Norstar ICS Remote Tools User Guide

NRU version 11

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Preface

This guide is intended for administrators who want to centrally manage one or more Norstar systems from a computer remote to the system. The communication between the system and the remote computer is established by connecting a Remote Access Device (RAD) to the Norstar system, providing a way for the remote computer that is running ICS Remote Tools (ICSRT) to establish a programming connection to the Norstar system.

How this guide is organized

This guide is organized in the following sections:

- **Application overview:** Chapter 1, “Understanding remote management”, on page 15 provides an overview of remote management using ICSRT.
- **Remote computer:** Chapter 2, “Setting up ICS Remote Tools”, on page 25 provides computer parameters and how to install the application on your computer.
- **Customer database:** Chapter 3, “Setting up customers in ICSRT”, on page 35 describes how to set up customer records in the CustomerInfo database.
- **Connecting to a system:** Chapter 4, “Connecting to a Norstar system from ICSRT”, on page 51 provides a list of required information about the Norstar systems you want to connect to, about the RAD, and about how the computer you are using is connected.
- **Configuration tools:**
  - Chapter 5, “Understanding the Remote Set tool”, on page 55 provides information about using the ICSRT Remote set tool.
  - Chapter 6, “Understanding the Browser tool”, on page 63 provides information about using the ICSRT Browser tool
  - Chapter 7, “Using Workbooks and off-line programming”, on page 83 provides information about using the ICSRT Workbooks
- **Backup and Restore data:** Chapter 8, “Backing up and restoring Norstar data”, on page 107 provides instructions about setting up a backup or restore, and how to schedule the system to automatically perform backups.
- **Troubleshooting system operation:** Chapter 9, “Troubleshooting the ICS Remote Tool”, on page 121 provides instructions about dealing with error conditions, and using the Debug tool under the guidance of your customer support.

What is ICSRT?

If you have older versions of Norstar systems, you may be familiar with the Norstar Manager application. The ICSRT replicates some functions of that application.

Warning: Data created through the Norstar Manager cannot be used by the ICSRT application. You need to re-enter all customer information through the ICSRT application.

ICSRT is a software package that assists you in administering, maintaining, and programming a Norstar ICS (Integrated Communications System). Ensure that you are familiar with Norstar programming before you attempt to use this application.

For those new to remote management, you can use ICSRT to:

- connect to a remote Norstar MICS or CICS system (version 2.0 or newer)
- set up records for each system in one or more databases
- program the system using one of three methods
- perform backup and restore activities, maintaining backup versions on your remote computer
- troubleshoot the ICSRT tools

Note: ICSRT system version compatibility

If you are managing systems that are running software earlier than version 2.0, ensure that you maintain a copy of Norstar Manager on your system to manage those systems.

Getting a Quick Start

If you were comfortable with using Norstar Manager and earlier versions of Norstar ICS Tools, you can refer to the *ICS Remote Tools Quick Start Guide* for a quick overview of the new elements of ICSRT.

For Norstar system and feature configuration details, refer to the *MICS* or *CICS Installation Guides*.

Text conventions

This guide uses the following text conventions:

angle brackets (< >), italic text	Indicates that you choose the text to enter based on the description inside the brackets. Do not type the brackets when entering the command. Example: If the command syntax is: **`ping`** *<ip_address>* you enter: **`ping 192.32.10.12`**
angle brackets (< >), **bold** text	Indicates a keyboard command key, such as <**Enter**> or <**Ctrl**>.
`bold Courier text`	Indicates command names and options and text that you need to enter. Example: Use the **`dinfo`** command. Example: Enter **`show ip`** {**`alerts`**|**`routes`**}.
italic text	Indicates book and chapter titles
`plain Courier text`	Indicates command syntax and system output, for example, prompts and system messages. Example: `Set Trap Monitor Filters`
FEATURE **HOLD** **RELEASE**	Indicates that you press the button with the coordinating icon on whichever set you are using.

Acronyms used in this guide

This guide uses the following acronyms:

CICS	Compact ICS
ICS	Integrated Communications System
ICSRT	ICS Remote Tool
KSU	Key Service Unit
MICS	Modular ICS
NRU	Norstar Remote Utilities
RAD	Remote Access Device (RAD, Global RAD, FastRAD, IRAD)

How to get help

USA and Canada

Authorized Distributors - ITAS Technical Support

Telephone:
1-800-4NORTEL (1-800-466-7835)
If you already have a PIN Code, you can enter Express Routing Code (ERC) 196#.
If you do not yet have a PIN Code, or for general questions and first line support, you can enter ERC 338#.

Website:
http://www.nortelnetworks.com/support

Presales Support (CSAN)

Telephone:
1-800-4NORTEL (1-800-466-7835)
Use Express Routing Code (ERC) 1063#

EMEA (Europe, Middle East, Africa)

Technical Support - CTAS

Telephone:

* European Freephone	00800 800 89009
European Alternative/	
United Kingdom	+44 (0)870-907-9009
Africa	+27-11-808-4000
Israel	800-945-9779

* Note: Calls are not free from all countries in Europe, Middle East or Africa

Fax:
44-191-555-7980

email:
emeahelp@nortelnetworks.com

CALA (Caribbean & Latin America)

Technical Support - CTAS

Telephone: 1-954-858-7777

email: csrmgmt@nortelnetworks.com

APAC (Asia Pacific)

Technical Support - CTAS

Telephone: +61 388664627

Fax: +61 388664644

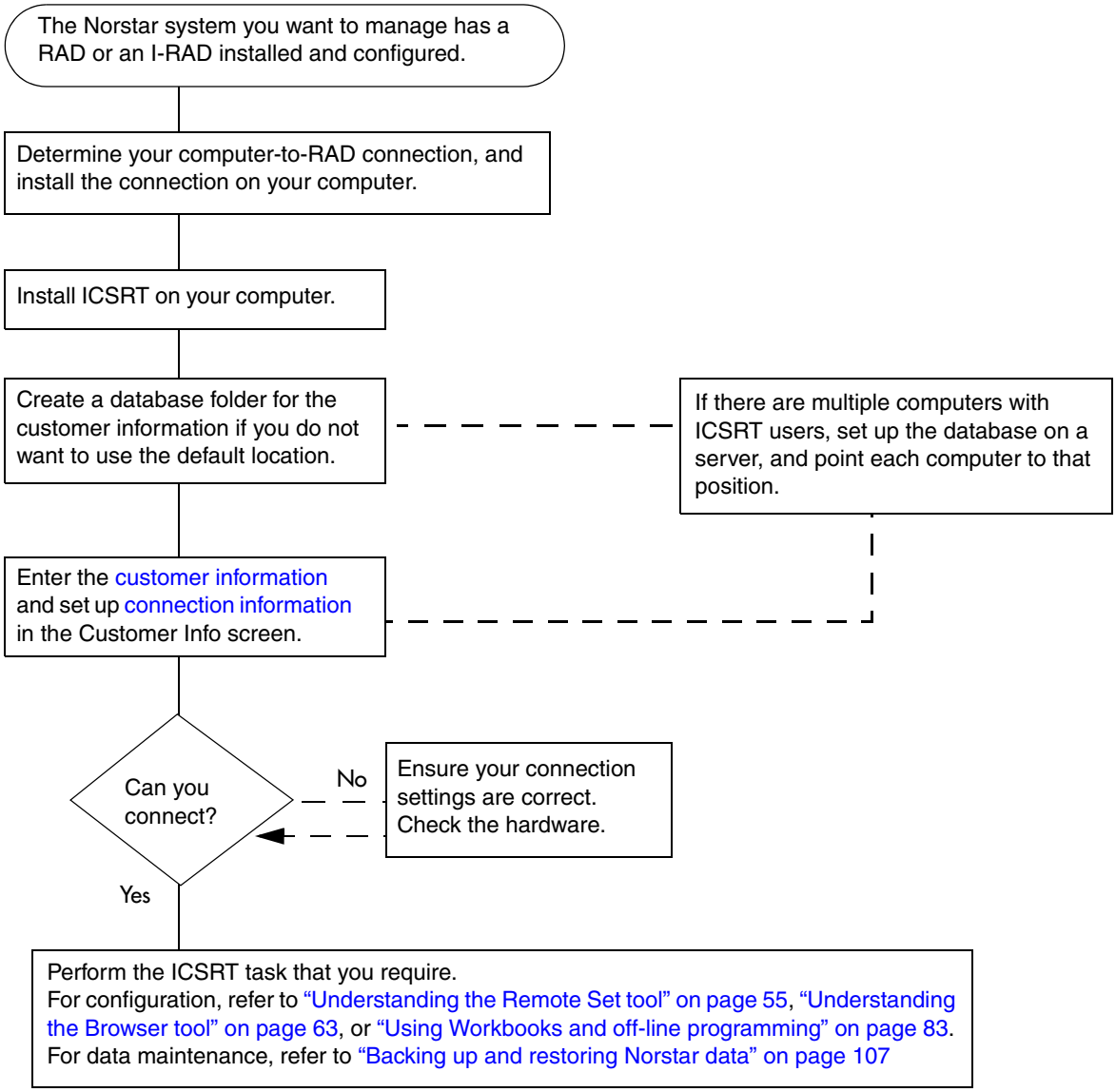
email: asia_support@nortelnetworks.com

Chapter 1
Understanding remote management

This chapter provides an overview of the process of using the ICS Remote Tool (ICSRT) for remote system management. The following information is provided in this chapter:

- "Process map: Managing a Norstar system with ICSRT" on page 15
- "Connection hardware requirements" on page 16
- "Remote system management using ICSRT" on page 20

Process map: Managing a Norstar system with ICSRT



Connection hardware requirements

Before you can use the ICSRT to configure remote systems, you must install a RAD (MICS), or use a software key to activate the Internal-RAD (CICS) on the systems that you want to manage.

The *RAD Installation Guide* provides details about the RAD module and how to physically connect it to the Norstar system and to the remote computer. The *CICS Programming and Installation Guide* explains how to configure an I-RAD.

Explaining RAD connections

There are three ways to connect to a RAD from your computer.

If you are managing a number of systems, you could have more than one type of connection. For instance, if your computer is co-located with a system, you could use a serial cable in a **direct** connection. If another system is located in another building or too far away for a serial cable, you might set up a **remote** connection. You also might be managing another system that has high security requirements, so that you need to be verified by a central operator before you connect, so you would need to set up an operator-assisted connection to that system.

The three connection methods are:

- **remote**: through a dial-up modem and auto-answer line on Norstar system (Figure 1)
- **operator or auto attendant-assisted**: through a dial-up modem that calls a system operator or auto attendant (Figure 2)



Note: Operator-assisted connections do not support the scheduled backup and restore operations.

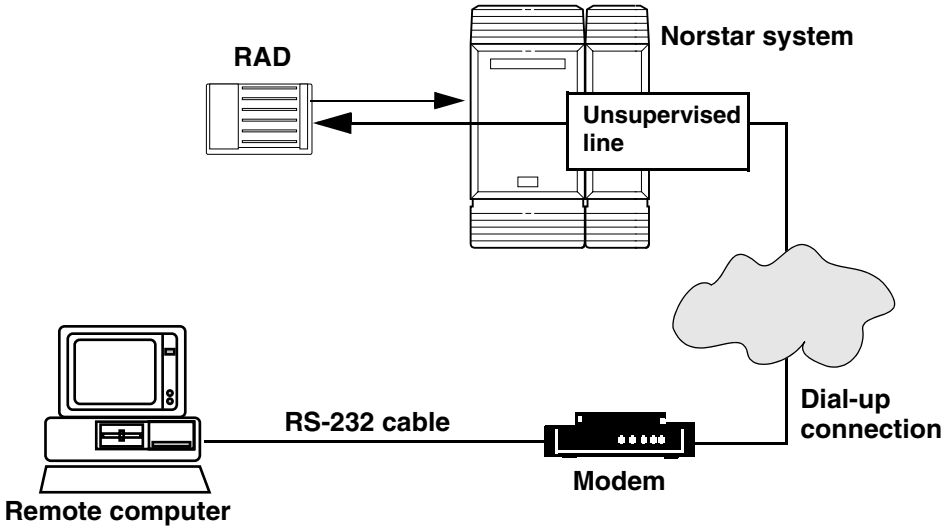
- **direct**: through a serial cable directly to the RAD (Figure 3)

Connecting remotely to a Norstar system

With this configuration, your computer connects to the RAD by using a dial-up modem and a dial-up connection to an auto-answered line on the Norstar system.

When you click on the **Connect** button on an ICSRT Connection Properties screen that is correctly set for Remote connection ("Connecting to a Norstar system" on page 51), your computer dials the Norstar system using the modem. The line your computer dials through is set up on the Norstar system so that the RAD answers after a specified number of rings. When the RAD answers, ICSRT transmits the RAD password, which is entered on the connection record. If the RAD recognizes the password, the connection occurs.

Figure 1 Connecting through a dial-up modem



Connecting to a Norstar system attendant

If you want an operator or auto-attendant to direct ICSRT calls to the RAD, you can use the same hardware configuration as you use for the remote connection. However, with this connection, the modem is connected to a supervised line that directly dials the attendant or auto attendant, so you also need to attach an analog telephone to the modem. Therefore, for this type of connection, you need a modem with both a line and phone port.

Note: The Operator-assisted connection does not support the scheduled backup or restore operations.

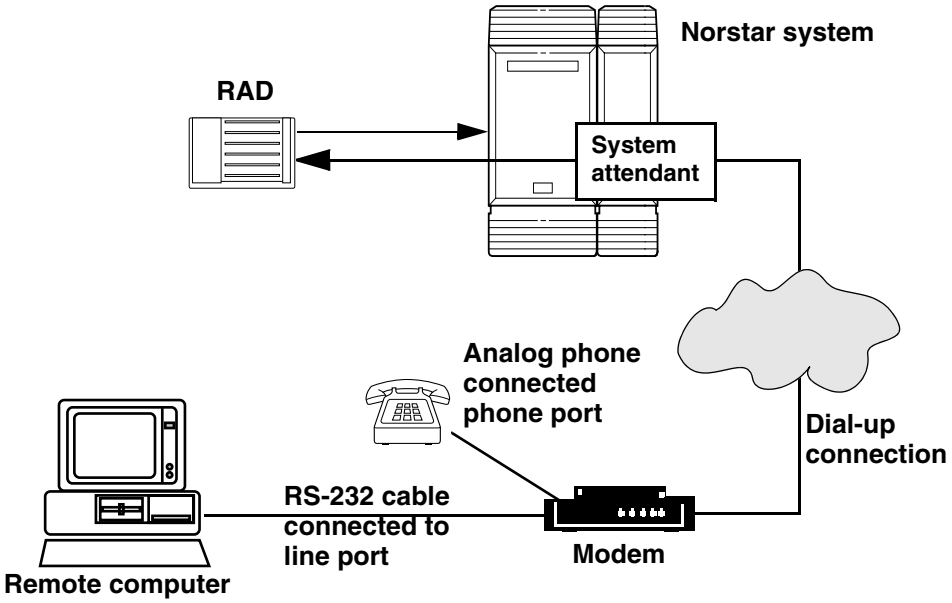
To make a RAD connection using operator assistance:

1. Ensure the ICSRT Connection Properties screen is displayed on your computer, with the correct information filled out for this type of connection. ("Connecting to a Norstar system" on page 51)
2. Call the Norstar system from a telephone connected to the modem.
   When the attendant answers, the attendant presses **Feature** 9*0 to connect the call to the RAD.
   When the transfer is complete, you will hear a high-pitched tone.

Note: If the line is connected to an Auto Attendant, you would have to press **Feature** 9*0 on your telephone to make the connection.

3. At this point, click on **Connect** on the ICSRT connection screen and hang up the telephone.
   ICSRT then follows the rest of the connection routine.

Figure 2 Connecting through a PSTN line to the system attendant

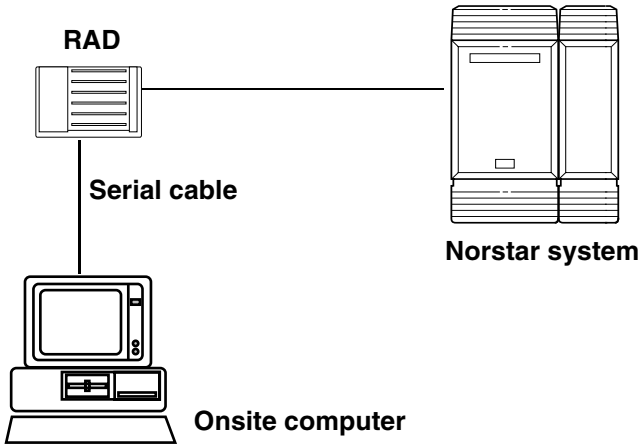


Connecting directly to the Norstar system

If you are using a computer that is at the same site as the Norstar system, you can connect to the RAD serial port using a serial cable (RS-232) connected to one of the serial ports on your computer. Ensure that you note which serial port you use.

When you click on the **Connect** button on an ICSRT Connection Properties screen that is correctly set for Direct connection ("Connecting to a Norstar system" on page 51), your computer directly contacts the RAD, which verifies the RAD password and opens up a connection.

Figure 3 Connecting directly to the RAD using a serial cable



In a direct connection, the RAD is connected to one of the computer COM ports by an RS-232 cable. In this type of connection, the data transfer rate between the computer and the KSU is 9600 baud. The cable must be constructed as shown in the pinout diagrams in Figure 4 and Figure 5.

Figure 4 Pinouts for direct connect, RAD to computer

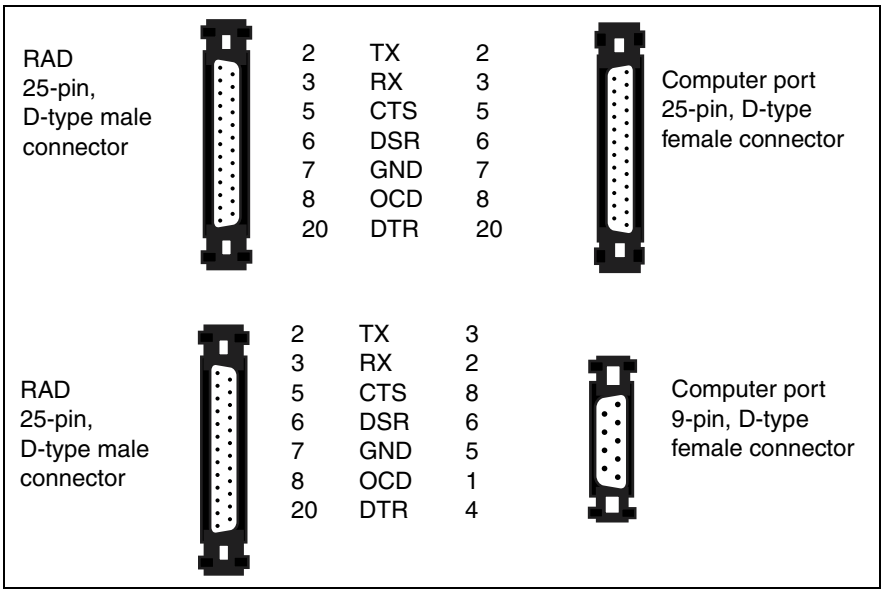
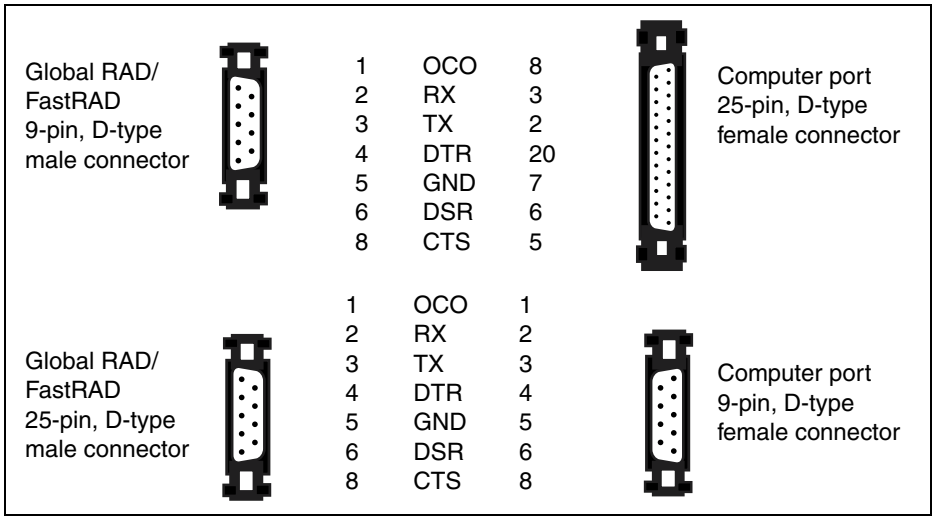


Figure 5 Pinouts for direct connect, Global RAD to computer



Remote system management using ICSRT

ICSRT provides you with the configuration ability of the on-site telephone programming, as well as a tool to schedule an off-site backup and to restore that backed-up information to the Norstar system.

A folder on your computer contains Customer and connection information in a database (.mdb) file (Figure 6). This allows you to quickly identify the system you want to manage, and to quickly connect to the system by whatever method has been used to connect to the remote system. The connection record for each customer indicates what type of connection exists.

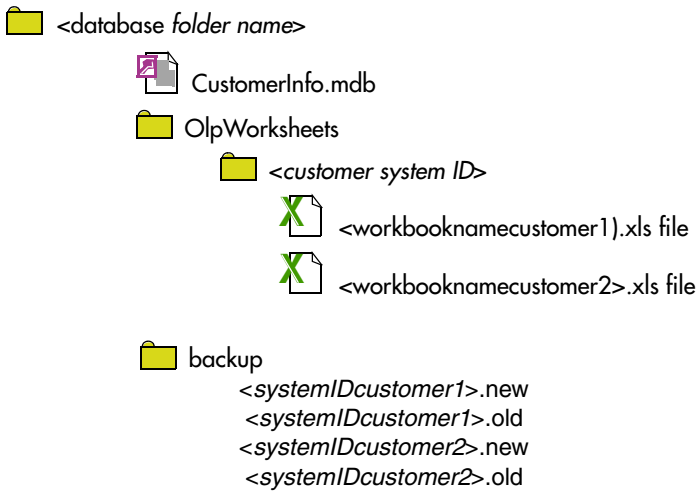
Configuring a system using ICSRT is accomplished using one of three formats, all located under the **Run Tool** menu on the main ICSRT screen.

- The **Remote Set** tool and the **Browser** tool provide two different ways to configure a Norstar system directly from your computer.
- **OLP Worksheets** are customizable Excel spreadsheets that can be filled in separately from ICSRT. These files are also stored in the same folder where the customer database is stored (Figure 6). You can use worksheets to both send configuration information to a Norstar system, and to upload existing information (acquire) from the Norstar system into the worksheets. Each version of MICS/CICS software has a workbook that includes all the features for that version.

Remotely backing up a Norstar system is accomplished by initiating an immediate backup, or by scheduling backups to occur at preset intervals. Backup files can be restored to the Norstar system by initiating an immediate restore, or by scheduling a restore to occur on a preset date at a preset time. Scheduled backup files for each customer are stored within the same folder as the customer database (Figure 6). If you use the **Backup Restore** tool to perform an immediate backup, the files are stored at ***<ICSRT installed path>*\backup** in a file called **FNVRAM.new**, unless you indicate a different path on the Backup Restore screen.

Figure 6 provides a sample of what the folder containing one database could contain. Many customer records can be stored in one database. You can also have a number of databases, each with a set of Norstar customers. You cannot, however, pass customer records back and forth between databases, and you cannot have more than one database per folder.

Figure 6 ICSRT database folder contents



Constraints

- You can only have one CustomerInfo database file per database folder.
- You cannot pass customer records back and forth between databases.
- If you delete a database folder, all information within that folder is deleted, so it is highly recommended that you create a secure folder somewhere and regularly copy each database folder to that folder as a backup.
- If you need to turn your computer off, ensure that there are no backup up or restore jobs currently running. Any jobs scheduled to run while the computer is turned off will need to be manually removed when the computer is rebooted.
- The Scheduler does not automatically update after the Daylight Savings time change if it is running during the time change. When this occurs, you need to close the Scheduler and then restart it to synchronize the Scheduler time with the computer or server time. Refer to "Starting the Scheduler" on page 109.

Gathering information before you start

Gather the following information before you attempt to add customer sites to the ICSRT database:

Customer information		Values
System Identification (ID)	You need to know the unique system number for the Norstar system you want to add. If your customer does not know this number, get them to check in programming. (on the programming set, press **SHOW** at the **Software keys** prompt)	
System software name and version	If you are using workbooks, you will need to know the software region and version of the Norstar system.	
Customer Name	This is the name of the company or business that owns the Norstar system. This setting may not be unique, as a customer may own more than one system.	
KSU location	This is where the Norstar ICS is located on site.	
Address	This is the business address of the customer.	
Contact	This is the name of person at the customer site who coordinates Norstar programming and troubleshooting.	
Phone number	This is the phone number of the contact person. Remember to include an area code.	
Install date	This is the date the Norstar system was installed.	

Connection Properties

RAD phone number	This is the number which will be answered by RAD at the Norstar location if you are calling into the RAD over a phone line. This number can be supplied by the technician who set up the RAD.	
RAD password	The RAD is delivered without a password. The installation technician may have changed it. If not, the customer needs to program an 8-to-10-digit password through set programming.	
COM Port	This is the communication port on the personal computer that ICSRT uses to communicate with the Norstar system.	
Connect type	Determine how your computer will connect to the RAD: Refer to “Explaining RAD connections” on page 16.	
Baud rate	Determine the modem speed required to communicate with the Norstar system. Refer to “Modem settings” on page 26.	
Dial mode	If you are using a modem to connect to the system, determine whether the system requires pulse or tone signals.	
Modem init String	Determine if the modem you are using requires additions to or subtractions from the default string.	

Notes	This is a scratch area. Type any information you want to add about the Norstar system.	

ICSRT components

Database	Determine which database the customer information will use. Create a new database folder, if required. Refer to "Creating a database" on page 36.	
Programming	Determine which tool you plan to use for programming. Refer to "Understanding the Remote Set tool" on page 55 and "Understanding the Browser tool" on page 63. If you intend to use workbooks to configure the system, ensure you have a copy of the correct workbook file. Refer to "Using Workbooks and off-line programming" on page 83. Configuration information is obtained in the *Installer Guide* provided to each system.	
Backup and Restore	Determine what the backup schedule will be for the system.	

Chapter 2
Setting up ICS Remote Tools

This chapter describes how you set up your computer to perform remote management with the ICS Remote Tools (ICSRT) application.

This chapter provides information about:

- "Setting up your computer for ICSRT" on page 25
- "Installing the ICSRT" on page 29

Setting up your computer for ICSRT

Before you can begin using ICSRT, the software must first be installed and set up on the computer you are going to use for system management.

Setting up ICSRT on your computer involves:

- making sure your computer is configured to run the application
- installing the software on the computer hard drive
- creating different databases

This section explains how you install and set up ICSRT on your computer. There is also information about optimizing performance, removing the ICSRT software, and troubleshooting the installation.

Computer hardware requirements

The ICSRT software is installed on the hard disk of the computer you intend to use to connect to Norstar systems. Ensure that your computer is equipped with:

- Windows 95, Windows 98, Windows NT, Windows 2000, Windows ME, or Windows XP
- 486 or higher microprocessor (a faster processor will allow for faster backups and restores)
- 32 MBytes of RAM
- 36 MBytes virtual memory (or more)
- CD ROM drive
- 100 MB free space on the hard disk
- Microsoft Excel version 7 (Office 95) or 8 (Office 97) or (Office 2000) if you intend to use the Workbook tool. Excel 5 (Office 4.2) can also be used, but the Acquire ICS or Program ICS dialog should be minimized, or else Excel will stall during programming.

- ODBC Drivers. If your computer does not have ODBC installed or the driver versions are older than the ICSRT driver files, the files are automatically installed on to your computer when ICSRT installs.

Note: If any of drivers file is removed or gets corrupted during usage, the behavior of ICSRT tools is unpredictable

- a Hayes compatible modem for remote connections

Note: For all remote connections, you require a Hayes compatible modem capable of operating at 1200, 2400, 4800, 9600, or 19200 baud. Modems used for Operator-assisted calls should also have a separate line port and phone port. To avoid any conflicts or performance delays, we recommend that you do not have any other programs running on the remote computer while you are working with ICSRT.

The default Baud rate is 19200. For a direct connection, the local baud rate at the RAD must match the baud rate used for the direct connection in ICSRT. If you are using a remote connection, 1200, 2400, 4800, 9600 or 19200 baud can be used. If you choose a baud rate for a remote connection that is higher than the rate supported by the RAD, your modem auto-bauds down to the modem speed of the RAD. It is strongly recommended that you use 9600 baud or higher for Remote or Operator-assisted connections.

Caution: ICSRT requires a Baud rate greater than 1200 to perform a successful restore operation.

Modem settings

The default value for the Modem init string is **&FQ0V1&C1&D2S7=85&S0**. If your modem cannot connect to a RAD, use the modem init string field to include additional commands at the beginning or end of the string, or to edit the existing string. Refer to your modem manual for information about required codes, and where to insert them. A default or existing internal string automatically displays in the **Modem Init String** field, which contains the following elements:

- **&F** -- load default factory configuration
- **Q0** -- return response codes
- **V1** -- return verbal response codes
- **&C1** -- set the carrier detect (CD) high when the remote carrier is detected and drop the CD when the remote carrier is lost
- **&D2** -- accept commands only when data transfer ready (DTR) is high and drop the call when DTR is low
- **S7=85** -- wait up to 85 seconds for the remote carrier to be detected
- **&S0** -- data set ready (DSR) always on

Note for US Robotics modem users: Be sure to add **&I0** and **&B1** to your modem init strings. **&I0** -- software flow control disabled; **&B1** -- fixed serial port rate

Note: In general, you should not delete or alter any of the commands in the default string. However, the modem wait for carrier delay (S7) must be set to include both the delay before the RAD auto-answers and the time for the call to be dialed and connected. Some modems have a maximum wait of 60 seconds. If this is the case, you may set S7 in the modem init string to a lower value. If you lower the S7 value and also want the RAD to auto-answer before the modem times out, you must ensure that the seconds to wait before answering at the RAD is less than the S7 value. For best results, set the maximum modem speed to the maximum connect speed.

ICSRT performance tips

In certain situations you may find that ICSRT is operating too slowly. If you do, we recommend you do one or more of the following things to increase the speed of ICSRT:

- Do not run any other programs on your computer while you are running ICSRT operations. All programs that are operating on a computer, even those reduced to a icon, require some of the computer resources to operate.
- Use 9600 baud or higher, if supported by the RAD, when you are using ICSRT to perform a connected session.
- Using telephone lines that have very little noise reduces the number of communication errors that occur between the Norstar system and ICSRT. With fewer errors, the data is transmitted faster to and from the Norstar system.
- Use public network lines. Private network lines are usually compressed to make transmission more economical, but the compression can interfere with the connection between the computer and Norstar system. Use public network lines when making a connection to the Norstar system, or arrange ahead of time to have an uncompressed 64 kbps line available on your private network.

Removing ICSRT from your computer

If you need to remove ICSRT from your computer, use the **Add/Remove Programs** utility found under the Windows Start menus.

The uninstall utility does not remove the databases. If you need to remove databases, refer to "Deleting a database" on page 40.

ICSRT error messages

When you get an error message dialog from ICSRT, you need to determine what the error message means and how it affects the Norstar system and ICSRT. Refer to Chapter 9, Troubleshooting the ICS Remote Tool, on page 121 for a list of the more common and/or critical errors.

Shutting down your computer

Do not turn off your computer unless absolutely necessary. Scheduled jobs will not run if Scheduler is not running. If you need to shut down your computer, ensure that no scheduled jobs are currently running or are scheduled to run during the shutdown period.

When you restart your computer, ensure that Scheduler is running. Refer to "Starting the Scheduler" on page 109.

Installing the ICSRT

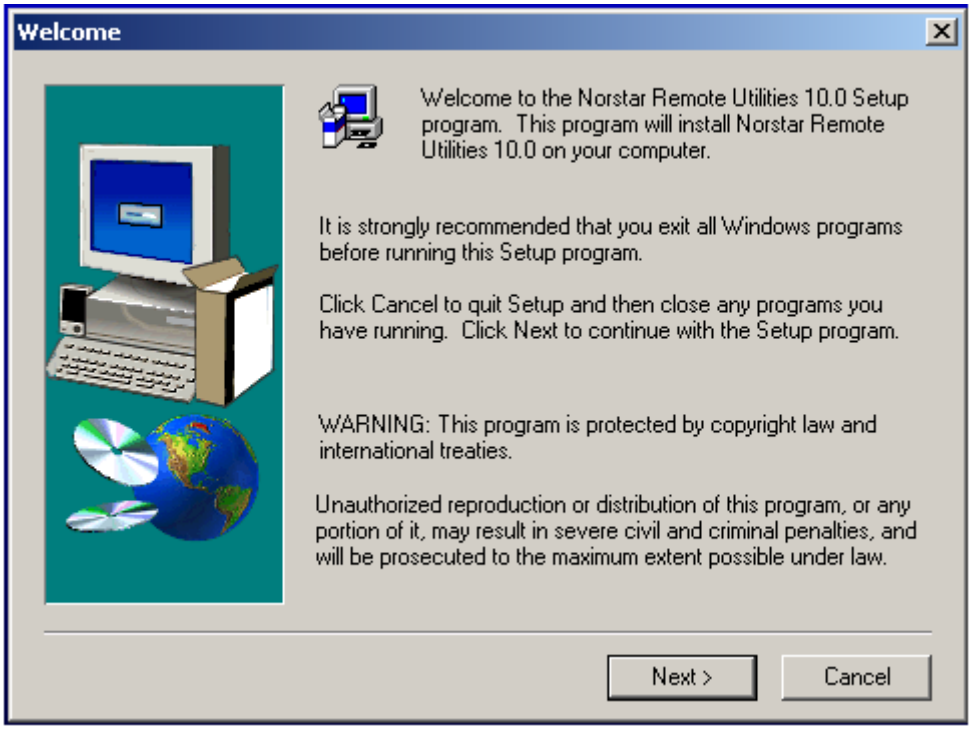
ICSRT installs easily off of the ICSRT CD. The application uses an Install Shield Wizard to move the files to your computer and install them in the **C:\Program Files\Nortel Networks** folder, or in a folder that you specify during the install process.

Note: This application allows you to choose whether you want to uninstall previous versions of the Norstar Remote Tools application.

1. Put the CD with the ICSRT software into your CD drive.
2. On your computer, navigate to your CD drive and double click the **Startup.exe** icon.
3. Follow the prompts in the wizard to install the application.
4. When you are prompted to choose a language, use the drop down list to choose the language you want the application to use.
   Click **OK** when you have made your selection.

   The files start downloading to your computer. Once the files download to your computer, the installation starts. The first screen you see is the welcome screen, shown in Figure 7.

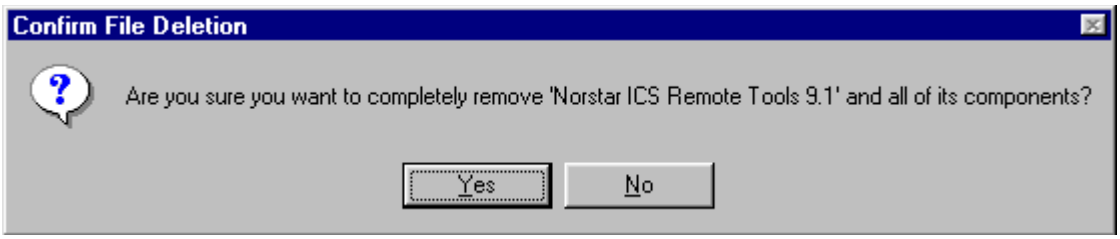
Figure 7 Installation Welcome screen



5. Click **Next** when you are ready to proceed.
   A dialog box appears asking if you want to uninstall old versions of Norstar ICS Remote Tools.

6 Click **Yes** to move forward.

7 You receive the following prompt:

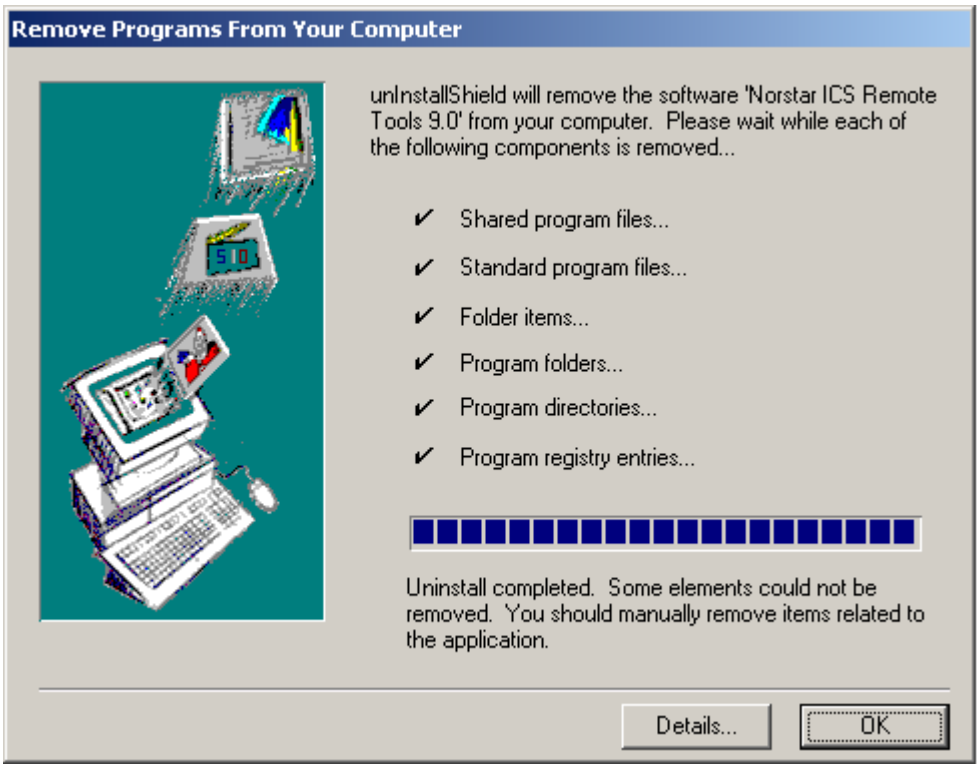


Note: If you do not uninstall previous versions of Norstar ICS Remote Tools, the new version will not install.

If you want to uninstall Norstar Manager, use the **Add/Remove software** option under the Windows **Start** button on your computer.
Do not uninstall Norstar Manager if you are managing any systems running software prior to version 2.0.

8 Click **Yes** on the dialog box.
The following screen appears and indicates which files are being removed.

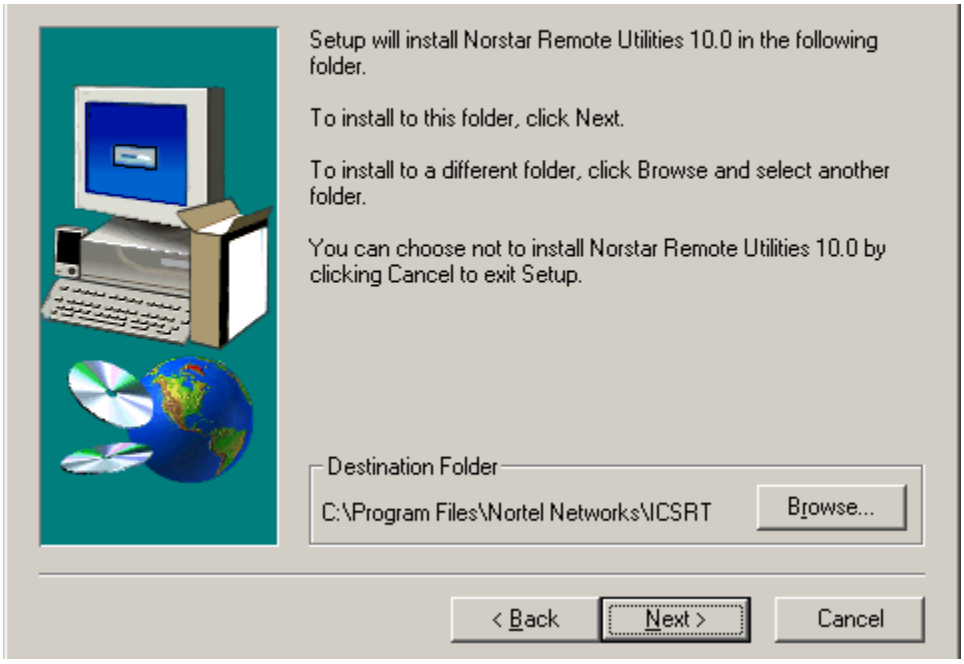
Figure 8 Remove Programs From Your Computer screen check



9 When the dialog indicates that the uninstall is complete, click the **OK** button.

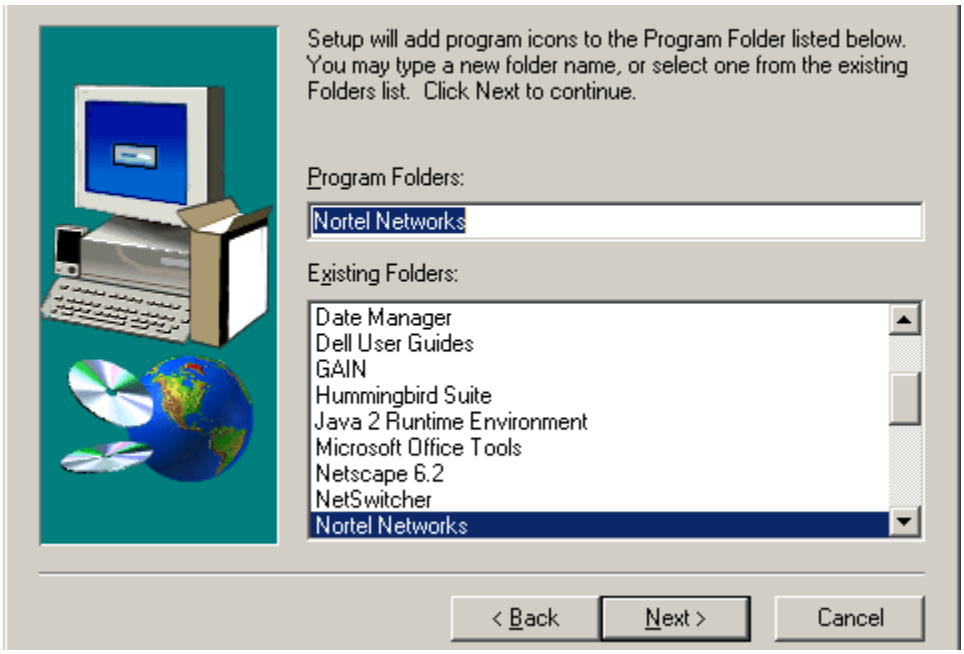
The next screen (Figure 9) prompts you to choose a destination folder.
Unless you use the **Browse** button to navigate to a new location, the application installs in **C:\Program Files\Nortel Networks\ICSRT** on your computer.

Figure 9 Choose Destination Location screen



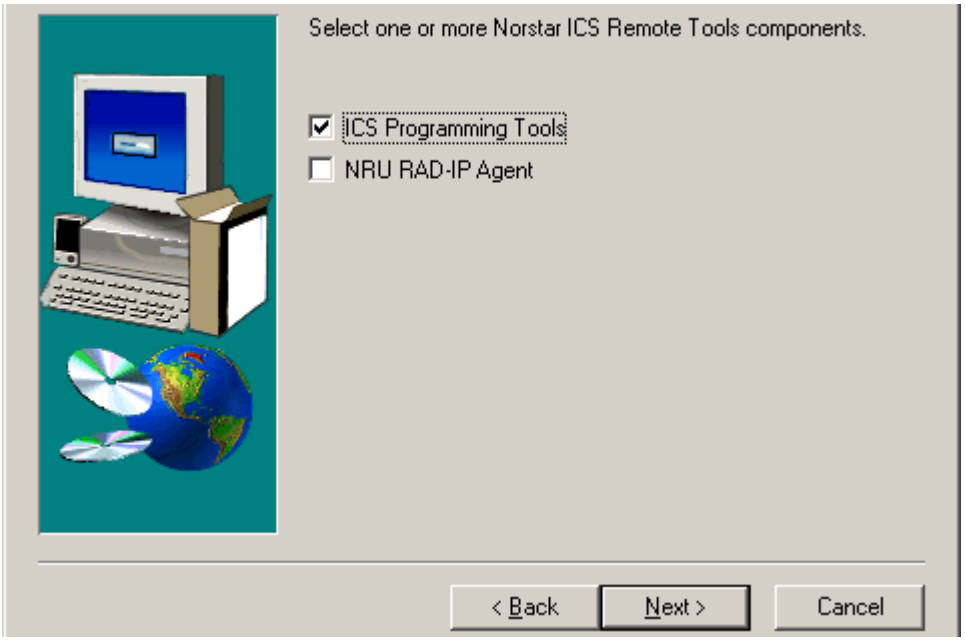
10 Click **Next**.
The next screen (Figure 10) prompts you to choose a folder or to accept the default folder, Nortel Networks.

Figure 10 Select Program Folder



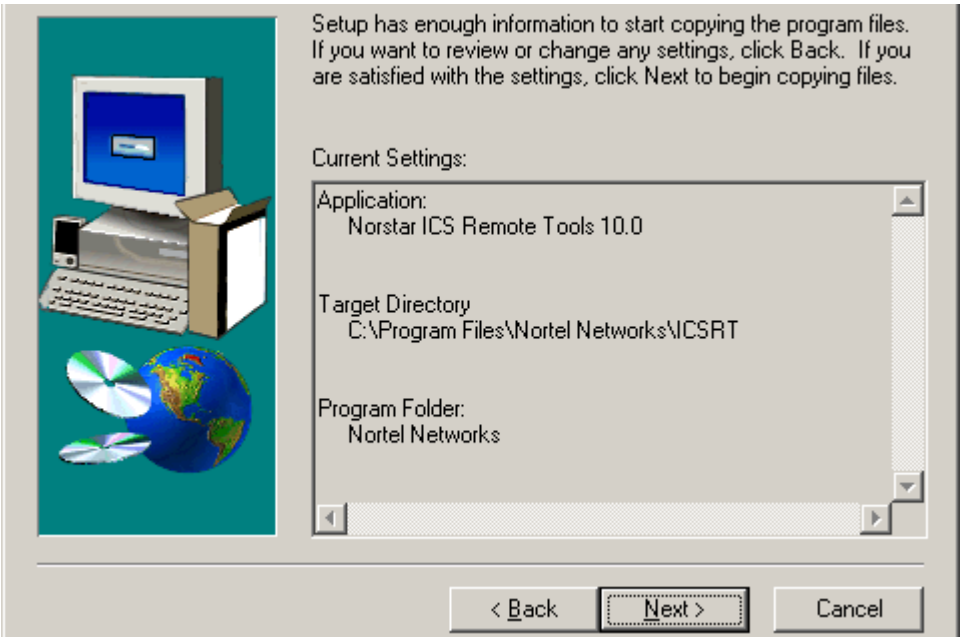
11 Click **Next**.
The next screen (Figure 11) prompts you to choose which Install components you want to install. ICS Programming Tools is the only one checked by default.

Figure 11 Select Install Components screen



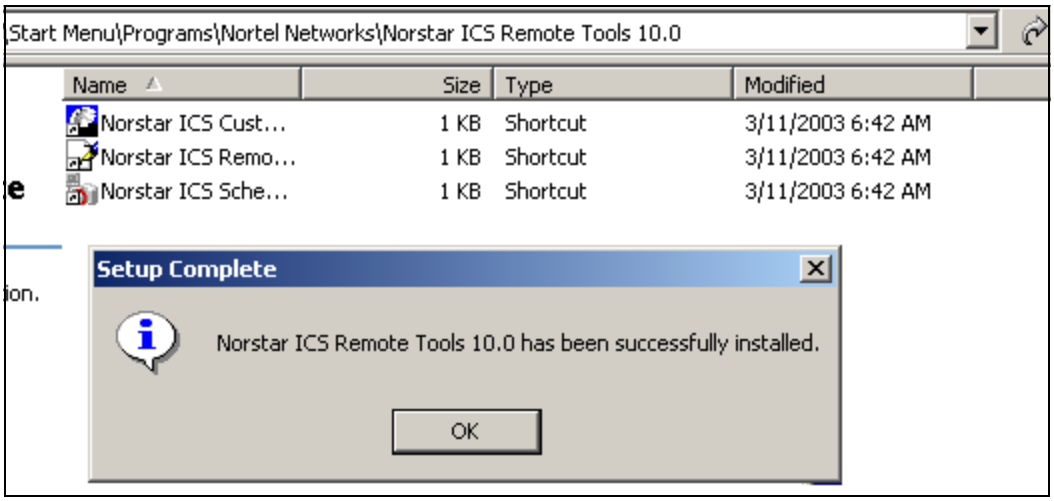
12 Click **Next**.
The next screen (Figure 12) shows you information about the application and where the files will be placed on your computer. Use the **Back** button to move back through the wizard if you need to change anything.

Figure 12 Confirm settings before copying



13 If the settings are okay, click **Next**.
The wizard progresses through the install.
When the install is successful, a Setup Complete dialog box appears, on top of the Start Menu folder where the program files are located (Figure 13).

Figure 13 Successful installation dialog



14 Click **OK** to exit the dialog box.

Chapter 3
Setting up customers in ICSRT

This chapter provides information about the ICS Remote Tools (ICSRT) Customer Information screen and the CustomerInfo database (.mbd). The CustomerInfo.mdb file resides within a folder on your computer or on a central server. All files associated with the customer records in this database are also stored in this folder.

You can create more than one database, each of which contains one CustomerInfo.mdb file. Each database file can contain several customer records. You can have only one database per folder. You can copy this folder to make a backup of the customer information, but you cannot transfer customers from one database to another.

The sections in this chapter include:

- "Using ICSRT databases" on page 35
  - "Creating a database" on page 36
  - "Moving between databases" on page 38
  - "Copying a database" on page 39
  - "Deleting a database" on page 40
  - "Setting up a multi-user database on a LAN" on page 41
- "Creating a customer record" on page 42
  - "Editing customer records" on page 45
  - "Viewing customer records" on page 48
  - "Deleting customer records" on page 49
  - "Copying customer records to create new records" on page 47

Using ICSRT databases

The ICSRT database is the CustomerInfo.mdb file itself. However, this book also uses the term in reference to the folder that contains this file and all the other folders within that folder.

This section describes actions that are specific to the .mdb file.

The install wizard, by default, puts the ICSRT default files, including the folder containing the default database file, into an ICSRT folder under the Nortel Networks folder, which is located under **Programming Files**, which is located on your Windows installed drive.

<*drive*>:\Program Files\Nortel Networks\ICSRT\db

However, the person installing the application has the option of locating them elsewhere.

If you do not want to use the default database for your customer records, or if you want to create more than one database of customer records, you can create a new database, elsewhere on your computer, or on a remote server.

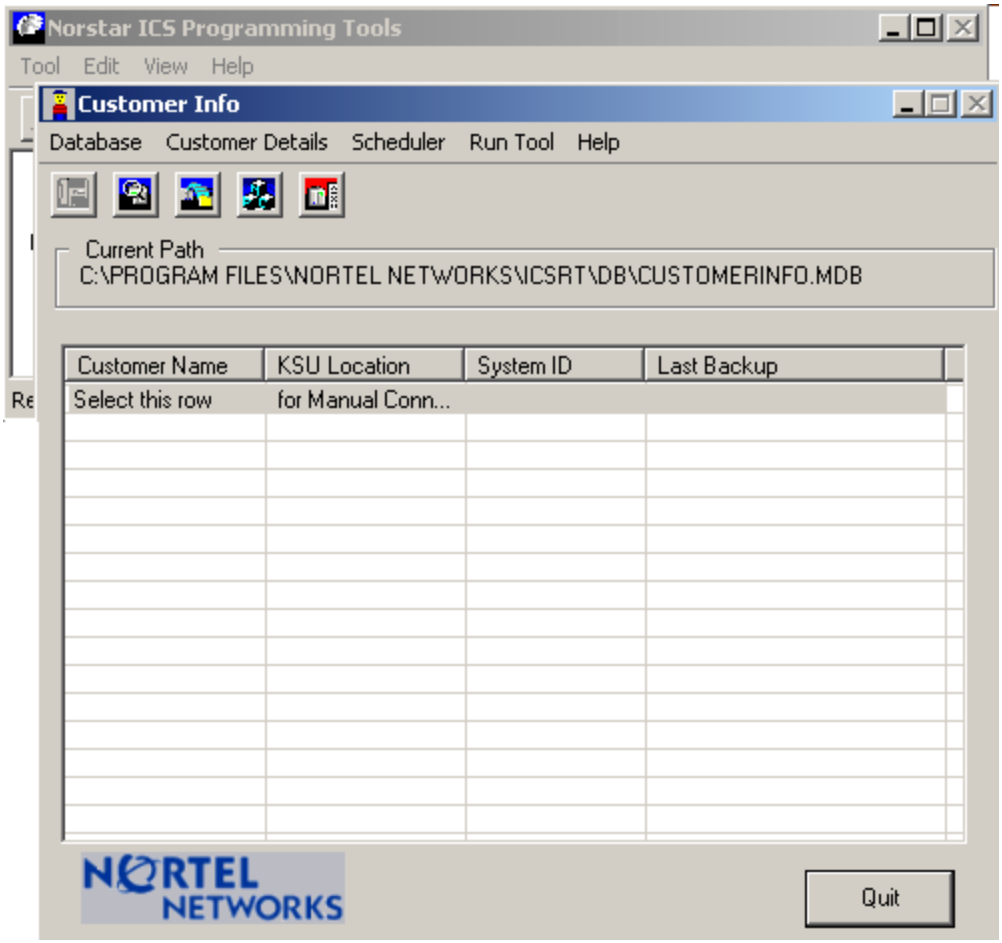
If you do not create a new database and then point the Customer Info screen to that database, any Customer records you create will be added to the default database.

Creating a database

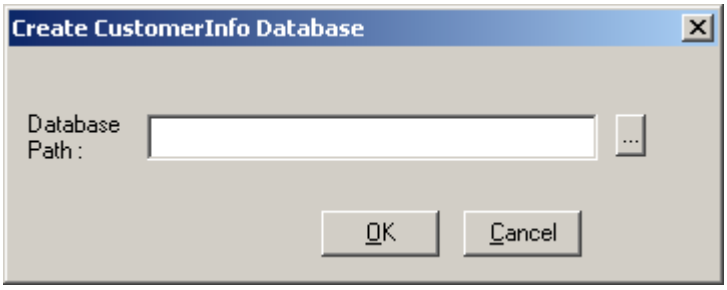
This procedure creates an empty database at a location of your choice on your computer.

1 Open ICSRT. (**Start**, **Nortel Networks**, **Norstar ICS Remote Tools XX.X**, **Norstar ICS Customer Info**)
The Customer Info screen displays.

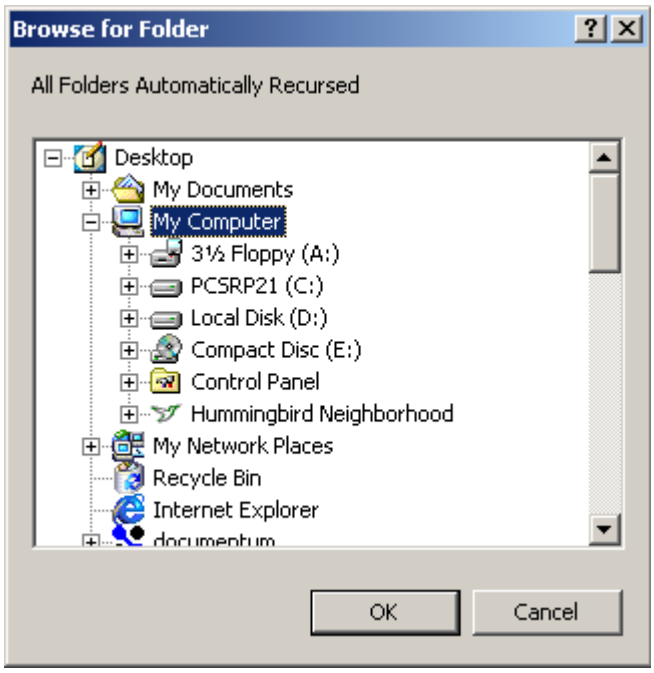
Figure 14 Customer Info screen



2 On the menu, click on **Database** and select **Create**.
A Create CustomerInfo Database dialog displays.



3 Click on the button beside the **Database Path** field. (**...**)
A Browse for Folder dialog appears.



4 Navigate to where you want to put the database.

Warning: Do not connect to **<*installed path*>\ICSRT\Template\CustomerInfo.mdb** for any reason. If this file is accessed, it may become corrupted. In that situation, you need to re-install the ICSRT application.

5 Select the location and click on **OK**.
The location displays in the **Database Path** field.

6 If the location you chose does not have a folder where you want to put the database, at the end of the entry in the **Database Path** field, type in
\<*folder name*>.

7 Press **OK**.
If you entered a new folder name, you will be prompted to confirm that you want the system to create a new folder at the indicated location. Click **OK**.
The program returns to the Create CustomerInfo Database screen.

8 Ensure that the path is correct, then click **OK**.
A popup dialog indicates that the new database was created.

9 Click **OK**.

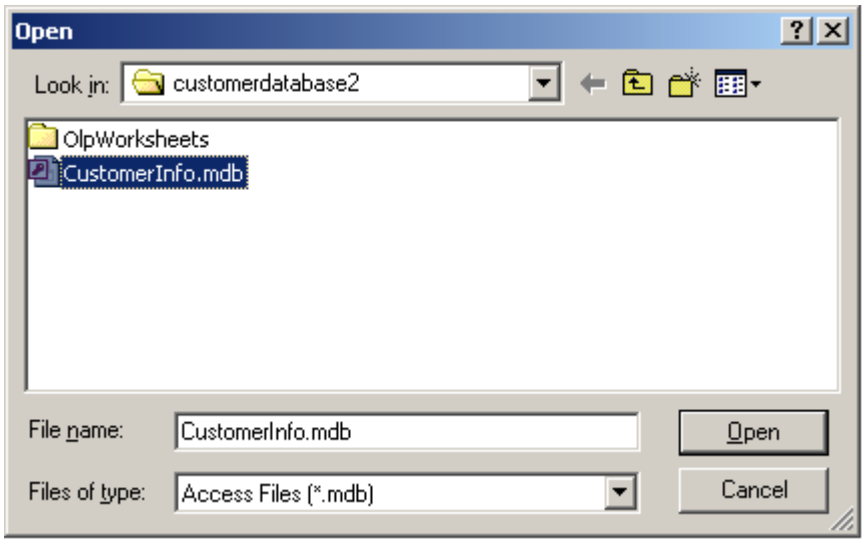
10 To open the new database, use the **Change Path** menu item. Refer to "Moving between databases" on page 38 for details.

Moving between databases

Use the **Change Path** option to move from one database to another.

1 On the Customer Info screen, click on **Database** and choose **Change Path**.
A Windows Open screen appears displaying the current database path.

Figure 15 Windows Open screen



2 Navigate to another database, then select **CustomerInfo.mdb**.

Warning: Do not connect to ***<installed path>*\ICSRT\Template\CustomerInfo.mdb** for any reason. If this file is accessed, it may become corrupted. In that situation, you need to re-install the ICSRT application.

3 Click **Open**.
On the Customer Info screen, **Current Path** field shows the new path, and the list of customer records that were created in that database appear on the screen.

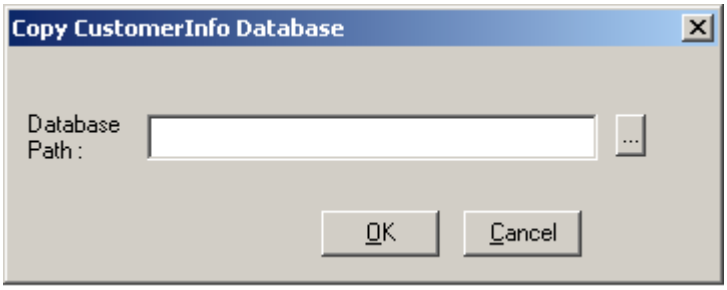
Copying a database

If you want to copy your customer database to another location, follow the steps given below. You might use this to create a backup database or to create a local database copy of customer information sitting in a database on a central server.

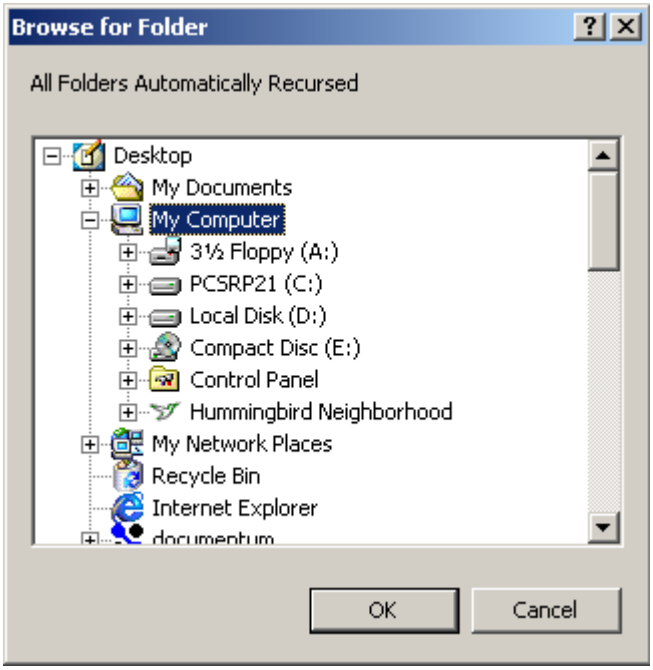
Warning: If a database is deleted, all the customer records and all the information attached to those customer records is permanently removed.
It is advisable to maintain frequent backups of your databases in a secure folder.

1 Have the Customer Info screen open to the database you want to copy.

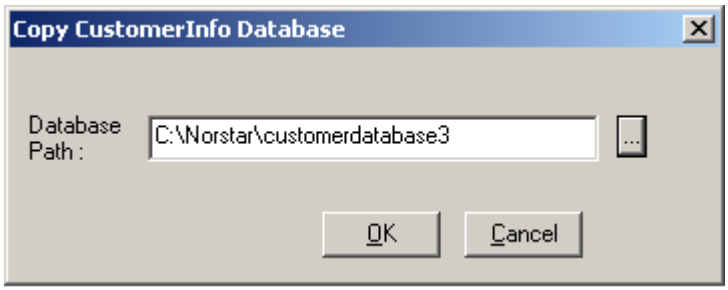
2 On the Customer Info screen, click on **Database** and select **Copy**.



3 Enter the path into the **Database Path** field,
or
click on the button beside the **Database Path** field. (**...**) to get the Browse for Folder dialog, then navigate to where you want to install the copied database,



When you click **OK** on the Browse for Folder dialog, the path fills into the Copy CustomerInfo Database dialogue.



4 If the location you chose does not have a folder where you want to put the database, at the end of the entry in the **Database Path** field, type in **\<*folder name*>**.

5 Click **OK**.
If you entered a new folder name, you will be prompted to confirm that you want the system to create a new folder at the indicated location.

6 Click **OK**.
A popup dialog indicates that the database was successfully was created.

7 Click **OK**.

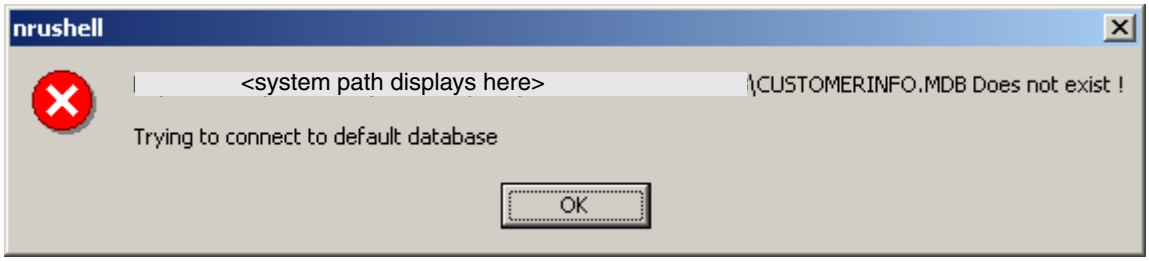
The Customer Info screen **Current Path** field shows the current active database location. The database you copied from becomes the backup database.

Deleting a database

To delete a database, ensure that ICSRT or any Scheduler jobs are not running, then select the database folder and delete it from your computer.

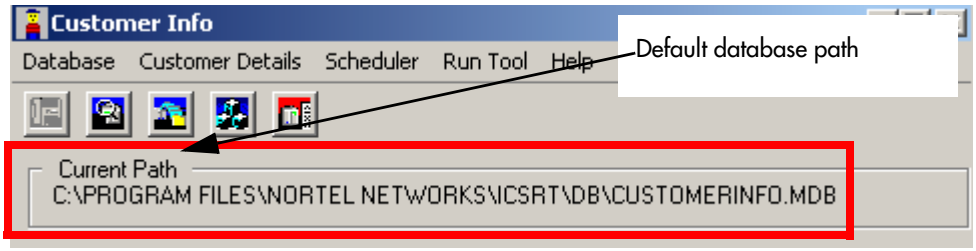
Warning: This will delete all the customer records and any information attached to those records.

If you delete the database for the customer that was last active on the ICSRT screen, when you go back into ICSRT you will receive a message indicating that the CustomerInfo.mdb that was last used does not exist and the system will connect to the default database.



When you click on **OK**, the ICSRT Customer Info screen opens within the default database, as shown in Figure 16.

Figure 16 Customer Info opens in default database



Removing any other database does not have any impact on working of ICS Remote tools application.

Warning: Do not delete the default database file **Nortel Networks/ICSRT/db/CustomerInfo.mdb**. Deleting any of the default folders may cause ICSRT to fail, and you would need to reinstall the application.

Setting up a multi-user database on a LAN

To use ICSRT in a local area network (LAN) configuration, you must:

- set up a database folder on the LAN file server
  - use the **Create** setting under **Database** to create a database on the server if one currently does not exist. ("Creating a database" on page 36).
  - if you have already created customer records on one of the computers, use the **Copy** setting under **Database** to copy that database onto the server ("Copying a database" on page 39).
- install ICSRT on each computer that will be used to manage systems. Refer to "Computer hardware requirements" on page 25 for computer requirements.
- ensure the computers are connected to the LAN.
- use the ICSRT **Change Path** setting to point each computer to the central database. Refer to "Moving between databases" on page 38.

Using ICSRT in multi-user mode

ICSRT operates the same in multi-user mode as it does in single-user mode. The difference is that you are using customer files from the network server. After ICSRT software is installed on each computer, indicate where the database is located on the server.

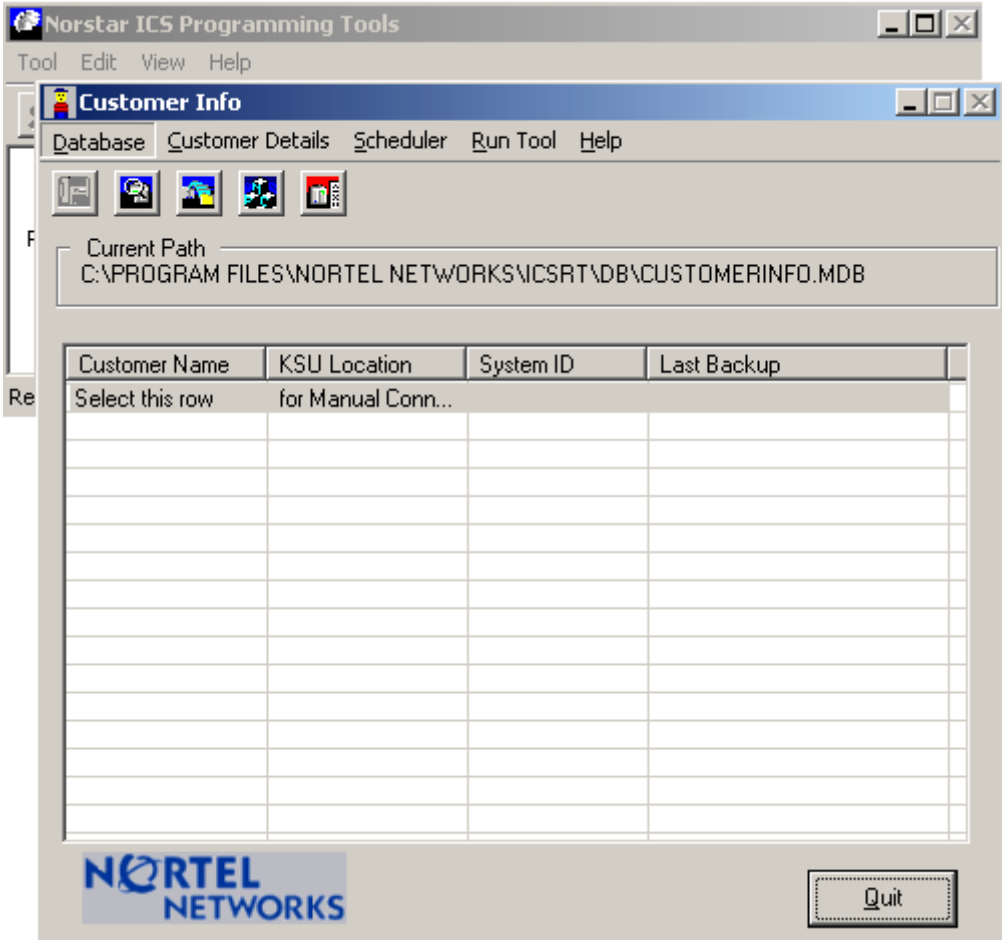
Users use the **Database**, **Change Path** setting to select the database ("Moving between databases" on page 38).
Use the **Database**, **Refresh** setting to occasionally update the database file if you know someone else is working on it with you.

Creating a customer record

All information in ICSRT is associated with a customer record stored in a database file. For each Norstar system you want to monitor, you need to create a unique record through the Customer Info screen.

1 Open the ICSRT application.
The Customer Info screen displays.

Figure 17 ICSRT Customer Info screen with Programming tools in background

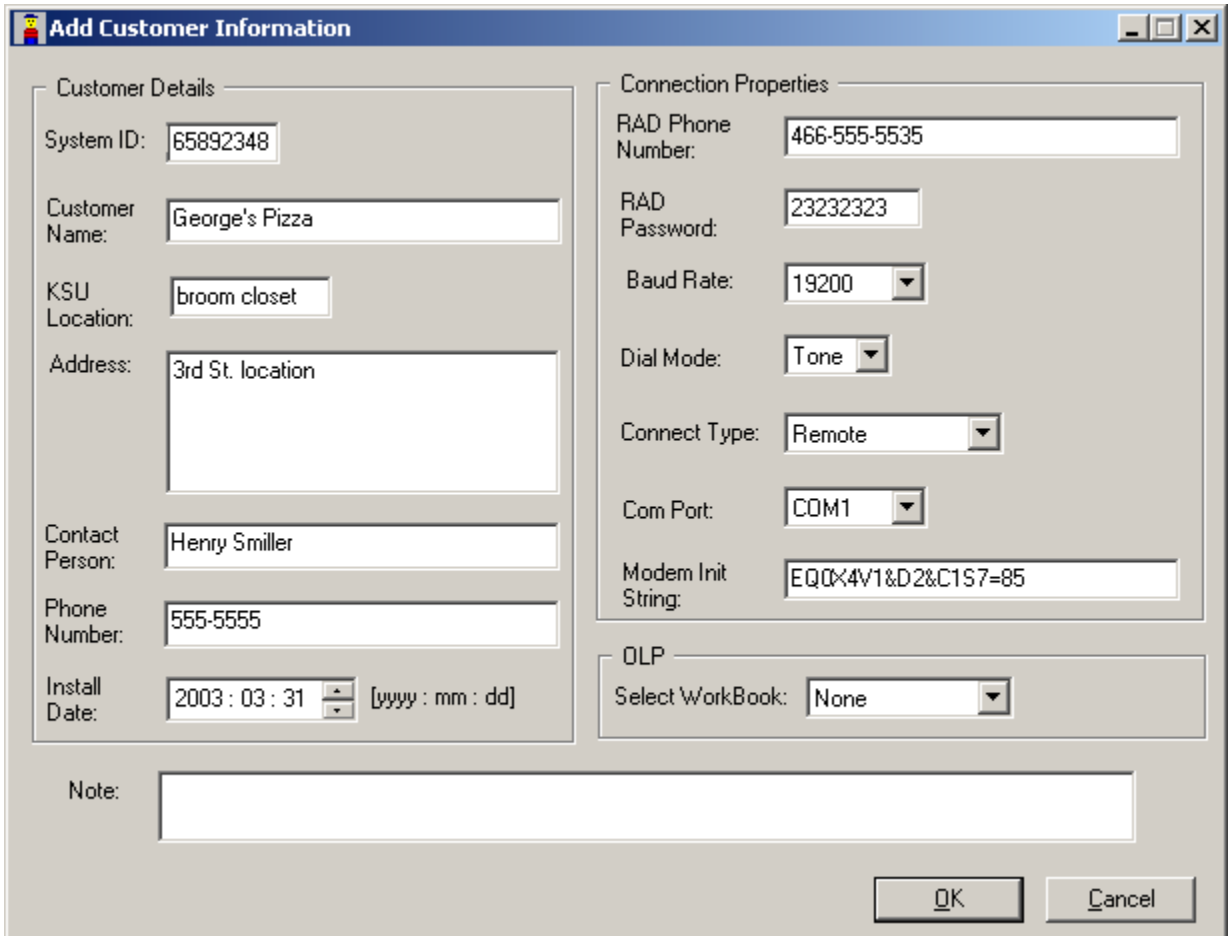


Note: If you add customers to a new system, they will be filed in the default database unless you create a database in another location. Refer to "Creating a database" on page 36 and "Setting up a multi-user database on a LAN" on page 41.

2 Check the **Current Path** field to ensure you are in the database where you want to add this customer. If not, change databases. Refer to "Moving between databases" on page 38.

3 On the menu click on **Customer Details**, then select **ADD**.
The Add Customer Information screen appears.

Figure 18 Add Customer Information screen



4 Fill out the fields, as required. A description of the fields is provided in the following table.

Table 1 Customer and connection information

Customer information	
System Identification (ID)	This is a unique eight-digit number that identifies a Norstar system. On a programming set, go to Software keys, then press **SHOW**.
Customer Name	This is the name of the company or business that owns the Norstar system.
KSU location	This is where the Norstar system is located on site.
Address	This is the business address of the customer.
Contact	This is the name of person at the customer site who coordinates Norstar programming and troubleshooting.
Phone number	This is the phone number of the contact person. Remember to include an area code if the phone number is outside your local calling exchange.
Install date	This is the date that the Norstar system was installed, or will be installed, at the customer site. This date should contain eight digits in the format YYYY : MM : DD

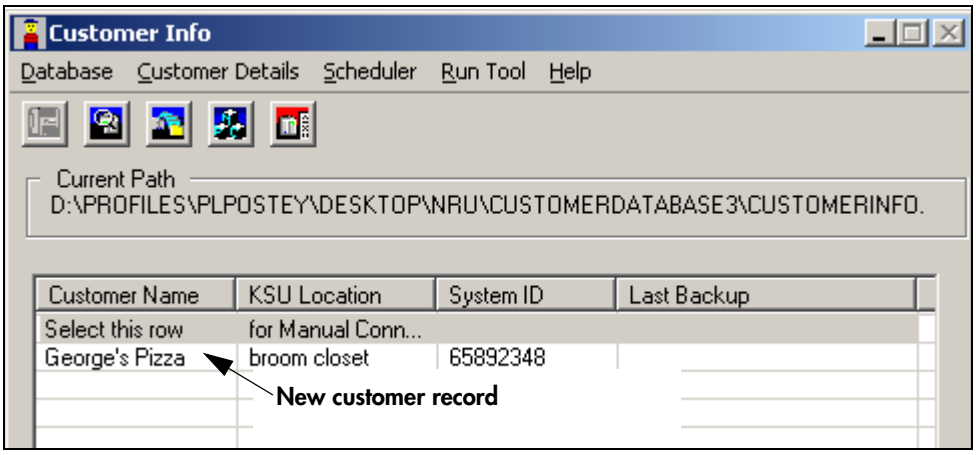
Table 1 Customer and connection information

Connection Properties	
RAD phone number	This is the number, which will be answered by RAD at the Norstar location if you are calling into the RAD over a phone line.
RAD password	This is the number ICSRT uses to identify itself as a valid user to the RAD. There is no default password, therefore, when you install a new RAD, you must use the telephone interface on site to program an eight-to-10-digit password before you can use ICSRT to connect.
COM Port	This is the communication port on the personal computer that ICSRT uses to communicate with the Norstar system. You can select COM1 through COM9 if your computer supports them. COM1 is the default.
Connect type	Choose the way your computer connects to the RAD: Direct, Remote (default), Operator-Assisted, Auto-Attendant. The connection type used depends on where the Norstar system is located relative to the managing computer, and the type of assistance required at the Norstar to connect to the RAD. **Note:** Operator-assisted connections do not support the scheduled backup and restore operations.
Baud rate	This is the communication rate used by ICSRT to communicate with the Norstar system in an on-line session, a backup, or a restore. The default is 19200. If you are using a direct connection, the local baud rate at the RAD must match the baud rate chosen for the direct connection in ICSRT. Refer to “Modem settings” on page 26. **Note:** The restore feature requires a baud rate greater than 1200.
Dial mode	The dial mode used by ICSRT can be either pulse or tone, depending on the CO line type used by ICSRT. The default is tone.
Modem init string	Some modems require special codes to allow proper communication. Refer to “Modem settings” on page 26.
Notes	This is a scratch area. Type any information you want to add about the Norstar system.
Select Workbook	If you created a workbook, or intend to use a workbook to configure the system, assign it here. If you have not yet created the workbook, you can assign it later. The default value is **None**. **Note:** When you press the **OK** button, OlpWorksheets\System ID directory will be created under the folder where the database is located. The selected workbook will be copied to that directory. Refer to “Programming a system using a workbook” on page 90.

5 Click on **OK** to save the record.

6 The record name appears in the Customer Info screen.
In the database folder, the customer record is added to **CustomerInfo.mdb**.

Figure 19 Customer information on Customer Info screen



Editing customer records

If you need to make changes to a customer record, use the **Edit** setting. You will be allowed to change any field except the **System ID** field.

If you need to change the system ID field for a record, you would need to copy the record, but if you do this you would also lose the connection to the customer and backup files, as these are tagged by the unique System ID.

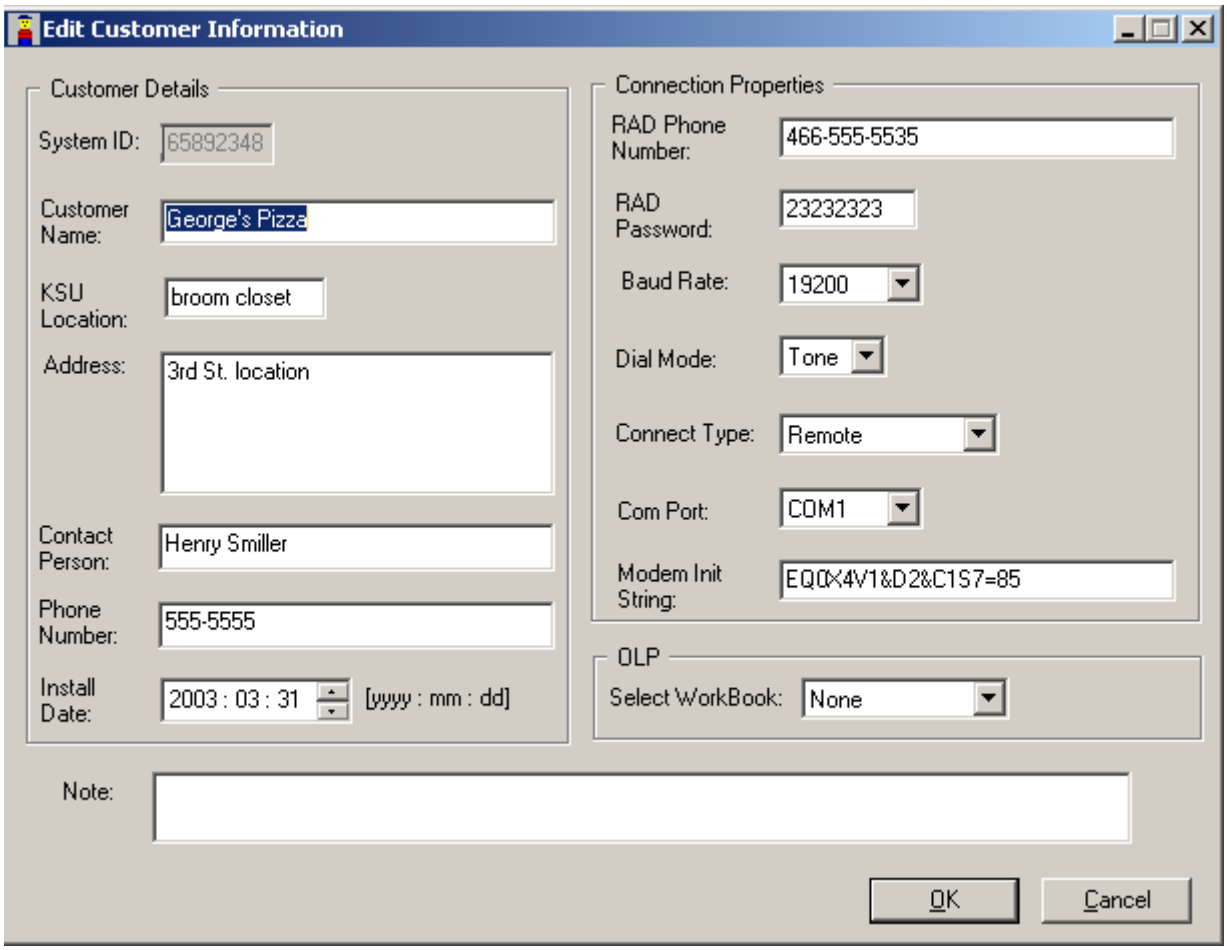
To edit customer records:

1 On the Customer Info screen, select the record you want to edit.

2 On the menu click on **Customer Details**, then select **Edit**. Refer to Figure 20.

3 Change or add the information on the Edit Customer Information screen, then click on **OK**.

Figure 20 Editing customer information

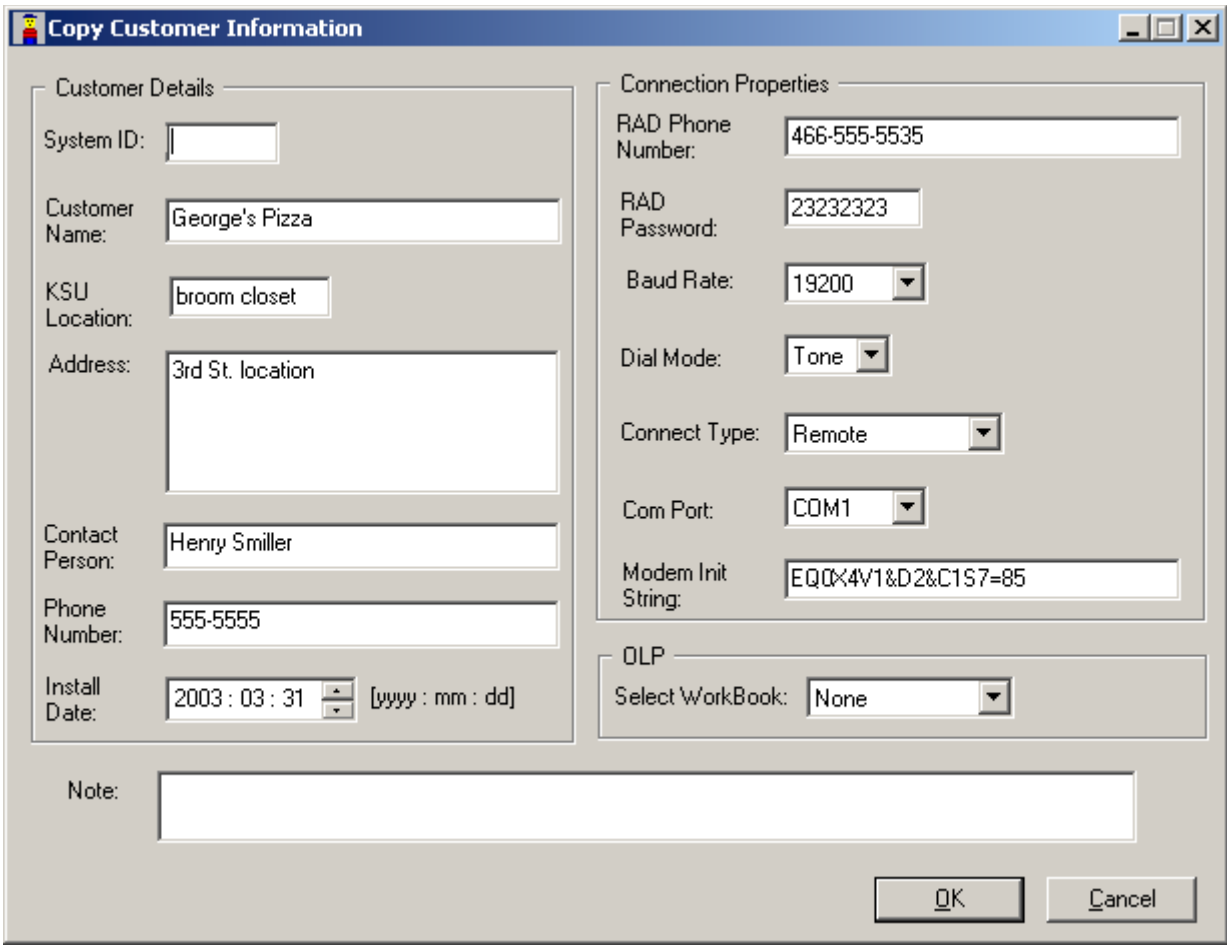


Copying customer records to create new records

You can copy a customer record to save yourself from entering repeated data. Only the information that is unique to a system, such as the System ID is not copied.

1. On the Customer Info screen, select the record you want to copy.
2. On the menu click on **Customer Details**, then select **Copy**.
   The Copy Customer Information screen appears (Figure 21).
3. Enter the unique data for the new customer record.
4. Press **OK** to save the new record and return to the Customer Info screen.

Figure 21 Copy customer information



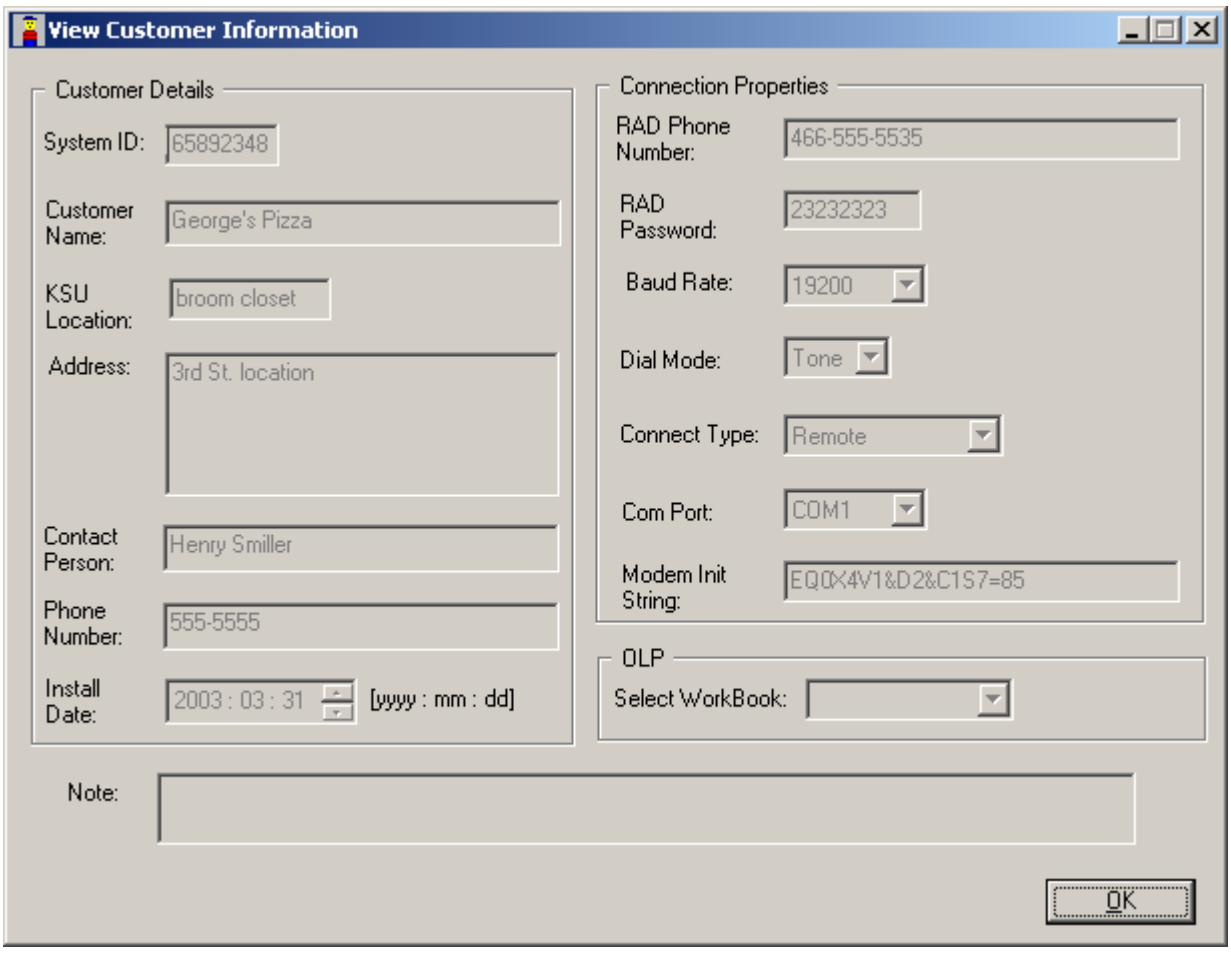
Viewing customer records

If you just need to check customer record settings, without making any changes, you can use the View setting.

To view customer records:

1. On the Customer Info screen, select the record you want to view.
2. On the menu click on **Customer Details**, then select **View,** or double click on the entry in the Customer Info screen. The View Customer Information screen displays (Figure 22). Note that all the fields in the View Customer Information screen are read-only.
3. Click **OK** to exit the screen.

Figure 22 View customer information



Deleting customer records

You may occasionally need to delete records from a database.When you do this, all access to customer information is deleted, so ensure that this is really what you want.

To delete customer records:

1 On the Customer Info screen, select the record you want to delete.

2 On the menu click on **Customer Details**, then select **Delete**.

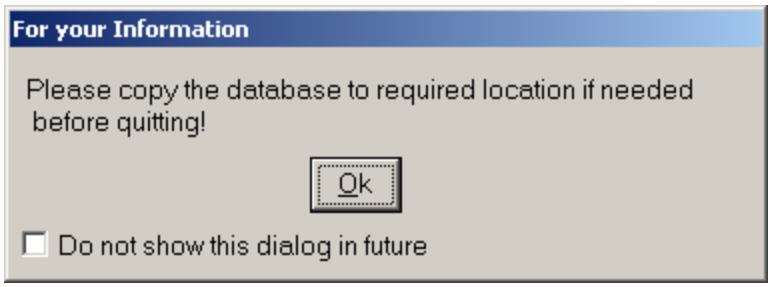
3 When the confirmation dialog appears, click on **OK** to delete the record.

Quitting the Customer Info screen

Follow these steps to log out of ICSRT.

1 Ensure that the Customer Info screen is displayed on your monitor.

2 Click the **Quit** button.
The following dialog displays:



Note: The For your Information dialog displays only if you have not checked **Do not show this dialog in future** in earlier operation(s). It will provide a prompt suggesting that you copy the database to the required location before exiting so that you will have a backup of the database.

3 Click **OK**. You will be prompted to confirm that you want to exit before closing the Customer Info dialog.



- If you need to copy the database before quitting, click the **Cancel** button, and perform the copy.
- If you do not need to copy the database before quitting, click **OK**.

Chapter 4
Connecting to a Norstar system from ICSRT

This chapter describes how to use the ICS Remote Tool (ICSRT) **Connection Properties** dialog to open a connection to a target Norstar system.

Before you attempt to open a connection, ensure that all the hardware connections are complete. The *RAD Installation Guide* describes how to install a RAD on a Norstar System.

Refer to "Explaining RAD connections" on page 16 for an overview of the different types of connections and how to use them.

Connecting to a Norstar system

There are two ways to open a connection to the RAD, both use the Connection Properties dialog:

- you can open a general connection record
- you can open a record for a specific customer.

You need to open a connection to a Norstar system to use any of the tools located under the **Run Tool** menu item, except Select Workbook. You also need to ensure that a connection is running during scheduled backups or restores. Refer to Chapter 8, "Backing up and restoring Norstar data", on page 107.

Connecting manually

If you are testing a RAD connection or for some other reason you want to manually enter the connection information, follow these steps:

1. On the Customer Info screen, select the first line (**Select this row**).
2. Click on any of the tools under **Run Tool** except Select Workbook.
   The default Connection Properties dialog appears. (Figure 23).
3. Change or enter the parameters for the connection you want to make. Refer to the following table for a description of each field.

Figure 23 Connection Properties default dialog

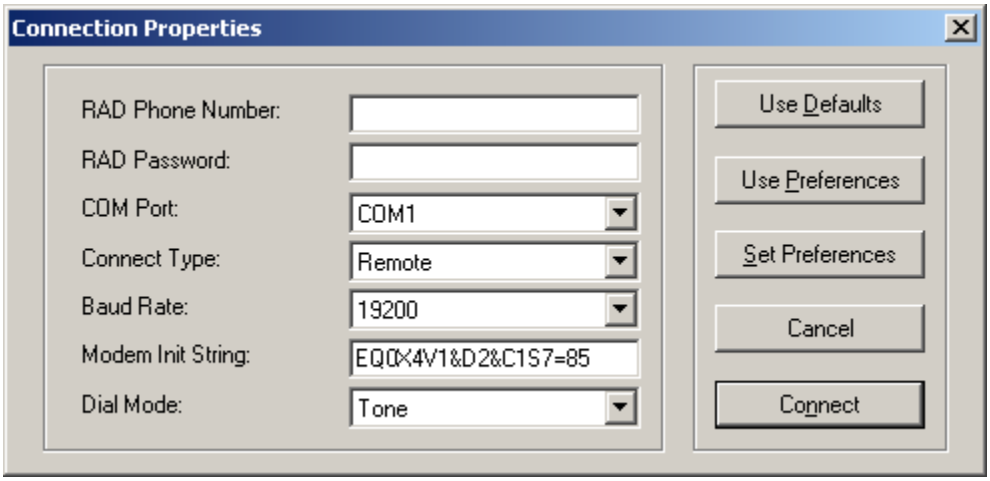


Table 2 Connection Properties fields

Field name	Values	Description
Note: All fields are required for remote and operator-assisted connections. A direct connection only requires the fields marked with as asterisk (*)		
RAD phone number	<area code><7-digit phone number>	This is the number, which will be answered by RAD at the Norstar location if you are calling into the RAD over a phone line.
***RAD password**	8-10 digits (pre-programmed)	This is the number ICSRT uses to identify itself as a valid user to the RAD. RAD modules are delivered with no assigned password. Therefore, when you install a new RAD, use the telephone interface on site to program a password from 8 to 10 digits long. A RAD must have a password before you can use ICSRT.
***COM Port**	COM1 to COM9	This is the communication port on the personal computer that ICSRT uses to communicate with the Norstar system. COM1 is the default.
***Connect type**	Direct Remote (default) Operator Assisted Auto-Attendant.	The connection type used depends on where the Norstar system is located relative to the managing computer, and the type of assistance required at the Norstar to connect to the RAD. Remote is the default. Note: Operator-assisted connections do not support the scheduled backup and restore operations.
***Baud rate**	1200 2400 4800 9600 19200	This is the communication rate used by ICSRT to communicate with the Norstar system. The default is 19200. If you are using a direct connection, the local baud rate at the RAD must match the baud rate chosen for the direct connection in ICSRT. Note that the restore process requires a minimum of 2400 baud. Refer to “Modem settings” on page 26.

Table 2 Connection Properties fields

Field name	Values	Description
Note: All fields are required for remote and operator-assisted connections. A direct connection only requires the fields marked with as asterisk (*)		
Dial mode	Tone Pulse	The dial mode used by ICSRT. The default is tone.
Modem init string	<alphanumeric characters>	Some modems require special codes to be sent to them before they are ready to communicate. Use this field to enter any special codes that ICSRT must send to your computer modem before it is ready to communicate with the RAD. Refer to "Modem settings" on page 26.

4 Click on **Connect**.
If you are connecting using one of the methods requiring attendant assistance, you need to first contact the system using the telephone attached to the modem. Refer to "Connecting to a Norstar system attendant" on page 18 for details.

5 Refer to Chapter 5, "Understanding the Remote Set tool", on page 55, Chapter 6, "Understanding the Browser tool", on page 63, or Chapter 8, "Backing up and restoring Norstar data", on page 107 for descriptions of the tools that are active once the connection occurs.

Tips: Connection Properties screen button functions

Use Defaults: Returns the screen to default settings.

Use Preferences: Overwrites Connection Properties fields with information entered using Set Preference button.

Set Preference: Change the default connection properties by entering the changes, and then clicking on this button. These values now become the default values when you open the Connection Properties dialog to connect manually.

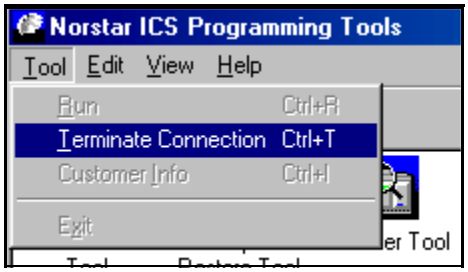
Cancel: Closes the dialog box without attempting to connect.

Connect: Initiates a connection with the Norstar system.

6 When you complete the required activity, exit the connection to the Norstar system:

a On your desktop, click on the **Norstar ICS Programming Tools** screen, which sits behind the Customer Info screen.

b On the top menu of this screen, click on **Tool**, and select **Terminate Connection**.



Connecting through a customer record

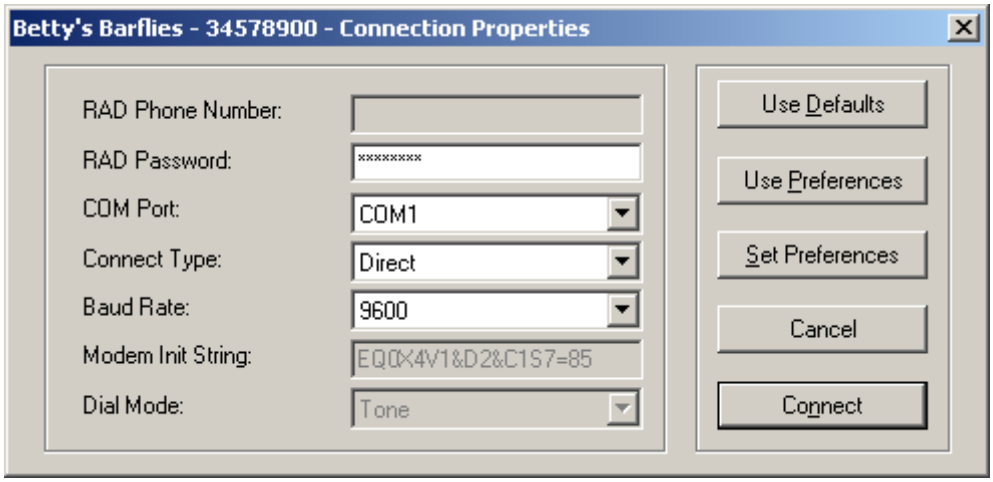
You specify connection parameters when you set up the customer record ("Creating a customer record" on page 42). Consequently, when you open a tool when a customer record is selected on the Customer Info screen, the connection parameters will mirror what was entered in the Customer record.

To connect to a Norstar system through a customer record:

1 On the Customer Info screen, select the customer record for the Norstar system to which you want to connect.

2 On the menu, click on **Run Tool**, then select any tool except Select Workbook.
The Connection Properties dialog appears with the customer connection information filled in. Information that is not required is greyed out.

Figure 24 Connection Properties screen



3 Click on **Connect**.
If you are connecting using one of the methods requiring assistance at the Norstar end, you need to first contact the system using the telephone attached to the modem. Refer to "Connecting to a Norstar system attendant" on page 18 for details.

4 Refer to Chapter 5, "Understanding the Remote Set tool", on page 55, Chapter 6, "Understanding the Browser tool", on page 63, or Chapter 8, "Backing up and restoring Norstar data", on page 107 for descriptions of the tools that appear once the connection occurs.

5 When you complete the required activity, exit the connection to the Norstar system:

a On your desktop, click on the Norstar ICS Programming Tools screen, which sits behind the Customer Info screen.

b On the top menu of this screen, click on **Tool**, and select **Terminate Connection**.



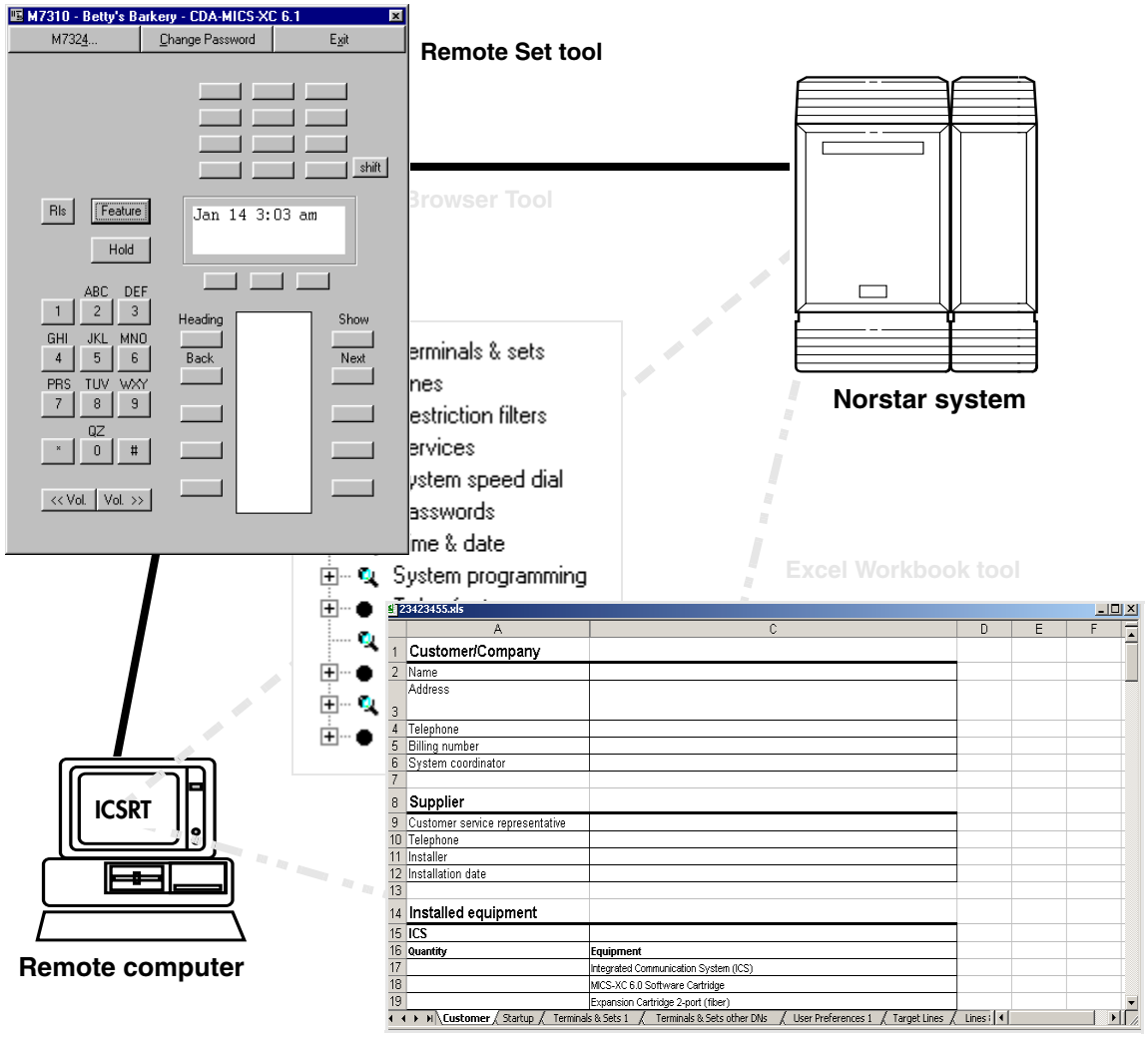
Chapter 5
Understanding the Remote Set tool

This chapter describes the Remote Set tool, which is located under the ICS Remote Tools (ICSRT) **Run Tool** heading. This tool allows you to use a computer-based depiction of a Norstar M7310 or M7324 telephone to program system data.

The information in this chapter includes:

- "Explaining the Remote Set tool" on page 56
- "Accessing the Remote Set tool" on page 57
- "F1 keyboard mapping list" on page 60

Figure 25 ICSRT Remote Set tool



Explaining the Remote Set tool

Using the Remote Set tool allows you to read and modify the system data of the Norstar system to which you are connected. When your computer has an online connection with the Norstar system, any programming changes you make are either immediate, or take effect when you end the programming session.

The Remote Set tool can be used to program any Norstar system running version 2.0 or newer software.

You can use the Remote Set tool to:

- create and change programming of a Norstar system using the two simulated telephone types
- copy DNs (directory numbers) and lines within a system
- remotely administer an external remote access device (RAD) on MICS systems or an internal remote access device (I-RAD) on CICS systems
- deal with direct queries of device status
- access Feature **DEBUG sessions
- provide access to and remotely program Voice Mail features, except those requiring voice capability
- remotely program Station Message Detail Recording (SMDR), Door Phone and other peripherals that use the telephone for programming

Accessing the Remote Set tool

To access the Remote Set tool:

1 Open ICSRT.

2 If you are not in the correct database, find the database where the correct customer is located. Refer to "Moving between databases" on page 38 for details.

3 Select the customer you want to connect to.

4 Click on **Run Tool**, and select **Remote Set**.
The connect screen appears, with the connect information for that system.

5 Click on **Connect**.
After your computer connects to the Norstar System, one of the following screens appear:

Figure 26 M7310 Remote set screen display

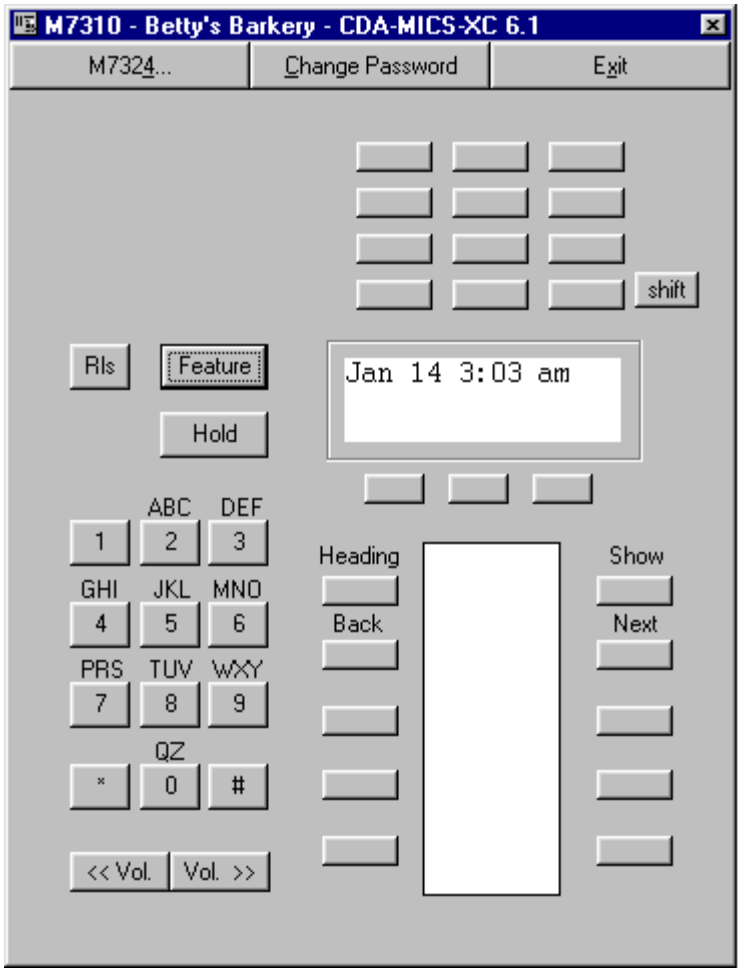
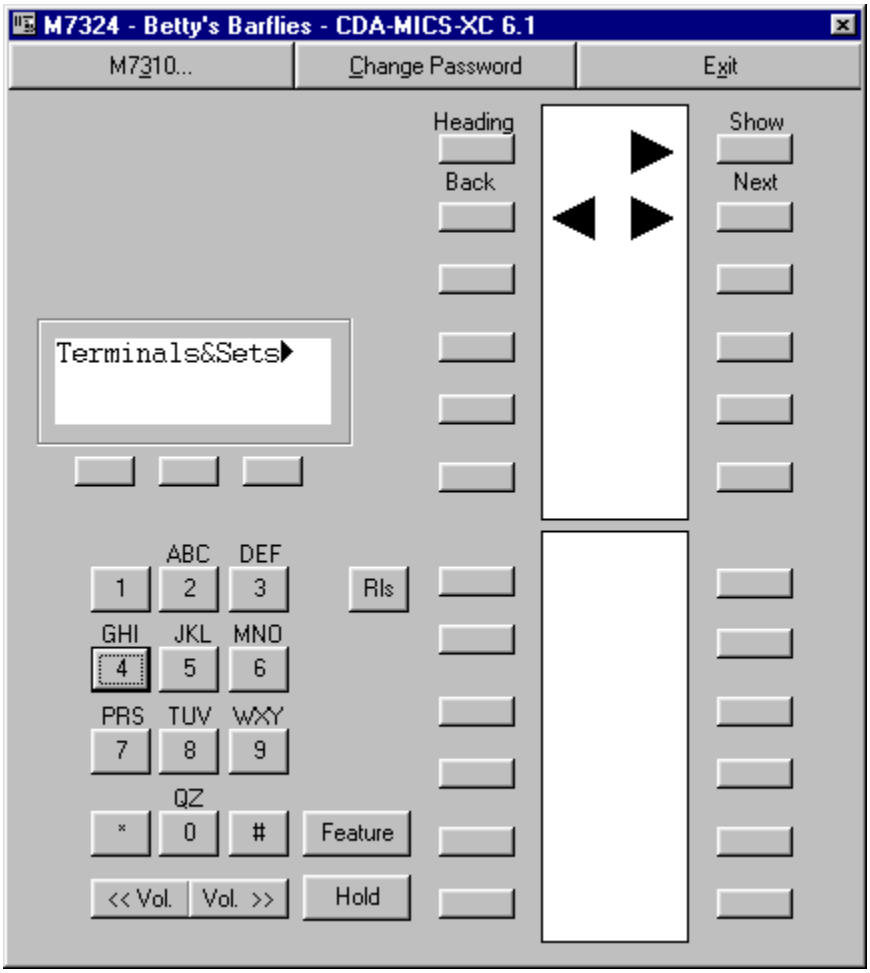


Figure 27 M7324 Remote set screen display



6 Use this interface in the same way that you would use a programming telephone on-site. The buttons on the screen correspond with the type of telephone listed in the title bar.
Note: Instead of a programming template, the screens show the **Heading**, **Back**, **Show** and **Next** labels above the button to which they refer. Once you enter programming, the indicators for the four headings appear, as shown in the figure above.

Refer to your *MICS* or *CICS Installer Guides* and *MICS* or *CICS Coordinator Guides* for detailed set configuration instructions.

7 When you complete the required activity, ensure that you exit the connection to the Norstar system:

a On your desktop, click on the Norstar ICS Programming Tools screen, which sits behind the Customer Info screen.

b On the top menu of this screen, click on **Tool**, and select **Terminate Connection**.



Remote Set tool command buttons

You can perform the following functions with the three buttons found at the top of the Remote Set tools screen.

Table 3 Remote Set tool command buttons

Button label	Description of function
M7310 or M7324	To change the screen from one telephone simulation to another, click the **M7310/M7324** button that appears at the top, left of the Remote Set screen. The button displays the telephone model that is not currently displayed.
Change Password	You can use the Remote Set screen to change the password for the RAD you are connected to. **WARNING:** Make a note of the password in a secure location. If you lose the password, the RAD cannot be reactivated.
Exit	Use to close the window and return to the Customer Info screen.

Using the keyboard

When you program the ICS using the simulated telephone, you can use the computer keyboard to enter information. Keyboard entry is usually faster than using the mouse to click the simulated telephone buttons in the window, and is more like using a real telephone.

Pressing F1 on the keyboard displays a list of the keyboard entry mappings, which are listed in the following table.

Following are some of the rules around using the keyboard when the Remote Set tool is active. Refer to Figure 28.

- All letters, all numbers including those on the numeric keypad on your computer, some or all function buttons, and the symbols * and # are recognized and translated to the equivalent button presses on the simulated telephone appearing in the window after you enter the programming session.
- Keyboard entry keys are not case-sensitive. No distinction is made between upper and lower case.
- The keyboard F keys are mapped to program sequences or keys that do not have a direct keyboard equivalent. For instance, pressing F7, which is the equivalent of Feature **266344 (CONFIG) starts the configuration programming. F6, which is the equivalent of the Release key, exists the programming session.
- When entering telephone and line names, letter buttons on the keyboard are interpreted as numbers. On the telephone keypad, notice that the 2 button, for example, lists the letters A, B, and C above it, and that all the number buttons except 0 have letters listed above them. Pressing A on the keyboard is interpreted as a 2. Pressing B is interpreted as two 2s. Pressing C is interpreted as three 2s, and so on.
- Use number buttons for entering sequences such as **266344 (CONFIG).

- When doing tasks such as name administration, advance or back up the cursor by pressing a softkey after pressing each letter. (Softkeys are located directly below the display screen in the telephone simulation window. They are also called display buttons.) After you press a letter, you will see an arrow symbol on the telephone display. This is your prompt to press the softkey located beneath the arrow.
  For example: To enter Ann, you press A, softkey, N, softkey, N, and softkey. If you make a mistake, press the softkey to go backward. This highlights the incorrect letter. Now you can press the backspace softkey to delete the letter, or you can type over it. Then press the softkey to go forward to reposition the cursor. Moving the cursor backward or forward by using softkey in this way was designed to simulate an actual telephone.
- You can use the <**TAB**> key to navigate through a window.
  For example, to enter Feature*3 you would press:

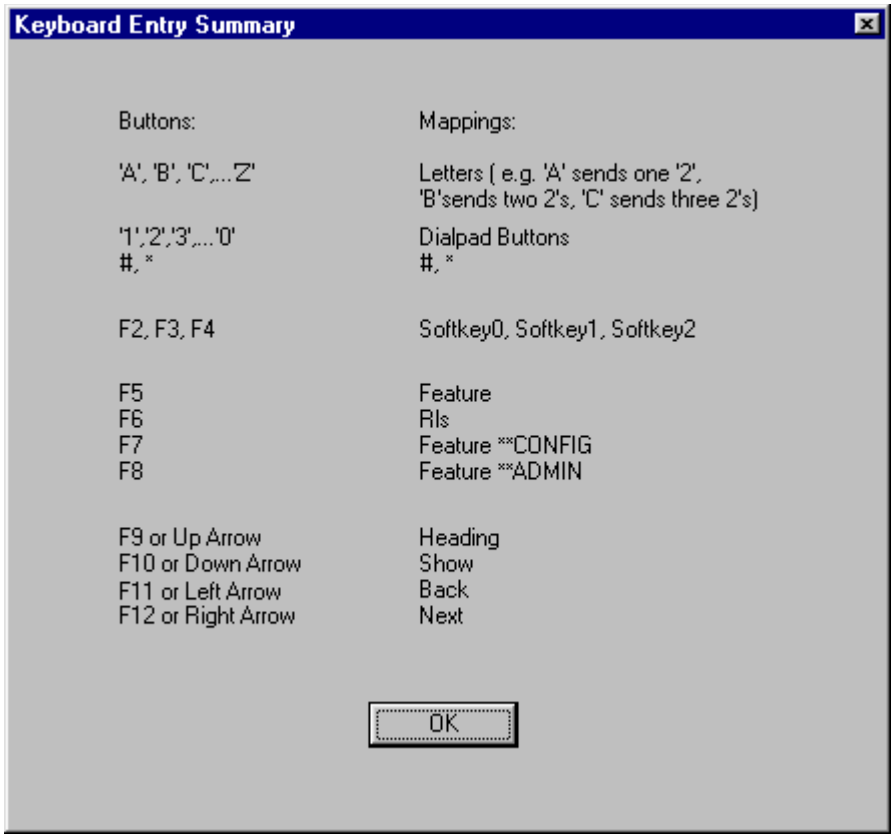
  1 TAB until Feature is highlighted and then press ENTER.

  2 TAB until * is highlighted and then press ENTER.

  3 TAB until 3 is highlighted and then press ENTER.

Note: You can also use directional arrows to navigate through a window.

Figure 28 F1 keyboard mapping list



Remote Set tool restrictions

When a connection is made to the ICS, the Remote Set tool window simulates a telephone attached to the system (but does not have all the telephone capabilities of an actual telephone). With this in mind, it is important to note the following:

- Do not disable the port/extension or the B2 channel for either the RAD or the RAD line. The only method of recovery is to enable the port/extension B2 channel locally with a telephone.
- Do not make calls with a simulated telephone using the RAD because there is no voice channel. In addition, you cannot do any voice mail programming that requires voice recording.
- Use caution when clicking button representations in the window because doing so affects system operation. For example, clicking a line button answers the line if it is ringing or occupies the line if it is idle. Clicking the **Call Forward** button allows the telephone to forward the call when ringing lines appear.
- Telephone simulations do not simulate tones, ringing or display brightness. They are unable to generate long tones using FEATURE LINK 0 LINK. Although you can enter this code using the Remote Set tool, the tone will sound only for the duration of one mouse click.
- When entering data using a mouse, the display updates may take a fraction of a second. You should click slowly with the mouse and check that the number or letter is updated before clicking the next number or letter on the set. This delay does not occur when you use the keyboard to enter information.

Chapter 6
Understanding the Browser tool

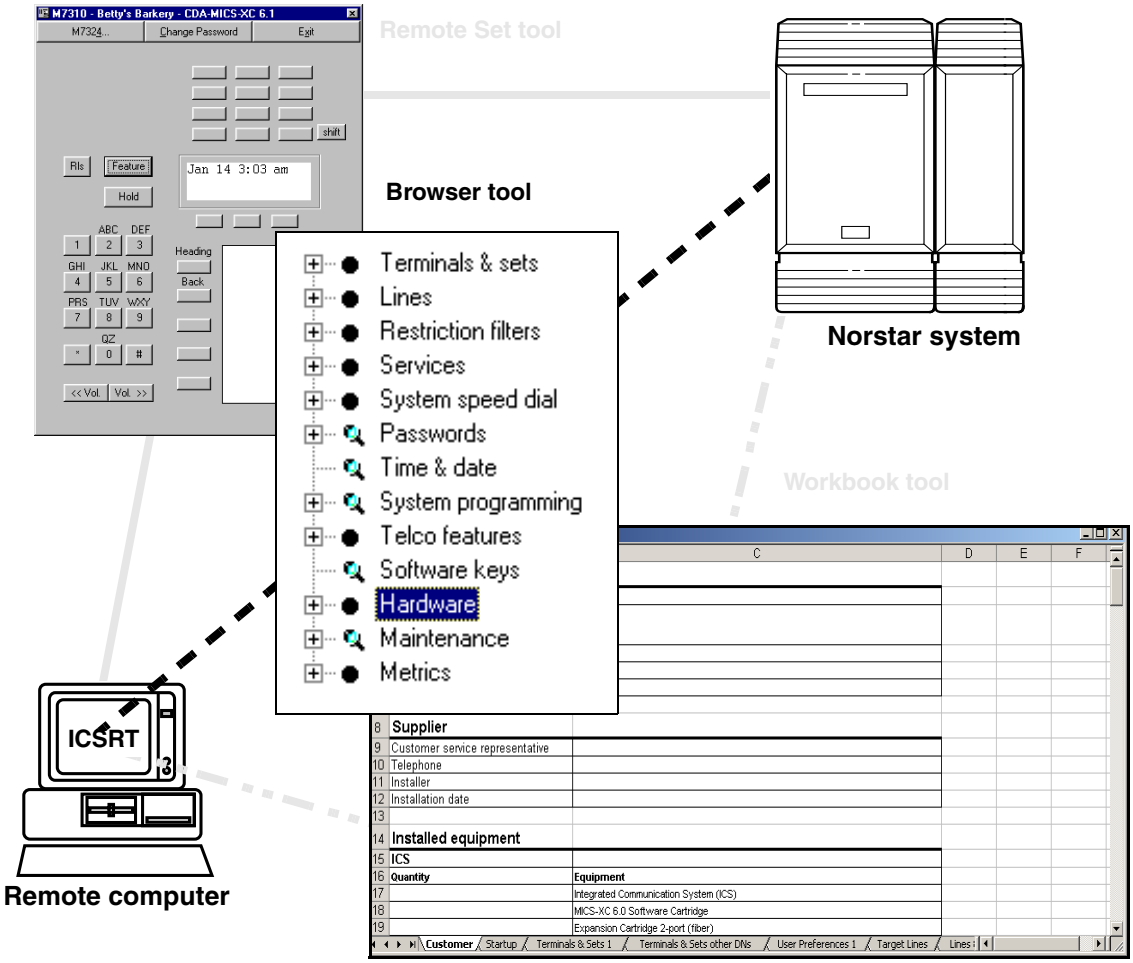
This chapter describes the Browser tool, which provides a Windows-type of screen and navigation system for system programming.

The **Browser** tool is located under the ICS Remote Tools (ICSRT) **Run Tool** heading.

The information in this chapter includes:

- "Understanding the Browser tool" on page 64
- "Accessing the Browser tool" on page 65
- "Understanding the Browser window" on page 66
- "Examining the Browser navigation tree menu" on page 72
- "Troubleshooting the Browser window" on page 75

Figure 29 ICSRT Browser tool



Understanding the Browser tool

Like the Remote Set tool, the Browser tool allows you to see programming and make changes to the Norstar system programming using an online connection. Instead of simulating the telephone display, the Browser tool shows multiple levels in a programming tree, which appears in a Windows type of frame on your computer.

You can use the Browser tool to:

- show and hide headings, subheadings and settings by expanding and collapsing the levels of the Tree List
- select a heading to see additional settings displayed in the right frame of the window
- change settings by selecting options and entering information in the window
- change settings by adding or removing items from lists (for example, adding or removing line assignments)
- use a dialog box to copy settings
- see your programming updates take effect by refreshing the navigation tree

Changes made with the Browser tool become part of current Norstar system programming as soon as you

- press **<ENTER>**
- click an item in the window other than the setting you just changed (it is no longer selected)
- click an item from a list of options



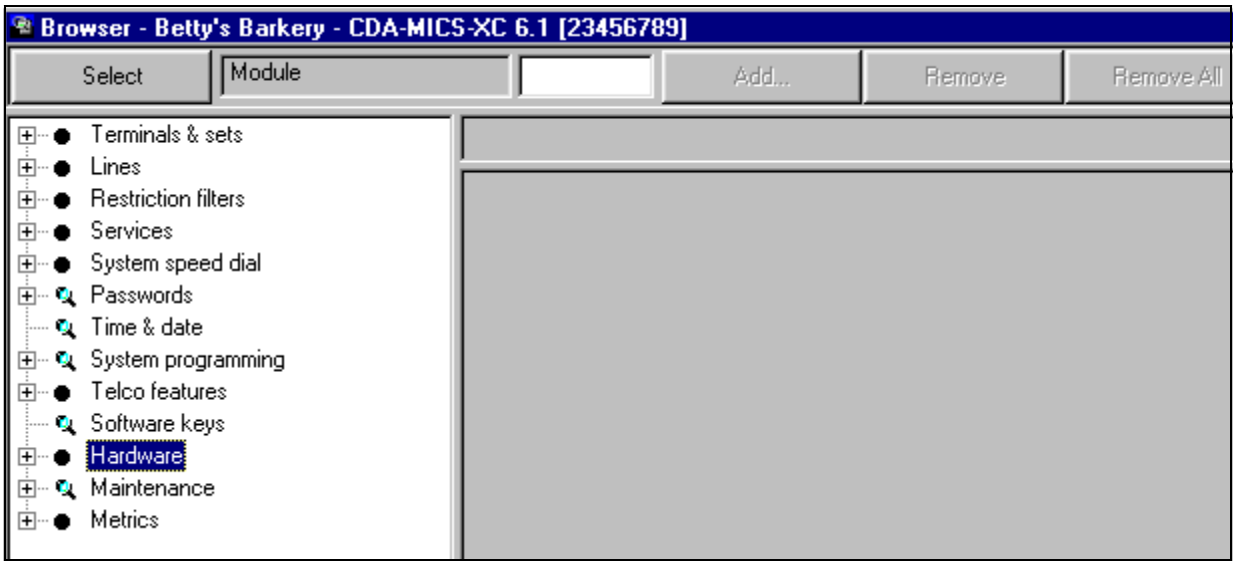
Important: Programming changes are immediate and cannot be undone. If you make a mistake when programming, reenter the original programming.

Accessing the Browser tool

To access the Browser tool to add or change programming for a Norstar system:

1. Open ICSRT.
2. If you are not in the correct database, find the database where the correct customer is located. Refer to "Moving between databases" on page 38 for details.
3. Select the listing for the customer to which you want to connect.
4. Click on **Run Tool**, and select **Browser**.
   The connect screen appears, with the connect information for that system.
5. Click on **Connect**.
   After your computer connects to the Norstar System, the following screen appears.

Figure 30 Browser main screen

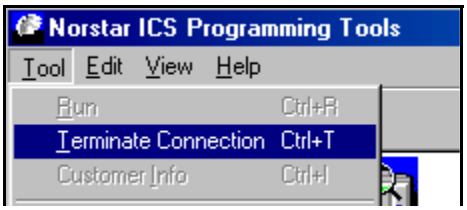


Refer to "Understanding the Browser window" on page 66 if you need detailed information about using the window.

6. Navigate to the section where you need to add information or make changes.
   The navigation menu mirrors the set menus, with some minor exceptions.
   Refer to "Comparing the Browser tool with set-based programming" on page 72 for a list of some of the more obvious differences between the Browser and set programming.

   Refer to the *MICS/CICS Installer Guides* for detailed configuration information.
7. When you complete the required activity, ensure that you exit the connection to the Norstar system:
   a. On your desktop, click on the Norstar ICS Programming Tools screen, which sits behind the Customer Info screen.

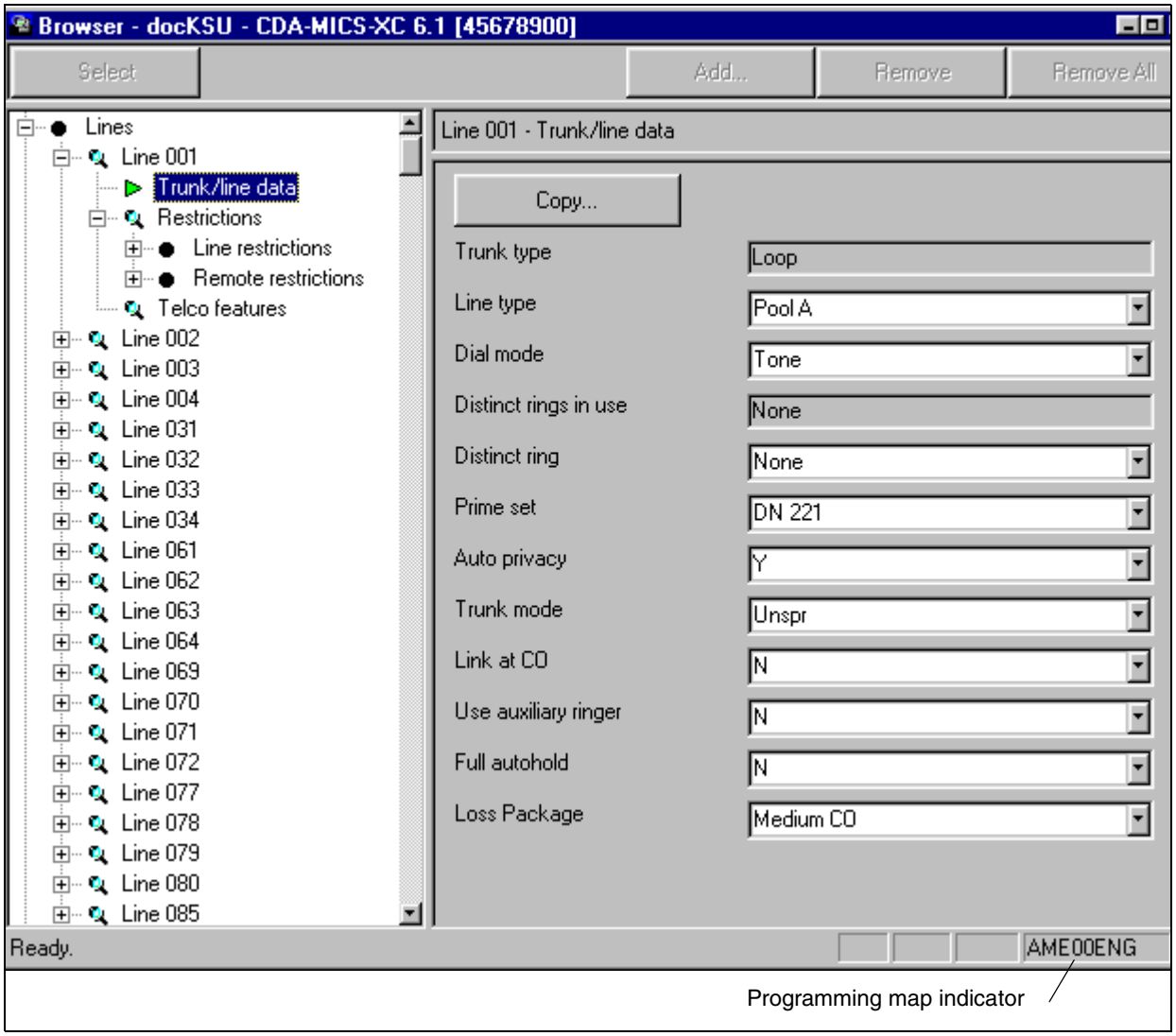
b On the top menu of this screen, click on **Tool**, and select **Terminate Connection**.



Understanding the Browser window

The window for the Browser tool is split into two side-by-side frames (panes). The navigation tree is in the left pane. As well, some of the headings on the navigation tree have additional settings that appear in the right pane when the heading is selected. Refer to Figure 31.

Figure 31 Expanded Line menu and data in right pane



Note that the information box on the bottom, right corner of the screen indicates which programming Map is being used by the Browser.

Note: Press CTRL+TAB to move clockwise through the window (left pane, toolbar, right pane), and CTRL+SHIFT+TAB to move counter-clockwise.

Moving through the navigation tree

The navigation tree consists of the programming headings and subheadings for the Norstar system to which you connected, as determined by the map file associated with the system. A subheading can also include a list of items of the same type. For example, the list of settings under **Line Assignment** is made up of lines that are assigned to a telephone, where each line is identified by a number. When **Line Assignment** is expanded, the list of lines appears on the tree.

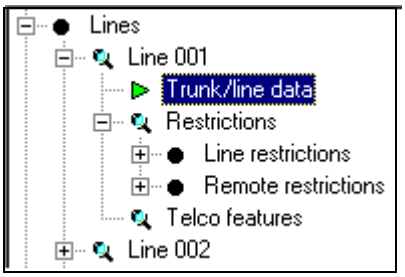
Click on a heading or setting in the programming tree to select it, or use the up-pointing and down-pointing arrows on your keyboard until you select the item. When you click a heading or setting, the item is highlighted. You can also move through the tree by pressing a letter on the keyboard. When you press a letter, the next item in the tree that begins with that letter is selected.

To open a heading, either use the mouse to double-click on the selected heading or use the right-pointing arrow on the keyboard. Each press of the right arrow opens a deeper layer of the navigation tree. Use the left-pointing arrow on the keyboard to move up a level.

Navigation tree icons

The navigation tree displays four types of icons, as shown in the figure below. Each icon indicates the current display state of that heading on the navigation tree.

Figure 32 Expanded Line menu and data in right pane



The following table describes the navigation tree icons.

Table 4 Navigation tree icons

Icon	What it does	Alternate access
⊞	Click to expand a heading to reveal subheadings. **Note:** If the Norstar system you are working with does not have anything currently programmed under this heading, the icon disappears when you click the heading. (For example, if you have no personal speed dial codes programmed).	Select heading and press right-pointing arrow on the keyboard
⊟	Collapse menu under heading.	Select heading and press left-pointing arrow on the keyboard
▶	Heading is expanded.	
●	No right-pane subheadings.	
🔍	If you click on the heading, additional fields appear in the right pane. **Note:** If the Norstar system you are working with does not have any additional headings, the icon disappears when you click the heading.	Double click heading or press <**Enter**> on the keyboard.

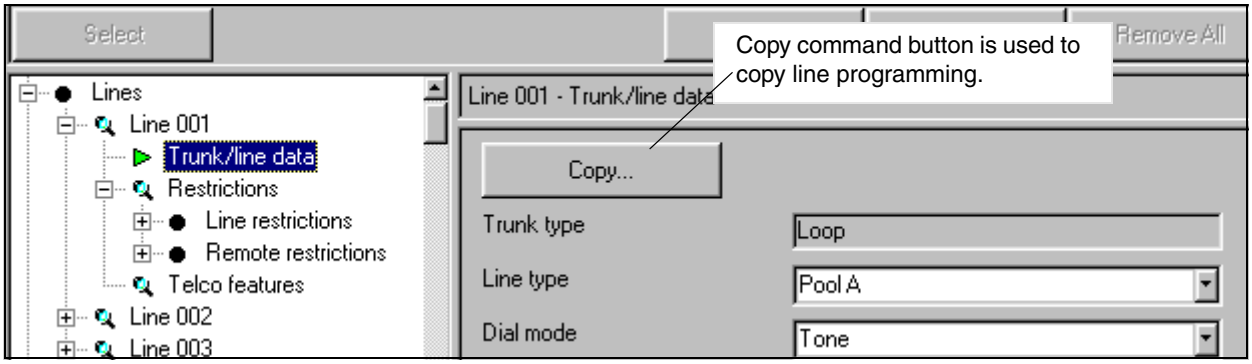
You cannot partially collapse a list. To change a fully expanded list to a partially expanded one, collapse the heading or subheading and expand the items you wish to see. You can also partially expand a heading or subheading by adding a setting to a list.

Using command buttons in the right pane

Operations such as copying telephone and line records, or performing a reevaluation, are performed using the command buttons that show up in the right pane with the additional settings.

If the button label is followed by ellipses (**…**), as in the Copy button shown in Figure 33, a dialog box will appear when you click it.
If the button has no following ellipses (**…**), the operation is immediately performed at the Norstar system.

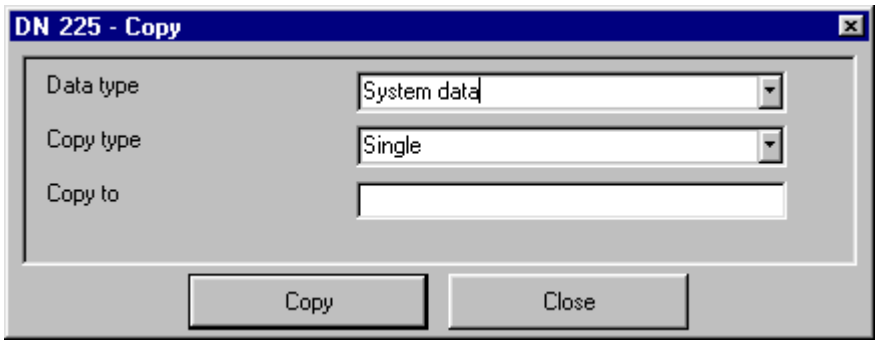
Figure 33 Copy button with dialog box cue



The dialog boxes for operations work differently depending on whether the operation is usually performed once or repeated several times.

- If the dialog box has **OK** and **Cancel** buttons, it performs an operation once.
- If the dialog has **Close** and a command button, such as **Copy**, the operation can be repeated. Click **Close** to exit the dialog box. Refer to Figure 34.

Figure 34 Copy dialog box for DNs



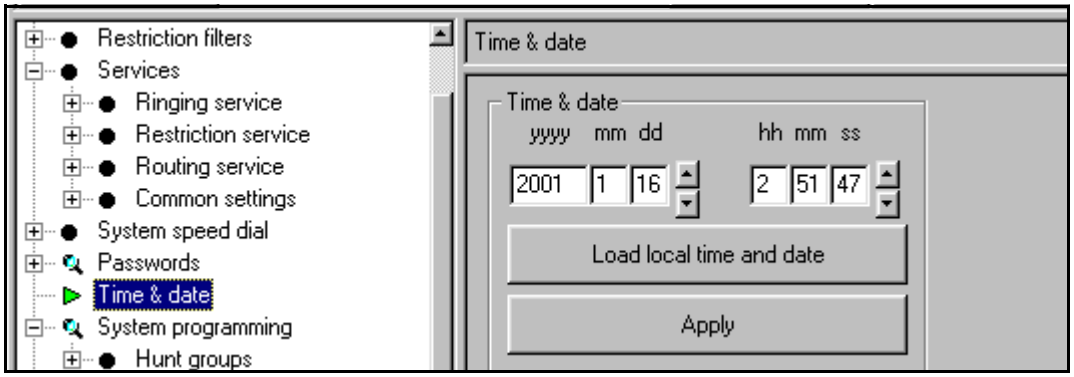
When you are working with either type of dialog box, you know that the Browser has gone ahead with an action because a status message appears, or because the dialog box disappears after you click **OK**.

Programming the time and date

The values for the time and date appear in boxes in the right pane when you double click the **Time & date** heading. The boxes only accept valid key presses. Time is shown in a 24-hour format. You do not need to choose a.m. or p.m.

If the **Apply** button is active, click it to change the time and date to the values you have entered. When the **Apply** button is not available, the new time and date take effect at the ICS when you move away from the time and date settings by clicking somewhere else in the window.

Figure 35 Time & date dialog box



To change the time and date, do one of the following:

- Select the number for the year, month, day, hour, minute, or seconds, then type a new value, then press **Apply**.

or

- Select the number for the year, month, day, hour, minute, or seconds and adjust the value up or down using the pair of arrows to the right of the box, then press **Apply**.

or

- Click **Load local time and date**. The system enters the time and date from the computer clock into the boxes. The time and date at the ICS are not changed until you click **Apply**.

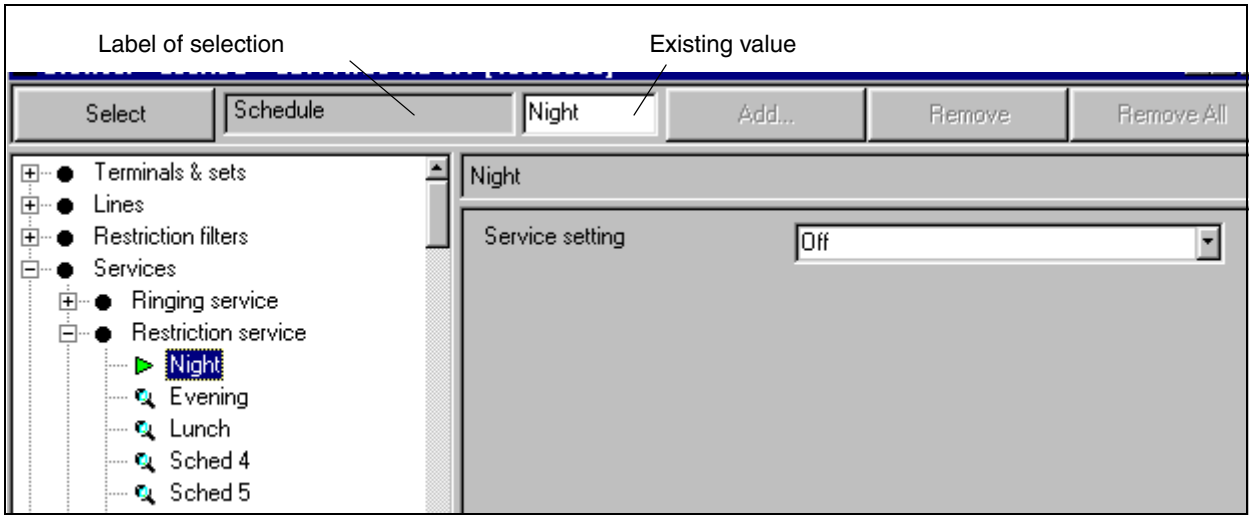
Using the task bar

The buttons and fields that create the task bar across the top of the Browser window become active when headings that allow you to choose or add more than one similar item are selected, such as **Terminals & Sets**, **Lines**, and **Services**.

The label displayed in the first field on this task bar will change to match the kind of settings found under the heading. For example, in the figure shown in Figure 36, if you open **Services** and **Restriction service**, then click on **Night**, the label will read **Schedule**.

The value of the selection, in this case, *Night*, displays in the field to the right of the label name.

Figure 36 Changing position using the top bar



You can enter other values in the value field to move to other items in the list.

When you enter a different value, click the **Select** button, or press **<Enter>** on the keyboard. The navigation tree switches to the selected item. For example: If you enter *Lunch* in the value field of the screen shown in Figure 36, then click on **Select**, the Restriction service called **Lunch** is highlighted, and an arrow icon appears beside the heading.

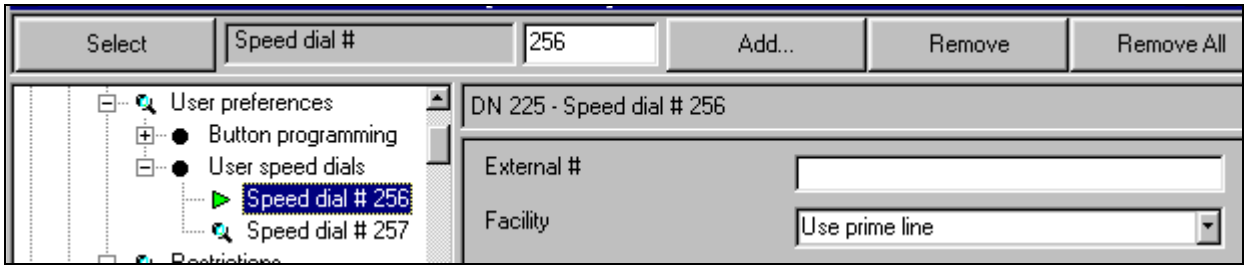
If the value box is blank, it means no value has been given for the item. For instance, if you had only selected **Restriction service** in the case shown in Figure 36, the label box would read **Schedule**, but the value box would be blank.

Using the task bar buttons

The top bar also allows you to add, remove, or remove the entire list of items under headings that have a variable list of similar items.

- In the example in Figure 37, where **Speed dial #256** is selected, you could click on the **Remove** button to erase that entry. There is no confirmation for this action, the entry is immediately removed.
- If you click on the **Remove all** button, Speed dial #257 would also be removed. There is a confirmation for this button. If you are sure you want to erase all entries under the heading where the selection is highlighted, click on **OK** on the confirmation dialog box to immediately delete all entries.
- If you enter a new value in the value field, such as **258**, and click on the **Add** button, the listing **Speed dial #258** would appear under **User speed dials** on the navigation tree. You then would be able to edit the **External #** and **Facility** fields for that speed dial.

Figure 37 Setting speed dials using the label field



Viewing recent programming changes

Programming changes you make using the Browser tool take effect immediately at the Norstar system, but may not appear automatically in the navigation tree. Collapse and re-expand the headings to refresh the navigation tree entries and to view your programming changes.

If you try to open an item which is no longer valid because of changes to programming, an error message appears. For example, an error message will appear if you try to open a line assignment which has recently been made private to another telephone. In most cases, invalid headings and settings disappear once the Browser tool has confirmed that they cannot be expanded or opened.

Examining the Browser navigation tree menu

The Browser navigation tree is based on the layout of set programming. However, not all fields can be programmed, and these do not appear on the navigation tree. Also, some fields may be in a slightly different location than found in set programming.

This section describes some of the differences between the Browser tool and set-based programming, and an expanded navigation tree table displays the available headings for a MICS 6.1 system. These headings vary depending on the system map that the Browser uses for the system it connects to.

Comparing the Browser tool with set-based programming

Because it uses the large screen found on computers and a full keyboard, some programming with the Browser tool works differently than programming with a two-line display telephone.

- Some headings appear in different places when they appear in the navigation tree. Refer to "Examining the Browser navigation tree menu" on page 72.
  For example, the Browser tool shows Restriction filters at the top level of programming. Restriction filters are shown under individual sets and lines in the set-based programming, so you can move from a set or line to restrictions by pressing the buttons fewer times. When you work in the navigation tree, you can move from an individual set or line back to the restrictions with one click, and program restrictions without looking at an individual set or line. The alternate arrangement of headings, subheadings, and settings may vary depending on the Norstar system you are accessing.
- You can use the keyboard to choose options for settings.
  You can type in names, add a numbered setting to a list of settings of the same type, or choose a value (for example, the number of rings before a call is forwarded). In addition, the Browser tool recognizes shortened forms of a number: you can enter 3 instead of 003 for a three-digit line number.
- Some options are changed simply by adding and removing items from the navigation tree. For example, if you want to assign a Line to a set, add the line to the list under Line Assignment, then open the setting and choose appear and ring options. However, to choose the Unassigned option, you remove the line from the list.
- The words used for the navigation tree and settings are spelled out completely in the Browser window. For example, System programming appears instead of System prgrming as found in set programming.
- Not all the information and settings which are available during a programming session using a Norstar telephone set can be seen with the Browser tool. For example, Maintenance items such as the system test log, system administration log, and the network event log do not appear in the Browser window. Use the Remote Set Tool to access these parts of system administration. Even though the information may appear differently in the Browser tool, the programming itself is limited to what exists for the Norstar system. The Browser tool offers only the programming which is available during a programming session using a Norstar telephone attached to the Norstar system.

Expanded navigation tree

The following table provides an overview of the navigation tree menu in the Browser tool. Which headings appear on the Browser navigation tree depend on the map being used by ICSRT, which is determined by system software version and vintage of the Norstar system.

The headings in bold/blue indicate settings that are found in a different location in the Browser from where they are in set programming.

Terminals & sets

- DN: XXX
  - Line access
  - Prime line
  - Intercom Keys
  - OLI #
  - OLI as called #
    - Line assignment
      - Line XXX
    - Line pool access
      - Pool A-0, PRI
    - Answer DNs
      - Answer DN XXX
  - Capabilities
    - DND on busy
    - Handsfree
    - HF answerback
    - Pickup group
    - Page zone
    - Paging
    - Direct dial
    - Priority call
    - Aux ringer
    - Allow redirect
    - Redirect ring
    - OLI as called number
    - SM Supervisor
    - Intrusion
    - **Call forward**
      - Fwd no answer
      - Forward delay
      - Fwd on busy
    - Hotline
    - **ATA settings**
      - **ATA answer timer**
      - **ATA use**
      - **Message Indicator**
      - **ATA dvc**
  - Name
  - User Preferences
    - MDL
    - Call Log options
    - Dialing options
    - Language
    - Contrast
    - Distinct rings in use
    - Ring type
    - **Button Programming**
      - Button #
        - Type
        - Value
    - **User Speed Dials**
      - Speed dial #256-279
  - Restrictions
    - Set Restrictions
      - set lock
      - allow last #
      - allow saved #
      - allow link
        - Schedules

Terminals&sets ....

- Restrictions ....
  - Line/set restrictions
    - Line XXX
      - Normal
      - Sched. 1-6
  - Telco features
    - Feature Assignment
      - first display
      - log space
        - Line XXX
          - (Caller ID set
          - Vmsg set)

Lines

- Line #
  - Trunk/line data
    - Trunk type
    - Line type
    - Dial mode
    - Distinct rings in use
    - Distinct ring
    - Auto privacy
    - Trunk mode
    - Link at CO
    - Use auxiliary ringer
    - Full autohold
    - Loss Package
    - Prime set
    - Answer mode
    - Answer with DISA
    - Signal
    - ANI Number
    - DNIS number
    - Gain
  - Restrictions
    - Line restrictions
      - Normal-Sched 6
    - Remote restrictions
      - Normal-Sched 6
  - Telco Features
    - VMsg center

Restriction filters

- **Filter #**
  - **Restrictions**
    - **Restriction #**
      - **Overrides**

Services

- Ringing Service
  - Ring groups
    - Ring group 001- XXX
      - Sets
- Restriction service
  - Night-Sched. 6
    - Service setting

Services ...

- Routing service
  - Routes
    - Route XXX
      - Dialout
      - Use Pool
      - Srvc Type
  - Destination codes
    - Destination code XXX
      - Sched Normal
        - Route/absorb length
      - Sched 1-6
        - 1st route/absorb length
        - 2nd route/absorb length
        - 3rd route/absorb length
  - Schedules
    - Night-Sched 6
      - Service
      - Overflow
- Common settings
  - Control sets
    - For lines
      - Line 001-XXX
    - For sets
      - DN XXX-XXX
  - Schedule names
    - Schedule 1-6
  - Schedule times
    - Monday-Sunday
      - Start time
      - Stop time

System speed dial

- Display digits/Name
- Bypass restrictions
  - Speed dial # 001-255
    - External #
    - Facility

Passwords

- **SM Password**
- COS passwords
  - COS 00-99
    - Password
    - User filter
    - Line filter
    - Remote package
- Call log passwords
  - DN XXX-XXX
    - Password
- Programming passwords
  - Installer
  - System coord. plus
  - System coordinator
  - Basic
- Registration password
- Hospitality password
  - Desk password
  - Room condition password

- Time & date
  - yyyy/mm/dd/hh/mm/ss
- System programming
  - Business Name
  - SM sets
    - Hunt groups
      - Mode
      - Hunt delay
      - If busy
      - Time out
      - Overflow
      - Name
      - Aux ringer
      - Distinct ring
        - Hunt group 01-XX
          - Members
            - Member 001-XXX
              - DN
              - Appearance type
          - Line assignment
            - Line XXX
    - Feature settings
      - Background music
      - On hold
      - Receiver volume
      - Camp timeout
      - Park timeout
      - Park mode
      - Transfer callback timeout
      - DRT to prime
      - DRT delay
      - Held line reminder
      - Directed pickup
      - Page tone
      - Page timeout
      - Daylight savings time
      - Auto time and date
      - Host delay
      - Remind delay
      - Link time
      - Alarm set
      - Set relocation
      - Msg. reply enh
      - Answer key
      - Silent Monitor
      - CLID match
      - **SWCA controls**
      - Call log space
    - Direct dial
      - Set 1-5
    - CAP/KIM assignment
      - CAP/KIM 1-5
        - CAP/KIM set
    - Dialing Plan
      - Private network
        - Type
        - Private DN length
        - Type
        - Private Network ID
        - Private DN length
        - LOC codes
      - Public DN lengths
        - Prefix
        - Dial time out
    - Access codes
      - Park prefix
      - External code
      - Direct dial digit
      - Auto DN
      - DISA DN
      - Private access code
- System programming.....
  - Access codes
    - **Line pool codes**
      - Line Pool X:
    - **Carrier codes**
      - Prefix
      - ID length
  - Remote access
    - Remote access packages
      - Package 00-XX
        - Remote page
          - Line pool access
    - Remote line access
      - Line 001-XXX
        - Remote pkg
  - **Change DN type**
  - National length
  - CBC limits
  - Companion
    - Registration
      - Portable DNs
        - DN
    - Radio data
      - System LID
        - Re-evaluation
        - Radios
          - Radio #
            - Cell assignment
            - Antenna type
  - DN lengths
    - Received # length
    - DN length
  - Release reasons
  - Hospitality
    - Service time
    - Set/room settings
      - DN
        - Room #
        - Admin password required?
    - Call permissions
      - Vacant/use filter
        - Basic, Mid, Full
    - Alarm data
      - Attention attempts
      - Retry interval
      - Attention duration
      - Time format
        - Expired alarms
          - Notify set
          - Use tone
  - Network Services
    - MCDN
      - NetwkICCL
      - TRO
      - TAT
    - ETSI
      - NtwkDiversion
      - MCID
- Telco features
  - Voice message center numbers
    - Center 1-5
      - Type of #
      - External #
  - ONN blocking
    - Analog VSC (Tone/Pulse)
    - BRI VSC (code)
- Software keys
  - System ID
  - Add key
- Hardware
  - Module 02-08
    - <type of module>module
      - Card 1/Card 2
        - Card type
        - Low line/loop
        - High line/loop
        - Disconnect timer
        - Answer timer
        - CO fail
        - I/F levels
        - Framing
        - Internal CSU
        - CSU line build
        - DSX1 bld
        - Line coding
        - Clock source
        - Max transits
        - CRC
        - Private network ID
        - B channel Sequence
        - CBC routing
        - SPID N
        - # of B channels
        - Network DNs
        - TEIs
- Maintenance
  - System Version
  - Module 01-08
    - Ports on Module
      - Port 0X01 p 0X32
        - Channels
          - B1
            - Addons
  - Provisioning
    - Module 02-08
      - Card 1-3
        - Card Type
  - DN-to-Port Conversion
    - DN to convert
    - Device port
    - Device channel
  - Link Status
    - Module 02-08
      - Card 1-3
        - Dchannel
- Metrics
  - Hunt group 01-30
    - Clear Data & time
    - Total calls
    - Total answered
    - Average answered (%)
    - Average time to answer (%)
    - Total calls abandoned
    - Average abandoned (%)
    - Total busy
    - Average busy (%)
    - Total overflow
    - Average overflow (%)
    - Time in queue (sec)

Troubleshooting the Browser window

The following section discusses areas where the Browser may respond unexpectedly.

Refreshing an invalid navigation tree

In some cases, the programming changes you make are so significant that the **Browser** window fails to respond. If you try to make changes, an error message appears and you are forced to end your session with the Browser. To refresh the tool, exit the screen and restart the Browser from the **Run Tool** menu.

Warning messages

Warning messages appear when you make a programming change that has a significant impact on the operation of the Norstar system. Once you have read the message, click **OK** to go ahead with the change or click **Cancel** to stop the change.

A check box appears with some warning messages. If a check box appears, the programming change has only a minor impact on the operation of the Norstar system. When you select the check box, the warning message does not appear again until you restart the Browser tool.

For example, if you are working with a newly installed Norstar system, many of the changes you make require a card or cartridge to be disabled. Instead of seeing the message warning every time you make a change that will temporarily disable the cartridge or card, select the check box the first time the message appears. You can then continue your installation programming without responding to the same message over and over.

You cannot turn off warning messages for programming changes that have a major impact on the operation of the Norstar system. For example, if you enter a new value for the DN length under the System Programming settings, this message appears: `Changing the DN length will restrict access to the rest of the programming tree`. If you choose **OK**, another message appears: `You have made changes to the programming that require the entire programming tree to be re-initialized. Please restart the Browser to continue programming`.

After a change in DN length, you must exit programming, data devices using the B2 channel drop any active calls, and programming is unavailable for a brief time. Because of all these possible disruptions to service, the appearance of this warning message cannot be stopped.

Feature messages

Messages also appear when the value you are attempting to enter is not valid because of its format, or does not work with the feature you are programming. For example, you might see:

`<name you typed> is not a valid option for 'Name'.` This means that you entered characters that are not valid for a set name.

`The line is private to a set and cannot be used here.` This means that you tried to assign a line that is private to one set to another set.

For these kinds of errors, refer to your Installer Guide for more information.

Recovering from a lost connection

If the computer loses its connection to the RAD, an error message occurs.

To reconnect, reselect the **Browser** tool under **Run Tool** and click the **Connect** button on the Connection Properties dialog box.

Error messages

When the Browser tool encounters a problem with its operation, you will get an error message.

When the text of an error messages is given in the following examples, <target> is the ID of the Norstar system, and <selected> is the customer name from the ICSRT database. The System ID and customer name appear only if you connect to a Norstar system.

There are two types of error messages: fatal and non-fatal. The difference between the two types is what happens when you click.

Non-fatal error messages

If you click **OK** in a non-fatal error message window, you are returned to the navigation tree and the Browser window does not close.

Message: `<item> is no longer valid`

Explanation: You have attempted to open an item on the navigation tree that no longer exists in the Norstar system programming data. For example, if you expand **Line assignment**, and then make assigned line Line 002 private to a telephone, the assignment of Line 002 is no longer valid for other telephones. If you attempt to open **Line 002** under **Line assignment** for another telephone, an error message appears: `Line 002 is no longer valid`.

Suggested response: Click **OK**. The error message disappears and the invalid settings are removed from the navigation tree.

Message: `<item> cannot be accessed at this time. Try later.`

Explanation: You cannot view or change the programming item because the ICS is busy.

Suggested response: Continue with other programming tasks and return to the item later.

Fatal error messages

If you click **OK** or **EXIT** in a fatal error message window, the Browser tool window is closed. To restart the tool, click on the Browser icon or select the Browser tool from the **Run Tool** menu.

Message: `There is not enough memory to continue the current application. Please close any other applications not in use and restart this application.`

OR

`Out of memory.`

Explanation: The Browser tool has run out of memory.

Suggested response:

1. Click **OK**. The **Browser** window disappears.
2. Close any other applications running on your computer.
3. Click the Browser tool icon or select the Browser tool from the **Run Tool** menu.

Message: `Installation error #<x>. Please contact your system administrator.`

Explanation: Files in the ICSRT application are damaged.

Suggested response: Restore the corrupted file by re-installing Norstar Remote Utilities. If this error occurs after ICSRT has been re-installed, contact Nortel technical assistance and give them the error number.

Message: `Internal application #<x>. Please contact your system administrator.`

Explanation: An error internal to the application has occurred.

Suggested response: Contact Nortel technical assistance and give them the error number.

Message: `The RAD functionality is not enabled at the <target> system of the <selected> customer. Proper software keys need to be obtained and entered through a set administrative session (F**CONFIG).`

Explanation: You have tried to connect to a Compact ICS using the internal remote access device (I-RAD), but the I-RAD has not been enabled.

Suggested response: Obtain Software Keys from Nortel and enter them under the Software Keys heading using set programming at the Compact ICS site. If remote access programming has been set up on the Nortel system, you can enter the keys remotely, but you cannot see any other part of programming until the keys are entered successfully. See the *CICS Installer Guide* for more information.

Message: `You are connected to system <system type>. Browser tool is not supported on this system.`

Explanation: The Norstar system is using a Feature Cartridge that does not support the Browser tool.

Suggested response: Try to use the Remote Set tool to make remote programming changes, or use ICSRT (if it is supported by the Norstar system).

Message: `Could not continue browsing because the <target> system of the <selected> customer is not responding.`

Explanation: The Browser tool is trying to update its display, but the Norstar system is no longer responding. This usually happens because the Norstar system is busy.

Suggested response: Click **OK** to close the tool, then click the Browser tool icon to restart the application. If the Norstar system still does not respond, try later.

Message: `Could not continue browsing because the remote programming session has timed out at the <target> system of the <selected> customer.`

Explanation: The computer has not responded to a Norstar system request in time and the Norstar system has timed out and/or disconnected.

Suggested response: Click **OK** to close the tool, then click the Browser tool icon to restart the application.

Message: `Could not continue browsing because the connection has been lost to the <target> system of the <selected> customer. <additional information>`

Explanation: The physical connection to the Norstar system is broken. The additional information in the message gives you an exact reason for the broken connection. For example, if the serial cable is unplugged, the message would say `No carrier`.

Suggested response: Verify your physical connections to the Norstar system.

Message: `You have made changes to the programming that require the entire programming tree to be reinitialized. Please restart the browser to continue programming.`

Explanation: The programming changes you have made are so significant that the navigation tree can no longer be used. You are forced to end your session, but it does not change or invalidate the programming changes you made before the error.

Suggested response: Click **OK**, then click the Browser tool icon to re-start the application and continue with your programming tasks.

Message: `Cannot browse because a programming session is already in progress on the <target> system of the <selected> customer. Try later.`

Explanation: You have started the Browser tool when someone is already in a programming session at the Norstar system, or the Norstar system has not yet recognized that a remote user has ended the programming session by closing the Browser tool. For example, someone could be using a local set for a programming session, or you may have just completed a remote session.

Suggested response: Wait a few minutes for the Norstar system to end the programming session. If you still get the error message, contact the remote site to have the local programming session ended, or try again later.

Message: `Cannot browse the <target> system of the <selected> customer because the map file: <map file name> is corrupted. Please contact your system administrator.`

OR

`Map file: <map file name> is corrupted and must be reinstalled.`

Explanation: The Browser tool uses a file called a map file, which allows it to work with the programming for a particular Norstar system. The Browser tool is installed with map files for every Norstar system that can be used with the tool. You must install the map file for a new Norstar system before you can browse it. The name of the map file appears in the status bar of the **Browser** window. If a map file for a version of the Norstar system becomes corrupted, the error message appears when you try to browse that type of Norstar system. When this happens, the Browser tool does not start.

Suggested response: Click **OK**. The Browser tool is closed. Contact Nortel technical assistance to replace the map file.

Message: `Latest map file: <new map file name> not found. Please contact your system administrator. Would you like to continue browsing the <target> system of the <selected> customer, using the older map file: <old map file name>, or exit the browser?`

Explanation: The Browser tool uses a file called a map file, which allows it to work with the programming for a particular Norstar system. You have connected to a system that has a slightly newer map file than what is installed with ICSRT. You can still browse the Norstar system, but you may not have access to all the settings and features in the Norstar system or the Browser tool.

Suggested response: If you know exactly which settings you wish to see or change, click and try to find the settings. If you need to be able to see and change all settings, or you cannot find the specific settings you need, exit the tool and contact Norstar technical support to get an updated map file.

or

Program the missing feature using Remote Set.

In any case, you should contact Norstar technical support to get an updated map file.

Message: `Programming session timed out.`

Explanation: There has been no activity in the Browser tool for 30 minutes. The tool is automatically closed, and this message appears. The connection to the Norstar system is dropped after three additional minutes of inactivity.

Suggested response: Click **OK**. If you wish to continue working with the Browser tool, you must start the application again.

Message: `Map file: <map file name> is required to browse the <target> system of the <selected> customer. Please contact your system administrator.`

OR

`Map file: <map file name> is required.`

Explanation: The Browser Tool uses a file called a map file, which allows it to work with the programming for a particular Norstar system. The Browser tool is installed with map files for every Norstar system that can be used with the tool. You must install the map file for a new Norstar system before you can browse it. This error message appears when the Browser tool cannot find the map file that corresponds to the Norstar system. When this happens, the Browser tool does not start.

Suggested response: Make a note of the map file name. Click **OK**. The Browser tool is closed. Contact Nortel technical assistance with the name of the map file to get the appropriate file. In most cases, installing the new map file allows you to browse the corresponding Norstar system. However, in some cases the new map file only indicates to ICSRT that the Browser tool is not supported by the corresponding Norstar system.

Message: `The permitted number of open files was exceeded. Try closing all other applications not in use.`

OR

`Could not open map file: <map file name>. Out of file handles.`

Explanation: The tool cannot open a map file because it would exceed the number of open files allowed by Windows.

Suggested response: Close any open applications or documents that you are not using. This will allow Windows to open more files.

Message: `The system that you are connected to is in a market that is incompatible with the browser.`

Explanation: The Browser tool that is installed on your computer can only browse a Norstar system if it is sold in a specific market. The target system is a Norstar system that has been sold outside this market.

Suggested response: Exit the application and contact Nortel technical assistance to get the administration software for the new market.

Message: `This is an old version of the browser that does not know how to browse the <target> system of the <selected> customer. Please contact your system administrator.`

OR

`Map file:<map file name> is not compatible with this version of Norstar Remote Tools.`

Explanation: The version of the Browser tool you are using is out of date.

Suggested response: Click **OK** to close the tool. Contact Nortel technical assistance to get the most recent version of Norstar Remote Utilities.

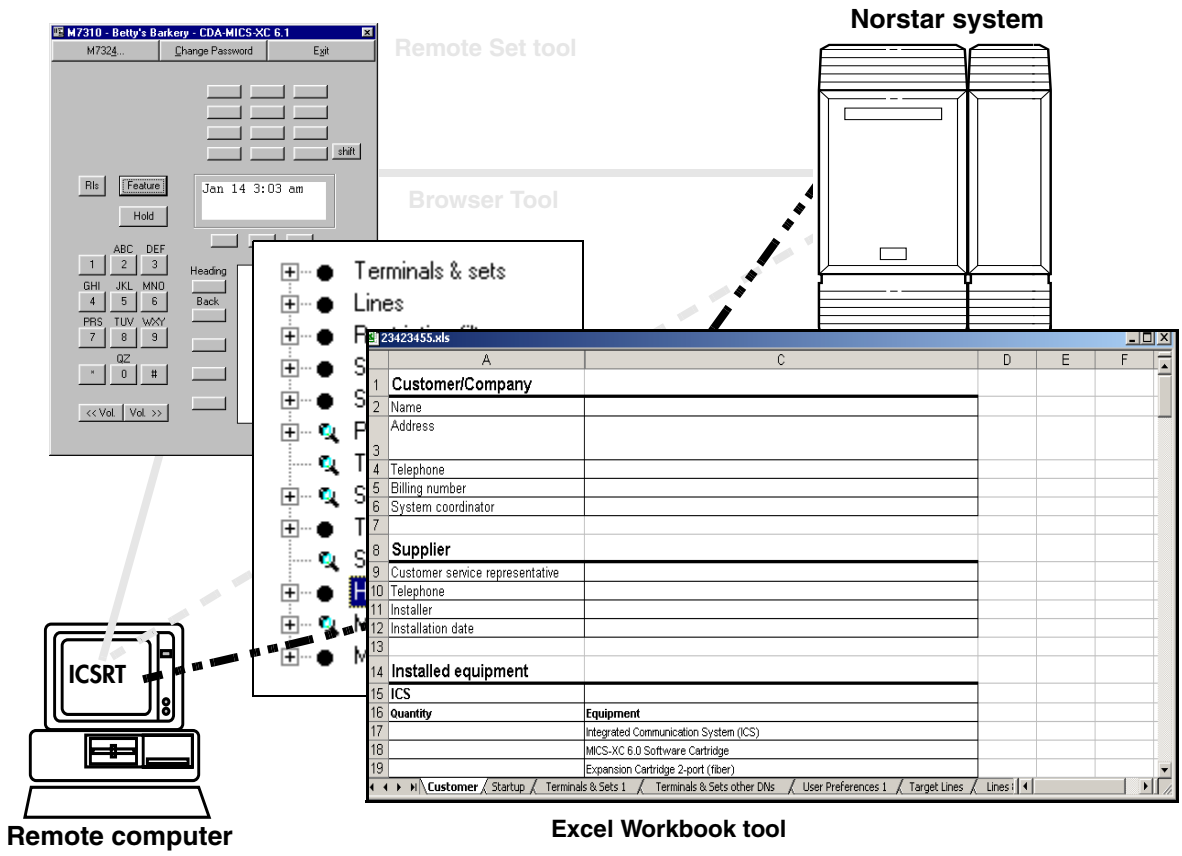
Chapter 7
Using Workbooks and off-line programming

This chapter describes the OLP Workbook tool which allows you to enter system programming data offline into Excel worksheets called Workbooks. You then can upload that data to the Norstar system. Workbooks also allow you to acquire all or part of the data from a Norstar system, and then reload just the corrected information back to the system. The Excel-based workbooks use a set of macros as an Off-line programming tool that provides the interaction between the workbooks and the Norstar system.

The information in this chapter includes:

- "Understanding workbooks and off-line programming" on page 84
- "Configuring a workbook" on page 85
- "Programming a system using a workbook" on page 90
- "Acquiring information from a programmed system" on page 96
- "Working with programming and acquisition errors" on page 99
- "Changing the property settings for the workbook" on page 102
- "Understanding the About ICS Workbook dialog" on page 104
- "Troubleshooting worksheet data transfer" on page 105

Figure 38 ICSRT configuration tools



Understanding workbooks and off-line programming

Use the ICSRT off-line programming tool as another way to enter programming into a Norstar system. This tool also allows you to acquire programming from a Norstar system. This Off-line Programming tool uses a Microsoft Excel workbook file which contains a number of worksheets that contain the system data, some macros, and a map file specific to the type of system you are programming.

With this off-line programming tool, you can:

- program a Norstar system by transferring customized programming data from a workbook to the system, via the customer record in ICSRT
- populate a workbook with information from a Norstar system which is already programmed
- add new programming to a Norstar system which is already programmed by selecting a second workbook that contains only the required changes and either adding the information to existing programming or overwriting the information with the information from the workbook

To use the workbook tool, you need Microsoft Excel version 5.0 or higher. For best results, use Excel version 7.0 or higher.

You can use the workbook to record or plan programming without connecting to a Norstar system, but to transfer the programming to the system, or to populate a workbook with the programming information from a Norstar system, you need to use the Off-line Programming tool and a connection established through a customer record in the ICSRT.

Each version of Norstar systems has an Excel workbook consisting of a number of worksheets and macros that allow you to enter data from any computer that runs Excel for a specific system. This means that you can take the appropriate workbook file on a laptop to a customer meeting. After you enter programming information, you can assign the workbook to a customer database record and use the information in the record to configure a new Norstar system or update an existing system.



Caution: To avoid damaging the programming ability of the workbook, do not unhide, delete, or rename any of the worksheets inside the workbook. Do not alter the Address worksheet in any way.

Restrictions

- DO NOT activate the Microsoft Excel feature **Share Workbook** in the **Tools** menu when you are programming a system or acquiring programming from a system. If it is turned on, data in some cells may be corrupted.
- Although the tool allows you to acquire and upload all the data, it is recommended that you only use this tool to acquire only those sections that need changing, and only change and upload those sections that have changed.
- Hardware settings cannot be updated with this tool, they can only be acquired.
  Use the Remote set tool or the Browser tool if you need to change hardware settings.
- Do not use workbooks as a backup and/or restore vehicle.

Configuring a workbook

The ICSRT supplies default workbooks that reflect the different types of Norstar software, from version 2.0 forward. Within these workbooks, there are further system definitions and settings that need to be set before you use the workbook to program a system.

This section contains information about:

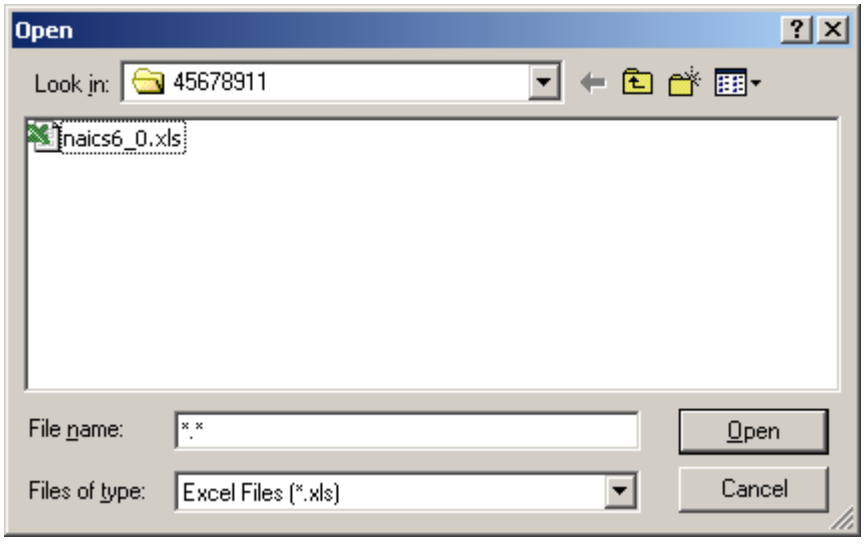
- "Accessing an assigned workbook" on page 85
- "Configuring the Workbook parameters" on page 86

Accessing an assigned workbook

If you created a customer record and assigned a default workbook, you can use the **Select Workbook** heading under the ICSRT **Run Tool** menu to select and open the workbook so that you can configure the workbook to the system parameters.

1. Select the customer record on the Customer Info screen to which you assigned the record.
2. From the **Run Tool** menu, click **Select Workbook**.
   A For your information dialog may display, reminding you to save multiple copies of the worksheets. This dialog only displays if **Do not show this dialog in future** checkbox on the dialog remains unchecked. Click on **OK**.
   A default Windows Open dialog appears, showing all the Excel workbook files that are associated with the Norstar Customer record you selected (Figure 39).

Figure 39 Windows Open screen



3. Select the workbook you want to work with.
4. Click on **Open**.
5. Go to "Configuring the Workbook parameters" on page 86 and configure the workbook with the system configuration.

Configuring the Workbook parameters

When you first create a workbook file you need to determine what type of system you will be programming so the workbook can display the correct information.

1 Open the workbook you want to program.

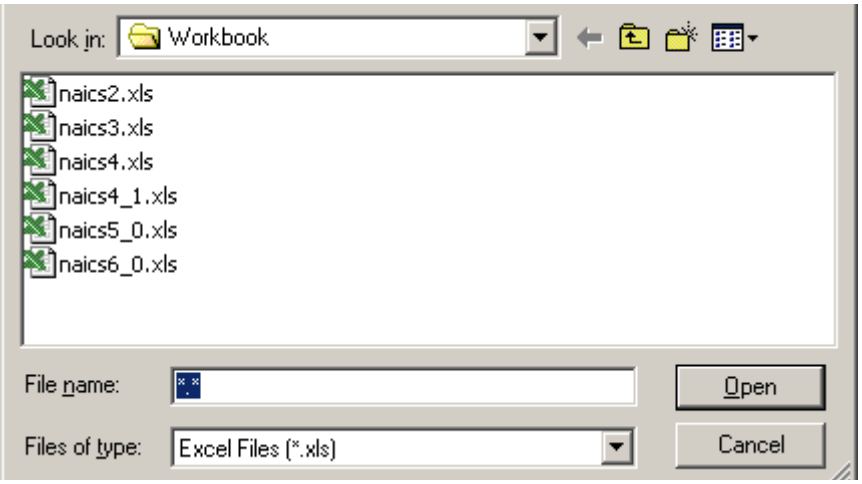
- If you already assigned a workbook to a customer, refer to "Accessing an assigned workbook" on page 85.
- If you have not yet configured a client record,

  a With the Customer Info screen open, but no customer selected, click on **Run Tool**, and select **Select Workbook**.

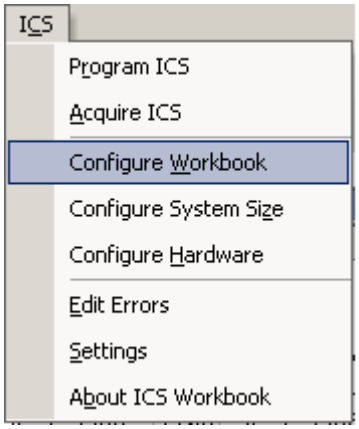
  b On the Windows Open screen, select the file that matches the version of Norstar system that you will be programming.

  c Click **Open**. The Excel spreadsheet opens.

Figure 40 Default Workbook listings

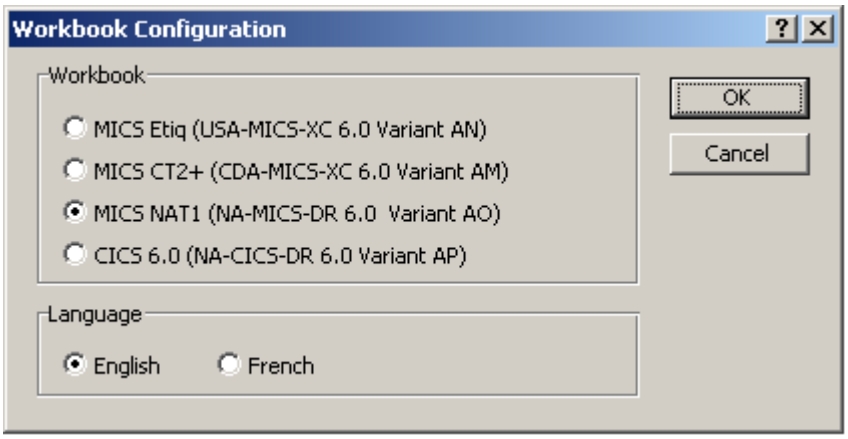


2 Under the **ICS** menu within the workbook, select **Configure Workbook**.



A screen similar to the one shown in Figure 41 appears.

Figure 41 Workbook Configuration screen

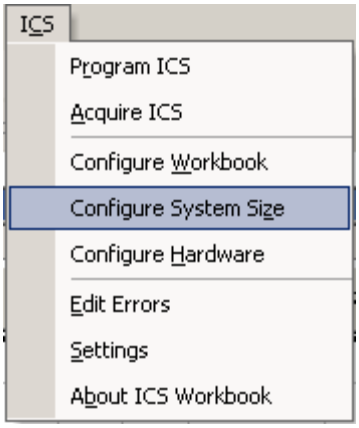


3 In the **Workbook** box, select the appropriate system descriptor.

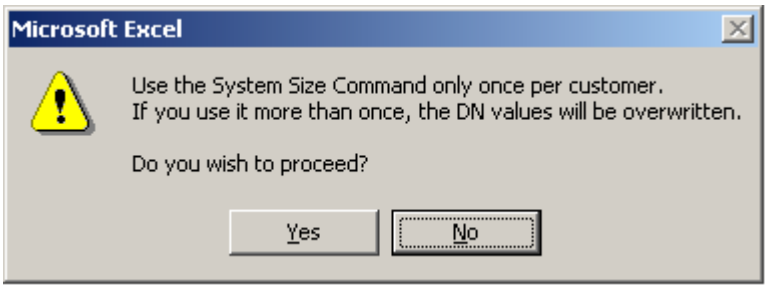
4 In the **Language** box, select the language for the worksheet.

5 Click **OK**.
The workbook changes to the parameters defined by the system. If a language change is required, it could take up to 10 minutes to reconfigure the workbook.

6 Under the ICS menu, select **Configure System Size**.

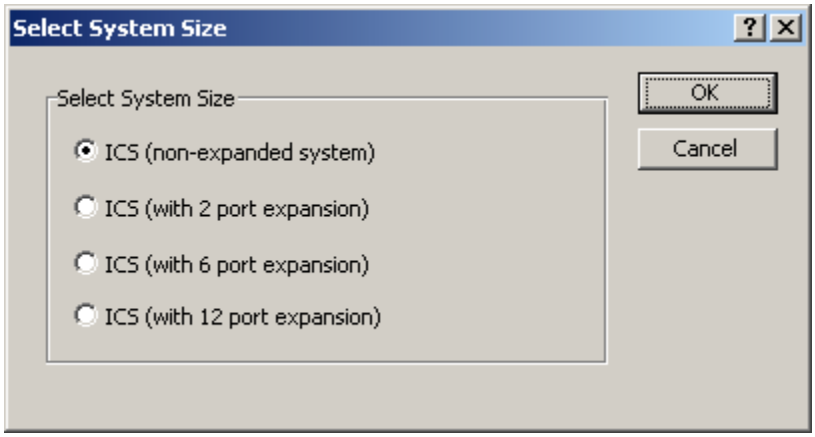


A confirmation dialog box appears.



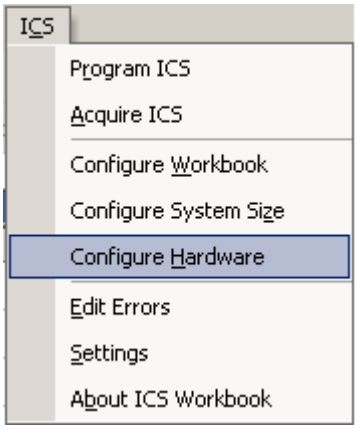
7 Click **Yes**.
The Select System Size dialog box appears.

Figure 42 Select System Size dialog



8 Select the correct size of the system you will be programming, then click on **OK**.
If you do not know the size of the system you are programming, click **Cancel**, and find out this information before you proceed.

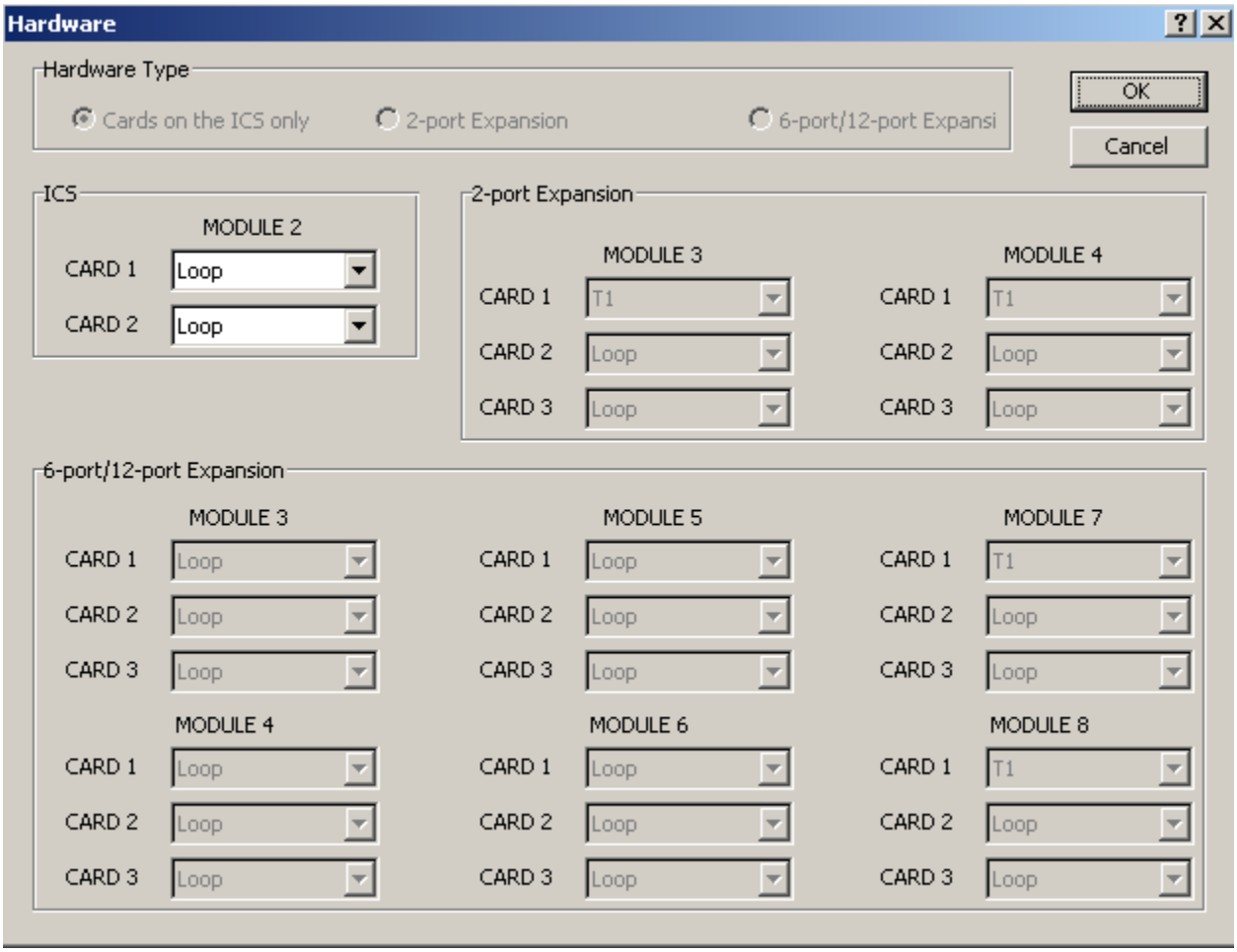
9 Under the ICS menu, select **Configure Hardware**



The Hardware screen appears (Figure 43). Note that the fields reflect the size of system you chose in step 9.

10 Ensure that the correct card types are selected for each of the modules, then click **OK**.

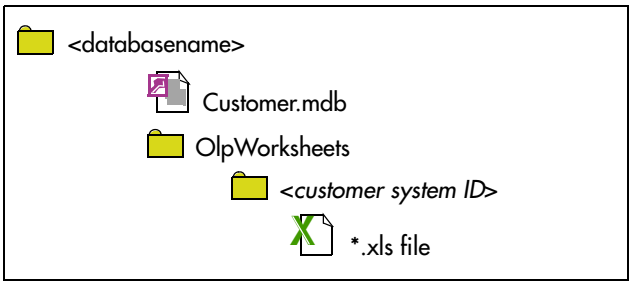
Figure 43 Hardware screen



11 Enter the parameters supplied by your customer into the Excel worksheets or go to step 14, if you want to configure the data later.

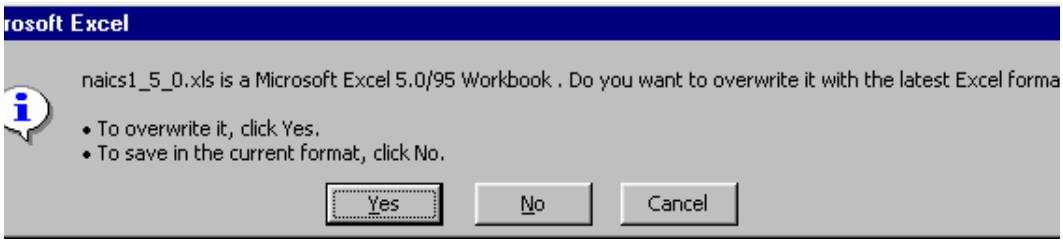
12 Save the workbook.

- If you are working with a workbook already assigned to the customer, the workbook is saved in the same folder where the CustomerInfo.mdb is located, in a folder called **OlpWorkbooks\<*systemid*>**.



The workbook is now configured to the system and ready to use. Go to "Programming a system using a workbook" on page 90.

Warning: If the following prompt appears when you are trying to save a workbook, press **Cancel**. If you press **Yes**, the original workbook may become corrupted.



In this case, save the workbook with a different name.

- If you have not yet assigned the workbook, it resides in **<*system drive*>:\Programming Files\Nortel Networks\Icsrt\Workbook**.
  - **a** Open the ICSRT application.
  - **b** Create a customer file and assign the workbook on the Add Customer Information screen. Refer to "Creating a customer record" on page 42 for details about adding a customer
  - **c** Go to the next section, "Programming a system using a workbook" on page 90.

Programming a system using a workbook

Once you have configured your workbook file, you can use it to program a Norstar system.

Warning: When you use the Off-line Programming tool to program a newly-installed Norstar system, or one which has undergone a cold start, make sure that the Start DN entered in the workbook matches the one entered on the Norstar system.
Use **FEATURE** **STARTUP to confirm the setting.

To change the programming of a Norstar system which has already been configured, make sure that the configuration data in the workbook matches the Norstar system programming. For example, if the Norstar system has been upgraded (more set or line ports added), or if DNs have been renumbered, you should acquire the Startup sheet before making any changes to the workbook. Refer to "Acquiring information from a programmed system" on page 96.

In general, programming changes should be made by acquiring information from the regions on the Norstar system that need to be programmed, changing the programming in the workbook, then copying the required regions back to the Norstar system.

This section describes how to transfer the data from the workbook to the Norstar system, and includes the following information:

- "Using the workbook for programming" on page 91
- "Programming an existing system" on page 94
- "Creating and using an update workbook" on page 94

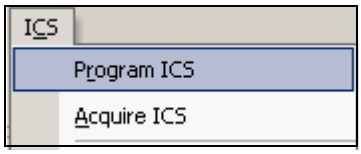
Using the workbook for programming

1 Open ICSRT.
This step is optional, but it provides access to the customer record if you need to refer to customer information or connection settings.

2 Open the workbook that you prepared following the appropriate instructions under "Configuring a workbook" on page 85.

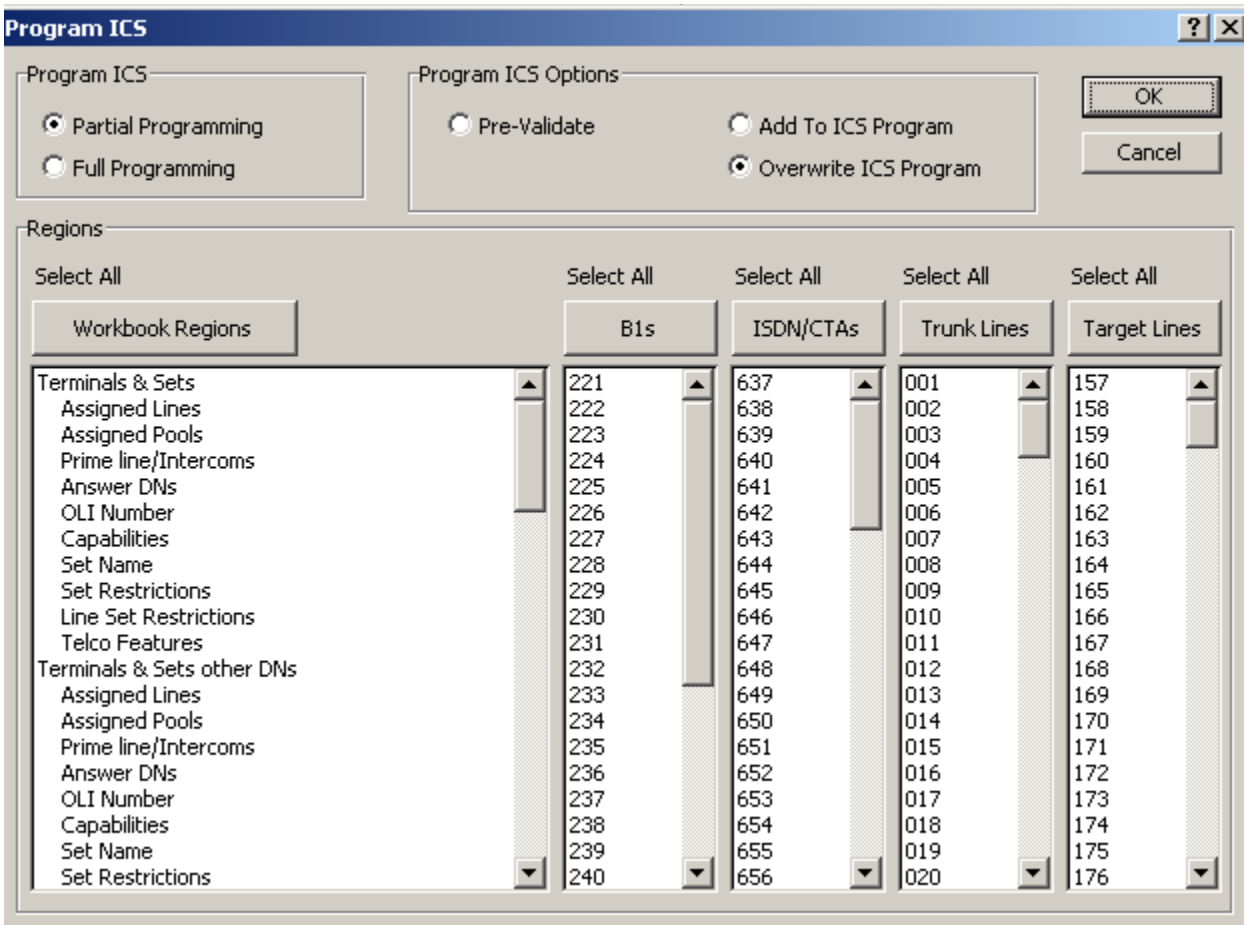
3 Enter the required data into the various worksheets.
If you are updating an existing system, you may have created and assigned a separate workbook with programming only for that system. Refer to "Creating and using an update workbook" on page 94.

4 On the top menu, click **ICS**, then select **Program ICS**.



The Program ICS dialog box displays (Figure 44).

Figure 44 Program ICS dialog box



5 Choose the **Program ICS** options that suit the way you want to program the system. Refer to the table below for detailed descriptions.

Table 5 Program ICS dialog box options

Option	Description
Partial Programming	Choose this option if you only want to program only parts of the new system. For instance, the installer may have configured the module settings when the system was installed, and therefore you do not want to overwrite these settings. Then choose the Workbook Regions and other settings that you want to affect.
Full Programming	Choose this option if the new system has no current programming, other than the default programming, and you want to change all the settings. All the regions and options become selected. **WARNING**: This is not a recommended option.
Pre-Validate	In conjunction with the Partial or Full Programming selection, use the **Pre-Validate** option to verify the selected information in the workbook before you use it to program the ICS. Pre-validation is performed without an online connection. **Important** Pre-validating the programming information in an ICS workbook ensures that the information falls within the appropriate parameters or ranges which are allowed by the type of ICS. Because pre-validation does not check for accuracy of programming, you should not rely on it catch all programming errors.
Add to ICS Program	In conjunction with the Partial or Full Programming selection, use **Add to ICS Program** to add programming to existing ICS programming. This includes adding such things as line appearances, line pools assignments, or other items which are found in lists of identical items (Example 1). However, if a setting already exists in the ICS programming, the workbook programming would overwrite the ICS programming (Example 2). **Example 1:** If DN 221 is programmed with the appearance of Line 001 and Line 002, and programming is added using a workbook which gives DN 221 a line appearance of Line 003, DN 221 will have the appearances of Lines 001, 002 and 003. **Example 2:** If Line 001 is assigned to DN 221 as Appear only in ICS programming and assigned in the workbook as Ring only, the workbook programming would overwrite the existing programming.
Overwrite ICS Program	In conjunction with the Partial or Full Programming selection, use the **Overwrite ICS Program** option to program the ICS with specified information from the workbook without keeping any existing ICS programming. For example, if DN 221 has lines 001 and 002 assigned to it and the ICS workbook only has line 003 assigned, lines 001 and 002 are replaced with line 003. If the ICS workbook also has lines 001 and 002, but with different programming, then the ICS programming would overwrite the programming for lines 001 and 002, and they would remain set.

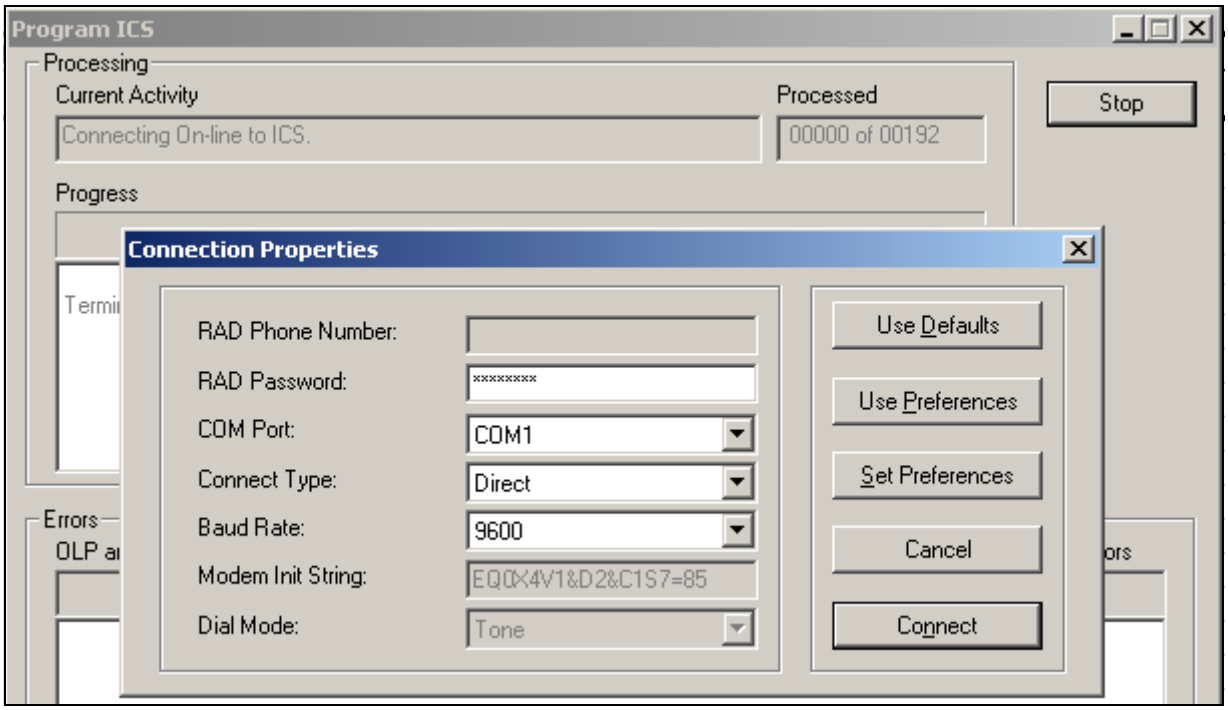
6 If you chose **Partial Programming**, from the **Regions** box and associated settings, select any specific regions of programming information to overwrite by holding down the control key and clicking on the headings you want to program.
If you want to select all of any category, such as all B1s (Set DNs), click on the button above the column. Notice that the **Select All** label above the button changes to **Deselect all**.

Note: You can deselect selected items in **Regions** boxes by holding the control key and clicking the left mouse button. Be sure to have the cursor on the item you want to de-select.

7 Click **OK**.
The Program ICS screen appears, then the Connection Properties screen appears on top.

8 Ensure that the connection properties are correct for the system you want to connect to, then click on **Connect**.
The **Current Activity** field on the Program ICS screen displays information about the current status of the connection. Once the connection is established, this field shows activity as the ICS is updated from the workbook.

Figure 45 Program ICS and Connection Properties screens



The **Progress** field on the Program ICS screen indicates:

- which activity is being performed (display changes as activity changes)
- the number of data settings or regions to be processed
- the current number of processed regions (changes as the activity progresses)
- the names of the regions that have been processed (list expands as the activity progresses)
- the number of errors that are detected (changes as errors are encountered)

Click **Stop** to stop programming.

Note: Stopping the activity does not cancel the programming changes which are made before you stopped the activity. Any programming which is transferred to the ICS before you click **Stop** becomes part of the ICS programming. If you stop an acquire, you can discard the information and return the workbook file to its original state by closing the file without saving changes, then re-opening the file.

The **Errors** box on the Program ICS screen displays any errors that occur during the programming.

Programming an existing system

When you want to change programming for an existing system, you can either create a second workbook that you use to update specific information ("Creating and using an update workbook" on page 94), or you can acquire the current programming from the system into the workbook already assigned to the customer, change the settings within the workbook, and then reprogram those settings back to the Norstar system. Refer to "Acquiring information from a programmed system" on page 96.

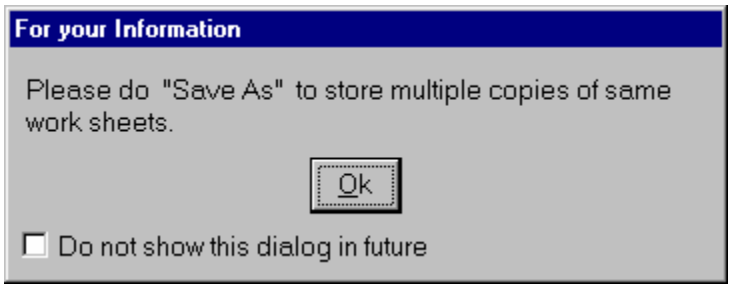
Creating and using an update workbook

By creating a second workbook to use as an update tool, you can use the Off-line Programming tool to only update specific areas, without being concerned about overwriting other areas of programming, or messing up the original worksheet.

1. Open ICSRT.
2. Select the customer record.
3. From the **Run Tool** menu, click **Select Workbook**.

   A For your information dialog displays, reminding you to save multiple copies of the worksheets (Figure 46). This dialog is shown only if **Do not show this dialog in future** remains unchecked.

Figure 46 For you information screen



4 Click on **OK** on the dialog box.

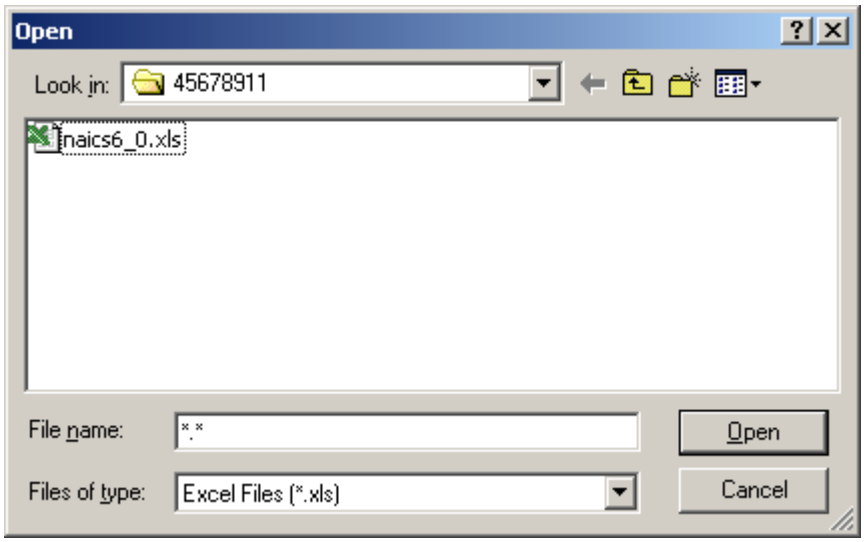
A default Windows Open dialog appears, showing all the Excel workbook files that are associated with the Norstar System record you selected (Figure 47).

5 Select the workbook you want to copy, then click **Open**.

6 Use **Save As** to save a new workbook file.

7 Edit the information that you want to add or change on the system on the Excel worksheets and save the file.

Figure 47 Windows Open screen



8 Use the process described in "Programming a system using a workbook" on page 90 to program the new settings onto the ICS, using the **Partial Programming** setting, and either the **Add Program** or **Overwrite Program** settings.

Acquiring information from a programmed system

You can populate a workbook file with the current programming data from a Norstar system. You must select the appropriate ICS type for the workbook before you acquire data, as explained in "Configuring a workbook" on page 85.

1 Open ICSRT.

2 Select the customer record you want to work with.

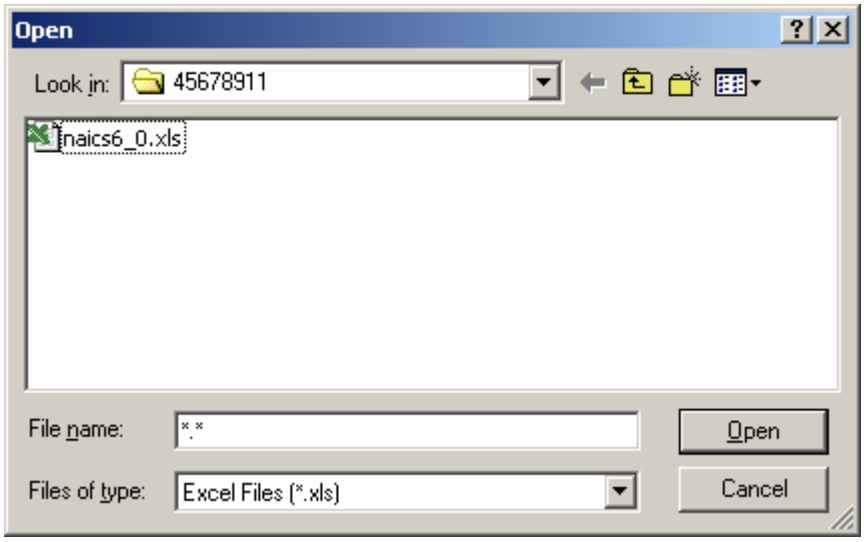
3 From the **Run Tool** menu, click **Select Workbook**.

A For your information dialog displays, reminding you to save multiple copies of the worksheets. This dialog is shown only if **Do not show this dialog in future** checkbox on the dialog box remains unchecked.

4 Click on **OK** on the dialog box, if it appears.

A default Windows Open dialog appears, showing all the Excel workbook files that are associated with the Norstar System record you selected.

Figure 48 Windows Open screen

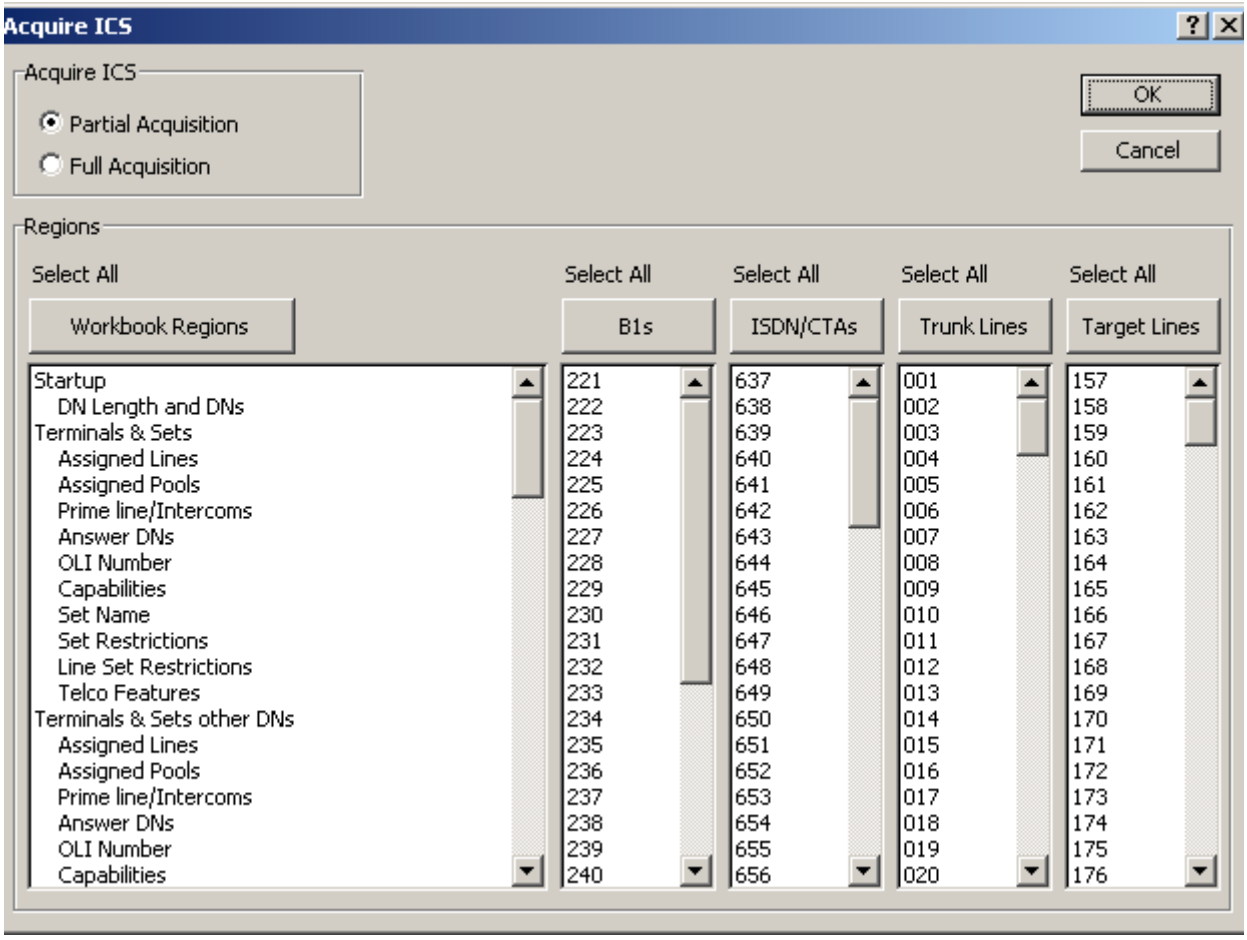


5 Select the workbook you want to work with.

6 Click **Open**. The Workbook opens in Excel.

7 On the top menu of the workbook, click **ICS**, then select **Acquire ICS**.
The Acquire ICS screen displays.

Figure 49 Acquire ICS screen



8 Choose the Acquire ICS options that suit the way you want to program the system. Refer to the table below for detailed descriptions.

Table 6 Acquisition variables

Option	Description
Partial Acquisition	Choose this option if you only want to acquire only specific parts of the system. For instance if you want to change some Terminals & Sets programming, but you want to first see what is already programmed, you might choose to acquire just this part of the programming. Choose the settings you want to acquire in Regions fields.
Full Acquisition	Choose this option you want to acquire all the programming from a system. Note that all the fields in the Regions area are automatically selected. **WARNING**: This is not a recommended option.

Warning: Do not use the cut or paste functions in any applications on your PC when you are acquiring programming from a Norstar system.

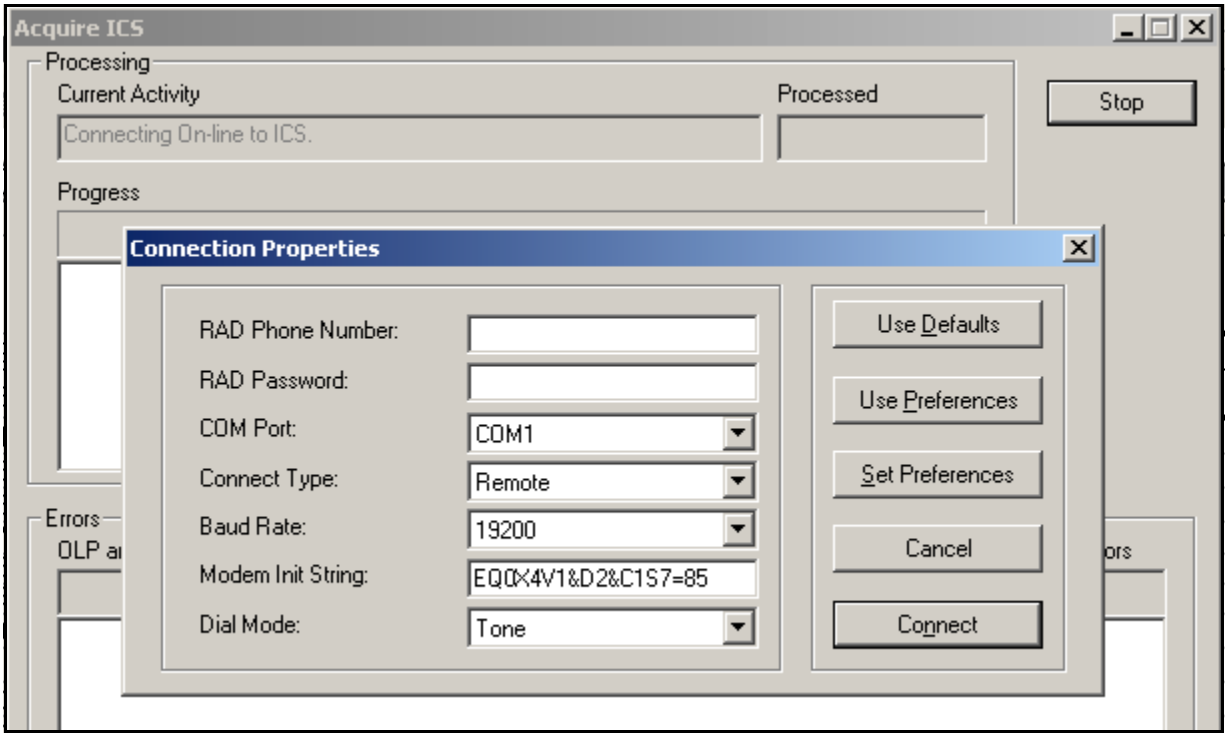
Warning: Acquiring programming information from a Norstar system overwrites some or all of the information in the workbook. To avoid losing data, acquire information into a new, clean copy of the workbook file. To keep the existing information, save the existing file under a different name, or do not save the changes after the acquiring programming. Any information added in the workbook such as notes, titles, headers and comments is not overwritten by acquiring programming.

9 If you chose **Partial Acquisition** from the **Regions** box, select any specific regions of programming information you want to overwrite by holding down the control key and clicking on the selections. If you want to select all of any category, such as all B1s (Set DNs), click on the button above the column. Notice that the **Select All** label above the button changes to **Deselect all**.

Note: You can deselect selected items in **Regions** boxes by holding the control key and clicking the left mouse button. Be sure to have the cursor on the item you want to de-select.

10 Click **OK**.
The Acquire ICS screen appears, then the Connection Properties screen appears on top.

Figure 50 Acquire ICS and Connection Properties screens



11 Ensure that the connection properties are correct for the system you want to connect to, then click on **Connect**.

The **Current Activity** field on the Program ICS screen displays information about the current status of the connection. Once the connection is established, this field shows activity as the workbook is updated from the Norstar system.

The **Progress** field indicates:

- which activity is being performed (display changes as activity changes)
- the number of data settings or regions to be processed
- the current number of processed regions (changes as the activity progresses)
- the names of the regions that have been processed (list expands as the activity progresses)
- the number of errors that are detected (changes as errors are encountered)

Click **Stop** to stop programming.

12 Save the file.

Once the acquire process is complete, you can click through the worksheets in the workbook and make any changes that you require. Then you can either reprogram the Norstar system with all the programming (not recommended), or you can use the **Partial programming** option to update the specific areas that you changed. Refer to "Programming a system using a workbook" on page 90 for details about using the workbook programming feature.

Working with programming and acquisition errors

If any errors are encountered during pre-validation, programming or acquisition, an error list is generated. You can access the error list by clicking **Edit Errors** on the **ICS** menu. You can view the error list, go to any problem spots in the workbook, and save the error information into a special sheet in the workbook for reference purposes. Refer to "Using the OLP Error dialog" on page 100.

You can set the maximum number of errors reported by the Off-line Programming tool. Refer to "Understanding the About ICS Workbook dialog" on page 104

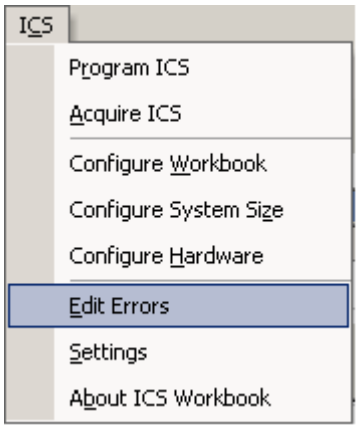
If no errors are encountered during pre-validation, programming or acquisition, the error list will be empty.

Using the OLP Error dialog

If you notice there are errors during the programming or acquisition process, you can view these errors on the OLP Errors dialog box. You can also correct the error from this dialog box.

1 If the workbook is not already open, open the workbook where the errors occurred.

2 Under the **ICS** menu, select **Edit Errors**.



The OLP Errors dialog box appears. Table 7 describes the fields found on this dialog box.

Figure 51 OLP Errors dialog box

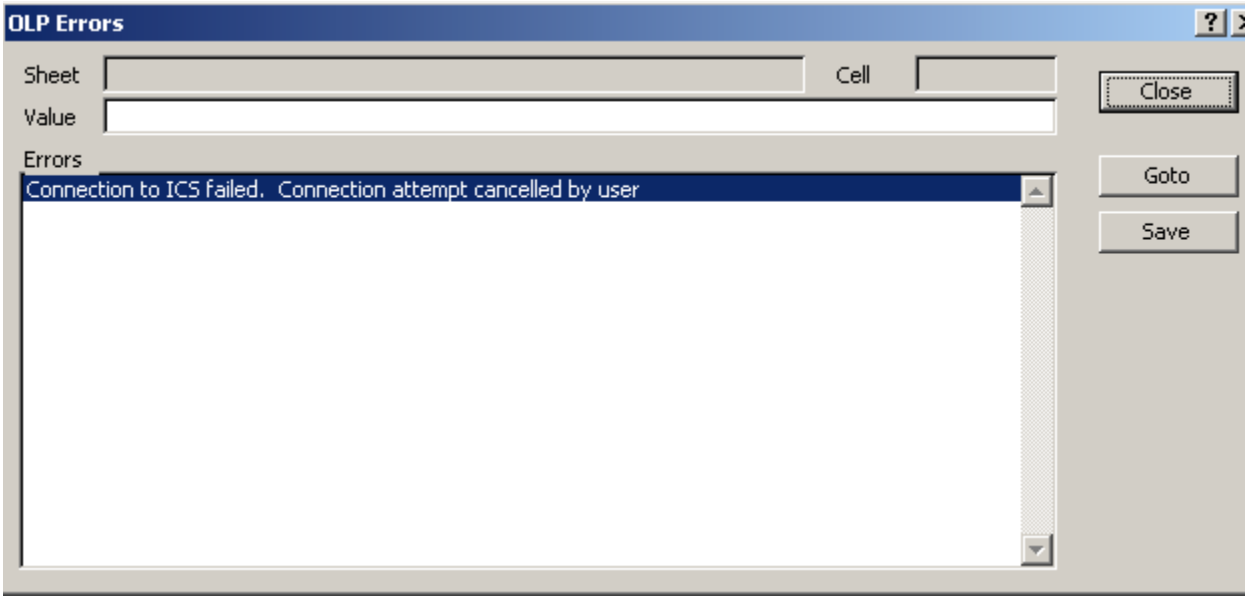


Table 7 OLP Error dialog fields

Field	Description
Sheet	This field displays the name of the worksheet where the selected error occurred.
Value	This is the current value entered in the indicated cell.
Errors	This is a description of the actual error. To view details, double click on the error line or select the error line and click the **Goto** button. The ICS workbook is displayed with the appropriate worksheet in view, and the cell where the error occurred is highlighted.
Cell	This is the cell on the worksheet where the error occurred. **Warning:** The references to cells found in acquisition errors are not useful. They are generated when the tool cannot find an appropriate cell in which to place the acquired data. This often indicates an overflow situation. For example, if an ICS is programmed with more than 10 overrides, overrides with index 11 or higher show up as errors, because the workbook only has space for the first 10 overrides.

3 You can perform any of the following actions:

View error details	Double click on the error line or select the error line and click the **Goto** button. The ICS workbook is displayed with the appropriate worksheet in view, and the cell where the error occurred is highlighted.
Saving the errors to the workbook	Click on **Save**. The Error list is automatically saved to a worksheet, called Errors, in the ICS workbook. **Warning:** The error information you save overwrites any previous error information saved in the workbook.
Correcting the value directly	To change an error found in a cell without opening the workbook: 1. Select the contents of the **Value** box in the OLP Errors dialog box 2. Enter the correct information. 3. Click on **Save**.
Exit the dialog	Click on **Close**.

Changing the property settings for the workbook

There are a number of settings that you can adjust to determine the operation of the off-line programming tool. These are found on the OLP Settings dialog.

To open the dialog box, click on **ICS**, then select **Settings**.

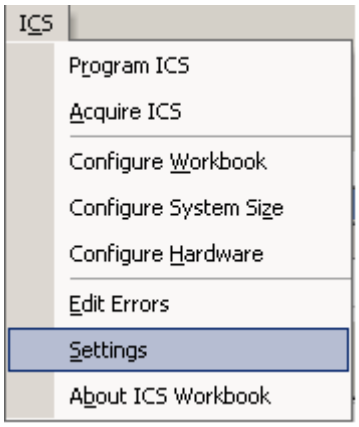
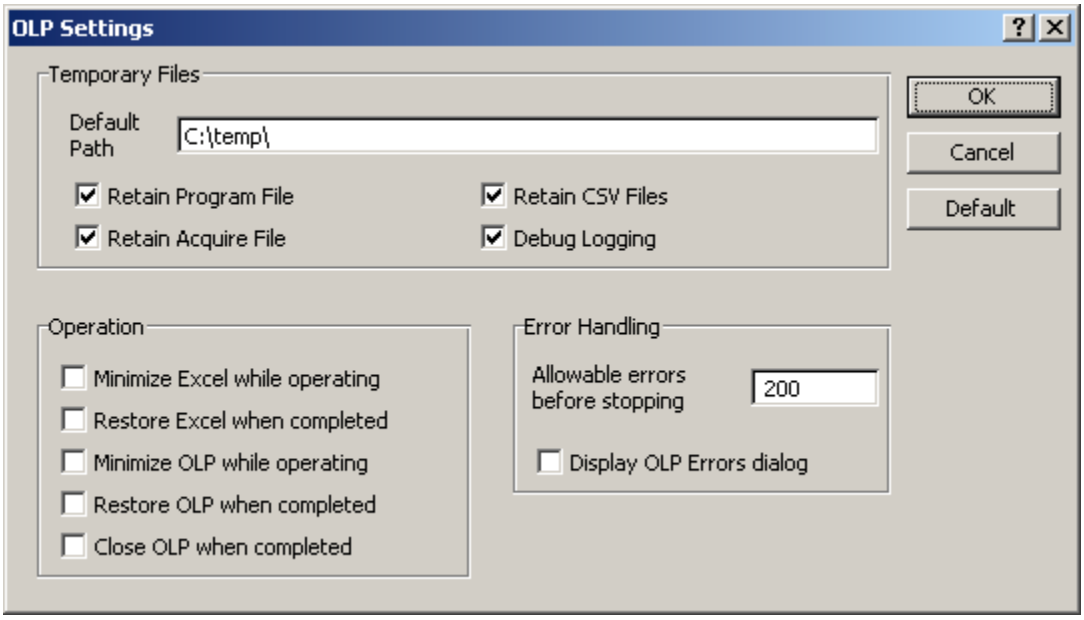


Figure 52 OLP Settings dialog box



The following table describes each of the settings on the OLP Settings dialog box:

Table 8 OLP Settings dialog box fields

Field	Description
Default Path	This setting defines the path to a directory where intermediate transfer files are placed during programming and acquisition. The default is c:\windows\temp. It is also the directory where the debug log file is placed.
Default	This button changes the settings on the dialog to default values.
Retain Program File	During programming, the application creates a data file (download.olp) which is an image of information that has been transferred from the ICS workbook to the Off-line Programming tool. The data is passed in CSV (comma separated value) files to the tool. The tool extracts this information and creates the download.olp file. This file is useful during testing to determine what information was requested by the user for programming. If the **Retain Program File** box is selected, the file is not deleted after the tool is finished processing it.
Retain Acquire File	During acquisition, the application creates a data file (upload.olp) which is used to transmit information from the Off-line Programming tool to the Excel workbook. This file is useful during testing to determine what information was acquired from the Norstar system. If the **Retain Acquire File** box is selected, the file is not deleted after the OLP tool is finished processing it.
Retain CSV Files	Information is transferred to and from the workbook using CSV files. These files are temporary intermediate files which are erased after they are processed. If the **Retain CSV Files** box is selected, the CSV files are not deleted and remain for use when troubleshooting.
Debug Logging	This option places a file called OLPDLL.LOG in the default directory. It is a log of the OLP.DLL operation.
Minimize Excel while operating	If this option is selected, Excel is minimized once programming or acquisition starts. Because Excel is inactive during these operations, it cannot be maximized again until the operation is completed. When this setting is not selected, you cannot minimize Excel when the Off-line Programming tool is running. However, you can still start other applications or switch to other applications running in the background by using the **Start** menu, ALT-TAB, or the Windows task bar.
Restore Excel when completed	If this option is selected, Excel is restored once programming or acquisition is complete, if it was previously minimized.
Minimize OLP while operating	If this option is selected, the dialog box is minimized when the tool is programming or acquiring.
Restore OLP when completed	If this option is selected, the dialog box is restored after the tool completes its operation (program or acquire), if it was previously minimized.
Close OLP when completed	If this option is selected, the dialog box is closed after it completes its operation (program or acquire).
Allowable errors before stopping	Allows you to enter the number of errors that are tolerated by the tool before it stops programming or acquiring. The default number of errors is 200.

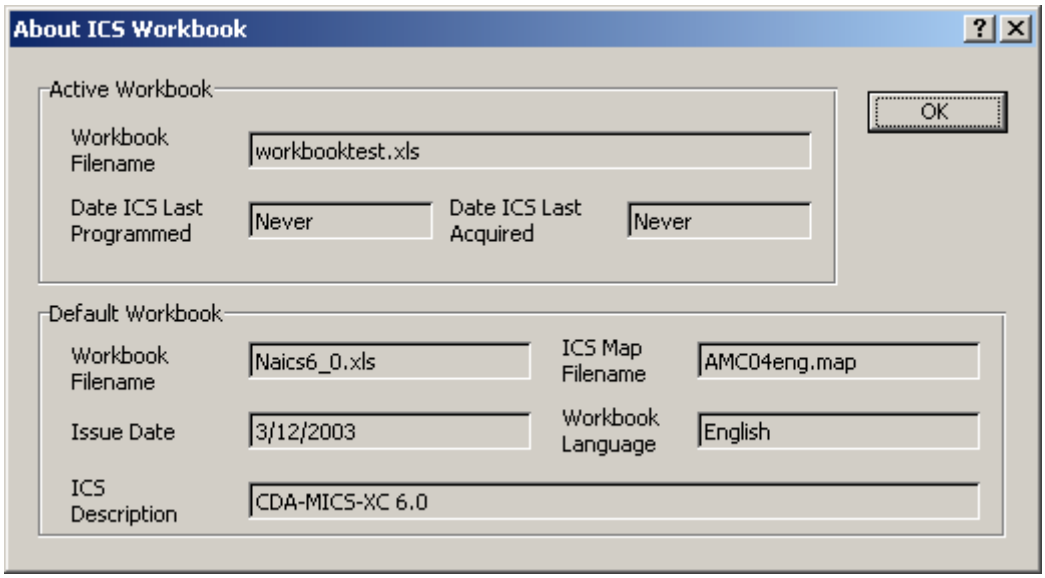
Table 8 OLP Settings dialog box fields (Continued)

Field	Description
Display OLP errors dialog	Once errors are detected, you can correct them using the **Errors** dialog box. If the **Display OLP errors dialog** option is selected, the dialog box is displayed automatically after completing an operation (program or acquire).

Understanding the About ICS Workbook dialog

The About ICS Workbook heading under ICS opens the About ICS Workbook dialog box. This box displays information about the ICS Workbook in which you are currently working.

Figure 53 About ICS Workbook dialog



The following table describes each of the settings on the OLP Settings dialog box:

Table 9 OLP Settings dialog box fields

Field	Description
Active Workbook	
Workbook Filename	The current name of the workbook.
Date ICS Last Programmed	The date that you last used this workbook to program an ICS.
Date ICS Last Acquired	The date that you last used this workbook to acquire data from an ICS.
Default Workbook	
Workbook Filename	The name of the default workbook used to create this workbook.
Issue Date	This is the date that the default workbook was issued by Nortel.

Table 9 OLP Settings dialog box fields (Continued)

Field	Description
ICS Description	A description of the Norstar system that uses this workbook.
ICS Map Filename	The map name that the workbook uses.
Workbook Language	The language to which the workbook is set.

Troubleshooting worksheet data transfer

The following are errors that you might encounter when workbook information transfers to the Norstar system.

CAP/KIM is not programmed

Any CAP/KIM must be physically connected to the Norstar system for the programming to be successful.

There is an overflow of data during an Norstar system acquisition

When programming is acquired from the Norstar system, there may be more data from the Norstar system than there is room in the workbook. If this occurs, the excess data will appear in the Errors box.

Field data transfer error

When you attempt to transfer programming to the Norstar system, you receive an error message similar to: 515 Routes & Dest codes B4 Route 000 cannot be modified or removed.

If you acquire Routes & Dest codes programming from an Norstar system, the programming includes Route 000. When you use the same workbook to program an Norstar system, the programming for Route 000 is transferred as well, but Route 000 cannot be modified. You should ignore the error message sent by the Norstar system.

User preference buttons do not match

The User Preferences button settings you see in the workbook do not match the button settings as they are found in the Norstar system programming.

When you use the Off-Line Programming tool and workbook to make changes which affect the arrangement of buttons on a set in User Preferences, the workbook may not update the button assignments for a DN the same way as the Norstar system. For example, changes to line assignments, Answer DNs, or Incoming Line Groups affect which buttons are available for storing telephone numbers or feature codes. To ensure your workbook has accurate User Preferences settings, acquire the User Preferences settings from the Norstar system after you have transferred or added programming.

Chapter 8
Backing up and restoring Norstar data

It is important that you backup the system data for the Norstar systems you are managing on a regular basis to prevent long delays for reprogramming in the event of a system failure.
The ICS Remote Tool (ICSRT) allows you to schedule a backup for times of low system activity at four frequency levels. You can also schedule a restore to occur on a specific time and date.

The **Run Tool** menu item **Backup Restore** tool allows you to do an immediate backup or restore.

This chapter contains the following information:

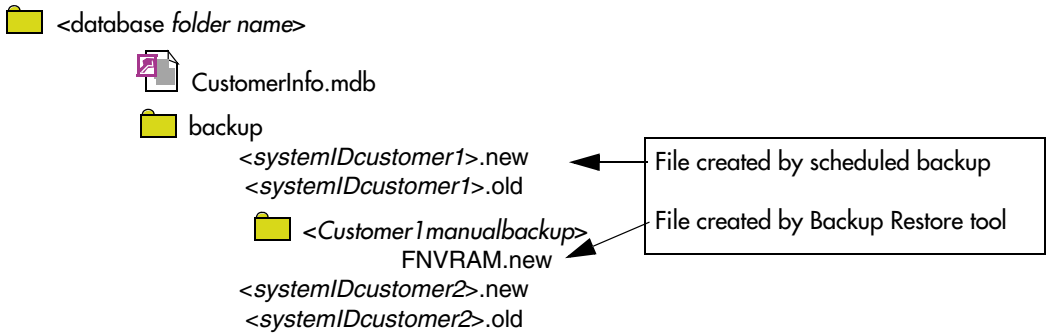
- "Backing up data with ICSRT" on page 107
- "Restoring data with ICSRT" on page 108
- "Starting the Scheduler" on page 109
- "Scheduling backups or restores" on page 109
- "Understanding the job queue" on page 113
- "Backing up data with the Backup Restore tool" on page 116
- "Restoring data with the Backup Restore tool" on page 118

Backing up data with ICSRT

When you use ICSRT scheduler to perform a backup, a copy of the Norstar system programming copies to the current <***database path***>**\backup** folder in a file called **<*System ID*>.new** on the computer where the CustomerInfo database for that customer is located. The file name changes to **<*System ID*>.old** when the next backup occurs. Only two versions of backed-up files are stored.

If you use the **Backup Restore** tool, the files are saved in ***<ICSRT installed path>*\backup** in a file called **FNVRAM.new**, unless you specify another path. The recommendation is that you create a separate folder in your CustomerInfo database/backup folder for manual backups. Refer to Figure 54. When you perform a manual backup, you can then navigate to this folder instead of storing the file in the default folder, where it might accidentally get overwritten. This also allows you to have both types of backup files stored close to each other.

Figure 54 ICSRT database backup folders



Either of these files could be used to restore the programming to a Norstar system through a scheduled or manual restore in the event of complete programming loss.

Tips: If the computer you are using is in the same building as the Norstar system, we strongly recommend that you copy backup files to CD and store it offsite.

When you perform a backup, the Norstar system being backed up may slow down, but it remains operational. We suggest that you perform these operations during non-business hours, and warn the customer that the Norstar system will be slow. The amount of time it takes for a backup depends on the size and configuration of the Norstar system, and the baud rate the ICSRT computer uses.

You can schedule a backup to run every day, every 7 days, every 15 days, or every 30 days. The job then runs at the time you have chosen for whatever time period you chose. For instance, if you chose every 7 days, the backup for that system would occur at the same day every seventh day.

To determine if any backup or restore operations have been scheduled, have run successfully, have failed to run, or are running, view the Jobs in Queue screen. This screen allows you to remove scheduled jobs and to view the current status of a scheduled job. Refer to "Understanding the job queue" on page 113.

Restoring data with ICSRT

When you use ICSRT to perform a scheduled restore, you indicate the path to the backup file on your computer. When the restore occurs, the information from the indicated file is uploaded to the Norstar system, replacing the existing programming.

Caution: If you use both scheduled and manual backups for a system, ensure that you picked the latest backup file to restore, unless you have a specific reason for wanting to restore an older version.

If you use the **Backup Restore** tool to perform a manual restore, ensure that the file in the backup folder that you indicate is named **FNVRAM.new**.

You use the Restore feature when the Norstar system has lost all its programming. During the restore operation, the Norstar system is put in maintenance mode for the duration of the restore process.

Warning: After a restore process is successfully completed, you must **wait at least 10 minutes** before attempting to make another on-line connection to the Norstar system to which you just restored data.

Setting up a restore: You can either use the Add/Submit Job screen, located under the **Scheduler** menu heading ("Scheduling backups or restores" on page 109) or you can use or the **Backup Restore** tool, located under the **Run Tool** menu heading.

Starting the Scheduler

Scheduler is automatically started when you start up the computer running ICSRT.

However, if you close the icon at any time, you can start scheduler manually from Windows by selecting **Start\Programs\Nortel networks\Norstar ICS Remote Tools 11.0**, then click on **Norstar ICS Scheduler**.

Scheduler runs in background, which is indicated by a Scheduler icon in the system icon tray.

Note: If you change the time and/or date on your computer, ensure that you exit the Scheduler and restart it, to allow it to synchronize timing, so that the jobs on queue execute correctly.

Daylight Savings Time: If your computer automatically resets for the time change, and Scheduler is running at that time, you still need to exit Scheduler and restart it.
If a scheduled job is running during a time change, the job will continue to completion. Scheduler must then be exited and restarted before any other jobs start.

Scheduling backups or restores

Usually you schedule a backup for a set date and time when you are offering a backup service. For example, you can schedule a backup of system data every day, every 7 days, every 15 days, or every 30 days. When you have several Norstar systems to back up, you should schedule the backups to run overnight. This method prevents any degradation of service on the Norstar system that is being backed up.

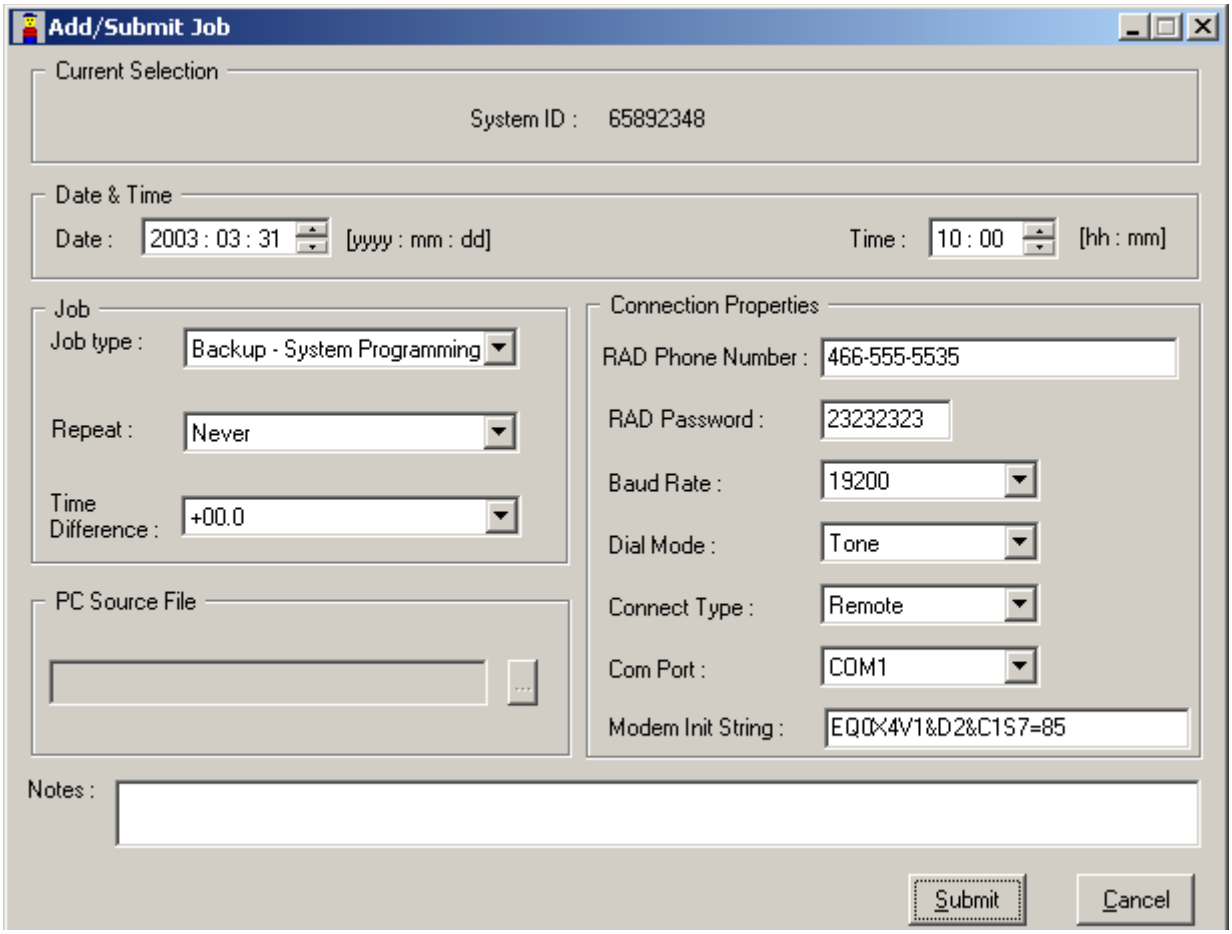
Caution: After a restore process is successfully completed, wait at least 10 minutes before attempting to make another connection to that Norstar system.

To perform a backup or restore:

1. Before you begin, make sure the Customer Info screen appears on your monitor and Scheduler is running in System tray.
2. Select the Norstar customer to which you want to back up or restore.
3. On the menu, click on **Scheduler** then select **Add/Submit Job**.

   The Add/Submit Job screen appears. Refer to Figure 55.

Figure 55 Add/Submit Job screen



4 Change the fields, as required to set up the job schedule. Refer to Table 10 for values and descriptions for each field.

Table 10 Add/Submit job fields

Field name	Values	Description
Date	<date>	The date on which you want the backup or restore to occur. Format: **YYYY : MM : DD** The default date is the current date on the computer form which you are running ICSRT.
Time	<time>	The time when you want the backup or restore to start. Format: **HH : MM**. The default value is the current time on the computer from which you are running ICSRT. Also refer to Time Difference field.

Table 10 Add/Submit job fields (Continued)

Job type	Backup - System Programming Backup - AA Greetings Backup - All Restore - System Programming Restore - AA Greetings Restore - All	Determine what type of action you want the system to perform. The **Backup AA Greetings/Restore AA Greetings** selections are valid only for CICS systems. The **Backup - All/Restore - All** selections only backup or restore system programming on MICS systems; on CICS systems, both System programming and AA Greetings are backed up or restored.
Repeat	Never Every Day Every 7 Days Every 15 Days Every 30 Days	Choose the number of times you want the procedure to repeat within a 30-day schedule. For restore operations, this field is grayed out since they can only occur once.
Time Difference	+XX.X or -XX.X	This field indicates the number of hours difference between the time clock of the ICSRT computer and the Norstar system. By setting this field, you can prevent the possibility of accidentally scheduling the backup or restore to start during a busy period at the customer site.
PC Source File	<file path>	Enabled only during restore operations. Browse and select the file that contains the appropriate backup file to be restored. By default, this edit box will be blank.
Connection Properties: These properties are the same that were set for the customer record. Change them only if the connection hardware has changed.		
Notes	<text>	Enter any notes about the job or the system.

5 Click on **Submit.**
The job will be scheduled to run at the time that you selected. You can check this on the Jobs in Queue screen where **Status** will display **Ready to Run**.

Note: If you change the time and/or date on your computer, ensure that you exit the Scheduler and restart it, to allow it to synchronize timing, so that the jobs on queue execute correctly. Refer to "Starting the Scheduler" on page 109.

Warning: Do not shut down your computer while a backup or restore job is running. When you restart your computer, ensure that Scheduler is started. Refer to "Starting the Scheduler" on page 109.

When the backup completes, the system automatically disconnects from the Norstar system and is ready to perform the next scheduled action.

Exiting Scheduler

You can close Scheduler by right clicking on Scheduler system tray icon and selecting the **Exit** option.



Note: It is recommended not to close the scheduler application as jobs scheduled for that particular duration will not be scheduled for execution.

Troubleshooting with Scheduler

If Scheduler crashes or if you face any problem while performing scheduled backup/restore operations you need to find the job and scheduler log files.

1. Exit the scheduler application if it is still running. If you are not sure if it is still running, press <**Ctrl**><**Alt**><**Del**> to view the Task Manager. **Scheduler.exe** should not appear on the Task Manager.
2. Navigate to the ICSRT folder.
   The db folder contains the **JobQueue.mdb** file, which contains all the information about the jobs. This provides information about the situation.
3. In the Scheduler folder, look for the log file (**Sched_<*dateandtime*>.log**) that was created nearest to the time when the problem occurred. Send this file to your field support team.

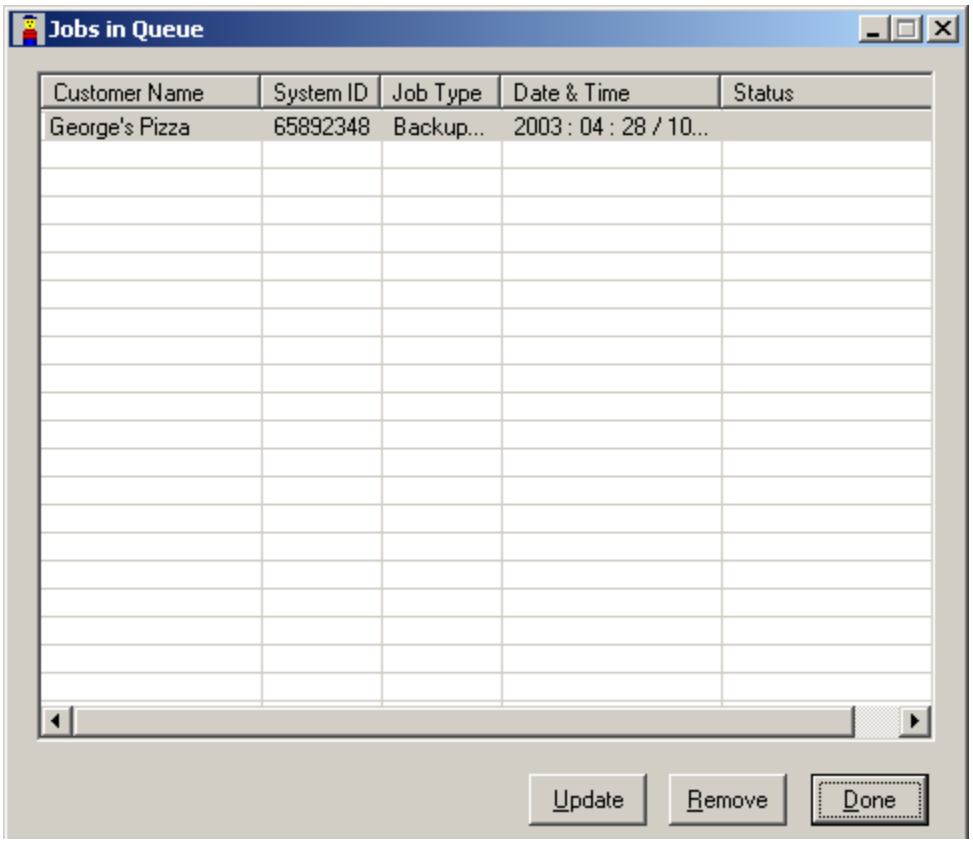
Understanding the job queue

The Jobs in Queue screen lists all Norstar systems scheduled for a backup or restore. Each backup or restore in the list is called a job.

To access the Jobs in Queue screen, either click on **Scheduler**, then select **Job Queue** or double click on the Scheduler icon on the task bar.

Click on **Done** to exit the screen.

Figure 56 Jobs in Queue screen



Each job on the Job Queue is listed with its **Customer Name**, **System ID**, **Job Type**, the **Date & Time** the job is scheduled to occur, and the current **Status** of the job.

The Jobs in Queue screen uses the following **Status** identifiers:

- **Ready to Run**: The job has been scheduled and is waiting to be run.
- **Running**: The job is currently being run.
- **Completed**: The Job has been completed successfully.
- **Error**: An error occurred during the job execution. Corresponding error message will be updated.
- **Suspended**: Job was scheduled for execution but the user terminated the scheduler application. The status of jobs that are to be scheduled are updated as **Suspended** in the **Status** field of the Jobs in Queue dialog.

- **Re-Scheduled**: A suspended job, which has a Repeat attribute set, will be scheduled for next time, and the current job status changes to indicate this rescheduling.

Completed jobs are not deleted from the Jobs in Queue. The jobs are left on the screen so you can view the status of the completed jobs. The maximum number of jobs that can be on the JobQueue database is 4096. To prevent the Job Queue from becoming too full, you should delete completed jobs after you confirm that they ran successfully.

To remove the completed jobs, use the remove procedure described in the next section.

Jobs that are scheduled to repeat automatically are treated like a series of separate jobs. Each time the job is scheduled to repeat, another job is added to the JobQueue database. This allows you to check if the previous job completed successfully and see when the job will be run again.

Removing a job

The Jobs in Queue screen allows you to remove pending or completed jobs from the JobQueue database.

To remove a job from the Job Queue:

1. Select the job you want to remove.
2. Click on the **Remove** button.
   You will be prompted to confirm the removal.
3. Click **Yes** to remove selected job from the JobQueue database.

Removing repeated jobs: To remove repeated jobs, you need to remove the latest instance of job that is scheduled with **Repeat** attribute.

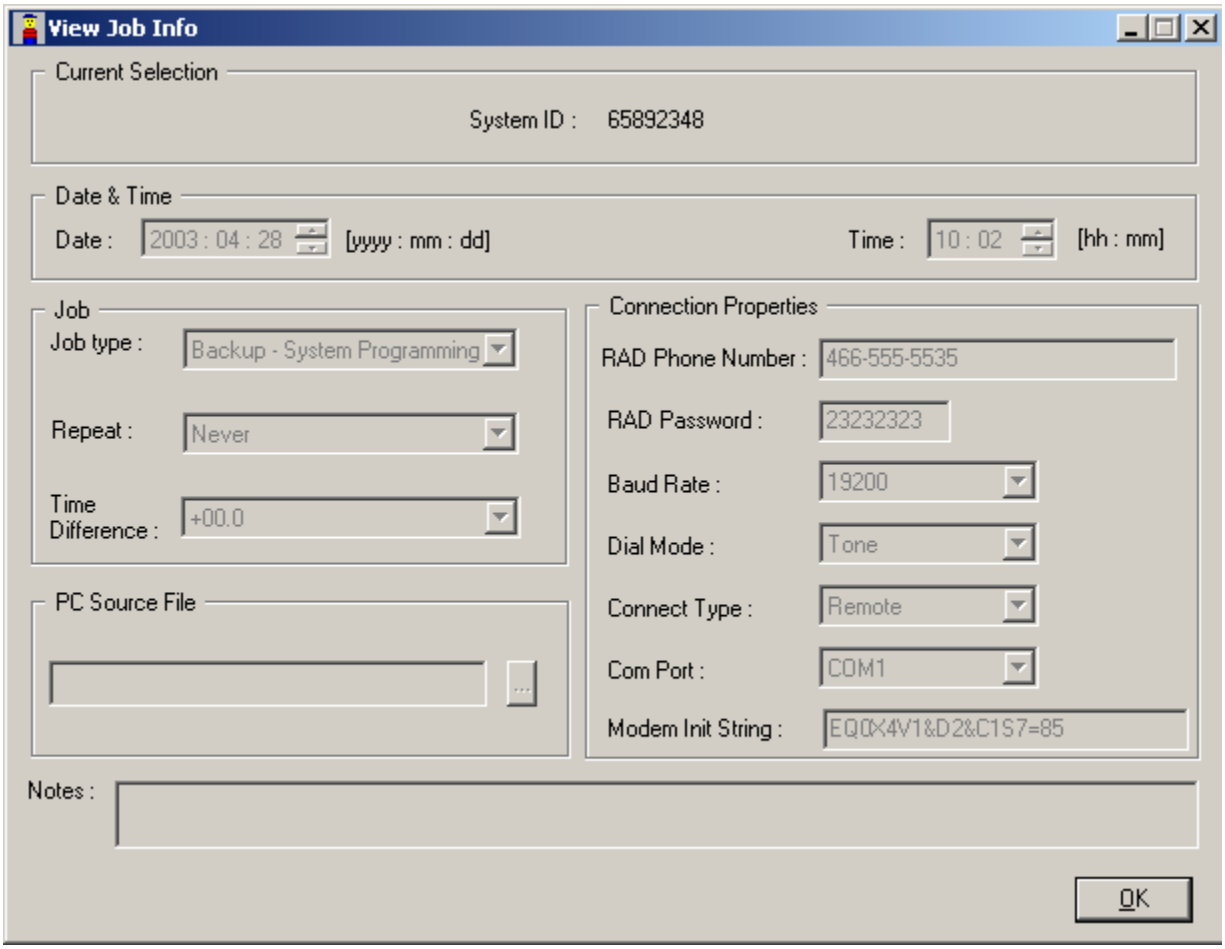
Updating the jobs in Job Queue

Click on the **Update** button to update the list box in Jobs in Queue screen. This updates the status column if there is any change or if an error has occurred. This is also helpful when different users use the same database at the same time.

Viewing a submitted job

When you double click on any job in Jobs in Queue dialog, the View Job Info screen appears. All the fields in View Job Info dialog will be filled with values read from JobQueue database. All the dialog elements in View Job Info dialog are grayed out and cannot be changed.

Figure 57 View Job Info screen

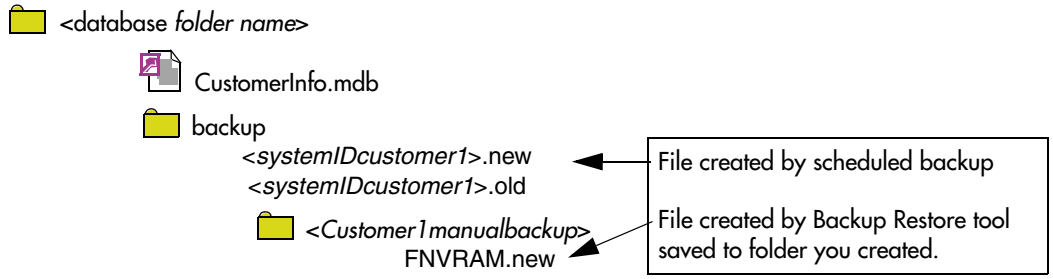


Backing up data with the Backup Restore tool

If you want to do an immediate restore or backup of the system programming, you can use the **Backup Restore** tool found under the **Run Tool** heading.

Caution: We recommend that you create a separate folder under your CustomerInfo database/backup folder for manual backups. Refer to Figure 58. When you perform a manual backup, you can then navigate to this folder instead of storing the file in the default folder, where it might accidentally get overwritten.
This also allows you to have both types of backup files stored close to each other.

Figure 58 Maintaining manual backup files in the customer database



Tips: If the computer you are using is in the same building as the Norstar system, we strongly recommend that you copy backup files to CD and store it offsite.

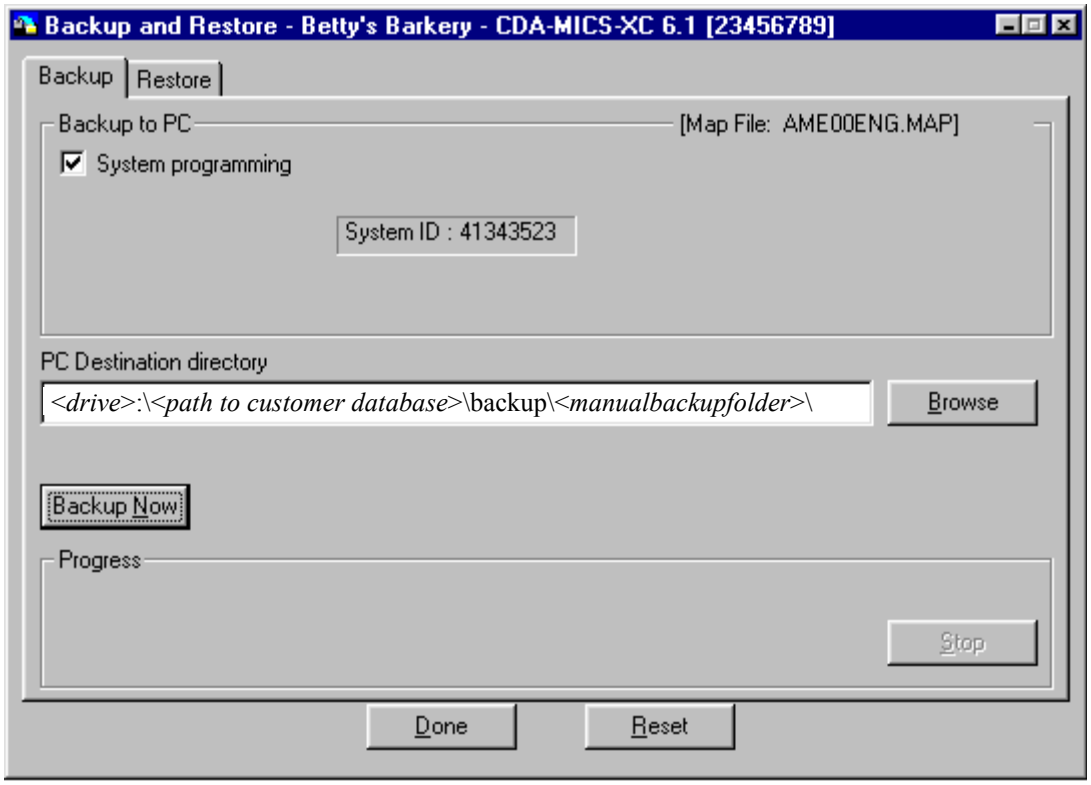
1. Open ICSRT.
2. If you are not in the correct database, find the database where the correct customer is located.
3. Select the customer you want to connect to.
4. Click on **Run Tool**, and select **Backup Restore**.

   The connect screen appears, with the connect information for that system.
5. Click on **Connect**.

   After your computer connects to the Norstar System, the screen shown in Figure 59 appears.
6. Click on the **Get System ID / Business Name** button to ensure that you are backing up the correct system.
7. Click on the **System programming** check box to make it active. Note that the **Backup Now** button becomes active.
8. Click on **Browse** and navigate to the manual backup folder you created in the customer database/backup folder.

Caution: If you do not change the database path, the backup file is saved in the default backup file in the ICSRT folder. Saving the file in this folder can be a security risk, as any other manual backup file saved to the default folder will replace this file.
If you choose to save the file in the default backup folder, it is strongly recommended that you move the file to another location once the backup is complete.

Figure 59 Backup and Restore screen, Backup tab



9 Click on **Backup Now**.
The backup begins immediately.
The **Progress** field indicates how the backup is progressing.
If you encounter errors or need to stop the backup, slick on **Stop**.

10 When the backup is complete, click on **Done**.
If you need to restart the backup while it is running, click on the **Reset** button.
The backup is stored as **FNVRAM.new**.
If there was a previous backup file, it is renamed as **FNVRAM.old**.

11 Ensure that you exit the connection to the Norstar system:

a On your desktop, click on the Norstar ICS Programming Tools screen, which sits behind the Customer Info screen.

b On the top menu of this screen, click on **Tool**, and select **Terminate Connection**.

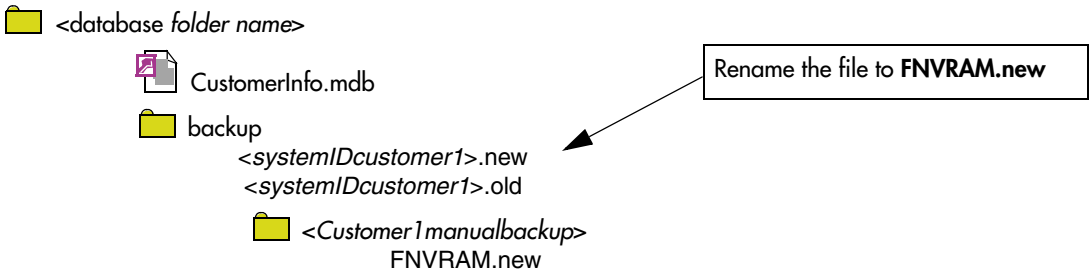
Restoring data with the Backup Restore tool

If you want to do an immediate restore of a backed up file, you can use the **Backup Restore** tool found under the **Run Tool** heading.

1 Decide which backup file you are going to restore:

- If you are restoring a backup file that was created by a scheduled backup, rename the file as **FNVRAM.new**. Refer to Figure 60**.**

Figure 60 Renaming a scheduled backup file



- If you are using a backup file that was created using the **Backup Restore** tool, you will need to know the path to that file. The file is already called **FNVRAM.new**.

2 Open ICSRT.

3 If you are not in the correct database, find the database where the correct customer is located.

4 Select the customer you want to connect to.

5 Click on **Run Tool**, and select **Backup Restore**.
The connect screen appears, with the connect information for that system.

6 Click on **Connect**.
After your computer connects to the Norstar System, the Backup and Restore screen appears.

7 Click on the **Restore** tab. The screen shown in Figure 61appears.

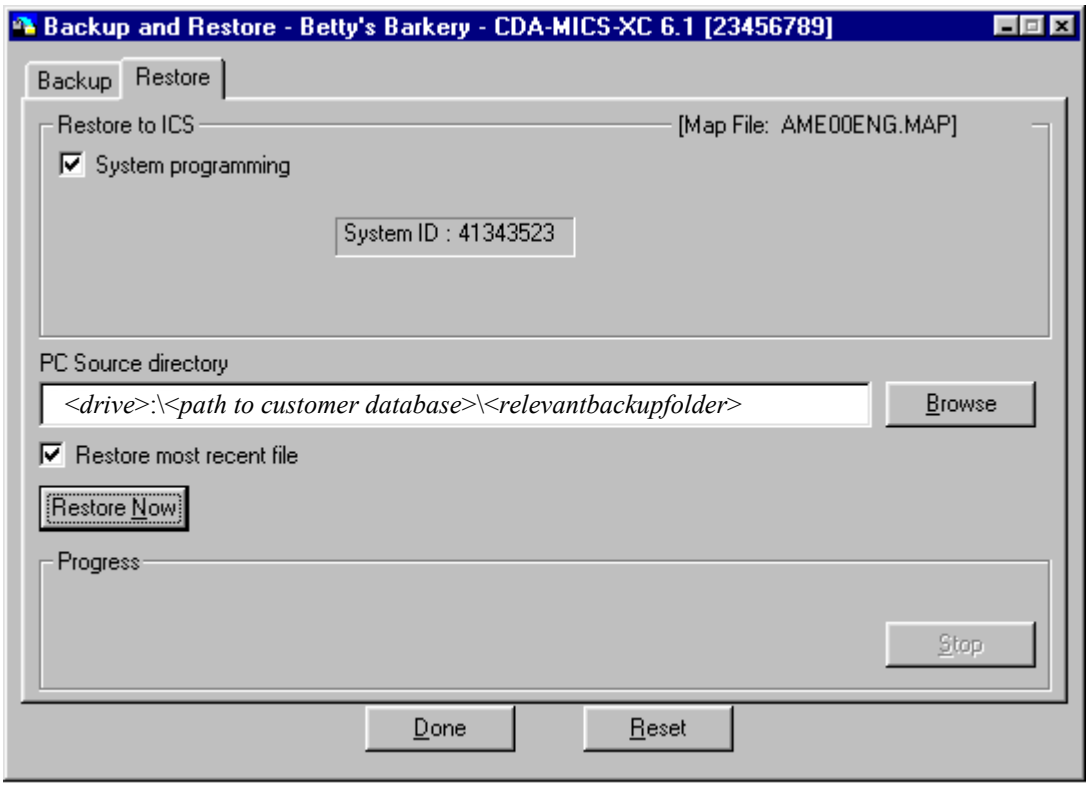
8 Click on the **Get System ID / Business Name** button to ensure that you are backing up the correct system.

9 Click on the **System programming** check box to make it active. Note that the **Restore Now** button becomes active.

10 Click on **Browse** and navigate to the CustomerInfo database backup folder that contains the backup file you want to restore. Refer to step 1.

11 Ensure that the **Restore most recent file** is selected, unless you want to restore the archive backup.

Figure 61 Backup and Restore screen, Restore tab



12 Click on **Restore Now**. The restore begins immediately.
The **Progress** field indicates how the restore is progressing. If you encounter errors or need to stop the restore process, slick on **Stop**.

13 When the restore is complete, click on **Done**.
If you need to restart the restore while it is running, click on the **Reset** button.

14 Ensure that you exit the connection to the Norstar system:

a On your desktop, click on the Norstar ICS Programming Tools screen, which sits behind the Customer Info screen.

b On the top menu of this screen, click on **Tool**, and select **Terminate Connection**.

Chapter 9
Troubleshooting the ICS Remote Tool

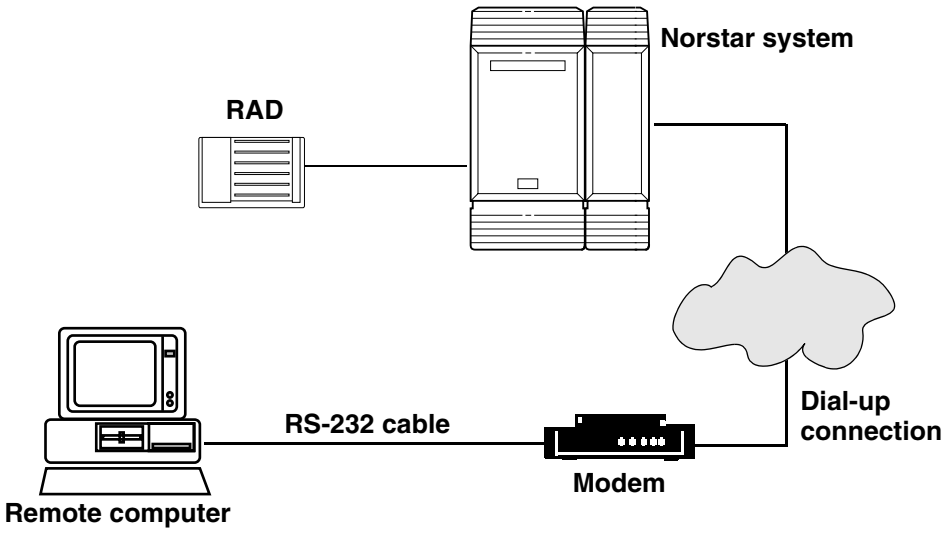
This chapter describes the following troubleshooting tools:

- "Setting up a RAD alarm center" on page 121
- "Error messages" on page 123
- "The Debug tool" on page 125

Setting up a RAD alarm center

The RAD can be programmed to report alarms to a dedicated alarm device. An alarm device can be a printer, a terminal or a computer that is set up to log incoming reports. Usually, the alarm device is located in a central location, perhaps near your computer, and collects alarm reports from several systems. Refer to Figure 62.

Figure 62 Overview of how a RAD alarm center is set up



RAD alarm codes

When a RAD receives an alarm from the KSU, it dials the telephone number of the modem attached to the dedicated alarm device and transmits an alarm string. This string identifies the System ID number and the alarm code.

In some cases RAD alarm codes do not match ICS alarm codes. The following table shows the ICS alarm code equivalents to RAD alarm codes. Use Table 11 when you are trying to interpret RAD alarm codes:

Table 11 ICS and RAD alarm cross reference

ICS reported	RAD reported
52-X-1	52-X-01
52-X-2	52-X-05
52-X-3	52-X-09
61-X-1	61-X-1
61-X-1	61-X-5
61-X-3	61-X-9

Table key:

- X is the port number (1-8)
- 52 means the Trunk Cartridge is disconnected from the Trunk Module
- 61 means the Trunk Cartridge is incompatible
- 1,2,3 indicates the Trunk Cartridge number
- 1,5,9 indicates the Trunk Cartridge line number



Note: For more information about Alarm Codes, see the appropriate *Norstar Installer Guide*, or the *Norstar Companion Alarm and Event Code Manual*.

Error messages

This section contains the most common and/or most critical error messages that you might come across as you are using the ICS Remote Tools (ICSRT) application:

Table 12 ICSRT error messages

SL NO	ERROR MESSAGE	BRIEF EXPLANATION
1.	`Copy operation failed`	Copy operation failed
2.	`Failed to connect to Database`	The ICSRT is unable to connect to the specified database. Possible causes: Wrong path, executable or database deleted, low disk space, or not enough memory
3.	`Cannot Open Database`	The application is unable to open the database
4.	`Failed to update Shell.ini`	The application is unable to update the shell.ini file
5.	`The file attributes cannot be set`	The application is unable to change the attributes of OLP workbooks.
6.	`Cannot Update`	Warning that the application is unable to update the CustomerInfo/JobQueue database
7.	`Not Added to database`	The application fails to add a new record to the database
8.	`Do Modal Failed`	The requested dialog box cannot be opened.
9.	`<database path> does not exist! Trying to connect to default database.`	The application is unable to connect to the database in which case it will try to connect to default database.
10.	`File not found`	The required file is not found in the specific path
11.	`SQL Error <XXX> occurred while accessing database (CustomerInfo/Job Queue). Please refresh the database and try after some time. If same error is repeated, please contact system administrator.`	Possible issues: • The database is corrupted • The application memory is too low • The database experienced an internal error Multi-user environment • You are trying to do an operation on a record which is in use by someone else • The record does not exist • You do not have the proper permissions to access the database. Contact your technical support service and provide them with the error number. In some cases you may need to reinstall the ICSRT application.
12.	`The folder --------- is invalid. Please reenter.`	You entered an invalid folder during database creation/ copying. Example: The folder C:\User\\Database is invalid. Please reenter.

Table 12 ICSRT error messages (Continued)

SL NO	ERROR MESSAGE	BRIEF EXPLANATION
13.	`The folder -------- cannot be created. Please double check`	Create directory failed during database creation/copying.
14.	`Failed to connect to default database`	The application fails to connect to the default CustomerInfo database. This can occur if the default database directory is removed. This may require reinstallation of ICSRT.
15.	`Selected record does not exist!`	You tried to perform an operation on a record that has already been removed by another user. Suggested action: Perform a Refresh to the CustomerInfo database or an Update of the JobQueue database before attempting to do any database-related operations.
16.	`The source path ------------ does not exist`	You tried to copy or create a CustomerInfo database, but in source directory CustomerInfo database does not exist
17.	`Unable to create OLP Choice list as ---------- is not a valid path`	The application is unable to build the OLP choice list as the required path does not exist Example: Unable to create OLP Choice list as C:\ICSRT Installed folder\Workbook is not a valid path
18.	`Internal database error`	General database error
19.	`Internal memory error`	General error displayed when any memory related error occurs in scheduler application.
20.	`Internal application error`	General application error.
21.	`Job not registered.`	You tried to add a job when Scheduler is already running another job or your computer is overloaded (out of memory) and Scheduler cannot register the job. Action: Close all other applications running on your computer except Scheduler. Resubmit the job.

The Debug tool

The Debug tool, which is located under the ICSRT **Run Tools** menu, allows the technical support personnel to dial into a Norstar system over the ICSRT RAD connection and initiate a memory dump to assist in diagnosing system issues.

Use this tool only under the direction of technical support personnel.

Access to this tool requires a password that will be provided by technical support personnel if they need you to run the tool for them.

The Debug tool creates a MEMDUMP file on the computer that runs the Debug operation, in the folder that is specified during setup of the tool. If you are asked to run Debug, this is the file that you would send to the technical personnel for analysis.

Appendix A
Connecting a modem

This appendix provides information required for a remote connection from Norstar ICS Remote Tools (ICSRT) to the RAD at 9600 baud.

Note: This does not apply to the FastRAD.

Hardware required

The following is a list of the hardware required at the remote Norstar ICS end:

- RAD
- Hayes compatible external modem 9600 baud or higher
- standard RJ11 telephone cable
- null modem cable or adaptor
- 25 pin RS-232 female/male gender changer may be required
- direct telephone line

Modem specifications

The modem must be configured from a computer prior to connecting it to the RAD. Modem manufacturers use different commands for implementing the features listed below. For more information, refer to the manual that came with your modem.

1. The modem must be set to answer at a **maximum** of 19200 Baud.

   Note: The RAD will not communicate at speed higher than 19200.

2. The modem must be set to Auto Answer (the standard ‘ATS0=1’ command will work on all Hayes Compatible modems).

3. The modem must be commanded to control the Data Set Ready (DSR) as per CCITT standards (ITU-T). By default most modems come configured to with DSR High as Always ON.

4. The modem must be set to ignore the Data Terminal Ready (DTR) signal. The modem needs to assume that DTR is Always ON.

5. The modem must be configured to allow the DTE/DCE rate to follow the link rate. This means that the modem to RAD baud rate will be set to the same rate as ICSRT connects with the modem. Since ICSRT will be set to connect at 9600 baud with this modem, the modem will in turn communicate with the RAD at 9600.

6 These setting must then be saved in the Modem NVRAM (Non Volatile Memory) so the settings will become the modem power up defaults.
Note: If the settings are not saved and the modem is powered off and on, they will disappear, and the modem will not communicate with a RAD until it is reprogrammed.

Preparing the remote modem

To prepare the remote modem, connect it to the computer. The Windows installation process puts **Terminal** in the Accessories folder by default. Open Windows™ and from the **Terminal** program:

1 Choose **Settings** from the pull down menu.

2 Choose **Communications** from the pull down menu.

3 Set the COM port to the port that has the modem connected using a compatible baud rate.

4 Click to return to the **Terminal** screen.

5 Enter the **ATZ** command. If **OK** appears, enter each command required to set the modem.

Note: If OK does not appear, the port is not configured correctly, the modem is not properly connected, or is not powered on.

6 When you have entered the commands appropriate for the modem being used, exit the **Terminal** Program. The modem is now ready to be hooked up to the remote RAD.

7 Enter the commands required to initialize the modem. Each command is terminated with a carriage return. Refer to the Sample Configuration shown below.

Sample configuration

Nortel has tested a configuration using a Zyxel U-1496E modem connected to the RAD using the following commands to program the modem:

```
AT&N3 // Force modem to make maximum 9600 baud
// Connects
ATS0=1 // This has modem auto answer on first ring
AT&S1 // This configures modem to control DSR
AT&D0 // This configures the modem to ignore DTR
AT&B0 // DTE/DCE rate follows link rate
AT&W // This instructs modem to write the new
// settings into NVRAM
```

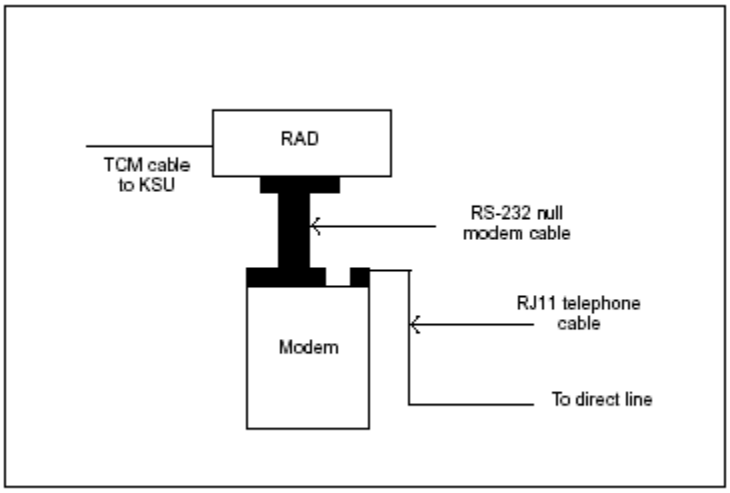
Note: This is a sample, and will probably not work with any other type of modem. Refer to the manual that came with your modem.

Installing remote equipment

To install remote equipment for a direct connection:

1. Connect the RAD to the Norstar ICS port with a standard TCM cable.
2. Connect the pre-configured modem to the RS-232 port on the RAD using the null modem cable.
3. Connect the modem to the direct line using the standard RJ11 telephone cable.

Figure 63 Remote equipment installation



Glossary

The following terms occur within the ICS Remote Tools (ICSRT) documents.

Alarm Indicates an error condition in the Norstar system.

Backup The process of making a copy of a Norstar ICS programming.

For manual connection, this copy is then stored in the ***<ICSRT installed path>*\backup** folder.

For scheduled backups, this copy is stored in ***<current database path>*\backup** folder.

Block A section of text or data.

Cancel An operation that terminates an action and returns to the previous screen or action.

Command An action or task.

Configuration A type of programming that assigns certain settings to a Norstar system, lines, and sets.

Connection A link between a Norstar system and a computer. This link is either established through a modem or directly through an RS-232 connection.

Database A collection of Customer records (CustomerInfo.mdb) and records for the Job-Queue database that reside in a directory of the computer running ICSRT or on a network file server.

Error message A window that pops onto the screen and tells you what the error is and what action should be taken.

FastRAD A Remote Access Device (RAD) that offers a faster transmission rate than the Global RAD, as well as improved security features.

Field An area reserved for data entry. This area is usually found beside a title or name.

Global Remote Access Device (Global RAD) A Norstar peripheral device which provides ICSRT access to a Norstar system.

Hardware The physical components that make up a computer, printer, RAD, ICS or any other device being discussed, including the firmware components of each device.

Icons Symbols used to indicate certain specifications or states.

ICS The central hardware component in a Norstar system.

Internal Remote Access Device (IRAD) The RAD that is built into the Compact ICS and must be enabled with software keys. When enabled, the IRAD allows remote administration and software access to the ICS Remote Tools.

Item A component of a list or menu.

Job	A scheduled operation, such as a Backup or Restore of a Norstar system.
Job Queue	A screen that displays a list of scheduled jobs waiting to be completed. Access this screen to determine the status of the scheduled jobs.
M7310 telephone	The Norstar model M7310 telephone that has a two-line display and can be used to program Norstar system features. This telephone is one of the telephone emulated in the Remote Set Tool.
M7324 telephone	The Norstar model M7324 telephone that has a two-line display and can be used to program Norstar system features. This telephone is one of the telephone emulated in the Remote Set Tool.
Mandatory field	A field that must contain valid data.
Menu	A list of actions you can choose from.
Modem	A device used by the PC to communicate with a Norstar system. It converts a digital data communications signal into an analog signal that can be transmitted over a standard telephone line.
Navigation	Movement between fields or screens in ICSRT.
Object	A button or list item that you can manipulate.
Optional field	A field that does not need to contain data.
Password	A series of characters that allow access to the RAD and the DeBug tool.
Programming	A process of setting up and selecting features on a Norstar system.
Remote Access Device (RAD)	A Norstar peripheral device which provides ICS Remote Tools access to a Norstar system.
Remote site	A Norstar system that is not located in the same area as the computer running ICSRT.
Scheduler	Determines when a Backup or Restore job should be completed.
Software	A set of instructions known as a program or application. Programs form the basis of Norstar ICS Remote tools and a Norstar system.
Software version	Refers to the type of software that a Norstar ICS uses to operate, and the vintage of the software.
System	A Norstar ICS.
System ID	A series of digits that identify a Norstar system.
Time Difference	The time zone difference between a remote Norstar system and the local time at the computer that is running ICSRT.
Valid option	Data that is appropriate for a specific field.

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