



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

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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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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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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.

Appendix B. CONFIGURING ALARMS

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Using the COMM Window	C.3

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
С	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
$\mathbf{IB}\mathbf{M}^{TM}$	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

Glossary

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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.

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

	🔀 Command Prompt	- ilcnet -debug	
М			
	C:∖>ilcnet -deb Debugging ILC N	ug etwork Manager	
	DeviceType 216	is in system	
	DeviceType 133	is in system	
	DeviceType 153	is in system	
	Devicelype 35 1 DeviceTupe 23 i	s in system	
Ne	DeviceType 50 i	s in system	
	DeviceType 66 i	s in system	
	Waiting for UI	socket connection	
	Ulient Ø just c	onnected from 223.223.50.2	
	Done writing status	atus to client.	
	Waiting for UI	socket connection	
		🔀 Command Prompt - uinetman -debug	
		Microsoft(R) Windows NT(TM)	1
		(C) Copyright 1985-1996 Microsoft Corp.	
		C:\Duipetman -debug	
		Debugging ILC UI Network Manager.	
		Attempting to connect to server Ø (MINIMAC)	
		Established connection to MINIMAC:	
ne	cycle bin		
	-9-		
M.	Priofonno		
iviy	Dileicase		
	7		
i i	`anhura		
	apture		
í			
1	MinZin		
	· · · · · · · ·		

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.

💼 (C:)	C: Image: Control of the second s				
<u>F</u> ile <u>E</u> dit ⊻i	iew <u>H</u> elp			<u>File E</u> dit <u>S</u> earch <u>H</u> elp	
				DeviceType 216 is in system DeviceType 91 is in system	^
Acrobat3	Americatel	Camatagua	Codetel	DeviceType 05 15 in system DeviceType 35 is in system DeviceType 69 is in system	
				DeviceType 67 is in system DeviceType 72 is in system DeviceType 40 is in system	
Corel	Efdata	Impsat	Program File:	DeviceType 49 is in system DeviceType 48 is in system DeviceType 73 is in system	
				DeviceType 70 is in system DeviceType 155 is in system DeviceType 71 is in system	
Telefonica	Telintarminim	. Temp	Transistemas	DeviceType 50 is in system DeviceType 50 is in system	
-		*		DeviceType 66 is in system DeviceType 56 is in system Weiting status to slippt	
Autoexec.bat	boot.ini	Config.sys	Debug1	Done writing status to client. Sent message (26 bytes): 201999911:04:03 03/29/99	
1 object(s) sele	ected	8.15KB		Sent message (26 bytes): 20!999911:04:15 03/29/99	
Command				Sent message (26 bytes): 201999911:04:26 03/29/99	
Prompt				Sent message (16 bytes): G010029100000FF Sent message (16 bytes): G110029100010FF	
7				Sent message (15 bytes): G2*00291000000N Sent message (15 bytes): G3*0029100010N Sent message (15 bytes): G4*0020100020N	
Capture				Sent message (16 bytes): 65:0029100030FF	<u>_</u>
WinZip					

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.

🖳 ILC NCS - [Comsat Columbia - [Industrial Logic Corporation, Atlanta,	GA U.S.A.]]	×
<u>System Alarms Paging User Options H</u> elp		
COMM !		
314 F310086T		
data1	Pause	
PACKS retry acks missed [Comm Errors 90 Dial un Backun:		_
	Hide CommSei	ver
Parallel Read: J22		
Outgoing Messages	Incoming Messages	
SDM300 #3 #2 @ 8/18/98 12:52:18 PM _ 1 to 9: <3/BCSF_[0D]	SDM300 #87 #86 @ 8/18/98 12:52:18 PM _ 1 to 1: [00]	

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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.

System	NCS - [efdata - [Industrial Logic Alarms Paging User Options] View Latest Alarms Acknowledge All Device Alarms	Corporation, Atlanta Help	a, GA U.S.A.]]			_ 5 ×
	Acknowledge All Comm Alarms Beep Alarm Sound	Enable Setup Sound	Data MINIM/	4C		
	Dual Converter Rack C-Ba	ind Converter Rack	CST 5000 Rack		Remote Site #1	
	7000 Modem Rack SMS	3-658 Modern Rack	SMS-768 Modern Rack			
		Lucence			100	

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.

	EFData MINIMAC	
	Default Alarm Sound Setup	
Dual Converte		Accept 1
	Repeat the Alarm Audio this often (seconds) 5	Cancel
	"Alarm" Wav File WAV C:\WINNT\Media\Car.wav	
7000 Moderr	"Comm Alarm" Wav File C:\WINNT\Media\Doorslam.wav	
	SDC-400 VAV	

<u>Alarms Paging L</u>	lser Options <u>H</u> elp	Look in:	Alarm wave File			
6	Default Alarm Soun	Blip.wav Camera.wa Car.wav chimes.wav chord.wav ding.wav	V V	Dooropen.wav Doorslam.wav Inrev.wav Insend.wav Jungle Asterisk.WAV Jungle Close.WAV	Jungi Jungi Jungi Jungi Jungi Jungi Jungi	
Dual Converte					×	
	Repeat the Alarm Ar "Alarm" Way File	File <u>n</u> ame: Files of <u>type</u> :	Doorslam.wav Wav Files (*.wav)		<u>O</u> pen Cancel	
7000 Moderr	- "Comm Alarm" Wav	File WAV				
	SDC-400	▼ _WAV				

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.

	EFData MINIMAC	
•	Default Alarm Sound Setup	
Dual Convert		Accept
	Repeat the Alarm Audio this often (seconds) 5	Cancel
	"Alarm" Wav File WAV C:\WINNT\Media\Car.wav	
7000 Moderr	"Comm Alarm" Wav File WAV C:\WINNT\Media\Doorslam.wav	
	SDC-400 VAV	
<u></u>		

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.

🚊 IL C	: NCS - [I	EF Data	SMS 7	000 Modem	Prote	ction Switch)]			_ 8	×
⊻iew	Configure	Polling	Status	Commands	<u>S</u> et	<u>U</u> ser Comma	and <u>A</u> uthority				
EFData SMS-7000 M00								IDEM SW #1		Online	Ī
	F ATA	SMS M:N S AL	- 7000 witch arm Setup kit Set <u>A</u> Alarms			FOII		POWER ON AUTO MANUAL		AUTO MODE BACKUP MODEM BI ON STANDBY	
- Mo	dem Comm Fault Module Fa	n an	None V None V	COM MOD CONF DMD CONF NO MOD CI NO ADDRE PRIME ASS DATA MOD IF MODULE POWER SU POWER SU NVRAM/CL MC CONTR 12C BUS	IG INFIG INFIG SS IGNME ULE PPLY PPLY OCK OLLER	NT Way Way Way Way Way Way Way Way Way Way	Look jn: Office97 C chimes.wa chord wav d chord wav d ingju.wav d ingju.wav d ingju.wav d ingju.wav file name: Files of type:	Media My Computer 3½ Floppy (A:) (C:) Winnt (D:) Network Neighbor My Briefcase ding wav Wav Files (*.wav) Open as read-only	rhood	Image: Cancel	ault ms
02:53 8	РМ	9/29/	/98	System	_	101999914	4:53:19.09/29/9	1100005800000N [C	ommandlf	REMOTE OPERATIONISMS-7000IEEDat	ta Sh

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).

🚊 ILC NCS - [EF I	Data SMS 7000 Mc	odem Protection	Switch]					_	. 8 ×
<u>V</u> iew Co <u>n</u> figure <u>P</u>	olling S <u>t</u> atus <u>C</u> omm	hands <u>S</u> et <u>U</u> ser	Comma	nd <u>A</u> uthority					
			EFDat	a SMS-7000 M0	IDEM SW #1			Online	
EF DATA SM	AS-7000		FOINF		AUTO MANUAL File		AUTO BACKUP MODEN	MODE A BI ON STANDBY	
Modem Comm. Fault IF Module Fault	None Y COM None Y MDD U None Y NO M None Y NO M None Y NO A None Y PRIM None Y PRIM None Y DATA None Y DATA None Y POWE None Y NVRA None Y 12C B	CONFIG CONFIG DD CONFIG DD RESS ASSIGNMENT MODULE DULE EN SUPPLY 1 ER SUPPLY 1 ER SUPPLY 2 M/CLOCK JNTROLLER US	Wav Wav Wav Wav Wav Wav Wav Wav Wav Wav	Look jn:	Media V V (ing.wav (ing.wav) (ing.wa	4 tad 4 Th 4 Wi 4 Wi	a.wav e Microsoft Sound wa ndows NT Logoft Sou ndows NT Logon Sou	v nd.wav nd.wav	Fault
02:53 PM	3/29/98 S	ustem !!	019999914	:53:01 09/29/9	110000SB00000N	Comma	nd I REMOTE OPERA	TIONISMS-7000JE	FData St

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.

📙 ILC NCS - [EF Data SMS 7000 Modem Protection	on Switch]	_ B ×
View Configure Polling Status Commands Set Us	er Command <u>A</u> uthority	
	EFData SMS-7000 MODEM SW #1	Online
Modem Comm. Save Non Zoom Fault None Y MOD CONFIG None Y MOD CONFIG None Y MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG None Y NO MOD CONFIG NO MOD CONFIG <td>SYSTEM FOURPMENT ULT SWITCH STATUS Wav Wav Wav Wav Wav Wav Wav Wav</td> <td>AUTO MODE BACKUP MODEM BI ON STANDBY BACKUP MODEM BI ON STANDBY It Standby BI ON STANDBY It Standby BI ON STANDBY BI ON STANDBY</td>	SYSTEM FOURPMENT ULT SWITCH STATUS Wav Wav Wav Wav Wav Wav Wav Wav	AUTO MODE BACKUP MODEM BI ON STANDBY BACKUP MODEM BI ON STANDBY It Standby BI ON STANDBY It Standby BI ON STANDBY BI ON STANDBY
02:53 PM 9/29/98 System	101999914:53:33 09/29/981 1100005B00000N Com	nandiBEMOTE OPERATIONISMS-7000IEFData S

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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.

Serial	Device Information										
#	Device ID	Device Type	Computer	Offline	COM port	FEP Num	Address				
+	EFD V2200 CONV #1	V2200	٢	0	3	-1	1, 2	ConverterType	0		
2	EFD V2200 CONV #2	V2200	~	0	3	- -	3, 4	ConverterType	0		
	EFD V2200 CONV #3	V2200	1	0	3	-1	5, 6	ConverterType	0		
4	EFData SDC-600 UP CONV #1	SDC-600	-	0	4	-1	6	ConverterType	0		
5	EFData SDC-600 UP CONV #2	SDC-600	1	1	4	-1	1	ConverterType	0		
9	EFData SDC-400 DN CONV #1	SDC-400	1	0	4	-1	10	ConverterType	0		
7	EFData SDC-400 DN CONV #2	SDC-400	-	0	4	-1	2	ConverterType	0		
8	EFData RFT-500 ODU #1	RFT-500	-	0	5	-1	2				
6	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	٢	1	6	-1	٦				
12	EFData SDM-300 MODEM #2	SDM-300	~	1	9	-1	0				
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	-	dependent 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	-	0	2	-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	dependent 1	_
59	EFData SMS-758 MODEM SW #1	SMS-758	+	0	8	-1	11	2NConfig	0	dependent 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	dependent 1	_
79	EFData SDM-300 MODEM #3	SDM-300	1	0	8	-1	1				
80	EFData SDM-300 MODEM #4	SDM-300	1	0	6	-1	2				
81	EFData KST-12000 ODU #1	KST-12000	1	0	8	-1	12				

Figure A-1.	System	Spreadsheet
I Igui e II II	bystem	opreudoneet

ω

¢,

Settings 9600.E.7.2 9600.E.7.2 9600.E.7.2 9600.E.7.2 9600.E.7.2 9600.E.7.2 9600.E.7.2

Communications

Serial

puter 1, Se COM #

> t o o

രിപ്രിയ

COMM Information

Description

uter Information

Name MINIMAC This page is intentionally left blank.

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		
() Inbox	Microsoft	Eile Options View Windows Help Applications Processes Performance
Internet Explorer	Microsoft	Task Status CDMM1 Running Logging Running LICNCS Running
Recycle Bin	Overview Editor	Running
HP DeskJet 680C Seri	SysReg Setup	
My Briefcase	WinZip	
DkLite	Capture	End Lask Switch To New Task Processes: 26 CPU Usage: 100% Mem Usage: 114288K / 116272K



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

Configure Polling Status Co	mmands <u>D</u> ate/Time <u>U</u> ser Command <u>A</u> utH	nority	
	EFData SDM-308-4	4 MODEM #2	Modem is Online
SDM-308B SATELLIT	-4 E MODEM	Eb/No >16.0 Rx Lev. 39dBm Tx PWR 300 dBm Operational Mode Transmit Receive Common Stored FAULTS	CBER <10E4 RBER <10E4 Buffer Fill No Data MODEM TYPE IS IDR Power Transmitter Carrier Test Mode STATUS
	Modulato	or Side	
FREQUENCY 70.0000 MHz	DATA RATE (QPSK 3/4) 2144.0 Kbits/sec	ON SCRAMBLER	DIFF. ENCODER
	Demodula	tor Side	
FREQUENCY 70.0000 MHz	DATA RATE (QPSK 3/4) 2144.0 Kbits/sec	DESCRAMBLER ON	DIFF. DECODER
DULATOR DEMODULATOR FAULTS FAULTS	INTERFACE INTERFACE RECE TRANSMIT FAULTS FAULTS		ARD ALARMS COMPUTER COMMUNICATIO
ODEM RESPONSE:			

01:31 PM 2/10/99 System 1300292/10/99 1:31:30 PM 300005F00010N LOG DN/OFFIUSER = SystemIJSYSTEMILOG ON

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.

LICNCS - [SDM 308_4] View Configure Polling Status	<u>Commands</u> <u>Date/Time</u> <u>U</u> ser (Command Authority		
	Remote EFD a	ata SDM-308-4 MODEM #:	2	Modem is Online
EF DATA SDM-308 SATELLI	Mod/Demodulator Iransmitter		Eb/No >16.0 Rx Lev. 39dBm Tx PWR 300 dBm Operational Mode Transmit Receive Common Stored FAULTS	CBER (1.0E-4 RBER (1.0E-4 Buffer Fill No Data MODEM TYPE IS IDR Power Transmitter Carrier Test Mode STATUS
		Modulator Side		
FREQUENCY 70.0000 MHz	DATA PATE (QPSK 3/4) 2144.0 Kbi	its/sec	ON	DIFF. ENCODER
		Demodulator Side		
FREQUENCY 70.0000 MHz	QPSK 3/4) 2144.0 Kbi	E DE Its/sec	SCRAMBLER ON	DIFF. DECODER
MODULATOR DEMODULATO	R INTERFACE INTEL TRANSMIT FAULTS	RFACE RECEIVE COMM FAULTS		RD ALARMS COMPUTER COMMUNICATIONS
MODEM RESPONSE:				CLEAR
LAST COMMAND:				CLEAR
SEND COMMAND				CANCEL COMMAND

01:31 PM 2/10/99 System 10/999913:31:39 02/10/99| 3/0000SF00010N LOG 0N/0FFIUSER = System||SYSTEM|LOG 0N|

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	٠	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.

	Modulator Configu	uration		Demodulator Conf	iguration
70.0000	CModulator Frequency	50 to 90 and 100 to 180 MHz	70.0000	Demodulator Frequency	50 to 90 and 100 to 180 M in 2.5 kHz steps
ON	RF Output		3/4_2144.0	Demodulator Rate	
4_2144.0	Modulator Rate		ON	Descrambler Enable	
	Power Offset	+20.0 to -20.0 in 0.5 dB steps	ON	Differential Decoder	
-30.0	Output Power Level	-45.0 to +20.0 and -30.0 to +20.0 in 0.5 dB steps	OFF	RF Loopback	
ON	Scrambler Enable		ON	IF Loopback	
ON	Differential Encoder	F	0	Sweep Reacquisition	0 to 999, in seconds
NoData	Filter Rate Assign. A		NONE	BER Threshold	
VoData	Filter Rate Assign. B		No Data	Filter Rate Assign. A	
VoData	Filter Rate Assign. C		No Data	Filter Rate Assign. B	
NoData	Filter Rate Assign. D		No Data	Filter Rate Assign. C	
	Select Mod Rate		No Data	Filter Rate Assign. D	
				Select Demod Rate	
				Select Demod Hate	

9.1.2 SDM-309 Satellite Modem

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

🚆 ILC NCS - [SDM 309] View Configure Polling Si	tatus <u>C</u> ommands <u>D</u> a	e/Time <u>U</u> ser Command <u>A</u>	uthority			_ 8 ×
		EFData SDM-3	09 MODEM #2		Mode	m is Online
			Eb/No Rx Lev Tx PW Operat	No Data No Data R dBm ional Mode	CBER RBER Buffer F	No Data No Data III No Data TYPE IS IBS
EF DATA SATE	809B/M1200F LLITE MODE) M	Tr Ri Cr St	ansmit eceive ommon ored FAULTS	Po Tra Ca Te	wer ansmitter rrier st Mode STATUS
FREQUENC	y r	Modula	tor Side	2		
MHz		Kbits/sec	JOI MIDEEL	۰ ا		
			lator Side		DIFF	
MHz	۲ <u>ار</u>	Kbits/sec	DESCRAMBI	ER	DIFF.	DECODER
MODULATOR FAULTS	DEMODULATOR FAULTS	INTERFACE TRANSMIT FAULTS	INTERFACE RECEIVE FAULTS	COMMON EQUI FAULTS		omputer M & C Comm Fault
MODEM RESPONS LAST COMMANE	E:					CLEAR

01:34 PM 2/10/99 System 1300292/10/99 1:34:13 PM 900005G00000N LOG 0N/0FFJUSER = System(SYSTEM)LOG 0N

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

	DEMUDULATUR STATU	JS COMMON EQUIPMENT
lodule Fault	Module Fault	Controller Fault
AGC Fault	Carrier Detect Fault	Interface Module Fault
RF Synthesizer Fault	RF Synthesizer Fault	Battery Fault
Sit Clock Fault	I Channel Fault	+5 Volt Power Supply
ransmit Clock Fault	U Channel Fault	+12 Volt Power Supply
Channel Fault	Bit Llock Fault] -12 Volt Power Supply
INTERFACE TRAI	NSMIT INTI	ERFACE RECEIVE SIDE
Tx Clock Activity Fault		Lock Fault
Tx Synthesizer PLL Fault	Buff	er Clock Activity Fault
Tx Data/AIS Fault	Rx S	Synthesizer PLL Fault
	BxB	Backward Alarm Fault
0 NUMBER OF STORED FAL	JLTS Fram	ne BER Fault
1 NUMBER OF STORED FAU	JLTS Fram Rx D	ne BER Fault Data/AIS Fault
D NUMBER OF STORED FAL	JLTS Fram Rx C Buff	ne BER Fault Data/AIS Fault er Overflow Fault er Underflow Fault
D NUMBER OF STORED FAL	JLTS Fram Rx D Buff Buff	ne BER Fault Data/AIS Fault er Overflow Fault er Underflow Fault

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.

		EFData SDM-30	08-5 MODE	M #2	
emote Mod -5		Modem is Off	line	Rx Lev. -39dBm RBER <1.0E-4	Eb/No >16.0 Tx PWR FRM_<1.0E-7 Buffer Fill
EF	SDM-308B-5 SATELLITE MO	DEM		Transmit Receive Common Stored FAULTS	Power Transmitter Carrier Test Mode STATUS
Mod	ulator Democ	Julator Inte	erface	Drop and Insert	Faults/Alarms
0.0000	Modulator Frequency	50 to 90 and 100 to 180 MHz	OFF	Differential Encoder	
ON	RF Output		3/4_32.0	Filter Rate Assign. A	
1_2144.0	Modulator Rate		3/4_1544.0	Filter Rate Assign. B	
	Power Offset	+20.0 to -20.0 in 0.5 dB steps	7/8_1544.0	Filter Rate Assign. C	
-30.0	Output Power Level	-45.0 to +20.0 and -30.0 to +20.0 in 0.5 dB steps	3/4_1544.0	Filter Rate Assign. D	
	Scrambler Enable		,	Select Mod Rate	
ON	Carrier Only Mode Status				

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

ILC NCS - [SDM 308B-5] ew Co <u>n</u> figure <u>P</u> olling S <u>t</u> at	ıs <u>C</u> omman	ds <u>D</u> ate,	/Time j	<u>U</u> ser (Comm	and <u>A</u>	<u>\</u> utho	rity														8
			EF	Data :	SDN	1-3(08-5	5 MI	DD	ЕМ	#2											
Remote Mode			<u> </u>	Aodei	m is	Off	line			F	€x Le RBE CBE	ev. R R		-39de <1.0e <1e	3m 5-4 -8	в	E Tx I luffe	b/No PWF er Fi		> FRM_	16.0 _<1.0)E-7
EF DATA SATEL	08B-5 LITE M	1 ODE	м									Tra Rec Cor Sto F	nsn ceiv nmo red AU	nit re on ILT:	S		Po Tr Ca Te	ansi arrie st M ST/	mitte r fodi ATL	er JS		
Modulator	De	emodulato		Υ		Inte	erface			Υ	į	Qood	and	Inse	ert				Fault	s/Ala	rms	1
Execute Bulk Drop Setu	р									-5								• • •				
0 1 2 3 4 5	678	9 10	11	 2 13	14	15	16	17	18	 19	20	21	22	23	24	25	26	27	28	29	 30	31
Execute Bulk Insert Setu	ıp 🛛									-5			D	- D		-				D-1		
														T1 T1 T1E E1C E1C E1IE	SF CS AS		o,			TIE TESI TCC: TCA: TIBS	F S S	
														ΕX	ECU.	TE				EXE(CUTE	

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.

💻 ILC NCS - [SDC 400 DOWN	CONVERTER]				_ 8 ×
⊻iew Configure <u>P</u> olling Status	<u>Commands</u> <u>S</u> et <u>U</u> ser (Command Authority			
	Down Converter Clear Stored Faults Remote	EFData SDC-400 DN CO	NV #2		Offline
Converter Type No Data	POVER ON RF ON STATU: CONVERTER REFERENCE FAULTS	EXT REF TEST MODE S EXTERNAL STORED	req 1 Freq 2	VIEW DATA SELE Freq 3 Bck Cm	Cf Relay 1 Relay 2
Analog Input#1 An No Data Frequency Fr No Data	alog Input #2 An No Data - eq. Channel -	nalog Input #3 An No Data Gain Bi	alog Input #4 No Data ackup Mode No Data	C-Band Temp No Data Converter Moo LOCAL MODI Faults A Masi	e Backup Converter E Faults B Mask
Converter Module	Beference	Lock Detect VD		k Detect DB0	Lock Detect 420
Lock Detect HF	Frequency Calibration	M & C Fault		Batterv	+5 Volts
+12 Volts	-12 Volts	+15 Volts		ar Stored Faults	M&C Communications
External Fault #1	Evternal Faulte #2	External Fault #	2 F.v	emal Fault #4	External Fault #5
External Fault #6	External Fault #7	External Fault #	B Ext	ernal Fault #9	External Fault #10
External Fault #11	External Fault #12	External Fault #1	3 Exte	ernal Fault #14	External Fault #15
External Fault #16	Converter Stored Faults	0 External A	Stored Faults	0 External E	Stored Faults 0

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.

	-	II				
	Program Erequency Charliner	Channel			<u> </u>	Chan 1 - 30 [3828.000 - 4200.000 mil2]
	- 1 Togram requering Hooignment	ll cuantri		•		
	Set Converter Gain		-			+40.0 to -20.0 (must be less than 30dB under Max Gain)
	Program Remote Latch	Converter		SET		Enter Latch Belay and Setting
	External Faults A Digital Mask	HEXI		HEX2		Enter HEX value 0z00 to 0zFF
	External Faults B Digital Mask	HEX1		HEX2		Enter HEX value 0z00 to 0zFF
	Switch Polarity Digital Mask	HEX1	•	HEX2		Enter HEX value 0x00 to 0xFF
No Data	Backup Operation					YesiNo
No Data	Backup Mode					Automatic/Manual
	Backup Converter	1			•	Ester Backup Converter
	Backup Converter Channel	Converter	-	Channel	•	Enter Converter and Channel Number
	Backup Converter Gain	Converter	•			Converter/Gain: +40.0 to -20.0 (must be less than 30dB under M
	Backup Converter Delta (Gain)	Converter	•			Converter/Gain: 0.0 to +10.0dB in 0.5dB steps
	Switch Polarity	1				Polarity A Reset or Polarity B Set

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.

Command Conf	irmation Window
Confirm that you SDC se	want to change ettings?
ОК	Cancel

- 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.

8 1	7 1	6 0	5 1	4 1	3 0	2 1	1 1
not masked	not masked	masked	not masked	not masked	masked	not masked	not masked
]	Binary 110	01 = Hex	D	_	Binar	y 1011 =	Hex B

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	А
0011	3	1011	В
0100	4	1100	С
0101	5	1101	D
0110	6	1110	Е
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.

v Co <u>n</u> figure <u>P</u> olling S <u>t</u> atus	Commands Set User	Command <u>A</u> uthority					
	Up Converter Clear Stored Faults Remote	EFData SDC-600	UP CONV #1			Online	
Converter Type No Data	ER CONVERTER BEFERENCE FAULTS	EXT REF TEST MODE JS EXTERNAL STORED	Freq 1	Freq 2	IEW DATA SE Freq 3 Bck	LECI Crv Relay 1 Relay 2	
Analog Input #1 A No Data Frequency F No Data RF Output Ac No Data	nalog Input #2 A No Data Freq. Channel ctual RF Output	nalog Input #3 No Data Gain	Analog In No De Backup I No De	iput #4 ata Mode ata	C-Band Te No Date Converter M LOCAL MC Faults A M	imp a fode Backup Conve DDE ask Faults B Mask	
Converter Module	Reference	Lock Dete	ct VCX0	Lock De	etect DRO	Lock Detect 420	
+12 Volts	-12 Volts	+15V	olts	ault j Ba olts ClearSt		M&C Communications	
External Fault #1	External Fault #1 External Faults #2		ault #3	External Fault #4		External Fault #5	
External Fault #6	External Fault #7	External F	ault #8	Externa	hal Fault #9 External Fault #10		
External Fault #11 External Fault #12		External Fo	ault #13	External	Fault #14 — Fotomal	External Fault #15	

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.

Command Confirmation Window
Confirm that you want to change SDC settings?
OK Cancel

- 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.

No Data	Program Frequency Assignment Set RF Output Set Converter Gain Program Remote Latch External Faults A Digital Mask External Faults B Digital Mask Backup Operation	Converter HEX1 HEX1	× SET × HEX2	Ch Ch Qn -41 -41 -41 -41	n 1 - 30 Freq. 5845 - 6425 in 2.5MHzH26kHz Off .0 to -20.0 (must be less than 30dB under Max Gain) er Latch Relay and Setting er Letter Neise Refit in Refit
No Data	Set RF Durput Set Converter Gain Program Remote Latch External Faults A Digital Mask External Faults B Digital Mask Backup Operation	Converter HEX1 HEX1	• SET • HEX2	On •40 • Eo • Eo	0/f 0 to -20.0 (must be less than 30dB under Max Gain) er Latch Relay and Setting
No Data No Data	Set Converter Gain Program Remote Latch External Faults A Digital Mask External Faults B Digital Mask Backup Operation	Converter HEX1 HEX1	SET HEX2	• E0	0 to -20.0 (must be less than 30dB under Max Gain) er Latch Relay and Setting
No Data	Program Remote Latch External Faults A Digital Mask External Faults B Digital Mask Backup Operation	Converter HEX1 HEX1	SET HEX2	→ Eol	er Latch Relay and Setting
No Data	External Faults A Digital Mask External Faults B Digital Mask Backup Operation	HEX1 HEX1	HEX2	÷ En	ar HEX makes Br00 to BrEE
No Data	External Faults B Digital Mask Backup Operation	HEXI		hdi II-	
No Data	Backup Operation			En	er HEX value 0x00 to 0xFF
No Data	Backup Operation				
No Data				T Ye	ino
	Backup Mode			- Au	omatie/Manual
	Backup Converter	1		- En	er Backup Converter
T	Backup Converter Channel	Converter	Channel	- Ee	er Converter and Channel Number
	Backup Converter Gain	Converter		Co	werter/Gain: +40.0 to -20.0 (must be less than 30dB under N
-	Backup Converter Delta (Gain)	Converter		Co	werter/Gain: 0.0 to +10.0dB in 0.5dB steps

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.

Address and Communications Commands Operating Statu RFT A Address RSU Address Redundancy Baud Redundancy Parity Uplink Commands Downlink Commands Uplink Mode witch Configuration Redundancy Switch Mode Switch Configuration Redundancy Switch Mode BFT Lock Mode Switch Configuration Redundancy Switch Mode Downlink Switch With Switch BFT Lock Mode Downlink Switch RFT B address Path B Input A Voltage Input A Voltage Internal +5V Input PWR A Input PWR B Int. +5V Int. +32Y Uplink A Uplink B Uplink Switch Amb				EFData RSU-	503 SW #1	Online
IFT A Address RFT B Address RSU Address Redundancy Baud Redundancy Parity Uplink Commands Downlink Commands Uplink Mode witch Configuration Redundancy Switch Mode Switch Configuration Redundancy Switch Mode Image: RFT Lock Mode Switch Configuration Redundancy Switch Mode Downlink Switch Image: RFT Lock Mode Image: RFT A address RFT B address RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Path B Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address Image: RFT B address		Address ar	nd Communic	ations Commands	1	
Uplink Commands Downlink Commands Uplink Mode Downlink Mode Downlink Path Uplink Mode Downlink Path Downlink Path Downlink Mode RFT A address RFT B address RFT B address RFT B address RFT B address Input A Voltage Input B Voltage Input PWR A Input PWR B Int. +5V Int. +32V Uplink A Uplink B Uplink Switch Amb	FT A Address	RFT B Address	RSU Address	Redundancy Baud	Redundancy Parity	Operating Status
Uplink Commands Downlink Commands Uplink Mode itch Configuration Redundancy Switch Mode Switch Configuration Redundancy Switch Mode Downlink Path Uplink Switch BFT Lock Mode Downlink Switch RFT A address RFT B address Uplink Switch Downlink Switch Downlink Switch Input A voltage Input A voltage Path B Int. +5V Int. +32V Uplink A Uplink B Uplink Switch Amb						Uplink Path
itch Configuration Redundancy Switch Mode Switch Configuration Redundancy Switch Mode Downlink Path Downlink Mode RFT A address RFT B address Input A Voltage Input B Voltage Input B Voltage Internal +5V Int. +32V Uplink A Uplink B Uplink Switch Amb	Ur	olink Command	ls	Down	link Commands	Uplink Mode
Downlink Mode RFT Lock Mode Uplink Switch Path B Path B Path B Downlink Switch Path B Downlink Switch Path B Input A Voltage Input A Voltage Input A Voltage Input A Voltage Input B Voltage Internal +5V Internal +32V Internal +32V	itch Configura	tion Redundance	cy Switch Mode	Switch Configuration	Redundancy Swite	ch Mode Downlink Path
BFT Lock Mode RFT A address RFT B address RF	· · · · · · · · · · ·]		Downlink Mode
Uplink Switch Downlink Switch Path B Path B Put PWR A Input PWR B Int. +5V Int. +32V Uplink A Uplink B Uplink Switch Input A voltage Input A Voltage Internal +5V Internal +32V Internal +32V			BFT Lo	ck Mode		RFT A address
Uplink Switch Downlink Switch Path B Path B Path B Input PWR A Input PWR B Int. +5V Int. +32V Uplink A Uplink B Uplink Switch Amb						RFT B address
put PWR A Input PWR B Int. +5V Int. +32V Uplink A Uplink B Uplink Switch Amb	Path E				Path E	Redundancy Maintenance Statu Input A Voltage Input B Voltage Internal +5V Internal +32V
Developing Freedom Contraction	put PWR	A Input PW	RB Int. +	5V Int. +32V	Uplink A U	plink B Uplink Switch Ambig
DOWNINK FAULTA DOWNINK FAULT DOWNINK SWICH AMDIGULY PC COMMUNICA	Downiin	K Fauil A	Downiii		JUWININK SWITCH	Ambiguity PC Communicati

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.

		EFData SMS	-301 1-1 MODEM			Online
EF DATA 1:1	S-301 N DEMOD. Switch L DEMOD N DEMOD N DEMOD N DEMOD N DEMOD	A F TRANS B U RECEI L SYSTE S STORE	SMIT POVERS	SUPPLY1 SUPPLY2 MO DEI	DE: D ONLINE: MOD ONLINE:	
	Modem Communications Config Modem Control Baud Rate: Modem A Address: Modem B Address: Automatic Verify:	No Data No Data No Data No Data No Data	Modem Configuratio Modulator Active: Demodulator Active Mod OnLine Delay: Demod OnLine Delay:	n Na C Na Na Sy: Na	o Data o Data o Data o Data	
x Operational Fault	Rx Operational Operational Stor Fault Fault 0	ed M & C Controller Fault	IF Module Fault	Battery/Clock Fault	+5V Power Suppl Fault	ly +12V PowerSu Fault
er Supply #1 Fault,	Power Supply #2 Fault Modem (Comm Fault Mod C	onfig Verify Demod 0 Fault f	Config Verify Sys Fault	tem Stored Faults 0	M & C Communic Fault

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 SetMode and click on Remote. Then select, SetMode and click on Manual.

liew Configure Pol	ata SMS 30	1 Modem Protectio	on Switch] Iser Command Author	du seren en e		- 8
EF DATA SN 1:1	IS-301 ⁻ Switch	Commandos Set L Modulator Demodulator Configuration Clear Stored Faults N UEMOD L DEMOD L MOD A E MOD B	Ser Command Autrio Mod & OnLine Mod & OnLine F TRANS B U RECEI L SYSTE S STORE		MODE: MOD ONLINE: DEMOD ONLINE:	Online
	Modem C Modem C Modem A Modem A Automati	Communications Config Control Baud Rate: Address: Address: C Verify:	juration No Data No Data No Data No Data	Modem Configuration Modulator Active: Demodulator Active: Mod OnLine Delay: Demod OnLine Delay:	No Data No Data No Data No Data	
Tx Operational Fault Power Supply #1 Fau	Rx Operation Fault	al Operational Sto Faults 0 Ily #2 Fault Modem	red M & C Controller Fault Comm Fault Mod C	IF Module Fault Battery/I onfig Verify Demod Config Veri Fault Fault	Clock Fault +5V Power Supp Fault erify System Stored Faults	IV +12V Power Suppl Fault M & C Communicatio Fault

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

💻 ILC NCS - [EF Data SMS 30	1 Modem Protection	Switch]			- 6 2
⊻iew Co <u>n</u> figure <u>P</u> olling Status	Commands Set User	Command Authorit	y	****************	
	Modulator	EFData SMS-	301 1-1 MODEM		Online
EF DATA Switch	Configuration Clear Stored Faults N DEMODIA L DEMODIA L DEMODIA L DEMODIA L MODIA N MODIA	Modem Control E Modem Address Load Modem Co Automatic Verify Modulator Active Demod Active DrLine Delay	aud Rate > 9600 19200 POVERSUPPLY POVERSUPPLY NUTO MANUAL	1 MODE: MOD ONLINE: Demod Online:	
- Modem 0	Communications Configura	ition	Modem Configuration		
Modem (Control Baud Rate:	No Data	Modulator Active:	No Data	
Modem A	Address:	No Data	Demodulator Active:	No Data	
Modem F	3 Address:	No Data	Mod OnLine Delay:	No Data	
Automati	c Verify:	No Data	Demod OnLine Delay:	No Data	
Tx Operational Rx Operation Fault Fault	nal Operational Stored Faults	M & C Controller Fault	IF Module Fault Battery/	Clock Fault +5V Power Sup Fault	ply +12V Power Supply Fault
Power Supply #1 Fault Power Supp	oly #2 Fault Modem Cor	mm Fault Mod Co F	nfig Verify Demod Config V ault Fault	erify System Stored Faults	M & C Communication Fault
· · · · · · · · · · · · · · · · · · ·					

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.

🚊 ILC NCS - [EF	Data SMS 30	1 Modem Protection	Switch]				_ 8 ×
⊻iew Co <u>n</u> figure	<u>P</u> olling Status	Commands Set User	Command Authority	ι			
		Modulator	EFData SMS	301 1-1 MODEM			Online
		Configuration •	Modem Control B	aud Rate 🔸			
EEG	MS 201	Clear Stored Faults	Modem <u>A</u> ddress	6- N A \ E	by t		
	1:1 Switch		Automatic Verify	ing <u>A</u> ->d ▶ B->4	A PLY2	MODE:	
DATA			Modulator Active	 kuтo 		MOD UNLINE:	
			Demod Active	MANUA	4L	DEMOD ONEMIE.	
			OnLine Delay	•			
-							
	Modem C	Communications Configura	tion	Modem Configurat	tion		
••••••••••••	Modem (Control Baud Rate:	No Data	Modulator Active:		No Data	
	Modem A	Address:	No Data	Demodulator Activ	ve: 🔽	No Data	
	Modem B	Address:	No Data	Mod OnLine Delay	у. 🦵	No Data	
	Automati	c Verify:	No Data	Demod OnLine De	elay:	No Data	
Tx Operational Fault	Rx Operation Fault	nal Operational Stored Faults	M & C Controller Fault	IF Module Fault	Battery/Clock	Fault +5V Power Supp Fault	oly +12V Power Supply Fault
Power Supply #11	-ault Power Supp	bly #2 Fault Modem Cor	nm Fault Mod Cor Fa	ntig Verity Demod	Fault	System Stored Faults	M & L Communicationa Fault
						0	
01:30 PM	2/10/99	System	01999913:30:03 02/	10/99 0!00005[000	IOON LOG O	N/OFFIUSER = System	ISYSTEMILOG ON

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.

	M <u>o</u> de Swite	h Dep/Ind	15-301 1-1 MODEM		Online
SM DATA 1:1	IS-301 0 Detec Switch L DEMOD N MODA N MODA	g Save ◆ 1 g Becall ◆ 2 /Time ◆ 3 B U 4 L 5 T 5 S 5 5 5 5 5 5		SUPPLY1 SUPPLY2 NOD ONLIN DEMOD ON	E: LINE:
	Modem Communications Config	juration	Modem Configuratio	'n	
	Modem Control Baud Rate:	No Data	Modulator Active:	No Data	
	Modem A Address:	No Data	Demodulator Active	No Data	
	Modem B Address:	No Data	Mod OnLine Delay:	No Data	
.	Automatic Verify:	No Data	Demod OnLine Del	ay: No Data	
Fault	Fault Faults	Fault	ller IF Module Fault	Battery/Llock Fault +5V Pow Fa	er Supply +12V Power Su ault Fault
er Supply #1 Fau	It Power Supply #2 Fault Modem	Comm Fault Mod	I Config Verify Demod 0 Fault I	Config Verify System Stored Fault 0	I Faults M & C Communica Fault

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.

		EFDa	ata SMS-658 MODEM S'	₩ #1		Online
	5 MS-65 8 1:N Switch	3	Power Auto Local Remote Bypass STATUS	Battery Mod Mod Demod M:N FAULTS		
Modem Comm. Fault	Modulator Config. Verify Fault	Demodulator Config Verify Fault	Modulator Compatibility Fault	Demodulator Compatibility Fault	+12 Volt Power Fault	-12 Volt Powe Fault
+5 Volt Power	Power Supply #1 Fault	Power Supply #2 Fault	Battery Fault	Missing Parameter Fault	Downlink Fault	M & C Communication

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

ew <u>U</u> ser			
Prime Modulator Configuration	Prime Demodulator Configuration	Prime Modem Interface Type	Verify Active Modern Configuration
Backup Modulator Configuration	Backup Demodulator Configuration	Backup Modem Interface Type	Load All Active Modems
Modulator Transponder	Demodulator Transponder	Modelli i iloliy	Load Prime Modem
	Downlink Transponder Option	Modem Online Delay	Load Backup Modem
			Load Prime Modern Address
			Load Backup Modem Address

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.

Prime Modulate	or Configuration	Prime Demodulator Configuration	Modem Switch Configuration
Backup Modula	tor Configuration	Backup Demodulator Configuration	Modulator Configuration Click "Modulator X" to Poll
Modulator T	ransponder	Demodulator Transponder	Active Priority Delay I/F Type Address Xpon
rime Modulator Prime Modulato O Dre O Two O Two O Twe O Four O Five O Six O Seven O Eight	Transponders Trans Number O One O Two O Three	Doomink Transponder Uption	Mod 2:
Execute	Cancel		

To check the assignments of transponders:

-Modulate	r Cont	ligurati				
Oliak 21	ladula	+ ~ ~ ~ !	to Doll			
CIICK M	iouuia	.101 ×	IU PUII			
			Mod.			
	Active	Priority	/ Delay	I/F Type	Address	; Xpond
Mod 1:	YES	LOW	AUTO	N/A	1	1
Mod 2:	YES	LOW		N/A		
Mod 3:	YES	LOW		N/A		
Mod 4:	YES	LOW		N/A		
Mod 5:	YES	LOW		N/A		
Mod 6:	YES	LOW		N/A		
Mod 7:	YES	LOW		N/A		
Mod 8:	YES	LOW		N/A		
Mod P1				NUA		
MUU DT.					9	
Mod B2:	INO	I N/A		N/A	10	

- 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.

Prime Modulator T	ransponders
Prime Mod.	Trans Number-
One	🖲 One
O Two	O Two
O Three	O Three
O Four	
O Five	
O Six	
O Seven	
O Eight	
Execute	Cancel

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:

Demodu	lator (Configu	ration			
Click "D)emod	lulator	\times " to F	Poll		
	Active	Priority	Demod. Delay	I/F Type	Address	Xpond
Dmd 1:	YES	HIGH		N/A		1
Dmd 2:	NO	MED		N/A		1
Dmd 3:	YES	LOW		N/A		1
Dmd 4:						
Dmd 5:						
Dmd 6:						
Dmd 7:						
Dmd 8:						
Dmd B1:						
JUmd B2:						

- 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.

Prme Modulator Configuration	Prime Demodulator Configuration	Modem Switch Configuration
Backup Modulator Configuration	Backup Demodulator Configuratio	Demodulator Configuration
Modulator Transported	Democulator Freneponder	Click "Demodulator X" to Poll
	Cownink Transponder Option	
	Prime Demodulator Transpondent Prime Demod	Dind 3:

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

		EFD	ata RFT-500 (DDU #2			Online
Device	Setup						
Configuration St	atus and Com	nmands		Γ	Maintenanc	e Stati	e
U/C Freq	Free	juency in MHz	U	oconverter	Temperature		Degrees C
D/C Freq	Free	juency in MHz	Do	Downconverter Temperature		ļ	Degrees C
BF Out		7		Power Amp Temperature		_	Degrees U
D/C Allen		21.0.40	Downconverter Tuning Voltage			Volts	
D/C Allen				IF LO Tuni	ing Voltage	Volts	
U/C Atten	[0.0 to	25.0 dB					
			Fault Stat	tus			
	Unit Bestart Unlink				+5 Volt PS		
Unit Restart	Uplink		Downlin	(+5 YUILPa		+12 Volt PS
Unit Restart Power Amp	Uplink LNA		Downlink O Lock	UC I	LO Tuning Volta	ge 🛛	+12 Volt PS DC LO Lock
Unit Restart Power Amp DC LO Tuning V	Uplink LNA Yoltage	UC L	Downlink -O Lock ck	UC I	LO Tuning Volta ning Voltage	ge M&(+12 Volt PS DC LO Lock Communications

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

			EFData	RFT-500 ODU #2			Online
	Device	e Setup					
	Setup	Device	CLOSE	[Maintenanc	e Status	
		ation		Upconverte	er Temperature		Degrees
N- D-1-		nable		Downconver	ter Temperature	i i	Degrees
NO Data			<u> </u>	Power Am	o Temperature		Degrees (
No Data	Ref. Freq.	Aajust	[[DAC] 0 to 255	Upconverter	Tuning Voltage		Volts
No Data	LNA Power	Enable	<u>*</u>	Downconvert	er Tuning Voltage		Volts
No Data	Lock Mo	ode	•		ning voltage		A A A A A A A A A A A A A A A A A A A
No Data	Ext Fault F	n n n n					
No Data	Redundant	Switch	► ▼				
No Data	Redundant	Switch	Fa	ault Status			
No Data Unit I	Restart	Switch	Fa	ault Status Do w nlink	+5 Volt PS		+12 Volt PS
No Data Unit I Powe	Restart er Amp	Uplini	Fa	ault Status Downlink Lock UC	+5 Volt PS LO Tuning Volta	ge (+12 Volt PS DC LO Lock
No Data Unit I Powo DC	Restart er Amp	Switch Uplini LNA /oltage		ault Status Downlink Lock UC IF LO T	+5 Volt PS LO Tuning Voltage	ge M & C Cr	+12 Volt PS DC LO Lock ommunication
No Data Unit I Powo DC	Redundant : Restart er Amp LO Tuning \	Switch Uplini LNA /oltage		ault Status Downlink Lock UC IF LO T	+5 Volt PS : LO Tuning Volta uning Voltage	ge (M & C Cr	+12 Volt PS DC LO Lock ommunication
No Data Unit I Pow DC	Restart Restart er Amp LO Tuning \	Switch Uplini LNA /oltage	Fa	ault Status Downlink Lock UC IF LO T	+5 Volt PS : LO Tuning Volta uning Voltage	ge (M & C Cr	+12 Volt PS DC LO Lock Immunication
No Data Unit I Powe	Restart Restart er Amp LO Tuning \	Svitek Uplint	▼ ▼ k UC LO IF LO Lock	ault Status Downlink Lock UC IF LO T	+5 Volt PS : LO Tuning Volta uning Voltage	ge (M & C Cr	+12 Volt PS DC LO Lock Immunication
No Data Unit I Powi DC	Restart er Amp LO Tuning \	Sviteh Uplini Uplini LNA foltage	▼ ▼ k CCLO IFLOLock	ault Status Downlink Lock UC IF LO T	+5 Volt PS LO Tuning Volta uning Voltage	ge (M & C Co	+12 Volt PS DC LO Lock Immunication
No Data Unit I Pow DC	Restart er Amp LO Tuning \	Svitek Uplint LNA /ottage	F F k UC LO IF LO Lock	ault Status Downlink Lock UC IF LO T	+5 Volt PS : LO Tuning Volta uning Voltage	ge M & C Cr	+12 Volt PS DC LO Lock

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.

			Erbalanor	12000 000 #1			Unine
D	evice Set	qr					
Configuration	Status ar	nd Comm	ands	Г	Maintenanc	e Status	
		- [Upconverter T	emperature		Degrees C
	2Q	1 14000.0		Downconverter	Temperature		Degrees C
D/C Fre	pe	10950.0	l to 12750.0	Power Amp T	emperature	[Degrees C
BF Ou	t 🛛	0.0 to 25.0 dB 0.0 to 31.0 dB		UPC LO Vt-S Tuning Voltage UPC LO Vt-V Tuning Voltage DNC LO Vt-S Tuning Voltage DNC LO Vt-V Tuning Voltage IE LO Tuning Voltage		ļ	Volts
							Volts
U/L Att	en						Volts Volts
D/C Att	en						
			Fault	Status	<u></u>		
Unit Restart	Uplink	Downlink	, +5 Volt PS	+12 Volt PS	Power Amp	LNA	UC LO Loci
UPC LO Vt-S Tuning Voltage UPC LO Vt-V Tuning Vol			V Tuning Voltage	nge DC Lock Detect		DNC LO Vt-S Tuning Voltag	
UPC LO ¥t-S Tunin	DNC LO Vt-V Tuning Voltage IF LO Lock Detect			IF LO Tuning Voltage		M&C Communications	
UPC LO Vt-S Tunin DNC LO Vt-V Tunin							CI4
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.

ILC NCS - [RC1150 REDUN View Configure Polling Comma	DANCY SWITCH CONTROLLER] nds User Command Authority	
	EFData RC-1150 1-1 SW #1	
EF DATA REDUNDANCY SWITCH CONTROLLER	Image: Constraint of the second se	STATUS CONTROL PS1 REM LOCAL PS2
	Path A Path B	
– Status Information	OPERATION MODE CONFIGURATION LNA ONLINE	
- Fault Information		
Power Supply #1	Power Supply #2 LNA #1 LNA #2	M&C Comm.

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

🚊 ILC NCS - [V2200 Conve	rter]			_ 8 ×
View Co <u>n</u> figure <u>P</u> olling S <u>t</u> atu	us <u>C</u> ommands <u>U</u> ser Command <u>A</u>	uthority		
		EFD V2200 CNV #10	× [Online
EF V22 DATA DUAL CON	200 I E Muited A Fault	A ONLINE B ONLINE AUTO FAULT B FAULT	T REF Data ULT	A Converter B Data
Status/Command	Side A Channel St	atus 🍸 Side B Char	nnel Status	Faults/Alarms
A Backup Side	Mute Status Not Muted Actual Set Chan	Prime Conv Online Trav A Converter Mode	Backup Mode Auto Converter Atten. 5	Backup Conv Chan 1 Backup Conv Atten 5
		External Ref. Detect Not Detected		
B Backup Side Ref. Source	Mute Status Not Muted Actual Set Channel	Prime Conv Online Trav A Converter Mode Local External Ref. Detect	Backup Mode Auto Converter Atten. 5	Backup Conv Chan 1 Backup Conv Atten 5
		Not Detected		
i Sidé A Fauit/Alarm	j Side B Fault/Alarm	Side A Comm	Side B Comm	I Mail Communication
03:08 PM 9/25/98	System 10199991	15:08:32 09/25/98 6!0000SØ0009	ON ChangelB Converter M	IodelEFD V2200 CNVIEFD V2200

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.

<mark>凰 ILC NCS - [V2200 Converter]</mark> View Configure Polling Status Commands User Command Authoritu		_ @ ×
Yiew Cogfigure Polling Status Commands User Command Authority Alarm Setup Exit Set All Alarms DATA None ConvA_M&C Fault None ConvA_M&C Fault None ConvA_KEr Level Detect None ConvA_KEr Level Detect None ConvA_KEr Level Detect None ConvA_KEr Lock Detect SYNT Wav None ConvA_KEr Lock Detect SYNT Wav None ConvA_KEr Lock Detect SYNT Wav None ConvA_KEr Lock Detect Wav None ConvA_KEr Lock Detect SYNT Wav None ConvA_KEr Lock Detect Wav None ConvA_KER Fault None ConvA_KER Fault None ConvA_KER Fault None ConvB_KER Fault None ConvB_KER Lock Detect Wav None ConvB_KER Lock Detect Wav None ConvB_KER Lock Detect SYNT Wav None ConvB_Redundant Switch W	A ONLINE S PVR ON B ONLINE S PVR ON Con B ONLINE S PVR ON Con D EXT REF E MUTED B FAULT Side B Channel Status Channel 17 6325 Channel 17 6325 Channel 18 Channel 22 6355 Channel 19 Channel 23 6385 Channel 20 Channel 24 6415 Channel 24 6415 Channel 24 Channel 20 Channel 24 Channel 24 Channel 24 Channel 24 Channel 24 Channel 24 Channel 24 Channel 24 Channel 24 Channel 26 Channel 20 Channel 24 Channel	
None Conv8_12V Paula Wav None Conv8_18V Faula Wav None Conv8_KREF Phase Noise Wav None Conv8_XREF Range Wav	m /1 4F-4 /1 0F-12 2047. No Data \16 04P-4	2%///00094FT [CompandiA_Equir

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

🚊 ILC NCS - [V2200 Converter]					_ 8 ×
<u>View Configure Polling</u> <u>Status</u> Com	mands <u>U</u> ser Command <u>A</u> u	uthority			
A Side ► B Side ►	Converter <u>C</u> onfig Status Converter Faults	FD V2200 CNV #10			Online
	Maximum Converter Gain				
	Converter <u>T</u> emperature			ortor A	Convertor B
	Channel <u>S</u> tatus			lata	Data
	Get Stored Faults				
DATA DUAL CONVERTE	Remote Mode		MUTED		
	Clear Stored <u>F</u> aults		FAULT		
Status/Command	Rem <u>o</u> te Address Seek A	Side P.Ck	annol Status		to /Alarmo
Status/Command	Side A Channel S		idniner status	rau	(67Aidillis
Channel 1 Channel 5	Channel 9 Ch	annel13 Channel17	Channel 21	Channel 25	Channel 29
5845 5965	6085	6205 6325	6445	6565	6685
_Channel 2 _ Channel 6	Channel10Ch	annel14 Channel18	Channel 22	Channel 26	_Channel 30
5875 5995	6115	6235 6355	6475	6595	6725
Channel 3 Channel 7	Channel11Ch	annel 15 Channel 19	Channel 23	Channel 27	
5905 6025	6145	6265 6385	6505	6625	
Channel 4 Channel 8	Channel 12 Ch	annel 16 Channel 20	Channel 24	Channel 28	
1 5935 I 6055	I 6175 I	6295 6415	6535	6655	
			0.1 0.0		<u></u>
Side A Fault/Alarm Side	e B Fault/Alarm	Side A Comm	Side B Comr	n [M&C0	Communication
02:56 PM 9/29/98 9	Gystem [10199991-	4:56:43 09/29/98 4Ø0009AET	Command i A E	quipment Type EF[) V2200 CNVIEFD V2

8.3.2 Status – Equipment Type

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

Rev Configure Polling Status Con	mands	
Vew Congrigue Long Clear Long Clear Long Clear Long Long Long Long Long Long Long Long	Converter Config Status Converter Faults Maximum Converter Gain Converter Lemperature Channel Status Get Stored Faults Equipment Type Remote Mode Clear Stored Eaults	Online Converter A Converter B Data Data
Status/Command	Remote Address Seek A Side A Channel Status Side B Channel Status	Faults/Alarms
Channel 1 Channel 5 5845 5965 Channel 2 Channel 6 5875 5995 Channel 3 Channel 7 5905 6025 Channel 4 Channel 8 5935 6055	Channel 9 Channel 13 Channel 17 Channel 6085 6205 6325 6445 Channel 10 Channel 14 Channel 18 Channel 6115 6235 6355 6475 Channel 11 Channel 15 Channel 19 Channel 6145 6265 6385 6505 Channel 12 Channel 16 Channel 20 Channel 6175 6295 6415 6535	a) 21 Channel 25 Channel 29 5 6565 6685 a) 22 Channel 26 Channel 30 65 6595 6725 a) 23 Channel 27 6625 a) 24 Channel 28 6655
Side A Fault/Alarm Side	B Fault/Alarm Side A Comm Side B	Comm M&C Communication

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.

■ ILC NCS - [V2200 Converter] View Configure Polling Status Commar	ds <u>U</u> ser Command <u>A</u> uthority	
	EFD V2200 CNV #10	Online
EF DATA DUAL CONVERTER	S PVR ON I EXT REF D EXT REF E MUTED A FAULT S PVR O A ONLINE B ONLINE C PVR O I E T RIF D EXT RIF	Converter A Converter B Data Data
Status/Command Channel 1 Channel 5 5845 5965 Channel 2 Channel 6 5875 5995 Channel 3 Channel 7 5905 6025 Channel 4 Channel 8 5935 6055	Side A Ct Message Window Image: Channel 9 Channel 9 Command Accepted C 6085 EFD V2200 CNV C Channel 10 EFD V2200 CNV #10 C 6115 Channel 11 Command response for Equipment Type responded with value of V2200_2.1.1 C	Status Faults/Alarms hannel 21 Channel 25 Channel 29 6445 6565 6685 hannel 22 Channel 26 Channel 30 6475 6595 6725 hannel 23 Channel 27 6505 6505 6625 6625 hannel 24 Channel 28 6535
Side A Fault/Alarm Side B	Fault/Alarm Side A Comm Si	de B Comm M&C Communication

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.

🚊 ILC NCS - [V2200 Converter	1			
⊻iew Co <u>n</u> figure <u>P</u> olling S <u>t</u> atus	Commands User Command	<u>d A</u> uthority		
	Channel A ▶ Erequency Channel B ▶ Program F Mute	Channel req Assignment		Online
DATA V220	0 RTER Set Conve Prime/Bac D Backup M E Prime Con I ime A Date SetUp Set	rter Attenuator kup Operation → ode → verter Online → tings →	PVB ON EXT REF MUTED FAULT	Converter B Data
Status/Command	Side A Channer	status Side B C	hannel Status	Faults/Alarms
A Backup Side Ref. Source	Mute Status Not Muted Actual Set Chan 1	Prime Conv Online Trav A Converter Mode Local External Ref Detect Not Detected	Backup Mode Auto Converter Atten. 5	Backup Conv Chan 1 Backup Conv Atten 5
Converter	Mute Status	Prime Conv Online	Backup Mode	Backup Conv Chan
B Backup	Not Muted	Trav A	Auto	
Side Ref. Source	Actual Set Channe	Converter Mode	Converter Atten.	Backup Conv Atten
		Evternal Ref. Detect	5	5
		Not Detected		
Side A Fault/Alarm	Side B Fault/Alarm	Side A Comm	Side B Comm	M&C Communication
03:11 PM 9/25/98	System !2!002	279/25/98 3:11:49 PM 6!0000SØ0	0090N ChangelB Converter N	vlode EFD V2200 CNV EFD V220

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.

🚊 ILC NCS - [V2200 Converter]			
<u>V</u> iew Co <u>n</u> figure <u>P</u> olling S <u>t</u> atus <u>C</u> om	mands User Command Authority		
CI CR CR CR CR CR CR CR CR CR CR CR CR CR	nannel A	V #10 INE S PVR ON Auto B FAULT	Online Converter A Converter B Data Data
Status/Command	Side A Channel Status	Side B Channel Status	Faults/Alarms
Channel 1 Channel 5 5845 5965 Channel 2 Channel 6 5875 5995 Channel 3 Channel 7 5905 6025 Channel 4 Channel 8 5935 6055	Channel 9 Channel 13 6085 6205 Channel 10 Channel 14 6115 6235 Channel 11 Channel 15 6145 6265 Channel 12 Channel 16 6175 6295	Channel 17 Channel 2 6325 6445 Channel 18 Channel 2 6355 6475 Channel 19 Channel 2 6385 6505 Channel 20 Channel 2 6415 6535	Channel 25 Channel 29 6565 6685 22 Channel 26 6595 6725 3 Channel 27 6625 6625 24 Channel 28 6655 6655
Side A Fault/Alarm Side	e B Fault/Alarm 📔 Side A	Comm Side B C	Comm M&C Communication

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.

LC NCS - [V2200 Converter]			
View Co <u>n</u> figure <u>P</u> olling S <u>t</u> atus <u>C</u> or	nmands User Command Authority		
	hannel A ▶ Erequency Channel hannel B ▶ Program Freq Assignme Mute	nt • V #10	Online
DATA V2200 DUAL CONVERTE	ER	A INE S PVR ON INE S EXT REF A B FAULT	Converter A Converter B Data Data
Status/Command	Side A Lhannel Status	Side B Channel Sta	atus Faults/Alarms
Channel 1 Channel 5 5845 5965 Channel 2 Channel 6 5875 5995 Channel 3 Channel 7 5905 6025 Channel 4 Channel 8 5935 6055	Channel 9 Channel 11 6085 6205 Channel 10 Channel 1 6115 6235 Channel 11 Channel 11 6145 6265 Channel 12 Channel 11 6175 6295	Channel 17 Cha 6325 6 4 Channel 18 Cha 5 6355 6 6 Channel 19 Cha 6 6385 6 6 Channel 20 Cha 6 6415 6	annel 21 Channel 25 Channel 29 6445 6565 6685 annel 22 Channel 26 Channel 30 6475 6595 6725 annel 23 Channel 27 6505 6625 annel 24 Channel 28 6535 6655
Side A Fault/Alarm Sid	e B Fault/Alarm Side	A Comm Side	e B Comm M&C Communication

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.

LC NCS - [V2200 Converter]						_ 8 ×
View Configure Polling Status Co	<mark>mmands U</mark> ser Comman	id <u>A</u> uthority				
	Channel A ▶ Erequenc Channel B ▶ Program F Mute	y Channel Freq Assignment 🕨	IV #10			Online
EF DATA DUAL CONVERT	ER	erter <u>A</u> ttenuator ckup <u>O</u> peration fode werter Online			erter A ita	Converter B Data
Status/Command	Side A Channe	el Status	SLOPE Adjust (Fr	actory Set Cal.)	Faul	lts/Alarms
Channel 1 Channel 5 5845 5965 Channel 2 Channel 6 5875 5995 Channel 3 Channel 7 5905 6025 Channel 4 Channel 8 5935 6055	Channel 9 6085 Channel 10 6115 Channel 11 6145 Channel 12 6175	Channel 13 6205 Channel 14 6235 Channel 15 6265 Channel 16 6295	Gain Adjust (Fact Remote Address Baud Rate Select Parity Select Channel 19 6385 Channel 20 6415	6475 Channel 23 6505 Channel 24 6535	Channel 25 6565 Channel 26 6595 Channel 27 6625 Channel 28 6655	Channel 29 6685 Channel 30 6725
Side A Fault/Alarm Side	le B Fault/Alarm	Side A C	Comm	Side B Comm	M&C (Communication

	7541
Verify Active Mode Configuration Load Prime Modem	/.5.4.1
Load All Active Modems	7.5.4.2
Load Prime Modem	7.5.4.3
Load Prime Modem Address	7.5.4.4
Prime Modem Assignment	7.5.4.5
Modem Control Baud Rate	7.5.4.6
Set Menus	7.6
Set Mode Remote	7.6.1
Acknowledge Command Accept Response	7.6.2
Mode – M:N	7.6.3
Mode – Switch DEP/IND	7.6.4
Command Authority	7.7

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.

🚊 ILC NCS - [EF Data SMS 7000	Modem Protection 9	witch]			_ 8 ×
⊻iew Co <u>n</u> figure <u>P</u> olling Status <u>C</u> o	ommands <u>S</u> et <u>U</u> ser	Command <u>A</u> uthority			
		EFD ata SMS-7000 N	IODEM SW #1		Online
EF DATA M:N Switch	TRANSMIT	SYSTEM	POWER ON AUTO	BACKUP P	AUTO MODE MODEM BI ON STANDBY MODEM B2 ON STANDBY
Nadas Casas Madalata Casifa	Dana dalaha Cantin	Na Mad Cauca (N		Address Drives	la simulati (Data Madda Farda
Fault Verify Fault	Verify Fault	Loaded	Loaded Specifi	ied for Modem	Fault
IF Module Fault Power Supply #	11 Fault Power Supply #	2 Fault NVRAM/ Clo	ck Fault M & C Controlle	r Fault 12C Bus F	ault M & C Communications
					j Fault
12-53 PM 8/18/98	Nollser	999912-53-13 08/18/		ChangelMDM_SW_M	2. BackISMS.7000IEED ata SMS.7

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.

🚊 ILC NCS - [E	F Data SMS 70	00 Modem Protecti	on Switch]	_ B ×
<u>V</u> iew <u>Configure</u>	Polling Status	<u>Commands</u> <u>S</u> et <u>U</u> :	ser Command Authority	
✓ Lock Lab Alarm Se	tup		EFData SMS-7000 MODEM SW #1	Online
EF	SMS-7000 I:N Switch	RECEIVE	SYSTEM POWER ON CURRENT CURRENTT CURRENT CURRENT CURRENT CURRE	AUTO MODE BACKUP MODEM BI ON STANDBY
Modem Comm. Fault	Modulator Cor Verify Fault	ifig. Verify Fault	nfig No Mod. Config. No Demod. Config. No Loaded Specifi	Address Prime Assignment ed for Modem Fault
IF Module Fau	Power Supp	ly #1 Fault Power Sup	ply #2 Fault NVRAM/ Clock Fault M & C Controller	r Fault 12C Bus Fault K Communications Fault Fault
02:51 PM	9/29/98	System	01999914:51:13 09/29/981 1100005B0000DN 0	CommandiREMOTE OPERATIONISMS-7000jEFData Sh

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.

LC NCS - [EF Data SMS 7000 Modent View Configure Polling Status Commands	Protection Switch] Set User Command Authority	_ # ×
	EFData SMS-7000 MODEM SW #1	Online
Modem Comm Faut Brown	MIT SYSTEM VE FOURPMENT LE ULT MANUAL ULT MANUAL SWITCH STATUS No Demod. Contig. SS Way SS Way SS Way SS Way ULE Way ULE Way OLLER Way OLLER Way Way	AUTO MODE BACKUP MODEM BI ON STANDBY BACKUP MODEM BI ON STANDBY Data Module Fault Fault Data Module Fault Fault 12C Bus Fault M & C Communications Fault

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.

💻 ILC NCS - [EF Data SMS 7000	Modem Protection	Switch]				_ 8 ×
<u>View</u> Configure <u>Polling</u> Status <u>Co</u>	ommands <u>S</u> et <u>U</u> ser	Command <u>A</u> uthority				
✓ <u>D</u> NLINE Force UpdaSe		EFD ata SMS-7000 MOI	DEM SW #1		On	line
SMS-7000 M:N Switch	TRANSMIT	SYSTEM	POWER ON AUTO MANUAL CINERAL STATU		AUTO MODE	STANDBY
Modem Comm. Modulator Conlig	. Demodulator Confi	a No Mod. Config. No D	emod. Config.	o Address	ne Assignment	Data Module Fault
Fault Verify Fault	Verify Fault	Loaded	Loaded Speci	fied for Modem	Fault	
IF Module Fault Power Supply 4	#1 Fault Power Suppl	#2 Fault NVRAM/ Clock	Fault M & C Controll	er Fault 12C B	us Fault M & I	C Communications Fault
						, cun
02:54 PM 9/29/98	Sustem	101999914:54:02 09/29/981	110000\$800000N	CommandiBEMOT		4S-7000EEData St

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

View Configure Polling Status Commands Set User Command Authority Equipment Type M&C Firmware EFD ata SMS-7000 MODEM SW #1 Online M&C Firmware Data Switch Module Firmware SYSTEM POWER ON M:N Switch RECEIVE EQUIPMENT AUTO
Equipment Type M&C Firmware Data Switch Module Firmware IF Switch Module Firmware SYSTEM M:N Switch RECEIVE EQUIPMENT EQUIPMENT AUTO A
Data Switch Module Firmware SYSTEM POWER ON AUTO MODE IF Switch Module Firmware SYSTEM POWER ON BACKUP MODE M:N Switch RECEIVE EQUIPMENT AUTO BACKUP MODE
IMODEM FAULT
Modem Comm. Modulator Config. Demodulator Config. No Mod. Config. No Demod. Config. No Address Prime Assignment Data Module 1 Fault Venity Fault Venity Fault Loaded Specified for Modem Fault
IF Module Fault Power Supply #1 Fault Power Supply #2 Fault NVRAM/ Clock Fault M & C Controller Fault 12C Bus Fault R & C Communicat Fault

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

View Configure Polling Status Commands Set User Command Authority Modulator Demodulator SMS-7000 EFData SMS-7000 Bernord Faults SYSTEM POWER ON Barka M:N Switch RECEIVE Imodem Fault STORED Iswitch Fault	B ×
Modulator EFData SMS-7000 MODEM SW #1 Online SmS-7000 Switch Configuration EFData SMS-7000 MODEM SW #1 Online SMS-7000 Lear Stored Faults SYSTEM POWER ON AUTO MODE M:N Switch RECEIVE EQUIPMENT AUTO BACKUP MODEM BI ON STANDBY MODEM FAULT STORED MANUAL ISWITCH STATUS	
SMS-7000 Liear stored raute System Power on Auto Mude M:N Switch RECEIVE EQUIPMENT Auto Manual Imodem Fault Iswitch Fault Iswitch status	
Modern Comm. Modulator Config. Demodulator Config. No Mod. Config. No Demod. Config. No Address Prime Assignment Data Module Fault Venity Fault Venity Fault Loaded Specified for Modern Fault Image: Config. Data Module	e Fault
IF Module Fault Power Supply #1 Fault Power Supply #2 Fault NVRAM/ Clock, Fault M & C Controller Fault 12C Bus Fault M & C Communic. Fault	ations

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.

Backup Using Modulator B1	Backup Using Modulator B2
Backup Modulator B1 Offline	C Backup Modulator B2 Offline
C Backup Modulator 1	O Backup Modulator 1
O Backup Modulator 2	O Backup Modulator 2
O Backup Modulator 3	O Backup Modulator 3
O Backup Modulator 4	O Backup Modulator 4
O Backup Modulator 5	O Backup Modulator 5
O Backup Modulator 6	O Backup Modulator 6
C Backup Modulator 7	C Backup Modulator 7
C Backup Modulator 8	C Backup Modulator 8
Execute	Execute

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.

🚊 ILC NCS - [EF I	Data SMS 700	0 Modem Protection	Switch]				_ 8 ×
⊻iew Co <u>n</u> figure <u>P</u>	olling Status 🧕	Commands <u>S</u> et <u>U</u> ser	Command Authority	l i i i i i i i i i i i i i i i i i i i			
		<u>M</u> odulator Demodulator Switch Configuration	EFD ata SMS-700	0 MODEM SW #1		0	nline
	/S-700 0 N Switch	Clear Stored Faults	SYSTEM	T Switch s		AUTO MOI)E
Modem Comm. Fault IF Module Fault	Modulator Confi Verify Fault Power Supply	g. Demodulator Config Verify Fault #1 Fault Power Supply	No Mod. Config. Loaded #2 Fault NVRAM/ (No Demod. Config. Loaded Clock Fault M & C C	No Address Specified for Modem	Prime Assignment Fault 2C Bus Fault M	Data Module Fault Communications Fault
11.02.444	0.000.000	Custom				UDMENT TYPEYON	C ZOODEED CMC 1

7.5.3.1 Switch Configuration Screen

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

) <u>D</u> sei			
Prime Modulator Configuration	Prime Demodulator Configuration	Modem Priority	Verify Active Modern Configuration
Backup Modulator Configuration	Backup Demodulator Configuration	Modem Online Delay	Load All Active Modems
		Drop & Insert 6, 703 Data	Load Backup Modem
	k} ⊨	External Clock	Load Backup Modem Address
		Insert Data Input	Prime Modem Assignment
]]		

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.

ILC NCS - [Switch Configuration View User	Screen]	
Prime Modulator Configuration Backup Modulator Configuration	Prime Demodulator Configuration Backup Demodulator Configuration	Modem Switch Configuration CLOSE Modulator Configuration Click BLUE "Mod n:" label to Poll Switch Insert Mod. Drop & Ext. Data Active Priority Delay Insert Address Clock Input
Prime Modulator Configuration Active? Select Prime Modulator NO Exercise Cancel		Mod 2: Implies to the second
		Mod B1: J J J J J J J J J J J J J J J J J J J
11-04 6M 9/29/98	Sustem 3110001-36 6dBm <1	4F-4 <1 0F-12 2047 No Data >16 0dB 48% [180000MCS_1] CommandiMODI II

Modulator	r Conf	igurati	on			
Cliab PM	مطبيام	tar VIII	to Doll			
CILCK MI	Juula					
			Mod.			
	Active	Priority	/ Delay	I/F Type	Address	Xpond
Mod 1:	YES	HIGH	AUTO	V.35	1	1
Mod 2:	YES	MED	AUTO	V.35	2	1
Mod 3:						
Mod 4:						
Mod 5:						
Mod 6:						
Mod 7:						
Mod 8:	YES	LOW	AUTO	V.35	8	1
MOD BT:					H-I	
Mod B2:						

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
Туре	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.

	[Modem Switch Configuration	~ ~
Prime Modulator Configuration	Prime Demodulator Configuration	- Modulator Configuration	
Backup Modulator Configuration Active? VES U	Backup Demodulator Contiguration	Click BLUE "Mod n:" label to Poll Switch Mod. Drop & Active Priority Delay Insert Address Mod 1: Mod 2: Mod 3: Mod 4: Mod 5: Mod 6: Mod 6: Mod 7: Mod 8: Active Address Mode Prime Modem	Ext. Clock
Lancel		Mod B1: YES 9 IND	1
		Mod B2: YES 10 IND	2

Modulator Click "Mo	r Configuratio odulator X'' to	o Poll Mod			
1	Active Priority	Delay	I/F Type 🖌	Address	Xpond
Mod 1: Mod 2: Mod 3: Mod 4: Mod 5: Mod 6: Mod 7: Mod 8:					
Mod B1: Mod B2:	YES N/A NO N/A		V.35 N/A	9 10	

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.

Backup Modulator Configuration	Backup Demodulator Configuration	Demodulator Configuration Click BLUE "Demod n." label to Poll Switch In Active Priority Delay Insert Address Clock Ir Demod 1: YES LOW N/A UNBAL 1 UNBAL N Demod 2: YES LOW N/A UNBAL 2 UNBAL N Demod 3:
--------------------------------	----------------------------------	--

Demodu	lator Configu	ration			
Click "E	emodulator _.	X" to F	Poll		
	Active Priority	Demoa. Delay	I/F Type	Address	Xpond
Dmd 1:	YES HIGH		N/A		1
Dmd 2:	NO MED		N/A		1
Dmd 3:	YES LOW		N/A		1
Dmd 4:					
Dmd 5:					
Dmd 6:					
Dmd 7:					
Dmd 8:					
Dmd B1:					
Dmd B2:					

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
Туре	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
Туре	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

ILC NCS - [S View User	witch Configuratio	n Screen]	odulator Configuration nodulator Configuration	- Modem Switch - Demodulator (Click BLUE "D Active Demod 1: YES Demod 2: YES Demod 3: Demod 4: Demod 5: Demod 5: Demod 6: Demod 6: Demod 7: Demod 8: Active Demod 81: Demod 81: Demod 82: Demod 82: Demo	Configuration	Deel to Pol Drop & Insert A UNBAL UNBAL UNBAL UNBAL Ch de Prime	I Switch Ext. ddress Cloc 1 UNB/ 2 UNB/ 2 UNB/ 1 UNB/ 2 UNB/ 1 UNB/ 2 UNB/ 1 UNB/ 2 UNB/ 1 UNB/ 2 UNB/ 1 UNB/ 2 UN	CLOSE
				Demod B2:				
11:07 AM	9/29/98	System	101999911:07:02 09/	29/98 4B0000DCS 2	CommandiDE	MODULATO	R CONFIGURA	TION STATE

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.

odem Switch Connytration	CLOSE	Modern Priority	Verify Active Modern Configuration
odulator Configuration			Load All Active Modems
lick BLUE "Modin:" label to Poll Swite	ch Insert ⊑⊶ Data	Modem Online Delay	Load Prime Modem
Active Priority Delay Insert Add	ress Clock Input		Load Backup Modem
DOD 1: YES LOW NONE UNBAL 1		Drop & Insert G.703 Data	Load Prime Modem Address
		External Clock	Load Backup Modem Address
od 4:		Insert Data Input	Prime Modem Assignment
od 6:			Set Modem Control Baud Rate
		- Modem Priority	
Active Address Switching Prime Med			
	em Assignments	Priority? Select Modem	
od B2:			
		Execute Cancel	

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.

e Modems Modem 3 Modem	Load Al Active M Load Prime Mo									
Modem 9 Modem	Load Prime Mo	1					tion —	nfigurat	or Con	odulate
a Modem		Modem Online Delay	Insert Dete		witch	to Poll S	" label :	Mod n:	UE "N	lick BL
	Load Backup Mi		Input	is Clock	Addres	Insert A	моа. ′ Delay	Priority	Active	
fem Address	Load Prime Modem	Drop & Insert G. 703 Data	NORM				NONE	LOW	YES	lod 1:
dem Address	Load Backup Moder	External Clock			<u> </u>		NUNE		YES	od 2: lod 3:
Assignment	Prime Modern Assi	Insert Data Inout								od 4:
ol Baud Rate	Set Modern Control B				\vdash					od 5: lod 6:
	<u>-</u>	odem Online Delay								od 7:
		Auto Select Modem				J	l Switching			lod 8:
			nts	Assignmen	Modem.	Prime	Mode	Address	Active	od B1
) Manual (N L L T						H	H	od B2
		Setting								
		1								
		▼								
		odem Online Delay nine Delay? Auto Select Modem Manual R 1 anual Delay anual Delay	nts	Assignmen	Modem.	Prime	Switching Mode	Address	Active	od 7: od 8: od 8:

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.

Rime Modulator Configuration	Rine Dependulator Configuration	Modem Priority	Verify Active Modem Configuration
Fine woodlator computation	Prime Democulator Computation		Load All Active Modems
Backup Modulator Lonitguration	Backup Demodulator Configuration	Modem Online Delay	Load Prime Modem
			Load Backup Modem
		Drop & Insert G. 703 Data	Load Prime Modern Address
		External Clock	Load Backup Modem Address
		Insert Data Input	Prime Modern Assignment
			Set Modem Control Baud Rate
		Drop & Insert G. 703 Data Balanced or Unbalanced POLL STATUS BALANCED 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.

Prime Modulator Configuration	Prime Demodulator Configuration	Modem Priority	Verify Active Modern Configuration
Rockup Modulator Configuration	Rockup Demodulator Configuration		Load All Active Modems
Backup Modulator Computation	backup benosulator conigulator	Modem Online Delay	Load Prime Modem
			Load Backup Modem
		Drop & Insert G.703 Data	Load Prime Modern Address
		External Clock	Load Backup Modem Address
		Insert Data Input	Prime Modern Assignment
			Set Modem Control Baud Rate
		External Clock Balanced or Unbalanced POLL STATUS BALANCED UNBALANCED LExecting Cancel	
]

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.

Réseare de la transferencia de la	Bé Den Libre Gradensia	Modern Priority	Verify Active Modern Configuratio
Filme Modulator Conliguiation	Fille Democulator Contigulation		Load All Active Modems
Backup Modulator Loninguration	Backup Demodulator Configuration	Modern Online Delay	Load Prime Modern
			Load Backup Modem
		Drop & Insert G. 703 Data	Load Prine Modern Address
		External Clock	Load Backup Modem Address
		Incert Data Input	Prime Modern Assignment
		Insert Data Input	Set Modern Control Baud Flate
		Loop or Normal Prime Channel	
		POLL STATUS Loop Normal	
		former 1 Council 1	

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.

Rino Madulata Configuration	Rime Barnedulator Carlingerting	Modulator Priority	Verify Active Modern Configuration
		Demodulator Priority	Load All Active Modems
Fackup Modulator Lomiguration	Backup Demodulator Loninguration	Modulator Online Delay	Load Prime Modern
		Demodulator Online Delay	Load Backup Modem
		Drop & Insert G.703 Data	Load Prime Modem Address
		External Clock	Load Backup Modern Address
		Insert Data Input	Prime Modern Assignment
			Set Modem Control Baud Plate
			- Verify Modem Configuration
			Verify All Modems Verify Select Prime Modem Verify Select Backup Modem Lexecute Cancel

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.

Prime Modulator Configuration	Prime Demodulator Configuration Backup Demodulator Configuration Modulator Priority Demodulator Priority Modulator Online Delay Demodulator Online Delay		Verify Active Modem Configuratic Load All Active Modems Load Prime Modem Load Backup Modem
	Command Confirmation Window Confirm that you w device set	Command Confirmation Window Confirm that you want to change device settings?	
	OK Cancel		

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.

User			
Prime Modulator Configuration	Prime Demodulator Configuration	Modem Priority	Verify Active Modem Configuratio
Produce Medicator Configuration			Load All Active Modems
backup mooulator comigulatori	Backup Democulator Loninguration	Modem Online Delay	Load Prime Modem
			Load Backup Modem
		Drop & Insert G. 703 Data	Load Prime Modem Address
	-	External Clock	Load Backup Modem Address
		Insert Data Input	Prime Modern Assignment
	-		Set Modern Control Baud Rate
			Load Prime Modem Select Prime Modem 1 Execute Cancel
	,,		

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.

Prime Modulator Configuration	Prime Demodulator Configuration	Modem Priority	Verify Active Modem Configuratio
Paolum Madulator Comformation	Profess Demodulator Comgunation		Load All Active Modems
sackup modulator comigulatori	Backup Democulator Loniguration	Modem Online Delay	Load Prime Modem
			Load Backup Modem
		Drop & Insert G. 703 Data	Load Prime Modern Address
		External Clock	Load Backup Modern Address
		Insert Data Input	Prime Modem Assignment
	-		Set Modem Control Baud Rate
			Load Prime Modem Address
			Address(0-255)? Select Moder
			Execute Cancel

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.

Prime Modulator Configuration	Prime Demodulator Configuration	Modem Priority	Verify Active Modem Configuration
Rockup Madulater Configuration	Bashua Dana dulata Canfauation		Load All Active Modems
backup modulator corrigulatori	Backup Demodulator Configuration	Modem Online Delay	Load Prime Modern
			Load Backup Modem
			Load Prime Modem Address
		External Clock	Load Backup Modem Address
		Insert Data Input	Prime Modern Assignment
			Set Modern Control Baud Rate
			Prime Modern Assignment Select Backup Enter Prime Moderns (1 - 8) 12345678 Execrete Cancel

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.

Rime Modulator Configuration	Rime Demodulator Configuration	Modem Priority	Verify Active Modem Configuratio
			Load All Active Modems
Backup Modulator Configuration	Backup Demodulator Configuration	Modem Online Delay	Load Prime Modem
			Load Backup Modem
		Drop & Insert G. 703 Data	Load Prime Modern Address
		External Clock	Load Backup Modem Address
		Insert Data Input	Prime Modern Assignment
	-		Set Modem Control Baud Rate
			Modem Control Baud Rate
			Select Modem Baud Poll 9500 19200 Exervite Cancel

To change the Modem Control Baud Rate:

Modem Control Baud Rate
Select Modem Baud
Poll 9600 19200
Execute Cancel

- 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.

🚊 ILC NCS -	EF Data SMS 70	00 Modem P	rotection Swi	tch]				_ 8 ×
⊻iew Co <u>n</u> figure	e <u>P</u> olling S <u>t</u> atus	<u>C</u> ommands	<u>S</u> et <u>U</u> ser Co	mmand <u>A</u> uthority				
			M <u>o</u> de <u>M</u> :N	▶ <mark>✓ <u>A</u>uto ▶ <u>M</u>anual</mark>	EM S₩ #1		C	Dnline
EF	SMS-7000 M:N Switch	TRANS	Switch 1 Dep. Switch 2 Dep. Date/Time	Vind Permote	POWER O AUT MANUA ISWITCH ST		AUTO MO BACKUP MODEM B1 (DE ON STANDBY
Modem Com	n. Modulator Cor	nfig. Demodu	lator Config No) Mod. Config. N	o Demod. Config.	No Address	Prime Assignment	Data Module Fault
Fault	Venry Fau		ry Fault		Loaded	Specified for Moden	Fault	
IF Module F	ault Power Supp	ily #1 Fault Po	wer Supply #2 F	ault NVRAM/ Clo	ck Fault M & C Co	ontroller Fault	2C Bus Fault M	& C Communications
								Fduil
11:13 AM	9/29/98	System	101995	9911:13:56 09/29/	981 5!0000SB0000	ON CommandiDE	MODULATOR CON	FIGURATION STATU

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.

💻 ILC NCS - [EF Data SMS	7000 Modem Protecti	on Switch]	X
View Configure Polling Stat	us <u>C</u> ommands <u>S</u> et <u>U</u> :	EFData SMS-7000 MODEM SW #1	Online
EF DATA SMS-700 M:N Switch		SYSTEM POWER ON EQUIPMENT AUTO	AUTO MODE BACKUP MODEM BI ON STANDBY
Modem Comm. Fault Venty F	Config Demodul Fault Veni upply #1 Fault Por	Command Accepted SMS-7000 Data SMS-7000 MODEM SW & command response for REMOTE OPERATION responded with value of	X An and the second s
11:14 AM 9/29/98	Sustem	101999911:14:23 09/29/981 6B0000REM	CommandiREMOTE OPERATIONISMS-7000IEFD ata Sh

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.

🚊 ILC NCS - [EF	Data SMS 7000	Modem Protectio	n Switch]			_ 8 ×
<u>V</u> iew Co <u>n</u> figure	<u>P</u> olling S <u>t</u> atus <u>C</u>	ommands <mark>S</mark> et <u>U</u> se	r Command <u>A</u> uthority			
EF	MS-7000 (I:N Switch	Mode <u>M:N</u> Switch TRANSM Date/T RECEIVE	Dep/Ind Dep/Ind EM	ODEM SW #1		Online D MODE M B1 ON STANDBY
		MODEM FAULT	STORED	MANUAL (IS CONTRACTOR	
Modem Comm. Fault	Modulator Config Verify Fault	Demodulator Con Verify Fault	ig No Mod. Config. No Loaded	Demod. Config. 1 Loaded Spec	lo Address Prime Assign Sified for Modern Fault	Internet Data Module Fault
						Fault
11-14 AM	9/29/98	Sustem	101999911-14-43 09/29/6	181 6800008EM		

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.

🚊 ILC NCS - [EF	Data SMS 7000	Modem Protectio	n Switch]		_ 8 ×
⊻iew Co <u>n</u> figure	<u>Polling</u> S <u>t</u> atus <u>C</u>	ommands <mark>Set</mark> <u>U</u> si	er Command <u>A</u> uthority		
		M <u>o</u> de <u>M</u> :N	IS-7000 MODEM SW #1		Online
EF DATA M	MS-7000	Switch TRANSM Switch Date/T RECEIVE			TO MODE
Modem Comm	Modulator Confir	Demodulator Con	ia No Mad Copia - No Demod Copia	Nn Address Prime Ass	inment Data Module Fault
Fault	Verify Fault	Verify Fault	Loaded Loaded	Specified for Modem Fai	
IF Module Fau	It Power Supply	#1 Fault Power Supp	oly #2 Fault NVRAM/ Clock Fault M & C C	Controller Fault 12C Bus Fau	t M & C Communications Fault
11:15 AM	9/29/98	System	[10!999911:15:00 09/29/98] 6B0000REM	Command REMOTE OPE	RATION/SMS-7000/EFD ata SM

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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D&I Commands	6.7.4.3
System/MUX PCB	6.7.5
System Commands	6.7.5.1
MUX PCB	6.7.5.2
Control Mode & Authority Menus	6.8
Set Control Mode	6.8.1
Command Authority Window	6.8.2

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.

💻 ILC NCS - [SDM300]	_ 8 ×
View Configure Polling Status Commands Set Control Mode User Com	nmand <u>A</u> uthority
HUB SITE MODEM #1 SDM-300 SATELLITE MODEM Modem is Online	Power Receive Signal Level -33.0dBm Transmitter On Raw Bit Error Rate <4.0E-6
Modulator/Demodulator	erface AUPC/Drop & Insert/System
Tx Clock Source Internal SCT Clock Ext. Ref. Freq. 1544.0 B-band Loopback Off Interface Loopback Off Rx Coding Format AMI Buf. Clock Source Receive Satellite Rx-E1 Frame Struc. G704 Buf. Clock Source Receive Satellite Tx Overhead Type Asynchronous Rx Overhead Type Asynchronous Tx Data Fault None Rx Data Fault None Service Chan. Rx1 -5 Service Chan. Rx2 -5 Modem Rem/LCL Local Tx Data Phase Normal BW Alarm Tx1 On BW Alarm Tx2 On BW Alarm Rx1 On BW Alarm Rx2 On	KS Tx Clock Phase Auto Int. Loop Timing Off Tx Trame Struc. G704 Buffer Programming Bits Substitution Pattern Off Service Chan. Tx1 -5 Rx Data Phase Normal BW Alarm Tx3 On BW Alarm Rx3 On BW Alarm Rx4 On
Asynchronous Status Tx Chn Chr Length 7 Tx Channel Parity EVEN Rx Channel Parity EVEN	Tx Overhead Baud 9600 Rx Overhead Baud 9600 Tx Chan Stop Bits 2 Rx Chan Stop Bits 2 Tx Comm. Type RS232 Rx Comm. Type RS232
CTS Delay Time No Data IDR Tx ESC Type	No Data IDR Rx ESC Type No Data
MODULATOR DEMODULATOR INTERFACE TRANSMIT	NTERFACE RECEIVE Common Equip/ Backward M&C Communications
03:26 PM 8/18/98 System !0!999915:26:50 08/	/18/98 1!0000SI00000N LOG ON/OFFIUSER = System SYSTEM LOG ON

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.

🖳 ILC NCS - [SDM300]	_ 8 ×
<u>View Configure Polling Status</u> Commands Set Control Mode User Command Authority	
HUB SITE MODEM #1 SDM-300 SATELLITE MODEM Modem is Online HUB SITE MODEM #1 L Transmit R Receive S Stored HUB SITE MODEM #1 L Transmit L Receive S Stored HUB SITE MODEM #1 L Receive S Stored HUB SITE MODEM #1 HUB SITE MODEM #1 L Receive S Stored HUB SITE MODEM #1 HUB SITE MODEM #1 HUB SITE MODEM #1 S Stored HUB SITE MODEM #1 HUB SITE MODEM #1	Receive Signal Level -33.0dBm Raw Bit Error Rate <4.0E-6
Modulator/Demodulator Interface	AUPC/Drop & Insert/System
Automatic Uplink Power Contro Local Pwr. Enable 0ff Nominal Pwr. Value -10,0 Minimum Pwr Value Eb/No Target Point 6,0 Max Tracking Rate 0,5 Local Carrier Loss	I Status -30.0 Maximum Pwr Value -5.0 Hold Remote Carrier Loss Hold
Drop and Insert Status Drop Data Format No Value Insert Data For	mat No Value
Bulk Drop Channel Assignment No Value	
Bulk Insert Channel Assignment No Value	
Insert E1 CRC No Value	
System	
Modem Operation Mode Duplex System Modem Type Asynchronous	RTS Tx-IF Control Mode <mark>No Value</mark>
MODULATOR DEMODULATOR INTERFACE TRANSMIT INTERFACE RECEIVE	Common Equip/ Backward M&C Communications
03:27 PM 8/18/98 System [10!999915:27:09 08/18/98] 1!0000S100000	N LOG ON/OFFIUSER = System ISYSTEM LOG ON

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.

View Configure Polling Status Commands Status Commands <th< th=""><th></th></th<>	
Overview DM-300 MODEM #1	
SDM-300 SATELLITE MODEM DATA A Receive S D Receive L D Transmitter On Carrier Detect S Corrected Bit Error Rate Corrected Bit Error Rate <td></td>	
Modulator/Demodulator Interface AUPC/Drop & Insert/System	
Modulator Status	
BF Output On IF Frequency 70,0000 Modulator Rate 1/2_2048.0 Preset A 1/2_64.0 Preset B 1/2_256.0 Preset C 1/2_768.0 Preset D 1/2_2048.0 Preset V 1/2_128.0 Power Offset +0.0 Tx Output Pwr Lev. -30.0 Scrambler Enable On Diff. Encoder On Modulator Type EF Data Closed Encoder Type Viterbi Reed-Sol. Encoder No Value Spectrum Rotation Normal Modem Ref. Clock No Value Carrier Only Mode No Data Tx BPSK Data Order No Value Tx RS Interleave No Data Tx 8PSK 2/31:310 No Data Ty BPSK Data Order No Value	
Demodulator Status	
IF Frequency 70.0000 Demodulator Rate 1/2_2048.0 Preset A 1/2_64.0 Preset B 1/2_256.0 Preset C 1/2_768.0 Preset D 1/2_2048.0 Preset V 1/2_128.0 Descramble Enable On Diff. Decoder On RF Loopback Off IF Loopback Off Sweep Vidth Sweep Center Freq -0 Sweep Width 60000 Sweep Reac. Time 0 BER Threshold NONE Demodulator Type EF Data Close Decoder Type Viterbi Reed-Sol. Decoder No Value Spectrum Rotation Normal Rx BPSK Data No Value Rx RS Interleave No Data Rx 8PSK 2/3 I-310 No Data Preset No Data No Value	ad be
MODULATOR DEMODULATOR INTERFACE TRANSMIT INTERFACE RECEIVE Common Equip/ Backward M&C Communications	CHC.

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.

R ILC NCS - [SD:M380] View Configure Polling Status Commands	Set Control Mode User Command Authority	<u>- 8 ×</u>
Remote Mexico City SDM-300 SATELLITE MODEM Modem is Online S	Transmit Receive U Receive Transmitter On L Common Carrier Detect S Stored Test Mode	Receive Signal Level < <u><60.088m</u> Raw Bit Error Rate <u>No Data</u> Corrected Bit Error Rate <u>No Data</u> Interface Read Error Status <u>No Data</u> Eb/No <u>No Data</u> Buffer Fill Status <u>No Data</u>
Acknowledge Modulator Ma Module TF Synthesizer Data Clock Synths I Data Clock Synths I I Channel G Channel G Channel Modem Ref. PLL lock	Acknowledge Interface Transmit Transmit Data ATS Transmit Data ATS	Acknowledge Interface Receive Mask Rx audio Chn 1 Clip Rx audio Chn 2 Clip Rx Audio C
Configuration Modem Ref. Activity Modem Ref. Activity Acknowledge Demodulator Module Fault Carrier Detector IF Synthesizer	OK Cancel	
Clear Stored Faults	Select Buf Clk Act Buffer Clk PLL lock Domas Lock 2047 Lock Detect Buffer Full Configuration 10 Interface Rx Stored Faults	Rx: RW: Alarm 1 Rx: RW: Alarm 2 Rx: RW: Alarm 2 Rx: RW: Alarm 3 Rx: RW: Alarm 4 D Backward Alarms Stored Faults
		Common Equip/ Backward M&C Communications

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.

💻 ILC NCS - [SDM300]				_ 8 ×
<u>View</u> Configure Polling Status Co	mmands <u>S</u> et Control Mode <u>U</u> ser I	Command <u>A</u> uthority		
El Alam Setup ODEM #1 EbNoLogging A-300 BER Logging TE MODE DATA Modem is Online	A Transmit F Trans A Breceive U Rece M A L Com e S S Store	smit Power sive Transmitter On mon Carrier Detect sd Test Mode	Receive Signal Level Raw Bit Error Rate Corrected Bit Error Rate Interface Read Error Status Eb/No Buffer Fill Status	-33.0dBm <4.0E-6 <1.0E-12 FRM <5.0E-7 >16.0dB 50%
Modulator/Demodulate	or	Interface	AUPC/Dro	p & Insert/System
	Modu	ilator Status		
RF Output On	IF Frequency 70.0000	Modulator Hate	1/2_2048.0	Preset A 1/2_64.0
Power Offset	Tx Output Pwr Lev. 30.0	Scrambler Enable	0p Diff	Encoder 0n
Modulator Type EF Data Closed	Encoder Type Viterbi	<mark>_</mark>	Reed-Sol	Encoder No Value
Spectrum Rotation Normal	Modem Ref. Clock No Value	Carrier Only Mode	No Data Tx BPSK D	ata Order No Value
Tx RS Interleave No Data	Tx 8PSK 2/3 I-310 No Data			
	Demo	dulator Status		
IF Frequency 70.0000	Demodulator Rate 1/2_2048.0	Preset A	1/2_64.0	Preset B 1/2_256.0
Preset C 1/2_768.0	Preset D 1/2_2048.0	Preset V	1/2_128.0 Descramb	le Enable On
Diff. Decoder On	RF Loopback Off	IF Loopback	Off Sweep Ce	enter Freq
Sweep Width 60000	Sweep Head. Time 0	BER Threshold	NONE Demodul	ator Type EF Data Closed
Decoder Type Viterbi	Reed-Sol. Decoder No Value	Spectrum Rotation	Normal RX BI	PSK Data No Value
nx no Interleave j No Data	nx or 5N 2/31-310 No Data			
		INTERFACE RECEIVE	Common Equip/ Backward	M&C Communications
02:00 PM 8/18/98	No User 101999914:00:26	08/18/98 8:00005100000	N Change MDM_SW_M2_B	3ack SMS-7000 EFData SMS-1

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.

<u> ■ ILC NCS - [SDM300]</u> <u>V</u> iew Co <u>n</u> figure <u>P</u> olling <u>S</u> tatus <u>C</u> ommands	Set Control Mode User Command Authority	<u>_8×</u>
EFData SDM-300 MODEM #1 SDM-300 SATELLITE MODEM Modem is Online	Transmit F Transmit Power Receive E Receive Transmite S Stored Test Mode	Receive Signal Level -32.0dBm Raw Bit Error Rate <4.0E-6
Modulator/Demodulator	Interface	AUPC/Drop & Insert/System
RF Output On Preset B 1/2_256.0 Power Offset +0.0 Modulator Type EF Data Closed E Spectrum Rotation Normal Mode Tx RS Interleave No Data Tx 8P	Command Confirmation Window Are you sure you want to unlo edit labels? QK Cance	B.0 Preset A 1/2_64.0 B.0 Preset V 1/2_128.0 Diff. Encoder On Reed-Sol. Encoder No Value a Tx BPSK Data Order No Value
IF Frequency 70,0000 Demo Preset C 1/2,768.0 Diff. Decoder On F Sweep Width 60000 Sweep Decoder Type Viterbi Reed- Rx RS Interleave No Data Rx 8P	Idulator Rate 1/2_2048.0 Prese Preset 0 1/2_2048.0 Prese FLoopback 0ff IF Loopb Reac. Time 0 BER Thresh Sol. Decoder No Value Spectrum Rota SK 2/3 I-310 No Data	et A 1/2_64.0 Preset B 1/2_256.0 et V 1/2_128.0 Descramble Enable On ack Off Sweep Center Freq -0 nold NONE Demodulator Type EF Data Closed tion Normal Rx BPSK Data No Value
03:20 PM 8/18/98 System	101999915:20:45 08/18/98 110000510	00000N LOG ON/OFFIUSER = System SYSTEM LOG ON

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.

EFData SDM-300 MODEM #1 A Transmit F Transmit Power SDM-300 SATELLITE MODEM A Receive Transmit Power Modem is Online A Stored Test Mode Modulator/Demodulator Interface AUPC/Drop & Insert/System Data Entry Window Preset B 1/2_256 Power Offset +00 Preset B 1/2_256 Power Offset +00
Modulator/Demodulator Interface AUPC/Drop & Insert/System Bit Dutput On Preset B 1/2_64.0 Preset B 1/2_256. Preset V 1/2_128.0 Power Offset +0.0 EFData SDM-300 MODEM #1 Onff. Encoder On
Data Entry Window Preset A 1/2_64.0 Preset B 1/2_256. Preset V 1/2_128.0 Power Offset +0.0 EFData SDM-300 MODEM # 1 Diff. Encoder On
Spectrum Rotation Normal Tx RS Interleave No Date
OK Cancel IF Frequency 70,0000 Preset D 1/2_256.0 Preset C 1/2_768.0 Preset D 1/2_2048.0 Diff. Decoder On RF Loopback Off Sweep Width 60000 Sweep Reac. Time 0 Decoder Type Vietni Reed-Sol. Decoder No Value Rx RS Interleave No Data Rx 8PSK 2/3 I-310 No Data

6.4.1.3 Editing Labels

Type in the new label and click on: OK

<mark>凰 ILC NCS - [SDM300]</mark> ⊻iew Co <u>n</u> figure <u>P</u> olling <u>S</u> tatus !	<u>C</u> ommands <u>S</u> et Control №	1ode <u>U</u> ser Comm	and Authority			_ 8 ×
EFData SDM-300 MODEM	#1 A Transmit L A Receive R M S S	F Transmit U Receive Common S Stored	Power Transmitter On Carrier Detect Test Mode	Receive Si Raw Bit Corrected Bit Interface Read E Buffer	gnal Level -33.0dBr Error Rate <4.0E-6 Error Rate <1.0E-1 Fror Status FRM <5.0 Eb/No >16.0dE r Fill Status 50%	n 2 2 E-7
Modulator/Demodul	ator	Inter	face	, T	AUPC/Drop & Insert/Syst	em .
BF Output On Preset B 1/2_256. Power Offset +0.0 Modulator Type EF Data Clo Spectrum Rotation Normal Tx RS Interleave No Date	HUB SITE	MODEM #1			Preset A Preset V Diff. Encoder -Sol. Encoder -K. Data Order	1/2_64.0 1/2_128.0 On No Value No Value
IF Frequency 70.000C Preset C 1/2_768.0 Diff. Decoder On Sweep Width 60000 Decoder Type Viterbi Rx RS Interleave No Data	Preset D RF Loopback Sweep Reac. Time Reed-Sol. Decoder Rx 8PSK 2/31-310	OK 1/2_2048.0 Off 0 No Value No Data	Cancel Preset V IF Loopback BER Threshold Spectrum Rotation	1/2_128.0 Off NONE Normal	Preset B Descramble Enable Sweep Center Freq Demodulator Type EF Rx BPSK Data	1/2_256.0 On -0 Data Closed No Value
MODULATOR DEMODU		TRANSMIT IN1	TERFACE RECEIVE	Common Equip/ B	Backward M&C Comm	nunications

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.

💻 ILC NCS - [SDM300]						_ 8 ×
<u>V</u> iew Co <u>n</u> figure <u>P</u> olling <u>S</u> tatus <u>C</u>	ommands <u>S</u> et Control Mode	<u>U</u> ser Command <u>/</u>	Authority			
HUB SITE MODEM #1	A Transmit F A Receive U EM R L B S S	Transmit Receive Common Stored	Power Transmitter On Carrier Detect Test Mode	Receive S Raw Bit Corrected Bi Interface Read B Buffe	ignal Level Error Rate Error Rate Error Status Eb/No Eb/No Fr Fill Status	-33.0dBm <4.0E-6 <1.0E-12 RM <5.0E-7 >16.0dB 50%
Modulator/Demodula	tor	Interface		T	AUPC/Drop & I	nsert/System
BF Output On Preset B 1/2_256.0 Power Offset +0.0 Modulator Type EF Data Closed Spectrum Rotation Normal Tx RS Interleave No Data	IF Frequency Preset C 1, Tx Output Pwr Lev. Encoder Type Modem Ref. Clock N Tx 8PSK 2/31-310	Modulator S 70.0000 1 /2_768.0 5c -30.0 5c Viterbi Io Value Ca No Data	tatus Modulator Rate Preset D rambler Enable rrier Only Mode	1/2_2048.0 1/2_2048.0 On No Data	Pre Pre Diff. Enc Reed-Sol. Enc Tx BPSK Data (set A <u>1/2_64.0</u> set V <u>1/2_128.0</u> coder <u>On</u> coder <u>No Value</u> Drder <u>No Value</u>
		Demodulator	Status			
IF Frequency 70,0000 Preset C 1/2_768.0 Diff. Decoder On Sweep Width 60000 Decoder Type Viterbi Rx RS Interleave No Data	Demodulator Rate 17 Preset D 17 RF Loopback Sweep Reac. Time Reed-Sol. Decoder N Rx 8PSK 2/31-310	2_2048.0 0ff 0 Io Value No Data	Preset A Preset V IF Loopback 3ER Threshold cetrum Rotation	1/2_64.0 1/2_128.0 Off NONE Normal	Pre Descramble Er Sweep Center Demodulator Rx BPSK	set B 1/2_256.0 nable On Freq -0 Type EF Data Closed Data No Value
				Common Equip/	Backward M	&C Communications
03:22 PM 8/18/98	System 1019999	915:22:45 08/18/98	1!0000S100000N	LOG ON/OFF	USER = Systen	NISYSTEMILOG ONI

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.

🚊 ILC NCS - [SDM300]				
<u>View Configure Polling Status</u>	 <u>C</u>ommands <u>S</u>et Control Mode <u>U</u>se 	er Command <u>A</u> uthority		
			Bassius Gianal	
	Alarm Setup			
	Exit Set <u>A</u> ll			2
	Alarms			<u>PE-7</u>
DATA Modem is (None Modulator Module	「認識」 None ▼ 20	047 Lock Detect	Wav
	None 💌 Mod. IF Synth.	Wav None 💌 Bi	uffer Full	Wav
Modulator/Demo	None 💌 Data Clock Synth.	Wav None 💌 C	onfiguration	Wav tem
	None 💌 Modulator I Channel	Wav None 💌 R	x Audio Channel 1 Clip	Wav
	None Modulator Q Channel	Wav None R	x Audio Channel 2 Clip	Wav
	None AGC Level	Wav None M	onitor and Control Module	Wav
RF Output On	None Modem Ref. PLL Clock	Wav None In	iterface Module	Wav 1/2_64.0
Preset B 1/2_256.	None Configuration	Wav None B.	attery/Clock	Wav 1/2_128.0
Power Offset +0.0	None Modem Her. Activity Lik	Wav None +	ov Hower Supply	Wav On
Modulator Type EF Data Clc	None Carrier Detect Status	Way None 1	2 Power Supply	Way No Value
Spectrum Rotation Normal	None Demod JE Sunth Lock	Way None T	zv Fower Supply	Way No Value
Tx RS Interleave No Data	None Demodulator Channel	Way None T	x Backward Alarm 2	Way
	None Chemodulator Q Channel	Way None T	x BAckward Alarm 3	Way
	None BER Threshold	Wav None T	x Backward Alarm 4	Wav
	None Configuration	Wav None 🔻 R	x Backward Alarm 1	Wav
	None 💌 Tx Data AIS	Wav None 💌 R	x backward Alarm 2	Wav
IF Frequency 70.0000	None 💌 Tx Synth. PLL Lock	Wav None 💌 R	x Backward Alarm 3	Wav 1/2_256.0
Preset C 1/2 768.	None 💌 Selected Tx Clk Activity	Wav None 💌 R	x Backward Alarm 4	Wav On
Diff. Decoder 0n	None Configuration	Wav		-0
Sweep Width 60000	None 💌 Drop Fault	Wav		E Data Closed
Decoder Type Viterbi	None Tx Audio Channel 1 Clip	Wav		No Value
By BS Interleave No Date	None Tx Audio Channel 2 Clip	Wav		THO YORC
The fight intendence in the Date	None Insert Fault	Wav		
	None Burrer Underflow	Way		
	None Beceive Data Loss/AIS	Way		
MODULATOR DEMO	None Trame BEB	Way		nunications
	None Receive Backward Alarm	Way		
03:24 PM 8/18/98	Nono T Cal Duff Cli Ashibu	Altou		MILOG ONI

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.

🖳 ILC NCS - [SDM300]				_ 8 ×
⊻iew Co <u>n</u> figure <u>P</u> olling <u>S</u> tatus	<u>Commands</u> <u>S</u> et Control Mode <u>U</u> ser	er Command <u>A</u> uthority		
	,T		Bassius Signal	
	Alarm Setup			<u></u>
				2
SATELLITE I	Minor N			<u>DE-7</u>
	N Major for Module		47 Lock Detect	Wav 🗧
	None Moa Synth.	Wav None 💌 Bul	ffer Full	Wav
Modulator/Demo	None 💌 Data Clock Synth.	Wav None Cor	nfiguration	Wav tem
	None Modulator I Channel	Wav None Rx	Audio Channel 1 Clip	Wav
	None Modulator Q Channel	Wav None Rx	Audio Channel 2 Clip	Wav
	None AGC Level	Wav None Mo	nitor and Control Module	Wav
RF Output On	None Modem Hef. PLL Clock	Wav None Inte	ertace Module	Wav 1/2_64.0
Preset B 1/2_256.	None Configuration	Wav None Bai	ttery/Llock	Wav 1/2_128.0
Power Offset +0.0	None Modem Her. Activity Lik		V Power Supply	Wav On
Modulator Type EF Data Clc	None Demod Module Fault	Way None 12	ZV Power Supply	Way No Value
Spectrum Rotation Normal	None Demod JE Sunth Look	Way None Tu	Packward Alarm 1	Way No Value
Tx RS Interleave No Data	None T Demodulator I Channel	Way None Ty	Backward Alarm 2	Way
	None Demodulator & Channel	Way None Tx	BAckward Alarm 3	Way
	None BEB Threshold	Wav None Tx	Backward Alarm 4	Way
	None Configuration	Wav None 🔻 Rx	Backward Alarm 1	Wav
	None Tx Data AIS	Wav None 🔻 Rx	backward Alarm 2	Wav
IF Frequency 70.0000	None 💌 Tx Synth. PLL Lock	Wav None 💌 Rx	Backward Alarm 3	Wav 1/2 256.0
Preset C 1/2 768	None 💌 Selected Tx Clk Activity	Wav None 💌 Rx	Backward Alarm 4	Wav On
Diff. Decoder	None 💌 Configuration	Wav		-0
Sween Width 60000	None 💌 Drop Fault	Wav		E Data Closed
Decoder Tupe	None 💌 Tx Audio Channel 1 Clip	Wav		NeValue
Bu BC Interleave No Date	None 💌 Tx Audio Channel 2 Clip	Wav		NO Value
Inxins Interleave No Data	None Insert Fault	Wav		
	None Butter Underflow	Wav		
L	None Butter Uverflow	Wav		
MODULATOR DEMC	None Heceive Data Loss/AIS	Wav		nunications
	None T Prame BER	Way		
03:25 PM 8/18/98	None Cal Duff Clu Askidu	May		EMILOG ONI

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.

🚊 ILC NCS - [SDM300]				
\underline{V} iew Configure Polling Status	: <u>C</u> ommands <u>S</u> et Control Mode <u>U</u> ser	er Command <u>A</u> uthority		
	Alarm Setup			
SDM-3	Exit Set <u>A</u> ll			2
SATELLITE I	Save hs			0E-7
NATA Modem is (No Save V			B
	Mone Module	ISSUARE None ▼	2047 Lock Detect	Wav
	None Mod. IF Synth.	Wav None V	Buffer Full	
Modulator/Demo	None V Medulater I Channel	Way None V	Configuration Bu Audia Channel 1 Clin	Way tem
	None Modulator O Channel	Way None V	Rx Audio Channel 1 Clip Bx Audio Channel 2 Clip	Way
	None AGCLevel	Way None V	Monitor and Control Module	Way
BE Output	None Modem Ref. PLL Clock	Wav None 🔻	Interface Module	Way 1/2 64.0
Preset B 1/2 250	None 💌 Configuration	Wav None 💌	Battery/Clock	Way 1/2 129.0
Power Offset	None 💌 Modem Ref. Activity Clk	Wav None 💌	+5V Power Supply	Wav 00
Modulator Tupe EE Date Cla	None 💌 Demod Module Fault	Wav None 💌	+12V Power Supply	Way Na Value
Spectrum Potation	None 💌 Carrier Detect Status	Wav None 💌	-12V Power Supply	Way No Value
Tu DC lateda sus	None 🚬 Demod. IF Synth. Lock	Wav None 💌	Tx Backward Alarm 1	Way No Value
TX h5 Interleave No Data	None Demodulator I Channel	Wav None	Tx Backward Alarm 2	Wav
	None Demodulator U Channel	Wav None V	Tx BAckward Alarm 3	Wav
	None BER Threshold	Wav None V	Tx Backward Alarm 4	Wav
	None Lonfiguration	Way None V	Hx Backward Alarm 1 Bu baakward Alarm 2	Wav Wav
IE Erequency 70,0000	None Tu Sunth PLL Look	Way None V	Ex Dackward Alarm 2	Way 110 050 0
Provet C 10, 70000	None Selected Tx Clk Activity	Way None V	By Backward Alarm 4	Way 0
Pieset C 1/2_768.	None Configuration	Way		
Dill. Decoder Un	None Drop Fault	Wav		-0
Sweep Wildth 60000	None 🔽 Tx Audio Channel 1 Clip	Wav		Data Closed
Decoder Type Viterbi	None 💌 Tx Audio Channel 2 Clip	Wav		No Value
Rx RS Interleave No Data	None 💌 Insert Fault	Wav		
	None 💌 Buffer Underflow	Wav		
	None Buffer Overflow	Wav		
	None Receive Data Loss/AIS	Wav		nunications
	None Frame BER	Wav		
03:25 PM 8/18/98	None Receive Backward Alarm	Wav Nurse		MILOG ONI

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.

🚊 ILC NCS - [SDM300]							_ 8 ×
<u>View</u> Configure <u>Polling</u> Status <u>C</u>	ommands <u>S</u> et Control M	1ode <u>U</u> ser Comr	nand <u>A</u> uthority				
EFData SD Erce k EM # SDM-300 SATELLITE MOD Modem is Onlin	A Transmit L A Receive R M S	F Transmit A Receive T Common S Stored	Power Transmitter On Carrier Detect Test Mode	Receive S Raw B Corrected B Interface Read Buff	ignal Level it Error Rate Error Status Eb/No er Fill Status	-33.0dBm <4.0E-6 <1.0E-12 FRM <5.0E-7 >16.0dB 50%	
Modulator/Demodula	tor	Inte	rface	T	AUPC/Drop	o & Insert/System	
RF Output On	IF Frequency	Modulat	or Status Modulator Rate 🔽	1/2 2048.0		Preset A 1/2	64.0
Preset B 1/2_256.0	Preset C	1/2_768.0	Preset D	1/2_2048.0		Preset V 1/2	128.0
Power Offset +0.0	Tx Output Pwr Lev.	-30.0	Scrambler Enable	On	Diff.	Encoder 0	n
Modulator Type EF Data Closed	Encoder Type	Viterbi	Conice Only Marks		Reed-Sol.	Encoder No V	alue
Tx BS Interleave No Data	Ty 8PSK 2/31-310	No Value	Califier Only Mode	No Data	IXEFOND		alue
		110 Data					
		Demodula	ator Status				
IF Frequency 70.0000	Demodulator Rate	1/2_2048.0	Preset A	1/2_64.0		Preset B 1/2_	256.0
Preset C 1/2_768.0	Preset D	1/2_2048.0	Preset V	1/2_128.0	Descramb	le Enable 🔽 🛛 🛛	n
Diff. Decoder On	RF Loopback	Off	IF Loopback	Off	Sweep Ce	nter Freq	D
Sweep Width 60000	Sweep Reac. Time	0	BER Threshold	NONE	Demodula	ator Type EF Data	Closed
Decoder Type Viterbi	Reed-Sol. Decoder	No Value	Spectrum Hotation	Normal	HX BH	SK Data No V	alue
nx no interieave ji ino Data	NX 8F5N 2/31-310	No Data					
	ATOR INTERFACE	TRANSMIT IN	TERFACE RECEIVE	Common Equip/	Backward	M&C Communica	itions
02:01 PM 8/18/98	No User [10]	999914:00:59 08/1	8/98 8!0000\$1000001	N Change MDM	I SW M2 B	ackISMS-7000[EFI	Data SMS-

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

🚊 ILC NCS - [SDM300]]							_ 8 ×
\underline{V} iew Configure Polling	<u>Status</u> <u>C</u> ommands	Set Control N	4ode <u>U</u> ser Com	mand <u>A</u> uthority				
EFData SDM-3001 EFData SDM-3001 SATEL Mode Bon Firmware Boot M&C Firmware Boot M&C Firmware Modem Options/Misc. Card 1 Options/Misc. Lype Card 2 Type		F Transmit A Receive Common S Stored	Power Transmitter On Carrier Detect	Receive : Raw B Corrected E Interface Read Buff	Signal Level it Error Rate Error Status Eb/No er Fill Status	-33.0dB <4.0E-1 <1.0E-1 FRM <5.0 >16.0d 50%	m 2 2 1E-7	
Modulator/	Card <u>1</u> Options/Mis	sc.	Inte	rface	T	AUPC/Drop	p & Insert/Sys	tem
	Card <u>2</u> Options/Mis <u>S</u> erial Number Built- <u>I</u> n Self Test	sc. ▶	Modulat	or Status				
RF Output	On If	F Frequency	70.0000	Modulator Rate 🔽	1/2_2048.0		Preset A	1/2_64.0
Preset B 1/	/2_256.0	Preset C	1/2_768.0	Preset D	1/2_2048.0		Preset V	1/2_128.0
Power Offset	+0.0 Tx Outp	out Pwr Lev.	-30.0	Scrambler Enable	On	Diff.	Encoder	On
Modulator Type EFD Spectrum Rotation Tx RS Interleave	Normal Er Normal Moden No Data Tx 8PS	n coder Type n Ref. Clock SK 2/31-310	Viterbi No Value No Data	Carrier Only Mode	No Data	Heed-Sol. Tx BPSK D	Encoder ata Order	No Value No Value
			Demodul	ator Status				
IF Frequency 7 Preset C 1/ Diff. Decoder Sweep Width	70.0000 Demo /2_768.0 R 0n R 60000 Sweep	dulator Rate Preset D F Loopback Reac. Time	1/2_2048.0 1/2_2048.0 Off 0	Preset A Preset V IF Loopback BER Threshold	1/2_64.0 1/2_128.0 Off NONE	Descramb Sweep Ce Demodul	Preset B le Enable enter Freq ator Type	1/2_256.0 On -0
Decoder Type	Viterbi Reed-S	ol. Decoder	No Value	Spectrum Rotation	Normal	Rx BF	PSK Data 🧲	No Value
Rx RS Interleave	No Data Rx 8PS	SK 2/31-310	No Data					
MODULATOR	DEMODULATOR	INTERFACE		ITERFACE RECEIVE	Common Equip	Backward	M&C Comr	nunications
02:01 PM 8/18/9	98 No User	[10]	1999914:01:18 08/	18/98 8!000051000001	N Change MDN	1 SW M2 E	ack SMS-700	01EFD ata SMS-1

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.

Remote Mexico City SDM-30 SATELLITE MOI Modem is Onli	A Transmit A Receive R Ne S	F Transm A Receiv U Commo T S Stored	it Power e Transmitter On n Carrier Detect Test Mode	Receive Raw Corrected Interface Rea Bu	: Signal Level <-60.0dBm Bit Error Rate No Data Bit Error Rate No Data d Error Status No Data Eb/No No Data Iffer Fill Status No Data
Modulator/Demodula	ator	In	terface	[]	AUPC/Drop & Insert/System
RF Output On Preset 8 1/2_128.0 Power Offset +0.0 Modulator Type EF Data Closed Spectrum Rotation Normal Tx RS Interleave 8	IF Frequenc; Preset (Tx Output Pwr Lev Encoder Type Modem Ref. Clock Tx 8PSK 2/31-31(Acknowledge Comman SDI Remote command Poll Equij responded SDM3	d Accepted M-300 Mexico City response for pment Type with value of 00_8.2.2	1/2_512.0 1/2_512.0 On Off	Preset A 1/2_64.0 Preset V 1/2_38.4 Diff. Encoder 0n Reed-Sol. Encoder 0ff Tx BPSK Data Order Normal
IF Frequency 70.000000 Preset C 1/2_256.0 Diff. Decoder On Sweep Width 60000 Decoder Type Viterbi Rx RS Interleave	Demodulator Rate Preset D RF Loopback Sweep Reac. Time Reed-Sol. Decoder Rx 8PSK 2/31-310	1/2_512.0 1/2_512.0 Off 0 Off	Preset A Preset V IF Loopback BER Threshold Spectrum Rotation	1/2_64.0 1/2_38.4 Off NONE Normal	Preset B 1/2_128.0 Descramble Enable On Sweep Center Freq +0 Demodulator Type EF Data Close Rx BPSK Data Normal

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

🖳 ILC NCS - [SDM300]				_ 8 ×
<u>View Configure Polling Status</u> <u>Commands</u> S	et Control Mode <u>U</u> ser Com	mand <u>A</u> uthority		
EFData SDM-300 MODEN Modulator/D SDM-31 SATELLITE M Modem is Online S	emodulator & Insert PCB S S Stored	Power Transmitter On Carrier Detect Test Mode	Receive Signal Le Raw Bit Error R Corrected Bit Error R Interface Read Error Sta Eb/ Buffer Fill Sta	vel -33.0dBm ate <4.0E-6 ate <1.0E-12 itus FRM <5.0E-7 No >16.0dB itus 50%
Modulator/Demodulator	Inte	rface	AUPC/	Drop & Insert/System
BE Dutout 00 IE E	Modulat	or Status Modulator Bate	1/2 2048 0	Preset A 1/2 6/ 0
Preset B 1/2_256.0	Preset C 1/2_768.0	Preset D	1/2_2048.0	Preset V 1/2_128.0
Power Offset +0,0 Tx Output	Pwr Lev30.0	Scrambler Enable 📘	On	Diff. Encoder On
Modulator Type EF Data Closed Enco	der Type Viterbi	Carrier Orde Marda 🗖	Reed-	Sol. Encoder No Value
Tx BS Interleave No Data Ty 8PSK	2/31.310 No Value	Carrier Uniy Mode	No Data TX BPS	No Value
	Demodula	ator Status		
IF Frequency 70.0000 Demodul	lator Rate 1/2_2048.0	Preset A 🔽	1/2_64.0	Preset B 1/2_256.0
Preset C 1/2_768.0	Preset D 1/2_2048.0	Preset V	1/2_128.0 Descra	amble Enable On
Diff. Decoder On RFL	Loopback Off	IF Loopback	Off Sweet	Center Freq
Decoder Tupe Vibabi	Sac. Time U	Spectrum Botation	NUNE Demo	BPSK Data Line Ma Make
By BS Interleave No Data By 8PSK 1	2/3 .310 No Value	Spectrum notation	Normal	No value
	No Data			
		ITERFACE RECEIVE	Common Equip/ Backwa	rd M&C Communications
02:01 PM 8/18/98 No User	101999914:01:49 08/1	18/98 910000ET	Command Poll Equipm	ent Type SDM-300 EFData SDM-3
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

<mark>凰 ILC NCS - [SDM300]</mark> View Co <u>n</u> figure Polling Status Commands Set C	ontrol Mode <u>U</u> ser Command <u>A</u> uthority	<u>_ 8 ×</u>
HUB SITE MODEM #1 EF DATA Modem is Online	ansmit Ceceive L Common Carrier Detect Common Carrier Detect S Stored Test Mode	Receive Signal Level -33.0dBm Raw Bit Error Rate <4.0E-6 Corrected Bit Error Rate <1.0E-12 Interface Read Error Status FRM. <5.0E-7 Eb/No >16.0dB Buffer Fill Status 50%
Modulator/Demodulator RF Output On IF Freq Preset B 1/2_256.0 Pri Power Offset +0.0 Tx Output Pw Modulator Type EF Data Closed SDM300 Co Spectrum Rotation Normal Itx 8PSK 273 Tx RS Interleave No Data Tx 8PSK 273	A Transmit Overhead Type A Transmit Overhead Type B Receive Overhead Type C Tx Driver Type Rx Driver Type Rx Driver Type Rx Driver Type Rx External Clock Ref. Freq. G Transmit Clock Phase H Buffer Clock I Receive Clock Phase J Baseband Loopback	AUPC/Drop & Insert/System 1/2_2048.0 Preset A 1/2_64.0 1/2_2048.0 Preset V 1/2_128.0 0n Diff. Encoder 0n X Reed-Sol. Encoder No Value IX BPSK. Data Order No Value
IF Frequency 70.0000 Demodulato Preset C 1/2_768.0 Pre Diff. Decoder On RF Loo Sweep Width <u>60000</u> Sweep Reac Decoder Type Viterbi Reed-Sol. De Rx RS Interleave No Data Rx 8PSK 2/3 MODULATOR DEMODULATOR INTE 03:29 PM 8/18/98 Sustem	K Interface Loopback L Interface Loop Timing M Buffer Size (Bit Format) N Buffer Size (Millisecond Format) Q Interface Buffer Center P Interface Buffer Center P Interface Buffer Program Q Receive Framing Structure R Transmit 2047 Pattern Interface Coding Format Transmit Interface Coding Format Receive V Transmit Data Fault W Receive Data Fault X Interface Service Channel Level X Interface Service Channel Level Y IDR Backward Alam Enable	1/2_64.0 Preset B 1/2_256.0 1/2_128.0 Descramble Enable On 0ff Sweep Center Freq -0 NOME Demodulator Type EF Data Closed Normal Rx BPSK Data No Value Common Equip/ Backward M&C Communications N. DIG ON/DEFUISER = SustemutSYSTEMU OG ONU

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	Command Confirmation Window
	Confirm that you want to change Modem settings?
	OK Cancel

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

View Configure Polling Status Commands Set Control Mode User Command Authority
HUB SITE MODEM #1 F Transmit Power SDM-300 STELLITE MODEM Modem is Online A Transmit Power Transmit Power Transmit Carrier Detect S S Stellate Transmit Transmit Power Transm
Modulator/Demodulator Interface AUPC/Drop & Insert/System
Modulator Status RF Output On Preset B 1/2_256.0 Preset C 1/2_768.0 Preset D 1/2_2048.0 Preset B 1/2_256.0 Preset C 1/2_768.0 Preset D 1/2_2048.0 Preset D 1/2_2048.0 Preset D 1/2_2048.0 Preset D 1/2_128.0 Diff. Encoder 0n Modulator Type EF Data Closed Spectrum Rotation Normad Tx RS Interleave No Data
B Async. Rx Overhead Baud Rate G Async. Tx Channel Character Length D Async. Tx Channel Stop Bits D Async. Tx Channel Stop Bits Freset C D Async. Tx Channel Stop Bits F Async. Tx Channel Stop Bits D Async. Tx Overhead Channel Parity Diff. Decoder On RF Looi H Async. Tx Communications Type NONE Demodulator Type EF Data Closed No Value Rx RS Interleave No Data Rx RS Tx EC Type MODULATOR DEMODULATOR INTE O IDR Tx ESC Type Common Equip/ Backward M&C Communications M&C Communications M&C Communications

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.

LCNCS - [SDM300] View Configure Polling Status Comm	A Modulator IF Freq.	nd <u>A</u> uthority			<u>_8×</u>
HUB SITE MODEM #1 SDM-300 SATELLITE MODEM Modern is Online Modulator/Demodulator BF Dutput Preset B 1/2,256.0 Demo	Class Preset Assignment E Rate Preset Selection Fower Uffset Gutput Power Level Jorden Enable Jorden Enable Modulator Type Modulator Type Modulator Encoder Type Modem Reference Clock M Spectrum Rotation N Reed-Solomon Encoder Enable T x BPSK Data Ordering Carrier Only Mode Beed-Solomon Inteleave	Power Transmitter On Carrier Detect Test Mode Status Modulator Rate Preset D	Receive Sig Raw Bit E Corrected Bit E Interface Read En Buffer I 1/2_2048.0 1/2_2048.0	nal Level irror Rate irror Rate irror Status Eb/No Fill Status UPC/Drop & In Press Press Diff Fress	-33 0d8m <4.0E-6 <1.0E-12 3M <5.0E-7 >16.0d8 50% sett/System et A 1/2_64.0 et V 1/2_128.0
Modulator Type EF Data Closed Spectrum Rotation Normal Tx RS Interleave No Data T	B 8PSK 2/3 IESS-310 Op. Image: Comparison of the second s	or Window	Un 🔀	Reed-Sol. Enco BPSK Data O	oder No Value rder No Value
	Demodula	tor Status			
IF Frequency 70.0000 I Preset C 1/2,768.0 Diff. Decoder On Sweep Width 60000 S Decoder Type Viteibi R Rx RS Interleave No Data R	Demodulator Rate 1/2_2048.0 Preset D 1/2_2048.0 RF Loopback 0ff weep Reac. Time 0 ieed-Sol. Decoder No Value x 8PSK 2/31-310 No Data	Preset A Preset V IF Loopback BER Threshold Spectrum Rotation	1/2_64.0 1/2_128.0 Off \$ NONE Normal	Presi Descramble End Sweep Center F Demodulator T Rx BPSK D	et B 1/2_256.0 able On req -0 ype EF Data Closed tata No Value
MODULATOR DEMODULATO		FERFACE RECEIVE	Common Equip/ Ba	ackward M&	C Communications
03:29 PM 8/18/98 Sys	stem (101999915:29:49 08/11	3/98 1!0000S1000001	LOG ON/OFFIU	SER = System	ISYSTEMILOG ONI

6.7.3.2 Demodulator Commands

MiniMAC Rack Management System

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.

LC NCS - [SDM300] View Configure Polling Status Commands Set Control Mode	User Command Authority	
HUB SITE MODEM #1 EF SDM-300 SATELLITE MODEM Modem is Online HUB SITE MODEM #1 L HUB SITE SITE SITE SITE SITE SITE SITE SITE	Transmit Power Receive Transmitter On Common Carrier Detect Stored Test Mode	Receive Signal Level -33.0dBm Raw Bit Error Rate <4.0E-6
Modulator/Demodulator	Interface	AUPC/Drop & Insert/System
RF Output On IF Frequency 7(Modulator Status	1/2 2048.0 Preset A 1/2 64.0
Preset B 1/2_256 0 Preset C 1/2 Power Offset +0.0 Tx Output Pwr Lev. Modulator Type EF Data Closed SDM300 Command Modul Spectrum Rotation Normal Modulator Demodulator Tx RS Interleave No Data Tx 8PSK 2/31-310 No	2768.0 Preset D 30.0 Scrambler Enable 200 Scrambler Enable 200 Demodulator Frequency B Rate Preset Assignment C Rate Preset Selection D Descrambler Enable	1/2_2048.0 Preset V 1/2_128.0 On Diff. Encoder On Reed-Sol. Encoder No Value Tx BPSK Data Order No Value
IF Frequency 70.0000 Demodulator Rate 1/2 Preset C 1/2_768.0 Preset D 1/2 Diff. Decoder 0n RF Loopback Sweep Width 60000 Sweep Reac. Time Decoder Type Viterbi Reed-Sol. Decoder No Rx RS Interleave No Data Rx 8PSK 2/31-310 Ni	E Differential Decoder Enable F RF Loopback G IF Loopback Sweep Center Frequency Sweep Width Range Sweep Reacquisition K Bit Error Rate Threshold Demodulator Type M Decoder Type N Spectrum Rotation Reed-Solomon Decoder	2_64.0 Preset B 1/2_256.0 2_128.0 Descramble Enable On Off Sweep Center Freq -0 VONE Demodulator Type EF Data Closed Normal Rx BPSK Data No Value
MODULATOR DEMODULATOR INTERFACE TRAN 03:30 PM 8/18/98 System 19101096	P Receive BPSK Data Ordering Q Reed-Solomon Interleave 8. <u>R</u> 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

LC NCS - [SDM300] View Configure Polling Status Commands	s <u>S</u> et Control Mode <u>U</u> ser Comman	nd <u>A</u> uthority	
HUB SITE MODEM #1 SDM-300 SATELLITE MODEM Modem is Online	Transmit F Transmit Receive U Receive L Common S Stored	Power Receive Transmitter On Corrected Carrier Detect Interface Reau Test Mode Bu	Signal Level 33.0dBm Bit Error Rate <4.0E-6 Bit Error Rate <1.0E-12 d Error Status FRM <5.0E-7 Eb/No >16.0dB ffer Fill Status 50%
Modulator/Demodulator	Interfa	ce	AUPC/Drop & Insert/System
	Modulator	Status	
RF Output On Preset B 1/2_256.0 Power Offset +0.0 Modulator Type EF Data Closed Spectrum Rotation Normal Tx RS Interleave No Data	IF Frequency 70,0000 Preset C 1/2,768,0 itput Pwr Lev. 30,0 300 Command AUPC and Drop % Inse C Benote AUPC Drop/Insert PSK Avenote Qarrier Loss Action Remote AUPC Enable	Modulator Rate 1/2_2048,0 Preset D 1/2_2048,0 Scrambler Enable On rt Window X	Preset A 1/2_64.0 Preset V 1/2_128.0 Diff. Encoder 0n Reed-Sol. Encoder No Value Tx BPSK Data Order No Value
IF Frequency 70.0000 Dem Preset C 1/2_768.0 Diff. Decoder On Sweep Width 60000 Swee Decoder Type Viterbi Reed Rx RS Interleave No Data Rx 8F	Remote Interface Substitution f Remote Interface Baseband LC Remote Interface Baseband LC Preset D 1/2_2048.0 RF Loopback Off p Reac. Time 0 -Sol. Decoder No Value S Sol. Decoder No Value S	Pattern popback tatus Preset A 1/2_64.0 Preset V 1/2_128.0 IF Loopback Off BER Threshold NONE Spectrum Rotation Normal	Preset B 1/2_256.0 Descramble Enable On Sweep Center Freq 0 Demodulator Type EF Data Closed Rx BPSK Data No Value
MODULATOR	INTERFACE TRANSMIT	RFACE RECEIVE Common Equip	Backward M&C Communications
03:30 PM 8/18/98 System	101999915:30:39 08/18/	98 1!0000\$100000N LOG ON/OF	FIUSER = System SYSTEM LOG ON

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

ILC NCS - [SDM300] ⊻iew Configure Polling Status	<u>Commands</u> Set Control M	ode <u>U</u> ser Com	mand <u>A</u> uthority		<u>_ @ ×</u>
EFData SDM-300 MODE	M #1 A Transmit L A Receive R M S S p & Inset Window	F Transmit U Receive L Common S Stored	Power Transmitter On Carrier Detect	Receive Signal Level Raw Bit Error Rate Corrected Bit Error Rate Interface Read Error Status Eb/No Buffer Fill Status	>-25.0dBm 1.8E-2 3.0E-8 FRM No Data 6.5dB 50%
AUPC Remote AUPC Drop/In A Dro B Ins C Ins Local Pwr. Enable D Eb/No Target Point E Ins G Bu	sert op Data Format ert Data Format ert E1 CRC Enable op Channels Assignment k Drop Channels Assignment ert Channels Assignment Ik Insert Channels Assignment	hatic Uplin lo Value lo Value	rface NK Power Control Minimum Pwr Value Local Carrier Loss	AUPC/Drop Status No Value Maximum Pr No Value Remote Car	& Insert/System wr Value No Value rier Loss No Value
	Drop Data Format	Drop and I	nsert Status Insert Data Forr	nat T1	
Bulk Drop Channel Assignmen Bulk Insert Channel Assignmen	t j	Insert E1 CF	1;1_2;2_3;3_4;4_5;5_6; 1;1_2;2_3;3_4;4_5;5_6; 1C 0n	6_7;7_8;8 6_7;7_8;8	
Modem Operation Mode	Duplex	Sy: System Modem Ty	stem pe Drop and Insert	RTS Tx-IF Control M	ode Off
02:54 PM 4/1/99	DULATOR INTERFACE	RANSMIT	ITERFACE RECEIVE	Common Equip/ Backward	M&C Communications

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	٠	TRIB 5
•	TRIB 2	٠	TRIB 6
•	TRIB 3	٠	TRIB 7
•	TRIB 4	٠	TRIB 8

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

EFData SDM-3	IOO MODEM #1 DM-300 TELLITE MODE odem is Online	A Transmit A Market Transmit A Market Receive	F Transmit U Receive Common S Stored	Power Transmitter On Carrier Detect Test Mode	Receive Raw I Corrected I Interface Read Bu	Signal Level 25.90 3it Error Rate 1.00 Bit Error Rate 1.00 d Error Status FRM 42 Eb/No >16.0 ffer Fill Status 48:	18m E-5 -12 2.0E-6 0d8
Modula	tor/Demodulato	u	Inte	rface	Ţ	AUPC/Drop & Insert/S	ystem
			Modulat	or Status			
PE Output		IE Frequency	70.000000	Modulator Pate	1/2 512.0	Preset A	1/2 04.0
Preset B	Un 1/2 129.0	Preset C	1/2, 255, 0	Preset D	1/2_512.0	Preset V	172_64.0
Power Offset	172_120.0	Tx Output Pwr Lev	-24.0	Scrambler Enable	172_012.0	Diff Encoder	172_30.4 On
Modulator Type	FE Data Closed	SDM300 Command N	Mux PCB/System V	Vindow	×	Reed-Sol Encoder	Off
pectrum Rotation	Normal	System Mux PCB				Tx BPSK Data Order	Normal
Tx RS Interleave	8	Tx 8PSK: Tributary Tributary Tributary Tributary	y Data <u>R</u> ate & Enat y Interface <u>Type</u> y <u>C</u> lock Phase y <u>D</u> ata Phase	ble > 1 (tributary nu > 2 > 3 4	mber) >	2	
IF Frequency	70.000000	Demodulator Rate	1/2_512.0	5	• .0	Preset B	1/2_128.0
Preset C	1/2_256.0	Preset D	1/2_512.0	<u>6</u>	<mark>۲ (</mark>	Descramble Enable	On
Diff. Decoder	On	RF Loopback	Off	Z		Sweep Center Freq	+0
Sweep Width	60000	Sweep Reac. Time	0	1_8		Demodulator Type	EF Data Close
Decoder Type	Viterbi	Reed-Sol. Decoder	Off	Spectrum Rotation	Normal	Rx BPSK Data	Normal
Rx RS Interleave		Rx 8PSK 2/31-310					

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.

🚊 ILC NCS - [SDM300]				_ 8 ×
<u>V</u> iew Co <u>n</u> figure <u>P</u> olling <u>S</u> tatus <u>C</u> omm	nands <u>S</u> et Control Mode <u>U</u> ser Cor	nmand <u>A</u> uthority		
EFData SDM-300 MODEM #1 EF DATA SDM-300 SATELLITE MODEM Modem is Online	A Transmit A Receive U Receive M T Common S S S Stored	t Power Transmitter On Carrier Detect Test Mode	Receive Signal Level -33.0dBm Raw Bit Error Rate <4.0E-6	
Modulator/Demodulator	In	erface	AUPC/Drop & Insert/System	
	Modula	tor Status		
RF Output On Preset B 1/2_256.0 Power Offset +0.0 Modulator Type EF Data Closed Spectrum Rotation Normal Tx RS Interleave No Data	IF Frequency 70.0000 Preset C 1/2_768.0 Tx Output Pwr Lev. 30.0 Encoder Type Viterbi Modem Ref. Clock No Value Tx 8PSK 2/31-310 No Data	Modulator Rate Preset D Scrambler Enable Carrier Only Mode	1/2_2048.0 Preset A 1/2_6 1/2_2048.0 Preset V 1/2_1; On Diff. Encoder On Reed-Sol. Encoder No Va No Data Tx BPSK Data Order No Va	64.0 28.0 n alue alue
	Demodu	lator Status		
IF Frequency 70,0000 Preset C 1/2_768.0 Diff. Decoder 0n Sweep Width <u>60000</u> Decoder Type <u>Viterbi</u> I Rx RS Interleave <u>No Data</u> I	Demodulator Rate 1/2_2048.0 Preset D 1/2_2048.0 RF Loopback Off Sweep Reac. Time 0 Reed-Sol. Decoder No Value Rx 8PSK 2/31-310 No Data	Preset A Preset V IF Loopback BER Threshold Spectrum Rotation	1/2_64.0 Preset B 1/2_21 1/2_128.0 Descramble Enable Or Off Sweep Center Freq -0 NONE Demodulator Type EF Data Normal Rx BPSK Data No Vational	56.0 Closed
MODULATOR DEMODULATI	OR INTERFACE TRANSMIT		Common Equip/ Backward M&C Communicat	ions

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.

🖳 ILC NCS - [SDM300]							<u> I</u> ×
View Configure Polling Statu	us <u>C</u> ommands <u>S</u> et Contr	ol Mode <u>U</u> ser Command <u>A</u>	Suthority				
HUB SITE MODEM	#1 A Trans 300 A Contract of the second sec	mit F Transmit ve U Receive L Common S Stored	Power Transmitter On Carrier Detect Test Mode	Receive S Raw Bi Corrected B Interface Read	ignal Level it Error Rate Error Rate Error Status Eb/No er Fill Status	-33.0dBm <4.0E-6 <1.0E-12 FRM <5.0E-7 >16.0dB	
Modulator/ Exit	Set <u>A</u> ll						
4 AF Dutput 4 Preset B 1, 4 Power Offset 4 Modulator Type 5pectrum Rotation 4 Tx RS Interleave 4 5 6 7 7 4 4 4 4 4 4 4 4 4 4 4 4 4 <t< td=""><td>Mod. RF Output [Mod. IF Frequency [Mod. Rate Preset A [Mod. Rate Preset A [Mod. Rate Preset B [Mod. Rate Preset C [Mod. Rate Preset C [Mod. Rate Preset C [Mod. Rate Preset V [Mod. Rate Preset V [Mod. Rate Preset V [Mod. Output Power [Mod. Scrambler Enable [Mod. Scrambler Enable [Mod. Dutput Power [Mod. Scrambler Enable [Mod. Dutput Power [Mod. Encoder Type [Carrier Only Mode [Demod. IF Freq. [Demod. Rate Preset A [Demod. Rate Preset A [Demod. Rate Preset B [Demod. Rate Preset C [Demod. Rate Preset C [Demod. Rate Preset D [</td><td>4 Ext. Ref. Freq. 4 Tx Clock Phase 4 Rx Clock Phase 4 Baseband Loopback 4 Interface Loopback 4 Interface Loopback 4 Int. Loop Timing 4 Tx Int. Coding Format 4 Buffer Clock Source 4 Int. Rx T1 Frame Struc. 4 Int. Rx T1 Frame Struc. 4 Int. Buffer Programming 4 Int. Suffer Size 4 Int. Rx Overhead Type 4 Int. Raw Overhead Type 4 Int. Receive Data Fault 4 Transmit Data Fault 4 Receive Data Fault 4 Int. Service Chan. Tx1 4 Int. Service Chan. Tx2</td><td>Modulator R Mod. Spectr Mod. Spectr Demod. Spe Reed Sol. Er Reed Sol. D Backward A Asackward A Asackward A Asackward A A Sackward A A</td><td>ef. Clock um Rotation cetrum Rotation neoder Enable ecoder Enable larm Enable Tx1 larm Enable Tx2 larm Enable Tx3 larm Enable Rx1 larm Enable Rx1 larm Enable Rx3 larm Enable Rx3 larm Enable Rx4 pe pe ull Field vrhead BaudRate vrhead BaudRate ian. Char. Len. oo Bits</td><td>AUPC Rem AUPC Rem Reserved N Reserved N Tx BPSK D Rx BPSK D Rx BPSK D Rx TS Tx-IF CTS Delay Carrier Only DR Tx ESI Local Mode Date A mem AUPC Rem AUPC Rem AUPC Rem AUPC A Rem AUPC A Rem AUPC Int. Buffer 0 Inc Suffer Ore J Inc Suffer Inc Suffer</td><td>Carr. Loss Vull Field Vull Field Vata Ordering Vata Ordering Control Mode Time Mode C Type C Type</td><td></td></t<>	Mod. RF Output [Mod. IF Frequency [Mod. Rate Preset A [Mod. Rate Preset A [Mod. Rate Preset B [Mod. Rate Preset C [Mod. Rate Preset C [Mod. Rate Preset C [Mod. Rate Preset V [Mod. Rate Preset V [Mod. Rate Preset V [Mod. Output Power [Mod. Scrambler Enable [Mod. Scrambler Enable [Mod. Dutput Power [Mod. Scrambler Enable [Mod. Dutput Power [Mod. Encoder Type [Carrier Only Mode [Demod. IF Freq. [Demod. Rate Preset A [Demod. Rate Preset A [Demod. Rate Preset B [Demod. Rate Preset C [Demod. Rate Preset C [Demod. Rate Preset D [4 Ext. Ref. Freq. 4 Tx Clock Phase 4 Rx Clock Phase 4 Baseband Loopback 4 Interface Loopback 4 Interface Loopback 4 Int. Loop Timing 4 Tx Int. Coding Format 4 Buffer Clock Source 4 Int. Rx T1 Frame Struc. 4 Int. Rx T1 Frame Struc. 4 Int. Buffer Programming 4 Int. Suffer Size 4 Int. Rx Overhead Type 4 Int. Raw Overhead Type 4 Int. Receive Data Fault 4 Transmit Data Fault 4 Receive Data Fault 4 Int. Service Chan. Tx1 4 Int. Service Chan. Tx2	Modulator R Mod. Spectr Mod. Spectr Demod. Spe Reed Sol. Er Reed Sol. D Backward A Asackward A Asackward A Asackward A A Sackward A A	ef. Clock um Rotation cetrum Rotation neoder Enable ecoder Enable larm Enable Tx1 larm Enable Tx2 larm Enable Tx3 larm Enable Rx1 larm Enable Rx1 larm Enable Rx3 larm Enable Rx3 larm Enable Rx4 pe pe ull Field vrhead BaudRate vrhead BaudRate ian. Char. Len. oo Bits	AUPC Rem AUPC Rem Reserved N Reserved N Tx BPSK D Rx BPSK D Rx BPSK D Rx TS Tx-IF CTS Delay Carrier Only DR Tx ESI Local Mode Date A mem AUPC Rem AUPC Rem AUPC Rem AUPC A Rem AUPC A Rem AUPC Int. Buffer 0 Inc Suffer Ore J Inc Suffer Inc Suffer	Carr. Loss Vull Field Vull Field Vata Ordering Vata Ordering Control Mode Time Mode C Type C Type	
4	Demod. Rate Preset V [Descrambler Enable [Int. Service Chan. Rx1 Int. Service Chan. Rx2	4 Asnyc.Rx St 4 Async.Tx Ch	op Bits nan. Parity	4 Mod. Rate	Preset Select A Preset Select B	
MODULATOR 4	Diff. Decoder Enable	System Modem Type Modem Operator Mode	4 Async. Rx Ch	nan. Parity	4 Mod. Rate	Preset Select C Preset Select D	
03:32 PM 8/18/: 4	IF Loopback	4 Modern Remote Mode	4 Async.Rx Co	omm. Type	4 Mod. Rate	Preset Select V	

5.1 Options

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

- Logging
- Status Labels
- Edit Mode
- System Colors

	- [efdata - [Indus	trial Logic Corporation	, Atlanta, GA U.S	5.A.]]			_ 8 ×
System Blan	ns <u>r</u> aging <u>o</u> sei	Logging Status Labels					
		Edit Mode §ave Edits ©olors ✔ Show <u>A</u> rrowheads	EFData	MINIMAC	>		
Dual	Converter Rack	C-Band Converte Rack	r CST 5	000 Rack		Remote Site #1	
700	10 Modern Rack	SMS-658 Modern Rack	n SMS-75 R	8 Modern tack			
00.01.444	0.000		C 7000000000				

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

figure w	hen to open a new log file			
	Open New Log	Time Period	File Size	
	Periodically	O Daily	C 1 MBytes	
	C Based on File Size	C Weekly	C 10 MBytes	
	🔿 Disable Event Log	C Monthly	C 20 MBytes	
			O 50 MBytes	
			O 100 MBytes	
igure ¥	when to remove old log files			
igure ¥	when to remove old log files	T: D : I		
igure ¥	when to remove old log files	Time Period		
igure ¥	when to remove old log files Delete Log Files © When it gets old	Time Period		
igure ¥	when to remove old log files Delete Log Files © When it gets old © Never	Time Period		
igure v	when to remove old log files Delete Log Files © When it gets old © Never	Time Period C Daily C Weekly C Every two weeks		
igure v	when to remove old log files Delete Log Files © When it gets old © Never	Time Period C Daily Weekly C Every two weeks C Monthly		
igure v	when to remove old log files	Time Period C Daily C Weekly C Every two weeks C Monthly		
igure v	when to remove old log files	Time Period C Daily C Weekly C Every two weeks C Monthly		
igure ¥	when to remove old log files	Time Period C Daily C Weekly C Every two weeks C Monthly		
igure ¥	when to remove old log files	Time Period C Daily C Weekly C Every two weeks C Monthly		

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.

🚊 ILC NCS - IEve	ent Log Configuration]			
View				
Return (No Save) Return (Save)	pen a new log file			
	Open New Log	Time Period	File Size	
		Daily	O 1 MBytes	
	C Based on File Size	○ Weekly	C 10 MBytes	
	C Disable Event Log	C Monthly	C 20 MBytes	
			C 50 MBytes	
			C 100 MBytes	
- Configure when	to remove old log files			
	Delete Log Files	– Time Period ––––––		
	When it gets old	C Daily		
	C Never	Weekly		
		C Every two weeks		
		C Monthly		
11,20 AM	0/10/00			VOTEMICVOTEMIA-lusuis-las
11.50 AM	o/To/3d System	1:0:333311:30:40 08/18/38	T 2:00005B00000FF Alarmiali Comm Alarms	I STEM STSTEM ACKNOWledge

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.

🚊 ILC NCS - [efdata - [Indu	strial Logic Corporation	, Atlanta, GA U.S.A.]]	_ B ×
<u>System Alarms Paging User</u>	Options Help Logging	Insert Delete Editor → ata MINIMAC	
Dual Converter Rack	C-Band Converte Rack	r CST 5000 Rack	Remote Site #1
7000 Modern Rack	SMS-658 Modern Rack	SMS-758 Modern Rack	
04:11 PM 4/1/99	Sustem	1100294/1/99 4:10:56 PM FFFFFFFF Ala	rm/FaultICommunicationsISMS-7000IEFData SMS-700

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.

n Alarms Paging User	Options Help		
	Logging Status Labels → [nse		
	Edit Mode Dele Save Edits Colors ✓ Show Arrowheads	te bata MINIIMAA <u>Edit</u> <u>Lock</u> Eonts <u>Uniock</u> Color Alignment ►	
Dual Converter Rack	C-Band Converter Rack	Besize ► CST 6000 Rack	Remote Site #1
7000 Mødem Rack	SMS-658 Modern Rack	SMS-768 Modern Rack	

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.

n <u>A</u> larms <u>P</u> aging <u>U</u> ser	Options Help		
	Logging Status Labels →	Insert	
	Edit Mode Save Edits Colors ✔ Show <u>A</u> rrowheads	Editor > ata MINIMAC	
Dual Converter Rack	C-Band Converter Rack	CST 6000 Rack	Remote Site #1
			····
7000 Modern Rack	SMS-658 Modern Rack	SMS-758 Modern Rack	

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 (+).

	- [C-Band Convert	ter Rack]			-	X
	Status Labels	1				
	<u>E</u> dit Mode					
	Save Edits	onverter				
	Rack					
	EFData SDC-0 CONV #	600 UP #1				
	EFData SDC-I CONV #	600 UP #2				
	EFData SCS Converter S	5-500 Switch				
	EFData SDC-4 CONV #	400 DN #2				
	EFData SDC-/ CONV #	400 DN #1				
П9-21 AM	3/19/99	Sustem	[F4F0001F	FFFFFFF	ChangelAsunc Bx Chan, Char, Len (SDM-300)Bernde Mex	ico Dit

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.

	Rack EFData SDC-600 UP	1	
	CONV #1 EFData SDC-600 UP		
	CONV #2	🗟 Draw Properties 🔀	
Ī	Converter Switch	Edit desired item properties. Please note	
	EFData SDC-400 DN CONV #2	from the device screens.	
	EFData SDC-400 DN CONV #1	Fill Color	
		Line Color	
		Text Color Font Example Font	
		Label: Com A C-Band Converter Back	

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.

7	Com 4 C-Band Convert Rack	ier 0			
	EFData SDC-600 UP CONV #1				
	EFData SDC-600 UP				
¢	EFData SCS-500	Draw Properties		×	
	Converter Switch	Edit desired item properties.	Please note	Ok	
	CONV #2	from the device screens.	be changed	Cancel	
	EFData SDC-400 DN CONV #1	Fill Color	Color		2 X
		Line Color	Basic colo	L. IS:	
		Text Color			
		Label: Com 4 C-Band Converter	Rack		
					-

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.

Com 3 Dual Converter Rack EFD V2200 CNV # Draw Properties EFD V2200 CNV # Edit desired item properties. Please note DK Hat device names can only be Font Font EFD V2200 CNV # Fill Color Fill Color Text Color Text Color Labet Converter Rack Cond Converter Rack Tucida Console Tucida Console Total Converter Rack Effects Sample
EFD V2200 CNV # Draw Properties EFD V2200 CNV # Edit desired item properties. Please note that device names can only be Font FD V2200 CNV # Font device screens. FII Color Font Text Color Font. Text Color Font. Labet Con 3 Dual Converter Rack Effects Sample Stikeout Sample
EfD V2200 CNV # Edit desired item properties. Please note 0k EFD V2200 CNV # Fint device names can only be from the device screens. Font ? 2 Fill Color Fill Color Font ? 2 Text Color Font. Font. Bold 8 DK Courier Pouliat Pouliat <t< th=""></t<>
EFD V2200 CNV # Find device names can only be from the device screens. Font Pont Fill Color Fill Color Eont Bold 8 OK Text Color Font Font Bold 8 OK Labet Con 3 Dual Converter Rack Fucida Sons Unicode 10 Cancel Text Solor Effects Sample
Fill Color Fill Color Font. Font. Bold 8 OK Line Color Font Font Bold 8 OK Text Color Font Font Bold 8 OK Labet Com 3 Dual Converter Rack Full vicida Console 10 11 12 14 16 16 16 16 16 5
Line Color Text Color Labet Com 3 Dual Converter Rack Effects Strikeout Courier New Fixedsys Function Console Text Color Font
Effects Sample
Quality Contraction Contractio
Black Scipic Western

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 (\checkmark) indicates the feature is active].

🚊 ILC NCS -	[C-Band Converter	Rack]			1
View ∐ser [<u>Iptions</u>				
	Status Labels 🔸				
	Edit Mode	-			
	Save Edits for Rack	verter			
	EFData SDC-600 CONV #1	UP			
	EFData SDC-600 CONV #2	UP			
r	EFData SCS-50 Converter Swi	10 C			
	EFData SDC-400 CONV #2	DN			
	EFData SDC-400 CONV #1	DN			
ſ					
	***********		*******	******	
09:23 AM	3/19/99	System	10!999909:23:02 03/19/99 FFFFFFF	Alarm/Fault Communications SMS-7000 EFD ata SMS-70	Ĵ

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

		EFData MINIM	AC	
	.	, System Colors		
	C-Band C	Click on a condition below to edit the default color value:		
Dual Converter Rack	Ri	Good Online	Ok	Remote Site #1
		Good Offline	Cancel	
		Summary Fault	· · · · · · · · · · · · · · · · · · ·	
		Summary Alarm		
7000 Modern Rack	SMS-658 Ri	Comm Alarm		
		Device Offline		
		Uplink Path		
		Downlink Path		
		Alarm Masked		
	<u></u>			

5.5 Help Menu

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

lual Converter Rack	C-Band Converter Rack	CST 5000 Rack	Remote Site #1
			×
7000 Modern Rack	SMS- EFDATA · [Indus Copyright ©1998	strial Logic Corporation, Atlanta, GA U.S. by Industrial Logic Corporation	A.]v3.248

01:40 PM [2/10/99 System 38F0000>-30dBm,<1.0E-4,<1E-8,15.8,FRM <1.0E-7,35% 710000SA00000FF AlarmiAll Comm Alarms[SY4

This page is intentionally left blank.

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.

	<u>11</u>	EFData MINIMAC	
Dual Converter Rack	C-Band Converter Rack	CST 5000 Rack	Remote Site #1
7000 Modern Rack	SMS-658 Modern Rack	SMS-758 Modern Rack	

Command	Response
Select	USER NAME
Туре	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:

		EFData MINIMAC		
Dual Converter Rack	C-Ban Edit Users Exit Edit Users Add Change Delete	Password >	Remote Site #1	
7000 Modern Rack	SMS-658 Modern Rack	SMS-758 Modern Rack		

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



	EFData MINIMAC
Dual Converter Rack	C-Ban Edit Users XI Exit Edit Users Authorization Errort
7000 Modern Rack	SMS-
	ОК

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.

EFData MINIMAC				
	Exit Edit <u>U</u> sers			
Jual Converter Rack	C-B: Change Password Delete	System ack	Remote Site #1	
7000 Modern Pack	SMS-658 Modern	SMS-758 Modern		
	Rack	Rack		

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

	EFData MINIMAC
Dual Converter Rack	C-Ban Edit Users X Remote Site #1
	User Name System Password ******
7000 Modern Rack	SMS- Confirm Password ****** Command Authorization Level Minimum Maximum
	C 0 C 1 C 2 C 3 C 4 Execute Cancel

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

This page is intentionally left blank.
3.1 View Latest Alarm

To view the latest alarms:

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

Acknowledge All <u>C</u> omm. <u>B</u> eep Alarm <u>S</u> ound	Alarms	EFData MINIMAC		
Dual Converter Rack	C-Band Converter Rack	CST 5000 Rack	Remote Site #1	
7000 Modern Rack	SMS-658 Modem Rack	SMS-758 Modern Rack		

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

🚊 ILC NCS - [Lat	est Alarms]					_ 8 ×
<u>V</u> iew <u>Options</u>						
<u>N</u> umber S	tored					
Eve	ent Time	Туре	Event Name	Device Name	Device Title	¥alue
	0.117.000				JOMO 700	

3.1.2 Changing Numbered Stored

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

List Size Entry
Enter the number of Alarms you want to maintain in the list.
300
Accept Cancel

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

Event Time	Туре	Event Name	Device Name	Device Value Title
		he he		
		. 0		

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	

w Screen				
Event Time	Туре	Event Name	Device Name	Device Value Title

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

	Event Time	Туре	Event Name	Device Name	Device Title	Value
	8/17/98 12:10:43 PM	Alarm	All Comm Alarms	SYSTEM	SYSTEM	Acknowledge
2	8/17/98 12:09:43 PM	Alarm	All Device Alarms	SYSTEM	SYSTEM	Acknowledge
	8/17/98 12:08:55 PM	Alarm/F	Communications	SMS-7000	EFData	CLEAR

12:11 PM 8/17/98 System 101999912:11:50 08/17/98 210000SB00000FF AlamijAll Comm AlamsjSYSTEMJSYSTEMJAcknowledge

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.

Alarms Paging User O	ptions <u>H</u> elp		
View Latest Alarms			
Acknowledge All Device.	Alarms		
Acknowledge All Comm A	larms	EFData MINIMAC	
Beep			
Alarm <u>S</u> ound	· · · · · · · · · · · · · · · · · · ·		
	· · · · · · · · · · · · · · · · · · ·		
	C-Band Converter		
Dual Converter Rack	Rack	CST SUUU Rack	Remote Site #1
7000 Modern Rack	SMS-658 Modern	SMS-758 Modern	
	Rack	Rack	
M 2/10/99	System 19100	292/10/99 1:07:58 PM 3100005F000001	FF Alarmi All Comm Alarms SYSTEM SYSTEM Ac
NCS - [EFDATA - [Indust	rial Logic Corporation, A	tlanta, GA U.S.A.]]	
<u>Alarms</u> Paging User O	otions <u>H</u> elp		

Dual Converter Rack	C-Band Converter Rack	CST 5000 Rack		Remote Site #1
	Command Confi	mation Window		
	Are	you sure you w	ant to	
· · · · · · · · · · · · · · · · · · ·	Ackno	wledge all Devic	e Alarms?	
7000 Modem Pack	SMS-6			
TOOD MODELIN KACK		*******		
		ок с	Cancel	

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.

Yiew Latest Alam Acknowledge All Acknowledge All Beep Alam Sound	ns Device Alarms Comm Alarms	EFData MI	NIMAC	
Dual Converter R	C-Band Co Rad	nverter k CST 5000 I	Rack	Remote Site #1
7000 Modem Ra	ck SMS-658	Aodem k SMS-758 Mc Rack	odem	

	EFData MINIMAC	>
Dual Converter Rack	C-Band Converter Rack Compand Confirmation Window	Remote Site #1
7000 Modem Rack	Are you sure you wan Acknowledge all Commun Acknowledge all Commun Alarms? OK	t to ications

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.

<u>Alams</u> Faging User <u>View Latest Alarms</u> <u>Acknowledge All Devic</u> <u>Acknowledge All Comm</u>	e Alarms		
Beep Alam Sound	On Minor Alarm On Maior Alarm		
Dual Converter Rack	C-Band Converter Rack	CST 5000 Rack	Remote Site #1
7000 Modern Rack	SMS-668 Modern Rack	SMS-750 Modem Rack	

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.

This page is intentionally left blank.

2.1 System-Report Generator

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

acros	E	FData MINIMAC	>	
sit				
Dual Converter Rack	Band Converter Rack	CST 5000 Rack		Remote Site #1
Sector Se	MS-658 Modern	SMS-758 Modem		
7000 Modem Rack	Rack	Rack		

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

	Date and	d Time 🗌 16-Mar-99	9:20:17 AM			Date and Time 16-Mar-99 9:20:17 AM							
Log Date	Event Name	Event Desc	Device	Device Title	Value	Ever 2							
3/16/99 9:18:57 AM	Alarm/Fault	Communications	SMS-7000	EFData SMS-7000 MODEM SW #1	SET	1							
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	BFT	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	BFT	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	EED ata 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

EFData MINIMAC					
Jual Converter Rack	C-Band Converter Rack	CST 5000 Rack	Remote Site #1		
7000 Modem Rack	SMS-658 Modem Rack	SMS-760 Modem Rack			

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

LILC NCS -	[Dual Converter Rack]					- 8
iew <u>U</u> ser <u>U</u>	ptions					
	Corn 3 Dual Converter					
	Rack					
	EFD V2200 CNV #1					
	EFD V2200 CHV #2					
	EFD V2200 CHV #3					
44 PM	2/10/99 System	16100292/10/99	3 12:44:03 PM 3!0000	SØ00010FF AlarmA	I Comm Alarms SYSTE	ISYSTEM Ackno

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).

ı <u>U</u> ser	<u>Options</u>		
	Com 4 C-Band Converter Rack		
	EFData SDC-600 UP CONV #1 EFData SDC-600 UP		
	EFData SCS-500 Converter Switch EFData SDC-400 DN		
	CONV #2 EFData SDC-400 DH CONV #1		

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).

🚊 ILC NCS -	[CST 5000 Rack]			_ 8 ×
View User (Com 5 CST 5000 Rack EFData RFT-500 ODU #2 D/C EFData RFT-500 ODU #1 D/C			
1244 PM	2/10/09 Sustem	101000012-44-52 027	10/991 2000005/00001/055	ICYCTEMIAoknowledge

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.

Com	6 7000	Modern Rac	k			
	MOB	DEMOD				
E	FData S	DM-300				
	MOD	EM #2 DEMOD				
E	FData S	DM-8000				
	MOD Ellato 6	EM #2				
	MODEN	1 SW #1				
	MOB	BEMOB				
E	FData 5	5DM-300				
	MOD	DEMOD				
E	FData S	DM-8000				
	MOD					
•						

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.

A ILC NCS -	ISMS-658 Modem	Rack]				
<u>1000 0000</u>						
	SMS-658 Modern Ra	ck				
	EFData SDM-308-4					
	EFData SDM-308-5					
	EFData SMS-658					
	EFData SDM-308-4 MODEM #1					
	EFData SDM-308-5 MODEM #1					
12:45 PM	2/10/99	Sustem	00999912:45:46.027	10/991 5/0000S100000FF	AlarmiAll Comm Alarms	NSYSTEMISYSTEMIAcknowledge

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.

ILC NCS - [SMS w <u>U</u> ser Option	5-758 Modem Rack] ≬			- B
	SMS-758 Modern Rac MOB DEMOD EFData SDM-309 MODEM #2 EFData SMS-758 MODEM SW #41 MOD DEMOD EFData SDM-309 MODEM #1	k 		
40 DM	2/10/00 Sustern	120020271070012		CTEMICVCTEMIA-koom

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.

LILC NCS - [C	Comsat Columbia - [Industrial Logic Corporation, Atlanta,	GA U.S.A.]]	<u>_ 8 ×</u>
ystem <u>A</u> larms	<u>Paging U</u> ser <u>O</u> ptions <u>H</u> elp		
COMM !			
314	F310086T		
A - b b	data1		Pause
ACKS retry Dial up Back	acks missed Comm Errors 90 up:		
			Hide CommServe
Parallel Read	: 122		~
	Outgoing Messages	Incoming Mess	ages
SDM300 #3	#2 @ 8/18/98 12:52:18 PM	SDM300 #87 #86 @ 8/18/98 12:52:1	8 PM
_ 1 00 7.	(0)2002_[02]		

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. 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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MiniMAC A Monitor & Control Management System

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