USB Aegis Series

USB-Aegis V1.1

Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and the receiver.

Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Shielded interconnect cables and shielded AC power cables must be employed with this equipment to insure compliance with the pertinent RF emission limits governing this device. Changes or modifications not expressly approved by the system's manufacturer could void the user's authority to operate the equipment.

Declaration of Conformity

This device complies with part 15 of the 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.

Important Safety Information

SAFETY INSTRUCTIONS

1. Please read these safety instructions carefully.
2. Keep this User's Manual for later reference.
3. Don't use liquid or spray detergent for cleaning. Use only a moistened sheet or cloth.
4. For pluggable equipment, the socket-outlet should be installed near the equipment and should be easily accessible.
5. Keep this equipment from extreme humidity areas.
6. Lay this equipment on a stable surface when installing.
7. Do not leave this equipment in a non-air conditioned environment, or in a storage temperature above 60° C. Such conditions may damage the equipment.
10. Place the power cord so that it will not be stepped on. Do not place anything over the power cord. The power cord must be rated for the product and for the voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product.
11. All cautions and warnings on the equipment should be noted.
12. If the equipment is not used for a long time, disconnect the equipment from the mains to avoid damage.
14. Never open the equipment. For safety reasons, qualified service personnel should only open the equipment.
15. If one of the following situations arises, get the equipment checked by service personnel:
    a. The Power cord or plug is damaged.
    b. Liquid has penetrated the equipment.
    c. The equipment has been exposed to extreme moisture conditions.
    d. The equipment does not work well or you cannot get it work according to the user's manual.
    e. The Equipment has been dropped and damaged.
    f. The equipment has obvious signs of damage.

Caution: Danger of explosion if battery is incorrectly replaced. Replace only with same type, and discard used batteries according to manufacturers instructions.

Warnings: Not intended for Outdoor Use.

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Features

- Cast aluminium front and base construction - rugged and durable
- Compact size and small footprint - fits where space is at a premium
- Standard VGA for easy interface to a standard PC VGA port.
  (1) Wireless Wi-Fi LAN 802.11b (optional)
  (2) USB upstream port for connection to host PC.
  1x Powered USB (+12V) downstream port
  1x USB 2.0 downstream port
  1x USB to RS232 port
- Flicker-free LCD display - easy on the eyes
- Low radiation - poses less hazard to user's health
- Power-thrift - environmentally friendly
- Tiltable display - adapts to placement, user position and lighting conditions
- VESA mounting holes - fits optional tilt/swivel wall mount fixtures
- Flexible power options - tap power from the computer or use an external adapter
- Point of sales industry specific options - touch screen, VFD customer display, magnetic card reader

Specifications

Model	U152TA	U121TA	U122TA
Display Panel Type	TFT LCD	TFT LCD	TFT LCD
Display Area	15.00”	12.1”	12.1”
Display Resolution	1024 x 768 XGA	800X600	800X600
Colour Resolution	262,144	16.7M	16.7M
Pixel Pitch	0.297x 0.297	0.306X0.306	0.306X0.306
Brightness	350 nits (typ)	150 nits (typ)	300 nits (typ)
Contrast Radio	400:1 (typ)	150:1 (typ)	200:1 (typ)
Response time	16ms	40ms	20ms

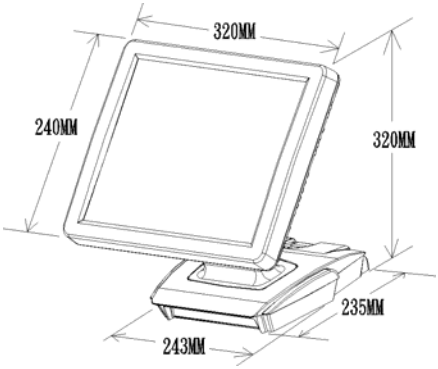
Interfaces cables & connectors	Standard VGA for use with a Video Graphic Adapter	Model specific options:- PS/2 for MCR & 32 Keyboard, RS232 for touch screen, DC power.

Energy Saving Mode	VESA DPMS compliant
Power Supply	U152TA=12v @ 4A and U12xTA=12v @2A
Weight	U152TA=6.4 kg and U12xTA= 5.5 Kg

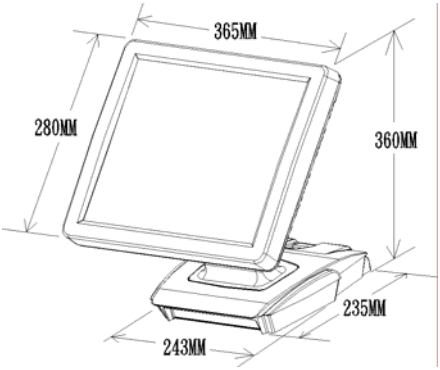
Please note that the “x” denotes model specific options, e.g. U121TA standard brightness and U122TA is high brightness.
The “T” means with Touch Screen, and the “A” stands for Analog.
For Model U12xTA, it is recommended to use 800X600 @ 60Hz for display adapter settings. For Model U152TA, it is recommended to use 1024x768 @ 60-75Hz for display adapter settings. Other resolutions would function, but possibly at degraded display quality.

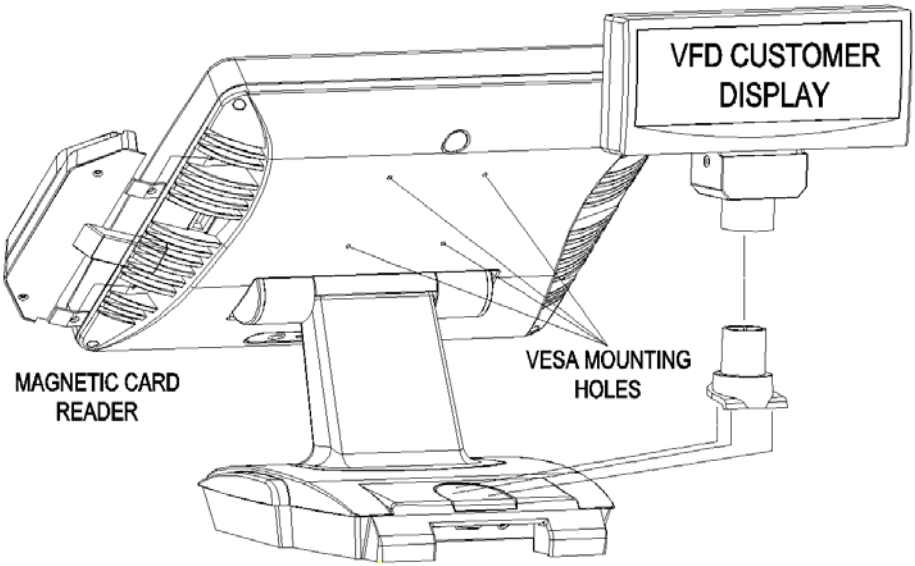
Dimensional Diagrams

U12xTA

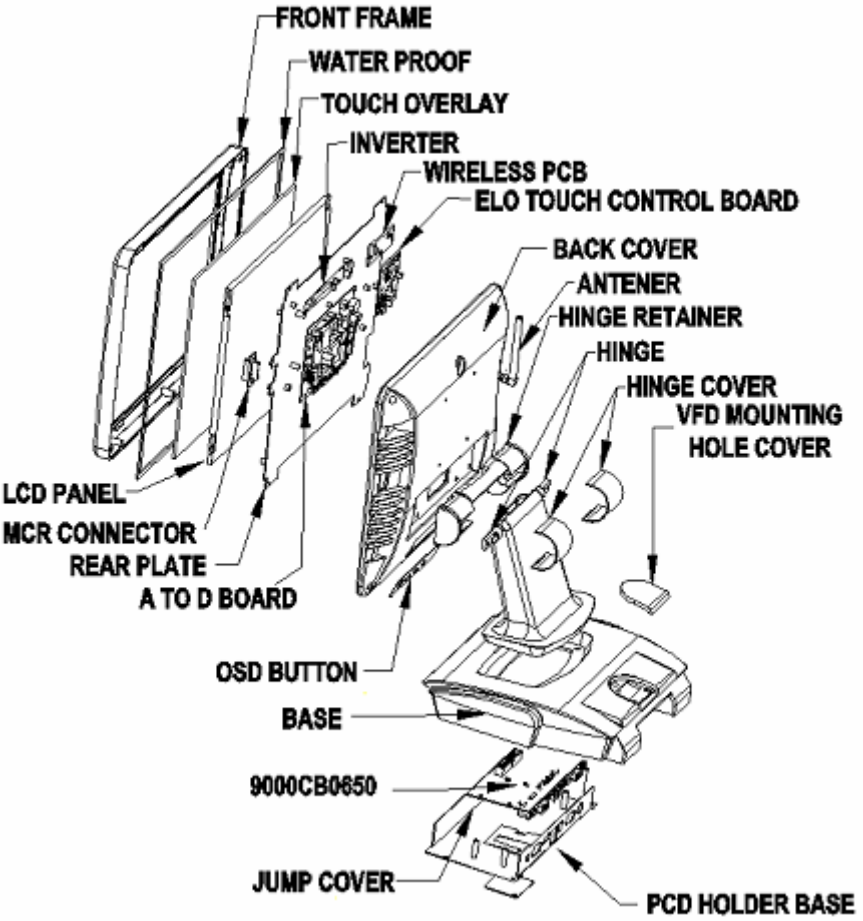


U152TA





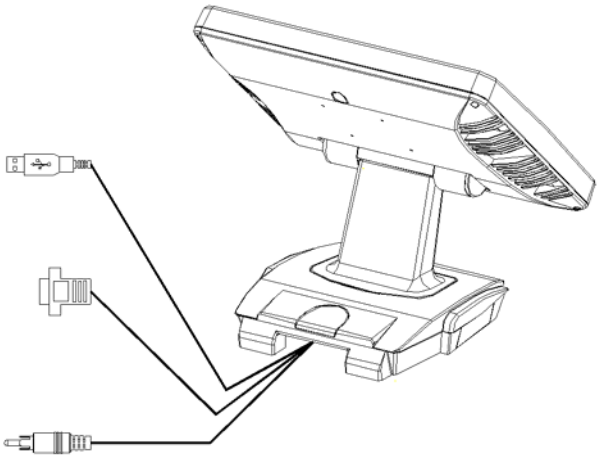
Exploded View Diagram



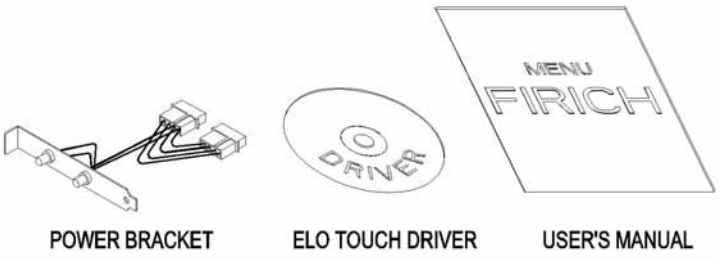
What is provided with the USB Aegis

Upon unpacking, please inspect to make sure all items are in place and in good condition. If there is any damaged or missing item, please contact your dealer immediately.
The following items come as standard

1. LCD Display unit with tilt base
2. Power bracket 9000XC1694
3. DC power cable 9000XC1718
4. USB Cable 9000XC1607
5. VGA Cable 9000XC1693
6. User's manual
7. Documents, Drivers and utilities CD

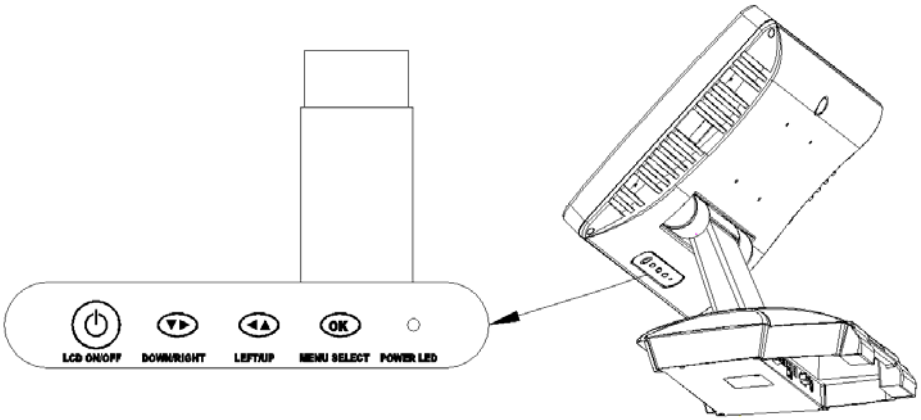


USB Aegis



Switch and Controls

Model U152TA / U12xTA has built-in OSD (on screen display) controls to adjust various display parameters. The control buttons are located on the bottom of the back cover.



OSD Settings

There are four buttons on OSD panel: Menu / Enter, Right, Left and LCD ON/OFF. The functions of these four buttons are as follows

Menu/Enter Button

Press it to open OSD window and enter user mode to do the function adjustment or selection of the item. It may have many levels in one item. As you select this kind of item, you will enter the next level and see the sub-items.

Right Button

Press it to Scroll item Right or to decrease the value or to switch the selected item to another.

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Left Button

Press it to Scroll item Left or to increase the value or to switch the selected item to another.

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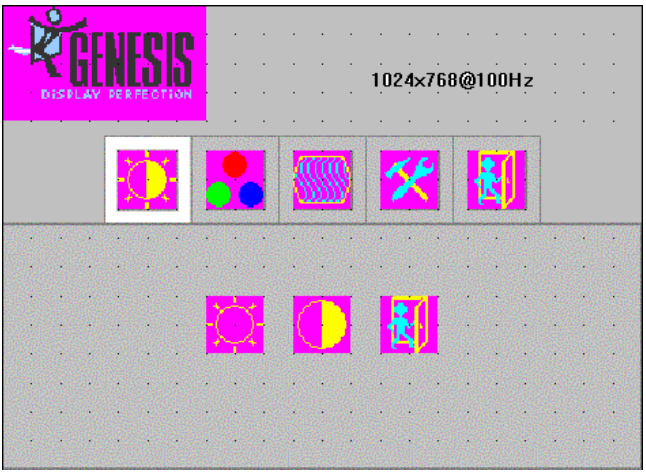
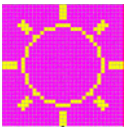
LCD ON/OFF Button

Control LCD ON/OFF button

OSD Menu Structure

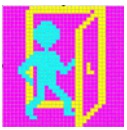


Functions include:
[Brightness]
[Contrast]
[Exit]

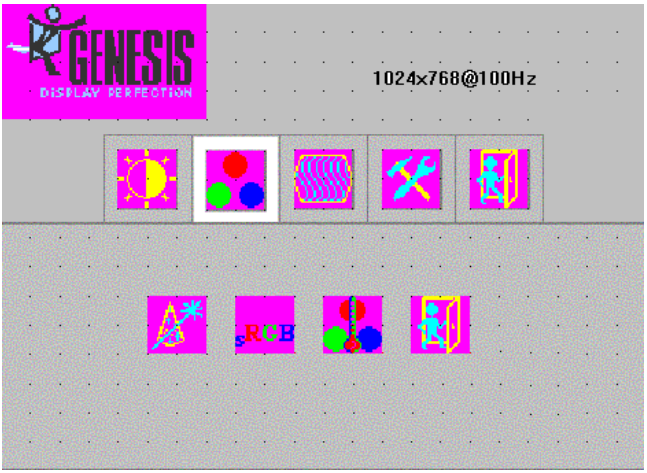


This item will adjust the **brightness** of the screen. This function will adjust the offset value of ADC. Setting this value too high or too low will destroy the quality of image.
Values are from 0 to 255

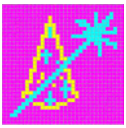
This item will adjust the **contrast** of the screen. This function will adjust the gain value of ADC. Adjust this value too high or too low will destroy the quality of image.
Values are from 0 to 255



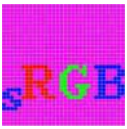
Press the **EXIT** key to upper level.



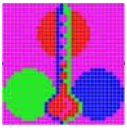
Functions include:
[Auto color]
[S RGB]
[Color temp]
[Exit]



This item will **auto**matically adjust **color**.

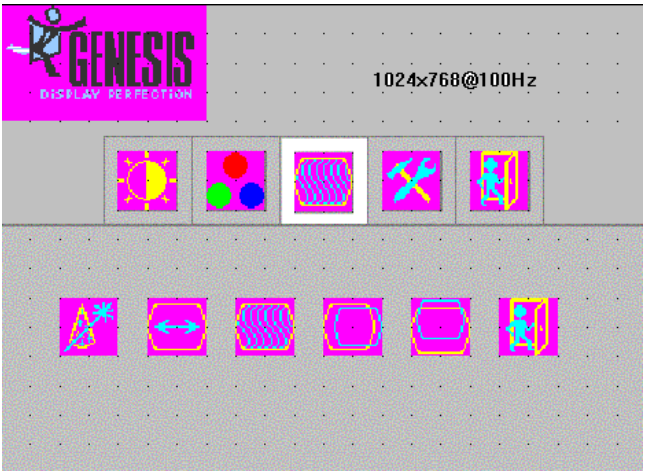


Standard **RGB** mode

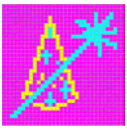


This item includes **user colors 4200K, 5000K, 6500K, 7500K, 9300K**.
RGB **User color** values are from 0 to 255.

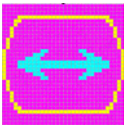
Press the **EXIT** key to upper level.



Functions include:
[Auto adjust]
[Extend screen]
[Phase adjust]
[H position adjust]
[V position adjust]
[Exit]

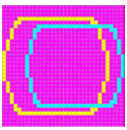


This item will **automatically adjust** the H/V position, frequency, phase, and black level.

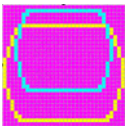


Extend screen in display.
Value from 0 to 100

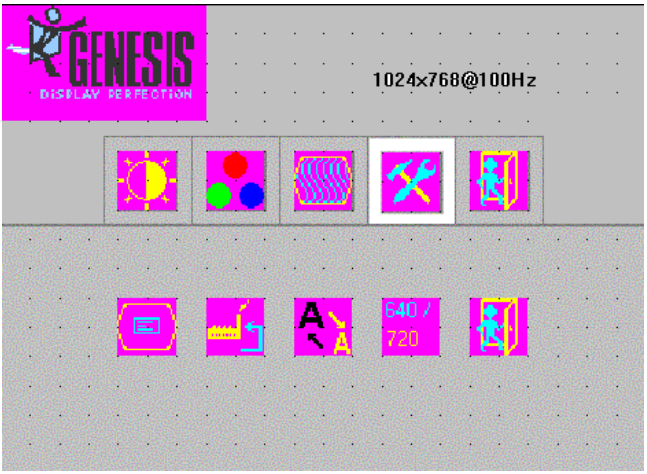
This item will adjust the sampling **Phase**.
Value from 0 to 32.



This item will adjust **horizontal** display position of the image. Values are from 0 to 100

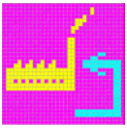


This item will adjust **vertical** display position of image. Value from 0 to 100



Functions include:
[OSD detail]
[Factory reset]
[Sharpness]
[640 / 720]
[Exit]

OSD detail function, include OSD maintain time (Value from 0 to 60), OSD icon H/V position adjust (Value from 0 to 100).



Factory reset, press this item to load default value.

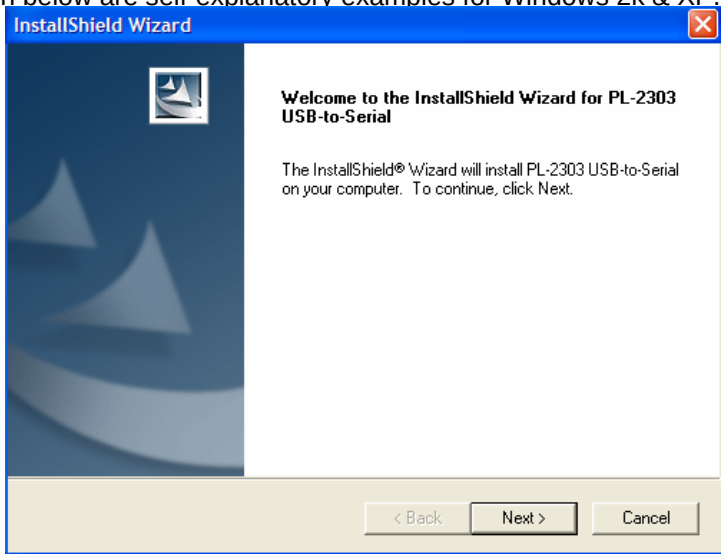
Sharpness function.
Value from 0 to 6

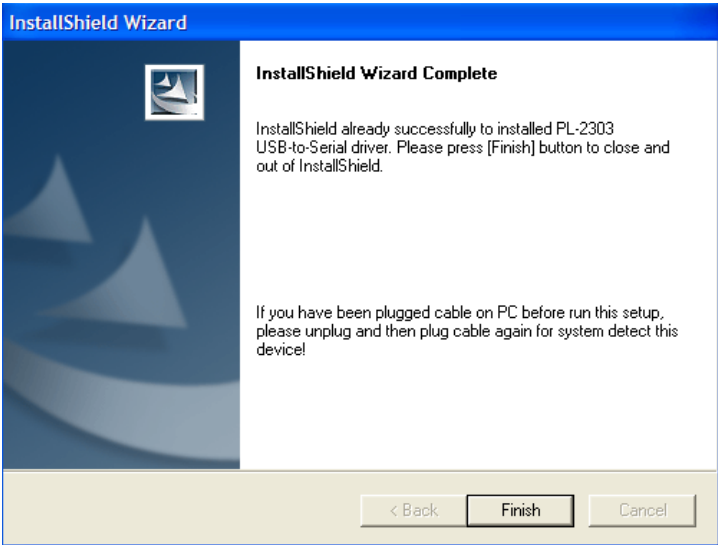
640 / 720 mode change.

Press the **EXIT** key to upper level.

USB-to Serial Driver Installation

1. Insert the FEC Utility CD and Locate **D:\Usb-Aegis\PL-2303HX**
2. Select the relevant operating system folder that you are using.
3. Shown below are self-explanatory examples for Windows 2k & XP.

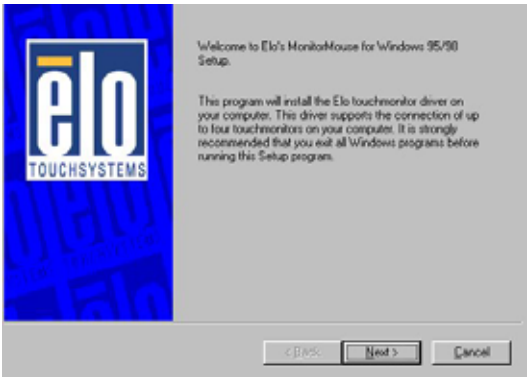




ELO Touch Tools Installation

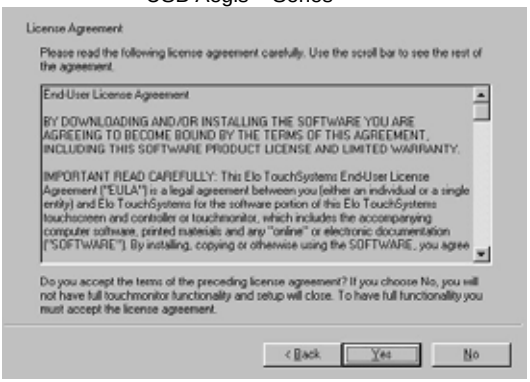
ELO Touch Tools Installation for all Windows Operating Systems

1. Locate D:\TOUCHSCREEN\
2. Select the relevant ELO folder for the operating system that you are using.
3. Example. If you are installing for a Windows 98 system, then select ELO Win9x_Me. If you are installing under Windows 2000 or XP then select ELO Touch 2K_XP
4. Run Setup.exe



5. Click **Next**

6. Check “Install serial Touch screen Drivers.” And Click **Next**.



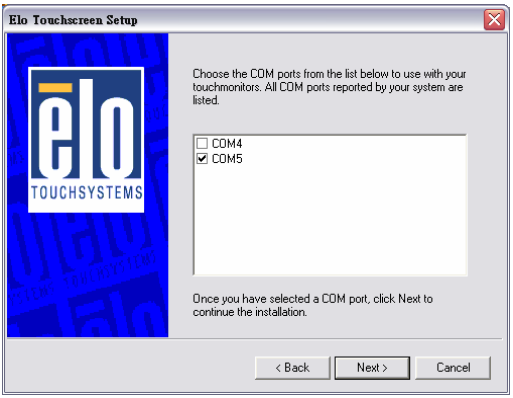
7. Read the ***"License Agreement"*** and click **Yes** if you accept it.

8. Select "Auto-detect ELO devices." and click **Next.**

   It is very important to let the ELO driver installation program automatically locate the serial Touch Controller. This is because the 2 serial ports in the USB-Aegis are automatically enumerated by the Host PC and stored in the Windows Registry.

   Note, if you ever disconnect the USB cable from the Host PC you must always re-insert it into the same physical USB port. If you plug it into another Host PC USB port, Windows will detect, install and enumerate 2 more consecutive COM ports.

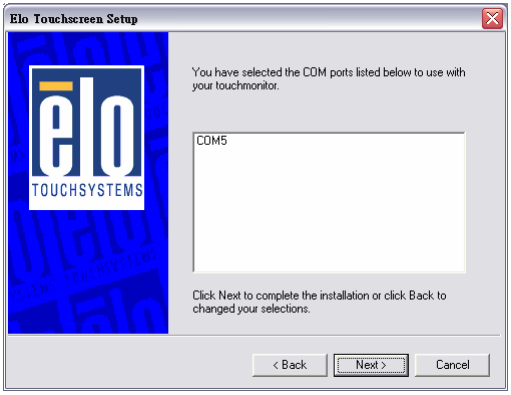
   For example: If the Host PC already has COM1 and COM2 serial ports, and the PC USB port 1 is the original connection point, USB-Aegis serial ports will be enumerated as COM3 and COM4. If you then unplug from the PC USB port 1 and connect to the PC USB port 2, Windows will autodetect the addition of 2 serial ports and automatically install the driver software, and enumerate the serial ports as COM5 and COM6. This will result in the loss of the Touch Screen interface until you re-insert the cable into the original USB port.



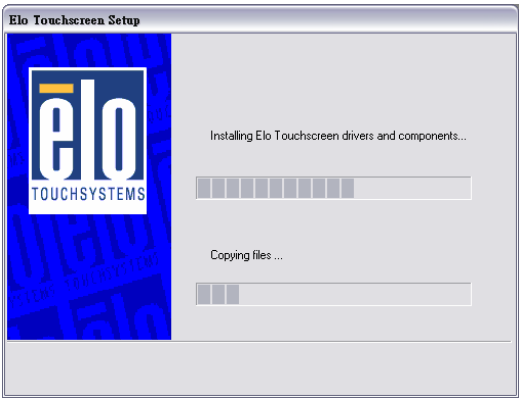
9. ELO tools will search all available “serial” ports and locate the touch controller automatically. Depending on how many serial ports your host PC already has, a screen similar to the one above will be displayed with the COM port that has the Touch Controller already checked for you.

   Do not change anything.

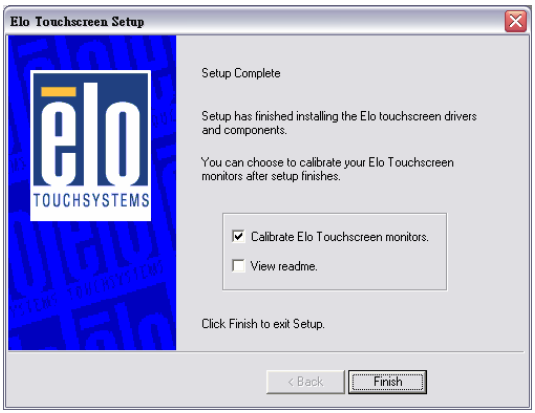
   Just click **Next** to continue.



10. Click **Next** to continue

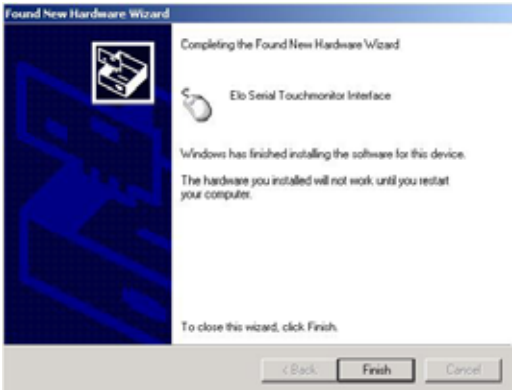


11. Wait until the ELO Touch Tools have been installed.



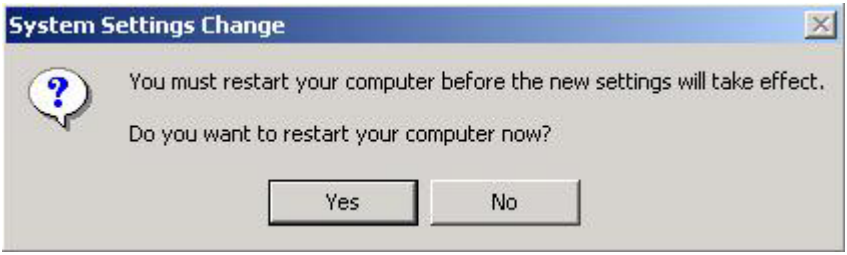
12. Select Calibrate ELO touch screen control panel and click **Finish**.

    At this point the system may continue with the calibration process or it may wish to be rebooted first.



13. Depending on which version of Windows O/S you are using, the system may or may not display the screen above. If it does then: -

    Click **Finish** and the system again may, or may not, request to be rebooted.



14. If the system needs to be rebooted the screen above will be displayed.

    Click **YES** to restart your computer.

    After the system finishes rebooting, if calibration has not already taken place, then follow the directions to calibrate ELO Touch Tools.

ELO Control Panel

This section explains the different options in the ELO control Panel.

General tab

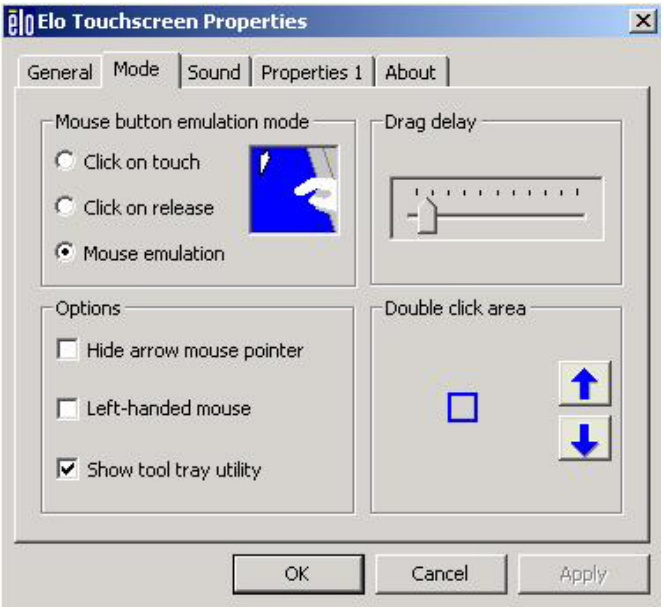
The general tab allows you to:

- Change the COM port your touch screen is set to.
- Calibrate the touch screen with the **Align** button.

Mode tab

The Buttons tab allows you to:

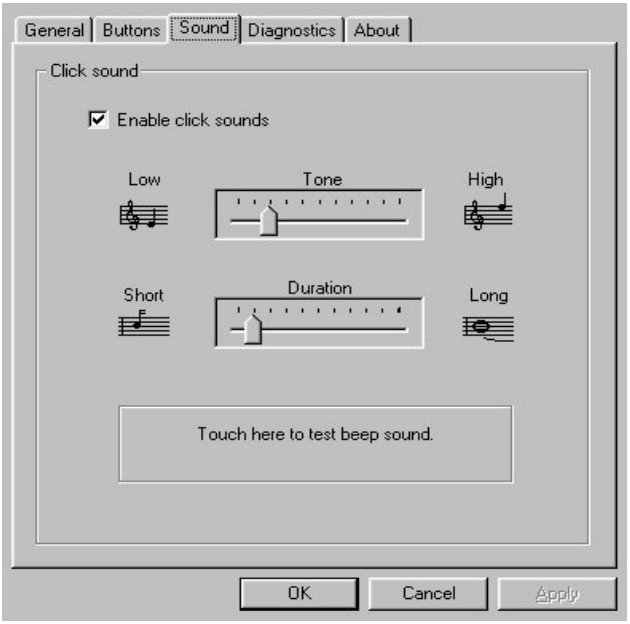
- Adjust all mouse emulation controls.
- Change cursor properties
- Enable or disable right mouse button utility.



Sound tab

The Sound tab allows you to:

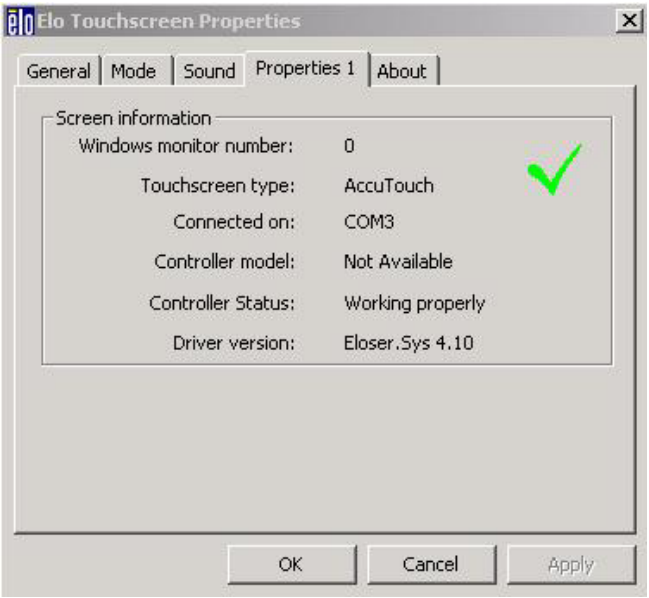
- To change sound properties for ELO touch tools.



Properties tab

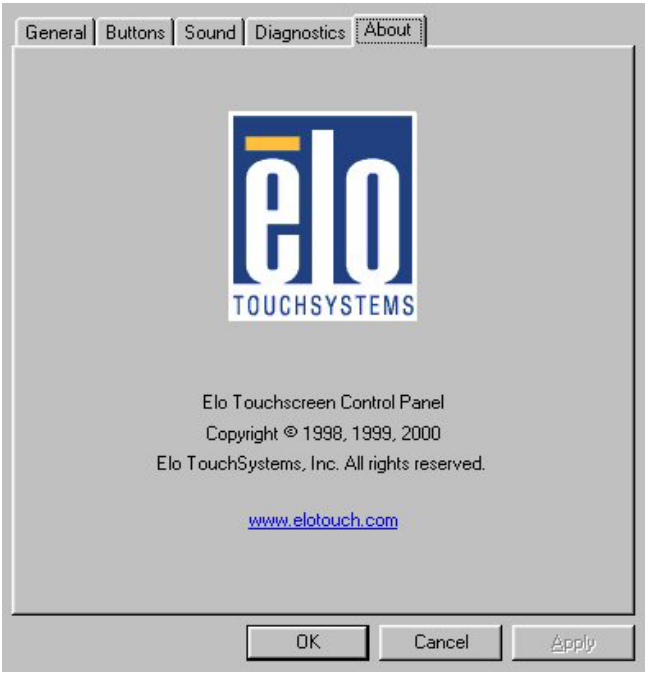
The Diagnostics tab allows you to:

- View Controller Information.



About tab

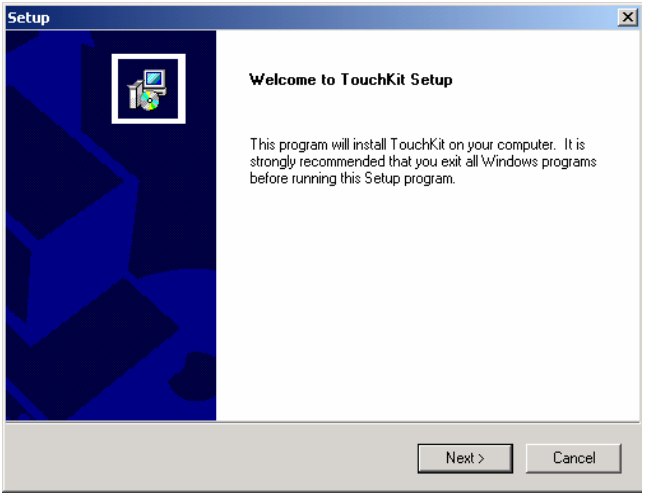
The About tab displays Information about ELO Touchsystems



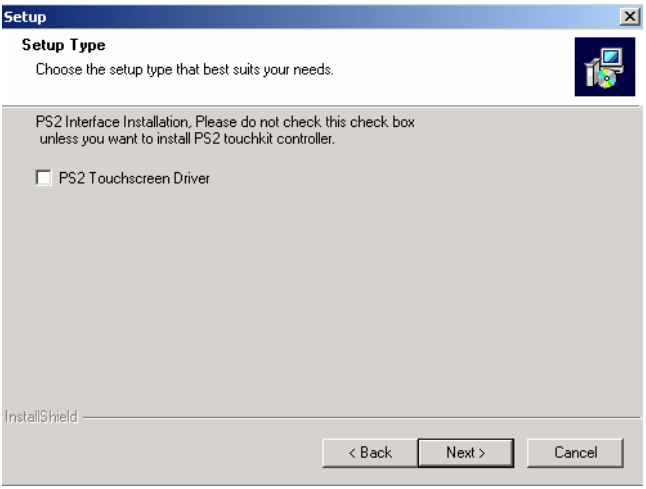
TouchKit Tools Installation

TouchKit Tools Installation for all Windows Operating Systems

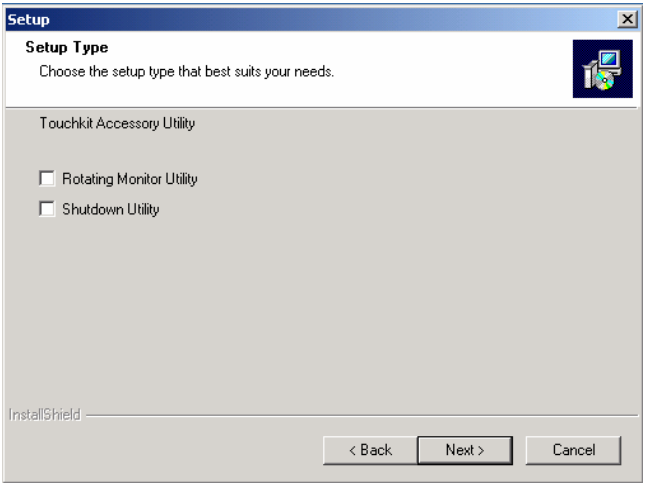
1. Locate D:\TOUCHSCREEN\eGalax Touch\Driver
2. Select the relevant eGalax folder for the operating system that you are using.
3. Example. If you are installing for a Windows 98 system, then select Win9x_Me. If you are installing under Windows 2000 or XP then select Win2000_XP
4. Run Setup.exe



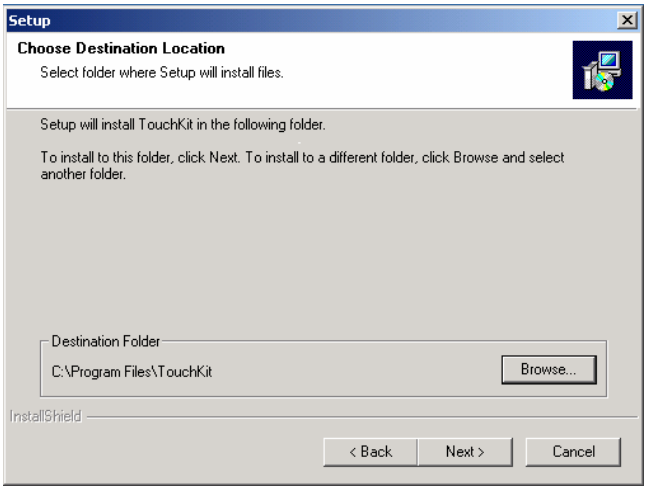
5. Click **Next**



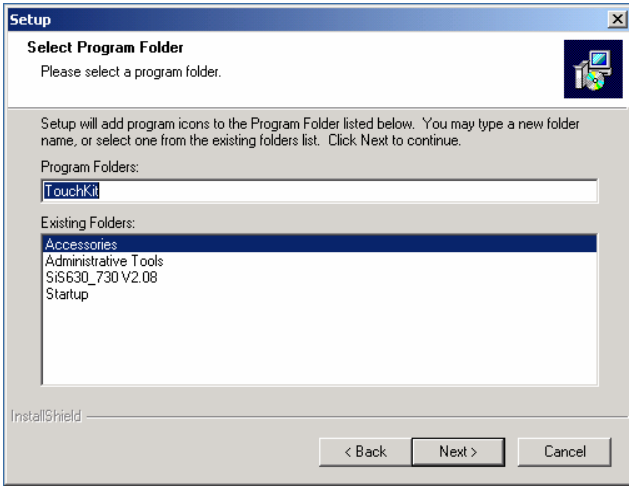
6. As the USB-Aegis uses a Serial RS232 controller just click **Next**



7. Click **Next**

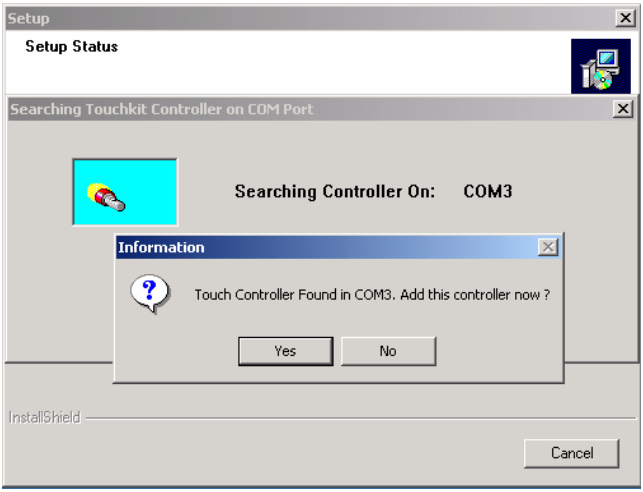


8. Click **Next**

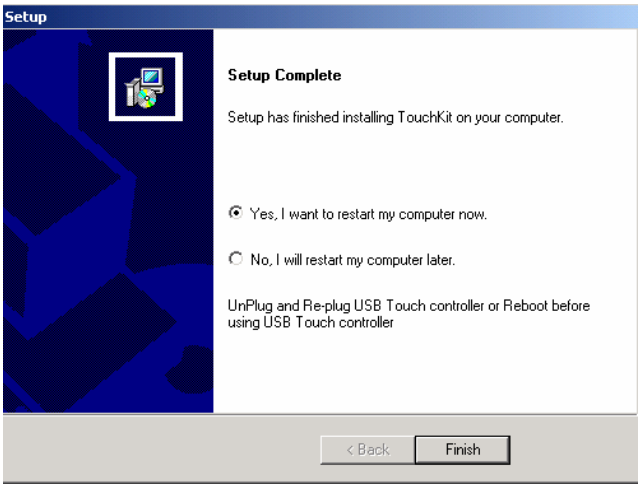


9. Click **Next**

It is essential that the TouchKit driver installation program locate the serial port itself. Once installed, you must also always use exactly the same USB port on the Host PC. Please read the important **Note** in the ELO section earlier to fully understand this need.



10. Click **Yes**

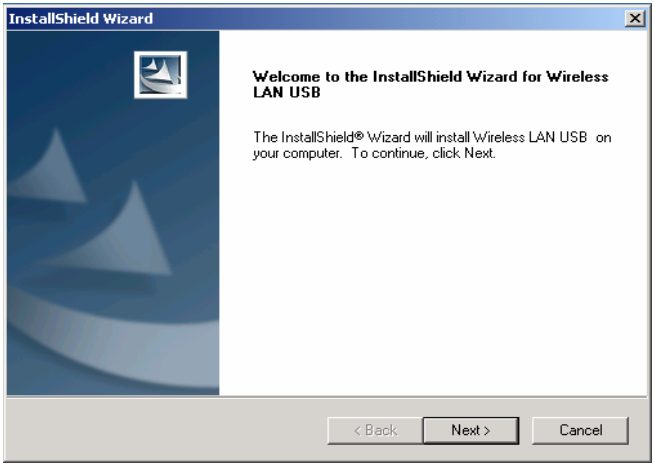


11. Click **Finish** to restart your computer.

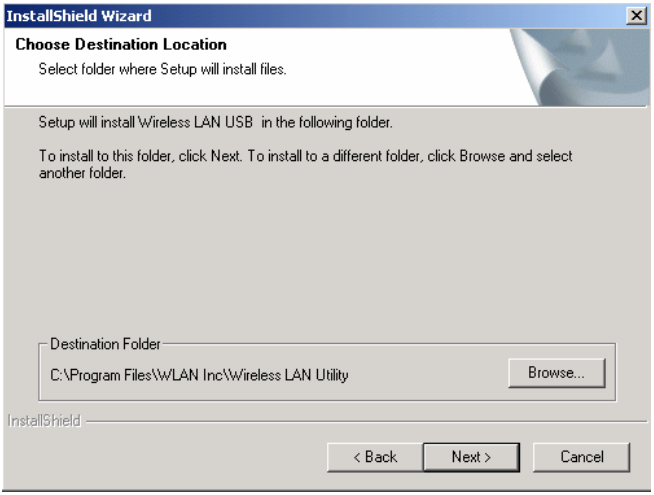
After the system finishes rebooting follow the directions to calibrate the Touch screen.

Wireless LAN Driver Installation for all Windows Operating Systems (Optional)

1. Open D:\Wireless LAN folder
2. Run Setup.EXE



3. Click **Next**

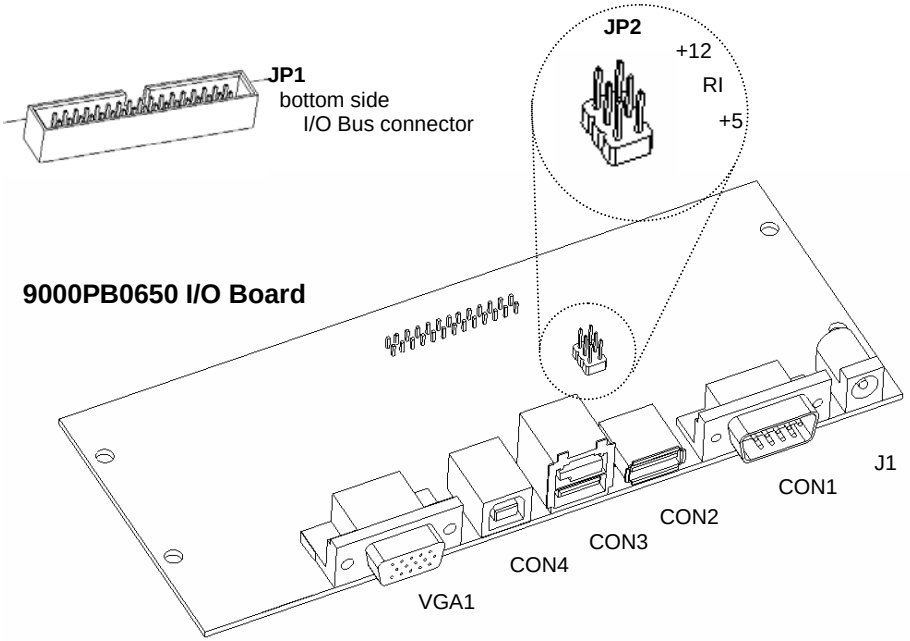


4. Click **Next**

I/O Board Configuration

There is only 1 physical main I/O board (9000PB0650) This I/O board connects all secondary I/O boards, devices and ports. The following diagrams and tables explain in detail the connector assignments and uses.

Only one jumper is ever used on this selector at any time.



Connector **JP1** (which is on the reverse "bottom" side of the I/O board) is a multi device connector. All internal devices are attached to this socket via a 34-way ribbon cable which is physically keyed so that can only be inserted one way into the **JP1** socket.

The RS232 port Pin 9 can be made to supply power to RS232 peripherals that require either +12 volts or +5 volts, or it can be set to be the standard Ring Input (RI) signal generally associated with modem use.
JP2 is the function selector for the RS232 port.
Important Note: Only one jumper is ever used on this selector at any time.

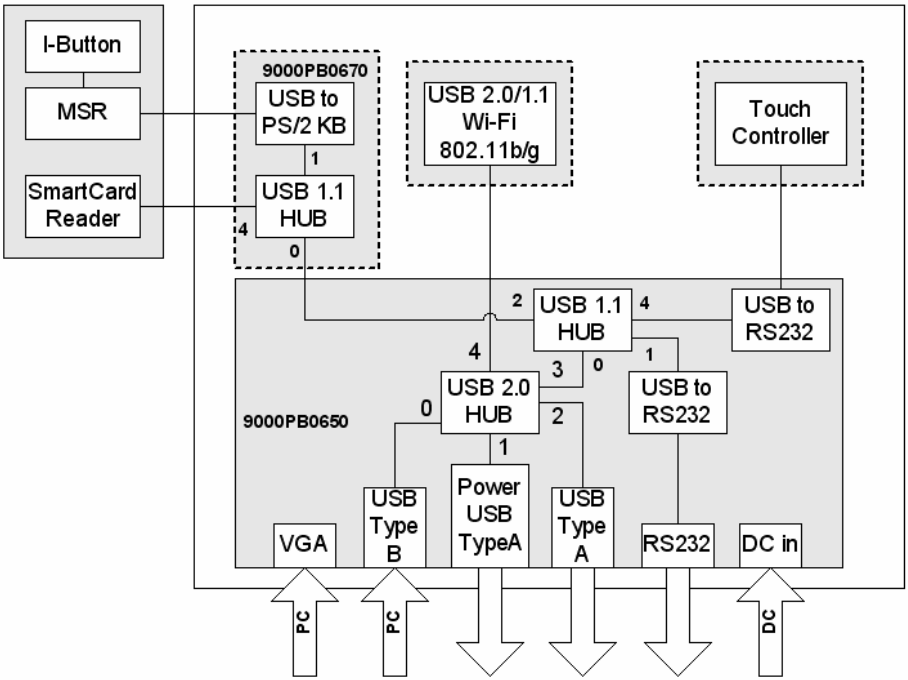
Shown below is a diagram of the USB connections and port numbering.

Please note:

The MSR used in the diagram below is a specific type and is not generally interchangeable with other MSR modules used with other FEC POS models. If you need to reprogram this MSR for country specific or special formatting, then it has to be programmed via a USB connection.

The required Windows utility to perform this MSR reprogramming task is included on the driver CD.

It is physically possible to use other FEC K/B type MSR's as the cabling and plug/socket structure is the same, the only limitation is that they cannot be programmed via the USB utility, but instead will need to be removed and attached to an FEC POS system keyboard/MSR port.



Note that the host PC enumerates the RS232 COM ports so you must always use the same physical Host PC USB port.

Additional External Peripheral devices

VGA1 ***VGA port***

PIN No.	Description
1	RED
2	GREEN
3	BLUE
4	NC
5	GND
6	GND
7	GND
8	GND
9	NC
10	GND
11	NC
12	SM DATA
13	SM CLK
14	V-SYNC
15	H-SYNC

CON1 ***USB to RS232 port***

PIN No.	Description
1	DCD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI/DC output (RI is the default setting)

CON2 ***USB 2.0 downstream port***

PIN No.	Description
1	+5V
2	USB2.0_2-
3	USB2.0_2+
4	GND

CON3 ***POWERED USB 2.0 downstream port***

PIN No.	Description	PIN No.	Description
1	+5V	**5**	GND
2	USB2.0_1-	**6**	+12V
3	USB2.0_1+	**7**	+12V
4	GND	**8**	GND

CON4 ***USB 2.0 upstream port***

PIN No.	Description
1	+5V
2	USB2.0_0-
3	USB2.0_0+
4	GND

J1 ***DC port (DC +12V inport)***

PIN No.	Description
1	+12V
2	GND
3	NC

JP1 ***I/O Bus connector***

PIN No	Description	PIN No	Description
1	KB-CLK	**2**	AGND
3	KB-DATA	**4**	PC-CLK
5	+5V	**6**	PC-DATA
7	H-SYNC	**8**	V-SYNC
9	SM DATA	**10**	BLUE
11	SM CLK	**12**	GREEN
13	AGND	**14**	RED
15	USB_2+	**16**	USB_2-
17	AGND	**18**	VCC
19	USB_3+	**20**	USB_3-
21	AGND	**22**	VCC
23	USB2.0_4+	**24**	USB2.0_4-
25	AGND	**26**	VCC
27	DTR	**28**	CTS
29	TXD	**30**	RTS
31	RXD	**32**	DSR
33	+12V	**34**	AGND

JP2 ***RS232 Power selector Jumpers***

PIN No.	Description
1-2	+12V
3-4	RI
5-6	+5V

Hardware Installation

Model U152TA / U12xTA

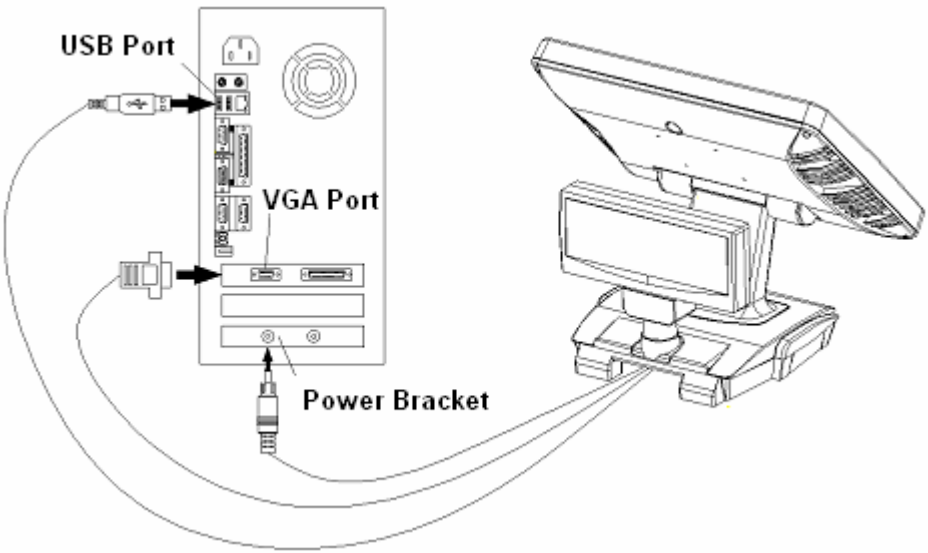
1. Turn off the computer.

2. Put the **USB Aegis** on a steady surface.

3. (Please refer to the **External Power Adapter** section for instruction on using an external power adapter and skip this step).
Powering from the host computer through the **Power Bracket**:
a. Open the computer case.
b. Secure the **Power Bracket** to an unused expansion slot bracket location.
c. Connect the connector on the **Power Bracket** wire assembly to a matching one from computer power supply.
d. Close the computer case.
e. Connect the **USB Aegis Power Cable** to the connector on the **Power Bracket**.

4. Connect the **VGA Cable** to the VGA port on the computer.

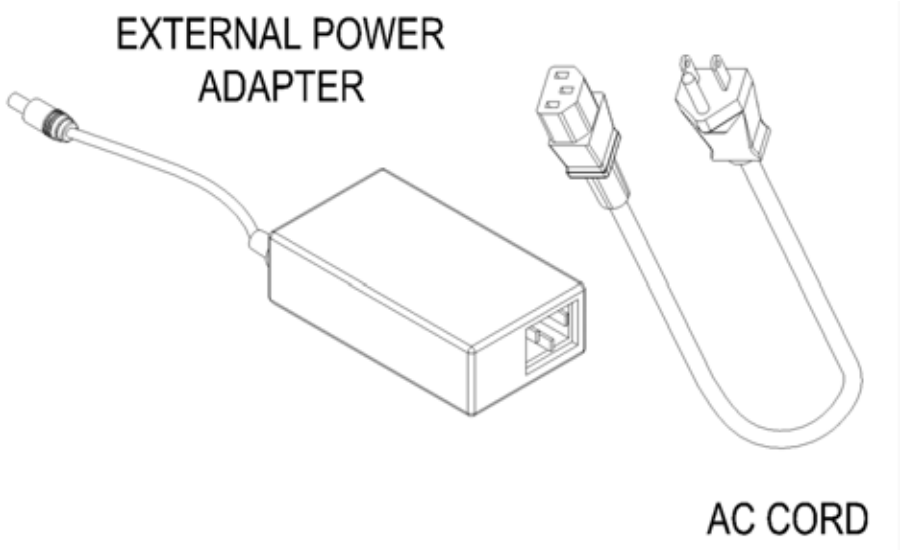
5. Connect the **USB Cable** to the USB port on the computer.



External Power Adapter (optional)

For situations where the Power Bracket cannot be used to power the USB Aegis, an optional External Power Adapter can be used instead.

1. Check the items in the External Power Adapter kit, including a power adapter and an AC cord.
2. Turn off power to the computer and turn the USB Aegis power switch to off.
3. Insert the Power Adapter jack plug to the USB Aegis Power jack socket.
4. Connect the AC plug of the Power Adapter to a 110/240-volt AC outlet.



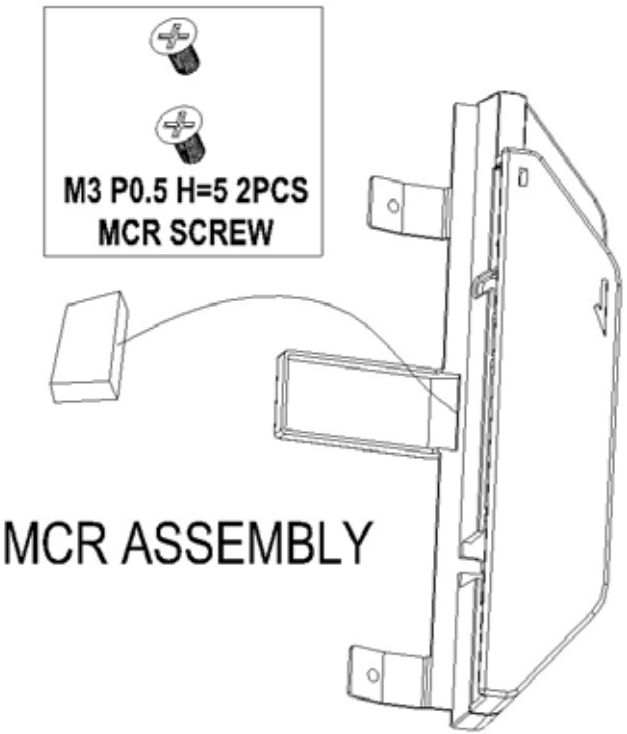
MCR Installation

Please note: *throughout this document references are made to MCR and MSR, they are in fact the same thing.*
(MCR = Magnetic Card Reader)
(MSR = Magnetic Stripe Reader)

The MCR option can be fitted to the right side of **USB Aegis**. This option allows the reading of magnetic stripe card through keyboard input.

* If there is a need to modify the MCR parameters, such as country code and track combination, please follow the instruction in the section,
MCR Parameter Modification.

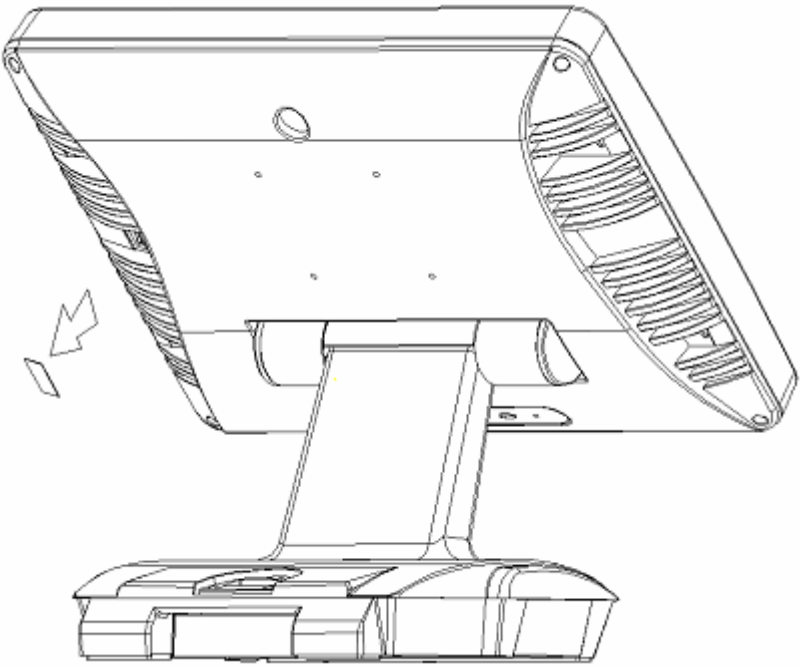
Please check the items in the MCR Kit.



1. Check the items in the MCR option kit.

2. Turn off Power to the USB Aegis and the computer.

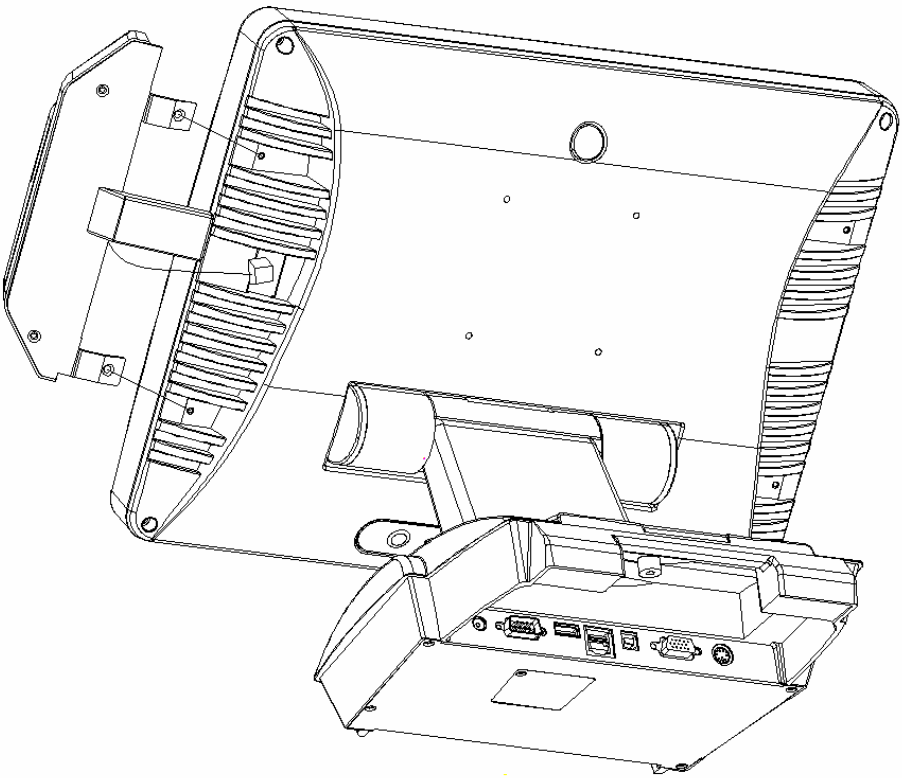
3. Remove the MSR cover plate that can be found on the right side and to the rear of the main Unit



4. Attach the MCR Assembly to the main unit and connect the MCR cable to the MCR socket.

5. Secure the MCR to the main unit with 2 screws.

6. Turn on USB Aegis power.

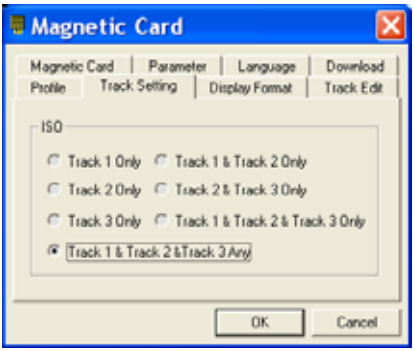


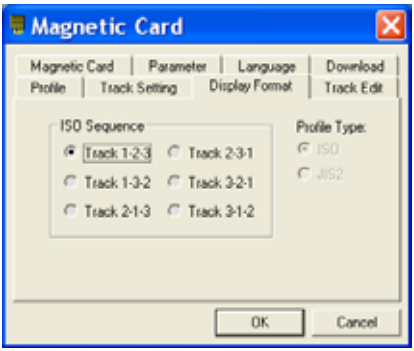
MCR Parameter Modification

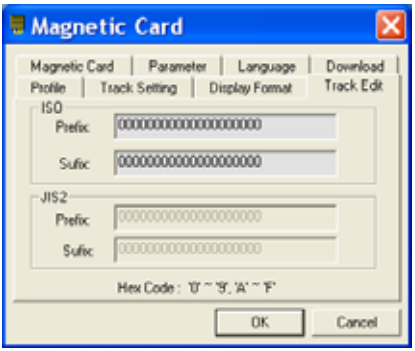
The MCR parameters can be modified by using the supplied utility program. The utility is on the CD that came with your system in the "USBAegis\USBMSR" folder.

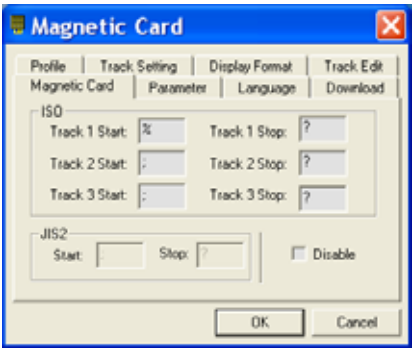
Run the "**Setup.exe**" program, and follow the simple onscreen instructions. When the installation finishes, you will find the utility by clicking on….
Start>Programs>Magnetic Card
Use this utility to make your modifications, example screens are shown below.

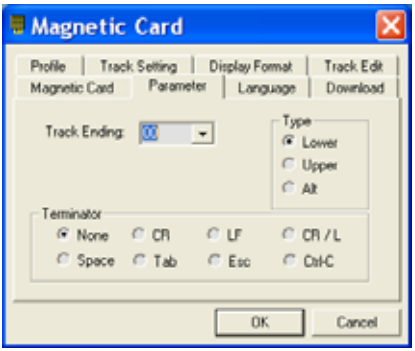
When you have finished your modifications and are sure that they are set exactly how you want them to be, just click on the Download tab to reprogram the new parameter to the MCR unit.



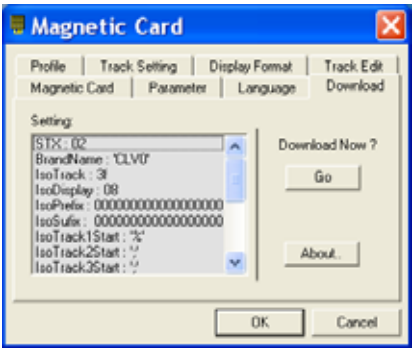


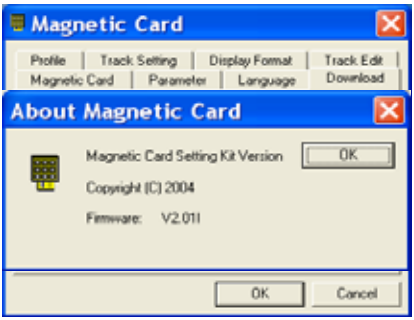



Magnetic Card
Profile
Track Setting
Display Format
Track Edit
Magnetic Card
Parameter
Language
Download
ISO
Track 1 Start:
Track 1 Stop:
Track 2 Start:
Track 2 Stop:
Track 3 Start:
Track 3 Stop:
JIS2
Start:
Stop:
Disable
OK
Cancel


Magnetic Card
Profile
Track Setting
Display Format
Track Edit
Magnetic Card
Parameter
Language
Download
Track Ending:
Type
Lower
Upper
Alt
Terminator
None
CR
LF
CR / L
Space
Tab
Esc
Ctrl-C
OK
Cancel

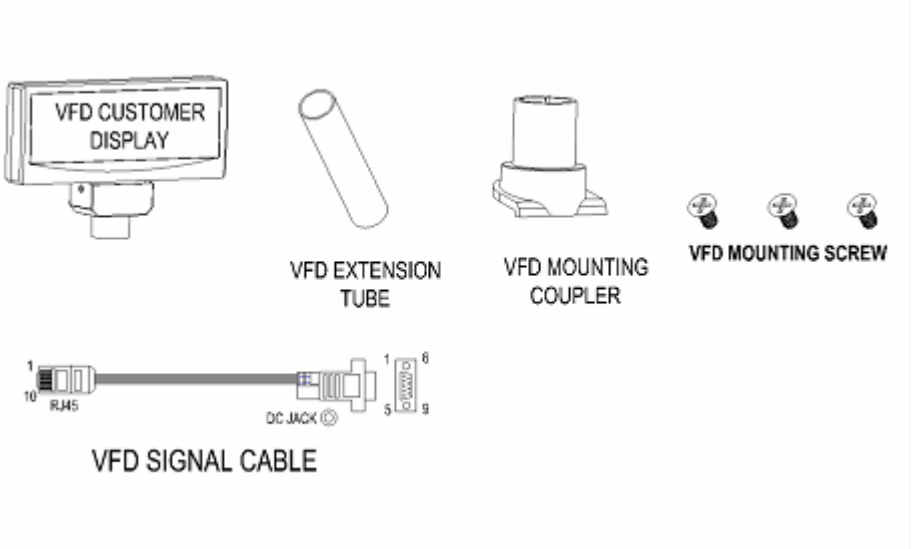
Magnetic Card
Profile
Track Setting
Display Format
Track Edit
Magnetic Card
Parameter
Language
Download
Language
US English
UK English
French
Germany
Italian
Belgium
Swedish/Finnish
Spanish
Demark
Portuguese
Swiss
Norway
Canada
Netherlands
Poland
Latin America
Japanese
OK
Cancel


Magnetic Card
Profile
Track Setting
Display Format
Track Edit
Magnetic Card
Parameter
Language
Download
Setting:
STX : 02
BrandName : 'CLVI'
IsoTrack : 3f
IsoDisplay : 08
IsoPrefix : 0000000000000000000
IsoSufix : 0000000000000000000
IsoTrack1Start : '%'
IsoTrack2Start : ';'
IsoTrack3Start : ';'
Download Now ?
Go
About..
OK
Cancel

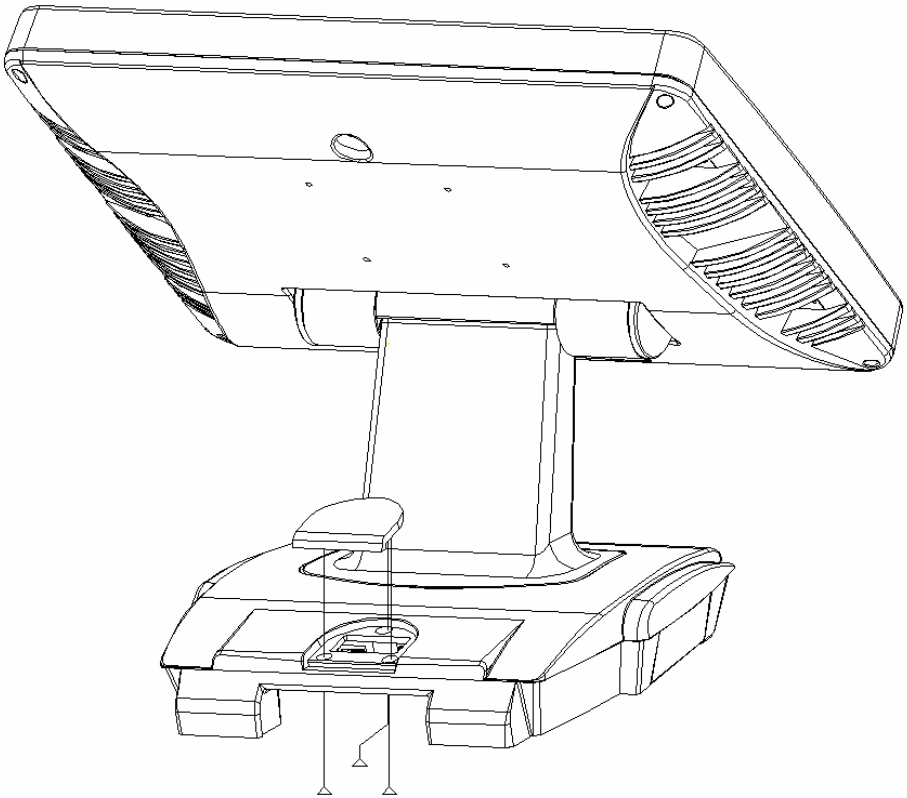

Magnetic Card
Profile
Track Setting
Display Format
Track Edit
Magnetic Card
Parameter
Language
Download
About Magnetic Card
Magnetic Card Setting Kit Version
OK
Copyright (C) 2004
Firmware: V2.011
OK
Cancel

VFD Customer Display Installation

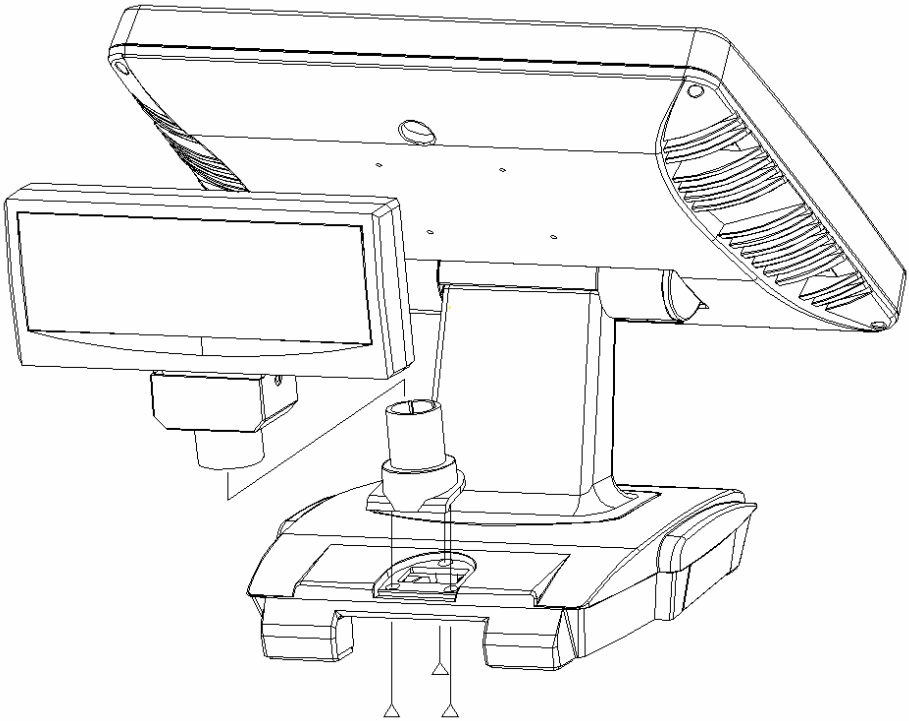
Please check the items in the VFD Customer Display Kit.



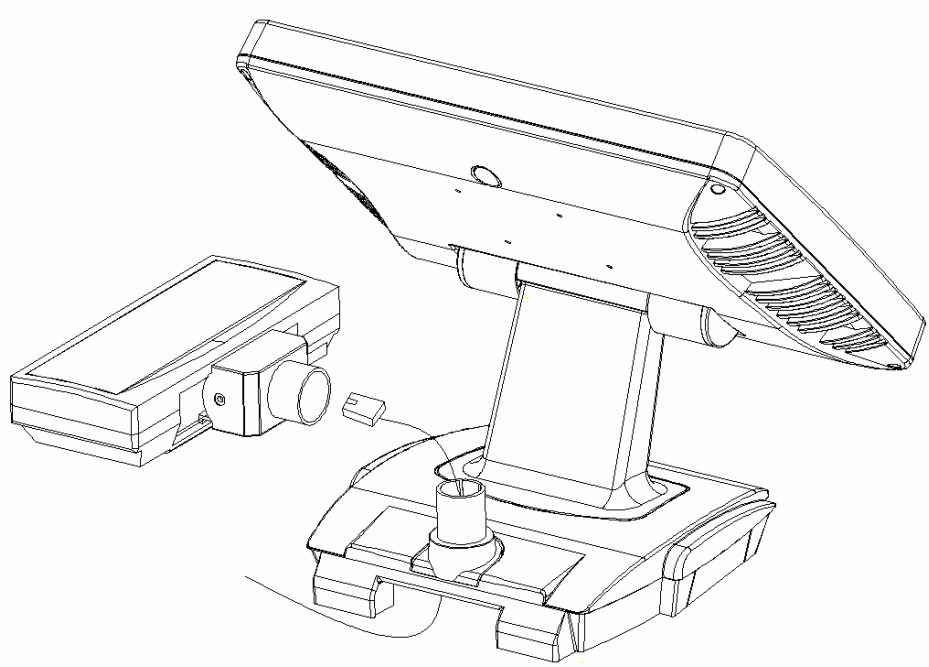
1. Remove the base cover to expose the 9000PB0650 I/O board.
2. Remove the 4 screws that secure the 9000PB0650 I/O board.
3. Carefully turn the 9000PB0650 I/O board over
4. Locate **JP2** and move the one (**and one only**) Jumper between pins 1-2 this will supply +12volts to the VFD display.
5. Return the 9000PB0650 I/O board to it's original position and secure with the 4 screws you removed earlier.
6. Replace the base cover.
7. Turn off power to USB Aegis and to the computer.
8. Remove the VFD Mounting Cover from the Base of USB Aegis.



9. Secure the VFD Mounting Coupler to the Base with three VFD Mounting Screws.



10. Thread the RJ-45 connector of the VFD Signal Cable through the VFD Mounting Coupler, from the bottom of USB Aegis.
11. Plug the RJ-45 connector into the VFD Customer Display.



12. Fit the VFD Customer Display onto the VFD Mounting Coupler.
13. Plug the DB9M connector of the VFD Signal Cable to the external RS232 COM port on the main I/O board 9000PB0650.

The VFD display now only needs to be configured for country specific and communication parameter settings.
Please refer to the manual that came with the VFD on how to set it up via the accessible dip switches.

Trouble Shooting

When encountering difficulties in using this product, please follow the steps below. If the problem persists, please contact the dealer.

1. **No picture on screen**
   a. Check the AC cord and signal cable. Make sure they are properly connected.
   b. Check that the power button on the OSD panel is turned on.
   c. Check if the computer has entered energy saving mode.
2. **Abnormal display colour**
   a. Check if the signal cable is properly connected to the computer.
   b. For model U152TA / U12xTA, using the on-screen-adjustment mode to adjust the colour parameters.
3. **Skewed or distorted display**
   a. Check if the signal cable is properly connected to the computer.
   b. For model U152TA /U12xTA, using the on-screen-adjustment mode to adjust the geometric parameters.
4. **Picture too large or too small**
   a. Check if the display resolution is set correctly in the operating system.
   b. For model U152TA / U12xTA, using the on-screen-adjustment mode to adjust the size parameters.
5. **Touch screen does not work**
   a. Check if the COM port cable is connected to the Touch Controller.
   b. Check that the USB to Serial driver has been installed correctly.
   c. Check that the correct touch driver has been installed.
   d. Check if the COM port number is set correctly.
   e. Check that the Aegis “USB” cable is plugged into the original Host PC USB port onto which the drivers were originally installed.
   f. If the problem persists, uninstall then re-install the USB to Serial drivers followed by the Touch Screen drivers.
6. **VFD Customer Display does not display properly**
   a. Check if the power & signal cables are connected properly.
   b. Check whether the power switch is turned on.
7. **Magnetic Card Reader does not work**
   a. Check if the MCR Connector is properly connected to the MCR socket on the rear of the unit.
8. **The card swipe character(s) is incorrect or shows random characters**
   a. The country code parameter setting may need modification, please refer to the section, MCR Parameter Modifications.