MiniMAC

Operation Manual

Part Number MN/MiniMAC.OM
Revision 0

Comtech EFData is an ISO 9001 Registered Company

MiniMAC

Rack Management System
Operation Manual

Part Number MN/MiniMAC.OM
Revision 0
May 30, 1999

Comtech EFData, 2114 West 7th Place, Tempe, Arizona 85281 USA, (480) 333.2200, FAX: (480) 333.2161.

MiniMAC
A Monitor &Control
Management System

Chapter 1. OVERVIEW SCREEN

This chapter describes the main OVERVIEW Screen of the ILCNCS MiniMAC Program. The user can access all the racks of the Adaptive Broadband equipment and view the COMM1 window from the task bar, located at the bottom of the screen. The following subjects with section numbers are described in the chapter.

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Chapter 2
SYSTEM MENUS

This chapter describes the system menu log. The following subjects with section numbers are described in the chapter.

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Chapter 3
ALARMS MENUS

This chapter describes the alarm options.

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Chapter 4
USER MENUS

This chapter describes user menus. The following subjects with section numbers are described in the chapter.

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Chapter 5
OPTIONS MENU

This chapter describes the options menu. The following subjects with section numbers are described in the chapter.

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Chapter 6
SDM-300 MODEM

This chapter describes the SDM-300 menus for the prime and backup modems. The following subjects with the section numbers are described in this chapter.

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Chapter 7
SMS-7000 Protection Switch Screens

This chapter describes the SMS-7000 Protection Switch screens, which are used to control all functions of the modem protection switches in a MiniMAC System. The following subjects with the section numbers are described in this chapter.

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Chapter 8
V2200 DUAL CONVERTER SCREENS

This chapter describes the V2200 Dual Converter Control screen. The following subjects with the section numbers are described in this chapter.

Note: All V2200 Dual Converters require software version number 2.1.1 or greater to function with the MiniMAC Program. If required, notify Adaptive Broadband Customer Support for firmware upgrade.

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Chapter 9.
OTHER DEVICES

This chapter describes other EFData devices. The following subjects with the section numbers are described in this chapter.

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Chapter 10
ENDING THE PROGRAM With TASK MANAGER

This chapter describes ending the program using the Task Manager. The following subjects with the section numbers are described in this chapter.

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Appendix A. SYSTEM SETUP SPREADSHEET

This appendix describes the preparation of creating an EXCEL Spreadsheet. The following subjects with the section numbers are described in this chapter.

Subject	Section No.
System Setup Spreadsheet	A.1

A.1 System Setup Spreadsheet

The Sytem Setup Program is used to create an EXCEL™ spreadsheet of the system. When changes are made to the system (adding or changing existing device information), it is recommended to create a new spreadsheet.

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Appendix B. CONFIGURING ALARMS

This appendix describes configuring alarms, default beeps, sound, and wave files.

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Appendix C. TROUBLESHOOTING

This appendix describes the troubleshooting guide for the operation of the MiniMAC System.

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Glossary

The following is a list of acronyms and abbreviations that may be found in this manual.

Acronym/ Abbreviation	Definition
ACL	Advanced Communication Link
ASYNC	Asynchronous
AUPC	Automatic uplink Power Control
BER	Bit Error Rate
BOP	Breakout Panel
C	Centigrade
COM	Communication
cm	Centimeter
CPU	Central Processing Unit
CTS	Clear-to-Send
D&I	Drop & Insert
DEMOD	Demodulator
DEP	Dependent
DOS	Data operating System
E_b/N_0	Noise
EIA	Electronic Industries Association
EISA	Europe Industry Standard Architecture
EFD	EFData
exe	Execute
F	Fahrenheit
I/O	Input/Output
IBM™	International Business Machine
IBS	INTELSAT Business Services
IDR	Immediate Data Rate
IESS	INTELSAT Earth Station Standards
IF	Intermediate Frequency
ILC	Industrial Logic Corporation
ILCNCS	Industrial Logic Corporation Network Control System
IP	Internet Protocol

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IND	Independent
IRQ	Interrupt Request
ISA	Industry Standard Architecture
LED	Liquid Emitter Diode
LPT	Local Port Terminal
M&C	Monitor and Control
MiniMAC	Mini Monitor and Control
MOD	Modulator
NO.	Number
Op	Operation
PC	Personal Computer or Printed Circuit
PSK	Phase Shift Keying
RAS	Remote Access Server
RC	Redundancy Controller
REGEDIT	Registry Editor
RF	Radio Frequency
RFT	Radio Frequency Terminal
RMA	Return Material Authorization
RMS	Rack Management System
RS	Recommended Standard
RSU	Redundancy Switch Unit
RX	Receive
SCS	Satellite Converter Switch
SDC	Satellite Data Converter
SDM	Satellite Data Modem
SMS	Satellite Modem Switch
SYS	System
TCP	Transport Communication Protocol
TRIB	Tributary
TX	Transmit
UINETMAN	User Interface Network Manager
USA	United States of America
WIN	Windows
Winnt	Windows NT

C.1 Troubleshooting

Refer to if the MiniMAC Program runs but does not operate properly or gives an error message.

Table C-1. Troubleshooting

Problem	Probable Cause	Remedy
Port communication error.	Incorrect cabling or port setup.	1. Check cable construction. 2. Verify using Hyperterm.exe
Device communication error.	Device setup, addressing, baud rate, incorrect.	Verify communication setup.
Device communication error reported on screen, but commands are accepted by device.	Incorrect timeout time in Registry Editor.	Edit Registry File to proper timeout time. *(see Figure C-1)*
MiniMAC Program gives an error message and closes.	Invalid parameter or unauthorized action.	Debug the services as described in C.2.

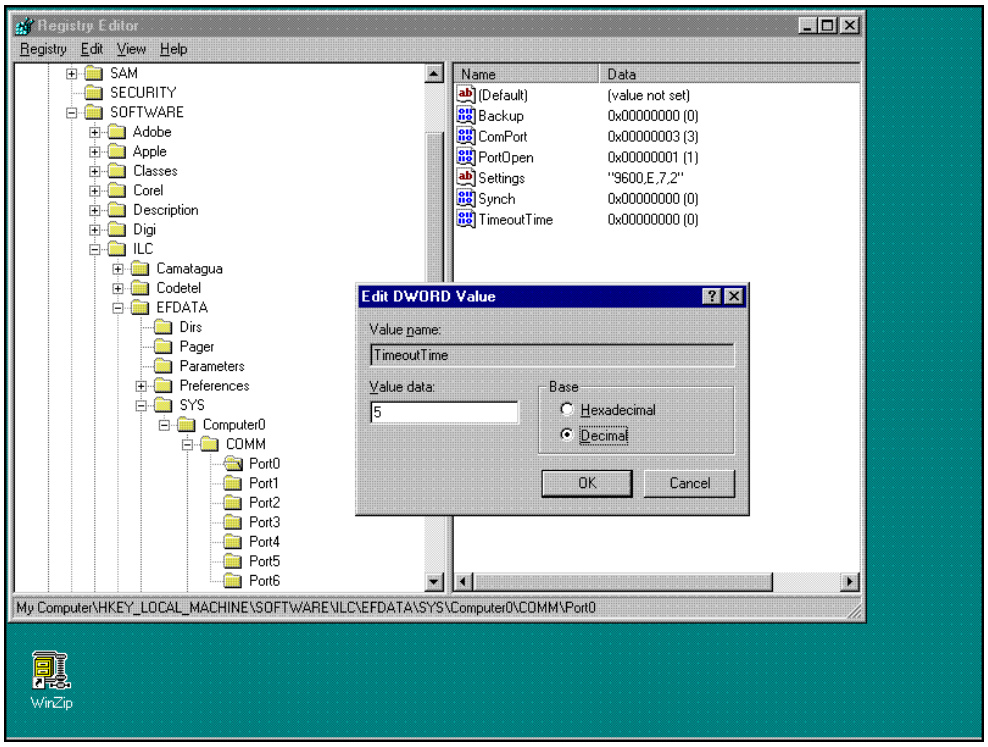


Figure C-1. Device Communication Error

The Timeout Time for each available COMM port is reported in the REGISTRY File. The Typical Timeout Time for a Local Port set to 9600 bit/s baud rate is between 0 to 3.5 seconds. The Timeout Time for a Remote Port or lower baud rate is typically set between 2 and 5 seconds.

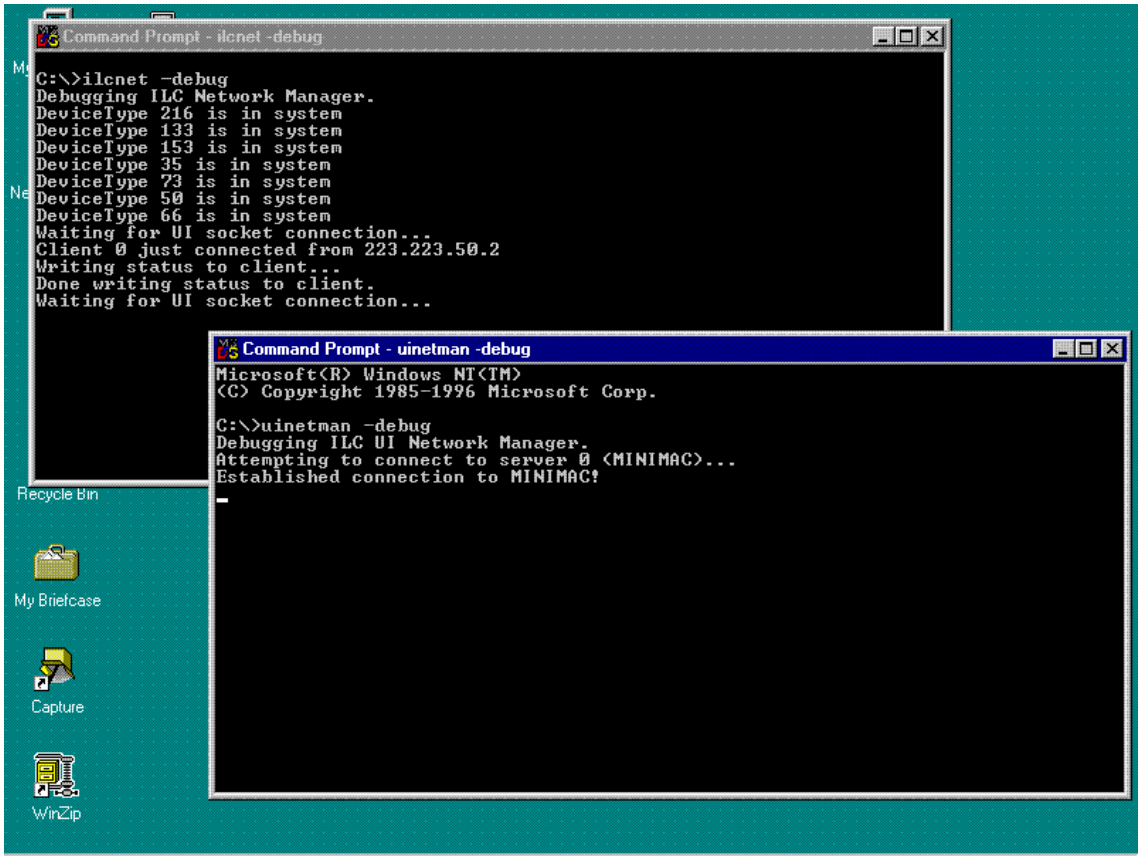
C.2 Debugging the Services

When necessary to troubleshoot the MiniMAC program, use the DEBUG command.

Perform the following:

Command	Response
Open:	CONTROL PANEL
Go to:	SERVICES
Select:	ILC NETWORK MANAGER and STOP SERVICE
Select:	UINETWORK MANAGER and STOP SERVICE
Close:	NETWORK Window
Close:	CONTROL PANEL Window
Open DOS Prompt:	Type: ilcnet -debug
Open DOS Prompt:	Type: UINETMAN -debug
Start	MiniMAC Program

When an error occurs, it will be displayed in the debug window.



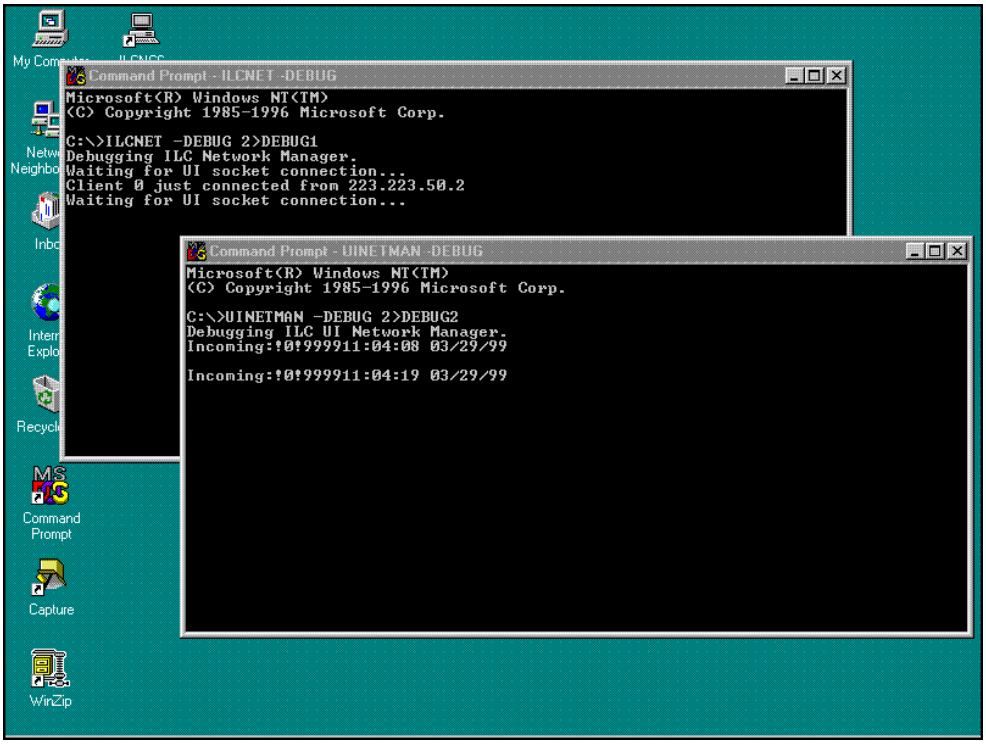
C.2.1 Saving Debug to a File

For customer support to evaluate the problem, the debug information must be written to a file. This makes it possible to e-mail the data to Adaptive Broadband.

Alternate Method: Type the following command from the Command Prompt:

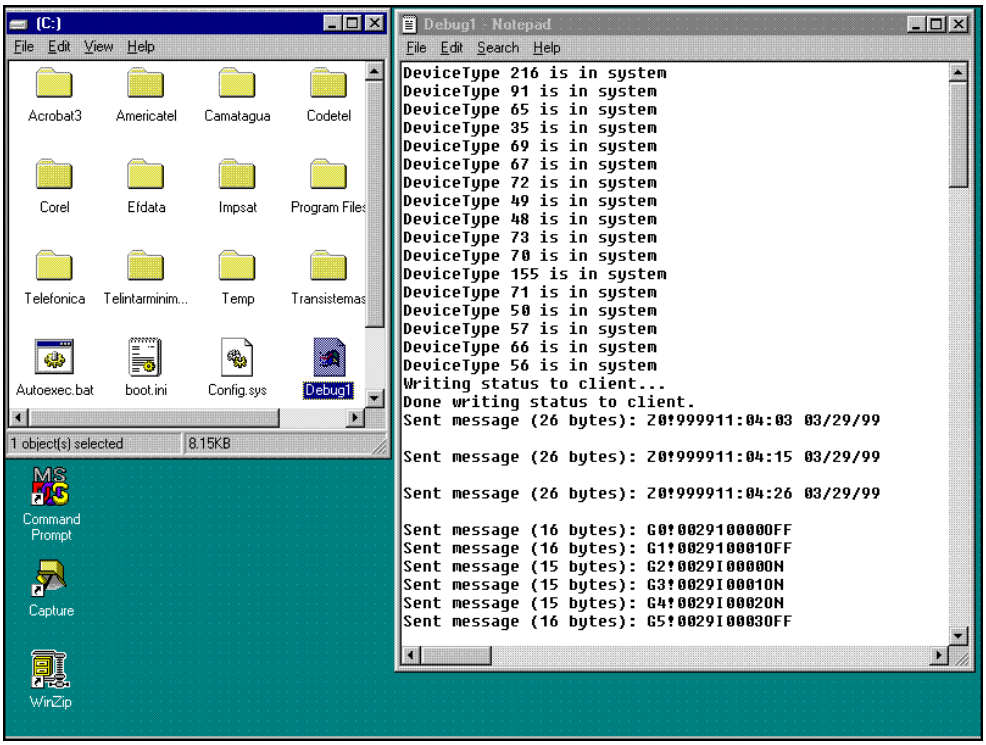
Ilcnet –Debug 2>debug1

Debug1 will be the name of the file that debug will store information.



When a failure occurs, close all tasks, including the Debug Command using the Task Manager. Open the Debug1 file with Notepad.

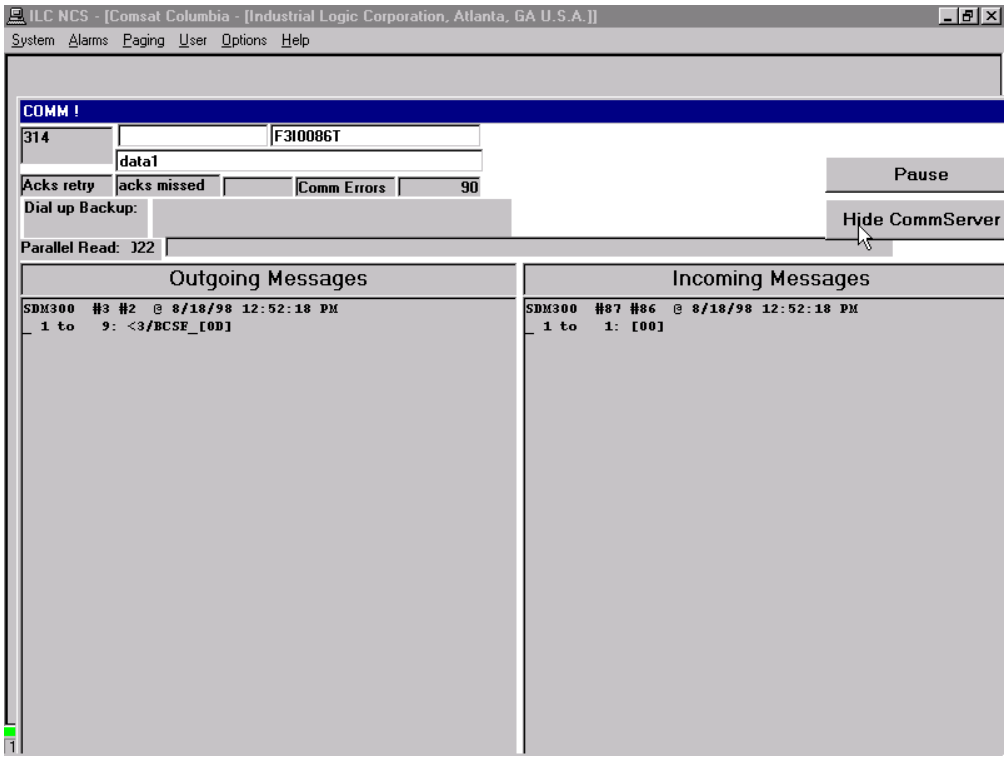
This information can be used for troubleshooting the system.



C.3 Using the COMM Window

Communication between the MiniMAc and devices can be monitored in the COMM1 window. Communication messages being transmitted to the devices that are ONLINE are shown on the left-side of the screen.

Receiving incoming messages from the devices are being reported on the right-side of the screen. When a specific device causes INVALID PARAMETER messages on the CONTROL screen, the user can determine the cause using the COMM window.



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B.1 Introduction

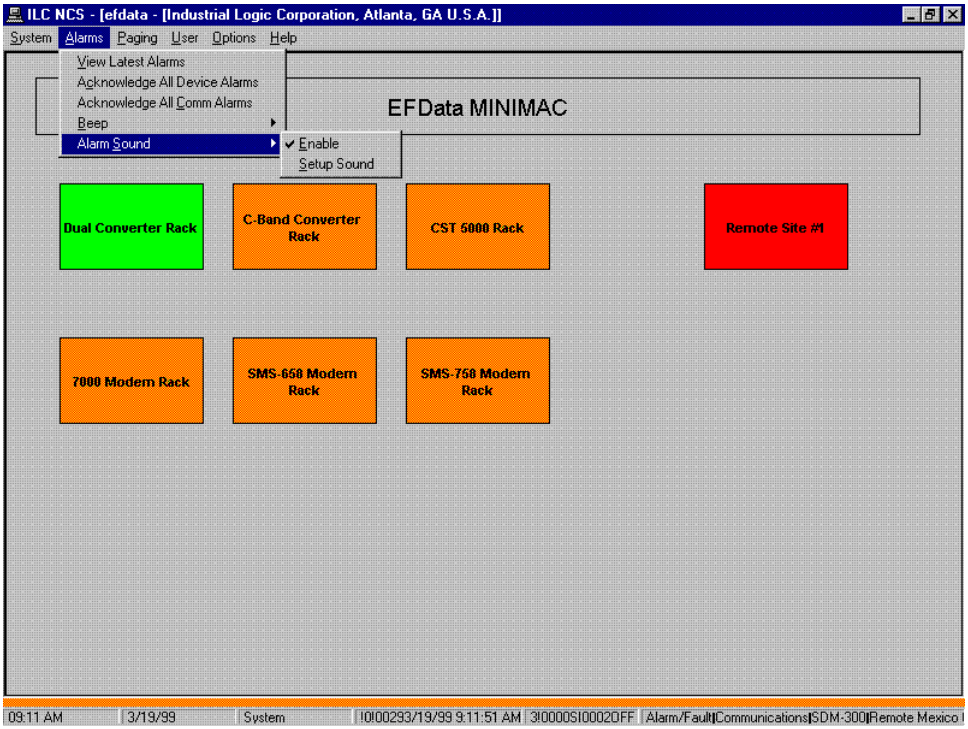
The alarms setting is set to a default beep condition. When a fault, alarm, or communication alarm condition is detected, the system will flash RED, YELLOW, or ORANGE (depending on condition) and sound the default beep wave file.

The user can turn the sound off, then set the alarm condition to play a pre-determined wave file. When the ENABLE line has been checked, click on Setup Sound.

B.2 Configuring Alarms

B.2.1 Alarm Sound Setup – Enable

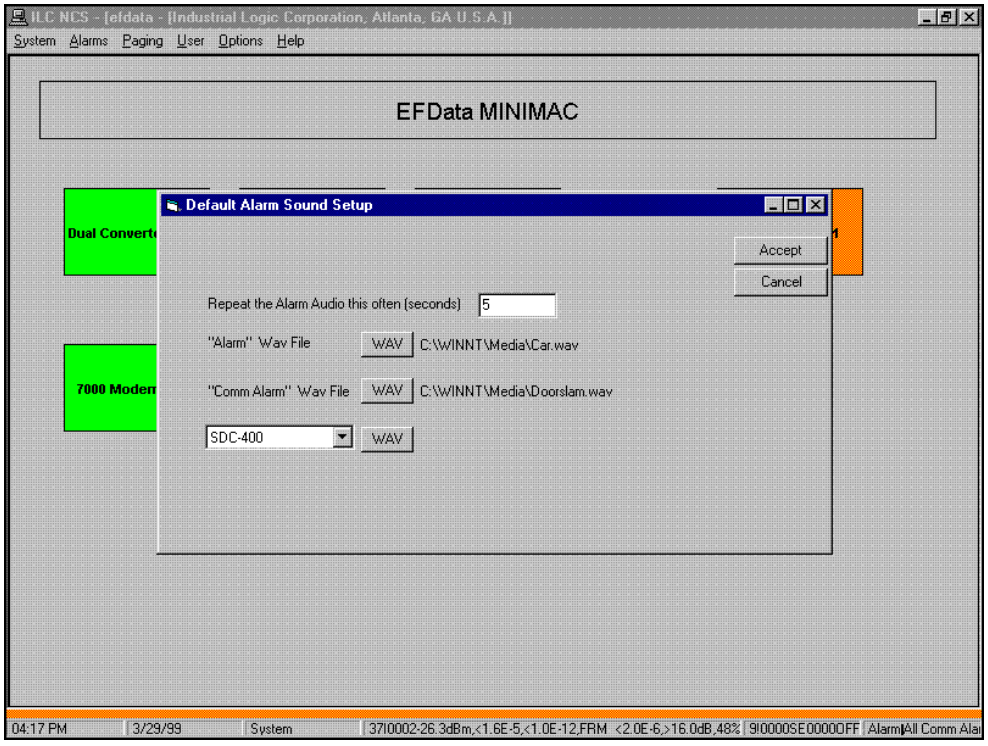
To configure the MiniMAC to play attached wave files, the user must ENABLE the Alarm Sound function. From the Alarms menu, select Alarm Sound and check the Enable line.



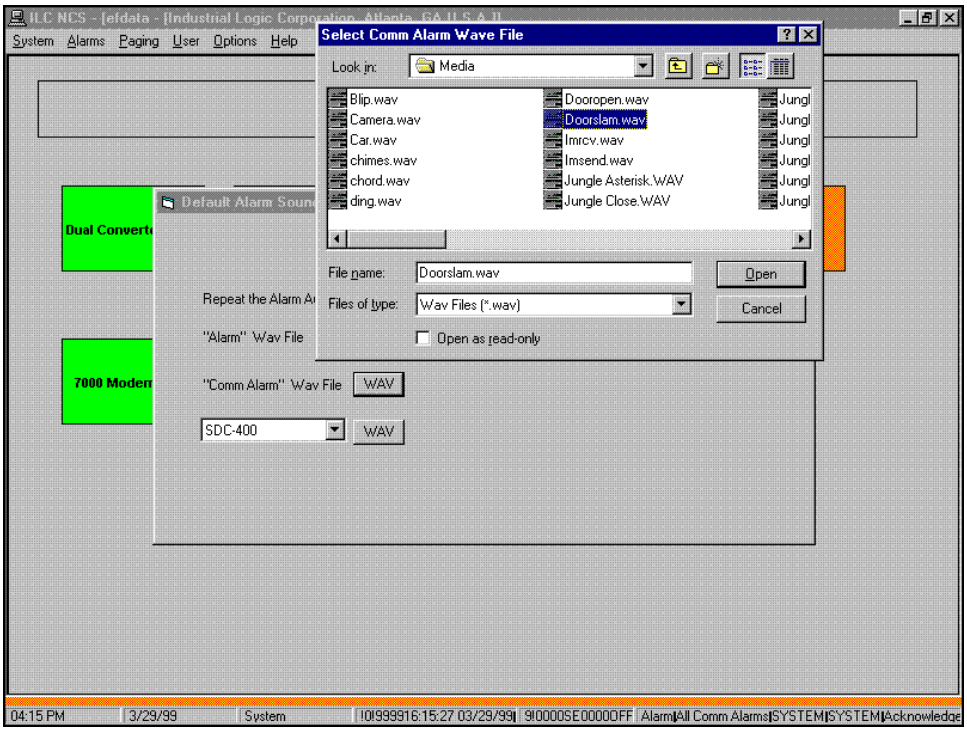
B.2.2 Attaching System Wave Files

To attach wave files to Alarms and Communication Alarms, select Alarms/Alarm Sound/Setup Sound.

The default Alarm Sound Setup window will appear.

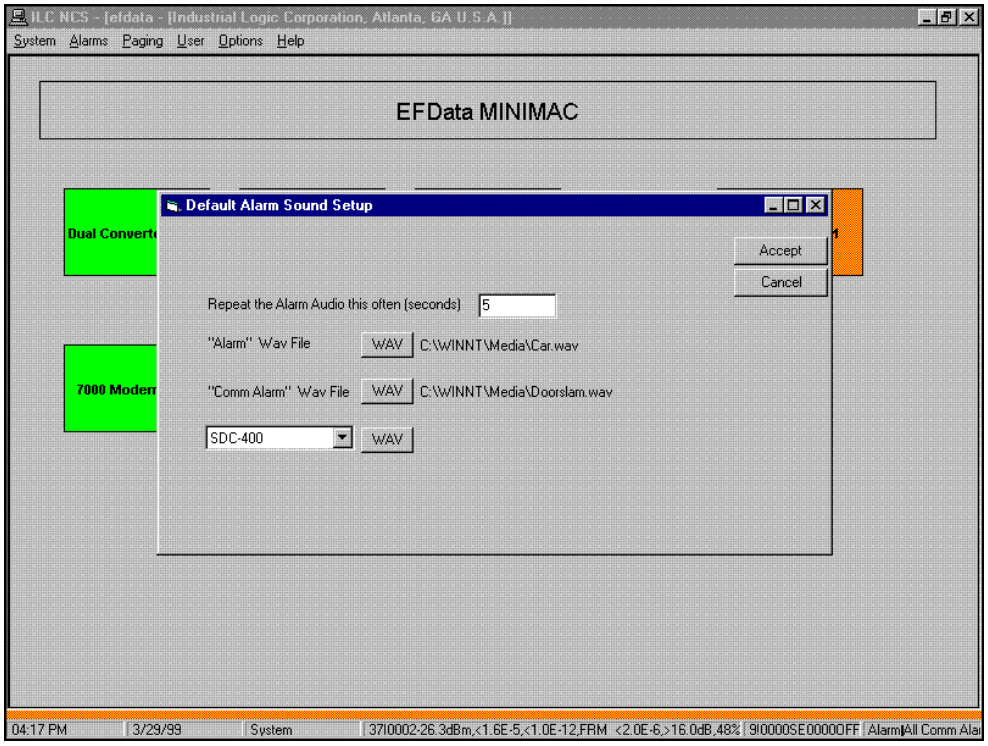


To select a COMM Alarm wave file, click on the WAV button to the right of COMM ALARM wave file.



The path to wave files is: C:\winnt\media. Select a wave file to attach to the Comm Alarm and click on Open.

Select an Alarm wave file in the same manner.



Notice the path to the right of each alarm condition displays the attached wave file. Set the amount of desired time for the Sound and click on Accept.

Upon the next alarm condition the attached wave file sound will play.

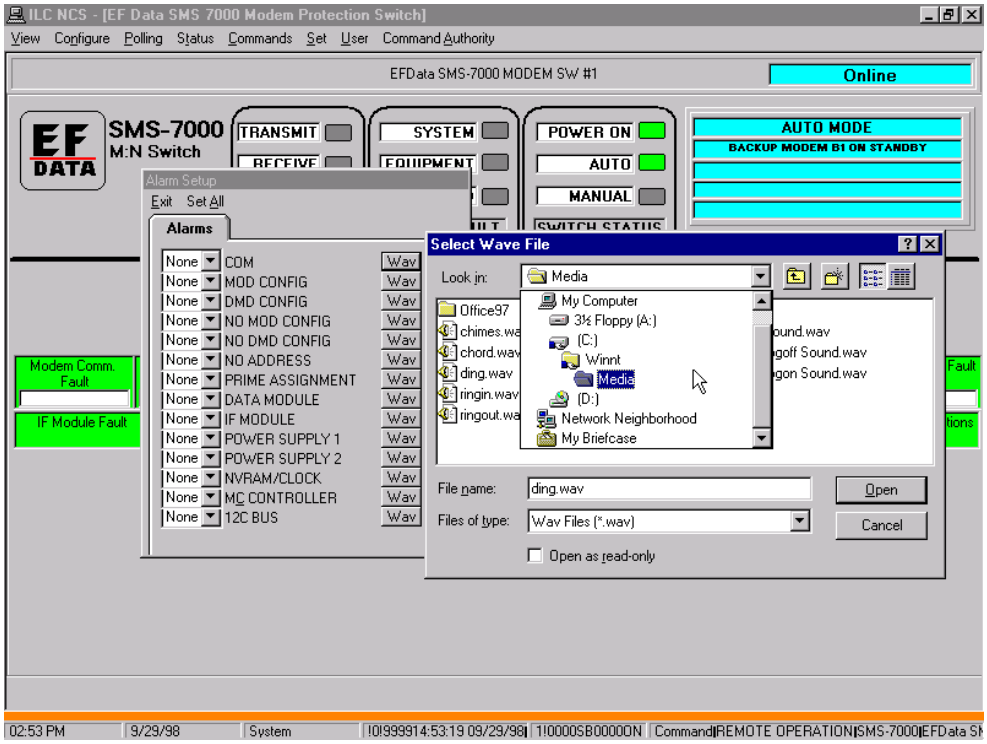
To acknowledge the alarm and make the sound discontinue playing, select Alarms, Acknowledge All Devices or COMM Alarms. The flashing device and wave file will stop until another fault condition is detected.

B.3 Attaching Device Wave Files

Attaching a device alarm is similar to attaching a system wave file. From the Device Control Screen, select Configure and click on Alarm Setup. The Alarm Setup for the selected device will appear with a list of alarms specific to the device.

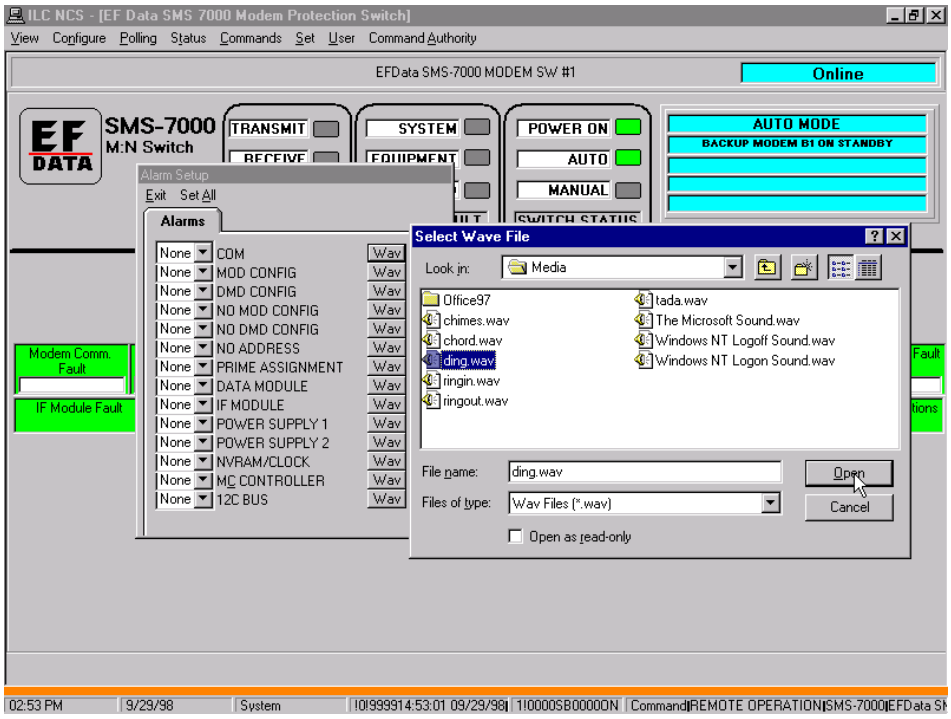
B.3.1 Alarm Setup Path to Wave File

Select a specific alarm to attach a wave file by clicking on the WAV button to the right of the alarm. The select wave file window will appear. The path to wave files is: C:\winnt\media.



B.3.2 Alarm Setup Selecting a Wave File

Select the desired wave file and click on Open. Once the wave files are attached, the user must set the condition, go to the drop-down menu to MINOR or MAJOR (see Section 7.2.3 for Alarm Setup).



B.3.3 Saving the Alarm Setup Changes

Continue to configure Alarms until all desired Alarms have been set. To save Alarm Setup parameters, select EXIT and SAVE.

The Alarms Setup information will be stored in the Registry File.

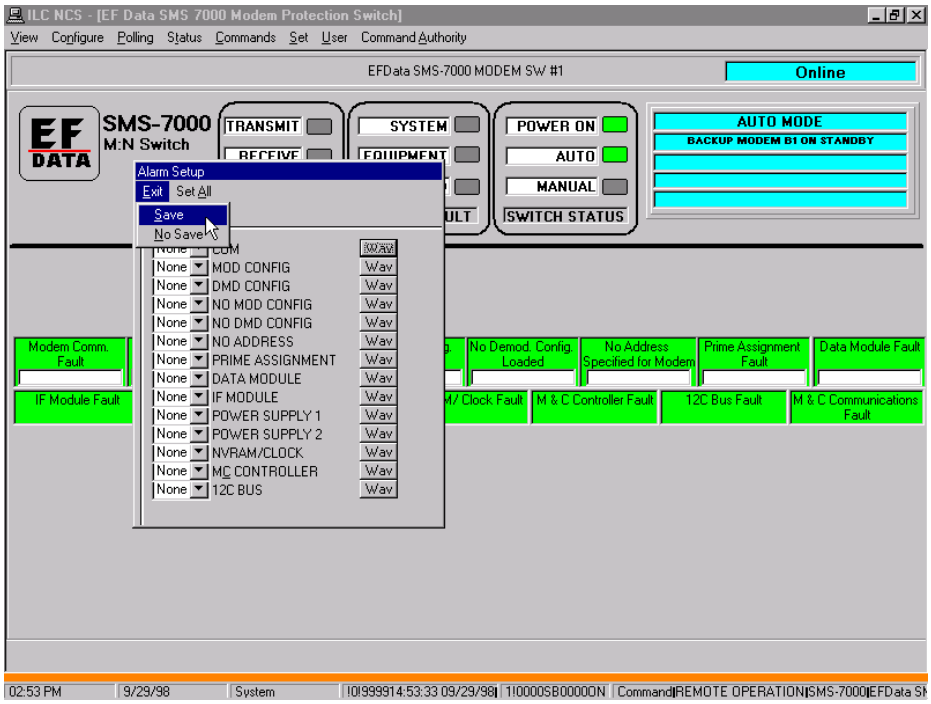


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Figure A-1 is an example of the system spreadsheet. All communication, computer, and device information is available in the spreadsheet. This information also is stored in the system Registry File, but not as easily accessed by the user.

Computer Information

#	Name	Description
1	MINIMAC	

COMM Information

Computer 1, Serial Communications

Port	COM #	Settings
1	3	9600,E,7,2
2	4	9600,E,7,2
3	5	9600,E,7,2
4	6	9600,E,7,2
5	7	9600,E,7,2
6	8	9600,E,7,2
7	9	9600,E,7,2

Serial Device Information

#	Device ID	Device Type	Computer	Offline	COM port	FEP Num	Address		
1	EFD V2200 CONV #1	V2200	1	0	3	-1	1, 2	ConverterType	0
2	EFD V2200 CONV #2	V2200	1	0	3	-1	3, 4	ConverterType	0
3	EFD V2200 CONV #3	V2200	1	0	3	-1	5, 6	ConverterType	0
4	EFData SDC-600 UP CONV #1	SDC-600	1	0	4	-1	9	ConverterType	0
5	EFData SDC-600 UP CONV #2	SDC-600	1	1	4	-1	1	ConverterType	0
6	EFData SDC-400 DN CONV #1	SDC-400	1	0	4	-1	10	ConverterType	0
7	EFData SDC-400 DN CONV #2	SDC-400	1	0	4	-1	2	ConverterType	0
8	EFData RFT-500 ODU #1	RFT-500	1	0	5	-1	2		
9	EFData RFT-500 ODU #2	RFT-500	1	0	5	-1	3		
10	EFData RSU-503 SW #1	RSU-503	1	0	5	-1	1		
11	EFData SDM-300 MODEM #1	SDM-300	1	1	6	-1	1		
12	EFData SDM-300 MODEM #2	SDM-300	1	1	6	-1	9		
13	EFData SDM-8000 MODEM #1	SDM-8000	1	1	6	-1	2		
14	EFData SDM-8000 MODEM #2	SDM-8000	1	0	6	-1	10		
15	EFData SMS-7000 MODEM SW #1	SMS-7000	1	0	6	-1	11	2NConfig	1 Independent 1
16	EFData SDM-308-4 MODEM #1	SDM-308_4	1	0	7	-1	1		
17	EFData SDM-308-4 MODEM #2	SDM-308_4	1	0	7	-1	9		
18	EFData SDM-308-5 MODEM #1	SDM-308_5	1	0	7	-1	2		
19	EFData SDM-308-5 MODEM #2	SDM-308_5	1	1	7	-1	10		
55	EFData SMS-658 MODEM SW #1	SMS-658	1	0	7	-1	11	2NConfig	1 Independent 1
59	EFData SMS-758 MODEM SW #1	SMS-758	1	0	8	-1	11	2NConfig	0 Independent 1
60	EFData SDM-309 MODEM #1	SDM-309	1	0	8	-1	1		
77	EFData SDM-309 MODEM #2	SDM-309	1	0	8	-1	2		
78	EFData SMS-301 1:1 MODEM SW #1	SMS-301	1	0	9	-1	3	1:1Config	1 Independent 1
79	EFData SDM-300 MODEM #3	SDM-300	1	0	9	-1	1		
80	EFData SDM-300 MODEM #4	SDM-300	1	0	9	-1	2		
81	EFData KST-12000 ODU #1	KST-12000	1	0	9	-1	12		

Figure A-1. System Spreadsheet

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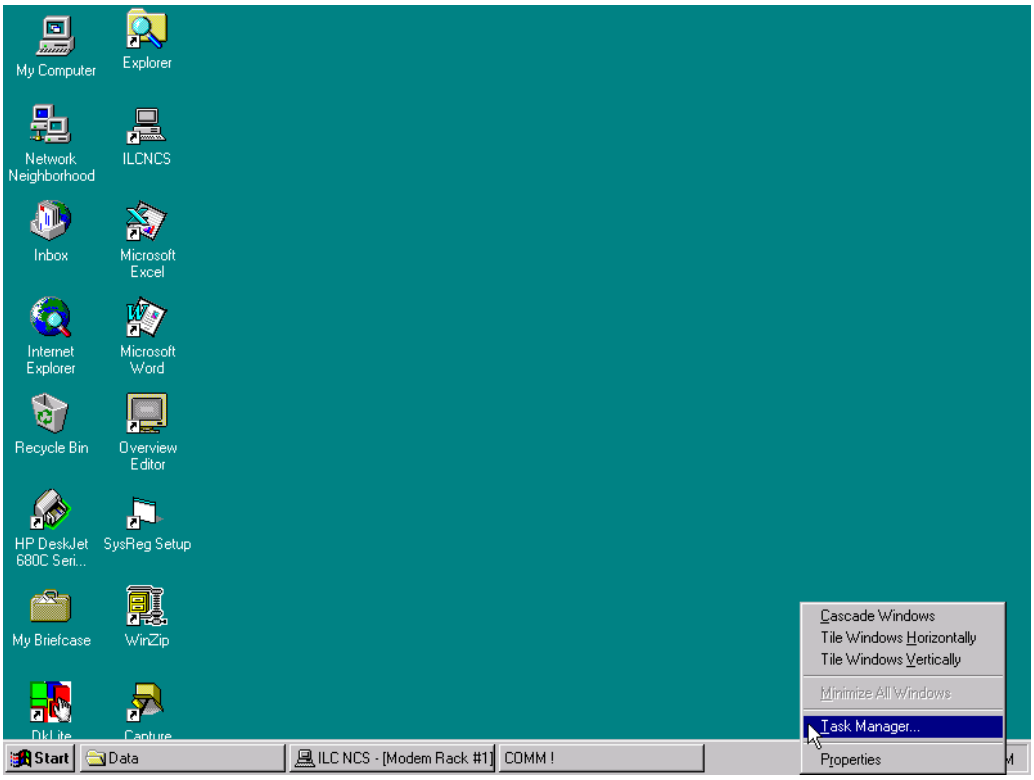
10.1 Using the Task Manager

The proper procedure to end the program is by using the TASK MANAGER function. Using the right-mouse button, click on the task bar, located at the bottom of the screen. Click on Task Manager.

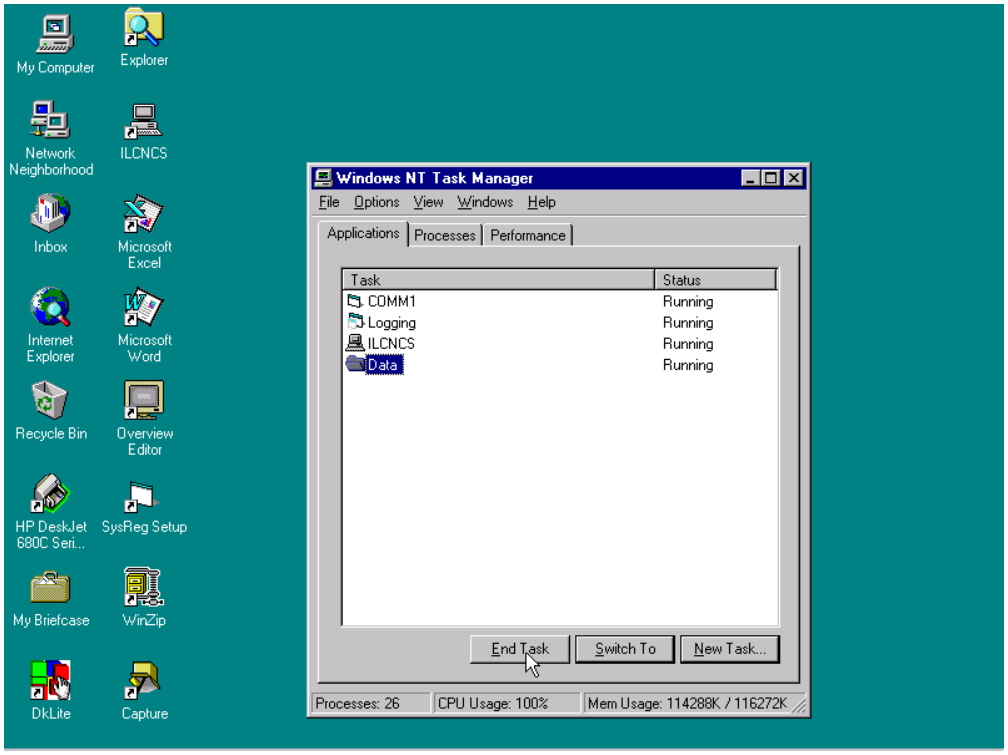


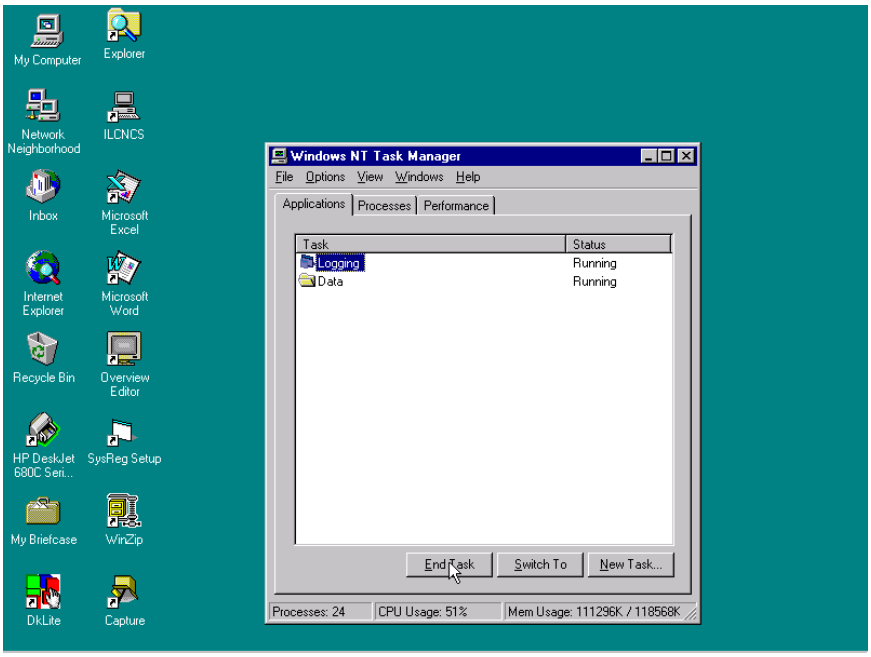
10.2 Ending a Task

Highlight the program ILCNCS and click on End Task. The END TASK window will appear. Click on End Task. Continue to highlight the following:

- COMM1
- Logging

End task by clicking on the End Task button. When completed, close the TASK MANAGER window.




My Computer
Explorer
Network Neighborhood
ILCNCS
Inbox
Microsoft Excel
Internet Explorer
Microsoft Word
Recycle Bin
Overview Editor
HP DeskJet 680C Seri...
SysReg Setup
My Briefcase
WinZip
DkLite
Capture
Windows NT Task Manager
File Options View Windows Help
Applications Processes Performance
Task
Status
Logging
Running
Data
Running
End Task
Switch To
New Task...
Processes: 24
CPU Usage: 51%
Mem Usage: 111296K / 118568K

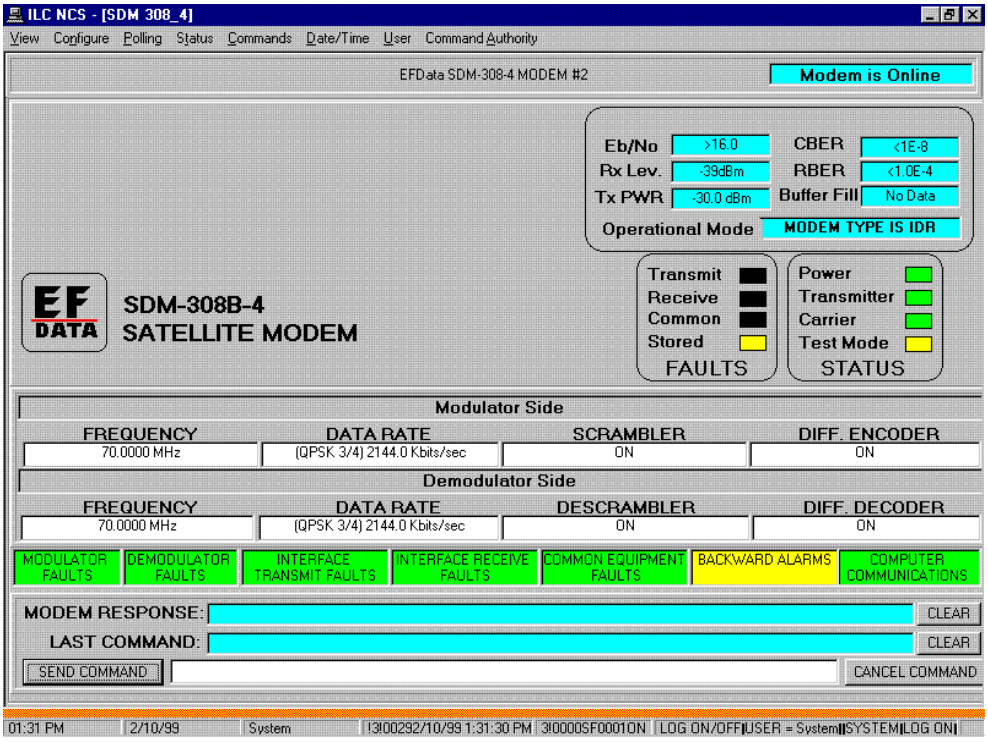
9.1 Satellite Modems

Other EFData Modem Device Screens are similar to the SDM-300 described in Chapter 6. Some of the commands are accessed differently, therefore, included for convenience.

9.1.1 SDM-308-4 Satellite Modem

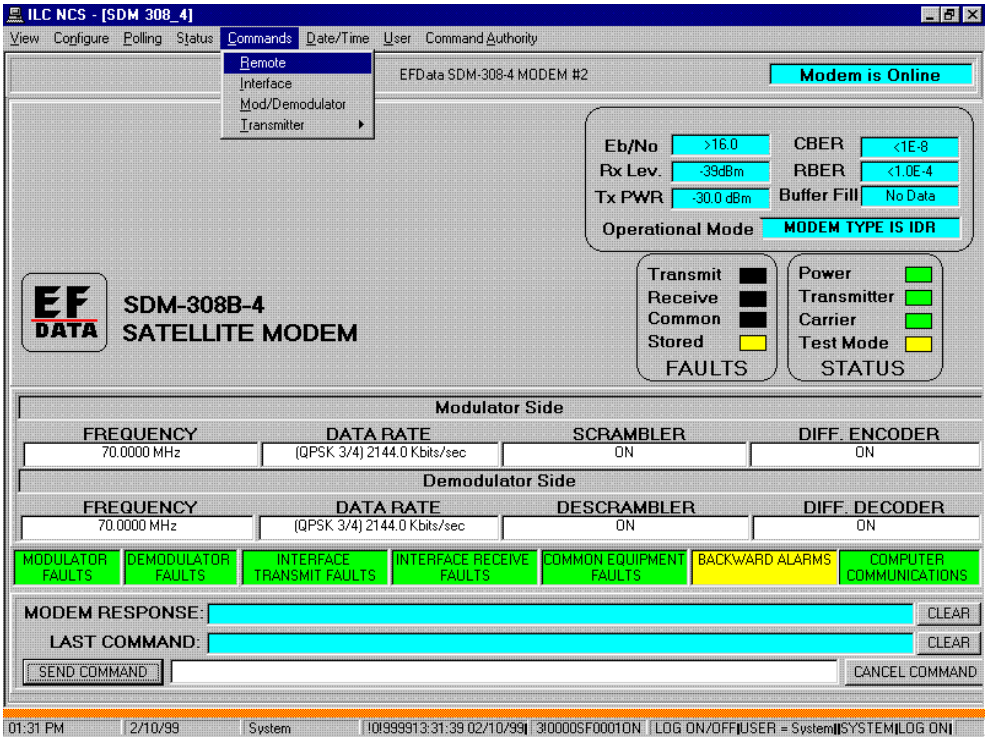
The SDM-308-4 IDR Modem is exactly like the SDM-300 Modem Device Screens:

- View
- Configure
- Polling
- Status
- User
- Command Authority



9.1.1.1 Commands Menu

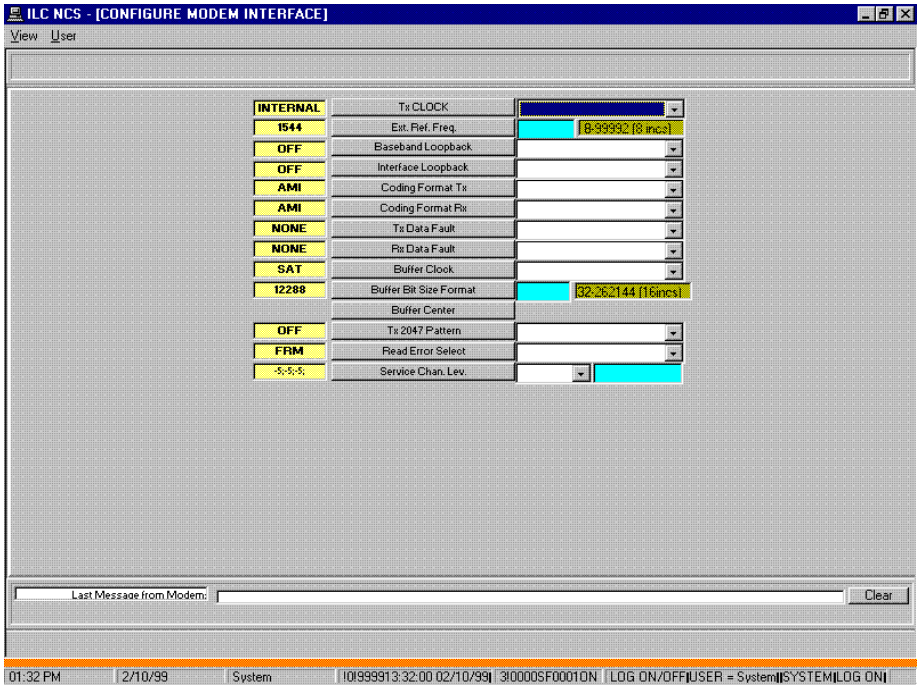
The COMMANDS Menu includes; Remote, Interface, Modulator, and Demodulator. To turn the transmitter On and Off, there is an additional Transmitter Command.



9.1.1.2 Interface Commands

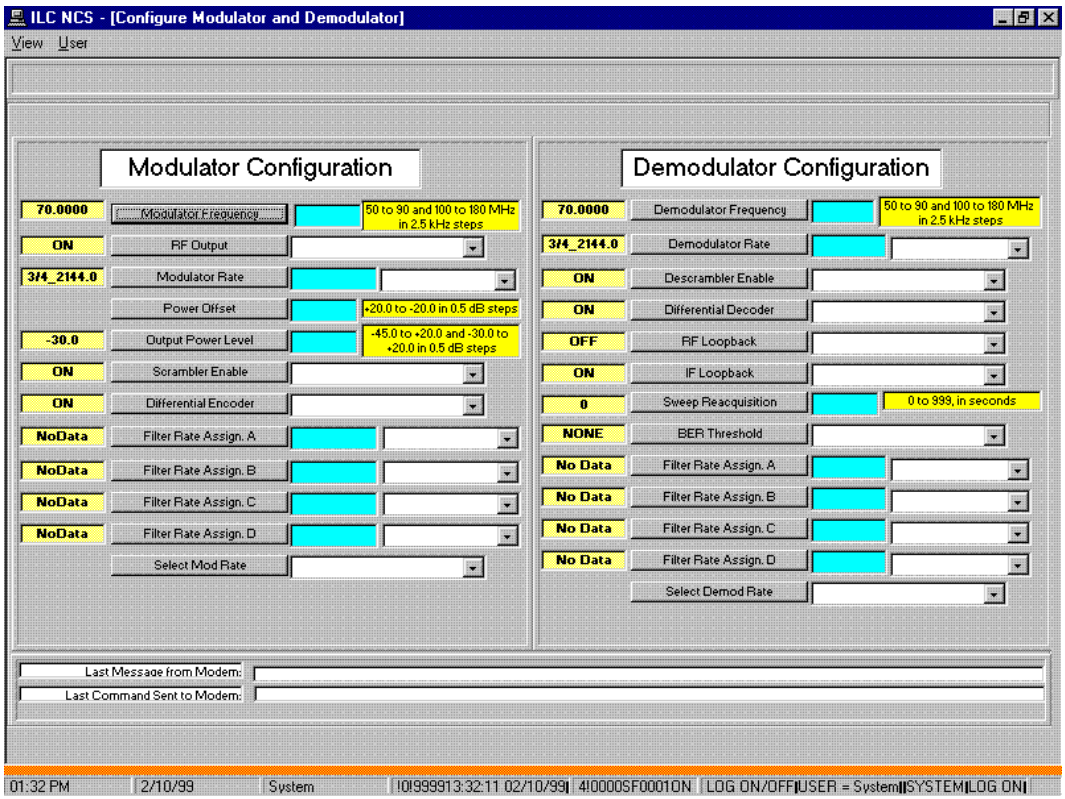
To access the Interface Commands, select COMMANDS and click on INTERFACE. The CONFIGURE MODEM INTERFACE window will appear. From this window the user can configure:

• TX Clock	• TX and RX Data Fault
• EXT Reference Frequency	• Buffer Clock
• Baseband Loop Back	• Buffer Format
• Interface Loop Back	• TX and RX 2047 Pattern
• TX and RX Coding Format	• Service Channel Levels



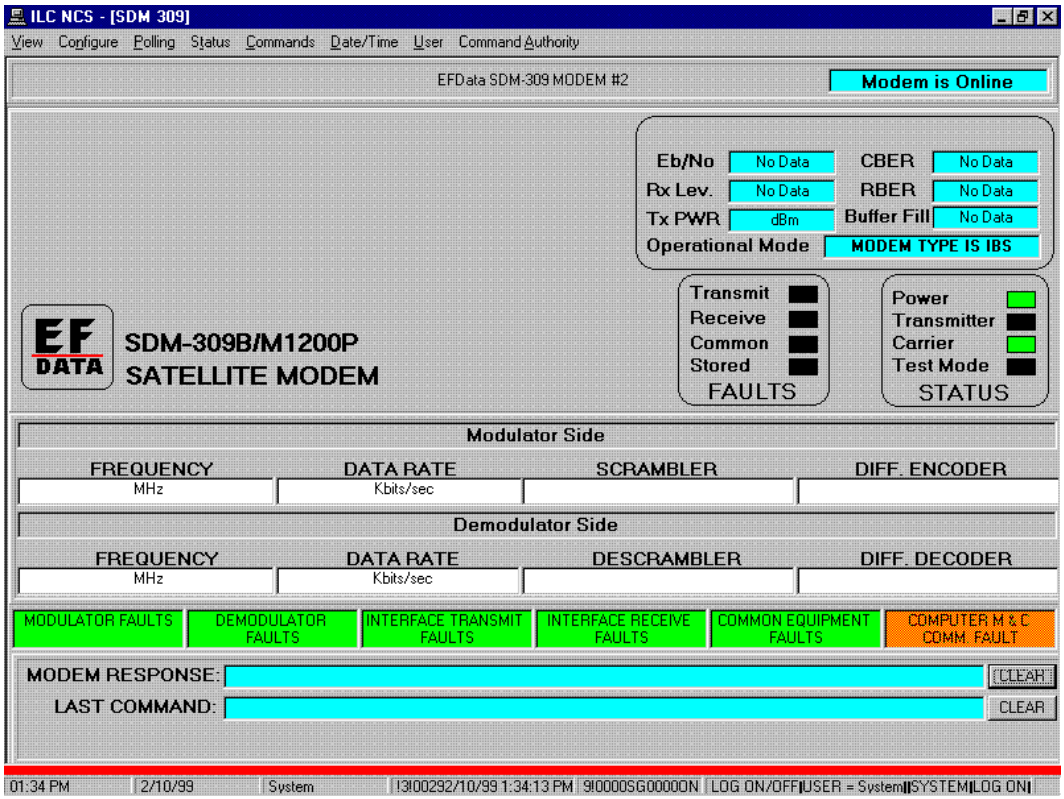
9.1.1.3 Modulator/Demodulator Commands

To access MODULATOR/DEMODULATOR COMMANDS, select Commands and click on MODUALTOR/DEMODULATOR. The Configure Modulator/Demodulator window will appear. To execute a change, click on the arrow to the right of the parameter to be changed. Select a value from the drop-down menu. Click on the parameter button to transmit the command. The Confirm Command Menu will appear. Click on OK. The Command Accept Response window will confirm the command has been accepted.



9.1.2 SDM-309 Satellite Modem

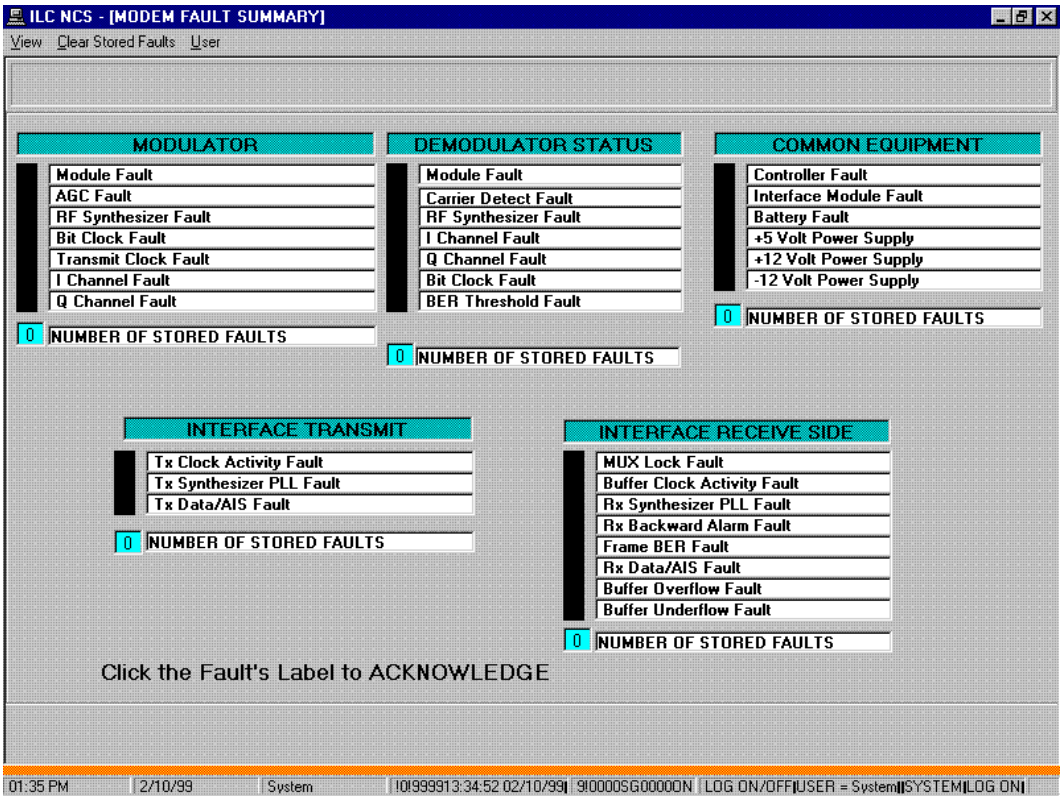
The SDM-309 IBS Modem Screen functions like the SDM-308-4 Modem Control Screen.



9.1.2.1 Faults Alarm Screen

To view the FAULTS/ALARMS screen click on any of the faults status buttons along the bottom of the control screen. The Modem Fault Summary window will appear. From this screen the user can:

- View Active Faults/Alarms
- View Stored Faults/Alarms
- Acknowledge Faults/Alarms
- Clear Stored Faults/Alarms

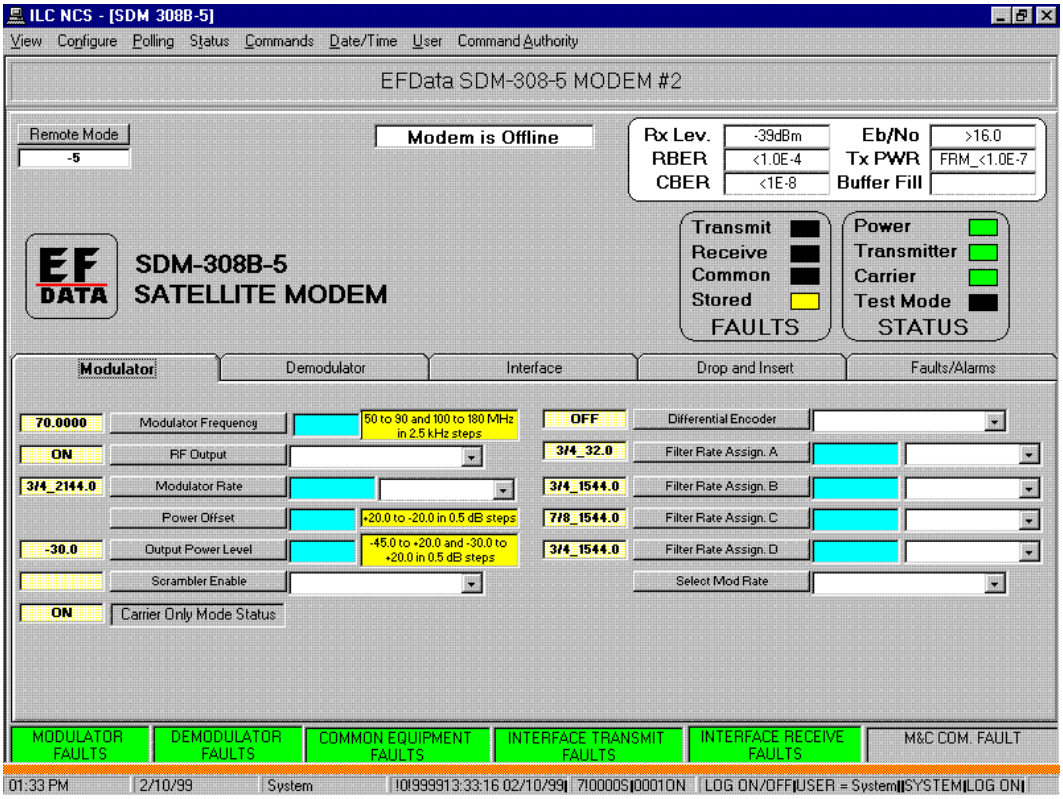


9.1.3 SDM-308-5 Satellite Modem

The SDM-308-5 Drop and Insert (D&I) Modem Control Screen drop-down menu contains Remote, Clear, and Stored Faults only.

9.1.3.1 Modulator Commands

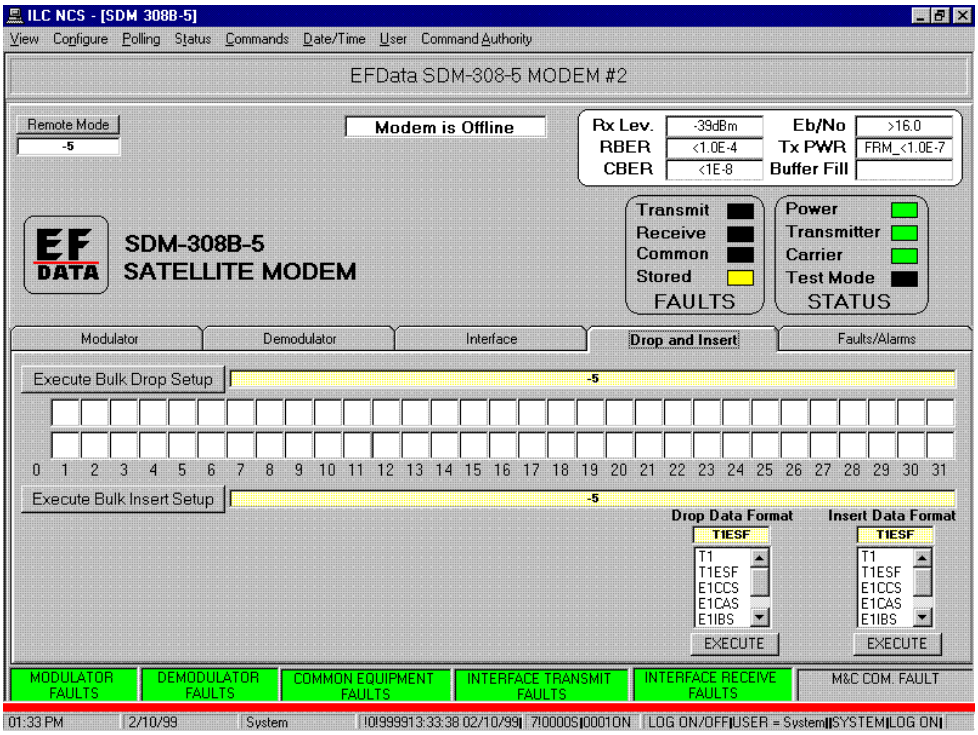
The MODULATOR, DEMODULATOR, AND INTERFACE Commands function like the SDM-308-4, except, they are accessed by clicking on the appropriate file folder across the middle of the screen.



9.1.3.2 Drop and Insert Commands

From the DROP AND INSERT file folder, the user can set the following D&I function:

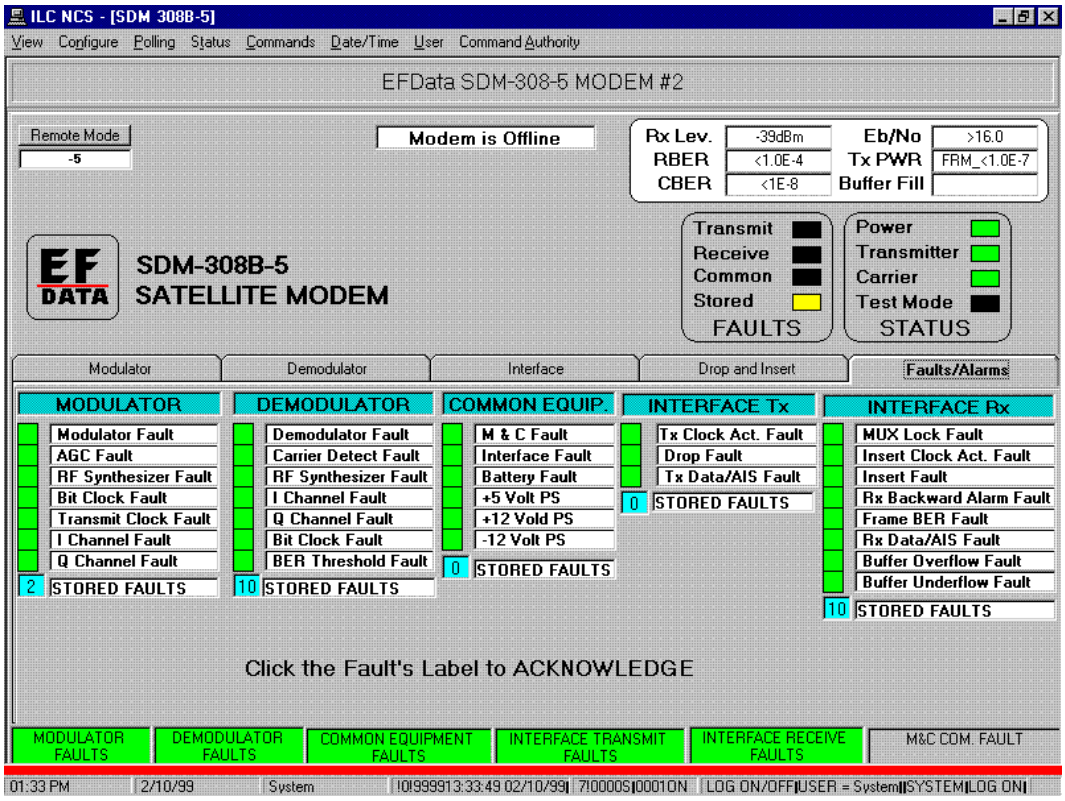
- Drop Data Format
- Insert Data Format
- Configure Drop Channels
- Configure Insert Channels



9.1.3.3 Faults/Alarms Screen

From the FAULTS/ALARMS file folder the user can:

- View Active Faults/Alarms
- View Stored Faults/Alarms
- Acknowledge Faults/Alarms



9.1.4 SDM-8000, SDM-6000, and SDM-9000 Satellite Modem

Note: The SDM-6000 and SDM-9000 function identically to the SDM-8000. Therefore, all procedures can apply to either satellite modem.

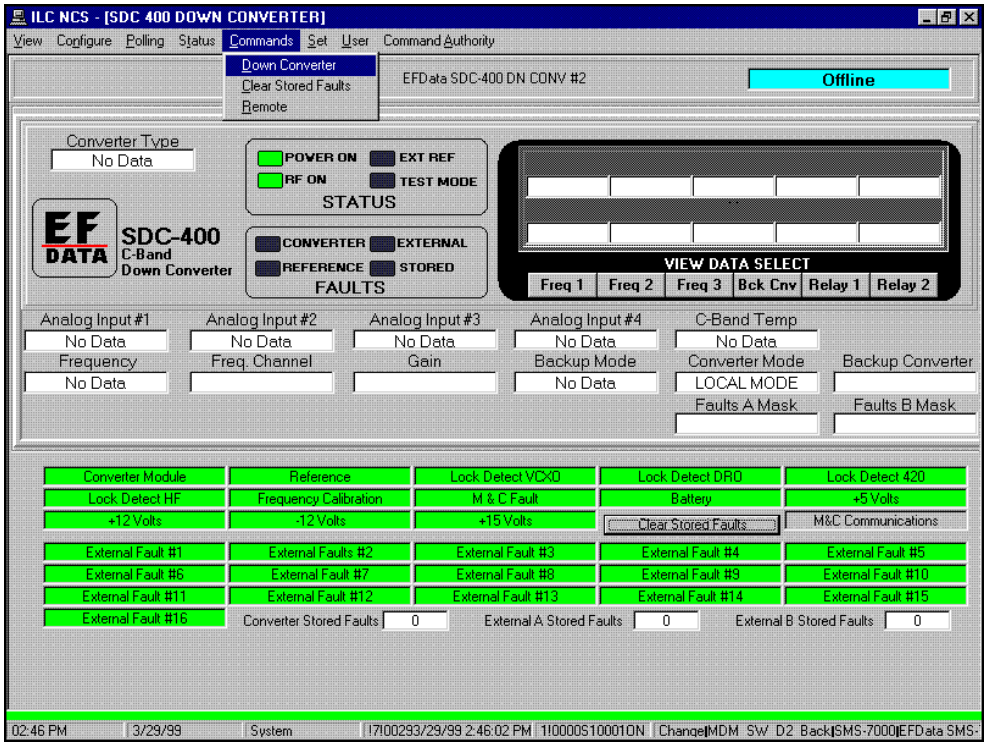
The SDM-8000 MODEM CONTROL Screen functions like the SDM-300 Modem Screens as described in Chapter 6.

9.2 Satellite Data Converters

9.2.1 SDC-400 Down Converter

The CONVERTER CONTROL screen is displayed by choosing a converter button from the Main screen.

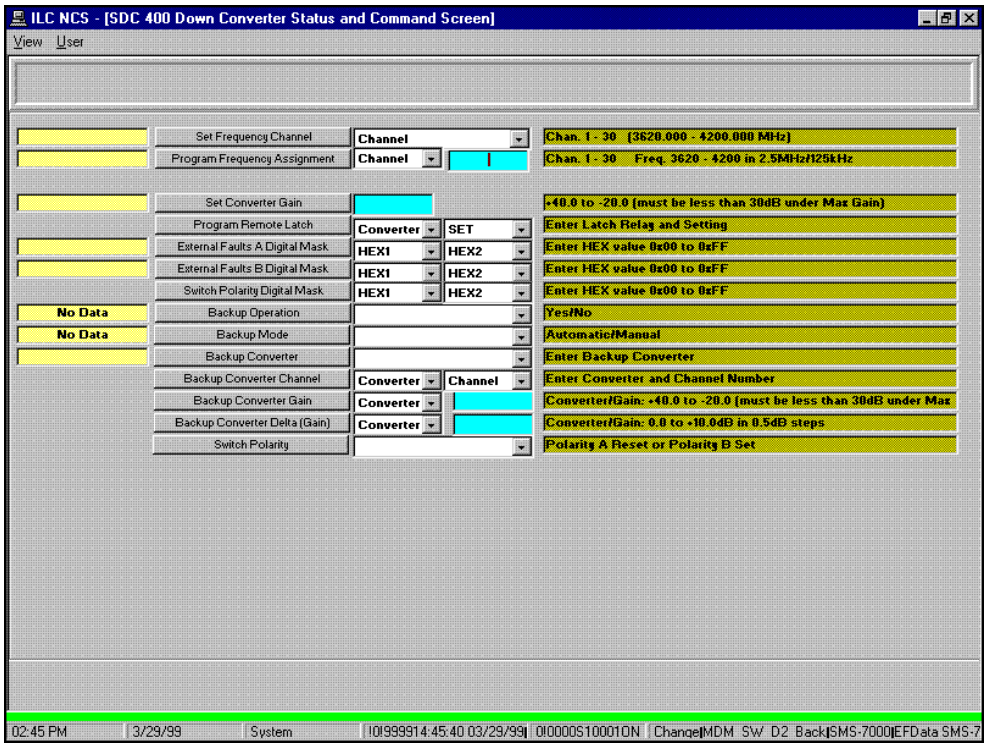
Note: CONVERTER CONTROL screens vary according to the type of converter installed in the system. This manual uses the SDC-400 converter for example screens. For information about operating other converters, refer to the applicable installation and operation manuals.



9.2.1.1 Converter Status and Commands Screens

To access the CONVERTER STATUS and COMMAND screen, select Commands and click on Up Converter from the Converter Control Screen.

This section describes the CONVERTER STATUS AND COMMAND screen, which is used to view and set the converter configuration parameters. The parameters available on the screen will vary according to the type of converter installed.



Note: The converter's front panel displays digital masking values in binary format. Remote commands convert binary values into hexadecimal format. MiniMAC displays these values in hexadecimal, with the "HEX" characters preceding the number.

To change a parameter:

1. For converter parameter information, refer to the appropriate installation and operation manual for the selected converter.

2. Select a new parameter from the drop-down selection list to the right of a parameter button, or type the new value in the field.

3. Select the parameter button to initiate the change. A verification prompt appears.

4. Choose [OK] to continue with the change, or [CANCEL] to abandon the change.

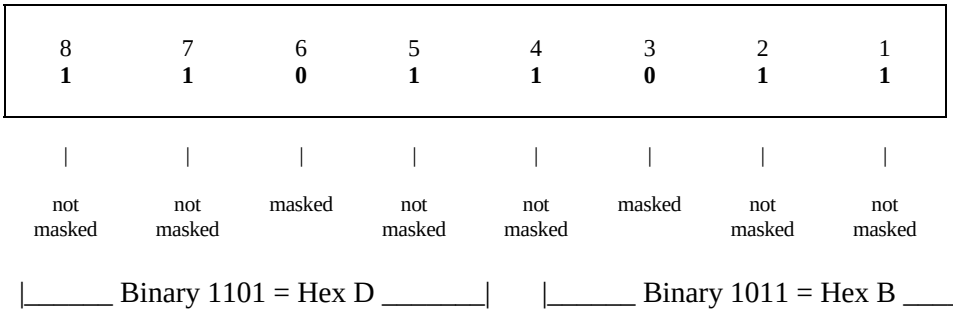
5. Continue selecting and confirming each parameter setting to be changed, until all the parameters are correct.

6. Select [VIEW] to return to the CONVERTER CONTROL screen.

9.2.1.2 Hexadecimal Digital Masking

Digital masking parameters appear on the MiniMAC screen in hexadecimal format. However, on the device front panel display, digital masking parameters appear in binary format.

Eight numbers appear on the top line of the front panel display, and 0s and 1s appear on the second line.



The 0s represent masked faults, 1s represent unmasked faults. The 0s and 1s also represent a set of two binary numbers. In the example above, binary 1101 = hex D, and binary 1011 = hex B.

Use the following chart to convert binary values that match the desired masked/unmasked faults settings into hex values.

Binary	Hex	Binary	Hex
0000	0	1000	8
0001	1	1001	9
0010	2	1010	A
0011	3	1011	B
0100	4	1100	C
0101	5	1101	D
0110	6	1110	E
0111	7	1111	F

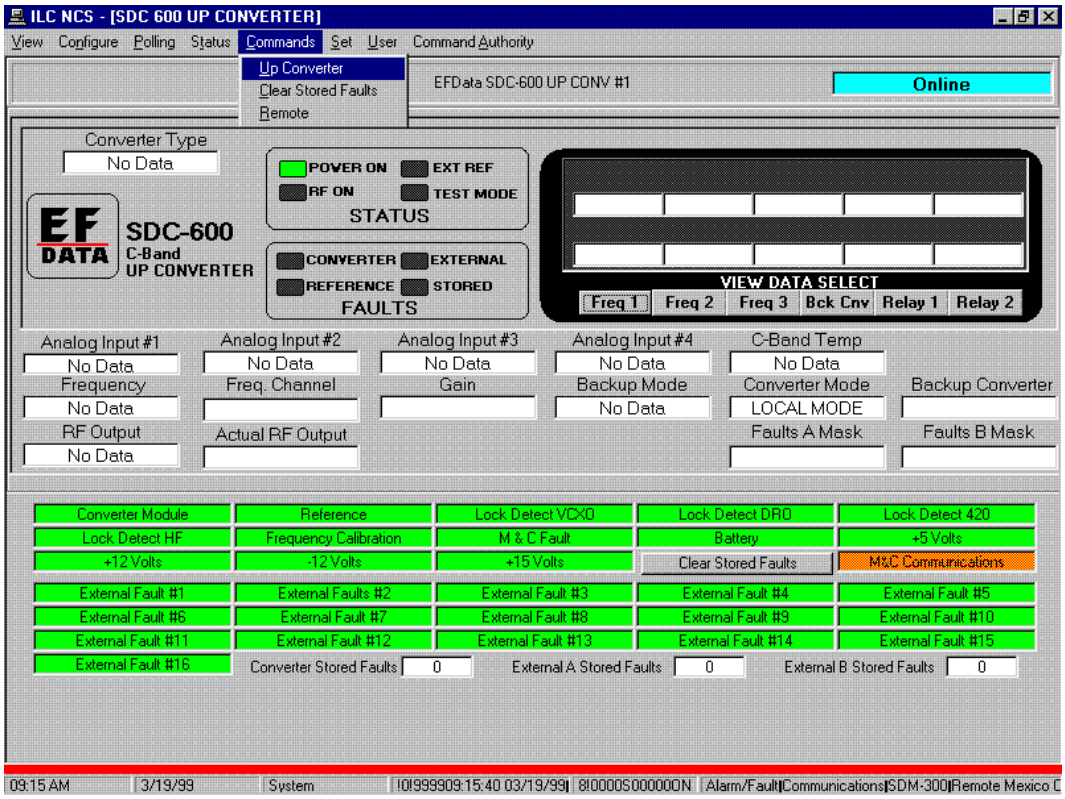
Then, select the appropriate hex values from the drop-down selection list for each digital masking parameter on the MiniMAC screen.

9.2.2 SDC-600 Up Converter

The CONVERTER CONTROL screen is displayed by choosing a converter button from the Main screen.

This screen is used to view and set the converter configuration parameters.

The STATUS AND COMMAND screen is displayed by choosing [COMMANDS, UP CONVERTER] from the Converter Control screen.



To change a parameter:

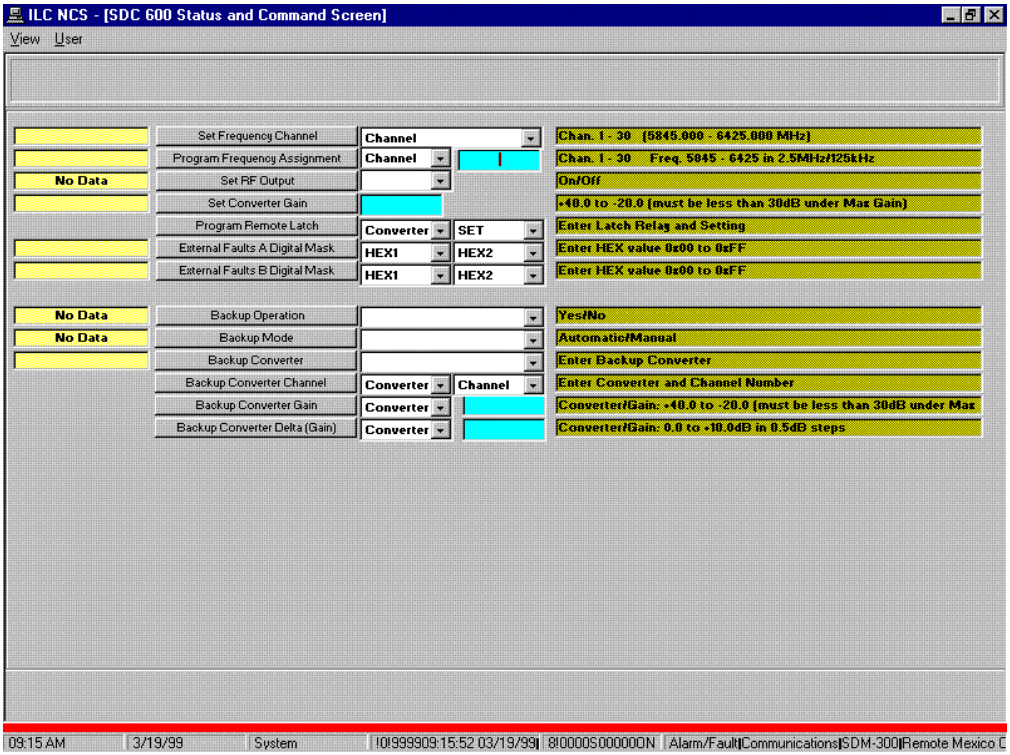
1. For converter parameter information, refer to the appropriate installation and operation manual for the selected converter.

2. Select a new parameter from the drop-down selection list to the right of a parameter button, or type the new value in the field.

3. Select the parameter button to initiate the change. A verification prompt appears.

4. Choose [OK] to continue with the change, or [CANCEL] to abandon the change.

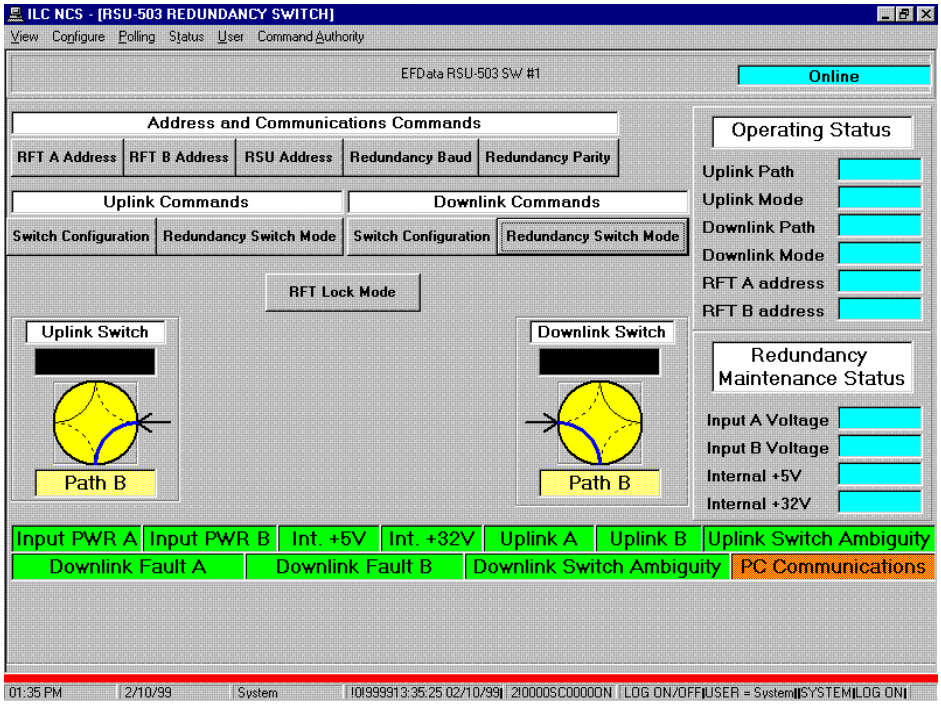
5. Continue selecting and confirming each parameter setting to be changed, until all the parameters are correct.



9.3 Satellite Switches

9.3.1 RSU-503/-503L Radio Terminal Redundancy Switch

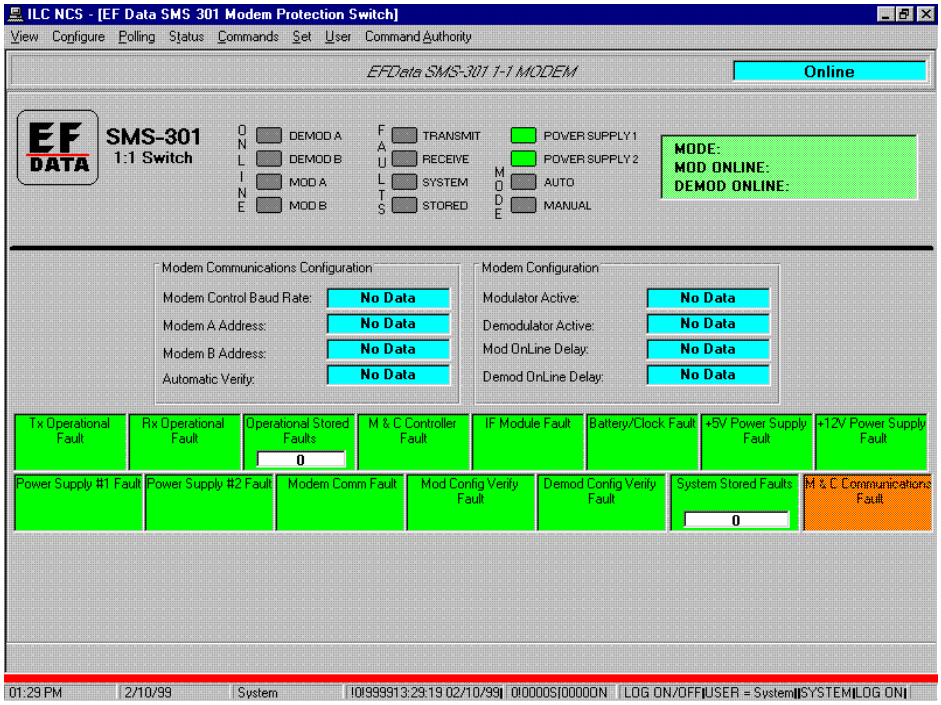
The RSU-503 RFT Switch can be used in C-Band and Ku-Band systems. The drop-down menus are similar to the other device screen menus. The RSU-503 does not require the Remote Command. To change configuration commands click on the appropriate command button. The command window will appear in the area under the RFT Lock Mode button. Select the command values from the drop-down menu and execute.



9.3.2 SMS-301 1:1 Protection Switch

The SMS-301 SWITCH CONTROL screen exhibits the front panel LED's across the top and are fully functional. Communication parameters are reported in the Modem Communication Configuration window and active modem Status is displayed in the Modem Configuration window located in the middle of the screen.

Faults are reported across the bottom of the screen.

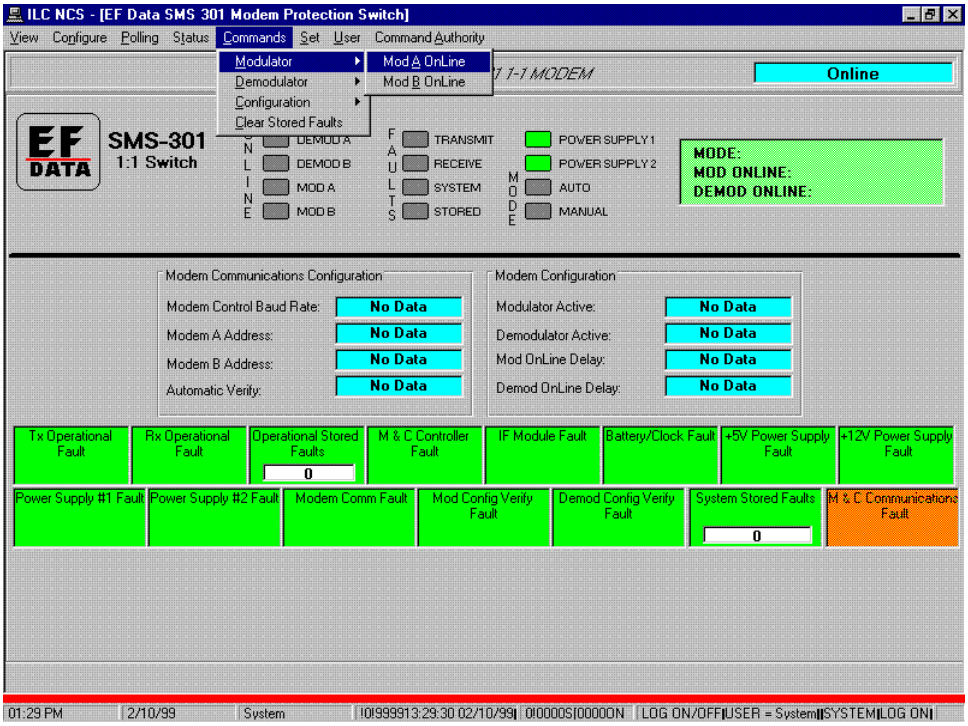


9.3.2.1 Modulator/Demodulator Commands

The modulator and demodulator commands allow the user to set A or B Online.

Note: The switch must be in the Remote Manual Mode to execute commands to the switch.

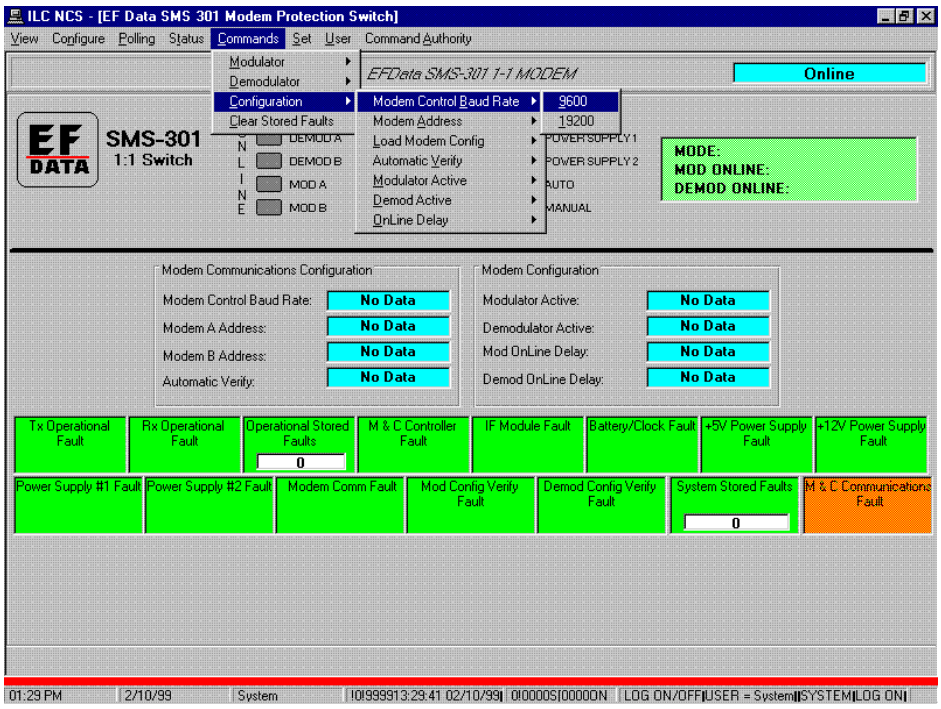
To set the switch in the Remote Manual Mode, select Set\Mode and click on Remote. Then select, Set\Mode and click on Manual.



9.3.2.2 Configuration Commands

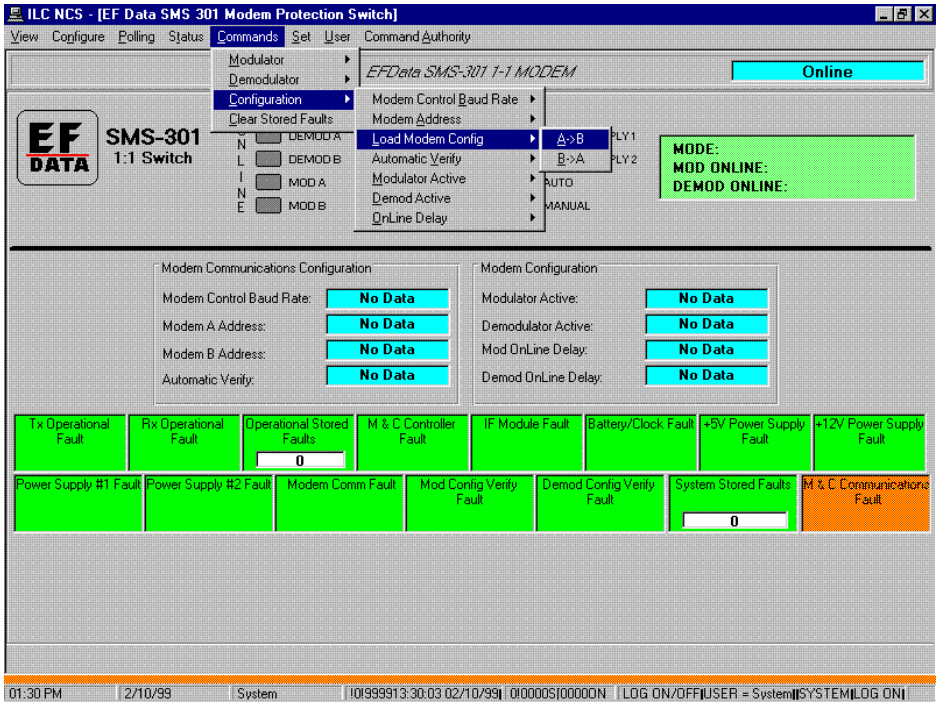
The Configuration Commands screen allows the user to set the following parameters:

- Modem Control Baud Rate
- Modem Address
- Load Modem Configuration
- Automatic Verify
- Modulator Active
- Demodulator Active
- Online Delay



9.3.2.3 Load Modem Configuration Commands

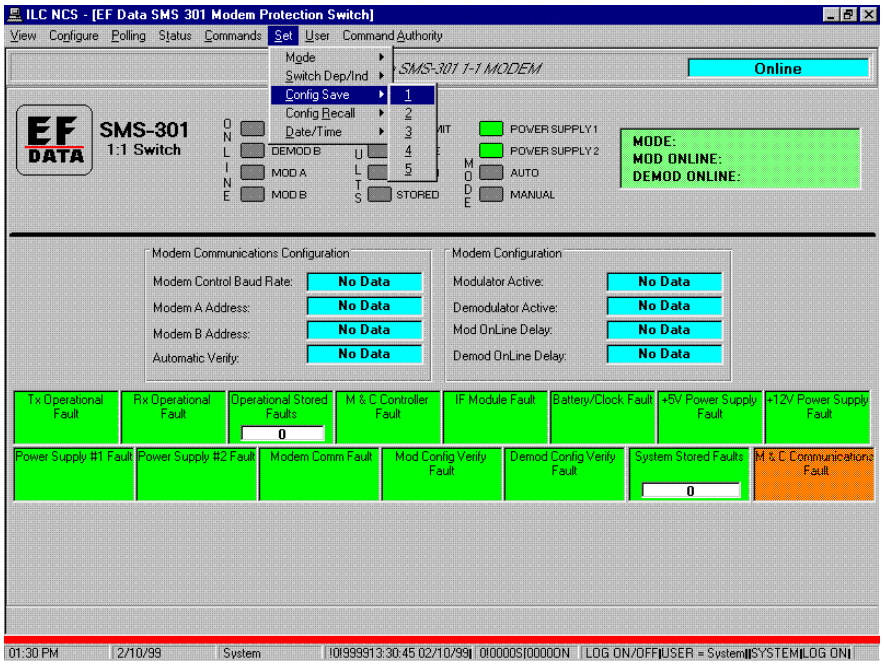
The Load Modem Configuration Command allows the user to Download Modem Configuration parameters from one modem to another. The user can load from A to B or from B to A.



9.3.2.4 Set Menu

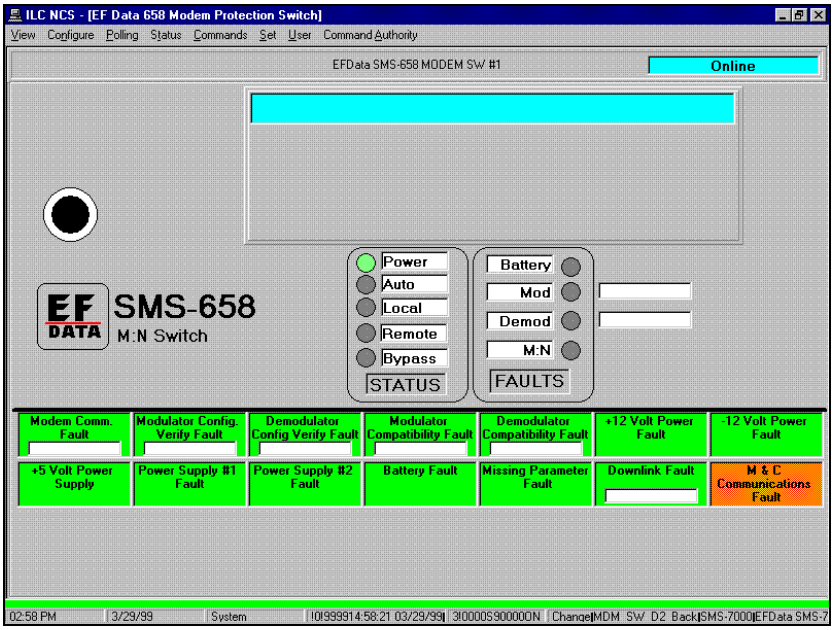
The Set Menu screen allows the user to configure the switch functions including Mode (Remote, Manual, or Auto), Dependent, Independent operation, Save and Recall Commands.

The Save and Recall Commands allow the user to save switch configuration parameters to memory and recall them later.

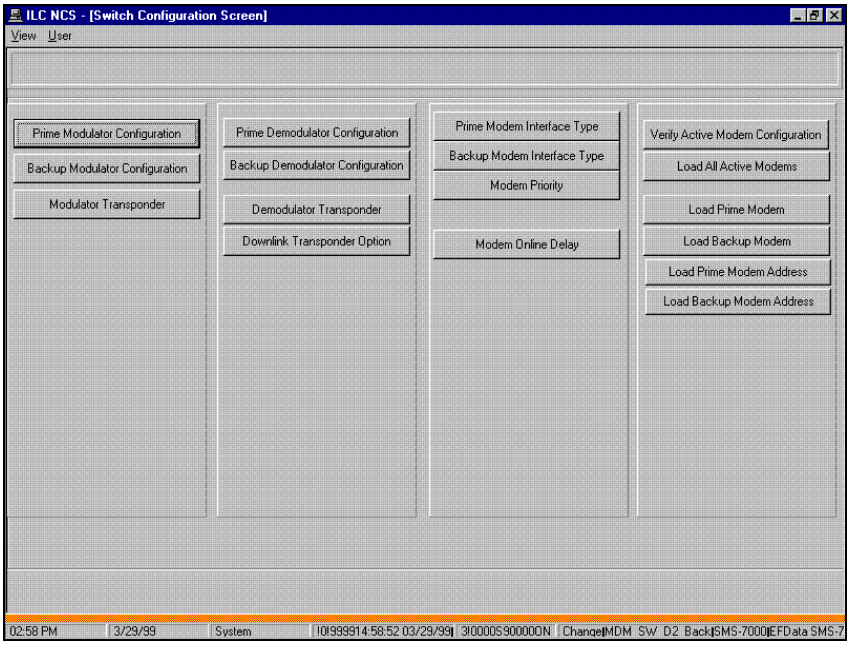


9.3.3 SMS-658 Modem Protection Switch

The SMS-658 Switch operates similar to SMS-7000 Switch. The SWITCH CONTROL screen is exhibited below.



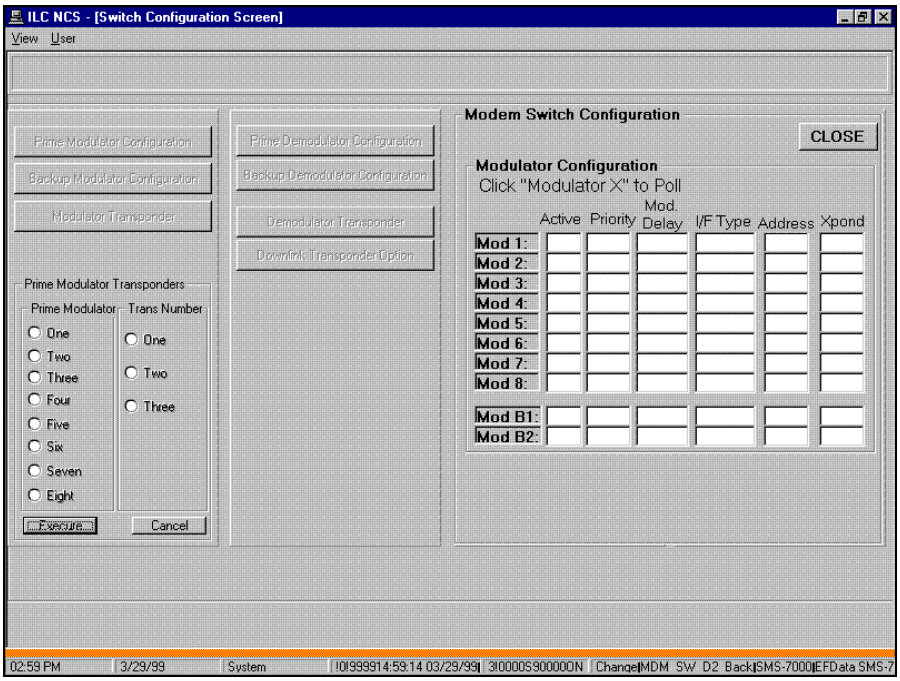
The commands switch configuration widow has additional functions the user can select. They include; Modulator Transponder, Demodulator Transponder, and Downlink Transponder option.



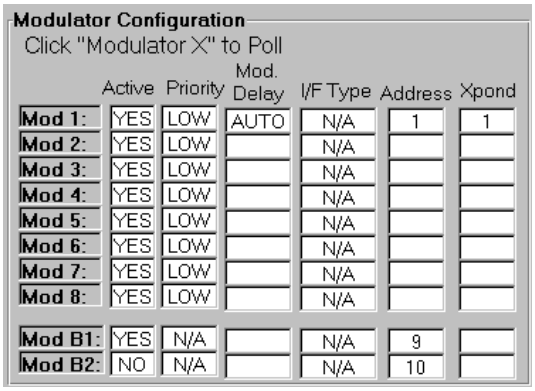
9.3.3.1 Modulator Transponder Commands

Note: This function is available only for the SMS-658 switch.

On the [MODULATOR TRANSPONDER] screen transponder assignment fields appear on the left and status display fields appear on the right.

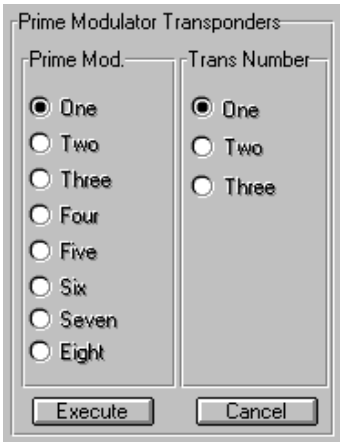


To check the assignments of transponders:



1. Choose each MOD X field (where x is the number of the modulator).
2. The status appears as the selected modulator(s) are polled.

To change the assignment of a transponder:



1. From the PRIME MOD column, choose the prime modulator to be assigned a transponder.

2. From the TRANS NUMBER column, choose the transponder number to be assigned.

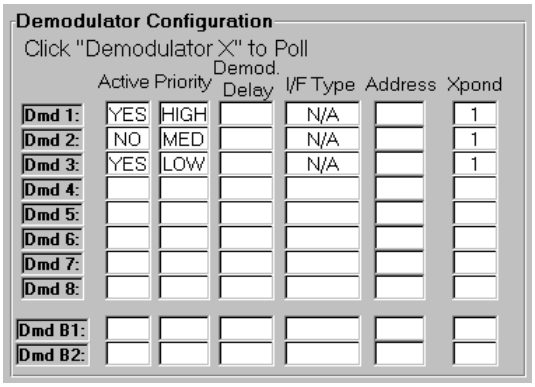
3. Choose [EXECUTE] to send the change, or [CANCEL] to abandon the change.

Note: To return to the Switch Configuration screen, choose [CANCEL]. To return to the Switch Control screen, choose [VIEW/RETURN TO SWITCH].

9.3.3.2 Demodulator Transponder Commands

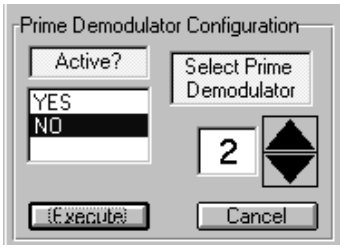
On the [PRIME DEMODULATOR CONFIGURATION] screen, status parameter fields appear in the center and status display fields appear on the right.

To check the status of one or more demodulators:



1. Choose each DMD X field (where x is the number of the demodulator).
2. The status appears as the selected demodulator(s) are polled.

To change the active status of a demodulator:



1. In the SELECT PRIME DEMODULATOR field, type the number or use the increase/decrease arrows to select the prime demodulator number

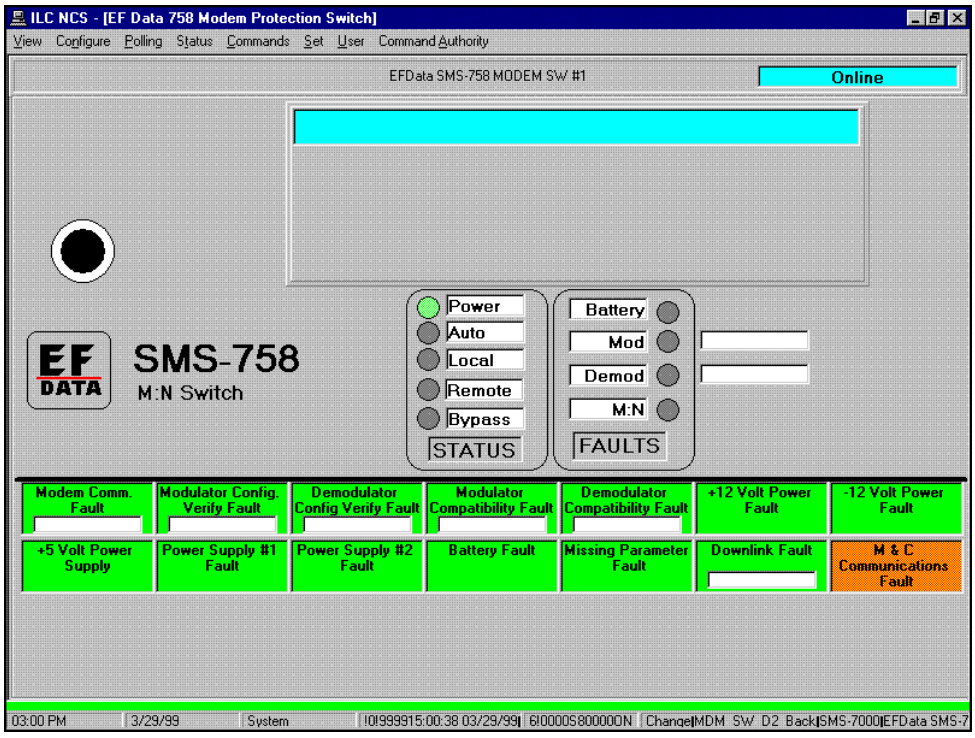
2. In the ACTIVE? field, choose “YES” to activate, or “NO” to deactivate the demodulator.

3. Choose [EXECUTE] to send the status change, or [CANCEL] to abandon the change.

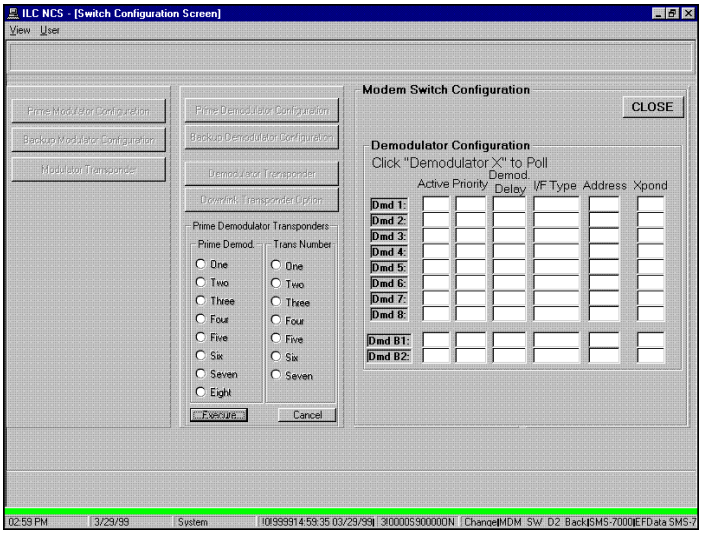
Note: To return to the Switch Configuration screen, choose [CANCEL]. To return to the Switch Control screen, choose [RETURN TO SWITCH].

9.3.4 SMS-758 Modem Protection Switch

The SMS-758 Modem Protection Switch operates similar to the SMS-658 Switch. The SWITCH CONTROL screen is shown below.



The main difference between an SMS-758 and an SMS-658 is the number of available transponders to select. The SMS-758 can use from 1 to 7 (depending on selection of Transponder Option) and the SMS-658 has three to select.

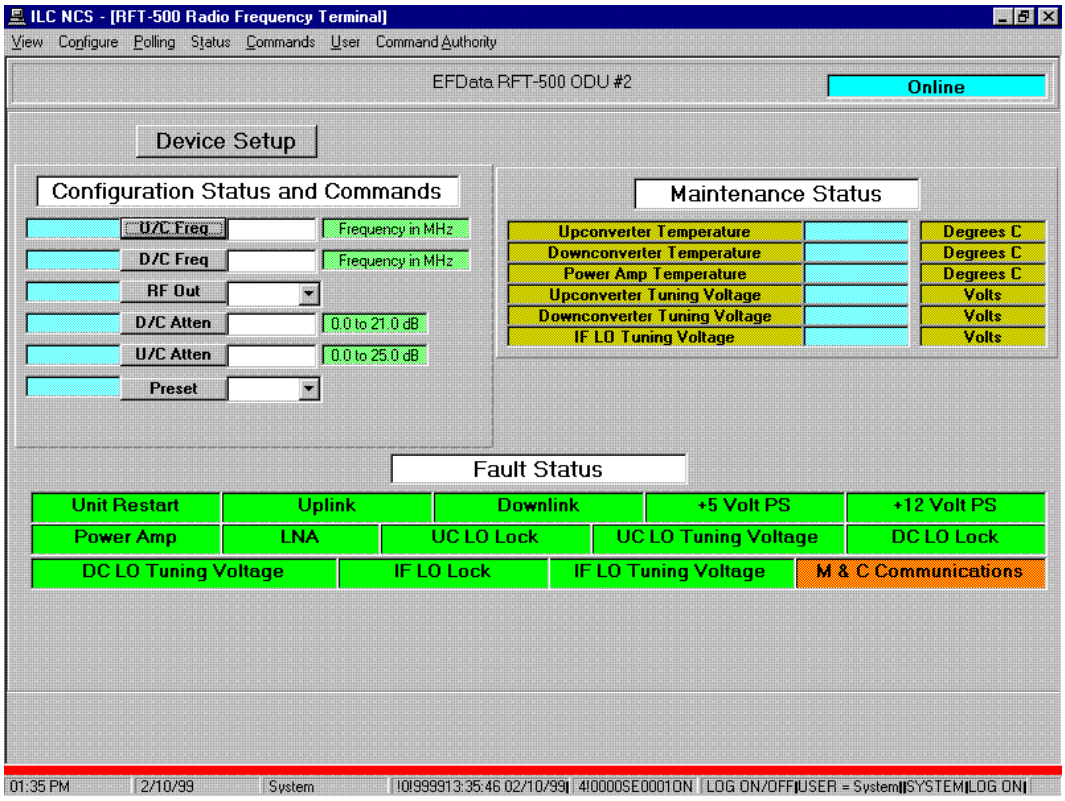


9.4 Terminals

9.4.1 RFT-500 Radio Frequency Terminal

The RFT-500 is the C-Band Radio Frequency Terminal, is referred to as the outdoor unit. From the CONFIGURATION STATUS AND COMMANDS Screen the user can:

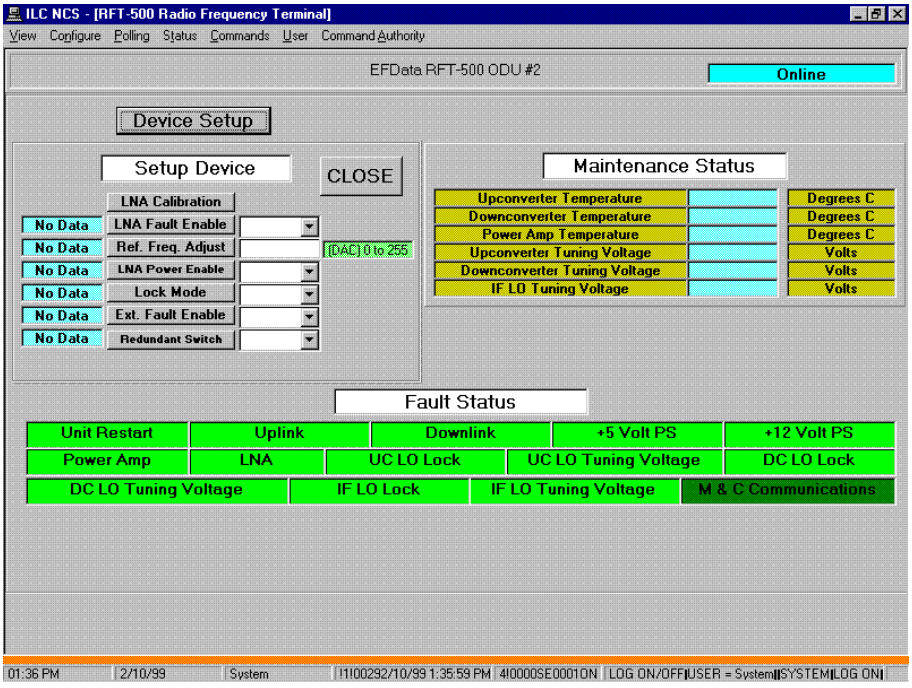
- Set Up Converter Frequency
- Set Down Converter Frequency
- Turn Output On and Off
- Set Up Converter Attenuation
- Set down Converter Attenuation



9.4.2 Device Setup

To view the device setup screen click on the Device Setup button. From the Device Setup screen the user can:

- Calibrate LNA
- Enable LNA Fault
- Set Reference Frequency Adjust Value
- Turn LNA Power On/Off
- Enable External Fault Line
- Select Switching Mode



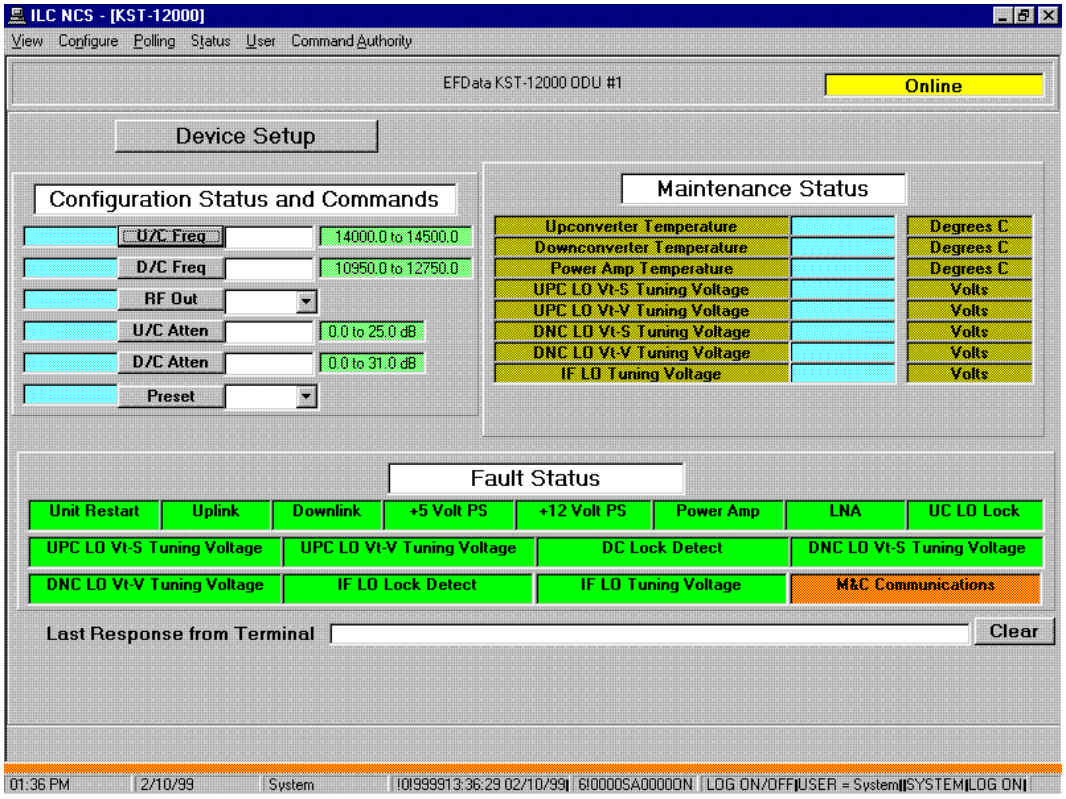
When setup parameters have been completed, click on the Close button to return the Main screen. The Maintenance Status on the right side is viewable from either screen. The monitor status information is reported as follows:

- Up Converter Temperature
- Down Converter Temperature
- Power Amp Temperature
- Up Converter Tuning Voltage
- Down Converter Tuning Voltage
- IFLO Tuning Voltage

Fault status is displayed at the bottom of the screen.

9.4.3 KST-12000

The KST-12000 is the Ku-Band Radio Frequency Terminal (RFT) and operates similar to the RFT-500. Except the Up converter and down converter frequency range will reflect the Ku-Band. Refer to the individual installation and operation manuals on proper operating parameters.

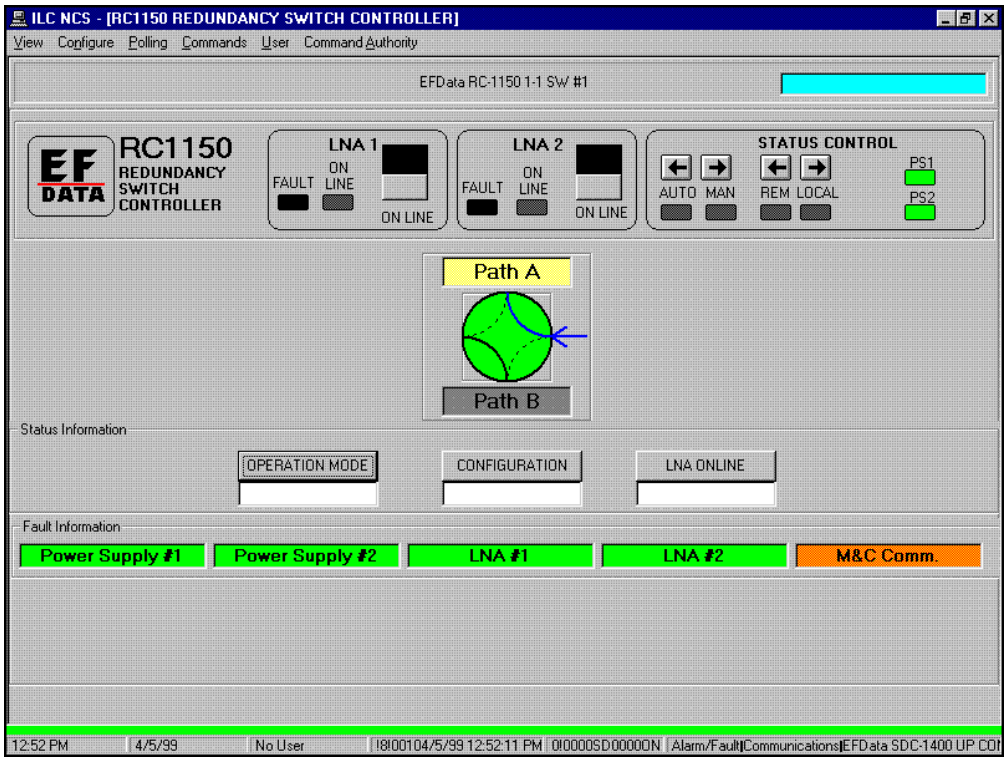


9.5 RC-1150 LNA Controller

The RC-1150 or RC-1250 LNA Controller allows the user to switch between two LNA's.

Note: Typically the LNA controllers are set to RS-232 communication. Jumpers must be set internally to operate RS-485 (2-wire).

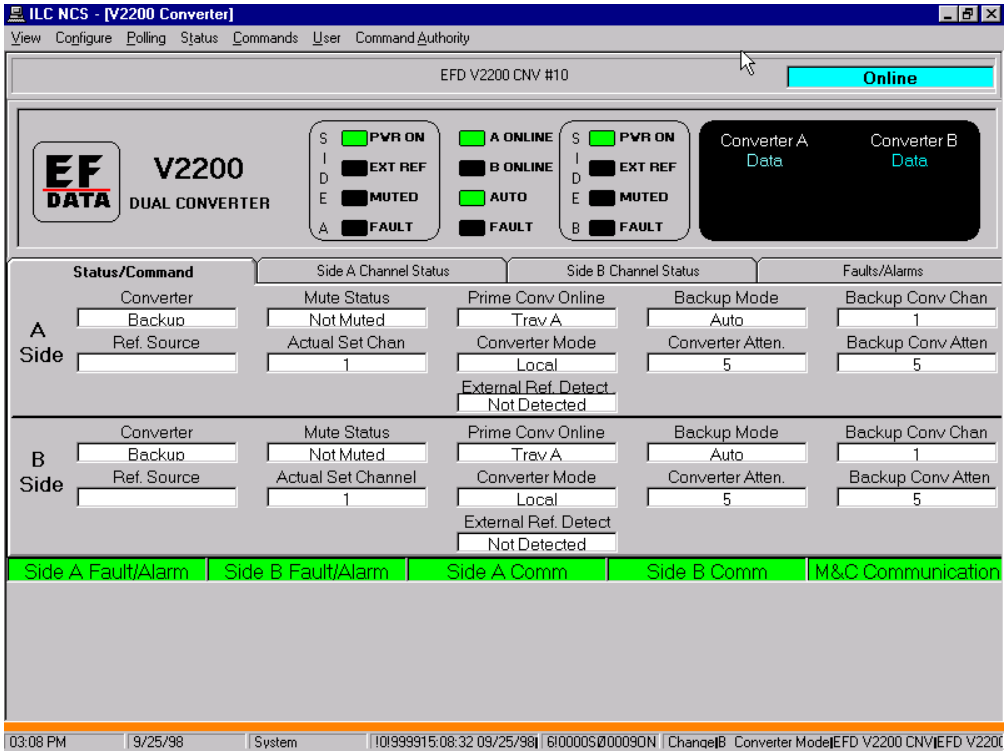
Refer to the appropriate installation and operation manual for operation instructions of the LNA Controller Switch.



8.1 Status/Command Tab

The V2200 DUAL CONVERTER CONTROL Screen displays fully-functionally LED's that represent the status of specific devices. The Status/Command tab displays the current configuration parameters of the A side converter on the top and the B side converter on the bottom. The information reported for the A and B-sides are:

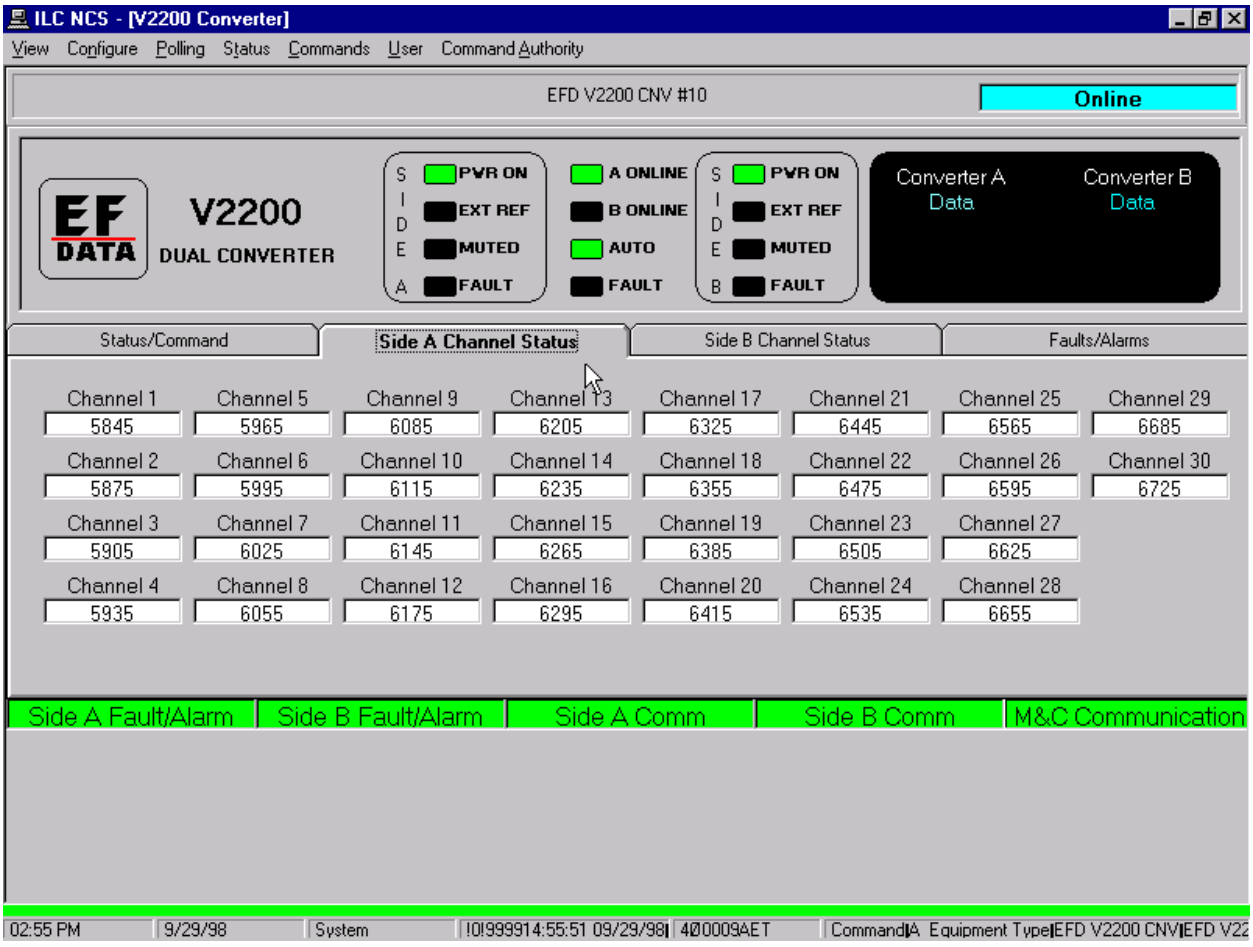
- Prime or Backup Mode
- Mute Status
- Prime Converter Online
- Backup Converter Channel
- Reference Source
- Actual Set Channel
- Converter Mode
- Converter Atten
- Backup Converter Channel
- Backup Converter Atten



8.1.1 Side A or B Status Tab

The Side A or B Channel Status Tab displays the programmed frequency of each channel from 1 to 30. The Fault Status of the converter is reported by the Faults and Alarms along the bottom are:

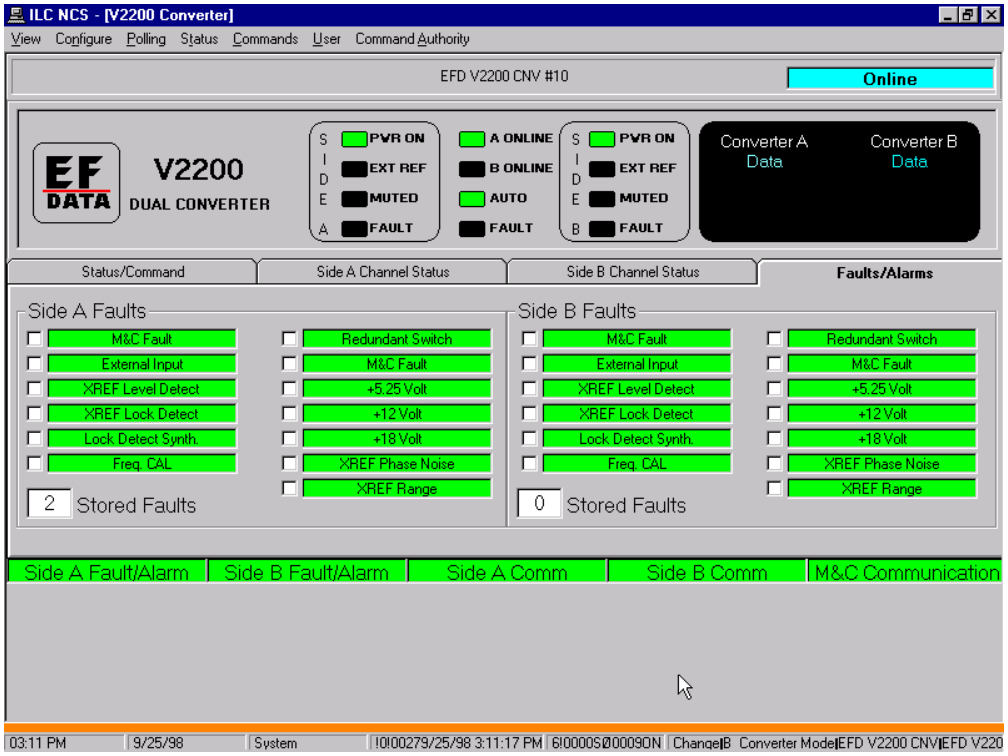
- Green Proper Operation, No Fault
- Red A Fault is reported
- Yellow An Alarm is reported
- Orange A Communication Alarm is reported.



8.2 Alarms/Faults

8.2.1 Faults/Alarms Tab

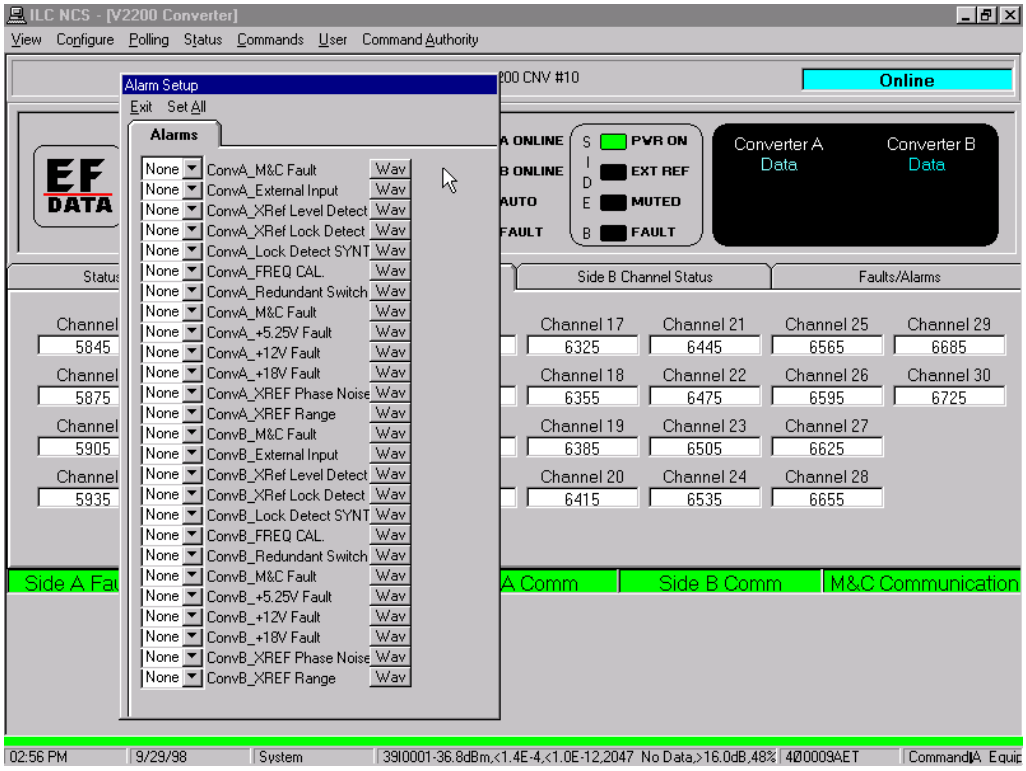
The FAULT/ALARM TAB displays the active and stored faults for Side A and Side B. The user can acknowledge Faults/Alarms, Mask Faults/Alarms, or view Stored Faults from this screen.



Note: If side A or side B looses power a COMM Alarm will be displayed. The LED's and status information on the MiniMAC screen will be invalid until communications is restored. All faults and status information will be reported on the ONLINE side.

8.2.2 Alarm Setup Screen

From the CONFIGURE drop-down menu, select ALARM SETUP to display the Alarm Setup window. All the Faults/Alarms for the converter will be displayed. The user can set each Fault or Alarm individually or Set ALL to Major, Minor, or Neither (None) or attach a wave file to individual faults or Alarms.

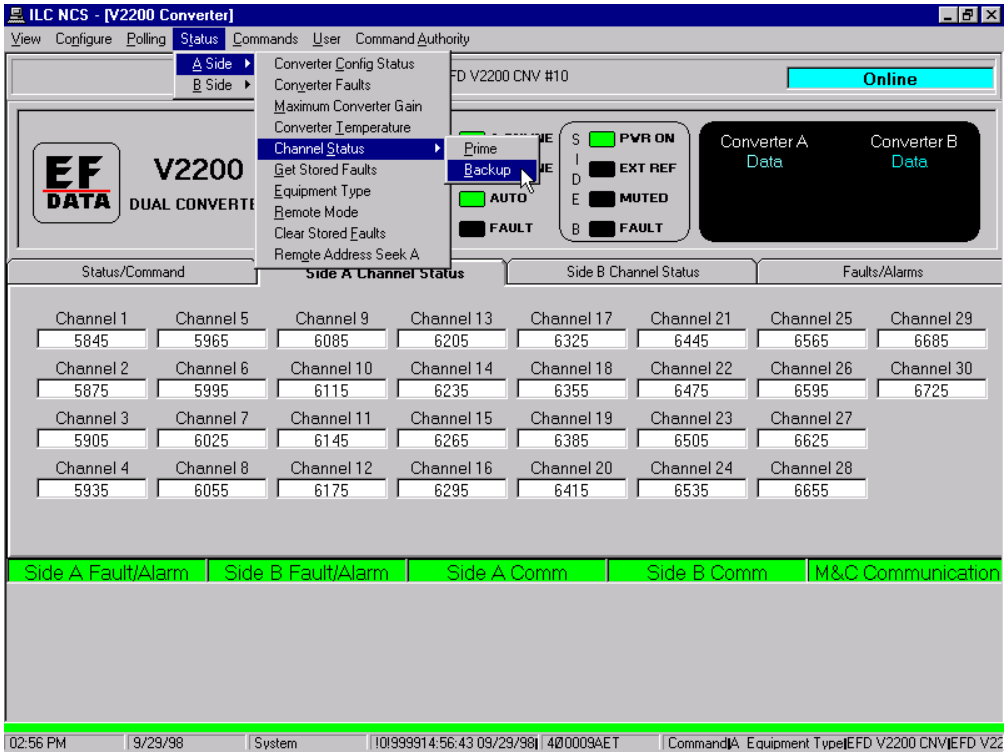


8.3 Status

8.3.1 Status – Channel Status

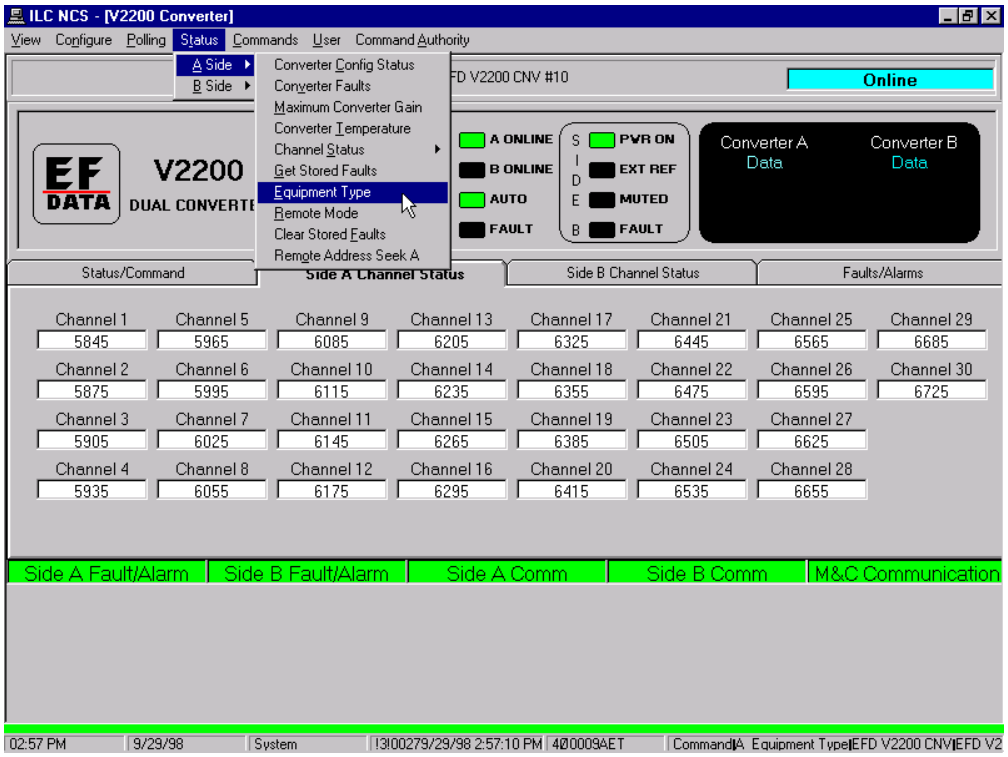
The status information that can be requested from the V2200 are:

- Remote Mode
- Clear Stored Faults
- Remote Address Seek
- Converter Config Status
- Converter Faults
- Max Converter Gain
- Converter Temperature
- Channel Status for Prime and Backup
- Get Stored Faults
- Equipment Type



8.3.2 Status – Equipment Type

To verify communication to the converter, select Equipment Type from Side A or B.



If the MiniMAC communications with the converter, the Command Accepted Message Window will appear with the Device Type, Device label and software version listed in the window. If the MiniMAC does not communicate with the device, the message window will read: NO RESPONSE.

8.3.3 Acknowledging Command Response

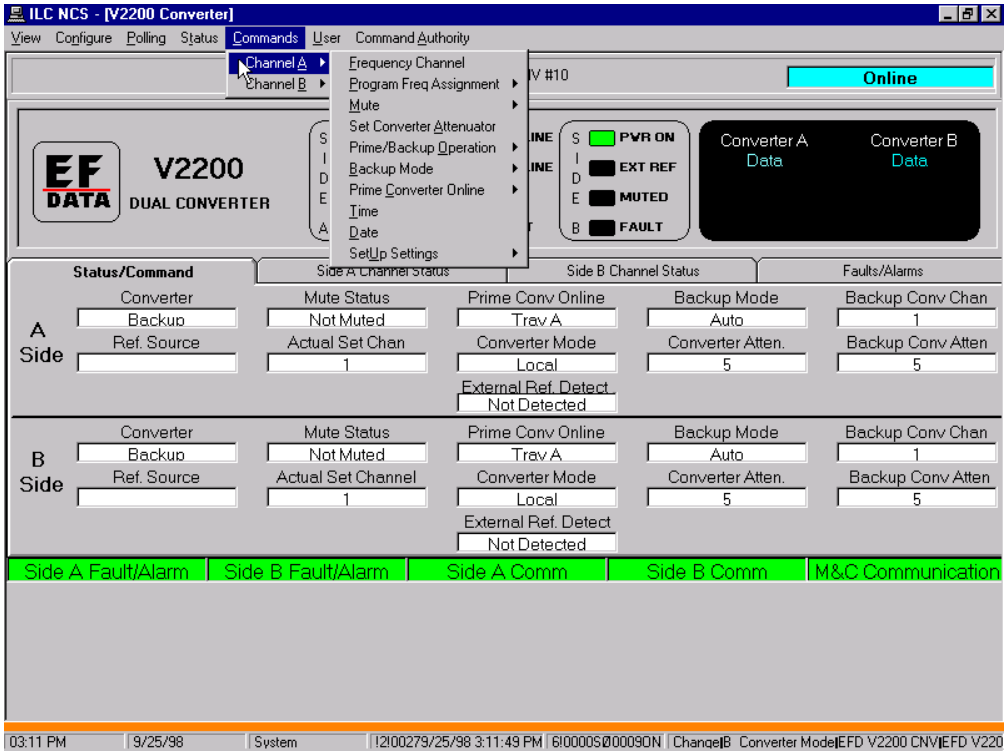
The COMMAND ACCEPTED MESSAGE window will appear with the device name and software version. If the MiniMAC can not communicate, the return message will be NO RESPONSE.

8.4 V2200 Dual Converter Commands

In order to TX commands to the converters the V2200 converter must be in the Remote Mode to put the unit in the remote mode, select Status\A or B Side\Remote Mode.

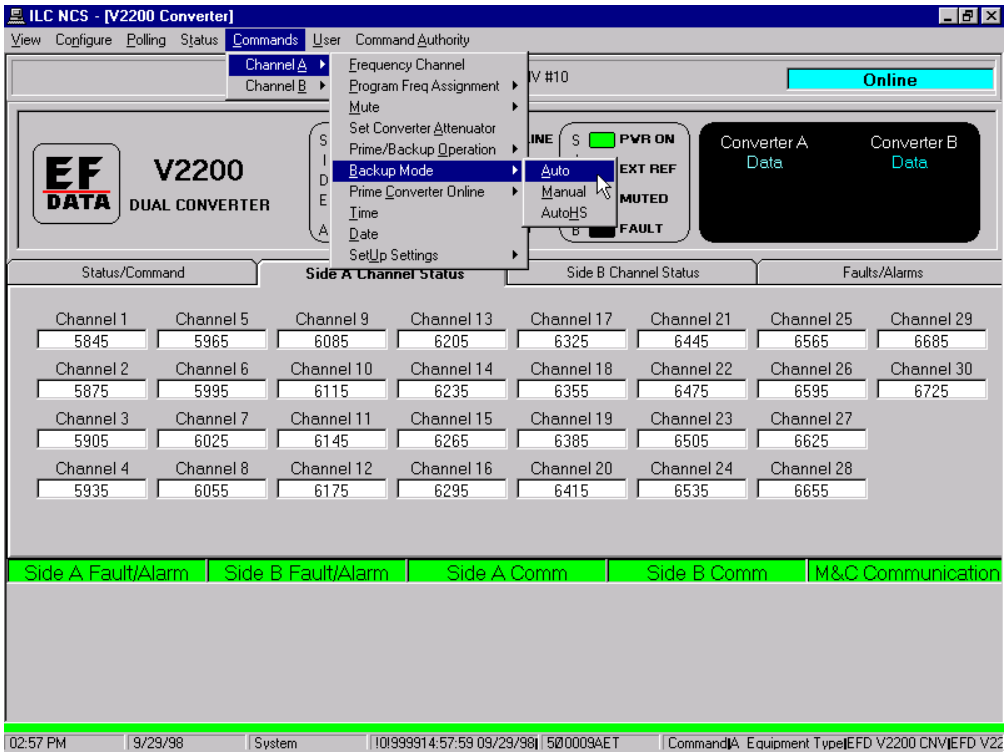
The commands that can be changed are:

- Frequency Channel
- Program Freq Assignment
- Mute
- Set Converter Atten
- Prime/Backup Operation
- Backup Mode
- Prime Converter Online
- Time
- Date
- Setup Settings.



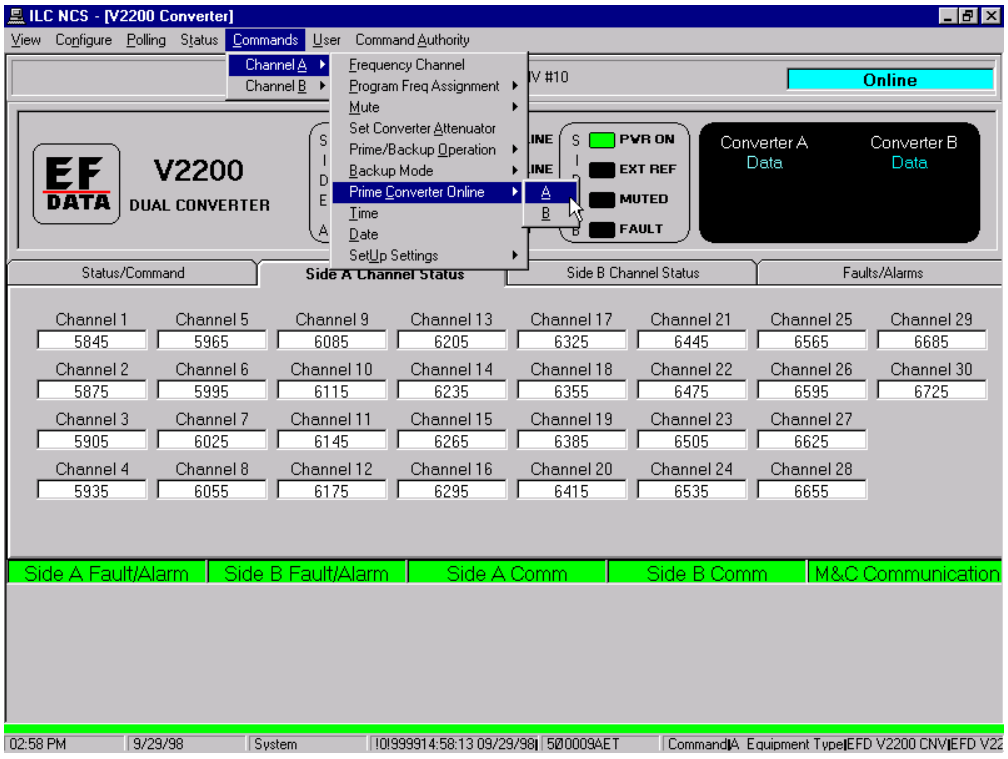
8.4.1 Commands – Backup Mode

To put the converter in the backup mode, the V2200 Dual Converter PRIME/BACKUP OPERATION COMMAND must be set to BACKUP. Once the Backup Operation Mode has been selected, the Backup Mode can be changed. Auto and Auto HOT Stdby are automatic switching setting. The difference is the M&C polling procedure of the V2200. In Auto, the unit will poll the Offline converters for faults. If there are none, the switch will occur. In Auto Hot Stdby, the switch over is immediately. No Polling for faults will occur.



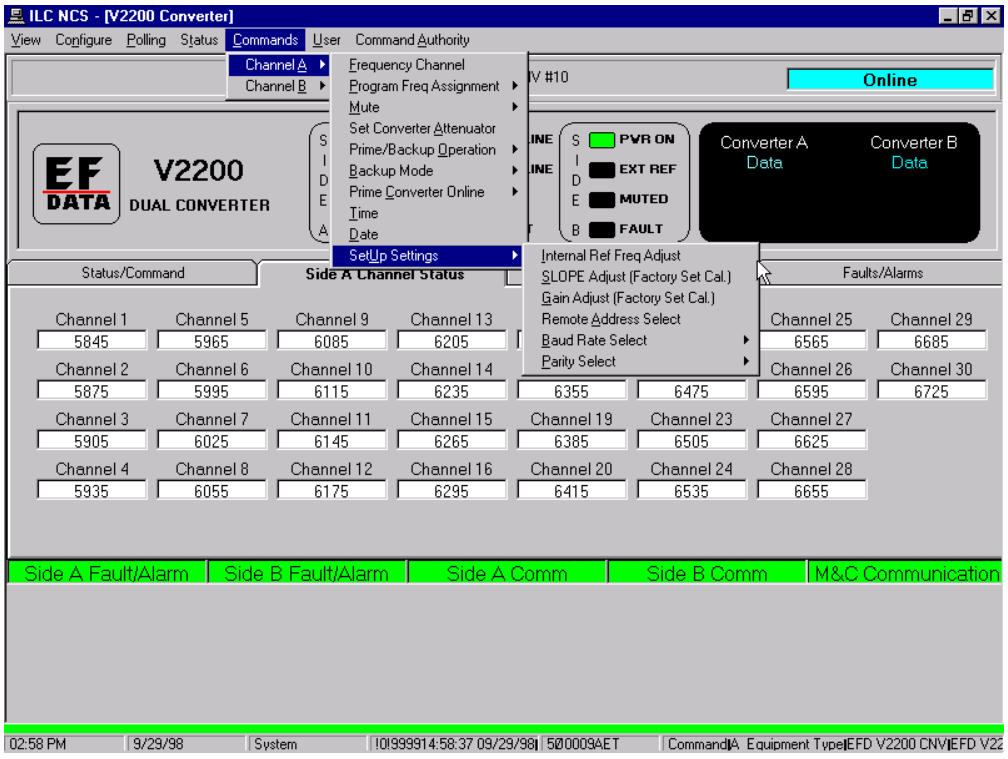
8.4.2 Commands – Prime Converter Online

When Backup Mode equals manual, the user can select PRIME CONVERTERS A or B to be put Online.



8.4.3 Commands – Setup Settings

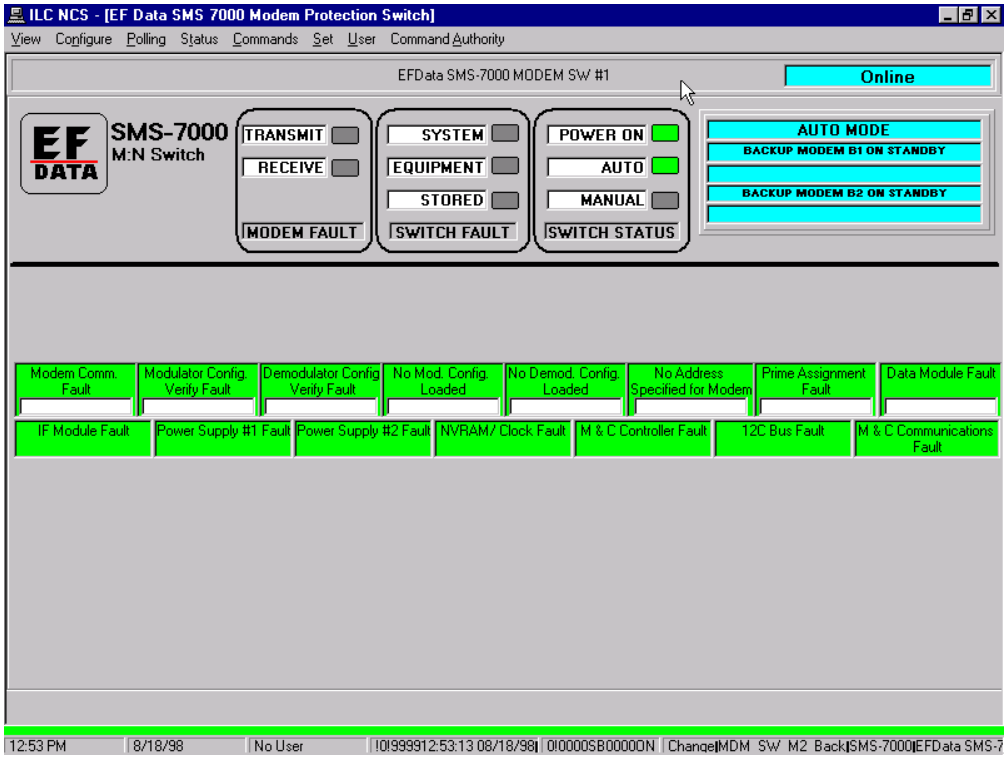
Refer to the Installation and Operation Manual of the V2200 for SETUP SETTINGS parameters and how to use them.



7.1 Switch Control Screen

To display the SWITCH CONTROL Screen, click on the switch device on the MAIN screen or group. The following screen shows an example of the Switch Control Screen for an SMS-7000 switch. All LEDs and indicators on the screen are completely functional.

Note: Switch control screens vary according to the type of modem protection switch installed in the system. This chapter uses the SMS-7000 switch for primary example screens. For detailed information about operating modem protection switches, refer to the appropriate installation and operation manual for the switch.

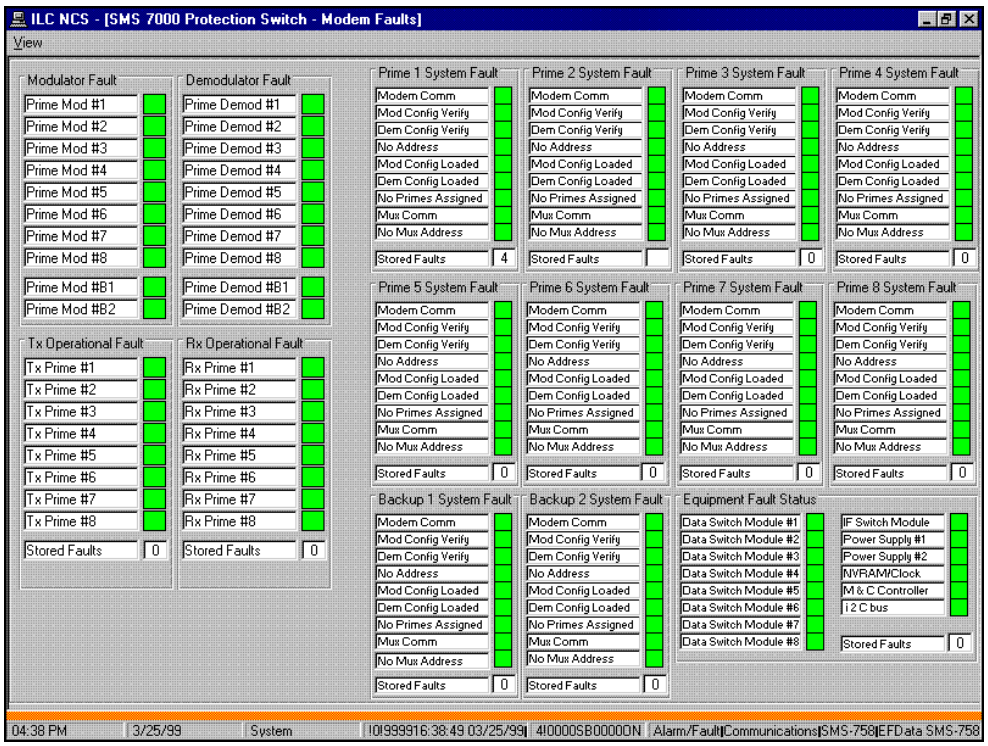


7.1.1 View – Overview

The VIEW drop-down menu allows the user to select: OVERVIEW or MODEM FAULT. The overview selection takes the user to the previous overview screen.

7.1.2 View – Modem Faults

To view the switch faults related to the prime and backup modems, select View, Modem Faults. Stored Faults as well as actual faults can be seen from this screen.



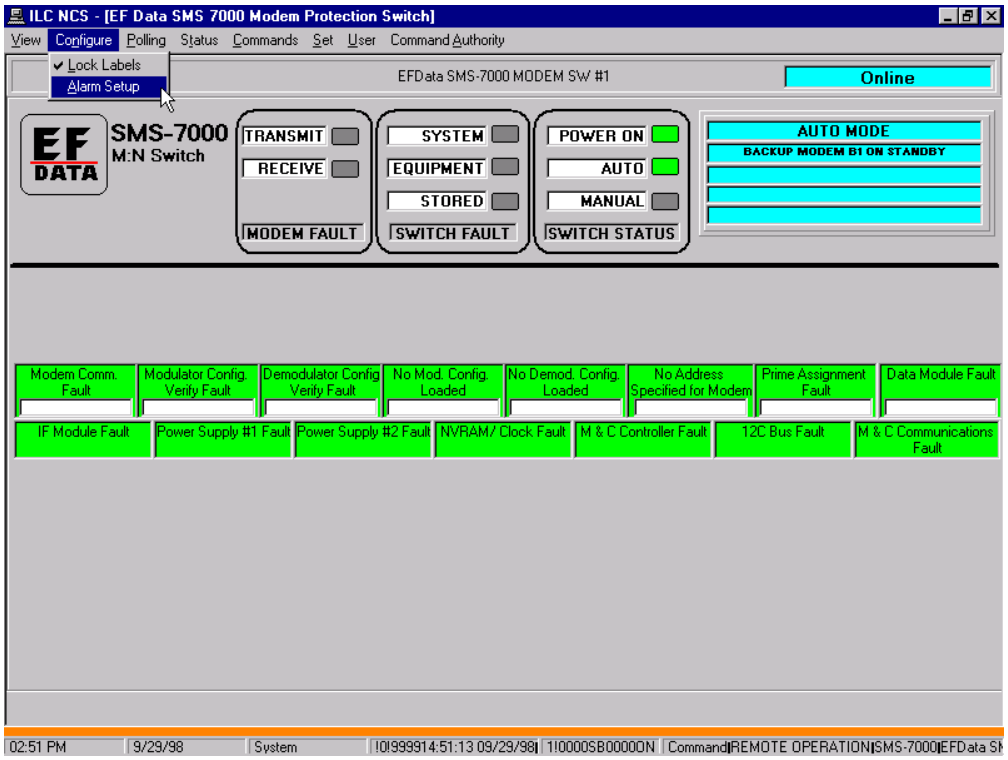
7.2 Configure Menus

7.2.1 Lock Labels

The LOCK LABELS menu functions similar to the SDM-300 menu. The difference is that the SMS-7000 Switch label is located across the top of the screen, just below the drop-down menu.

7.2.2 Configure – Alarm Setup

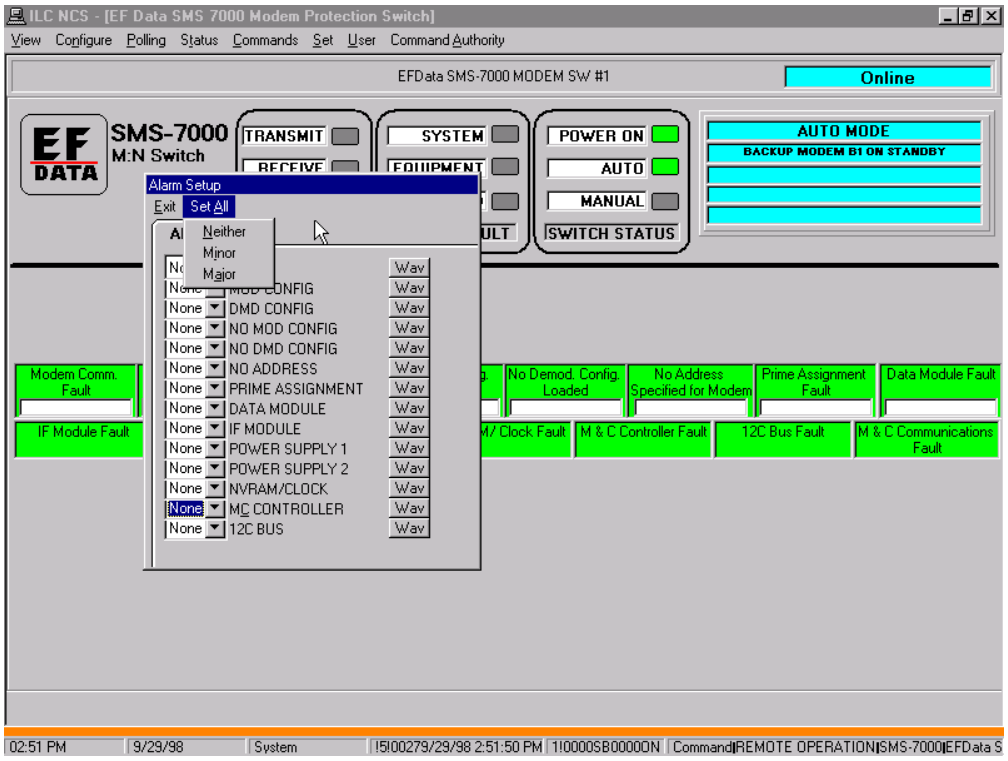
To configure the ALARM SETUP, select CONFIGURE and click on ALARM SETUP.



7.2.3 Alarm Setup – Set All

The ALARM SETUP window will appear with a list of all the SMS–7000 Switch Faults and Alarms. The default alarm setting is NONE. The user can individually change each fault or alarm to Minor, Major , or Neither (None). The user also can set all fault and alarms to Minor, Major, or Neither (None) with the SET ALL menu.

Note: Refer to Appendix B for information on attaching a wave file.

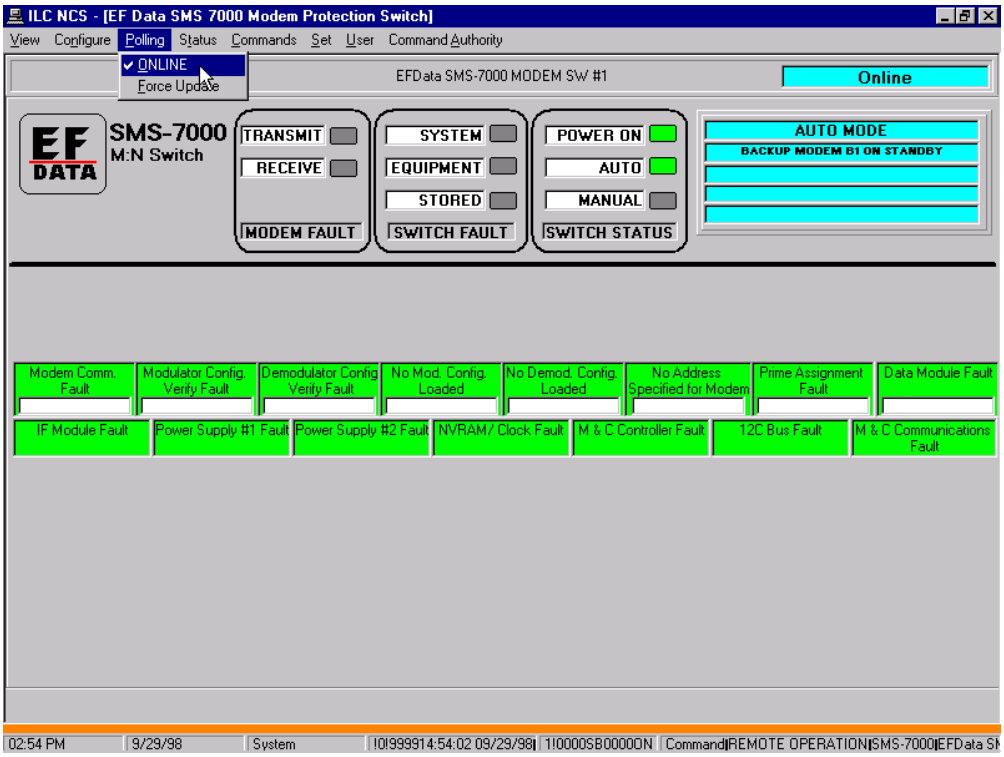


7.3 Polling

The POLLING menus include ONLINE or FORCE.

7.3.1 Polling – Online

The ONLINE command allows the MiniMAC to poll the device when checked. If the user changes this to OFFLINE, the MiniMAC will not poll this device and the M&C communications window in the lower right-hand corner will turn GRAY. In the rack view, the device button also will turn GRAY.



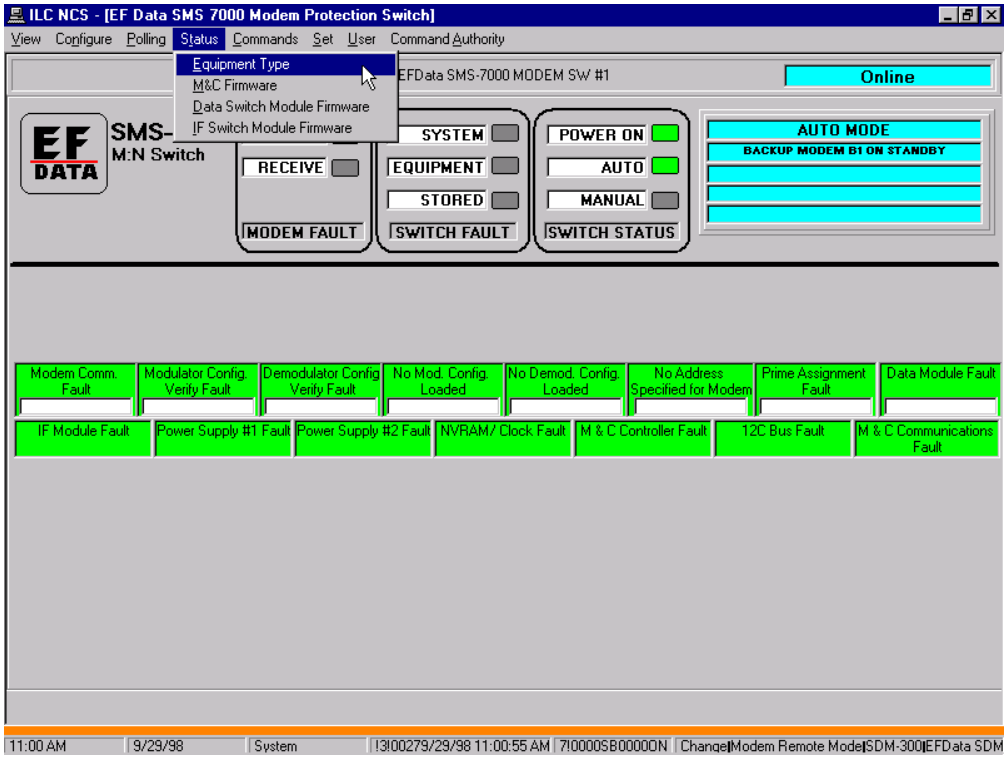
7.3.2 Polling – Force

When a device has had a parameter changed, the MiniMAC screen can take several seconds to update the new information. When FORCE is enabled, the MiniMAC will immediately force the polling sequence of the COMM1 program to poll this device for status. The screen will then update with new information.

7.4 Status - Menu

Allows the user to request various status information about the modem. Status information is not a command and the unit does not have to be in the REMOTE MODE. The status information that can be requested are:

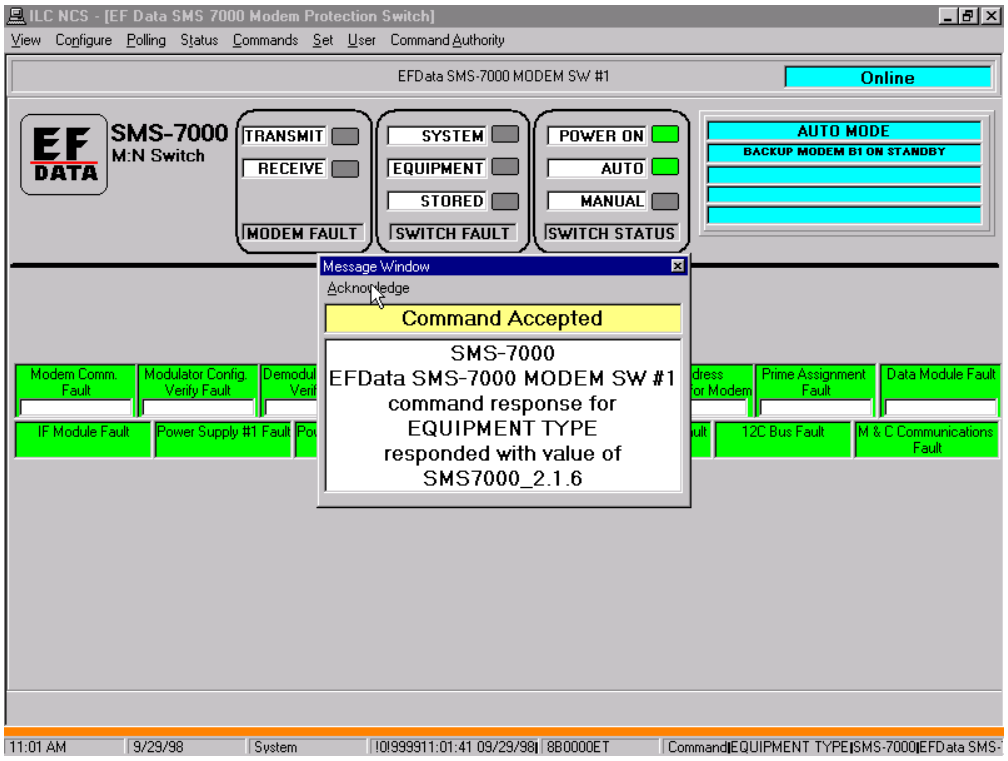
- Equipment Type
- M&C Firmware
- Data Switch Module Firmware
- IF Switch Module Firmware



7.4.1 Status Response Acknowledgment

To poll Equipment Type, select: STATUS\EQUIPMENT TYPE.

This screen will appear with the EQUIPMENT TYPE, DEVICE LABEL, and DEVICE POLLED with software version listed in the window. If the MiniMAC does not communicate with the device the message window will read: NO RESPONSE.

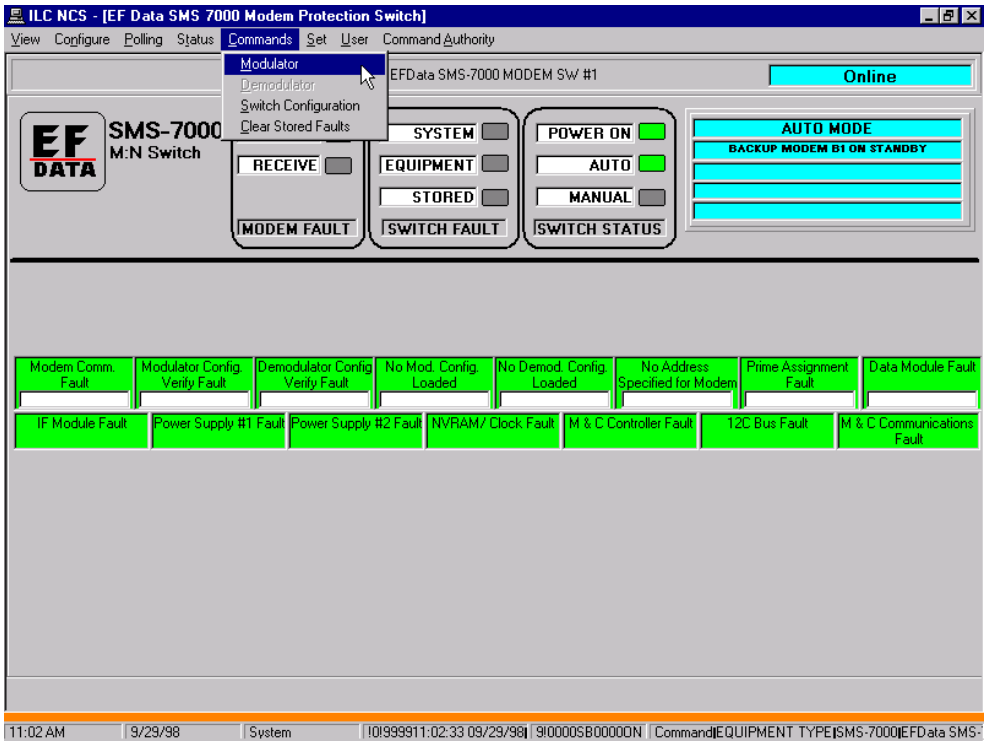


7.5 Commands

The COMMANDS menu allows the user to configure switch commands from the MiniMAC. The switch must be in the REMOTE MODE before commands can be transmitted to the switch. This is accomplished from the SET drop-down menu. The commands that can be configured are:

- Modulator
- Demodulator
- Switch Configuration
- Clear Stored Faults

7.5.1 Commands – Modulator

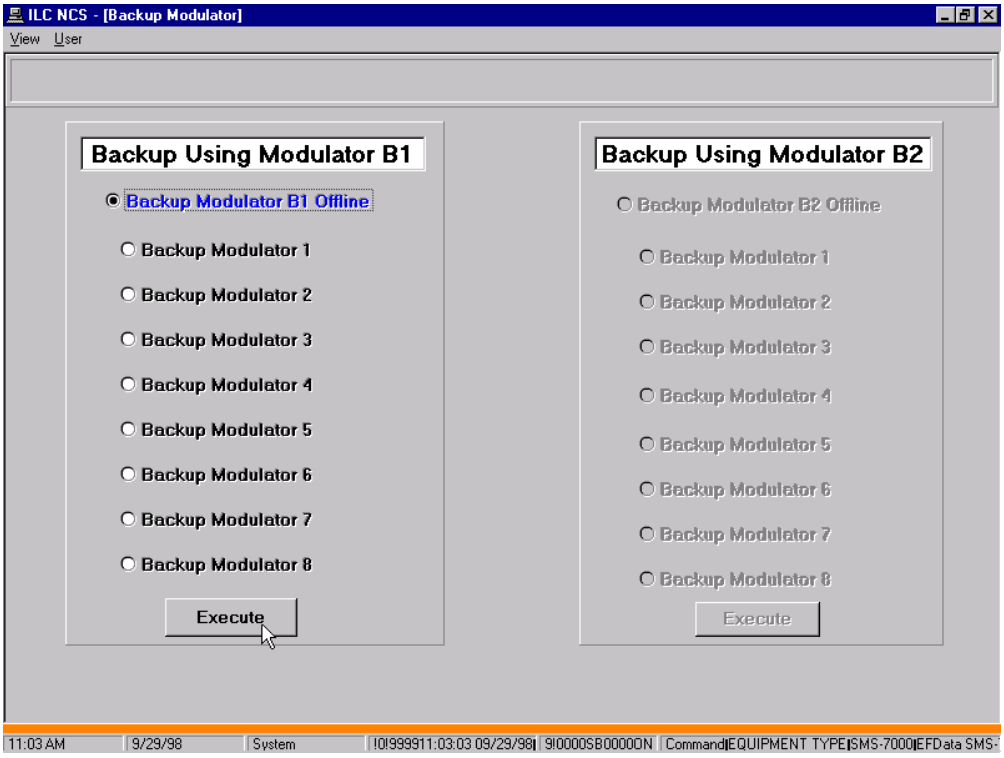


7.5.1.1 Commands – Backup Modulator

Use the BACKUP MODULATOR screen to switch a backup modem into operation when a primary modem cannot function, and to switch a backup modem offline (out of immediate use) when it is no longer needed.

Note: The switch must be set to the manual mode before the MiniMAC allowing the function to be completed. To accomplish this task, go to the MAIN SWITCH menu, select Set\Mode and click on Manual.

Select Commands, Modulator on the Switch Control screen to display the Backup Modem screens.



7.5.2 Commands – Demodulator

The Demodulator Command allows the user to back up the demodulator using the DEMOD B1 or DEMOD B2.

Note: When the switch is in the DEPENDANT MODE, the demodulator command is not available from the drop-down menu. Selecting Backup Modulator 1 or 2 will switch the primary modem.

To switch a modulator/demodulator to Backup, proceed as follows:

Command	Response
Select	MODULATOR or DEMODULATOR B1 or B2
Select	BACKUP MODULATOR or DEMODULATOR 1 - 8 Online
Select	EXECUTE
Select	VIEW, Return to Switch

To switch the backup modem Offline, proceed as follows:

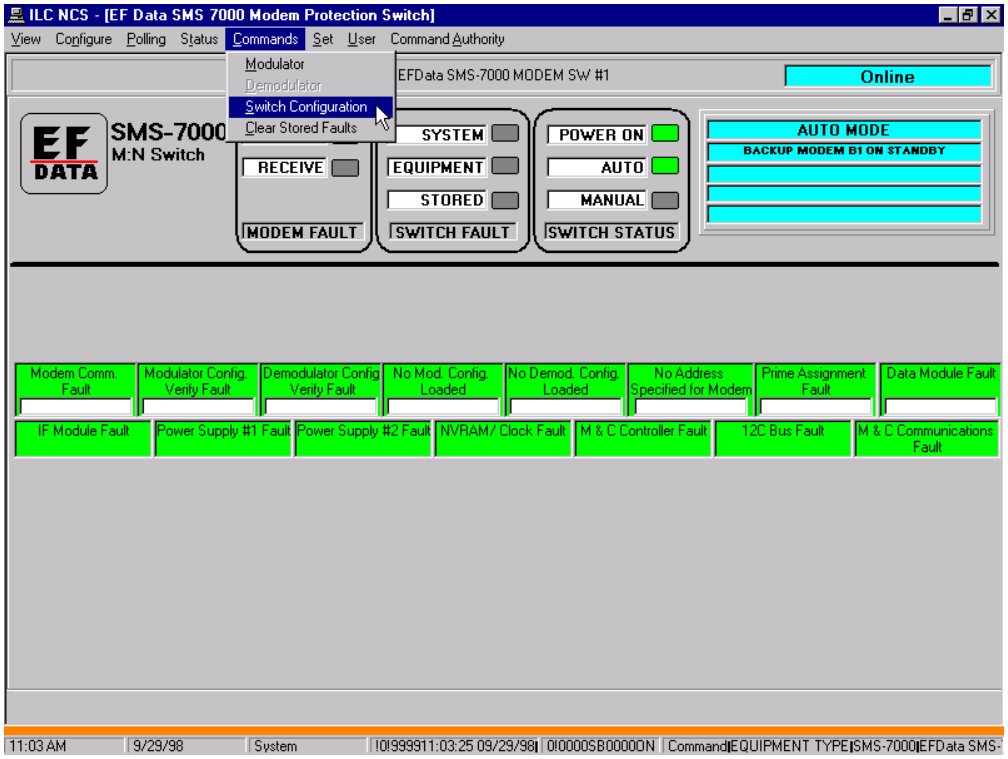
Command	Response
Select	MODULATOR or DEMODULATOR B1 or B2
Select	BACKUP MODULATOR or DEMODULATOR B1 OR B2 OFFLINE.
Select	EXECUTE
Select	VIEW, Return to Switch

Note: Dependent switching is executed by modulator switch functions only. Demodulator functions are not accessible when dependent switching is in effect.

7.5.3 Commands – Switch Configuration

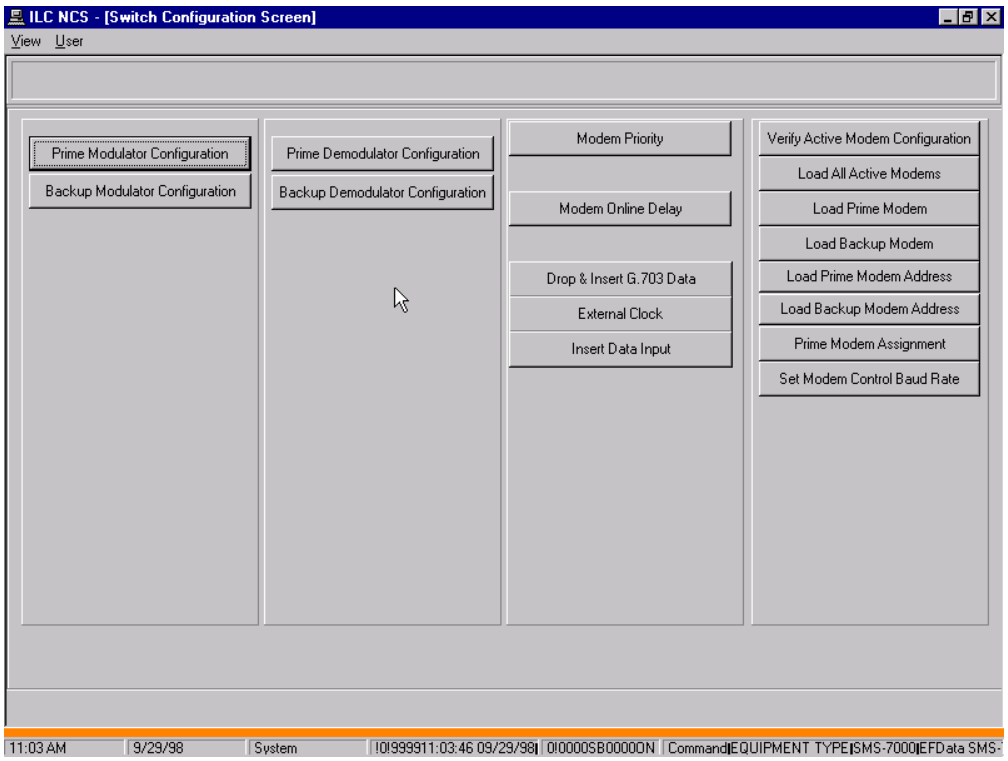
Use the SWITCH CONFIGURATION screen to set or change the modem protection switch configuration parameters, to verify polled modem configuration parameters against those stored in the switch, and to load changed configuration parameters into the modems.

Select Commands, Switch Configuration on the Switch Control screen to display the Switch Configuration screen.



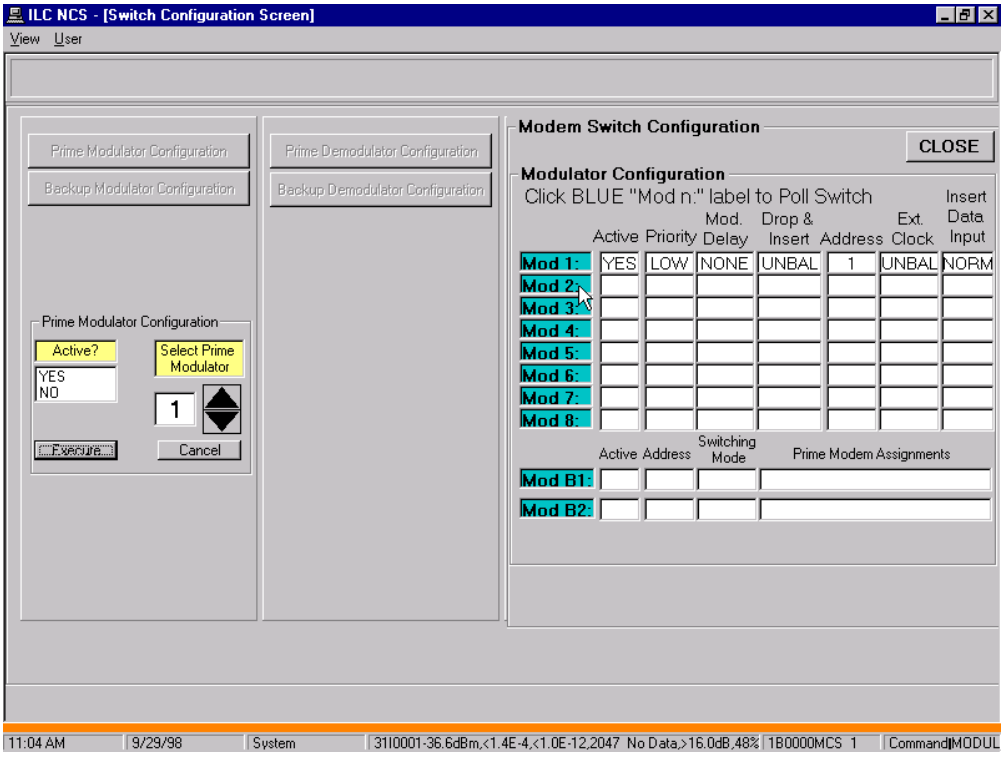
7.5.3.1 Switch Configuration Screen

To access the desired switch configuration parameters, click on the appropriate button.

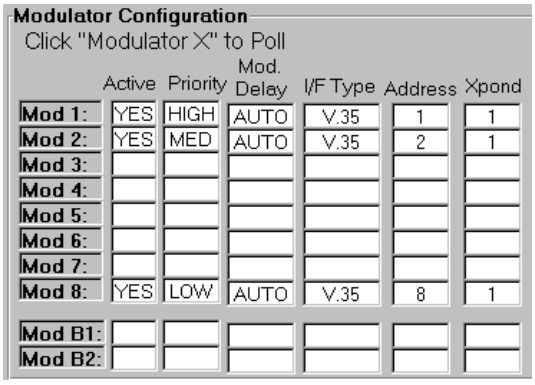


7.5.3.2 Prime Modulator Configuration

On the PRIME MODULATOR CONFIGURATION screen, status parameter fields appear on the right and configuration parameters appear on the left.

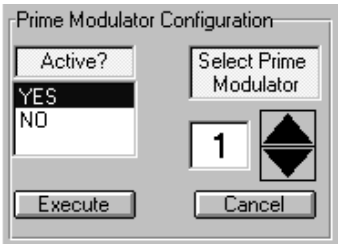


To check the status of one or more modulators:



1. Click on each MOD X field (where x is the number of the modulator).
2. The status appears as the selected modulator(s) are polled.

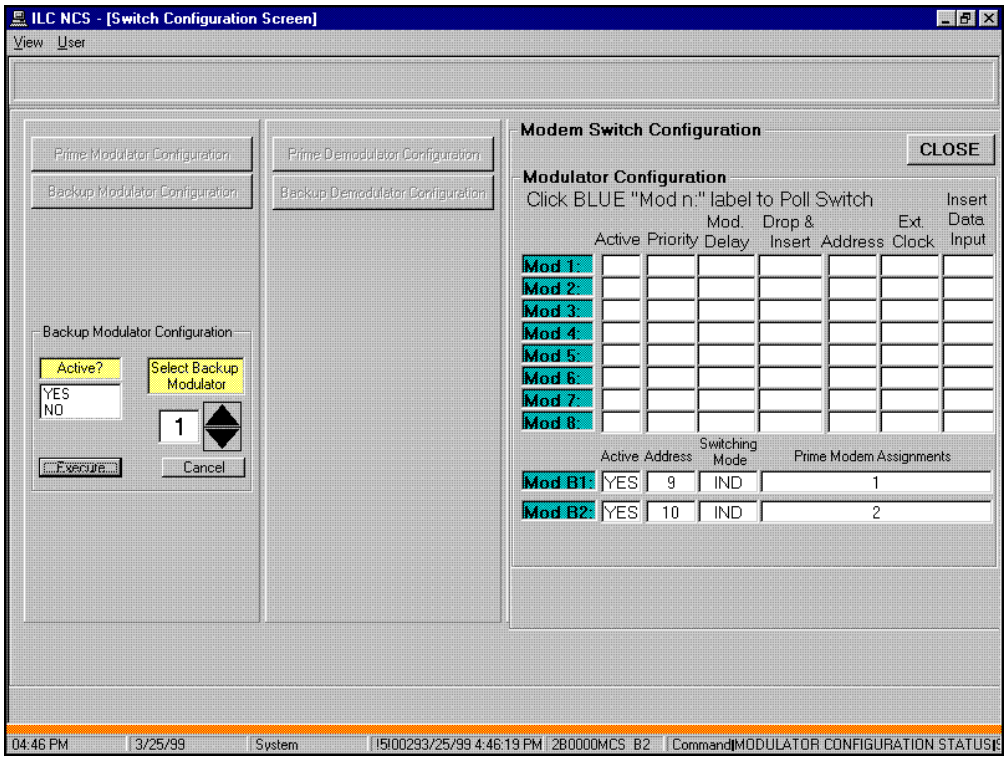
To change the active status of a modulator:



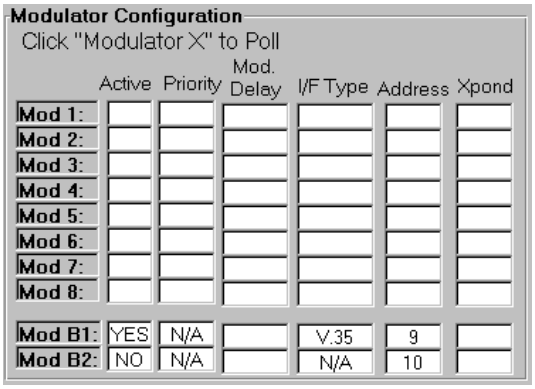
Command	Response
Select	PRIME MODULATOR
Type	Prime Modulator Number or use the increase/decrease arrows.
Click on	YES in the ACTIVE Field or NO.
Click on	EXECUTE or CANCEL to abort the procedure

7.5.3.2.1 Back up Modulator Configuration

On the BACKUP MODULATOR CONFIGURATION screen, status parameter fields appear on the left and status display fields appear on the right.

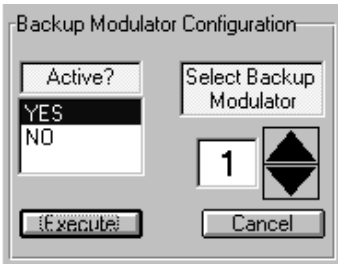


To check the status of one or more backup modulators:



1. Choose each MOD BX field (where x is the number of the modulator).
2. The status appears as the selected modulator(s) is/are polled.

To change the active status of a backup modulator:



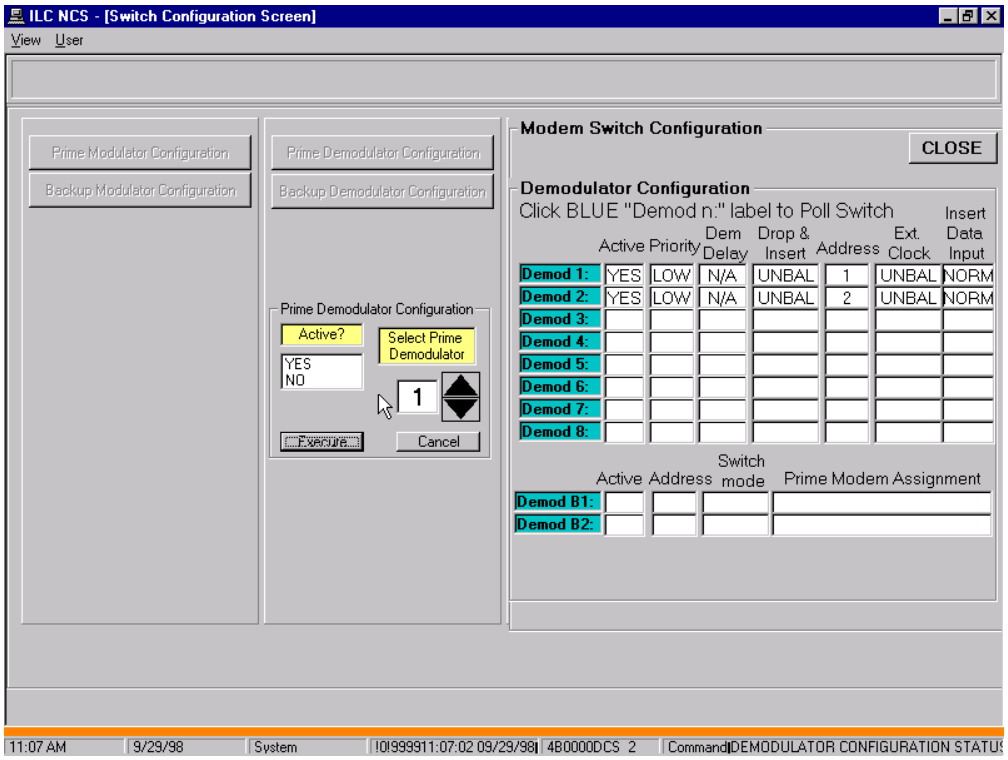
1. In the SELECT BACKUP MODULATOR field, type the number or use the increase/decrease arrows to select the backup modulator number.

2. In the Active? field, choose “YES” to activate, or “NO” to deactivate the modulator.

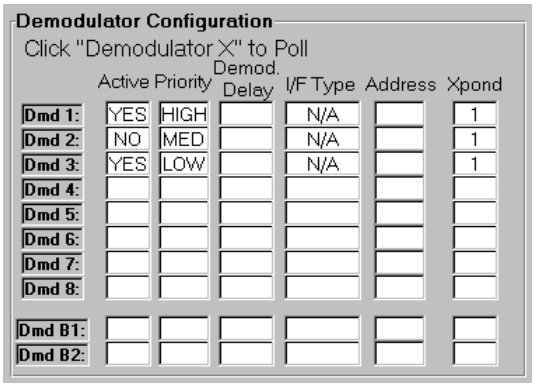
3. Choose [EXECUTE] to send the status change, or [CANCEL] to abandon the change.

7.5.3.3 Prime Demodulator Configuration

On the PRIME DEMODULATOR CONFIGURATION screen, status parameter fields appear on the right and configuration parameters appear on the left.

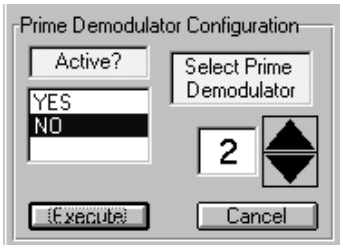


To check the status of one or more demodulators:



1. Choose each DMD X field (where x is the number of the demodulator).
2. The status appears as the selected demodulator(s) are polled.

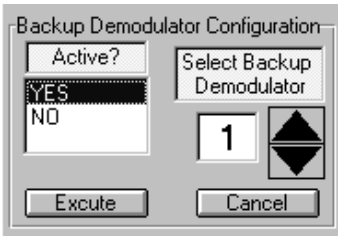
To change the active status of a demodulator:



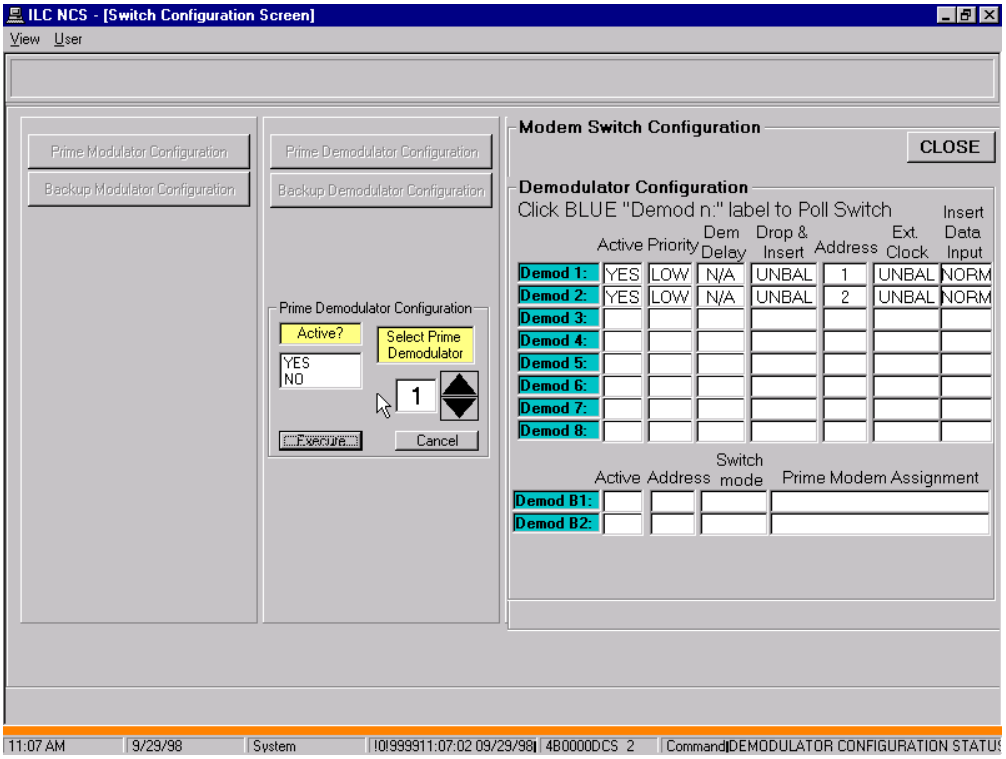
Command	Response
Select	PRIME DEMODULATOR
Type	Prime Demodulator Number or use the increase/decrease arrows (1-8).
Click on	YES in the ACTIVE Field or NO.
Click on	EXECUTE or CANCEL to abort the procedure

7.5.3.4 Backup Demodulator Configuration

To change the active status of a backup demodulator:

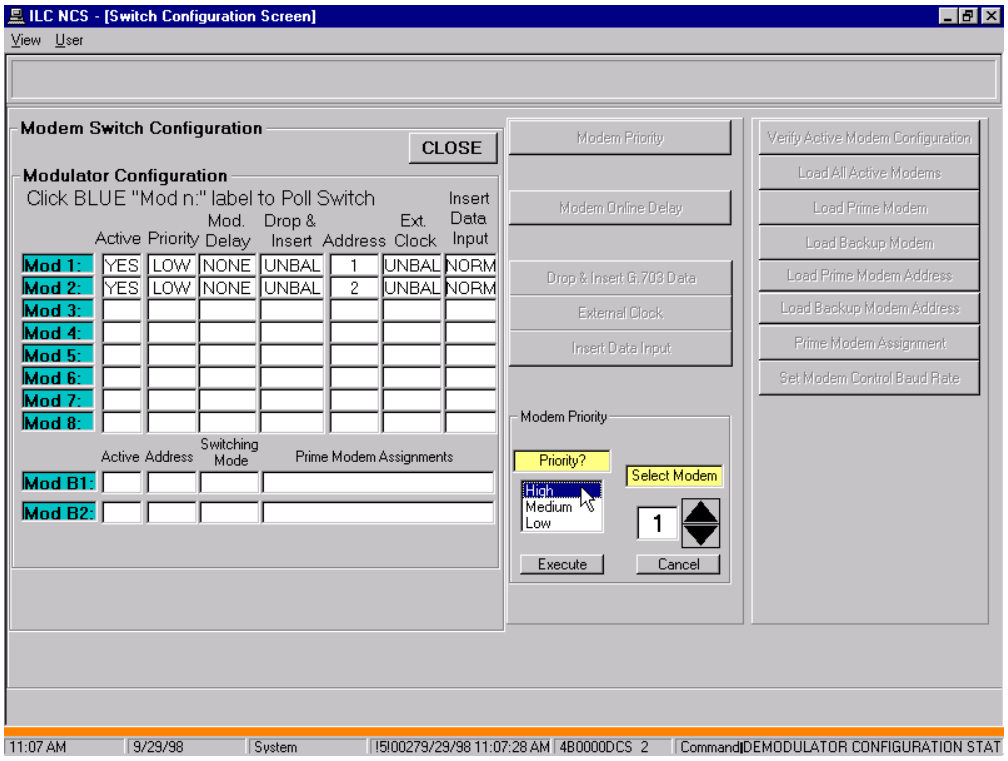


Command	Response
Select	BACKUP DEMODULATOR
Type	Prime Demodulator Number or use the increase/decrease arrows (1 or 2).
Click on	YES in the ACTIVE Field or NO.
Click on	EXECUTE or CANCEL to abort the procedure



7.5.3.5 Modem Priority

The MODEM PRIORITY screen will display the modem status information in the left and the configuration parameters on the right.



To check the Priority of one or more modems:

1. Choose each MOD X field (where x is the number of the modem).
2. The status appears as the selected modem(s) are polled.

To change the Priority of a modem:

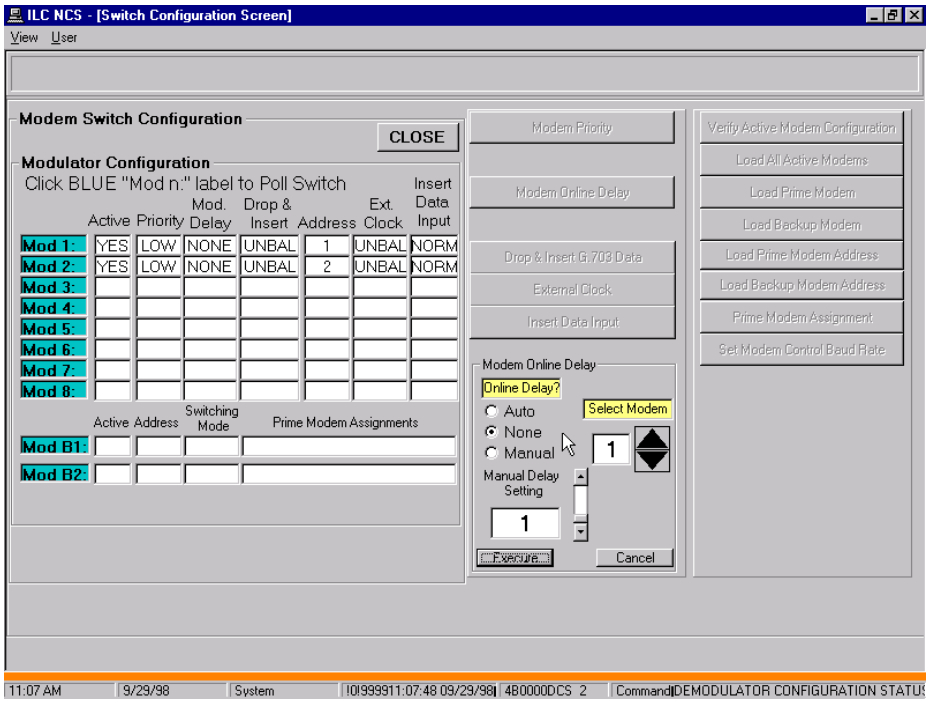
1. In the SELECT MODEM field, type the number or use the increase/decrease arrows to select the modem number.

2. In the Priority? field, choose “High,” “Medium,” or “Low.”

3. Choose [EXECUTE] to send the change, or [CANCEL] to abandon the change.

7.5.3.6 Modem Online Delay

On the MODEM ONLINE DELAY screen, the user can change the online delay of the prime modem.



To check the Online Delay Status of one or more modems:

1. Choose each MOD X field (where x is the number of the modem).
2. The status appears as the selected modem(s) is/are polled.

To change the Online Delay of a modem:

1. In the SELECT MODEM field, type the number or use the increase/decrease arrows to select the modem number.

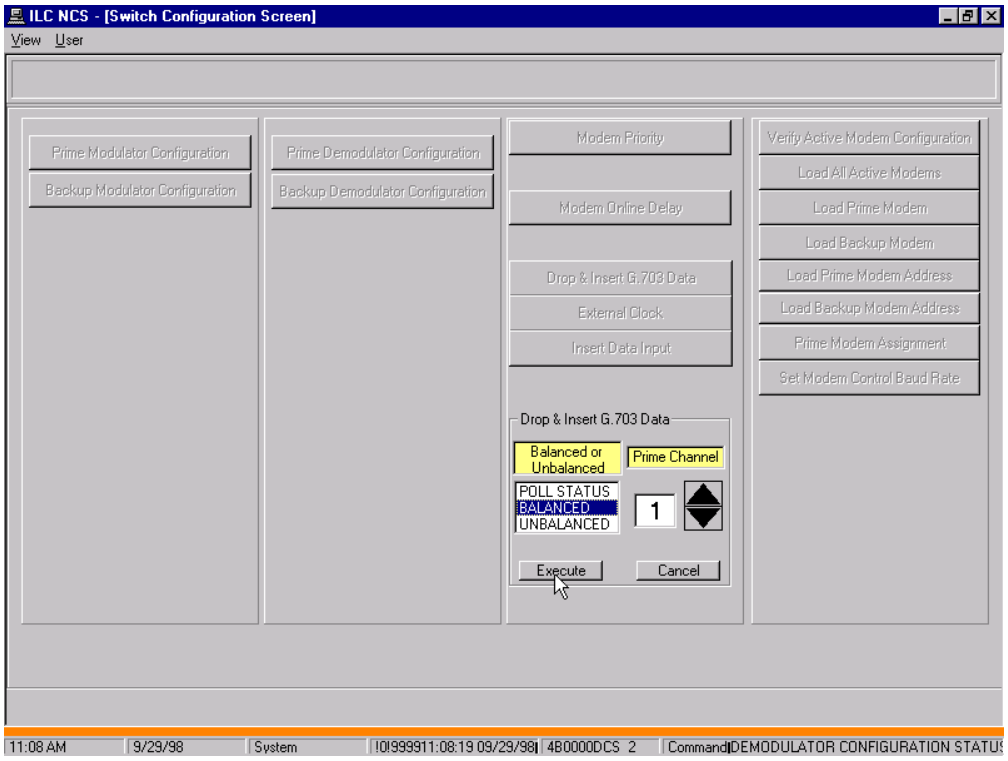
2. Select a delay type of “Auto,” “None,” or “Manual.”

3. If the delay type is “Manual,” set the length of the delay. Highlight the value in the MANUAL DELAY SETTING field, and use the increase/decrease arrows to change the value. Valid settings range from 1 through 127 seconds.

4. Choose [EXECUTE] to send the change, or [CANCEL] to abandon the change.

7.5.3.7 D&I G.703 Data

If the modems in the switch system are configured for D&I or G.703 operation, the D&I G.703 data screen allows the user to select BALANCE or UNBALANCED.



To change the D&I data:

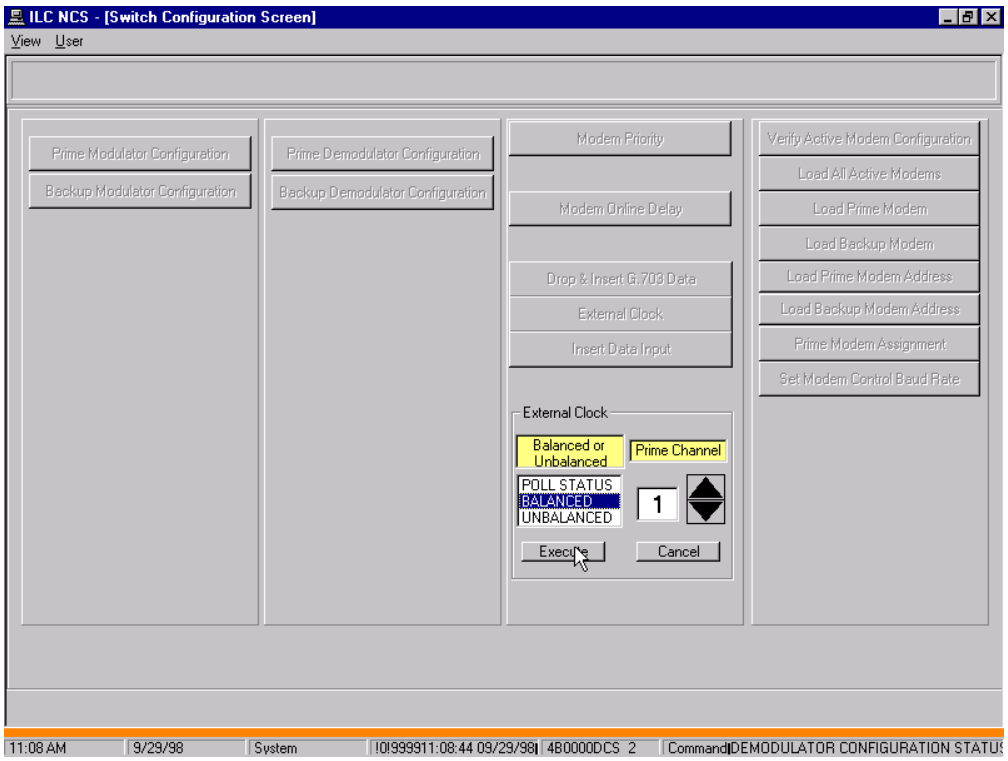
1. Select the Prime Channel by typing the number or use the increase/decrease arrows to select the modem number.

2. Select Poll Status, Balance or Unbalanced.

3. Choose Execute to send the change.

7.5.3.8 External Clock

On the EXTERNAL CLOCK screen, the user can select BALANCE or UNBALANCED.



To change the External Clock data:

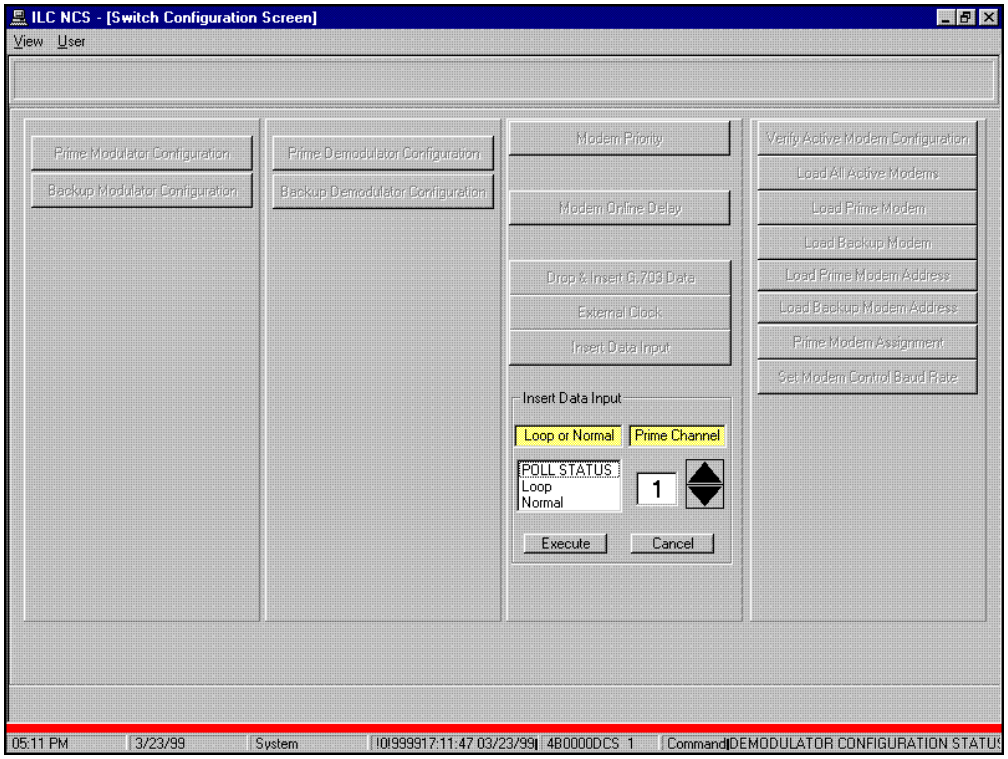
1. Select the Prime Channel by typing the number or use the increase/decrease arrows to select the modem number.

2. Select Poll Status, Balance or Unbalanced.

3. Choose Execute to send the change.

7.5.3.9 Insert Data Input

On the INSERT DATA INPUT screen the user can select LOOP or NORMAL. This function is only used when the Modem is in the D&I Mode of operation.



To change the Insert Data input data:

1. Select the Prime Channel by typing the number or use the increase/decrease arrows to select the modem number.

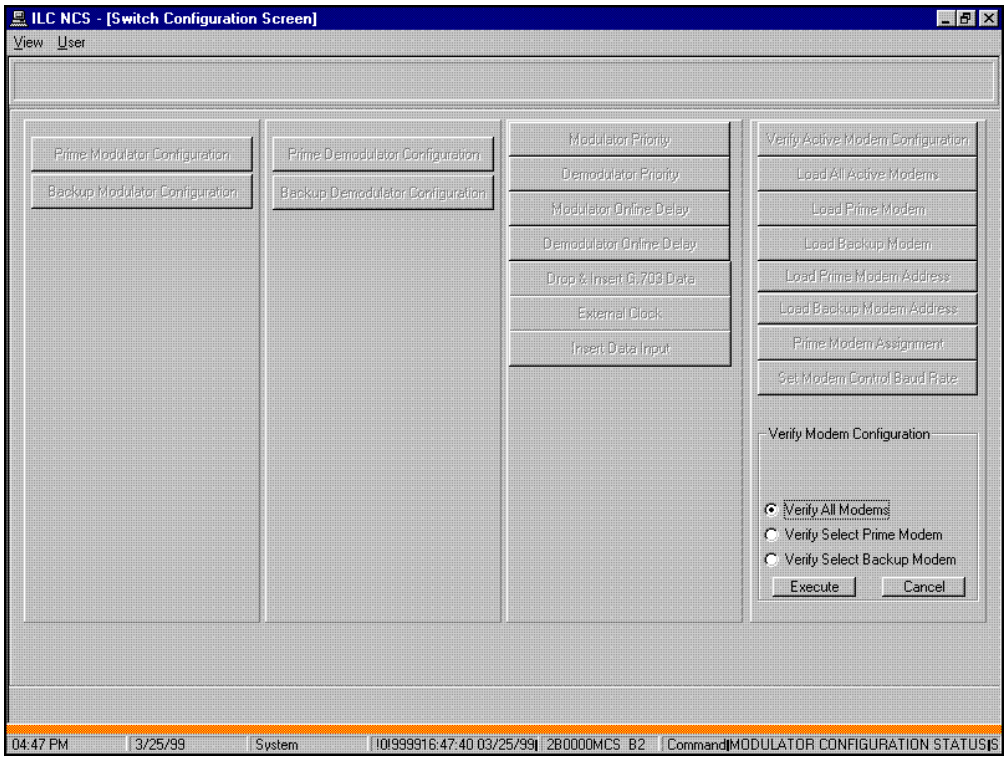
2. Select Poll Status, Loop, or Normal.

3. Choose Execute to send the change.

7.5.4 System Configuration

7.5.4.1 Verify Active Modem Configuration

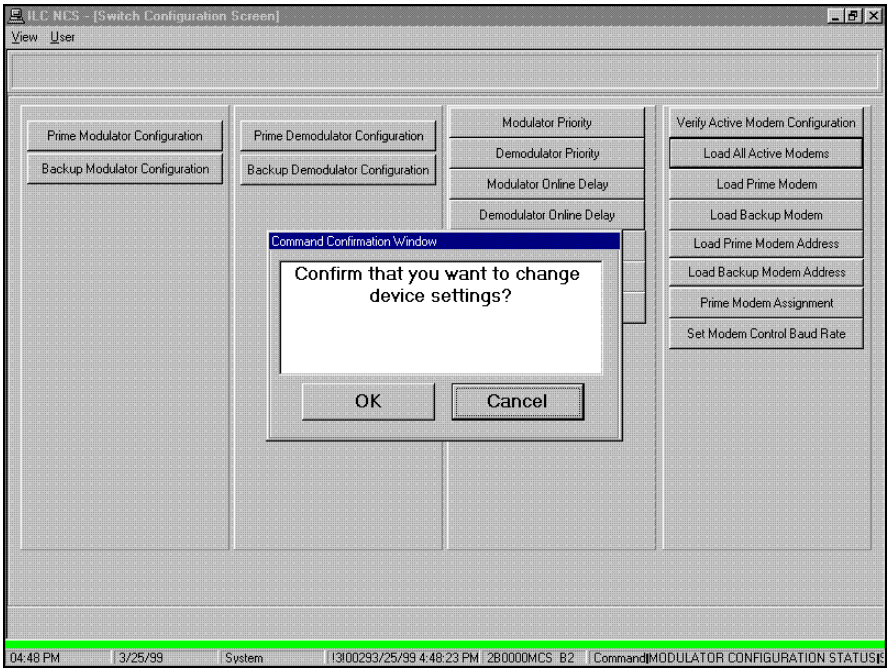
The VERIFY ACTIVE MODEM CONFIGURATION button allows the user to have the switch verify all active modem configuration parameters are equal to those already stored in the switch.



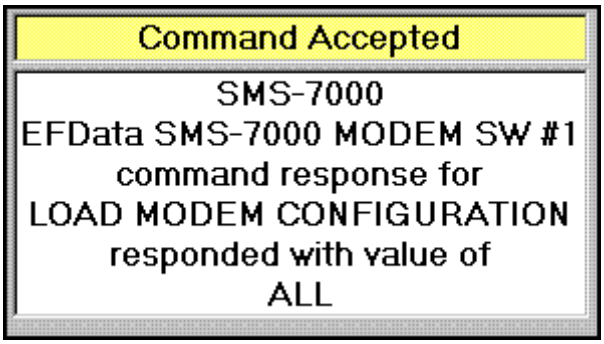
7.5.4.2 Load All Active Modems

To load all active modem configurations:

1. On the Switch Configuration screen, choose [LOAD ALL ACTIVE MODEMS]. MiniMAC polls all active modems.

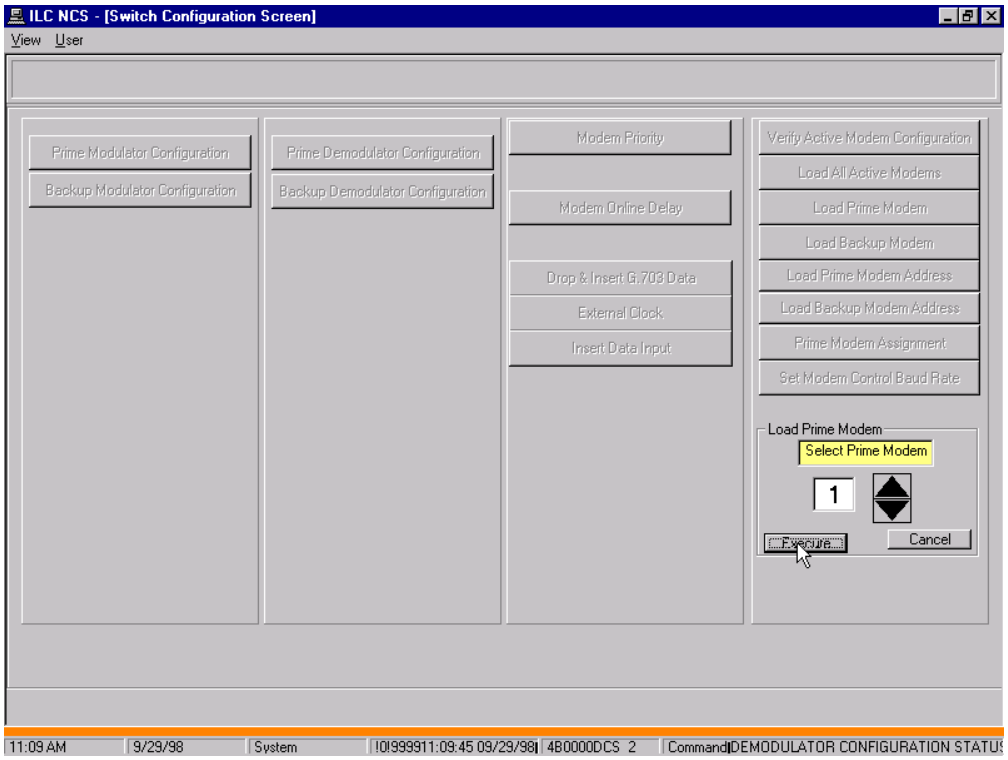


2. After the command has been transmitted, the command Accepted Message window will appear.



7.5.4.3 Load Prime/Backup Modem

Click on the LOAD PRIME MODEM OR LOAD BU-MODEM button.



To load a prime/backup modem with configuration changes:

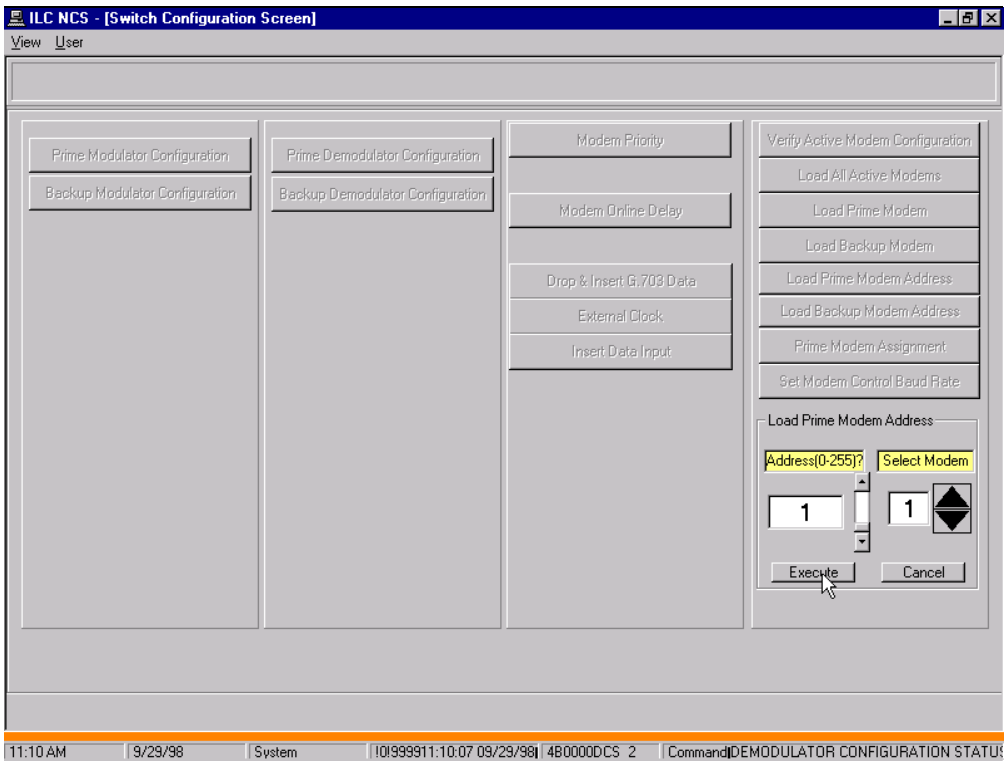
1. Highlight the number in the LOAD PRIME/BACKUP MODEM field, and use the increase/decrease arrows to select the appropriate modem number.

2. Choose [EXECUTE] to send the command, or [CANCEL] to abandon the change. MiniMAC sends new configuration information from selected modem to switch memory.

3. After the command has been transmitted, the command Accepted Message window will appear.

7.5.4.4 Load Prime Modem Address

Click on the LOAD PRIME MODEM ADDRESS button. The Load Prime Modem Address window will appear on the right.



To load a prime modem with an address change:

1. Highlight the number in the SELECT MODEM field, and use the increase/decrease arrows to select the appropriate modem number (or type the number).

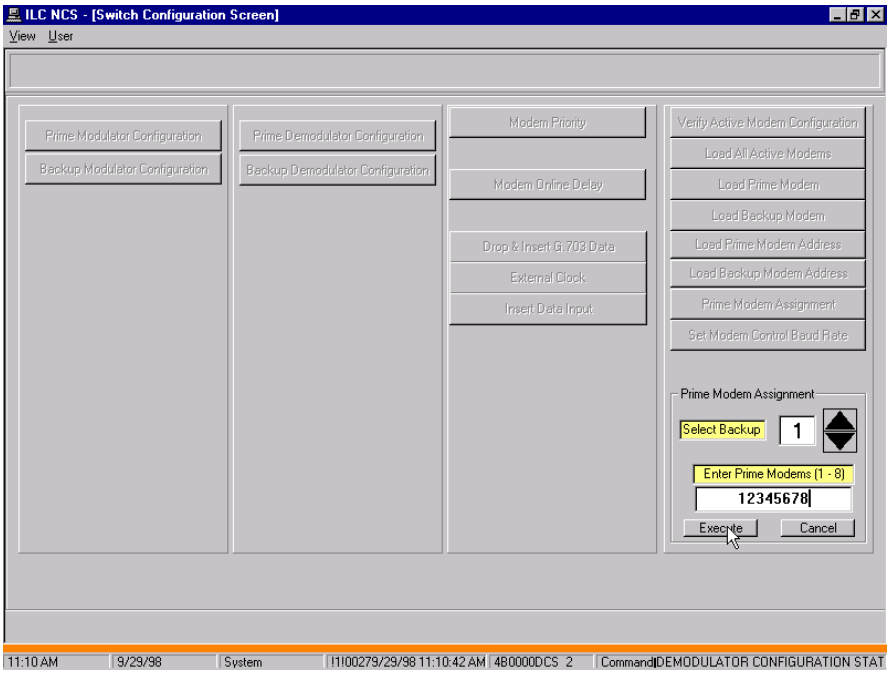
Note: Address 0 is a global address and is reserved.

2. Highlight the number in the ADDRESS (1-255)? field, and use the increase/decrease arrows to select the appropriate address (or type the number).

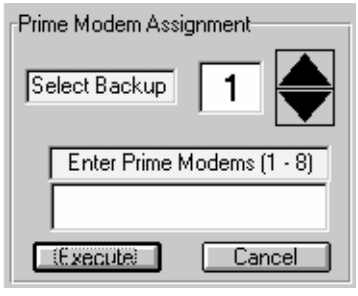
3. Choose [EXECUTE] to send the command, or [CANCEL] to abandon the change.

7.5.4.5 Prime Modem Assignment

Click on the PRIME MODE ASSIGNMENT button, and the Prime Modem Assignment window will appear on the right.



To change the Prime Modem Assignment parameters:



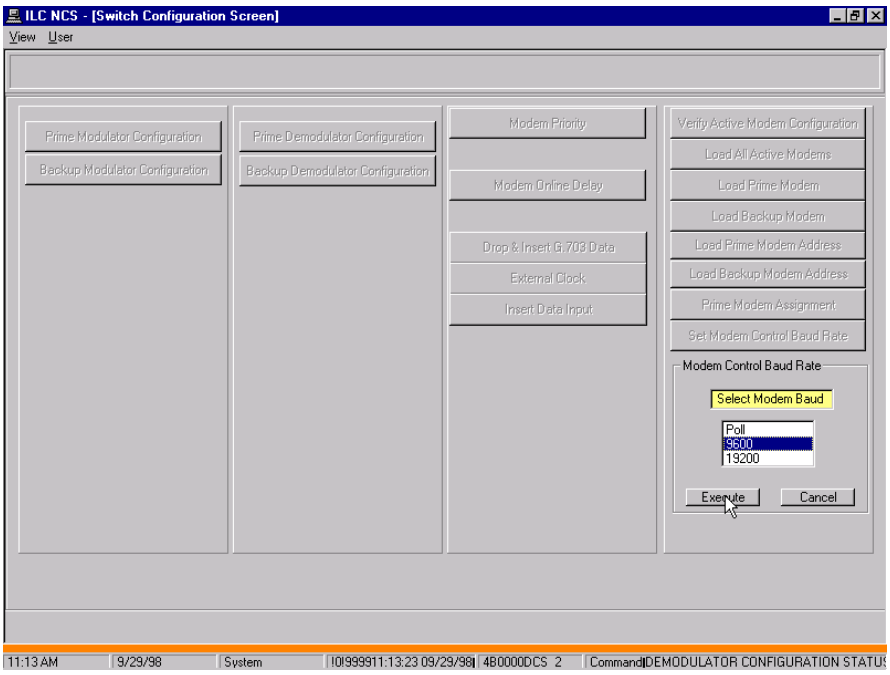
1. In the Select Backup field, type the backup modem number or use the increase/decrease arrows to select the number (1 or 2).

2. In the Enter Prime Modems field, type the number of each prime modem to be assigned to the selected backup modem.

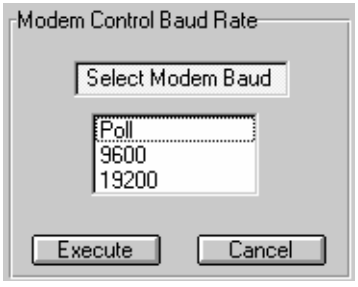
3. Choose [EXECUTE] to send the change, or [CANCEL] to abandon the change.

7.5.4.6 Modem Control Baud Rate

Click on the MODEM CONTROL BAUD RATE button, and the Modem Control Baud Rate window will appear on the right.



To change the Modem Control Baud Rate:

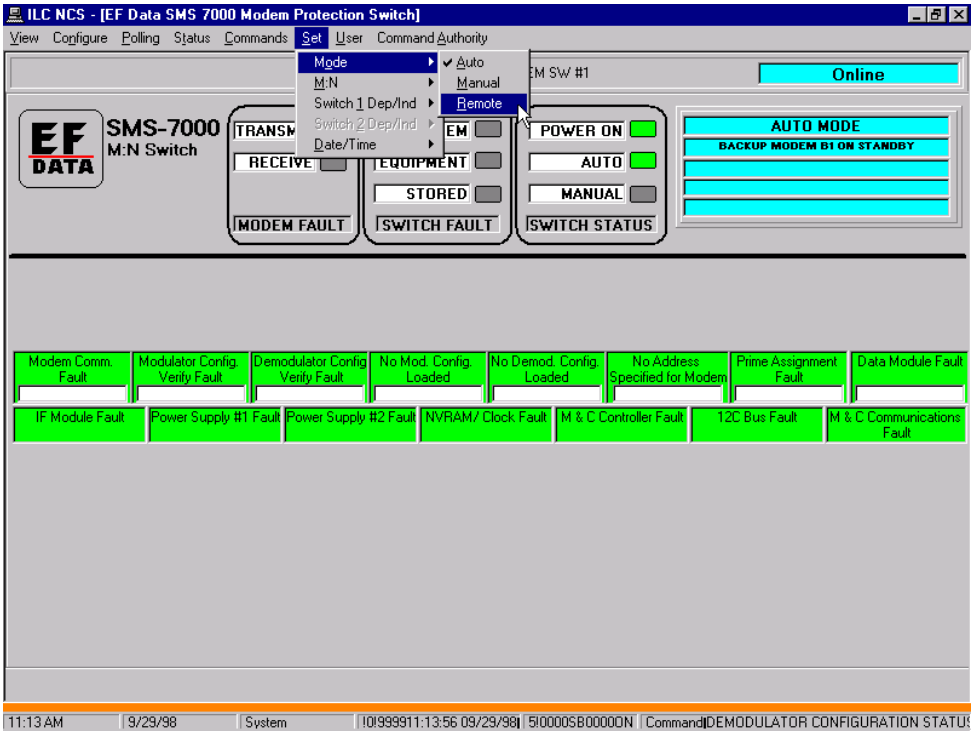


1. In the Select Modem Baud field, choose “Poll” or one of the numeric baud rates.
2. Choose [EXECUTE] to send the change, or [CANCEL] to abandon the change.

7.6 Set Menus

7.6.1 Set Mode Remote

The switch must be in the Remote Mode to accept MiniMAC commands. To accomplish this task, select Set\Mode and click on Remote.

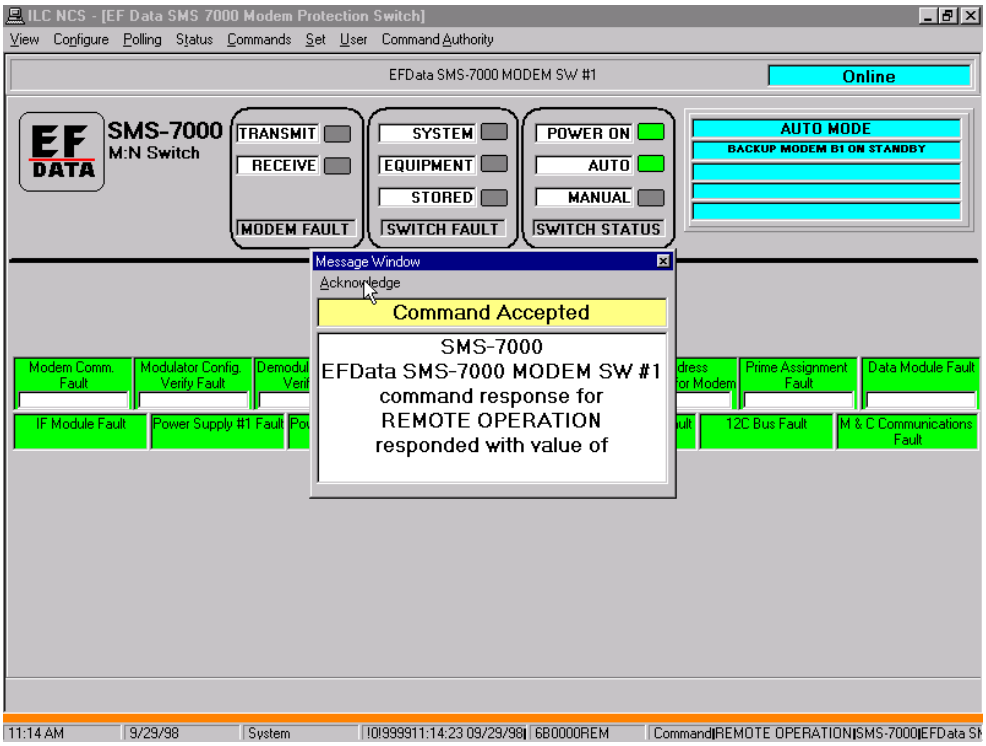


Note: The first command to the switch is always Set Mode Remote. The user must decide if the switch should be: Remote-Auto or Remote-Manual.

To execute most switch commands the switch must be set to Remote-Manual. Once commands have been transmitted, the user must return the switch to Remote-Auto for the Automatic backup function to operate. Refer to SMS-7000 Installation and operation manual for switch operation.

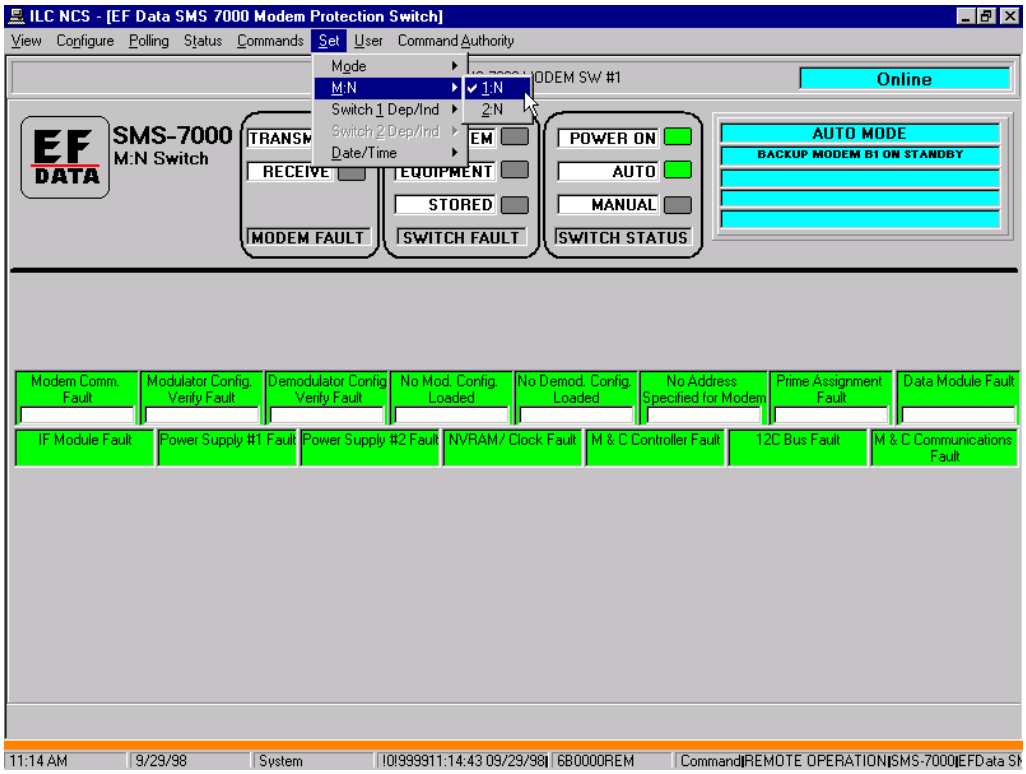
7.6.2 Acknowledge Command Accepted Response

The MiniMAC will respond with the message window Command Accepted.



7.6.3 Mode – M:N

The switch can be configured to have 1 or 2 backups in the system. To set the switch for one backup, select Set/M:N and click on 1:N. To set the switch to operate with two backups, click on 2:N.

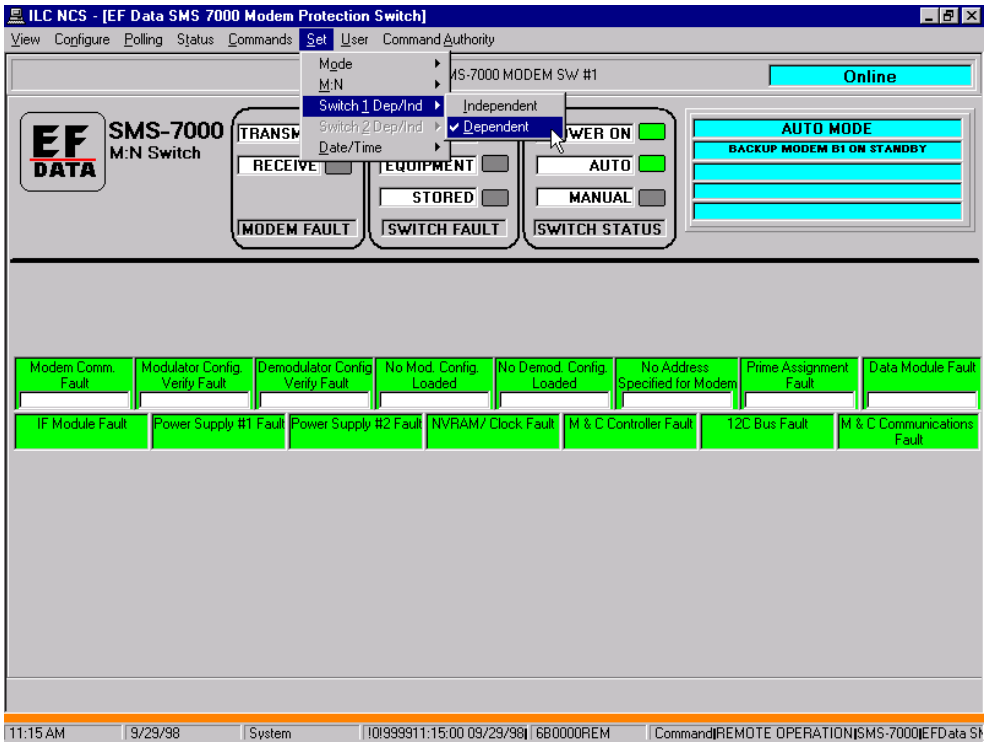


7.6.4 Mode – Switch DEP/IND

Each backup can be configured to operate in the INDEPENDENT or DEPENDENT mode.

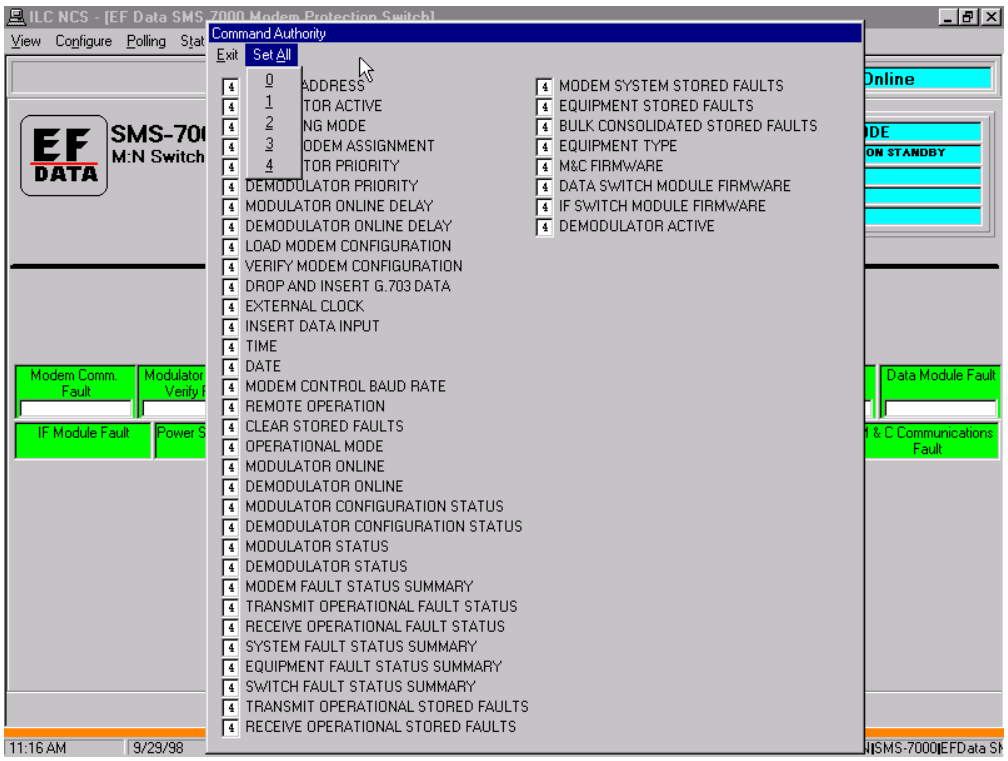
INDEPENDENT Operation – Switches the modulator and demodulator functions separately. The user can set TX function differently than RX functions.

DEPENDENT Operation – Switches the modulator and demodulator together as a single modem. This is called Modem Switching.



7.7 Command Authority

The Command Authority window gives the system user the ability to set authority levels between minimum 0 and maximum 4 for individual commands. The SET ALL command allows the system user to SET ALL commands to the same authority level in one command.



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6.1 Modem Control Screens

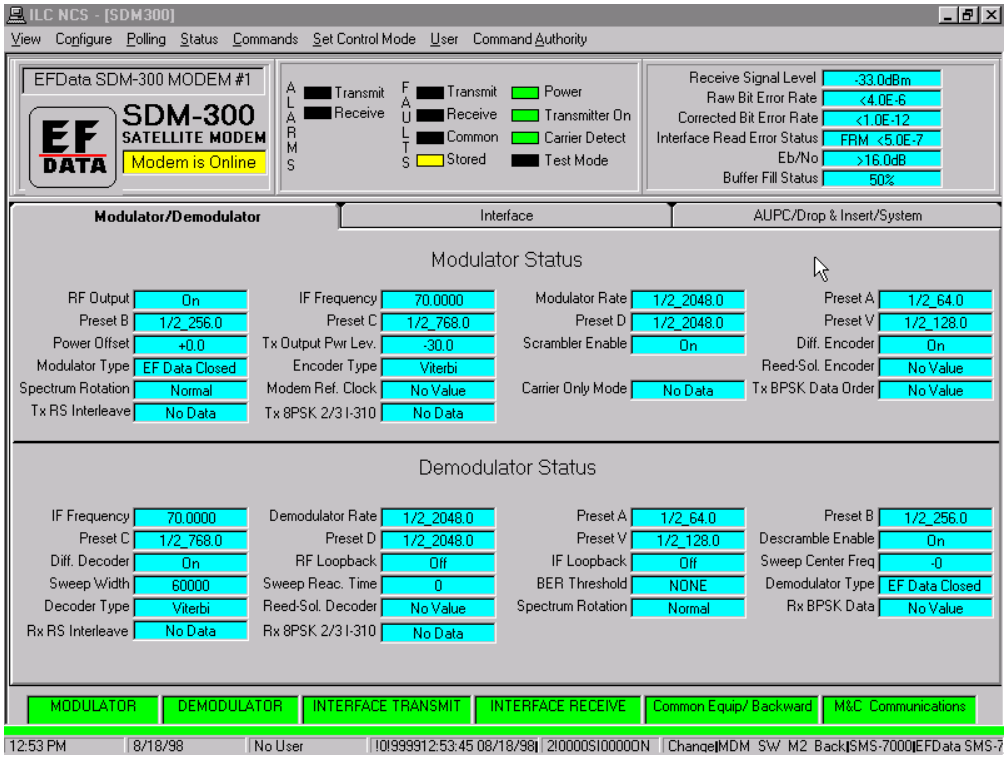
The MODEM CONTROL screen is displayed by selecting a modem from the Main OVERVIEW screen or from a group screen. MODEM CONTROL screens may vary according to the type of modem installed in the system. This chapter describes the SDM-300 modem. For information about other modems, refer to the appropriate sections.

6.2 Modem Tabs

6.2.1 Modulator/Demodulator

All modulator/demodulator configuration status information is displayed on this file folder tab. If a window displays NO DATA or NO VALUE, that typically means, the modem type or hardware does not support that feature.

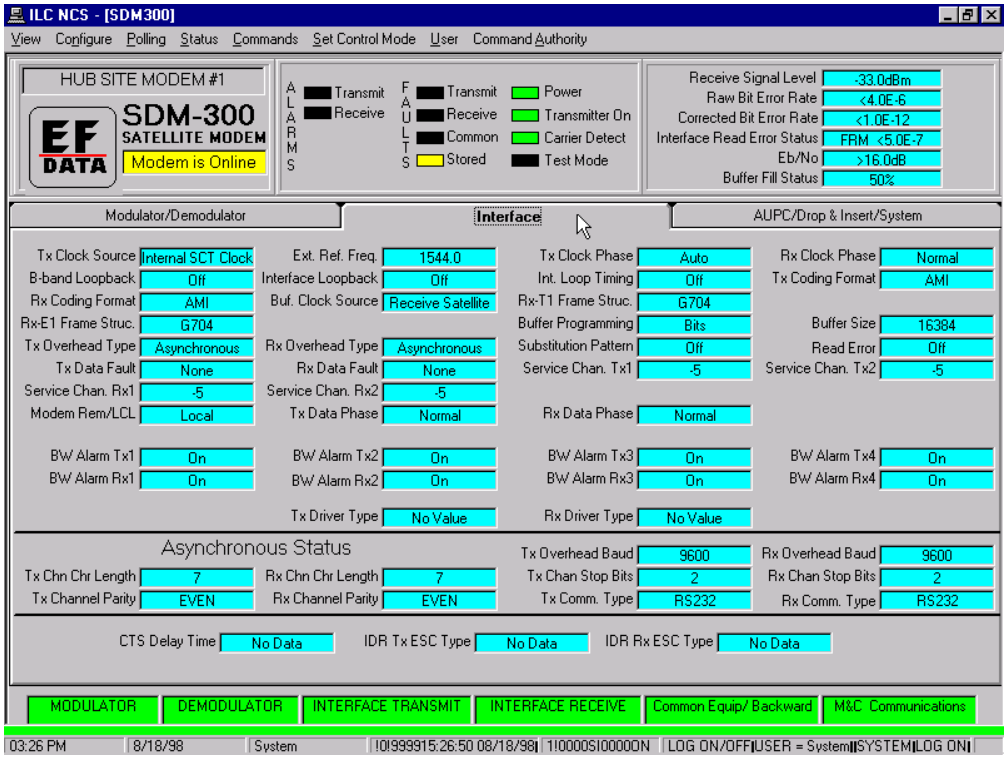
> For example: TXRS Interleave is a Reed-Solomon function.
> This SDM-300 Modem does not have that option installed.



The monitor menu functions are displayed in the upper right-hand corner of the Modem Screen. As these parameters change, the screen will be updated. The LED indicators are fully functional and are displayed as seen on the actual Front Panel of the modem.

6.2.2 Interface Tab

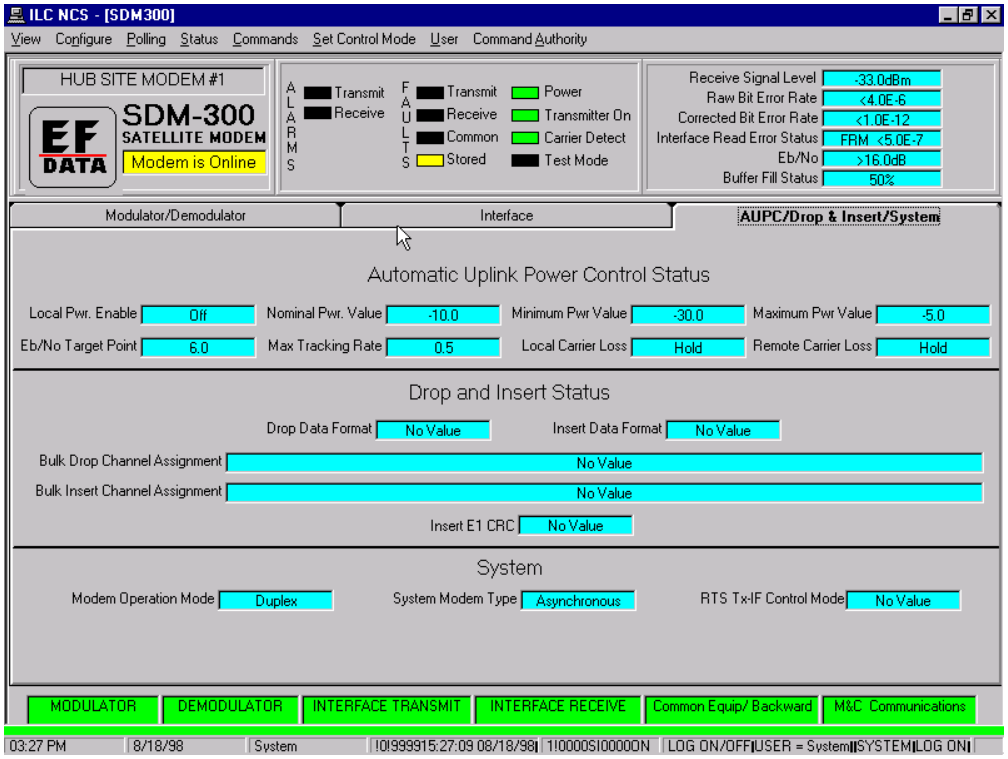
The INTERFACE Tab displays the interface configuration parameters. This modem is in the ASYNC MODEM TYPE because the Asynchronous Status Window displays data. Notice that the IDR functions in the bottom column displays NO DATA in the window.



All status information from the Modem Tabs can be requested by the user by clicking on a specific statsus window. Th eMiniMAC will request status from the device and respond with the Command Accepted confirmation window with the returned status information displayed.

6.2.3 AUPC/D&I Tab

The AUPC/D&I Tab displays the status information for AUPC (Automatic Uplink Power Control) status, Drop and Insert (D&I) status, and System status information. Notice the System Modem Type window displays ASYNCHRONOUS. The D&I and Closed Network features have NO VALUE in the window.

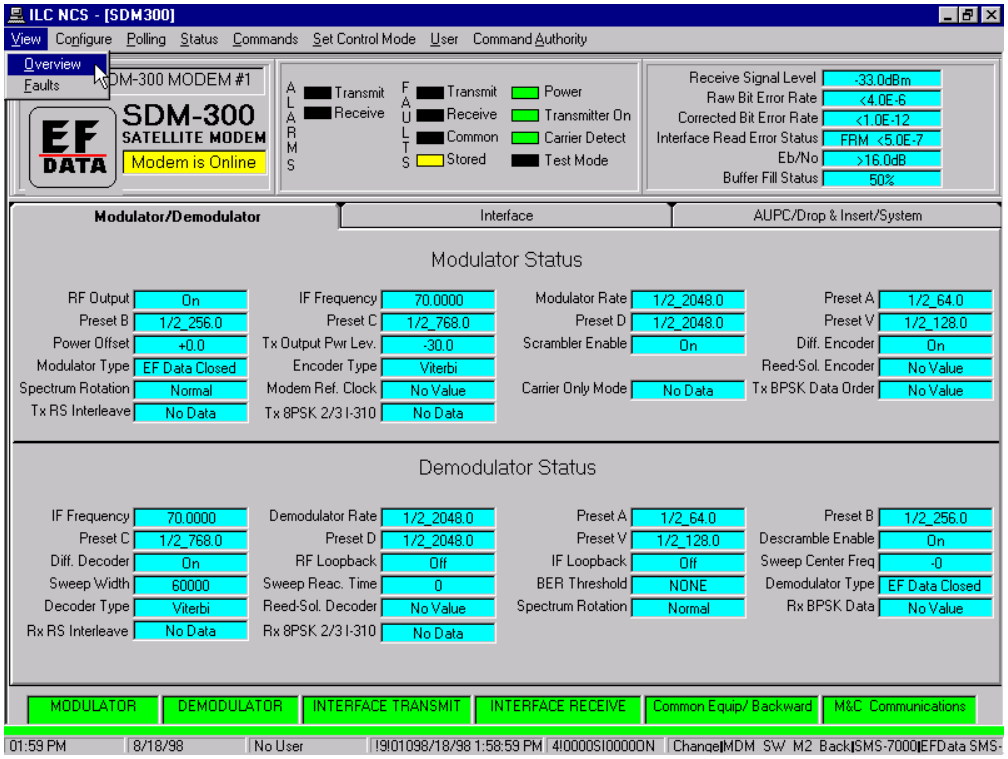


6.3 View Menus

The VIEW menu allows the user to change the view to OVERVIEW or FAULTS.

6.3.1 View – Overview

The OVERVIEW menu allows the user to return to the previous OVERVIEW screen.

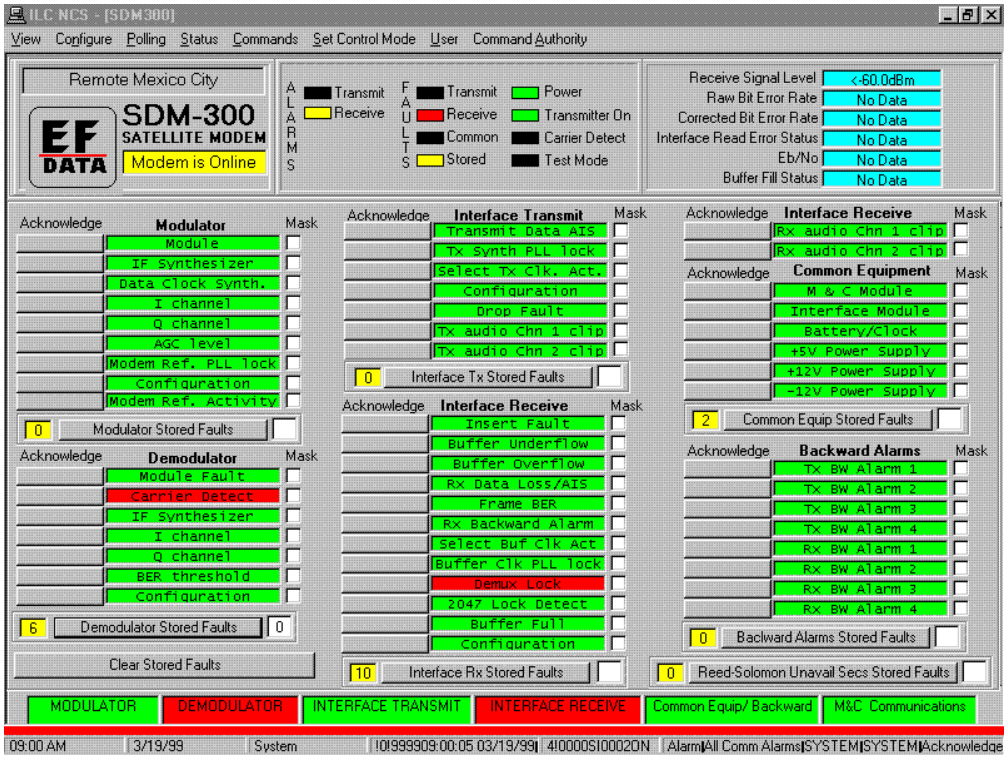


6.3.2 View – Fault Screens

The FAULT Screen exhibits faults that can be acknowledged, stored faults can be cleared, and backward alarms can be enabled or disabled. This screen displays the current FAULTS LED status from the modem.

- GREEN – Unfaulted
- RED – A FAULT has occurred
- YELLOW – An Alarm has occurred

New Faults	RED and flashing (rapidly turning On/Off).
Acknowledged Faults	RED, but do not flash.



To Acknowledge a new flashing fault, proceed as follows:

Command	Response
Click on	Faulted parameter acknowledge field. The fault stops flashing.

To Clear stored faults, proceed as follows:

Command	Response
Click on	CLEAR STORED FAULTS (Fault Screen)
Observe	NUMBER OF STORED FAULTS go to 0.

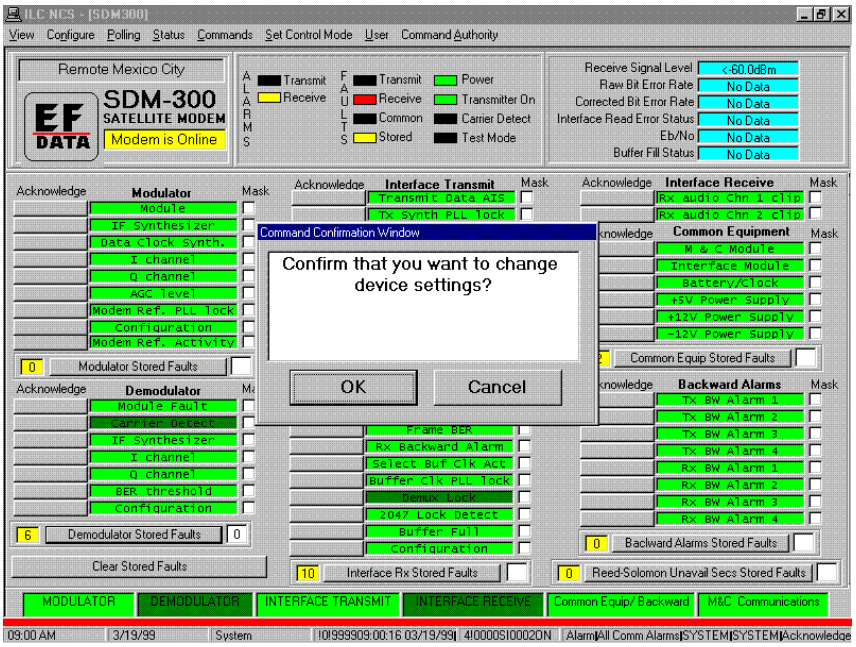
To Disable backward alarms, proceed as follows:

Command	Response
Click on	Mask (in the BACKWARD ALARMS area)
Observe	The interface TX and Interfaces Rx Summary Alarms turn GREEN..

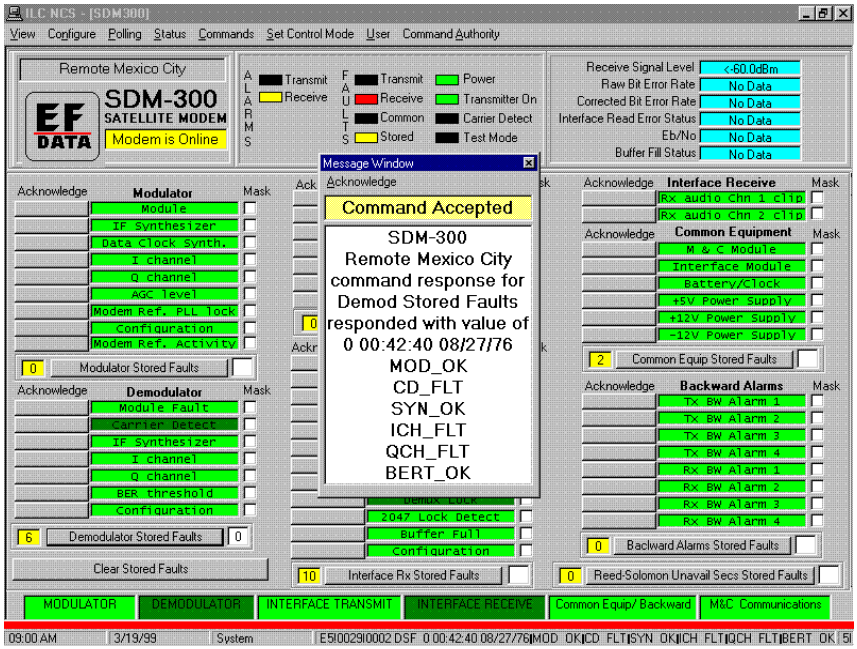
6.3.3 View - Stored Faults

Up to 10 faults can be stored for each stored fault category. For additional information about stored faults and times/dates of occurrence, use the System Log. To display to System Log; Select System, Report Generator on the Main menu.

To request stored faults information from the MiniMAC, type the stored faults number (0 – 9) in the selected category. Click on the Stored Faults button. The COMMAND CONFIGURATION window will appear. Click on OK.



The Command Accepted Message window will appear with the response value of the requested Stored Fault.



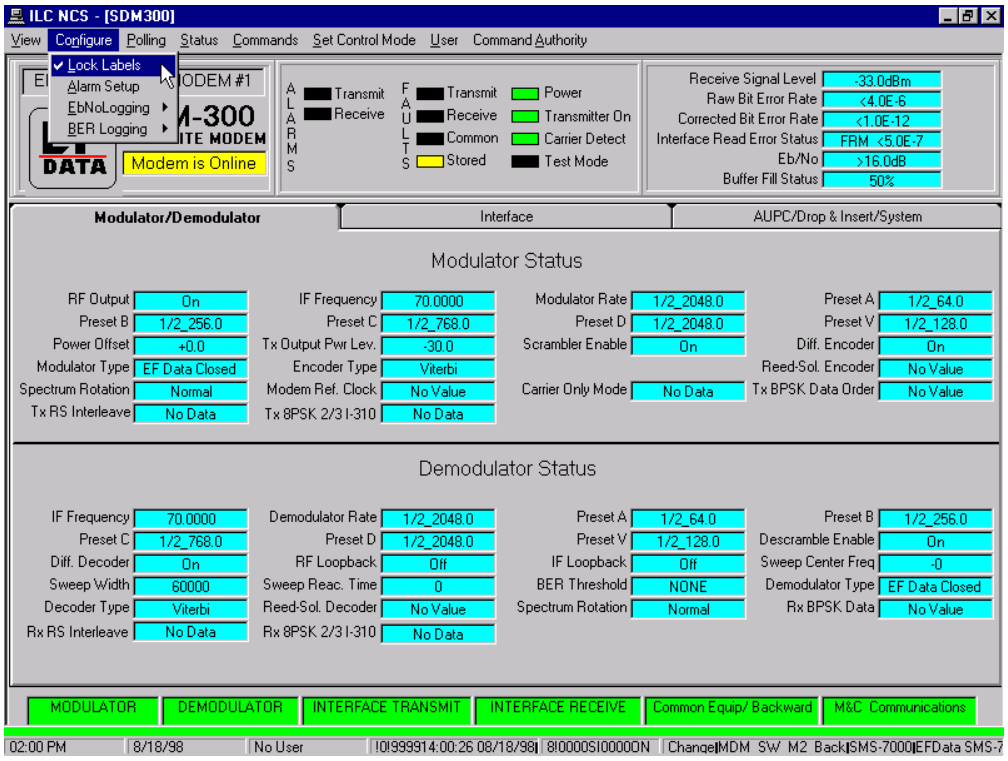
6.4 Configure Menu

The CONFIGURE menu allows the user to:

- Edit Labels
- Setup Alarms
- E_b/N_0 Logging
- BER Logging

6.4.1 Configure Lock Labels

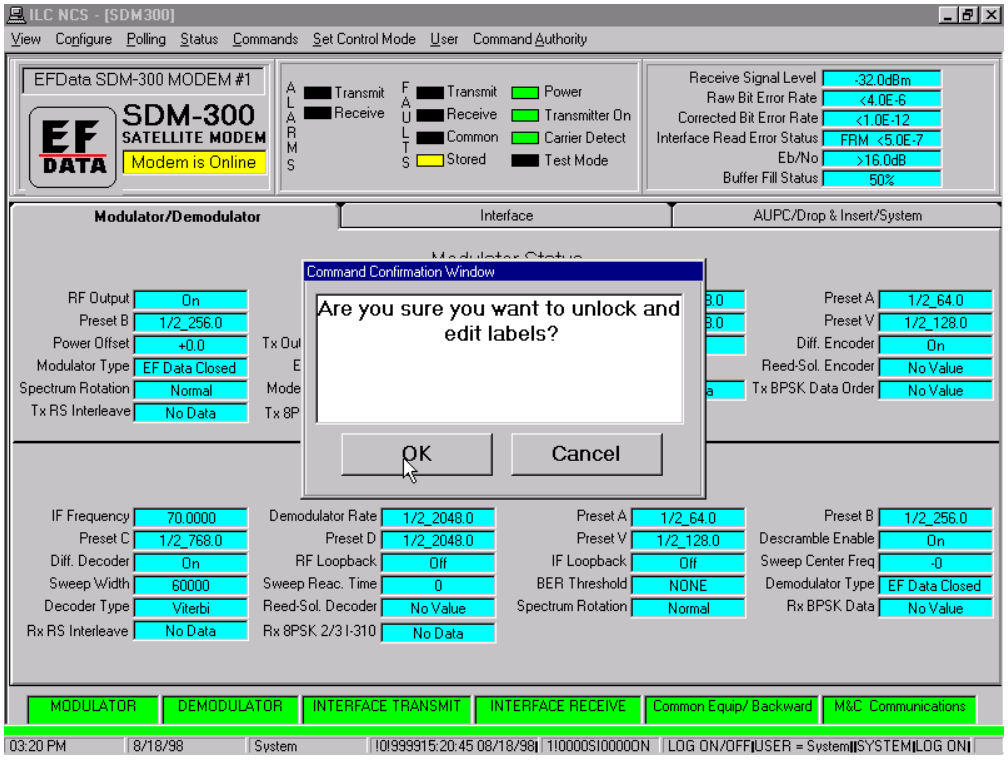
Each device has a DEVICE LABEL in the upper left-hand corner of the screen. This label identifies the device in the rack view and in the report generator for identification purposes. The label can be edited by selecting LOCK LABEL from the CONFIGURE drop-down menu.



6.4.1.1 Unlocking and Editing Labels

When the user clicks on LOCK LABELS, the Command Configuration Window will appear on the screen. It will prompt the user to be sure about unlocking and editing the labels.

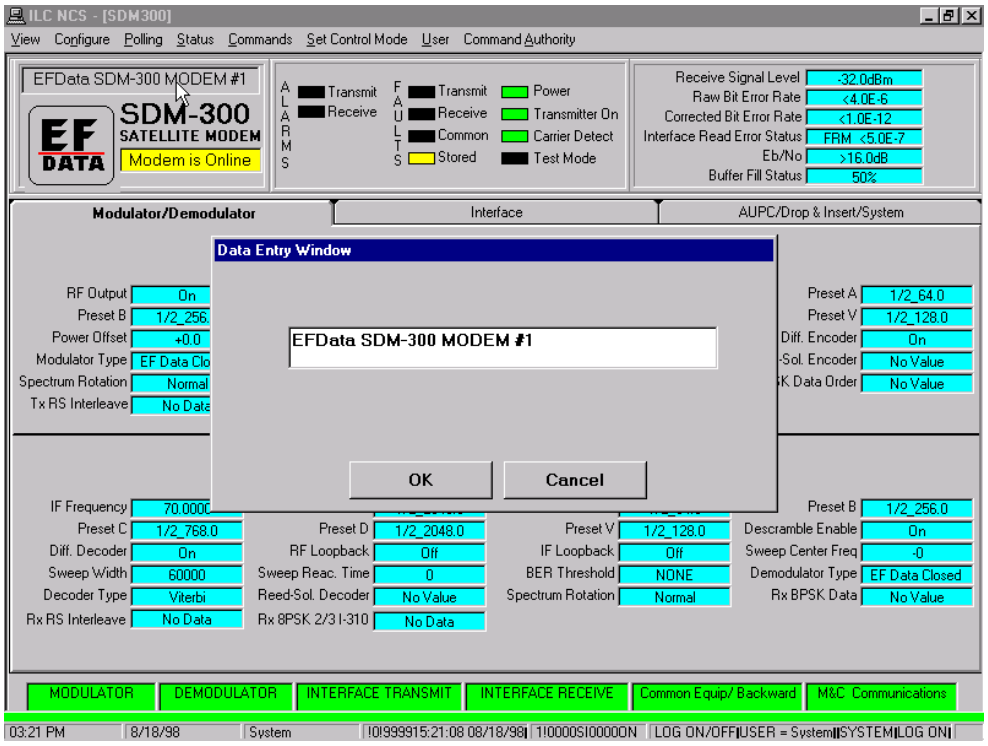
Click on: OK or CANCEL to abort the procedure.



6.4.1.2 Editing Labels Data Entry Window

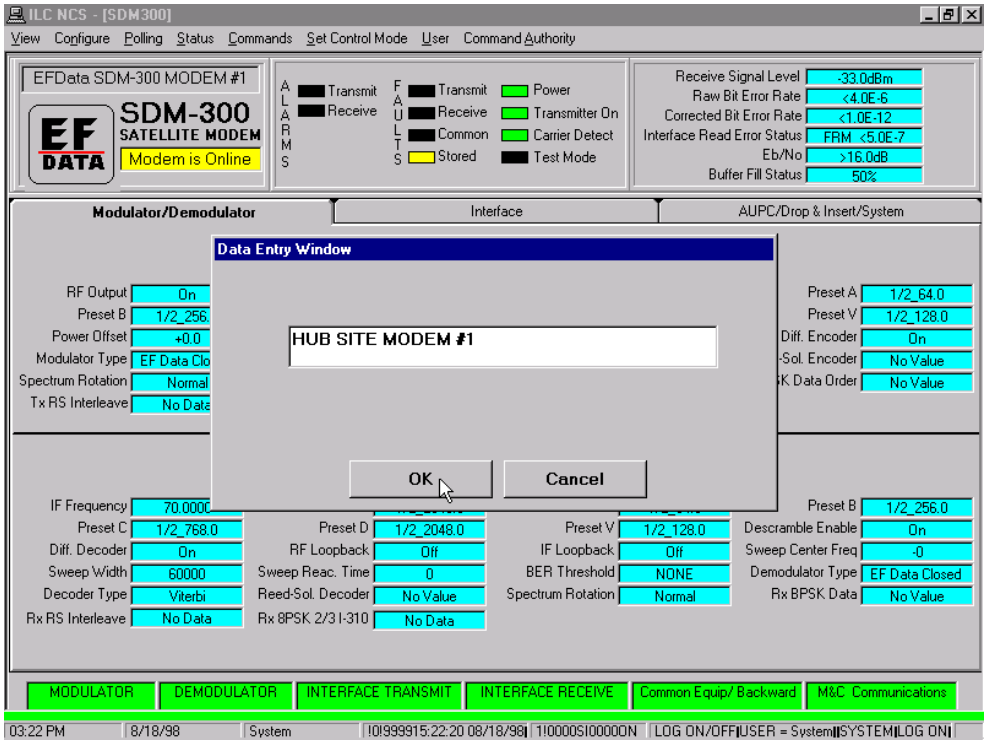
Once the LOCK LABELS have been unlocked, Click on the device label in the upper left-hand corner of the device.

The DATA ENTRY Screen will appear with the current device label in the window.



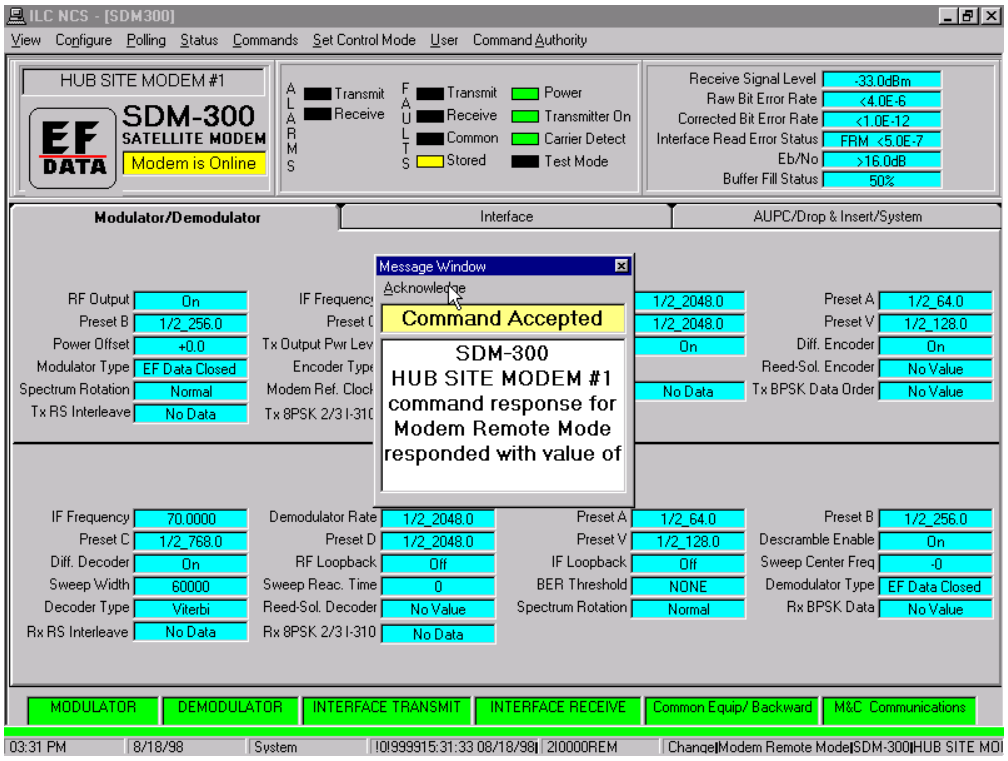
6.4.1.3 Editing Labels

Type in the new label and click on: OK



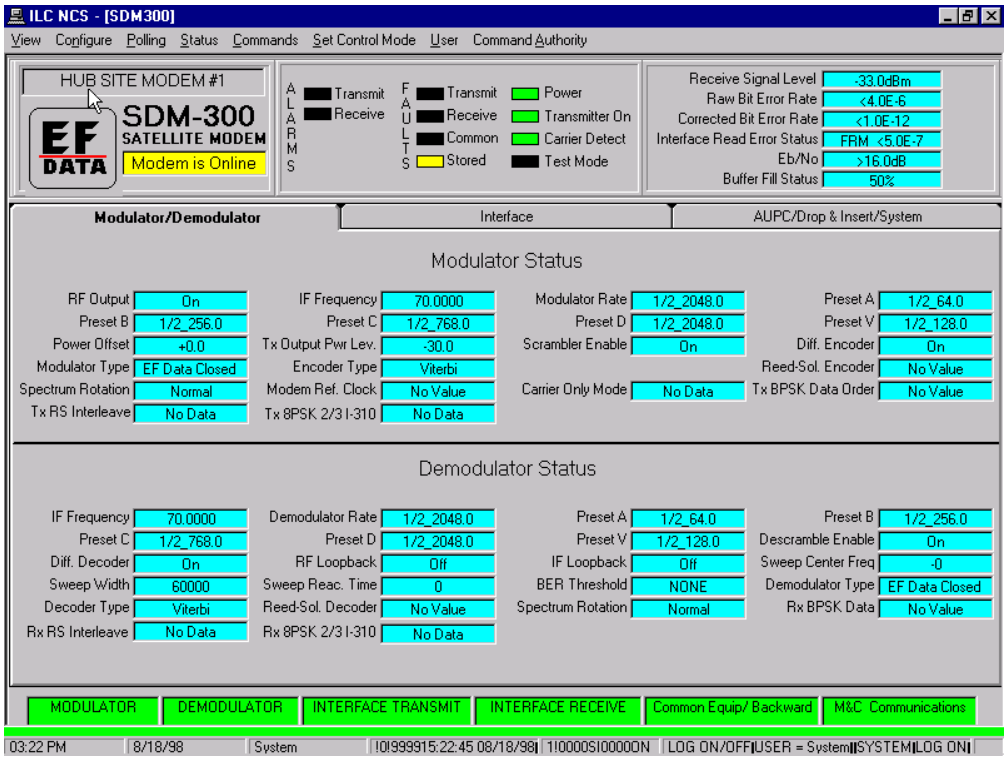
6.4.1.4 Acknowledging Command Accept

The ACKNOWLEDGE COMMAND ACCEPTED screen will appear to inform the user that the change has been accepted. Acknowledge the message by clicking on the X in the right-hand corner or by clicking on the word ACKNOWLEGE.



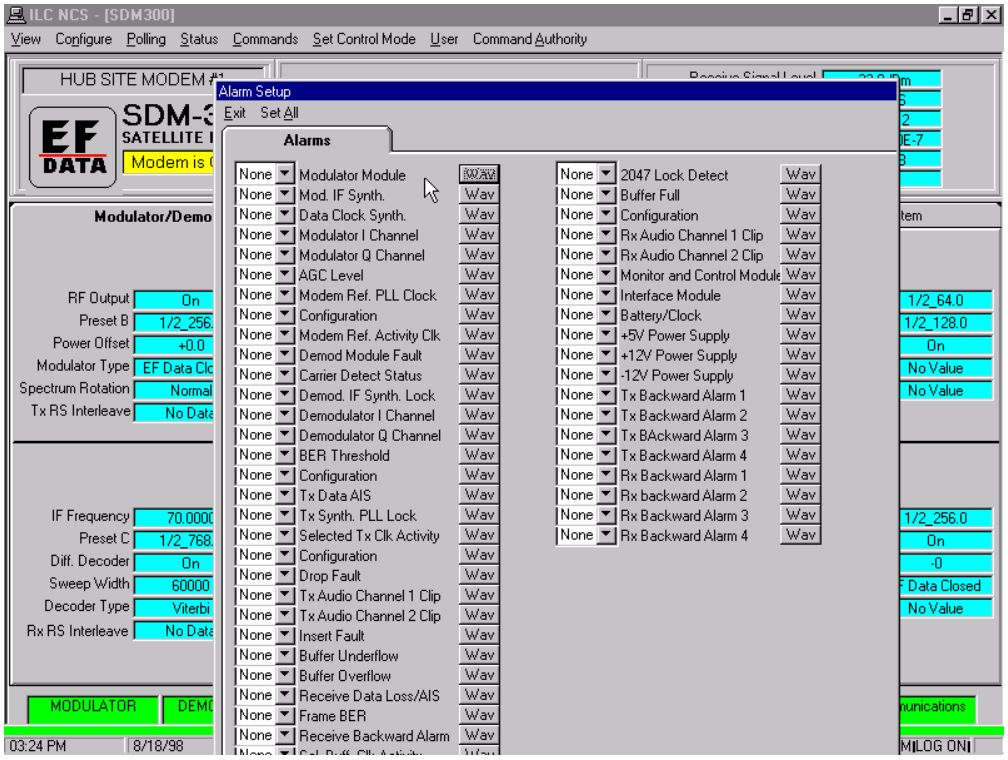
6.4.1.5 Checking the Label Change on the Screen

Observe the device name has been updated to relect the new name. After completion, click on LOCK LABELS, located in the CONFIGURE menu.



6.4.2 Configure – Alarm Setup

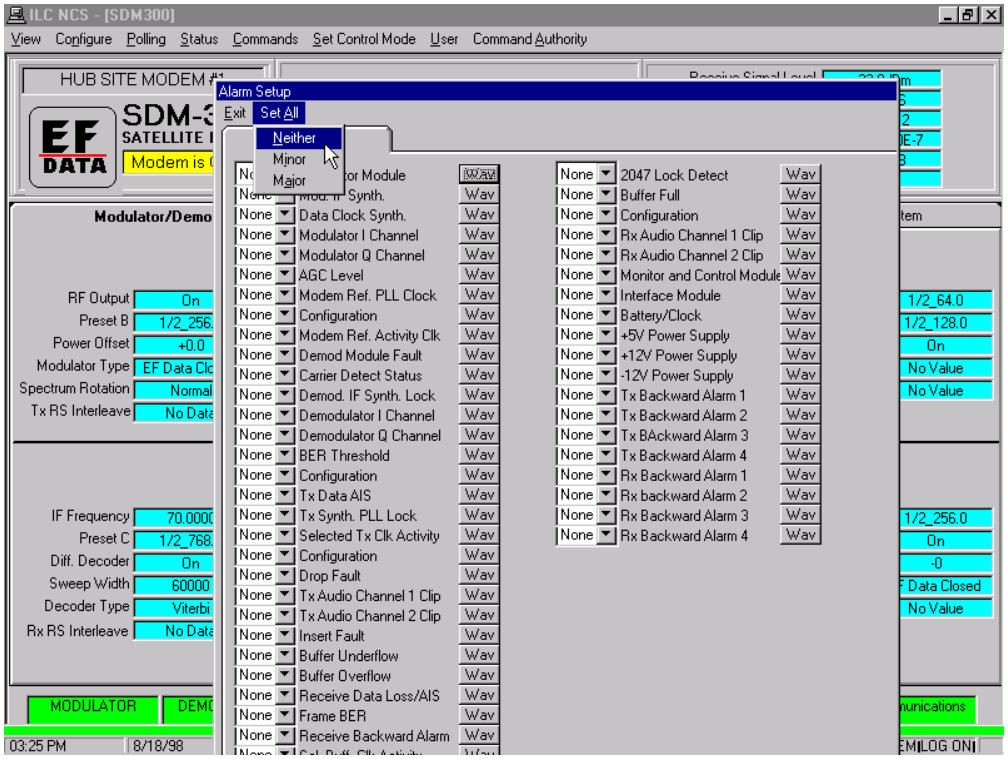
To configure the alarms for this device, select CONFIGURE ALARMS SETUP from the drop-down menu. The ALARM SETUP Screen will appear. This screen shows a list of all the faults and alarms on the SDM-300 Modem. The default setup value for all the faults and alarms is NONE.



6.4.2.1 Setting Minor, Major, or Neither Alarms

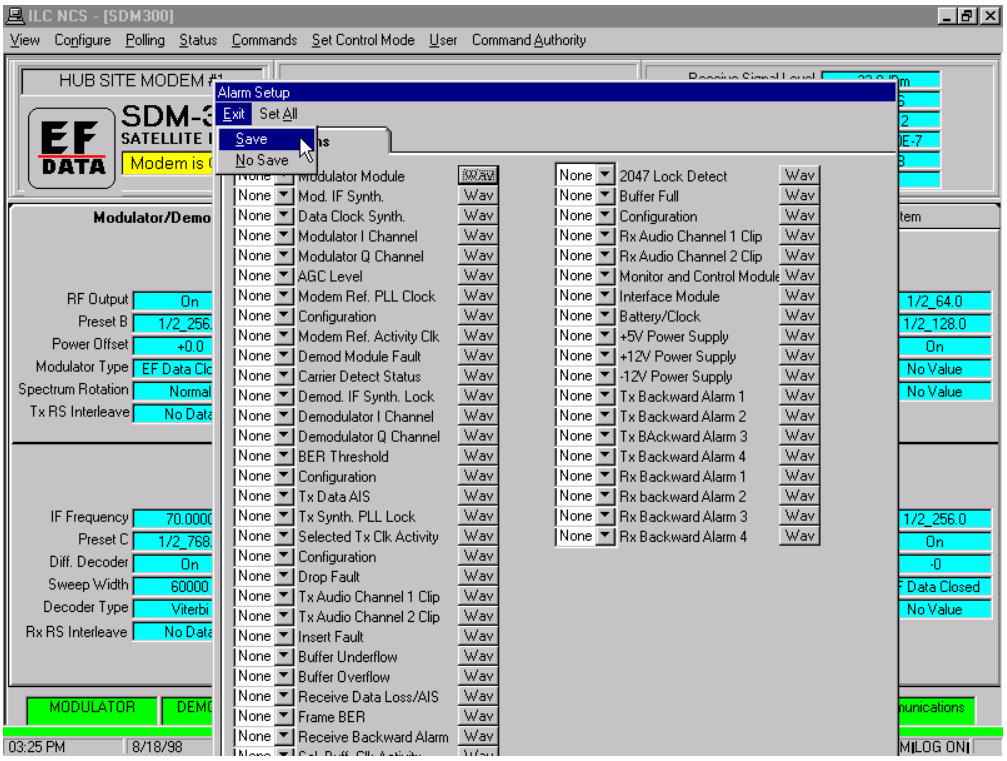
Each fault/alarm can be set individually or the user can set all faults/alarms to MINOR, MAJOR, or NEITHER (NONE).

Note: The user also can attach a wave file to each individual fault or alarm. This is outlined in Appendix B. Configuring Alarms.



6.4.2.2 Saving Alarm Setup Changes

After completion, the user must exit and save the changes. When the user saves the changes, the new parameters will be stored in the SYSTEM REGISTRY file.

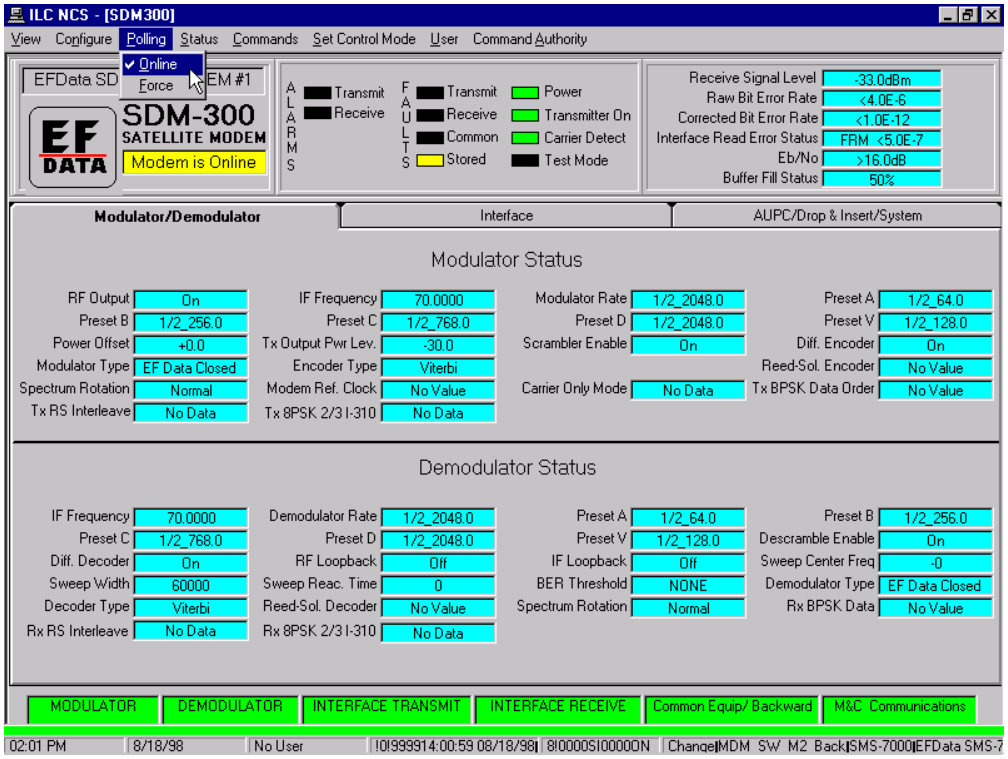


6.5 Polling Menus

The POLLING menus include ONLINE or FORCE.

6.5.1 Polling – Online

The ONLINE command allows the MiniMAC to poll the device when checked. If the user changes this to OFFLINE, the MiniMAC will not poll this device and the M&C communications window in the lower right-hand corner will turn GRAY. In the rack view, the device button also will turn GRAY.



6.5.2 Polling – Force

When a device has had a parameter changed, the MiniMAC screen can take several seconds to update the new information. When FORCE is enabled, the MiniMAC will immediately force the polling sequence of the COMM1 program to poll this device for status. The screen will then update with new information.

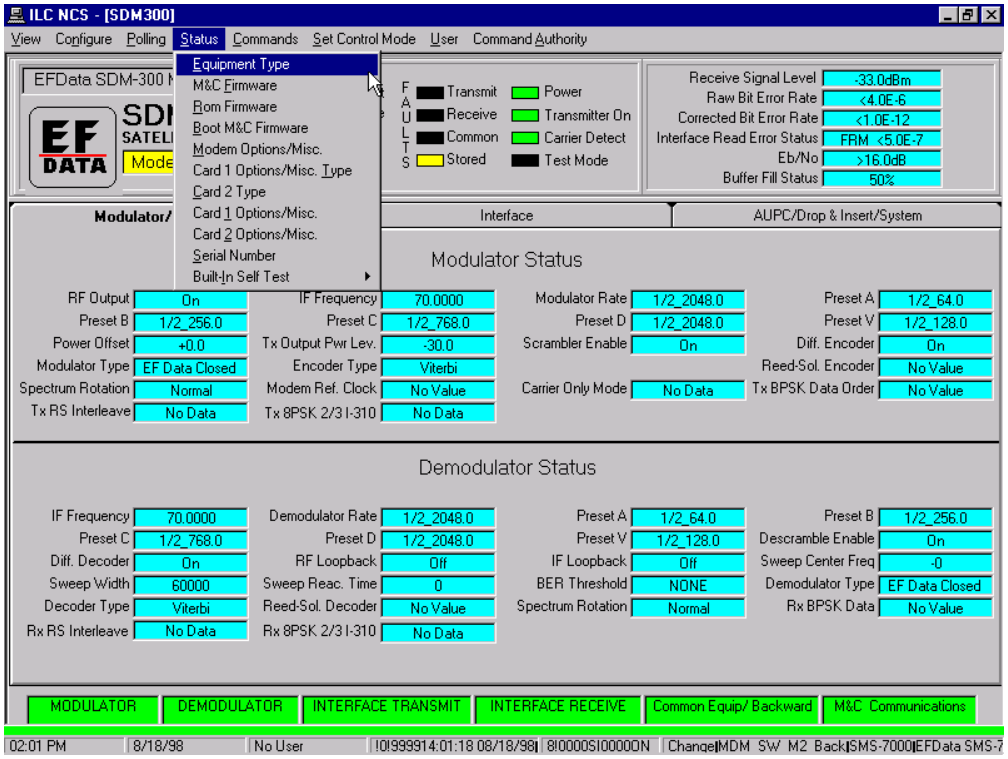
6.6 Status Menu

Allows the user to request various status information about the modem. Status information is not a command and the unit does not have to be in the REMOTE MODE. The status information that can be requested are:

- Equipment Type
- M&C Firmware
- ROM Firmware
- Boot M&C Firmware
- Modem Options/Misc
- Card 1 Options/Misc Type
- Card 2 Type
- Card 1 Options/Misc
- Card 2 Options/Misc
- Serial Number

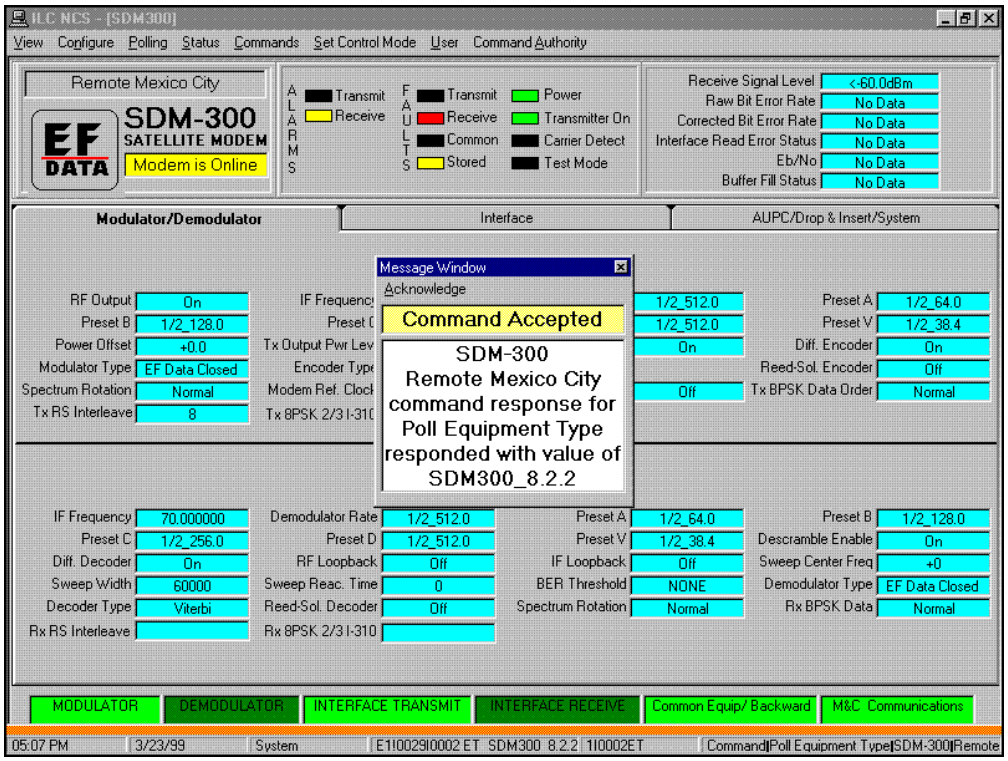
6.6.1 Status – Equipment Type Request

The most requested status is EQUIPMENT TYPE. This MiniMAC command allows the user to verify communications to the device. Click on: EQUIPMENT TYPE



6.6.1.1 Equipment Type Command Accepted Response

This screen will appear with the EQUIPMENT TYPE, DEVICE LABEL, and DEVICE POLLED with software version listed in the window. If the MiniMAC does not communicate with the device the message window will read: NO RESPONSE.



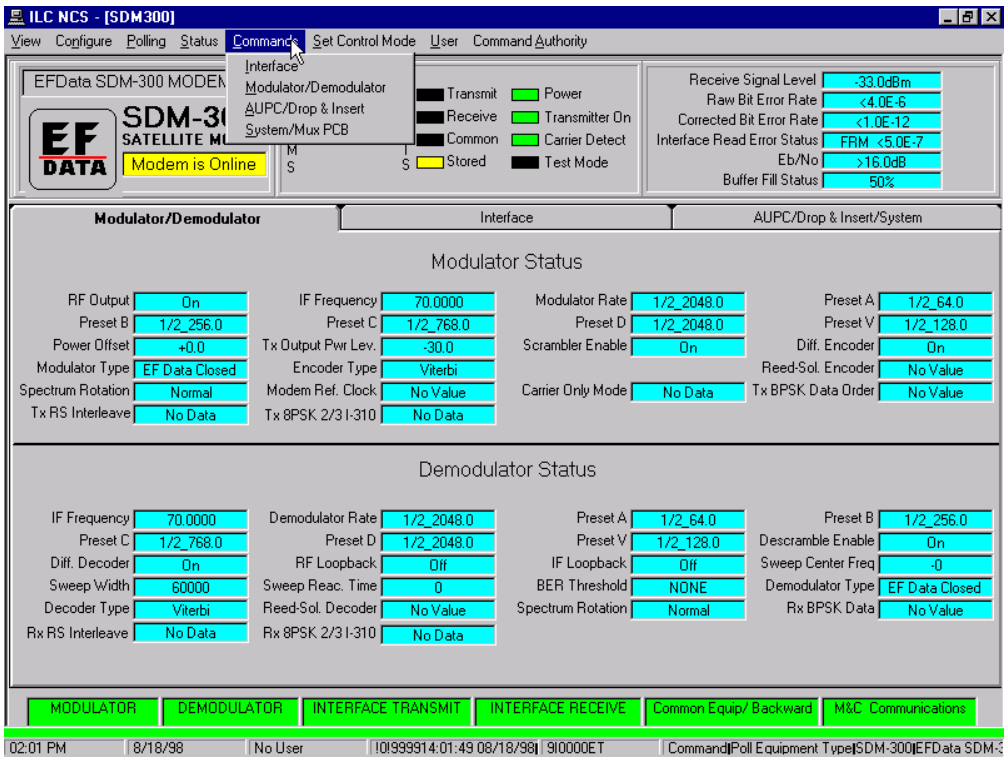
6.7 Commands Menus

The command menus allow the user to change parameters on the modem. The modem must be in the REMOTE MODE. This is performed in the SET CONTROL MODE drop-down menu.

6.7.1 SDM-300 Commands

The user can set the following commands:

- Interface
- Modulator/Demodulator
- AUPC/D&I
- System/MUX PCB



6.7.2 Interface Commands

The INTERFACE COMMANDS screens are used to set the interface configuration parameters. The parameters available on the screen will vary according to the type of modem installed.

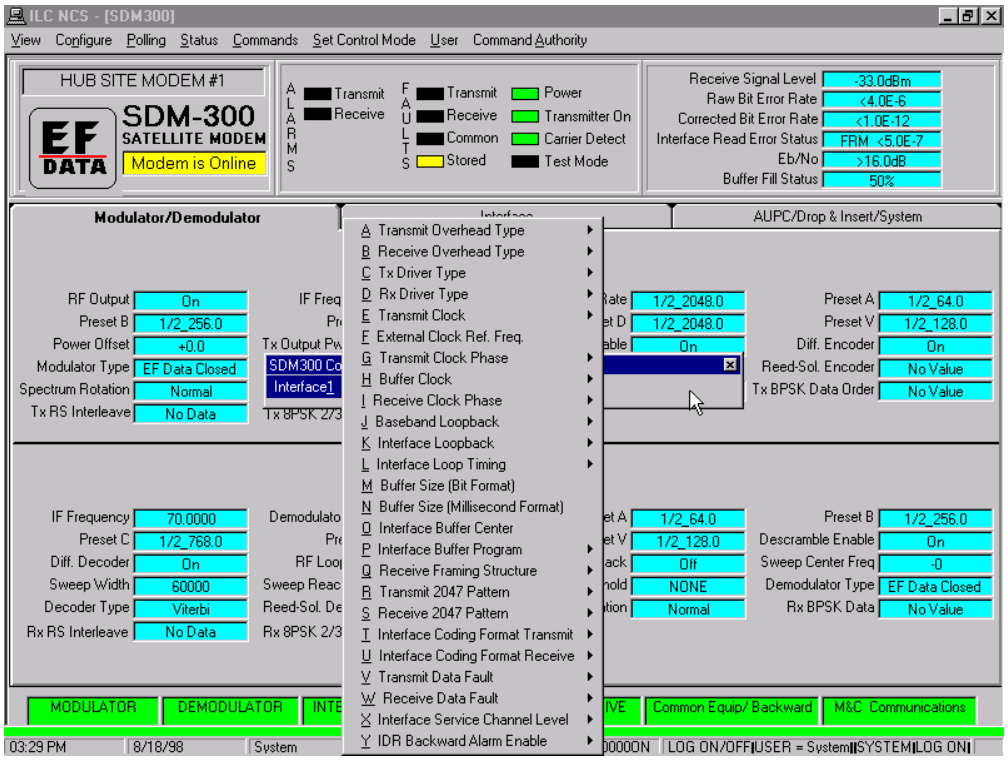
When a modem interface type is changed via the IDR, IBS, ASYNC, CUSTOM, or D&I, default parameters are automatically loaded. Use the CONFIGURE INTERFACE screen to change the defaults.

6.7.2.1 Interface1 – Commands

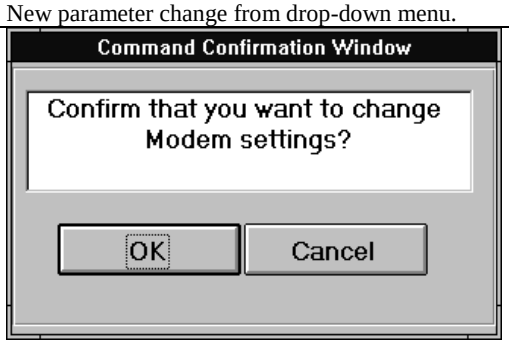
Note: When a parameter is not applicable to the modem type, NO DATA appears in the status field.

The list of INTERFACE commands has been divided into two groups. INTERFACE1 COMMANDS include:

- Transmit Overhead Type
- Receive Overhead Type
- Transmit Driver Type
- Receive Driver Type
- Transmit Clock
- External Clock Ref. Freq.
- Transmit Clock Phase
- Buffer Clock
- Receive Clock Phase
- Baseband Loopback
- Interface Loopback
- Interface Loop Timing
- Buffer Size (Bit Format)
- Buffer Size (Millisecond Format)
- Interface Buffer Center
- Interface Buffer Program
- Receive Framing Structure
- Transmit 2047 Pattern
- Receive 2047 Pattern
- Interface Coding Format Transmit
- Interface Coding Format Receive
- Transmit Data Fault
- Receive Data Fault
- Interface Service Channel Level
- IDR Backward Alarm Enable



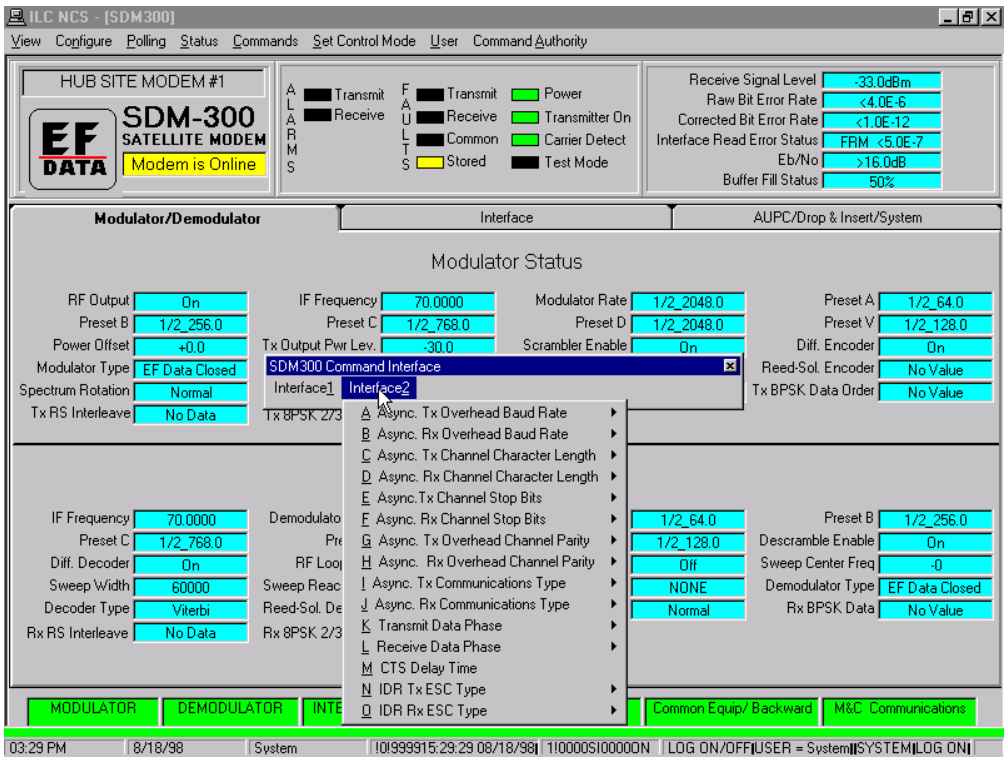
To change a parameter, proceed as follows:

Command	Response
Select	Interface parameter to be changed.
Click on	New parameter change from drop-down menu.
Click on OK	

6.7.2.2 Interface2 – Commands

The INTERFACE2 COMMANDS allow the user to configure:

- ASYNC TX Overhead Baud Rate
- ASYNC RX Overhead Baud Rate
- ASYNC TX Channel Character Length
- ASYNC RX Channel Character Length
- ASYNC TX Channel Stop Bit/s
- ASYNC RX Channel Stop Bit/s
- ASYNC TX Overhead Channel Parity
- ASYNC RX Overhead Channel Parity
- ASYNC TX Communications Type
- ASYNC RX Communications Type
- Transmit Data Phase
- Receive Data Phase
- CTS Delay Time
- IDR TX ESC Type
- IDR RX ESC Type



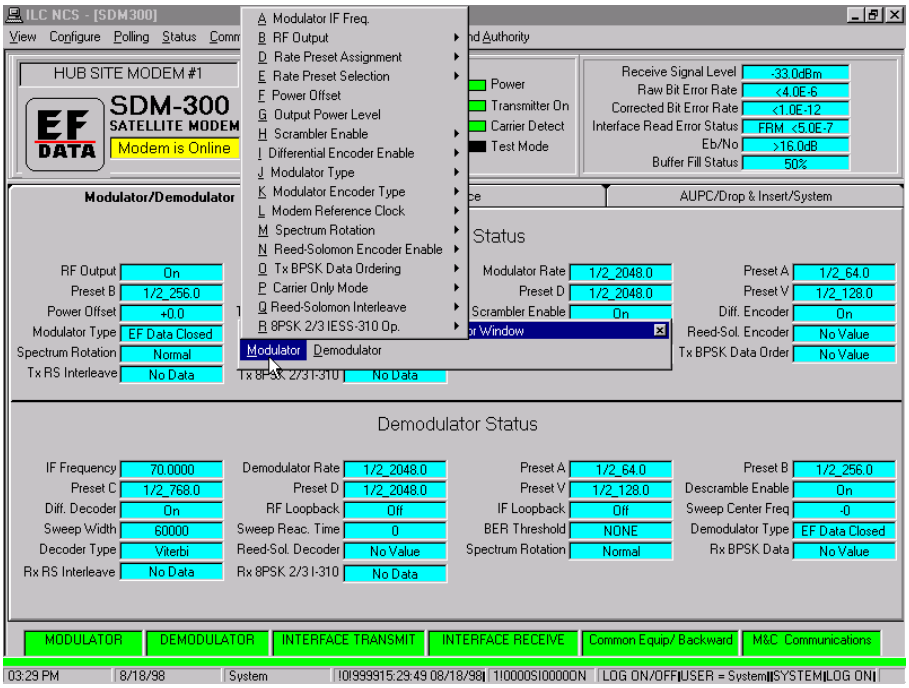
6.7.3 Modulator/Demodulator Commands

The MODULATOR/DEMODULATOR COMMANDS are used to set the configuration parameters. The parameters available on the screen will vary according to the type of modem installed. When a modem configuration type is changed via the IDR, IBS, ASYNC, CUSTOM, or D&I applications, default configuration settings are automatically loaded. Use the CONFIGURE Modulator/Demodulator drop-down menu to adjust the defaults.

6.7.3.1 Modulator Commands

The MODULATOR COMMANDS allow the user to change or configure all modulator parameters including:

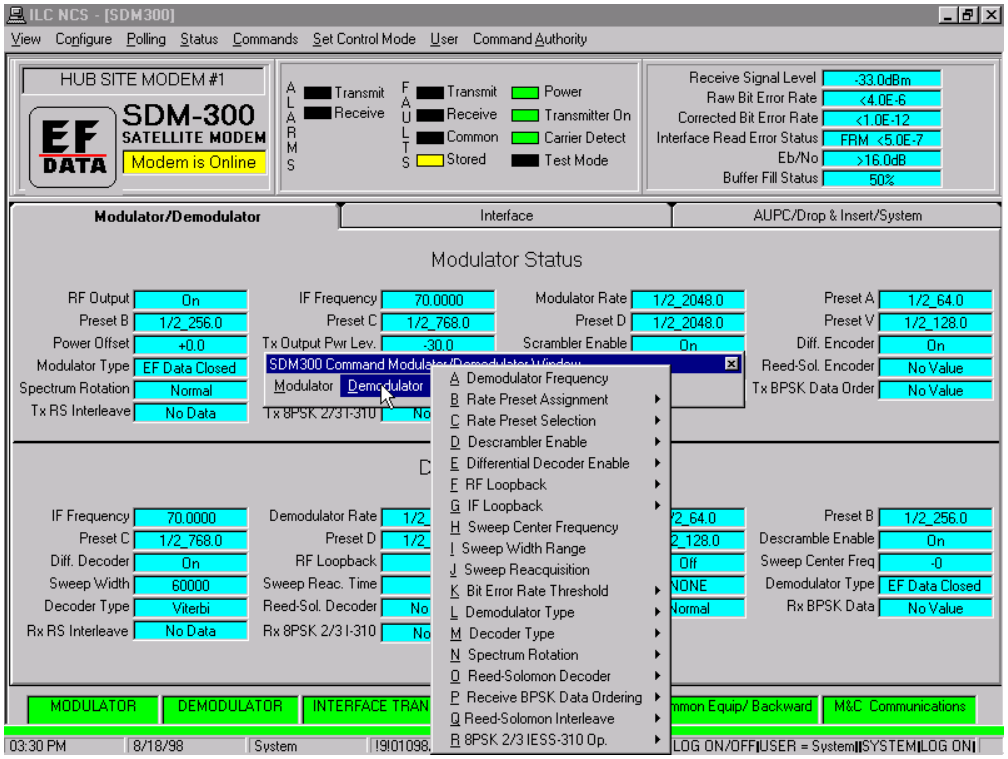
- Modulator IF Freq
- RF Output
- Rate Preset Assignment
- Rate Preset Selection
- Power Offset
- Output Power Level
- Scrambler Enable
- Differential Decoder Enable
- Modulator Type
- Modulator Encoder Type
- Modem Reference Clock
- Spectrum Rotation
- Reed-Solomon Encoder Enable
- TX 8PSK Data Ordering
- Carrier Only Mode
- Reed-Solomon Interleave
- 8PSK 2/3 IESS-310 Op.



6.7.3.2 Demodulator Commands

The DEMODULATOR COMMANDS Screen allows the user to configure or change all the demodulator parameters including:

- Demodulator Frequency
- Rate Preset Assignment
- Rate Preset Selection
- descrambler Enable
- Differential Decoder Enable
- RF Loopback
- IF Loopback
- Sweep Center Frequency
- Sweep Width Range
- Sweep Reacquisition
- BER Threshold
- Demodulator Type
- Decoder Type
- Spectrum Rotation
- Reed-Solomon Decoder
- RX 8PSK Data Ordering
- Reed-Solomon Interleave
- 8PSK 2/3 IESS-310 Op.



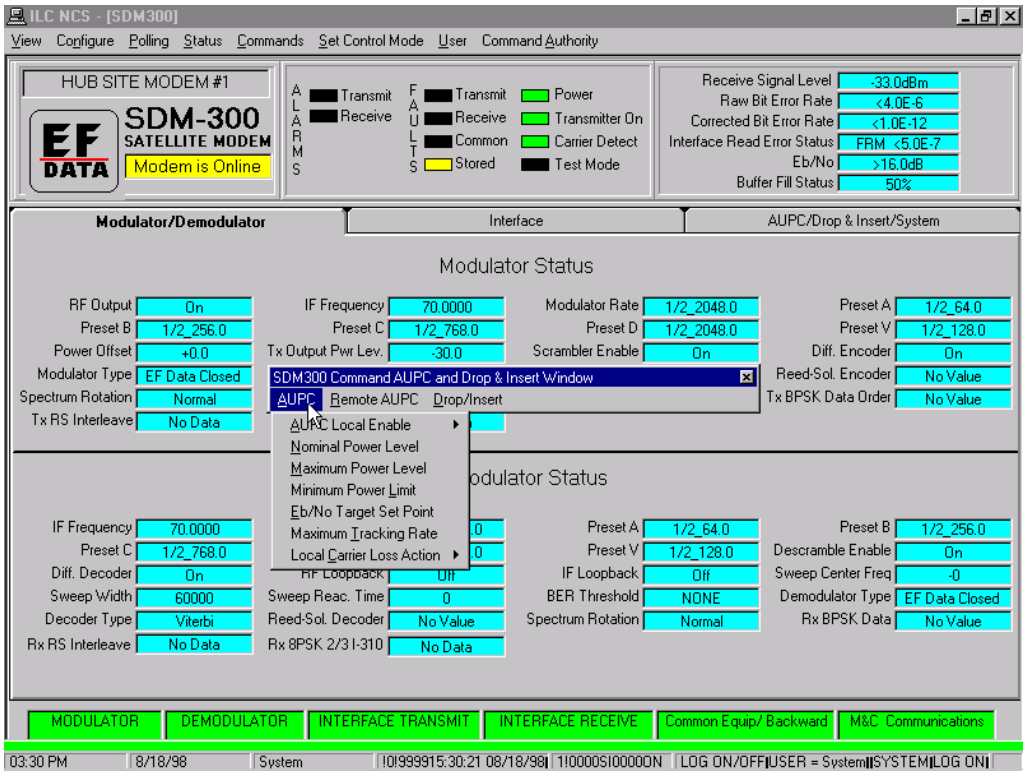
Note: If a modem type does not support a particular command and the command is transmitted, the MiniMAC will Acknowledge with a NO RESPONSE confirmation message.

6.7.4 AUPC/Drop & Insert Commands

6.7.4.1 AUPC Commands

The AUPC COMMANDS allows the user to configure or change all the AUPC parameters including:

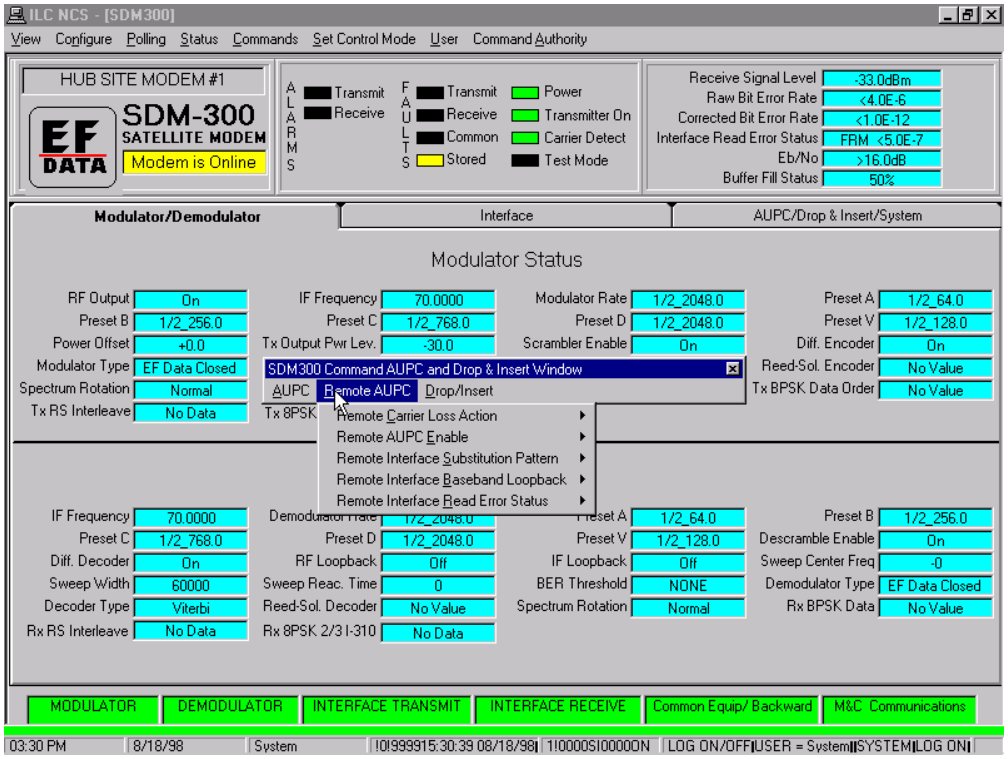
- AUPC Local Enable
- Nominal Power Level
- Maximum Power Level
- Minimum Power Level
- E_b/N_0 Target Set Point
- Maximum Tracking Point
- Local Carrier Loss Action



6.7.4.2 Remote AUPC Commands

The REMOTE AUPC COMMANDS allows the user to configure or change all the REMOTE AUPC parameters including:

- Remote Carrier Action
- Remote AUPC Enable
- Remote Interface Substitution Pattern
- Remote Interface Baseband Loopback
- Remote Interface Read Error Status

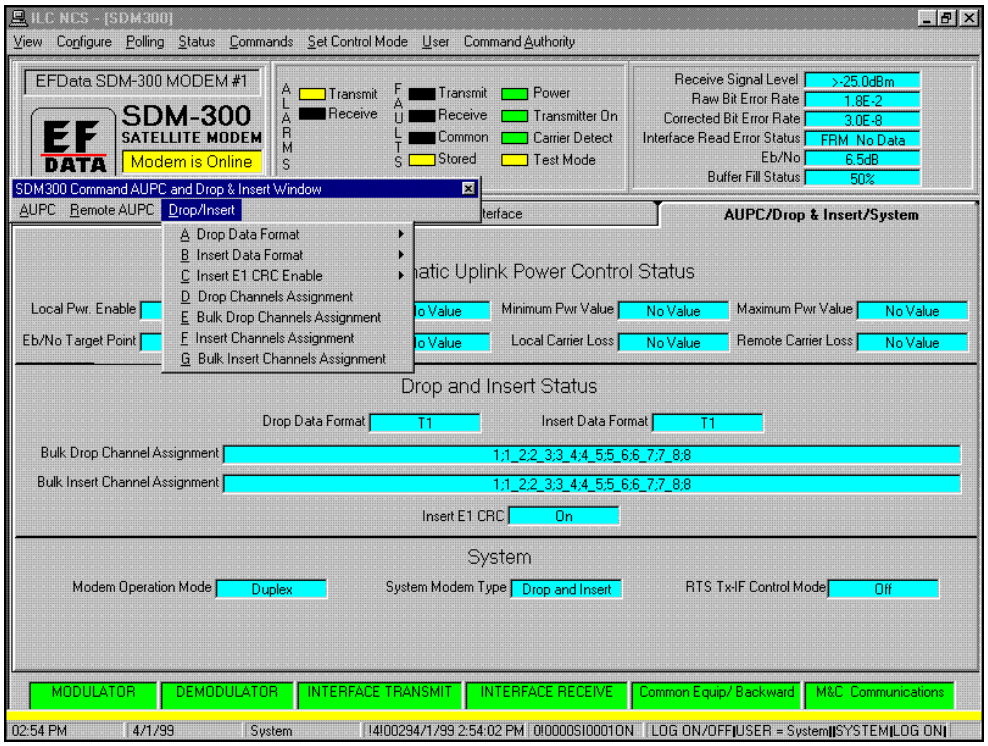


6.7.4.3 D&I Commands

The D&I COMMANDS Screen is used to set the D&I channel assignments and configuration parameters.

Note: The current status of the D&I setup is displayed in the AUPC/Drop & Insert/System screen:

- Drop Data Format
- Insert Data Format
- Insert E1 CRC Enable
- Drop Channels Assignment
- Bulk Drop Channels Assignment
- Bulk Insert Channels Assignment



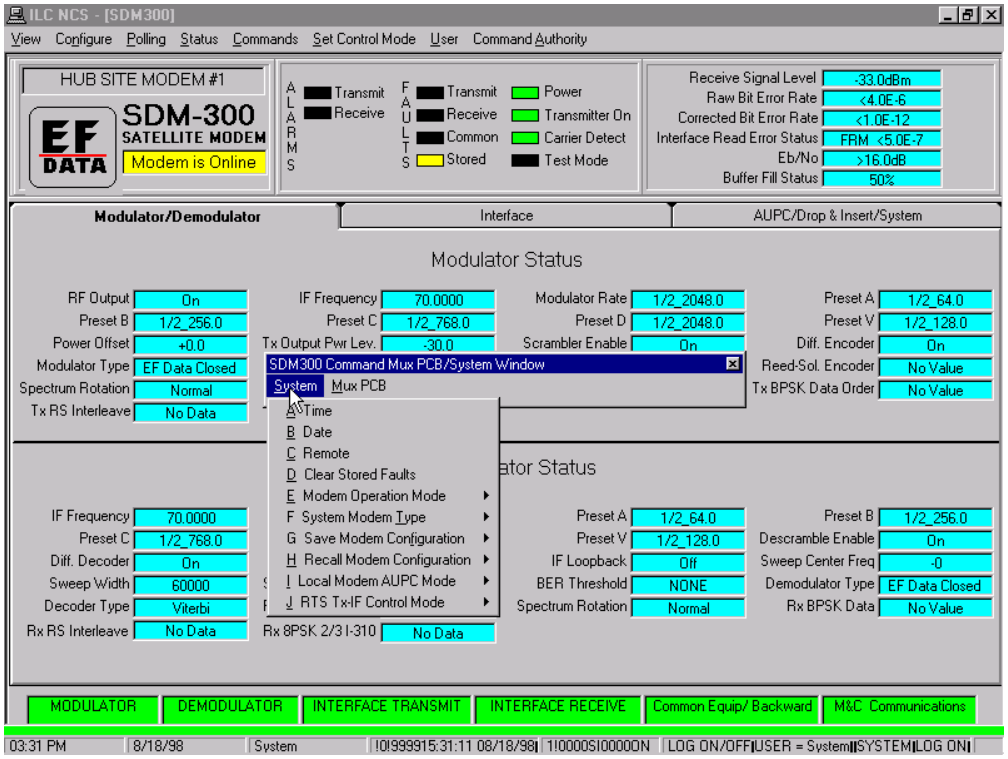
To set D&I configuration parameters, use the drop-down menu to select menu parameters.

6.7.5 System/MUX PCB

6.7.5.1 System Commands

The System Command allows the user to confirm or change the following parameters:

- Time
- Date
- Remote
- Clear Stored Faults
- Modem Operation Mode
- System Modem Type
- Save Modem Configuration
- Recall Modem Configuration
- Local Modem AUPC Mode
- RTS TXIF Control Mode

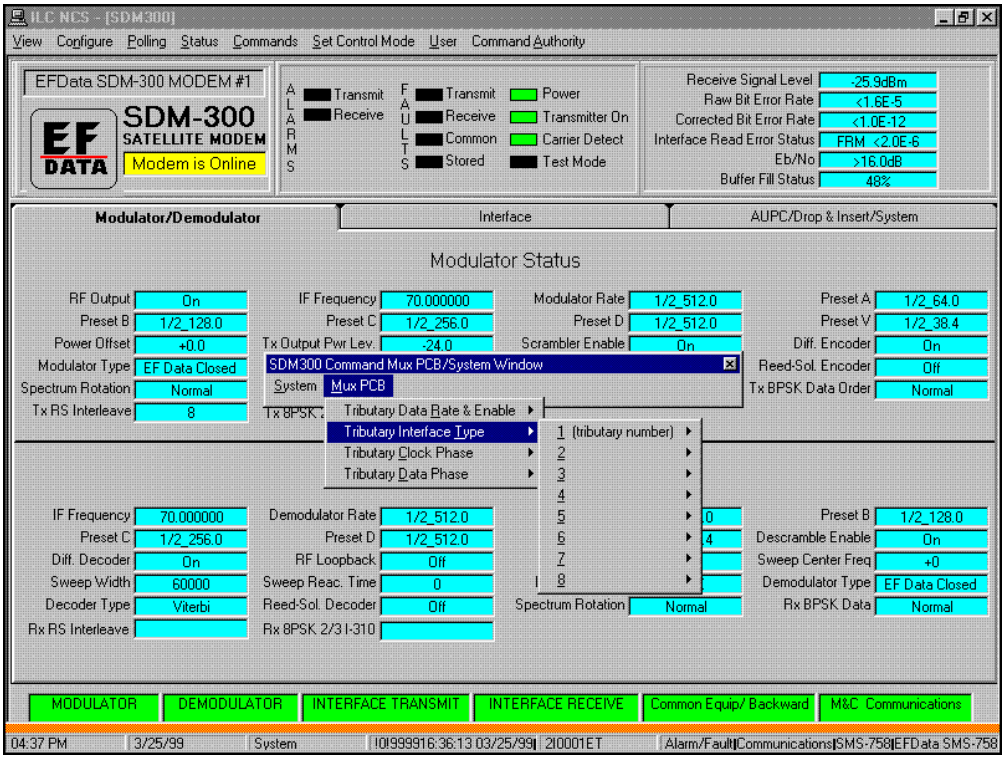


6.7.5.2 MUX PCB

The modem requires a MUX overhead card to be installed for those commands to be valid. The MUX PCB commands are:

- TRIB 1
- TRIB 2
- TRIB 3
- TRIB 4
- TRIB 5
- TRIB 6
- TRIB 7
- TRIB 8

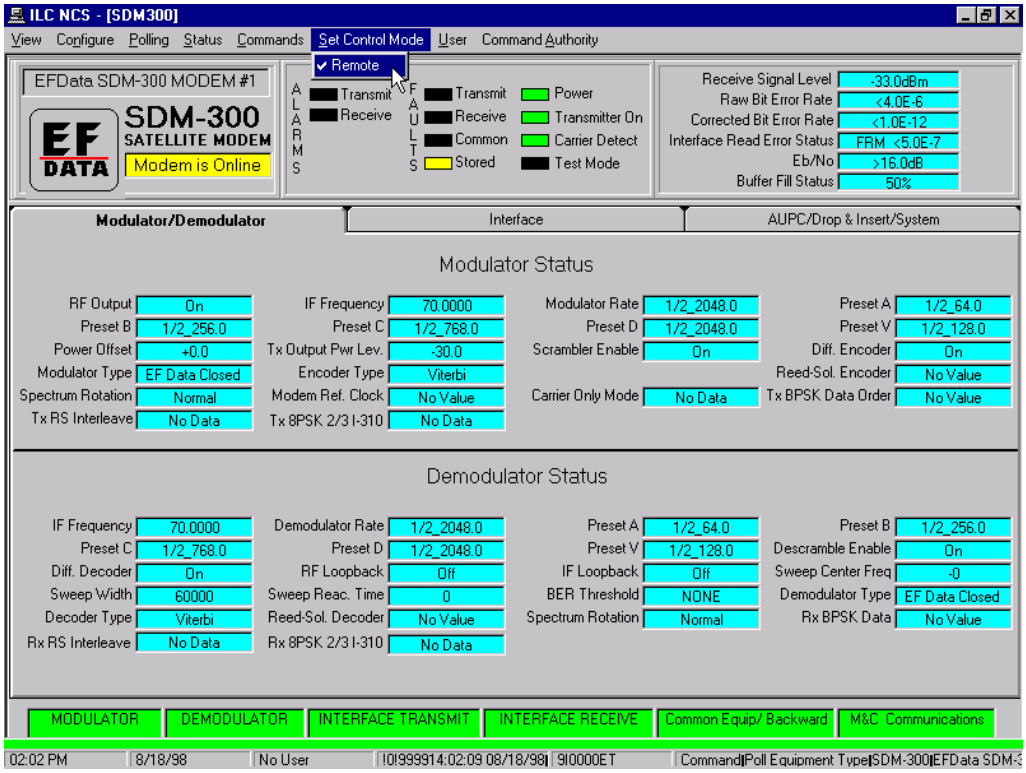
Refer to the SDM-300 Installation and Operation manual for use of these functions.



6.8 Control Mode and Authority Menus

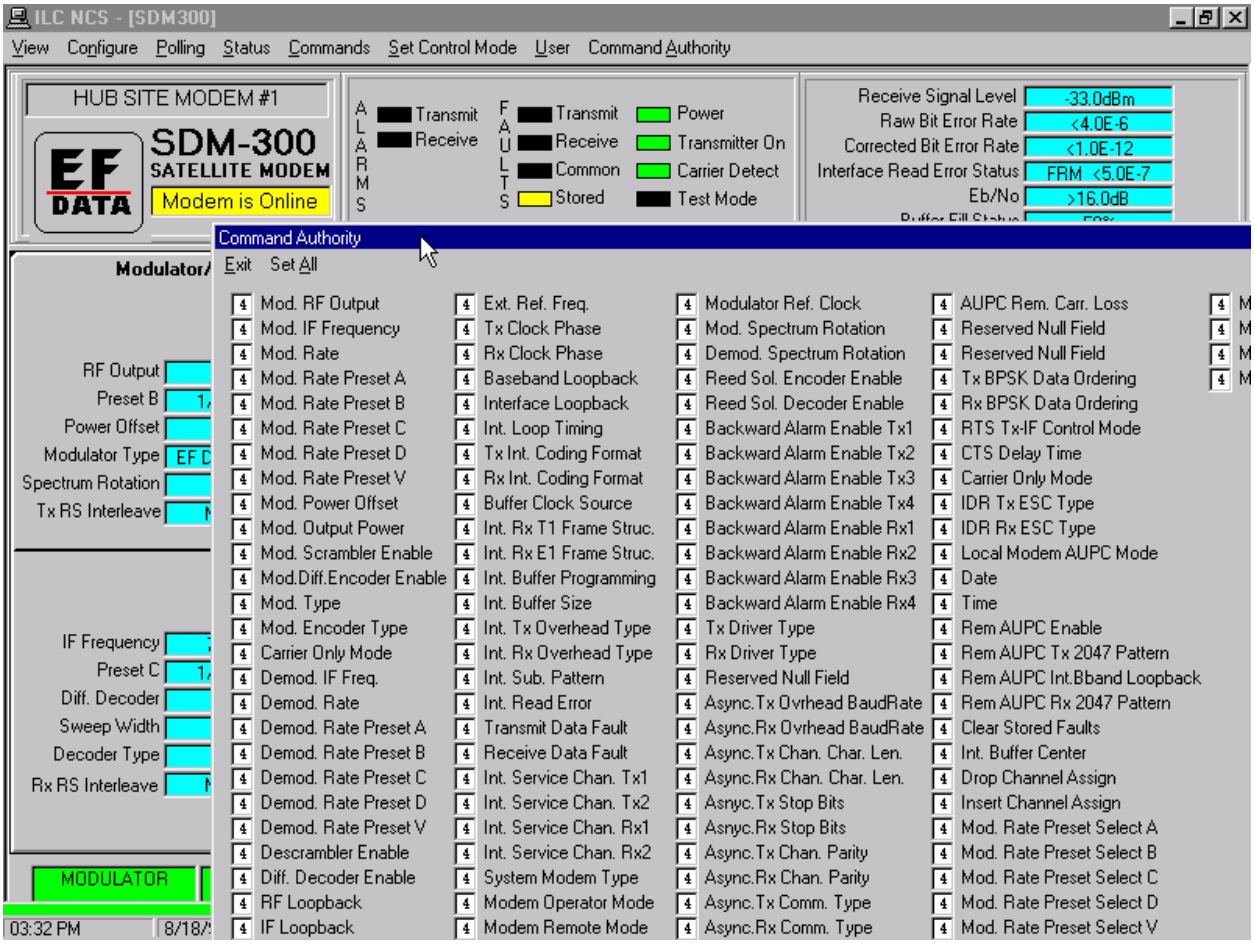
6.8.1 Set Control Mode

The modem shall be in the REMOTE MODE before any command changes. The MiniMAC System will not allow a command to be accepted in any other condition. To place the device in the REMOTE MODE, select SET CONTROL MODE and click on REMOTE.



6.8.2 Command Authority Window

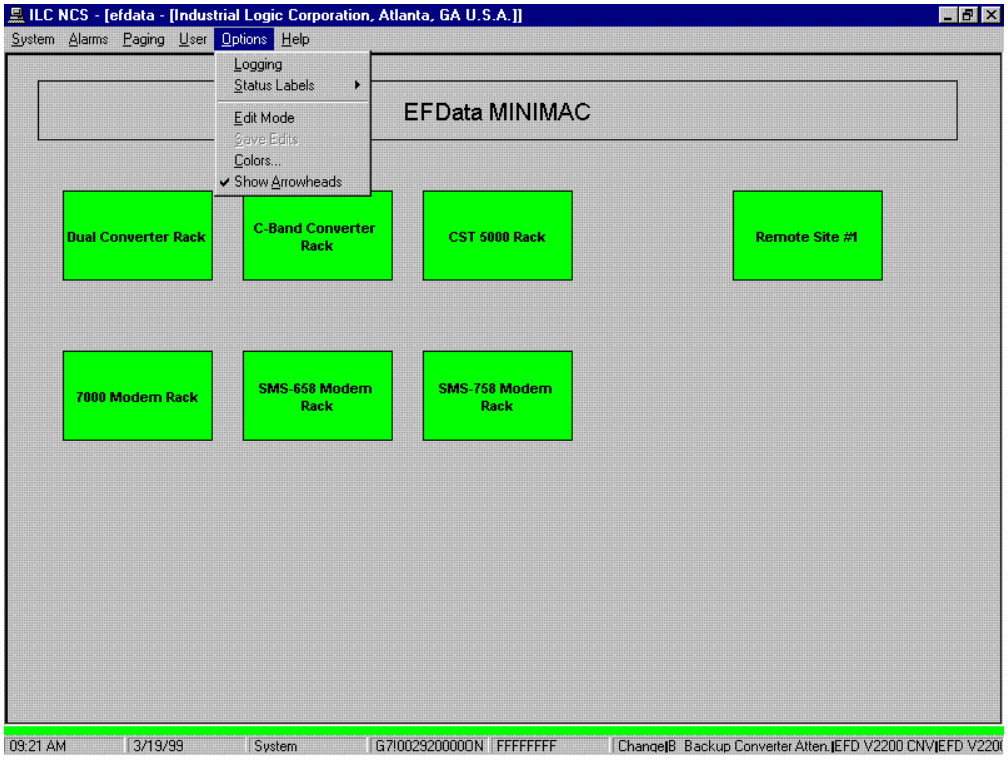
The COMMAND AUTHORITY window shows the authority level of the currently logged on user. These parameters can only be changed by the System user. Refer to Chapter 4. Editing Users before making, any changes.



5.1 Options

The Options menu allows the user to access the following system features:

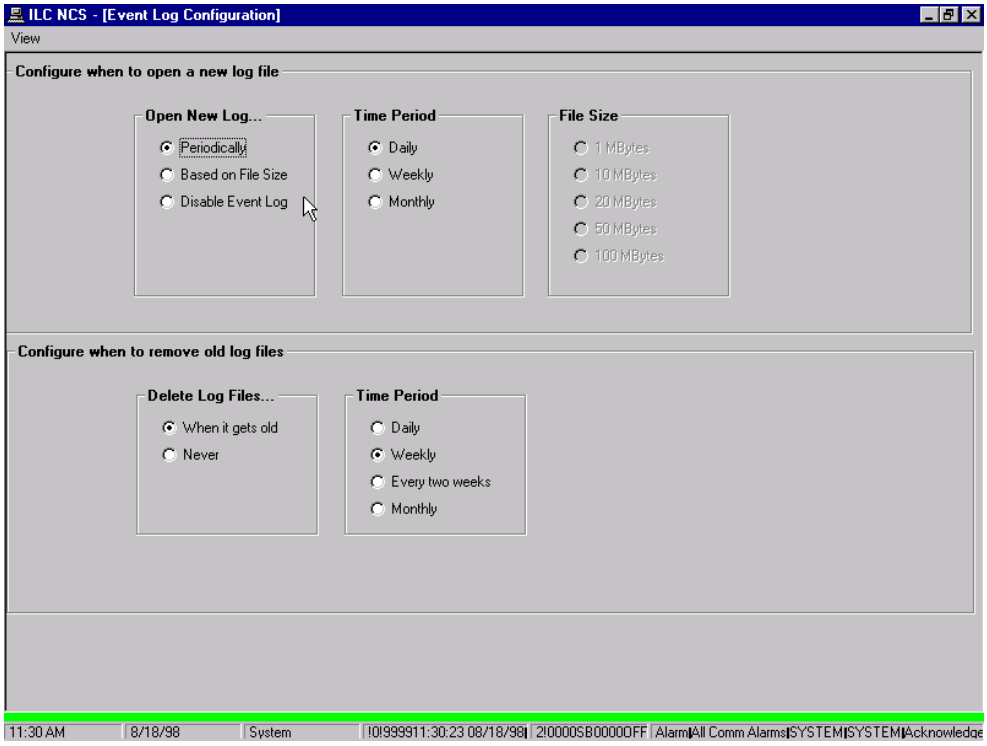
- Logging
- Status Labels
- Edit Mode
- System Colors



5.1.1 Logging - Setting Up the Log Configuration

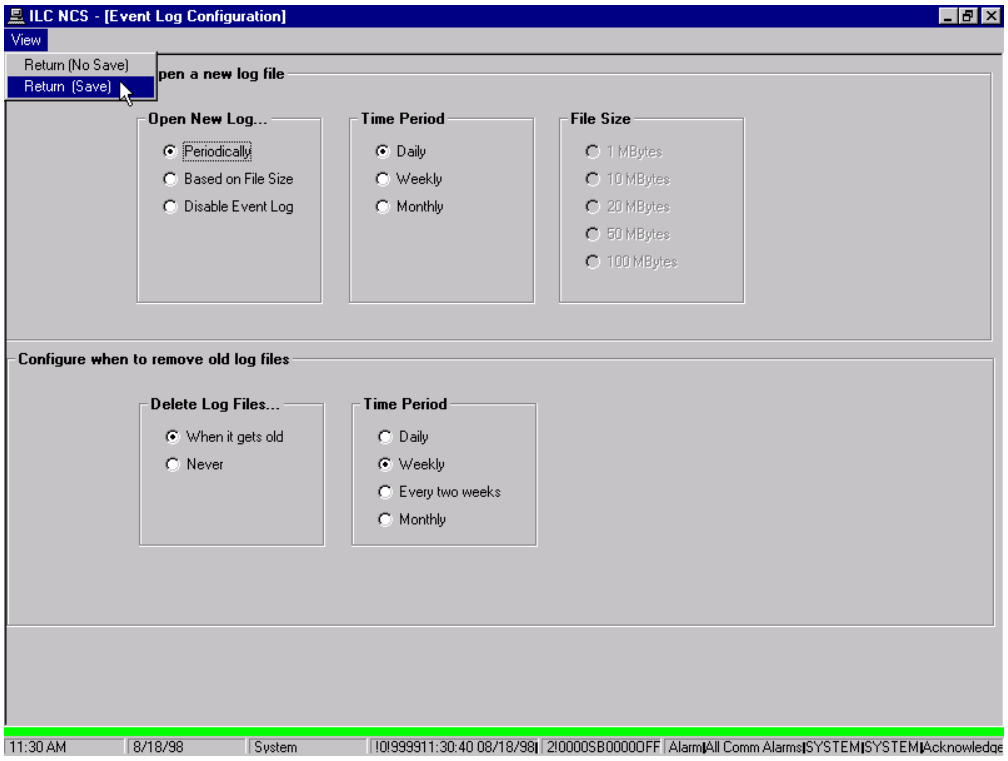
From the Options menu, select Logging. The Event Log Configuration window will appear. This feature programs the configuration parameters of the System Report Generator. The default settings are DISABLE EVENT. When disabled, the report generator will not log events. The user can select when to open a new log based on file size or time. The user also can configure when old files are removed (deleted). The recommended settings for the event log are:

- Periodically
- Daily
- When it gets old
- Weekly



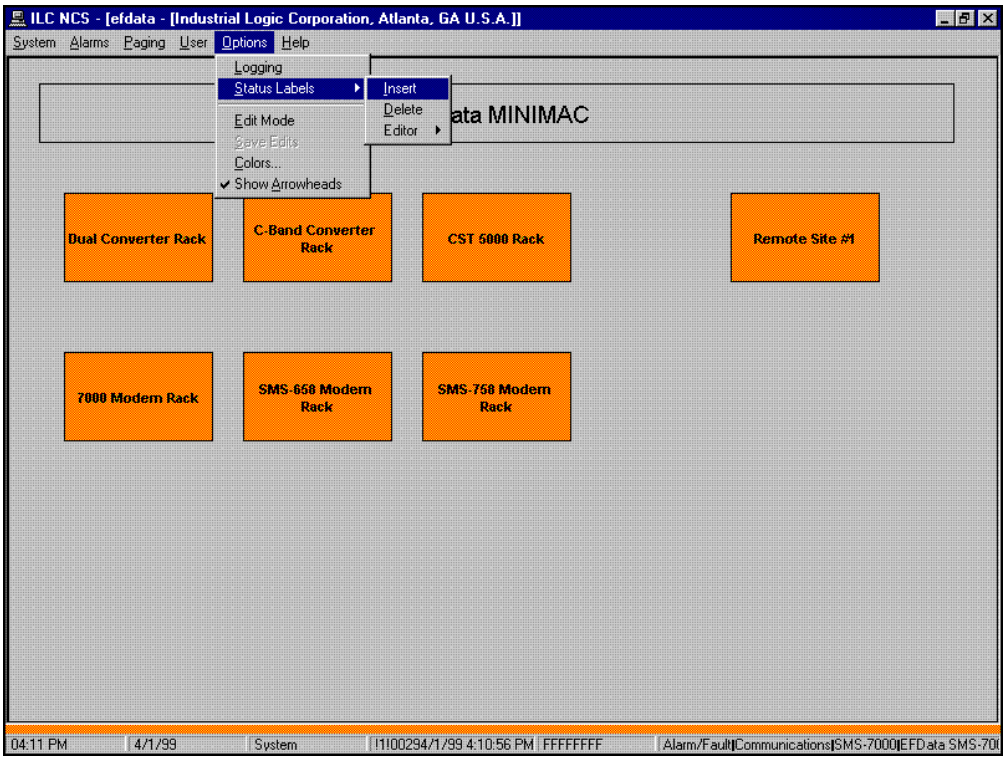
5.1.2 Saving Changes to the System Log Configuration

When the power settings have been configured, select View and save the new System Configuration parameters. This information will be saved in the Registry File.



5.2 Options – Status Labels

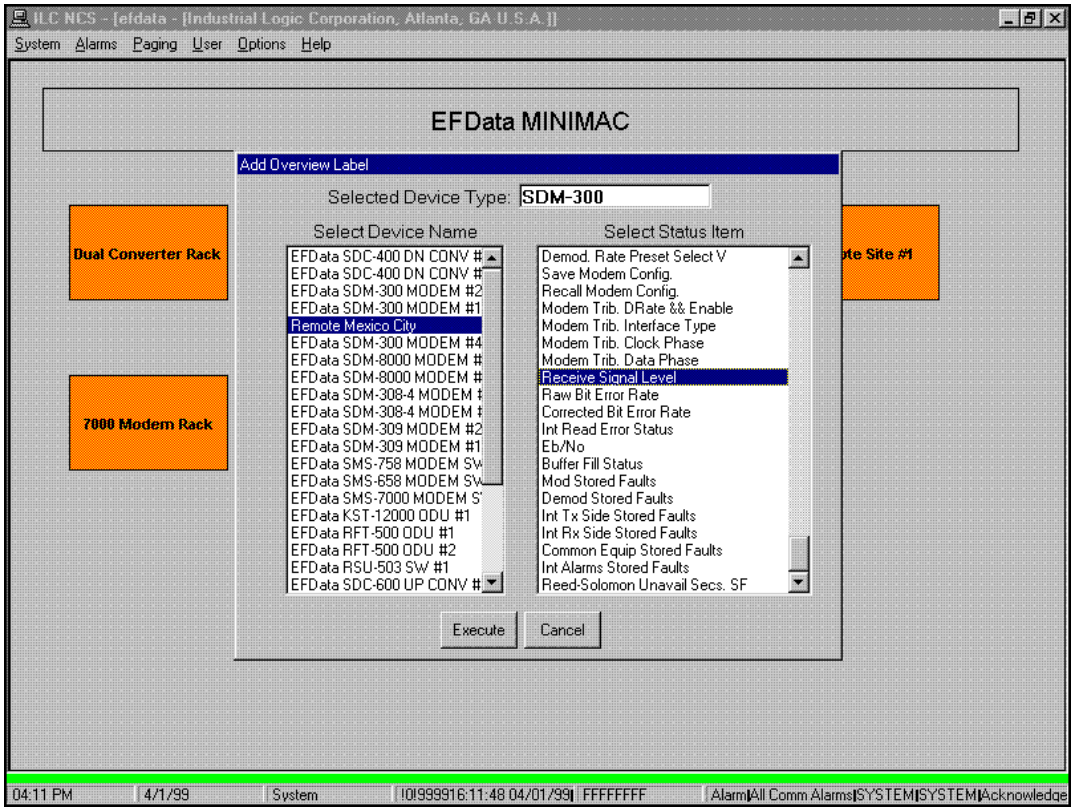
Status Labels are boxes that report status information on any device in the system. To insert labels, select OPTIONS, STATUS LABELS, and click on INSERT.



5.2.1 Insert Labels

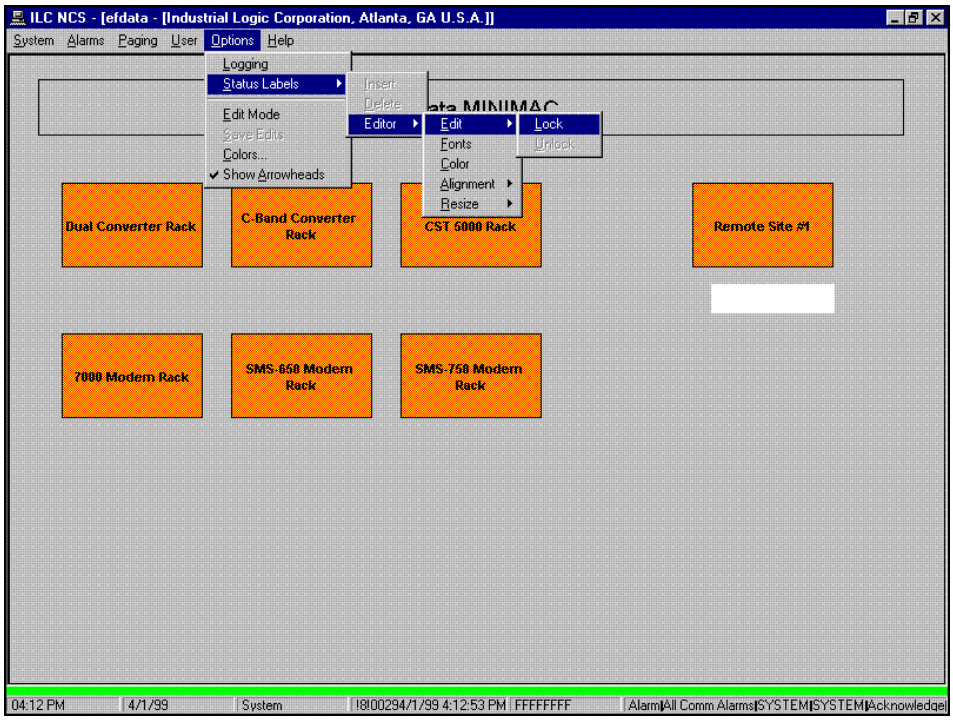
The Add Overview Label window will appear. The user must:

Command	Response
Select	A device from the Select Device Name window, located on the left.
Select	A Status Item from the right column.
Click on	Execute

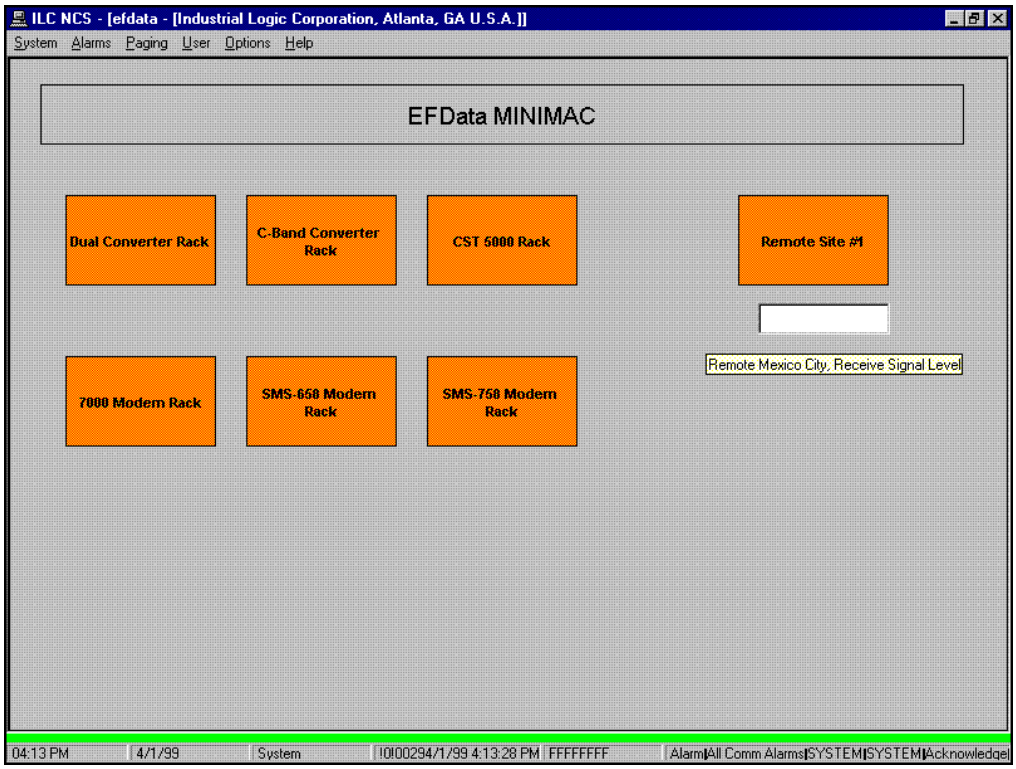


The label will appear in the upper left-hand corner of the screen. Use the mouse to Click and Drag the label to the desired position on the Overview screen.

To lock the label in place, select Options, Status Labels, Editor, and click on Lock.

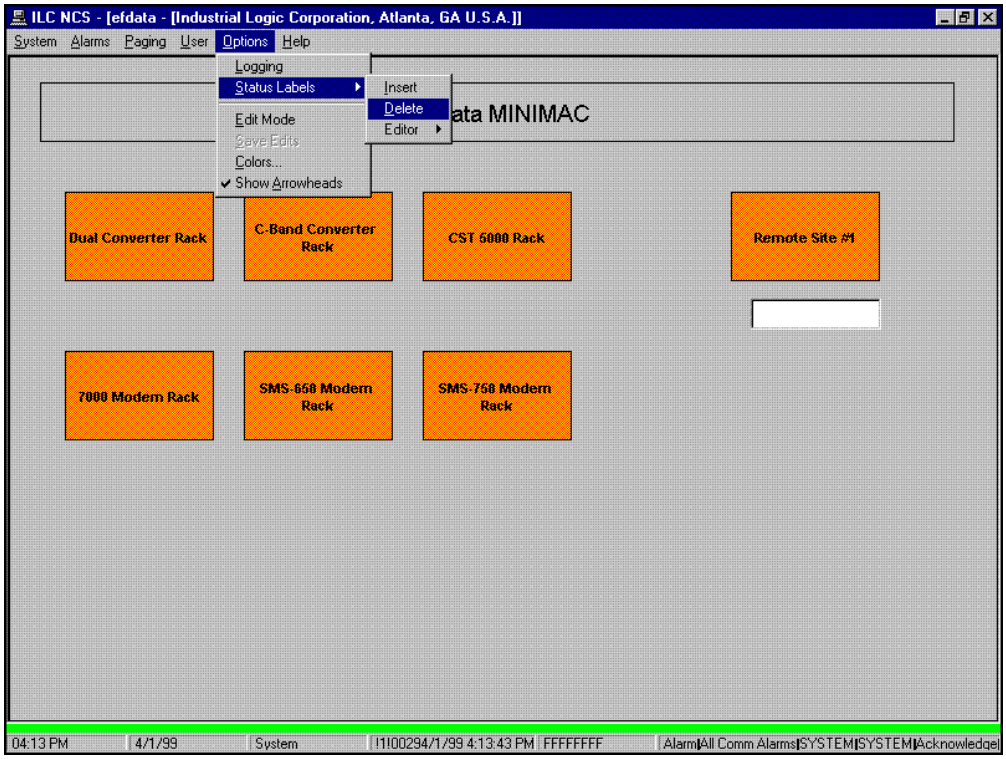


The label will be locked in place and will display the status information of the device. Put the cursor on the label and the device name and status parameters will be displayed.



5.2.2 Delete Labels

To delete a label, click on the label to be deleted and go to Options, Labels, Delete. The selected label will be deleted from the Main Overview screen.

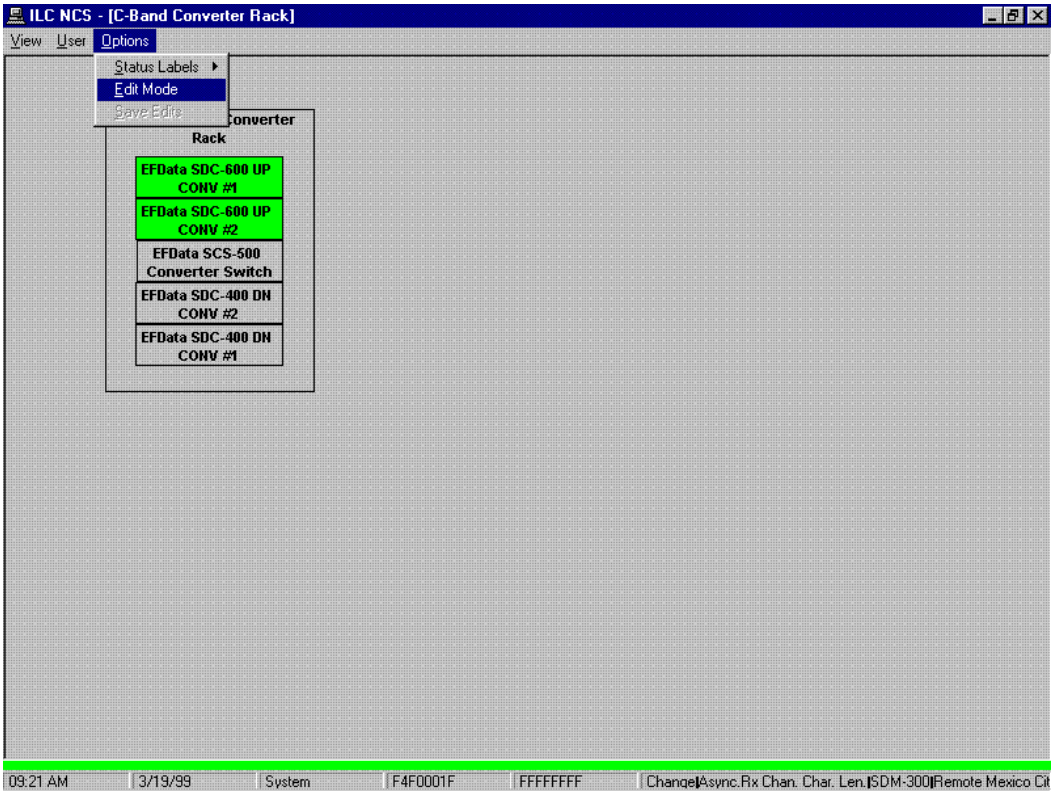


5.3 Options – Edit

The Edit Mode can be located in the main Overview Options menu and in the individual group Options menu. Both Edit Mode selections function in the same manner.

5.3.1 Options – Edit Mode

To edit the properties of a device or group, click on Options, Edit Mode. The cursor will change to a cross bar (+).

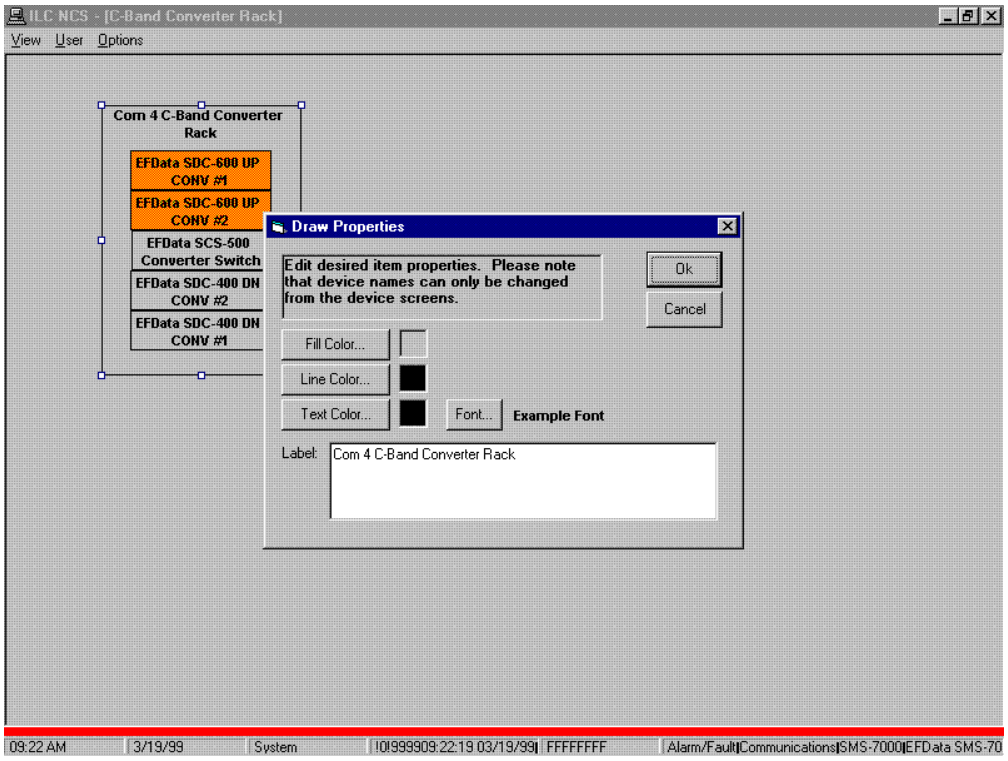


5.3.2 Options – Edit Mode – Draw Properties

Click on a device or group to be edited. The Draw Properties for the highlighted device will appear.

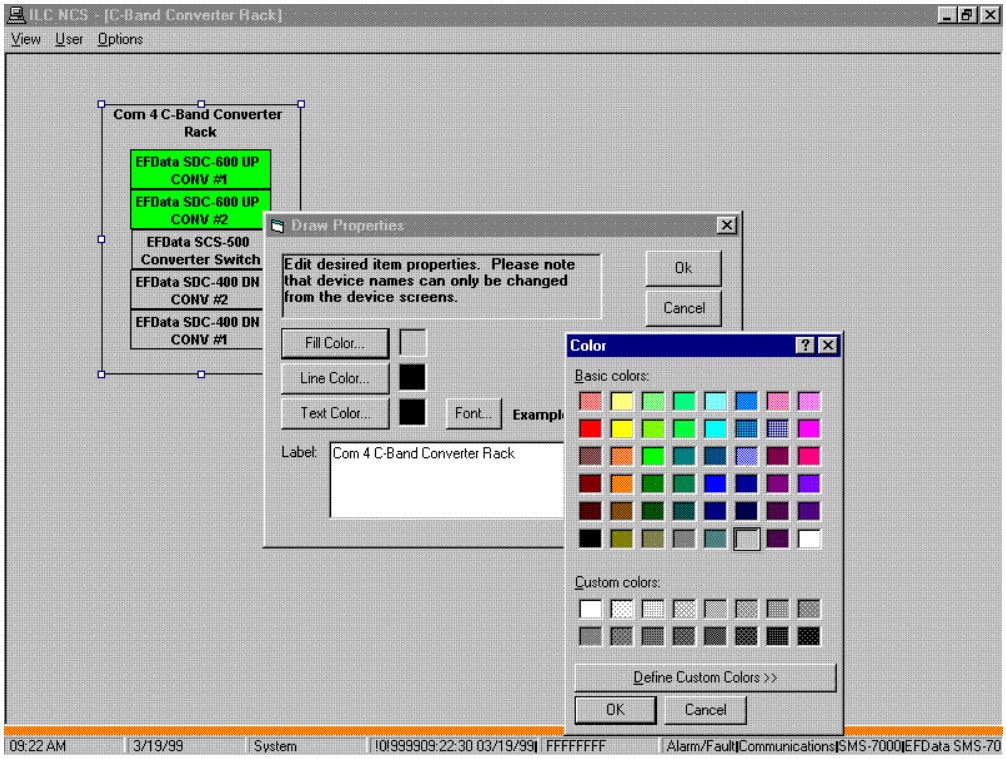
- From the Draw Properties, the user can change the Fill Color, the Line Color, and the Text Color of the selected device.

The user also can edit the label. When changes are completed, click on OK.



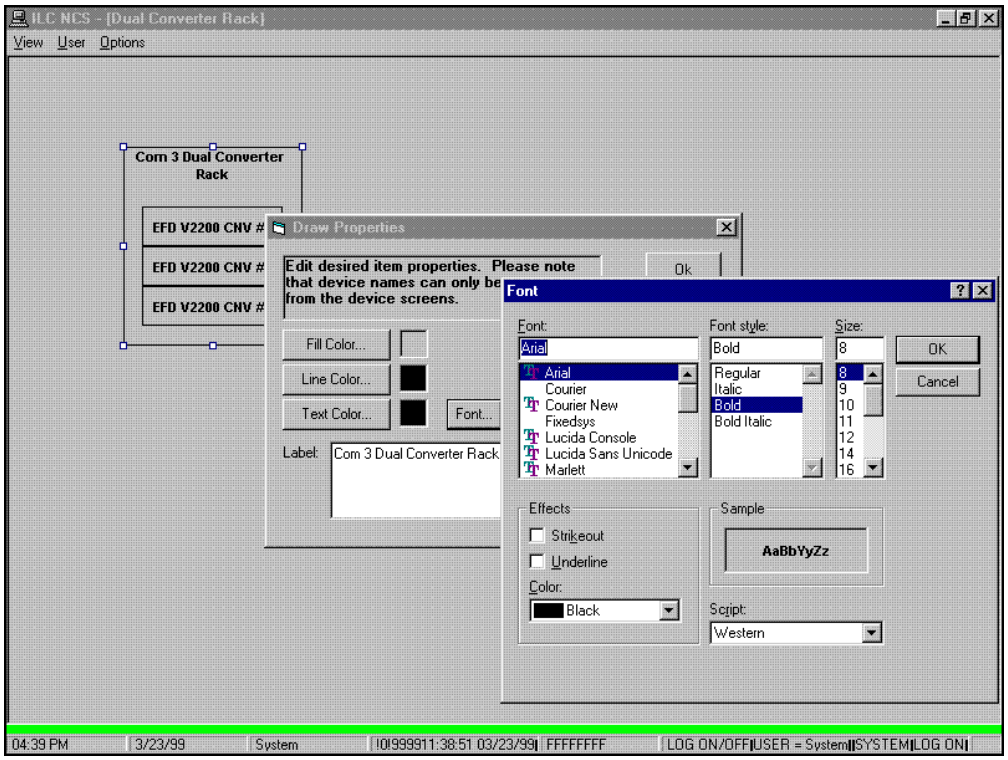
5.3.3 Options – Edit Mode Color

The color window is the same for all of the properties. Click on the property to be edited and the color box will appear. Change color to a basic color from the selection or Define Custom Colors and click OK when completed.



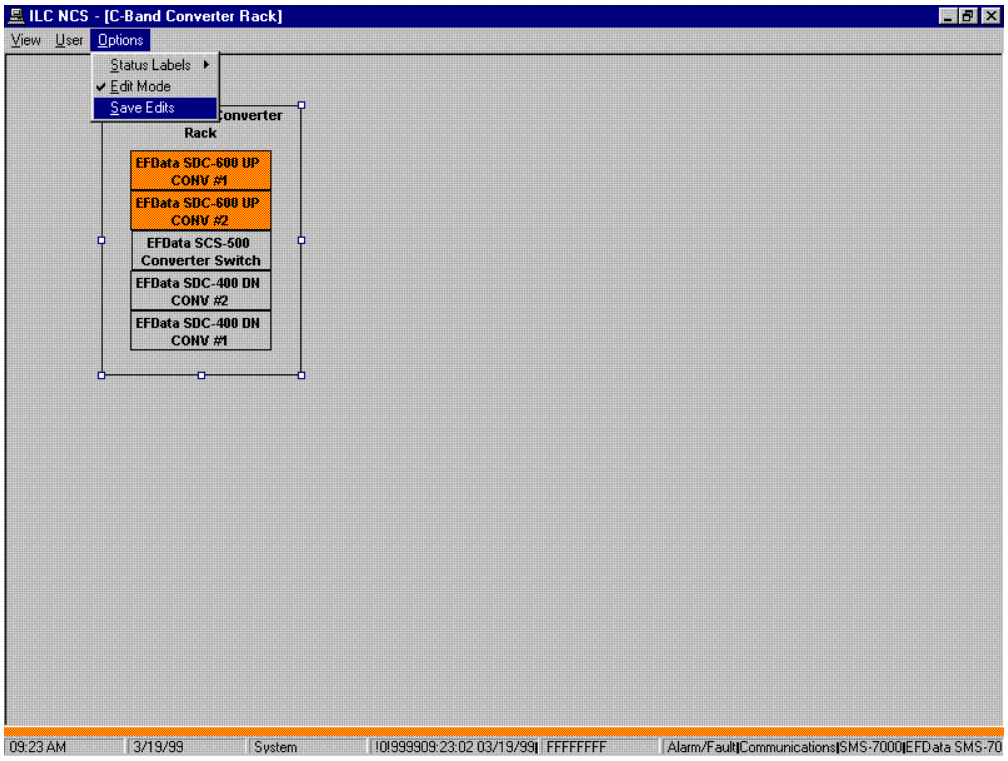
5.3.4 Options – Edit Mode - Font

From the Draw Properties window, the user also can select FONT to edit the Font Properties of the label.



5.3.5 Options – Saving the Edit

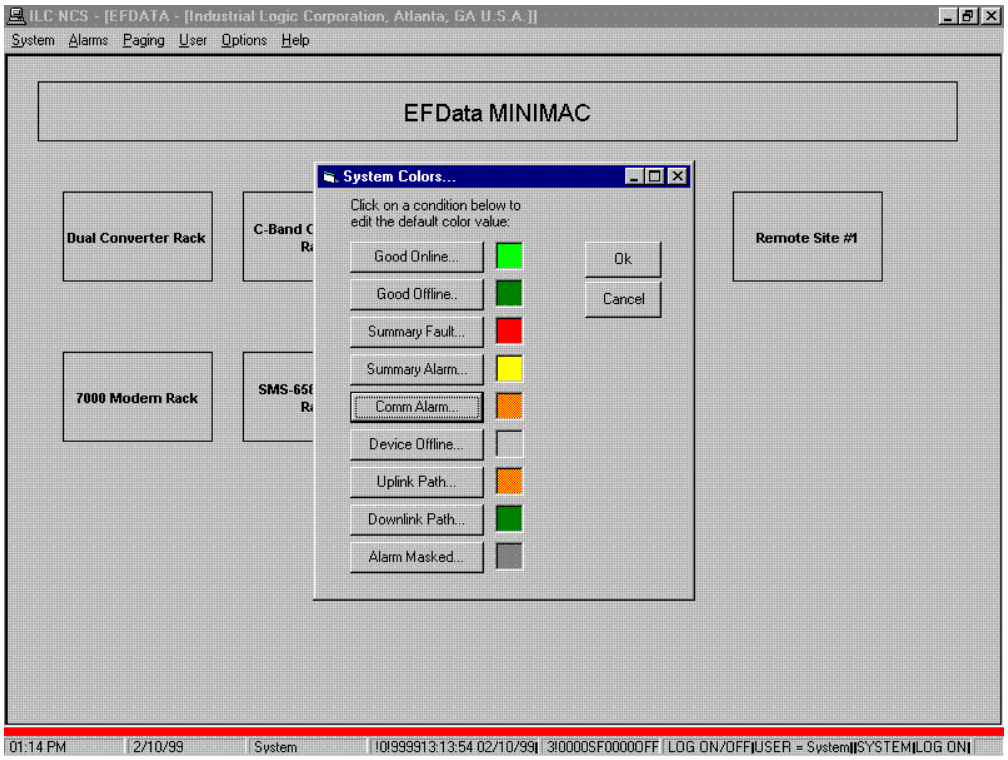
When all devices have been edited, save edits in the Options menu. When the edits have been saved, turn the Edit Mode off by clicking Edit Mode [The Check mark (✔) indicates the feature is active].



5.4 Options – System Colors

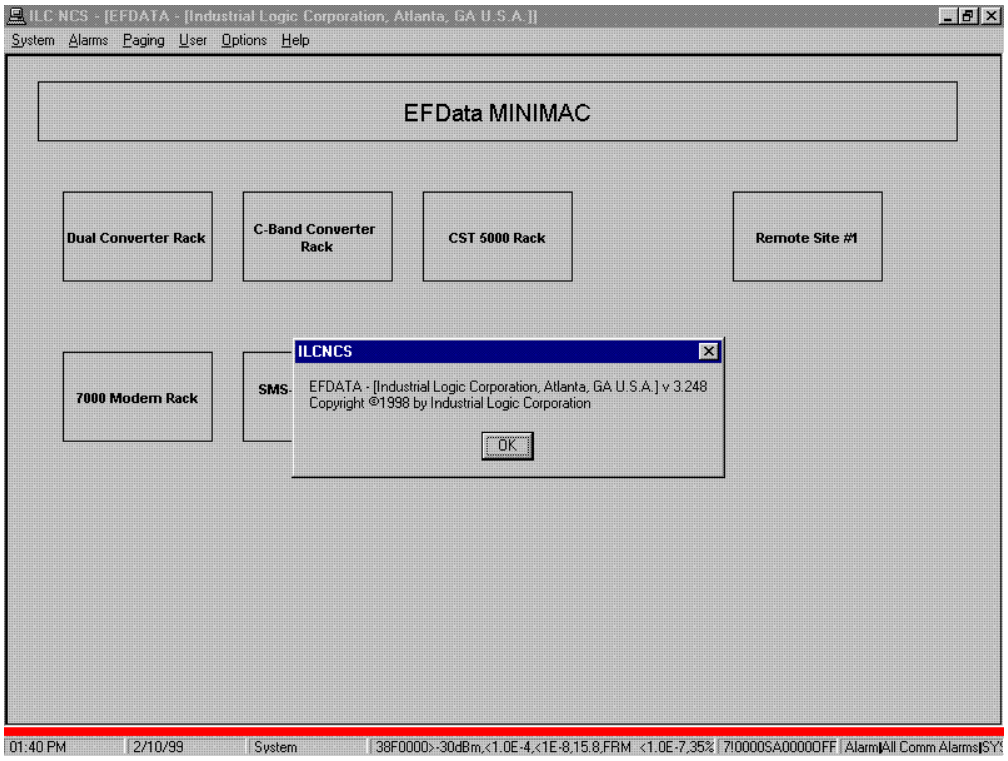
The user has the ability to change the default color value of the various conditions. The default values are:

Default Value	Default Color Value
Good Online	Green
Good Offline	Dark Green
Summary Fault	Red
Summary Alarm	Yellow
COMM Alarm	Orange
Device Offline	Gray
Uplink Path	Orange
Downlink Path	Dark Green
Alarm Masked	Dark Gray



5.5 Help Menu

The Help Menu will display the software version of the ILCNCS program that is currently loaded.



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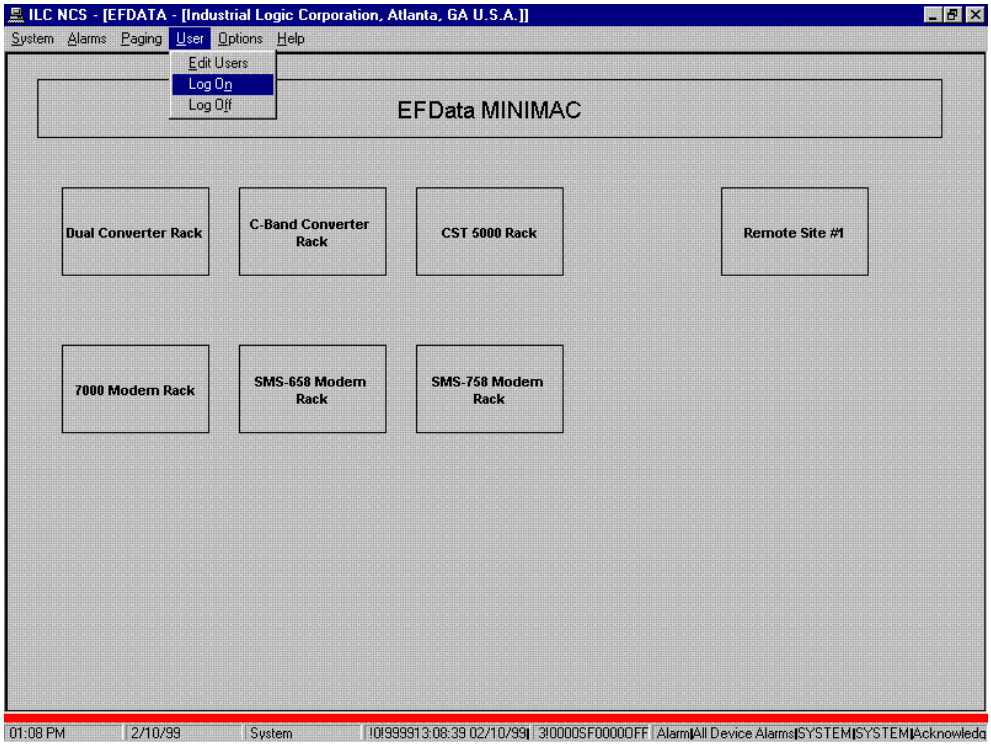
4.1 Logging On/Off the System

Authorized users must log On to the MiniMAC System in order to use the control functions. Users should log off the system when a control session is finished.

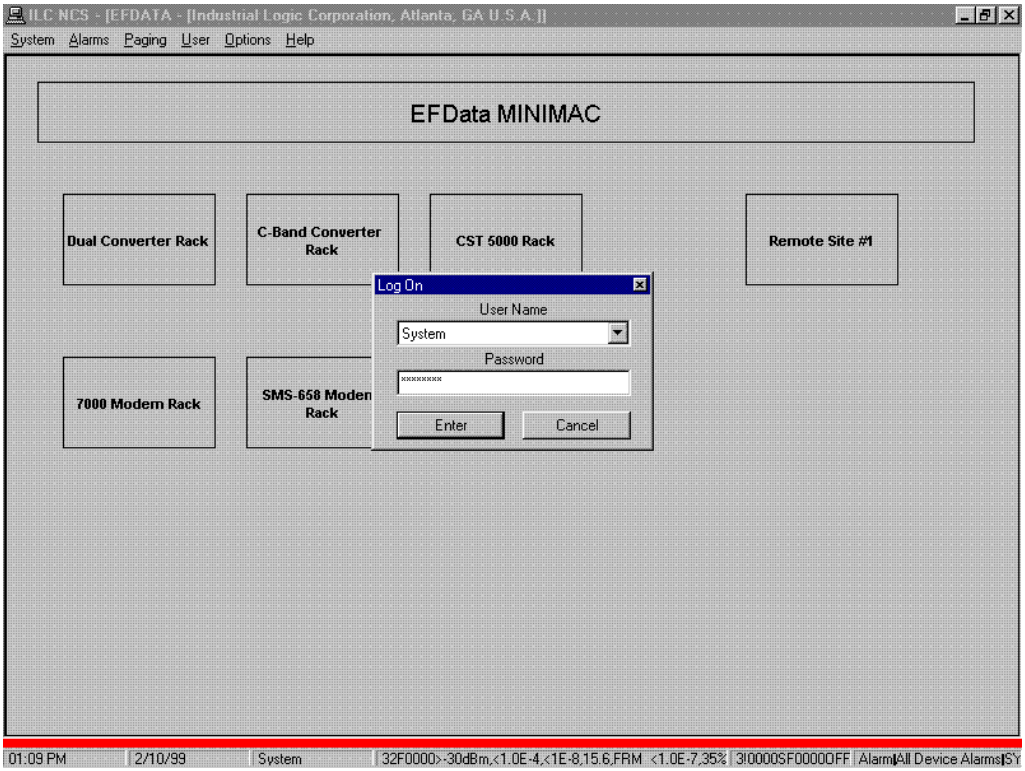
Note: Authorized user names and passwords are maintained using the [EDIT USER] function, available from the MAIN screen. User names and passwords can be added, changed, or deleted only by the SYSTEM user.

4.1.1 Log On

To log on, select user, Log On.



Command	Response
Select	USER NAME
Type	Password
Click on	OK



4.1.2 Log Off

To log off, proceed as follows:

Command	Response
Select	User
Select	Log Off

Note: Once log off is completed, all command functions are disabled. However, monitor functions and screen access remain enabled.

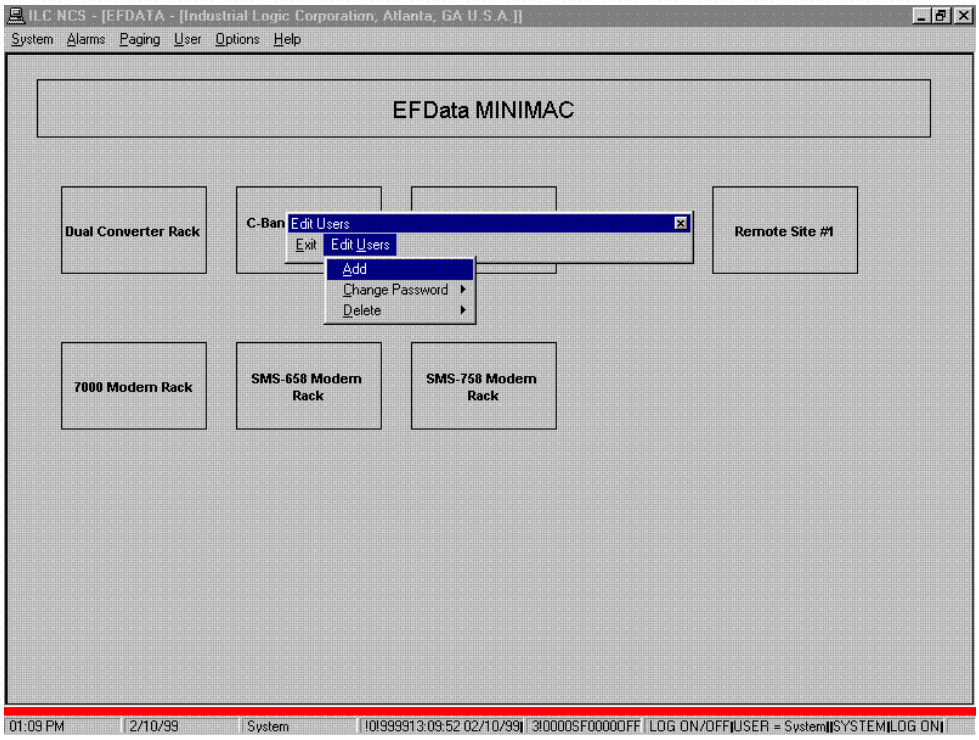
4.2 Edit Users

Note: Only the authorized user as the SYSTEM user can add, change, or remove these records.

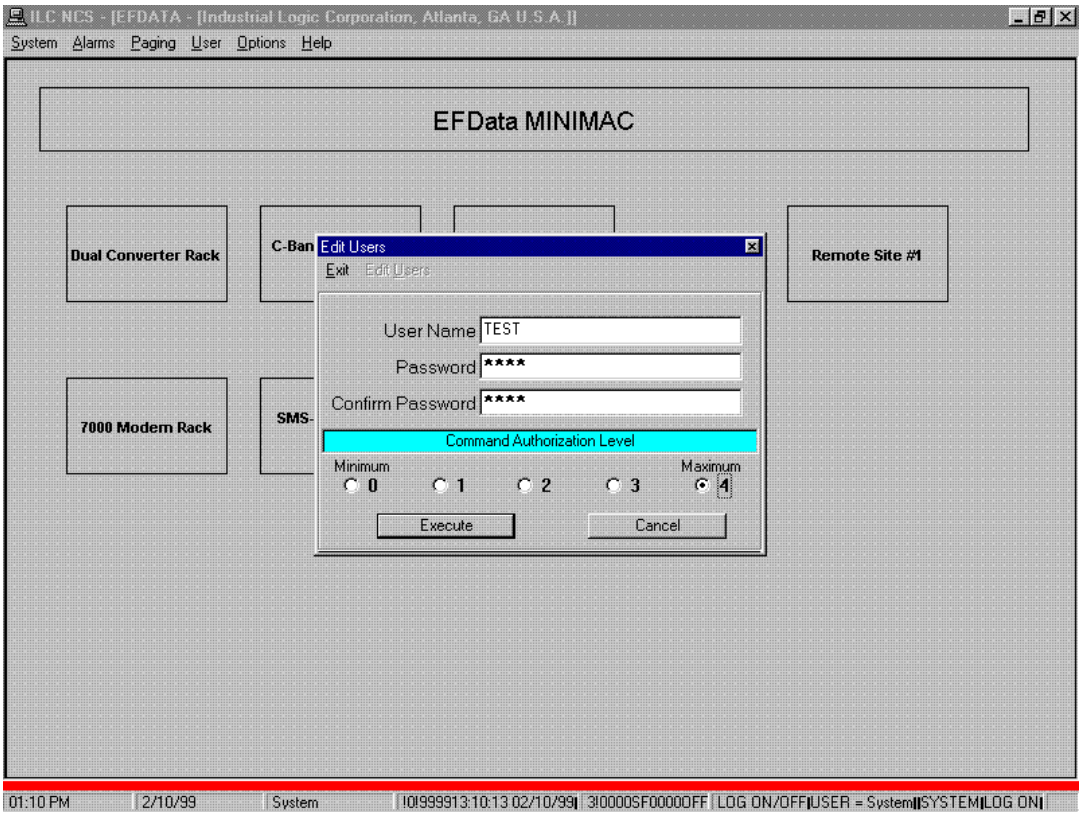
To display the EDIT USERS Screen, Log On as the SYSTEM user and select EDIT USERS from the MAIN menu.

4.2.1 Edit Users – Adding a User

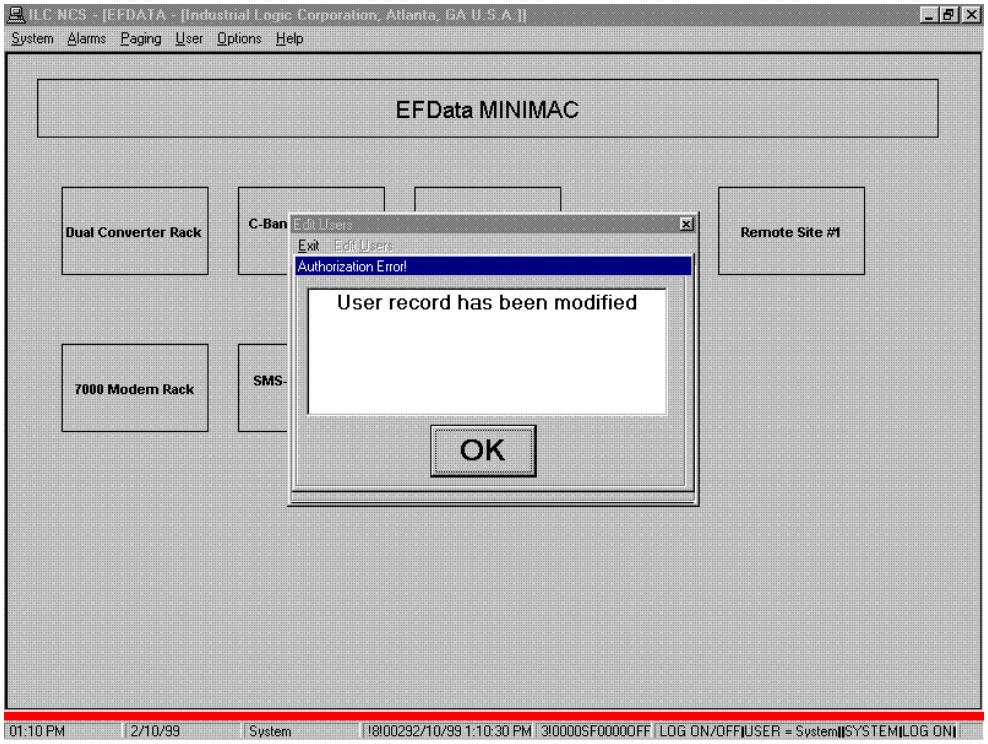
To add a user, proceed as follows:



Command	Response
Select	Edit Users
Select	Add
Type (USER NAME field)	Log On name of the user (12 characters max) **Note:** User name is case sensitive.
Type (PASSWORD field)	User's password (12 characters max) The typed password will not be displayed. but is masked by asterisk character (*). **Note:** Password is case sensitive.
Confirmation Password	Retype the user's password. If a problem exists, select CANCEL to abort procedure.
Select	Command Authorization Level (Min 0, Max 4)
Select	Execute



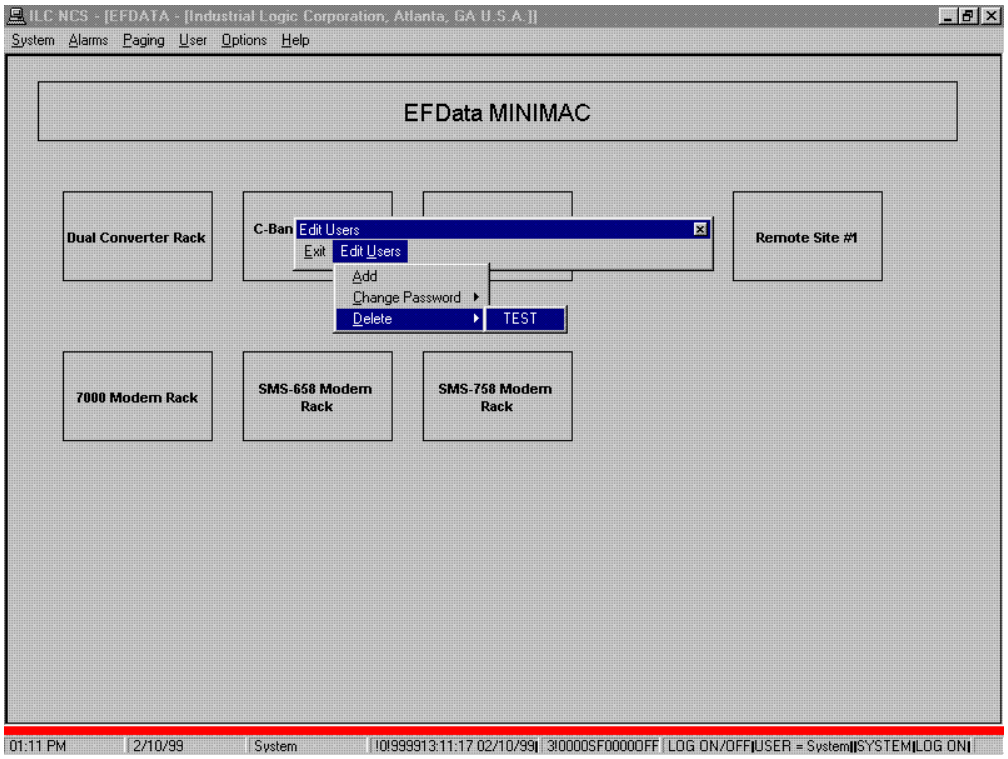
The system will notify user that the record has been modified. Click on: OK.



4.2.2 Deleting Users

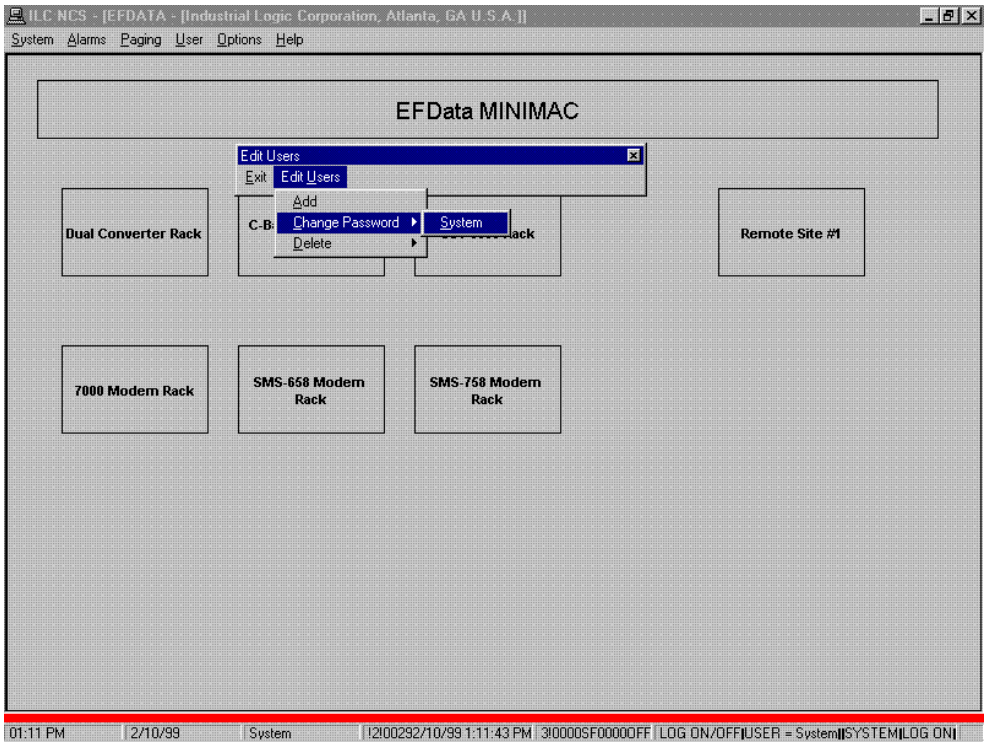
To remove a user, proceed as follows:

Command	Response
Select	Edit Users
Highlight	Delete
Highlight	User Record to be removed
Select	Yes
Select	OK

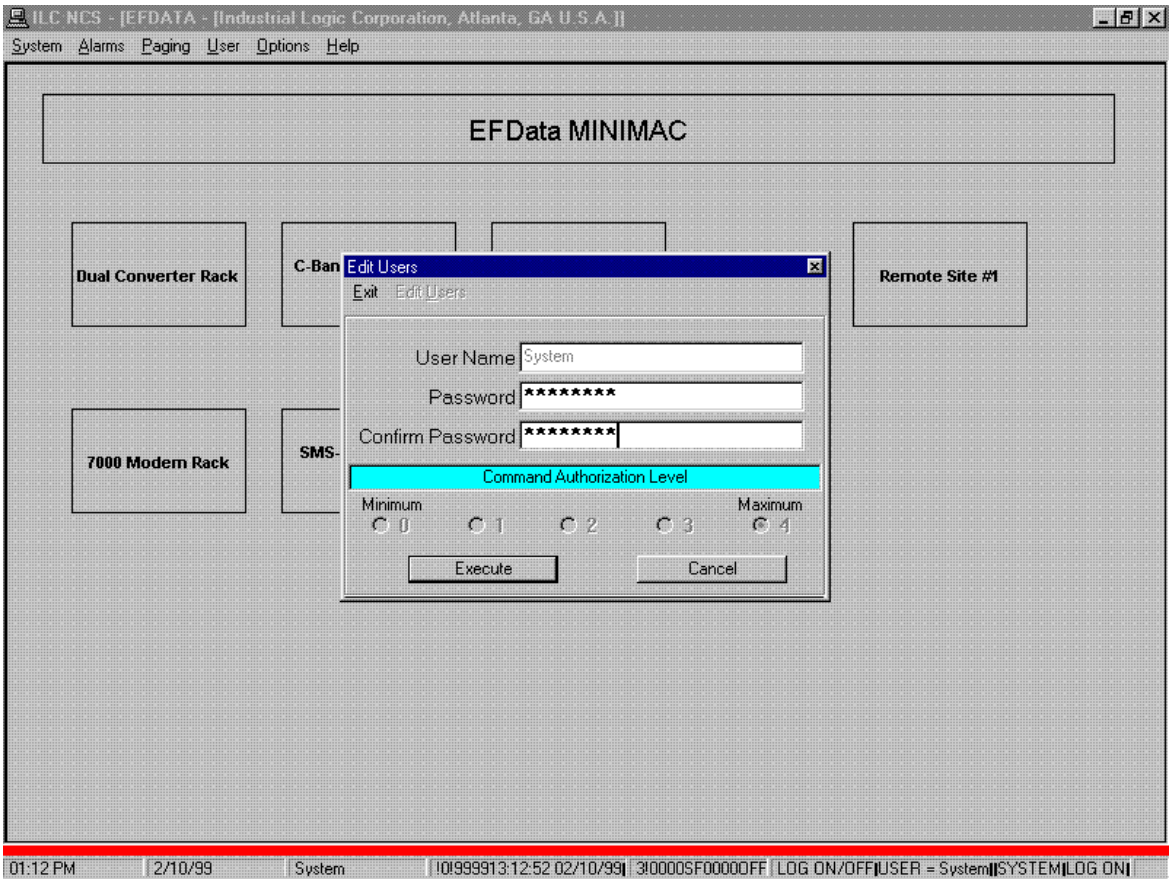


4.3 Change Password

To EDIT PASSWORD screen, proceed as follows.



Command	Response
Select	Edit User
Select	Change Password
Highlight	User record to be modified
Type	User's New Password (12 Characters max) **Note:** Password is case sensitive.
Confirm Password	Retype Password. The type password is masked by asterisk characters (*).
Select	Command Authorization Level
Select	Execute



The Record has been modified window will appear. Click on: OK.

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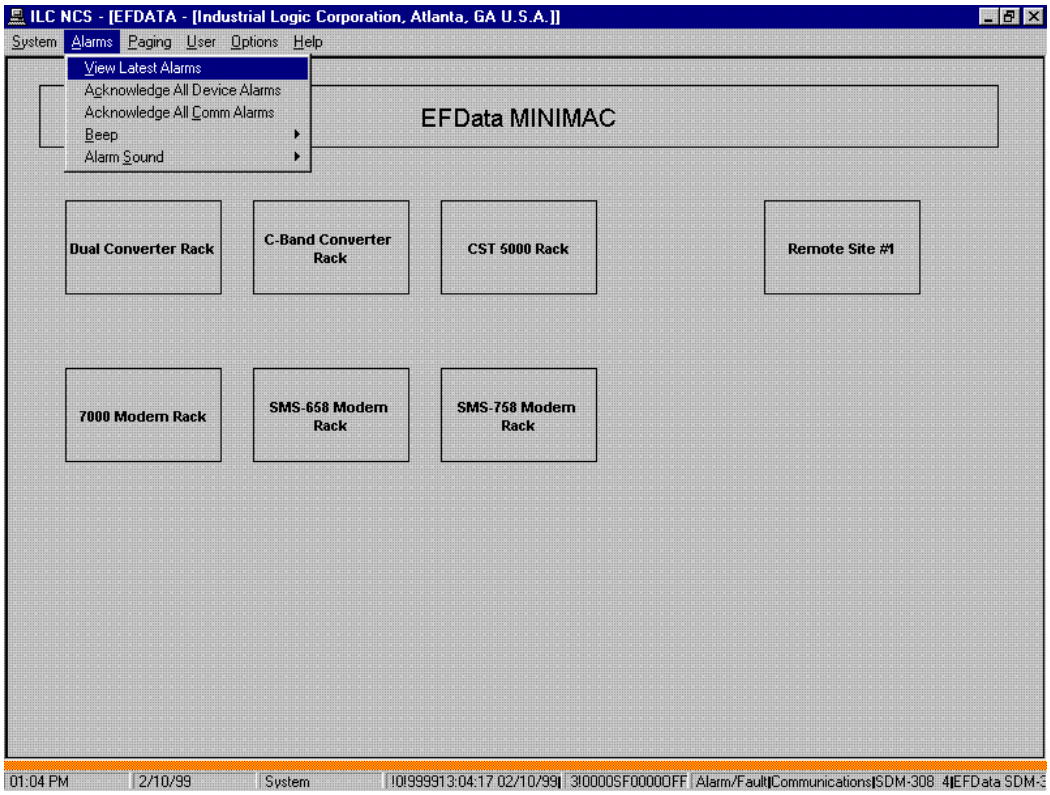
3.1 View Latest Alarm

To view the latest alarms:

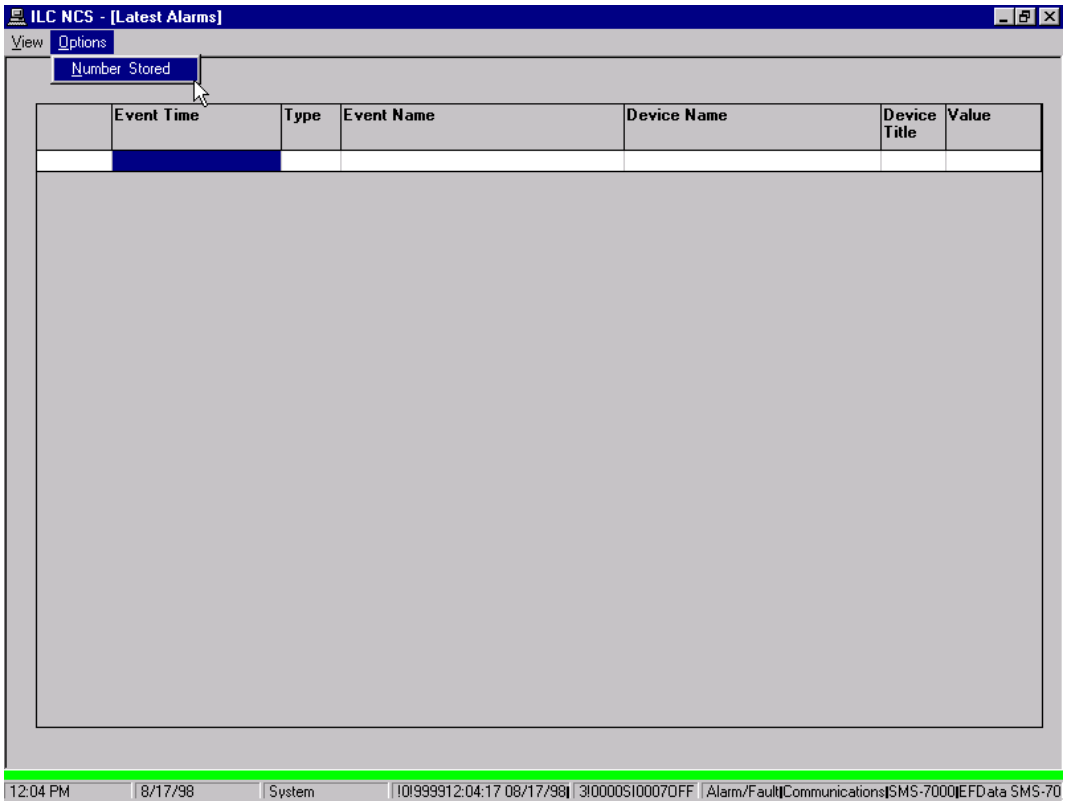
Command	Response
Select	ALARMS drop down menu
Click on	VIEW LATEST ALARMS



3.1.1 Stored Numbers

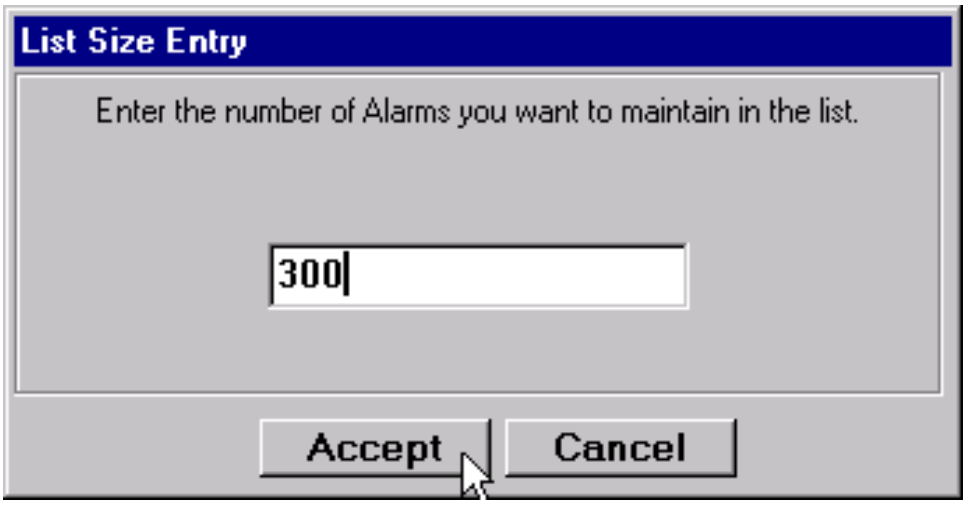
The default number of stored alarms is zero. To change the number of stored alarms, proceed as follows:

Command	Response
Go to	OPTIONS (drop down menu)
Select	NUMBERED STORED

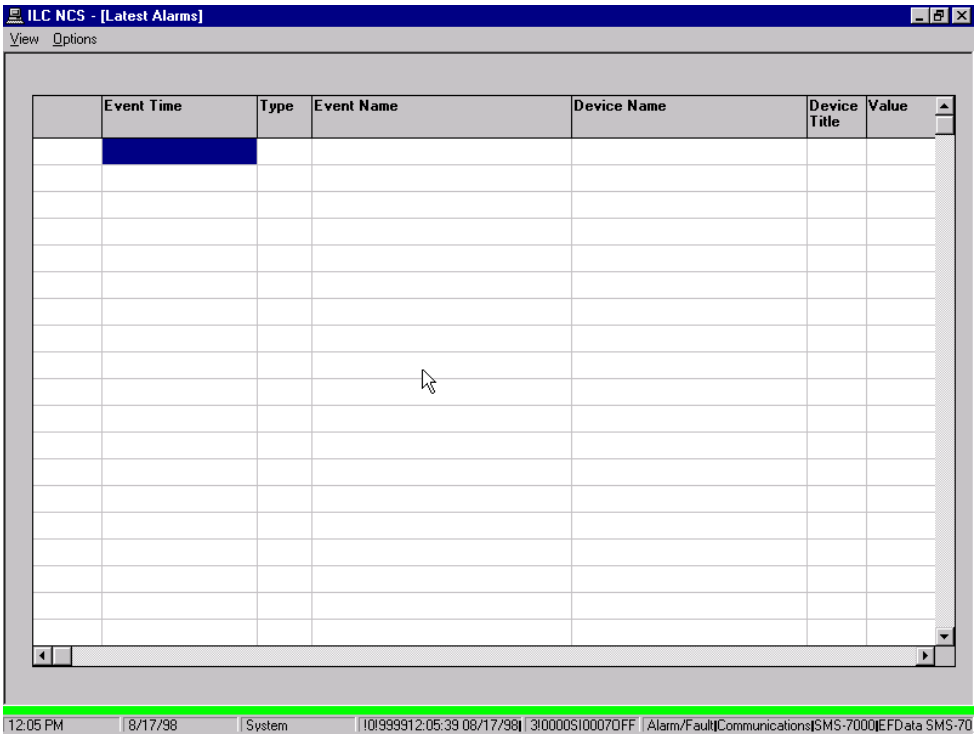


3.1.2 Changing Numbered Stored

Enter the new number of stored alarms in the LIST SIZE ENTRY box and ACCEPT or CANCEL procedure.



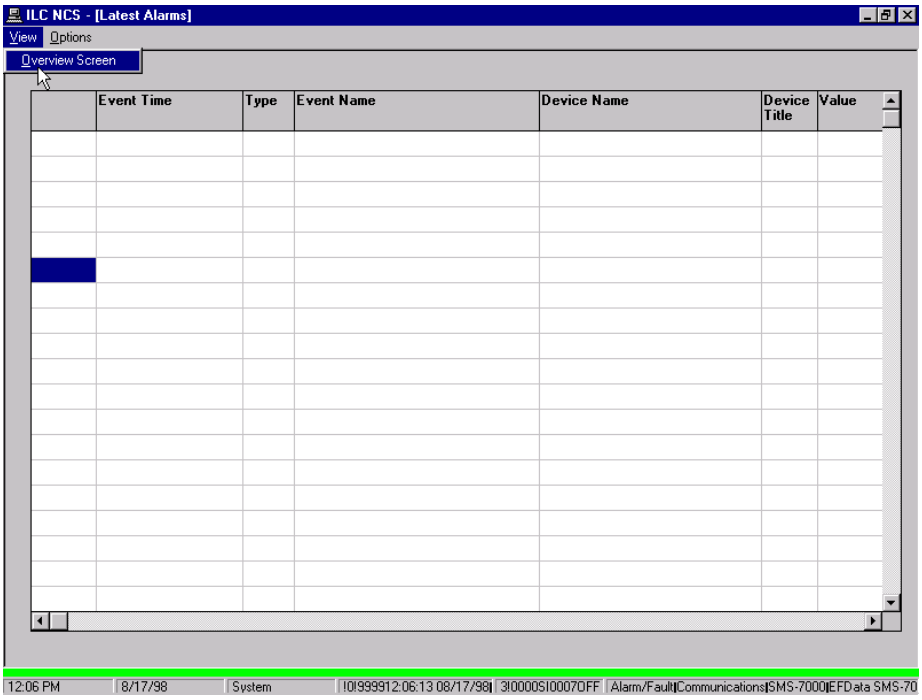
Note: Observe the change after it is accepted. The number of lines for STORED ALARMS will reflect the list size.



3.1.3 Returning to the Overview Screen

To return to the OVERVIEW Screen, proceed as follows:

Command	Response
Select	VIEW (drop down menu)
Click on	OVERVIEW SCREEN

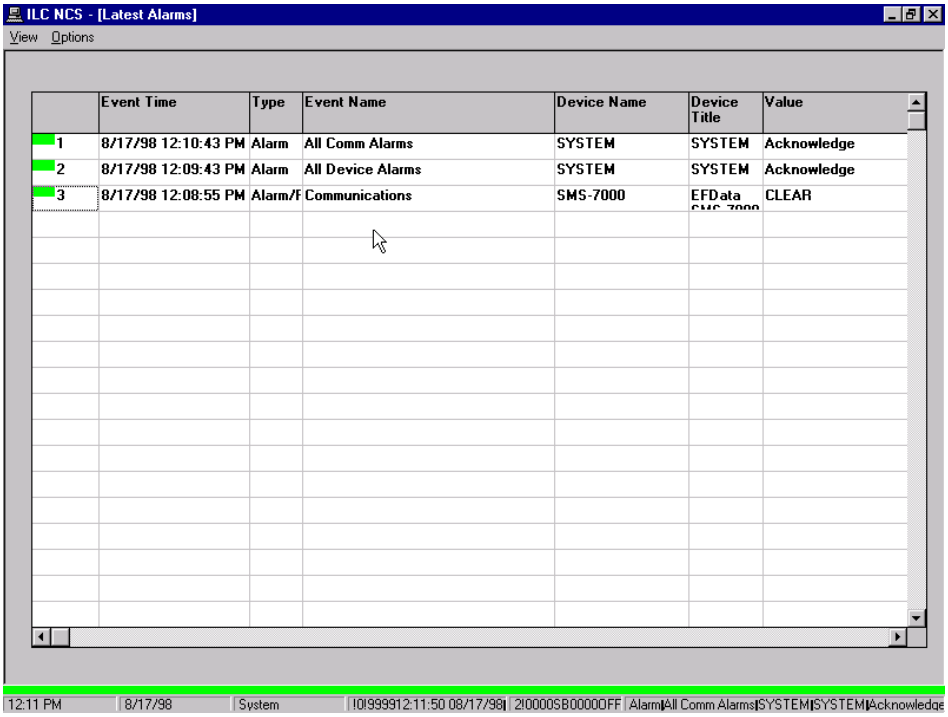


3.1.4 Viewing Stored Alarms

Upon subsequent entries into the ALARMS, VIEW LATEST ALARMS, from the MAIN OVERVIEW Screen, all stored faults and alarms will be displayed in the log. This information also is stored in the REPORT GENERATOR log.

In the first column, a color bar will display the status of the event.

Color Bar Displayed	Explanation
RED	A FAULT has occurred.
YELLOW	An ALARM has occurred.
ORANGE	A COMMUNICATION error has occurred
GREEN	System Request or Status Change to Normal Operation

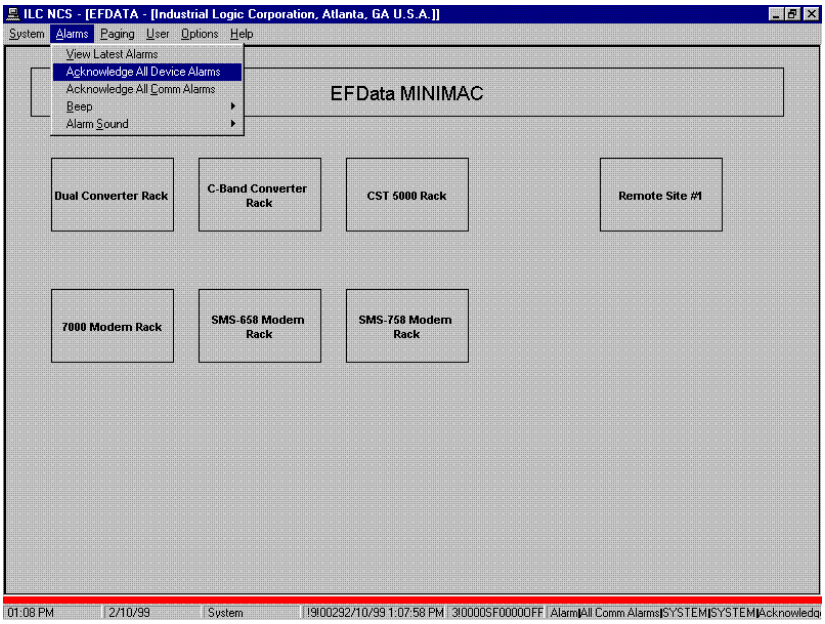


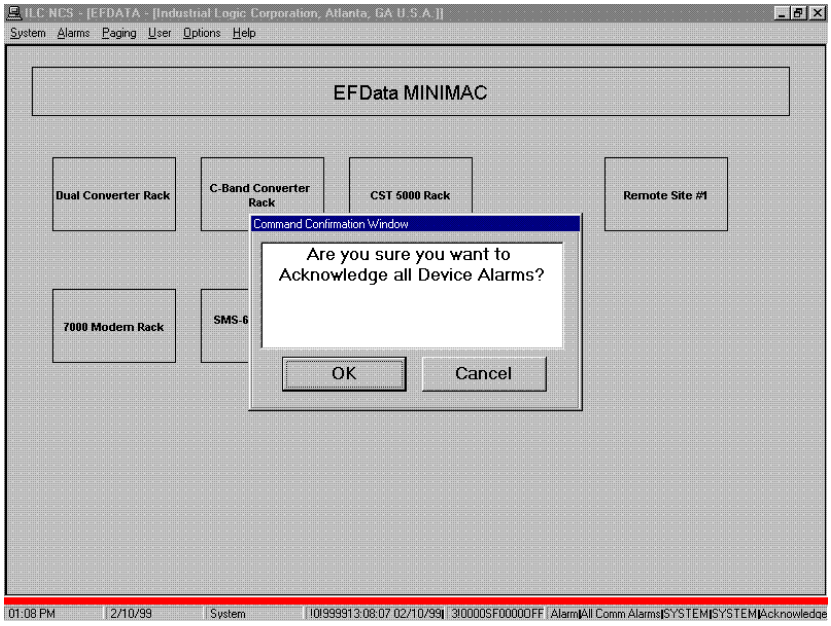
Second Column	Displays the EVENT date and time.
Third Column	Displays the TYPE of event (FAULT or ALARM)
Fourth Column	Displays the EVENT NAME.
Fifth Column	Displays the DEVICE NAME.
Sixth Column	Displays the DEVICE TITLE.
Seventh Column	Displays the VALUE of the event type (status of the event).

3.2 Acknowledging All Device Alarms

When a device has a fault or alarm, the MiniMAC will display a Flashing RED, YELLOW device, or group to alert the user of this new status. To acknowledge these alarms, select Alarms\Acknowledge All Device Alarms. This will prompt the user with a Command Conformation window. Click on OK.

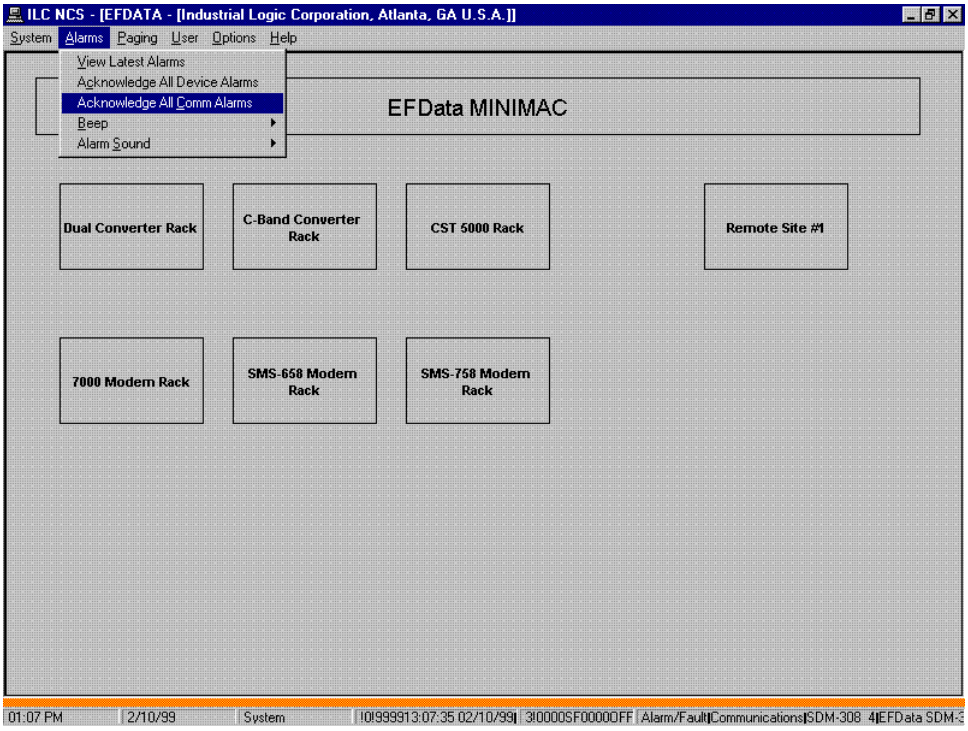
The flashing RED or YELLOW device will no longer flash until a new alarm is detected.

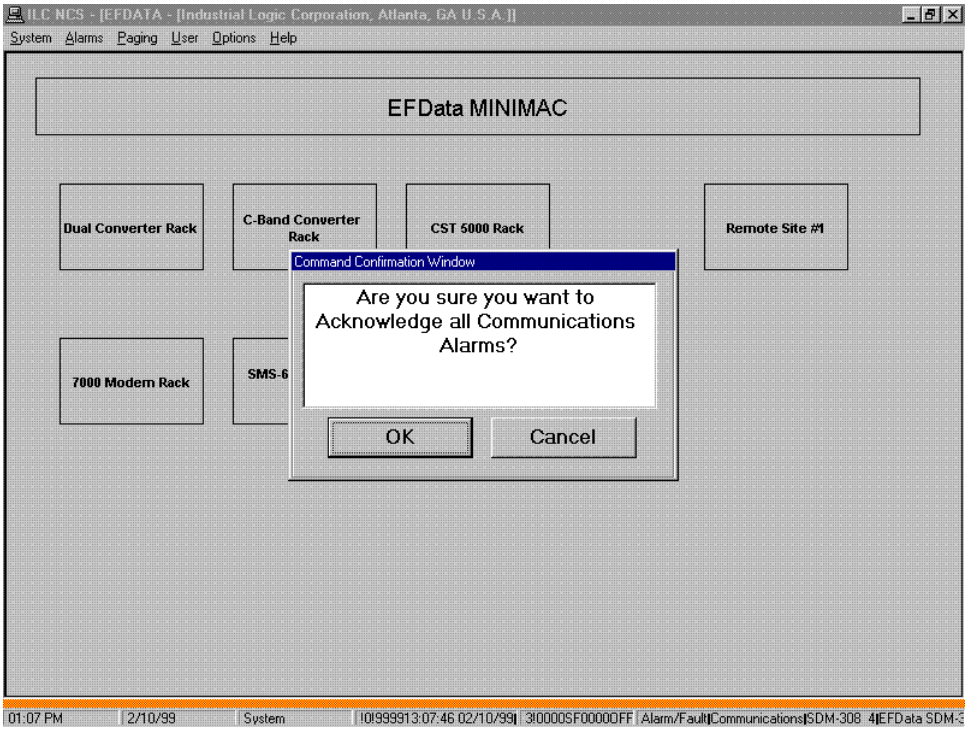




3.3 Acknowledging All COMM Alarms

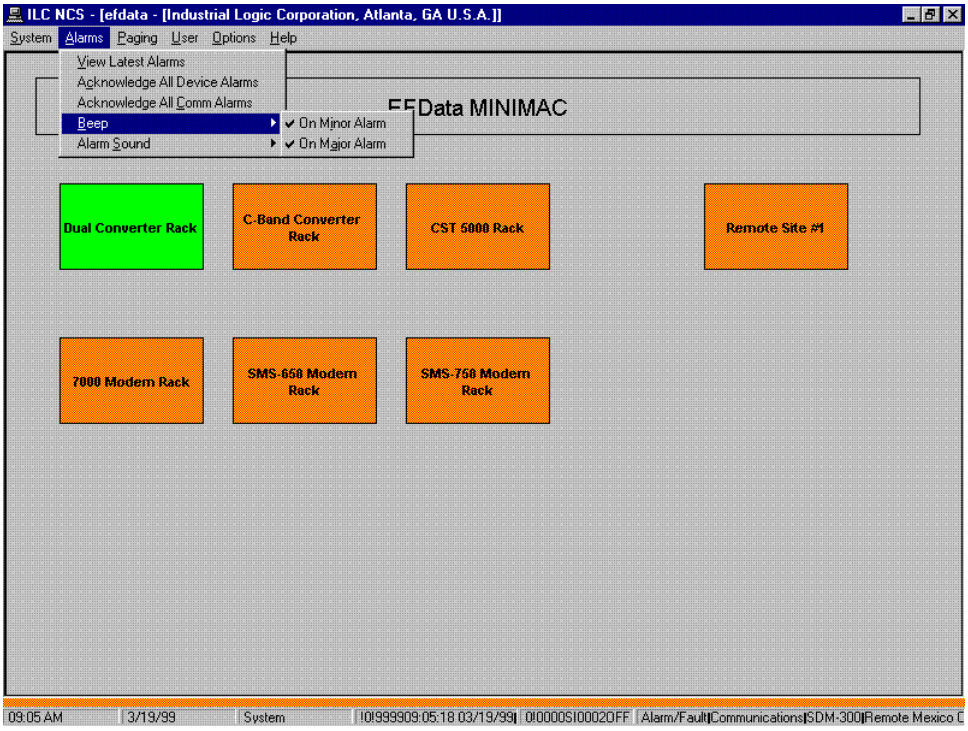
When communications to a device is detected, the MiniMAC will display a flashing ORANGE device or group to alert the user of this status. To acknowledge these alarms, click on Acknowledge All COMM Alarms. Click on OK to confirm command.




ILC NCS - [EFDATA - [Industrial Logic Corporation, Atlanta, GA U.S.A.]]
System Alarms Paging User Options Help
EFData MINIMAC
Dual Converter Rack
C-Band Converter Rack
CST 5000 Rack
Remote Site #1
7000 Modem Rack
SMS-6
Command Confirmation Window
Are you sure you want to Acknowledge all Communications Alarms?
OK
Cancel
01:07 PM
2/10/99
System

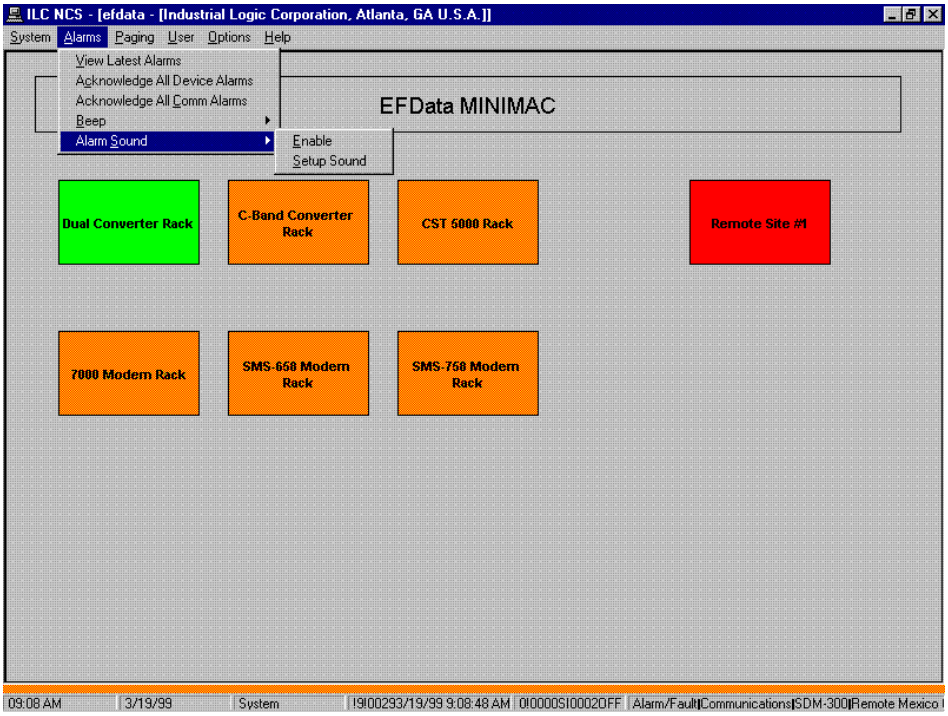
3.4 Default Beep Setup

If the user desires the system to Beep upon Faults, Alarms, or Communication Alarms, the system can be configured to permit this condition. Select Alarms, Beep and click On Minor Alarm and On Major Alarm.



3.5 Alarm Sound

For the Default Beep to operate, the user must also set the Alarm Sound – Enable, without a check (this allows the default Beep to operate).



Note: Refer to Appendix B for configuring alarm sounds and attaching wave files.

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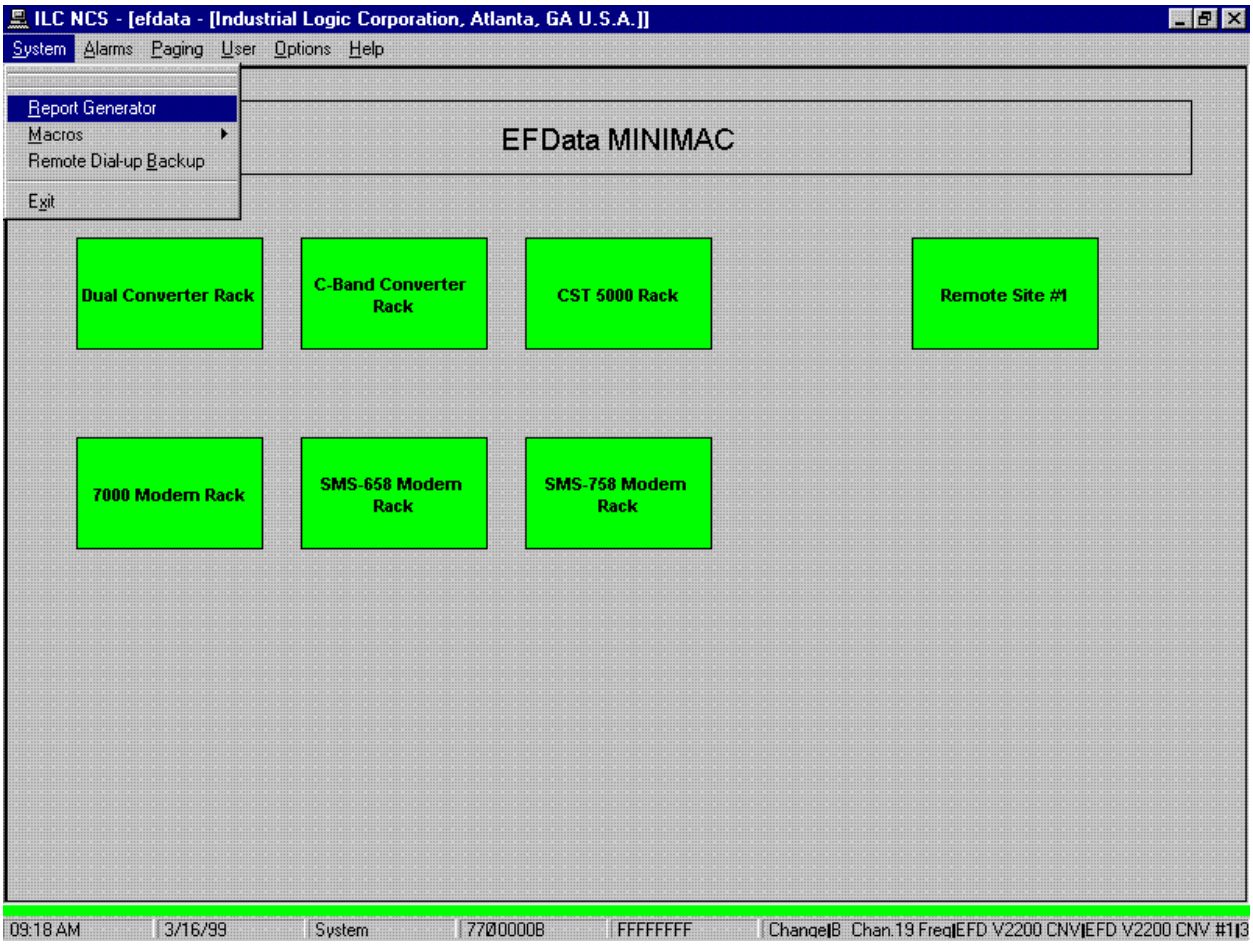
2.1 System-Report Generator

The report generator stores all system activities. To open the report generator; Select: System\Click on Report generator.

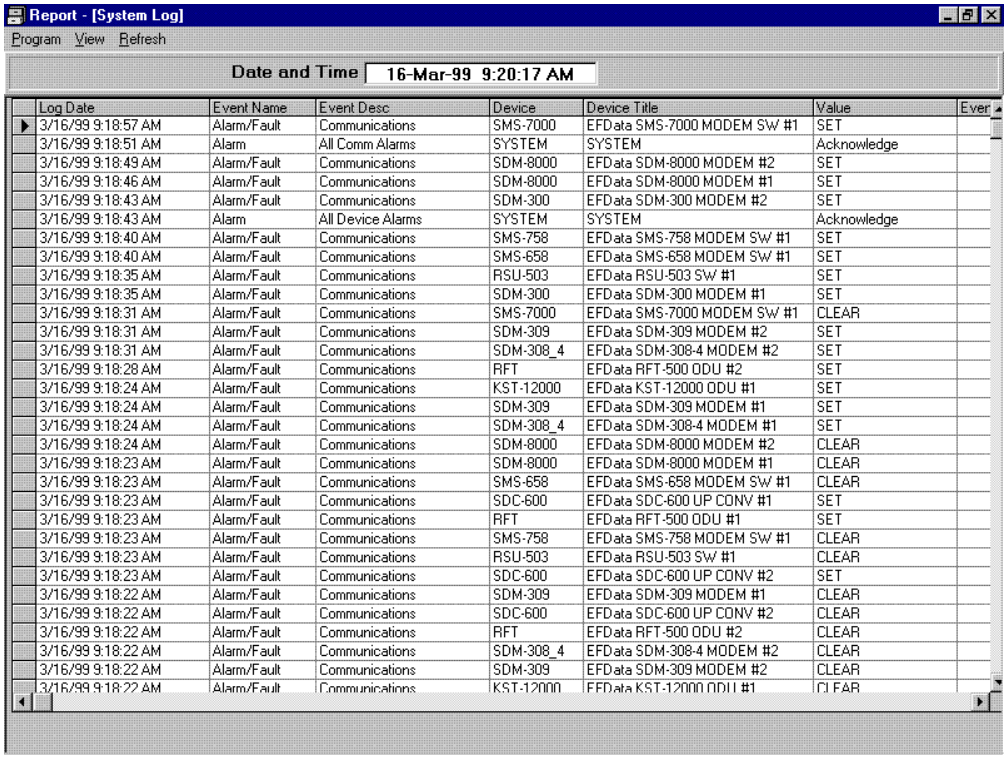


2.2 Viewing the System Log

A data log is maintained on device commands, changes in configuration, status, faults, and alarms, time of log entry, and device index number (location). This data can be filtered according to the user's defined parameters and printed in report form on a local printer, or displayed on the SYSTEM LOG Screen for review.

The following screen is an example of the SYSTEM LOG Screen without filtered data.

To display the SYSTEM LOG Screen;
Select: System from the MAIN Menu\Click on Report Generator

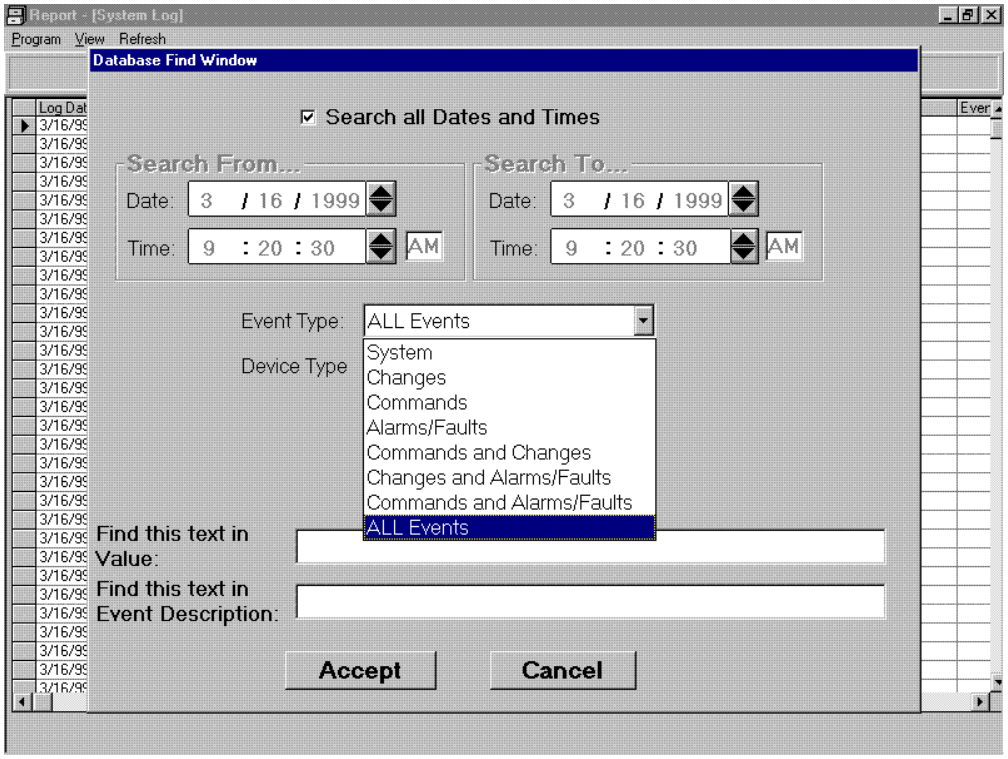


Log Date	Event Name	Event Desc	Device	Device Title	Value	Ever
3/16/99 9:18:57 AM	Alarm/Fault	Communications	SMS-7000	EFData SMS-7000 MODEM SW #1	SET	
3/16/99 9:18:51 AM	Alarm	All Comm Alarms	SYSTEM	SYSTEM	Acknowledge	
3/16/99 9:18:49 AM	Alarm/Fault	Communications	SDM-8000	EFData SDM-8000 MODEM #2	SET	
3/16/99 9:18:46 AM	Alarm/Fault	Communications	SDM-8000	EFData SDM-8000 MODEM #1	SET	
3/16/99 9:18:43 AM	Alarm/Fault	Communications	SDM-300	EFData SDM-300 MODEM #2	SET	
3/16/99 9:18:43 AM	Alarm	All Device Alarms	SYSTEM	SYSTEM	Acknowledge	
3/16/99 9:18:40 AM	Alarm/Fault	Communications	SMS-758	EFData SMS-758 MODEM SW #1	SET	
3/16/99 9:18:40 AM	Alarm/Fault	Communications	SMS-658	EFData SMS-658 MODEM SW #1	SET	
3/16/99 9:18:35 AM	Alarm/Fault	Communications	RSU-503	EFData RSU-503 SW #1	SET	
3/16/99 9:18:35 AM	Alarm/Fault	Communications	SDM-300	EFData SDM-300 MODEM #1	SET	
3/16/99 9:18:31 AM	Alarm/Fault	Communications	SMS-7000	EFData SMS-7000 MODEM SW #1	CLEAR	
3/16/99 9:18:31 AM	Alarm/Fault	Communications	SDM-309	EFData SDM-309 MODEM #2	SET	
3/16/99 9:18:31 AM	Alarm/Fault	Communications	SDM-308_4	EFData SDM-308-4 MODEM #2	SET	
3/16/99 9:18:28 AM	Alarm/Fault	Communications	RFT	EFData RFT-500 ODU #2	SET	
3/16/99 9:18:24 AM	Alarm/Fault	Communications	KST-12000	EFData KST-12000 ODU #1	SET	
3/16/99 9:18:24 AM	Alarm/Fault	Communications	SDM-309	EFData SDM-309 MODEM #1	SET	
3/16/99 9:18:24 AM	Alarm/Fault	Communications	SDM-308_4	EFData SDM-308-4 MODEM #1	SET	
3/16/99 9:18:24 AM	Alarm/Fault	Communications	SDM-8000	EFData SDM-8000 MODEM #2	CLEAR	
3/16/99 9:18:23 AM	Alarm/Fault	Communications	SDM-8000	EFData SDM-8000 MODEM #1	CLEAR	
3/16/99 9:18:23 AM	Alarm/Fault	Communications	SMS-658	EFData SMS-658 MODEM SW #1	CLEAR	
3/16/99 9:18:23 AM	Alarm/Fault	Communications	SDC-600	EFData SDC-600 UP CONV #1	SET	
3/16/99 9:18:23 AM	Alarm/Fault	Communications	RFT	EFData RFT-500 ODU #1	SET	
3/16/99 9:18:23 AM	Alarm/Fault	Communications	SMS-758	EFData SMS-758 MODEM SW #1	CLEAR	
3/16/99 9:18:23 AM	Alarm/Fault	Communications	RSU-503	EFData RSU-503 SW #1	CLEAR	
3/16/99 9:18:23 AM	Alarm/Fault	Communications	SDC-600	EFData SDC-600 UP CONV #2	SET	
3/16/99 9:18:22 AM	Alarm/Fault	Communications	SDM-309	EFData SDM-309 MODEM #1	CLEAR	
3/16/99 9:18:22 AM	Alarm/Fault	Communications	SDC-600	EFData SDC-600 UP CONV #2	CLEAR	
3/16/99 9:18:22 AM	Alarm/Fault	Communications	RFT	EFData RFT-500 ODU #2	CLEAR	
3/16/99 9:18:22 AM	Alarm/Fault	Communications	SDM-308_4	EFData SDM-308-4 MODEM #2	CLEAR	
3/16/99 9:18:22 AM	Alarm/Fault	Communications	SDM-309	EFData SDM-309 MODEM #2	CLEAR	
3/16/99 9:18:22 AM	Alarm/Fault	Communications	KST-12000	EFData KST-12000 ODU #1	CLEAR	

2.2.1 Filtering the Log

To filter SYSTEM LOG data, proceed as follows:

Command	Response
Select	View
Click on	Filter Log
Select	Event Type to monitor (From Database Find window)
Select	Device Type to monitor
Select	Device Name for Single device
Select	Accept to begin search Cancel to abort search



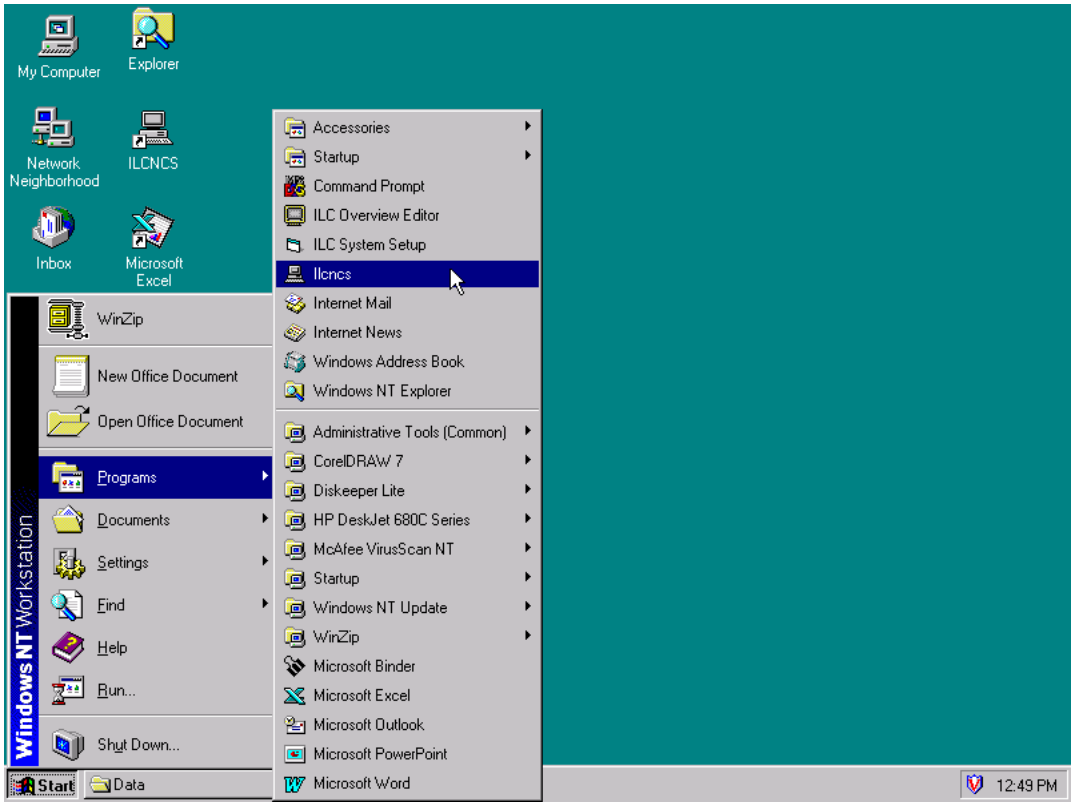
The filtered log will be displayed in the Report Screen.

1.1 Path to ILCNCS

Start MiniMAC Program as follows:

Path: Start\Programs\ILCNCS

Note: Double-click the ILCNCS shortcut located on the desktop, if created during the Installation of the MiniMAC Program.

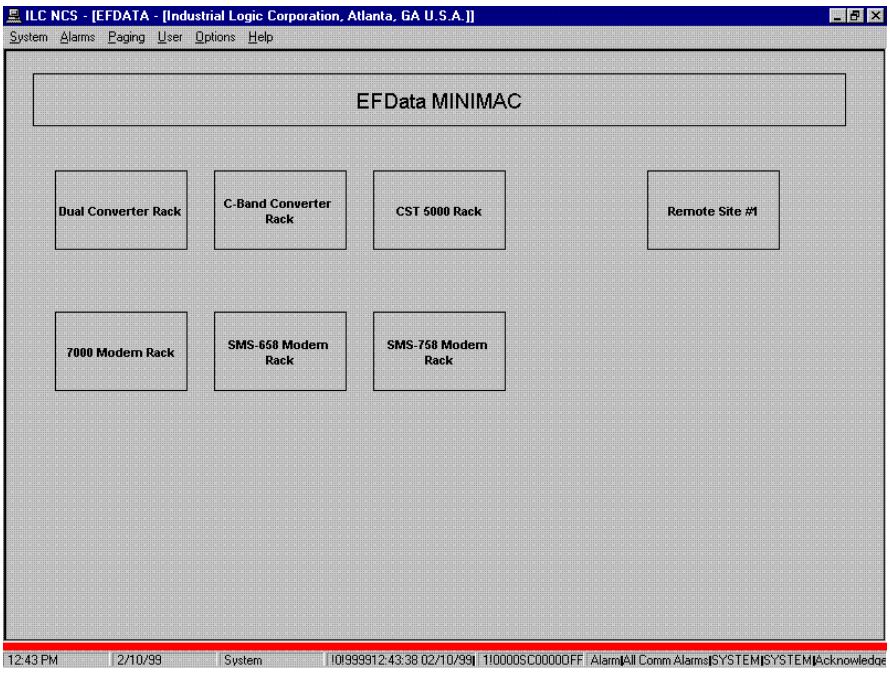


1.1.1 MiniMAC Main Screen

Each MiniMAC system is application-specific, so the appearance of the MiniMAC MAIN screen reflects the devices comprising the application. The following screen shows one example of the MAIN screen.

The MAIN screen is the first screen that is displayed when the MiniMAC system is initiated. From this screen, the user can:

- Log On/Off the system
- Access racks of Adaptive Broadband devices
- Generate reports
- Edit user records
- Access the Alarms Setup
- Create screen, rack, and device labels
- Setup the Paging Option



1.2 Viewing the Rack Groups

This group or rack is connected to COMM Port 3.

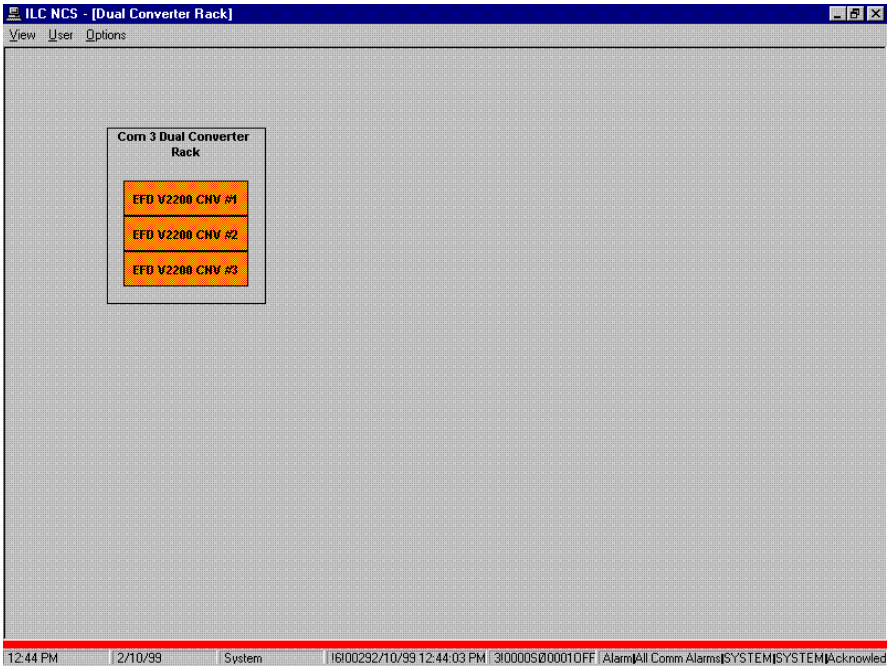
The user can view any rack or group of Adaptive Broadband equipment from the MAIN Screen by clicking on the desired rack or group.

1.2.1 V2200 Dual Converter Rack

This MiniMAC System has V2200 Dual Converters in the rack labeled: DUAL CONVERTER RACK.

Each group will have the same available drop-down menu selections:

- VIEW – Allows the user to view previous screens.
- USER – Allows logging On/Off
- OPTIONS – Edit Options

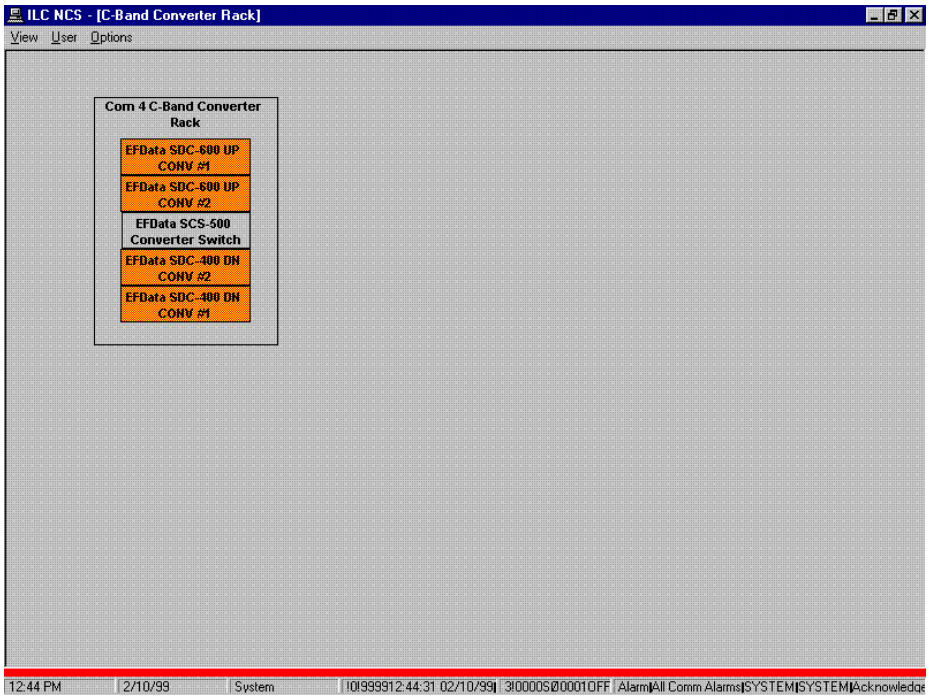


1.2.2 C-Band Converter Rack

This group or rack is connected to COMM Port 4.

The second group or rack consists of C-Band converters, such as:

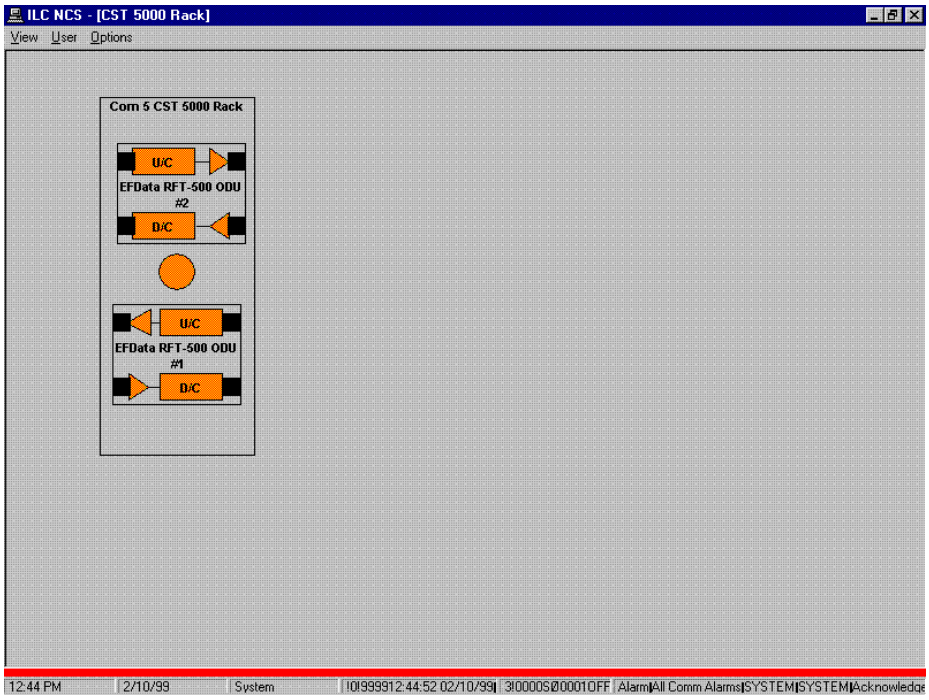
- SDC-400 (Down Converter)
- SDC-600 (Up Converter).



1.2.3 CST-5000 Rack

This group or rack is connected to COMM Port 5.

The third group or rack on the MAIN screen is the Redundant C-Band Radio Frequency Terminals (RFTs) and the Redundant Switch Unit (RSU-503).



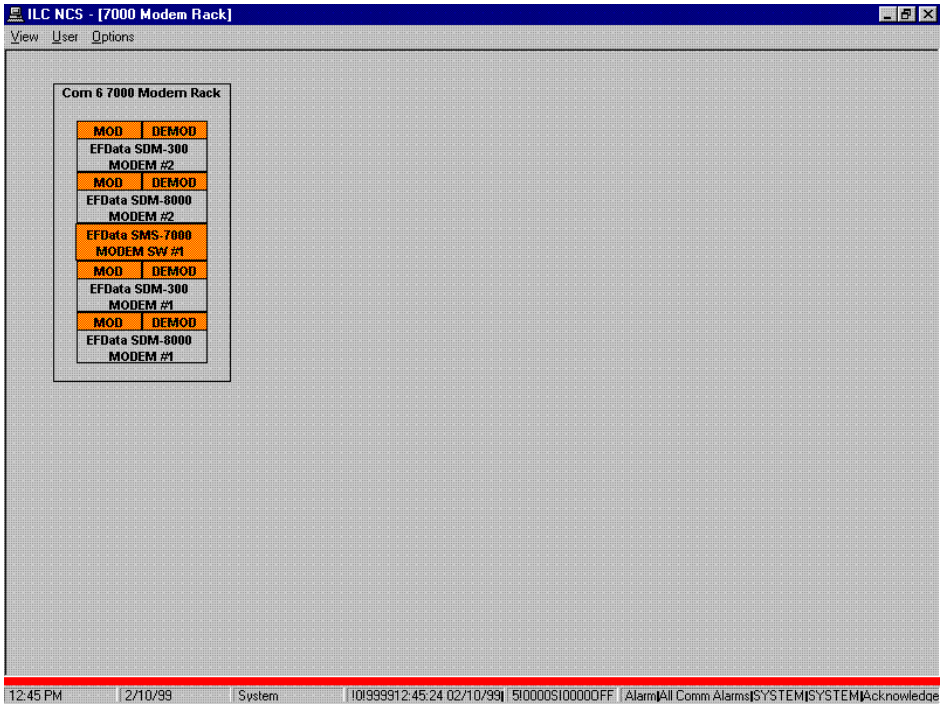
1.2.4 SMS-7000 Switch Rack

This group or rack is connected on COMM Port 6.

The fourth group or rack has an SMS-7000 Switch with two 1:1 Redundant Systems installed.

- The first 1:1 system has SDM-300 Satellite Modems
- The second 1:1 system has SDM-8000 Satellite Modems.

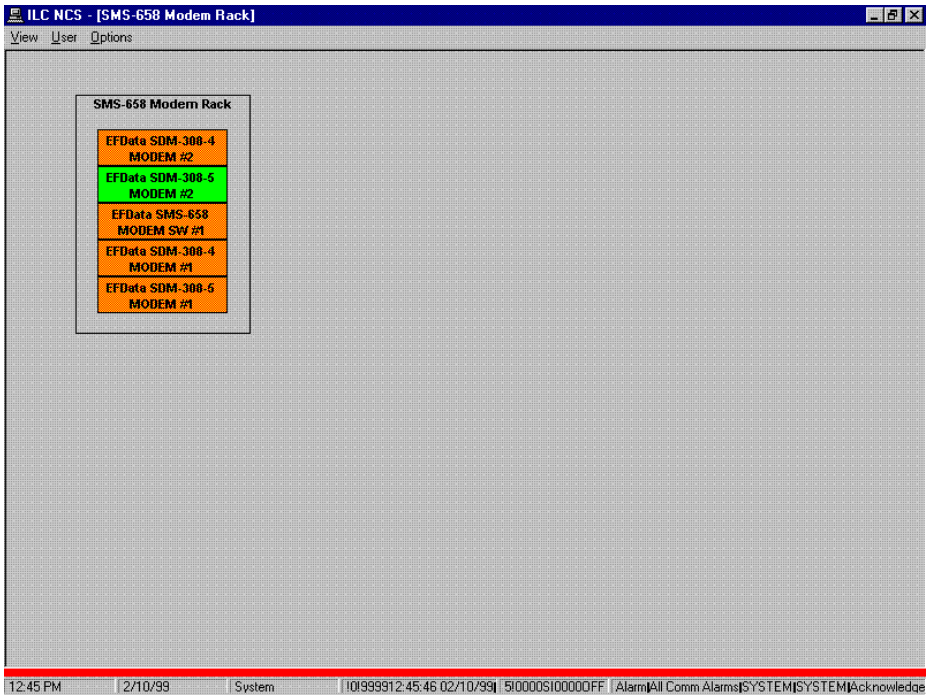
The prime SDM-300 identified, as Modem #1 is the ASYNC link to the Remote Site identified as group or rack 9.



1.2.5 SMS-658 Switch Rack

This group or rack is connected on COMM Port 7.

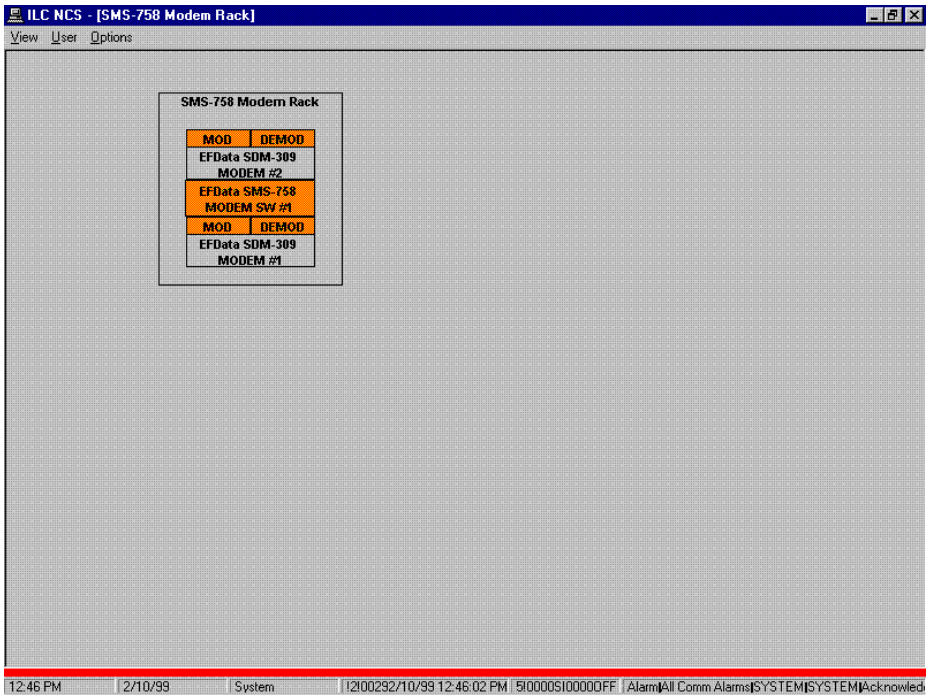
This fifth group or rack consists of the SMS-658 Switch connected to primary and backup SDM-308-4 (IDR) and SDM-308-5 (D&I) Satellite Modems.



1.2.6 SMS-758 Switch Rack

This group or rack is connected on COMM Port 8.

The sixth group or rack incorporates the SMS-758 Switch with SDM-309 (IBS) Satellite Modems in a 1:1 Redundant System.



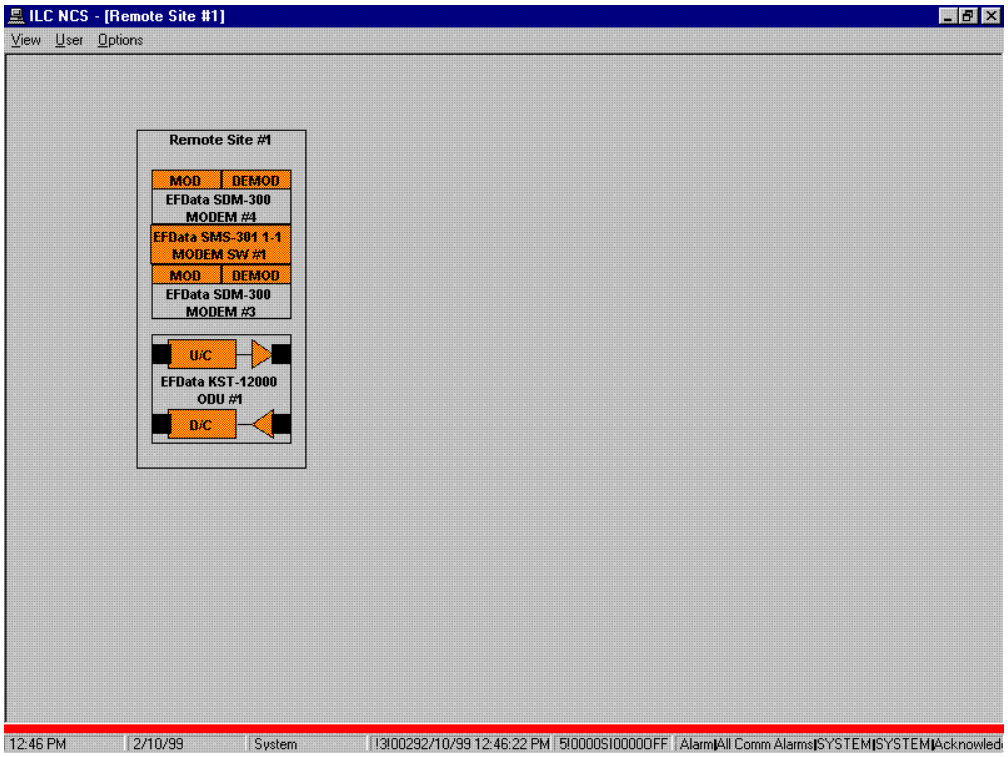
1.2.7 Remote Site 1

This group or rack is connected on COMM Port 9.

The seventh group or rack is reserved for the remote site. The remote site includes:

- SMS-301 Redundancy Switch
- SDM-300 Satellite Modem
- KST-12000 Ku-Band RF Terminal

This site is monitored through the overhead channel of the SDM-300 ASYNC Modem #1, located in the fourth group or rack.

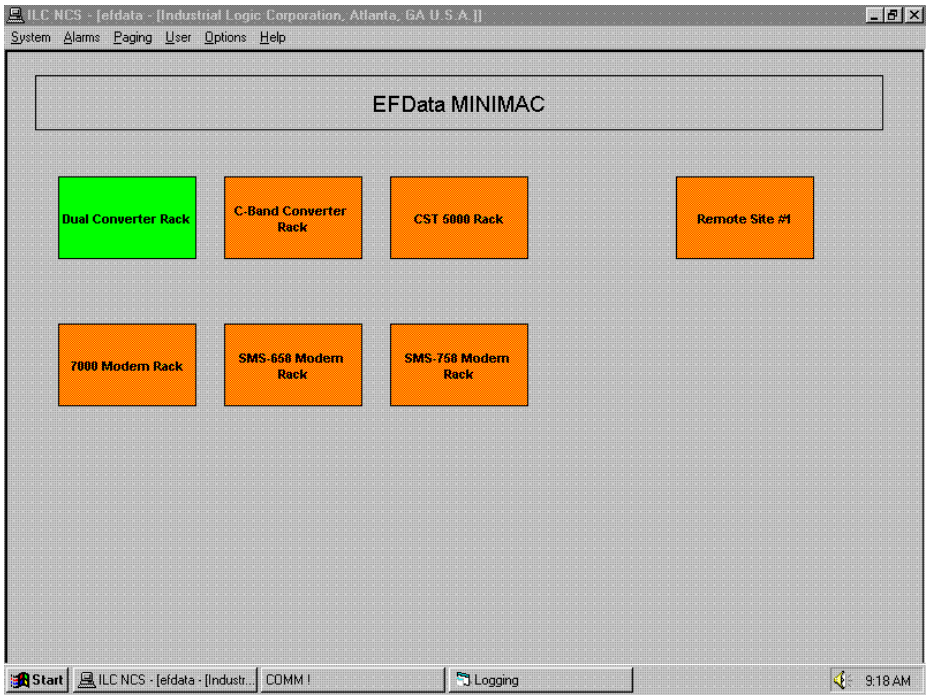


1.3 Opening the COMM Window

Locate the Task Bar across the bottom of the screen. Observe that three programs are running:

- ILCNCS
- COMM1
- Logging

ILCNCS	The MiniMAC Program
COMM1	The Communication Program that polls all the equipment in the system. To open the COMM window, click on the COMM1 button.
Logging	This Report Generator Program logs all system events and saves it to the DATABASE file folder.



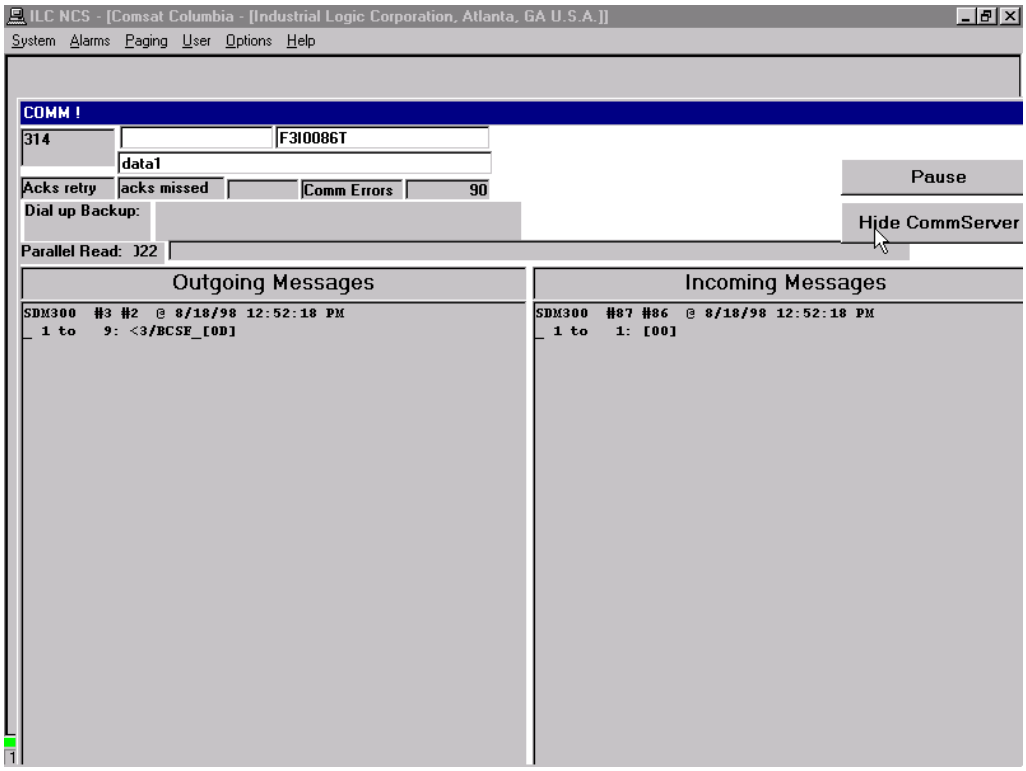
1.3.1 Viewing Incoming and Outgoing Messages

All devices in the system that are ONLINE are being polled by the MiniMAC Program. When required to turn a device OFFLINE, this command is located in the DEVICE Screen, included in the POLLING drop-down menu.

All outgoing messages that request equipment status is displayed in the left column using the remote protocol commands.

The response to these commands are displayed in the right column titled INCOMING MESSAGES. This is the information that updates the DEVICE screen.

Note: This window can be used to troubleshoot problems with communications.



Warranty Policy

This Adaptive Broadband product is warranted against defects in material and workmanship for a period of one year from the date of shipment. During the warranty period, Adaptive Broadband will, at its option, repair or replace products that prove to be defective.

For equipment under warranty, the customer is responsible for freight to Adaptive Broadband and all related custom, taxes, tariffs, insurance, etc. Adaptive Broadband is responsible for the freight charges **only** for return of the equipment from the factory to the customer. Adaptive Broadband will return the equipment by the same method (i.e., Air, Express, Surface) as the equipment was sent to Adaptive Broadband.

Limitations of Warranty

The foregoing warranty shall not apply to defects resulting from improper installation or maintenance, abuse, unauthorized modification, or operation outside of environmental specifications for the product, or, for damages that occur due to improper repackaging of equipment for return to Adaptive Broadband.

No other warranty is expressed or implied. Adaptive Broadband specifically disclaims the implied warranties of merchantability and fitness for particular purpose.

Exclusive Remedies

The remedies provided herein are the buyer's sole and exclusive remedies. Adaptive Broadband shall not be liable for any direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any other legal theory.

Disclaimer

Adaptive Broadband has reviewed this manual thoroughly in order that it will be an easy-to-use guide to your equipment. All statements, technical information, and recommendations in this manual and in any guides or related documents are believed reliable, but the accuracy and completeness thereof are not guaranteed or warranted, and they are not intended to be, nor should they be understood to be, representations or warranties concerning the products described. Further, Adaptive Broadband reserves the right to make changes in the specifications of the products described in this manual at any time without notice and without obligation to notify any person of such changes.

If you have any questions regarding your equipment or the information in this manual, please contact the Adaptive Broadband Customer Support Department. (For more information, refer to the preface.)

MiniMAC
A Monitor & Control
Management System

Preface

About this Manual

Note: Effective April 29, 1999, California Microwave, EFData, changed its name to **Adaptive Broadband** to reflect its current world-wide applications.

This manual provides installation and operation information for the Adaptive Broadband MiniMAC Rack Management System. This is a technical document intended for earth station engineers, technicians, and operators responsible for the operation and maintenance of the MiniMAC.

Conventions and References Used in this Manual

Cautions and Warnings

CAUTION indicates a hazardous situation that, if not avoided, may result in minor or moderate injury. CAUTION may also be used to indicate other unsafe practices or risks of property damage.

WARNING indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.

Metric Conversion

Metric conversion information is located on the inside back cover of this manual. This information is provided to assist the operator in cross-referencing English to Metric conversions.

Recommended Standard Designations

Recommended Standard (RS) Designations have been superseded by the new designation of the Electronic Industries Association (EIA). References to the old designations are shown only when depicting actual text displayed on the screen of the unit (RS-232, RS-485, etc.). All other references in the manual will be shown with the EIA designations (EIA-232, EIA-485, etc.) only.

Trademarks

Windows NT is a trademark of Microsoft Corporation.

Other product names mentioned in this manual may be trademarks or registered trademarks of their respective companies and are hereby acknowledged.

Related Documents

The following documents are referenced in this manual:

Adaptive Broadband *MiniMAC Installation Manual*

Reporting Comments or Suggestions Concerning this Manual

Comments and suggestions regarding the content and design of this manual will be appreciated. To submit comments, please contact the Adaptive Broadband Customer Support Department according to the following information.

Customer Support

Contact the Adaptive Broadband Customer Support Department for:

- Product support
- Information on returning a product
- Information on upgrading a product
- Product training
- Reporting comments or suggestions concerning manuals

An Adaptive Broadband Customer Support representative may be reached at:

Adaptive Broadband
Satellite Communications Division
Attention: Customer Support Department
2114 West 7th Place
Tempe, Arizona 85281 USA

(480) 333.2200 (Main Adaptive Broadband Number)
(480) 333.2161 (Main FAX No.)
(480) 333.2540 (Marketing FAX No.)

or, E-Mail can be sent to the Customer Support Department at:

service@adaptivebroadband.com

or, contact Adaptive Broadband Customer Support Department at the web site:

www. adaptivebroadband.com

To return an Adaptive Broadband product (in-warranty and out-of-warranty) for repair or replacement:

1. Request a Return Material Authorization (RMA) number from the Adaptive Broadband Customer Support Department.

   Be prepared to supply the Customer Support representative with the model number, serial number, and a description of the problem.

2. To ensure that the product is not damaged during shipping, pack the product in its original shipping carton/packaging.

3. Ship the product back to Adaptive Broadband. (Shipping charges should be prepaid.)

   For more information regarding the warranty policies, refer to the disclaimer page located behind the title page.

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