

DATASHEET
HYM-104XA

DATA SHEET

Open Frame Monitor

HYM-104XA

Rev 0

November 24, 2006

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HYM-104XA

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1 Revision History

Date	Rev. No.	Description	Page
11. 24.2006		1 st Release	

2 General Description

HYM-104XA open frame monitor is analog RGB monitor for 10.4" TFT LCD panel that is providing high quality screen image. This monitor supports from VGA to SVGA resolution at 75Hz refresh rate with expanding to full screen image. It gives a lot of convenience to the user in installing various application such as gaming, amusement, industry and so on and accessing the GUI(Graphic User Interface).

ITEM	DESCRIPTION	REMARKS
Model Name	HYM-104XA	
LCD Module	LB104S01-TL01	Refer to the clause 4.1 Panel Specification
Input Signal	Analog RGB(separated H/V sync) DVI-D	
Input Resolution	Hor : 35 to 80 KHz Ver : 50 to 77 Hz Analog RGB : VGA ~ SVGA DVI-D : VGA~SVGA	
Receptacle	DC power jack, D-SUB, DVI-D	RS232
User Controls	5 Buttons Controls UART RS232	

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Image Scalar	GM5726-LF	Genesis Microchip, Inc.
Audio	Not available	
Power Consumption	TBD	
Board Dimension	Controller Board : 100 X 100(mm) Key Board : 115 X20(mm)	
Plug & Play	DDC 2B	VESA

3 Environment and Reliability Specification

3.1 Operating Conditions

1. Temperature : 0°C~60°C(without panel, inverter) *operating conditions depend on LCD panel
2. Humidity : 10%~80%, non-condensing
3. Altitude : maximum 3,000m

3.2 Transportation Conditions

1. Temperature : -25°C~60°C
2. Humidity : 5%~95%, non-condensing
3. Altitude : maximum 15,000m

3.3 Storage Conditions

1. Temperature : -20°C~80°C
2. Humidity : 5%~95%, non-condensing
3. Altitude : maximum 3,000m

3.4 Reliability Specifications

1. MTBF : More than 50,000 hours at 90% confidence level, excluding LCD panel.
2. Reliability specification and items : Refer to "Specification of reliability test for LCD monitor"

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4 Electrical Specification

4.1 Panel Specification

Item	Description	Unit
Type No.	LG PHILIPS LCD LB104S01-TL01	
Size	10.4" Diagonal	inch
Active Display Area	211.2(H) x 158.4(V)	mm
Number of Pixels	800 x 600	pixel
Pixel Arrangement	RGB Stripe	
Pixel Pitch	0.264(H) x 0.264(V)	mm
Display color	6bits, 262,144 colors	
Surface Treatments	Anti-glare & Hard-coating (3H)	
Viewing Angle (CR≥10)	Horizontal : θL 65 θR 65 Vertical : ΦH 45 ΦL 55	degree
Contrast Ratio	Typ. 400 : 1	
Response Time	Rise time(tr) : 6(Typ.) Delay time(td) : 19(Typ.)	msec
Luminance of White	Typ. 250 cd/m2	

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Module size	224.5(H) x 172.0(V) x 5.7(D)	mm
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4.2 Input Signal Characteristics

Input Signal	Description	Unit	Min	Typical	Max	Remarks
DC input	DC Voltage	Vdc	10	12/24	35	*Option
	Power Consumption	Watts		TBD		For full Option
15Pin D-Sub	R/G/B level	Vp-p		0.714(1.0)		75Ω Terminated
	Sync Voltage	Vp-p		5.0		
	Horizontal Frequency	kHz	35	64	80	Depends on Mode
	Vertical Frequency	Hz	50	75	77	Depends on Mode
DVI-D	Digital RGB	mVp-p	150		1560	
		mVdc	150		1260	
	Dot Clock	MHz	25		135	Depends on Mode

4.3 Output Signal Characteristics

Output Signal	Description	Unit	Min	Typical	Max	Remarks
Inverter Interface	DC Output Voltage	Vdc	10	12	35	
	Brightness Control	Vdc	0		5.0	
	ON/OFF Control	Vdc	0		5.0	
	Differential Output	mVp-p	250	350	450	
LVDS Interface	LCD Power	Vdc		3.3		
				5		
				12		

4.4 Power Management

VESA DPMS standard is applied for power management control.

Mode	HSync.	Vsync.	Video signal	LED Indication	Power Consumption (nominal)
On	Active	Active	Active	Green LED	
Stand-by	Inactive	Active	Active	Red LED	
Suspend	Active	Inactive	Active	Red LED	

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Off	Inactive	Inactive	Active	Ambor LED	
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4.5 Connector Pin Assignment

4.5.1 CN9 : DC Input Option

Part No.	Pin No.	CN16 Description	Remarks
DJ023 / PWR 3P	1	Vcc(12V/5A)	
	2	GND	
	3	GND	

4.5.2 CN1 : Analog RGB Input

Part No.	Pin No.	Description	Remarks
DB15HD	1	RED	
	2	GREEN	
	3	BLUE	
	4	NC	
	5	GND (DDC RETURN)	
	6	GND-RED	
	7	GND-GREEN	
	8	GND-BLUE	
	9	NC	
	10	GND-SYNC/SELF TEST	

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	11	NC	
	12	DDC DATA	
	13	HORIZONTAL SYNC	
	14	VERTICAL SYNC	
	15	DDC CLOCK	

4.5.3 CN4 : Output to Key Control

Part No.	Pin No.	Description	Remarks
12505WR-9P (Yeonho)	1	LED-G	
	2	LED-R	
	3	KEY INPUT1	
	4	KEY INPUT2	
	5	IR	
	6	GND	
	7	GND	
	8	+5V	
	9	+5V	

4.5.4 CN10 : DVI-D Input (Option Available)

Part No.	Pin No.	Description	Remarks
SD74320-003	1	TMDS DATA 2-	
	2	TMDS DATA 2+	
	3	TMDS DATA 2/4 Shield	
	4	TMDS DATA 4- (NC)	
	5	TMDS DATA 4+ (NC)	
	6	DDC Clock	

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7	DDC Data	
8	NC	
9	TMDS DATA 1-	
10	TMDS DATA 1+	
11	TMDS DATA 1/3 Shield	
12	TMDS DATA 3- (NC)	
13	TMDS DATA 3+ (NC)	
14	5V	
15	GND	
16	Hot Plug Detect	
17	TMDS DATA 0-	
18	TMDS DATA 0+	
19	TMDS DATA 0/5 Shield	
20	TMDS DATA 5- (NC)	
21	TMDS DATA 5+ (NC)	
22	TMDS DATA Clock Shield	
23	TMDS Clock+	
24	TMDS Clock-	

4.5.5 CN5 & CN7 : Output to Panel

Part No.	CN7 Pin No.	CN5 Pin No.	CN7 Description	CN5 Description	Remarks
12507WR-30P (Yeonho)	1	1	Panel power	RED0	
	2	2	Panel power	RED1	

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	3	3	Panel power	RED2	
	4	4	NC	RED3	
	5	5	NC	RED4	
	6	6	NC	RED5	
	7	7	GND	RED6	
	8	8	RxE3+	RED7	
	9	9	RxE3-	GND	
	10	10	RxEC+	GND	
	11	11	RxEC-	GREEN0	
	12	12	RxE2+	GREEN1	
	13	13	RxE2-	GREEN2	
	14	14	GND	GREEN3	
	15	15	RxE1+	GREEN4	
	16	16	RxE1-	GREEN5	
	17	17	GND	GREEN6	
	18	18	RxE0+	GREEN7	
	19	19	RxE0-	GND	
	20	20	RxO3+	GND	
	21	21	RxO3-	BLUE0	
	22	22	RxOC+	BLUE1	
	23	23	RxOC-	BLUE2	
	24	24	GND	BLUE3	
	25	25	RxO2+	BLUE4	
	26	26	RxO2-	BLUE5	
	27	27	RxO1+	BLUE6	
	28	28	RxO1-	BLUE7	
	29	29	RxO0+	GND	
	30	30	RxO0-	GND	
		31		HSYNC	
		32		VSYNC	
		33		DEN	
		34		GND	

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	35		DEN	
	36		DCLK	
	37		Panel power	
	38		Panel power	
	39		Panel power	
	40		Panel power	

* Panel power are 3.3V, 5V, 12V

* CN7 : LVDS 1ch/2ch

* CN5 : TTL 1ch

4.5.6 CN8 : Output to Inverter

Part No.	Pin No.	Description	Remarks
12505WR15P (Yeonho)	1	GND	
	2	DIMMING	
	3	GND	
	4	BRT ON/OFF	
	5	GND	
	6	GND	
	7	NC	
	8	GND	
	9	GND	
	10	VDD	
	11	VDD	
	12	VDD	

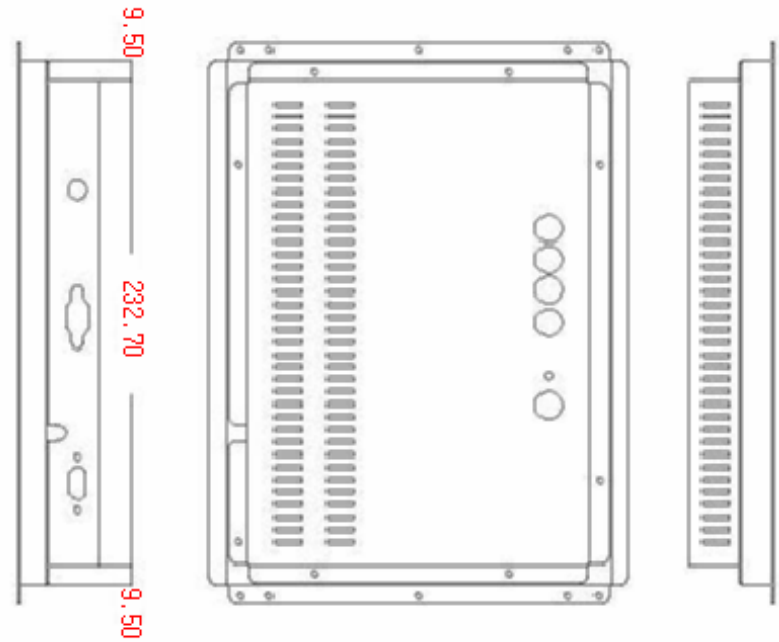
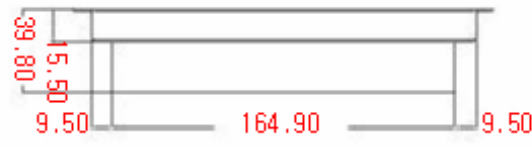
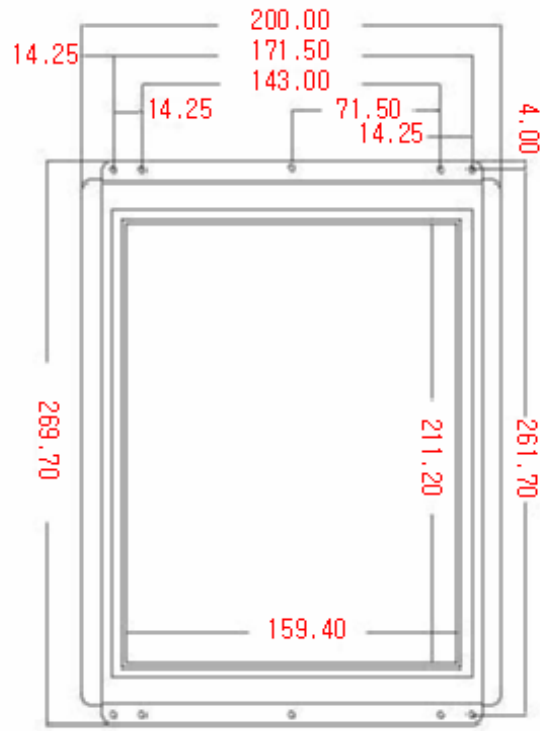
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5 Mechanical Specification

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