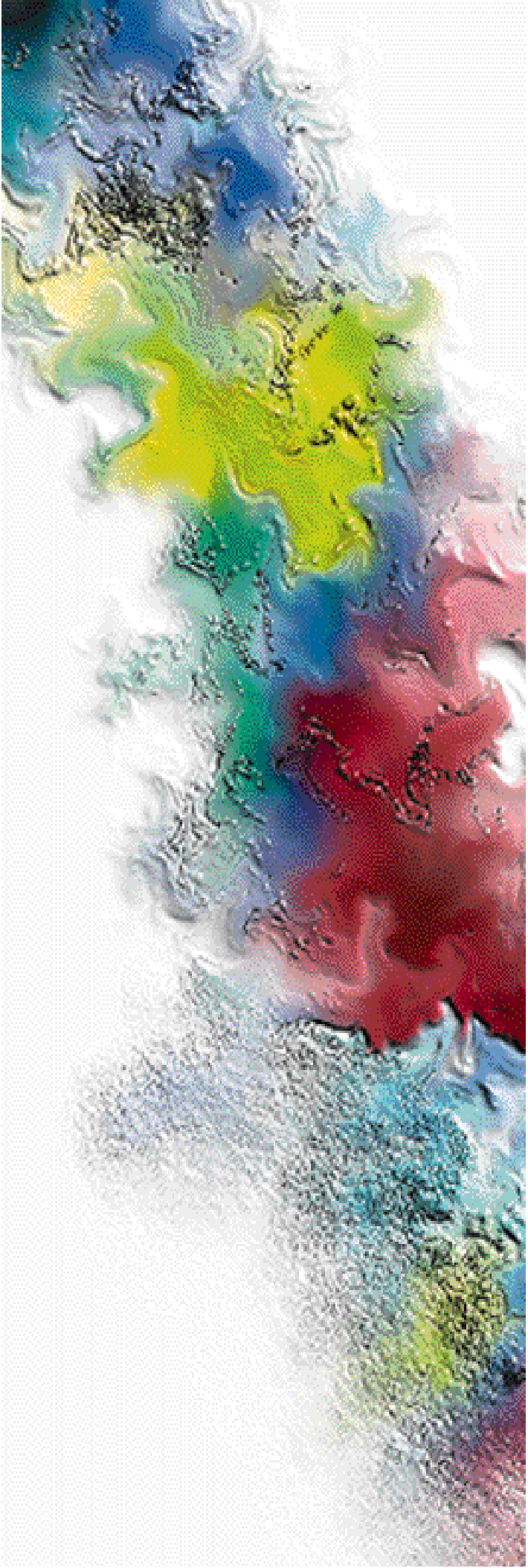

RF-Conductor!™ Controller

Models 3200 and 3210

NIU Remote Configuration

Series: Wireless Messaging System

System Version: WMS-Data
Software Version: 1.3 and
WMS Two-Way 3.0

Issue Date: May 1998

6880494G55-O

MOTOROLA

RF-Conductor!™ Controller

Series: Wireless Messaging System

System Version: WMS-Data
Software Version: 1.3

NIU Remote Configuration

Issue Date: May 1998

6880494G55-O

MOTOROLA

Foreword

General Information

The information in this manual has been reviewed for accuracy. However, no responsibility is assumed for inaccuracies. Motorola® reserves the right to make changes to any products discussed herein. The information in this document is subject to change without notice. Motorola assumes no liability for hardware or software damage or loss of data because of errors or omissions in this manual. Motorola does not assume any liability arising from the application or use of any products or circuits described herein. Neither does Motorola convey any license under its patents or right of others.

Refer questions concerning the contents of this manual or requests for related circuit board information to the following location:

Motorola, Inc.
Paging Systems Group
Multimedia Publications Department
5401 North Beach St., MS E230-A
Fort Worth, TX 76137-2794

or telephone: **(817) 245-4222**

To access on-line electronic information (BBS) for service notices and the latest software releases, call the Paging One-Call-Support™ Center. To request additional manuals or parts, please contact the Motorola Americas Parts Division:

telephone: **(800) 422-4210**
facsimile: **(847) 538-8198**

To request a part number, contact the Parts Identification Group:

telephone: **(847) 538-0021**

For Motorola Infrastructure and communicator test equipment, contact the Motorola Test Equipment Center:

telephone: **(800) 505-8378**

Global Service Organization

Motorola provides Infrastructure and communicator technical support through authorized or company-owned Service Centers. Motorola also provides service for communicators on a contract basis. For contract service information, please contact your local Motorola representative or the Paging One-Call-Support Center:

Motorola, Inc.
Paging One-Call-Support Center
5401 North Beach St., MS E112
Fort Worth, TX 76137-2794

telephone: **(800) 520-7243** or
(817) 245-4663
facsimile: **(817) 245-2141**

Service Training

Motorola, through its Advanced Messaging Technical Training Group in Fort Worth, Texas, offers courses on communicators, messaging switches, transmitters, and receivers. These courses are taught on the site or at a customer's location.

Students learn to install, configure, and maintain Motorola messaging systems. The classrooms at Motorola are equipped to ensure hands-on experience in practical lab exercises.

Training courses range from a basic introduction to communicators and messaging systems to customized classes on specific systems and large system applications.

To obtain a course catalog or scheduling information, please call (817) 245-2184 or (800) 724-3588 and ask for the training coordinator.

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The Motorola products described in this manual might include copyrighted Motorola computer software stored in semiconductor memories and other media. Laws in the United States and other countries preserve for Motorola certain exclusive rights for copyrighted computer programs, including the exclusive right to copy or reproduce in any form the copyrighted computer software.

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Trademarks

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Trademarks contained herein are the acknowledged property of their respective owners.

Important Safety Information

The installation, maintenance, and / or operation of this equipment may present potentially unsafe conditions, including, but not limited to, electrical shock, improper voltage to components, and improper operation that can cause personal injury, death or damage to property.

Read Instructions: Read all the safety instructions before operating the equipment. Retain these safety instructions for future reference. Specialized procedures and instructions are required and must be followed. Also, all applicable safety procedures, such as Occupational, Safety, and Health Administration (OSHA) requirements, National Electric Code Requirements, local code requirements, safe working practices, and good judgement must be used by personnel.

Heed Admonitions: Adhere to all warnings on the equipment and in the operating instructions. Follow all operating and use instructions. Two safety admonitions are used in this instruction manual to indicate:

- Equipment damage–

This safety admonition applies to an operating or maintenance procedure, practice or condition which, if not strictly observed, could result in damage to the equipment or database.

- Personal injury or injury that may result in death–

This safety admonition applies to an operating or maintenance procedure, practice or condition which, if not strictly observed, could result in serious personal injury or death.

Mounting: Mount the equipment only as recommended by the manufacturer. Situate the equipment away from heat sources such as radiators, heat registers, stoves, or other equipment (including amplifiers) that produces heat.

Power Sources and Grounding: Connect the equipment to the type of power source described in the installation instructions or as marked on the equipment. Take precautions to avoid defeating the grounding or polarization provisions of the equipment. Disconnect the power to the equipment by a circuit breaker when left unused for long periods of time.

Cleaning: Clean the outside of the equipment by using only a damp cloth. Do not immerse the equipment in any type of liquid, including water. Do not use liquid cleaners or aerosol cleaners. Dirt or other foreign matter should not be allowed to accumulate in the interior of the enclosure.

Damage Requiring Service: Do not attempt to perform service functions that are not described in the operating instructions. All other servicing should be referred to qualified service personnel.

Telephone Line Installation: All telephone line connections to the equipment should be accomplished with the telephone lines disconnected from the network interface.

Motorola is not responsible for static damage to equipment not sold under the Motorola logo.

PSG Limited Equipment Warranty for U.S. And Canadian Markets

General Terms

1. Motorola Paging Systems Group (PSG) manufactured infrastructure equipment is warranted to be free from defects in material and workmanship to the original purchaser only as set forth herein.

2. This Warranty covers only that equipment identified in paragraph 1 that is used in the manner and for the purpose intended.

3. This Warranty specifically excludes any and all software products from any source. PSG software products are the subject of the PSG Software Maintenance Program, addressed separately.

4. This Warranty shall commence 30 days after the date of shipment of the PSG infrastructure equipment.

5. The term of Warranty for all PSG infrastructure equipment, except for AlphaMate® 250 paging entry terminal products, is one (1) year parts and labor. The term of Warranty for AlphaMate 250 paging entry terminals is one (1) year parts and 120 days labor in Motorola PSG-authorized service centers. In-field labor for warranty claims (excluding AlphaMate 250 products) will be provided by Motorola PSG-authorized service centers during normal business hours.

Limitations and Qualifications of Warranty

6. LIMITATION—THE REMEDY UNDER THIS WARRANTY IS LIMITED TO MOTOROLA'S REPAIR OR REPLACEMENT OF DEFECTIVE EQUIPMENT. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

7. This Warranty does not cover, nor include a remedy for, damages, defects or failure caused by:

   a. The equipment or any part of it NOT having been installed, modified, adapted, repaired, maintained, transported or relocated in accordance with Motorola technical specifications and instructions;

   b. Storage not conforming to the Shipping, Receiving, and Installation section of the applicable Motorola Equipment Manual;

   c. Environmental characteristics not conforming to the applicable Motorola Equipment Manual;

   d. Nonconformance with the Equipment Operating Instructions in the applicable Motorola Equipment Manual;

   e. External causes including, without limitation, use in conjunction with incompatible equipment, unless such use was with or under Motorola's prior written consent;

   f. Cosmetic damages;

   g. Damages caused by external electrical stress;

   h. Lightning;

   i. Accidental damage;

   j. Negligence, neglect, mishandling, abuse or misuse;

   k. Force Majeure; and

   l. Damage caused by Shipper(s).

Return of Equipment

8. If an item of PSG infrastructure equipment malfunctions or fails in normal use within the Warranty Period:

   a. The Customer shall promptly notify the Motorola Paging One-Call-Support™ Center at 1-800-520-PAGE (7243) as to the problem and provide the serial number of the defective item. Motorola shall, at its option, either resolve the problem over the telephone or issue a Return Authorization Number to the Customer. The Customer shall, at its cost, ship the item to the Motorola Paging One-Call-Support Center location designated at the time the Return Authorization Number is issued;

b. The Return Authorization Number must be shown on the label attached to each returned item. A description of the fault must accompany each returned item. The returned item must be properly packed, and the insurance and shipping charges prepaid;

c. Motorola shall either repair or replace the returned item. The replacement item may be new or refurbished. When refurbished, it shall be equivalent to new in operation. When a returned item is replaced by Motorola, the returned item shall become the property of Motorola;

d. Subject to all the terms of this Warranty and to part availability, Motorola shall complete the repair or exchange of Motorola-manufactured equipment returned under Warranty within ten (10) working days of receipt of the equipment;

e. Motorola shall, at its cost, ship the repaired or replaced item to the Customer. If the Customer has requested Express Shipping, the Customer shall pay Motorola an expedite fee; and

f. Equipment which is repaired or replaced by Motorola shall be free of defects in material and workmanship for the remainder of the original Warranty, or for 90 days from the date of repair or replacement, whichever is longer. All other terms of this Warranty shall apply to such repairs or replacements.

Advance Replacements

9. During the Warranty Period:

a. At the Customer's request and for the Customer's convenience, Motorola may supply the Customer with Advance Replacement Parts (parts furnished in advance of Motorola's receipt of defective items). Motorola's provision of such parts will be contingent on part availability and on the Customer's maintaining a satisfactory credit standing with Motorola.

b. Motorola shall ship the Advance Replacement Parts requested by the Customer within 48 hours of Motorola determining that such service is appropriate, if stock is available at the Motorola service location. If stock is not available, Motorola will make reasonable efforts to locate and provide it to the Customer within ten (10) working days.

c. The Customer shall return defective items to Motorola within thirty (30) days from the date of shipment of the Advance Replacement Parts; failing which, Motorola shall bill and the Customer shall pay the full current list price of the Advance Replacement Parts.

10. To secure payment of the list price of Advance Replacement Parts if the defective items are not returned to Motorola, the Customer hereby grants to Motorola a purchase money security interest in any Advance Replacement Parts.

Telephone Technical Assistance

11. During the Warranty Period, Motorola will provide the Customer with over-the-telephone technical fault analysis free of labor charges. The Customer may call the Paging One-Call-Support Center at 1-800-520-PAGE (7243) for assistance. For warranty calls in excess of 15 per location per month or for non-warranty calls, Motorola shall charge the Customer per Motorola's then-current labor rates.

Excluded Equipment

12. The following equipment is excluded from this Warranty and is covered instead by the Original Equipment Manufacturer's Warranty:
    a. Equipment which is not an integral part of a basic system configuration and which is not manufactured by Motorola, such as batteries and satellite dish LNBs;
    b. Peripheral equipment such as printers, modems, data loggers, video display terminals, and lightning and surge protectors; and
    c. Equipment which is not listed in Motorola's Price Book.

Force Majeure

13. Motorola shall not be responsible for failure to discharge its obligations under this Warranty due to delays by suppliers, material shortages; strikes, lockouts or other labor disputes; disturbances, government regulations, floods, lightning, fires, wars, accidents, acts of God, and any other causes beyond Motorola's reasonable control.

Default and Termination

14. Motorola shall have the right to immediately terminate this Warranty, and to suspend its performance under this Warranty, upon notification to the Customer if the Customer:
    a. Assigns or transfers the Customer's rights or obligations under this Warranty without the prior written consent of Motorola; or
    b. Within thirty (30) days of written demand by Motorola, fails to pay (1) any charge for Advance Replacement Parts supplied under this Warranty, if the Customer has not timely returned the defective items, or (2) any other amount that may be due.

15. Notwithstanding any such termination of the Warranty to the Customer, the Customer shall remain responsible for all amounts then due.

Limitation of Liability

16. IN NO EVENT SHALL MOTOROLA BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THIS WARRANTY, EVEN IF MOTOROLA HAS BEEN ADVISED OF THE POSSIBILITY THEREOF, INCLUDING, WITHOUT LIMITATION, LOST PROFITS AND REVENUES, FAILURE TO REALIZE EXPECTED SAVINGS, LOST DATA OR ANY CLAIMS AGAINST THE CUSTOMER BY A THIRD PARTY.

Contents

Figures

Tables

Introduction

This chapter describes the administration of the WMS-Data operator console for the RF-Conductor!™ (RF-C!™) controller, and contains the following topics:

About this Manual

This manual describes the infrastructure command messages (ICMs) of the RF-Conductor! controller used in the WMS-Data system. It is intended for network administrators and site operators responsible for remotely downloading general purpose commands carried by the SuperStream transport protocol to internal and external Network Interface Units (NIUs).

The organization of the manual follows the structure of the Infrastructure Commands sub-menus of the WMS-Data Operator Console software (see Figure 1-1), and is divided in sections, one for each main menu item:

- Chapter 1, "Introduction", provides a description of the manual's purpose and contents. Also included are the basic instructions on how to use the WMS-Data operator console interface software.
- Chapter 2, "Infrastructure Commands Overview", provides an overview of the Infrastructure Commands Group menu.
- Chapter 3, "Alignment Commands", describes adding and deleting a maintenance group, changing alignment type, setting GPS offset and link path delay, and recalculating GPS.
- Chapter 4, "SuperStream Commands", provides procedures for changing specific parameters that uniquely identify each transmitter.
- Chapter 5, "Diagnostic Commands", details the various diagnostic commands available to the administrator: setting auxiliary outputs, resetting the dial modem, changing a password, setting date and time, resetting NIU alarms, resetting a transmitter, setting bit error rate (BER), setting Failsafe Timeout, and disabling paging.
- Chapter 6, "Software Linkload Commands", provides procedures for downloading software to the transmitters.
- Chapter 7, "Site Encoding Commands", provides procedures for changing transmitter color codes and channels, setting polarity for FLEX and POCSAG, and setting station ID and mode.
- Appendix A, "Configuring the Esprit 5055 Video Display Terminal" describes the configuration of the Video Display Terminal (VDT) that is used as the RF-C!™ Controller Operator Console.

Keyboard Conventions

Keyboard conventions used in this manual follow (see Table 1-1):

Table 1-1: Keyboard Conventions Used in This Manual

Convention	Description
System input	Text that you must type into the system and screen options appear in bold Helvetica text: Example: **partition**
Keys	Single keyboard keys used during input appear bold and are enclosed in angle brackets. Examples: <**Enter**>, <**F2**>, <**Esc**> When one key is to be pressed and held while another key is pressed, the key names appear bold, in carets, and joined by a plus sign. Examples: <**Esc+2**>, <**Ctrl+Y**>
Keyboard labeling	Keyboard labeling varies. For example, <**Enter**>, <**Return**>, or <**Enter/Return**> may indicate the key used for information entry. These procedures use <**Enter**> to represent the various labeling. Unless otherwise noted, the sequence is: **Item** <**Enter**>. Also, <**Control**> or <**Ctrl**> may indicate the control key. These procedures use <**Ctrl**>.
Variables	Variables that you must type into the system are set inside vertical brackets [ ]. However, you do not type the brackets. Examples: **[Latitude]**, **[177.12.77.34]**
System output	System responses to commands appear as Helvetica text: Example: Command Successful
Function Keys	If you are using a Sun™ system, and the instruction says press <**F2**>, press the function key <**F2**>. If you are using a VT100 terminal, you must press <**Esc**> and the number key, not the function key. For example, if the instruction says press <**F2**>, the VT100 equivalent is to press <**Esc +2**> (the number key) simultaneously.
Highlight	To highlight or select an option, use the arrow keys to position the cursor on the option and press <**Enter**>. To continue, you must press <**F2**>.
Space	When entering commands, a caret (^) indicates a blank space. Example: **cd^/home**

Related Publications

Other WMS-Data manuals related to this topic are:

- *RF-Conductor!™ Controller Installation,* 6880494G53
- *RF-Conductor!™ Controller Administration,* 6880494G54
- *External NIU Transmitter Controller Installation and Operation,* 6880497G10
- *Internal NIU Transmitter Controller Installation and Operation,* 6880497G15
- *Nucleus® Paging Station Installation and Operation,* 6881002F05

Basic RF-C! Controller Instructions

Three login levels are provided by the RF-C! controller software to use the WMS-Data operator console:

- Administrator
- Viewer
- Site Operator

The Administrator and Viewer levels provide the capability to display all status and event logs. The viewer level provides read-only access to RF-C! controller screens. The administrator level provides the capability to change all configurable parameters and execute commands to perform functions such as resynchronization, maintenance cycles, and changing passwords.

The Site Operator level allows users to execute a specific set of commands to control and monitor a set of transmitters.

To use the Infrastructure Commands menu, you must have Administrator access. Refer to the System Administration manual (*RF-Conductor! Operation and Software Installation*, 6880494G54) for information on setting your access level.

Setting up Passwords

The first-time RF-C! controller user, either as an administrator, viewer, or site operator, is prompted to set up a password. Once the initial password is set up for each type of user, the password prompt does not display. After logging in, the administrator has the ability to change passwords.

The RF-C! controller has the capability to maintain one administrator password, one viewer password, and one site operator password. It is important to remember the selected passwords to access the RF-C! controller.

The password can be any number of alphanumeric characters up to 20 characters in length. However, it is suggested to select a password of approximately 8 characters.

Note: If the Esprit 5055 Video Display Terminal (VDT) is not configured for use with the RF-C! controller software, or the VDT parameters need to be verified, see Appendix A, "Configuring the Esprit 5055 Video Display Terminal".

Logging into the System

To begin an administrator level session:

1. Type: **admin**

   The system prompts: Enter password:

2. Type: [**your password**]

   The WMS-Data Operator Console displays (see Figure 1-1).

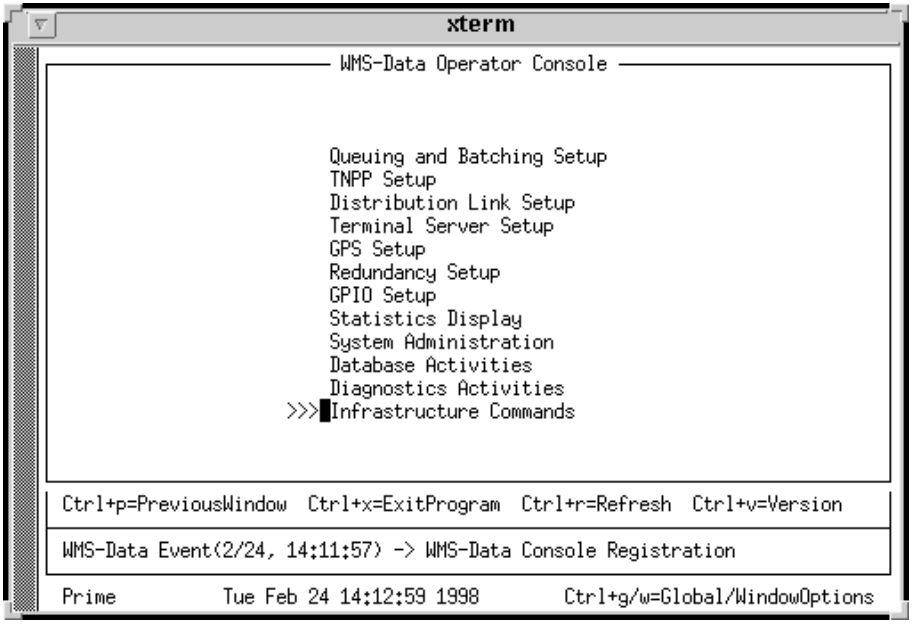

Figure 1-1: WMS-Data Operator Console Menu—Administrator Options

To begin viewer level session:

1. Type: **viewer**

   The system prompts: Enter password:

2. Type: [**your password**]

   The WMS-Data Operator Console displays (see Figure 1-1).

To begin a site operator level session:

1. Type: **siteoper**

   The system prompts: Enter password:

2. Type: {**your password**}

   The WMS-Data Operator Console displays (see Figure 1-2).

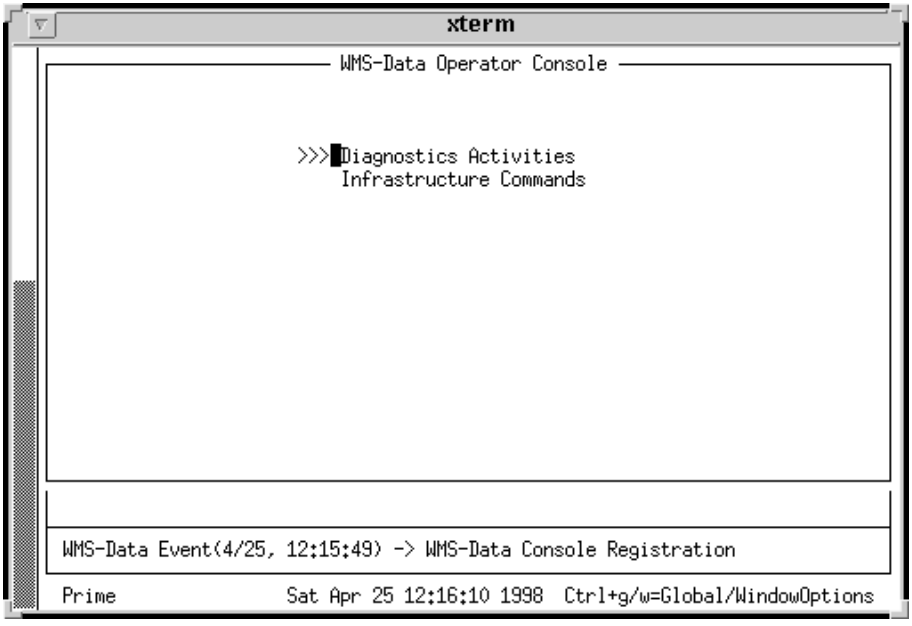

Figure 1-2: WMS-Data Operator Console Menu—Site Operator Options

Screen Areas

The screen has four areas (see Figure 1-3):

- Active area: The active area contains the menu, data display, or data entry area.
- Message bar: The message bar contains instructions or messages pertaining to the information in the active area.
- Events and alarms bar: The events and alarms bar contains system messages which are logged by the RF-C! controller. The event display can be configured by the administrative level user using the Map Actions to Events screen.
- Date and time bar: The date and time bar displays the current RF-C! controller date and the time. In addition, the system displays the primary and backup designation and major and minor alarm status.

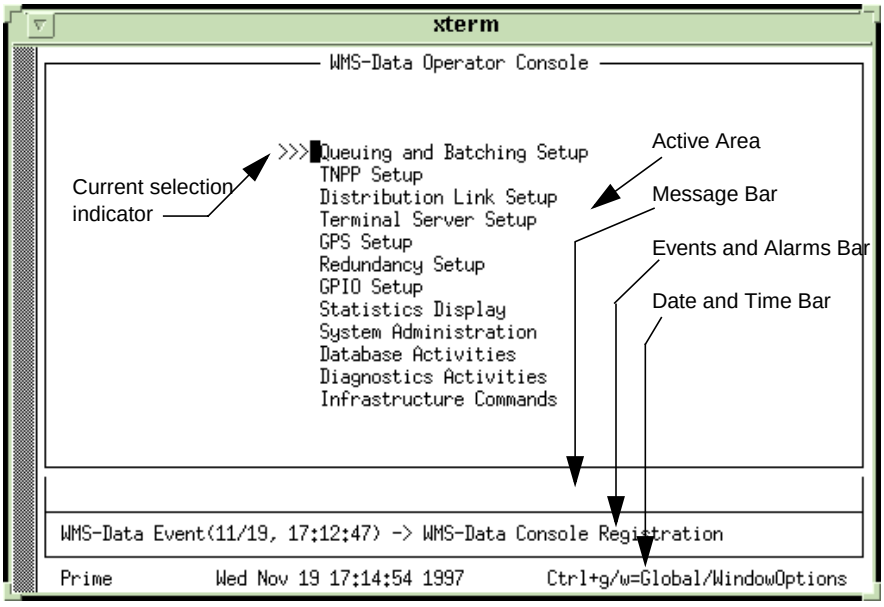

Figure 1-3: Screen Areas

The WMS-Data operator console interface is a text-based, command-driven interface. Some commands can be executed on every screen. These commands are global options. Other commands can only be executed on specific screens. These commands are window options.

To assist the user, when invalid data is input, the system responds with the valid options in the message bar.

Navigating the System

Every screen uses the same navigation logic for moving the cursor, typing information and sending data to the RF-C! controller (see Table 1-2).

Table 1-2: Navigation Conventions

Function	Key Controls	Key Word
Move the cursor from one field to another down:	**<tab>** or down arrow <↓>	
up:	<backspace> or up arrow <↑>	—
left:	left arrow <←>	
right:	right arrow <→>	
Select item from a menu at cursor position indicated by >>>.	**<Return>**	—
Move forward in the window	**<Ctrl +F>**	forward
Move backwards in the window	**<Ctrl + B>**	backward
Return to the previous window displayed	**<Ctrl + P>**	previous
View global options	**<Ctrl + G>**	global
View the window options which are the control sequences used in the current screen	**<Ctrl + W>**	window
Send data or command to RF-C! controller	**<Ctrl + E>**	execute
Refresh screen, reread database	**<Ctrl + R>**	refresh
Display RF-C! controller software version	**<Ctrl + V V>**	version
Go to next record	**<Ctrl + N>**	next record
Go to previous record	**<Ctrl + L>**	previous record
Quit program	**<Ctrl + X>**	exit

Other nonglobal key controls are discussed in the appropriate sections of this manual.

Most database parameters can only be changed on the primary side (as opposed to the backup side) of the redundant RF-C! controller.

Infrastructure Commands Overview

This chapter discusses the intrastructure commands windows, and includes the following topics:

Infrastructure Command Messages Overview

Infrastructure command messages (ICMs) are general purpose commands carried by the SuperStream transport protocol. The ICMs are transmitted as stream messages from the RF-C!. They are identified and processed sequentially as they arrive at the Network Interface Unit (NIU). The Infrastructure commands are based on a hierarchy. This hierarchy consists of a set of destination scopes, which represent specific configuration levels that are accessed from the WMS-Data operator console:

- All transmitters in a stream
- All transmitters in a SuperStream system
- All transmitters in a zone
- A single transmitter

The relationship of streams, SuperStream systems, zones, and transmitters is shown in Figure 2-1. The following examples show how the command structure can be used to target various transmitter groups shown in the figure.

- To send command messages to all the transmitters on a particular link, select All transmitters in a stream.
- To send command messages to coverage area 3 (that is, SuperStream System 3), select All transmitters in a SuperStream system.
- To send command messages to Zone 1 in SuperStream System 2, select All transmitters in a zone, and enter System 2 and Zone 1 when prompted.
- To send command messages to a transmitter, select A single transmitter option and enter the transmitter number.

Note: A Stream is mapped to a link ID and a SuperStream System is mapped to a simulcast system.

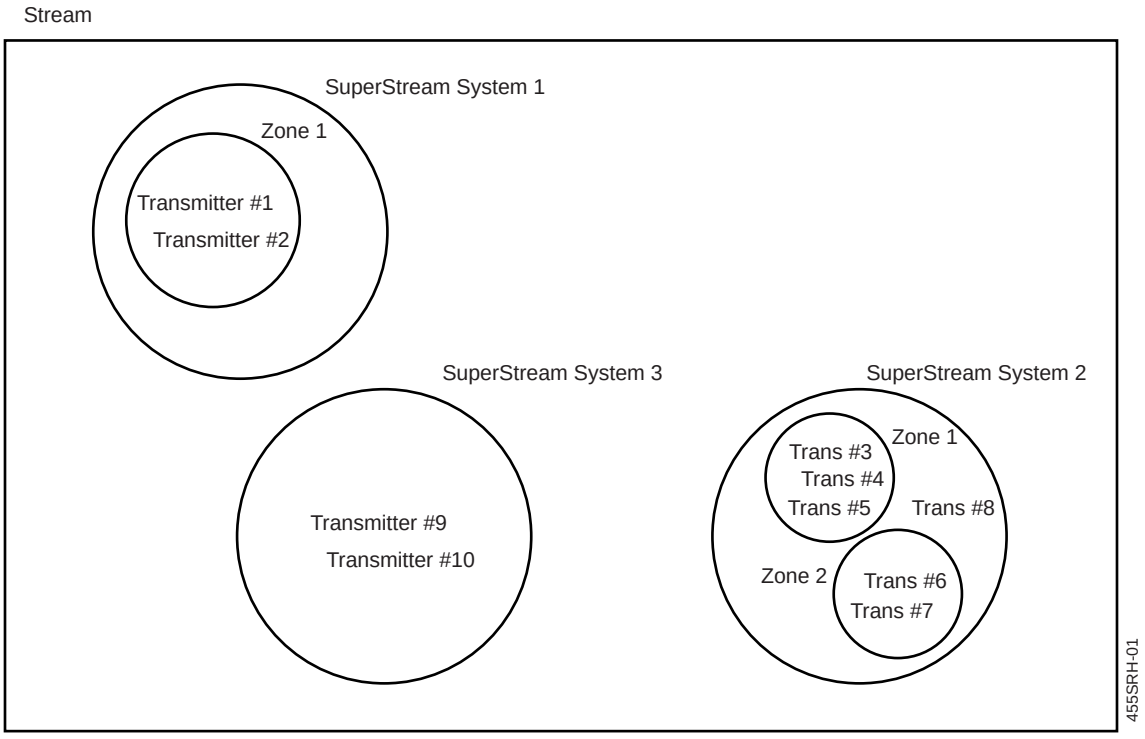

Figure 2-1: Relationship of Streams, SuperStream Systems, Zones, and Transmitters

Infrastructure Command Group Parameters

The Infrastructure Commands menu provides six options: Alignment, SuperStream, Diagnostics, Software Linkload, Station, and Site Encoding (see Table 2-1).

Table 2-1: Infrastructure Command Group Menu Options (Sheet 1 of 2)

Menu Option	Description
Alignment	The Alignment command group contains the following options: - Add Maintenance Group - Delete Maintenance Group - Change Alignment Type - Set GPS Offset - Set Link Path Delay - Recalculate GPS
SuperStream	The *SuperStream* command group is used to change the specific parameters that uniquely identify each transmitter. It has these options: - Change Zone Map - Change Device ID - Change Maintenance ID - Change System ID - Change Link Parameters
Diagnostic	This command group provides diagnostic commands between the RF-C! controller system and the transmitters. It includes the following menu options: - Set Auxiliary Outputs - Reset Dial Modem - Enable Modem Auto-Answer - Change Password - Set Date & Time - Reset NIU Alarms - Reset NIU ALarms/Log/Stats - Reset NIU Log - Reset NIU Stats - Reset Transmitter - Set BER Limit - Set Failsafe Timeout - Disable Paging
Software Linkload	This command group provides NIU/SCM software linkload commands: - Install a NIU/SCM release from tape - Delete an Installed NIU/SCM Release - Linkload an Installed NIU/SCM Release - Send Bank Switch by Version command

Table 2-1: Infrastructure Command Group Menu Options (Sheet 2 of 2)

Menu Option	Description
Station	This command group provides an option for aborting the SCM linkload
Site Encoding	This command group provides site encoding commands: - Change Color Code - Set Transmitter Channels - Set FLEX/ReFLEX Polarity - Set POCSAG Polarity - Set Maintenance Polarity - Set Station ID - Set Station ID Mode

Accessing the Infrastructure Command Groups Menu—Administrator Level

Use the following procedure to access the Infrastructure Command Group menu as an administrator:

Note: To move (position) the cursor on the screen, use the <tab> or down arrow <↓> to move down, <backspace> or up arrow <↑> to move up, left arrow <←> to move to the left and the right arrow <→> to move to the right.

1. Display the WMS-Data Operator Console Menu (see Figure 2-2).

2. Use the **<tab>** to position the cursor to the left of the listing Infrastructure Commands and press: **<Return>**

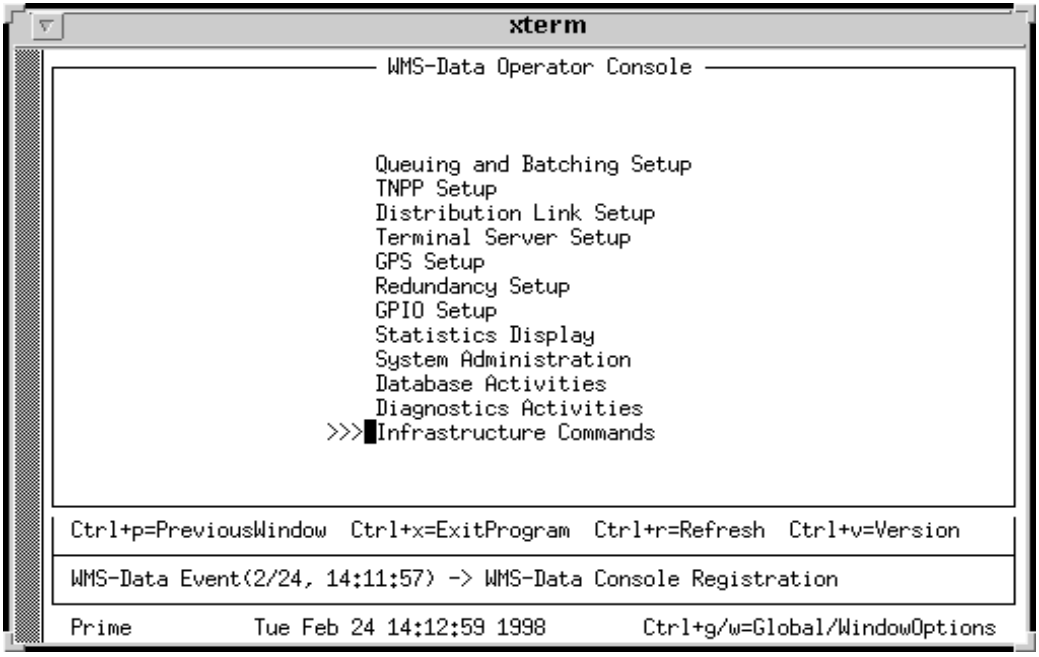

Figure 2-2: Infrastructure Commands Menu—Administrator Level

The Select a Distribution Link ID menu displays (see Figure 2-3).

The system supports four link IDs. These link IDs are programmed with stream IDs in the Distribution Link Setup screen. Each link ID has a unique stream ID that is sent out to a large coverage area.

3. Use the **<tab>** to position the cursor to the left of the link ID number (0-3) and press: **<Return>**

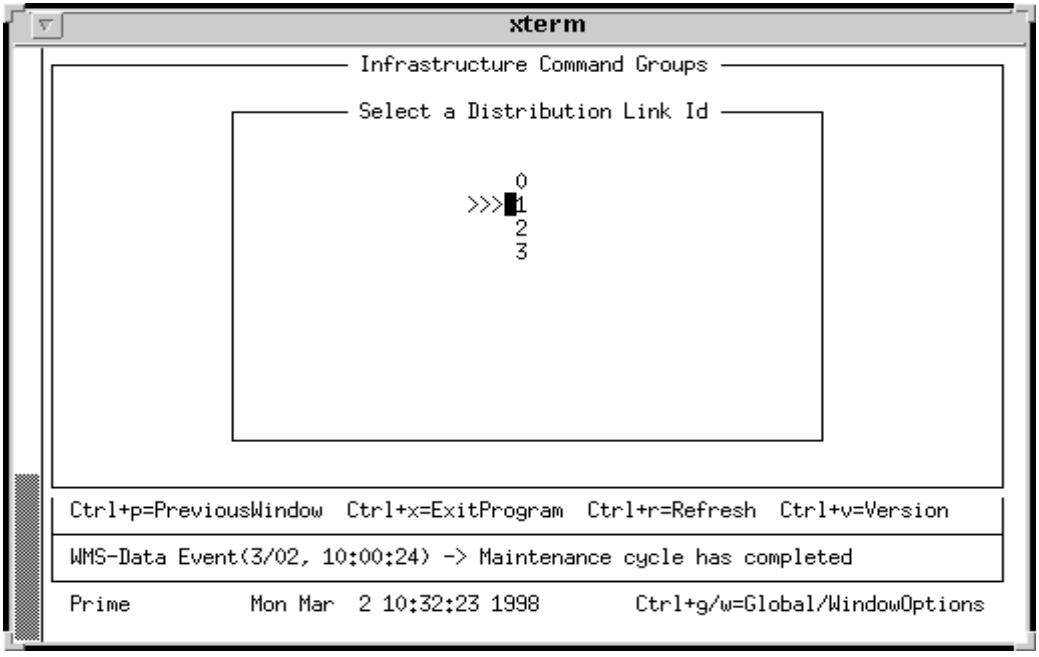

Figure 2-3: Infrastructure Command Group Select a Distribution Link ID Menu

The Select Destination menu displays (see Figure 2-4).

4. Use the **<tab>** to position the cursor to the left of the destination types and press: **<Return>.** Select the type of destination from the following options:
   a. All Transmitters in a Stream: displays the Infrastructure Commands Group menu.
   b. All Transmitters in a SuperStream System: prompts you to enter SuperStream System ID before displaying the Infrastructure Commands Group menu. The SuperStream System ID is a “mapping” to the simulcast system ID.

c. All Transmitters in a Zone: prompts you to enter SuperStream System ID and the zone ID before displaying the Infrastructure Commands Group menu.

d. To a Single Transmitter: prompts you to enter transmitter ID before displaying the Infrastructure Commands Group menu.

The Infrastructure Commands Groups menu appears (see Figure 2-5).

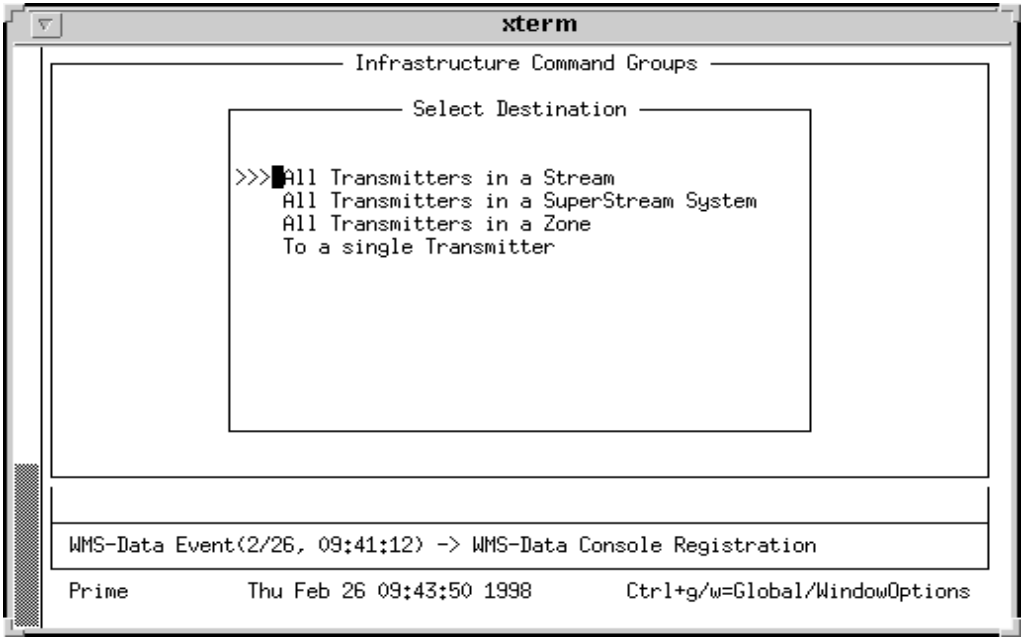

Figure 2-4: Select Destination Menu for Infrastructure Commands

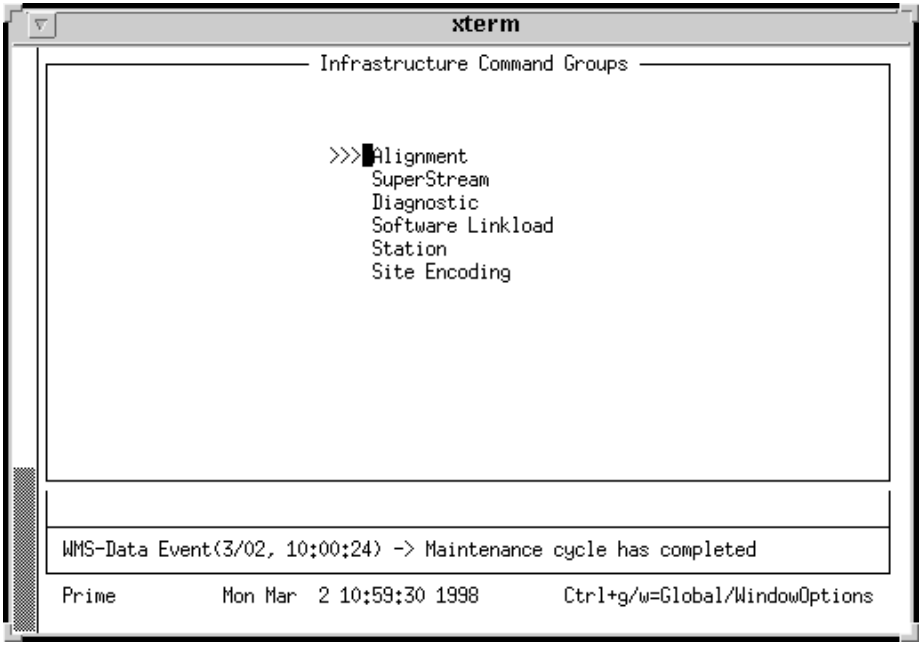

Figure 2-5: Infrastructure Commands Groups Menu—Administrator Level

5. Make the desired menu selection.

6. To return to a previous menu or screen, press: **<Ctrl + p>**

Accessing the Infrastructure Command Groups Menu—Site Operator Level

Use the following procedure to access the Infrastructure Command Group menu as a site operator:

Note: To move (position) the cursor on the screen, use the <tab> or down arrow <↓> to move down, <backspace> or up arrow <↑> to move up, left arrow <←> to move to the left and the right arrow <→> to move to the right.

1. Display the WMS-Data Operator Console Menu (see Figure 2-6).

2. Use the **<tab>** to position the cursor to the left of the listing Infrastructure Commands and press: **<Return>**

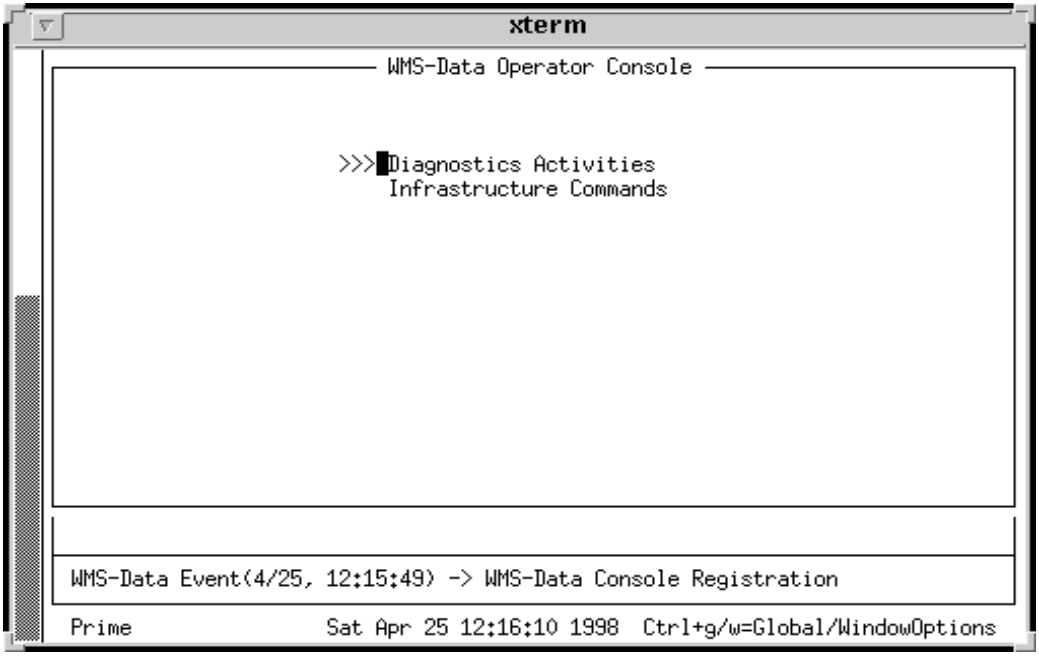

Figure 2-6: Infrastructure Commands Menu—Site Operator Level

The Select a Distribution Link ID menu displays (see Figure 2-7).

The system supports four link IDs. These link IDs are programmed with stream IDs in the Distribution Link Setup screen. Each link ID has a unique stream ID that is sent out to a large coverage area.

3. Use the **<tab>** to position the cursor to the left of the link ID number (0-3) and press: **<Return>**

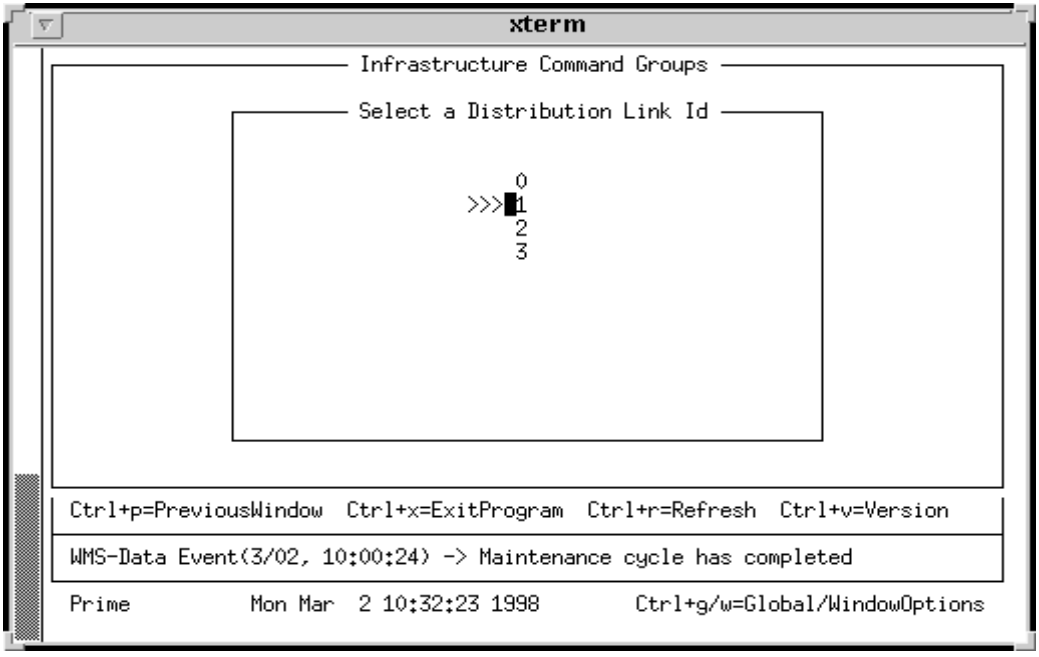

Figure 2-7: Infrastructure Command Group Select a Distribution Link ID Menu

The Select Destination menu displays (see Figure 2-8).

4. Use the **<tab>** to position the cursor to the left of the destination types and press: **<Return>.** Select the type of destination from the following options:
   a. All Transmitters in a Stream: displays the Infrastructure Commands Group menu.
   b. All Transmitters in a SuperStream System: prompts you to enter SuperStream System ID before displaying the Infrastructure Commands Group menu. The SuperStream System ID is a “mapping” to the simulcast system ID.

c. All Transmitters in a Zone: prompts you to enter SuperStream System ID and the zone ID before displaying the Infrastructure Commands Group menu.

d. To a Single Transmitter: prompts you to enter transmitter ID before displaying the Infrastructure Commands Group menu.

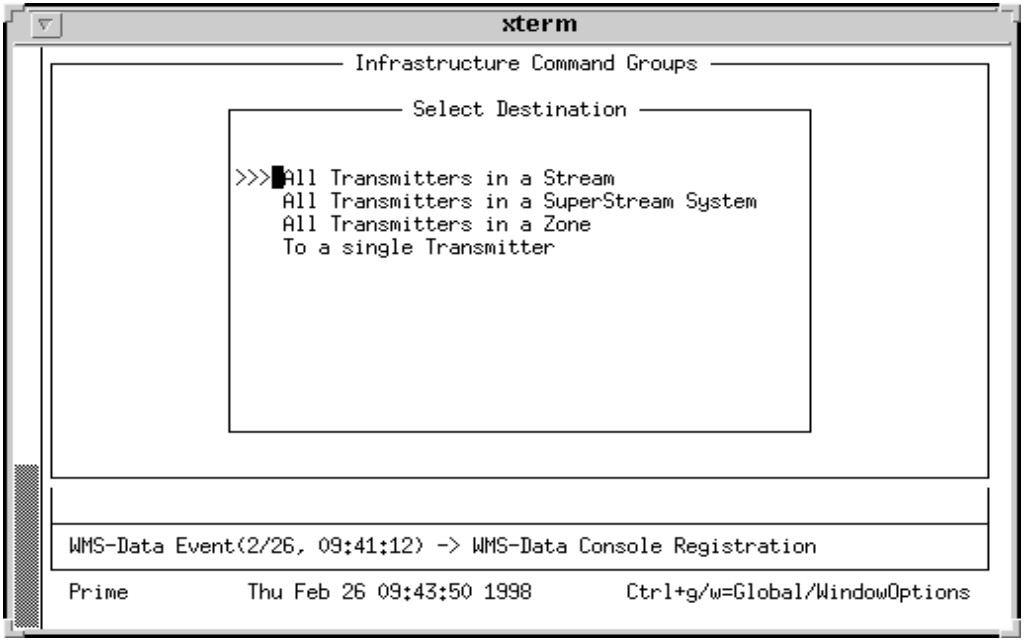

Figure 2-8: Select Destination Menu for Infrastructure Commands

5. The Infrastructure Commands Groups menu appears (see Figure 2-9).

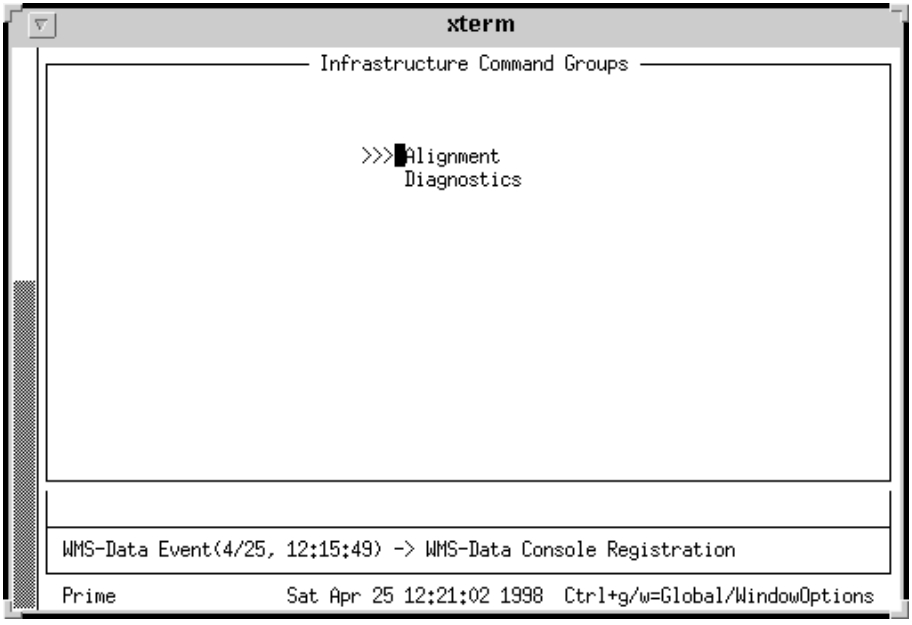

Figure 2-9: Infrastructure Commands Groups Menu—Site Operator Level

6. Make the desired menu selection.

7. To return to a previous menu or screen, press: **<Ctrl + p>**

Alignment Commands

This chapter discusses the Alignment commands, and provides procedures for the following:

Adding a Maintenance Group

This command is used to add a maintenance ID to a monitor receiver controller.

Note: To move (position) the cursor on the screen, use the <tab> or down arrow <↓> to move down, <backspace> or up arrow <↑> to move up, left arrow <←> to move to the left and the right arrow <→> to move to the right.

1. From the Alignment menu, use the **<tab>** to position the cursor to the left of the listing Add Maintenance Group and press: **<Return** (see Figure 3-1).

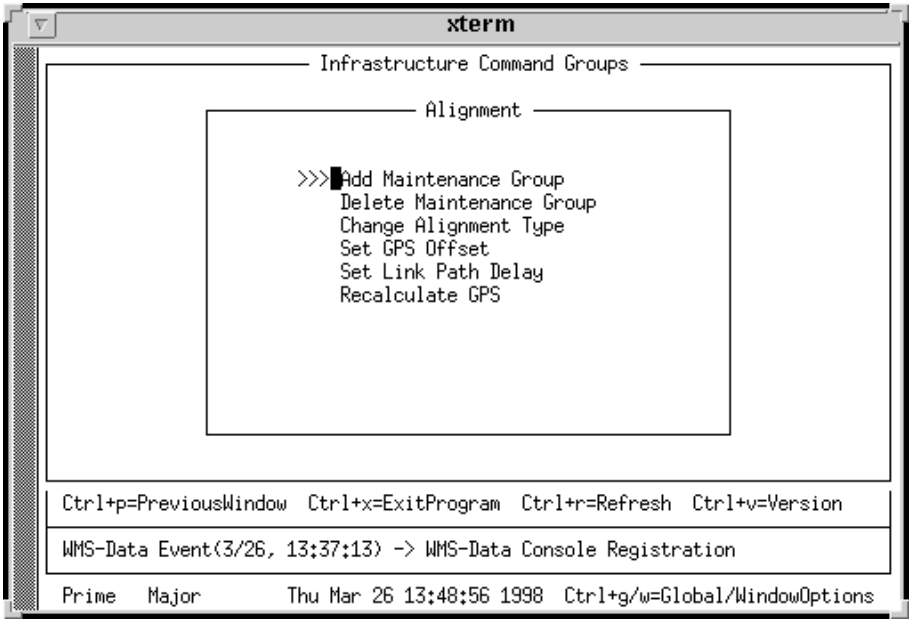

Figure 3-1: Alignment Menu—Add Maintenance Group

The Add Maintenance Group screen appears (see Figure 3-2).

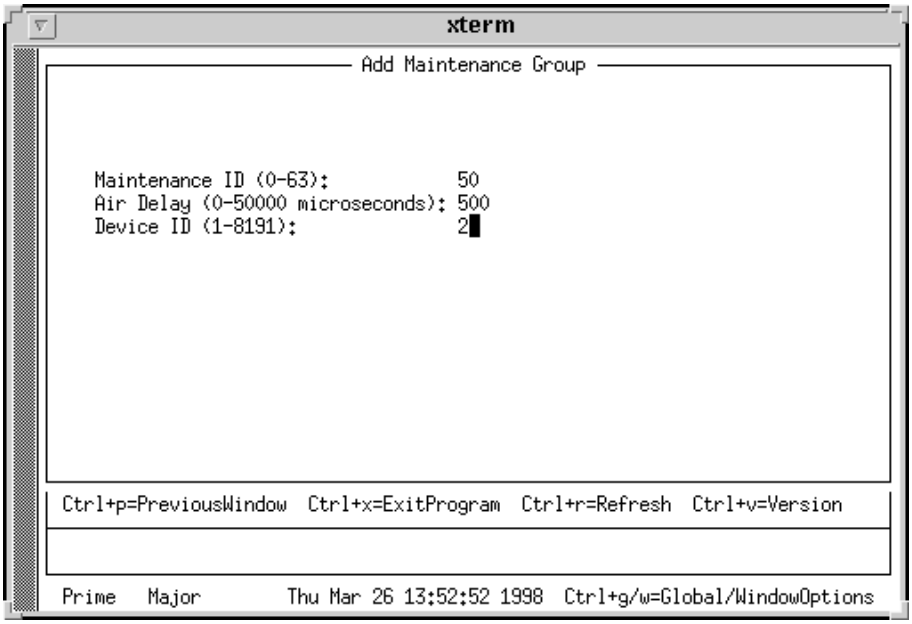

Figure 3-2: Add Maintenance Group Menu

2. Enter the Maintenance ID and press **<Return>**. The valid range of Maintenance IDs is 0-63. If a new Maintenance ID matches an existing Maintenance ID in the monitor receiver, it is overwritten.

3. Enter the Air Delay and press **<Return>**. Valid values are 0-50000 in microseconds.

4. Enter the Device ID that has this maintenance ID programmed. Valid values are 1-8191.

5. Press **<Ctrl + e>** to execute the command.

6. To return to a previous menu or screen, press: **<Ctrl + p>**

Deleting a Maintenance Group

This command is used to delete a maintenance ID of a monitor receiver controller.

1. From the Alignment menu, use the **<tab>** to position the cursor to the left of the listing Delete Maintenance Group and press: **<Return>** (see Figure 3-3).

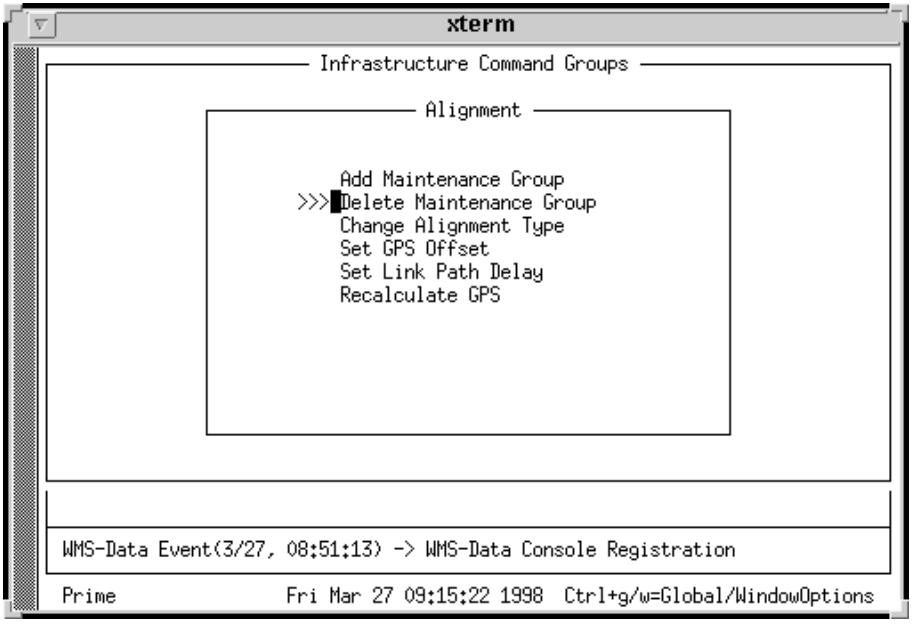

Figure 3-3: Alignment Menu—Delete Maintenance Group

The Delete Maintenance Group screen appears (see Figure 3-4).

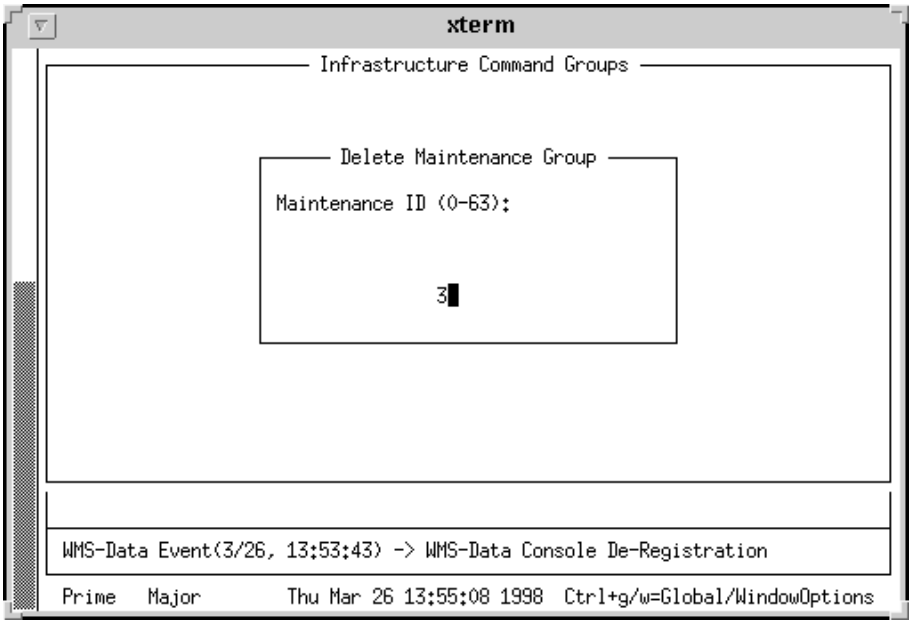

Figure 3-4: Delete Maintenance Group Menu

2. Enter the Maintenance ID to delete and press **<Return>**. The valid range of Maintenance IDs is 0-63.

3. To return to a previous menu or screen, press: **<Ctrl + p>.**

Changing Alignment Type

This command is used to define whether direct synchronization or GPS synchronization is used for alignment. The direct synchronization method, which is the default option, relies on the timing signals that are embedded in the SuperStream and requires a link with a constant propagation delay to establish system synchronization. The GPS synchronization method uses timing information from the global positioning system satellites for system synchronization. The options field defines whether the GPS synchronization method uses GPS with fallback enabled or disabled.

1. From the Alignment menu, use the **<tab>** to position the cursor to the left of the listing Change Alignment Type and press: **<Return>** (see Figure 3-5).

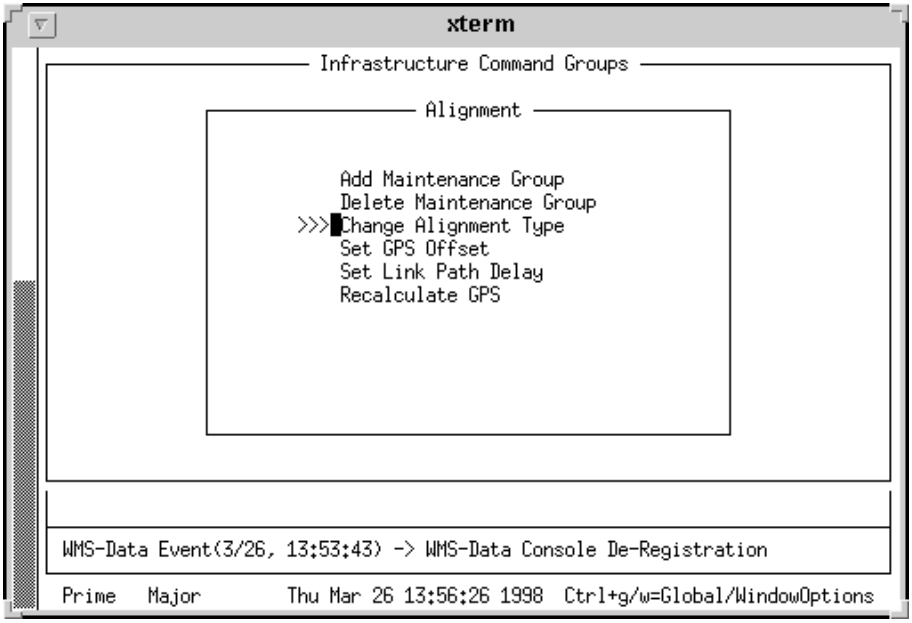

Figure 3-5: Alignment Menu—Change Alignment Type

The Select Alignment Type screen appears (see Figure 3-6).

CAUTION

It is possible to lose pages while going from one alignment type to the other. Consider suspending the coverage area affected before performing this procedure.

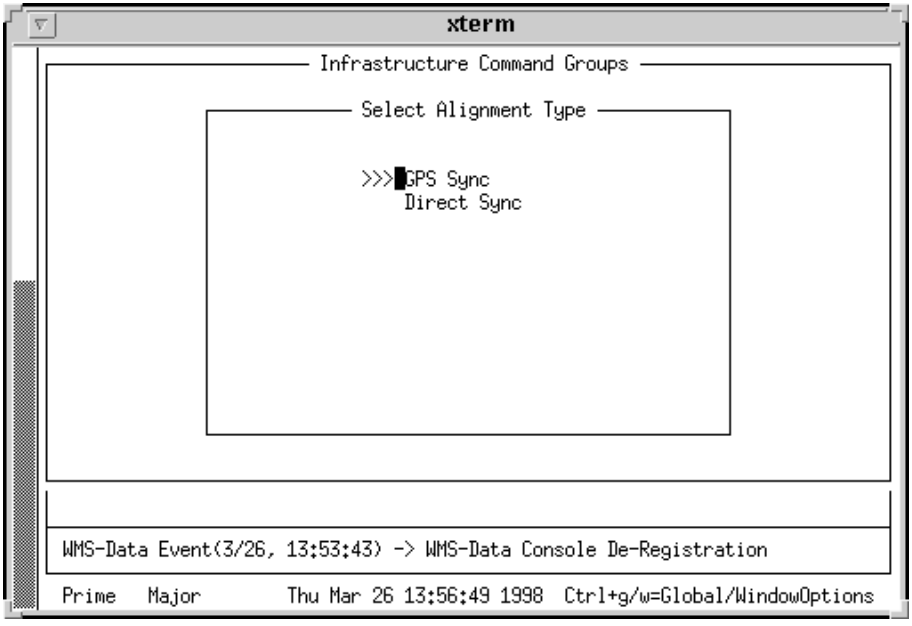

Figure 3-6: Select Alignment Type Menu

2. To select GPS Synchronization, position the cursor to the left of the listing GPS Sync and press: **<Return>.**

   The GPS Sync options screen appears (see Figure 3-7). The GPS fallback is disabled by default.

3. In the Enable Fallback field, press **<ctrl + t>** to toggle between n for no and y for yes. While using GPS synchronization method it is recommended to enable fallback.

4. Press **<Ctrl + e>** to execute the command.

5. To return to the previous menu or screen, press: **<Ctrl + p>.**

6. To select Direct Sync alignment, position the cursor to the left of the listing Direct Sync and press: **<Return>** to execute the command. (There are no parameter options for Direct Sync alignment.)

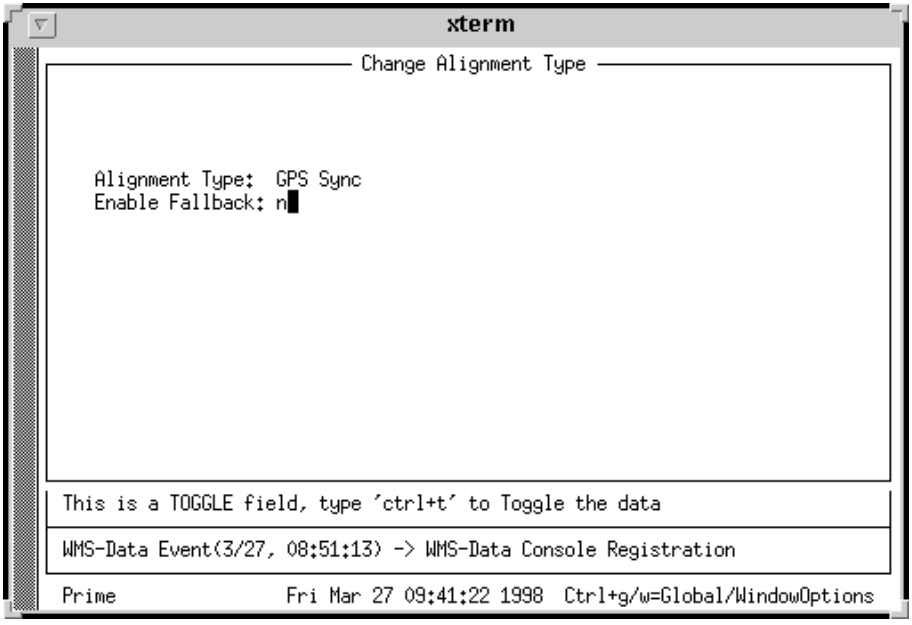

Figure 3-7: Change Alignment Type—GPS Sync Options Menu

Setting GPS Offset

This command is used to compensate for the propagation time through the base transmitter. Once the new offset is set, perform a maintenance command to ensure that the offset value entered provides the appropriate results.

1. From the Alignment menu, use the **<tab>** to position the cursor to the left of the listing Set GPS Offset and press: **<Return>** (see Figure 3-8).

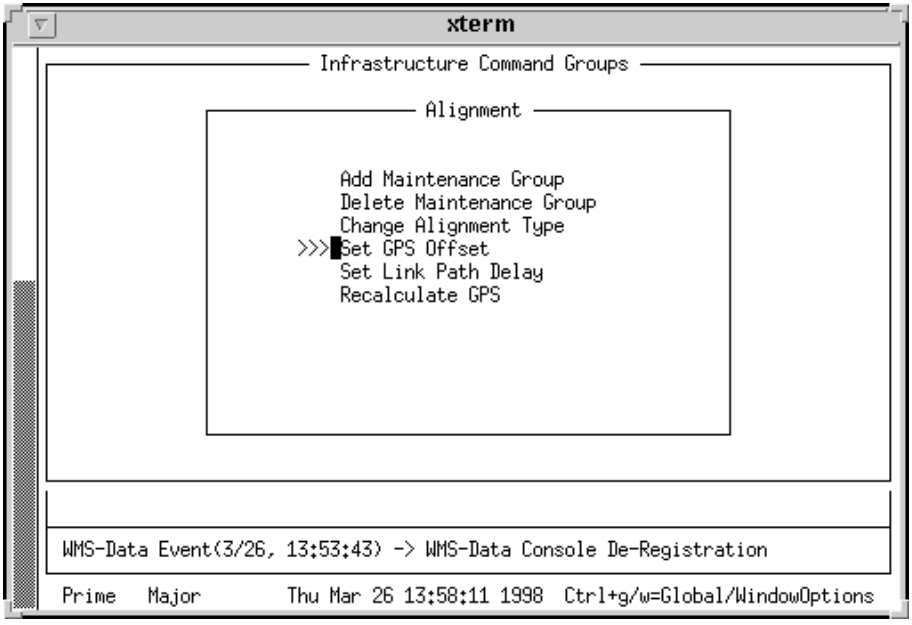

Figure 3-8: Alignment Menu—Set GPS Offset

2. The Select Sign screen appears. Position the cursor to select Positive or Negative and press: **<Return>.**

3. The Select Offset screen appears. Position the cursor to select Absolute or Relative and press: **<Return>.**

   Absolute value: the transmitter takes in the given value.

   Relative value: offsets the current delay value in the transmitter.

4. The Set GPS Offset screen appears (see Figure 3-9).

5. Enter the GPS Offset and press **<ctrl + e>** to execute the command. The valid range is 0-450000 in microseconds.

Note: Use the delay values from the maintenance data only. Do not vary the value by large numbers unless reported by the maintenance report. Suspend the system to avoid losing pages.

6. To return to the previous menu or screen, press: **<Ctrl + p>.**

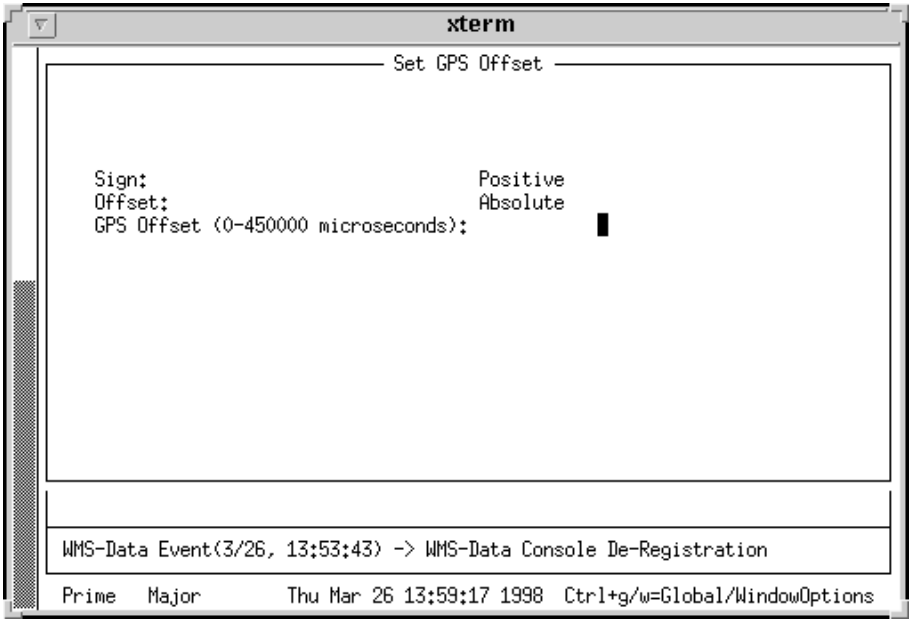

Figure 3-9: Set GPS Offset Screen

Setting Link Path Delay

This command is used to compensate for the propagation time through the base transmitter and link propagation delay over the satellite while using Direct Sync alignment type. Once the new offset is set, a perform maintenance command to ensure that the offset value entered provides the appropriate results.

1. From the Alignment menu, use the **<tab>** to position the cursor to the left of the listing Setting Link Path Delay and press: **<Return>** (see Figure 3-10).

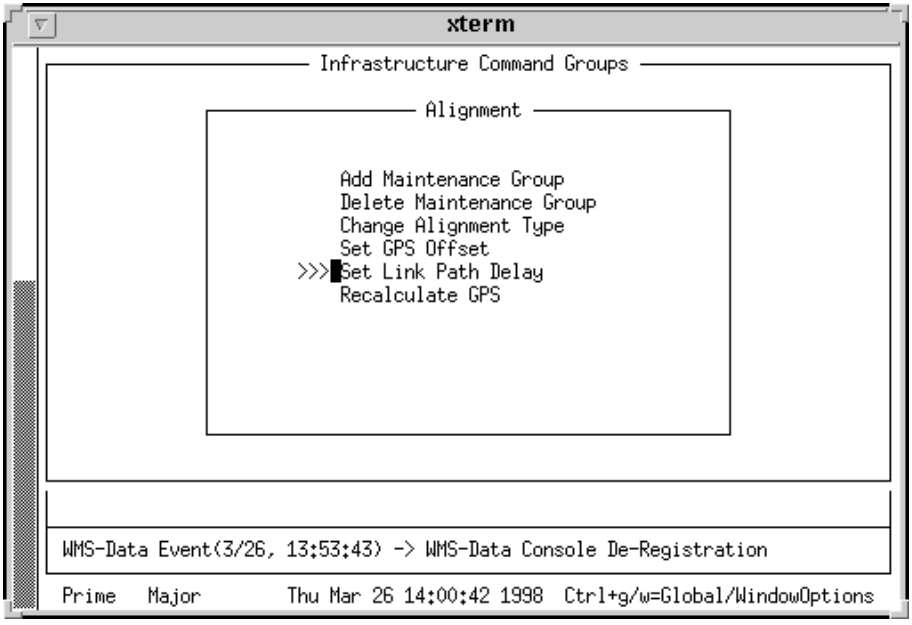

Figure 3-10: Alignment Menu—Setting Link Path Delay

2. The Select Sign screen appears. Position the cursor to select Positive or Negative and press: **<Return>.**

3. The Select Delay screen appears. Position the cursor to select Absolute or Relative and press: **<Return>.**

4. The Set Link Path Delay screen appears (see Figure 3-11).

5. Enter the link delay and press **<ctrl + e>** to execute the command. The valid range is 0-400000 in microseconds.

Note: Use the delay values from the maintenance data only. Do not vary the value by large numbers unless reported by the maintenance report. Suspend the system to keep from losing pages.

6. To return to the previous menu or screen, press: **<Ctrl + p>.**

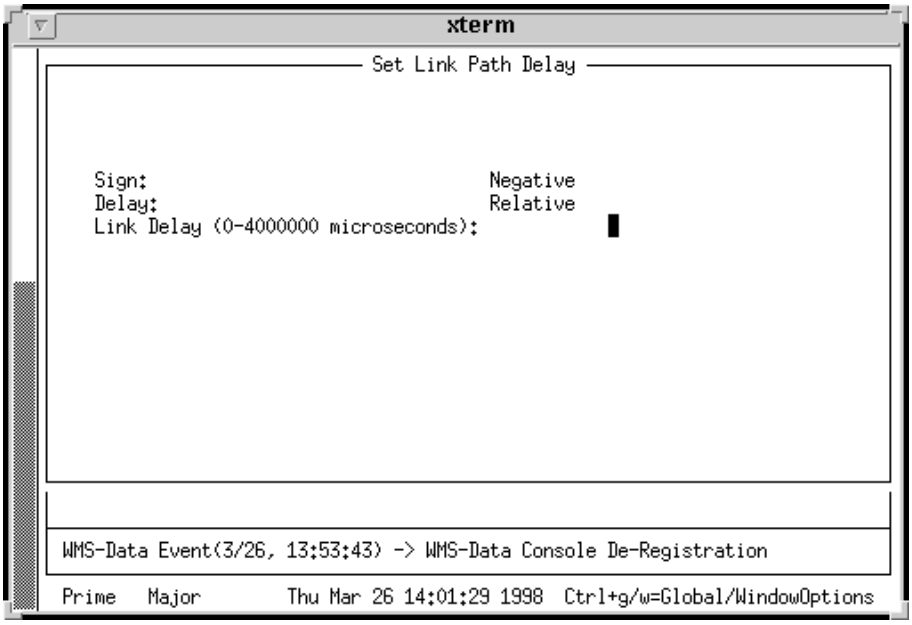

Figure 3-11: Set Link Path Delay Screen

Recalculating GPS

This command will temporarily put the GPS receiver in calculate mode (Position Fix) to acquire new location parameters. The Recalculate GPS command will be needed only once during an RF-C! NIU installation and is applicable only to the NIU if it is a GPS master NIU.

Note: Before executing this command, suspend the system to keep from losing pages.

1. From the Alignment menu, use the **<tab>** to position the cursor to the left of the listing Recalculate GPS and press: **<Return>** to execute the command (see Figure 3-12).

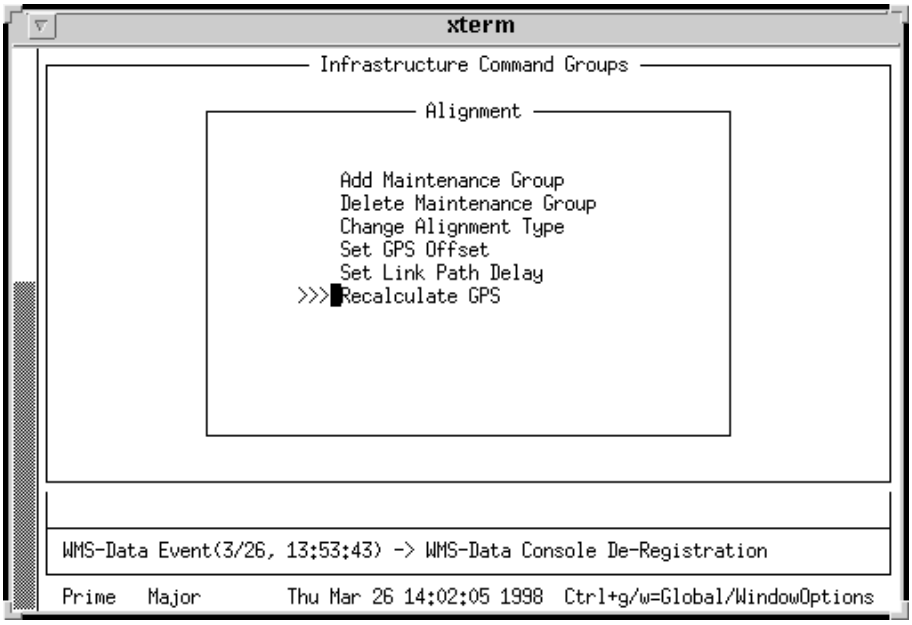

Figure 3-12: Alignment Menu—Recalculate GPS

The Infrastructure Commands Group menu appears with a message Command request accepted in the message bar of the screen.

SuperStream Commands

This chapter discusses the SuperStream commands, and provides procedures for the following:

Introduction

The SuperStream parameters command group is used to change the specific parameters which uniquely identify each transmitter.

1. To access SuperStream commands, From the Infrastructure Command Groups menu, use the **<tab>** to position the cursor to the left of the listing SuperStream and press: **<Return>** (see Figure 4-1).

2. The SuperStream menu appears. All procedures in this chapter are referenced from the SuperStream menu.

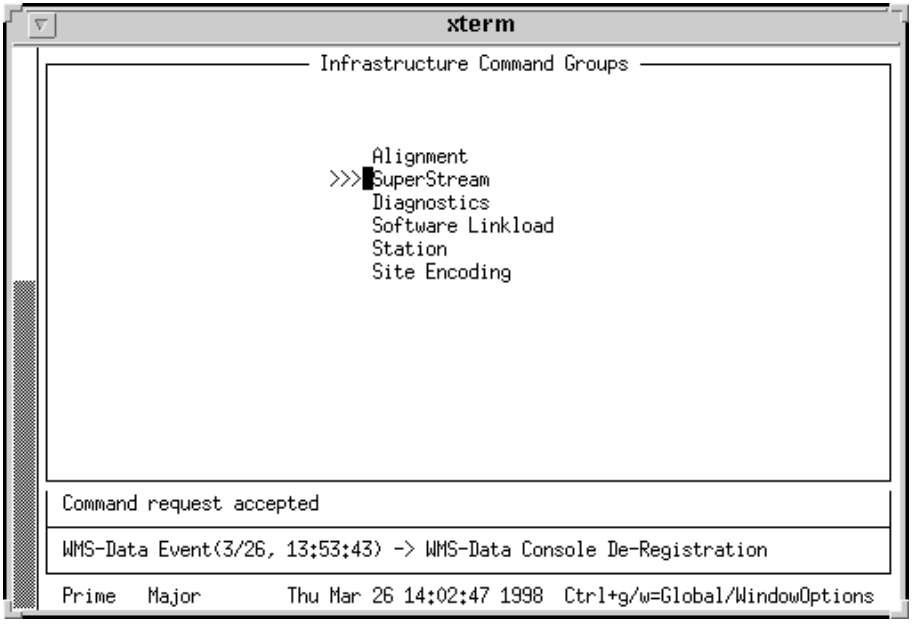

Figure 4-1: Selecting SuperStream from the Infrastructure Command Groups Menu

Changing a Zone Map

This command is used to add or delete a Zone ID. Zone IDs range from 1 to 31, with 0 meaning all-call (that is, all transmitters have zero active by default). The use of Zone IDs allows for multicasting of messages, for example, for page data distribution to multiple transmitters.

1. From the SuperStream menu, use the **<tab>** to position the cursor to the left of the listing Change Zone Map and press: **<Return>** (see Figure 4-2).

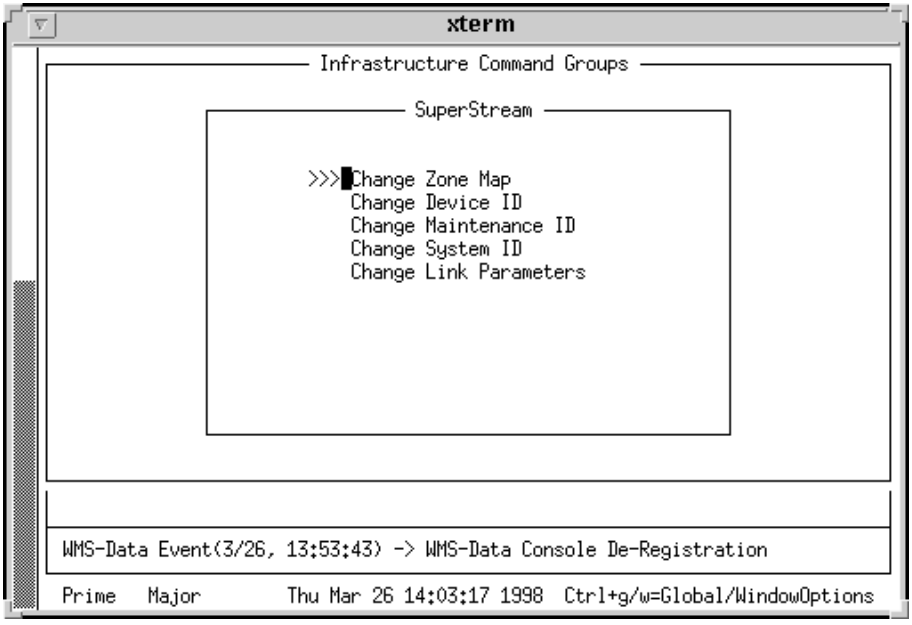

Figure 4-2: SuperStream Menu—Change Zone Map

The Select Zone Options screen appears.

2. Position the cursor to add or delete a zone and press **<Return>.**

3. The Change Zone Map screen appears (see Figure 4-3).

4. Enter the Zone ID number and press **<Return>.** Valid values are 1-31.

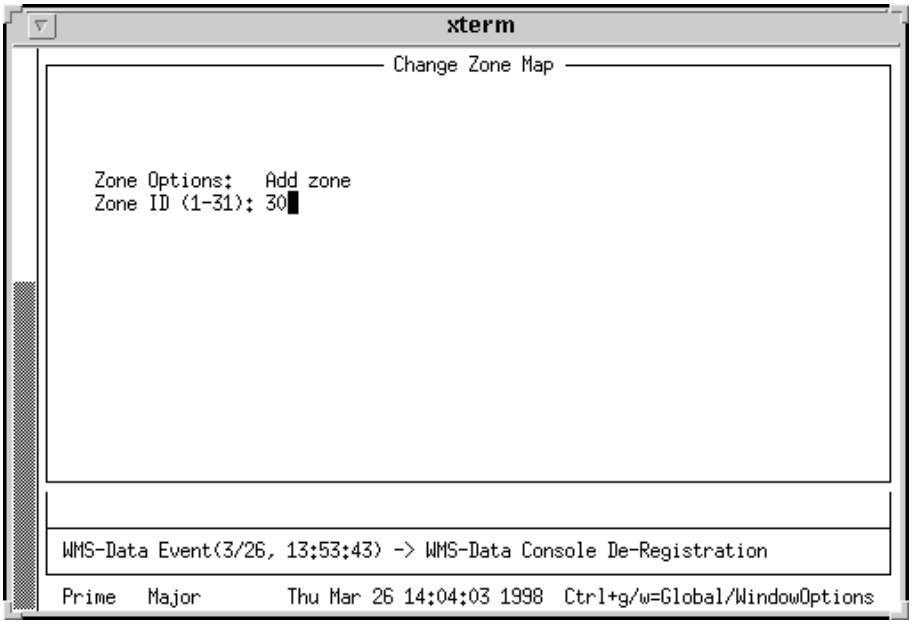

Figure 4-3: Select Zone Options Screen

5. Press **<Ctrl + e>** to execute the command.

6. To return to a previous menu or screen, press: **<Ctrl + p>.**

Changing a Device ID

The Device ID allows a unique identification number for each transmitter or a monitor receiver controller.

Note: This command can be executed only in device addressing mode for a single transmitter.

1. From the SuperStream menu, use the **<tab>** to position the cursor to the left of the listing Change Device ID and press: **<Return>** (see Figure 4-4).

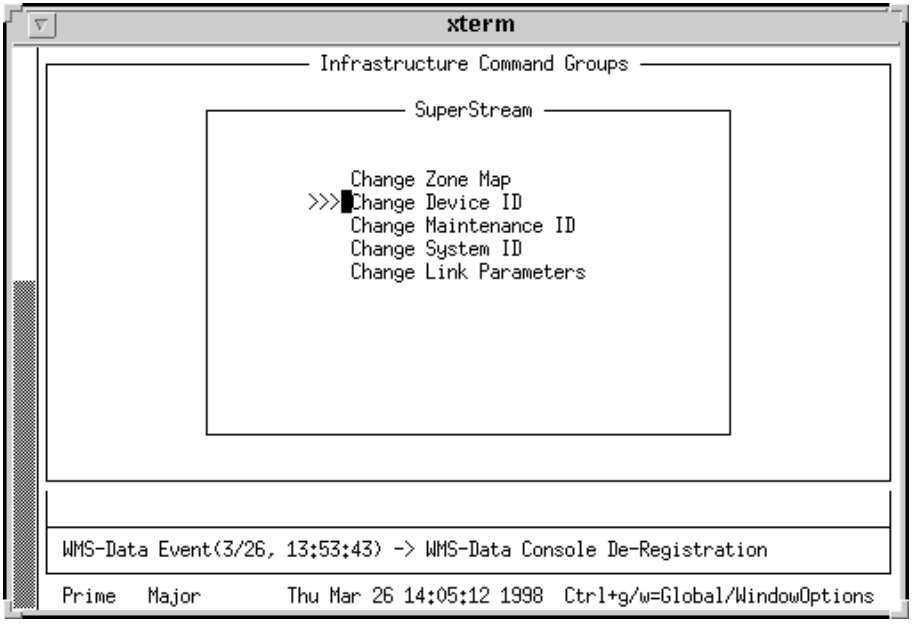

Figure 4-4: SuperStream Menu—Change Device ID

The Change Device ID screen appears (see Figure 4-5).

2. Enter the Device ID and press **<Return>.** Valid values are 1-8191.

The Infrastructure Commands Group menu appears with a message Command request accepted in the message bar of the screen.

3. To return to a previous menu or screen, press: **<Ctrl + p>.**

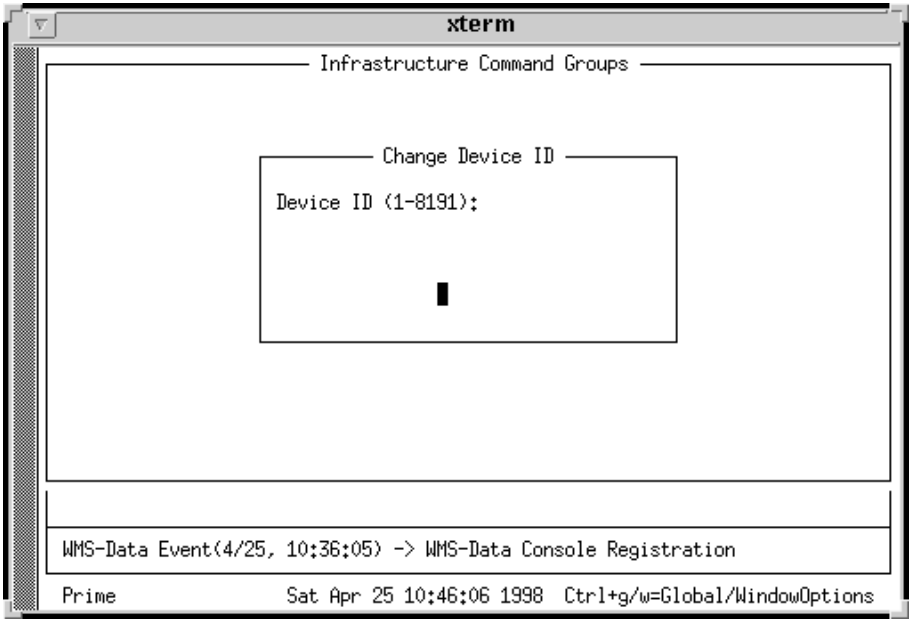

Figure 4-5: Change Device ID Screen

Changing Maintenance IDs

Each transmitter is assigned a maintenance ID. This maintenance ID is used when the RF-C! initiates a maintenance cycle. A maintenance cycle consists of commands that tell a transmitter programmed with maintenance ID "x" to key-up and send the maintenance data. The maintenance cycle starts with ID 0 and ends with ID 63 (depending on the number of maintenance IDs supported). Multiple transmitters will usually be assigned the same maintenance ID in a system.

Note: This command can be executed only in device addressing mode for a single transmitter.

1. From the SuperStream menu, use the **<tab>** to position the cursor to the left of the listing Change Maintenance ID and press: **<Return>** (see Figure 4-6).

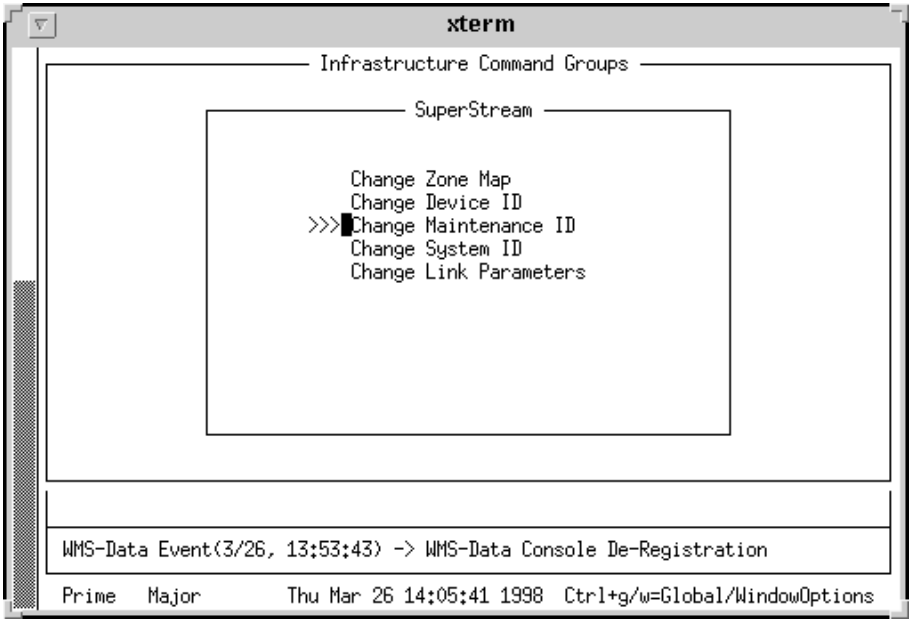

Figure 4-6: SuperStream Menu—Change Maintenance ID

The Change Maintenance ID screen appears (see Figure 4-7).

2. Enter the Maintenance ID and press **<Return>.** Valid values are 0-63.

The Infrastructure Commands Group menu appears with a message Command request accepted in the message bar of the screen.

3. To return to a previous menu or screen, press: **<Ctrl + p>.**

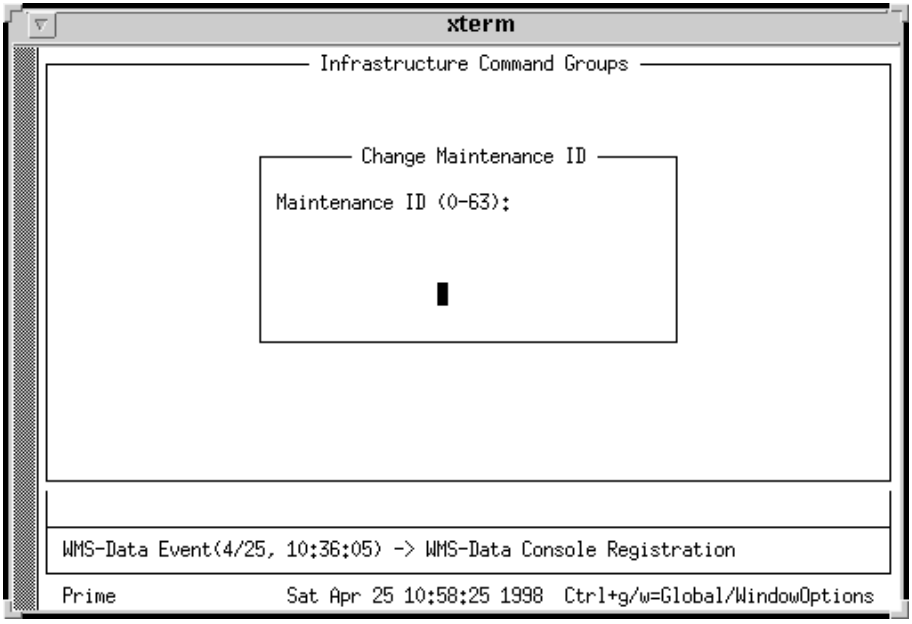

Figure 4-7: Change Maintenance ID Screen

Changing System IDs

This command is used to change the system ID. In the SuperStream address space, a stream has multiple systems. In order to uniquely identify the destination for all data coming from a single paging terminal output encoder, the system ID must be unique. System IDs must be the same for an entire simulcast system.

1. From the SuperStream menu, use the **<tab>** to position the cursor to the left of the listing Change System ID and press: **<Return>** (see Figure 4-8).

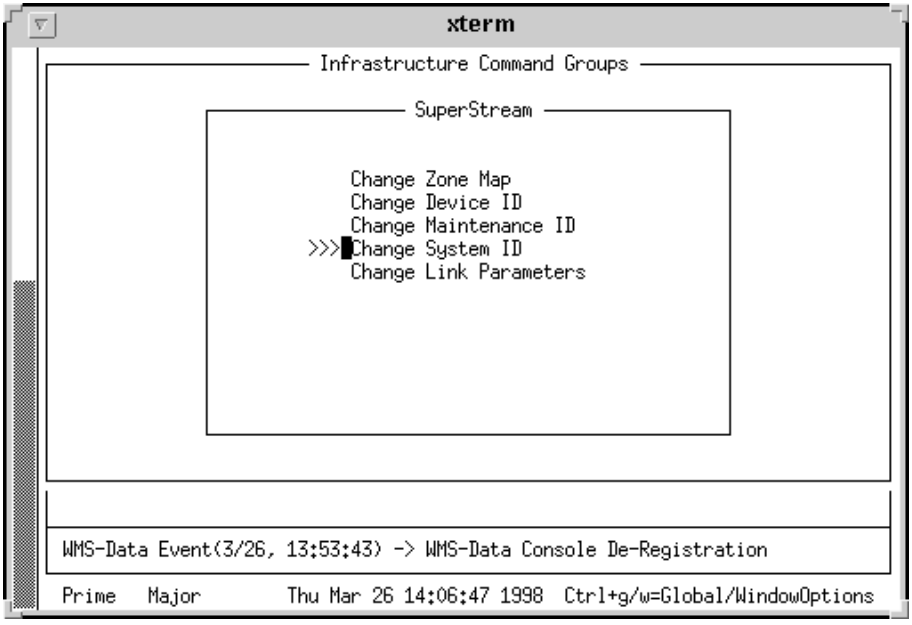

Figure 4-8: SuperStream Menu—Change System ID

The Select Systems Options screen appears with three options (see Figure 4-9):

– Change primary system ID
– Add alternate system ID
– Delete alternate system ID

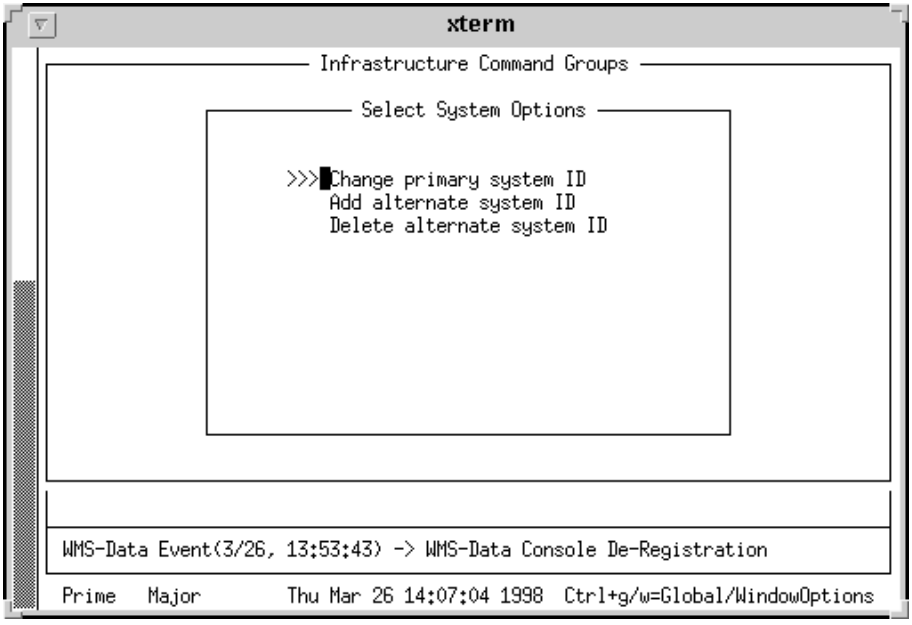

Figure 4-9: Select System Options Screen

The WMS-Data NIU supports a primary system ID and eight alternate system IDs. The alternate system IDs are also referred to as Supersystems. The default primary system ID is 1. Initially, all the alternate IDs are disabled. The system IDs should be unique at all times. If the primary system ID is the same as one of the alternate system IDs, then that alternate system ID will be removed from the list. The NIU ignores system IDs sent from the control point if they are the same as the programmed system IDs. The NIU also ignores the system IDs if all the alternate systems are programmed.

2. To change a primary system ID, use the **<tab>** to position the cursor to the left of the listing and press: **<Return>.**

   The Change System ID screen appears (see Figure 4-10).

3. Enter the system ID to change and press: **<Return>.** Valid values are 1-255.

4. To add an alternate system ID, use the **<tab>** to position the cursor to the left of the listing and press: **<Return>.**

   The Change System ID screen appears.

5. Enter the system ID to add and press: **<Return>.** Valid values are 1-255.

6. To delete an alternate system ID, use the **<tab>** to position the cursor to the left of the listing and press: **<Return>.**

   The Change System ID screen appears.

7. Enter the system ID to delete and press: **<Return>.** Valid values are 1-255.

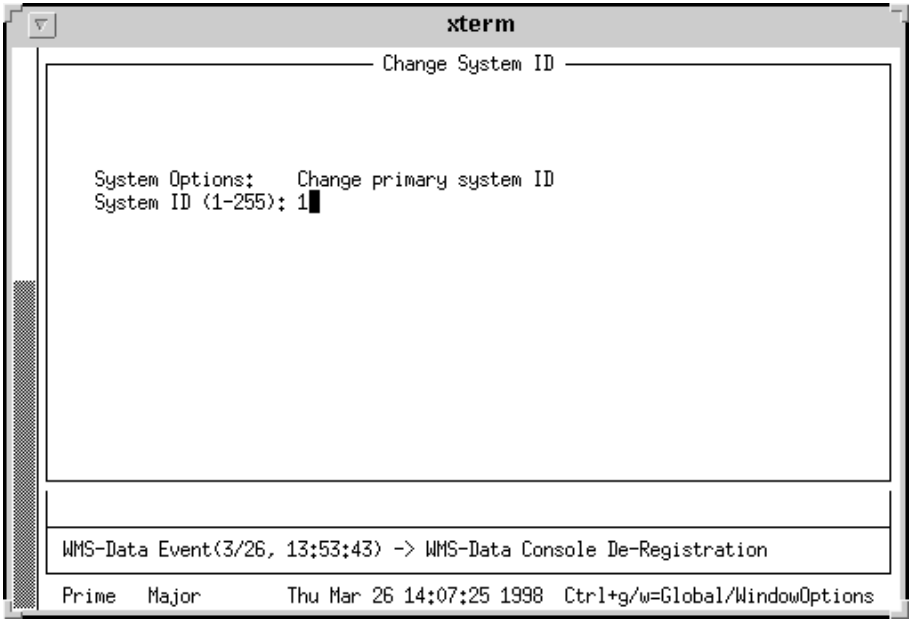

Figure 4-10: Change System ID Screen

8. Press **<Ctrl + e>** to execute the command.

9. To return to a previous menu or screen, press: **<Ctrl + p>.**

Changing Link Parameters

This command sets the link type, the data rate of the SuperStream link, and the Stream ID. All transmitters that are on the same link must have their data rate set to the same value.

1. From the SuperStream menu, use the **<tab>** to position the cursor to the left of the listing Change Link Parameters and press: **<Return>** (see Figure 4-11).

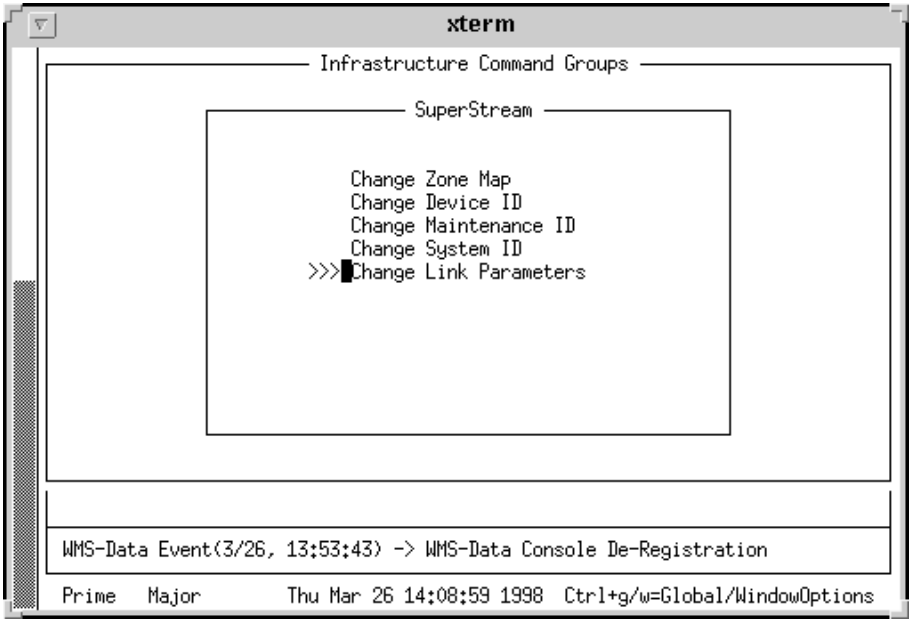

Figure 4-11: SuperStream Menu—Change Link Parameters

The Select Change Stream ID screen appears.

2. Position the cursor to select Yes or No and press: **<Return>**. If you don't want to change the Stream ID, select No.

The Select Link Speed screen appears.

3. Position the cursor to select a link speed (or no change if you are not changing the link speed) and press: **<Return>**. The following data rates are supported: 9600, 19200, 38400, 56000, 57600, 64000, and 76800 bps.

   The Select Link Type screen appears.

4. Position the cursor to select a link type (or no change if you are not changing the link type) and press: **<Return>**. The following link types are supported: Analog, FM^2/SCPC, and FM^3.

Note: For FM^2/SCPC link types, the WMS-Data system provides the clock internally. For FM^3, the clock is provided externally by the satellite service provider.

The Change Link Parameters screen appears showing the values selected in the previous steps for stream ID change, link speed, and link type (see Figure 4-12).

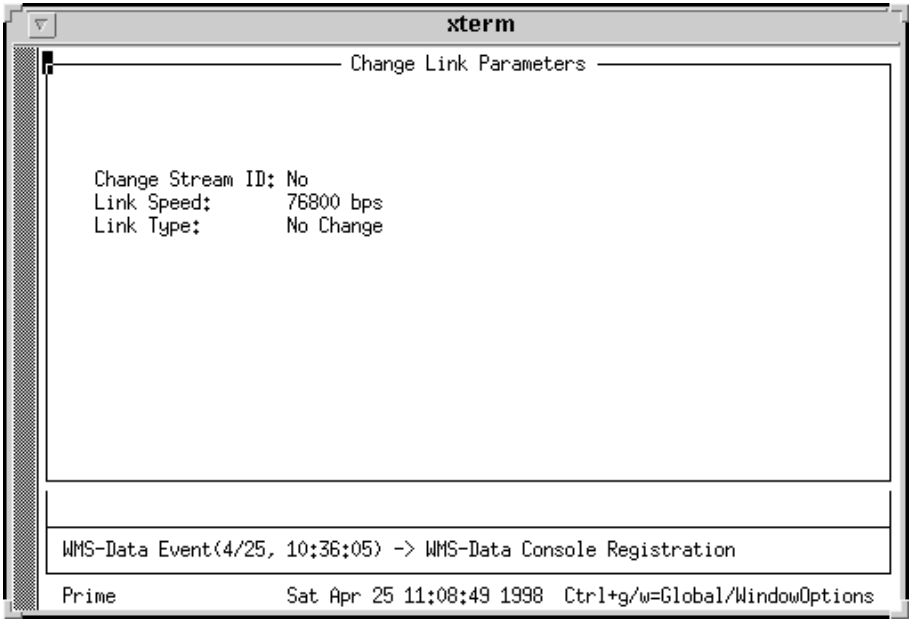

Figure 4-12: Change Link Parameters Screen

5. Press **<Ctrl + e>** to execute the command.

*Note: Update the distribution link setup. Refer to Chapter 4 of the RF-Conductor!™ Controller Administration manual (*6880494G54).

6. To return to a previous menu or screen, press: **<Ctrl + p>.**

Diagnostic Commands

This chapter discusses the Diagnostic commands, and provides procedures for the following:

Setting Auxiliary Outputs

This command is used to set a transmitter's auxiliary outputs as active or inactive. The auxiliary output lines from the transmitter can be used to control other equipment at a base transmitter site. For example, an output line can be used to turn on a cooling fan at the base transmitter site

Note: To move (position) the cursor on the screen, use the <tab> or down arrow <↓> to move down, <backspace> or up arrow <↑> to move up, left arrow <←> to move to the left and the right arrow <→> to move to the right.

1. From the Infrastructure Command Groups menu, use the **<tab>** to position the cursor to the left of the listing Diagnostics and press: **<Return** (see Figure 5-1).

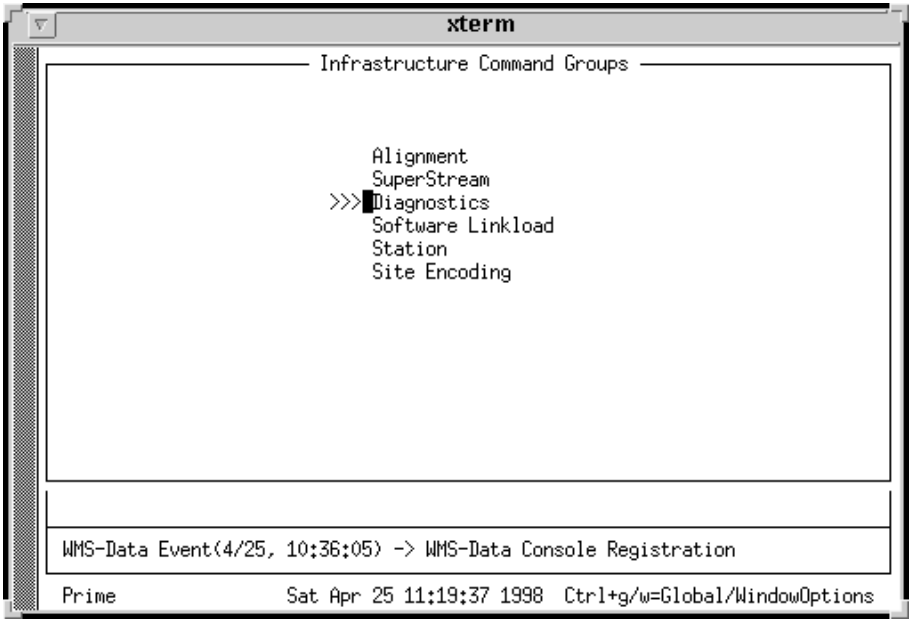

Figure 5-1: Diagnostic Menu

The Diagnostics screen appears (see Figure 5-2).

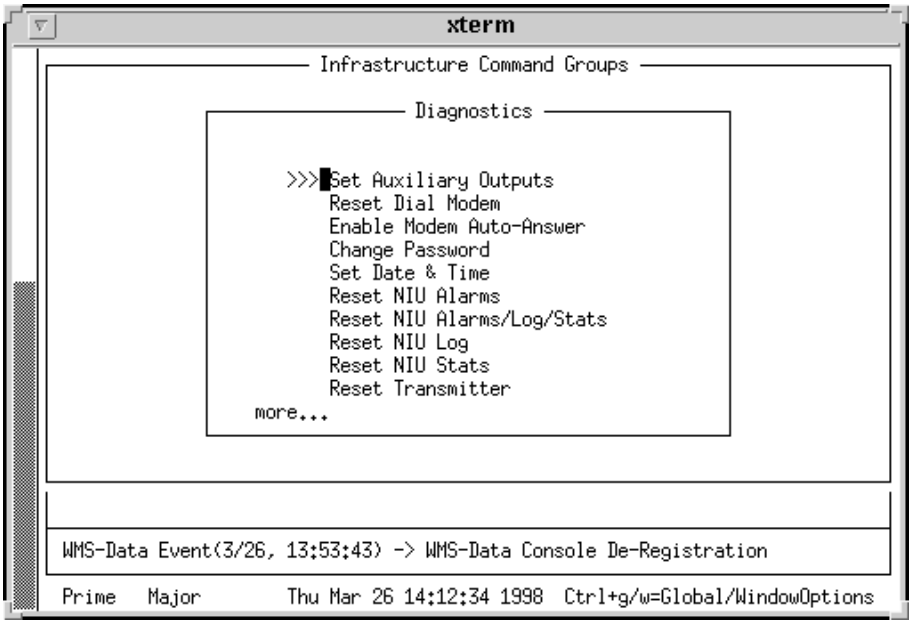

Figure 5-2: Diagnostics Screen—Select Auxiliary Outputs

2. From the Diagnostic menu, use the **<tab>** to position the cursor to the left of the listing Set Auxiliary Output and press: **<Return**.

Four auxiliary outputs are supported by an Internal NIU and two auxiliary outputs are supported by an External NIU. If the unit is a hot standby controller then Auxiliary output 1 is not changed by this command. Initially, all the auxiliary outputs are inactive.

3. Select Internal or External NIU. To select Internal NIU, position the cursor to the left of the listing Internal NIU and press: **<Return>.**

   The Internal NIU auxiliary output screen appears (Figure 5-3).

4. Press **<ctrl + t>** to toggle between n for no and y for yes for the four Internal NIU auxiliary outputs.

5. Press **<ctrl + e>** to execute the command.

6. To return to a previous menu or screen, press: **<Ctrl + p>.**

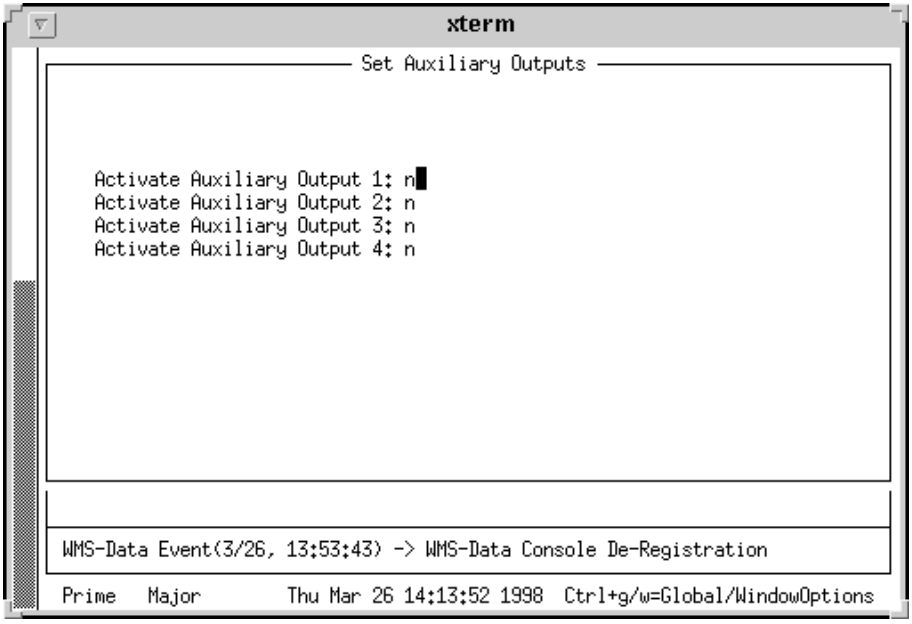

Figure 5-3: Set Auxiliary Outputs—Internal NIU

7. To select an External NIU, position the cursor to the left of the listing External NIU and press: **<Return>.**

   The External NIU auxiliary output screen appears (Figure 5-4).

8. Press **<ctrl + t>** to toggle between n for no and y for yes for the two External NIU auxiliary outputs.

9. Press **<ctrl + e>** to execute the command.

10. To return to a previous menu or screen, press: **<Ctrl + p>.**

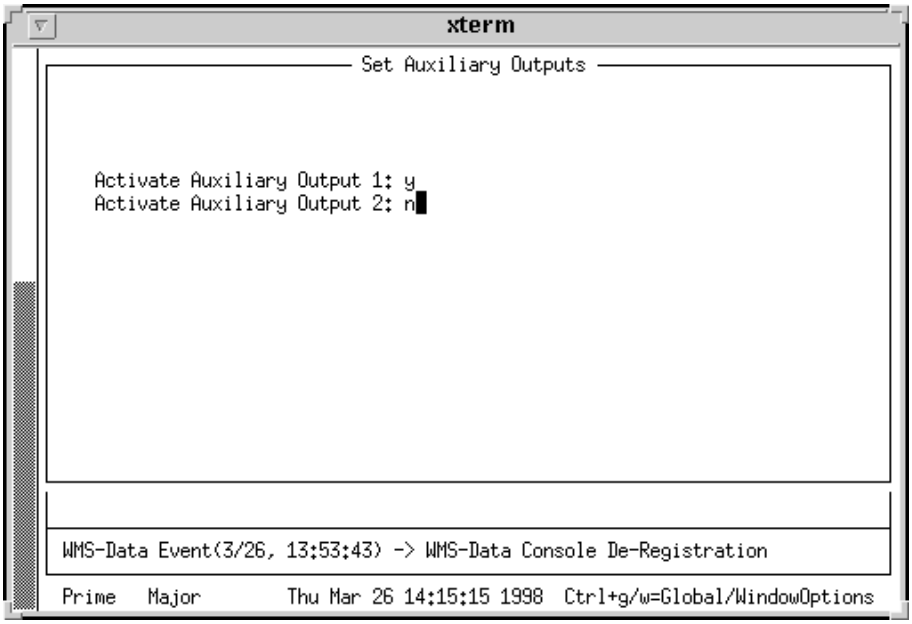

Figure 5-4: Set Auxiliary Outputs—External NIU

Resetting the Dial Modem

This command causes the transmitter to reset the internal modem. Any call in progress is disconnected.

There are no parameters for this option. From the Diagnostic menu, use the **<tab>** to position the cursor to the left of the listing Reset Dial Modem and press: **<Return>** to execute the command (see Figure 5-5).

The Infrastructure Commands Group menu appears with a message Command request accepted in the message bar of the screen.

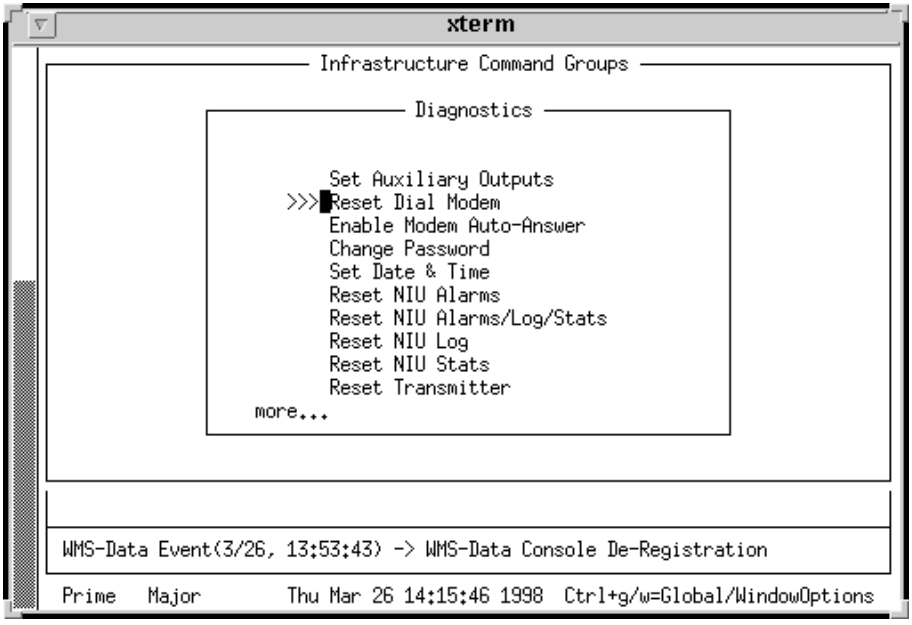

Figure 5-5: Diagnostics Screen—Reset Dial Modem

Controlling Modem Auto-Answer

This command is used to control the auto answer capability of the dial modem to on or off. The modem answers after a certain number of rings if auto answer capability is turned On. Otherwise, modem auto-answer is disabled.

1. From the Diagnostic menu, use the **<tab>** to position the cursor to the left of the listing Enable Modem Auto-Answer and press: **<Return>** (see Figure 5-6).

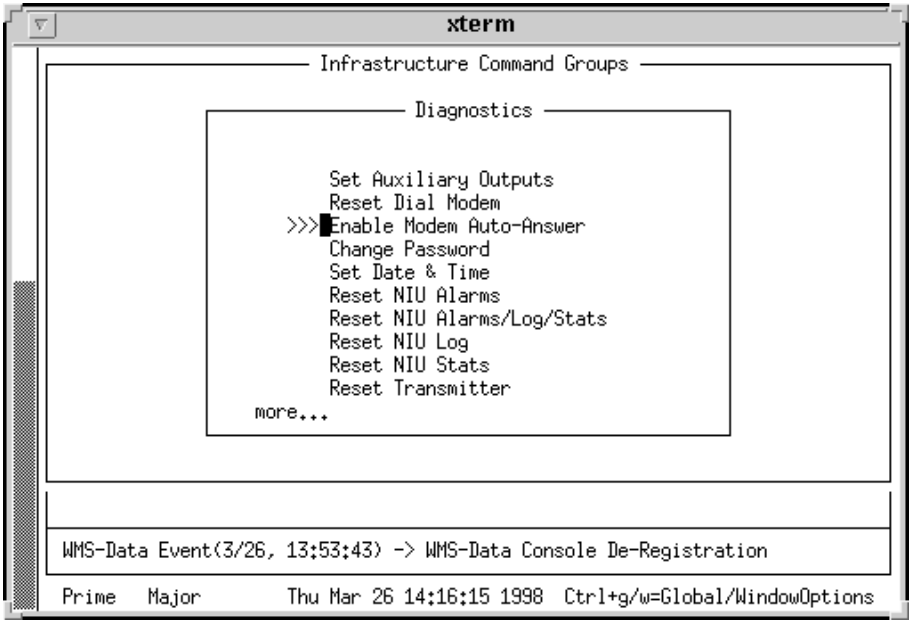

Figure 5-6: Diagnostics Screen—Enable Modem Auto Answer

The Select Enable Modem Auto Answer Screen appears (see Figure 5-7).

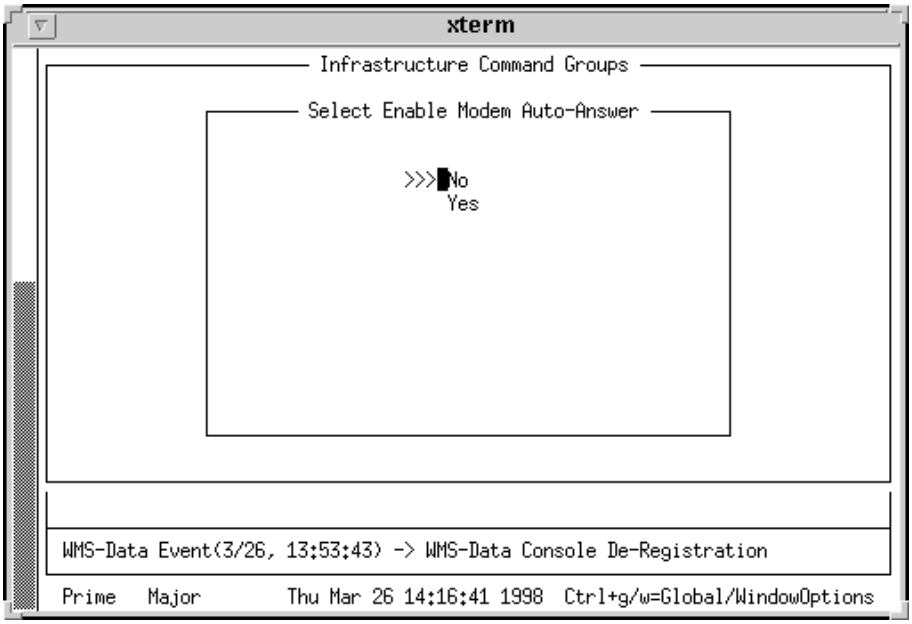

Figure 5-7: Select Enable Modem Auto Answer Screen

2. Position the cursor to select Yes or No and press: **<Return>**.

The Infrastructure Commands Group menu appears with a message Command request accepted in the message bar of the screen.

Changing a Password

This command is used to change or set device password. The maximum number of characters allowed for the Password is 20 characters.

Note: Check with your system administrator for the factory-set password.

1. From the Diagnostic menu, use the **<tab>** to position the cursor to the left of the listing Change Password and press: **<Return>** (see Figure 5-8).

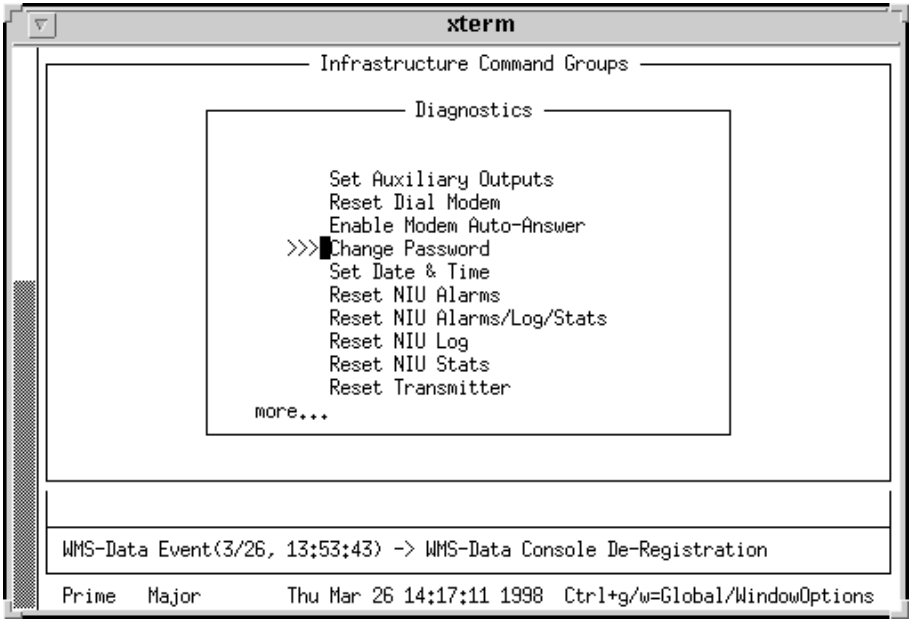

Figure 5-8: Diagnostics Screen—Change Password

The Change Password screen appears (see Figure 5-9).

2. Type in a password and press: **<Return>**.

3. Type the password in again and press: **<Return>** to confirm.

If accepted, the Infrastructure Commands Group menu appears with a message Command request accepted in the message bar of the screen. If the password is not accepted, the message bar displays password mismatch, try again.

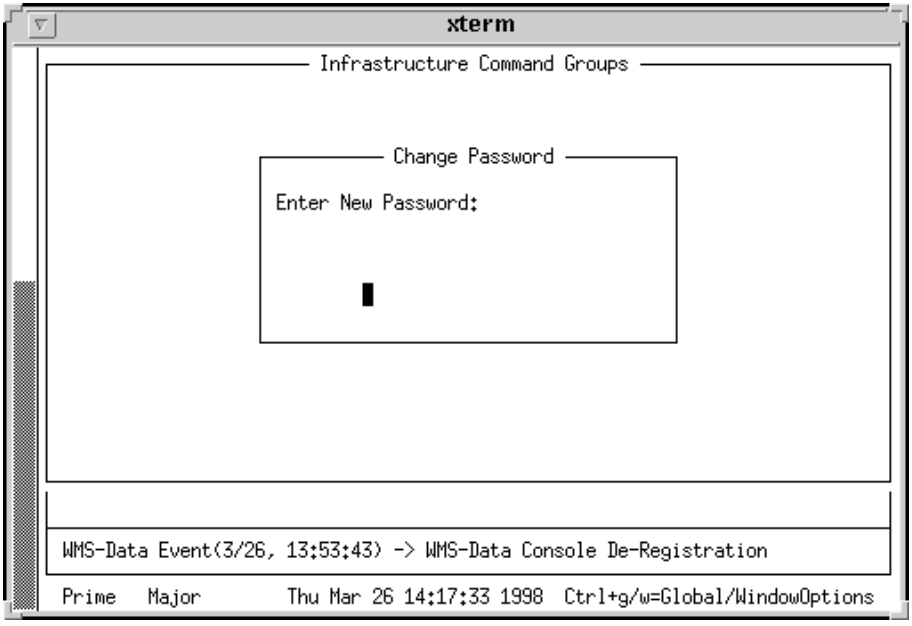

Figure 5-9: Enter Password Screen

Setting Date and Time

This command is used to update the transmitter's real time clock with the time from the RF-C!.

1. From the Diagnostic menu, use the **<tab>** to position the cursor to the left of the listing Set Date & Time and press: **<Return>** (see Figure 5-10).

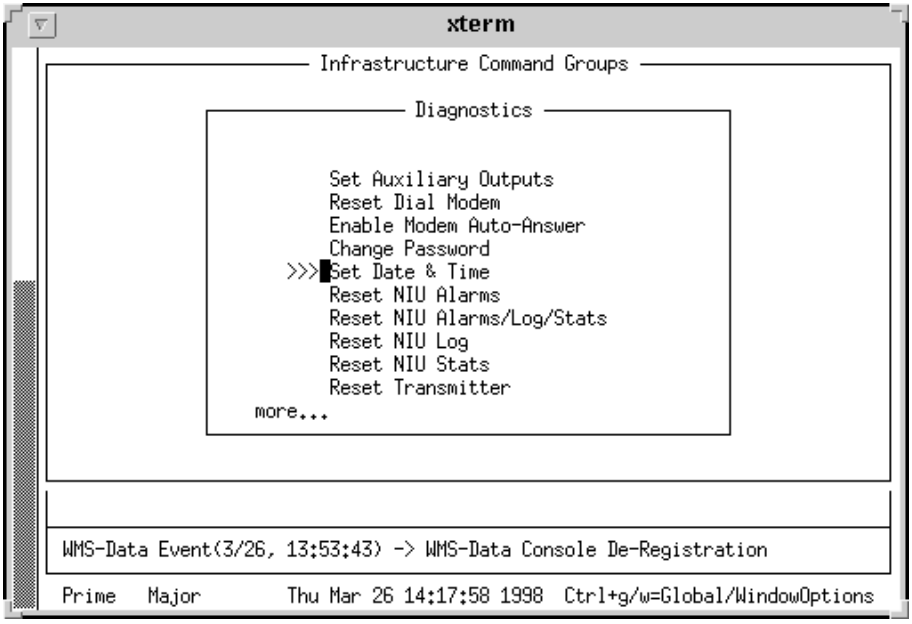

Figure 5-10: Diagnostics Screen—Set Date and Time

The Set Date and Time screen appears (see Figure 5-11).

2. Enter the date and time in this syntax: MMDDYYYY:hhmmss

- MM: month (two digits)
- DD: day (two digits)
- YYYY: year (four digits)
- : colon required
- hh: hour (two digits)

- mm: minutes (two digits)
- ss: seconds (two digits)

If accepted, the Infrastructure Commands Group menu appears with a message Command request accepted in the message bar of the screen. If the date and time is not accepted, the message bar displays invalid entry.

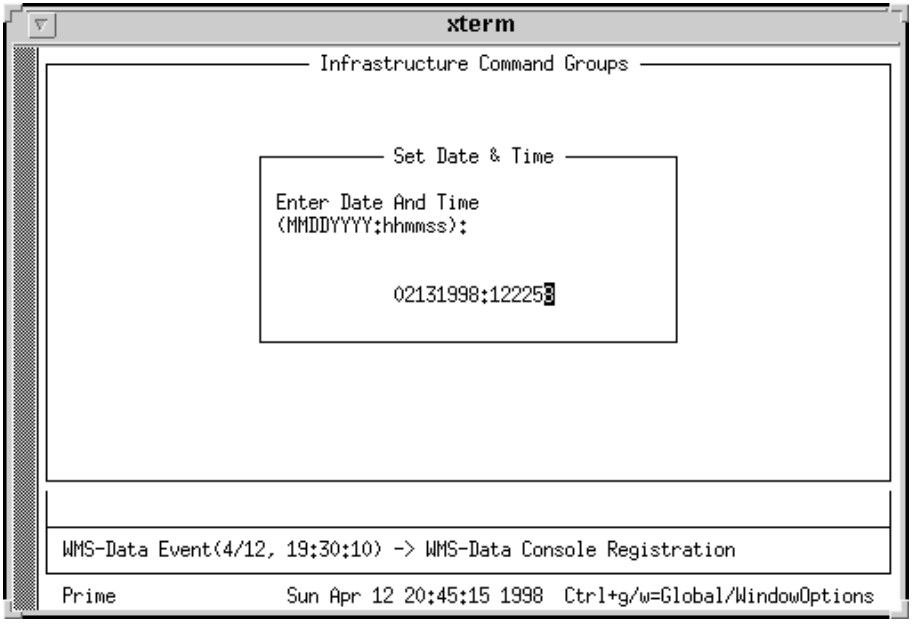

Figure 5-11: Set Date and Time Screen

Resetting NIU Alarms

This command is used to clear transmitter's non-current latched alarms.

There are no parameters for this option. From the Diagnostic menu, use the **<tab>** to position the cursor to the left of the listing Reset NIU Alarms and press: **<Return>** to execute the command (see Figure 5-12).

The Infrastructure Commands Group menu appears with a message Command request accepted in the message bar of the screen.

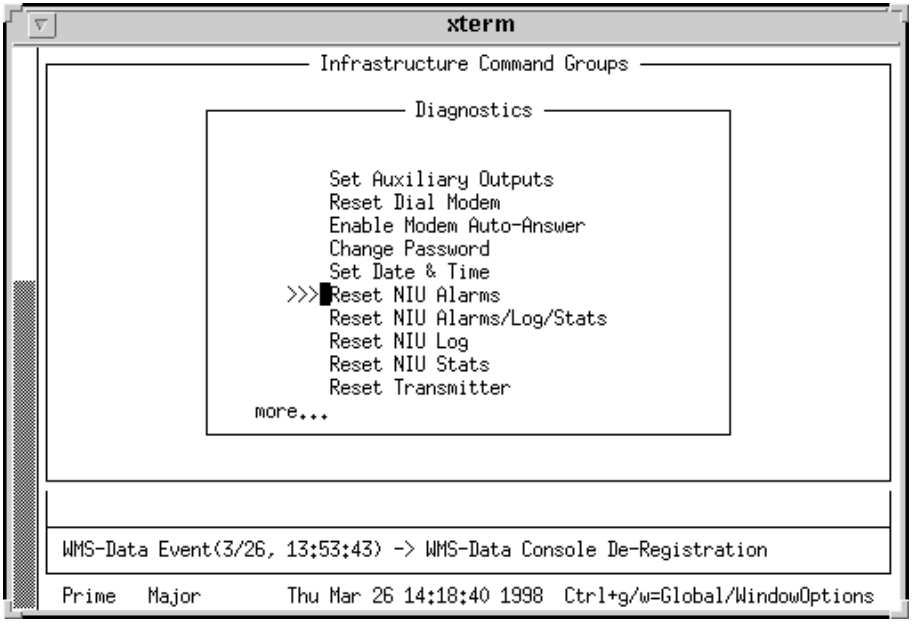

Figure 5-12: Diagnostics Screen—Reset NIU Alarms

Resetting NIU Alarms, Logs and Statistics

This command is used to clears alarms, the event log and statistics of a transmitter

There are no parameters for this option. From the Diagnostic menu, use the **<tab>** to position the cursor to the left of the listing Reset NIU Alarms/Log/Stats and press: **<Return>** to execute the command (see Figure 5-13).

The Infrastructure Commands Group menu appears with a message Command request accepted in the message bar of the screen.

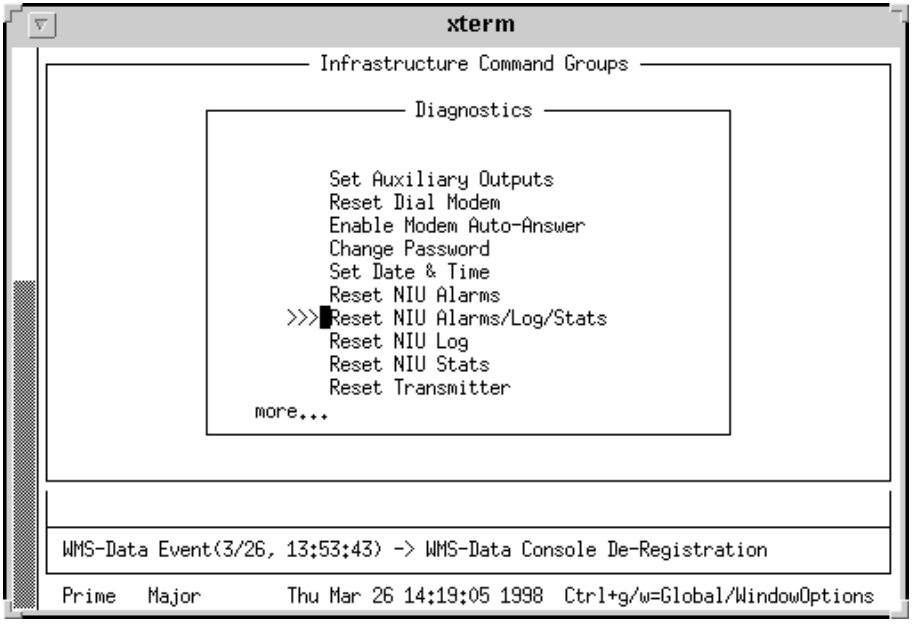

Figure 5-13: Diagnostics Screen—Reset NIU Alarms/Log/Stats

Resetting the NIU Log

This command is used to clears the transmitter event log.

There are no parameters for this option. From the Diagnostic menu, use the **<tab>** to position the cursor to the left of the listing Reset NIU Log and press: **<Return>** to execute the command (see Figure 5-14).

The Infrastructure Commands Group menu appears with a message Command request accepted in the message bar of the screen.

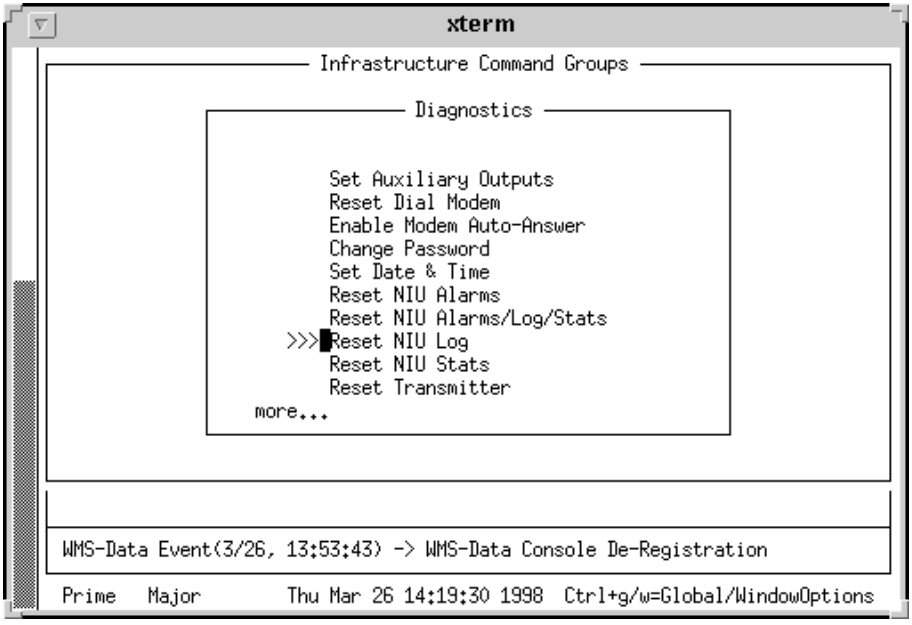

Figure 5-14: Diagnostics Screen—Reset NIU Log

Resetting NIU Statistics

This command is used to clear (re-set) transmitter statistics. The following statistics are re-set:

- Decoder statistics
- Interrupt Service Request statistics
- BER history
- Site Encoder

There are no parameters for this option. From the Diagnostic menu, use the **<tab>** to position the cursor to the left of the listing Reset NIU Stats and press: **<Return>** to execute the command (see Figure 5-15).

The Infrastructure Commands Group menu appears with a message Command request accepted in the message bar of the screen.

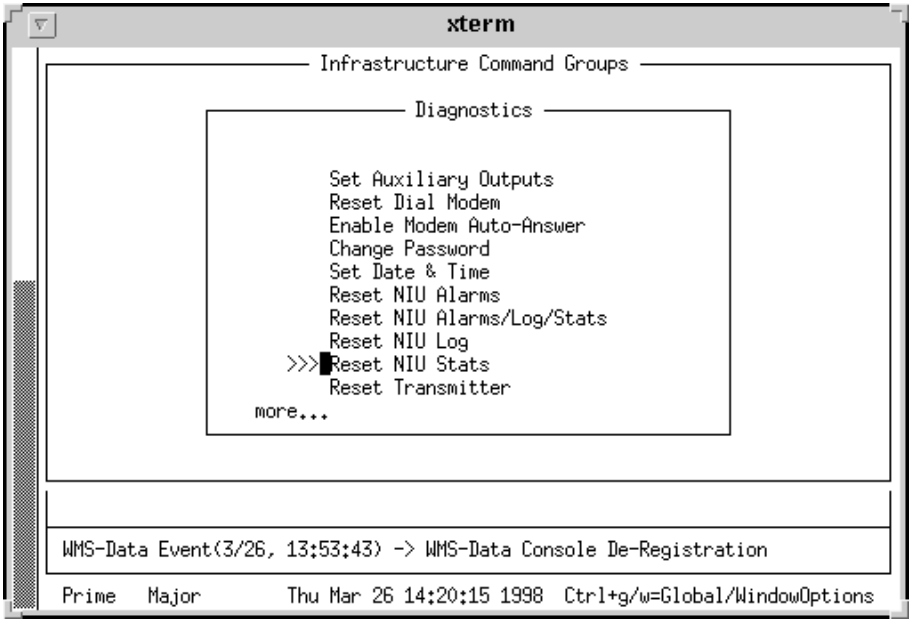

Figure 5-15: Diagnostics Screen—Reset NIU Stats

Resetting a Transmitter

This command is used to reset a transmitter.

There are no parameters for this option. From the Diagnostic menu, use the **<tab>** to position the cursor to the left of the listing Reset Transmitter and press: **<Return>** to execute the command (see Figure 5-16).

The Infrastructure Commands Group menu appears with a message Command request accepted in the message bar of the screen.

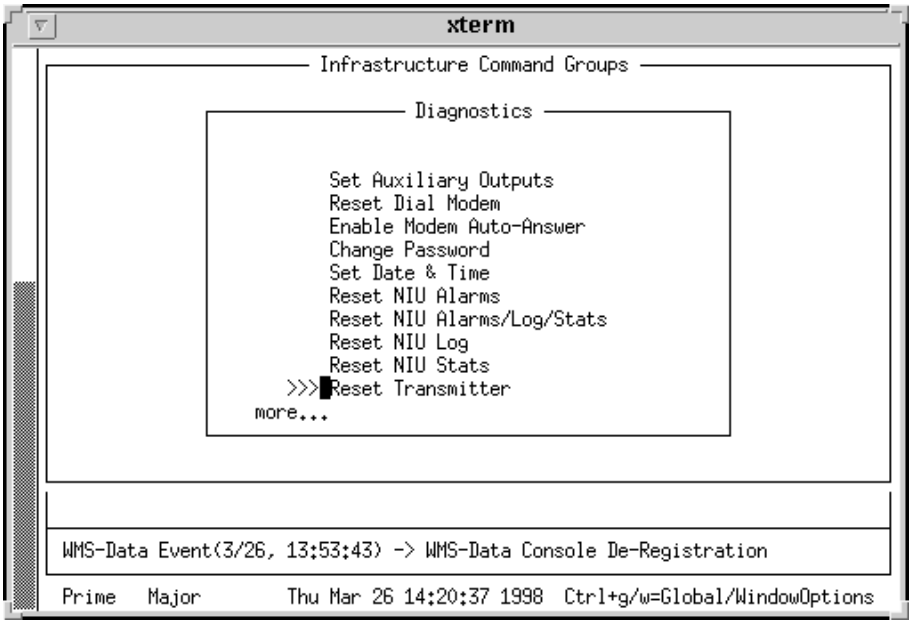

Figure 5-16: Diagnostics Screen—Reset Transmitter

Setting Bit Error Rate (BER) Limit

This command is used to set BER high and low limit. The limits for high and low BER are inter-dependent. High BER cannot be less than low BER and low BER cannot be more than high BER at any given time.

1. From the Diagnostic menu, use the **<tab>** to position the cursor to the left of the listing Set BER Limit and press: **<Return>** (see Figure 5-17).

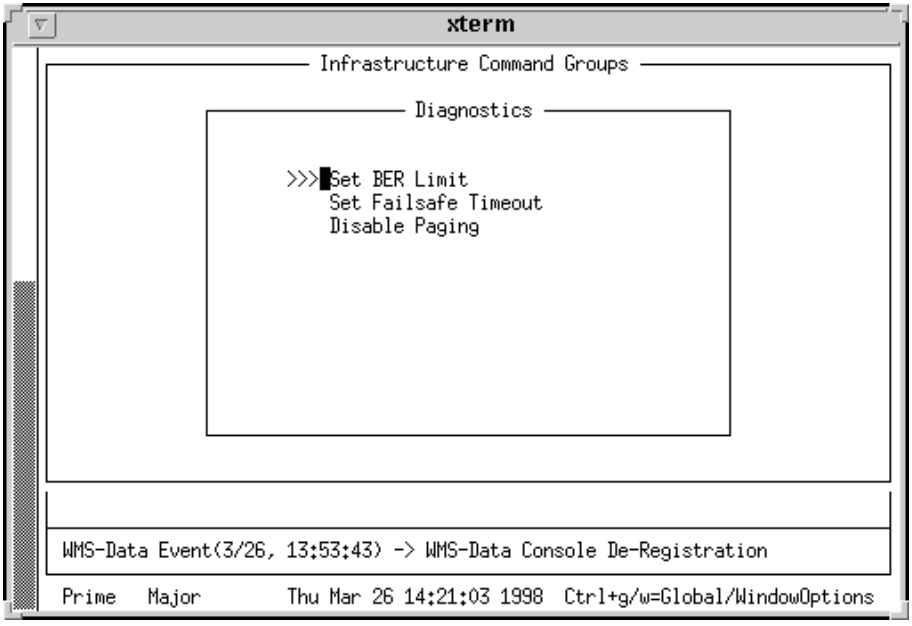

Figure 5-17: Diagnostics Screen—Set BER Limit

The Set Ber Limit screen appears (see Figure 5-18). The high and low BER values define a hysteresis function. The valid range for BER values is 0-65535. Initially, the range for high BER will be 450-65535, and the range for low BER will be 0-800.

The factory default values: High BER value = 800 x 10^{-6}, Low BER value = 450 x 10^{-6}

2. Enter the value for the high BER rate press: **<Return>**.

3. Enter the value for the low BER rate press: **<Return>**.

4. Press **<ctrl + e>** to execute the command.

5. To return to a previous menu or screen, press: **<Ctrl + p>.**

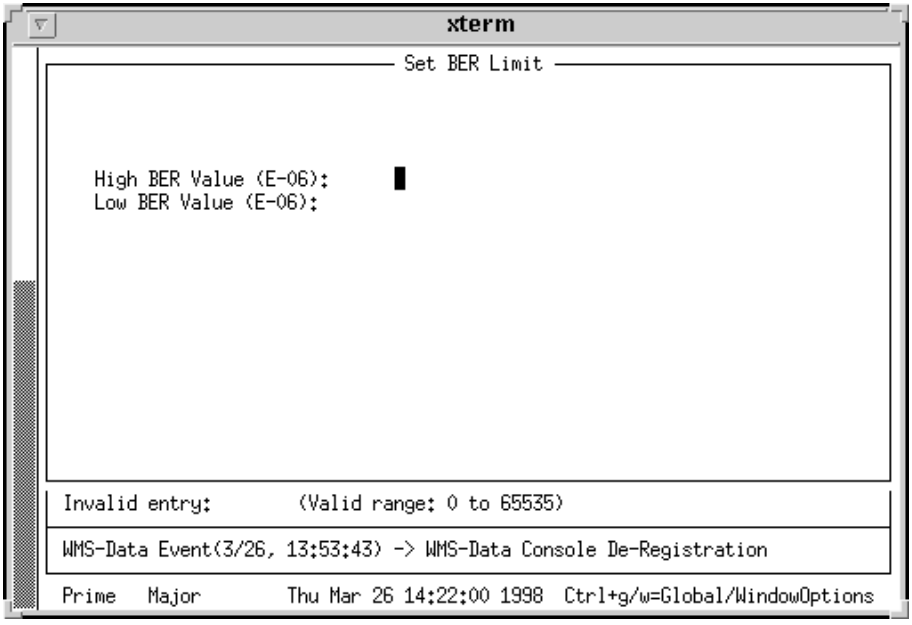

Figure 5-18: Set BER Limit Screen

Setting Failsafe Timeout

This command is used to set the failsafe timeout. The failsafe timeout value is used when monitoring the status of the link, that is, the SuperStream stream. If the transmitter is not receiving the SuperStream stream and the timer expires, the transmitter switches to the off-line flash.

1. From the Diagnostic menu, use the **<tab>** to position the cursor to the left of the listing Set Failsafe Timeout and press: **<Return>** (see Figure 5-19).

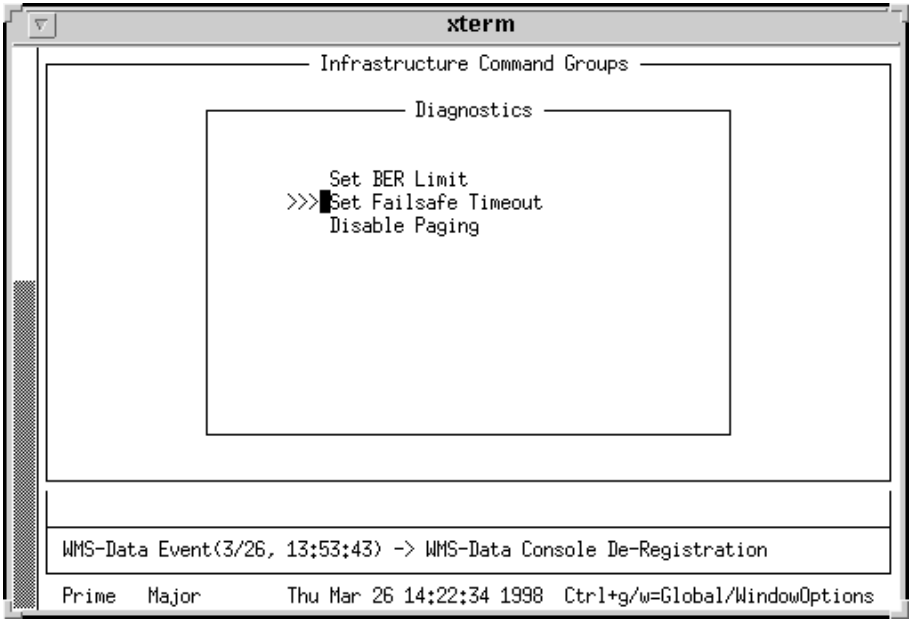

Figure 5-19: Diagnostics Screen—Set Failsafe Timeout

The Select Failsafe Timeout screen appears (see Figure 5-20).

2. To disable failsafe timeout, position the cursor by Disable and press: **<Return>**. The Infrastructure Commands Group menu appears with a message Command request accepted in the message bar of the screen.

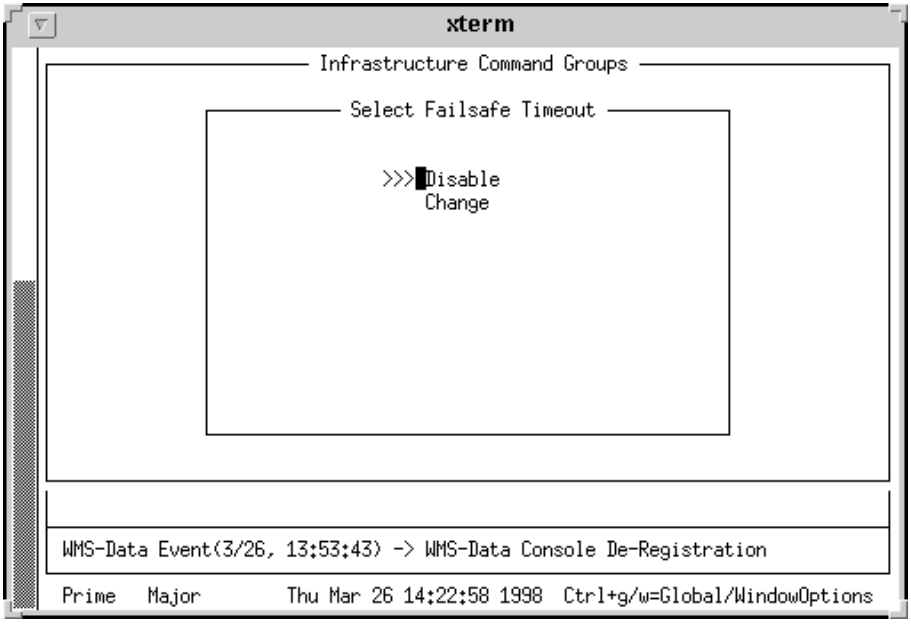

Figure 5-20: Select Failsafe Timeout Screen

3. To change the failsafe timeout, position the cursor by Change and press: **<Return>**.

The Change Failsafe Timeout screen appears (Figure 5-21).

4. Enter values for hours, minutes, and seconds.

5. Press **<ctrl + e>** to execute the command.

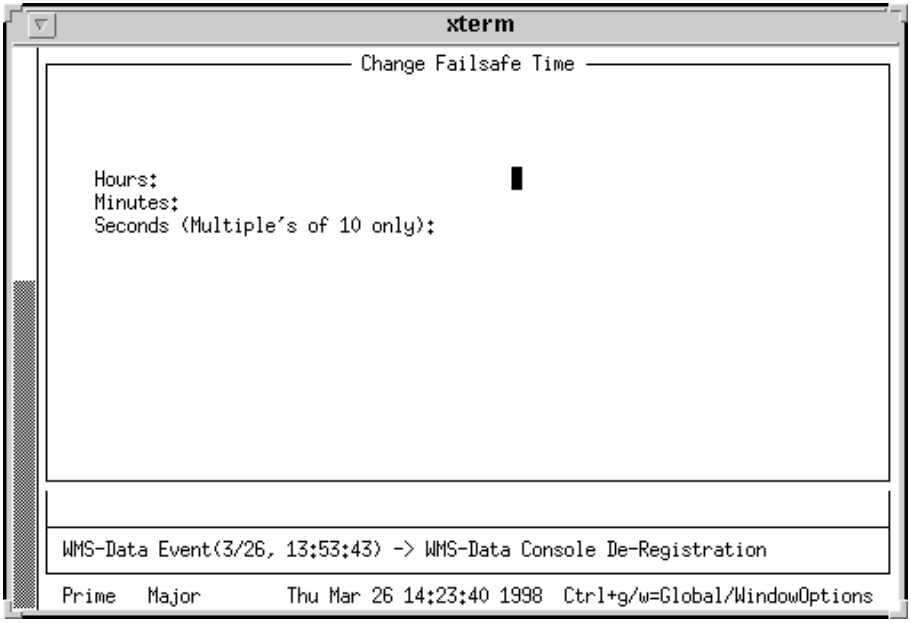

Figure 5-21: Change Failsafe Timeout Screen

6. To return to a previous menu or screen, press: **<Ctrl + p>.**

Disabling Paging

This command is used to disable or enable the keying of a transmitter.

Enabling the keying of the transmitter allows the transmitting of information from the base station; disabling stops the keying of the transmitter.

1. From the Diagnostic menu, use the **<tab>** to position the cursor to the left of the listing Disable Paging and press: **<Return>** (see Figure 5-22).

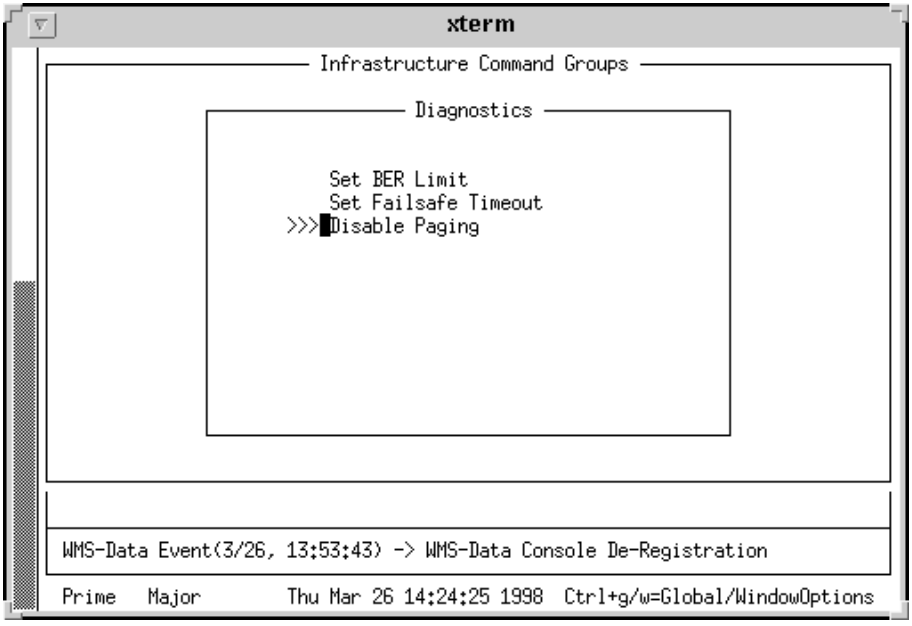

Figure 5-22: Diagnostics Screen—Disable Paging

The Select Disable Paging screen appears (see Figure 5-23).

2. Position the cursor to select Yes or No and press: **<Return>**.

The Infrastructure Commands Group menu appears with a message Command request accepted in the message bar of the screen.

3. To return to a previous menu or screen, press: **<Ctrl + p>.**

.

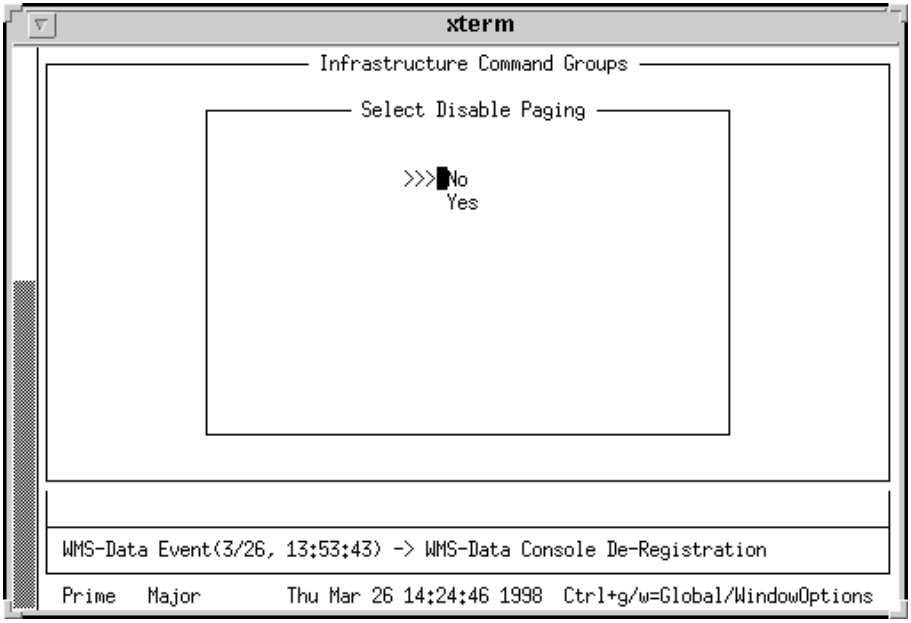

Figure 5-23: Select Disable Paging Screen

Software Linkload Commands

This chapter provides information and procedures on downloading software from the RF-C! to a site controller: internal NIU, an external NIU or a Nucleus SCM. In addition, a procedure for aborting an SCM linkload is provided.

Installing an NIU/SCM Release from Tape

This command is used to install an NIU or SCM release from tape to the RF-C! hard drive.

Note: To move (position) the cursor on the screen, use the <tab> or down arrow <↓> to move down, <backspace> or up arrow <↑> to move up, left arrow <←> to move to the left and the right arrow <→> to move to the right.

1. From the Infrastructure Command Groups menu, use the **<tab>** to position the cursor to the left of the listing Software Linkload and press: **<Return>** (see Figure 6-1).

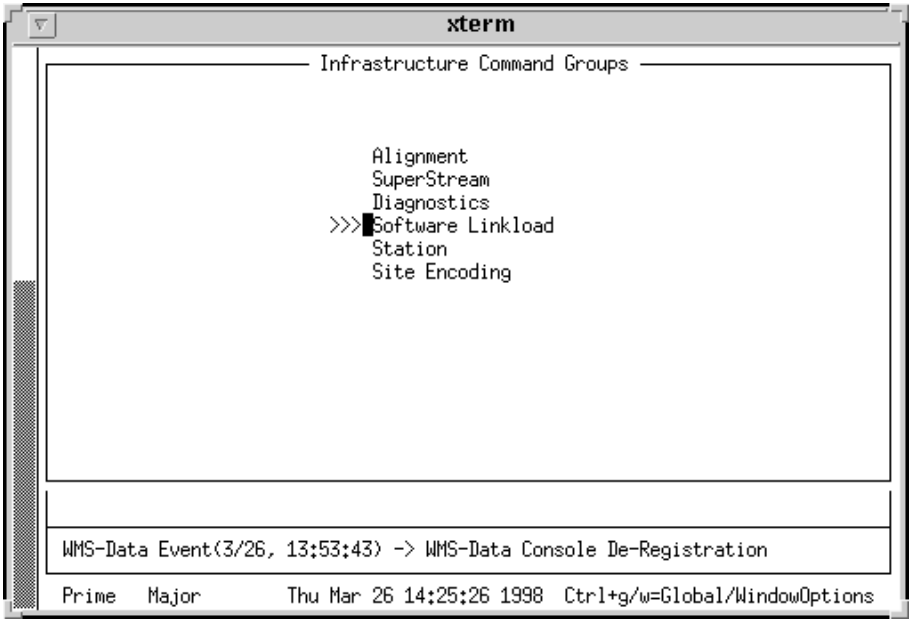

Figure 6-1: Select Software LInkload

The NIU / SCM Software Linkload screen appears (see Figure 6-2).

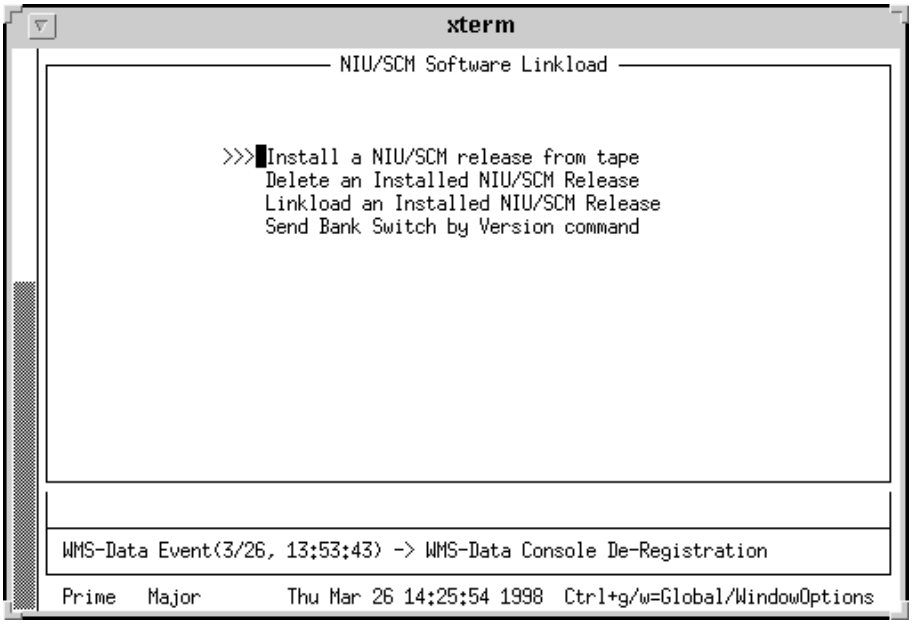

Figure 6-2: NIU/SCM Software Linkload Screen

2. From the NIU / SCM Software Linkload screen, use the **<tab>** to position the cursor to the left of the listing Install a NIU/SCM release from DAT tape and press: **<Return>**.

   The install from tape confirmation screen appears.

3. Position the cursor to select Yes or No and press: **<Return>**.

Selecting No returns to the previous menu and no system action takes place. Selecting Yes displays information in the message bar of the screen indicating the status of the command. If the install from tape command is successful the system displays:

Install NIU/SCM Software Version request accepted

4. To return to a previous menu or screen, press: **<Ctrl + p>.**

Deleting an Installed NIU/SCM Release

This command is used to delete an installed NIU or SCM release from the RF-C! hard drive.

1. From the NIU / SCM Software Linkload screen, use the **<tab>** to position the cursor to the left of the listing Delete an Installed NIU/SCM Release and press: **<Return>** (see Figure 6-3).

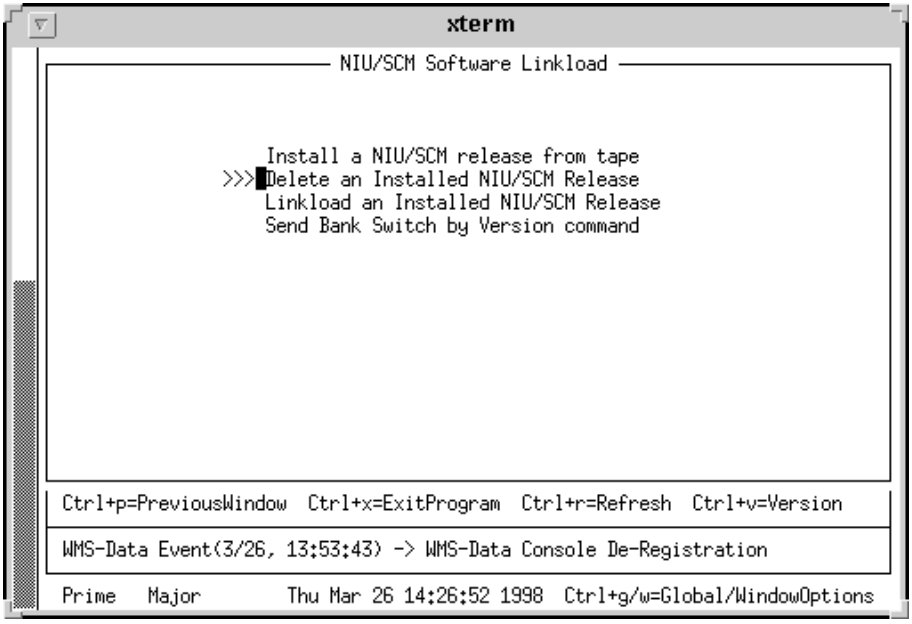

Figure 6-3: NIU/SCM Software Linkload Screen—Delete an Installed NIU/SCM Release

The Delete an Installed NIU / SCM Release screen appears with a list of installed releases (see Figure 6-4).

2. Position the cursor next to the release to be deleted and press: **<Return>**. The type of site controller is identified by the prefix:

- HNU is for internal NIU
- HEX is for external NIU
- SC is for Nucleus SCM

If the delete command is successful the system displays:

Install NIU/SCM Software Version request accepted

3. To return to a previous menu or screen, press: **<Ctrl + p>.**

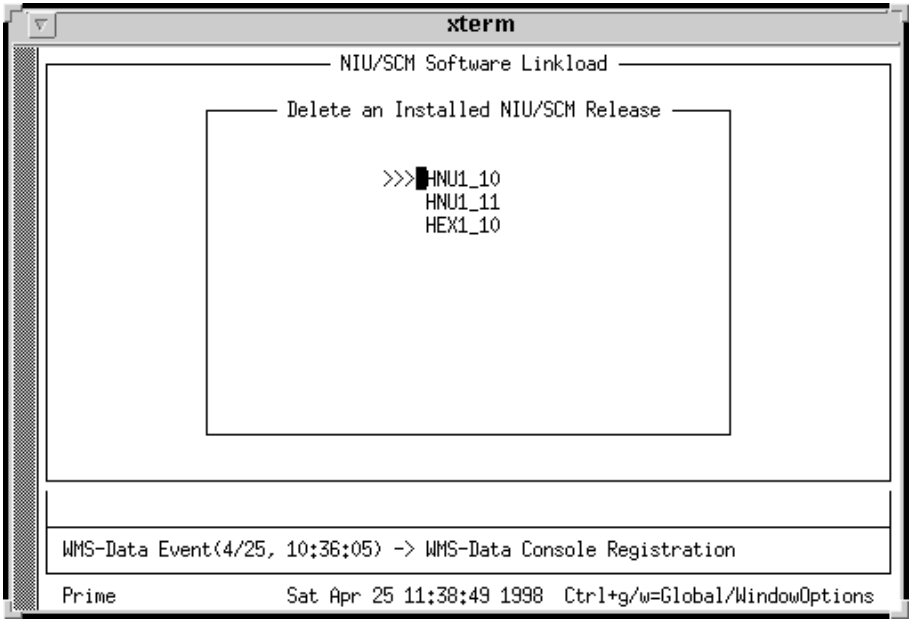

Figure 6-4: Delete an Installed NIU/SCM Release Screen

Linkloading an Installed NIU/SCM Release

This command is used to linkload an installed NIU or SCM release.

1. From the NIU / SCM Software Linkload screen, use the **<tab>** to position the cursor to the left of the listing Linkload an Installed NIU/SCM Release and press: **<Return>** (see Figure 6-5).

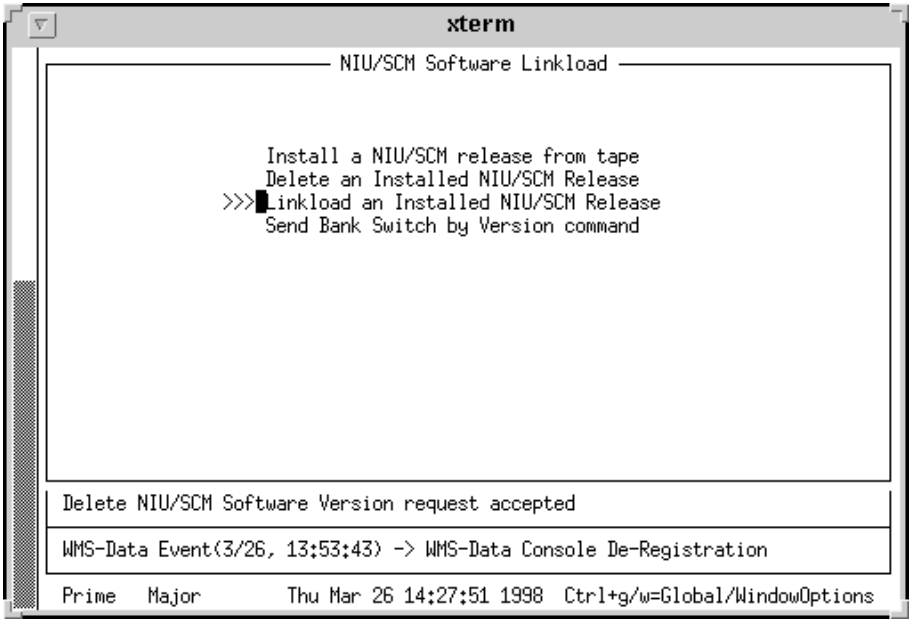

Figure 6-5: NIU/SCM Software Linkload Screen—Linkload an Installed NIU/SCM Release

The Select Site Controller Type screen appears (see Figure 6-6).

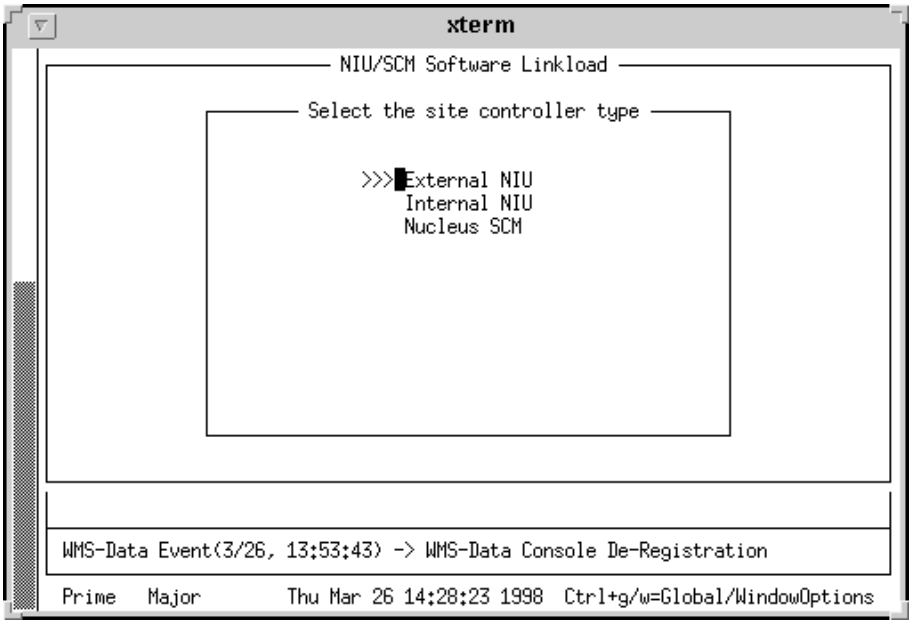

Figure 6-6: Linkload an Installed NIU/SCM Release—Select Site Controller Type

2. Position the cursor next to the type of site controller— External NIU, Internal NIU or Nucleus SCM— to linkload an installed release and press: **<Return>**.

   The system displays available installed releases to linkload (see Figure 6-7).

   If there are no release installed for the type of site controller selected, the system displays the message bar no releases installed.

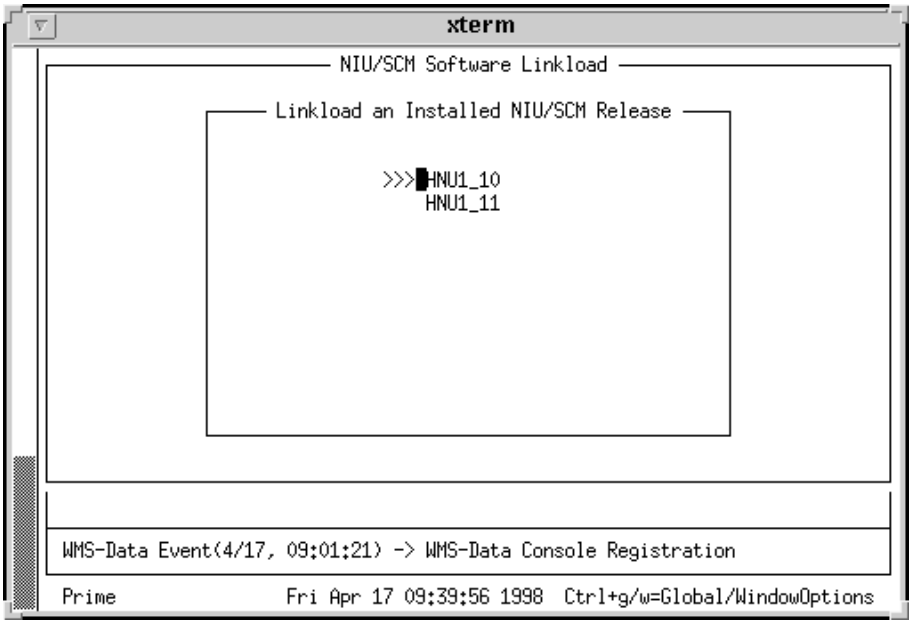

Figure 6-7: Linkload an Installed NIU/SCM Release—Select Installed Site Controller Release to Linkload Screen

3. Position the cursor next to the installed version to linkload press: **<Return>**.

   The Erase Flash by Version screen appears (see Figure 6-8).

4. Position the cursor to select Yes or No and press: **<Return>**.

Note: The system erases the off-line flash bank in the NIU or the SCM if neither flash bank contains the indicated version. If the given version matches the version in either flash bank, this command is ignored. A forced version erase is performed on the off-line flash when No is selected.

The NIU/SCM Software Linkload screen appears with a message Please wait...NIU Linkload will be started in 60 seconds in the message bar of the screen. If the command is successful the system displays:

Successfully Linkloaded (software version and version number)

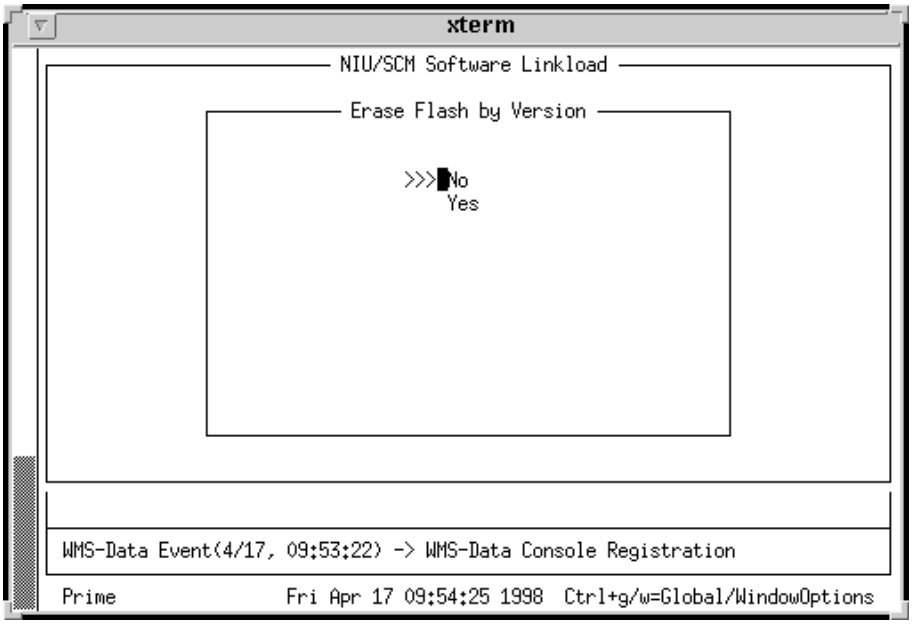

Figure 6-8: Linkload an Installed NIU/SCM Release—Erase Flash by Version Screen

Note: Linkloads to NIUs and SCMs take a substantial period of time. The current status of the linkload is displayed on the message bar.

To abort linkloads, enter **<Ctrl + x>** *at the main menu. Do not start another linkload within ten minutes of aborting the prior linkload.*

A linkload is aborted automatically if a switchover occurs while the linkload was being performed. Wait at least ten minutes before starting another linkload.

5. To return to a previous menu or screen, press: **<Ctrl + p>.**

Sending Bank Switch by Version Command

This command is used to change the bank to the off-line flash in dual flash units. Bank switch to the off-line flash will occur only if it has the given version. This command is ignored if a link load is in progress. The NIU or SCM will go through a reset and then start executing from the other flash.

1. From the NIU/SCM Software Linkload screen, use the **<tab>** to position the cursor to the left of the listing Send Bank Switch by Version command and press: **<Return>** (see Figure 6-9).

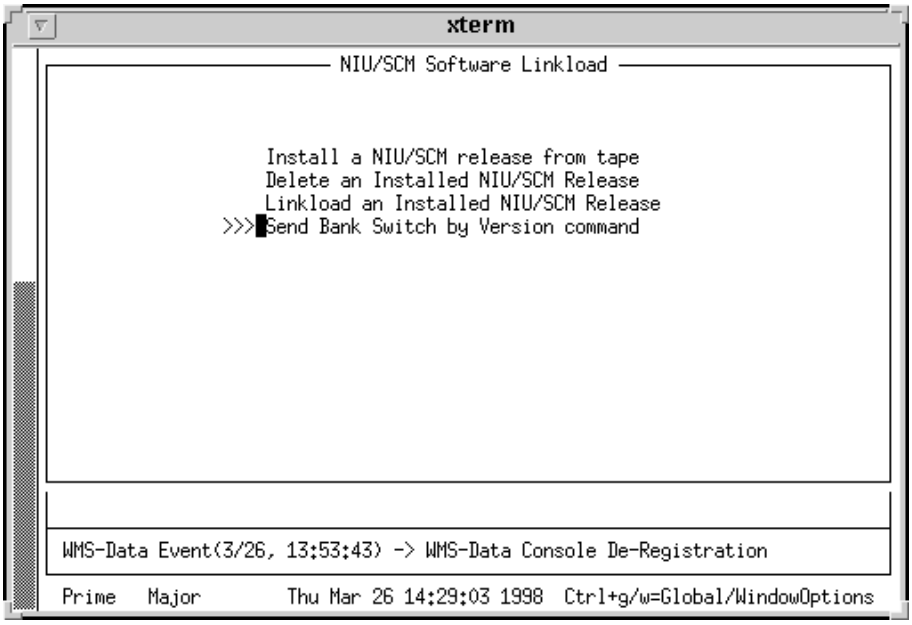

Figure 6-9: NIU/SCM Software Linkload Screen—Send Bank Switch by Version Command

The Select Site Controller Type screen appears (see Figure 6-10).

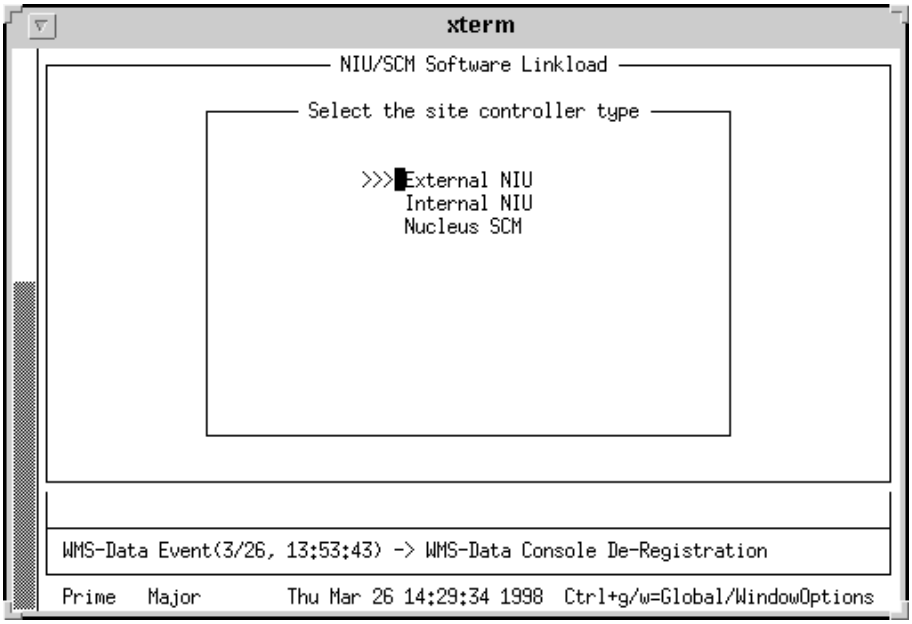

Figure 6-10: Linkload an Installed NIU/SCM Release—Select Site Controller Type

2. Position the cursor next to the type of site controller— External NIU, Internal NIU or Nucleus SCM—to linkload an installed release and press: **<Return>**.

   The system displays the Send Bank Switch by Version Command screen (see Figure 6-11).

3. Select the version from the displayed list. Position the cursor next to the version and press: **<Return>**.

Note: *If you want to use a version other than those displayed, enter the version label and press:* **<Return>**. *The maximum number of characters allowed in the field is 24 characters.*

If the command is successful the system displays in the message bar Command request accepted, otherwise, it displays Invalid version name.

4. To return to a previous menu or screen, press: **<Ctrl + p>.**

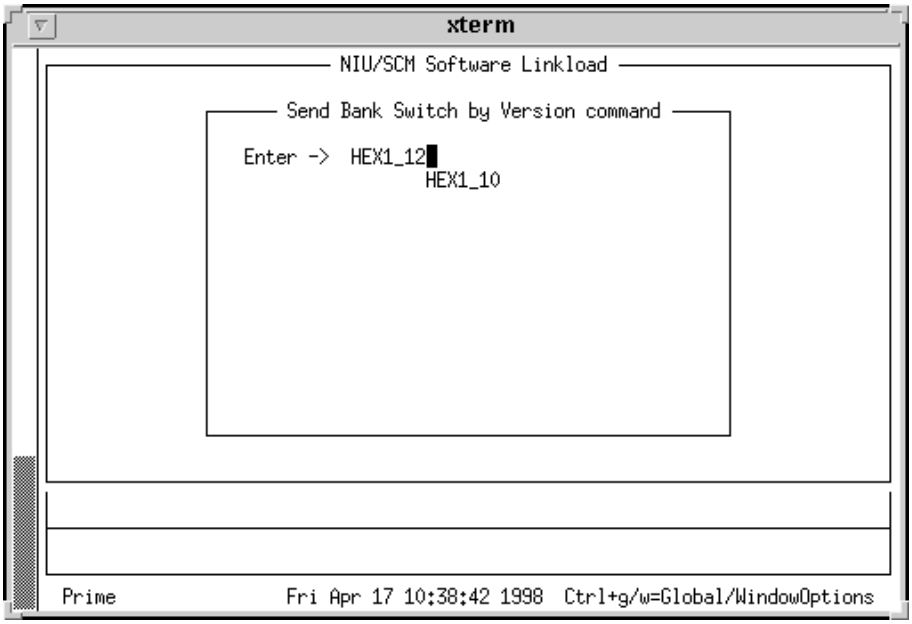

Figure 6-11: Send Bank Switch by Version Command Screen

Aborting a Linkload to a Station Control Module (SCM) Flash

This command is used to abort a linkload to an SCM flash.

1. From the Infrastructure Command Groups menu, use the **<tab>** to position the cursor to the left of the listing Station and press: **<Return>** (see Figure 6-12).

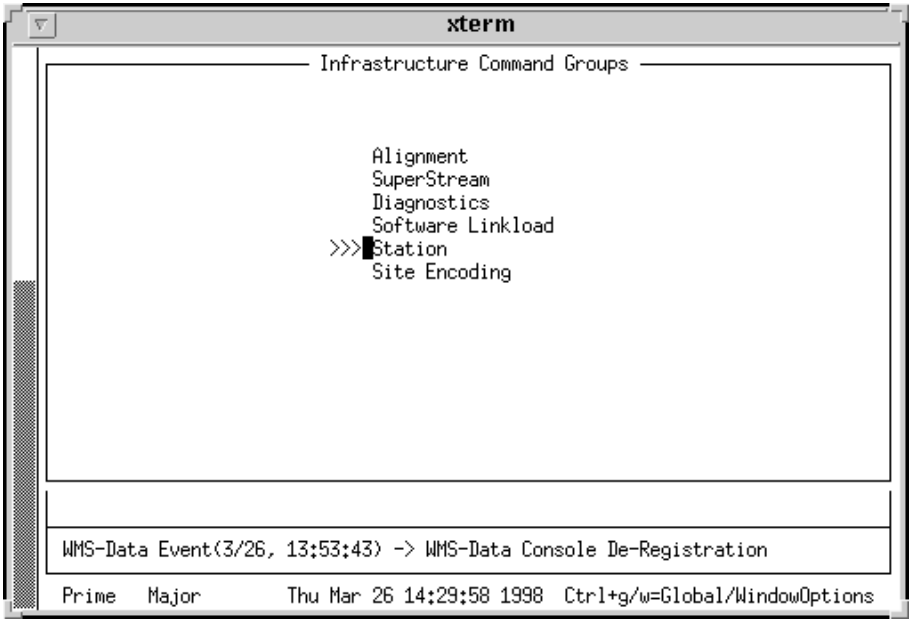

Figure 6-12: Infrastructure Command Groups—Select Station Command

The Station Abort Software Linkload screen appears (see Figure 6-13).

2. At the Abort Software Linkload prompt of the Station screen, press: **<Return>**.

The Infrastructure Commands Group menu appears with a message Command request accepted in the message bar of the screen.

Note: This command is ignored if the SCM is not in link load mode.

3. To return to a previous menu or screen, press: **<Ctrl + p>.**

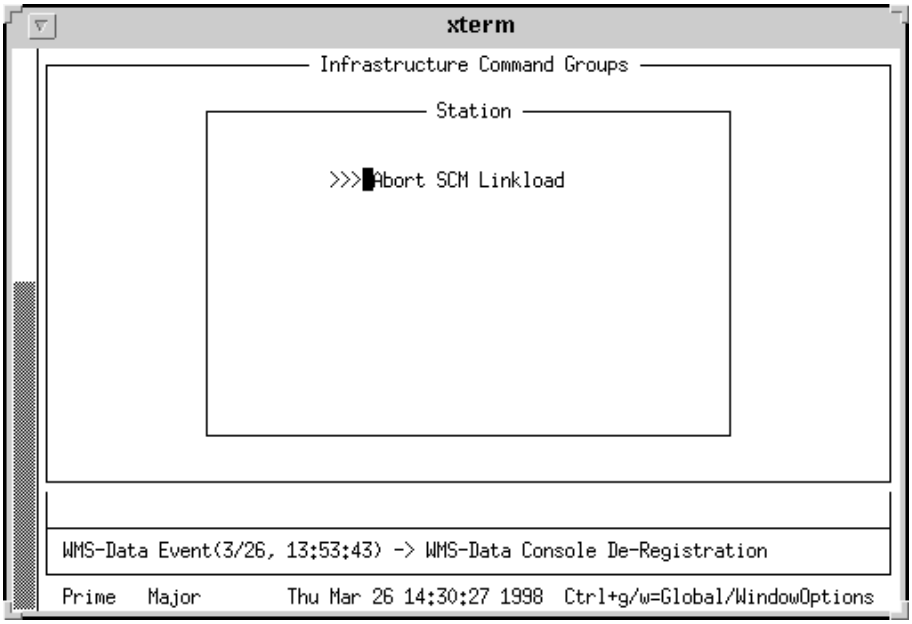

Figure 6-13: Station Abort Software Linkload Screen

Site Encoding Commands

This chapter provides procedures for changing transmitter color codes and channels, setting polarity for FLEX and POCSAG, and setting station ID and mode. The information includes:

Changing the Color Code

This command is used to change the color code of a transmitter.

Note: To move (position) the cursor on the screen, use the <tab> or down arrow <↓> to move down, <backspace> or up arrow <↑> to move up, left arrow <←> to move to the left and the right arrow <→> to move to the right.

1. From the Infrastructure Command Groups menu, use the **<tab>** to position the cursor to the left of the listing Site Encoding and press: **<Return>** (see Figure 7-1).

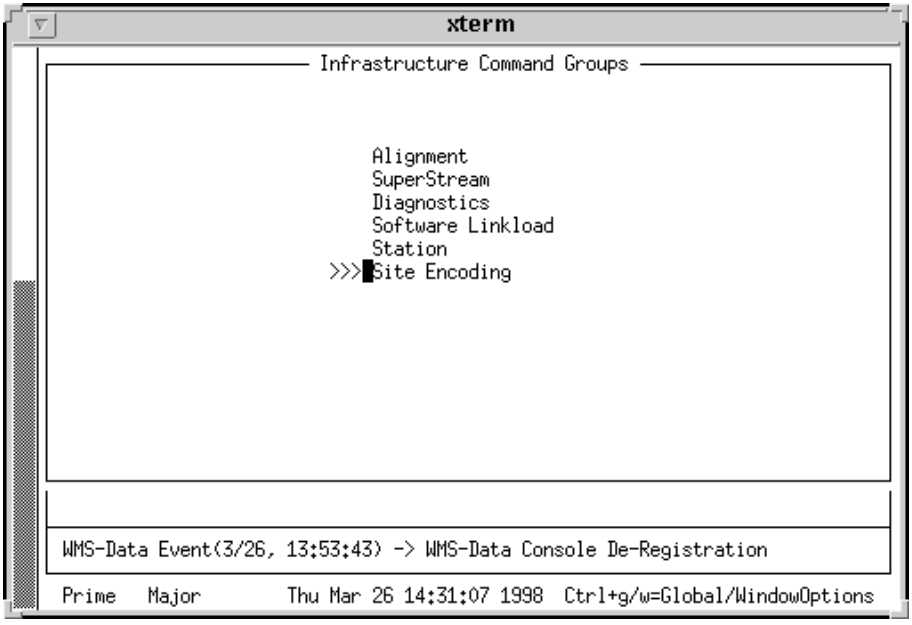

Figure 7-1: Infrastructure Command Groups—Site Encoding

The Site Encoding screen appears (see Figure 7-2).

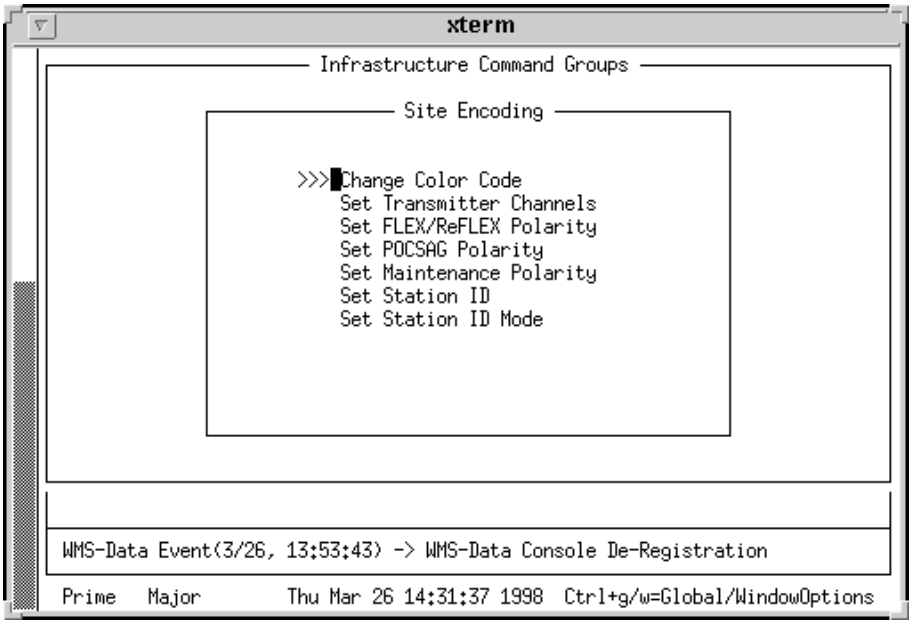

Figure 7-2: Site Encoding—Change Color Code Screen

2. From the Site Encoding screen, use the **<tab>** to position the cursor to the left of the listing Change Color Code and press: **<Return>**

   The Change Color Code screen appears (see Figure 7-3).

3. Enter the color code for the transmitter (0 to 127) and press: **<Return>**.

4. To return to a previous menu or screen, press: **<Ctrl + p>.**

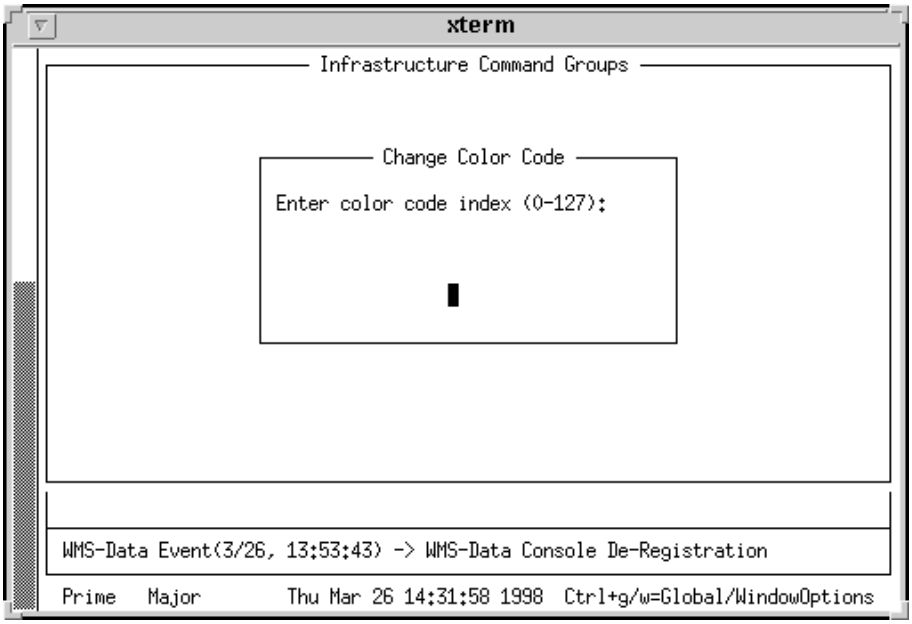

Figure 7-3: Change Color Code Screen

Setting Transmitter Channels

This command is used to add, delete or re-configure transmitter channels.

1. From the Site Encoding screen, use the **<tab>** to position the cursor to the left of the listing Set Transmitter Channels and press: **<Return>** (see Figure 7-4).

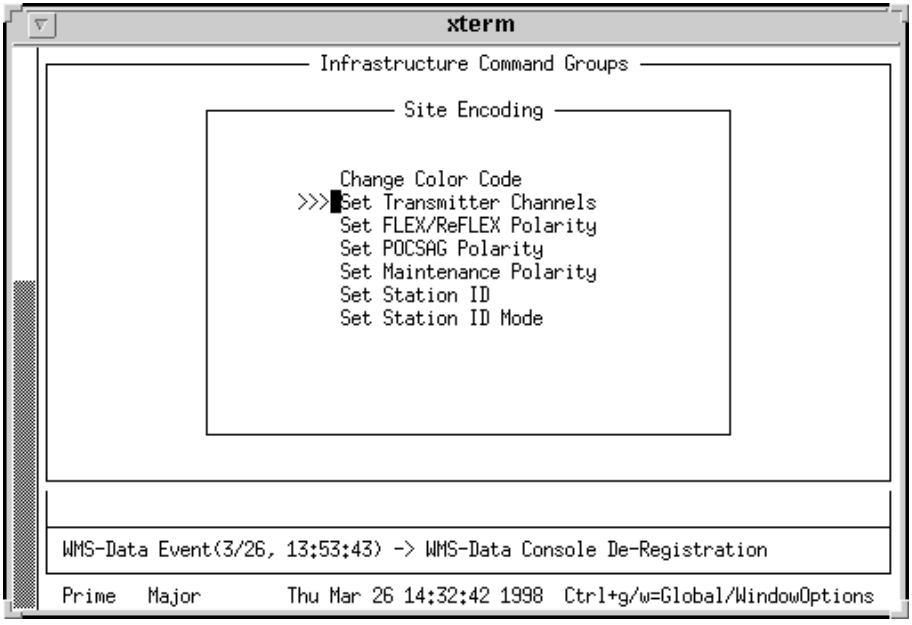

Figure 7-4: Infrastructure Command Groups—Set Transmitter Channels

The Select Channel Options screen appears with three options (see Figure 7-5):

– Add channel: adds a channel to the existing map
– Delete channel: deletes one specified channel
– Re-configure channels: adds all channels. It replaces the current setting (0-7)

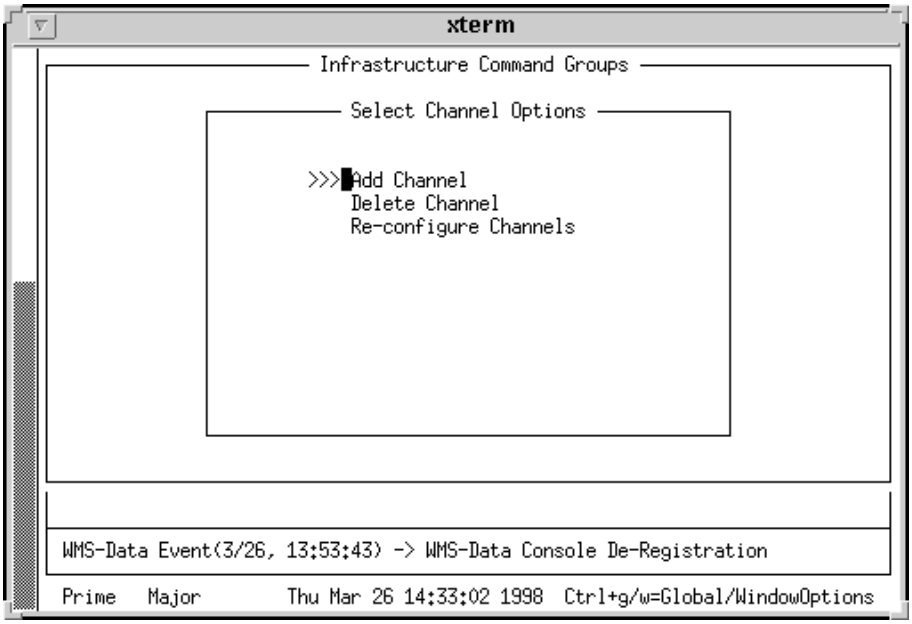

Figure 7-5: Select Channel Options Screen

2. To add a channel, use the **<tab>** to position the cursor to the left of the listing and press: **<Return>.**

   The Set Transmitter Channels screen appears (see Figure 7-6).

3. Enter the channel number to add and press: **<ctrl +e>.** Valid values are 0-7.

4. To delete a channel, use the **<tab>** to position the cursor to the left of the listing and press: **<Return>.**

   The Set Transmitter Channels screen appears (see Figure 7-6).

5. Enter the channel number to delete and press: **<ctrl +e>.** Valid values are 0-7.

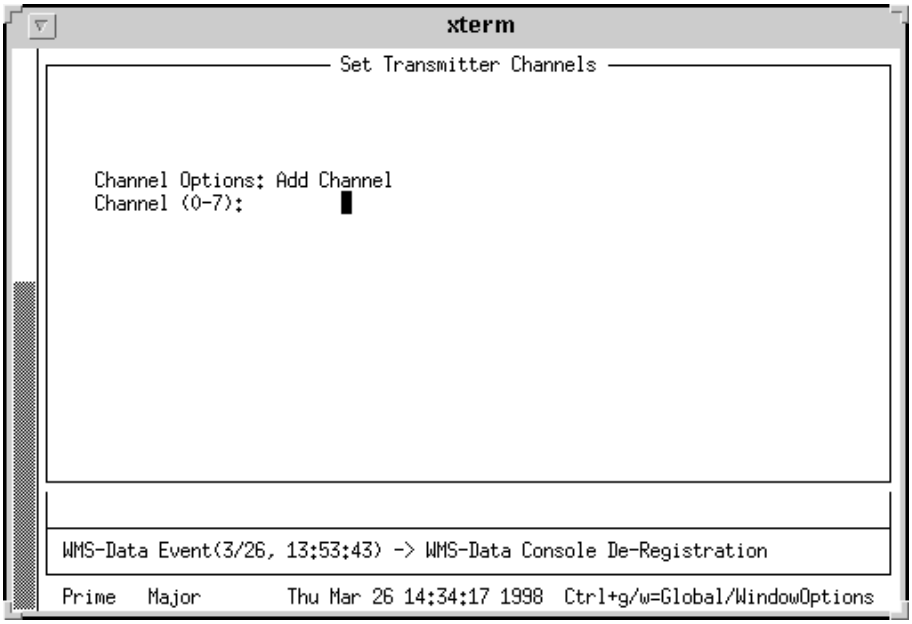

Figure 7-6: Set Transmitter Channels Screen

6. To re-configure all channels, use the **<tab>** to position the cursor to the left of the listing and press: **<Return>.**

   The Re-Configure Channels screen appears (see Figure 7-7).

7. Press **<ctrl + t>** to toggle between n for no and y for yes for whether to add an RF channel.

8. Press **<ctrl +e>** to send the request.

9. To return to a previous menu or screen, press: **<Ctrl + p>.**

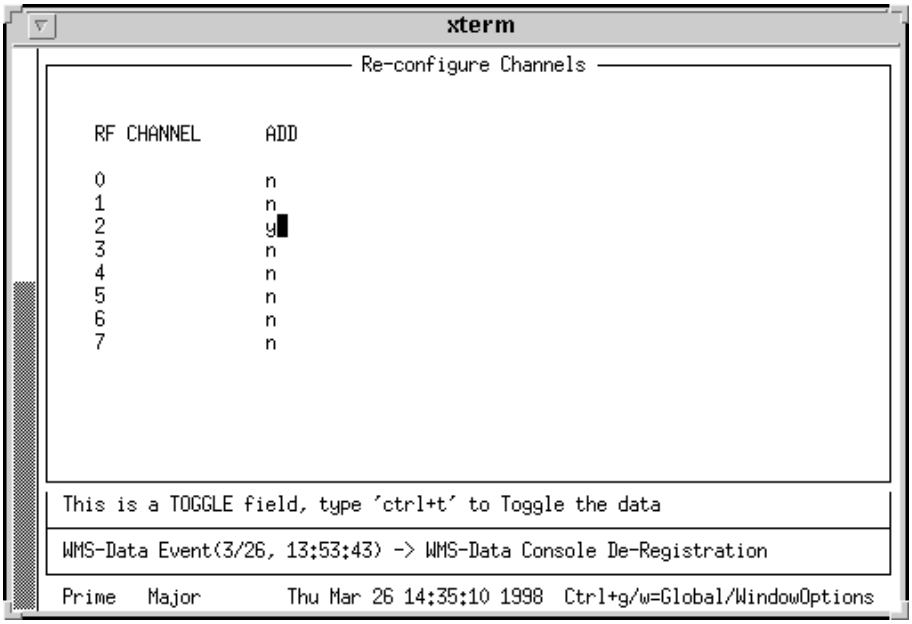

Figure 7-7: Re-Configure Channels Screen

Setting FLEX/ReFLEX Polarity

This command is used to set the FLEX / ReFLEX polarity.

1. From the Site Encoding screen, use the **<tab>** to position the cursor to the left of the listing Set FLEX/ReFLEX Polarity and press: **<Return>** (see Figure 7-8).

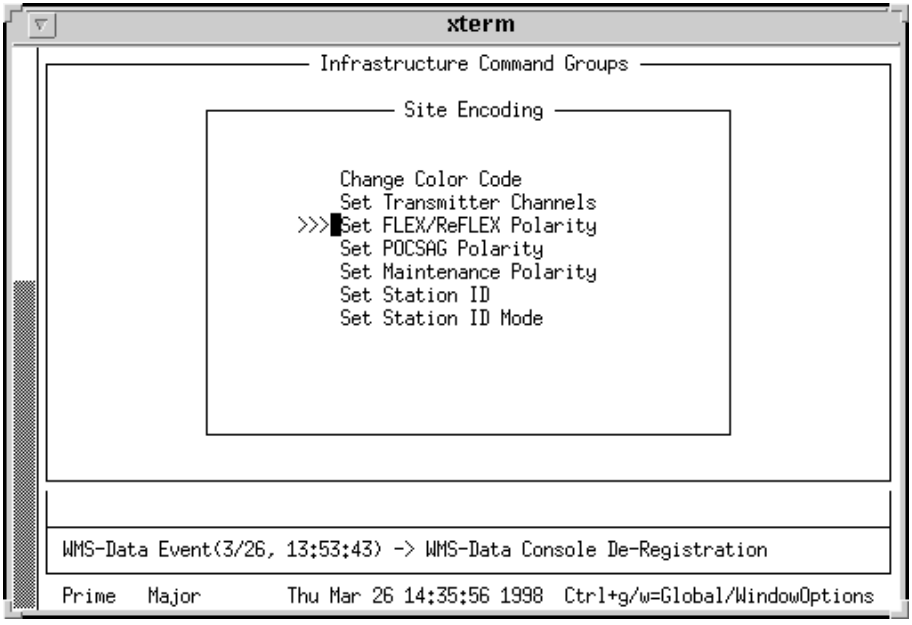

Figure 7-8: Infrastructure Command Groups—Set FLEX/ReFLEX Polarity

The Select FLEX / ReFLEX data polarity screen appears (see Figure 7-9):

2. To select normal, use the **<tab>** to position the cursor to the left of the listing and press: **<Return>.** Normal is the default setting.

   The Site Encoding screen appears with a message Command request accepted in the message bar.

3. To select inverse, use the **<tab>** to position the cursor to the left of the listing and press: **<Return>.**

   The Site Encoding screen appears with a message Command request accepted in the message bar.

4. To return to a previous menu or screen, press: **<Ctrl + p>.**

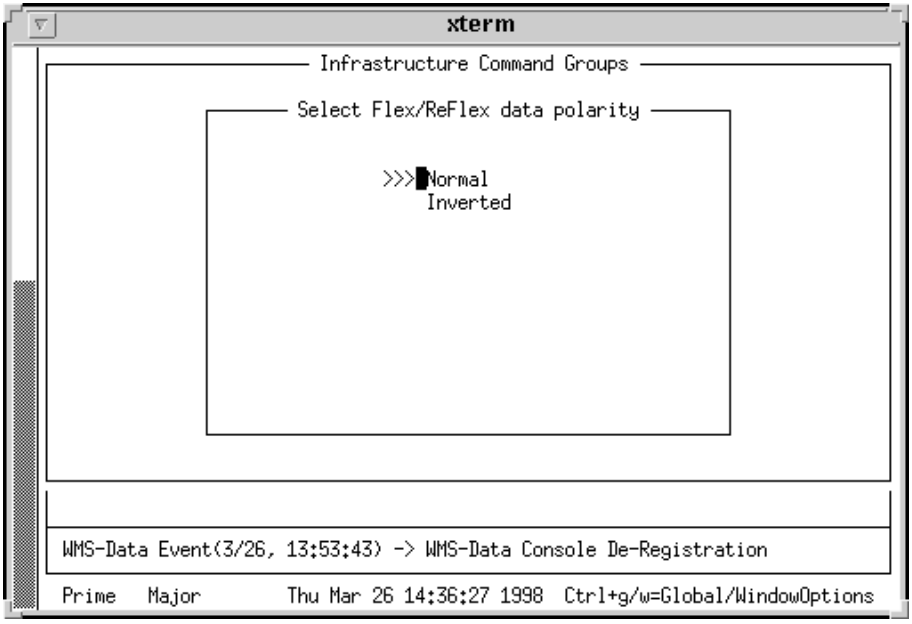

Figure 7-9: Select FLEX/ReFLEX Data Polarity Screen

Setting POCSAG Polarity

This command is used to set the POCSAG polarity.

1. From the Site Encoding screen, use the **<tab>** to position the cursor to the left of the listing Set POCSAG Polarity and press: **<Return>** (see Figure 7-10).

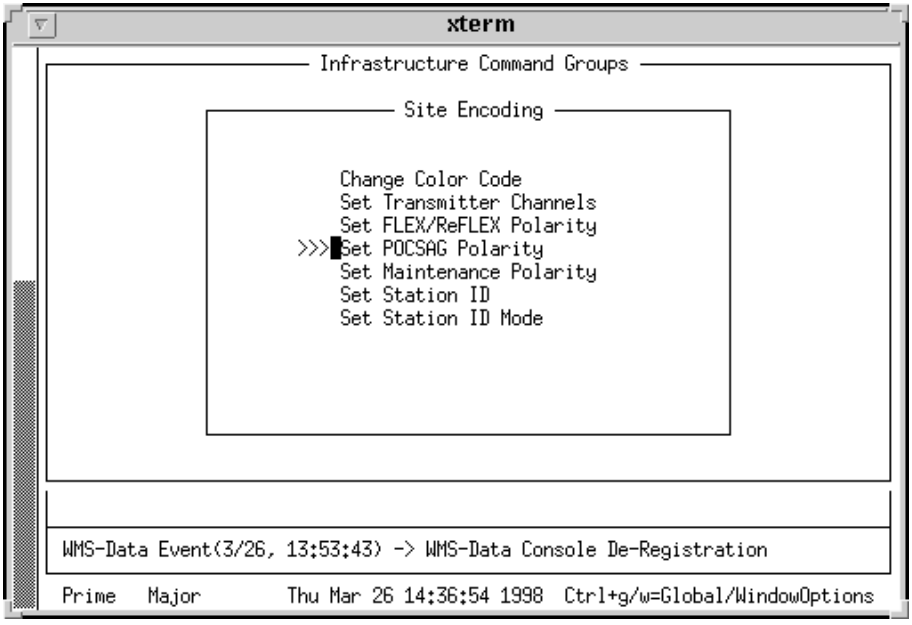

Figure 7-10: Infrastructure Command Groups—Set POCSAG Polarity

The Select POCSAG data polarity screen appears (see Figure 7-11):

2. To select normal, use the **<tab>** to position the cursor to the left of the listing and press: **<Return>.** Normal is the default setting.

   The Site Encoding screen appears with a message Command request accepted in the message bar.

3. To select inverse, use the **<tab>** to position the cursor to the left of the listing and press: **<Return>.**

   The Site Encoding screen appears with a message Command request accepted in the message bar.

4. To return to a previous menu or screen, press: **<Ctrl + p>.**

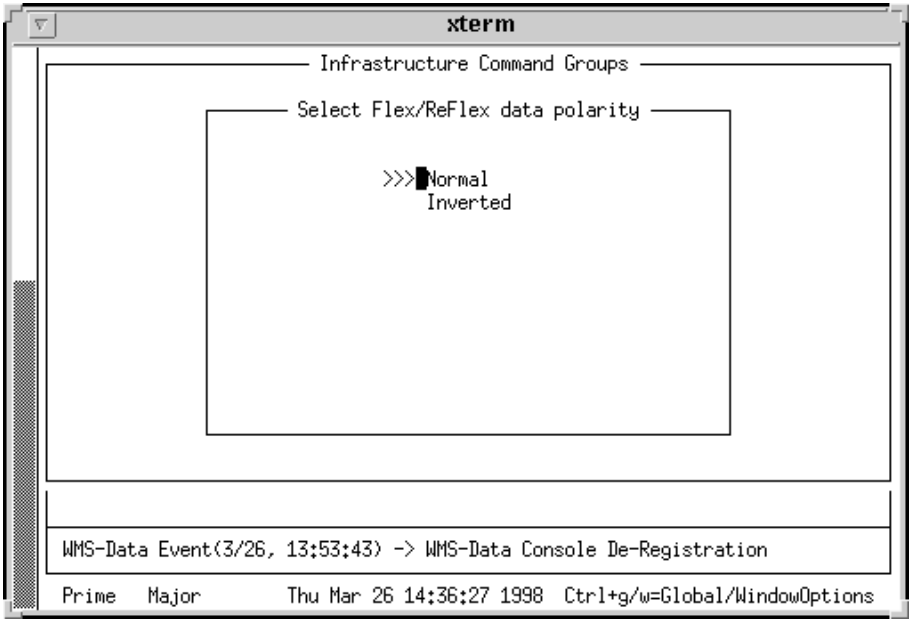

Figure 7-11: Select POCSAG Data Polarity Screen

Setting Maintenance Polarity

This command is used to set the maintenance data polarity.

1. From the Site Encoding screen, use the **<tab>** to position the cursor to the left of the listing Set Maintenance Polarity and press: **<Return>** (see Figure 7-12).

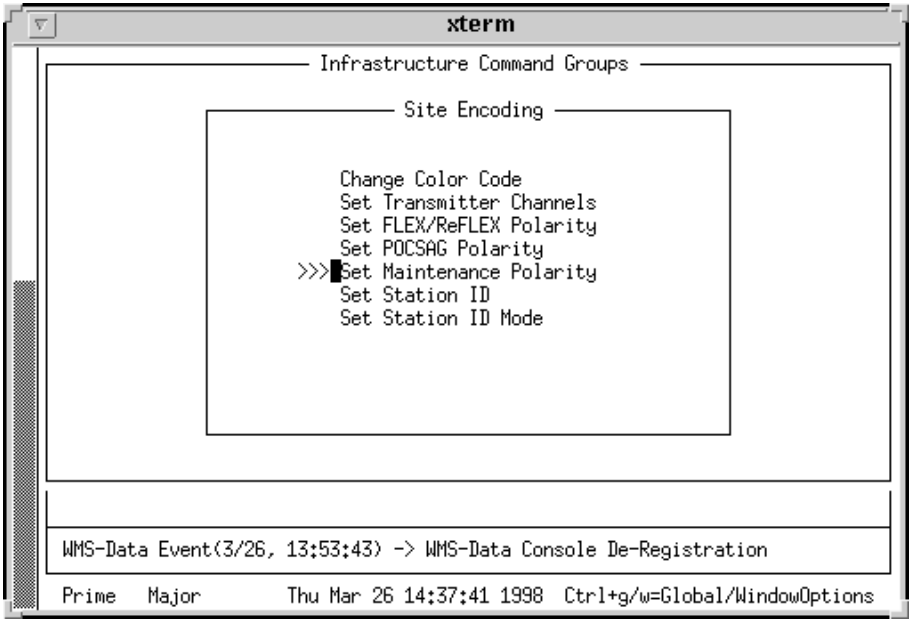

Figure 7-12: Infrastructure Command Groups—Set Maintenance Polarity

The Select maintenance data polarity screen appears (see Figure 7-13):

2. To select normal, use the **<tab>** to position the cursor to the left of the listing and press: **<Return>.** Normal is the default setting.

   The Site Encoding screen appears with a message Command request accepted in the message bar.

3. To select inverse, use the **<tab>** to position the cursor to the left of the listing and press: **<Return>.**

   The Site Encoding screen appears with a message Command request accepted in the message bar.

4. To return to a previous menu or screen, press: **<Ctrl + p>.**

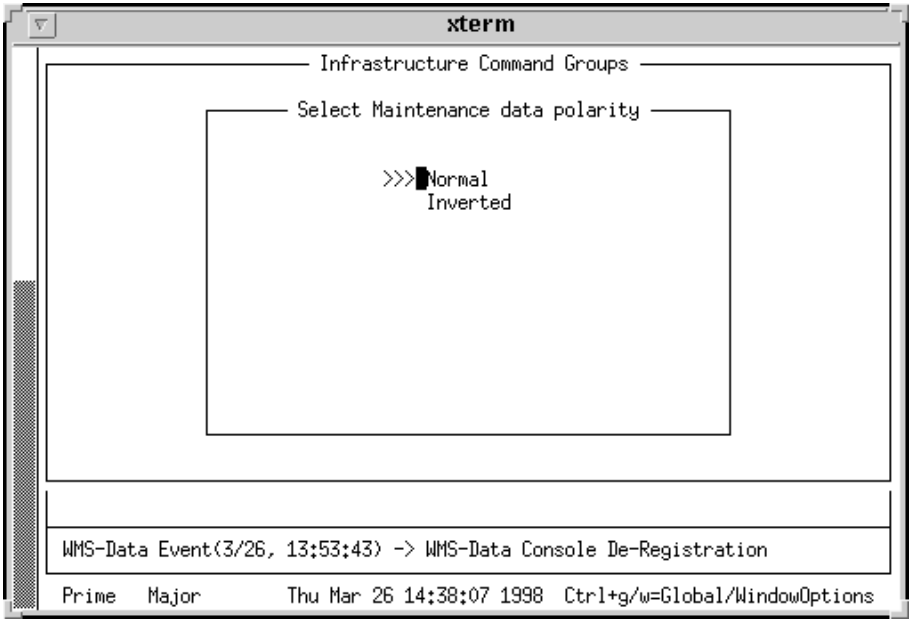

Figure 7-13: Select Maintenance Data Polarity Screen

Setting Station IDs

This command is used to set station IDs.

1. From the Site Encoding screen, use the **<tab>** to position the cursor to the left of the listing Set Station ID and press: **<Return>** (see Figure 7-14).

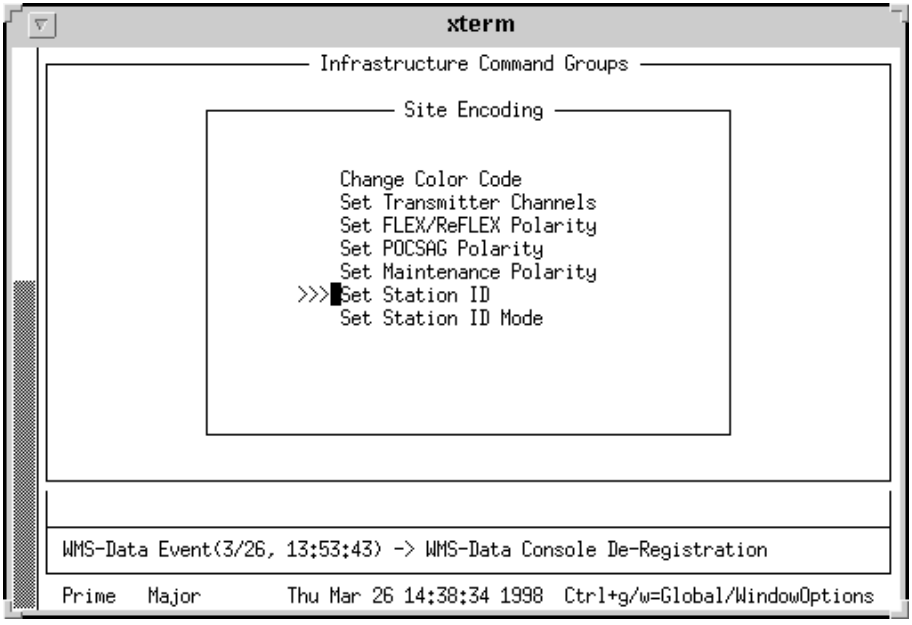

Figure 7-14: Infrastructure Command Groups—Set Station ID

The set station ID screen appears with two options (see Figure 7-15):

– Add
– Delete

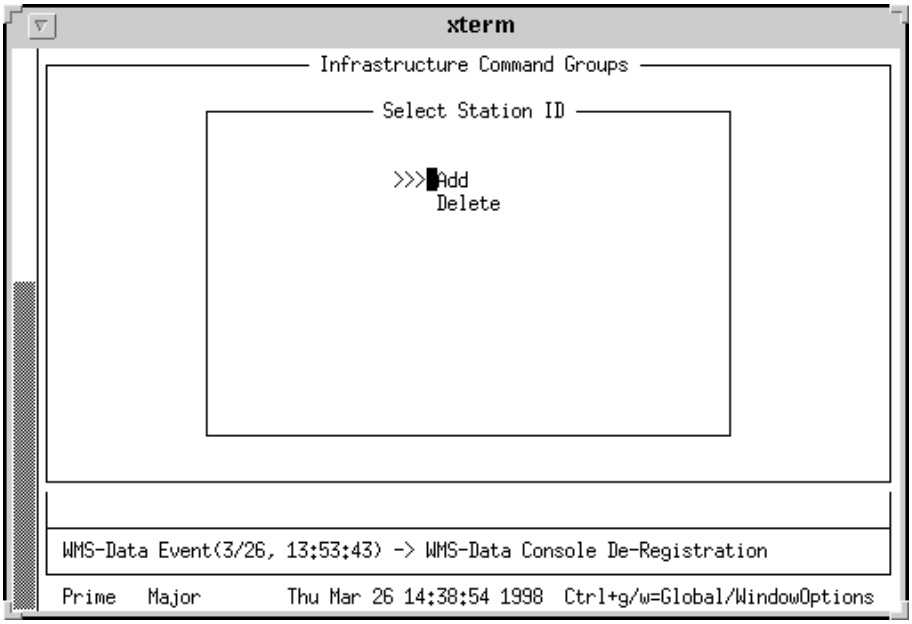

Figure 7-15: Select Station ID Screen

2. To add a station ID, position the cursor to the left of the listing Add and press: **<Return>**.

3. Enter the transmitter channel number to add and press: **<Return>** (see Figure 7-16). Valid values are 0-7.

4. Enter the station ID to add and press: **<Return>.** The maximum characters allowed for Station ID is 12. You must enter at least one character in the Station ID field.

5. Press **<ctrl +e>** to execute the command.

6. To delete a station ID, position the cursor to the left of the listing Delete and press: **<Return>**.

7. Enter the transmitter channel number to delete the associated Station ID on that channel and press: **<Return>.**

8. Press **<ctrl +e>** to execute the command.

   The Site Encoding screen appears with a message Command request accepted in the message bar.

9. To return to a previous menu or screen, press: **<Ctrl + p>.**

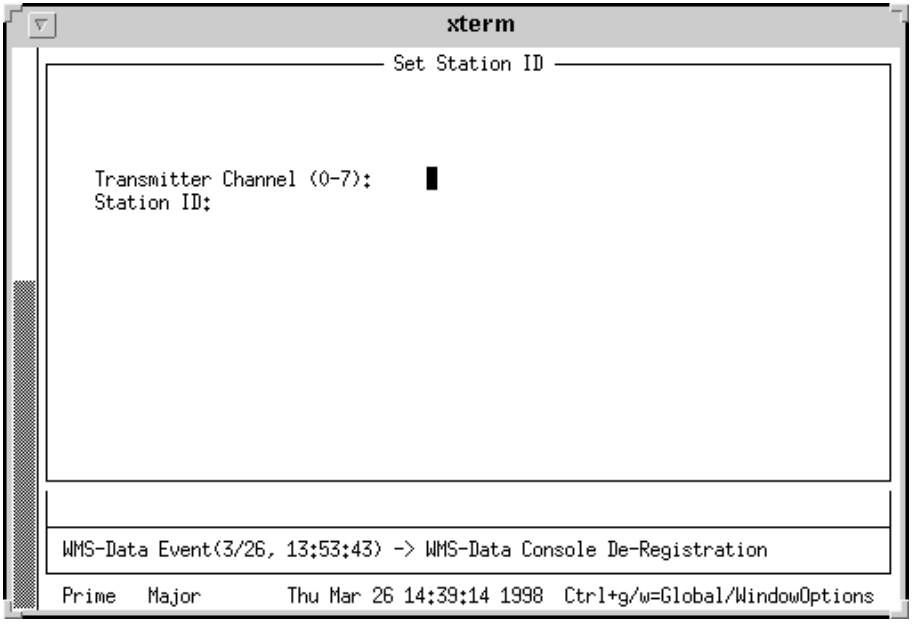

Figure 7-16: Set Station ID Screen

Setting Station ID Modes

This command is used to set station ID mode. The Mode parameter has two options: Auto, and Substitute.

1. From the Site Encoding screen, use the **<tab>** to position the cursor to the left of the listing Set Station ID Mode and press: **<Return>** (see Figure 7-17).

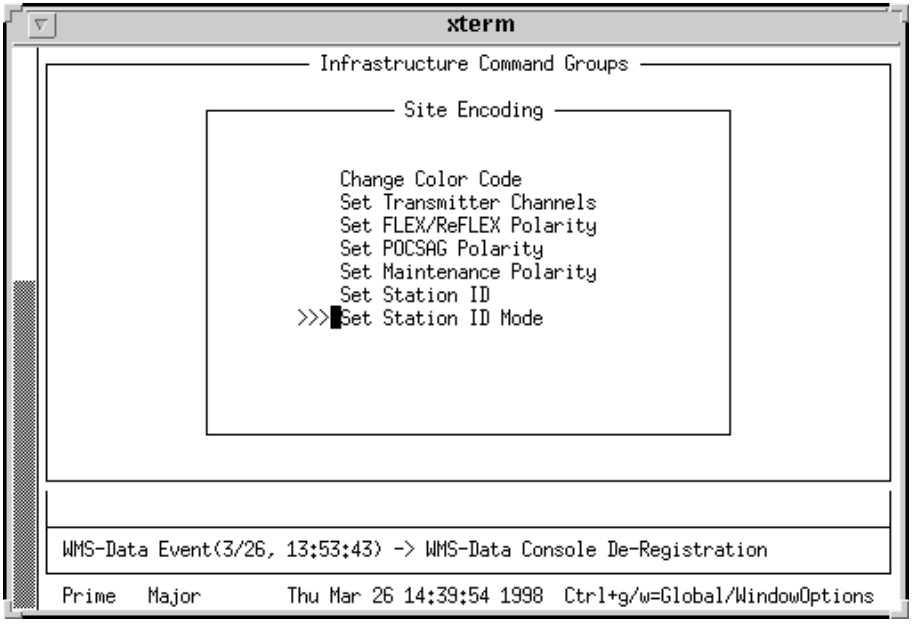

Figure 7-17: Infrastructure Command Groups—Set Station Mode ID

The select station ID mode screen appears with two options (see Figure 7-18):

– Auto

– Substitute

The default Station ID Mode is Substitute. If the mode is changed to Auto, then the station ID is transmitted at an interval programmed at the transmitter.

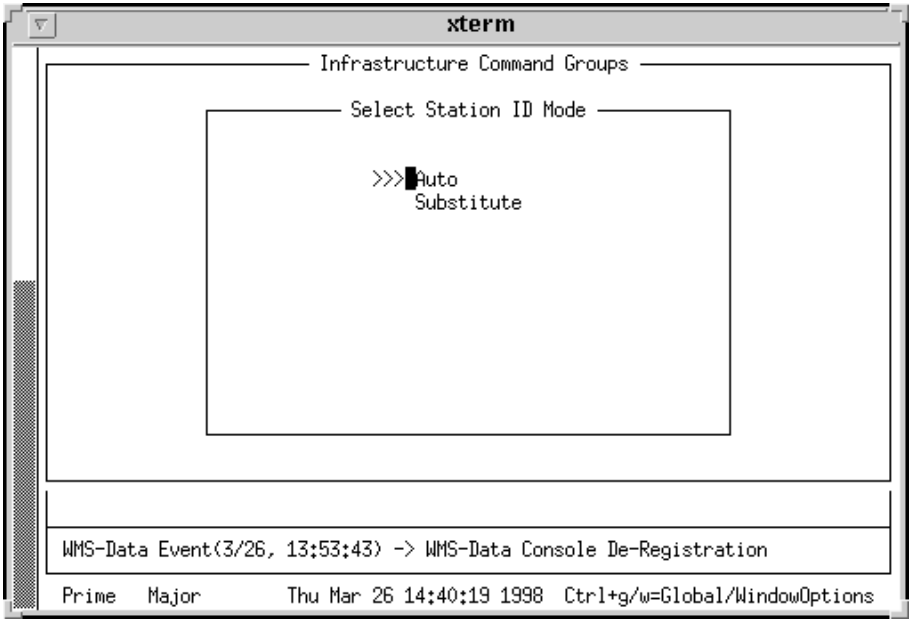

Figure 7-18: Select Station ID Mode

2. To select Auto, use the **<tab>** to position the cursor to the left of the listing and press: **<Return>.**

   The Site Encoding screen appears with a message Command request accepted in the message bar.

3. To select Substitute, use the **<tab>** to position the cursor to the left of the listing and press: **<Return>.**

   The Site Encoding screen appears with a message Command request accepted in the message bar.

4. To return to a previous menu or screen, press: **<Ctrl + p>.**

Configuring the Esprit 5055 Video Display Terminal

This appendix describes the configuration of the Video Display Terminal (VDT) that is used as the RF-Conductor!™ (RF-C!™) Controller Operator Console, and contains the following topics:

Overview

This chapter describes the setup and configuration of the video display terminals used for the RF-C! controller console interface. Currently, the Esprit 5055 VDT (Video Display Terminal) is the only terminal supported by the RF-C! controller system.

Refer to the user's manual which is supplied with the Esprit 5055 VDT for general instructions on the use and care of the video display terminal.

The Esprit 5055 video display terminal requires setup and configuration when setting up a new installation or customizing the keys for specific usage.

Do not put the VDT into Setup mode until all input to the RF-C! controller has been completed and acknowledged, or input data could be lost.

Configuring the Esprit 5055 VDT

This section provides information on configuring the Esprit 5055 VDT for use with the RF-C! WMS-Data section.

The Esprit 5055 setup menu provides instructions for navigation at the bottom of the screen.

Navigating in the Setup Mode

Use the following keys to navigate within the Esprit setup mode:

Table A-1: Esprit Navigation Keys

Key	Description
Up/Down Arrows	Use to move between menu parameters and setup options
Left Arrow **Right Arrow**	Use to move between the menu and the setup parameters
<Enter>	Use to select an option
<ALT + Esc>	Use to exit the setup mode

Setting Up the Esprit 5055

Use the following procedure to setup the Esprit 5055:

1. Turn on the power to the Esprit 5055.

   A message displays during the VDT boot routine to press the F3 key to enter the setup mode.

2. Press the **<F3>** key to enter the setup mode.

3. Configure the Esprit VDT according to the listed parameters (see Table A-2).
   - Press the function key listed in the Menu Item column to access the corresponding setup parameters.
   - Use the right arrow key and then, the up / down arrow keys to access the parameters for each menu item.
   - Use **<Enter>** to select the correct settings for single option or pop-up items (see Table A-2).

Table A-2: Esprit Setup

Menu Item	Parameter	Setting
System <F1>	Setup Language	English
	Port Assignments	Host 1= MAIN Host2 = AUX
	AUX port and parallel port	Not used &Printer
	Terminal mode	Online (FDX)
	Control codes	Execute
	CRT saver	10 minutes

Table A-2: Esprit Setup (Continued)

Menu Item	Parameter	Setting
Emulation <F2>	Emulation mode	WYSE 50+
	VT terminal ID	VT320
	WYSE Terminal ID	WYSE-160
	PC-code page	PC International
	7-bit NRCS	Off
	Set TVI page flip	N/A
	Enhancement mode	Off
	Recognize DEL mode	Off
	Received CR	CR
	Ignore null	Off
	Attribute mode	Page
	Write protect intensity	Dim
	Write protect attribute	Normal
	Page edit mode	Off
	Vertical coupling	N/A
	Page coupling	N/A

Table A-2: Esprit Setup (Continued)

Menu Item	Parameter	Setting
Screen (F3)	Characters per row	80
	Lines in display	24
	Lines per page	1 x Lines
	Screen color	Normal
	Cursor display	On
	Cursor type	Blinking Line
	Status line attribute	Normal
	Status line position	Top
	Status line	Off
	Clock display	Off
	Cursor position display	Off
	Width change clear	Off
	Scroll type	Jump
	Overscan	Off
	Font shape	VT

Table A-2: Esprit Setup (Continued)

Menu Item	Parameter	Setting
General (F4)	Auto wrap	On
	Newline	Off
	Send ACK mode	Off
	Auto answerback	Off
	Set answer back mode	Off
	Answer back concealed	Off
	Block end character	US/CR
	Auto resize	Off
	Auto page	Off
	Auto scroll	On
	Key Xmit rate	150 cps
	Paste end clear	None

Table A-2: Esprit Setup (Continued)

Menu Item	Parameter	Setting
Keyboard (F5)	Keyboard type	PC-101
	Font Mode	PC fonts
	Auto Repeat	Medium
	Key Click	On
	Break	250 ms
	CAPS Lock	CAPS
	Num Lock Key	Active
	VT Cursor Keypad	Off
	Application Key Mode	Inactive
	Keyboard Mode	ASCII
	Lock Key Definition	Off
	Transmit C1	Off
	Comma/Minus Key	Shifted is minus
	Function Keys in Session	Different
Main Port <F6>	Speed	9600
	Data Width	8
	Stop Bits	1
	Parity	None
	Transmit Flow Control	Off
	Receive Flow Control	Off
	Host Interface	RS232, Data Leads
	Flow Threshold	128 - 600
	Modem Disconnect Delay	No disconnect

Table A-2: Esprit Setup (Continued)

Menu Item	Parameter	Setting
Aux. Port <F7>	Speed	9600
	Data Width	8
	Stop Bits	1
	Parity	None
	Transmit Flow Control	XOFF-XON/XPC
	Receive Flow Control	XOFF-XON/XPC
	Host Interface	RS232, Data Leads
	Flow Threshold	128 - 600
	Modem Disconnect Delay	60 milli seconds
Printer <F8>	Printer Type	Standard
	Printer Mode	Normal
	Printer Extent	Full
	Print Terminator	Off
Misc. <F9>	Blink Period	1.0 Sec
	Buzzer Volume	High
	Buzzer Tone	02
	Warning Bell	On
	Margin Bell	Off
	Soft Font Extend	Off
	Lock User Preference	Off
	Cell Size	10 x 16