Version 01

SPECIFICATION

BI070TN94-AD

☐ Customer Approved

Customer _____

Date _____

By _____

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RECORD OF REVISION

Version	REVISE DATE	PAGE	CONTENT
Ver.01	2011/06/08	All	Initial Release

General Description

BI070TN94-AD LCD driving Board is corresponding CMI AT070TN94 digital Color TFT LCD Panel. Support VGA, Video and S-Video signal input.

f H	48.1 Khz	37.9Khz	35.1Khz	31.5Khz
f V	75Hz	72Hz	60 Hz	56 Hz
DOT CLK	*50Mhz*	*40Mhz*	*36Mhz*	*25.175Mhz*

- Power source : DC 12V
- Power consumption: 4.2Watt
- Operating temperature :-10℃ ~ 60℃
- Storage temperature: -20℃ ~ 70℃

Features

- VGA Inputs
- 8-Bit RGB Output
- Conveniently adjust image operating OSD board
- Support integrated PLL technology
- Low power consumption

Application Scope

- Security
- PC Monitor
- Industry control monitor
- POS
- Office electronics
- Instrumentation and measuring equipment
- Audiovisual equipment
- Home appliances
- Communication equipment other than trunk lines

Driver Board Introduction

1. Brief Diagram

(Refer to figure 1-1 of Mechanical Drawing section)

2. Port Definition

a) J101 —Interface board Connector

b) J102 —OSD board connector

c) J103 —Reserved;

d) J104 —Reserved;

e) J105 —Reserved;

f) J201 —Audio function board Connector

g) J203 —TTL/LVDS daughter board Pin header

3. Pin Assignment

J203: TTL/LVDS daughter board Pin header

Pin NO	**DEF.**	**Pin NO**	**DEF.**	**Pin NO**	**DEF.**	**Pin NO**	**DEF.**
1	B0/L3+	14	VCC	27	G5	40	HS
2	B1/L3-	15	U/D	28	G4	41	CLK
3	B3/LC+	16	L/R	29	G7	42	DE
4	B2/LC-	17	VCOM	30	G6	43	GND
5	B5/L2+	18	AVDD	31	R1	44	GND
6	B4/L2-	19	VHL	32	R0	45	IO1
7	B7/L1+	20	VGH	33	R3	46	IO2
8	B6/L1-	21	GND	34	R2	47	IO3
9	G1/L0+	22	GND	35	R5	48	IO4
10	G0/L0-	23	LED+	36	R4	49	GND
11	GND	24	LED-	37	R7	50	GND
12	GND	25	G3	38	R6	-	-
13	VCC	26	G2	39	VS	-	-

J102: OSD board connector

Pin NO	DEF.	Pin NO	DEF.	Pin NO	DEF.
1	LED-R	5	+3.3V	9	UP
2	LED-G	6	POWER	10	ENTER
3	IR	7	MENU		
4	GND	8	DOWN		

J201: Audio function board Connector

Pin NO	DEF.	Pin NO	DEF.	Pin NO	DEF.	Pin NO	DEF.
1	VOL	2	MUTE	3	GND	4	+12V

J101: Interface board Connector

Pin NO	DEF.	Pin NO	DEF.	Pin NO	DEF.	Pin NO	DEF.
1	+12V	5	CIN	9	GIN	13	VSYNC
2	GND	6	YIN	10	BIN	14	GND
3	GND	7	GND	11	GND	-	-
4	CVBS	8	RIN	12	HSYNC	-	-

Audio Board Introduction（optional）

1. Brief Diagram

(Refer to figure 1-1 of Mechanical Drawing section)

2. Connector Definition

J301—Audio input port

J302—Audio output port

J303—Connect to driver board with connector J201.

3. Pin Assignment

J301: Audio input port

Pin NO	**DEF**	**Pin NO**	**DEF**
1	L—IN	2	GND
3	GND	4	R—IN

J302: Audio output port

Pin NO	**DEF**	**Pin NO**	**DEF**
1	R—O	2	GND
3	GND	4	L—O

Interface Board Introduction

1. Brief Diagram

(Refer to figure 1-2 of Mechanical Drawing section)

2. Connector Definition

CN1—CVBS Input

CN4—S-video Input

CN10—Connect to driver board with connector J101.

CN11—DC 12V Input

CN12—VGA Input

3. Pin Assignment

Pin NO	**DEF.**	**Pin NO**	**DEF.**	**Pin NO**	**DEF.**	**Pin NO**	**DEF.**
1	+12V	5	CIN	9	GIN	13	VSYNC
2	GND	6	YIN	10	BIN	14	GND
3	GND	7	GND	11	GND	-	-
4	CVBS	8	RIN	12	HSYNC	-	-

OSD board Introduction

1. Brief Diagram

(Refer to figure 1-3 of Mechanical Drawing section)

2. Connector Definition

Pin NO	DEF.	Pin NO	DEF.	Pin NO	DEF.
1	LED-R	5	+3.3V	9	UP
2	LED-G	6	POWER	10	ENTER
3	IR	7	MENU		
4	GND	8	DOWN		

3. OSD Function Description

If you want to get the best effect, an adjustment of keyboard is required.
When first press the “EXIT” key ,entre the menu ,then press the “LEFT” key or “RIGHT” key ,Select the signal “AV”、“S-video”、“VGA”, then press "MENU" key to confirm.

Analog Video or S-video signal input

MENU ITEM	SUBMENU	DESCRIPTION
Color	Brightness	Adjust the display brightness
	Contrast	Adjust the picture contrast
	Hue	Adjust the picture hue
	Saturation	Adjust the picture Saturation
OSD	Language	Select the OSD language Chinese or English.
	H-Position	Adjust the OSD display horizontal position
	V-Position	Adjust the OSD vertical position
	OSD Timeout	Adjust the OSD timeout
	Transparent	Select the OSD Transparent ON/OFF
Function	Reset	Reset the factory defaults
	Sleep	Select the sleep ON/OFF
	Blue screen	ON--Non-signal display blue screen OFF--Non-signal display white screen
	Sharpness	Adjust the picture sharpness
	Up-Down	Select the picture flip
	Lift-Right	Select the picture mirror
Volume	Volume	Adjust the Audio output AMP

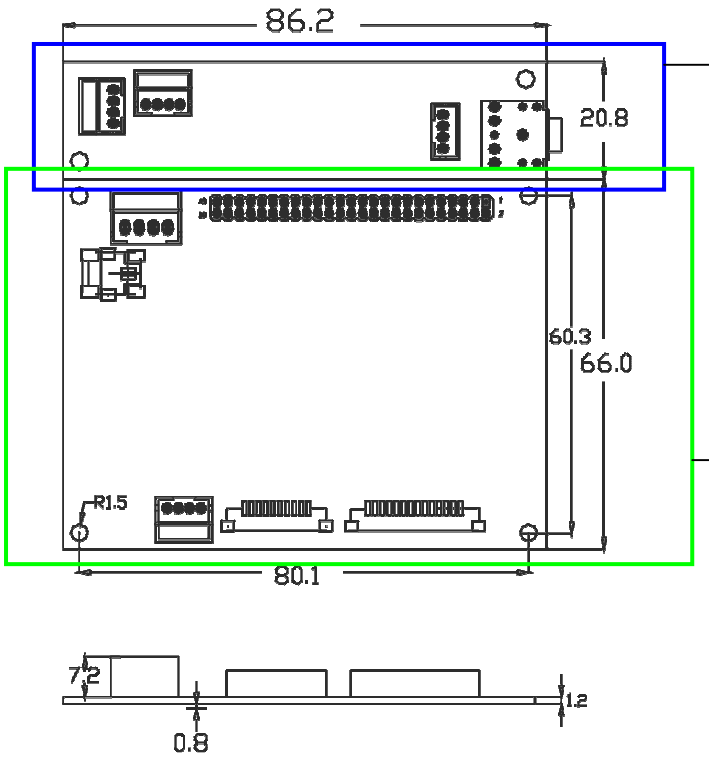
Analog VGA signal input

MENU ITEM	SUBMENU	DESCRIPTION
Color	Brightness	Adjust the display brightness
	Contrast	Adjust the picture contrast
	Color setting	Setting the color temperature:9300K;6500K;USER
Picture	Auto configure	Auto configure the picture
	H-Position	Adjust the picture horizontal position
	V-Position	Adjust the picture vertical position
	Phase	Adjust the picture phase
	Clock	Adjust the clock frequency
OSD	Language	Select the OSD language Chinese or English.
	H-Position	Adjust the OSD display horizontal position
	V-Position	Adjust the OSD vertical position
	OSD Timeout	Adjust the OSD timeout
	Transparent	Select the OSD Transparent ON/OFF
Function	Reset	Reset the factory defaults
	Sleep	Select the sleep ON/OFF
	Blue screen	ON--Non-signal display blue screen OFF--Non-signal display white screen
	Sharpness	Adjust the picture sharpness
	Up-Down	Select the picture flip
	Lift-Right	Select the picture mirror
Volume	Volume	Adjust the Audio output AMP

Notes:

- Do as foregoing description if want to get favorite image. But the best state should be set before shipment
- Occasional flare of Image may occur when starting the LCD Monitor. It is normal phenomena because of auto adjustment internal.
- Particularly there is snow-flare and bad pictures because that timing does not match with the sequence, p lease do an automatic or manual adjustment.

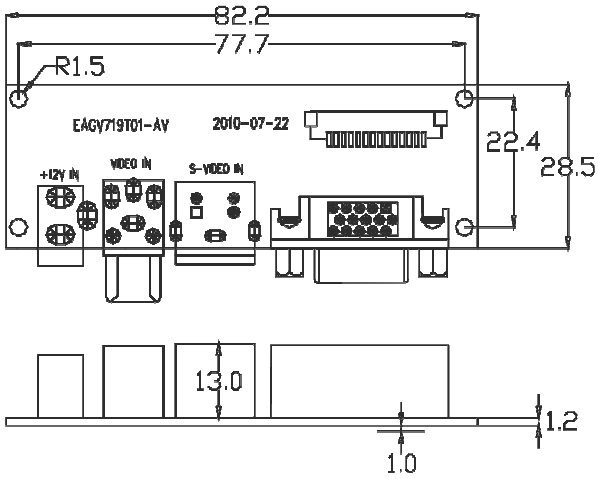
Mechanical Drawing



Audio Board (optional)
Outline: 86.2*20.8*9.2mm
Height of Top (Max): 7.2 mm
Height of Bottom (Max): 0.8 mm
PCB Thickness: 1.2mm
Screws: D3.0mm*2

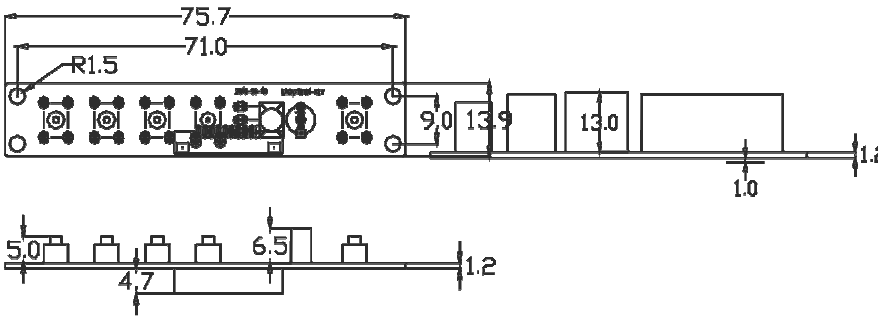
Driver Board
Outline: 86.2*66.0*9.2mm
Height of Top (Max): 7.2 mm
Height of Bottom (Max): 0.8mm
PCB Thickness: 1.2mm
Screws hole: M3*4

Figure 1-1



Interface Board
Outline: 82.2*28.5mm*15.2mm
Height of Top (Max): 13.0 mm
Height of Bottom (Max): 1.0 mm
PCB Thickness: 1.2mm
Screws hole: M3*4

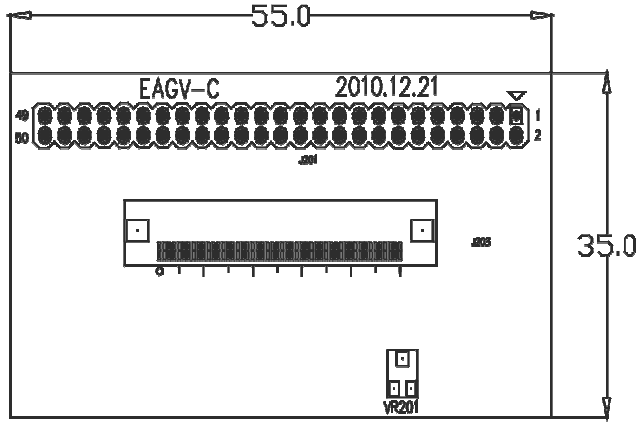
Figure 1-2

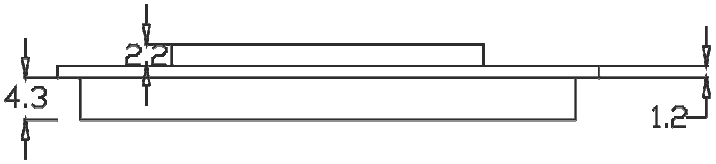


OSD Board

Outline: 75.70*13.9*12.4mm
Height of Top (Max): 6.5 mm
Height of Bottom (Max): 4.7 mm
PCB Thickness: 1.2 mm
Screws hole: M3*4

Figure 1-3



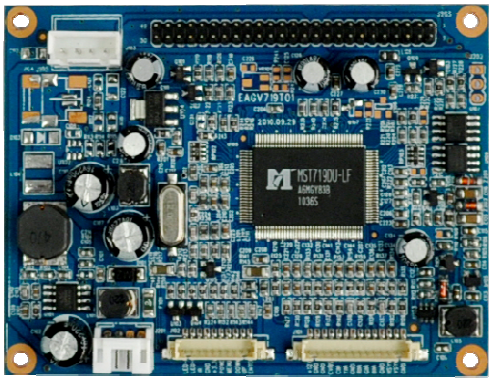
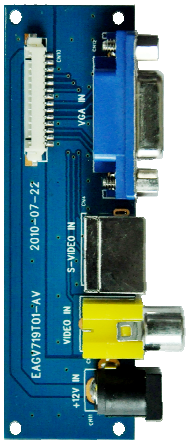
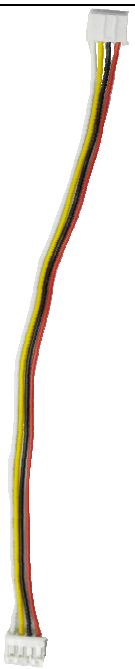
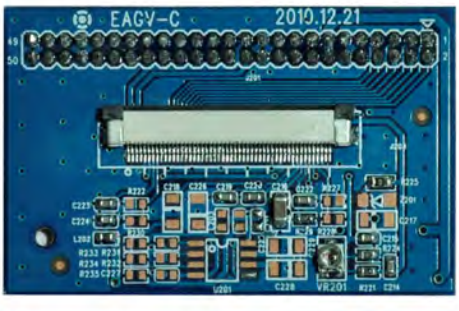
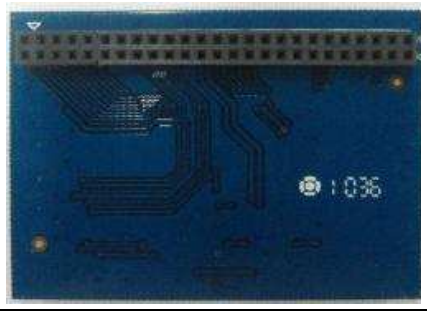


TTL/LVDS Daughter Board

Outline: 55.0*43.0*7.7mm
Height of Top (Max): 2.2mm
Height of Bottom (Max): 4.3 mm
PCB Thickness: 1.2 mm
Screws hole: M3*4

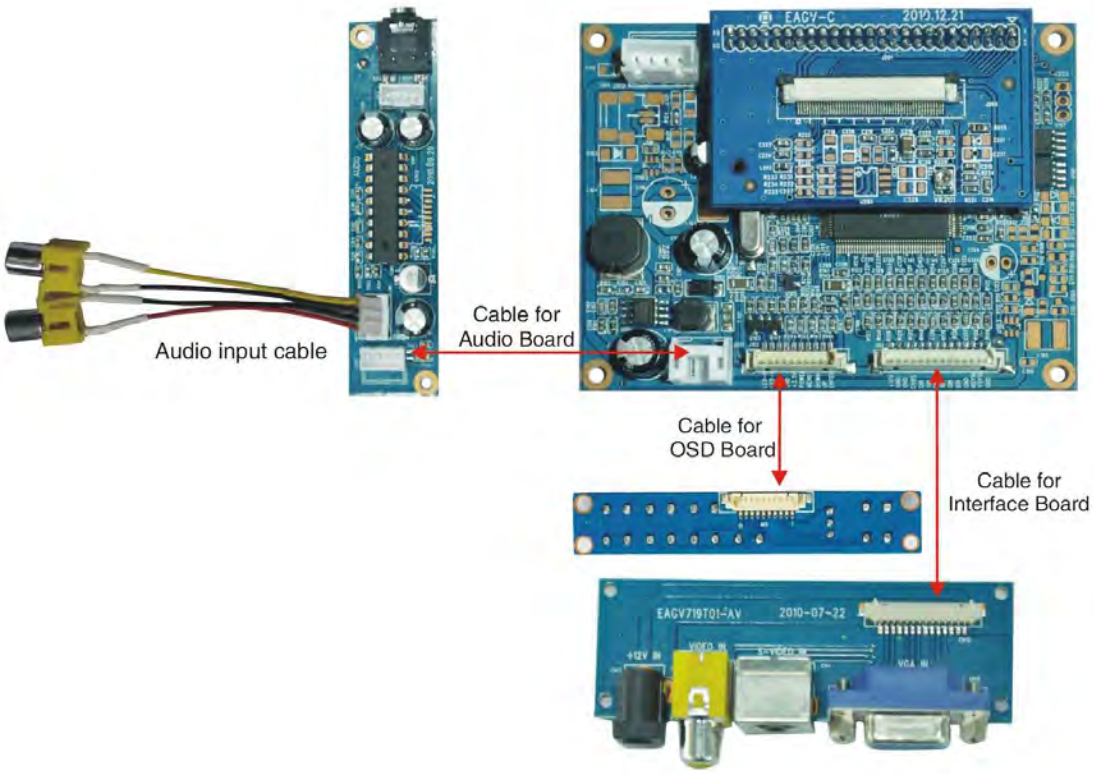
Figure 1-4

Item List

	LCD Driver Board	**Audio Board**	**OSD Board**	**Interface Board**
A				
	Cable for OSD board	**Cable for Audio Board**	**Cable for Interface**	**Audio input cable**
B				
	Connecting board			
C				

Appendix Page

Installation Guide



Trouble shooting

Power Off

1. Check Whether there is +12V power input.
2. Check whether the power interface is well connected with CN11.
3. Check whether the interface cable is well connected with both CN10 and J101.
4. Check whether the Power on/off key of the keyboard works well.

If the problems can’t be solved by the above test, please return the board to the supplier for repair.

Display NG

（including white screen, flicker, discoloration）

1. To confirm that the LCD screen is OK by cross-validation.
2. Check the screen's cable and connectors on the board If it is well connected .by re-plugging..
3. Check the connector board is well connected with the main board.

If the problems can’t be solved by the above test, please return the board to the supplier for repair.

Function false

Sound NG

1. Check the audio line between J201 and J303 if it is right and well connected.
2. Change another Audio board to test and identify whether it is main board problem or the Audio board problem.

OSD function NG

1. Check the cable between CN6 and J102 of the board if they are well connected.
2. Change another OSD keyboard to test and identify whether it is main board problem or the OSD board problem.

Backlight NG

1. Check the LED cable between J105 and LED Driver board if they are well connected.
2. Change another LED Driver board to test and identify whether it is the main board or LED Driver Board problem.

If the problems can’t be solved by the above test, please return the board to the supplier for repair.