

SHARP CORPORATION

OSAKA, JAPAN

SPECIFICATION FOR LCD DISPLAY

MODEL NO. : 5L-U4E

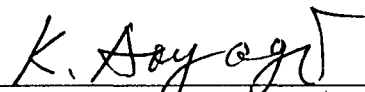
BRAND NAME: SHARP

CUSTOMER: S. E. C

COUNTRY: U. S. A

MAR. , 9, 1995

D A T E

  
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# SHARP CORPORATION

## General Specifications for LCD Display Unit

Model : 5L-U4E

5 inch Color LCD Display Unit is suited for environmental conditions as for

Temperature	-10 ~ +60 °C
Relative humidity	≤ 90%
Air pressure	795mmHg to 380mmHg

### 1. Test Condition

Unless otherwise specified, test and measurements are made under normal condition as follows

Normal temperature	15°C ~ 35°C
Normal relative humidity	45% ~ 75%
Normal air pressure	645mmHg ~ 795mmHg

### 2. Input signal

Video signal(NTSC)  
Analog RGB

### 3. Power source

DC 9.0V

### 4. Power consumption

6.0W (At DC 9.0V)

### 5. Viewing Area

Diagonal	127.1mm
Width	102.7mm
Height	74.9mm

### 6. Appropriate Viewing angle

6 o'clock/12 o'clock switchable

### 7. Dimensions (Approx.)

144.0(W)×90.0(H)×37.0(D) mm

### 8. Weight (Approx.)

300g±10%

### 9. LCD display panel

Active Matrix (a-Si TFT)  
224,640 Dots (960H×234V)  
Stripe arrangement

### 10. Back light

Cold Cathode Fluorescent Tube  
(W-Shape type)

### 11. Semiconductors

ICs 6 pcs

(except LCD panel)

Transistors 13 pcs

Diodes 10 pcs

### 12. Standard

Safety standard

UL 1492 under consideration

EMI standard

FCC under consideration

13.External terminal

A connector

- A 1 : H-SYNC Output
- A 2 : V-SYNC Output
- A 3 : +5V Output
- A 4 : Left/Right Reverse Scanning(note 1)
- A 5 : Up/Down Reverse Scanning(note 1)
- A 6 : Color Control
- A 7 : Brightness Control
- A 8 : Tint Control
- A 9 : Dimming
- A10 : GND
- A11 : Video Input
- A12 : GND
- A13 : R Signal Input
- A14 : GND
- A15 : G Signal Input
- A16 : GND
- A17 : B Signal Input
- A18 : GND
- A19 : Ys Input(note 2)
- A20 : Super Impose(note 3)
- A21 : N.C
- A22 : C-Sync Input
- A23 : GND
- A24 : GND(for Signal Circuit)
- A25 : +9V Input(for Signal Circuit)
- A26 : +9V Input(for Inverter)
- A27 : +9V Input(for Inverter)
- A28 : GND(for Inverter)

Connector manufacturer : Molex

Connector name : 52207-2817

note 1	6 o'clock	12 o'clock
	A 4 Open	GND
	A 5 Open	GND

note 2	Video Mode	RGB Mode
	A 19 GND	High

note 2	Normal	Super Impose
	A20 Open	GND

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Engineering Specifications for LCD Display Unit

Model : 5L-U4E

	Nominal	Limit
<b>1. General</b>		
1) Power voltage	DC 9V	8.5~9.5V
2) Operating temperature range	25℃	-10~60℃
3) Storage temperature range		-30~85℃
4) Power consumption(DC 9.0V Nominal)		6.0W±15%
<b>2. Video output characteristics</b>		
1) Video output (Standard half color bars signal, at tint, color, bright-VR center)	4.0Vp-p	4.0±0.2Vp-p
2) Video fidelity(at 100kHz standard)		
1 MHz	2.0dB	0~4.0dB
2 MHz	-2.0dB	-5.0~1.0dB
3 MHz	-20.0dB	-24.0~-15.0dB
3.58 MHz	-25.0dB	-32.0~-18.0dB
<b>3. Picture quality</b>		
1) Resolution (at ITC pattern)		
Horizontal center	240 lines	210 lines min.
corner	240 lines	210 lines min.
Vertical center	240 lines	210 lines min.
corner	240 lines	210 lines min.
2) Step response		
rising time		500nsec. max.
preshoot		35% max.
overshoot		20% max.
<b>4. ACC characteristics</b>		
ACC(at chroma output level -6dB)	0dB	

	Nominal	Limit
5. Chroma		
1) Color Control range(for information only)		4dB min.
2) Tint control range(for information only)		
To green	30°	15° min.
To purple	30°	15° min.
3) Tint stability(for information only)		
Tint drift		12° max.
Tint shift		12° max.
4) Color killer	-28dB	-18dB max.
6. Liquid crystal display		
1) Response time (at 25℃)		60msec. max.
2) Brightness (reference)	250cd/m <sup>2</sup>	180cd/m <sup>2</sup> min.
(at 25℃,after warming for 30min.)		
3) Contrast (center best point)		1:60 min.
4) Viewing angle range(at contrast 1:10 minimum)6 o'clock		
Left/Right		45°/45° min.
Up /Down		10°/30° min.
5) Dimming Range(Brightness)		100%~15% max.
7. Input signal requirement		
1) Composite video signal(standard signal:luminance order color bar signal with 100% white peak level)		
Input level	1.0Vp-p	1.0±0.1Vp-p
Input impedance		75Ω±5%
2) RGB Video signal		
Input level	0.7Vp-p	0.7±0.1Vp-p
Input impedance		75Ω±5%
3) Ys signal(A19 terminal)		
Input level		L: 0~0.8V H:3.5~5.0V
Input impedance		10kΩ min.
4) Composite sync. signal(RGB signal input)		
Input level	TTL level (negative polarity)	
Horizontal frequency		15.734±0.2kHz
vertical frequency		60Hz±5Hz



