NORTEL NORSTAR

FastRAD
Installation Guide

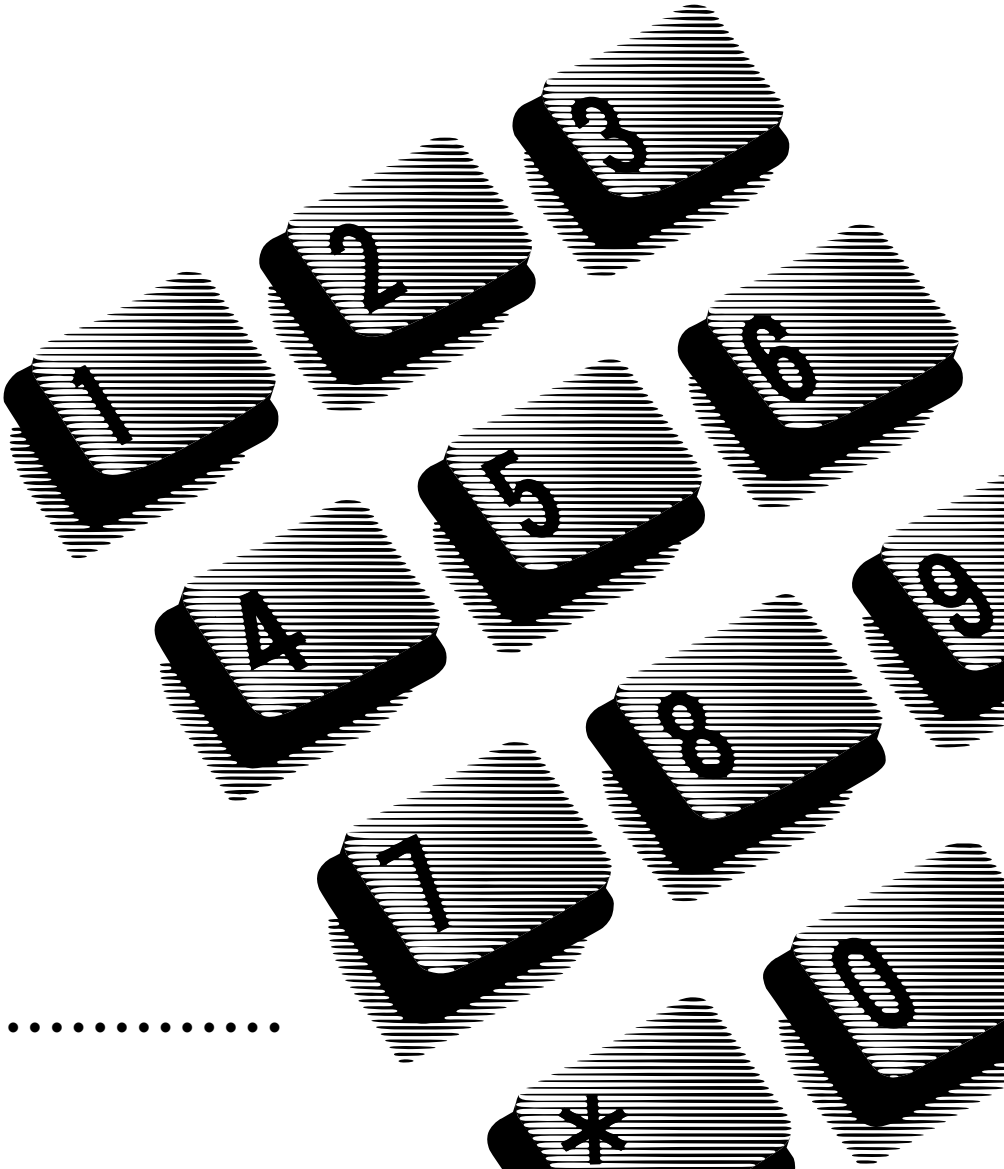


Table of Contents

Canadian & US Safety Installation Instructions i

For equipment with internal power supplies i

For equipment with external power supplies i

Important Safety Instructions ii

Canadian Regulations iii

Industry Canada Notice iii

US Regulations iv

Federal Communication Commission (FCC) Notice iv

Introduction 1

Before you start 3

Special check list 4

Requirements for PC communication 5

Connecting the FastRAD 6

Mounting the FastRAD 8

Programming the FastRAD 10

Starting a programming session 11

General Programming 13

Programming Alarm Reporting 14

Testing the FastRAD 20

Troubleshooting 21

Programming Record 22

Canadian & US Safety Installation Instructions

Please Read Carefully



WARNING: To avoid electrical shock hazard to personnel or equipment damage observe the following precautions when installing telephone equipment:

1. Never install telephone wiring during a lightning storm.
2. Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
3. Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
4. Use caution when installing or modifying telephone lines.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

This symbol (if applicable) on the product is used to identify the following important information:

For equipment with internal power supplies:

- Mains nominal AC voltage 110-120 V~ ; 50/60 Hz
- Mains nominal AC voltage 220-240 V~ ; 50/60 Hz

For equipment with external power supplies:

- Must be powered from a CSA certified and UL listed or CSA-NRTL/C certified Class 2 power source equipped with an appropriate mating connector. Please refer to installation instructions for details.

For current ratings, refer to product specific documentation and product labels.

Important Safety Instructions

Please Read Carefully

When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury of persons, including the following:

1. **Read and understand all instructions**.
2. Follow the warnings and instructions marked on the product.
3. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this product near water, for example, near a bathtub, wash bowl, kitchen sink, or laundry tub, in a wet basement or near a swimming pool.
5. Do not place this product on an unstable cart, stand or table. The product may fall, causing serious damage to the product.
6. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.
7. Do not allow anything to rest on the power cord. Do not locate this product where the cord will be abused by persons walking on it.
8. Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.
9. Never spill liquid of any kind on the product.
10. To reduce the risk of electric shock, do not disassemble this product, but have it sent to a qualified service person when service or repair work is required.
11. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

    a. When the power supply cord or plug is damaged or frayed.

    b. If the product has been exposed to rain, water or liquid has been spilled on the product, disconnect and allow the product to dry out to see if still operates; but do not open up the product.

    c. If the product housing has been damaged.

    d. If the product exhibits a distinct change in performance.
12. Avoid using telephone equipment during an electrical storm. There may be a remote risk of electric shock from lightning.
13. Do not use the telephone equipment to report a gas leak in the vicinity of the leak.
14. **CAUTION**: To eliminate the possibility of accidental damage to cords, plugs, jacks, and the telephone equipment, do not use sharp instruments during the assembly procedures.
15. **Save these instructions**.

Canadian Regulations

Industry Canada Notice — Please Read Carefully

The Industry Canada label identifies Public Switched Telephone Network (PSTN) certified equipment. This certification means that the equipment meet certain telecommunications network protective, operational and safety requirements. Industry Canada does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Existing telecommunications company requirements do not permit their equipment to be connected to customer provided jacks except where specified by individual telecommunications company tariffs.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

WARNING: Users should not attempt to make electrical ground connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

NOTICE: The Ringer Equivalence Number (REN) assigned denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. Please refer to the installation instructions with the KSU for more details.

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations as specified in the Industry Canada Standard ICES-003 Issue 2.

Substitution of non-approved equipment will void the Nortel warranty.

Address for warranty and repairs in Canada:

Nortel Networks
30 Norelco Drive
Weston, Ontario
M9L 2X6

For more information call 1-800-4NORTEL.

US Regulations

Federal Communication Commission (FCC) Notice — Please Read Carefully

Radio/TV Interference: This equipment, classified as a digital apparatus, generates radio frequency interference and if not installed and used properly in strict accordance with the manufacturer's instructions may cause interference with receiving mediums. This Class A equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference which may cause undesired operation. While these rules are designed to provide reasonable protection, there is no guarantee that interference will not occur in a particular installation. You can determine whether interference occurs by monitoring your receiving device while the equipment is connected and a phone call in place.

If problems are experienced:

- Reorient or relocate the receiving TV or radio antenna, where this may be done safely.
- To the extent possible, move the telephone system and the radio or television farther away from each other or connect the telephone system and the radio or television to outlets on separate circuits.
- Consult the dealer or an experienced radio/television technician for additional suggestions.

Note: FCC registration does not constitute an expressed or implied guarantee of performance.

For Devices Intended to be Connected to the Public Switched Telephone Network:

FCC Registration Number: This telephone equipment complies with Part 68, FCC Rules for connection to the Public Switched Telephone Network (The FCC registration number appears on a label affixed to the KSU).

Your connection to the telephone line must comply with these FCC Rules:

- Use only an FCC Standard network interface jacks and FCC compliant line cord and plug to connect this equipment to premise wiring.

If a network interface jack is not already installed in your location, you can order one from your telephone company.

Please refer to your Owner's Manual/User's Guide for specific installation instructions.

US Regulations continued

In some states, customers are permitted to install their own jacks.

- The equipment may not be connected to a party line or coin /toll telephone line. Connection to Party Line Service is subject to state tariffs. (Contact the state public utility commission, public service commission or corporation commission for information).

  It is no longer necessary to notify the Telephone Company of your system's Registration and REN numbers. However, you must provide this information to the telephone company if they request it.

- If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it necessary.
- The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.
- Do not attempt to repair this equipment yourself. If trouble is experienced with this equipment, please refer to the repair and warranty information, noted below. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

Signaling Method: The equipment allows signaling in DTMF tones. It can complete calls to local and long distance lines and can also complete long distance calls via computer phone systems such as MCI or SPRINT. This equipment is capable of providing access to interstate providers of operator services through the use of access codes. Modification of this equipment by call aggregators to block access dialing codes is a violation of the Telephone Operator Consumers Act of 1990.

Ringer Equivalence Number: The FCC Registration information on the product label, includes a Ringer Equivalence Number (REN) which is used to determine the number of devices you may connect to your phone line. Please refer to the installation instructions with the KSU for more details.

Hearing Aids: The telephone station sets are compatible with hearing aids equipped with an appropriate telecoil and is compliant with the requirements of the Americans with Disabilities Act (ADA).

Programming Emergency Numbers: When programming emergency numbers and/or making test calls to emergency numbers:

1. Remain on the line and briefly explain to the dispatcher the reason for calling before hanging up.
2. Perform such activities in the off-peak hours, such as early mornings or late evenings.

Substitution of non-approved equipment will void the NORTEL warranty.

Address for warranty and repairs in the US:

Nortel Networks
640 Massman Drive
Nashville TN 37210
For more information call 1-800-4NORTEL

Introduction

The Norstar **Fast Remote Access Device** (FastRAD) allows a personal computer (PC) running **Norstar ICS Remote Tools** (ICSRT) to communicate with a Key Service Unit (KSU). FastRAD also runs with **Companion Diagnostics System** (CDS) and **Companion Manager**. The FastRAD:

- is located on site near either the KSU or the PC
- receives calls from a PC via modem or PC direct connection
- authorizes a PC to access a KSU
- connects a PC with the KSU
- reports KSU alarms to an off-site alarm center

Refer to Figure 1.

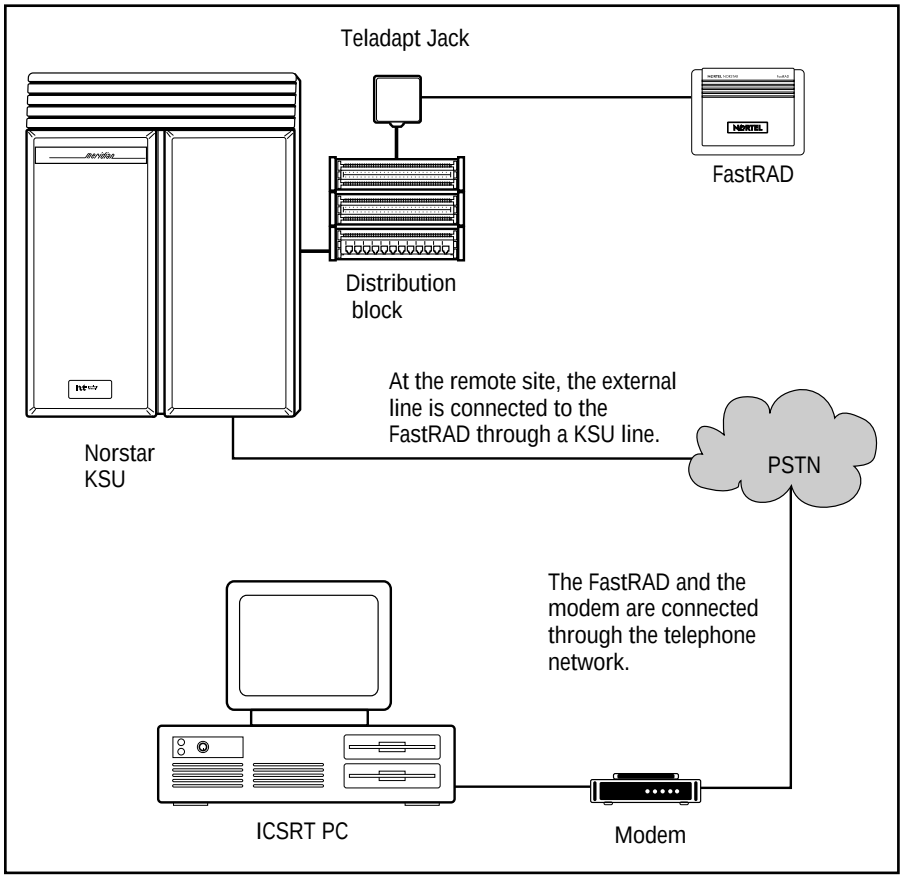


Figure 1 – System overview of remote connection

Before you start

- ❑ Make sure you read and follow the instructions in this guide.
- ❑ Make sure you have the necessary tools to complete the installation. A Special parts check list is provided in this guide.
- ❑ Make sure all equipment in the FastRAD package is accounted for. A Package check list is provided in this guide.
- ❑ Make sure the necessary environment and electrical conditions are met. An Environment check list and list of Electrical requirements are provided in this guide.

Important: Only one FastRAD can be connected to a KSU.

Environment check list

The FastRAD installation area should be:

- ❑ clean, free of dust, dry and well ventilated
- ❑ between 0° and 50° Celsius (32° to 122° Fahrenheit)
- ❑ non-condensing relative humidity between 5% and 95%
- ❑ within 800 m (2600 feet) of the Norstar KSU
  Note: When using a Norstar 3X8 KSU the FastRAD must be installed within 305 m (1000 feet).
- ❑ free of Bridge taps on the FastRAD KSU TCM loop
- ❑ free of Loading coils on the FastRAD KSU TCM loop

Package check list

Make sure the package contains:

- ❑ the Norstar FastRAD
- ❑ an RJ-11 teladapt cord
- ❑ a power supply with a barrel connector
- ❑ a paper template (for mounting)

Special check list

To begin an installation you need:

- ❑ an operating Nortel two-line display telephone for programming the FastRAD
- ❑ a screwdriver
- ❑ two round head, size #8 wood screws, 1 inch long
- ❑ a roll of tape (or four tacks) for mounting the template
- ❑ a list of programming parameters for the FastRAD
- ❑ a unique System identification (ID) number
- ❑ a unique password
- ❑ the **Norstar ICS Remote Tools** software and documentation package*

Electrical requirements

Make sure the following electrical requirements are met:

- ❑ line voltage (120 V): 102 - 127 Vac

* If you are using a PC at the site to test the FastRAD installation, this package is required.

Requirements for PC communication

A PC communicates with a FastRAD either through a modem or through an RS-232 cable. A modem is used when the PC is situated at a remote location. An RS-232 cable is used when the PC is situated near the FastRAD at the customer site.

When you use a PC at the customer site, you must use a 9-pin cable to connect the PC to the RS-232 port on the FastRAD. This connector is not supplied with the FastRAD. Table 1 shows which pins are used to make a connection with the FastRAD.

Note: The FastRAD modem supports V.32/V.32bis protocols only. We recommend a baud rate* of 9600 or greater be selected when connecting Norstar PC applications to the FastRAD remotely using a modem.

*Refers to the PC-Modem DTE speed.

Pin	Name	Function	Direction
1	DCD	Data Carrier Detect	from FastRAD
2	RXD	Received Data	from FastRAD
3	TXD	Transmitted Data	to FastRAD
4	DTR	Data Terminal Ready	to FastRAD
5	GND	Ground	-
6	DSR	Data Set Ready	from FastRAD
7	RTS	Request to Send	to FastRAD
8	CTS	Clear to Send	from FastRAD
9	RI	Ring Indicator	from FastRAD

Table 1 – RS-232 Pin configuration

Connecting the FastRAD

When equipment and environment conditions have been verified, you can begin connecting the FastRAD to the distribution block.

Before you connect the FastRAD, make sure the port works. Attach a working Norstar two-line display telephone to the port. If the telephone operates, the port is working.

To connect the FastRAD:

1. Plug the barrel connector of the power supply into the power connector of the FastRAD and the other end into the wall outlet. See Figure 2.



This unit must be powered from a pluggable Type A Class 2 power source that is UL and CSA listed.

2. Check that the LED on the FastRAD unit is lit to confirm the power connection.

3. Locate the distribution block.

4. Mount the RJ-11 teladapt jack next to the distribution block.

5. Using twisted pair station wire, connect the teladapt jack to a free station port at the distribution block.

   Note: Do not connect the FastRAD to port 101. This port is reserved for the prime set. The FastRAD should be connected to one of the on-core station ports.

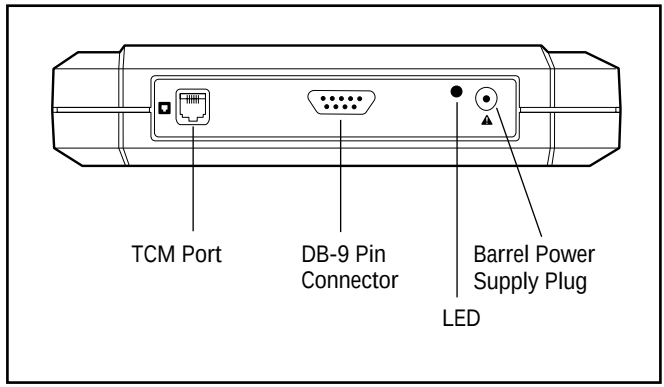


Figure 2 – KSU connection

6. Connect one end of the RJ-11 teladapt cord to the TCM port on the side panel of the FastRAD. See Figure 2.

7. Connect the other end to the RJ-11 teladapt jack to the KSU. Make sure the cord is less than 800 m (2600 feet) long.

Note: A connection to the FastRAD DB-9 pin serial port is only required for a direct connection to a PC at the site.

Mounting the FastRAD

Before you mount the FastRAD, select a location within 800 m (2600 feet) of the distribution block that is free of traffic, dust and dampness.

Note: You do not need to mount the FastRAD on the wall if it is only being used temporarily to program the KSU.

The FastRAD can be mounted either horizontally or vertically. To mount the FastRAD on the wall:

1. Attach the paper mounting template to the wall. Make sure the template is even with the wall. See Figure 3.

   Note: This template is found at the center of this guide.

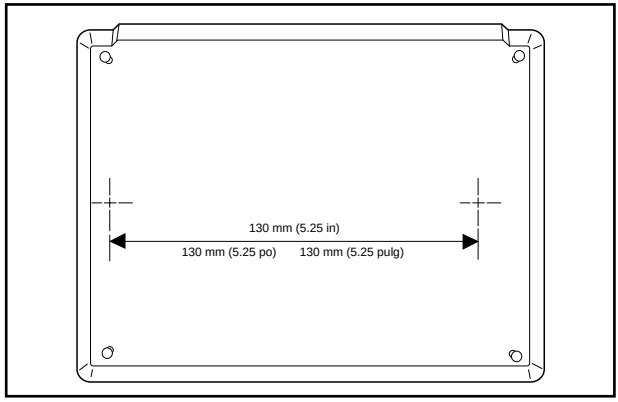


Figure 3 – Paper wall mounting template

2. Put the two screws in the wall leaving 10 mm (3/8 in) of each screw exposed. The marks on the template show where the two screws are placed. After the screws are in place, remove the paper template.

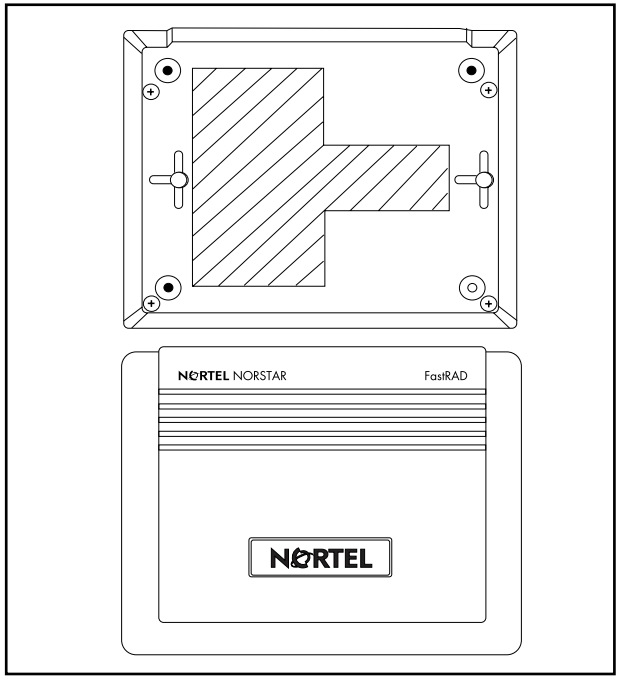


Figure 4 – Mounting the FastRAD

3. Place the two keyhole slots at the back of the FastRAD over the screws and slide the FastRAD onto the screws.

When the FastRAD is securely mounted, you are ready to start programming.

Programming the FastRAD

Before you start, make sure you have completed the **FastRAD Programming Record** found at the end of this guide. This record must include the System ID, Auto-answer line number and Alarm reporting line number.

Table 2 shows the different programming parameters and their default values. If your programming information does not specify a value for one of the fields, assign it to the default value.

Note: You must program the Required fields for the FastRAD to operate. Also program any Optional fields that apply to your system. Auto-answer should be set to ON if unassisted remote access to the FastRAD is desired.

Programming Field	Range	Required / Optional	Default
Password	8 to 10 digits	Required	none
System ID	Up to 10 digits	Optional	blank
Auto-answer line number	1 - 999	Required for auto-answering	Line 001
Alarm reporting line number	1 - 999	Required for alarm reporting	Line 001
Local baud rate	300/1200/2400/4800/ 9600/19200	Optional	9600
Auto report alarms	ON, OFF	Optional	OFF
Alarm number 1	up to 16 digits	Optional	blank
Alarm number 2	up to 16 digits	Optional	blank
Retry delay	1 - 99 minutes	Optional	15 minutes
Number of retries	0 - 9	Optional	5
Alarm reporting baud rate	Low/Medium/High	Optional	High
Alarm reporting parity	None/Odd/Even	Optional	None
Auto-answer	ON, OFF	Optional	OFF
Answer delay	6 to 60 seconds	Optional	18 seconds

Table 2 – Programming parameters and default values

Starting a programming session

The FastRAD cannot be used for remote or direct connections until the user password has been programed through Feature 9**. This initial password programming must occur on-site.

IMPORTANT: There is no way to recover a lost or forgotten password or return to the default state.

A FastRAD is programmed from a Norstar two-line display telephone that is connected to the KSU. Programming information is entered into the FastRAD using the dialpad on the telephone. Follow the prompts that appear on the display.

Note: You cannot start a programming session while you are on a call. When a programming session is in progress, press only the buttons indicated. The programming session is terminated when you press incorrect buttons or when you make or answer a call. Only on a DR2 KSU can you put the programming session on hold to make or answer a call.

If you need to go back a step while you are programming, press BACK or press [Rls] and start again. If you stop programming for more than three minutes, the display returns to the date and time, and you must restart programming from the beginning.

IMPORTANT: You must wait 60 seconds before you attempt to program the FastRAD when: the FastRAD is connected or restarted; the power supply is disconnected or the KSU is restarted.

To start a programming session:

1. Press [Feature] [9] [*] [*].
   The display shows:

   ```
   Password
   EXIT   CHNG   NEXT
   ```

   Note: When the password has been changed, the display shows: `Enter password`. Check the FastRAD installation wiring and start again if the display shows: `Inactive feature`. For more information, refer to **Troubleshooting**, later in this guide.

2. Press CHNG to change your programming password. Using the dialpad, enter your new password. Your password must be from eight to 10 characters long. As you enter your password, the display shows asterisks. The display changes to show: Confirm Password. When you re-enter your password, asterisks appear on the display.

   Note: We recommend you assign a password the first time you start a programming session. You must assign a password before you can perform remote access. Write down your password, keep it in a safe place and avoid giving it to co-workers. This password can be changed at any time.

3. Press OK to accept your new password. The display changes to show Password again.

4. Press NEXT.
   The display shows:

   ```
   RAD Admin
   GEN   ALARM  DATA
   ```

The RAD Admin display is the main programming display. This display must appear on the telephone before you can begin to program the FastRAD.

General Programming

General programming allows you to define the System ID number.

Before you begin entering general programming information, make sure the display shows RAD Admin. If you do not have this display on the Norstar telephone, follow the steps in **Starting a Programming Session**.

To enter general FastRAD programming information:

1. Press GEN.
   The display shows:

   ```
   System ID number
   BACK   SHOW  NEXT
   ```

2. Press SHOW.
   The display shows:

   ```
   -
   BACK   CHNG  NEXT
   ```

   Note: If this is a first time installation, we recommend the system ID number must be programmed to allow remote access. If this is *not* a first time installation, the display shows the last System ID entered.

3. Press CHNG.
   The display shows:

   ```
   -
   CLEAR   BKSP   OK
   ```

4. Using the dialpad, enter the System ID number.

   Note: If you enter a wrong number, press BKSP to delete the last number entered, or CLEAR to erase all numbers entered.

5. Press OK to accept the System ID number.

This completes general programming. To continue programming alarm reporting, refer to the next section, **Programming Alarm Reporting**.

Programming Alarm Reporting

The alarm programming session allows you to program the FastRAD to report alarms to the telephone number of a dedicated alarm center, such as a printer or terminal.

Before you begin an alarm programming session, make sure the display shows `RAD Admin`.

If you do not have this display on the Norstar telephone, follow the steps listed in **Starting a Programming Session**.

To program the FastRAD Alarm Reports:

1. Press ALARM.
   The display shows:

   ```
   Auto-report: OFF
   BACK   CHNG  NEXT
   ```

2. Press CHNG to turn automatic alarm reporting on.
   The display shows:

   ```
   Auto-report: ON
   BACK   CHNG  NEXT
   ```

3. Press NEXT.
   The display shows:

   ```
   Report line: 001
   BACK   CHNG  NEXT
   ```

4. Press CHNG.
   The display shows:

   ```
   Report line:_
   CLEAR   BKSP   OK
   ```

5. Enter the KSU line number the FastRAD uses for remote connections. Refer to the Programming Record for the correct line number.

6. Press NEXT.
   The display shows:

   ```
   Alarm number 1
   BACK   SHOW  NEXT
   ```

7. Press SHOW to see where the FASTRAD reports its alarms.
   The display shows:

   ```
   <Alarm number>
   BACK   CHNG  NEXT
   ```

8. Press CHNG to enter the first alarm report telephone number.
   The display shows:

```
-
CLEAR   BKSP   OK
```

9. Enter the telephone number for Alarm 1.
   The display shows:

```
<alarm number>
CLEAR   BKSP   OK
```

10. Press OK.
    The display shows:

```
Alarm number 2
BACK   SHOW  NEXT
```

11. Press SHOW.
    The display shows:

```
<Alarm number>
BACK   CHNG  NEXT
```

    If you do not want to enter a second alarm number, press NEXT and go to step 14.

12. Press CHNG.
    The display shows:

```
-
CLEAR   BKSP   OK
```

13. Enter the telephone number for Alarm 2.

14. Press OK.
    The display shows:

```
Num retries: 5
BACK   CHNG  NEXT
```

    Note: If you are using the default setting(s), press NEXT and go to step 18.

15. Press CHNG.
    The display shows:

```
Num retries:_
CLEAR   BKSP   OK
```

16. Enter the number of retries. This must be a number between 0 and 9.

17. Press OK.
    The display shows:

    ```
    Retry mins: 15
    BACK   CHNG  NEXT
    ```

18. Press CHNG.
    The display shows:

    ```
    Retry mins:_
    CLEAR   BKSP   OK
    ```

19. Enter the number of minutes between retries. This must be a number between 1 and 99.

20. Press OK.
    The display shows:

    ```
    Alarm baud: High
    BACK   CHNG  NEXT
    ```

21. To change the baud rate, press CHNG until the desired baud rate appears. The baud rate should match that of the alarm device's modem. You have three choices: Low, Medium and High. The default is High.

    IMPORTANT: Changing the baud rate is not required unless the alarm centre modem is connected to a slow device, such as an old printer. Selecting the Low setting limits the baud rate to less than 300. Selecting the Medium setting limits the baud rate to less than 1200. Selecting the High setting, the baud rate is determined entirely by the FastRAD and the alarm centre modems.

22. Press NEXT.
    The display shows:

    ```
    Parity: None
    BACK   CHNG  NEXT
    ```

23. To change the parity setting, press CHNG until the desired setting appears. The parity should match that of the alarm device's modem. You have three choices: None, Odd and Even. The default is None.

24. Press NEXT.
    The display shows:

    ```
    RAD Admin
    GEN   ALARM  DATA
    ```

This completes alarm programming. To continue programming FastRAD call handling, refer to the next section, **Programming Data**.

Programming Data

Data programming allows you to determine how many seconds the FastRAD waits before answering a call on an incoming KSU line. This allows a line to be used normally during business hours and provides Auto-answer capabilities after hours. Auto-answer must be set to ON to allow unassisted access to the FastRAD.

Before you begin programming, make sure the display shows `RAD Admin`.

If you do not have this display on the Norstar telephone, follow the steps in **Starting a Programming Session**.

To program the FastRAD's Data:

1. Press DATA.
   The display shows:

   ```
   Auto-answer: OFF
   BACK   CHNG  NEXT
   ```

2. Press CHNG to turn automatic answer ON.
   The display shows:

   ```
   Auto-answer: ON
   BACK   CHNG  NEXT
   ```

3. Press NEXT.
   The display shows:

   ```
   Answer line: 001
   BACK   CHNG  NEXT
   ```

4. Press CHNG.
   The display shows:

   ```
   Answer line:_
   CLEAR   BKSP   OK
   ```

5. Enter the KSU line number the FastRAD uses for remote connections. Refer to the Programming Record for the correct line number.

Note: In general, the following points should be considered while choosing the FastRAD Auto-answer line:

- If possible, use an on-core line for auto-answering. This allows remote access to the KSU even in the event of an expansion module failure.
- Use a line that is not often used for other purposes, since the FastRAD will auto-answer after a pre-programmed delay.
- Choose only lines that are enabled.

6. Press OK.
   The display shows:

```
Answer delay: 18
BACK   CHNG  NEXT
```

7. Press CHNG to change the number of seconds the FastRAD waits before answering an incoming data call.
   The display shows:

```
Answer delay:_
CLEAR  BKSP  OK
```

8. Enter the number of seconds you want the FastRAD to wait prior to answering an incoming data call. This number must be between 6 and 60.

   Note: The modem "wait for carrier delay" (S Register 7) must be longer than the time it takes for the modem to dial the FastRAD Auto-answer line plus the Answer delay time. For example, if it takes 10 seconds for the modem to dial in to the FastRAD and Answer delay is set to 50 seconds, then the modem "wait for carrier delay" must be greater than 60 seconds.

9. Press OK.
   The display shows:

```
Local baud: 9600
BACK   CHNG  NEXT
```

10. Press CHNG until the display shows the desired local serial port baud rate (300, 1200, 2400, 4800, 9600 or 19200).

    Note: To use Norstar Manager in a direct connection, the local baud rate must be set to 9600 baud.

11. Press NEXT.
    The display shows:

    ```
    RAD Admin
    GEN   ALARM  DATA
    ```

12. Press RIs to end programming.

The FastRAD programming is completed. You must now test the FastRAD to make sure it is operating properly.

Testing the FastRAD

After the FastRAD installation and on site programming are completed you should test the FastRAD data transfer capabilities. To test the FastRAD, make a connection between the PC running ICSRT and the KSU at the customer site.

If the PC is not located at the customer site and the FastRAD is not programmed with Auto-answer ON, you must phone the ICSRT operator and instruct the operator to establish a connection with the FastRAD. In this case, refer to **Rerouting a call to the FastRAD**.

If you are using a PC at the work site, refer to **ICS Remote Tools User Guide** for instructions about connecting to the RAD.

The test is passed when the remote or local PC establishes a connection with the KSU.

If the FastRAD is programmed to report alarms, you can test alarm calls by disconnecting the FastRAD power supply. After a few seconds, reconnect the power supply. The FastRAD reports an alarm to the specified alarm connection centers.

Rerouting a Call to the FastRAD

If the FastRAD is not set up to Auto-answer a Central Office (CO) line, ask the ICSRT user to set up an operator assisted-call to your site. If the operator-assisted call is not accepted by the FastRAD, ensure the FastRAD is not involved in a programming session. Then ask the ICSRT user to attempt another operator-assisted call.

Troubleshooting

Troubleshooting the FastRAD installation is needed if you start a programming session and the display shows `Inactive feature`.

1. Check the wiring at the distribution block.

2. Make sure the Norstar port that the FastRAD is attached to is working.

3. Check that the power LED on the FastRAD unit is lit to confirm the power connection.

4. Refer to the appropriate Norstar Installer Guide for further diagnostic tests.

Note: If the wiring at the distribution block has been disconnected, the FastRAD can take up to two minutes to reset after the wiring is reconnected.

After you have checked all the wiring:

1. Press Feature 9 * *.
   The display should show:

   ```
   Enter password
   EXIT   CHNG  NEXT
   ```

2. Press NEXT.
   The display shows:

   ```
   RAD Admin
   GEN   ALARM  DATA
   ```

If the display is still showing `Inactive feature`, repackage the FastRAD, and return it to the point of purchase.

Programming Record

Complete the **FastRAD Programming Record** before you start programming.

FastRAD Programming Record		
Work Site: _____		
Address: _____ _____ _____	Telephone Number: _____ Installation Date: _____ Installer: _____	
Notes: _____		
GENERAL		
System ID Number	_____	Enter the System ID number. (Disable Admin if required.)
ALARM		
Auto-report	**Off** ❑ On ❑	Choose if you want the FastRAD to report alarms. The default is **Off**.
Report Line	_____	Enter the line number. Enter a number between 001 and 999. The default is **001**.
Alarm Number 1	_____	Enter the telephone number of the device where the FastRAD reports alarms.
Alarm Number 2	_____	Enter the telephone number of a second device where the FastRAD reports alarms.
Retry Delay	_____	Enter the number of minutes the FastRAD waits before it retries to report an alarm. Enter a number between 1 and 99.
Number of Retries	_____	Enter how many times a FastRAD tries to send an alarm after a failed connection attempt. Enter a number between 0 and 9.
Alarm Baud	Low ❑ Medium ❑ **High** ❑	Choose the alarm baud number. The default is **High**.
Parity	**None** ❑ Odd ❑ Even ❑	Choose which parity setting the FastRAD uses. The default is **None**.
DATA		
Auto-answer	**Off** ❑ On ❑	Choose if you want the FastRAD to answer incoming calls (must be ON to allow remote, unassisted access). The default is **Off**.
Answer Line	_____	Enter the line number. An on-core KSU line is recommended. Enter a number between 001 and 999. The default is **001**.

Answer Delay	_____	Enter the number of seconds the FastRAD waits before answering a call. Enter a number between 6 to 60. The default is **18**.
Local Baud Rate	300 ❑ 1200 ❑ 2400 ❑ 4800 ❑ **9600** ❑ 19200 ❑	Choose the baud rate the FastRAD uses for the RS-232 port. The default is **9600**.

1-800-4NORTEL
www.nortel.com/norstar

Norstar is a trademark of Nortel Networks.
Printed in Canada
P0855601 Issue 05