layer Developer's Reference Manual</i></p> <p><i>Dialogic® NaturalAccess™ TUP Layer Developer's Reference Manual</i></p>

## Configuring and controlling protocol engines

For information about...	Refer to the...
Establishing communication channels between host applications and TX boards	<i>Dialogic® TX Series SS7 Boards CPI Library Developer's Reference Manual</i>
Developing applications that perform task loading	<i>Dialogic® TX Series SS7 Boards Loader Library Developer's Reference Manual</i>
Developing applications that control the H.100/H.110 switch fabric and the T1/E1 interfaces	<i>Dialogic® TX Series SS7 Boards TDM for SS7 Developer's Reference Manual</i>
Obtaining system-level information	<i>Dialogic® TX Series SS7 Boards TX INFO Library Reference Manual</i>

## Removing the software

Under Windows, you can remove all of the NaturalAccess Signaling Software at once or remove individual software components. The Solaris removal script removes all of the NaturalAccess Signaling Software components.

### Windows

**Note:** If you are reinstalling the software, save the configuration files by copying them to a safe location. After you install the software, copy the configuration files to the corresponding directory at the new location.

Complete the following steps to remove NaturalAccess Signaling Software under Windows:

1. Make sure that no applications are using NaturalAccess Signaling Software components or libraries.
2. Click **Start > Control Panel**.
3. In the Control Panel, double-click **Programs and Features**.
4. Select Dialogic® NaturalAccess™ Signaling Software Release **X.X**, and click **Uninstall**.
5. Follow the prompts as appropriate for your system. Use the **Remove** option to remove the entire NaturalAccess Signaling Software package. Other options enable you to remove individual components. The TX Driver Software will automatically uninstall during the NaturalAccess Signaling Software uninstall process.

The NaturalAccess Signaling Software Release 5.3 uninstall script automatically removes the TX PCI device drivers and automatically cleans up any residual files.

After you complete the software removal process, reboot the system before reinstalling or upgrading NaturalAccess Signaling Software.

## Solaris and Linux

---

Complete the following steps to remove NaturalAccess Signaling Software under Red Hat Linux or Solaris:

**Note:** If you are saving old configuration files to the new release, copy those files to a safe location. After you install the new release, copy the configuration files to the corresponding directory at the new location.

1. Log on as root.
2. Make sure that no applications are using NaturalAccess Signaling Software components or libraries.
3. Run the `ss7_remove` script, located in the `/opt/dialogic/tx/bin` directory. If you are removing a version prior to release 5.1, the `ss7_remove` script will be located in `/opt/nmstx/bin`.

The removal script removes all NaturalAccess Signaling Software packages.

For additional release information, refer to the `release_notes.pdf` file located in the software release package.