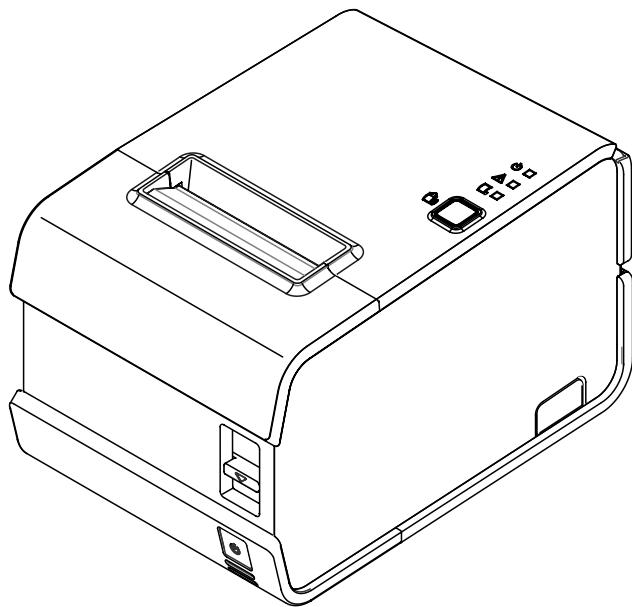




SERVICE MANUAL

**POS PRINTER
ELLIX 20**



All specifications are subject to change without notice.

CONTENTS

CHAPTER 1 PRECAUTION STATEMENT	1-1
1.1 Safety Precaution.....	1-2
1.2 Servicing Precaution	1-3
1.3 Precaution for Electrostatic Sensitive Device	1-4
1.4 Operational Precaution	1-4
CHAPTER 2 PRODUCT SPECIFICATION	2-1
2.1 General Specification.....	2-2
2.2 Appearance.....	2-3
2.2.1 Printer Dimension.....	2-3
2.2.2 AC Adapter Dimension.....	2-3
2.2.3 Feature Location	2-4
2.3 Thermal Printer Specification.....	2-4
2.3.1 Printer Specification	2-4
2.3.2 Character Specification	2-5
2.3.3 Paper Specification	2-5
2.3.4 Reliability and Environment Specification	2-5
2.3.5 Printable Area.....	2-6
2.3.6 TPH Specification.....	2-7
2.3.7 TPH Maximum Condition	2-7
2.3.8 Other Component Specification	2-7
2.4 SMPS Specification	2-8
2.4.1 SMPS Specification.....	2-8
2.4.2 SMPS Output Connector.....	2-8
2.5 Interface Specification.....	2-9
2.5.1 RS-232C Serial Interface	2-9
2.5.1.1 RS-232C Specification.....	2-9
2.5.1.2 RS-232C Signal Description.....	2-9
2.5.1.3 RS-232C Interface Cable.....	2-10
2.5.2 RS-485 Serial Interface	2-11
2.5.2.1 RS-485 Signal Description.....	2-11
2.5.2.2 RS-485 Interface Cable	2-11

2.5.3 IEEE-1284 Parallel Interface	2-12
2.5.3.1 Parallel Interface Cable Pin Connection	2-12
2.5.3.2 Parallel Signal Description	2-12
2.5.4 USB Interface	2-14
2.5.4.1 USB Specification	2-14
2.5.4.2 USB Signal Description	2-14
2.5.4.3 USB Interface Cable	2-14
2.5.5 Ethernet Interface	2-15
2.5.5.1 Ethernet Specification	2-15
2.5.5.2 Ethernet Interface Cable	2-15
2.6 Drawer Kick-Out Specification	2-16
2.6.1 Drawer Signal Description	2-16
2.6.2 Drawer Interface Cable	2-16
CHAPTER 3 INSTALLATION AND OPERATION	3-1
3.1 Installation	3-2
3.1.1 AC Adapter, Interface and Drawer Cable Installation	3-2
3.1.2 Paper Roll Installation	3-4
3.1.3 Partition Installation	3-5
3.1.4 Wall Mount Installation	3-6
3.2 Operation	3-7
3.2.1 Setting the DIP Switch.....	3-7
3.2.1.1 DIP Switch Setting 1 Function	3-7
3.2.1.2 Baud Rate Selection	3-8
3.2.1.3 DIP Switch Setting 2 Function	3-8
3.2.1.4 Printing Density Selection.....	3-8
3.2.2 Hexadecimal Dumping	3-9
3.2.3 The Self Test Mode	3-10
3.2.4 Control Command	3-12
CHAPTER 4 DISASSEMBLY AND ASSEMBLY	4-1
4.1 Case-Lower Block	4-2
4.2 Case-Upper Block	4-4
4.3 Printer Block	4-7

CHAPTER 5 MAINTENANCE AND ADJUSTMENT	5-1
5.1 Adjustment	5-2
5.1.1 Adjustment Near-End Sensor	5-2
5.1.2 Paper Jam	5-4
5.2 Maintenance.....	5-5
5.2.1 Cleaning Head.....	5-5
CHAPTER 6 REFERENCE INFORMATION	6-1
6.1 SDRAM (K4S641632A) Diagram & Description	6-2
6.2 NOR FLASH MEMORY (A29L800UV) Diagram & Description	6-3
6.3 MOTOR DRIVER IC (MC34920EI) Diagram & Description.....	6-4
6.4 USB TO SERIAL IC (CY7C64013) Diagram & Description.....	6-5
6.5 Other ICs (SN74ACT245 / SN74LV14 / LM393D) Diagram & Description.....	6-6
6.6 Other ICs (74HC74 / 34063 / MAX232) Diagram & Description.....	6-7
6.7 Other ICs and TR, DIODE Diagram.....	6-8
CHAPTER 7 TROUBLESHOOTING	7-1
7.1 Power Problem.....	7-2
7.1.1 Verifying the Power Supply	7-2
7.1.2 Verifying the Main B'D Power Line.....	7-3
7.1.3 Verifying the LED B'D Power Line	7-4
7.1.4 Verifying the TPH Logic Power Line	7-4
7.1.5 Verifying the I/F B'D Power Line	7-4
7.2 System Problem.....	7-5
7.2.1 System Clock problem	7-5
7.2.2 System Signal problem	7-5
7.3 Thermal Printer and Feed Motor problem.....	7-6
7.3.1 TPH problem	7-6
7.3.2 Step Motor and Auto Cutter problem	7-7
7.4 LED B'D and Sensor Problem	7-8
7.5 Drawer Problem	7-9
7.6 RS-232C Interface Problem	7-9
7.7 RS-485 Interface Problem	7-10
7.8 IEEE-1284 Parallel Interface Problem	7-11
7.9 USB Interface Problem	7-12
7.10 Ethernet Interface problem	7-13

CHAPTER 8 EXPLODED VIEWS AND PARTS LIST	8-1
8.1 Exploded View	8-2
8.2 Parts List	8-3
 CHAPTER 9 PCB LAYOUT AND PARTS LIST	9-1
9.1 Main PCB	9-2
9.1.1 Layout.....	9-2
9.1.2 Parts List.....	9-3
9.2 LED PCB.....	9-6
9.2.1 Layout.....	9-6
9.2.2 Parts List.....	9-6
9.3 P-END PCB.....	9-7
9.3.1 Layout.....	9-7
9.3.2 Parts List.....	9-7
9.4 P-NEAR END PCB	9-7
9.4.1 Layout.....	9-7
9.4.2 Parts List.....	9-7
9.5 POWER PCB	9-8
9.5.1 Layout.....	9-8
9.5.2 Parts List.....	9-8
9.6 RS-232C Serial Interface PCB.....	9-9
9.6.1 Layout.....	9-9
9.6.2 Parts List.....	9-9
9.7 RS-485 Serial Interface PCB	9-10
9.7.1 Layout.....	9-10
9.7.2 Parts List.....	9-10
9.8 IEEE-1284 Parallel Interface PCB	9-11
9.8.1 Layout.....	9-11
9.8.2 Parts List.....	9-11
9.9 USB Interface PCB	9-12
9.9.1 Layout.....	9-12
9.9.2 Parts List.....	9-12
9.10 Ethernet PCB	9-13
9.10.1 Layout.....	9-13
9.10.2 Parts List.....	9-13

CHAPTER 10	BLOCK DIAGRAM	10-1
10.1 ELLIX 20		10-2
CHAPTER 11	WIRING DIAGRAM	11-1
11.1 Main PCB Block Diagram		11-2
11.2 Main PCB Wiring Connection		11-2
11.3 LED PCB Block Diagram		11-4
11.4 LED PCB Wiring Connection		11-4
11.5 POWER PCB Block Diagram		11-6
11.6 POWER PCB Wiring Connection		11-6
CHAPTER 12	SCHEMATIC DIAGRAM	12-1
12.1 Main PCB CPU Part		12-2
12.2 Main PCB Memory Part		12-3
12.3 Main PCB Motor Driver Part		12-4
12.4 Main PCB TPH Part		12-5
12.5 Main PCB Sensing Part		12-6
12.6 Main PCB Drawer / Buzzer / Reset Part		12-7
12.7 Main PCB Power Part		12-8
12.8 Main PCB Interface Part		12-9
12.9 LED PCB Circuit		12-10
12.10 Power PCB Circuit		12-11
12.11 Paper End PCB Circuit		12-12
12.12 RS-232C I/F PCB Circuit		12-13
12.13 RS-485 I/F PCB Circuit		12-14
12.14 IEEE-1284 Parallel I/F PCB Circuit		12-15
12.15 USB I/F PCB Circuit		12-16
12.16 Ethernet I/F PCB Circuit		12-17

This is a “Table of Contents preview” for quality assurance

The full manual can be found at <http://the-checkout-tech.com/estore/catalog/>

We also offer free downloads, a free keyboard layout designer, cable diagrams, free help and support.

<http://the-checkout-tech.com> : the biggest supplier of cash register and scale manuals on the net