Engineering Specification

Model No. EFL-0843SUIT

8.4inches Wide High resolution LCD Monitor

- AUO TFT LCD Panel with LED backlight
- High performance up-Scaling characteristic
- Automatic Scanning
- High Speed Response
- Enhanced Video Quality
- Test Pattern for Burn-in & Self Check
- Built in 3M Capacitive Touch Screen
- 2 Inputs(VGA, DVI)
- 12V DC Input
- RoHS Compliance

Record of revisions.

Date	Rev. No	Page	Description	Issued by
02/22/2016	N1.0		First Draft (Preliminary) Issued	

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1. GENERAL DESCRIPTION

1-1. Overview

Effinet open frame LCD Monitor EFL-0843SUIT is a high performance TFT LCD monitor providing high quality image from the analog RGB and DVI inputs with 3M capacitive touch screen.
This monitor supports wide range signal input from VGA to SVGA resolution at vertical refresh rate of 60 to 75Hz. It includes integrated signal processing unit, named LSP(LCD Signal Processor), which had all electronic function for user application.
It is designed for industrial use with Auto power on, up scaling performance adequate for low-resolution application and enhanced design margin for reliability

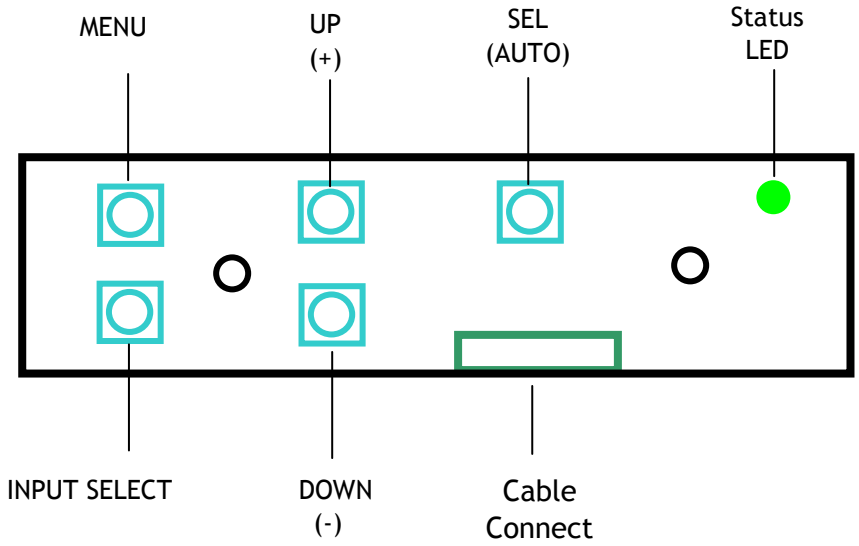
1-2. Quick reference table of Characteristics

Panel	Size	8.4" Diagonal
	Active Display Area	170.4 x 127.8 mm
	Type No.	AUO , G084SN05
	Number of Pixels	800 (H) x 600 (V)
	Pixel Arrangement	RGB Vertical Stripe
	Pixel Pitch	0.213 mm x 0.213 mm
	Color Depth	16.2M True Color
	Surface Treatments	Anti-glare Hard Coating (3H)
	Viewing Angle (CR≥10)	Horizontal : ΘL 80 ΘR 80 Vertical : Φ H 80 Φ L 60
	Contrast Ratio	Typ. 600 : 1
	Response Time(Typ.)	Tr+Tf : 30ms
	Average Brightness	Typ. 450 cd/ m^2
	Frame Rate	Typ. 60Hz
	Panel Dimension(WHD)	203.0 x 142.5 x 8 mm
	Backlight	LEDs

Scanning Frequency	Horizontal	30 ~ 56KHz
	Vertical	60 Hz
Resolution	Prime	800x600@60Hz
	Standard	720x400 @70 Hz 640x480 @60 Hz 800x600 @56 Hz
Input Signal	RGB (Video / Sync)	RGB Analog (0.7Vp-p, 75ohms) / H/V Separate(TTL)
	DVI	TMDS Link
Sync	Type	Separate H/V sync, Composite, SOG(Sync-On-Green)
	Level	TTL level (V high ≥ 2.0V, V low ≤ 0.8V)
	Polarity	Positive or Negative
Input Signal Interface	RGB	15pin D-SUB
	DVI	24Pin (DVI-D)
Power	DC input	12V
	Max. power dissipation	10W
	Input Type	DC Plug(I.D;2.5mm, O.D;5.5mm)
Regulation(Safety , Ergonomics, EMC)		TBD
Environmental Conditions	Operating	Temperature : -30 to 85°C Humidity : 5 to 90%
	Storage	Temperature : -30 to 85°C Humidity : 5 to 90
White Color Temperature		6500°K : CIE x=0.313±0.02 / y=0.329±0.02
Demonstrated MTBF		More than 50,000 hours
Touch Screen	Panel	17-8921-221
	Controller	EXII-7760UC
	Interface	USB
	Maker	3M

2. USER CONTROL & OSD

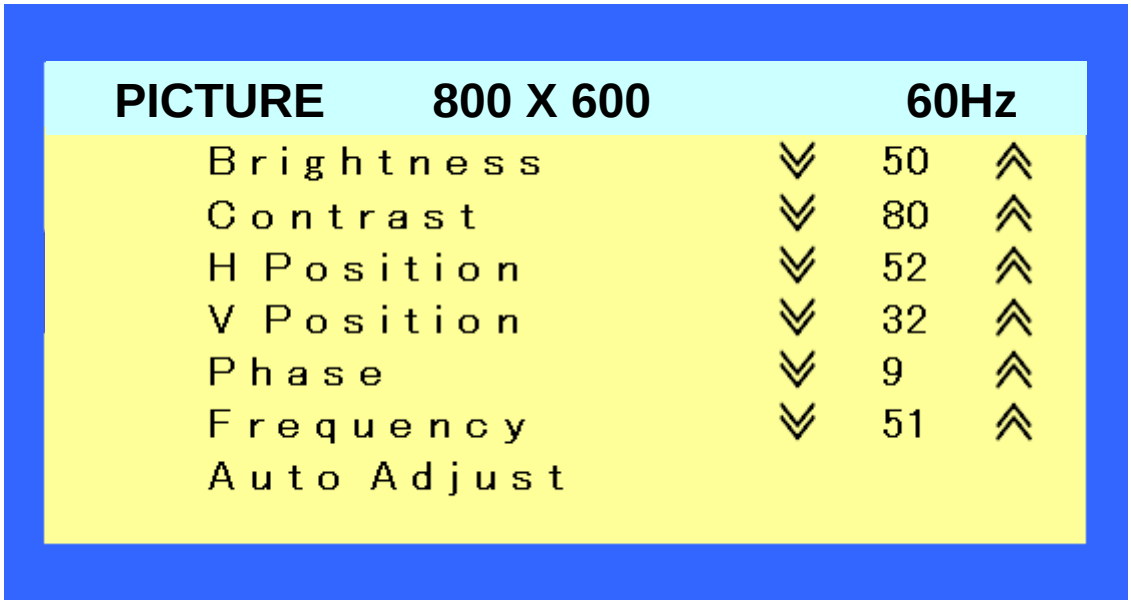
2-1. Key Control Board



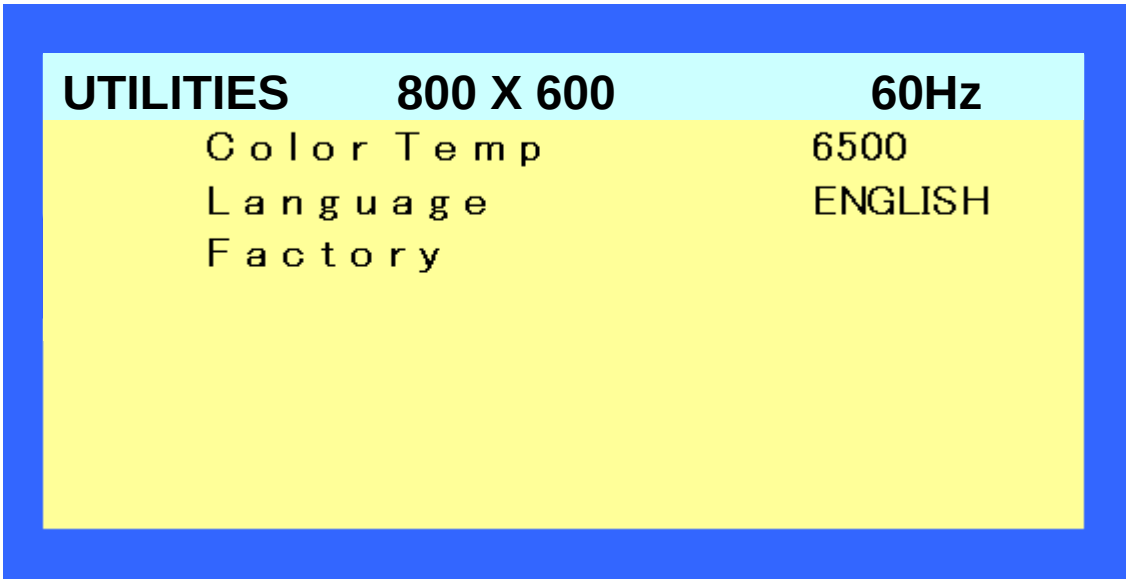
SWITCH NAME	SWITCH FUNCTIONS
MENU	▪ Activate / Deactivate the OSD Menu Window. ▪ Move cursor to Sub Menu from Main menu.
SEL (AUTO)	▪ Move cursor in the Sub-Menu(Brightness ↔ Mode) ▪ **Auto Tracking** (Pressing "SEL" key)
UP(+)	▪ Move cursor at Main Menu(Picture / Utility) ▪ Increase the value of the selected function
DOWN(-)	▪ Move cursor at Main Menu(Picture / Utility) ▪ Decrease the value of the selected function.
INPUT SELECT	▪ Select the input signal (VGA→ DVI → VGA…) ▪ When power off / on, the last memorized input mode will be displayed.

2-2. OSD Menu Screen

- Picture OSD



- Utility OSD

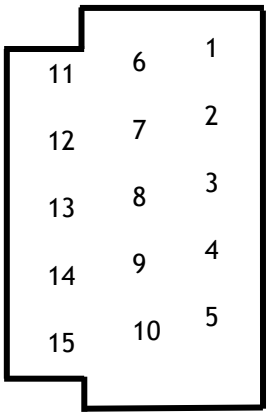


2-3. OSD Control Functions

CONTROL	FUNCTION
Auto Tracking	Automatic screen adjustment process. **If there is any noise on the screen or screen shift, just press " SEL" button.** **Since this monitor is equipped with "Auto Tracking" function, it will automatically configure the monitor setting.**
Brightness	Adjust the brightness level of the Display
Contrast	Adjust the contrast level of the Display.
H position	Adjust the position of the display horizontally.
V position	Adjust the position of the display vertically.
Phase	Adjust the clock phase of the display.
Frequency	Adjust the clock frequency of the display
Color Temp	Change color temperatures Adjust the Red/ Green / Blue Gain
Language	Select the OSD language
Self Test Pattern	To enter auto burn-in mode, press "Up" key first and then "Sel" key simultaneously for 3 seconds. On this mode, Red – Green – Blue – White – Black test pattern will be displayed. Press Menu key for returning normal display mode.

3. CONNECTOR PIN DESCRIPTIONS

3-1. 15 Pin D-SUB Connector

Shape and pin number	Pin	Description	Pin	Description
	1	Red	9	No Connection
	2	Green	10	Ground - Sync
	3	Blue	11	No Connection
	4	Ground	12	DDC-SDA
	5	Ground	13	Horizontal Sync
	6	Ground - Red	14	Vertical Sync
	7	Ground - Green	15	DDC-SCL
	8	Ground - Blue		

3-2. DVI PIN Configuration

Pin	Symbol	Pin	Symbol	Pin	Symbol
1	T.M.D.S. Data2-	9	T.M.D.S. Data1-	17	T.M.D.S. Data0-
2	T.M.D.S. Data2+	10	T.M.D.S. Data1+	18	T.M.D.S. Data0+
3	TDMS Data2 Shield	11	TDMS Data1 Shield	19	TDMS Data0 Shield
4	No Connection	12	No Connection	20	No Connection
5	No Connection	13	No Connection	21	No Connection
6	DDC Clock(SCL)	14	+5V Power	22	TDMS Clock Shield
7	DDC Data(SDA)	15	Ground (H/V Sync, 5V return)	23	TDMS Clock+
8	No Connection	16	Hot Plug Detect	24	TDMS Clock-

4. STANDARD DISPLAY MODE

No.	Mode	Resolution	Horizontal		Vertical		Pixel clock
			Frequency	Polarity	Frequency	Polarity	
1	VGA	720 x 400	31.47 KHz	N	70.0 Hz	P	28.322 MHz
2		640 x 480	31.47 KHz	N	60.0 Hz	N	25.175 MHz
3	SVGA	800 X 600	35.16 KHz	N / P	56.3 Hz	N / P	36.000 MHz
4		800 X 600	37.88 KHz	P	60.3 Hz	P	40.000 MHz

5. MECHANICAL STRUCTURE