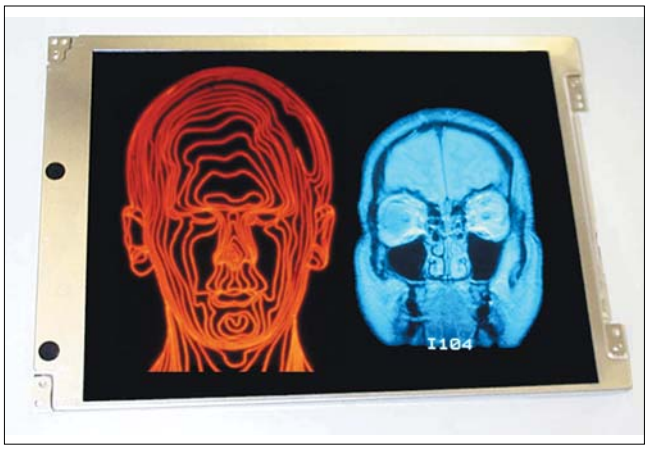
AND Displays



ANDpSi084C270F-HB

8.4” SVGA Color p-Si TFT LCD Module

The ANDpSi084C270F-HB is 800 x 600 Color TFT display that utilizes new poly-silicon (p-Si) technology to provide a brighter, thinner and lighter display with high-resolution. The p-Si TFT technology allows the row and column LCD drivers to be fabricated directly on the LCD glass. This eliminates the need for discrete TAB drivers. Wide viewing angle technology provides excellent images from all directions. The dual tube CCFL backlight offers a very bright display with extended operating life. This makes it ideal for computer, instrumentation, medical or industrial applications.

Features

• RoHS Compliant

- p-Si construction with drivers on glass
- 8.4 SVGA color display with high brightness (400cd/m^2)
- Built-in, long life CCFL backlights (50,000 hours)
- Replaceable strucure of lamp units
- Clear 256K colors (K=1024)
- Thin and lightweight design
- Applications: Display Terminals; Scientific, Medical, Test & Measurement Instruments; Office Automation Equipment

Mechanical Characteristics

Item	Specification	Unit
Outline Dimensions	199.5 (W) x 149.5 (h) x 12.0 max (D)	mm
Number of Pixels	800 (W) x 600 (H)	pixels
Active Area	170.4 (W) x 127.8 (H)	mm
Pixel Pitch	0.213 (W) x 0.213 (H)	mm
Weight (approx.)	TBD	gram
Backlight	CCFL, Side-light type (2 lamps)	–

Absolute Maximum Ratings

Item	Symbol	Min.	Max.	Unit
Supply Voltage	V_{DD}	-0.3	4.0	V
	V_{FL}	0	2.0	kV(rms)
FL Driving Frequency	f_{FL}	0	100	kHz
Input Signal Voltage	V_{IN}	-0.3	V_{DD} + 0.3	V
Operating Temperature	T_{op}	-20	70	°C
Storage Temperature	T_{stg}	-30	80	°C
Storage Humidity (Max. Wet bulb temp = 39°C)	–	10	90	% RH

Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage I_{FL}=6mA(rms)	V_{DD}	3.0	3.3	3.6	V
	V_{FL}	480	530	580	Vrms
FL Start Voltage Ta = 0°C	V_{SFL}	1300	–	1600	Vrms
Differential Input Voltage	V_{ID}	0.1	–	0.6	V
Common Mode Input Voltage	V_{CM}	1.0	1.25	2.4-(V_{ID})/2	V
Current Consumption	I_{DD} *1	–	TBD	–	mA
	I_{FL} *2	3.0	–	6.5	mArms
Power Consumption (*1, *2) I_{FL}=6mA(rms)		–	TBD	–	W

*1: 8 color bars pattern *2: Expecting the efficiency FL inverter

Optical Characteristics (Ta = 25˚C)

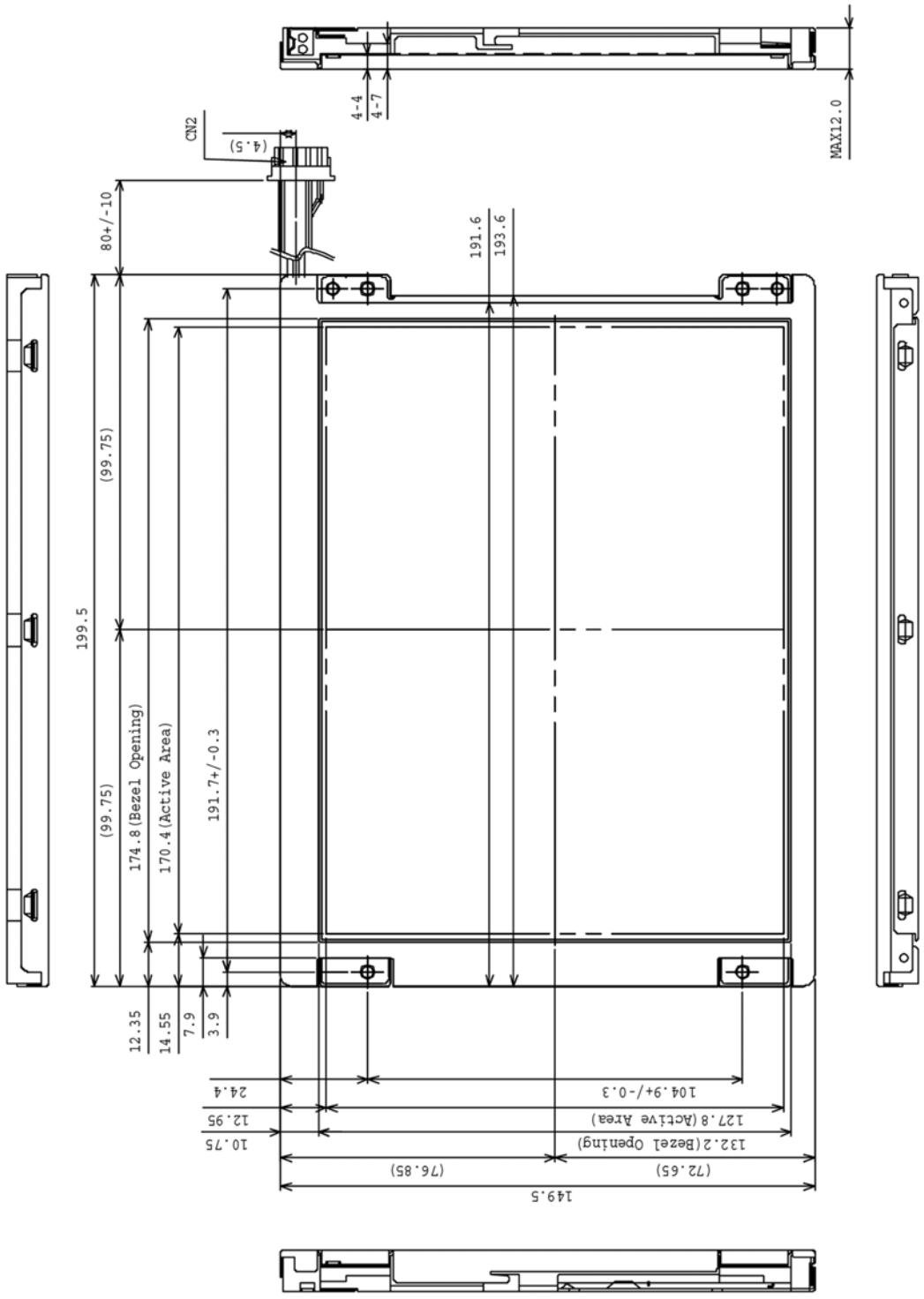
Item	Symbol	Min.	Typ.	Max.	Unit
Contrast	CR	(TBD)	(400)	–	–
Viewing Angle (CR ≥ 10)	(U+ L)	–	100	–	°
	(L+ R)	–	120	–	°
Response	t_{on}	–	(20)	–	ms
	t_{off}	–	(25)	–	ms
Luminance I_{FL} =6mA(rms)	L	(320)	(400)	–	cd/m^2
Lamp Life Time (MTBF) *3*4		40/40	50,000	–	deg

*3: Conditions; Ta=25ºC, I_{FL}=6mA(rms), continuous lighting
*4: Definitions of failure; 1) LCD luminance becomes half of the minimum value. 2) Lamp doesn’t light normally.

Product spcifications contained herein may be changed without prior notice. It is therefore advisable to contact Purdy Electronics before proceeding with the design of equipment incorporating this product.

Dimensional Outline

Unit: mm
Standard Tolerance: 0.5mm



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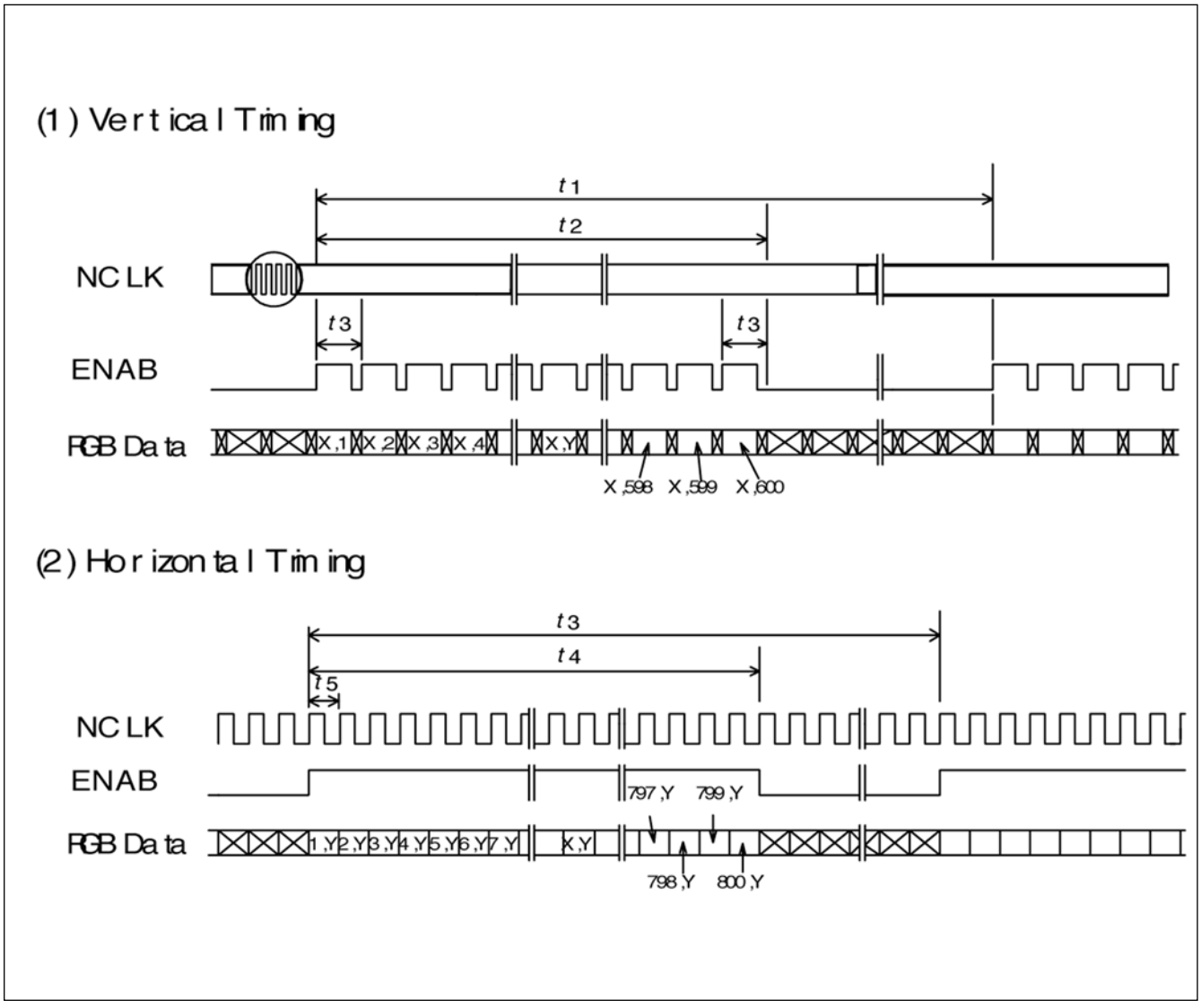
Tel: 408.523.8200 • Fax: 408.733.1287 • sales@purdyelectronics.com
www.purdyelectronics.com

Timing Specifications

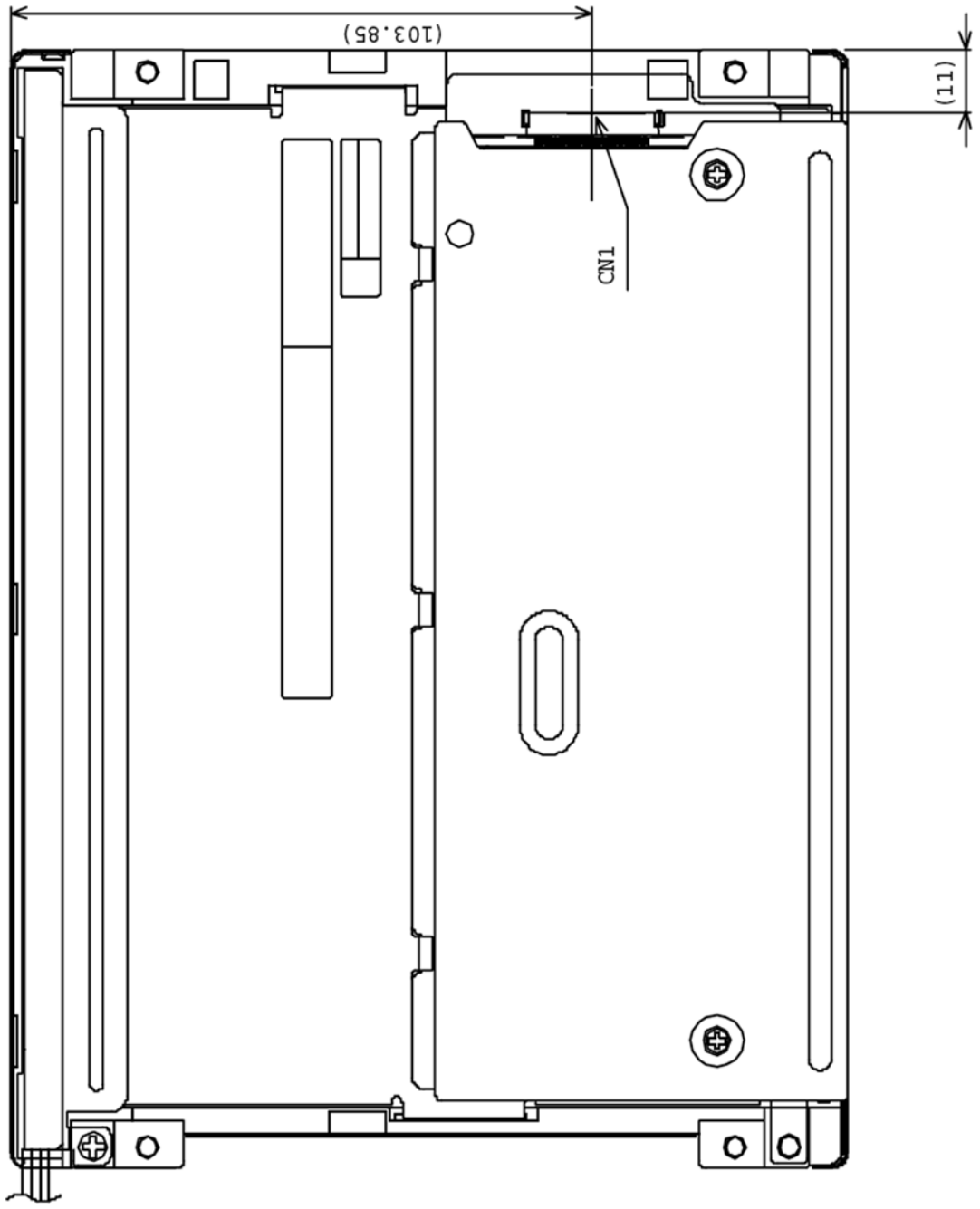
Item	Symbol	Min	Typ	Max	Unit
Frame Period	t1	604 x t3 –	628 x t3 16.58	677 x t3 17.86	– ms
Vertical Display Term	t2	600 x t3	600 x t3	600 x t3	–
One Line Scanning Time	t3	944 x t5 26.3	1056 x t5 26.4	1064 x t5 –	– µs
Horizontal Display Period	t4	800 x t5	800 x t5	800 x t5	–
Clock Period	t5	24.7	25.0	27.8	ns

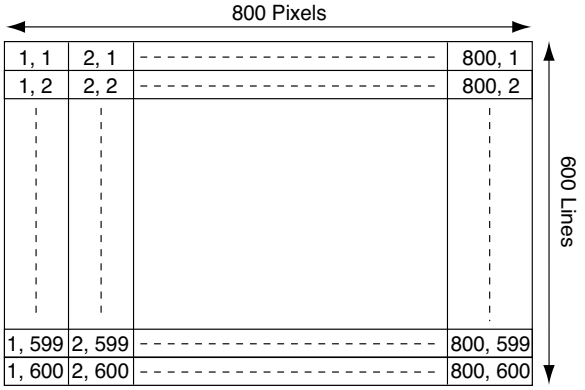
Timing Chart



Dimensional Outline (rear)

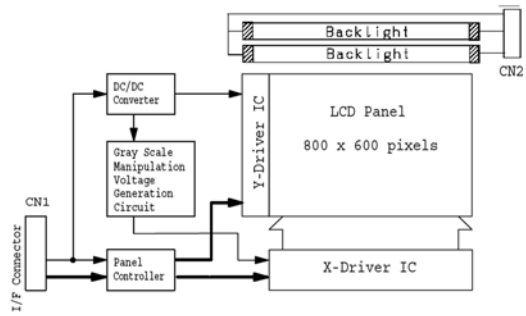
Unit: mm
Standard tolerance: ± 0.5





Recommended Inverter: INV8m122325 (12VDC Input)

Block Diagram



1) Drivers are fabricated on the LCD glass

2) Connectors
CN1- 20268-020E-03F / I-PEX Co., Ltd.
Mating Connector: 20230-020B-F or
20230-T20-F or 20230-W20B-F / I-PEX Co., Ltd
DF19G-20S-1C (Plug),
DDF19-2830SCFA (Crimp Contact) / HiROSE ELECTRIC

CN2 - BHR-04VS-1 / Japan Solderless Terminal Mfg Co
Mating Connector: SM04(4.0) B-BHS-1-TB
Japan Solderless Terminal Mfg Co

Connector Pin Assignment for Interface

CN1 Input Signal
Connector: 20268-020E-03F / I-PEX Co., Ltd.

Terminal No.	Symbol	Function
1	VDD	+3.3V Power Supply
2	VDD	+3.3V Power Supply
3	GND[1]	
4	GND[1]	
5	RxIN0-	Negative LVDS differential data input (R0-R5, G0)
6	RxIN0+	Positive LVDS differential data input (R0-R5, G0)
7	GND[1]	
8	RxIN1-	Negative LVDS differential data input (G1-G5, B0-B1)
9	RxIN1+	Positive LVDS differential data input (G1-G5, B0-B1)
10	GND[1]	
11	RxIN2-	Negative LVDS differential data input (B2-B5, HS, VS, DE)
12	RxIN2+	Positive LVDS differential data input (B2-B5, HS, VS, DE)
13	GND[1]	
14	CLK-	Clock Signal (-)
15	CLK+	Clock Signal (+)
16	GND[1]	
17	REV	Display Reverse (“L” level or Open; Normal, “H” level; Reverse)
18	GND[1]	
19	NC[2]	Non Connection (opent)
20	GND[1]	

Note 1: Please connect GND pin to ground. Don’t use it as a no-connect or connection iwth high impedance.
Note 2: Please connect NC pin to nothing. Don’t connect it to the ground or to other signal input

CN2 CCFL Power Source
(BHR-04VS-1/Japan Solderless Terminal Mfg Co., Ltd.)

Terminal No.	Symbol	Function
1	VFLH	CCFL Power Supply (High Voltage)
2	VFLH	CCFL Power Supply (High Voltage)
3	NC(1)	–
4	VFLL	CCFL Power Supply (Low Voltage)

Note (1) Take away terminal No. 3 of the mating connector. If does not take away, it may cause smoke burn of Electrical parts by high voltage.

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

	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	L	L	–
	Blue	L	L	L	L	L	L	L	L	L	L	L	L	H	H	H	H	H	H	–
	Green	L	L	L	L	L	L	H	H	H	H	H	H	L	L	L	L	L	L	–
	Lt. Blue	L	L	L	L	L	L	H	H	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	L	L	–
	Purple	H	H	H	H	H	H	L	L	L	L	L	L	H	H	H	H	H	H	–
	Yellow	H	H	H	H	H	H	H	H	H	H	H	H	L	L	L	L	L	L	–
	White	H	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	L	L0
	Dark	L	L	L	L	L	H	L	L	L	L	L	L	L	L	L	L	L	L	L1
		L	L	L	L	H	L	L	L	L	L	L	L	L	L	L	L	L	L	L2
					:						:						:			L3~L60
					:						:						:			
		H	H	H	H	L	H	L	L	L	L	L	L	L	L	L	L	L	L	L61
	Light	H	H	H	H	H	L	L	L	L	L	L	L	L	L	L	L	L	L	L62
	Red	H	H	H	H	H	H	L	L	L	L	L	L	L	L	L	L	L	L	Green L63
Gray Scale of Green	Black	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L0
	Dark	L	L	L	L	L	L	L	L	L	L	L	H	L	L	L	L	L	L	L1
		L	L	L	L	L	L	L	L	L	L	H	L	L	L	L	L	L	L	L2
					:						:						:			L3~L60
					:						:						:			
		L	L	L	L	L	L	H	H	H	H	L	H	L	L	L	L	L	L	L61
	Light	L	L	L	L	L	L	H	H	H	H	H	L	L	L	L	L	L	L	L62
	Green	L	L	L	L	L	L	H	H	H	H	H	H	L	L	L	L	L	L	Green L63
Gray Scale of Blue	Black	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L0
	Dark	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	H	L1
		L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	H	L	L2
					:						:						:			L3~L60
					:						:						:			
		L	L	L	L	L	L	L	L	L	L	L	L	H	H	H	H	L	H	L61
	Light	L	L	L	L	L	L	L	L	L	L	L	L	H	H	H	H	H	L	L62
	Blue	L	L	L	L	L	L	L	L	L	L	L	L	H	H	H	H	H	H	Blue L63
Gray Scale of White & Black	Black	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L0
	Dark	L	L	L	L	L	H	L	L	L	L	L	H	L	L	L	L	L	H	L1
		L	L	L	L	H	L	L	L	L	L	H	L	L	L	L	L	H	L	L2
					:						:						:			L3~L60
					:						:						:			
		H	H	H	H	L	H	H	H	H	H	L	H	H	H	H	H	L	H	L61
	Light	H	H	H	H	H	L	H	H	H	H	H	L	H	H	H	H	H	L	L62
	White	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	White L63