

SPECIFICATION

	Industrial Chassis Frame LCD Monitor
MODEL	TSCHA
PRODUCT MODEL NAME	TSCHA-1900
CUSTOMER	
DATE	2020-03-22

APPROVED BY TOUCH AND DISPLAYS CO.,LTD	
ENGINEER	Kyeong Min Lee
REVIEWER	
CONFIRMED	



DQ : TDS200322-J01

MONITOR

Key Feature

- High Brightness 1000 nits(optional)
- LED Backlight
- Wide Temperature (-20 °C ~80 °C)(Optional)
- DC adapter 9V~36V(Optional)
- Low Power Consumption
- BL MTBF: 50,000 hour
- IPS(Wide Viewing Angle LCD(optional)
- Wall Mount Box

ITEMS	SPECIFICATION	
LCD	Size	19" TFT LCD, LED Back light
	Active Area(mm)	376.32mm(H) x301.06.06mm(V)
	Resolution	1280X1024@60Hz
	Contrast Ratio	1000:1(Typ)
	Display Color	16.7M
	Response Time	5ms(Typ)
	Brightness(cd/m2)	250cd/m2
	Viewing Angle(L/R/U/D)	89'/89'/89'/89'
	Operating Temperature	0'~50'C
	Storage Temperature	-20~60'C
	Panel Interface	LVDS
	OSD key	5key(Menu/Down/Up/Enter/Power)
	Frame	Open Frame VESA mount/Open mount Bracket
	Signal Connector	VGA,DVI, HDMI
	Power source	DC 9V~36V
Audio	Speaker	2x 3W(Optional)
IO Ports	Video	1xDVI
		1xVGA

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		1X DP (Optional)
		1XDVI-D, DVI-I(optional)
	Audio	Speaker(optional)
Mechanical	Enclosure	Metal
Audio	Speaker	Optional
Touch Screen(optional)		Resistive Touch Screen
		Touch Chip: EETI/Llitek/Weida
		Touch Point: Multi touch(1~10points standard, 50 points option)
		Touch Supply Voltage: 5V
		Touch Interface: USB
		Touch Support OS: Window/Android/ Linux/Mac
Accessories		1x24v dc cable, 1x3m HDMI cable, 1x 3m USB cable 100~240V AC to DC Adapter Power Cord
Weight (Net)		3.5kg
Surface Treatment		AG/AR/AF(Optional)
Water/Dust Protection		IP65(front)/ IK08(front)

Customer Request

Display Port: Customization

LCD Brightness(Dimming): High Brightness / Sunlight Readable/Dimming : Auto,Knob,Manual

- Industrial monitor : 5% Dimming (Zero Dimming : please ask to Sales team)

- High-brightness monitor : 50% Dimming (5%, Zero Dimming : please ask to Sales team)

Touch Screen : PCAP touch screen/Resistive Touch Scree/ IR Touch Screen/SAW Touch Screen

Glass :Tempered Glass, AR/AG coating , Optical/Air Bonding

Power: DC voltage/AC voltage/Connector type

Cable/Connector: Length of Cable and connector type

Mechanical Housing/ IP grade/ Easy Mounting Design

All in One PC CPU Option : J1900 , J4125, J6412

i3-6100U ,i3-8145u,i3-10110u,

i5-6200u, i5-7200u,i5-8262u,i5-10210u,

i7-6500U,i7-7500U,i7-8565U,i7-10510U

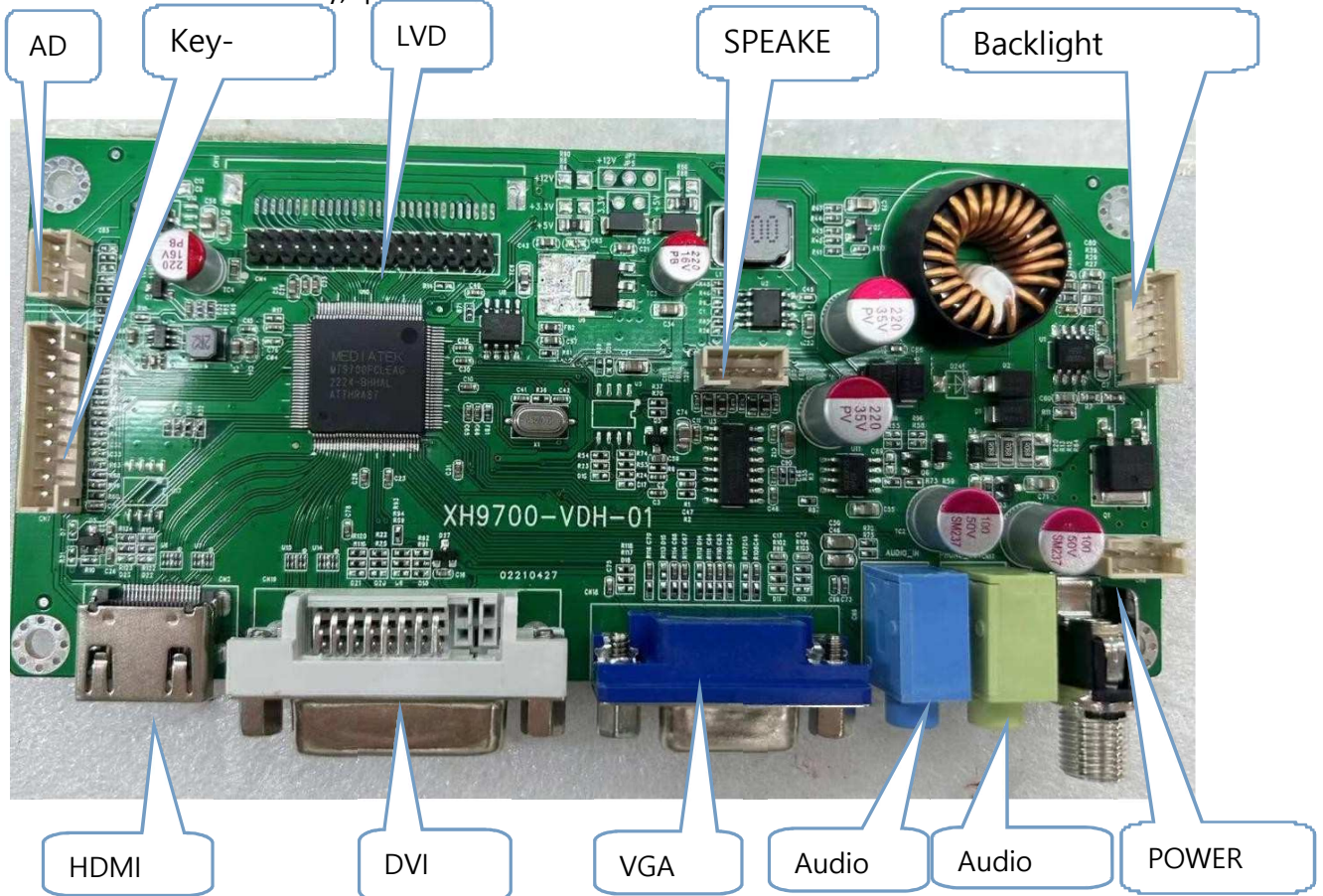
For RAM: 4g/8g /16G RAM.

For Hard Disk: 64G/128G/256G/512G SSD, or 500G/1T HDD.

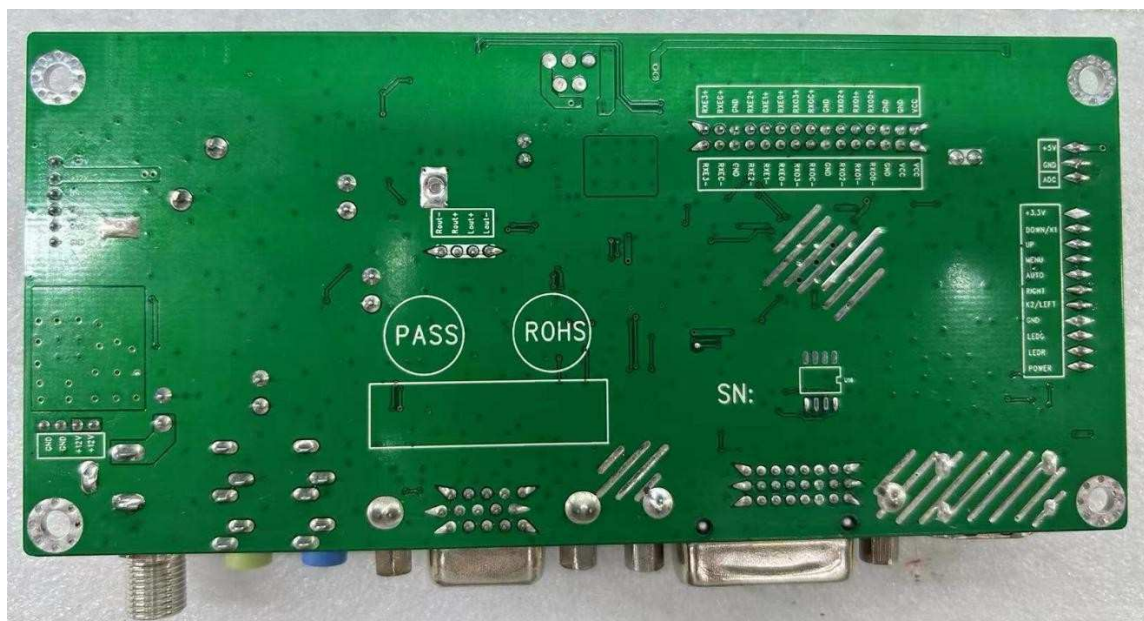
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A/D Board Datasheet

Pictures are for references only, specific to prevail in kind.



Front View



Back

View

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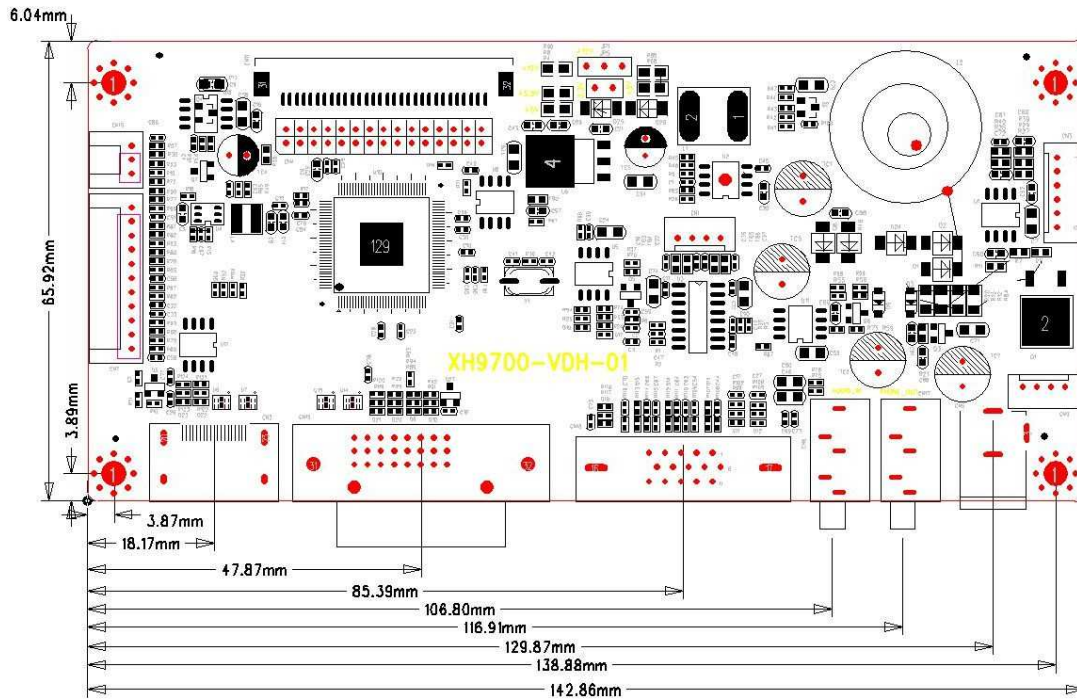
Features

Chipset	MT97XXX				
OSD Language	English, Chinese, Multi-Language,				
Panel	Panel Type		TFT LCD With LED Backlight		
	Interface		Dual/single LVDS Interface		
	Resolution		1920*1200		
Video Input	VGA In	Signal	Anglog RGB(0.7Vpp)		
		Connector	15Pin D-Sub		
	HDMI In	Signal	T.M.D.S		
		Connector	19Pin HDMI		
	DVI In	Signal	T.M.D.S		
		Connector	24Pin DVI		
	Horizontal frequency		31.5-80.0KHz		
	Vertical frequency		55-75Hz		
	Video Mode		VGA,SVGA,XGA,SXGA,WSXGA+,WXGA, WXGA+,HD+,FHD		
Resolution		Up to 1920*1080			
Video Output	Signal		R,G,B 8bit LVDS Output		
	Connector		30Pin 2.0mm Pitch		
	Color Temp		9300/6500/7500/Srgb/User-defined		
Audio Input	Signal		PC-RGB		
	Connector		5Pin Audio (3.5MM)		
Phone Output	Signal		Phone Output		
	Connector		5Pin Audio (3.5MM)		
Power	DC input Requirement		9V~12V OR 15V~36V		
	Panel Power Input		+3.3Vdc/+5Vdc/+12Vdc		
	Power OFF Model		<0.5W		
	Power Manage		Yes		
PCB Specification	PCB Layer		Two Layers		
	PCB Material		FR-4		
	PCB Thickness		1.6mm		
PCB Dimension	L*W*H		143*66*1.6mm		
Component Foot	Bottom Layer Height		≤3.0mm		
Key Function	Power Menu Right Left AUTO (Optional)				

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Mechanical Dimension

The size of **TDS-SM97C-VDH-N1** is 143mm(L)*66mm(W)*16mm (H)



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Interface Definition

● **CN5 (DC-2.5MM):DC Input**

NO.	SYMBOL	DESCRIPTION	Fig.
1	VCC	9V~36V	
2	GND	Earth wire	
3	GND	Earth wire	

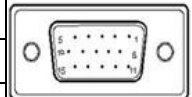
● **CN9(4PIN/PH2.0/180°):VCC POWER IN**

NO.	SYMBOL	DESCRIPTION	Fig.
1	VCC	9V~36V	
2	VCC	9V~36V	
3	GND	Earth wire	
4	GND	Earth wire	

● **CN6 :Audio Input(3.5MM)**

● **CN17 :Audio out(3.5MM)**

● **CN18 (15PIN/D-sub MALE Connector):D-sub 30mm**

NO.	SYMBOL	DESCRIPTION	Fig.
1	R	Red Video	
2	G	Green Video	
3	B	Blue Video	
4	NC	NC	
5	NC	NC	
6	Gr	Red Ground	
7	Gg	Green Ground	
8	Gb	BLUE Ground	
9	NC	NC	
10	GND	Ground	
11	NC	NC	
12	SDA	DDC-Serial Data	
13	H	H.sync	
14	V	V.sync	
15	SCL	DDC-Serial Clock	

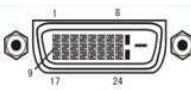
● **CN2 (19PIN/HDMI Connector):HDMI 15mm 【HDMI 】**

NO 【	SYMBOL	NO.	SYMBOL	Fig.
1	TMDS data2+	13	CEC	
2	TMDS data2 shield	14	NC	
3	TMDS data2-	15	SCL	
4	TMDS data1+	16	SDA	

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5	TMDS data1 shield	17	DDC/CEC Ground	
6	TMDS data1-	18	+5V Power	
7	TMDS data0+	19	Hot Plug Detect	
8	TMDS data0 shield			
9	TMDS data0-			
10	TMDS clock+			
11	TMDS clock shield			
12	TMDS clock-			

●CN19 (24PIN/DVI Connector):DVI 38mm 【DVI 】

NO 【	SYMBOL	NO.	SYMBOL	Fig.
1	TMDS data2-	13	NC	
2	TMDS data2+	14	+5V	
3	TMDS data2 shield	15	NC	
4	NC	16	Hot plug detect	
5	NC	17	TMDS data0-	
6	DDC clock	18	TMDS data0+	
7	DDC data	19	TMDS data0 shield	
8	NC	20	NC	
9	TMDS data1-	21	NC	
10	TMDS data1+	22	TMDS clock shield	
11	TMDS data1 shield	23	TMDS clock+	
12	NC	24	TMDS clock-	

●CN7(10PIN/PH2.0/180°):Key-Board Connector

NO.	SYMBOL	DESCRIPTION
1	POWER	Power ON/OFF
2	LEDR	LED-R
3	LEDG	LED-G
4	GND	GND
5	K2/LEFT	LEFT
6	RIGHT	RIGHT KEY
7	AUTO	AUTO KEY
8	MENU	MENU KEY
9	UP	UP KEY
10	DOWN/K1	DOWN KEY
11	3.3V	NC

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●CN15(3PIN/PH2.0/180°):ADC Connector

NO.	SYMBOL	DESCRIPTION	Fig.
1	+5V	+5V	
2	GND	Earth wire	
3	ADC	ADC	

●CN1 (4PIN/PH2.0/180°):Speaker Connector

NO.	SYMBOL	DESCRIPTION
1	LOUT—	Audio Left Channel Output-
2	LOUT+	Audio Left Channel Output+
3	ROUT+	Audio Right Channel Output+
4	ROUT—	Audio Right Channel Output-

●CN14(6PIN/PH2.0/180°): Backlight Power out

NO.	SYMBOL	DESCRIPTION
1	12V	12V
2	12V	12V
3	ON	
4	ADJ	
5	GND	GND
6	GND	GND

●CN4(30PIN/2.0mm):Panel interface Connector

NO. 【序号】	SYMBOL	NO.	SYMBOL
1	PANEL_VCC	16	RXOC+
2	PANEL_VCC	17	RXO3-
3	PANEL_VCC	18	RXO3+
4	GND	19	RXE0-
5	GND	20	RXE0+
6	GND	21	RXE1-
7	RXO0-	22	RXE1+
8	RXO0+	23	RXE2-
9	RXO1-	24	RXE2+
10	RXO1+	25	GND
11	RXO2-	26	GND
12	RXO2+	27	RXEC-
13	GND	28	RXEC+
14	GND	29	RXE3-
15	RXOC-	30	RXE3+

Electrical Characteristics

6.1 Input electrical specifications

Input	Minimum	Nominal	Rating	Maximum	Unit
Voltage	9V			36	Vdc
Current	--	--	--	10	A

Configuration & General Precautions

- Relative humidity: $\leq 80\%$
- Storage temperature: $-10 \sim 60^{\circ}\text{C}$
- Operation temperature: $0 \sim 40^{\circ}\text{C}$
- Protect the board from static electricity in case of damage to the IC.
- keep the board away from connectors when it is working.
- Don't push or pull the connectors when board is working.
- Don't Press, distort or disassemble the board.
- Don't wire in the board to power supply before panel is correctly connected.

Mount Precautions

• For Safety Issue, please keep 4.0mm at least from the metal parts of the system to the converter. Or put a high-voltage insulator between the converter and the metal parts to avoid the situation of Hi-POT failure or arcing---etc.

- Don't twist, deform , drop or knock the Drive board during assembly.

• Guarantee to offer ESD shield bag to protect the product from electrostatic or magnetic interference during delivery.but due to the converter is usually designed without the case. please take care about ESD at anytime.

This section lists some of the PC-RGB modes supported by this product, including their vertical frequency, horizontal frequency, and resolution.

PC-RGB Mode Table (This table is for the reference only, due to differences in signal source output, the data may vary from the table)

	Resolution	Horizontal frequency (KHz)	Vertical frequency (Hz)	Standard
WUXGA	1920X1200	74.5	60	

PC-RGB Supported Model Table

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This section lists some of the PC-RGB modes supported by this product, including their vertical frequency, horizontal frequency, and resolution.

PC-RGB Mode Table (This table is for the reference only, due to differences in signal source output, the data may vary from the table)

	Resolution	Horizontal frequency (KHz)	Vertical frequency (Hz)	Standard
WUXGA	1920X1200	74.5	60	
		94.0	75	
UXGA	1600X1200	74.5	60	VESA
		94.0	75	
WSXGA+	1680X1050	65.2	60	
		82.2	75	
WXGA+	1440X900	55.9	60	---
		70.5	75	
WXGA	1280X800	49.7	60	---
		62.6	75	
SXGA+	1400X1050	65.2	60	---
		82.2	75	
SXGA	1280X1024	63.6	60	VESA
		80.2	75	
XGA	1024X768	47.7	60	VESA
		56.0	70	
		60.1	75	
SVGA	800X600	37.3	60	VESA
		43.8	70	
		47.3	75	
VGA	640X480	29.8	60	VESA
		35.0	70	
		37.7	75	
DOS	640X480	29.8	60	VESA
	720X400	29.2	70	

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MECHANICAL DRAWING

TBD

NOTE

1. This is a simplified drawing, and some components are not marked in detail.
2. Please contact our sales representative if you need further product information.
3. All specifications are subject to change without prior notice.
4. The product shown in this datasheet is a standard model. For diagrams that contain customized or optional I/O , please contact our Team(TDS) for more information.