#### FOX-81D

8.4" Heavy-Duty Touch Display IP65 and IEC 60945 Compliant Anti-Moisture with Optical Bonding Technology 5-wire Resistive Touch Screen

> FOX-81D Manual 3<sup>rd</sup> Ed August 2012

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#### Packing List

The LCD monitor comes with the following standard parts shown as below. Check and make sure they are included and in good condition. If anything is missing or damaged, contact the dealer immediately.

- 1 FOX-81D
- Utility CD-ROM
   Contains User's Manual (in PDF format), Drivers and Utilities
- 1 VGA Cable with waterproof connector
- 1 Water proof connector for DC-in (Female)
- 1 RS-232 Cable with waterproof connectors

If any of these items are missing or damaged, you should contact your distributor or sales representative immediately.

#### Safety & Warranty

- 1. Read these safety instructions carefully.
- 2. Keep this user's manual for later reference.
- Disconnect this equipment from any DC outlet before cleaning. Do not use liquid or spray detergents for cleaning. Use a damp cloth.
- 4. For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
- Put this equipment on a reliable surface during installation.
   Dropping it or letting it fall could cause damage.
- 6. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
- 7. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
- 8. All cautions and warnings on the equipment should be noted.
- 9. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
- 10. Never pour any liquid into an opening. This could cause fire or electrical shock.
- 11. Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.

## 12. If any of the following situations arises, get the equipment checked by service personnel:

- a. The power cord or plug is damaged.
- b. Liquid has penetrated into the equipment.
- c. The equipment has been exposed to moisture.
- d. The equipment does not work well, or you cannot get it to work according to the users manual.
- e. The equipment has been dropped and damaged.
- f. The equipment has obvious signs of breakage.

#### 13. DO NOT LEAVE THIS EQUIPMENT IN AN UNCONTROLLED ENVIRONMENT WHERE THE STORAGE TEMPERATURE IS BELOW -20° C (-4°F) OR ABOVE 70°C (158° F). IT MAY DAMAGE THE EQUIPMENT.

#### FCC



This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

Caution:

It may cause the danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer.

#### F O X - 8 1 D

#### Below Table for China RoHS Requirements 产品中有毒有害物质或元素名称及含量

#### **AAEON Display**

	有毒有害物质或元素					
部件名称	铅	汞	镉	六价铬	多溴联苯	多溴二苯醚
	(Pb)	(Hg)	(Cd)	(Cr(VI))	(PBB)	(PBDE)
印刷电路板			0		0	0
及其电子组件		0	0	0	0	0
外部信号			0		0	0
连接器及线材	^	0	0	0	0	0
外壳	×	0	0	0	0	0
液晶模块	×	0	0	0	0	0
触控模块	×	0	0	0	0	0
电源	×	0	0	0	0	0

O: 表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T 11363-2006 标准规定的限量要求以下。

X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11363-2006 标准规定的限量要求。

备注:

-、此产品所标示之环保使用期限,系指在一般正常使用状况下。

二、上述部件物质触控模块为选购品。

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# Chapter

### General Information

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#### 1.1 Introduction

Thank you for purchasing of the Industry Touch Display with IP65 and IEC 60945 compliant - a marvelous contribution of cutting edge technology.

The LCD monitor has been designed with serious thoughts to present the best performance for most applications. Symbol of elegance, its compact and slim profile is well suited in working locations where space is at a premium.

Fully compatible with PC system, the LCD monitor provides full interface for all sorts of related standards. Supported by "Plug & Play" complying with DDC1/DDC2B, installing the LCD monitor is absolutely trouble free.

The On Screen Display menu provides user a convenient interface to make right adjustment for optimum display performance.

#### 1.2 Features

- 8.4" TFT LCD, 800 x 600, 450 Nits, LED Backlight
- IP65 and IEC 60945 Compliant For The Whole Unit
- Anti-Moisture And Clearer Visibility With Optical Bonding Technology
- LED Backlight With 450 Nits High Brightness
- Rugged IP65 Aluminum Die Casting Design
- Reliable On Screen Display (OSD) Button
- Wide Power Input Range: 9-30V DC With M12 Water Proof Connector
- VESA 75 Standard

#### **1.3 General Specification**

•	Туре	TFT LCD 16.2 M Color with LED Backlight	
•	Size	8.4" TFT LCD	
•	Construction	IP65 Aluminum Die Cast Front Bezel	
•	Mounting	VESA	
•	Input signal	VGA	
•	Control	4 Quick Keys on the front bazel	
•	Power Supply	External power adapter	
•	Dimension	10.47" (W) x 7.56" (H) x 2.36" (D) (266mm x 192mm x 60mm)	
•	Power Input	9V~30V DC	
•	Brightness	450 cd/m <sup>2</sup> (TYP.)	
•	MTBF	50,000 hrs	
•	Contrast Ratio	600:1	
•	Viewing Angle	160°(H)/140°(V)	
•	Resolution	800 x 600	
•	Display Modes	Full Screen in 800 x 600, 640 x 480, 640 x 400 Modes	
•	Color	16.2 M	
Tou	chscreen		
•	Туре	5-wire resistive	
•	Resolution	2048 x 2048	
•	Light transmission	83%	
•	Controller	RS-232	

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#### Environmental

•	Operating Temperature	32°F~ 122°F (0°C to 50°C)
•	Storage Temperature	-4°F~ 158°F (-20°C to 70°C)
•	Vibration	1g rms/5-500Hz/random operation
•	Shock	20 G peak acceleration (11 msec. duration)

• EMC CE/FCC Class A

#### 1.4 Dimension



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## Hardware Installation

Chapter 2 Hardware Installation 2-1

#### 2.1 Before Unpacking

It is very important to place the LCD Display in a suitable

environment.

- The surface for placing the LCD Display should be stable and level.
- Make sure the place has good ventilation, and out of direct sunlight; away form sources of excessive dust, dirt, heat, water, moisture and vibration.

#### 2.2 Checking The Accessories

Please open the accessory box. You will find one VGA cable, one

RS-232 cable and one power connector. All of three cables comes

with M12-type connectors.

VGA cable: for the display RS-232 cable: for the touch control Power connector: customers can customize the power source

Note: the power input must be between 9V to 30V

#### 2.3 Connecting Cables

Connecting the Power cable, VGA cable and RS-232 cable onto the FOX-81D and computer, and screw the three cables tightly on the FOX-81D as below.

Before connecting the FOX-81D to the computer, remember to turn off the computer first. After each connector on the computer is secured, turn on the computer.

#### Note:

- 1. The "Surge Protection" is already implemented
- 2. If it doesn't screw tightly, the water-proof function may not work.

The machine will get damaged when liquid pours



Chapter 2 Hardware Installation 2-4

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#### 2.4 DC-IN 9~30V Connecter

		Pin Assignments Front View
Pin	Signal	Pin Signal
1	DC V+	2 N/A
3	GND	4 NC

#### 2.5 Serial Port Connector For Touch Screen

This pin definition of the connector will be referred when a touch screen has been installed. It must be connected to the RS-232 port of the PC.



Pin	Signal	Pin	Signal
1	Not Used	2	RXD, Receive Data
3	TXD, Transmit Data	4	Not Used
5	GND, Ground	6	Not Used
7	Not Used	8	Not Used

Chapter 2 Hardware Installation 2-6

LCD Display			F O X - 8 1 D		
9	Not Used	10	Not Used		

#### 2.6 VESA Wall Mounting

Mounting the LCD Display with UL Listed Wallmount Bracket only.

The LCD Display can be mounted on a monitor arm or wallmount plate.

Caution:

When mounting the LCD Display, take care to tighten the retention screws or bolts until fully secured, but do not over tighten. Over tighting the retention screws or bolts may cause them to become stripped, rendering them useless.

#### Monitor Arm or Wallmount Plate Installation

The LCD Display has Video Electronics Standards Association (VESA) standard mounting holes tapped into the rear panel. The

standard hole of the FOX-81D complies to 75mm x 75mm.



#### **VESA Mounting Holes**

To mount the LCD Display onto a monitor arm or wallmount plate,

please follow the steps below.

- Step 1: Line up the threaded holes on the rear panel of the monitor with the screw holes on the monitor arm or wallmount plate.
- Step 2: Secure the monitor to the arm or stand with the retention screws supplied with the monitor arm or stand.

#### 2.7 Waterproof LAN Connector Installation

When you connect the LAN port with the Ethernet cable, please use the particular **Waterproof LAN connector** in the packing. If the Ethernet cable without the particular waterproof LAN connector, it may cause the issues of LAN connection-missing or invalid waterproof function. Please follow the steps to install the waterproof LAN connector.

Step 1: Peel off the release paper of gasket of RJ-45 plug cable set and stick it to its body





#### Step 2: Cut off the present RJ-45 plug cable



Step 3: Put all parts of RJ-45 plug cable set through cable in order



Step 4: Install and crimp a new RJ-45 plug



Step 5: Insert RJ-45 plug into the socket and mount to cable set's body. Make sure the latch of RJ-45 connector is in place



Step 6: Lock and tighten the nut of RJ-45 plug



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Step 7: Screw on the plastic rear nut a little bit for locking later. Make sure sealer is in place



Step 8: Before locking the plastic rear nut tightly, press the cable hardly and make sure all parts of the LAN connector has been connected tightly



Step 9: Tighten the plastic rear nut again to make sure the cable is securely connected and would not fall off accidentally





## On Screen Display Control

Chapter 3 On Screen Display Control 3-1

#### 3.1 On Screen Display (OSD) Board Description

Buttons		Description
Monu / Entor	۶	Activate the OSD menu.
menu / Enter	$\triangleright$	Enter/confirm the selected option.
	$\triangleright$	Move the selector to the next option.
UP / Right / Increase /	$\triangleright$	Increase the gauge value of the
Input select		selected option.
	$\triangleright$	Change input source.
	$\triangleright$	Move the selector to the previous
Down/Loft/Dooroooo		option.
Down/ Leit / Decrease	$\triangleright$	Decrease the gauge value of the
		selected option.
	$\triangleright$	Automatically adjust the clock,
		phase, H-position and V-position.
Auto	$\triangleright$	Value to the most optimal settings.
		Use full screen when enabling this
		function.



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#### 3.2 OSD Main Menu: Push The MENU Keys



AUTO	Return to last menu
MENU	Selected to confirm
+	Increase the gauge value of the selected option
I	Decrease the gauge value of the selected option



#### 3.3 Select Input Source



Αυτο	Return to last menu
MENU	Selected to confirm
+	Increase the gauge value of the selected option
I	Decrease the gauge value of the selected option

#### 3.4 Contrast/ Brightness- Submenu



AUTO	Return to last menu
MENU	Selected to confirm
+	Increase the gauge value of the selected option
1	Decrease the gauge value of the selected option

#### 3.5 Geometry Menu



Αυτο	Return to last menu
MENU	Selected to confirm
+	Increase the gauge value of the selected option
1	Decrease the gauge value of the selected option

#### 3.6 Color Temperature- Submenu

	11 •?	<b>⊡</b> ⇒
Color		
500		
<u>(</u> )		100
9, 14	120	
0		
		1.5
1024 x	768 60HZ	
(and a		
Davel		2
1500		ir F
1500) (500)		e E E

Αυτο	Return to last menu
MENU	Selected to confirm
+	Increase the gauge value of the selected option
-	Decrease the gauge value of the selected option

#### 3.7 RGB Color- Submenu



Αυτο	Return to last menu
MENU	Selected to confirm
+	Increase the gauge value of the selected option
I	Decrease the gauge value of the selected option

#### 3.8 Language- Submenu



AUTO	Return to last menu
MENU	Selected to confirm
+	Increase the gauge value of the selected option
1	Decrease the gauge value of the selected option

#### 3.9 Auto Config- Submenu





AUTO	Return to last menu
MENU	Selected to confirm
+	Increase the gauge value of the selected option
I	Decrease the gauge value of the selected option

#### 3.10 Mode Resolution- Submenu





Αυτο	Return to last menu
MENU	Selected to confirm
+	Increase the gauge value of the selected option
1	Decrease the gauge value of the selected option



#### 3.11 Exit Menu- Submenu





AUTO	Return to last menu
MENU	Selected to confirm
+	Increase the gauge value of the selected option
1	Decrease the gauge value of the selected option

LCD	Disp	lay
-----	------	-----

## Chapter

## Touch Screen Driver Installation

Chapter 4 Touch Screen Driver Installation 4-1

#### 4.1 Introduction

The optional FOX-81D Series touch screen uses 5-wire resistive technology to provide more accurate sensing capacity than other technologies. The touch screen is specially designed for tough industrial environments, and has been approved by CE/FCC Class A standards.

#### 4.2 Resistive Touchscreen Control Board

#### Hardware

Touch screen controllers must be configured for the driver prior to installation. EETI typically ships controllers in a default setup that is compatible with this driver. Controller requirements are:

#### Serial

Serial controllers must conform to these minimum requirements:

Baud rate: 9600 Baud

Data mat: SMARTSET

It is desirable for a full handshaking connection to be established between the touch screen controller and the computer, but it is not required. The controller will function with this driver in a "two-wire," Receive Data and Ground (RxD and Gnd) configuration. The consequences of a two-wire connection are:

+ Automatic detection of the controllers on serial ports during setup is not possible  $\,{}_{\circ}$ 

+ Controller information will not be registered in the Property Page of the Control Panel •

#### USB

\* USB controllers require no configuration prior to installation.

\*EETI USB controllers are Human Interface Device (HID) compliant. The Windows<sup>®</sup> XP and Windows<sup>®</sup> 7 operating systems have native

HID drivers that provide low-level support for EETI touch screen controller. An EETI touch monitor with a USB touch screen controller installed will provide the following limited operation with these native HID drivers. Operation of the controller will be limited without the installation of the software discussed in the next section:

- The mouse cursor will move on the display in response to touch
- The direction of motion on the display will depend on the
- orientation of the touch screen and the defaults programmed into the controller and the driver
- No "beep" will be heard when the screen is touched
- No Control Panel application is available to configure the operation of the driver.

#### 4.3 Installing Driver for Windows<sup>®</sup> XP/ Windows<sup>®</sup> 7 / Linux

The touch screen has drivers for Windows<sup>®</sup> XP  $\cdot$  Windows<sup>®</sup> 7 and

Linux . You should read the instructions in this chapter carefully

before installation.

<u>Note 1:</u> The following windows illustrations are examples only. You must follow the flow chart instructions and pay attention to the instructions which then appear on your screen.

<u>Note 2:</u> Please make sure that the OS of your computer supports Windows<sup>®</sup> XP/ Windows<sup>®</sup> 7 while installing Windows<sup>®</sup> XP/ Windows<sup>®</sup> 7 drivers in the CD-ROM to the system.

#### For Windows<sup>®</sup> XP OS, please execute:

CD-ROM:

\\TouchScreen-DRV\eGalax Touch \Win XP\Setup.exe

1. Click on the "Next" button on the Welcome window screen



2. Click the "Next" button on the screen



3. Click on the "Finish" button and restart your system



#### Single monitor, Serial Port controller

The driver files will install automatically. When the "Setup Complete" screen appears, you may choose to run calibration immediately or later. If you choose not to run this program now, you can run it from the EETI Control Panel application.

#### 1. Executing eGalax on Desktop



2. Recognition devices choose to run calibration immediately



#### 3. Choose Tools to calibrate

Edge Compensation General	Setting	Hardwar	2	About Display
nearization Curve		-		
		1)		
		1		
11		A		
4 Points Calibration	Do 4 poin	ts alignmen	t to match di	splay
Clear and Calibrate	Clear lines alignment	arization par	ameter and o	do 4 points
Linearization	Do 9 poin linearity.	ts linearizat	ion for better	touchscreer
	Do draw	test to verify	the touch a	couracy.
Draw Test				

#### 4. Click on 4 Points Calibration to execute calibration



<u>Note</u>: If the alignments do not match display by 4 Points Calibration, please use 9 Ports or more to calibrate.

#### For Windows<sup>®</sup> 7 OS please execute:

#### CD-ROM:

\\TouchScreen-DRV\eGalax Touch \Win 7 \Setup.exe

1. Click on the "Next" button



2. Click on the "Next" button



3. Tick "**None**" if the system did not start 4 points calibrating after reboot. Click on the "**Next**" button.



4. Tick "Support Multi-Monitor System," and click on the "Next" button

etialaxTouch		X
Setup Type Select the setup type that best suits	your needs.	
If you want to use Mulit-Monitor, plea	ase check the box.	
Support Mulit Monitor System		
InstallShield		
	< Back Next>	Cancel

5. Select **Destination** Folder, and click on the "Next" button



6. Click on the "Next" button

etup will add program icons ame, or select one from the	to the Program Folder listed below. You may type a new folder
rogram Folder:	
GalaxTouch	
xisting Folders:	
Administrative Tools Games Maintenance Startup Tabliet PC	

#### Single monitor, Serial Port controller

The driver files will install automatically. When the "Setup Complete" screen appears, you may choose to run calibration immediately or later. If you choose not to run this program now, you can run it from the EETI Control Panel application.

#### 1. Executing eGalax on Desktop



2. Recognition devices choose to run calibration immediately



#### 3. Choose Tools to run calibration



#### 4. Click on 4 Points Calibration to execute calibration



<u>Note</u>: If the alignments do not match display by 4 Points Calibration, please use 9 Ports or more to calibrate.

For Linux Fedora 14 kernel 2.6.35.6-45.fc14 OS please execute: CD-ROM:

\\TouchScreen-DRV\eGalax Touch \Linux\eGalaxTouch 32

1. Open System Input Command (su) and System Password



2. Input command (Xorg : I -configure)



3. Input command ( cp /root/xorg.conf.new /etc/X11/xorg.conf)



4. Load Linux Folder Touch Driver



#### 5. Executive Touch Driver



6. Which interface controller do you use?



7. Select the "**3**" USB interface. (Select the USB interface and press "**Enter**" key of the keyboard to start the installation)



8. Select the "1" COM interface (Select the COM interface

and input command: /dev/ttyS0 (COM1 ), and press the

"Enter" key of the keyboard to start the installation)



9. Reboot the system to activate the changes



10. Select the X86 Folder (Because Linux is 32 bit)



Chapter 4 Touch Screen Driver Installation 4-18

11. Select "eGalax Touch32\_Version1.1-2.6X" Folder



12. Select "eGalax Touch32" Folder



13. Click on the "eGalax Touch" to calibrate immediately



14. Choose "Tool" to calibrate

63	🖙 eGalasTouch - /Bevitty50 x	Rowser.	
1	Central Serves Det Centry Street Mile • • Ruch Controller Lat	- 100% (kon View ) Q	
Pla	2	ax Ruch32 Version1.1-2.6X eGalax Tout	
		Rate ThCal	
	Information	edapt	
	Active Device: /dev/tty50 X Module Version: 3.05 Utility Version: 3.03.4510		
	*eGalaxTouch* selected (7.5 MB)	]	

#### 15. Execute 4 Points Calibration



<u>Note</u>: If the alignments do not match display by 4 Points Calibration, please use 9 Ports or more to calibrate.

16. Draw and test (Drawing 
Vriting)



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17. If you are going to replace the Interface, please remove the old Touch Driver (Input command: sh setup.sh uninstall)



18. Reboot the system

