

M304X Series

Line Printer Operator's Guide

Triple Interface
Addendum

REVISION RECORD		
Edition	Date published	Revised contents
01	Aug., 1985	
02	Oct., 1985	Pages i, iii to v, 1-3, to 1-5, 1-7, 1-9, 1-12 to 1-14, 2-1, to 2-3, 2-10 to 2-19, 2-21, 2-22, 2-35, 2-36, 2-39, 2-43 to 2-46, A-3, A-4, B-3, C-2, C-5, C-8, C-9, C-11 modified. Pages 2-47, 2-48, Appendix D added.
03	May, 1986	Pages 1-11, 1-12, 2-1, to 2-3, C-4, C-7, C-11 revised. Pages 2-5, to 2-48 are shifted to 2-6 to 2-49, and same pages are revised. Pages 2-50 to 2-53 and Chapter 3 added.
04	Nov., 1986	Pages 1-4, 1-8 revised. Pages 1-9, 1-12 shifted to 1-10, 1-13 and revised. Pages 1-10, 1-11, 1-13 to 1-15 shifted to 1-11, 1-12, 1-14 to 1-16. Page 1-9 added. Pages 2-2, 2-4, revised. Pages 2-6 to 2-9 deleted. Pages 2-10 to 2-34 shifted to 2-6 to 2-32 and revised (Pages 2-17, 2-27 added). pages 2-35 to 2-43 shifted to 2-33 to 2-41. Pages 2-44, 2-45 shifted to 2-42, 2-44 and revised, and pages 2-43, 2-45 added. Pages 2-47, 2-49 to 2-53 revised. Page 3-1 revised. Pages 3-2 to 3-8 shifted to 3-3 to 3-9, and page 3-2 added. Page A-5 revised. Appendix C revised (Pages C-2 to C-4 deleted and following pages shifted).
05	Aug., 1987	Chapter 1 revised.
06	Sep., 1989	Pages i to iii, v, vi, 1-8, 1-15, 1-16, 2-2, 2-4 to 2-28 and 2-30 revised.
Specification No. B02P-1500-0051A		

The contents of this manual may be revised without prior notice.

All rights reserved, Copyright © 1985, 1986, 1987, 1989 FUJITSU LIMITED.

Printed in Japan. No part of this manual may be reproduced in any form without permission.

Comments concerning this manual to one of the following addresses:

FUJITSU AMERICA INC.
3055 Orchard Drive, San Jose, CA 95134-2017, U.S.A.
TEL: (1-408) 432-1300
FAX: 408-432-1318
TLX: 176207
TWX: 910-338-2193

FUJITSU AUSTRALIA LIMITED
475 Victoria Avenue, Chatswood, 2067 N.S.W., AUSTRALIA
TEL: (61-2) 410-4555
FAX: 2-411-8603
TLX: 25233

FUJITSU CANADA INC.
6280 Northwest Drive, Mississauga
Ontario, L4V 1J7, CANADA
TEL: (1-416) 673-8666
FAX: 416-673-8677
TLX: 968132

FUJITSU DEUTSCHLAND GmbH
Rosenheimerstrasse 145
D-8000 München 80, F.R. GERMANY
TEL: (49-89) 4 1301-0
FAX: 89-4 1301-100
TLX: 897106

FUJITSU ESPAÑA, S.A.
Edificio Torre Europa
Paseo de la Castellana 95, Madrid 28046, SPAIN
TEL: (34-1) 581-8000
FAX: 1-581-8300
TLX: 23887

FUJITSU EUROPE LIMITED
2 Longwalk Road, Stockley Park, Uxbridge
Middlesex, UB11 1AB, ENGLAND
TEL: (44-1) 573-4444
FAX: 1-573-2643
TLX: 263871

FUJITSU HONG KONG LIMITED
Room 1831, Sun Hung Kai Centre
30 Harbour Road, HONG KONG
TEL: (852-5) 8915780
FAX: 5-742917
TLX: 62667

FUJITSU ITALIA S.p.A.
Via Melchiorre Gioia, 8-20124 Milano, ITALY
TEL: (39-2) 6572741
FAX: 2-6572257
TLX: 350142

FUJITSU NORDIC AB
Torggatan 8, S-171 54 Solna, SWEDEN
TEL: (46-8) 764 76 90
FAX: 8-28 03 45
TLX: 13411

FUJITSU LIMITED
International Operations
Marunouchi 1-6-1, Chiyoda-ku, Tokyo 100, JAPAN
TEL: (81-3) 216-3211
FAX: 03-213-7174
TLX: J22833
Cable: "FUJITSU LIMITED TOKYO"

B02P-1500-0051A...06

This document contains technology relating to strategic products controlled by export control laws of the producing and/or exporting countries. This document or a portion thereof should not be exported (or reexported) without authorization from the appropriate governmental authorities in accordance with such laws.

FUJITSU LIMITED

CONTENTS

CHAPTER 1	INSTALLATION	1-1
1.1	Required Tools	1-1
1.2	Unpacking	1-1
1.3	Inspection	1-7
1.4	Cabling	1-11
1.4.1	Power cable connection	1-11
1.4.2	Interface cable connection	1-12
1.5	Preparing for Initial Power-On	1-12
1.6	Initial Power-On	1-13
1.7	Testing	1-14
1.7.1	Forms position adjustment	1-14
1.7.2	Offline test	1-15
1.7.3	Online test	1-16
CHAPTER 2	OPERATION	2-1
2.1	Precautions	2-1
2.2	Mode Setting and Power On	2-1
2.3	Power Off	2-3
2.4	NORMAL Mode Operation	2-3
2.5	SET UP Mode Operation	2-4
2.6	TEST Mode Operation	2-29
2.7	Forms Mounting	2-34
2.8	Ribbon Replacement	2-38
2.8.1	Ribbon removal	2-38
2.8.2	Ribbon mounting	2-39
2.8.3	Ribbon scraping and ribbon storing temporarily	2-42
2.9	Print Band Replacement	2-43
2.9.1	Warnings	2-43
2.9.2	Print band removal	2-43
2.9.3	Print band mounting	2-47
2.10	Ribbon Separator Replacement	2-49
2.11	Wax Replacement	2-50
2.12	Operations of Optional Operator Panels	2-51
2.12	Operations of Optional Operator Panels	2-51
2.12.1	Stacker operator panel	2-51
2.12.2	Forms rack operator panel	2-53
2.12.3	Paper puller operator panel	2-54
CHAPTER 3	CLEANING	3-1
3.1	Cleaning the Base Unit	3-1
3.2	Cleaning the Forms Feed Unit	3-4
3.3	Cleaning the Ribbon Unit	3-6
3.4	Cleaning the Cabinet	3-8

ILLUSTRATIONS

Figure 1.1	Masking tape locations	1-4
Figure 1.2	Leveling-1	1-5
Figure 1.3	Leveling-2	1-6
Figure 1.4	Labels location	1-7
Figure 1.5	Power supply cord caution label	1-9
Figure 1.6	Band cover latch	1-9
Figure 1.7	Numbers on the motor pulley	1-10
Figure 1.8	Power and interface connectors	1-11
Figure 1.9	Interface cable clamping	1-12
Figure 1.10	Power switch	1-13
Figure 1.11	Forms adjustment knobs and levers	1-14
Figure 1.12	Example of forms adjustment	1-14
Figure 2.1	Operator panel	2-2
Figure 2.2	Power switch	2-2
Figure 2.3	Forms mounting	2-34
Figure 2.4	Forms adjustment	2-35
Figure 2.5	Forms stacking	2-36
Figure 2.6	Forms posture causing fold failures	2-37
Figure 2.7	Ribbon removal	2-38
Figure 2.8	Ribbon path	2-39
Figure 2.9	Ribbon mounting	2-40
Figure 2.10	Slack ribbon removing	2-41
Figure 2.11	Ribbon stopper inserting	2-42
Figure 2.12	Print band removing (1)	2-43
Figure 2.13	Print band removing (2)	2-45
Figure 2.14	Print band position adjustment (1)	2-47
Figure 2.15	Print band position adjustment (2)	2-48
Figure 2.16	Ribbon separator mounting	2-49
Figure 2.17	Wax replacement	2-50
Figure 2.18	Stacker operator panel	2-51
Figure 2.19	Forms rack operator panel	2-53
Figure 2.20	Paper puller operator panel	2-54
Figure 3.1	Cleaning the base unit	3-1
Figure 3.2	Cleaning the forms feed unit	3-4
Figure 3.3	Cleaning the ribbon unit	3-6
Figure 3.4	Cleaning the ribbon feed sensor	3-7
Figure 3.5	Cleaning the hopper	3-8
Figure 3.6	Cleaning the forms rack or powered stacker	3-8
Figure A.1	Outer dimensions (with forms rack)	A-1
Figure A.1	Outer dimensions (with powered stacker)	A-2
Figure A.3	Operation and maintenance area (with forms rack)	A-3
Figure A.4	Operation and maintenance area (with powered stacker)	A-4
Figure B.1	Forms rack or powered stacker opening	B-1
Figure B.2	Preparation for cabling	B-2
Figure B.3	Field wiring	B-3

- (3) Check the accessories supplied, against the accessory list. The accessories for this printer are as follows:

Ribbon cartridge	1
Power cable	1
Test record	1
Print sample	1
Test forms (standard continuous forms)	Approx. 100 pages
Accessory list	1

- (4) Make sure that Part Number of the power cable in the accessory list agrees with the power source (See Table 1.1).

If the part number of the power cable is not listed and the label is attached on the printer as shown in Figure 1.5, use the power supply cord or its equivalent listed in Table 1.2.

Table 1.1 Power cables attached to printer

Part Number of power cable	Voltage range of Power source (V)	Remarks
CT-VM0033B-0113FL3M-HIRAKAWA	100 - 120	UL/CSA
B660-1305-T110A#L3R003		
CT-VM0099-VM0113L3M-HIRAKAWA	200 - 240	
CT-VM0113L3M-HIRAKAWA		
B66L-1305-0001A		
B660-1305-T079A#L3R003		
B660-1305-T086A#L3R003		
B660-1305-T087A#L3R003		
B660-1305-T088A#L3R003		
C66L-4740-0001		
CT-VM0099-VM0113L3M-HIRAKAWA	200 - 240	VDE
CT-VM0309-VM0113L3M-HIRAKAWA		

- (6) Make sure that the print band is installed on the drive and idler pulley. Also make sure that the printer mechanism has no abnormality, i.e., broken or loosen parts, etc.
- (7) Mount the band cover and close the top cover.

If the printer is not the model and configuration that was ordered or if it is damaged, call your sales representative.

1.4 Cabling

1.4.1 Power cable connection

(1) M3040, M3041 and M3042

Connect plugs at both end of the power cable; the male connector to an AC receptacle and the female connector to the printer.

When the power cable is not attached to the printer, connect to the power source using the power supply cord listed in Table 1.2.

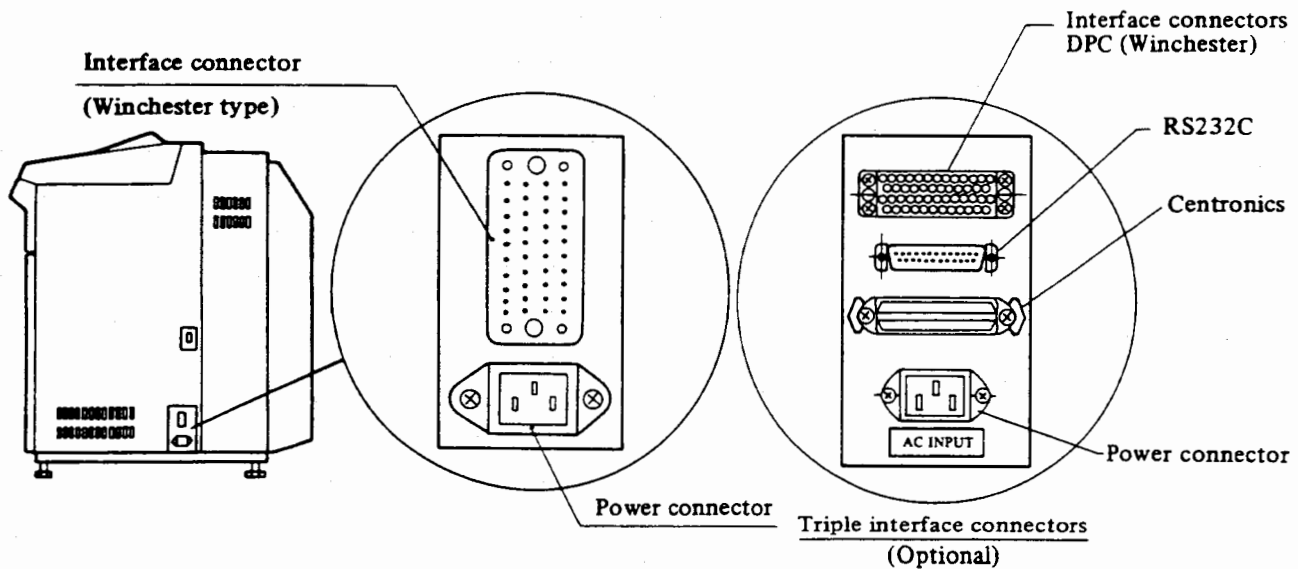


Figure 1.8 Power and interface connectors

(2) M3043

When no power cable is connected to the M3043, the connection of the power cable must be done by electrician according to the Appendix B.

When the power cable is already connected to the M3043, connect the male connector to an AC receptacle.

1.4.2 Interface cable connection

Passing the cable clamp under the power connector, connect the interface cable plug to the printer and clamp the cable. See Figure 1.9.

Insert a DPC-interface AMP connector or an RS-232-C interface connector, then tighten the two mounting screws. Use a standard screwdriver to secure a DPC-interface Winchester connector. Insert a Centronics interface connector, then lock it in place using the two lock wires.

Note: In case of M304X with the triple interface, only one cable either DPC, Centronics or RS232C interface shall be inserted.

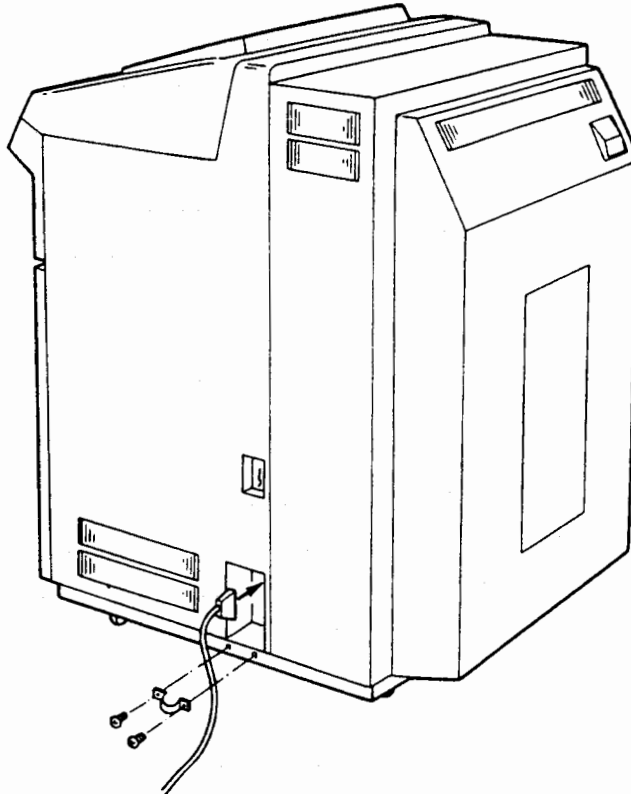


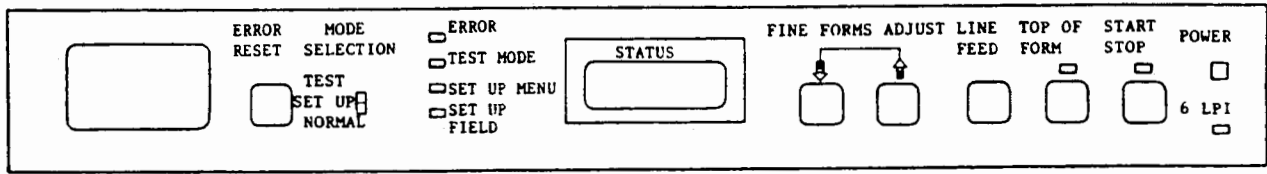
Figure 1.9 Interface cable clamping

1.5 Preparing for Initial Power-On

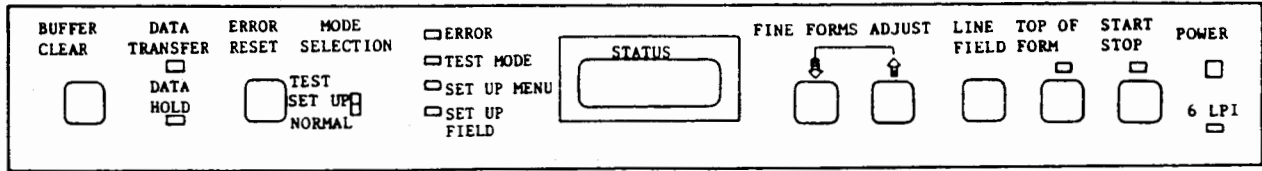
After the power and interface cables are connected, mount the forms and ribbon before turning the power on.

For mounting forms, refer to section 2.4.

For mounting ribbon, refer to section 2.5.



(a) M304XD, M304XC



(b) M304XR, M304X with triple interface

☐ : Pushbutton switch ☐ : LED lamp
☐ : Slide switch ☐ : STATUS indicator

Figure 2.1 Operator panel

- (1) Set the MODE SELECTION switch on the operator panel to TEST, SET UP or NORMAL position to select the printer mode.
- (2) Set the power switch on the right side of the cabinet to position I. Make sure the POWER lamp on the operator panel lights.

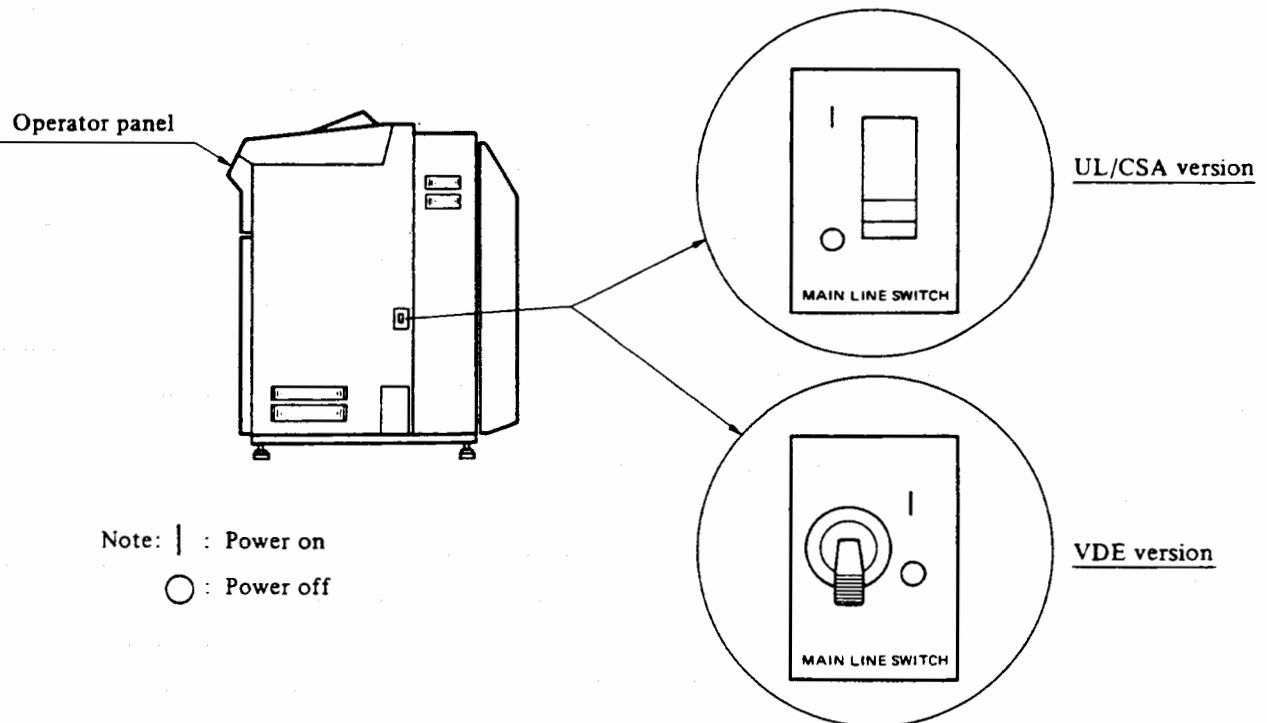


Figure 2.2 Power switch

- (6) After correcting the error, press the ERROR RESET switch. The ERROR lamp comes out.
- (7) Press the START/STOP switch to bring the printer online again. The START/STOP lamp comes on and ONLINE (or START) is displayed on the STATUS indicator.

- Note 1: When the printer is online, pressing the START/STOP switch puts the printer offline. The START/STOP lamp comes out and OFFLINE (or STOP) is displayed.
- Note 2: When the printer is offline, OFFLINE is displayed in M304XD or M304XC, and STOP is displayed in M304XR. When the printer is online, ONLINE is displayed in M304XD or M304XC, and START is displayed in M304XR.
- Note 3: In the M304XR
 The DATA TRANSFER Lamp is on while transferring on receiving data between the host and the printer.
 The DATA HOLD Lamp is on when data is stored in the interface buffer.
 When the BUFFER CLEAR switch is pressed with the ERROR RESET switch held down, the interface buffer is cleared, after that, the DATA HOLD Lamp comes off.

2.5 SET UP Mode Operation

Kinds of set up menus and set up fields are different according to the models:

M3040D, M3041D, M3042D, M3043D	See Table 2.2
M3040C, M3041C, M3042C, M3043C	See Table 2.3
M3040R, M3041R, M3042R, M3043R	See Table 2.4

The number of changeable set up menus is different according to the power-on sequence.

<u>Power-on sequence</u>		<u>Number of set up menu</u>
Case 1: MODE SELECTION switch \Rightarrow Power switch SET UP O		All set up menus
Case 2: Power switch O \Rightarrow MODE SELECTION switch SET UP		Several set up menus (marked with ** in Tables 2.2, 2.3, and 2.4)

Note: In case 2, after turn on the power, confirm that OFFLINE (or STOP) is displayed on the STATUS indicator. If ONLINE (or START) is displayed, press the START/STOP switch to put the printer offline.

- (1) After confirming that SET UP is displayed, press the START/STOP switch while pressing the ERROR RESET switch to set SET UP mode. The SET UP MENU lamp comes on and the first item of the set up menu is displayed on the STATUS indicator.

(2) Set up menu selection

Press the FINE FORMS ADJUST (↑ or ↓) switch to select a set up menu. Every time pressing, the set up menu item is displayed on the STATUS indicator. When the required set up menu item appears, press the START/STOP switch to set the item. The SET UP MENU lamp goes off and the SET UP FIELD lamp comes on. The first set up field is displayed on the STATUS indicator.

(3) Set up field selection

Press the FINE FORMS ADJUST (↑ or ↓) switch to select a set up field. Every time pressing, the set up field item is displayed on the STATUS indicator. When the required set up field item appears, press the START/STOP switch to set the item. The SET UP FIELD lamp goes off and the SET UP MENU lamp comes on. The set up menu item selected in item (2) is displayed on the STATUS indicator.

(4) When changing another set up menu item, repeat the procedures (2) and (3).

(5) When NORMAL mode is required after SET UP mode operation is finished, set the MODE SELECTION switch to NORMAL. The SET UP MENU lamp goes off and OFFLINE (or STOP) is displayed on the STATUS indicator.

Note: Interface selection (optional triple interface)
When using the M304X with the triple interface, select the set up menu I/F as explained in item (2).
The required interface (either DPC, Centronics or RS232C) is set to select the set up field below as described in item (3).

Set up menu	Function	Set up field	Function
I/F	The specified interface is set.	CENTRO DPC RS232C	Centronics I/F is available DPC I/F is available. RS232C I/F is available.

Table 2.2 STATUS indicator display, Set up menus (M304XD)

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
1	LPI	Forms feed pitch is set.	6LPI 8LPI	6 lines/inch 8 lines/inch	6LPI	
2	FLSSEL	The setting method of the form length per page is set in lines or inches.	INCHES	Form length is set in inches.	INCHES	Form length is set in set up menu Nos. 3 and 4.
			LINES	Form length is set in lines.		Form length is set in set up menu No. 2.
3	FORM-L	Number of lines per page is set.	LIN018 LIN019 LIN198 LIN199	18 lines/page 19 lines/page 198 lines/page 199 lines/page	LIN066	This set up menu is valid only when LINES is set in FLSSEL of set up menu No. 9.
4	FORM-I	Form length per page is set in inches. (Form length) = (length set by FORM-I) + (length set by FORM-F)	ICH 3 ICH 4 ICH 21 ICH 22	3 inches 4 inches 21 inches 22 inches	ICH11	This set up menu is valid only when INCHES is set in FLSSEL of set up menu No. 9. If 1/4ICH or 1/6ICH is set for FORM-F when 6LPI is set in LPI of set up menu No. 1 or if 1/6ICH, 1/3ICH, 2/3ICH, or 5/6ICH is set when 8LPI is set, an INCHER error occurs. If this error occurs, the setting must be made again.
5	FORM-F	FORM-I: Integer part FORM-F: Fraction part	OICH 1/6ICH 1/4ICH 1/3ICH 1/2ICH 2/3ICH 3/4ICH 5/6ICH	No fraction part 1/6 inches 1/4 inches 1/3 inches 1/2 inches 2/3 inches 3/4 inches 5/6 inches	OICH	
6	SKIPOV	Perforation, skip-over count are set.	LIN000 LIN001 . . LIN014 LIN015	No lines are skipped. 1 line is skipped. . . 14 lines are skipped 15 lines are skipped.	LIN003	

Table 2.2 STATUS indicator display, Set up menus (M304XD) - continued

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
7	BOF CH	The BOF channel is set.	NO CH 2 . CH 11 CH 12	BOF skip-over is invalid. BOF channel is 2. . BOF channel is 11. BOF channel is 12.	NO	
8	CRCODE	The CR code function is set.	CR>NL CR=NL	The printer only points. It does not feed forms. The printer prints one line and feeds one line.	CR>NL	
9	COLUMN	The print position is set.	136COL 132COL 80COL	136 characters/line 132 characters/line 80 characters/line	136COL	
10 **	NULCOD	Null code set as a space or ignored.	SPACE IGNORE	Set as space Ignored	SPACE	
11 **	LFCODE	Validity of LF code is set.	ENABLE DISABL	LF code is valid. LF code is invalid.	ENABLE	
12 **	AUTONL	When the MODE SELECT switch is set to NORMAL at power on, the availability of ONLINE mode is set.	ENABLE DISABL	The printer is automatically in the ONLINE mode. The printer is not in the ONLINE mode unless the START/STOP switch is pressed.	DISABL	
13 **	SP CMD	Maximum line feed capability of space command function.	SP15 SP63	The maximum number of feeds for the space command function 0 to 15. The maximum number of line feeds for the space command function 0 to 63.	SP15	
14 **	TRNCT	The operation when the received space command exceeds TOF is set.	ENABLE DISABL	The forms stop position is aligned at TOF. Execution is done as specified by the received space command.	DISABL	

Table 2.2 STATUS indicator display, Set up menus (M304XD) - continued

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
15 **	LOW-UP	Upper case and lower case change.	ENABLE DISABL DEPEND	Changes Do not change Changes in the case of 64-character band. Does not change in the case of 96-character band.	DISABL	
16 **	I1403	Forms feed operation is set when the following conditions are satisfied and at reception of a skip command having no print data. - The print line is positioned at the specified channel. - Nothing has been printed on the print line.	ENABLE DISABL	Form is not fed. Form is fed.	DISABL	
17 **	DT BIT	Number of valid bits on the interface data line is set.	7BIT 8BIT	7-bit mode 8-bit mode	7BIT	
18 **	P-INST	Validity of paper instruction signal is set.	USE NO USE	Paper instruction signals are valid. Paper instruction signals are invalid.	NO USE	Space and skip commands can be used, and FCB loading is possible.
19 **	TOFSIG	Validity of TOF signal is set.	NO OUT CH 1 CH 9	TOF signal is invalid. TOF signal is valid at CH1. TOF signal is valid at CH9.	NO OUT	

Table 2.2 STATUS indicator display, Set up menus (M304XD) - continued

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
20 **	BOFSIG	Validity of BOF signal is set.	OUTPUT NO OUT	BOF signal is valid. BOF signal is invalid.	NO OUT	
21 **	IDNT01	Validity of IDNT (01 or 00) signal is set.	OUTPUT NO OUT	IDNT signal is valid. IDNT signal is invalid.	NO OUT	
22 **	F-MOVE	Validity of paper move signal is set.	NO OUT PR MOV VFURDY CH 9	Paper move signal is invalid. Paper move signal is valid. VFU is loaded correctly. Signal is set at channel 9.	NO OUT	
23 **	IF SIG	The logic of the interface signals is set. (excluding buffer clear signals)	HIGH LOW	When the interface signal is high (+5 V) or low (0 V), the operation is regarded as true (1) or false (0) respectively. When the interface signal is low (0 V) or high (+5 V), the operation is regarded as true (1) or false (0) respectively.	LOW	
24 **	BCLSIG	The logic of the buffer clear signals is set.	HIGH LOW	When the buffer clear signal is high (+5 V) or low (0 V), the operation is regarded as true (1) or false (0) respectively. When the buffer clear signal is low (0 V) or high (+5 V), the operation is regarded as true (1) or false (0) respectively.	LOW	

Table 2.2 STATUS indicator display, Set up menus (M304XD) - continued

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
25 **	BCLSEL	Signals to clear the buffer are selected.	ONLY & WSB	When the buffer clear signal is received, the buffer is cleared. When the buffer clear signal and the write stroke are received, the buffer is cleared.	ONLY	
26 **	PARITY	Even or odd parity check is set.	EVEN	Even parity is checked.	NO	When an odd parity code is received, a parity error occurs.
			ODD	Odd parity is checked.		When an even parity code is received, a parity error occurs.
			NO	No parity is checked.		When a parity code is received, a parity error occurs.
27 **	PTYSIG	Parity check signals are set.	WIF1-8 W1-7PI	The WIF1 to WIF8 signals check the parity. The WIF1 to WIF7 and PI signals check the parity.	WIF1-8	
28 **	SKIPCM	Skip or space command is set by the bit No. of the received forms feed data and that bit contents.	BIT5HI BIT5LO BIT7HI BIT7LO	Data bit 5=1 ... Skip command Data bit 5=0 ... Space command Data bit 5=0 ... Skip command Data bit 5=1 ... Space command Data bit 7=1 ... Skip command Data bit 7=0 ... Space command Data bit 7=0 ... Skip command Data bit 7=1 ... Space command	BIT5LO	

Table 2.2 STATUS indicator display, Set up menus (M304XD) - continued

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
29 **	AUTEJC	Validity of the following operation is set. - When the printer is in the start state and data transmission from the host is not performed, and the interface buffer is empty, four or five sheets of paper (11-inch forms) are fed 2 seconds after the TOF switch on the operator panel is pressed. Then, the printer enters the stop state and after 20 seconds, it enters the start state again.	ENABLE DISABL	The operation is valid. The operation is invalid.	DISABL	
30 **	INVCOD	Set as space or ignored when an invalid control code is sent from the host.	SPACE IGNORE	Set as space Ignored	SPACE	
31 **	OPBELT	Determined by selection when special bands are used. This printer prints according to the specifications of the selected belt number when a 192-character band is installed.	BELT1 BELT2 BELT3 . . . BELT28 BELT29 BELT30	Band selection	BELT1	
32 ** (See Note)	I/F	The specified interface is set.	CENTRO DPC RS232C	Centronics I/F is available DPC I/F is available RS232C I/F is available	DPC	In case of the M304X with the triple interface, this set up menu is added.

Table 2.2 STATUS indicator display, Set up menus (M304XD) - continued

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
33 **	D-MENU	Display menu	DISP NODISP	Display the all menu Display only menus which are possible to change everytime without power-on mode.	DISP	
34	Releas	Date released ROM is indicated.	ex. 032388	March 23'88		

Table 2.3 STATUS indicator display, Set up menus (M304XC)

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
1	LPI	Forms feed pitch is set.	6LPI 8LPI	6 lines/inch 8 lines/inch	6LPI	
2	FLSSEL	The setting method of the form length per page is set in lines or inches.	INCHES	Form length is set in inches.	INCHES	Form length is set in set up menu Nos. 3 and 4.
			LINES	Form length is set in lines.		Form length is set in set up menu No. 2.
3	FORM-L	Number of lines per page is set.	LIN 18 LIN 19 LIN198 LIN199	18 lines/page 19 lines/page 198 lines/page 199 lines/page	LIN 66	This set up menu is valid only when LINES is set in FLSSEL of set up menu No. 9.
4	FORM-I	Form length per page is set in inches. (Form length) = (length set by FORM-I) + (length set by FORM-F)	ICH 3 ICH 4 ICH 21 ICH 22	3 inches 4 inches 21 inches 22 inches	ICH 11	This set up menu is valid only when INCHES is set in FLSSEL of set up menu No. 9. If 1/4ICH or 1/6ICH is set for FORM-F when 6LPI is set in LPI of set up menu No. 1 or if 1/6ICH, 1/3ICH, 2/3ICH, or 5/6ICH is set when 8LPI is set, an INCHER error occurs. If this error occurs, the setting must be made again.
5	FORM-F	FORM-I: Integer part FORM-F: Fraction part	OICH 1/6ICH 1/4ICH 1/3ICH 1/2ICH 2/3ICH 3/4ICH 5/6ICH	No fraction part 1/6 inches 1/4 inches 1/3 inches 1/2 inches 2/3 inches 3/4 inches 5/6 inches	OICH	
6	SKIPOV	Perforation, skip-over count are set.	LIN 0 LIN 1 . . LIN 14 LIN 15	No lines are skipped. 1 line is skipped. . . 14 lines are skipped 15 lines are skipped.	LIN 3	

Table 2.3 STATUS indicator display, Set up menus (M304XC) - continued

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
7	BOF CH	The BOF channel is set.	NO CH 2 . . CH 11 CH 12	BOF skip-over is invalid. BOF channel is 2. . . BOF channel is 11. BOF channel is 12.	NO	
8	CRCODE	The CR code function is set.	CR<>NL CR=NL	The printer only points. It does not feed forms. The printer prints one line and feeds one line.	CR<>NL	
9	COLUMN	The print position is set.	136COL 132COL 80COL	136 characters/line 132 characters/line 80 characters/line	136COL	
10	VTICODE	Vertical tab (VT) operation is set.	VT<>NL VT=NL	When a VT code is received, a skip is made to the channel set in set up menu No. 11. The VT code is regarded as an LF code.	VT<>NL	
11	VT CH	Channel for vertical tab (VT) is set.	ALL CH 2 CH 3 . . CH 11 CH 12	All channels are regarded as VT channels. VT channel is channel 2. VT channel is channel 3. . . VT channel is channel 11. VT channel is channel 12.	ALL	

Table 2.3 STATUS indicator display, Set up menus (M304XC) - continued

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
12	R-MRGN	The operation, when data exceeding the number of characters per line set in COLUMN of set up menu No. 7 is received, is set.	NL CR DISABL	The printer prints and feeds one line. The printer only prints. It does not feed forms. The printer does not print until it receives a control code. Therefore, the data exceeding the number of characters set in COLUMN is not printed.	NL	
13	ESCCOD	Validity of ESC (escape) code is set.	ENABLE DISABL	ESC code is valid. ESC code is invalid.	DISABL	
14 **	NULCOD	Null code set as a space or ignored.	SPACE IGNORE	Set as space Ignored	SPACE	
15 **	LFCODE	Validity of LF code is set.	ENABLE DISABL	LF code is valid. LF code is invalid.	ENABLE	
16 **	AUTONL	When the MODE SELECT switch is set to NORMAL at power on, the availability of ONLINE mode is set.	ENABLE DISABL	The printer is automatically in the ONLINE mode. The printer is not in the ONLINE mode unless the START/STOP switch is pressed.	DISABL	
17 **	TRNCT	The operation when the received space command exceeds TOF is set.	ENABLE DISABL	The forms stop position is aligned at TOF. Execution is done as specified by the received space command.	DISABL	
18 **	LOW-UP	Upper case and lower case change	ENABLE DISABL DEPEND	Changes Does not change Changes in the case of 64-character band. Does not change in the case of 96-character band.	DISABL	

Table 2.3 STATUS indicator display, Set up menus (M304XC) - continued

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
19 **	I1403	Forms feed operation is set when the following conditions are satisfied and at reception of a skip command having no print data. - The print line is positioned at the specified channel. - Nothing has been printed on the print line.	ENABLE DISABL	Form is not fed. Form is fed.	DISABL	
20 **	BUFCLR	Buffer clear code is set.	DEL CAN BOTH NO	DEL code (X'7F') CAN code (X'18') Both DEL and CAN codes are valid. Both DEL and CAN codes are ignored.	DEL	
21 **	PFCTRM	The operation is set when LF or FF code is received.	ENABLE DISABL	When an LF or FF code is received, already received data is not printed and is kept, and forms are fed. When an LF or FF code is received, already received data is printed and forms are fed.	DISABL	
22 **	BUSYSL	Sending mode of BUSY signal is set.	ENABLE DISABL	BUSY signal is sent for each print data. BUSY signal is sent only when a control code is received.	DISABL	
23 **	DT BIT	Number of valid bits on the interface data line is set.	7BIT 8BIT	7-bit mode 8-bit mode	7BIT	

Table 2.3 STATUS indicator display, Set up menus (M304XC) - continued

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
24 **	SKIPCM	Skip or space command is set by the bit No. of the received forms feed data and that bit contents.	BIT5HI BIT5LO BIT7HI BIT7LO	Data bit 5=1 ... Skip command Data bit 5=0 ... Space command Data bit 5=0 ... Skip command Data bit 5=1 ... Space command Data bit 7=1 ... Skip command Data bit 7=0 ... Space command Data bit 7=0 ... Skip command Data bit 7=1 ... Space command	BIT5LO	
25 **	AUTEJC	Validity of the following operation is set. - When the printer is in the start state and data transmission from the host is not performed, and the interface buffer is empty, four or five sheets of paper (11-inch forms) are fed 2 seconds after the TOF switch on the operator panel is pressed. Then, the printer enters the stop state and after 20 seconds, it enters the start state again.	ENABLE DISABL	The operation is valid. The operation is invalid.	DISABL	
26 **	INVCOD	Set as space or ignored when an invalid control code is sent from the host.	SPACE IGNORE	Set as space Ignored	SPACE	

Table 2.3 STATUS indicator display, Set up menus (M304XC) - continued

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
27 **	OPBELT	Determined by selection when special bands are used. This printer prints according to the specifications of the selected belt number when a 192-character band is installed.	BELT1 BELT2 BELT3 . . . BELT28 BELT29 BELT30	Band selection	BELT1	
28 ** (See Note)	I/F	The specified interface is set.	CENTRO DPC RS232C	Centronics I/F is available DPC I/F is available RS232C I/F is available	CENTRO	In case of the M304X with the triple interface, this set up menu is added.
29 **	D-MENU	Display MENU	DISP NODISP	Display the all menus. Only display the menus which is possible to change everytime without power on mode.	DISP	
30	Releas	Date released ROM is indicated.	ex. 032388	March 23'88		

Table 2.4 STATUS indicator display, Set up menus (M304XR)

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
1	LPI	Forms feed pitch is set.	6LPI 8LPI	6 lines/inch 8 lines/inch	6LPI	
2	FLSSEL	The setting method of the form length per page is set in lines or inches.	INCHES	Form length is set in inches.	INCHES	Form length is set in set up menu Nos. 4 and 5.
			LINES	Form length is set in lines.		Form length is set in set up menu No. 3.
3	FORM-L	Number of lines per page is set.	LIN 18 LIN 19 LIN198 LIN199	18 lines/page 19 lines/page 198 lines/page 199 lines/page	LIN 66	This set up menu is valid only when LINES is set in FLSSEL of set up menu No. 2.
4	FORM-I	Form length per page is set in inches. (Form length) = (length set by FORM-I) + (length set by FORM F)	ICH 3 ICH 4 ICH 21 ICH 22	3 inches 4 inches 21 inches 22 inches	ICH 11	This set up menu is valid only when INCHES is set in FLSSEL of set up menu No. 9. If 1/4IN or 1/6IN is set for FORM-F when 6LPI is set in LPI of set up menu No. 1 or if 1/6IN, 1/3IN, 2/3IN, or 5/6IN is set when 8LPI is set, an INCHER error occurs. If this error occurs, the setting must be made again.
5	FORM-F	FORM-I: Integer part FORM-F: Fraction part	0 ICH 1/6 ICH 1/4 ICH 1/3 ICH 1/2 ICH 2/3 ICH 3/4 ICH 5/6 ICH	No fraction part 1/6 inches 1/4 inches 1/3 inches 1/2 inches 2/3 inches 3/4 inches 5/6 inches	0 ICH	
6	SKIPOV	Perforation, skip-over count are set.	LIN000 LIN001 . . LIN 14 LIN 15	No lines are skipped. 1 line is skipped. . . 14 lines are skipped 15 lines are skipped.	LIN003	

Table 2.4 STATUS indicator display, Set up menus (M304XR) - continued

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
7	BOF CH	The BOF channel is set.	NO CH 2 : : CH 11 CH 12	BOF skip-over is invalid. BOF channel is 2. : : BOF channel is 11. BOF channel is 12.	NO	
8	COLUMN	The print position is set.	136COL 132COL 80COL	136 characters/line 132 characters/line 80 characters/line	136COL	
9 **	TRNCT	The operation when the received space command exceeds TOF is set.	ENABLE DISABL	The forms stop position is aligned at TOF. Execution is done as specified by the received space command.	DISABL	
10 **	LOW-UP	Upper case and lower case change	ENABLE DISABL DEPEND	Changes Does not change Changes in the case of 64-character band. Does not change in the case of 96-character band.	DISABL	
11 **	I1403	Forms feed operation is set when the following conditions are satisfied and at reception of a skip command having no print data. - The print line is positioned at the specified channel. - Nothing has been printed on the print line.	ENABLE DISABL	Form is not fed. Form is fed.	DISABL	

Table 2.4 STATUS indicator display, Set up menus (M304XR) - continued

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
12 **	OPBELT	Determined by selection when special bands are used. This printer prints according to the specifications of the selected when a 192-character band is installed.	BELT1 BELT2 BELT3 . . . BELT28 BELT29 BELT30	Band selection	BELT1	
13 ** (See Note)	I/F	The specified interface is set.	CENTRO DPC RS232C	Centronics I/F is available DPC I/F is available RS232C I/F is available	RS232C	In case of the M304X with the triple interface, this set up menu is added.
14 **	D-MENU	Menu indication	DISP NODISP	All set-up menus are displayed. Menus other than those displayed only in power-on mode are displayed.	DISP	
15	L-END	New Line on Right Margin operation is set.	NO NLonRM	The operation is not performed. The operation is performed.	NLonRM	
16	Releas	Date released ROM is indicated.	ex. 032388	March 23'88		
17	CRCODE	The CR code function is set.	CR<>NL CR=NL	The printer only prints. It does not feed forms. The printer prints one line and feeds one line.	CR<>NL	

Table 2.4 STATUS indicator display, Set up menus (M304XR) - continued

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
18	L.TERM	The print position after the print operation is completed is set.	CR/FF PRTCMD	Only when a CR or FF code is received, the print position is returned to the first character position. When other print command is received, the print position is not returned. When a print operation command is received, the print position is always returned to the first character position after the print operation is completed.	PRTCMD	
19	VT CODE	Vertical tab (VT) operation is set.	VT<>LF VT=LF	When a VT code is received, a skip is made to the channel set in set up menu No. 11. The VT code is regarded as an LF code.	VT<>LF	
20	VI CH	Channel for vertical tab (VT) is set.	ALL CH 2 CH 3 : : : CH 11 CH 12	All channels are regarded as VT channel. VT channel is channel 2. VT channel is channel 3. : : : VT channel is channel 11. VT channel is channel 12.	ALL	
21 **	DT BIT	Number of valid bits on the interface data line is set.	7BIT 8BIT 7SI/SO	7-bit mode 8-bit mode 7-bit+SI/SO mode	7BIT	

Table 2.4 STATUS indicator display, Set up menus (M304XR) - continued

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
22 **	PARITY	Even or odd parity check is set.	EVEN	Even parity is checked.	NO	When an odd parity code is received, a parity error occurs.
			ODD	Odd parity is checked.		When an even parity code is received, a parity error occurs.
			NO	No parity is checked.		When a parity code is received, a parity error occurs.
			IGNORE	Parity bit is ignored.		Even, odd, mark or space parity is enabled. Sending data; XON/XOFF code or status data; is even parity.
23 **	BAUD	Baud rate is set.	2400B 4800B 9600B 19200B		9600B	
24 **	A-FULL	The data storage rate of the interface buffer is set as a timing to inform the host by the following that the interface buffer is almost full: (1) X-OFF code transmission (2) Reverse Channel signal OFF (3) DTR signal OFF (4) RTS signal OFF	87.5% 75%	Data storage rate is 87.5%. (256 bytes remain) Data storage rate is 75%. (512 bytes remain)	87.5%	

Table 2.4 STATUS indicator display, Set up menus (M304XR) - continued

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
25 **	A-EMP	The data storage rate of the interface buffer is set as a timing to inform the host by the following that the interface buffer is almost empty: (1) X-ON code transmission (2) Reverse Channel signal ON (3) DTR signal ON (4) RTS signal ON	12.5% 25% 37.5% 50% 62.5%	Data storage rate is 12.5%. (256 bytes) Data storage rate is 25%. (512 bytes) Data storage rate is 37.5%. (768 bytes) Data storage rate is 50%. (1024 bytes) Data storage rate is 62.5%. (1280 bytes)	12.5%	
26 **	PRTCOL	The message protocol is set.	XONXOF REV.ON REV.OF DTR=RV RTS=RV	XON/XOFF protocol Reverse Channel line protocol This signal remains on until the interface buffer is almost full. Reverse Channel line protocol This signal remains off until the interface buffer is almost full. DTR line protocol This signal remains on until the interface buffer is almost full. RTS line protocol This signal remains on until the interface buffer is almost full.	XONXOF	
27 **	STPBIT	The stop bit is set.	1 1.5 2	1 bit 1.5 bits 2 bits	1	

Table 2.4 STATUS indicator display, Set up menus (M304XR) - continued

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
28 **	RTS	The logic of RTS signal is set.	FULDPX HLFDPX	After power on, this signal is always set to 1. This signal is on when data transmission is requested for the host or while data is being transmitted.	FULDPX	This set up menu is invalid when an RTS line protocol is set.
29 **	CTS	Validity of CTS signal is set.	ENABLE DISABL	If the CTS signal is on, data is transmitted to the host. Data is transmitted regard less the CTS signal contents.	DISABL	
30 **	RI	The following operation is set. - The printer enters the start state after the DTR signal is set on in response to Ring Indicator (RI) signal.	ENABLE DISABL	The printer enters the start state. The printer does not enter the start state.	DISABL	This set up menu is invalid when the DTR line protocol is set.
31 **	DTR	The logic of the DTR signal is set.	CNTON CNTON2 STATUS	After power on, the DTR signal is always on, and the printer enters the start state. Same function as CNTON, but, operator must press the START/STOP switch. The DTR signal is set on or off according to the start or stop state of the printer.	STATUS	This set up menu is invalid when the DTR line protocol is set.

Table 2.4 STATUS indicator display, Set up menus (M304XR) - continued

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
32 **	RLSD	The logic of the Reversed Line Signal Detector (RLSD) signal is set.	ENABLE DISABL	The data transferred by the Receive Data (RD) signal is valid when the RLSD signal is on. The received data is valid regardless the RLSD signal contents.	DISABL	
33 **	DSR	The logic of Data Set Ready (DSR) signal is set.	ENABLE DISABL	The data transferred by the RD signal is valid when the RLSD signal is on. The received data is valid regardless the RLSD signal contents.	DISABL	
34 **	SCDTXE	The code number to which the received data is converted is set when a transmission error occurs.	SUB 20 SUB 21 . . SUB 7D SUB 7E	Converted to code X'20' Converted to code X'21' . . Converted to code X'7D' Converted to code X'7E'	SUB 3F	
35 **	SUBTXE	The conversion of the received data is set when a transmission error occurs.	ENABLE DISABL	Converted to the code set in SCDTXE. Not converted, and the received data is ignored.	ENABLE	
36 **	STPTXE	The stop operation is set when a transmission error occurs.	ENABLE DISABL	The printer stops. The printer does not stop.	ENABLE	
37 **	SCDIVC	The code number to which the control code data is converted is set when an invalid control code is received.	SUB 20 SUB 21 . . SUB 7D SUB 7E	Converted to code X'20'. Converted to code X'21'. . . Converted to code X'7D'. Converted to code X'7E'.	SUB 3F	

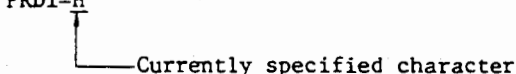
Table 2.4 STATUS indicator display, Set up menus (M304XR) - continued

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
38 **	SUBIVC	The conversion of the control code data is set when an invalid control code is received.	ENABLE DISABL	Converted to the code set in SCDIVC. Not converted, and the control code is ignored.	ENABLE	
39 **	STPIVC	The stop operation is set when the invalid control code occurs.	ENABLE DISABL	The printer stops. The printer does not stop.	ENABLE	
40 **	SCDISQ	The code number to which the control sequence data is converted is set when an invalid control sequence occurs.	SUB 20 SUB 21 . . SUB 7D SUB 7E	Converted to code X'20'. Converted to code X'21'. . . Converted to code X'7D'. Converted to code X'7E'.	SUB 3F	
41 **	SUBISQ	The conversion of the control sequence data is set when an invalid control sequence occurs.	ENABLE DISABL	Converted to the code set in SCDISQ. Not converted, and that data is ignored.	ENABLE	
42 **	STPISQ	The stop operation is set when an invalid control sequence occurs.	ENABLE DISABL	The printer stops. The printer does not stop.	ENABLE	
43 **	AUTONL	When the MODE SELECTION switch is set to NORMAL at power on, the availability of START mode is set.	ENABLE DISABL	The printer is automatically in the START mode. The printer is not in the START mode.	DISABL	

Table 2.4 STATUS indicator display, Set up menus (M304XR) - continued

Set up menu No.	Set up menu	Function	Set up field	Function	Factory setting	Note
44 **	AUTEJC	Validity of the following operation is set. - When the printer is in the start state and data transmission from the host is not performed, and the interface buffer is empty, four or five sheets of paper (11-inch forms) are fed 2 seconds after the TOF switch on the operator panel is pressed. Then, the printer enters the stop state and after 20 seconds, it enters the start state again.	ENABLE DISABL	The operation is valid. The operation is invalid.	DISABL	
45 **	HEXDMP	Validity of the following operation is set. - The received data from the host is dumped in hexadecimal notation.	ENABLE DISABL	The operation is valid. The operation is invalid.	DISABL	When this set up menu is set to ENABLE, if the transmission error occurs in the received data, the printer does not stop.

Table 2.5 STATUS indicator display, Test menu

Test menu No.	Status indicator display	Test name	Function and procedure
1	1 SFTPRT	Shift Printing	<p>This test prints a shift pattern of all characters on the print band set in the printer. All printing errors and forms feed errors are detected during this test.</p> <p>Press the START/STOP switch while SETPRT is displayed to start the test. The START/STOP lamp comes on when the switch is pressed. Press the START/STOP switch again to stop the test. The START/STOP lamp will go out.</p> <p>When an error is detected during the test, the ERROR lamp comes on, the error contents are displayed, and the test terminates.</p>
2	FIXPRT	Fix Printing	<p>This test prints the character specified in test menu 3 (FIX DT) in all print positions. All printing error and forms feed errors are detected during the test.</p> <p>Press the START/STOP switch to start the test while FIXPRT is displayed. The START/STOP lamp comes on when the switch is pressed. Press the START/STOP switch again to stop the test. The START/STOP lamp will go out.</p> <p>When an error is detected during the test, the ERROR lamp comes on, the error contents are displayed, and the test terminates. If the test is run without specifying the character in test menu 3, H is printed in all print positions.</p>
3	FIX DT	Fix Printing Data	<p>The character to be printed in the FIXPRT and PSEADJ tests is specified in the FIX DT menu. When power is turned on, the specified character is H (default).</p> <p>When the START/STOP switch is pressed while FIXPRT or PSEADJ is displayed, the currently specified character is displayed as follows:</p> <p style="text-align: center;">PRDT=H </p>