

# MONITOR CONTROL BOARD SPECIFICATION

**MODEL: M.NT68676.2A**

Part Number:NT-13050927

Rev:A2

AUTHOR:

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## REVISION HISTORY

VERSION	DATE	BOARD ID	PAGE	DESCRIPTION	AUTHOR
A0	2011.12.27	M.NT68676.2A 11486	All	First issued.	Linda
A1	2013.01.08	M.NT68676.2A 12516	2,3,5,	Modify the board picture in part2; Modify the Electrical Characteristics in part3; Modify the Schematic Of IR & KEY Board in part5; Modify the Interface Definition in part6;	Miki
A2	2013.05.09	M.NT68676.2A 12516	3	Modify the features in part 3	Lily

## 1. GENERAL DESCRIPTION

**M.NT68676.2A** is a monitor control board, which is suitable for Asia-Pacific market. It can support LED/LCD panels which resolution is up to 2048×1152.

**M.NT68676.2A** can synchronize with computer automatically. Synchronization requires the synchronous signal which horizontal and vertical sync are separated.

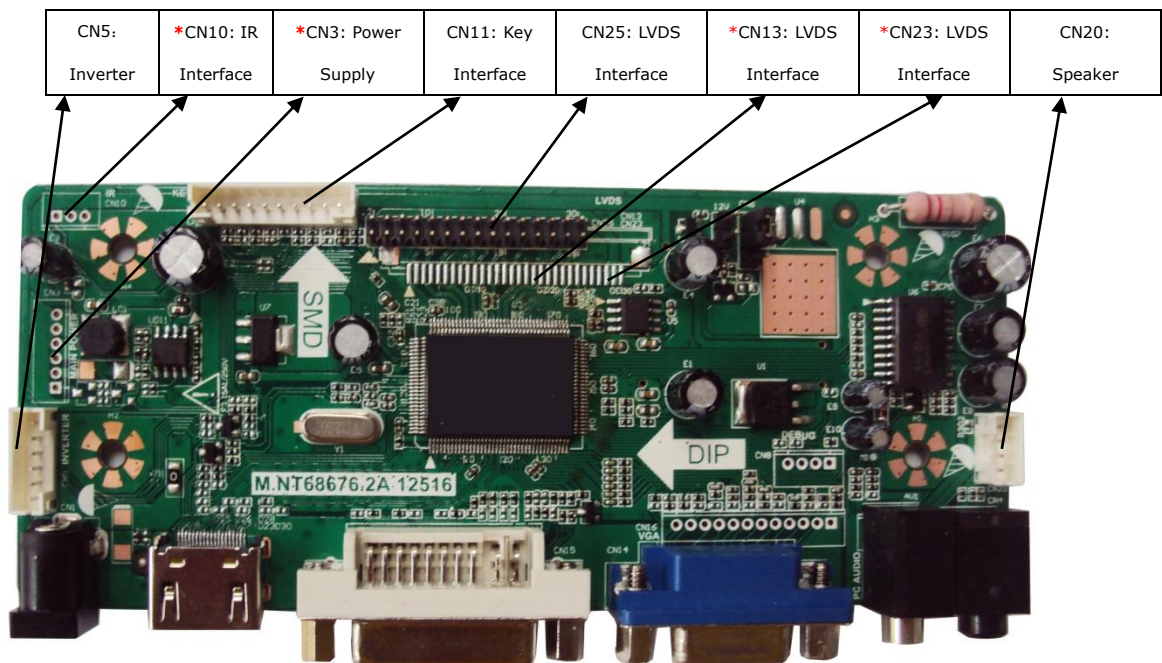
**M.NT68676.2A** can support dynamic contrast control, headphone input and Digital volume control simultaneously.

## 2. FUNCTION LAYOUT

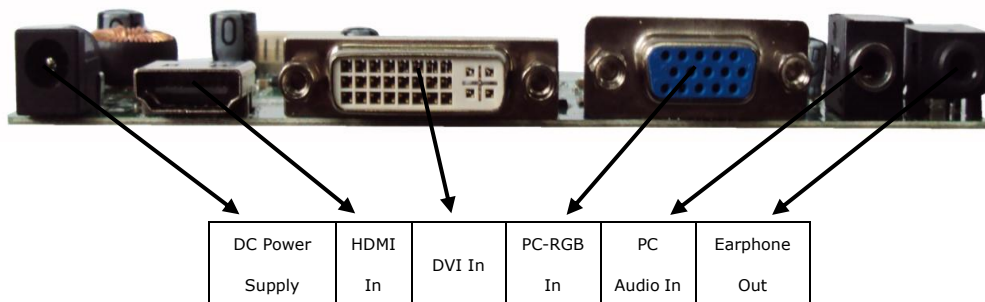
The picture is for a reference only, the actual item is the standard.

The optional connectors and terminals are marked with “\*”.

### TOP VIEW OF M.NT68676.2A



### FRONT VIEW OF M.NT68676.2A



### 3. FEATURES

CHIPSET	NT68676(UFG)		
MARKET AREA	Asia-Pacific		
OSD LANGUAGE	Simplified Chinese, Traditional Chinese, English, French, German, Italian, Spanish, Portuguese, Japanese, Korean (optional)		
PANEL	Panel Type	LED/LCD	
	Interface	Single/Dual LVDS (8bit)	
	Max Resolution	2048×1152	
VIDEO INPUT	PC-RGB	Format	Up to 2048×1152@60Hz
	HDMI	480i, 480p, 720p, 1080i, 1080p	
	DVI	480i, 480p, 720p, 1080i, 1080p	
AUDIO INPUT	PC Audio	Earphone input	0.2 ~ 2.0 V <sub>RMS</sub>
AUDIO OUTPUT	Frequency response	100Hz-15KHz @±3dB (1KHz 0dB reference signal)	
	Max Output power	2×1W(8Ω) THD+N<10%@1KHz Power Supply: 12V ,Audio Input: 0.5V <sub>RMS</sub>	
POWER	Requirement	12V DC/12V(built)/12V,5V(built in)/12V,5V,5VSB(built in)	
	To Panel	3.3V/5V/12V	
	Management	Standby Power Consumption < 0.2W(Board Only)	
KEY FUNCTION	POWER,MENU,VOL+,VOL-,ADJUST/EXIT		
EXPANSIBLE FUNCTIONS	--		
Note: Licenses involved in specifications above are supposed to be obtained by customers themselves.			

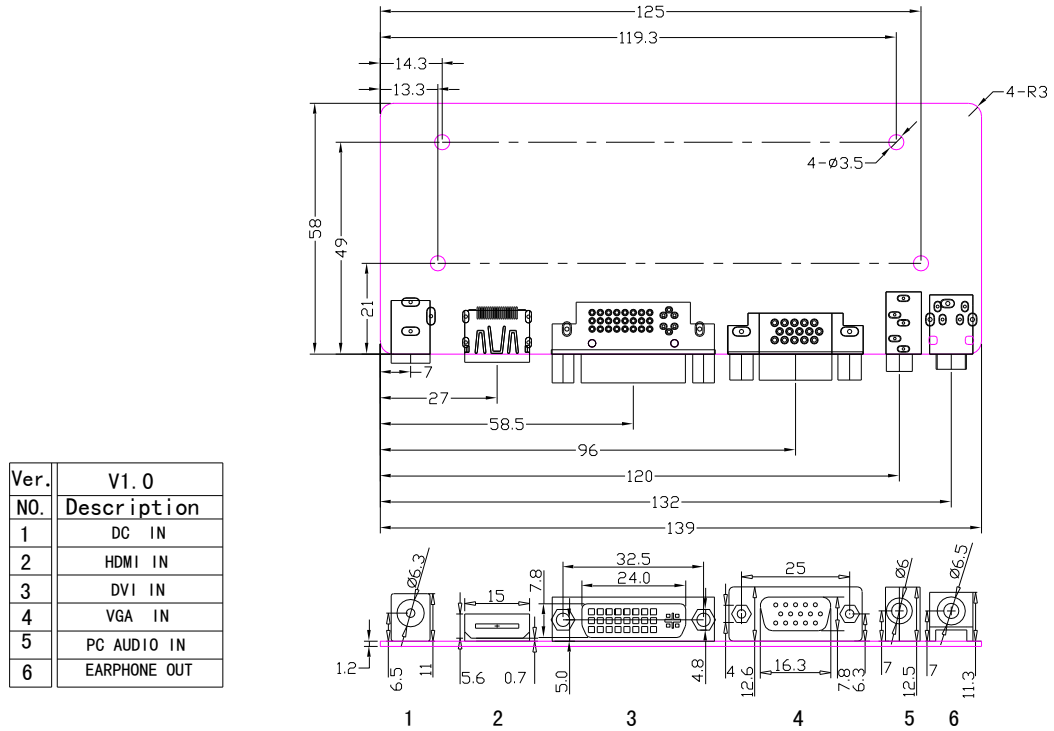
### ELECTRICAL CHARACTERISTICS & REQUIREMENTS

Power Supply Mode	Symbol	Voltage Range	Max Current	Ripple Voltage@25℃	Startup Time	Rise Time
12V(Ext. Adaptor)	12V	12V±0.6V	2000mA	120mV <sub>p-p</sub>	--	≤50ms
12V(Built-In)	12V	12V±0.6V	2000mA	120mV <sub>p-p</sub>	--	≤50ms
12V/5V(Built-In)	12V	12V±0.6V	1300mA	120mV <sub>p-p</sub>	≤100ms	≤50ms
	5V	5.1V±0.05V	1500mA	50mV <sub>p-p</sub>	--	≤50ms
12V/5V/5VSB (Built-In)	12V	12V±0.6V	1300mA	120mV <sub>p-p</sub>	≤100ms	≤50ms
	5V	5.1V±0.05V	1400mA	50mV <sub>p-p</sub>	≤100ms	≤50ms
	5VSB	5.1V±0.05V	500mA	50mV <sub>p-p</sub>	--	≤50ms

**Note:** The current of panel, USB,inverter and extension modules are not included in max current.

## 4. PCB DIMENSIONS

The size of M.NT68676.2A is 139mm(L)\*58mm(W)\*17mm(H).



## 5. NTERFACE DEFINITION

The optional connectors are marked with “\*”.

### ◆ CN5(6PIN/2.0): INVERTER CONNECTOR

NO.	SYMBOL	DESCRIPTION
1	12V	+12V DC Power Supply
2	12V	
3	BLO	Back-Light ON/OFF Control for Panel
4	ADJ	Brightness Adjustment for Panel
5	GND	Ground
6	GND	

◆ \*CN10(3PIN/2.0): IR INTERFACE CONNECTOR

NO.	SYMBOL	DESCRIPTION
1	IR	IR Receiver
2	GND	Ground
3	5V	+5V DC Power Supply

◆ \*CN3(6PIN/2.0): POWER SUPPLY CONNECTOR

NO.	SYMBOL	DESCRIPTION
1	PWON	Power On/Off
2	5VSB	+5V DC Power Supply for Standby Mode
3	5V	+5V DC Power Supply
4	5V	
5	GND	Ground
6	GND	

◆ CN11(10PIN/2.0): KEY INTERFACE CONNECTOR

NO.	SYMBOL	DESCRIPTION
1	K0	Key0
2	RED	Red Indicator
3	GRN	Green Indicator
4	GND	Ground
5	K1	Key1
6	K2	Key2
7	K3	Key3
8	K4	Key4
9	K5	Key5
10	K6	Key6

◆ CN25(2×15PIN/2.0): LVDS INTERFACE CONNECTOR

NO.	SYMBOL	DESCRIPTION
1	VSEL	Power Supply for Panel
2	VSEL	
3	VSEL	
4	GND	Ground
5	GND	
6	GND	
7	TX00-	LVDS ODD 0- Signal
8	TX00+	LVDS ODD 0+ Signal
9	TX01-	LVDS ODD 1- Signal
10	TX01+	LVDS ODD 1+ Signal
11	TX02-	LVDS ODD 2- Signal
12	TX02+	LVDS ODD 2+ Signal
13	GND	Ground
14	GND	

NO.	SYMBOL	DESCRIPTION
15	TXOC-	LVDS ODD Clock- Signal
16	TXOC+	LVDS ODD Clock+ Signal
17	TXO3-	LVDS ODD 3- Signal
18	TXO3+	LVDS ODD 3+ Signal
19	TXE0-	LVDS EVEN 0- Signal
20	TXE0+	LVDS EVEN 0+ Signal
21	TXE1-	LVDS EVEN 1- Signal
22	TXE1+	LVDS EVEN 1+ Signal
23	TXE2-	LVDS EVEN 2- Signal
24	TXE2+	LVDS EVEN 2+ Signal
25	GND	Ground
26	GND	
27	TXEC-	LVDS EVEN Clock- Signal
28	TXEC+	LVDS EVEN Clock+ Signal
29	TXE3-	LVDS EVEN 3- Signal
30	TXE3+	LVDS EVEN 3+ Signal

◆ \*CN13(32PIN/0.5): LVDS INTERFACE CONNECTOR

NO.	SYMBOL	DESCRIPTION
1	RXO0-	LVDS ODD 0- Signal
2	RXO0+	LVDS ODD 0+ Signal
3	RXO1-	LVDS ODD 1- Signal
4	RXO1+	LVDS ODD 1+ Signal
5	RXO2-	LVDS ODD 2- Signal
6	RXO2+	LVDS ODD 2+ Signal
7	GND	Ground
8	RXOC-	LVDS ODD Clock- Signal
9	RXOC+	LVDS ODD Clock+ Signal
10	RXO3-	LVDS ODD 3- Signal
11	RXO3+	LVDS ODD 3+ Signal
12	RXE0-	LVDS EVEN 0- Signal
13	RXE0+	LVDS EVEN 0+ Signal
14	GND	Ground
15	RXE1-	LVDS EVEN 1- Signal
16	RXE1+	LVDS EVEN 1+ Signal
17	GND	Ground
18	RXE2-	LVDS EVEN 2- Signal
19	RXE2+	LVDS EVEN 2+ Signal
20	RXEC-	LVDS EVEN Clock- Signal
21	RXEC+	LVDS EVEN Clock+ Signal
22	RXE3-	LVDS EVEN 3- Signal
23	RXE3+	LVDS EVEN 3+ Signal

NO.	SYMBOL	DESCRIPTION
24	GND	Ground
25	NC	No Connection
26	NC	
27	NC	
28	VSEL	Power Supply for Panel
29	VSEL	
30	VSEL	
31	GND	Ground
32	GND	

◆ \*CN23(32PIN/0.5): LVDS INTERFACE CONNECTOR

NO.	SYMBOL	DESCRIPTION
1	RX00-	LVDS ODD 0- Signal
2	RX00+	LVDS ODD 0+ Signal
3	RX01-	LVDS ODD 1- Signal
4	RX01+	LVDS ODD 1+ Signal
5	RX02-	LVDS ODD 2- Signal
6	RX02+	LVDS ODD 2+ Signal
7	GND	Ground
8	RXOC-	LVDS ODD Clock- Signal
9	RXOC+	LVDS ODD Clock+ Signal
10	RX03-	LVDS ODD 3- Signal
11	RX03+	LVDS ODD 3+ Signal
12	RXE0-	LVDS EVEN 0- Signal
13	RXE0+	LVDS EVEN 0+ Signal
14	GND	Ground
15	RXE1-	LVDS EVEN 1- Signal
16	RXE1+	LVDS EVEN 1+ Signal
17	GND	Ground
18	RXE2-	LVDS EVEN 2- Signal
19	RXE2+	LVDS EVEN 2+ Signal
20	RXEC-	LVDS EVEN Clock- Signal
21	RXEC+	LVDS EVEN Clock+ Signal
22	RXE3-	LVDS EVEN 3- Signal
23	RXE3+	LVDS EVEN 3+ Signal
24	GND	Ground
25	NC	No Connection
26	NC	
27	NC	
28	VSEL	Power Supply for Panel
29	VSEL	
30	VSEL	



NO.	SYMBOL	DESCRIPTION
31	GND	Ground
32	GND	

**◆ CN20 (4PIN/2.0): SPEAKER CONNECTOR**

NO.	SYMBOL	DESCRIPTION
1	LO	Audio Left Channel Output
2	GND	Ground
3	GND	
4	RO	Audio Right Channel Output

## 6. CONFIGURATION & GENERAL PRECAUTIONS

- **Relative humidity:** ≤ 80%.
- **Storage temperature:** -10~60°C.
- **Operation temperature:** 0~40°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.**