

OPEN POS H/W REFERENCE MANUAL

Product Name: LIU

Model Name: LIUST-51

Solution by TEC



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TEC RAA-477

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TOSHIBA TEC CORPORATION

OPEN POS

H/W REFERENCE MANUAL

LIUST-51

1999,6 3rd Edition

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Product Name : LIU

Model Name : LIUST-51

Specification Name: LIUST-51 Hardware Reference Manual

HARDWARE REFERENCE MANUAL

First Edition : May 16,1996 Second Edition : June 18,1997 Third Edition : June 3,1999

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Modification History

RAA-477

LIUST-51 Hardware Reference Manual

Mod.	Date	Page	Line	Description	Reason	Charged	Checked	Approved
	May 16, 1996	All pages		Newly published		Saito		
2nd	Jun.18,	1	13	Added 2:East Europe	To add	Saito	Nozawa	Katsumata
	1997			3:Iceland	new			
		4	20	Added 2.1 Character Code Set	model			
		7	2	Changed Overseas → USA:00H				
			8	Added Note 2				
			10	Added Note 1				
		8	2	Changed Japan → Japan2:63H				
			3	Added				
		9	2	Changed International → Other Countries				
			3,4	Added				
		10	-	Added Appendix4				
		11	-	Added Appendix5	1			
		7	19	Changed 8FH [Á] → [□]	Error			
		8	17	Changed 5CH [□] → [\]				
			19	Changed DEH ["] → ["]	1			
3rd	Jun. 3,	1	15	Added 4 : Greek	To add	Saito		
	1999	4	34	Added 0FH : Greek (LIUST-51-14-QM)	new			
		7	9	Changed D5H [SP] → [€]	model			
		11	10	Changed D5H [i] → [€]				
		12	-	Added Appendix 6	1			

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1. OUTLINE

1.1 Scope

This manual applies to the LIUST-51.

1.2 Outline of Functions

The LIUST-51 is a 20-digit/2-row ANK character dot matrix fluorescent display that contains a built-in controller.

1.3 Model Name System

LIUST-51-X1X2-X3X4

X1: Option 1

1 = Standard stand type

X2: Option 2

1 = Standard type (Fixed character font)

2 = East Europe

3 = Iceland

4 = Greek

X3X4: Destination

Blank = Japan

QM = Overseas countries

2. GENERAL SPECIFICATION

2.1 Display Method and Number of Displayed Characters

5×7-dot fluorescent display 20-digit/2-row indication

Trimark available (20 digits, 1 row)

2.2 Display Color

Blue

2.3 External Appearance

Outer Dimension: (W) 230.5 × (H) 121 × (D) 90 mm (Whole unit)

(W) 230.5 × (H) 110 × (D) 43 mm (Display unit)

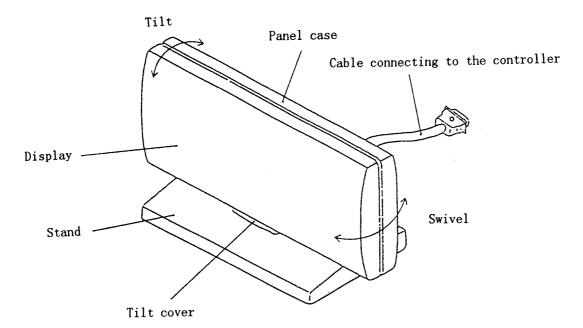
Weight: Approx. 1 kg

External color: Gray (YG-2): Panel case, tilt cover, stand

Opaque black: Panel

Ivory: Cable connecting to the controller

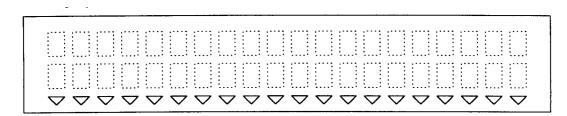
External Appearance:



Neck B (ϕ 40, for the POLST-50)



View of Display



2.4 Character Specification

Character size: (W) $5.5 \text{ mm} \times (\text{H}) 10.5 \text{ mm}$ Character pitch: (W) $7.4 \text{ mm} \times (\text{H}) 15.5 \text{ mm}$ Dot size: (W) $0.86 \text{ mm} \times (\text{H}) 1.20 \text{ mm}$ Dot pitch: (W) $1.16 \text{ mm} \times (\text{H}) 1.55 \text{ mm}$

2.5 Character Type

Half-width ANK; 182 characters according to destination. See the Appendix.

2.6 Adjustment Mechanism

Display angle: Swivel (Horizontal): 165°in both direction from the front

(11 steps; 15°each on both sides)

Tilt (Vertical): +10° to +42° from the level

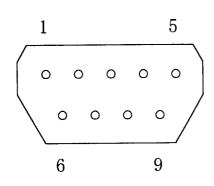
(4 steps; 8°each)

2.7 Controller Interface

Signal: RS-232C interface Power supplied: $+12V \pm 10\%$, 0.4 A

Interface cable length: 3 m

Connector: 9-pin D-sub male connector (on the controller side)



Pin	COM
1	P12V
2	RXD
3	TXD
4	NC
5	GND
6	NC
7	RTS
8	CTS
9	NC

2.8 DIP Switch Setting

The following items can be set using the DIP switch on the internal board of the display unit.

(Default set area is shaded.)

SW No.	Function	ON	OFF	Remarks
SW1	Baud rate setting	SW1	SW2	Baud rate
SW2		ON	ON	1200 bps
		OFF	ON	2400 bps
		ON	OFF	4800 bps
		OFF	OFF	9600 bps
SW3	Presence of parity	Present	Absent	
SW4	Odd/even parity	Odd	Even	Effective only when
				SW3 is set to ON.
SW5	Self-test	Self-test	Normal mode	
SW6	Reserved	-	-	

2.9 Environmental Conditions

Operating Temperature/Humidity: 0°C to 40°C/10% to 90% (No condensation)

2.10 Packing Specification

Outer size: (W) 284 \times (H) 210 \times (D) 212 mm

Weight: 2 kg

2.11 Character Code Set

The following command changes displayable font table.

ESC Rn: 1BH,52H,n

(n shown below is a parameter of 1byte, and it represents a country code.)

No.	Country Code(n)	Country	No.	Country Code(n)	Country
1	00H	USA	9	08H	Japan
2	01H	France	10	09H	Norway
3	02H	Germany	11	0AH	Denmark2
4	03H	Great Britain	12	0BH	Spain2
5	04H	Denmark1	13	0CH	Latin America
6	05H	Sweden		63H	Japan2(LIUST-51-11-QM)
7	06H	Italy	14	0DH	East Europe(LIUST-51-12-QM)
8	07H	Spain1		0EH	Iceland(LIUST-51-13-QM)
				0FH	Greek(LIUST-51-14-QM)

OPTIONAL DEVICES

3.1 Pole

3.1.1 Model Name System

POLST-5 X₁ - X₂ - X₃ X₄

X1: Option

0 = 40-mm diameter type (for the hole of the DRWST-50)

1 = 34-mm diameter type (for the hole of the ST-4500)

X2: Specification

1 = Standard (for the LIUST-50 only)

2 = With a 34-mm diameter neck (for the LIUST-51 only)

X3X4: Destination

Blank = Japan

QM = Overseas countries

3.1.2 General Specification

This is a metal pole used with the LIUST-51 so that the LIUST-51 is installed on the large scale drawer or the ST-4500 as a customer side remote display.

(1) Connection Method

Connection to the ST-4500:

Remove the LIUST-51 stand. Connect the LIUST-51 to the POLST-51 with neck A (*) and the securing screw (*). Then, fix the LIUST-51 in place on the ST-4500 with the two pole securing screws (*).

Connection to the drawer:

Remove the LIUST-51 stand. Connect the LIUST-51 to the POLST-50 with neck B (#) and the neck installation screw (#). Then, fix the LIUST-51 in place on the drawer.

(*) = POLST-51 accessory parts

(#) = LIUST-51 accessory parts

(2) Dimensions and Material

Pole length: 380 mm

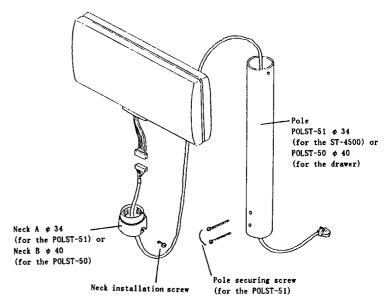
Pole diameter: \$\phi34 \text{ mm (POLST-51)}

φ40 mm (POLST-50)

Material: STKM (POLST-51)

A6063 (POLST-50)

(3) External Color: Gray (YG-2)



3.2 Mounting Hardware

3.2.1 Model Name System

KNGST-5 X₁ - X₂ - X₃ X₄

X1: Applicable models

0 = For installing the POLST-51 on the DRWST-52/DRWFT-70

1 = For installing the LIUST-51 on the ST-4500 (with a cable)

X2: Specification

1 = Standard

X3X4: Destination

Blank = Japan

QM = Overseas countries

3.2.2 General Specifications

(1) KNGST-51

This mounting hardware is used to connect the LIUST-51 to the ST-4500.

(The LIUST-51 is not used as a remote display.)

(2) KNGST-50

This mounting hardware is used to fix the LIUST-51 connected to the POLST-51 in place on the DRWST-52 or the DRWFT-70.

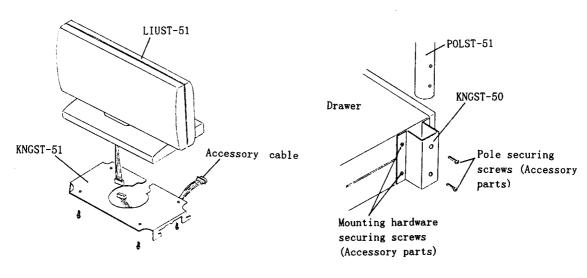
<Connection Method>

(1) KNGST-51

Remove the weight on the bottom of the stand of the LIUST-51. Then attach the LIUST-51 to the KNGST-51. (At this time, the cable connecting to the controller should be replaced with the accessory cable.) Then, fix the LIUST-51 in place on the ST-4500.

(2) KNGST-50

Fix the KNGST-50 in place on the prescribed place on the side or rear of the drawer with the attached securing screws. Insert the POLST-51 connected to the LIUST-51 into the hardware and fix it with the attached pole securing screws.



1. Half-width ANK (USA: 00H)

K	1	I	ı	ı	I	1		Γ		ſ	Г		T			γ
LOW	0	1	2	3	4	5	6	7	8	9	Α	В	С	D	E	F
0																
1																
2																
3																
4														Note 2		
5																
6												Note 1				
7																
8																
9																
A		:														
В																
С																
D																
E																
F																

Note 1) Only for the LIUST-51-13, character of the character code B6H becomes [^].

Note 2) Only for the LIUST-51-13, character of the character code D4H becomes $[\psi]$.

2. Half-width ANK (Japan2 : 63H)
Applicable to the LIUST-51-11

COL	0	1	2	3	4	5	6	7	8	9	A	В	С	D	E	F
0										00000 00000 00000 00000 00000 00000 0000						
1										88888 88888 88888 88888						
2																88 88
3										00000 00000 00000 00000 00000 00000						
4									00000 00000 00000 00000 00000 00000							
5																
6																
7					388 388 388 388											
8							#0000 #0000 #0000 #0000 #0000		00000 00000 00000 00000 00000 00000							
9																
А										00000 00000 00000 00000 00000 00000 0000		00000 00000 00000 00000				
В					0000 0000 0000 0000								#0000 #0000 #0000			
С					8888 8888 8888 8888		6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6									
D			CGCCC CCCCC CCCCC CCCCC CCCCC CCCCC	0000C			00000									
Е																
F						2000 2000 2000 2000 2000 2000			60000 00000 00000 00000 00000 00000 00000	00000 00000 00000 00000 00000 00000						

3. Other Countries

On the basis of the USA character table of Appendix1, however, the character code portion shown below differs according to a country code.

		Character Code (HEX)												
Country		23	24	40	5 B	5 C	5 D	5 E	60	7B	7 C	7 D	7E	
Franse	:01H													
Germany	:02H													
Great Britain	:03H													
Denmark 1	: 04H													
Sweden	:05H													
Italy	:06H													
Spain 1	:07H													
Japan	:08H													
Norway	:09H													
Denmark 2	:0AH													
Spain 2	:0BH													
Latin America	a:0CH													

4. Half-width ANK (East Europe: 0DH)
Applicable to the LIUST-51-12

\				- -												
LOW COL	0	1	2	3	4	5	6	7	8	9	A	В	С	D	Е	F
0																
1										0000 0000 0000 0000 0000						
2																
3													00000 00000 00000 00000 00000 00000 0000			
4																
5					0000 0000 0000 0000											
6					0000 0000 0000 0000 0000								0000 0000 0000 0000			
7								00000 0000 0000 0000 0000 0000								
8							#6600 #6600 #6600 #6600									
9				863 863 864 864 864 864 864 864 864 864 864 864				00000 8888 80000 80000			0000		00000 00000 00000 00000 00000 00000	00000 00000 00000 00000 00000		
А																
В					888 888 888											
С			06000 06000 00000 00000 00000 00000		0000 0000 0000 0000 0000							98888 98888 98888 98888 98888		8888		
D			00000 00000 00000 00000	### ### ###	886										COMO	
E													מטרמנו			
F																00000 00000 00000 00000 00000 00000 0000

5. Half-width ANK (Iceland : 0EH)
Applicable to the LIUST-51-13

COL	0	1	2	3	4	5	6	7	8	9	A	В	С	D	E	F
0																
1																
2																
3																
4													85666 66666 86666			00000 00000 00000 00000 00000 00000 0000
5																
6					6000 6000 6000 6000 6000						00000 00000 00000 00000					
7											888 888 8888					
8													000000 000000 000000 000000 000000			
9																
А																
В														27737 21715 2071 2071 2071 21712 21712		LUCULU
С																
D			00000 00000 00000 00000	68888 66866 88888												
Е																
F												00000 00000 00000 00000 00000 00000				

6. Half-width ANK (Greek: 0FH)
Applicable to the LIUST-51-14

														-		
LOW	0	1	2	3	4	5	6	7	8	9	A	В	С	D	E	F
0			00000 00000 00000 00000 00000													
1																
2																
3																
4																
5																
6																
7														00000 00000 00000 00000 00000		
8														00000 00000 00000 00000 00000		
9														00000 00000 00000 00000 00000 00000		
A														00000 00000 00000 00000		
В											00000			00000 00000 00000 00000 00000		
С														00000 00000 00000 00000	00000 00000 00000 00000	
D			00000 00000 00000 00000 00000	00000										00000	00000 00000 00000 00000 00000	
Е													00000	00000	00000 00000 00000 00000 00000	00000 00000
F						00000										00000 00000 00000 00000 00000