
To: _____

MULTI INTERFACE CONTROLLER FOR TFT LCD

SPECIFICATION

Model: OPD-F-26

Functions: VGA, DVI, HDMI, DP, Audio input & DC in

Version: 1.0

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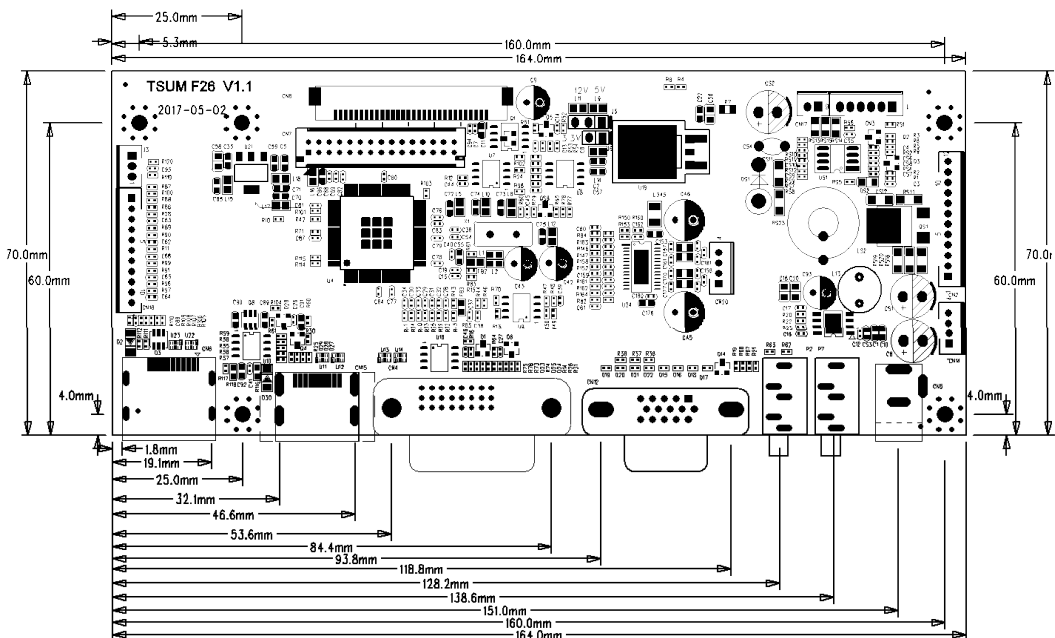
■ Introduction

OPD-F-26 is a monitor control board, which is suitable for LVDS output. It can support LED/LCD panels which resolution is up to 1920*1200.

■ General SPECIFICATIONS

Panel compatibility	Max Resolution : 1920*1200.
No. of colors	Up to 10 bit providing 1.06 billion colors.
Panel power	DC 12V/5V/3.3V
Panel signal	Max 2ch LVDS
OSD menu controls functions	AUTO, MENU,UP,DOWN, POWER
Controller dimensions	164mm x 70mm
Power consumption	10w approx. (not including panel power consumption)
Input voltage	12VDC +/- 5%
Power protection	Fuse fitted (Resettable)

■ Controller dimensions





■ CONNECTORS, PINOUTS & JUMPERS

The various connectors are:

Summary: Connectors

Ref	Purpose	Description
CN6	Displayport	Display port connector
CN4	DVI	DVI connector
CN12	VGA	DB-15 way high density 3 row
CN5	HDMI	HDMI connector
P2	Reserved for Speaker in	LINE IN BLACK
P7	Reserved for Earphone out	LINE IN BLACK
CN5	ADAPTER DC Power input	ADAPTER DC Power input
CN14	DC Power input	PH2.0 4PIN 180°
CN18	Key Board	PH2.0 11PIN 180°
CN2	Backlight inverter	PH2.0 12PIN 180°
CN7	LVDS panel signal output	CON15*2-2.0 LVDS
CN1	Reserved for Speaker out	PH2.0 4PIN 180°
CN17	LightBar connector	PH2.0 2PIN 180°
CN3	LightBar connector	PH2.0 6PIN 180°

DC POWER Connector: DC JACK \varnothing 2.1mm

PIN	SYMBOL	DESCRIPTION
1	12V	ADAPER DC POWER 12V
2	12V	ADAPER DC POWER 12V
3	GND	Groud
4	GND	Groud

Display Port input

PIN	SYMBOL	DESCRIPTION
1	ML_Lane 0 (p)	Lane 0 (positive)
2	GND	Groud
3	ML_Lane 0 (n)	Lane 0 (negative)
4	ML_Lane 1 (p)	Lane 1 (positive)
5	GND	Groud
6	ML_Lane 1 (n)	Lane 1 (negative)
7	ML_Lane 2 (p)	Lane 2 (positive)
8	GND	Groud
9	ML_Lane 2 (n)	Lane 2 (negative)
10	ML_Lane 3 (p)	Lane 3 (positive)
11	GND	Groud
12	ML_Lane 3 (n)	Lane 3 (negative)
13	CONFIG1	connected to Ground
14	CONFIG2	connected to Ground
15	AUX CH (p)	Auxiliary Channel (positive)
16	GND	Groud
17	AUX CH (n)	Auxiliary Channel (negative)
18	Hot Plug	Hot Plug Detect
19	GND	Groud
20	DP_PWR	Power for connector (3.3 V 500 mA)

HDMI connector

PIN	SYMBOL	DESCRIPTION
1	DATA2+	TMDS Data2+
2	DATA2S	TMDS Data2 Shield
3	DATA2-	TMDS Data2-
4	DATA1+	TMDS Data1+
5	DATA1S	TMDS Data1 Shield
6	DATA1-	TMDS Data1-
7	DATA0+	TMDS Data0+
8	DATA0S	TMDS Data0 Shield
9	DATA0-	TMDS Data0-
10	CLK+	TMDS Clock+
11	CLK@	TMDS Clock Shield
12	CLK-	TMDS Clock-
13	CEC	CEC
14	NC	No conection
15	SCL	SCL (I ² C Serial Clock for DDC)
16	SDA	SDA (I ² C Serial Data Line for DDC)
17	CEC/GND	Ground

18	+5V	+5 V Power (max 50 mA)
19	HPDET	Hot Plug Detect

DVI IN 24+1

PIN	SYMBOL	DESCRIPTION
1	RX2-	TMDS Data 2-
2	RX2+	TMDS Data 2+
3	GND	Digital Groud
4	NC	No connection
5	NC	No connection
6	DDC_CLK	DDC Clock
7	DDC_DAT	DDC Data
8	NC	No connection
9	RX1-	TMDS Data 1-
10	RX1+	TMDS Data 1+
11	GND	Digital Groud
12	NC	No connection
13	NC	No connection
14	DDC_5V	+5V power supply for DDC(optional)
15	GND	Ground(+5,Analog H/V Sync)
16	NC	No connection
17	RX0-	TMDS Data 0-
18	RX0+	TMDS Data 0+
19	GND	Digital Groud
20	NC	No connection
21	NC	No connection
22	GND	Digital Groud
23	RXC+	TMDS Clock+
24	RXC-	TMDS Clock-
C1	NC	No connection
C2	NC	No connection
C3	NC	No connection
C4	HS_IN	Analog horizontal sync
C5	GND	Groud
C6	NC	No connection

Analog VGA in - 15 way connector

PIN	SYMBOL	DESCRIPTION
1	PCR	Red, analog
2	PCG	Green, analog
3	PCB	Blue analog
4	ID2	Reserved for monitor ID bit 2 (grounded)

5	DGND	Digital ground
6	AGND	Analog ground red
7	AGND	Analog ground green
8	AGND	Analog ground blue
9	DDC_5V	+5V power supply for DDC (optional)
10	DGND	Digital ground
11	ID0	Reserved for monitor ID bit 0 (grounded)
12	DDC_SDA	DDC serial data
13	HS_IN	Horizontal sync or composite sync, input
14	VS_IN	Vertical sync, input
15	DDC_SCL	DDC serial clock

CN18 -Key Board connector:PH2.0 11PIN

PIN	SYMBOL	DESCRIPTION
1	3.3V	3.3V
2	DOWN	For OSD Down Switch
3	UP	For OSD Up Switch
4	MENU	For OSD Menu Switch
5	AUTO	For Source Switch
6	+ /RIGHT	For OSD Right Switch
7	- /LEFT	For OSD Left Switch
8	GND	Ground
9	LED_O	Orange Color
10	LED_R	Red Color
11	POWER	For Power Switch

CN7-LVDS output connector:CON15*2-2.0 LVDS

PIN	SYMBOL	DESCRIPTION
1	PANEL_VCC	Panel power supply (+12V/5V/3.3V)
2	PANEL_VCC	Panel power supply (+12V/5V/3.3V)
3	PANEL_VCC	Panel power supply (+12V/5V/3.3V)
4	GND	GND
5	GND	GND
6	GND	GND
7	RX00-	Negative differential LVDS data bit A0
8	RX00+	Positive differential LVDS data bit A0
9	RX01-	Negative differential LVDS data bit A1
10	RX01+	Positive differential LVDS data bit A1
11	RX02-	Negative differential LVDS data bit A2
12	RX02+	Positive differential LVDS data bit A2
13	GND	GND

14	GND	GND
15	RXOC-	Negative LVDS clock for A channel
16	RXOC+	Positive LVDS clock for A channel
17	RXO3-	Negative differential LVDS data bit A3
18	RXO3+	Positive differential LVDS data bit A3
19	RXE0-	Negative differential LVDS data bi B0
20	RXE0+	Positive differential LVDS data bit B0
21	RXE1-	Negative differential LVDS data bit B1
22	RXE1+	Positive differential LVDS data bit B1
23	RXE2-	Negative differential LVDS data bit B2
24	RXE2+	Positive differential LVDS data bit B2
25	GND	GND
26	GND	GND
27	RXEC-	Negative LVDS clock for B channel
28	RXEC+	Positive LVDS clock for B channel
29	RXE3-	Negative differential LVDS data bi B3
30	RXE3+	Positive differential LVDS data bit B3

CN1 Speaker Connector: PH2.0 4PIN 180°

PIN	SYMBOL	DESCRIPTION
1	R+	Speaker Right+
2	R-	Speaker Right-
3	L-	Speaker Left-
4	L+	Speaker Left+

CN2-Backlight inverter connector: PH2.0 12PIN

PIN	SYMBOL	DESCRIPTION
1	STB	StandBy
2	SB-5V	
3	5V	DC Power Supply
4	5V	DC Power Supply
5	GND	Ground
6	GND	Ground
7	VBKL	+12V DC, backlight power supply
8	VBKL	+12V DC, backlight power supply
9	BLCTRL	Backlight On/Off control (enable)
10	DIM	Backlight adjust
11	GND	Ground
12	GND	Ground

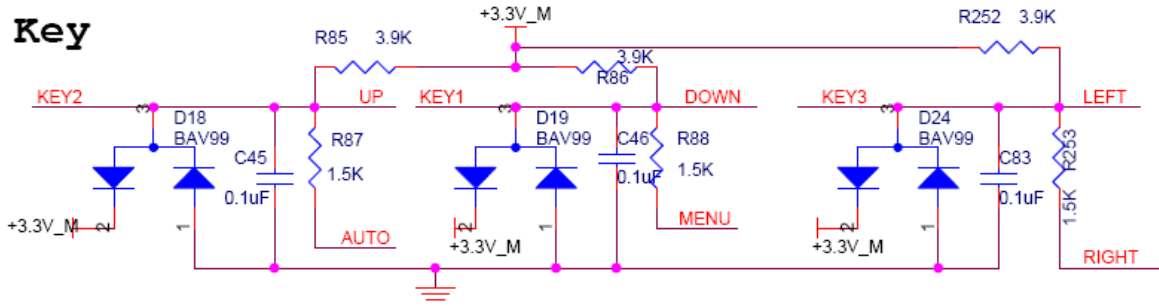
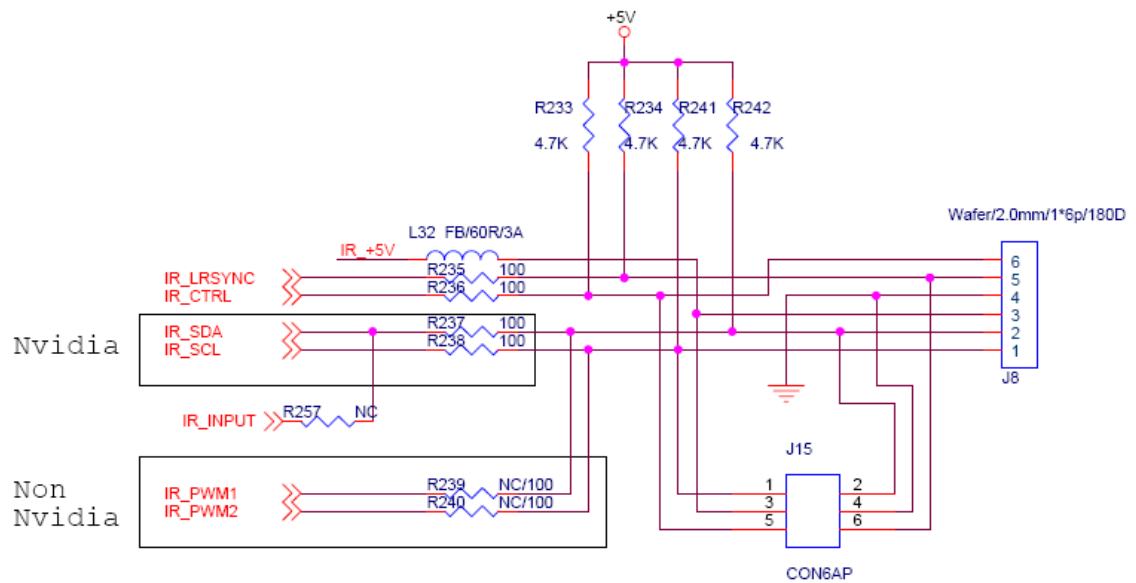
CN3 LightBar connector: PH2.0 6pin(Red)

PIN	SYMBOL	DESCRIPTION
1	LED-	LED-
2	LED-	LED-
3	LED+	LED+
4	LED+	LED+
5	LED-	LED-
6	LED-	LED-

CN17 LightBar connector: PH2.0 2pin(White)

PIN	SYMBOL	DESCRIPTION
1	LED+	LED+
2	LED-	LED-

■ SCHEMATICS OF IR BOARD & KEY BOARD



■ 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 conductor when it is working.

Don't push or pull the connectors when the board is working.

Don't press , distort or disassemble the board.

Clean the board with soft dry cloth when it's dirty.

Don't wire in the board to power supply before panel is correctly connected.