Gaming Display Specification

49 Inch J Curved with LED Deco.

Model No. : **WTD490C**

Suffix : **OTLXX0**

Customer Approval
Please return 1 copy for your confirmation with your signature and date.

Approved by	Reviewed by	Prepared by
Sungsoo Ryu	Minsuk Seoung	Minsuk Seoung
WiTS Co., LTD.		

Revision History

Date	Document Revision	Page	Summary
2025. 09. 16.	Rev 1.0	All	First Draft

FW Version: ATV0.0.0.3

General Description

The LCD display can receive standard DVI-D and DP (Display Port) signals from any video controller. An OSD logic is embedded to provide the convenient function to adjust the screen and picture quality. The main features are follows;

- Support 10 Bit V-by-1 interface
- High quality scaling engine to enlarge or shrink the image
- Plug & Play VESA DDC 2B Ver. 1.3
- Embedded On-screen Display Control
- Support resolution from VGA to UHD
- Support DVI-D and DP input signal.
- Recommended resolution : 3840 x 2160@60Hz (UHD)
- A variety of image adjustment such as brightness, contrast, color temp. and etc.
- Support Image Reverse(180 Degree) and Rotate OSD function
- Support Projective Capacitance Touch function
- Support 5 points touch function
- Support Palm Rejection function
- Zero Touch Bezel Design
- Support advanced LED Deco for eye catching effect

1 General Specifications

1.1 The detail of suffix on P/N

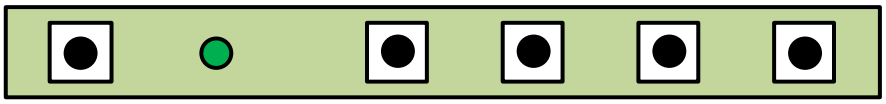
WTD490C-OTLXX0

Additional specification	Suffix
C Curved	C
Open Frame model	O
P-CAP with USB interface	T
LED decoration	L
XX	Customer undecided
0	Revision No.

1.2 Summary of specifications

Item		Unit	Value
LCD Module	Screen Size		49 inches Diagonal
	LCD Module		LGD LC490EQY
	Pixel Pitch	[mm]	0.2796 x 0.2796
	Response Time	[ms]	9 typ.(G to G)
	Brightness	[cd/m^2]	Without Glass : 400 min, 500 typ.
			With Glass(80%) : 320 min
	Contrast Ratio		1300 typ.
	Active Area	[mm]	1073.80 (H) x 604.0 (V)
	Max. Colors	[colors]	1.07 billions
	Viewable Angles	[degree]	89/89 (Left/Right) 89/89 (Up/Down)
	Resolution	[pixel]	3840 (H) x 2160(V)
LED Deco	LED Type		SMD5050, LED Strip
	Input Voltage	[V]	12VDC
	LED Quantity		128ea
	LED Current	[mA]	R/G/B : 9mA/LED
	Color Temp.	[K]	6500 +/- 500K
Recommended Resolution		[pixel]	3840 x 2160 (UHD) @ 60Hz
Frequency Range	Horizontal	[KHz]	29~135
	Vertical	[Hz]	55~76
I/O Connector	Signal #1	DVI-D	Single Link DVI-D Connector
	Signal #2	DP	20pin DP connector
	Power-in	DC 24V	ELR-06V (JST)
	Touch (only Touch Model)	USB	USB-B type
Plug & Play			VESA DDC 2B Ver. 1.3
Power supply		[V]	Display - DC24V ± 10% Mini LED – AC 100V ~ 240V
Power consumption		[W]	T.B.D
Power management			No Support
OSD Keys	5 keys		Power, Menu/Select, Up, Down, Select/Exit
Physical Considerations		[mm]	T.B.D
		[Kg]	45Kg (
Environmental Conditions	Operation	[°C]	0 ~ +40
	Storage	[°C]	-20 ~ + 60
	Operation	[%RH]	10 ~ 80 (Non-Condensing)
	Storage	[%RH]	10 ~ 90 (Non-Condensing)
Certification			UL, FCC, CSA compliance

1.3 OSD Keys



Power LED Menu/Select Up Down Select / Exit

A. Summary of the key functions

Button	Function	Hot Key
LED	Input signal – GREEN LED No Signal – Yellow LED Soft Power Off – LED off	
POWER	Power On/Off	
MENU/ SELECT	Access to OSD menu or sub item selection **Save changed value after adjust OSD value.**	
UP	Move cursor to the right, Increase selected value.	Show up Input Source and select input source
DOWN	Move cursor to the left, Decrease selected value	
SOURCE / EXIT	and exit to the previous menu level	

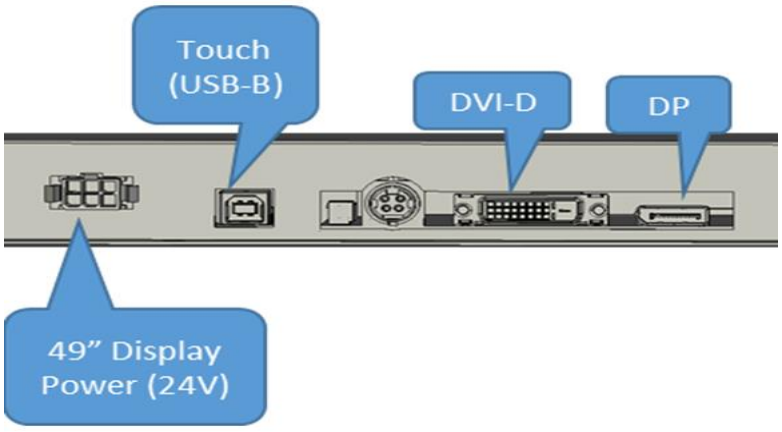
1.4 AD Board Electrical specs

Symbol	Description	Min	Typ	Max	Unit
VDD	+24 V DC Power Supply	21.6	24	26.4	V
VIH	Digital input Voltage, High	2.5			VPP
VIL	Digital input Voltage, Low			0.8	VPP
FHS	Horizontal Sync. Frequency	29		136	KHz
FVS	Vertical Sync Frequency	55		76	Hz
VSIH	Sync Input High Level		5		VDC
VSIL	Sync Input Low Level		GND		VDC

1.5 Signal timing table

Resolution	Refresh Rate (Hz)	Resolution	Refresh Rate (Hz)
720 x 400	70	1280 x 720	60
640 x 480	60	1280 x 768	60
640 x 480	72	1280 x 960	60
640 x 480	75	1280 x 1024	60
800 x 600	56	1280 x 1024	75
800 x 600	60	1360 x 760	60
800 x 600	75	1400x1050	60
1024 x 768	60	1440x900	60
1024 x 768	70	1600x900	60
1024 x 768	75	1920x1080	60
3840 x 2160	60		

1.6 Input Port



2 Individual specification

2.1 LCD module (LC490EQY)

Item	Specification	Remark
Active Screen Size	1073.8mm X 604.0mm	LGD
Pixel Pitch	0.27963mm X 0.27963mm	
Screen Resolution	3840 X 2160	UHD
Color Depth	10bit Colors	
Luminance	500 cd/m2 - Typ.	Without Touch Glass,
Viewing Angle	89/89/89/89	Degree, Wide Viewing Angle
Contrast	1300 : 1	IPS
Uniformity	68	%
Pixel Response Time	9msec - Typ.	G to G
Color Coordinate	x = 0.279, y = 0.292	+/- 0.03
BLU Life Time	30K	hours (min.)

2.2 LED Driver (GH854A(M1))

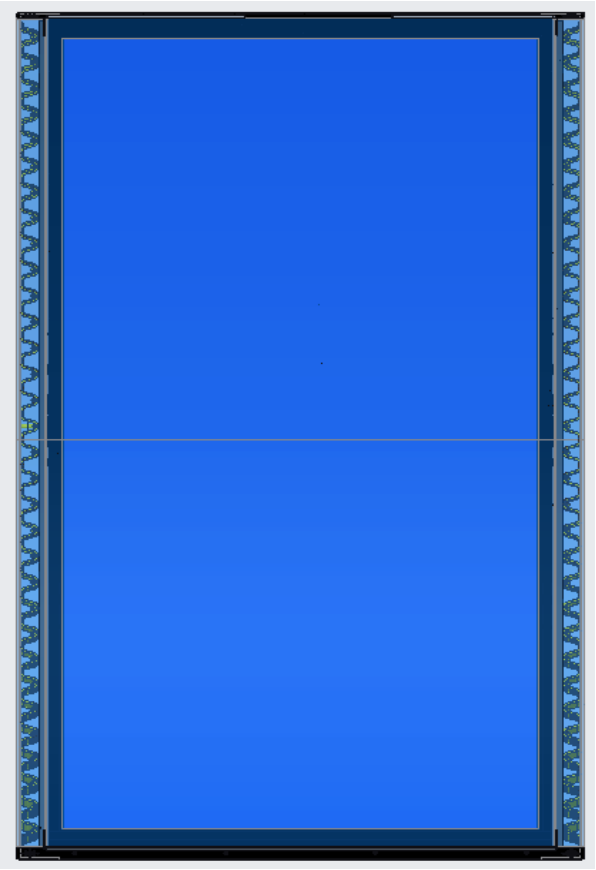
Electrical specs

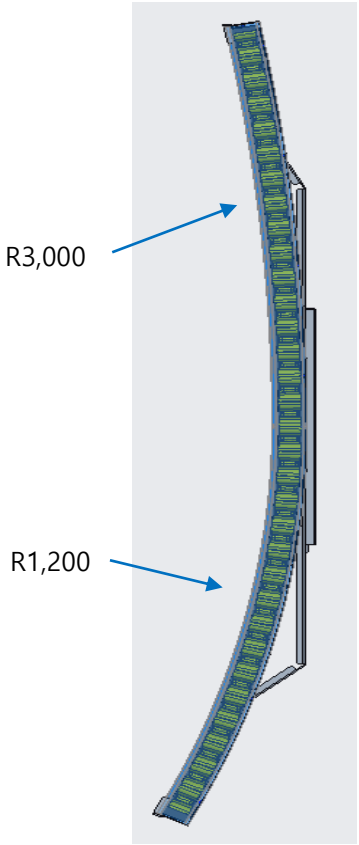
Item	Symbol	Condition	Min	Typ	Max	Unit
Input Voltage	Vin		21.6	24.0	26.4	Vdc
Output Current	Iout(max)	Vin=24V, Dim=0V	-	7.0	-	A mean
Backlight ON/OFF	ON		2.5	-	5.25	Vdc
	OFF		-0.3	-	0.8	Vdc
Bright Adjust	DIM-PWM		10	-	100	%

2.3 Glass and P-CAP Touch

Item	Description	Typ.
Touch Type	Projected Capacitive Touch	Metal Mesh
Touch Layout	GFF	
Dimension		mm
Glass Thickness	4T	Strengthening Heat Treatment
Visual Area	705 X 1075.4	mm
Touch Point	5 Points	Max
Touch Controller	WDT8762AT	Weida
Touch Interface	USB-B, USB 2.0	
Operating Temp.	0 ~ 40	℃
Linearity Tolerance	± 2	mm
Response Time	25 ~ 30	msec
Transparency	80% min	
Surface Treatment	Clear	

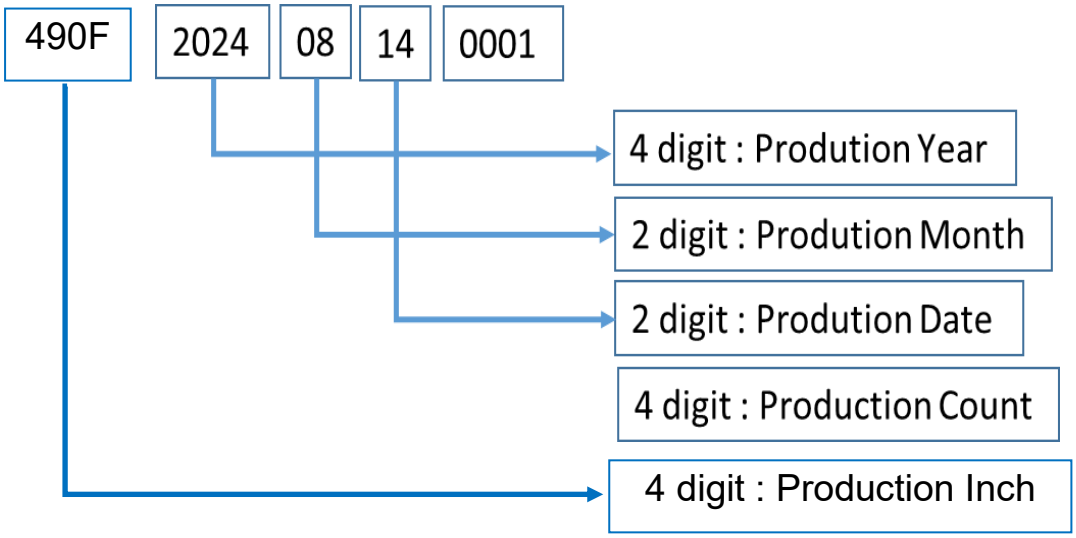
3 Product design





4 Product Label

Serial Number



5 Reliability Test

No	Test Item	Test Condition	Duration
1	High Temperature & High Humidity Storage Test	Power Off, 60℃ / Rh 80% / 36hrs / Packing	36hr
2	Low Temperature Storage Test	Power Off,-20℃ / Rh 0% / 16hrs / Packing	16hr
3	Low Temperature Operating	Power On, 0℃ / Rh 0% / 240hrs / Operating	240hr
4	High Temperature Operating	Power On,40℃ / Rh 0% / 240hrs / Operating	240hr
5	High Temperature & Humidity Operating Test	Power On,50℃ / Rh 60% / 48hrs / Operating	48hr
6	Packing Vibration Test	3 axis(x,y,z) Vibration, Frequency : 10-300hz Grms : 1.5 grms Time : 30 min* 3 axis = 90 min	
7	Packing Drop Test	4 corner at 400mm	4 times
8	Power On/Off Test	30sec On/30sec Off, 3000times @ Aging room	50hr
9	Power DIP Test	- 100% Dip (0V) for 16.7ms (20ms : 50Hz Power) - 60% Dip for 100ms, 4minutes for each time	4hr
10	Electrostatic Discharge	US : Air ±27kV, ±20kv / Contact ±10kV, ±7.5kv EU : Air ±15KV, Contact ±8KV	1hr