USER'S MANUAL

AOD/ATS 170 (17" 5:4) metal case monitor

Standard type,
also available as:

Black
panelmount   RVS panelmount   Hinges

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Contents:

1. Monitor User's Manual

1.0　Connection To the Monitor

Touch Interface
Option: USB or Serial

VGA

DVI – A/D

Power (DC 12V)

1.1　Installation

- Connect the signal (VGA or DVI) cable to the VGA or DVI/HDMI port of computer. Tighten the two thumbscrews by turning clockwise.
- You can adjust the connection for your PC environment.
- Plug the DC cord of the AC adapter to the power connector and the plug the end of AC adapter to and electrical outlet socket(110V/220V)
- Connect DC cord of adapter (12V DC) (option=24V) to the monitor..

1.2　Features

- AOD/ATS 170 is a WVGA (1280x1024 pixels) LCD monitor.
- You can adjust brightness, contrast, horizontal & vertical positions by OSD
- menus and use auto adjust function for instant adjustment.
- High-qualified LCD Controller inside
- Compact space saving design and power saving mode
- 100% compatible with Windows PC environment without the installation of
- driver CD or software program for touchscreen via our website www.a1touchsolution.nl available.

1.3　Plug and Play Function

AOD/ATS 170 can be installed and connected automatically to any computer systems without driver CD or software programs. Monitor will recognize the optimized value of video mode by DDC(Display Data Channel) method that makes the graphic card of computer to communicate with the monitor.
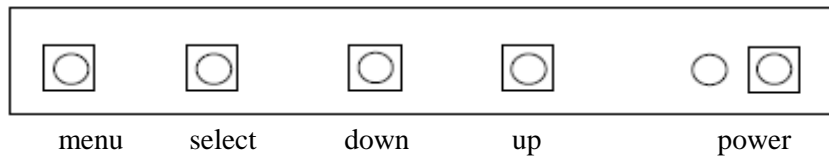AOD170 supports VESA DDC 1/2B.

1.4 **Safety Precaution**

We strongly recommend that you carefully read this User's Manual before operating
your LCD monitor. FOLLOW INSTRUCTIONS in this manual.
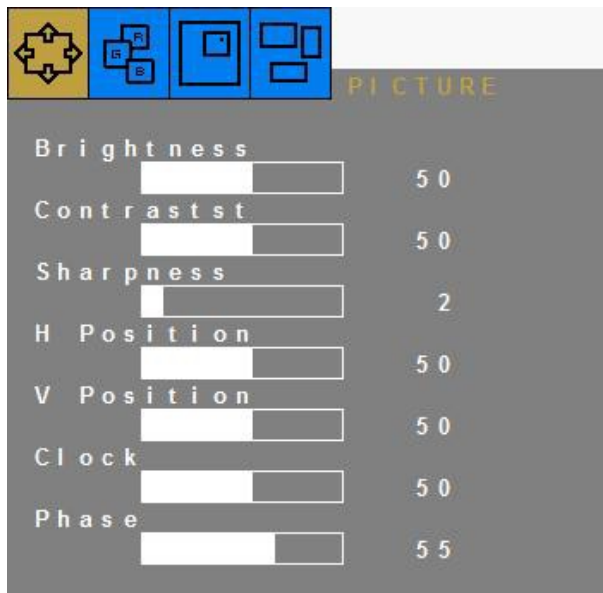Please read and comprehend all using directives before use this machine.

- **Power**
  Use the type of power indicated on the marking label.
- **Adapter**
  Only use an adapter designed of the LCD monitor.
- **Plug**
  Do not remove any of the prongs of the monitor's three-pronged power plug.
  Disconnect the power plug from the AC outlet if you will not use it for an indefinite period of time.
- **Power and extension cord**
- Use the proper power cord with ground conductor
  Do not overload wall outlets or power cords. Ensure that the total of all units plugged
  into the wall outlet does not exceed 7 amperes.
  Do not allow anything to rest on the power cord. Do not locate this product where persons will walk
  on the cord.
- **Care and maintenance**
  Slots and openings in the cabinet are provided for ventilation. Do not block or cover these openings.
  Do not push objects of any kind into cabinet slots or openings. The screen surface is easily
  scratched. Do not use paper towels to clean the display. Avoid touching it with your fingers, pens, or
  pencils.
- Turn off the AC adapter and the monitor over long periods when not in use.

1.5 **OSD (On-Screen-Menu)**

| menu | select | down | up | power |

Button	Function	Status	Hot Key
POWER	Power ON or OFF		
LED	Indicate operation status	Green : Normal operation Red : Off Mode Amber : No valid input, Sleep mode Green Blinking: No Signal	-
UP	Select next menu item Increase slider value		Auto Configuration on no menu status
DOWN	Select previous menu item Decrease slider value		Auto Configuration on no menu status
SELECT	Select Highlighted function		Input Source Change on no menu status
MENU	On /Off OSD Menu		

1.6 OSD Menu

PICTURE

Brightness — 50
Contrastst — 50
Sharpness — 2
H Position — 50
V Position — 50
Clock — 50
Phase — 55

OSD STRUCTURE

ITEM	Sub Menu	Description	Value	
Picture	Brightness	Adjust the backlight level of screen	50(0~100)	
	Contrast	Increase/ decrease picture contrast	50(0~100)	
	Sharpness	Control the clarity of details of pictures	2(0 ~ 4)	
	H Position	Adjust picture horizontal position	50(0~100)	RGB ONLY
	V Position	Adjust picture vertical position	50(0~100)	
	Clock	Adjust picture width	50(0~100)	
	Phase	Adjust picture focus quality	30(0~100)	
Color	Color Status Management	Select the color of picture mode	User(User, Warm, Normal, Cool)	
	Red	Adjust color of red rate	50(0~100)	RGB ONLY
	Green	Adjust color of green rate	50(0~100)	
	Blue	Adjust color of blue rate	50(0~100)	
	Auto Color	Auto color calibration	To Start	
OSD	Language	Select OSD menu language	English(English, Deutsh, Francais, Italiano, Espanol,	
	H Position	Adjust the OSD horizontal position	50(0~100)	
	V Position	Adjust the OSD vertical position	50(0~100)	
	Transparency	Select the transparency of the OSD	33 (0~100)	
	OSD Time	Adjust the OSD menu timeout	10(3~30)	
SETUP	Source	Select the input signal Source	RGB, DVI, AUTO	
	Factory reset	Reset to factory settings	To Start	
	Aspect	On/ Off the fit to screen	Off(On/Off)	
	Backlight DIM	On/ Off the backlight Dimming(PWM)	Off(On/Off)	
	Set ID	On/ Off the RS232 control	Off(On/Off)	Optional
	Volume	Adjust the audio volume	62(0~100)	Optional
	Mute	On/ Off the audio output	Off(On/Off)	Optional

1.7 Specifications

Color panel:	Black powder Coated (other colors on request)
Model:	17 inch XGA TFT LCD Monitor
Type:	17 inch Color Active Matrix TFT LCD (AUO M170ETN01.1)
Resolution (max):	1280 x 1024 (WVGA)
Color:	16,2 million
Pixel:	0.264 x 0.264 mm
Brightness:	300 cd/m²
Contrast ratio:	1000:1
Viewing angle:	88°/88° horizontal & 85°/85° vertical
Response time	5 ms
Active area:	337,9 (H) x 270,3 (V) mm
VGA input	Analog RGB (D-Sub 15-pins) + DVI
Plug and play:	Yes DDC1 /DDC2B
Power:	12 Volts. included Adapter
Power consumption:	<35 watt max.
Power consumption stand by:	<4 watt max.
Temperature opration mode:	0 °C - 50 °C
Humidity operation mode:	10% ~ 90% R.H.
Size	380x312x52mm (wxhxd)
Weight	4,7 Kg
Mounting:	VESA 100mm; (No bracket/ stand included in delivery; See: mounting_brackets)
Users Mode:	OSD Key: Menu / Select / Power / Down / Up
Compatibility:	VESA / IBM / MAC

Options:

Functionality:	With or without touch
- without touch:	Acrylic or glass
- with touch:	5 wire resitive, Surface Accoustic Wave or Projected Capacitive
Type of Touch:	Not sure what to use? Call us at +31 (0)45 5748190 or send us contactform
- 5 wire resistive :	-Standard non-glare. -Touchable with finger, glove and stylus. -Single touch -activation force less than 40 gramm.
- SAW:	-Standard glare. -Touchable with finger and glove. -Single touch -activation force less than 85 gramm.
- Projected Capacitive:	-Standard glare. -Touchable with finger, glove and pcap stylus. -10 points touch -activation force less than 1 gramm.
External protection:	Standard IP44 or IP65 or higher (not for SAW)
Touch controller interface:	USB, RS232 with external power or RS232 with internal power
Video input:	VGA+DVI or VGA+DVI+AV.

Specifications / Manual :

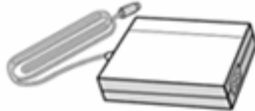**Dimensions :**

Driver downloads :

1.8 **Contents of the Retail Package**

Monitor

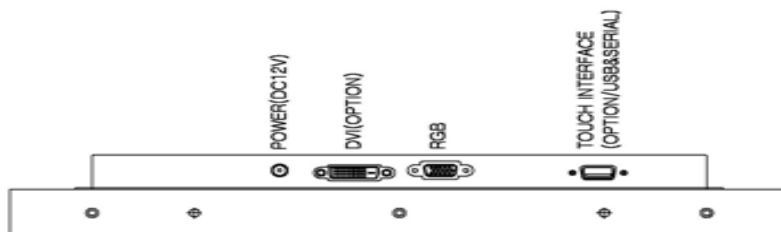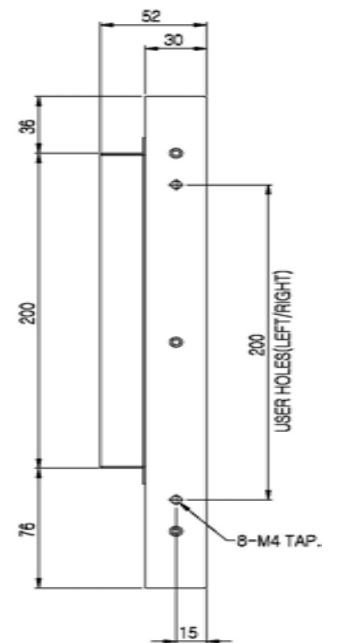AC/DC Adapter (not 24V) Power cord   VGA Cable (option)   DVI Cable
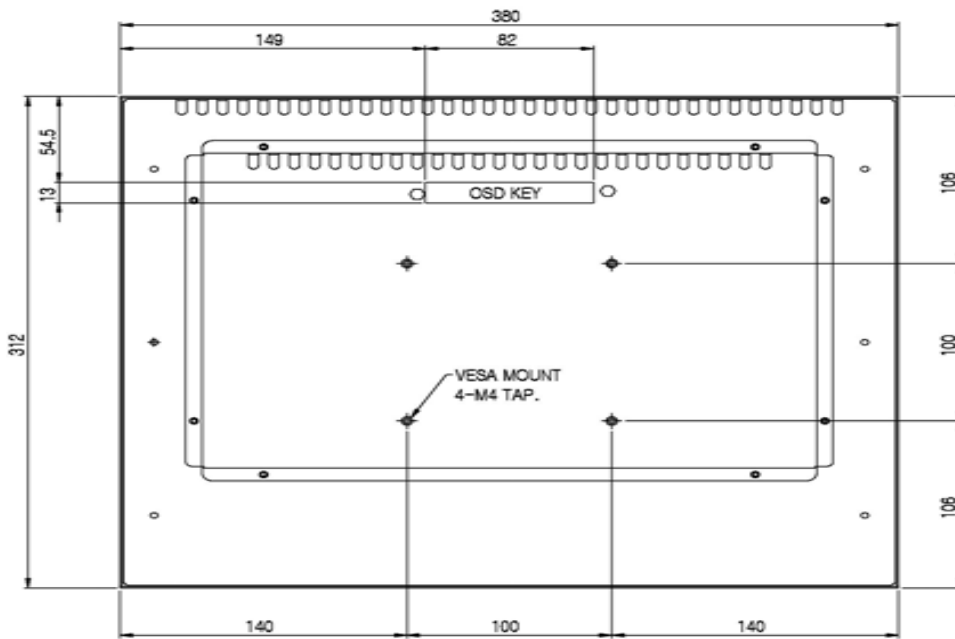

Touch Driver (option)

1.9 **Troubleshooting**

TO REDUCE THE RISK OF ELECTRIC SHOK, DO NOT REMOVE COVER.
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONELLE.

- The monitor does not respond after you turn on the system.
- Make sure that the monitor is turned on.
- Turn off the power and check the monitor's power cord, AC adapter,
- and signal cable for proper connection.
- Appear the " No Input the Signal"
- Check the connecting of the audio cable between the monitor and the computer.
- Appear the " Input Not the Supported"
- Input signal are insuperable, reset the video mode.
- The appearance is not at the screen center.
- Use "AUTO ADJUST", refer to the Controls section.
- The characters on the screen are too dim or too bright
- Choose fit color temperature, use "AUTO COLOUR ADJUST or manually adjust
- "RGB ADJUSTMENT, refer to the Control section.

1.10 **Drawing**

340
VIEWING AREA

272.4
VIEWING AREA

200
USER HOLES(TOP/BOTTOM)

40   300   40

380
149   82

54.5
13

312

106

100

106

OSD KEY

VESA MOUNT
4-M4 TAP.

140   100   140

52
30

36

200

76

200
USER HOLES(LEFT/RIGHT)

8-M4 TAP.

15

POWER(DC12V)
DVI(OPTION)
RGB
TOUCH INTERFACE
(OPTION/USB&SERIAL)
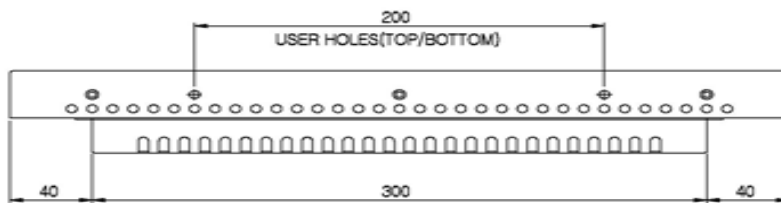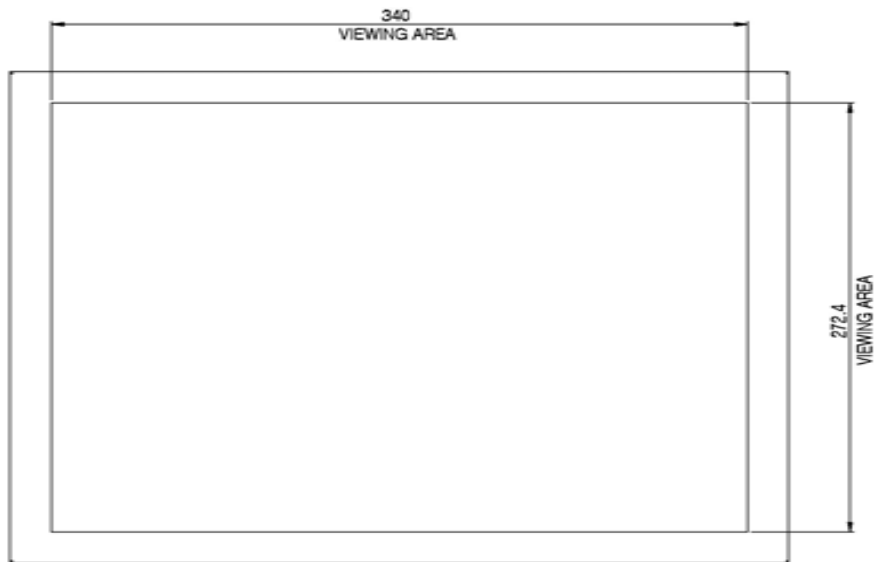
2. Touch Options

2.0 Touch-options related to monitor size

	Resistive			SAW			CAP		PROJ. CAP	IR	Optical Touch
	4Wire	5Wire	Dual Touch	3mm	6mm	protected	3mm	6mm			
185"	X	O	X	S	S	X	S	S	O	S	X

	O	Aviable		X	Not aviable		S	On demand

2.1 Option: 5-Wire-touchscreen

5 wire-touchscreen	non glare is standard, glare is option
Chemical resistance	Acetone, ammonia-based glass cleaners, hexane, isopropyl alcohol, methylene chloride, mineral spirits, turpentine, methyl ethyl ketone
Vibration	Withstand 0.01 inches amplitude, at a fraquency of 5 to 455 Hz, for a period of 15 minutes in each of the three axes
Contact bounce	less then 10ms
Electrostatic discharge protection	withstands 20 discharges of 15kV (pr EN 61000-4-2, 1995)
Activation force	less then 40gr
Input modus	Finger, glove hand,pen or stilus
Surface hardness	Meets pencil hardness 3H (per ASTM D3363)
Resolution	4096x4096 Based on controller resolution
Position accuracy (linearity)	less then 1%
Operating life 1	>3.000.000 (250gr, 2 activations/sec)
Operating life 2	>200.000 (250gr, 4.5mm/sec)
Light transmission	75~85% non glare (standaard) en 90% glare (optie) (per ASTM D1003)
5 wire-controller	USB is standard, RS232 with PS/2 of RS232 internal powered is option
Power requirement	+5V DC(±10%)
Power consumption	Operating 80mA ~ Max.current 140mA
Interface standard	USB 'plug-and-play' compatible is standard
option	RS232 with PS/2 connector is option
option	RS232 internal powered controller. is option
Electrostatic protection	prEN 61000-4-2, 1995: Meets level 4 (15kV lucht / 8kV contact discharges)
Touch resolution	4096x4096
Conversion time	~10ms per coordinate set
Support operating system	Microsoft Windows: 95/98/ME/NT4.0/2000/XP/Vista/7 Mac OS 9.X, 10.X, Mac Intel Linux: Red Hat 9.0, Mandrake 10.0, SuSE 9.2, Fedora Corel &II &III, Yellow Dog 3.x, Kernel 2.4.X, Kernel 2.6.X: 32 en 64 bits

2.2 Option: SAW-Touchscreen

SAW-touchscreen	**standard**	3mm glass with beveled edge
	tempered option	Break resistance, meets UL-1950, by 6mm heat tempered glass (is option)
	protected option	break resistance, dustproof, waterproof (is option)
Chemical resistance		Acetone,ammoniabased isopropyl alcohol, turpentine, methy cleaners alcohol, methyl ethyl ketone, toluene, gasoline, kerosine, vinegar.

Electrostatic discharge protection	pr EN 61000-4-2, 1995: meets level 4 (15 kV air /8kV contact discharges)
Activation force	less then 85gr
Position accuracy	Standard deviation of error is less then ±1%
Life performance	>50.000.000 (finger)
Input modus	Finger or glove hand (rubber, cloth, leather)
Surface durability	Optical glass surface, Mohs' hardness rating : 7
Light transmission	90% (per ASTM D1003)

<u>SAW-controller</u>

Supply voltage	+5V DC(±5%)
Supply current	Min 85mA ~ Max 150mA
Electrostatic protection	prEN 61000-4-2, 1995: Meets level 4 (15kV lucht / 8kV contact discharges)
Interface -standard	USB 'plug-and-play' compatible
-option	RS232 with PS/2 connector, is option
-option	RS232 internal powered. is option
Touch resolution	4096x4096
Conversion time	~15ms per coordinate set
Reliability	MTBF greater than 300.000 hours
Support operating system	Microsoft Windows: 95/98/ME/NT4.0/2000/XP/Vista/7 Mac OS 9.X, 10.X, Mac Intel Linux: Red Hat 9.0, Mandrake 10.0, SuSE 9.2, Fedora Corel &II &III, Yellow Dog 3.x, Kernel 2.4.X, Kernel 2.6.X: 32 en 64 bits

2.3 **Option: Surface Capacitive-touchscreen**

CAP-touchscreen standard	3mm glass, glare is standard, non glare is option
tempered version (option)	Break resistance, meets UL-1950, by 6mm heat tempered glass (is option)
Chemical resistance	Water, ammonia, isopropyl-alcohol, and similar non-abrasive cleaners do not use chemical solvent,acidic or alkali solutions
Input method	Finger
Active force	<10 gr
Response time	Max. 200ms
Ball impact	13,0Ø steel bal 9 gr height=30 cm
Surface hardness	Surface hardcoat cannot be scratched using any stylus with Mohs rating ≤6
Linearity	±1,5%
Surface durability	>160.000.000 touches without noticeable degradation
Light transmission	≥85% (accordance with ASTM D1003)
Supply voltage	5V DC
Supply current	Min 85mA ~ Max 150mA
Interface standard	USB 'plug-and-play' compatible
option	RS232 with PS/2 connector is option
option	RS232 internal powered controller. is option
Touch resolution	based on controller resolutionb 4096x4096
Support operating system	Microsoft Windows: 95/98/ME/NT4.0/2000/XP/Vista Macintosh OS9, OSX Linux: Red Hat 9.0, Mandrake 10.0, SuSE 9.2, Fedora Corel &II &III, Yellow Dog 3.x, Kernel2.4.2+, With GUI, Xfree86 4.3+, Kernel 2,3 and above, Command Line Only, Xfree86 3.3 and 4.2

2.4   Option: 10 pts Projected-capacitive-touchscreen

Projected capacitive sensor   Float laminated glass, glare is standard, tempered is option.
Glass   Glass with black borders on back surface.
Chemical resistance   Acetone, ammonia-based glass cleaners, hexane, isopropyl
                                        alcohol, methylene chloride, mineral spirits, turpentine, methyl
                                        ethyl ketone, gasoline, kerosene, vinegar.
Contact bounce   Around 5 ms for finger contact
Activation force   No activation force needed
Input modus   Finger, glove hand (rubber, cloth, leather)
Surface hardness   Mohs' hardness rating: 7
Resolution   2048x2048
Position accuracy (linearity)   less then 1%
Operating life   ∞
Light transmission   90% ±2%

Projected capacitive controller   USB is standard, RS232 (option)
Power consumption controller   50mA typical,50mV peak to peak maximum ripple and noise
Interface   USB: 1,1 Full Speed ('plug-and-play' compatible is standard)
Operating Temperature   -25 to 80°C
Relative Humidity   95% at 60°C, RH Non-condensing
Resolution   2048x2048
Report rate   USB: Single touch Max. 200 points/sec
                                              10 pts touch Max.points/sec each
Response time   Max. 20ms
Support operating system   Microsoft Windows: ME/2000,9x/XP/Vista/7/8/10
(eGAlax_eMPIA-controller)   CE 2.12/3.0/.net/5.0/6.0 ; Embedded ; XP Tablet PC edition
                                        Mac OS9, Mac OS X,(IBM, Intel CPU)
                                        Linux: Red Hat (7.3/8.0/9.0), Mandrake (9.1/9.1/10) SuSE
                                        (9.2,9.3,10,10.1) Fedora (Core I ,II ,III,IV,V,VI)
                                        Yellow (Dog 3.x), Debian (Kernel 2.4.X/2.6.X), Ubuntu (5.1,6.06),
                                        Mandriva (2005,2006)
                                        Android 2.0 – Google , Moblin V2 - Intel
                                        QNX: RTOS v6.3

2.5   OPTION: IR TOUCH

Chemical resistance   Acetone, ammonia-based glass cleaners, isopropyl
                                        alcohol, turpentine, methy alcohol, methyl ethyl ketone,
                                        toluene, gasoline, kerosine, vinegar
Touch activation force   no minimum touch activation is required
Input modus   everything bigger than 6,5 (W) x 6,5 (H)
Life performance   ∞
Supply voltage   +5V DC(±5%)
Supply current   ~ 150mA
Interface standard   RS232 baud rate: 9600, 8 data bits, 1 stop bit, no parity, full duplex
Electrostatic discharge protection prEN 61000-4-2, 1995: meets Level 4 (15kV air / 8kV contact
                                        discharges)
Touchpoint density   Based on controller resolution, up to 4096x4096
Light transmission   Over 90% (per ASTM1003)
Conversion time   less than20 ms
Support operating   Microsoft Windows: NT4.0/XP/Vista/7/2000/ME/98/95
system   Linux: Red Hat 9.0, Mandrake 9.1

Interface

USB (standard)   RS232 with PS/2

3. Touch Options

3.0 **Touchkit**

Features for *Touchkit* software	
Calibration	Fast full oriental 4 points position
Compensation	Accuracy 25 points linearity compensation.
Draw Test	Position and linearity verification
Extend Feature	1. Support monitor / display rotation 2. Support multiple monitor / display 3. Support QVGA and Half-VGA function 4. Support edge compensation
Controller Setting	1. Support multiple controllers 2. Dynamical add / remove controllers 3. Change Controller interface without reboot.
Language	Support 10 languages for Windows
Mouse Emulator	1. Right / Left button emulation 2. Normal / Click on touch / Click on release mode 3. Auto right button
Sound Notification	1. Sound Option (No Sound / Touch Down / Lift Up) 2. Frequency adjustment 3. Duration adjustment
Double Click	1. Configurable double click speed 2. Configurable double click area
OS support	1. Windows 95 / 98 / ME / NT4 / 2000 / XP / Vista Windows XP Tablet PC Edition 2. Windows CE 2.12, 3.0, 5.0, 6.0 .NET 3. Linux (X Window Version: 3, 4 Red Hat 6.0 ~ 9.0 Mandrake 5.0 ~ 9.1 , Kernel 2.4.X Kernel 2.6.X, 32 en 64 bits) 4. iMac. OSX, OS9.X, OS10.X, Intel 5. MS-DOS: Support display resolution: 320x200, 640x200, 640x350, 640x480, 800x600, 1024x768 and 1280x1024
COM port support	1. Support COM 1 ~ COM 256 for Windows and Linux 2. Support COM 1 ~ COM 8 for DOS

3.1 **ELO**

By adding a jumper to the A-Touch controller, the whole system becomes ELO-compatible.
The touch registration will be realised by ELO-drivers.

There are several reasons for doing this:
• You are already using application software with "build-in" ELO drivers.
• You are using clients with pre-installed ELO-drivers.
• You replace an original ELO-touch screen with an A1-touchscreen.
Then benefit is; you don't have to install new software in the above
mentioned situation.

Remark:
If you want to change your driver software from touchkit to ELO, or the other way around, you have to de-install the old software completely before installing the new software.
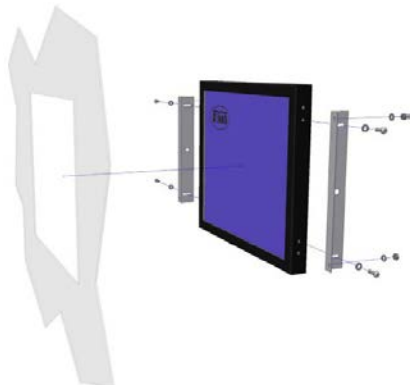
4. Mounting

4.0   overzicht
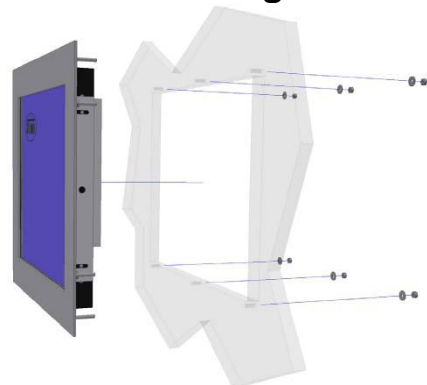
4.1   Plain

Metal case monitor
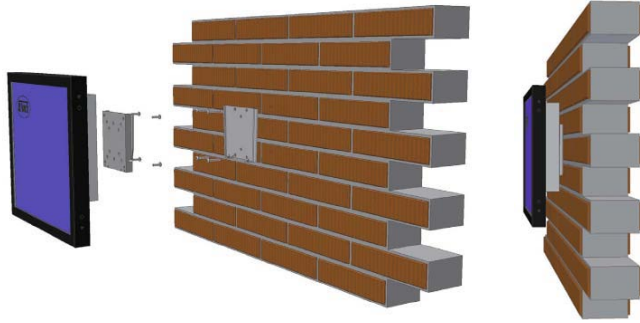
4.2   Brackets

Metal case monitor + 2x brackets

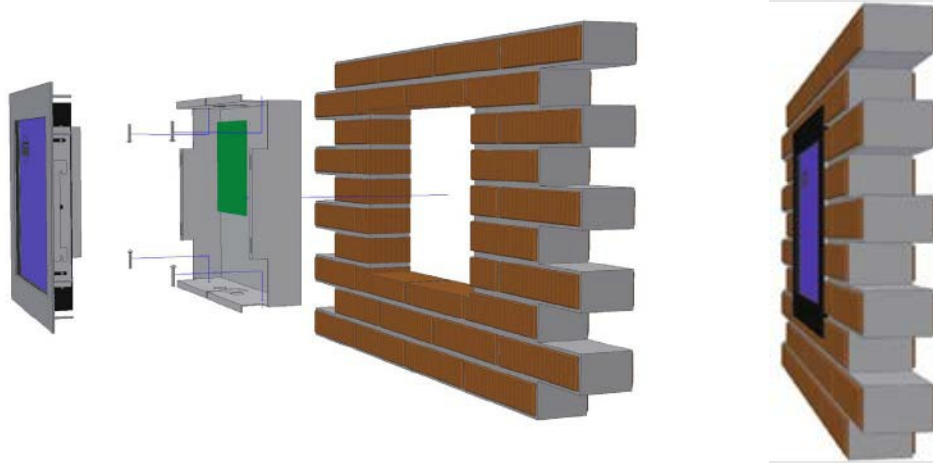## 4.3   Panel-mounting

Metal case monitor + bezel + 2x brackets

4.4 **On-Wall mounting**

Metal case monitor + New Star TV Wallmount (FPMA-W115)

4.5 **In-Wall mounting**

4.6 **19 inch Rack mounting**