

DECEMBER 1997

Hardware Specification

Item Name : Graphics card for LCD monitor
Model # : GA-TR02P4/PCI

[Notice]
This data sheet is technical specification.

※ This data sheet consists of 10 pages.

I-O DATA DEVICE, INC.
Planning & Development Section 3

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Modification History

Modification date	Modified details	Time of Modification	Engineer	Manager
December, 1997	The first edition			

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1. Application

This specification applies to the quality condition of a graphics card for LCD monitor that is manufactured by I-O Data Device, Inc.

Model # : GA-TR02P-4/PCI

2. Mechanical Feature

2.1 Dimension (Depth x Wide x Height)

135.0 x 100 x 12.3 (mm)
(not including a slot cover)

2.2 Weight

about 261g
(including a slot cover)

2.3 VGA Controller

Trident Microsystems CYBER9397

2.4 PANEL LINK Interface

Silicon Image SIL100CTV331

2.5 Memory

Memory size 4MB (SGRAM 256K x 32 4 units)
Speed demanded 100MHz
(Maximum 1024 x 768 pixel)

2.6 Host CPU BUS

PC/AT Compatible PCI BUS (32bit BUS, PCI Rev2.1)

2.7 Electrical Feature

Voltage: DC+5V $\pm 5\%$
Current: 940mA (TYP)
(at displaying Windows95 standard image, 1024 x 768, full color)

2.8 Environmental Condition

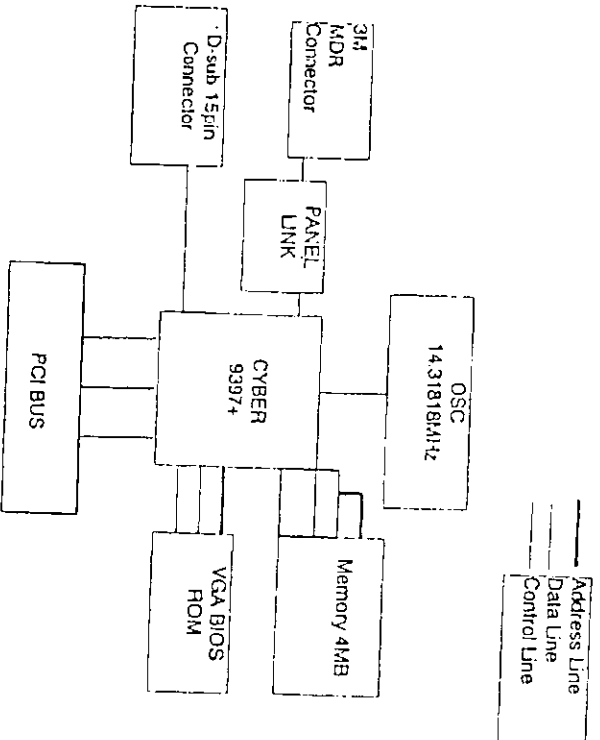
Operating Temperature: 0°C ~ +45°C
Storage Temperature: -20°C ~ +65°C
Humidity: 20% ~ 80% (without condensation)

2.9 Air Condition

Corrosion gas must not exist in the air.

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3. Block Diagram

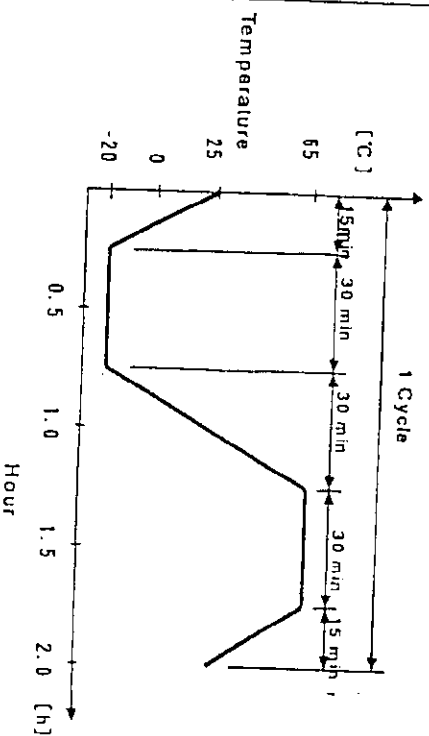


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4. Reliability

No.	Test Item	Test Condition	Decision
4.1	Leaving under high temperature & high humidity	Leave 24 hours under condition of $65 \pm 3^\circ\text{C}$ and 90~95%RH	Normal operation without change after testing
4.2	Leaving under low temperature	Leave 24 hours under condition of $-20 \pm 3^\circ\text{C}$	The same as above
4.3	Operating high temperature	Operate 6 hours under condition of $45 \pm 3^\circ\text{C}$	The same as above
4.4	Operating low temperature	Operate 6 hours under condition of $0 \pm 3^\circ\text{C}$	The same as above
4.5	Temperature cycle	Repeat 5 times the cycle specified with the following graph under saving mode	The same as above
4.6	Static noise against pressure	Based on the way of radiation: condenser 200pF and resistance 500Ω (Do not cover the terminal of connector)	No wrong operation under 8kV, and not be destroyed under 2kV

Condition Leave more than 30 minutes under the following condition, and measure the values under the same condition.
 Temperature $25 \pm 1^\circ\text{C}$ Humidity 40~70%RH Pressure 650~850mmHg



4.7 Status of using such materials that may destroy the ozone layer.
 Do not use materials for regulation (Specified chlorofluorocarbon, Halon, CCL₄, 1, 1, 1, Trichloroethane)

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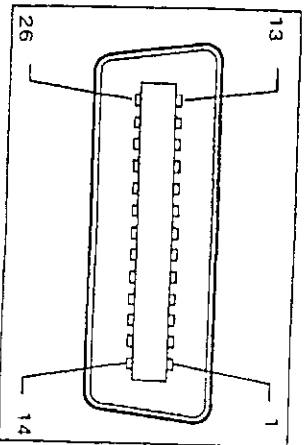
5. Interface

5.1 LCD Interface

1) Connector Pin Assignment

CN2 LCD Panel Interface			MDR connector 26Pin		
PinNo.	Mark	Definition	PinNo.	Mark	Definition
1	MONTRDY	NC	14	TOU12+	LVDS transmission data
2	TOU123GND	Grand	15	TOU12-	LVDS transmission data
3	TBD1	NC	16	DDC GND	Grand
4	TOU1+	LVDS transmission data	17	TOU11 GND	Grand
5	TOU1-	LVDS transmission data	18	DDC SCL	NC
6	TBD1	NC	19	TBD1	NC
7	TBD1	NC	20	USB+	NC
8	USB GND	Grand	21	USB-	NC
9	DDC SCL	NC	22	TOU10+	LVDS transmission data
10	TOU10 GND	Grand	23	TOU10-	LVDS transmission data
11	+5VDC	DC+5V	24	TBD3	NC
12	TCLK+	LVDS transmission clock	25	TCLK GND	Grand
13	TCLK-	LVDS transmission clock	26	HOST RDY	NC

Connector Pin Assignment



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2) Data Mapping

SH100 Pin No.	SH100 Mark	Definition	SH100 Pin No.	SH100 Mark	Definition
63	D0	NC	50	D12	G2
62	D1	NC	49	D13	G3
61	D2	B0	48	D14	G4
60	D3	B1	47	D15	G5
59	D4	B2	46	D16	NC
58	D5	B3	45	-	NC
57	D6	B4	44	D17	NC
56	D7	B5	43	D18	R0
55	D8	NC	42	D19	R1
54	D9	NC	41	D20	R2
53	-	NC	40	D21	R3
52	D10	G0	39	-	R4
51	D11	G1	38	D22	R5
			37	D23	R5

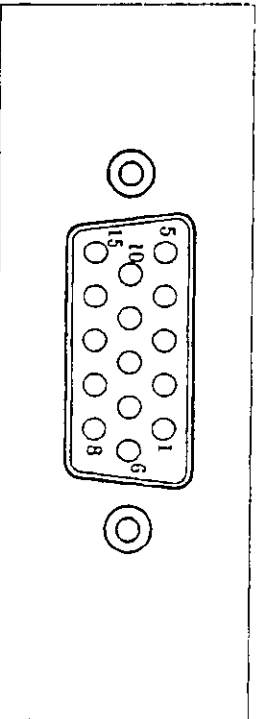
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5.2 CRT Interface

CN3 CRT Interface Shrink D-SUB Connector 15 Pin

PinNo.	Mark	Definition
1	RED	R video signal
2	GRN	G video signal
3	BLU	B video signal
4	NC	
5	GND	Ground
6	GND	Ground
7	GND	Ground
8	GND	Ground
9	VCC	DC+5V
10	GND	Ground
11	NC	
12	SDA	DDC data
13	HS	Horizontal Sync
14	VS	Vertical Sync
15	SDC	DDC clock

VGA Connector Pin Assignment



VGA Connector Figure

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6. Limitation of Usage

Use 3M E26-7.2 cable when connected to LCD monitor.

For your information, please contact us

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