

TENTATIVE

FEATURES

- (1) Clear 256k-colors
- (2) Ultra thin design
- (3) CCFL Backlight, 800x600 pixels color display.
- (4) Fast response and light weight design.

APPLICATIONS

- (1) Notebook PC.
- (2) OA Equipment.
- (3) Display Terminals.
- (4) Measuring Instrument.
- (5) New Media Equipment.

MECHANICAL SPECIFICATIONS

Item	Specifications
Dimensional Outline(typ)	243.0(W) × 179.6(H) × 10max.(D) mm
Number of Pixels	800 (W) × 600 (H) Pixels
Active Area	211.2(W) × 158.4(H) mm
Pixel Pitch	0.264(W) × 0.264(H) mm
Weight(Approx.)	500g
Backlight	CCFL Side-light type (Single Lamp)

ABSOLUTE MAXIMUM RATINGS

Item	Min.	Max.	Unit	
Supply Voltage	(V _{DD})	-0.3	7.0	V
	(V _{FL})	0	2000	V _{rms}
FL Driving Frequency	(f _{FL})	0	100	KHz
Input signal Voltage	(V _{IN})	-0.3	V _{DD} +0.3	V
Operating Temperature		0	50	°C
Storage Temperature		-20	60	°C
Storage Humidity		10	90	%RH
(Max. Wet bulb temp. = 29°C)				

ELECTRICAL SPECIFICATIONS (T_a = 25°C)

Item	Min.	Typ.	Max.	Unit	Remarks	
Supply Voltage	(V _{DD})	4.75	5.0	5.25	V	
	(V _{FL})	-	(600)	-	V _{rms}	(1, 1-3)
FL Start Voltage(T _a =0°C)		1000	-	2000	V _{rms}	
High Level Input Voltage	(V _{IH})	3.5	-	V _{DD} +0.3	V	
Low Level Input Voltage	(V _{IL})	-0.3	-	1.5	V	
Current Consumption	(I _{DD})	-	(250)	-	mA	
	(I _{FL})	-	(4.0)	-	mA _{rms}	
*1) Power Consumption	Logic	-	(1.25)	-	W	V _{DD} × I _{DD}
	Backlight	-	(2.4)	-	W	V _{FL} × I _{FL}

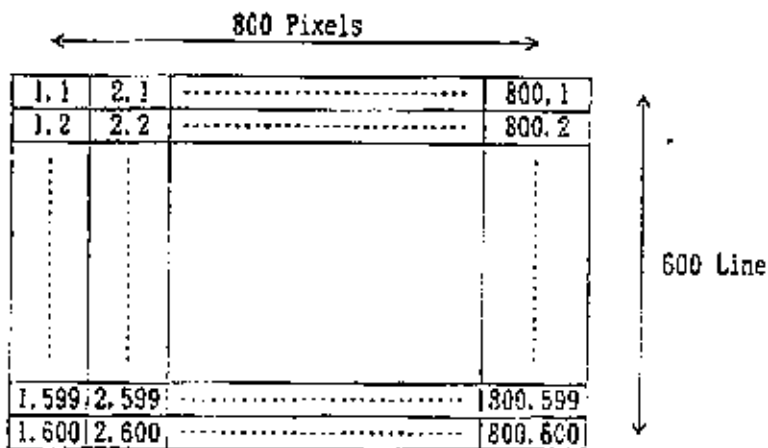
*1): Excepting the efficiency of FL Inverter

OPTICAL SPECIFICATIONS (T_a = 25°C)

Item	Min.	Typ.	Max.	Unit
Contrast Ratio	(CR)	100	-	-
Response Time	(t _{on})	-	50	ms
	(t _{off})	-	50	ms
Luminance	(L)	-	(70)	cd/m ²

TIMING SPECIFICATION

Item	Symbol	Min.	Typ.	Max.	Unit	Remarks
Frame Period	t 1	$604 \times t 3$ -	$(625) \times t 3$ 17.78	$628 \times t 3$ 17.86	- ms	
Vertical Display Term	t 2	$600 \times t 3$	$600 \times t 3$	$600 \times t 3$	-	t2=N-t3
One Line Scanning Time	t 3	$844 \times t 5$ (28.4)	$(1024) \times t 5$ (28.44)	$1056 \times t 5$	- μs	
Horizontal Display Term	t 4	$800 \times t 5$	$800 \times t 5$	$800 \times t 5$	-	
Clock Period	t 5	(25.0)	27.78	-	ns	
Clock "L" Time	t 6	9.0	-	-	ns	
Clock "H" Time	t 7	9.0	-	-	ns	
Set Up Time	t 8	4.0	-	-	ns	
Hold Time	t 9	5.0	-	-	ns	



CONNECTOR PIN ASSIGNMENT FOR INTERFACE

CN1 INPUT SIGNAL (DF9-31P-1V/HIROSE ELECTRIC CO., LTD.)

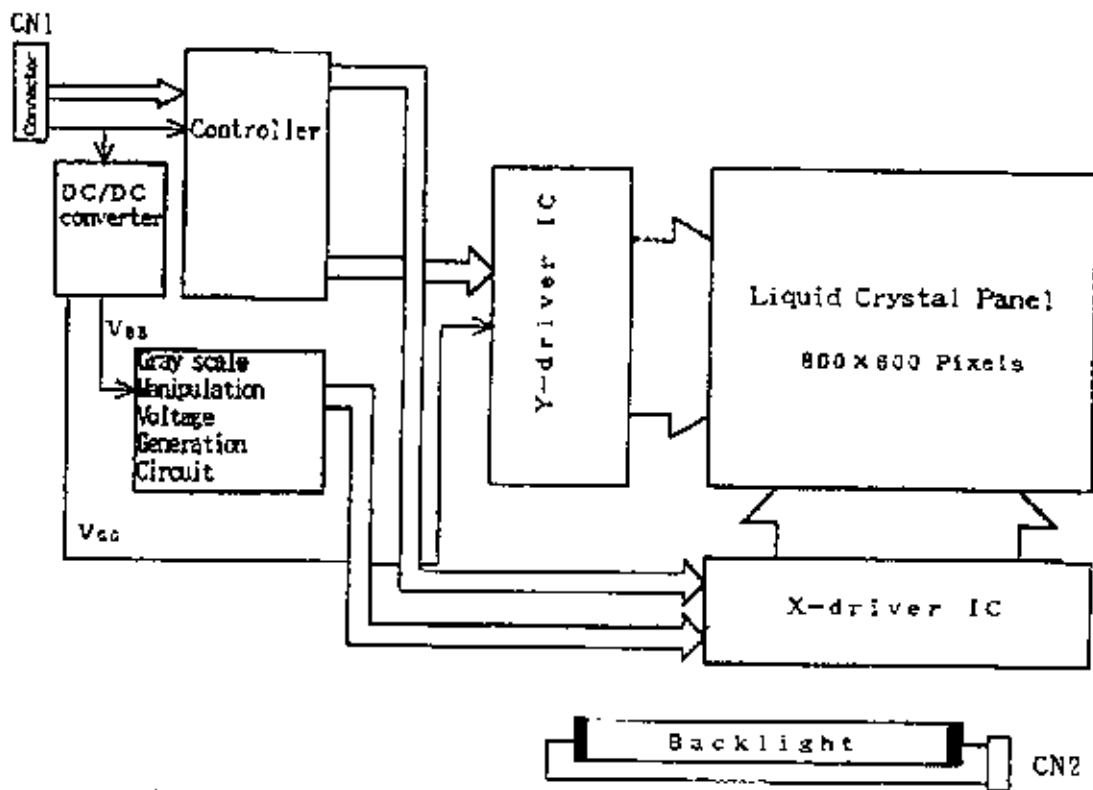
Terminal No.	Symbol	Function
1	GND	
2	NCLK	SAMPLING CLOCK
3	N.C.	NO CONNECTION
4	N.C.	NO CONNECTION
5	GND	
6	R0 ²⁾	RED DISPLAY DATA (LSB)
7	R1 ²⁾	RED DISPLAY DATA
8	R2 ²⁾	RED DISPLAY DATA
9	R3 ²⁾	RED DISPLAY DATA
10	R4 ²⁾	RED DISPLAY DATA
11	R5 ²⁾	RED DISPLAY DATA (MSB)
12	GND	
13	G0 ²⁾	GREEN DISPLAY DATA (LSB)
14	G1 ²⁾	GREEN DISPLAY DATA
15	G2 ²⁾	GREEN DISPLAY DATA
16	G3 ²⁾	GREEN DISPLAY DATA
17	G4 ²⁾	GREEN DISPLAY DATA
18	G5 ²⁾	GREEN DISPLAY DATA (MSB)
19	GND	
20	B0 ²⁾	BLUE DISPLAY DATA (LSB)
21	B1 ²⁾	BLUE DISPLAY DATA
22	B2 ²⁾	BLUE DISPLAY DATA
23	B3 ²⁾	BLUE DISPLAY DATA
24	B4 ²⁾	BLUE DISPLAY DATA
25	B5 ²⁾	BLUE DISPLAY DATA (MSB)
26	GND	
27	ENAB	COMPOUND SYNCHRONIZATION SIGNAL
28	VDD	+5V POWER SUPPLY
29	VDD	+5V POWER SUPPLY
30	N.C.	NO CONNECTION
31	N.C.	NO CONNECTION

CN2 CCFL POWER SOURCE (BHR-08VS-1/JAPAN SOLDERLESS TERMINAL MFG CO., LTD.)

Terminal No.	Symbol	Function
1	VL	CCFL POWER SUPPLY (HIGH VOLTAGE)
2	NC ¹⁾	
3	GL	CCFL POWER SUPPLY (GND SIDE)

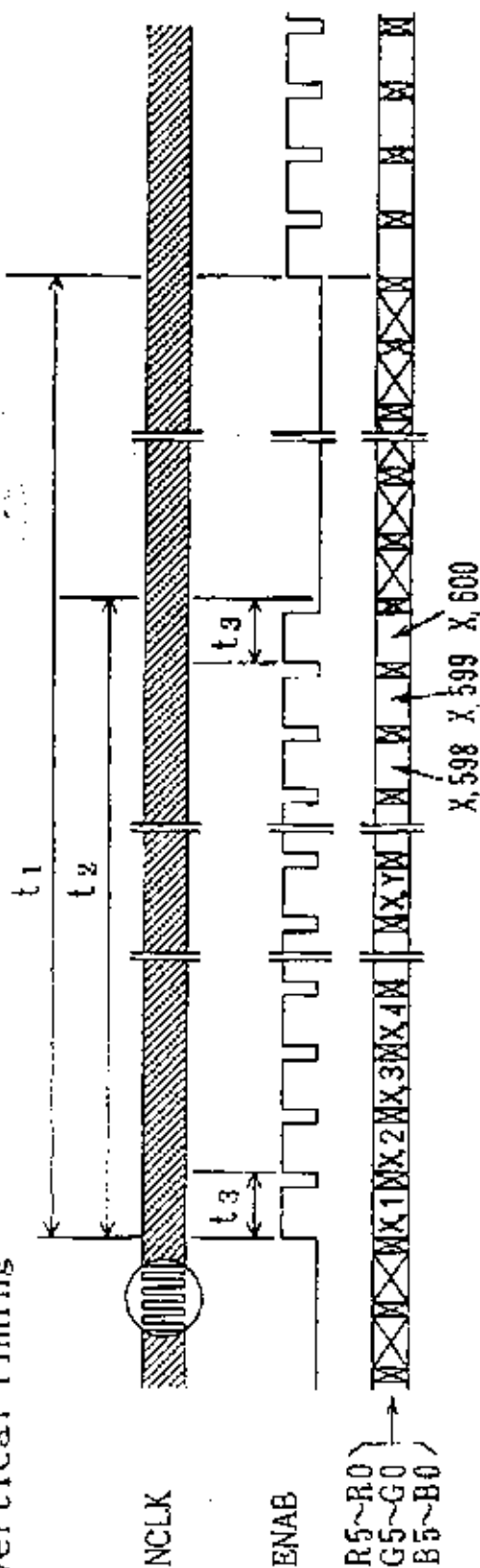
Note 1) NC Terminal is open. (Don't use)

BLOCK DIAGRAM

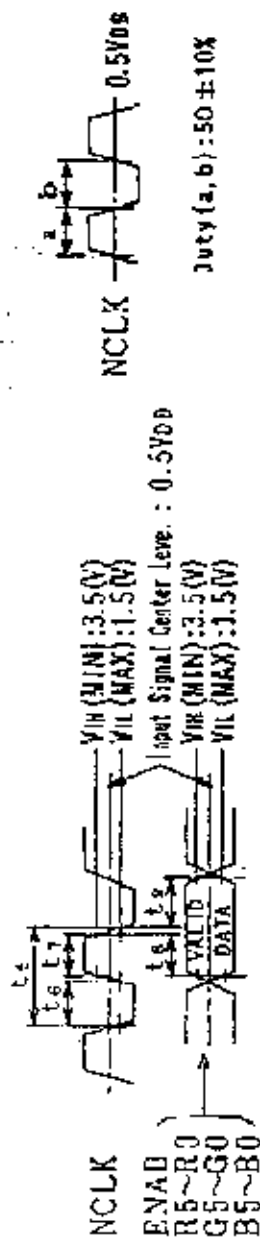
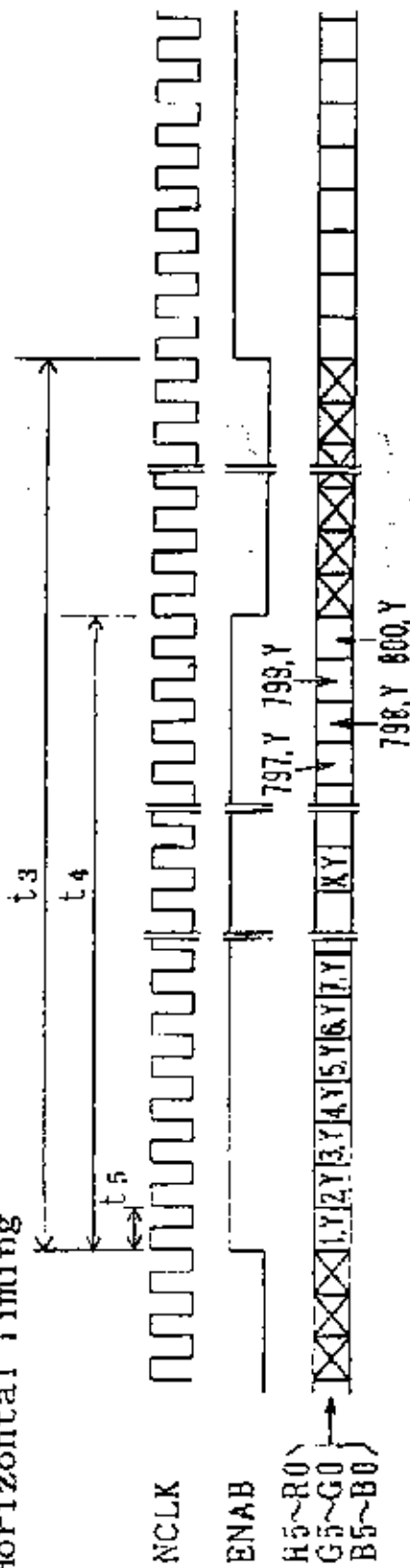


TIMING CHART

(1) Vertical Timing



(2) Horizontal Timing



Note 2) 256K colors are displayed by the combinations of 18 bits data.


Display		R5	R4	R3	R2	R1	R0	G5	G4	G3	G2	G1	G0	B5	B4	B3	B2	B1	B0	Gray Scale Level
Basic Color	Black	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	-		
	Blue	L	L	L	L	L	L	L	L	L	L	L	H	H	H	H	H	-		
	Green	L	L	L	L	L	L	H	H	H	H	H	L	L	L	L	L	-		
	Light Blue	L	L	L	L	L	L	H	H	H	H	H	H	H	H	H	H	-		
	Red	H	H	H	H	H	H	L	L	L	L	L	L	L	L	L	L	-		
	Purple	H	H	H	H	H	H	L	L	L	L	L	H	H	H	H	H	-		
	Yellow	H	H	H	H	H	H	H	H	H	H	H	L	L	L	L	L	-		
	White	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	-		
Gray Scale of Red	Black	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L 0		
	Dark	↑	L	L	L	L	L	H	L	L	L	L	L	L	L	L	L	L	L 1	
		↓	L	L	L	L	H	L	L	L	L	L	L	L	L	L	L	L	L 2	
	Light	↑																	L 3~	
		↓																	L 60	
	Red	H	H	H	H	H	H	L	L	L	L	L	L	L	L	L	L	Red L 63		
Gray Scale of Green	Black	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L 0		
	Dark	↑	L	L	L	L	L	L	L	L	L	L	H	L	L	L	L	L	L 1	
		↓	L	L	L	L	L	L	L	L	L	H	L	L	L	L	L	L	L 2	
	Light	↑																	L 3~	
		↓																	L 60	
	Green	L	L	L	L	L	L	H	H	H	H	H	L	L	L	L	L	Green L 63		
Gray Scale of Blue	Black	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L 0		
	Dark	↑	L	L	L	L	L	L	L	L	L	L	L	L	L	L	H	L	L 1	
		↓	L	L	L	L	L	L	L	L	L	L	L	L	L	L	H	L	L 2	
	Light	↑																	L 3~	
		↓																	L 60	
	Blue	L	L	L	L	L	L	L	L	L	L	L	H	H	H	H	H	Blue L 63		
Gray Scale of White & Black	Black	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L 0		
	Dark	↑	L	L	L	L	H	L	L	L	L	H	L	L	L	L	H	L 1		
		↓	L	L	L	H	L	L	L	L	L	H	L	L	L	L	H	L 2		
	Light	↑																L 3~		
		↓																L 60		
	White	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	White L 63		

LTM10C036

DIMENSIONAL OUTLINE

Unit: mm (typ)

Standard Tolerance: $\pm 0.5\text{mm}$

 $2.1 \pm 0.5\text{mm}$

* 1. Dimension height components might be placed.

