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Toshiba B-EV4 Series Manual

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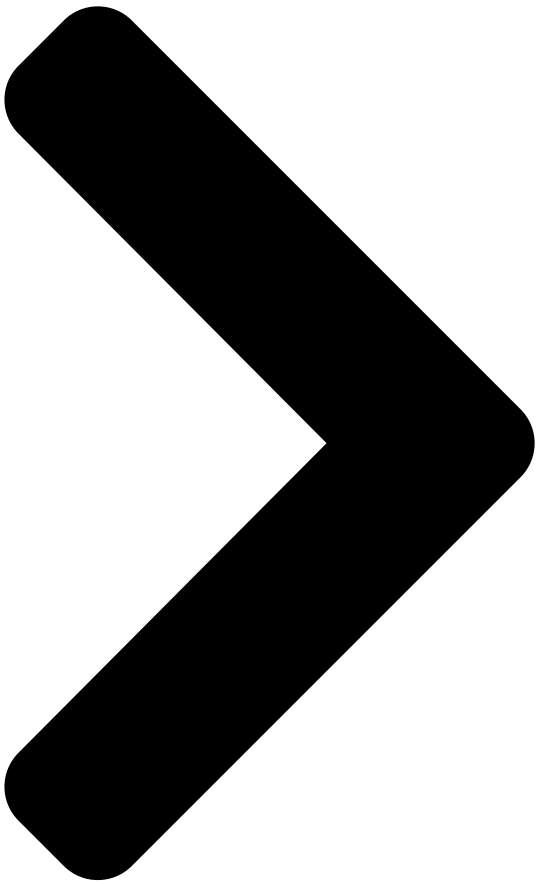

TOSHIBA Bar Code Printer

B-EV4 Series

First Edition:
Second Edition:
Third Edition:
October 22, 2008

February 13, 2009
April 15, 2009

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Barcode Reader Toshiba B-452-R Printer Driver Operating Manual

(105 pages)

Printer Toshiba B-EV4 Series Manual

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Barcode Reader Toshiba B-EV4D SERIES Owner's Manual

Toshiba barcode printer owner's manual (46 pages)

Barcode Reader Toshiba B-EV4T SERIES Owner's Manual

Toshiba barcode printer owner's manual (48 pages)

Barcode Reader Toshiba B-EV4D-GS24-CUS-R Owner's Manual

(43 pages)

Barcode Reader Toshiba B-EX Series Key Operation Specification

(190 pages)

Barcode Reader Toshiba B-EX4T1 Series Owner's Manual

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B-ex4 series (207 pages)

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Barcode Reader Toshiba B-EX6T1 Owner's Manual

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Barcode Reader Toshiba B-EX4T3 Series Owner's Manual

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Summary of Contents for Toshiba B-EV4 Series

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Page 2: Table Of Contents

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DOWNLOADING MODE .....4.1.2 AUTO CALL CANCELLATION.....4.1.3 PARAMETER CLEARANCE .....

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Page 4 11.7 TrueType FONT.....234 12. BAR CODE TABLE.....241 13. DRAWING OF BAR CODE DATA..... 254 14. AUTOMATIC ADDING OF START/STOP CODE .....275 Copyright © 2008 by TOSHIBA TEC CORPORATION All Rights Reserved 570 Ohito,Izunokuni-shi,Shizuoka-ken,JAPAN...

Page 5: Scope

1. SCOPE This specification applies to the external equipment interface for use with the models, B-EV4 series general-purpose thermal label/tag printers. 2. GENERAL DESCRIPTION The external equipment interface connects a printer to the host computer through a serial interface (RS-232C), parallel interface (Centronics), USB, or a network for making various settings and printing labels.

Page 6: Interface

3. INTERFACE 3.1 SERIAL INTERFACE (1) Type : Conforming to RS-232C (2) Mode of Communication : Full duplex (3) Transmission Speed : 2400 bps 4800 bps 9600 bps 19200 bps 38400 bps 57600 bps 115200 bps (4) Synchronization Method : Start-stop synchronization (5) Start Bit : 1 bit (6) Stop Bit...

Page 7 (13) Transmission Control : XON/XOFF (DC1/DC3) Protocol READY/BUSY (DTR) Protocol XON/XOFF (DC1/DC3) Protocol + READY/BUSY (DTR) Protocol RTS Protocol XON/XOFF (DC1/DC3) Protocol When initialized after power on, this printer becomes ready to receive data and sends an XON code (11H). (Transmission or non-transmission of the XON code is selectable by means of the parameter setting.) The printer sends an XOFF code (13H) when the blank positions in the receive buffer become 1K bytes or less.

Page 8 XON/XOFF (DC1/DC3) Protocol + READY/BUSY (DTR) Protocol When initialized after power on, this printer becomes ready to receive data and turns the DTR signal to “High” level (READY). The printer also sends an XON code (11H). When the blank positions in the receive buffer are 1K bytes or less, the printer turns the DTR signal to “Low”...

Page 9 (14) RS-232 Interface pin configuration Host Function 9 Pin 25 Pin 9 Pin Printer Function (15) Connector Pin Assignment and Signal Description Signal Pin No. Function Signal Direction Name Provide the power of 5V Printer → Transmit data ← Host Receive data ←...

Page 10: Parallel Interface

3.2 PARALLEL INTERFACE (1) Type : Centronics (2) Mode : Conforms to IEEE1284 compatible mode (3) Data Input Method : Parallel 8 bits (DATA1 ~ 8) (4) Control Signals : ACK, BUSY, SELECT, DATA • STB, FAULT, PE, INIT (Not used), AUTOFD (Not used), SELECTIN (Not used) (5) Data Input Code : ASCII code...

Page 11 (8) Connector Pin Diagram: Pin No. Signal Name Pin No. Signal Name DATA • STB TWISTED PAIR GND (PIN1) DATA 1 TWISTED PAIR GND (PIN2) DATA 2 TWISTED PAIR GND (PIN3) DATA 3 TWISTED PAIR GND (PIN4) DATA 4 TWISTED PAIR GND (PIN5) DATA 5 TWISTED PAIR GND (PIN6) DATA 6...

Page 12: Usb Interface

3.3 USB INTERFACE (1) Standard: Conforming to USB Standard Rev. 2.0 (2) Data Transfer Type: Control transfer, Bulk transfer (3) Transfer Rate: Full speed (12Mbps) (4) Receive Buffer Size: 4K bytes (5) Transfer Control Method: Status with the receive buffer free space information is sent in response to a read request immediately after [ESC][WB][LF][NUL], as described below.

Page 13: Key Operation Functions

4. KEY OPERATION FUNCTIONS 4.1 SYSTEM MODE (POWER UP WITH KEY PRESSED) There are 6

LED light indications with following sequence. (1) Solid green followed by flashing green indicates the printer has entered into system mode. (2) Flashing red (3) Flashing orange (4) Solid orange (5) Solid red (6) Solid green...

Page 14 [Self-test printing] a. Printing program version & check sum b. Printing various parameters Parameter Initial value Tone adjustment Feed adjustment +0.0 mm Cut position adjustment +0.0 mm Backfeed adjustment +0.0 mm Type of character code PC-850 Font of zero 0 (without slash) Communication speed 9600 bps Data length...

Page 15: On-Line Mode Functions

4.2 ONLINE MODE FUNCTIONS The online mode provides the following functions for issuing labels. (1) Issuing labels (by external equipment interface commands) (2) Paper feed (by the [FEED] key) (3) Pause (by pressing the [FEED] key while printing) (4) Error indication (5) Sensor selection Transmissive sensor, reflective sensor and non-sensor mode are available.

Page 16: Transmission Sequence

5. TRANSMISSION SEQUENCE This section describes the outline of the transmission sequence. 5.1 INITIALIZATION Writable characters, logo, and PC interface commands must be stored before the label issue operation. (1) Storing writable characters and logo Power ON <New> (Add/change) [ESC] J1: Formats the flash memory on the Flash Memory memory board.

Page 17 (2) Storing PC interface commands Power ON <New> (Add/change) [ESC] J1: Formats the flash memory on the Flash Memory memory board. Format Command [ESC] XO: Declares the start of saving PC interface Save Start Command commands. [ESC] D: Sets the label size. Label Size Set Command Position Fine [ESC] AX: Adjusts the feed length, cut position, and...

Page 18: Label Issue Operation

5.2 LABEL ISSUE OPERATION An example of the label issue operation is described below. (1) Where the Saved Data Call Command is not used: Power ON Place paper [ESC] D: Sets the label size. Label Size Set Command Position Fine [ESC] AX: Adjusts the feed length, cut position, and Adjust Command back feed length.

Page 19 (2) Where the Saved Data Call Command is used: Power ON [ESC] XQ: Calls the label format stored in the flash Place paper memory. Saved Data Call Command Feed Command [ESC] T: Feeds one sheet of paper and aligns it with the first printing position.

Page 20: Interface Commands

6. INTERFACE COMMANDS 6.1 OUTLINE OF COMMANDS (1) Format of Interface command Command & Data LF NUL The length from [ESC] to [LF] [NUL] must be as specified by each command. There are the following three kinds of control codes: ESC (1BH), LF (0AH), NUL (00H) (7BH), | (7CH), }...

Page 21 NOTES: 1. If a command is not recognized as a command, it is ignored. e.g.) [ESC] H, [ESC]AA, and so on. 2. If the number of digits of the parameter is specified, when the number of in put digits does not match the specified number of digits, a command error occurs.

Page 22: List Of Commands

6.2 LIST OF COMMANDS (1) Commands related to setting Label Size Set Command [ESC] D.....20 Duplicate Printing Area Set Command [ESC] XZ.....129 (2) Commands related to fine adjustment Position Fine Adjust Command [ESC] AX.....24 Print Density Fine Adjust Command [ESC] AY.....

Page 23 (12) Commands related to printer information Printer Information Store Command [ESC] IG.....172 Printer Information Request Command [ESC] IR.....173 (13) Commands related to TCP/IP setting IP Address Set Command [ESC] IP..... .. 174 Socket Communication Port Set Command [ESC] IS..... .. 175 DHCP Function Set Command [ESC] IH.....

Page 24: Commands For Creating Application

6.3 COMMANDS FOR CREATING APPLICATION 6.3.1 LABEL SIZE SET COMMAND [ESC] D Function Sets the size of a label or tag. Format [ESC] Daaaa, bbbb, cccc (,dddd) [LF] [NUL] Term aaaa:

Pitch length of the label or tag 4 and 5 digits (in 0.1 mm units) 4 digits: 203dpi Max.

Page 25 [Tags] Black mark Black mark (Back side of print) (Back side of print) Origin of coordinates (0, 0) Effective Effective pitch pitch print length print length Origin of coordinates Effective Effective (0, 0) print width print width Paper feed direction Paper feed direction [Print direction: Printing bottom first] [Printing direction: Printing top first]...

Page 26 [mm] Model 203 dpi model 300 dpi model Item Issue mode Batch Strip Cutter Batch Strip Cutter Thermal head dot density 8 dots/mm (203 dpi) 11.8 dots/mm (300 dpi) Thermal head width 105.7 A: Label/tag pitch Min. 25.4 25.4 25.4 25.4 Label Max.

Page 27 The tag rotation designation of the Issue Command ([ESC] XS) causes the origin of drawing coordinates to be origin in the case of “printing bottom first” and to be origin in the case of “printing top first”, as shown in the figure. The parameters must be as shown in the figure and table.

Page 28: Position Fine Adjust Command

6.3.2 POSITION FINE ADJUST COMMAND [ESC] AX Function Adjusts the feed value so that the label will be shifted forward or backward from the automatically set first print start position. Adjusts the cut position so that the label will be cut at a position shifted forward or backward from the automatically set cut position, or adjusts the strip position so that the label will be shifted forward or backward from the automatically set strip position.

Page 29 Explanation [Feed Length Fine Adjustment] (To finely adjust the feed for shifting backward or forward) 0.0 mm One label First print position +3.0 mm One label First print position -3.0 mm One label Paper feed direction First print position [Cut Position Fine Adjustment] (To finely adjust the cut position for shifting backward or forward) 0.0 mm Cut position...

Page 30 [Strip Position Fine Adjustment] 0.0 mm +3.0 mm -3.0 mm Printing in strip issue mode is stopped at the position where the distance from the middle point of the label-to-label gap to the 3 mm end of the strip shaft is 3 mm, since the label-to-label gap is 2 mm assumed to be 2 mm.

Page 31 Notes If the feed value fine adjustment, cut position (or strip position) fine adjustment or back feed value fine adjustment has been set in system mode (key operation on the printer), the fine adjustment value will be the fine adjustment in system mode. The max.

Page 32 Examples Cut issue 3.5 mm Preprinted 2.0 mm 2.0 mm Finely adjust the print position by +2.0 mm. Finely adjust the cut position by +3.5 mm. Finely adjust the back feed value by +1.0 mm. (3.0 - 2.0 = 1.0) 3.0 mm Paper feed [ESC] AX;...

Page 33: Print Density Fine Adjust Command

6.3.3 PRINT DENSITY FINE ADJUST COMMAND [ESC] AY Function Adjusts the automatically set print density. Format [ESC] AY; abb, c [LF] [NUL] Term Indicates whether to increase or decrease the density. +: Increase (darker) -: Decrease (lighter) Print density fine adjustment value 00 to 10 (in units of 1 step) Indicates the mode for fine adjustment, thermal transfer or direct thermal.

Page 34: Image Buffer Clear Command

6.3.4 IMAGE BUFFER CLEAR COMMAND [ESC] C Function Clears the image buffer for drawing characters, lines, bar codes, and graphics. Format [ESC] C [LF] [NUL] Explanation After changing the label size, the image buffer must be cleared. The increment/decrement designation (described later) is valid until the Image Buffer Clear Command is transmitted.

Page 35: Clear Area Command

6.3.5 CLEAR AREA COMMAND [ESC] XR Function Clears the designated area or reverses the white/black dot pattern in the designated area in the drawing area. Format [ESC] XR; aaaa, bbbb, cccc, dddd, e [LF] [NUL] Term aaaa: Designated area start point X-coordinate Fixed as 4 digits (in 0.1 mm units) bbbb: Designated area start point Y-coordinate...

Page 36 [Effective print area] [mm] Model 203 dpi 300 dpi Item Issue mode Batch Strip Cutter Batch Strip Cutter Min. Effective print width Max. 108± 0.2 105.7± 0.2 Min. 21.4 17.4

21.4 17.4 Label Effective print Max. 148.2 453.2 148.2 449.2 length Min.

Page 37: Line Format Command

6.3.6 LINE FORMAT COMMAND [ESC] LC Function Sets the line format and draws the line. Format [ESC] LC; aaaa, bbbb, cccc, dddd, e, f (, ggg) [LF] [NUL] Term aaaa: Start point X-coordinate Fixed as 4 digits (in 0.1 mm units) bbbb: Start point Y-coordinate 4 or 5 digits (in 0.1 mm units)

Page 38 [Line] (1) Horizontal line (In the case of |Y | = 0) Line width (2) Vertical line (In the case of |X | = 0) Line width | ≤ |Y (3) Slant line A (|X (4) Slant line B (|X | >...

Page 39 [Rectangle] (1) Radius of rounded corners = 000 or parameter omitted Line width Line width Line width Line width (2) Radius of rounded corners ≠ 000 Line width Radius Line width Notes In line designation, a horizontal line, vertical line, or slant line A/B is drawn according to the start and end point coordinates.

Page 40 Programming the radius of the rounded corner is effective only when the type of line is 1 (rectangle). When the type of line is 0, designation of the radius is ignored. When the type of line is 1, and the radius of the rounded corner is 000 or omitted, a rectangle is printed.

Page 41: Bit Map Font Format Command

6.3.7 BIT MAP FONT FORMAT COMMAND [ESC] PC Function Sets the format indicating on the label at which the bit map font is to be printed and how it is to be printed. Format [ESC] PCaaa; bbbb, cccc, d, e, ff (, ghh), ii, j (, Jkkll) (, Mm) (, nooooooooo) (, Zpp) (, Pq) (=rrr------rrr) [LF] [NUL] [ESC] PCaaa;...

Page 42 Courier (Medium) 15point 12point Courier (Bold) 18point 12point OCR-A 12point 12point OCR-B 12point 12point Kanji (16×16 dots) Kanji (24×24 dots) Kanji (32×32 dots) 01 (a): Writable character 1 (1×1 dot to 720×720 dots) 40 (a): Writable character 40 (1×1 dot to 720×720 dots) 51 (a): 2-byte code set writable character 1 (1×1 dot to 720×720 dots) 55 (a):...

Page 43 C (aa): Stroked out character aa: No. of dots from the character string area to the end of the stroke aa: 01 to 99 (in units of dots) * Descriptions in parentheses are omissible. (If omitted, it is character magnification (the larger one of horizontal or vertical magnifications) ×...

Page 44 rrr------rrr: Data string to be printed (Omissible) Max. 255 digits , ss , ss , ------, ss : Link field No. (Omissible) 01 to 99 (1 to 99 can be also used.) Up to 20 fields can be designated using commas. Explanation Character string number When drawing by the Data Command ([ESC] RC), the format designated by the...

Page 45 Horizontal magnification and vertical magnification Vertical Horizontal magnification magnification Horizontal Vertical magnification magnification [Relationship between drawing coordinates and magnification] Char. height × Vertical magnification Char. Enlarge height Point of origin Char. width Char. Width × Left offset Point of Point of Horizontal magnification Point of origin of...

Page 46 M: Presentation N: Letter Gothic O: Prestige Elite P: Prestige Elite Q: Courier R: Courier S: OCR-A T: OCR-B U: Kanji (16x16) V: Kanji (24x24) W: Kanji (32x32) Fine adjustment of character-to-character space If no character-to-character space is specified or the number of space dots between characters is 0, drawing will take place according to the horizontal spacing/proportional spacing determined for each character.

Page 47 Rotational angles of a character and character string Sample Origin 0° (00) 90° (11) 180° (22) 270° (33) (01) (12) (23) (30) 01, 12, 23, and 30 are available only to the font type of U, V, and W. Selection of character attribution No.

Page 48 Check digit to be attached When Modulus 10 or Modulus 43 is selected, the check digit of a data row is calculated and attached to the data row for drawing. When DBP Modulus 10 is selected, the check digit of a data row is calculated and only the check digit is drawn.

Page 49 (11) Zero suppression No. of zeros to be suppressed Data 0000 0000 0000 0A12 0123 0123 0123 Print 0000 0123 0123 The leading zero(s) in a data row is replaced by a space(s) according to the designated number of digits. However, if the number of digits to be

suppressed is greater than the data row, the data row will be drawn without zero suppression.

Page 50 (13) Data string to be printed Drawing data can be programmed by designating the number of digits after the symbol “=.” Up to 255 digits can be printed. If the number of digits exceeds 255, the excessive data will be discarded. For the character code table, refer to the character code table mentioned later.

Page 51 Notes The check digit attach, increment/decrement, and zero suppress processes are performed according to the following priority. If any of the conditions is improper, no drawing will take place. For example, the zero(s) is replaced by a space(s) as a result of zero suppression but the modulus 10 designated to be attached cannot be calculated.

Page 52 The Bit Map Font Format Command may be connected to the Outline Font Format Command when transmitted. [ESC] P C001; 0100, 0150, 1, 1, A, 00, B [LF] C002; 0350, 0180, 1, 1, A, 00, B [LF] C005; 0200, 0300, 25, 2, C, +05, 00, B, +0000000001 [LF] V01;...

Page 53 Examples Origin (0, 0) 12.5 Effective print area 30.0 S a m p l e 55.0 A B C D 20.0 mm 65.0 mm [ESC] C [LF] [NUL] [ESC] PC000; 0200, 0300, 1, 1, A, 00, B=ABCD [LF] [NUL] [ESC] PC001; 0200, 0125, 1, 1, C, 00, B [LF] [NUL] [ESC] PC002;...

Page 54 Origin (0, 0) Effective print area 30.0 55.0 S 0 0 1 20.0 mm 65.0 mm [ESC] C [LF] [NUL] [ESC] PC001; 0200, 0300, 1, 1, C, 00, B; 01, 02 [LF] [NUL] [ESC] PV01; 0650, 0550, 0200, 0150, B, 33, B; 02 [LF] [NUL] [ESC] XB01;...

Page 55: Outline Font Format Command

6.3.8 OUTLINE FONT FORMAT COMMAND [ESC] PV Function Sets the format to indicate the position on the label, at which the outline font is to be printed and how it is to be printed. Fonts other than TrueType font Format [ESC] PVaa;...

Page 56 Character attribution Black character W (aabb): Reverse character aa: No. of dots from the character string to the end of the black background in the horizontal direction. bb: No. of dots from the character string to the end of the black background in the vertical direction.

Page 57 Alignment (Omissible. If omitted, the alignment is set to left.) o: Designates the character position. 1: Left 2: Center 3: Right 4aaaa: Equal space aaaa: X direction of character string area 203dpi: 0050 to 1040 (in 0.1 mm units) 300dpi: 0050 to 1057 (in 0.1 mm units) ppp-----ppp: Data string to be printed (Omissible) Max.

Page 58 TrueType font Format [ESC] PVaa; bbbb, cccc, dddd, eeee, ff, g (, hiii), jj, k (,Lmm)(=ppp ------ ppp) [LF] [NUL] Term Character string number 00 to 99 bbbb: Print origin of X-coordinate of the character string Fixed as 4 digits (in 0.1 mm units) cccc: Print origin of Y-coordinate of the character string 4 or 5 digits (in 0.1 mm units)

Page 59 Drive Indicates where the TrueType font files are stored. 0: Flash ROM on the CPU board 1: SD card (Option) 2: SD card (Option) hiiii: Fine adjustment of character-to-character space (Omissible. If omitted, space is adjusted according to the designated font.) h: Designates whether to increase or decrease the character-to-character space.

Page 60 Explanation Character string number When drawing by the Data Command ([ESC] RV), the format designated by the character string number is selected. Print origin of coordinates Backing paper Backing paper Origin of Label Label coordinates (0, 0) Print origin of coordinates Sample Effective...

Page 61 [Effective print area] [mm] Model 203 dpi 300 dpi Item Issue mode Batch Strip Cutter Batch Strip Cutter Min. Effective print width Max. 108± 0.2 105.7± 0.2 Min. 21.4 17.4 21.4 17.4 Label Effective print Max. 148.2 453.2 148.2 449.2 length Min.

Page 62 Rotational angles of a character and character string Sample Origin 0° (00) 90° (11) 180° (22) 270° (33) (7) Selection of character attribution No. of dots in the horizontal direction No. of dots in the vertical direction Reverse characters Black characters No.

Page 63 Increment/decrement Printing is performed while the data is incremented or decremented each time a label is issued. Where the data row exceeds the maximum number of

digits (40), the data row will not be drawn. Initial value 0000 0000 0000 0000 999999 INC/DEC...

Page 64 (10) Link field No. The link field No. can be programmed by designating it after the symbol ";." After the link field No. is designated using the Format Command, the data strings are linked by the Link Field Data Command to draw an image. Up to 20 fields can be linked.

Page 65 [Examples] 1) Format Command (Increment character string No. 01 (+1)) 2) Format Command (No incrementing for character string No. 02) 3) Format Command (Increment character string No. 03 (+2)) 4) Image Buffer Clear Command 5) Data Command (Character string No. 01 "0001") 6) Data Command (Character string No.

Page 66 When the drawing data is changed per label issue during printing, the field of the drawing data for the previous label is automatically cleared using the character string number, then the next drawing data is printed. Therefore, the character string number which differs according to the drawing fields should be designated. Since the automatic field clear is not performed between the Clear Command ([ESC] C) and Issue Command ([ESC] XS), the fixed data may be drawn using the same character string number.

Page 67 Examples Origin (0, 0) 12.5 Effective print area 30.0 S a m p l e 55.0 A B C D 20.0 mm 65.0 mm [ESC] C [LF] [NUL] [ESC] PV00; 0200, 0300, 0080, 0080, B, 00, B=ABCD [LF] [NUL] [ESC] PV01; 0200, 0125, 0100, 0100, B, 00, B [LF] [NUL] [ESC] PV02;...

Page 68 Origin (0, 0) Effective print area 30.0 55.0 S 0 0 1 20.0 mm 65.0 mm [ESC] C [LF] [NUL] [ESC] PC001; 0200, 0300, 1, 1, C, 00, B; 01, 02 [LF] [NUL] [ESC] PV01; 0650, 0550, 0200, 0150, B, 33, B; 02 [LF] [NUL] [ESC] XB01;...

Page 69: Bar Code Format Command

6.3.9 BAR CODE FORMAT COMMAND [ESC] XB Function Sets the format to indicate the position on the label, at which the bar code is to be printed and how it is to be printed. In the case of WPC, CODE93, CODE128, UCC/EAN128, Customer bar code, POSTNET, RM4SCC, KIX CODE (WPC is the generic name for bar codes of JAN, EAN and UPC.) Format...

Page 70 Type of check digit 1: Without attaching check digit 2: Check digit check Modulus 10 CODE93 Modulus 47 CODE128 PSEUDO 103 3: Check digit auto attachment (1) Modulus 10 CODE93 Modulus 47 CODE128 PSEUDO 103 UCC/EAN128 Modulus 10 + Modulus 103 Customer code Special check digit POSTNET Special check digit...

Page 71 No. of zeros to be suppressed (Omissible. If omitted, the zero suppression process is not performed.) 00 to 20 sss ------ sss: Data string to be printed (Omissible) Max. 126 digits. However, it varies depending on the type of bar code. , tt , tt , ------.

Page 72 In the case of MSI, Interleaved 2 of 5, CODE39, NW7, and Industrial 2 of 5 Format [ESC] XBaa; bbbb, cccc, d, e, ff, gg, hh, ii, jj, k, llll (, mnnnnnnnnnn, p, qq) (, r) (=sss------sss) [LF] [NUL] [ESC] XBaa; bbbb, cccc, d, e, ff, gg, hh, ii, jj, k, llll (, mnnnnnnnnnn, p, qq) (, r) (;...

Page 73 Wide space width 01 to 99 (in dots) * In the case of industrial 2 of 5, the value is fixed to 00. Character-to-character space width 01 to 99 (in dots) * In the case of MSI and ITF, character-to-character space width is set to 00. Rotational angle of bar code 0: 0°...

Page 74 In the case of RSS (Reduced Space Symbology) Format [ESC] XBaa; bbbb, cccc, d, e, ff, g, hhhh (, ijjjjjjjjjj, kk) (= sss ------ sss) [LF] [NUL] [ESC] XBaa; bbbb, cccc, d, e, ff, g, hhhh (, ijjjjjjjjjj, kk) (; tt , tt , tt , ------, tt...

Page 75 In the case of Data Matrix (Two-dimensional code) Format [ESC] XBaa; bbbb, cccc, d, ee, ff, gg, h (, Ciiijjj) (, Jkkllmmmnnn) (= ooo ------ooo) [LF] [NUL] [ESC] XBaa; bbbb, cccc, d, ee, ff, gg, h (, Ciiijjj) (, Jkkllmmmnnn) (= pp , pp , pp...

Page 76 Jkkllmmmnnn: Connection setting (Omissible. No connection if this parameter is omitted.) Code number 01 to 16 No. of divided codes 02 to 16 mmm: ID number 1 001 to 254 nnn: ID number 2 001 to 254 ooo ------ ooo: Data string to be printed (Omissible) Max.

Page 77 In the case of PDF417 (Two-dimensional code) Format [ESC] XBaa; bbbb, cccc, d, ee, ff, gg, h, iiii (=jjj------jjj) [LF] [NUL] [ESC] XBaa; bbbb, cccc, d, ee, ff, gg, h, iiii (; kk , kk , kk , ------,

kk) [LF] [NUL] Term Bar code number...

Page 78 In the case of MicroPDF417 (Two-dimensional code) Format [ESC] XBaa; bbbb, cccc, d, ee, ff, gg, h, iiii (=jjj------jjj) [LF] [NUL] [ESC] XBaa; bbbb, cccc, d, ee, ff, gg, h, iiii (; kk , kk , kk , ------, kk) [LF] [NUL] Term Bar code number...

Page 79 The maximum number of columns and rows for the MicroPDF417 Parameter Max. number of digits Max. number of digits for Max. number of digits No. of columns No. of rows (gg) for binary mode upper case letter/space mode for numeric mode –...

Page 80 In the case of QR code (Two-dimensional code) Format [ESC] XBaa; bbbb, cccc, d, e, ff, g, h (, Mi) (, Kj) (, Jkkllmm) (= nnn --- nnn) [LF] [NUL] [ESC] XBaa; bbbb, cccc, d, e, ff, g, h (, Mi) (, Kj) (, Jkkllmm) (= oo , oo , oo ------ oo...

Page 81 In the case of MaxiCode (Two-dimensional code) Format [ESC] XBaa; bbbb, cccc, d (, e) (, Jffgg) (, Zh) [LF] [NUL] Term Bar code number 00 to 31 bbbb: Print origin of X-coordinate of the bar code Fixed as 4 digits (in 0.1 mm units) cccc: Print origin of Y-coordinate of the bar code 4 or 5 digits (in 0.1 mm units)

Page 82 Explanation Bar code number When drawing by the Data Command ([ESC] RB), the format designated by the bar code is selected. Print origin of coordinates Backing paper Backing paper Origin of Label Label coordinates (0, 0) Print origin of coordinates Effective Effective print...

Page 83 (3) Type of bar code 0: JAN8, EAN8 1: MSI 2: Interleaved 2 of 5 3: CODE39 (standard) 4: NW7 5: JAN13, EAN13 6: UPC-E 7: EAN13 + 2 digits 8: EAN13 +5 digits 9: A: CODE128 B: CODE39 (Full ASCII) C: CODE93 G: UPC-E + 2 digits H: UPC-E + 5 digits...

Page 84 M: UPC-A + 5 digits N: UCC/EAN128 O: Industrial 2 of 5 P: PDF417 Q: Data Matrix R: Customer bar code S: Highest priority customer bar code T: QR code U: POSTNET V: RM4SCC W: KIX code X: MicroPDF417 Z: MaxiCode - 80 -...

Page 85 RSS family RSS-14 RSS-14 Stacked RSS-14 Stacked Omnidirectional RSS-14 Limited RSS Expanded RSS Expanded Stacked (4)Type of check digit Where no check digit is attached, the bar code of the data row will be drawn. In the case of the check digit check, if each check digit checked according to the type of bar code is normal, the bar code will be drawn.

Page 86 Bar width, space width, and character-to-character space Designate the bar, space, and character-to-character space widths according to the type of bar code. Note that the designated proper value differs according to the rotational angle of bar code, type, number of digits, print speed, paper used, etc.

Page 87 In the case of QR code 1-cell width 1-cell width When the 1-cell width is 0, a two-dimensional code is not drawn. However, the bar code printed on the previous label is cleared. In the case of a postal code 1-module width Rotational angle of bar code Point of origin...

Page 88 Bar code height Height Height [PDF417, MicroPDF417] Height Height [Postal code] Height [RSS-14] Height [RSS-14 Stacked] Height (The height of the bottom row is 7/5 of the specified height.) [RSS-14 Stacked Omnidirectional] Height (The height of the bottom row is the same as the specified height.) - 84 -...

Page 89 [RSS-14 Limited] Height [RSS-14 Expanded] Height When the bar code height is 0000, bar code (including guard bars) and numerals under bars are not drawn. However, the bar code printed on the previous label is cleared. Length of guard bar The length of guard bar is valid only when the type of bar code is WPC.

Page 90 Numerals under bars Numerals are not or provided under bars according the parameter for the presence or absence of numerals under bars. The contents of numerals under bars to be printed vary according to the type of bar code. The character set of numerals under bars is OCR-B.

Page 91 In the case of bar codes other than JAN, EAN, and UPC (Example) CODE39 (Example) UCC/EAN128 (10) Start/Stop Code This parameter is valid only when the type of bar code is CODE39 and NW7. Where the parameter is designated, the program will not check if the

transmit print data is with a start code and stop code.

Page 92 Letters and numerals for increment/decrement For CODE39 (standard), CODE39 (full ASCII), NW-7, CODE93, CODE128, if a data string other than numerals is included in the data, increment/decrement designation is performed. If any code which does not exist in each bar code table is contained in the data, increment/decrement designation is not performed.

Page 93 (13) Data string to be printed Drawing data can be programmed by designating the number of digits after the symbol "=." The maximum number of digits to be printed varies according to the types of bar codes. For codes, refer to the bar code table mentioned later. (14) Link field No.

Page 94 (15) Explanation for Data Matrix ECC type Data Matrix contains a function to correct a code reading error using an error correction code (ECC) and restore normal data. Since there are several ECCs. ECC should be designated according to usage. The general correction ability is as follows. However, it may vary according to the error conditions.

Page 95 Cell size and the effective data capacity ECC200 Numeric Alphanum 8-bit Symbol size capacity capacity byte Capacit 88 1152 96 1392 1042 104 104 1632 1222 120 120 2000 1573 1048 132 132 2000 1954 1302 144 144 2000 2000 1556 Rectangular code ECC200 Numeric...

Page 96 (16) Explanation for the PDF417 and MicroPDF417 Security level The PDF417 contains a function to correct a code reading error using an error correcting code word and restore normal data. The security level should be designated according to usage to perform the error correction function. For the MicroPDF417, the printer sets the security level automatically.

Page 97 1-cell width 1-cell width 1-cell width When the 1-cell width is 0, a two-dimensional code is not drawn. However, the two- dimensional code printed on the previous label is cleared. Selection of mode All codes including alphanumerics, symbols, and Kanji can be used in one QR code. Manual mode or automatic mode can be selected to perform the operation.

Page 98 Notes The check digit attach and increment/decrement, and zero suppress processes are performed according to the following priority. If any of the conditions is improper, no drawing will take place. For example, the zero(s) is replaced by a space(s) as a result of zero suppression but the modulus 10 designated to be attached cannot be calculated.

Page 99 More than one Bar Code Format Command can be connected when transmitted. [ESC] XB01; 0100, 0150, 3, 1, 02, 02, 06, 06, 02, 0, 0150 [LF] B02; 0350, 0150, 3, 1, 02, 02, 06, 06, 02, 0, 0150 [LF] [NUL] When the drawing data is changed per label issue during printing, the field of the drawing data for the previous label is automatically cleared using the bar code number, then the next drawing data is printed.

Page 100 Examples Origin (0, 0) 12.5 Effective print area 15.0 55.0 20.0 mm 83.0 mm 15.0 mm [ESC] C [LF] [NUL] [ESC] XB01; 0200, 0125, 3, 1, 03, 03, 08, 08, 03, 0, 0150=12345 [LF] [NUL] [ESC] XB02; 0830, 0550, 3, 1, 02, 04, 07, 08, 04, 3, 0150, +0000000000, 1, 00, N [LF] [NUL] [ESC] RB02;...

Page 101 Origin (0, 0) Effective print area 30.0 55.0 S 0 0 1 20.0 mm 65.0 mm [ESC] C [LF] [NUL] [ESC] PC001; 0200, 0300, 1, 1, C, 00, B; 01, 02 [LF] [NUL] [ESC] PV01; 0650, 0550, 0200, 0150, B, 33, B; 02 [LF] [NUL] [ESC] XB01;...

Page 102 Origin (0, 0) 12.5 Effective print area 55.5 20.0 mm 83.0 mm [ESC] C [LF] [NUL] [ESC] XB01; 0200, 0125, P, 04, 02, 03, 0, 0010 [LF] [NUL] [ESC] XB02; 0830, 0550, Q, 08, 03, 05, 3 [LF] [NUL] [ESC] RB01; PDF417 [LF] [NUL] [ESC] RB02;...

Page 103: Bit Map Font Data Command

6.3.10 BIT MAP FONT DATA COMMAND [ESC] RC Function Provides data for the bit map font row. Format [ESC] RCaaa; bbb ------ bbb [LF] [NUL] Link Field Data Command [ESC] RC; ccc ------ ccc [LF] ddd ------ ddd [LF] ------ [LF] xxx ------ xxx [LF] [NUL] Term aaa: Character string number...

Page 104 Examples Origin (0, 0) Effective print area 12.5 mm Sample 55.0 mm 20.0 mm 65.0 mm [ESC] C [LF] [NUL] [ESC] PC001; 0200, 0125, 1, 1, C, 00, B [LF] [NUL] [ESC] PC002;

0650, 0550, 2, 2, G, 33, B, +0000000001 [LF] [NUL] [ESC] RC001;...

Page 105 Origin (0, 0) Effective print area 30.0 55.0 S 0 0 1 20.0 mm 65.0 mm [ESC] C [LF] [NUL] [ESC] PC001; 0200, 0300, 1, 1, C, 00, B; 01, 02 [LF] [NUL] [ESC] PV01; 0650, 0550, 0200, 0150, B, 33, B; 02 [LF] [NUL] [ESC] XB01;...

Page 106: Outline Font Data Command

6.3.11 OUTLINE FONT DATA COMMAND [ESC] RV Function Provides data for the outline font row. Format [ESC] RVaa; bbb ------ bbb [LF] [NUL] Link Field Data Command [ESC] RV; ccc ------ ccc [LF] ddd ------ ddd [LF] ------ [LF] xxx ------ xxx [LF] [NUL] Term Character string number 00 to 99...

Page 107 Examples Origin (0, 0) Effective print area 12.5 mm Sample 55.0 mm 20.0 mm 65.0 mm [ESC] C [LF] [NUL] [ESC] PV01; 0200, 0125, 0100, 0100, B, 00, B [LF] [NUL] [ESC] PV02; 0650, 0550, 0200, 0150, B, 33, B, +0000000001 [LF] [NUL] [ESC] RV01;...

Page 108 Origin (0, 0) Effective print area 55.0 S 0 0 1 20.0 mm 65.0 mm [ESC] C [LF] [NUL] [ESC] PC001; 0200, 0300, 1, 1, C, 00, B; 01, 02 [LF] [NUL] [ESC] PV01; 0650, 0550, 0200, 0150, B, 33, B; 02 [LF] [NUL] [ESC] XB01;...

Page 109: Bar Code Data Command

6.3.12 BAR CODE DATA COMMAND [ESC] RB Function Provides data for the bar code. Format [ESC] RBaa; bbb ------ bbb [LF] [NUL] Link Field Data Command [ESC] RB; ccc ------ ccc [LF] ddd ------ ddd [LF] ------ [LF] xxx ------ xxx [LF] [NUL] Term Bar code number 00 to 31...

Page 110 The maximum number of digits for Data Matrix varies according to the settings for ECC type, format ID, and the cell size. In the case of Kanji, the maximum number of digits is half those of the values described below since a Kanji character occupies 2 bytes.

Page 111 Cell Size and Effective Data Capacity ECC200 Numeric Alphanum 8-bit Symbol size capacity capacity byte capacity 88 1152 96 1392 1042 104 104 1632 1222 120 120 2000 1573 1048 132 132 2000 1954 1302 144 144 2000 2000 1556 Rectangular code ECC200 Numeric...

Page 112 When PDF417 or MicroPDF417 is used, the number of symbol characters called code words is limited to 928 or less. Moreover, the data compression rate varies according to the contents of data. Therefore, the maximum number of digits according to modes is as follows. When letters and numerics are mixed in data in EXC mode, for example, the maximum values become smaller than the following values, since the internal mode switching code is used.

Page 113 The maximum number of columns and rows for the MicroPDF417 Parameter Max. number of digits Max. number of digits for Max. number of digits No. of columns No. of rows (gg) for binary mode upper case letter/space mode for numeric mode –...

Page 114 CODE128 code selection If the case of CODE128 (with auto code selection), code selection is performed in the following manner. (Conforming to USS-128 APPENDIX-G) Determining the start character (a) If the data begins with four or more consecutive numerals, the start code to be used is (CODE C).

Page 115 CODE128 code selection check Check if selection of (CODE A), (CODE B), or (CODE C) of CODE128 has been set correctly. If an error is found, the bar code will not be drawn. [Conditions causing an error] No start code is designated. A small letter (including { , | , } , ~, _) is found in (CODE A).

Page 116 When manual mode is selected in the Format Command for a QR code Numeric mode, alphanumeric and symbol mode, Kanji mode Mode selection Data to be printed Binary mode No. of data strings Mode selection Data to be printed (4 digits) Mixed mode Data “,”...

Page 117 (10) Transfer code for QR code NUL DLE SP SOH DC1 STX DC2 ” ETX DC3 EOT DC4 ENQ NAK ACK SYN & BEL ETB ’ < • > * The shaded parts are Japanese. They are omitted here. (11) Examples of data designation Alphanumeric mode: ABC123 A A B C 1 2 3 Data to be printed...

Page 118 (12) MaxiCode data For mode 0 or 1: [ESC] RBaa; bbbbbbbbbcccdddeeeee --- eeeee [LF] [NUL] For mode 2 or 3: [ESC] RBaa; bbbbbbbbbcccdddeeeee --- eeeee [LF] [NUL] For mode 4 or 6: [ESC] RBaa; fffffffffggggg --- ggggg [LF] [NUL] bbbbbbbbb: Postal code Fixed as 9 digits •...

Page 119 Examples Origin (0, 0) Effective print area 12.5 mm 15.0 mm 55.0 mm 20.0 mm 63.0 mm 15.0 mm [ESC] C [LF] [NUL] [ESC] XB01; 0200, 0125, 3, 1, 02, 02, 06, 06, 02, 0, 0150 [LF] [NUL] [ESC] XB02; 0830, 0550, 3, 1, 02, 04, 07, 08, 04, 3, 0150, +0000000000, 1, 00, N [LF] [NUL] [ESC] RB01;...

Page 120 Origin (0, 0) Effective print area 30.0 55.0 S 0 0 1 20.0 mm 65.0 mm [ESC] C [LF] [NUL] [ESC] PC001; 0200, 0300, 1, 1, C, 00, B; 01, 02 [LF] [NUL] [ESC] PV01; 0650, 0550, 0200, 0150, B, 33, B; 02 [LF] [NUL] [ESC] XB01;...

Page 121 Origin (0, 0) 12.5 Effective print area 55.5 20.0 mm 83.0 mm [ESC] C [LF] [NUL] [ESC] XB01; 0200, 0125, P, 04, 02, 03, 0, 0010 [LF] [NUL] [ESC] XB02; 0830, 0550, Q, 08, 04, 05, 3 [LF] [NUL] [ESC] RB01; PDF417 [LF] [NUL] [ESC] RB02;...

Page 122: Issue Command

6.3.13 ISSUE COMMAND [ESC] XS Function Issues labels according to the print conditions programmed. Format [ESC] XS; I, aaaa, bbbcdefgh [LF] [NUL] Term aaaa: Number of labels to be issued 0001 to 9999 bbb: Cut interval. Designates the number of pieces to be printed before the backing paper is cut.

Page 123 Designates tag rotation. 0: Printing bottom first 1: Printing top first 2: Mirror printing bottom first 3: Mirror printing top first Type of status response 0: No status response 1: Status response Explanation Number of labels to be issued If increment/decrement is not specified, the designated number of pieces with the same drawing data will be issued.

Page 124 Reflective sensor: Printing takes place according to the parameter designated by the Label Size Set Command. However, the black mark provided on the back side of the tag paper is automatically sensed by the reflective sensor and the paper position is finely adjusted for every piece.

Page 125 [C: Batch mode (Cut interval: 1, Issue count: 2)] “With automatic forward feed standby” selected in the system mode Cut position Head position (1) Idling (2) End of printing 1st label (A) Feeds to the cut position (4) The 1st label (A) reaches the cut position and is cut.

Page 126 [D: Strip mode (Issue count: 3)] Strip position Head position (1) Idling (2) Feeds back to the home position (3) End of printing 1st label (A) (4) Removes 1st label (A) (5) Feeds back to the home position (6) End of printing 2nd label (B) (7) Removes 2nd label (B) (8) Feeds back to the home position (9) End of printing 3rd label (C)

Page 127 [F: Partial cut mode (Non back feed cut mode)] Cut position Head position (1) Idling (2) End of printing 1st label (A) (3) Feeds to the cut position (4) The 1st label (A) is partially cut. (5) End of printing 2nd label (B) (6) Feeds to the cut position (7) The 2nd label (B) is partially cut The 1st and 2nd labels are removed...

Page 128 (5) Issue speed * Duplicate printing feature is supported only by the 203 dpi model. • Printing takes place at the designated speed. • The possible issue speed varies according to types and sizes of the paper supply. For details, refer to the Supply Specification. Issue speed 203 dpi model 300 dpi model...

Page 129 Tag rotation The origin of coordinates and printing direction vary according to the designation of tag rotation. Printing bottom first Black mark Backing paper (Back side of print) Label Origin of Origin of coordinates coordinates (0, 0) (0, 0) Label pitch Effective Effective...

Page 130 Mirror printing bottom first Black mark Backing paper (Back side of print) Label Origin of Origin of coordinates coordinates (0, 0) (0, 0) Label pitch Effective Effective pitch print length print length Effective Effective print width print width Paper feed direction Paper feed direction [Labels] [Tags]...

Page 131 Status response When the option with status response has been selected, a status

response is made at the end of printing or if an error occurs. In batch mode and cut mode, the print end status response is made after printing on the designated number of labels.

Page 132 Notes (1) Explanation of processes involved to stop the label at the home position after the head-open state is detected: When the gap between labels (black mark) is found after the head open state is detected, the value to stop at the home position of each label between the head and the sensor is set again.

Page 133: Duplicate Printing Area Set Command

6.3.14 DUPLICATE PRINTING AREA SET COMMAND [ESC] XZ Function Specifies a duplicate printing area, a high power duplicate printing area, and a print density fine adjustment value for high power duplicate printing. * Duplicate printing feature is supported only by the 203 dpi model. Format {XZ;aaaa,bbbb,cccc,dddd,ee|} Term...

Page 134 Also, there are a few notes on duplicate printing areas and high power duplicate printing areas, as follows: • Areas 1-mm inside of a high power duplicate printing area are printed at the print density for duplicate printing areas. • When a specified high power duplicate printing area is exactly the same as a duplicate printing area, that area will be printed as a high power duplicate printing area.

Page 135 Examples Label pitch (178.0mm) Effective print length (175.0mm) Effective print width (104.0mm) (99.0mm) High power duplicate printing area (19.0mm) Normal printing area Duplicate printing (65.0mm) area (110.0mm) Print direction {D1780,1040,1750|} {XZ;0650,1100,0990,0190,05|} {T10C60|} - 131 -...

Page 136 When a normal printing area is 5.0 mm or less: [In the case a preceding normal printing area is merged.] Label pitch (50.0mm) Effective print length (48.0mm) Effective print width (104.0mm) A=3.0mm B=Duplicate printing area (40.0mm) C=5.0mm Print direction Because A is less than 5.0 mm, that area is merged into the duplicate printing area. Label pitch (50.0mm) Effective print length (48.0mm) Effective...

Page 137 [In the case a subsequent normal printing area is merged.] Label pitch (50.0mm) Effective print length (48.0mm) Effective print width (104.0mm) A=5.0mm B=Duplicate printing area (40.0mm) C=3.0mm Print direction Because C is less than 5.0 mm, that area is merged into the duplicate printing area.

Page 138 [In the case both preceding and subsequent normal printing areas are merged.] Label pitch (50.0mm) Effective print length (48.0mm) Effective print width (104.0mm) A=3.0mm B=Duplicate printing area (42.0mm) C=3.0mm Print direction Because A and C are less than 5.0 mm, respectively, those areas are merged into the duplicate printing area.

Page 139: Feed Command

6.3.15 FEED COMMAND [ESC] T Function Feeds the paper. Format [ESC] Tabcde [LF] [NUL] Term Type of sensor 0: No sensor 1: Reflective sensor 2: Transmissive sensor (when using normal labels) 3: Transmissive sensor (when using normal labels) 4: Reflective sensor Selects cut or non-cut 0: Non-cut 1: Cut...

Page 140 Reflective sensor: Media feed takes place according to the parameter designated by the Label Size Set Command. However, the black mark provided on the back side of the tag paper is automatically sensed by the reflective sensor and the stop position is fine adjusted.

Page 141 [C: Batch (Cut)] “With automatic forward feed standby” selected in the system mode. Cut position Head position (1) Place paper. (2) End of feed (Completes feeding to the top of form) (3) Feeds to the cut position. (4) Cuts unnecessary paper. (5) Feeds back to the home position.

Page 142 (4) Feed speed • A feed is performed at the designated speed. However, the back feed speed in the cut mode or the strip mode is 3”/sec. • The possible issue speed varies according to types and sizes of the paper supply.

Page 143 Examples 41.0 76.2 mm S a m p l e 73.2 15.0 mm 82.0 mm Paper feed direction [ESC] D0762, 0820, 0732 [LF] [NUL] [ESC] AX; +010, +000, +10 [LF] [NUL] [ESC] T11C30 [LF] [NUL] [ESC] C [LF] [NUL] [ESC] PC001; 0150, 0410, 1, 1, A, 00, B [LF] [NUL] [ESC] RC001;...

Page 144: Eject Command

6.3.16 EJECT COMMAND [ESC] IB Function Ejects (cuts) the label presently remaining between the head and the cutter and returns to the original position. Format [ESC] IB [LF] [NUL] Notes When “with automatic forward feed standby” is selected by the parameter setting and if no subsequent command from the PC is received within 3 second after ejection, the printer automatically performs a 16.3-mm forward feed.

Page 145: Forward/Reverse Feed Command

6.3.17 FORWARD/REVERSE FEED COMMAND [ESC] U1, [ESC] U2 Function After printing or feeding the paper, feeds the paper to a manually cut position. When issuing the next label, feeds the paper back to the first printing position. Format Forward Feed [ESC] U1;...

Page 146 Examples Cut position Head position (1) Idling (2) Feeds one label (3) Feeds to the position at which a label can be cut manually. (4) Cut manually. (5) Standby (6) Feeds back to the home position (7) Prints three A labels (8) Feeds to the position at which labels can be cut manually.

Page 147: Storage Area Allocate Command

6.3.18 STORAGE AREA ALLOCATE COMMAND [ESC] XF Function Allocates the storage area in flash ROM on the CPU board. Format [ESC] XF; aa, bb [, cc] [, Ed] [LF] [NUL] Term aa: Size of the TrueType font storage area 00 to 11 (0 KB to 704 KB) (in units of 64 KB) bb: Size for bit map Writable character storage area 00 to 11 (0 KB to 704 KB)

Page 148 (7) When “00” (0 KB) is specified for the TrueType font storage area, the bit map writable character storage area, or the spare storage area, the storage area is not allocated. (8) When “11” (704 KB) is specified for any of the TrueType font storage area, the bit map writable character storage area, and the spare storage area, all storage areas are used.

Page 149: Flash Memory Format Command

6.3.19 FLASH MEMORY FORMAT COMMAND [ESC] J1 Function Formats (initializes) the flash ROM on the CPU board for storage. Format [ESC] J1; a (, b) [LF] [NUL] Term Formatting (initializing) range Entire area of the flash memory (PC save area + writable character area) PC save area of the flash memory Writable character storage area of the flash memory True Type area...

Page 150: Sd Card Format Command

6.3.20 SD CARD FORMAT COMMAND [ESC] JA Function Formats (initializes) the SD card for storage. Format [ESC] JA; a (, b) [LF] [NUL] Term Formatting (initializing) range for SD card All area PC save area Bitmap writable character storage area True Type area Drive (Omissible, If omitted, flash ROM on the CPU board is selected.) 0: Flash ROM on the CPU board...

Page 151: Bit Map Writable Character Command

6.3.21 BIT MAP WRITABLE CHARACTER COMMAND [ESC] XD Function Writes writable characters and logos in SD card, or flash ROM on the CPU board. Format For SD card or flash ROM on the CPU board [ESC] XD; (Sj,) aa, b, ccc, ddd, eee, fff, ggg, h, iii ------ iii [LF] [NUL] Term Sj: Drive 0: Flash ROM on the CPU board...

Page 152 The configuration of the writable character file stored in SD card is as follows. 1st byte No. of dots for left offset 2nd byte (from upper to lower) 3rd byte No. of dots for top offset 4th byte (from upper to lower) 5th byte No.

Page 153 • How to assign the directory name for a writable character set → Directory name for writable character 01 “0100” → Directory name for writable character 02 “0101” → Directory name for writable character 39 “0126” → Directory name for writable character 40 “0127”...

Page 154 offset 22 dots Char. height 31 dots Base line Reference Reference point point of next char. Left Char. width offset 26 dots Horizontal spacing/proportional spacing 30 dots Writable character set: 01 to 40, 51 to 55 Char. width 26 dots Nibble mode •...

Page 155 [Nibble mode] (1) The writable character data to be stored is separated into four dot units and sent in the → following order (1 248). (High order digit: “3”) (2) The data of writable characters to be stored is 30H to 3FH. (3) The minimum unit in the X direction is 8 dots.

Page 156 Notes (1) No matter what character set or character code is selected, no memory will be wasted. When a new writable character is stored, Flash Memory Format Command ([ESC] J1) must be transmitted. A character code already stored can be stored in SD card again if the Writable Character Command ([ESC] XD) is transmitted, but memory will be consumed with every storage.

Page 157 Examples Writable character set: Writable character code offset 22 dots Char. height 31 dots Base line Reference Reference point of next point char. Left offset Char. width 26 dots 2 dots Horizontal spacing/proportional spacing 30 dots [ESC] J1; C [LF] [NUL] [ESC] XD;...

Page 158: Graphic Command

6.3.22 GRAPHIC COMMAND [ESC] SG Function Draws graphic data. Format [ESC] SG; aaaa, bbbb, cccc, dddd, e, ggg --- ggg [LF] [NUL] [ESC] SG0; aaaa, bbbb, cccc, dddd, e, ffff, ggg --- ggg [LF] [NUL] Term aaaa: Print origin of X-coordinate for drawing graphic data Fixed as 4 digits (in 0.1 mm units) bbbb: Print origin of Y-coordinate for drawing graphic data...

Page 159 Explanation When the graphic data “0”, “1”, “2”, “3”, “6”, or “A” is selected, the graphic data is drawn by overwriting the image buffer. When the graphic data “4” or “5” is selected, the graphic data is drawn by carrying out OR between the graphic data and the data in the image buffer.

Page 160 Print origin of coordinates Graphic width 19 dots Nibble mode • • • • • • Graphic height • 22 dots • 126 30H 127 33H 128 3FH 129 30H 130 30H 131 30H 132 30H Hex. mode • • •...

Page 161 [When TOPIX compression mode is selected] Range for length First line Second line Graphic data Length (1) Length: Total number of bytes of the graphic data (0001H ~) Ex. Length = 20 bytes: (2) L1 parameter: Shows in which large block (512 dots/block) the changed data is contained. 0: Not present 1: Present 512 dots...

Page 162 [When the printer driver compression mode is selected] (1) For the [ESC] SG0; -- command, only “A: Printer driver compression mode” can be selected for the type of graphic data. The parameter for the data count is attached after the parameter for the type of graphic data.

Page 163 Notes The print origin of coordinates must be set so that the result of drawing the graphic data will be within the effective print area set by the Label Size Set Command ([ESC] D). The number of graphic width dots and the number of graphic height dots must also be set so that the result of drawing the graphic data will be within the effective print area set by the Label Size Set Command ([ESC] D) in the same manner as the above.

Page 164 Examples 10.0 mm Origin 24.0 mm (0, 0) Graphic width 19 dots Graphic height 22 dots [ESC] C [LF] [NUL] [ESC] SG; 0100, 0240, 0019, 0022, 0, 003000003800003<00003>000037000033800031 <00030<00030>00030600030>00030<00031<00033800?33003??0007??000???000?? >000??>0007? <0003?0000 [LF] [NUL] [ESC] XS; I, 0001, 0002C3000 [LF] [NUL] * 30H = “0”...

Page 165 [TOPIX compression mode] 10.0 mm Origin 24.0 mm (0, 0) Graphic width 19 dots Graphic height 22 dots [ESC] SG; 0100, 0240, 0019, 0300, 3, 00 5C 80 80 40 30 Length L2 L3 Data (1st line) 80 80 40 08 80 80 40 04 80 80 40 02 80 80 40 09 (2nd line) (3rd line) (4th line)

Page 166: Save Start Command

6.3.23 SAVE START COMMAND [ESC] XO Function Declares the start of saving PC interface commands. (Places the printer in the mode where PC interface commands are written in SD card, or flash ROM on the CPU board.) Format [ESC] XO; aa, (Sb,) c [LF] [NUL] Term Identification number to be used for saving in the SD card or calling 01 to 99...

Page 167: Save Terminate Command

6.3.24 SAVE TERMINATE COMMAND [ESC] XP Function Declares the termination of saving PC interface commands. Format [ESC] XP [LF] [NUL] Note If the storing operation is not continued after storing the PC interface command, the printer enters the online mode (label issue operation) after about 10 seconds. In this case, the image buffer will be cleared automatically.

Page 168: Saved Data Call Command

6.3.25 SAVED DATA CALL COMMAND [ESC] XQ Function Calls PC interface commands saved in SD card, or flash ROM on the CPU board. Format [ESC] XQ; aa, (Sb,) c, d [LF] [NUL] Term Identification number of the file to be called from SD card 01 to 99 Drive from which the command is called b: Drive...

Page 169: Reset Command

6.3.26 RESET COMMAND [ESC] WR Function Returns the printer to its initial state. Format [ESC] WR [LF] [NUL] Explanation The printer is returned to the same state as when the power was turned on. When the printer receives this command during printing, it returns to its initial state after issuing the label which is being printed.

Page 170: Status Request Command

6.3.27 STATUS REQUEST COMMAND [ESC] WS Function Sends the printer status to the host computer. Format [ESC] WS [LF] [NUL] Explanation This command makes the printer send its status regardless of the setting of “status response/no status response.” The status to be transmitted is the current printer status, and indicates the latest status only.

Page 171: Receive Buffer Free Space Status Request Command

6.3.28 RECEIVE BUFFER FREE SPACE STATUS REQUEST COMMAND [ESC] WB Function Sends information on the printer status and the free space of the receive buffer to the host computer. Format [ESC] WB [LF] [NUL] Explanation This command makes the printer send information on its status and free space of the receive buffer regardless of the setting of “status response/no status response.”...

Page 172

Notes This command is available only for the RS-232C, USB interfaces and socket communications. The printer returns the status only for the interface which sent this command to the host. After the code of the Writable Character Command ([ESC] XD) or Graphic Command ([ESC] SG) is received, the Status Request Command is not processed until the printer receives the data specified for the type of data.

Page 173: Version Information Acquire Command

6.3.29 VERSION INFORMATION ACQUIRE COMMAND [ESC] WV Function Sends information such as the program version of the printer. Format [ESC] WV [LF] [NUL] Explanation (1) The format of the program version data (total 27 bytes of data) to be returned to the host is as follows.

Page 174: Sd Card Information Acquire Command

6.3.30 SD CARD INFORMATION ACQUIRE COMMAND [ESC] WI Function Sends information regarding the use of the memory board to the host. Format [ESC] WI; a, b [LF] [NUL] Term Drive 1: Slot 1 SD card (Option) 2: Slot 1 SD card (Option) Information to be acquired A: Free space B: Bitmap...

Page 175

C: Stored PC command save file Stored PC command save file name SOH STX “C” Slot ETX EOT 0DH 0AH File name 1 00H File name 2 00H ··· File name n 00H File name (including expansion): Slot: “00H” should be placed between file “1”...

Page 176: Printer Information Store Command

6.3.31 PRINTER INFORMATION STORE COMMAND [ESC] IG Function Sets the printer information. Format [ESC] IG; aaa --- aaabbb --- bbb [LF] [NUL] Term aaa --- aaa: Model name (Fixed as 20 digits) 20H to 7FH of ASCII codes bbb --- bbb: Serial No.

Page 177: Printer Information Request Command

6.3.32 PRINTER INFORMATION REQUEST COMMAND [ESC] IR Function Retrieves the printer information. Format [ESC] IR [LF] [NUL] Explanation (1) The model name and serial No. set by the Printer Information Store Command ([ESC] IG) are retrieved [Information field] Model name Serial No.

Page 178: Ip Address Set Command

6.3.33 IP ADDRESS SET COMMAND [ESC] IP Function Sets the IP address to be required for the network connection. Format [ESC] IP; a, bbb, ccc, ddd, eee [LF] [NUL] Term a: IP address to be set 2: Printer IP address (Initial value: 192.168.10.20) 3: Gateway IP address (Initial value:

0.0.0.0)

Page 179: Socket Communication Port Set Command

6.3.34 SOCKET COMMUNICATION PORT SET COMMAND [ESC] IS Function Enables or disables the socket communication, and sets the communication port number to be used. Format [ESC] IS; a, bbbb [LF] [NUL] Term 0: Socket communication is disabled. 1: Socket communication is enabled. bbbbb: Port number (It must be set in 5 digits.) 00000 to 65535...

Page 180 6.3.35 DHCP FUNCTION SET COMMAND [ESC] IH Function Enables or disables the DHCP function, and sets the DHCP client ID. Format [ESC] IH; a, bbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbb [LF] [NUL] Term 0: DHCP function is disabled. 1: DHCP function is enabled. bbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbb: DHCP client ID (16-byte data is described in 32-byte hexadecimal.) Explanation “FFH”...

Page 181: Commands For System Administrator

6.4 COMMANDS FOR SYSTEM ADMINISTRATOR 6.4.1 PARAMETER SET COMMAND [ESC] Z2; 1 Function Sets each parameter on the printer. Format [ESC] Z2; 1, abcdefghijklmnopqqrst(uvw) [LF] [NUL] Term Character code selection 0: PC-850 1: PC-852 2: PC-857 3: PC-8 4: PC-851 5: PC-855 6: PC-1250 7: PC-1251...

Page 182 RS-232C transmission control 0: XON/XOFF protocol (No XON output when the power is turned on, no XOFF output when the power is turned OFF) 1: READY/BUSY (DTR) protocol (No XON output when the power is turned on, no XOFF output when the power is turned OFF) 2: XON/XOFF + READY/BUSY (DTR) protocol: (XON output when the power is turned on, XOFF output when the power is...

Page 183 [FEED] key function 0: FEED: Feeds one label. 1: PRINT: Prints data from the image buffer on one label. Kanji code selection 0: Ignore 1: Ignore Euro code setting “20” to “FF” (Specify the hex code in 2 bytes of ASCII code) Automatic head broken dots check 0: Ignore 1: Ignore...

Page 184 (3) When the automatic home position detection is set to ON, the media must be set as follows. Otherwise, the printer cannot detect a home position correctly. (The printer basically performs the automatic home position detection during the cut issue.) Set the media so that the 2 black mark is positioned before the black mark...

Page 185 3) When the 2 black mark is detected, the printer further performs a reverse feed for the distance equivalent to “35 mm minus the distance between the print head position and the black mark sensor” so that the top edge of the media is positioned at the print head position.

Page 186 3) When the 2 black mark is detected, the printer further performs a reverse feed for the distance equivalent to “35 mm minus the distance between the print head position and the black mark sensor” so that the top edge of the media is positioned at the print head position.

Page 187: Fine Adjustment Value Set Command

6.4.2 FINE ADJUSTMENT VALUE SET COMMAND [ESC] Z2; 2 Function Sets various fine adjustment values on the printer. Format [ESC] Z2; 2, abbbcdddeffghhhijjkllmnnoppqqrrss(tt) [LF] [NUL] Term Indicates the direction, forward or backward, in which a feed length fine adjustment is to be made. +: Ignore -: Ignore bbb: Feed length fine adjustment value...

Page 188 Fine adjustment direction for the ribbon rewind motor voltage -: Ignore Fine adjustment value for the ribbon rewind motor voltage Ignore Fine adjustment direction for the ribbon back tension motor voltage +: Ignore -: Ignore Fine adjustment value for the ribbon back tension motor voltage Ignore Reflective sensor manual threshold fine adjustment value Ignore...

Page 189: Parameter Set Command

(zero) 6.4.3 BATCH RESET COMMAND [ESC] Z0 Function Resets the printer. Format [ESC] Z0 [LF] [NUL] Explanation • This command is not executed until the printer enters an idle state. • Some values in the Parameter Set Command ([ESC] Z2;1) and the Fine Adjustment Value Set Command ([ESC Z2;2]), will become effective when the printer is initialized.

Page 190: Control Code Selection

7. CONTROL CODE SELECTION (1) Automatic Selection This printer automatically selects [ESC] (1BH). [LF] (0AH). [NUL] (00H) or {(7BH). | (7CH).} (7DH) as an interface command control code. After the power is turned on, the program checks the data from the host for [ESC] and { and assumes the data whichever has been sent first to be a control code.

Page 191: Error Processing

8. ERROR PROCESSING If the printer detects any of the following errors, it will display the error message (LED), makes status response (serial interface, parallel interface and USB interface), and stops its operation. 8.1 COMMUNICATION ERRORS (1) Command Errors An error results if a command length error, command transmission sequence error, command format error or parameter designation error is found in analyzing the command.

Page 192

(2) Cutter Error • Cutter When the cutter does not move from the cutter home position 50 msec or more after the cutter solenoid is driven, an error will result. The cutter moves from the home position, however, it does not return to the home position after 500 msec.

Page 193: Errors In Writable Character And Pc Command Save Modes

8.3 ERRORS IN WRITABLE CHARACTER AND PC COMMAND SAVE MODES (1) Write Error • An error has occurred in writing in the SD card. (2) Format Error • An erase error has occurred in formatting the SD card. (3) Memory Full •...

Page 194: Status Response

9. STATUS RESPONSE 9.1 SERIAL INTERFACE 9.1.1 FUNCTIONS There are the following two kinds of status response functions. (1) Status transmission function at the end of normal transmission and occurrence of an error (auto status transmission) If the option for “status response” has been selected, the printer sends status to the host computer when the printer performs a feed or completes an issue normally (For batch/cut mode: after the designated number of labels are printed, For strip mode: after one label is printed).

Page 195: Detail Status

9.1.3 DETAIL STATUS Detail Status Printer Status Auto Status Status Request Transmission Command The top cover was closed in the online mode. The top cover was opened in the online mode. Operating (Analyzing command, drawing, printing, feeding) – In pause –...

Page 196

9.2 PARALLEL INTERFACE Printer Status Output Signal BUSY SELECT FAULT In the online mode In the online mode (communicating) L, H – The top cover was opened in the online mode. – In a pause state – Data was set from the host with the receive buffer full. –...

Page 197

Printer Status Output Signal BUSY SELECT FAULT (a) A command has been fetched from an odd address. – (b) Word data has been accessed from a place other than the boundary of the word data. (c) Long word data has been accessed from a place other than the boundary of the long word data.

Page 198: Led Indications

10. LED INDICATIONS Restoration by Acceptance of LED Indication Status Request [FEED] key while Printer Status error state Reset Yes/No Command Green Orange Yes/No In the online mode ★ In the online mode (Communicating) The top cover was opened in the online mode.

Page 199

Restoration by Acceptance of LED Indication Status Request [FEED] key while Printer Status error state Reset Yes/No Command Green Orange Yes/No A command has been fetched from an odd address. Word data has been accessed from a place other than the boundary of the word data.

Page 200: Character Code Table

11. CHARACTER CODE TABLE The followings are the character code tables. However, the characters which can be printed are different according to the character type. 11.1 TIMES ROMAN, HELVETICA, LETTER GOTHIC, PRESTIGE ELITE, COURIER (Bit map font type: A, B, C, D, E, F, G, H, I, J, K, L, N, O, P, Q, R) (1) PC-850 Ç...

Page 201 (3) PC-852 Ç É á Ó ü í Ð ß ” é ó Ô â ô ú Ë ä ö Á § & Â Í ÷ ’ ç Î ¸ ° ë Ö Ú ¨ The Euro code (B0H) can be changed in the Ü...

Page 202 (5) PC-851 Ç ü ± ” é â ô ä ö à § & û ’ ç ù ¸ ê ° ë Ö ¨ The Euro code (B0H) can be changed in the è Ü parameter set command. Ï ½ <...

Page 203 (7) PC-1250 ± Á á ” Â â Ó ó ¤ ´ Ä Ô ä ô µ & ¦ ¶ Ö ö ’ § · Ç × ç ÷ ¨ ¸ © É é The Euro code (B0H) can be changed in the Ú...

Page 204 (9) PC-1252 À Ð à ð ¡ ± Á Ñ á ñ ” ¢ ² Â Ò â ò ƒ £ ³ Ã Ó ã ó ¤ ´ Ä Ô ä ô ¥ µ Å Õ å õ & ¦ ¶...

Page 205 (11) PC-1254 À à ¡ ± Á Ñ á ñ ” ¢ ² Â Ò â ò ƒ £ ³ Ã Ó ã ó ¤ ´ Ä Ô ä ô ¥ µ Å Õ å õ & ¦ ¶ Æ Ö...

Page 206 (13) LATIN9 À Ð à ð ¡ ± Á Ñ á ñ ” ¢ ² Â Ò â ò £ ³ Ã Ó ã ó Ä Ô ä ô ¥ µ Å Õ å õ & ¶ Æ Ö æ ö...

Page 207: Presentation

11.2 PRESENTATION (Bit map font type: M) (1) PC-850, PC-857 " & The Euro code (B0H) can be changed in the parameter set command. < – > ¥ (2) PC-8 " & The Euro code (B0H) can be changed in the parameter set command.

Page 208 (3) PC-852 " & The Euro code (B0H) can be changed in the parameter set command. < – > (4) PC-851, PC-855, PC-1250, PC-1251, PC-1257, Arabic " & The Euro code (B0H) can be changed in the parameter set command. <...

Page 209 (5) PC-1252, PC-1254 " ¥ & ˜ The Euro code (B0H) can be changed in the parameter set command. < – > (6) PC-1253 " ¥ & The Euro code (B0H) can be changed in the parameter set command. < –...

Page 210 (7) LATIN9 " ¥ & The Euro code (B0H) can be changed in the parameter set command. < – > - 206 -...

Page 211: Ocr-A

11.3 OCR-A (Bit map font type: S) (1) PC-850, PC-857 203-dpi print head model " < > ¥ 300-dpi print head model " & < > ¥ - 207 -...

Page 212 (2) PC-8 203-dpi print head model " < ¥ > 300-dpi print head model " & < ¥ > - 208 -...

Page 213 (3) PC-852 203-dpi print head model " < > 300-dpi print head model " & < > - 209 -...

Page 214 (4) PC-851, PC-855, PC-1250, PC-1251, PC-1257, Arabic 203-dpi print head model " < > 300-dpi print head model " & < > - 210 -...

Page 215 (5) PC-1252, PC-1254 203-dpi print head model " ¥ ˜ < > 300-dpi print head model " ¥ & ˜ < > - 211 -...

Page 216 (6) PC-1253 203-dpi print head model " ¥ < > 300-dpi print head model " ¥ & < > - 212 -...

Page 217 (7) LATIN9 203-dpi print head model " ¥ < > 300-dpi print head model " ¥ & < > - 213 -...

Page 218: Ocr-B

11.4 OCR-B (Bit map font type: T) (1) PC-850, PC-857 203-dpi print head model " < > ¥ The size of the numerals of codes 80h ~ 89h are reduced to 80%. 300-dpi print head model " & < > ¥...

Page 219 (2) PC-8 203-dpi print head model " < ¥ > The size of the numerals of codes 80h ~ 89h are reduced to 80%. 300-dpi print head model " & < ¥ > The size of the numerals of codes 80h ~ 89h are reduced to 80%. - 215 -...

Page 220 (3) PC-852 203-dpi print head model " < > The size of the numerals of codes 80h ~ 89h are reduced to 80%. 300-dpi print head model " & < > The size of the numerals of codes 80h ~ 89h are reduced to 80%. - 216 -...

Page 221 (4) PC-851, PC-855, PC-1250, PC-1251, PC-1257, Arabic 203-dpi print head model " < > The size of the numerals of codes 80h ~ 89h are reduced to 80%. 300-dpi print head model " & < > The size of the numerals of codes 80h ~ 89h are reduced to 80%. - 217 -...

Page 222 (5) PC-1252, PC-1254, LATIN9 203-dpi print head model " ¥ ˜ < > The size of the numerals of codes 80h ~ 89h are reduced to 80%. 300-dpi print head model " ¥ & ˜ < > The size of the numerals of codes 80h ~ 89h are reduced to 80%. - 218 -...

Page 223 (6) PC-1253 203-dpi print head model " ¥ < > The size of the numerals of codes 80h ~ 89h are reduced to 80%. 300-dpi print head model " ¥ & < > The size of the numerals of codes 80h ~ 89h are reduced to 80%. - 219 -...

Page 224: Tec Outline Font 1

11.5 TEC OUTLINE FONT 1 (Outline font type: A, B) (1) PC-850 Ç É á ü æ í ß ± ” é Æ ó â ô ú ä ö ñ õ à ò Ñ § & å û ª ã µ...

Page 225 (3) PC-852 Ç É á ü í ß ” é ó â ô ú ä ö § & ÷ ’ ç ° ë Ö Ü ¬ • < î The Euro code (B0H) can – be changed in the > Ä...

Page 226 (5) PC-851 Ç ± ü " é â ô ä ö à § & û ç ù ê ° ë Ö è Ü Ï ½ < î £ The Euro code (B0H) can – be changed in the > Ä «...

Page 227 (7) PC-1250 á " â ó ¤ Ä ä ô µ & Ö ö § · Ç ç ÷ É é ú « » ë < ¬ Ü ü The Euro code (B0H) can – Í be changed in the >...

Page 228 (9) PC-1252 à ¡ Ñ á ñ " ¢ ² â ò ƒ £ ã ó ¤ Ä ä ô ¥ µ Å å õ & Æ Ö æ ö § · Ç ç ÷ ˜ Ø è ø é ù...

Page 229 (11) PC-1254 à ¡ Ñ á ñ " ¢ ² â ò ƒ £ ã ó ¤ Ä ä ô ¥ µ Å å õ & Æ Ö æ ö § · Ç ç ÷ ˜ Ø è ø É é...

Page 230 (13) LATIN9 à ¡ Ñ á ñ " ¢ ² â ò £ ã ó ¤ Ä ä ô ¥ µ Å å õ & Æ Ö æ ö § · Ç ç ÷ Ø è ø É é ù ª...

Page 231: Kanji

11.6 KANJI (16X16, 24X24, 32X32) (1) JIS8 (Half-size characters) □ □ □ □ □ □ □ □ □ □ ” □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ & □ □ □ □...

Page 232 (3) JIS Hexadecimal - 228 -...

Page 233 - 229 -...

Page 234 - 230 -...

Page 235 - 231 -...

Page 236 - 232 -...

Page 237 - 233 -...

Page 238: Truetype Font

11.7 TrueType FONT (1) PC-850 (2) PC-8 - 234 -...

Page 239 (3) PC-852 (4) PC-857 - 235 -...

Page 240 (5) PC-851 (6) PC-855 - 236 -...

Page 241 (7) PC-1250 (8) PC-1251 - 237 -...

Page 242 (9) PC-1252 (10) PC-1253 - 238 -...

Page 243 (11) PC-1254 (12) PC-1257 - 239 -...

Page 244 (13) LATIN9 2 3 4 5 6 7 8 9 A B C D E F 0 @ P ` p ° À Ð à ð 1 ! 1 A Q a q ¡ ± Á Ñ á ñ 2 " 2 B R b r ¢...

Page 245: Bar Code Table

12. BAR CODE TABLE (1) WPC (JAN, EAN, UPC) (2) CODE39 (Standard) ITF, MSI, UCC/EAN128, Industrial 2 of 5 – • (3) CODE39 (Full ASCII) [Transfer code] [Drawing code] " & < – – > - 241 -...

Page 246 (4) NW-7 – • (5) CODE93 [Transfer code] [Drawing code] " & < – – > - 242 -...

Page 247 (6) CODE128 [Transfer code] – – SOH DC1 " EOT DC4 ENQ NAK ACK SYN & [Drawing code] Value Code Table < – > How to transmit control code data: → NUL (00H) >@ (3EH, 40H) → SOH (01H) >A (3EH, 41H) →...

Page 248 Value Code Table VALUE CODE CODE CODE VALUE CODE CODE CODE VALUE CODE CODE " " & & – – ¦ FNC3 FNC3 FNC2 FNC2 SHIFT SHIFT CODE C CODE C < < FNC4 CODE B CODE B FNC4 CODE A CODE A >...

Page 249 (7) Data Matrix The code to be used is designated using the format ID. Format ID Code Details Numerics 0 to 9 space Letters A to Z space Alphanumerics, symbols 0 to 9 A to Z space . , - / Alphanumerics 0 to 9 A to Z space ASCII (7-bit)

Page 250 (8) PDF417 The following modes are automatically selected according to the code used. Mode Code Details EXC mode Alphanumerics, symbol 0 to 9 A to Z a to z space ! ” # $ % & ’ ( ) * + , - . / : ;...

Page 251 (9) MicroPDF417 The following modes are automatically selected according to the code used. Mode Details Upper case letters, A to Z, space space Binary International 00H to FFH (Kanji) Character Set Numerics 0 to 9 [Transfer Code] NUL DLE SP SOH DC1 STX DC2 ”...

Page 252 (10) QR code When manual mode is selected in the Format Command Numeric mode, alphanumeric and symbol mode, Kanji mode Mode selection Data to be printed Binary mode No. of data strings Mode selection Data to be printed (4 digits) Mixed mode Data “,”...

Page 253 How to send control code data NUL (00H) → >@ (3EH, 40H) SOH (01H) → >A (3EH, 41H) STX (02H) → >B (3EH, 42H) (1DH) → >] (3EH, 5DH) (1EH) → >^ (3EH, 5EH) (1FH) → >_ (3EH, 5FH) How to send a special code (3EH) →...

Page 254 (11) Postal code Customer bar code POSTNET – RM4SCC KIX CODE * “(” or “)” can be designated only as a start/stop code. These should not be entered in data. If these are entered between data, no bar code is drawn. - 250 -...

Page 255 (12) MaxiCode Symbol Character Code Set A Code Set B Code Set C Code Set D Code Set E Value Decimal Binary Character Decimal Character Decimal Character Decimal Character Decimal Character Decimal 000000 ‘ À à 000001 Á á 000010 Â...

Page 256 How to send control code data → SOH (01H) >A (3EH, 41H) → STX (02H) >B (3EH, 42H) → (1DH) >] (3EH, 5DH) → (1EH) >^ (3EH, 5EH) → (1FH) >_ (3EH, 5FH) How to send a

special code → >...

Page 257 (13) CP code [Transfer Code] NUL DLE SP SOH DC1 STX DC2 ” ETX DC3 EOT DC4 ENQ NAK ACK SYN & BEL ETB ’ < – > How to send control code data → NUL (00H) >@ (3EH, 40H) →...

Page 258: Drawing Of Bar Code Data

13. DRAWING OF BAR CODE DATA Field to be incremented/decremented (The absence of a solid line invalidates incrementing/decrementing.) Field subject to printing numerals under bars. Type of Bar Code: JAN8, EAN8 (1) No affix No. of Input Digits Input Data To be checked as modulus 10 C/D 8 digits Drawing...

Page 259 Type of Bar Code: JAN13, EAN13 (1) No affix No. of Input Digits Input Data To be checked as modulus 10 C/D 13 digits Drawing Data Other than 13 digits Not to be drawn (2) Modulus 10 check No. of Input Digits Input Data To be checked as modulus 10 C/D...

Page 260 Type of Bar Code: UPC-A (1) No affix No. of Input Digits Input Data To be checked as modulus 10 C/D 12 digits Drawing Data Other than 12 digits Not to be drawn (2) Modulus 10 check No. of Input Digits Input Data To be checked as modulus 10 C/D...

Page 261 Type of Bar Code: UPC-E (1) No affix No. of Input Digits Input Data To be checked as modulus 10 C/D 7 digits Drawing Data Other than 7 digits Not to be drawn (2) Modulus 10 check No. of Input Digits Input Data To be checked as modulus 10 C/D...

Page 262 Type of Bar Code: JAN8 +2 digits, EAN8 + 2 digits (1) No affix No. of Input Digits Input Data To be checked as modulus 10 C/D 10 digits Drawing Data Other than 10 digits Not to be drawn (2) Modulus 10 check No.

Page 263 Type of Bar Code: JAN8 +5 digits, EAN8 + 5 digits (1) No affix No. of Input Digits Input Data To be checked as modulus 10 C/D 13 digits Drawing Data Other than 13 digits Not to be drawn (2) Modulus 10 check No.

Page 264 Type of Bar Code: JAN13 +2 digits, EAN13 + 2 digits (1) No affix No. of Input Digits Input Data To be checked as modulus 10 C/D 15 digits Drawing Data Other than 15 digits Not to be drawn (2) Modulus 10 check No.

Page 265 Type of Bar Code: JAN13 +5 digits, EAN13 + 5 digits (1) No affix No. of Input Digits Input Data To be checked as modulus 10 C/D 18 digits Drawing Data Other than 18 digits Not to be drawn (2) Modulus 10 check No.

Page 266 Type of Bar Code: UPC-A + 2 digits (1) No affix No. of Input Digits Input Data To be checked as modulus 10 C/D 14 digits Drawing Data Other than 14 digits Not to be drawn (2) Modulus 10 check No.

Page 267 Type of Bar Code: UPC-A + 5 digits (1) No affix No. of Input Digits Input Data To be checked as modulus 10 C/D 17 digits Drawing Data Other than 17 digits Not to be drawn (2) Modulus 10 check No.

Page 268 Type of Bar Code: UPC-E + 2 digits (1) No affix No. of Input Digits Input Data To be checked as modulus 10 C/D 9 digits Drawing Data Other than 9 digits Not to be drawn (2) Modulus 10 check No.

Page 269 Type of Bar Code: UPC-E + 5 digits (1) No affix No. of Input Digits Input Data To be checked as modulus 10 C/D 12 digits Drawing Data Other than 12 digits Not to be drawn (2) Modulus 10 check No.

Page 270 Type of Bar Code: MSI (1) No affix No. of Input Digits Input Data Not recognized as a check digit. Max. 15 digits Drawing Data 16 digits or more Not to be drawn (2) IBM modulus 10 check No. of Input Digits Input Min.

Page 271 Type of Bar Code: Interleaved 2 of 5 (1) No affix No. of Input Digits Input Data Not recognized as a check digit. Max. 126 digits Drawing Data 127 digits or more Not to be drawn

(2) Modulus 10 check No.

Page 272 Type of Bar Code: Industrial 2 of 5 (1) No affix No. of Input Digits Input Data Not recognized as a check digit. Max. 126 digits Drawing Data 127 digits or more Not to be drawn (2) Modulus check character check No.

Page 273 Type of Bar Code: CODE39 (Standard) (1) No affix No. of Input Digits St D Input Data Start code Stop code Not recognized as a check digit. Max. 123 digits St D Drawing Data 124 digits or more Not to be drawn (2) Modulus 43 check No.

Page 274 Type of Bar Code: CODE39 (Full ASCII) (1) No affix No. of Input Digits St D Input Data Start code Stop code Not recognized as a check digit. Max. 60 digits St D Drawing Data 61 digits or more Not to be drawn (2) Modulus 43 check No.

Page 275 Type of Bar Code: No auto selection of CODE128 (Character “>” to be also counted as a digit) (1) No affix PSEUDO103 check Auto affix of PSEUDO103 No. of Input Digits Input St D Min. 3 digits Data Max. 125 digits (including start St D C/D Sp...

Page 276 Type of Bar Code: CODE93 (1) No affix C/D check Auto affix of C/D No. of Input Digits Input Data Max. 60 digits St D Drawing Data Stop code Affix a modulus 47 “K” C/D. Start code Affix a modulus 47 “C” C/D. 61 digits or more Not to be drawn NOTE:...

Page 277 Type of Bar Code: POSTNET (1) Auto affix of dedicated C/D No. of Input Digits Input Data 5 digits Drawing Data Start code Stop code Dedicated check digit Input Data 9 digits Drawing Data Start code Stop code Dedicated check digit Input Data 11 digits...

Page 278 Type of Bar Code: Customer bar code (1) Auto affix of dedicated C/D No. of Input Digits Input Data 20 digits Drawing Data Start code Dedicated check digit Stop code 21 digits or more Data of up to 20 digits is drawn. Data of 21 digits or more is discarded. Type of Bar Code: Highest priority customer bar code (1) Auto affix of dedicated C/D No.

Page 279: Automatic Adding Of Start/Stop Code

14. AUTOMATIC ADDING OF START/STOP CODE Type of Bar Code Input Data Drawing Data Designation of Start/Stop Code 12345ABC Standard *12345ABC* Full ASCII *12345ABC* *12345ABC Standard *12345ABC* Full ASCII *12345ABC* 12345ABC* Standard *12345ABC* Full ASCII *12345ABC* *12345ABC* Standard *12345ABC* Omit Full ASCII *12345ABC* (No designation)

Page 280 Type of Bar Code Input Data Drawing Data Designation of Start/Stop Code 12345ABC Standard 12345ABC Full ASCII 12345ABC *12345ABC Standard *12345ABC Full ASCII *12345ABC 12345ABC* Standard 12345ABC* Full ASCII 12345ABC* *12345ABC* Standard *12345ABC* CODE 39 Start/stop code Full ASCII *12345ABC* not added 12345*ABC Standard...