# USER'S MANUAL
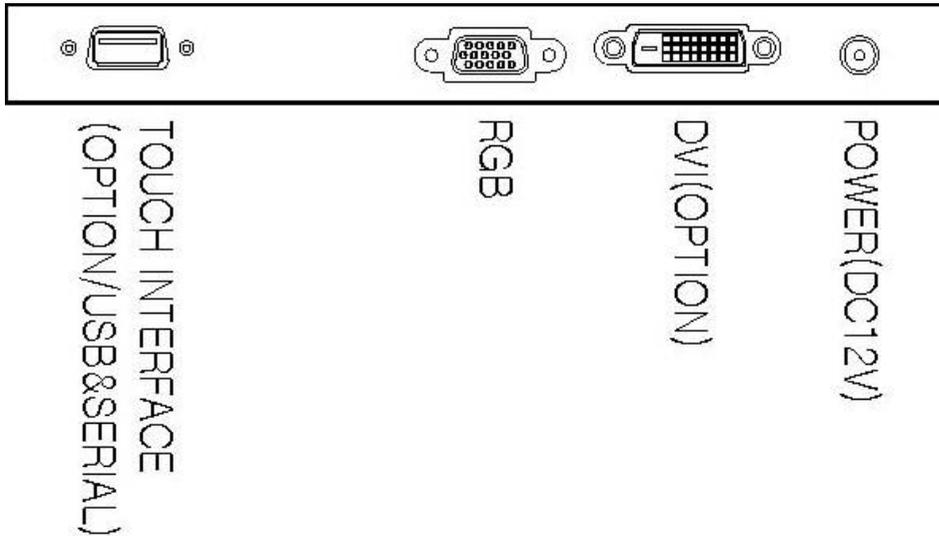
## AOD 104 metal case monitor

A1Touch Solution

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Contents:

## 1.0. Connection To the Monitor

TOUCH INTERFACE (OPTION/USB&SERIAL)　　RGB　　DVI(OPTION)　　POWER(DC12V)

### 1.1. Installation

• Connect the signal(VGA) cable to the VGA 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) to the monitor..

### 1.2. Features

• AOD170 is 17" SXGA LCD monitor and support up to 75Hz.
• 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.

## 1.3. Plug and Play Function

AOD170 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.
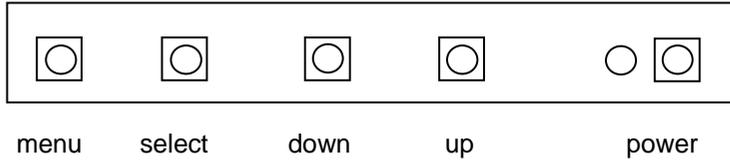— Do not push objects of any kind into cabinet slots or openings. The screen surface is easily scratched.
— Do not use paper towels to clean the display. Avoid touching it with your fingers, pens, or pencils.
— Turn off the AC adapter and the monitor over long periods when not in use.
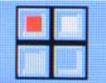
## 1.5. OSD (On-Screen-Menu)

menu   select   down   up   power

| Button | Function | Status |
|---|---|---|
| POWER | Power ON or OFF | ON/OFF |
| LED | Indicate working status | Green : On<br>Red : Stand-by<br>Orange : No signal |
| UP | Launch OSD Menu or Add Value | Move to OSD Menu |
| DOWN | Launch OSD Menu or Down value | Move to OSD Menu |
| SELECT | Select OSD Menu | |
| MENU | On / Off OSD Menu | |

## 1.6. OSD Menu

| OSD Menu | | | Description | Remarks |
|---|---|---|---|---|
| | Brightness | | Adjust the brightness of the screen | |
| | Contrast | | Adjust the contrast of the screen | |
| Picture | H.Position | | Adjust the horizontal position of the screen's image | Only usable on Analog Mode |
| | V.Position | | Adjust the vertical position of the screen's image | |
| | Phase | | Adjust the focus of the screen's image | |
| | Clock | | Adjust the horizontal size of the screen's image | |
| | Auto Adjust | | Automatically adjust the Horizontal position, Vertical position, Horizontal size, and Phase Window's background or characters should be displayed on your Full screen prior to proceed this function | |
| Color | Color Temp | User Reddish Bluish | Control the temperature of the color | |
| | Red | | Control the intensity of the color of the screen's image (Usable when Color temperature is USER mode.) | Only usable on Analog Mode |
| | Green | | | |
| | Blue | | | |
| | Auto Color | | Adjust the color balance of the screen | |

*All In One*

| | Language | English<br>French<br>German<br>Spanish<br>Italian<br>Korean<br>Japanese | Select one of the seven language | Usable on all Mode. |
|---|---|---|---|---|
| OSD | OSD H.Posi. | | Select OSD MENU horizontal position | |
| | OSD V.Posi. | | Select OSD MENU vertical position | |
| | OSD Timer | | OSD MENU disappear from over the screen after setting time | |
| | Transparency | | Adjust the transparency of the OSD menu | |
| | Language | English<br>German<br>French<br>Spanish<br>Korean | Select one of the seven language | |
| Misc. | Recall | Initialize the current mode & setting value | | |
| | Input Select | Analog | Analog signal(RGB) | |
| | | Digital | DVI digital signal | |
| | Audio | | Audio ON/OFF select | |
| | Volume | | Adjust volume level | |

## 1.7. Specifications

**AOD104 VGA**, 10,4 inch metal case monitor

**Black pouwdered cover.**

| | |
|---|---|
| **Model:** | 10,4 inch SVGA TFT LCD Monitor |
| **Type:** | 10,4" Color Active Matrix TFT LCD |
| **Resolution (max):** | 800 x 600 (SVGA) |
| **Color:** | 262,144 (6bit) |
| **Pixel:** | 0.264 x 0.264 mm |
| **Brightness:** | 250 cd/m2 |
| **Contrast ratio:** | 400:1 |
| **Viewing angle:** | 65°/65°&45°/55° (Min) |
| **Active area:** | 211 (H) x 158 (V) mm |
| **VGA input** | Analog RGB (D-Sub 15-pins) |
| **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** | 265x197x42mm (wxhxd) |
| **Weight** | 1,9 Kg |
| **Mounting:** | VESA 75mm |
| **Users Mode:** | OSD Key Menu / Select / Power / Down / Up |
| **Compatibility:** | VESA / IBM / MAC |

## 1.8. Contents Of the Retail Package

Monitor

User's Manual
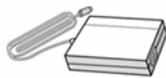
AC/DC Adaptor

Power Cord

VGA Cable

Audio Cable (Option)

Touch Driver (Option)

Composite Cable (Option)

S-video Cable (Option)

## 1.9. Troubleshooting

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

**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.
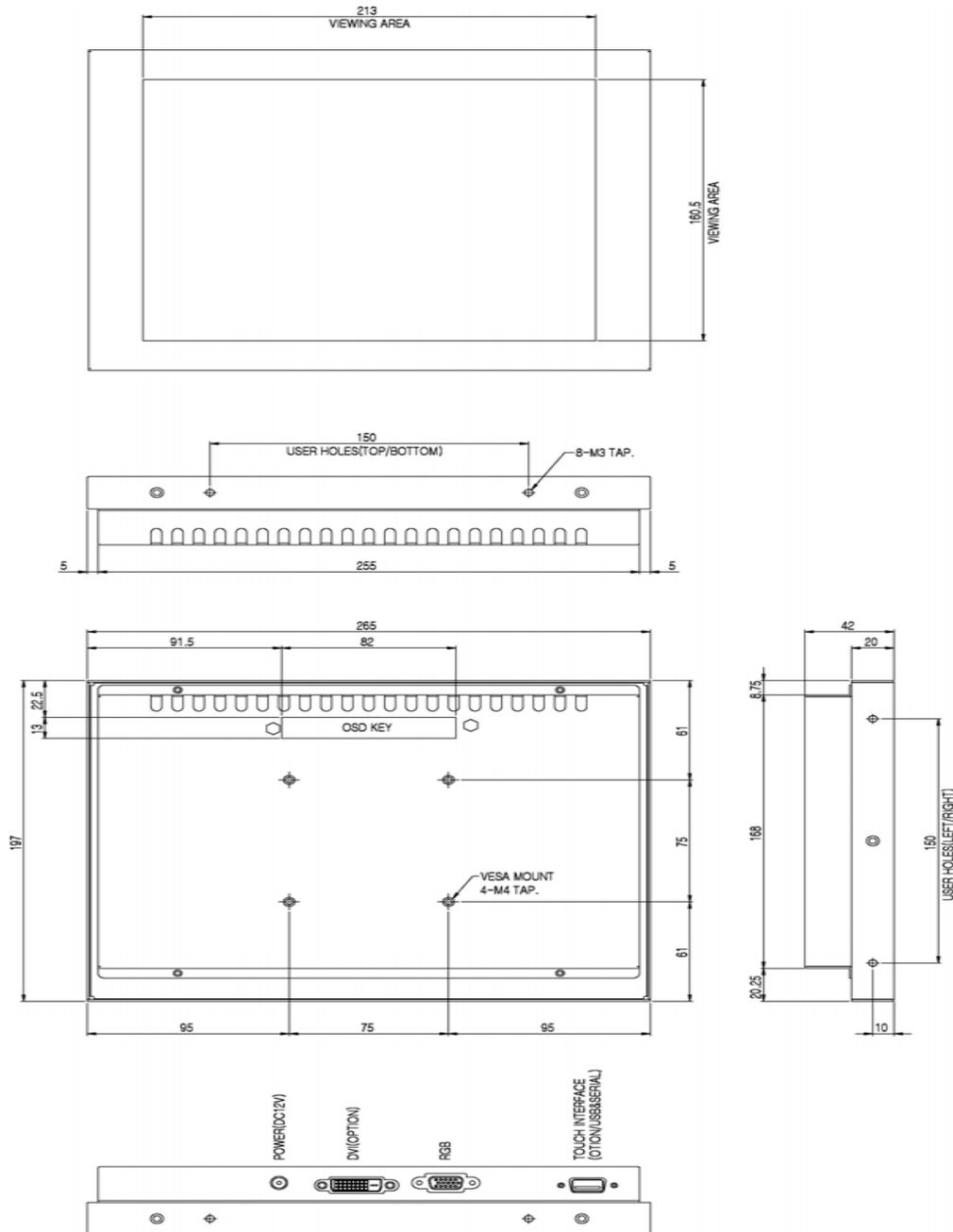**The appearance is not at the screen center.**
Use "AUTO ADJUST", refer to the Controls section.
**The characters on the screen are too dim or too bright**
Choose fit color temperature, use "AUTO COLOUR ADJUST or manually adjust
"RGB ADJUSTMENT, refer to the Control section.

## 1.10. Drawing



# 2 Touch Options

## 2.1 Touch-options related to monitor size

|  | 4Wire | 5wire | SAW | | | CAP | | IR | Optical Touch |
|------|-------|-------|-----|-----|-----------|-----|-----|----|---------------|
|  |  |  | 3mm | 6mm | protected | 3mm | 6mm |  |  |
| 064  | O | X | X | X | X | X | X | X | X |
| 070w | O | S | S | X | X | X | X | X | X |
| 104  | O | O | O | O | X | O | O | S | X |
| 121  | O | O | O | O | X | O | O | S | X |
| 150  | O | O | O | O | O | O | O | O | X |
| 170  | O | O | O | O | O | O | O | O | X |
| 190  | O | O | O | O | X | O | O | S | X |
| 220W | X | X | X | X | X | X | X | X | O |
| 230  | X | X | X | O | X | X | X | X | X |
| 320  | X | X | X | O | X | X | X | O | O |
| 420  | X | X | X | O | X | X | X | O | O |

| | |
|---|---|
| O | Aviable |
| X | not aviable |
| S | On demand |

AOD *All In One*

AOD *All In One*

## 2.2 Option: 4-Wire-touchscreen

| | |
|---|---|
| **4 wire-touchscreen sensor** | 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 |
| **Contact bounce** | less then 10ms |
| **Activation force** | less then 40gr |
| **Input modus** | Finger, glove hand,pen or stilus |
| **Surface hardness** | Meets pencil hardness 3H (per ASTM D3363) |
| **Position accuracy (linearity)** | less then 1,5mm |
| **Resolution** | 4096x4096 Based on controller resolution |
| **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 (standard) and 90% glare (option) (per ASTM D1003) |
| | |
| **4 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 optie |
| **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** | ~10 ms per coordinate set |
| **Support operating system** | Microsoft Windows: 95/98/ME/NT4.0/2000/XP/Vista Mac OS 9.X, 10.X, Mac Intel Linux: Red Hat 9.0, Mandrake 10.0, SuSE 9.2, Fedora CoreI &II &III, Yellow Dog 3.x, Kernel 2.4.X, Kernel 2.6.X: 32 en 64 bits |

### Interface



**USB (standard)**          **RS232 with PS/2**

## 2.3 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 Mac OS 9.X, 10.X, Mac Intel Linux: Red Hat 9.0, Mandrake 10.0, SuSE 9.2, Fedora CoreI &II &III, Yellow Dog 3.x, Kernel 2.4.X, Kernel 2.6.X: 32 en 64 bits |

## 2.4 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, ammonia-based glass cleaners isopropyl alcohol, turpentine, methy 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) |

| | |
|---|---|
| **SAW-controller** | |
| **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 opton |
| **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 Mac OS 9.X, 10.X, Mac Intel Linux: Red Hat 9.0, Mandrake 10.0, SuSE 9.2, Fedora CoreI &II &III, Yellow Dog 3.x, Kernel 2.4.X, Kernel 2.6.X: 32 en 64 bits |

## 2.5 Option: CAP-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 CoreI &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 |

## 2.6 Option: IR touchscreen

| | |
|---|---|
| **IR-touchscreen** | |
| **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 system** | Microsoft Windows: NT4.0/XP/2000/ME/98/95 Linux: Red Hat 9.0, Mandrake 9.1 |

# 3 Software

## 3.1 Touchkit

Features for *Touchkit* software

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

## 3.2 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 anoriginal ELO-touchscreen 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

## 4.2 Brackets



**Metal case monitor + 2x breakets**
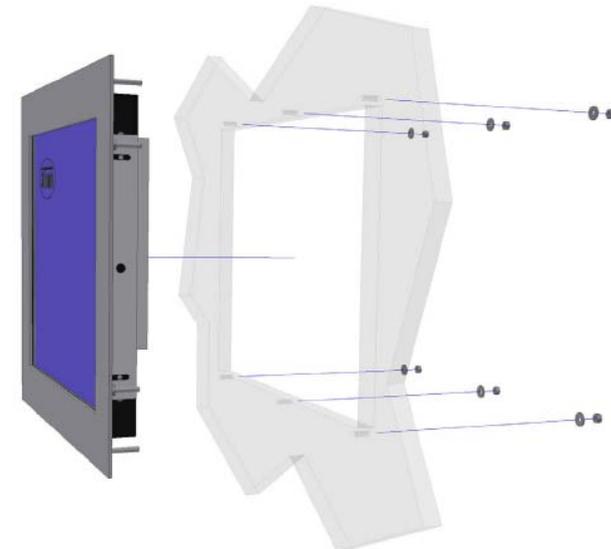
## 4.1 Plain



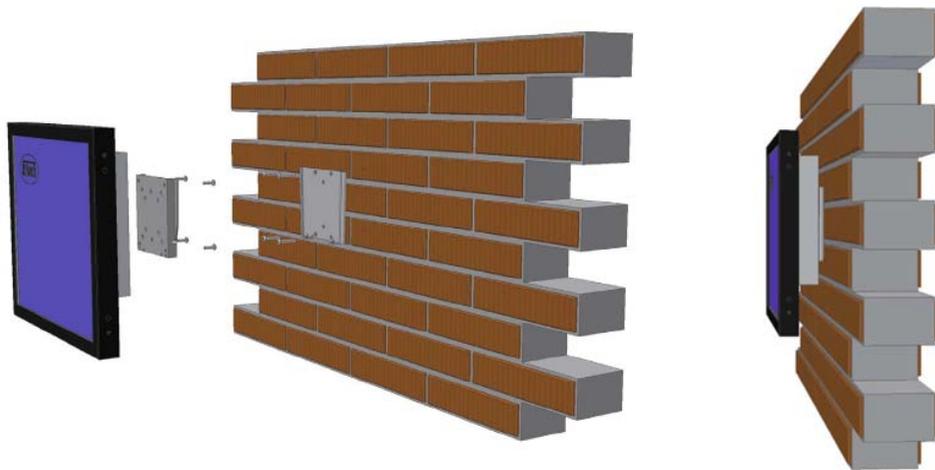**Metal case monitor**
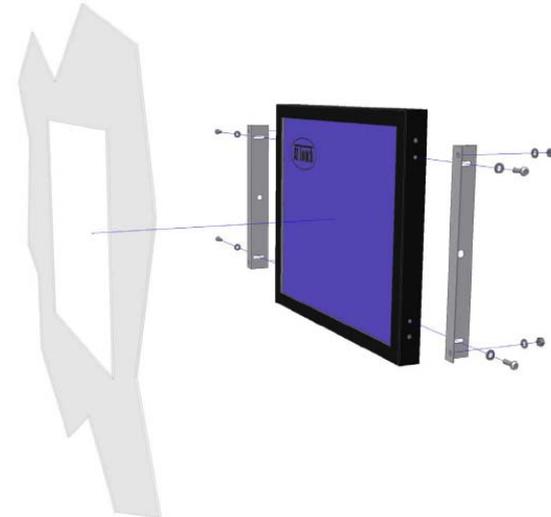
## 4.3 Panel-mounting



**Metal case monitor + basel + 2x breakets**

# 4.4 Wall mounting



**Metal case monitor + New Star TV Wallmount (FPMA-W25)**