

Table of Contents

BitSURFR Pro

Chapter 1 Introduction

WELCOME	1-1
Features	1-1
Easy Operation	1-2
Data Communication	1-2
Analog Communication	1-2
Caller ID Delivery and Security	1-3
On-Going Support	1-3
DOCUMENT CONVENTIONS	1-3
OTHER RESOURCES	1-3
COMMON SENSE WARNINGS	1-4
Telephone Wiring	1-4
Lightning Protection	1-4

Chapter 2 Using Your BitSURFR Pro

TYPES OF CALLS	2-1
PLACING AND RECEIVING A DATA CALL	2-1
Using a PC-based Communications Program	2-1
Initialization Strings	2-2
Placing a Data Call with a Communications Program	2-5
Using AT Commands Through a PC or Terminal	2-5
Manual Answering	2-5
PLACING AND RECEIVING A VOICE CALL	2-6
From Your Telephone	2-6
From Your Modem Or Fax Modem	2-7
From Your Fax Machine	2-7
From a Modem or Fax Modem Via a Communications Program	2-7
RECEIVING CALLER ID INFORMATION	2-7
WINDOWS 95 DIAL-UP NETWORKING	2-8
Network Protocol Installation	2-8
Dial-Up Networking Configuration	2-8
Dialing	2-11
Resetting Your BitSURFR Pro	2-11

Chapter 3 AT Command Operation

GENERAL	3-1
AT COMMAND STATEMENT	3-1
AT COMMAND MODE	3-1
ESCAPE SEQUENCE	3-1
CREATING A COMMAND STATEMENT	3-2
COMMAND STATEMENT GUIDELINES	3-3
DTE CHARACTER ECHO	3-3
COMMAND STATEMENT BUFFER	3-3
BACKSPACE KEY	3-3
REPEATING A COMMAND	3-4
VOICE PORT COMMANDS	3-4
DISPLAYING AN OPTION VALUE	3-4
NUMBERED COMMANDS	3-4
GROUP COMMANDS	3-5
DISPLAYING HELP	3-5
COMMAND SCOPE	3-6
CONFIGURING USING AT COMMANDS	3-6

Chapter 4 Option Configuration

GENERAL	4-1
CONFIGURATION COMMANDS	4-1
CONFIGURATION OPTIONS	4-1
CONFIGURATION PROFILES	4-1
Active Profile	4-2
Stored Profiles	4-2
Factory Profile	4-2
Changing the Configuration While On-line	4-3
LOADING AND SAVING CONFIGURATION	4-3
Powerup Stored Profile	4-3
Loading Stored Profile	4-3
Loading Factory Profile	4-3
Saving the Active Profile	4-4
DISPLAYING CONFIGURATION AND INFORMATION	4-5
Display Port Configuration	4-5
Display Global Configuration	4-5
Display DN, SPID, and TEI	4-5
Display Product Information	4-6

DATE AND TIME	4-6
Set the Date and Time	4-6
CONFIGURATION OPTIONS	4-7
ISDN Network Options	4-7
Network Switch Type	4-7
Switch Software Version.....	4-8
SPID (Service Profile Identifier)	4-9
DN (Directory Number).....	4-9
TEI (Terminal Endpoint Identifier).....	4-10
FLEXIBLE CALLING COMMANDS	4-10
PORT OPTIONS	4-11
Rate Adaption Protocol Selection.....	4-11
V.120 Configuration.....	4-12
Rate Multiplier	4-12
Authentication Protocols (PAP and CHAP)	4-13
CHAP Respond Mode	4-13
B-Channel Speed	4-14
Rings To Answer.....	4-14
Ring Count	4-15
Wait for Connection	4-15
Speech Call Answer Option.....	4-15
3.1kHz Audio Call Answer Option.....	4-15
Data Call Answer Option.....	4-16
Echo Disable Tone	4-16
Dialing Method	4-16
Data Port Originate Mode	4-17
Voice Port Originate Mode	4-17
TERMINAL INTERFACE AND PIN OPTIONS	4-17
DTE Data Mode	4-17
DTR Detect Time.....	4-18
DTE Speed	4-18
DTE Parity	4-19
DTE Number of Data Bits	4-19
DTE Number of Stop Bits.....	4-20
Flow Control Options	4-20
Data Carrier Detect	4-21
Data Carrier Detect Drop Time.....	4-22

Table of Contents

Data Terminal Ready	4-22
Persistent DTR Dialing	4-23
Data Set Ready	4-24
Request to Send/Clear to Send	4-24
Request to Send/Clear to Send Delay	4-24
COMMAND AND MESSAGE OPTIONS	4-25
Choosing to Use Response Messages	4-25
Selecting Response Form	4-25
CARRIER/PROTOCOL/CHANNEL Messages Display	4-25
Connect Speed and Dial Messages Display	4-26
Command Mode	4-27
DTE Character Echo	4-27
Escape Character	4-28
Carriage Return Character	4-28
Line Feed Character	4-28
Backspace Character	4-28
Escape Sequence Guard Time	4-28
DTE Guard	4-29
CALLER ID DELIVERY	4-29
Caller ID Auto Delivery	4-29
Caller ID Delivery to Voice Ports	4-30
Caller ID Logging	4-30
Caller ID Number Clearing and Retrieval	4-31
Caller ID Screening and Blocking	4-31
Caller ID Status and ID Numbers	4-32
Chapter 5 Call Placement	
GENERAL	5-1
OPERATION MODES	5-1
Off-line Command Mode	5-1
On-line Command Mode (Asynchronous Data Mode Only) .	5-1
Data Mode	5-2
Escape Sequence (Asynchronous Data Mode Only)	5-2
CALL PLACEMENT STRATEGIES	5-2
Rate Adaption	5-2
B-Channel Speed	5-3
Data Path Compatibility	5-3
Echo Canceling	5-3

Dialing	5-4
Any Key Abort	5-4
Directory Register	5-4
Store Phone Number	5-4
Display Stored Phone Number	5-5
Dialing a Stored Phone Number	5-5
ANSWERING CALLS	5-6
Auto Answer	5-6
Connecting	5-6
Return On-line	5-7
Hang Up Command	5-7
CALL STATUS INDICATIONS	5-7
DTE Status LED	5-7
Status and Connect Messages	5-8
Call Termination	5-9
Chapter 6 Caller ID Delivery and Security	
GENERAL	6-1
OPERATION FUNDAMENTALS	6-1
CALLER ID DELIVERY	6-1
Caller ID Auto Delivery	6-2
Caller ID Delivery to Voice Ports	6-2
Caller ID Logging	6-3
Number Retrieval	6-3
Number Clearing	6-4
CALLER ID SECURITY	6-4
ID Numbers	6-5
Wild Card Characters	6-5
Entering ID Numbers	6-6
Network Verification of Caller ID Information	6-7
Chapter 7 Flexible Calling	
GENERAL	7-1
CALL WAITING	7-1
CONFERENCE CALLING	7-2
MESSAGE WAITING	7-3
FLEXIBLE CALLING FOR PACIFIC BELL CUSTOMERS	7-3

Chapter 8 Asynchronous Inverse Multiplexing Protocol	
GENERAL	8-1
CONFIGURATION VIA AT COMMANDS	8-1
PLACING AN AIMUX BONDING CALL	8-2
DISCONNECTING AN AIMUX CALL	8-3
Chapter 9 Point-to-Point Protocol	
GENERAL	9-1
DYNAMIC CHANNEL ALLOCATION (DCA)	9-1
CONFIGURATION USING AT COMMANDS	9-2
PLACING A PPP CALL	9-3
DISCONNECTING A PPP CALL	9-4
AUTHENTICATION PROTOCOLS (PAP & CHAP)	9-4
Chapter 10 Synchronous Operation	
SYNCHRONOUS MODES	10-1
Synchronous Mode 1: Sync Pause Mode	10-1
Synchronous Mode 2: Dial Stored Number Mode	10-2
V.25bis Dialer Synchronous Mode	10-2
Chapter 11 BONDING Protocol	
GENERAL	11-1
BONDING ON THE BITSURFR PRO	11-1
CONFIGURATION USING AT COMMANDS	11-1
PLACING A BONDING CALL	11-2
DISCONNECTING A BONDING CALL	11-3
Chapter 12 V.25bis Dialer Operation	
GENERAL	12-1
SELECTING V.25BIS	12-1
OPERATION IN V.25BIS MODE	12-2
REACTIVATING THE AT COMMAND PROCESSOR	12-2
DTE INTERFACE PINS	12-2
DTR Pin Operation	12-2
DCD Pin Operation	12-3
CTS Pin Operation	12-3
DSR Pin Operation	12-3
COMMAND MESSAGES	12-3

INDICATION MESSAGES	12-3
RESPONSE MESSAGES	12-4
Chapter 13 Using Softloads to Upgrade the BitSURFR Pro	
GENERAL	13-1
SOFTLOAD USING ISDN SURFR SETUP FOR	
WINDOWS	13-2
SOFTLOAD USING THE DOS SOFTLOAD UTILITY	13-2
SOFTLOAD USING A COMMUNICATIONS PACKAGE ...	13-3
Set/Display Softload Password	13-3
Request Softload Product Version Information	13-4
Initiate Software Download	13-4
A Typical Softload Session	13-6
SOFTLOAD FAILURE	13-8
Canceling Softload Before a File Transfer has been Started .	13-8
Interrupted File Transfer	13-8
If a Softload Attempt Fails	13-9
If BitSURFR Pro Does Not Respond After a Softload	
Attempt	13-9
Chapter 14 Troubleshooting Guide	
GENERAL	14-1
BEFORE YOU CONTACT MOTOROLA	14-9
Chapter 15 Test Mode Operation	
COMMUNICATION DIAGNOSTICS	15-1
Local Terminal Loopback	15-1
Local Loopback Test	15-2
Digital Loopback	15-3
Bilateral Loopback Test	15-5
Appendix A Specifications	
Appendix B Ordering ISDN	
GENERAL	B-1
ISDN ORDERING CODES	B-1
CHOOSING AN ISDN ORDERING CODE	B-1
ORDERING ISDN USING ORDERING CODES	B-2
ORDERING ISDN USING ALTERNATE METHOD	B-3

Table of Contents

Appendix C AT Command Set

Appendix D Quick Setup Factory Profiles

Factory Profile #0 (Asynchronous V.120 Operation)	D-1
Factory Profile #1 (Async to Sync PPP, Single-Link)	D-2
Factory Profile #2 (AIMux)	D-3
Factory Profile #3 (V.25bis Synchronous)	D-4

Appendix E Interfaces

ISDN INTERFACE	E-1
DTE INTERFACE	E-2
POTS PORT INTERFACE	E-3

Appendix F LocalMenu

GENERAL	F-1
LOCALMENU	F-3
Incoming Data Calls While Using LocalMenu	F-10

Glossary

Index

Service and Support