## **Contents**

Notational Conventions         v           Related Publications         v           Service Information         vi           Symbol Support Center         vi           Chapter 1. The LS 4000 Scanner         v           Scanning Made Easy         1-1           Chapter 2. Set Up         2-1           Unpacking         2-1           Cables         2-1           Installing the Cable         2-1           Switching Cables         2-3           Power Options         2-3           Battery Box Operation         2-4           Changing the Battery         2-4           Recharging a Nickel-Cadmium Battery         2-4           Connecting to a Host         2-5           RS-232C         2-5           For external power operation with single-piece cable         2-5           For battery operation:         2-6           IBM 468X/9X         2-7           For direct host power operation (LS 4005 only):         2-7           Wand Emulation, OCIA, OCR, Keyboard Wedges         2-10           Chapter 3. Scanning         3-2           Ready, Test, Scan         3-1           Aliming         3-2           Scan the Entire Symbol         3-2	<b>About This Manual</b>
Related Publications Service Information Symbol Support Center Vi  Chapter 1. The LS 4000 Scanner Scanning Made Easy 1-1  Chapter 2. Set Up Unpacking Unpacking Cables 1. Installing the Cable Switching Cables 2-3 Switching Cables 2-3 Battery Box Operation Changing the Battery Recharging a Nickel-Cadmium Battery 2-4 Recharging a Nickel-Cadmium Battery 2-5 For external power operation with single-piece cable For battery operation: 1-6 IBM 468X/9X 1-7 For direct host power operation (LS 4005 only): 2-7 Wand Emulation, OCIA, OCR, Keyboard Wedges 2-1  Chapter 3. Scanning Ready, Test, Scan 3-1 Aiming Scan the Entire Symbol 3-2 Hold at an Angle 3-3	Notational Conventions
Service Information       vi         Symbol Support Center       vi         Chapter 1. The LS 4000 Scanner       1-1         Canning Made Easy       1-1         Chapter 2. Set Up       2-1         Unpacking       2-1         Cables       2-1         Installing the Cable       2-1         Switching Cables       2-3         Power Options       2-3         Battery Box Operation       2-4         Changing the Battery       2-4         Recharging a Nickel-Cadmium Battery       2-4         Connecting to a Host       2-5         FS-232C       2-5         For external power operation with single-piece cable       2-5         For battery operation:       2-6         IBM 468X/9X       2-7         For direct host power operation (LS 4005 only):       2-7         Wand Emulation, OCIA, OCR, Keyboard Wedges       2-10         Chapter 3. Scanning       3-2         Ready, Test, Scan       3-1         Aiming       3-2         Scan the Entire Symbol       3-2         Hold at an Angle       3-3	
Symbol Support Center.       vii         Chapter 1. The LS 4000 Scanner         Scanning Made Easy       1-1         Chapter 2. Set Up         Unpacking.       2-1         Cables.       2-1         Installing the Cable       2-1         Switching Cables       2-3         Power Options       2-3         Battery Box Operation       2-4         Changing the Battery       2-4         Recharging a Nickel-Cadmium Battery       2-4         Connecting to a Host       2-5         RS-232C       2-5         For external power operation with single-piece cable       2-5         For battery operation:       2-6         IBM 468X/9X       2-7         For direct host power operation (LS 4005 only):       2-7         Wand Emulation, OCIA, OCR, Keyboard Wedges       2-10         Chapter 3. Scanning         Ready, Test, Scan       3-1         Alming       3-2         Scan the Entire Symbol       3-2         Hold at an Angle       3-3	
Chapter 2. Set Up         Unpacking.       2-1         Cables.       2-1         Installing the Cable       2-1         Switching Cables       2-3         Power Options       2-4         Battery Box Operation       2-4         Changing the Battery       2-4         Recharging a Nickel-Cadmium Battery       2-4         Connecting to a Host       2-5         RS-232C       2-5         For external power operation with single-piece cable       2-5         For battery operation:       2-6         IBM 468X/9X       2-7         For direct host power operation (LS 4005 only):       2-7         Wand Emulation, OCIA, OCR, Keyboard Wedges       2-10         Chapter 3. Scanning       3-1         Ready, Test, Scan       3-1         Aiming       3-2         Scan the Entire Symbol       3-2         Hold at an Angle       3-3	Symbol Support Centervi
Chapter 2. Set Up         Unpacking.       2-1         Cables.       2-1         Installing the Cable       2-1         Switching Cables       2-3         Power Options       2-4         Battery Box Operation       2-4         Changing the Battery       2-4         Recharging a Nickel-Cadmium Battery       2-4         Connecting to a Host       2-5         RS-232C       2-5         For external power operation with single-piece cable       2-5         For battery operation:       2-6         IBM 468X/9X       2-7         For direct host power operation (LS 4005 only):       2-7         Wand Emulation, OCIA, OCR, Keyboard Wedges       2-10         Chapter 3. Scanning       3-1         Ready, Test, Scan       3-1         Aiming       3-2         Scan the Entire Symbol       3-2         Hold at an Angle       3-3	Chapter 1. The LS 4000 Scanner
Unpacking.       2-1         Cables.       2-1         Installing the Cable       2-1         Switching Cables       2-3         Power Options       2-3         Battery Box Operation       2-4         Changing the Battery       2-4         Recharging a Nickel-Cadmium Battery       2-4         Connecting to a Host       2-5         RS-232C       2-5         For external power operation with single-piece cable       2-5         For battery operation:       2-6         IBM 468X/9X       2-7         For direct host power operation (LS 4005 only):       2-7         Wand Emulation, OCIA, OCR, Keyboard Wedges       2-10         Chapter 3. Scanning       3-1         Ready, Test, Scan       3-1         Aiming       3-2         Scan the Entire Symbol       3-2         Hold at an Angle       3-3	
Cables       2-1         Installing the Cable       2-1         Switching Cables       2-5         Power Options       2-5         Battery Box Operation       2-4         Changing the Battery       2-4         Recharging a Nickel-Cadmium Battery       2-4         Connecting to a Host       2-5         RS-232C       2-5         For external power operation with single-piece cable       2-5         For battery operation:       2-6         IBM 468X/9X       2-7         For direct host power operation (LS 4005 only):       2-7         Wand Emulation, OCIA, OCR, Keyboard Wedges       2-10         Chapter 3. Scanning       3-1         Ready, Test, Scan       3-1         Aiming       3-2         Scan the Entire Symbol       3-2         Hold at an Angle       3-3	Chapter 2. Set Up
Installing the Cable       2-1         Switching Cables       2-3         Power Options       2-3         Battery Box Operation       2-4         Changing the Battery       2-4         Recharging a Nickel-Cadmium Battery       2-4         Connecting to a Host       2-5         RS-232C       2-5         For external power operation with single-piece cable       2-5         For battery operation:       2-6         IBM 468X/9X       2-7         For direct host power operation (LS 4005 only):       2-7         Wand Emulation, OCIA, OCR, Keyboard Wedges       2-10         Chapter 3. Scanning       3-1         Ready, Test, Scan       3-1         Aiming       3-2         Scan the Entire Symbol       3-2         Hold at an Angle       3-3	Unpacking. 2-
Switching Cables       2-3         Power Options       2-3         Battery Box Operation       2-4         Changing the Battery       2-4         Recharging a Nickel-Cadmium Battery       2-4         Connecting to a Host       2-5         RS-232C       2-5         For external power operation with single-piece cable       2-5         For battery operation:       2-6         IBM 468X/9X       2-7         For direct host power operation (LS 4005 only):       2-7         Wand Emulation, OCIA, OCR, Keyboard Wedges       2-10         Chapter 3. Scanning       3-1         Ready, Test, Scan       3-1         Aiming       3-2         Scan the Entire Symbol       3-2         Hold at an Angle       3-3	Cables
Power Options       2-3         Battery Box Operation       2-4         Changing the Battery       2-4         Recharging a Nickel-Cadmium Battery       2-5         Connecting to a Host       2-5         RS-232C       2-5         For external power operation with single-piece cable       2-5         For battery operation:       2-6         IBM 468X/9X       2-7         For direct host power operation (LS 4005 only):       2-7         Wand Emulation, OCIA, OCR, Keyboard Wedges       2-10         Chapter 3. Scanning       3-1         Ready, Test, Scan       3-1         Aiming       3-2         Scan the Entire Symbol       3-2         Hold at an Angle       3-3	Installing the Cable
Battery Box Operation	Switching Cables
Battery Box Operation	
Recharging a Nickel-Cadmium Battery       2-4         Connecting to a Host       2-5         RS-232C       2-5         For external power operation with single-piece cable       2-5         For battery operation:       2-6         IBM 468X/9X       2-7         For direct host power operation (LS 4005 only):       2-7         Wand Emulation, OCIA, OCR, Keyboard Wedges       2-10         Chapter 3. Scanning       3-1         Ready, Test, Scan       3-1         Aiming       3-2         Scan the Entire Symbol       3-2         Hold at an Angle       3-3	·
Recharging a Nickel-Cadmium Battery       2-4         Connecting to a Host       2-5         RS-232C       2-5         For external power operation with single-piece cable       2-5         For battery operation:       2-6         IBM 468X/9X       2-7         For direct host power operation (LS 4005 only):       2-7         Wand Emulation, OCIA, OCR, Keyboard Wedges       2-10         Chapter 3. Scanning       3-1         Ready, Test, Scan       3-1         Aiming       3-2         Scan the Entire Symbol       3-2         Hold at an Angle       3-3	Changing the Battery2
RS-232C . 2-5 For external power operation with single-piece cable . 2-5 For battery operation: 2-6 IBM 468X/9X . 2-7 For direct host power operation (LS 4005 only): 2-7 Wand Emulation, OCIA, OCR, Keyboard Wedges . 2-10  Chapter 3. Scanning Ready, Test, Scan . 3-1 Aiming . 3-2 Scan the Entire Symbol . 3-2 Hold at an Angle . 3-3	
For external power operation with single-piece cable For battery operation:  IBM 468X/9X For direct host power operation (LS 4005 only): Wand Emulation, OCIA, OCR, Keyboard Wedges  Chapter 3. Scanning Ready, Test, Scan Aiming Scan the Entire Symbol Hold at an Angle  2-5 For battery operation with single-piece cable 2-6 For battery operation: 2-6 For battery operation: 2-7 For direct host power operation (LS 4005 only): 2-7 For direct host power operation (LS 4005 only): 3-7 For direct host power operation (LS 4005 only): 3-1 Chapter 3. Scanning 3-1 Scan the Entire Symbol 3-2 Hold at an Angle	Connecting to a Host2-5
For battery operation:  IBM 468X/9X For direct host power operation (LS 4005 only):  Wand Emulation, OCIA, OCR, Keyboard Wedges  Chapter 3. Scanning  Ready, Test, Scan Aiming Scan the Entire Symbol Hold at an Angle  3-2 3-3 3-3	RS-232C
IBM 468X/9X       2-7         For direct host power operation (LS 4005 only):       2-7         Wand Emulation, OCIA, OCR, Keyboard Wedges       2-10         Chapter 3. Scanning       3-1         Ready, Test, Scan       3-1         Aiming       3-2         Scan the Entire Symbol       3-2         Hold at an Angle       3-3	For external power operation with single-piece cable
For direct host power operation (LS 4005 only): 2-7 Wand Emulation, OCIA, OCR, Keyboard Wedges 2-10  Chapter 3. Scanning  Ready, Test, Scan 3-1 Aiming 3-2 Scan the Entire Symbol 3-2 Hold at an Angle 3-3	For battery operation:
Wand Emulation, OCIA, OCR, Keyboard Wedges       2-10         Chapter 3. Scanning       3-1         Ready, Test, Scan       3-2         Aiming       3-2         Scan the Entire Symbol       3-2         Hold at an Angle       3-3	IBM 468X/9X 2-7
Wand Emulation, OCIA, OCR, Keyboard Wedges       2-10         Chapter 3. Scanning       3-1         Ready, Test, Scan       3-2         Aiming       3-2         Scan the Entire Symbol       3-2         Hold at an Angle       3-3	For direct host power operation (LS 4005 only):
Ready, Test, Scan	
Ready, Test, Scan	Chapter 3. Scanning
Aiming	
Scan the Entire Symbol	
Hold at an Angle	
	· · · · · · · · · · · · · · · · · · ·
What If 3-5	

Chapter 4. Maintenance & Specifications
Maintenance
Accessories
Required Accessories
Optional Accessories
Technical Specifications
Pin-outs
Beeper Indications
Chapter 5. Parameter Menus
Set Default Parameter
Host Type
IBM 46XX Host Types
RS-232C Host Types
Beeper Tone
Beeper Volume
Laser On Time
Power Mode
ScanStand Time-out. 5-16
Beep After Good Decode 5-17
Transmit "No Read" Message 5-18
Linear Code Type Security Level
Bi-directional Redundancy 5-22
Enable/Disable UPC-E/UPC-A
Enable/Disable EAN-8/EAN-135-24
Enable/Disable Bookland EAN5-25
Decode UPC/EAN Supplementals 5-26
Decode UPC/EAN Supplemental Redundancy
Transmit UPC-A/UPC-E Check Digit
UPC-A Preamble
UPC-E Preamble5-30
Convert UPC-E to UPC-A5-31
EAN Zero Extend. 5-32
UPC/EAN Security Level5-33
UPC/EAN Coupon Code
Enable/Disable Code 128
Enable/Disable UCC/EAN-128
Lengths for Code 128
Enable/Disable Code 39
Enable / Disable Code 39
Set Lengths for Code 39
Code 39 Check Digit Verification
Transmit Code 30 Check Digit 5-1/

Enable/Disable Code 39 Full ASCII
Code 39 Buffering (Scan & Store)
Buffer Data 5-47
Clear Transmission Buffer 5-47
Transmit Buffer         5-48
Overfilling Transmission Buffer
Attempt to Transmit an Empty Buffer 5-48
Enable / Disable Code 93
Set Lengths for Code 93
Enable/Disable Interleaved 2 of 5
Set Lengths for Interleaved 2 of 5
I 2 of 5 Check Digit Verification
Transmit I 2 of 5 Check Digit
Convert I 2 of 5 to EAN-13
Enable/Disable Discrete 2 of 5 5-58
Set Lengths for Discrete 2 of 5
Enable/Disable Codabar
Set Lengths for Codabar
CLSI Editing 5-64
NOTIS Editing 5-65
Enable/Disable MSI Plessey
Set Lengths for MSI Plessey
MSI Plessey Check Digits
Transmit MSI Plessey Check Digit 5-70
MSI Plessey Check Digit Algorithm
Transmit Code ID Character 5-72
Pause Duration
Prefix/Suffix Values
Scan Data Transmission Format 5-76
RS-232C Parameters
Baud Rate 5-78
Parity
Check Receive Errors. 5-82
Hardware Handshaking
Software Handshaking
None
ACK/NAK
ENQ
ACK/NAK with ENQ. 5-87
XON/XOFF. 5-88
Host Serial Response Time-out
RTS Line State. 5-90
Stop Bit Select
A SCII Format

Beep on <bel> Intercharacter Delay Numeric Bar Codes Cancel</bel>	 	 5-94
Appendix A UCC/EAN-128 AIM Code Identifiers	 	 A-2 A-4
Glossary		
Index		