back of the monitor

WARNING
The title "WARNING" is used to inform the users of possible causes that could inflict the injury, death, or property damage to the patients.

CAUTION
The title "CAUTION" is used to inform the users of possible causes that could inflict the patients although it might not severe enough to cause deaths.

NOTE
The title "NOTE" is used to inform the users of items that are of importance in terms of installation, operation, or maintenance of the Equipment although the failure does not inflict the bodily harm to the patients.

ADAVN INT'L CORP. 2002
"ELO" is a Registered trademark of Elo TouchSystems, Inc.,
All other trademarks are the property of their reference owners.
This document is subject to change without notice.
Advan provides this information as reference only. Reference to other vendor's products
does not imply any recommendation or endorsement.

Revision Control

Date	Description
	Document number

FCC

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.

Caution : Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

Note : This equipment has been tested and found to comply with the limits for a Class B 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 receiver.

-Connect the equipment into 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.

TABLE OF CONTENTS

Quick Setup (IBM/IBM Compatible under Windows 95/98/ME/2000)
Please Read Carefully When Setting Up Your New Monitor

AGM17TK/AGM18TK/AGM19TK Monitor Screen Adjustment and Resolution Setting Procedure for IBM/IBM Compatible Computers with Windows based OS system.

Before adjusting the monitor, all the necessary drivers should be installed to your System and resolution has to be set to manufacturer's recommended preset of 1280 x 1024 @ 60Hz, 70Hz, 72Hz or 75 Hz.
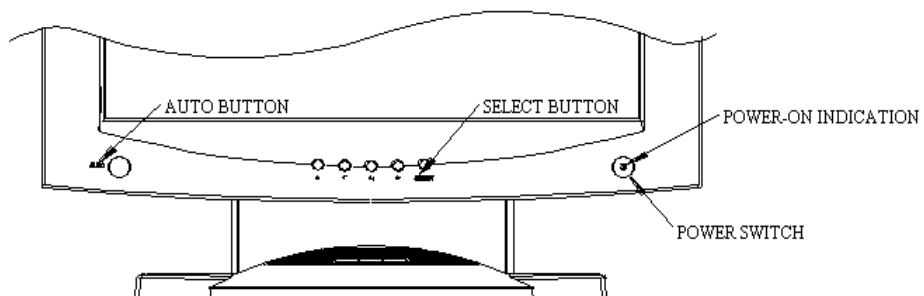
To check the resolution, press the "**SELECT UP**" button on the monitor and the "**Information**" will display under the OSD. Information will have Resolution, Horizontal and Vertical (Refresh rate) frequency information.

To change the resolution to its factory recommended preset.

1. On a Windows 95, 98, ME or 2000, press right button on a Mouse to execute the Pop-up menu.
2. Press "**Properties**" to execute the "**Display Properties**"
3. Press "**Setting**" and change the resolution to 1280 x 1024.
4. Press "**Apply** or **OK**" to select and press "**OK**" to keep the selected resolution.
5. Go back to "**Display Properties**" - "**Setting**" - "**Advanced properties**" - "**Adapter**"
6. On Adapter property, change the refresh rate to 60Hz, 70Hz, 72Hz or 75Hz. If you don't have these options, choose "**Adapter Default**". (60Hz recommended)

Screen Adjustment Procedure

1. Press the "**AUTO**" button.
2. If you still don't have a clear display monitor, please refer to step 3.
3. Start "**Shut Down**" in Windows 95/98/ME/2000 - It will display moire on screen
4. Press "**Up**" or "**Down**" button then the OSD menu will pop-up.
5. Adjust the "**Frequency**" under the OSD to reduce or get rid of the vertical display noise (Jail bars). (Page 16)
6. Once the vertical display noise disappears, press adjust the "**Phase**" to reduce or get rid of the horizontal display noise (Snowy effect). (Page 16)

Quick Setup (IBM/IBM Compatible under Windows NT 4.0)
Please Read Carefully When Setting Up Your New Monitor

AGM17TK/AGM18TK/AGM19TK Monitor Screen Adjustment and Resolution Setting Procedure for IBM/IBM Compatible Computers with Windows based OS system.

Before adjusting the monitor, all the necessary drivers should be installed to your System and resolution has to be set to manufacture's recommended preset of 1280 x 1024 @ 60Hz, 70Hz, 72Hz or 75Hz.

To check the resolution, press the "**SELECT UP**" button on the monitor and the "**Information**" will display under the OSD. Information will have Resolution, Horizontal and Vertical (Refresh rate) frequency information.

To change the resolution to its factory recommended preset.

1. On a Windows NT 4.0, press right button on a Mouse to execute the Pop-up menu.
2. Press "**Properties**" to execute the "**Display Properties**"
3. Press "**Setting**" and change the resolution to 1280 x 1024.
4. Change "**Refresh Frequency**" to 60Hz, 70Hz, 72Hz or 75Hz. (60Hz recommended)

Screen Adjustment Procedure

1. Press the "**AUTO**" button.
2. If you still don't have a clear display monitor, please refer to step 3.
3. Start "**Shut Down**" in Windows 95/98/ME/2000 - It will display moire on screen
4. Press "**Up**" or "**Down**" button then the OSD menu will pop-up.
5. Adjust the "**Frequency**" under the OSD to reduce or get rid of the vertical display noise (Jail bars). (Page 16)
6. Once the vertical display noise disappears, press adjust the "**Phase**" to reduce or get rid of the horizontal display noise (Snowy effect). (Page 16)
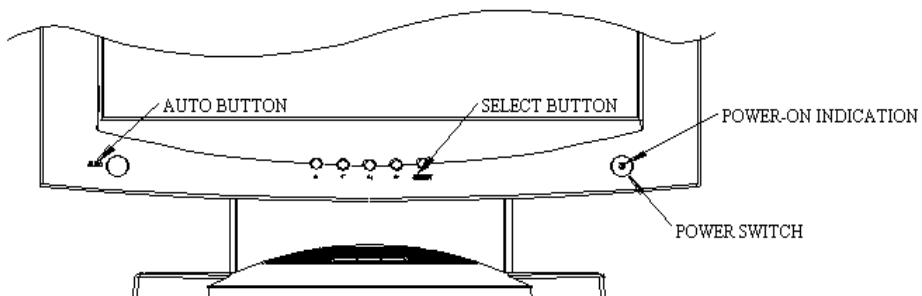
Quick Setup (Macintosh)
Please Read Carefully When Setting Up Your New Monitor

1. Set your Macintosh Adapter on pages 23 and 24.
2. Push the "**APPLE**" icon on the upper left corn and execute Control Panel-> Monitors&Sound. Select "**Thousands**" for the Color Depth, Select **"1280X1024, 60Hz, 70Hz, 72Hz or 75Hz"** for the Resolution. (60Hz recommended)
* On some Apple G3 or newer systems, you may not need to use the Macintosh Adapter.

Screen Adjustment Procedure

1. Press the "**AUTO**" button on the monitor.
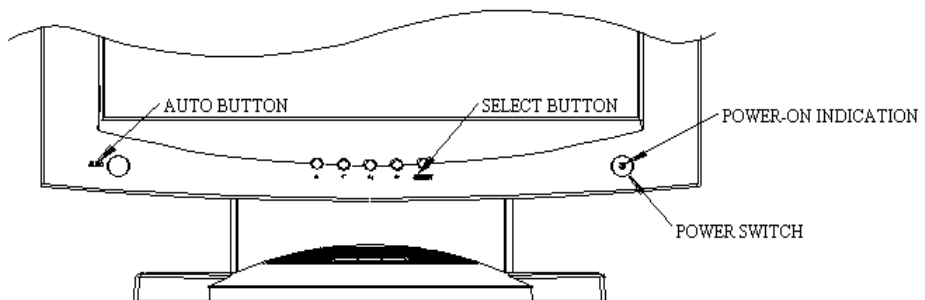
INTRODUCTION

Congratulations on your purchasing of the AMM17TK/AMM18TK/AMM19TK high performance TFT LCD monitor.

FEATURES

The AGM17TK/AGM18TK/AGM19TK is a TFT-LCD monitor that is intelligent, microprocessor-based and ergonomically designed display, compatible with most analog RGB (Red, Green, Blue) display standards, including PS/V, PS/2, Apple Macintosh Centris, Quadra, and Macintosh II family signals. The LCD monitor is capable of displaying crisp and vibrant color graphics with VGA, SVGA, XGA, SXGA (non-interlaced), and most Macintosh compatible color video cards.

- **Advanced Viewing Solution (AVS)**: Our sophisticated filter extends the viewing angle of the screen image, without sacrificing contrast ratio and brightness.

- **Advanced Timing Setup (ATS)**: A unique technology from the One Touch Auto Adjustment. Pressing the Auto Adjust button on the front panel, automatically optimizes position, phase, clock, contrast and color balance. This allows the user to maximize the perfect screen setting in the shortest amount of time.

- **Advanced Mounting Solution (AMS)**: Improve flat panel environment, utilizing numerous ergonomic mounting solutions to allow creative use in conjunction to product application.

- The monitor is able to properly function even in case of upgrade video cards or software because of the wide auto-scanning compatibility range without requiring to buy a new monitor.

- The internal microprocessor digitally controls auto-scanning. For horizontal scan frequencies between 24.8 KHz and 60.2 KHz, and vertical scan frequencies between 56.3 Hz and 85.1 Hz. In each frequency mode, the microprocessor-based circuitry allows the monitor to function at the precision-of a fixed frequency.

- The resident memory allows for storing factory default settings and also additional user adjustment parameters.

- The maximum resolution achievable is SXGA (1280 x 1024), best suited for Windows applications

- The compact and sleek cabinet design saves lot of your desk space and makes your desk look neat and tidy.

- The monitor is compliant with VESA-DPMS power management standard. In order to save energy, the monitor must be connected to a system compliant with the standard.

- The monitor is also compliant with the most stringent environmental scheme of TCO 95. In this scheme, no environmental harmful substances are used during the entire manufacturing process.

   The monitor is certified by UL International to medical standard UL2601-1. It is also CE marked for sale into the European Community for integration or use with medical products. It is certified by NEMKO according to EN60601-1 & EN60601-1-2 for sale to the medical market.

UNPACKING

Please check the following items are present when you unpack the box, and save the packing materials in case you will need to ship or transport the monitor in future.

- AMM17TK/AMM18TK/AMM19TK LCD Monitor and two video cable (1) VGA HDDB15 cable (1) DVI-D cable
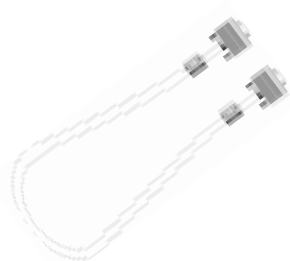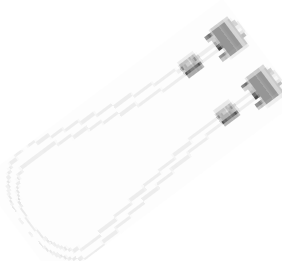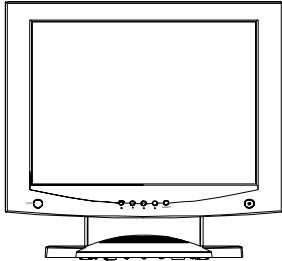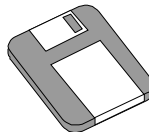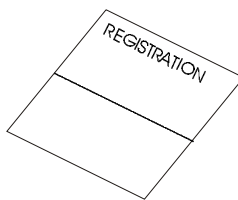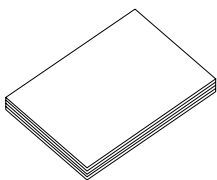
- AC Power cord

- AC-Adapter

⚠ CAUTION
Manufacturer : Ault Korea
Model No : MW160 or MW116

- Floppy Disk (for test pattern and set up)

- User Manual, Registration Card, and Warranty Card

REGISTRATION

WARRANTY

- C-video(Composite Video) Cable, S-Video Cable, Audio Cable and USB Cable

Symbol Explanations

CE	Indicates proof of conformity to applicable European Economic Community Council directives and to harmonized standards published in the official journal of the European Communities
c(UL)us	Tested and certified by UL to UL2601. If this mark appears with the indicators "C" and "US" the product is certified for both the U.S and Canadian markets, to the applicable U.S and Canadian standards.
FC	Tested to comply with FCC Class B standards.
⚡	Dangerous high voltage.
⚠	Consult accompanying documents.
(N)	Tested and certified by NEMKO in accordance with EN60601-1.
⏚	Indicates protective earth ground.
🏠	For indoor use only.
⏻	DC power control switch

Regulatory Compliance

This monitor has been tested to comply with IEC/EN 60601-1 and IEC/EN60601-1-2.
Only model AGM19TK is classified according to UL2601-1 and CAN/CSA C22.2 No.601-1.
Because many medical offices are located in residential areas, this monitor, in addition to the medical requirements, has also been tested and found to comply with the limits for FCC Class B computing devices in a typically configured system. It is the system integrator or configurer's responsibility to test and ensure that the entire system complies with applicable EMC laws.

Equipment is not suitable for use in the presence of flammable anesthetic mixture with air or with oxygen or nitrous oxide.

No user serviceable parts inside, ask qualified personnel when accessing inside.

For disposal of waste product, you must follow the requirement of local code.

Electrical input rating : 12V d.c 6.67A

Classification

- Type of protection against electric shock : Class I Equipment.

- Degree of protection against the ingress of water : Ordinary

- Mode of operation : Continuous

Environmental conditions for transport and storage

- Temperature range within 20 to 60

- Relative humidity range 10% to 90%

- Atmospheric pressure range within 500 to 1060hPa.

Manufacture information :

CARDIANAL INC.

205 Ace Techno Tower, 197-17

Kuro-Dong, Kuro-Gu, Seoul 152-050

Korea

Additional explanation of symbol

———— ▬ ▬ ▬ : Direct Current	This device is 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
CLASSIFIED c (UL) US MEDICAL EQUIPMENT WITH RESPECT TO ELECTRIC SHOCK. FIRE AND MECHANICAL HAZARDS ONLY IN ACCORDANCE WITH UL 2601-1, AND CAN/CSA C22.2 NO. 601.1 XXXX	
This monitor is intended for use on Health Care Facilities. Only the model AMM17TK, AGM19TK, AMM19TK and 240-030-900	

Cleaning : Do not try to clean the LCD Monitor with a liquid or chemicals.

EU Declaration of Conformity for Medical Applications

A Declaration of Conformity has been filed for this product. A sample of this document may be found in the addendum which accompanied this manual. For a copy of the Declaration of Conformity document, please contact ADVAN Int'l Corp. and request for AMM17TK, AGMM18TK and AMM19TK DOC.

Installation

Before you unpack your monitor, prepare a suitable workspace. You need a stable and level surface near a grounded wall outlet in an area which is relatively free of glare from sunlight or other sources of bright light. The monitor is cooled by natural convection (it has no fan).
For optimum performance, do not block the cooling vents.

While unpacking the monitor, inspect it and other package contents for shipping damage that could cause a fire or shock hazard. Immediately report any shipping damage to the carrier or transportation company and contact customer service for monitor in the future or in case of return.

After you unpack the monitor, make sure the following items are included

• Monitor with 1.5 meter(5ft)monitor-to computer video cable

• AC adapter with cable
⚠ CAUTION: AC Adapter must be plugged into Grounded a power outlet)

⚠ CAUTION : AC adapter
  Manufacturer: Ault korea
  Model No: MW160 or MW116

• Touchscreen cable if monitor has touchscreen option

• This operations manual

⚠ Note: Your system provider may offer alternative cords or cables depending on the installation requirement and local geography issues.

SCREEN POSITION ADJUSTMENT

In order to optimize the best viewing position, you can adjust the tilt of the monitor by using both of your hands to hold the edges of the monitor as shown in the figure below. The monitor can be adjusted to 28 degrees up as indicated by arrow below.
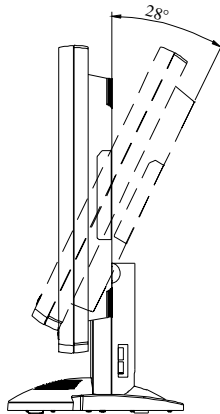
SAFETY PRECAUTION

- Avoid placing the monitor, or any other heavy object, on the power cord to prevent fire or electrical shock from damage to the power cord.

- Do not expose the monitor to rain, excessive moisture, or dust to avoid fire or shock hazard.

- Do not cover the slots or openings of the monitor for proper heat dissipation. Always put the monitor in a place where there is adequate ventilation.

- Avoid placing the monitor against a bright background or where sunlight or other light sources may reflect on the area of the monitor. Place the monitor just below eye level.

- Handle with care when transporting the monitor.

- Refrain from giving the shock or scratch to the screen, as screen is fragile.

PRESET MODES

To reduce the need for adjustment for different modes, the monitor has default setting modes that are most commonly used as given in the table below. If any of these display modes are detected, the monitor automatically adjusts the picture size and centering. When none of the mode is matched, the user can store their preferred modes in the user modes. The monitor is capable of storing up to 7 user modes. The only condition to store as a user mode is the new display information must have 1 KHz difference for horizontal frequency or 1 Hz for vertical frequency or the sync signal polarities are different from the default modes.

Mode	Resolution (H x V)	H. Freq. (KHz)	V. Freq. (Hz)
1	640 x 350	31.5	70
2	640 x 350	37.9	85
3	640 x 400	31.5	70
4	640 x 400	37.9	85
5	720 x 350	31.5	70
6	720 x 400	31.5	70
7	720 x 400	37.9	85
8	640 x 480	31.5	60
9	640 x 480	37.9	72
10	640 x 480	37.5	75
11	640 x 480	43.3	85
12	800 x 600	35.1	56
13	800 x 600	37.9	60
14	800 x 600	48.1	72
15	800 x 600	46.9	75
16	800 x 600	53.7	85
17	1024 x 768	35.5	43
18	1024 x 768	48.4	60
19	1024 x 768	56.5	70
20	1024 x 768	60	75
21	1024 x 768	68.7	85
22	1152 x 864	67.5	75
23	1280 x 960	60	60
24	1280x1024	63.9	60
25	1280x1024	79	75

POWER MANAGEMENT FUNCTION

The monitor is equipped with the power management function which automatically reduce the power consumption when not in use in three power level modes.

- **Stand-by Mode**

  The monitor goes into stand-by mode when the horizontal sync signal is off for about 10 seconds. In this mode, the screen goes off and the power LED blinks for 3 seconds On and 1 second Off. The screen is displayed after the horizontal sync signal is restored.

- **Suspend Mode**

  The monitor goes into suspend mode when the vertical sync signal is off for about 10 seconds. The power consumption during this is less than 8 W. In this mode, the screen goes off and the power LED blinks for 3 seconds On and 1 second Off. The screen is displayed after the vertical sync signal is restored.

- **Off Mode**

  The monitor goes into power-off mode when the vertical and horizontal sync signals are off for about 10 seconds. In this mode, the screen goes off and the power LED blinks for 3 seconds On and 1 second Off. The screen is displayed after the vertical and horizontal sync signals are restored.

Power Management System

The AMM17TK/18TK/19TK Series Medical Monitor complies with the VESA DPMS power management proposal. The VESA DPMS proposal provides four phases of power-saving modes by detecting the horizontal sync signal as shown in the table blow.

Mode	DC Input Power (monitor only)	AC Input power (Incl. AC adapter)	LED Status
On	35 W max.	60 W max.	Steady Green
Standby	4.5 W max.	6 W max.	Blinking Green
Supend	4.5 W max.	6 W max.	Blinking Green
On	4.5 W max.	6 W max.	Blinking Green

When the monitor is power saving mode or detects an incorrect timing, the screen will be blank and power LED indicator will blink.

DDC

To make your installation easier, the monitor is able to Plug and Play with your system if your system also supports DDC protocol. The DDC (Display Data Channel) is a communication protocol through which the monitor automatically informs the host system about its capabilities, for example, supported resolutions and corresponding timing. The monitor supports DDC1 and DDC2B standard.

INSTALLATION

To install the monitor to your host system, please follow the steps as given below:

Steps

1. Use the VGA cable that provides D-SUB 15P connector and connect to the
    15-pin connector on the VGA controller card.

2. Connect the DC power to the DC power connector on the monitor.

3. If use with USB hub, connect the loop cable between the monitor and the USB hub then connect the DC power to the bottom of USB hub.

4. Connect one end of AC power cord into the AC Adapter and the other end to AC power outlet. (See page 13)

5. Then turn the computer on and then the monitor.

6. If the monitor still does not function properly, please refer to the troubleshooting section
    to diagnose the problem.

USB DC loop cable

S-Video cable
C-Video cable
Analog signal cable
Digital signal cable (DVI)
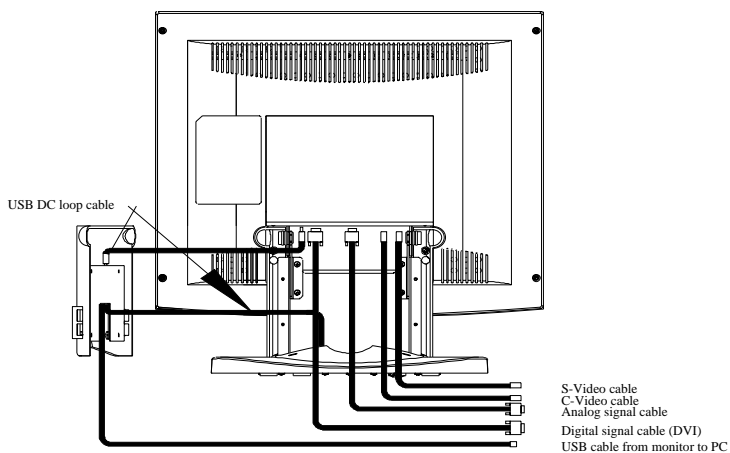USB cable from monitor to PC

DDC

To make your installation easier, the monitor is able to Plug and Play with your system if your system also supports DDC protocol. The DDC (Display Data Channel) is a communication protocol through which the monitor automatically informs the host system about its capabilities, for example, supported resolutions and corresponding timing. The monitor supports DDC1 and DDC2B standard.

Installation with sound board or sound source

To install the monitor for input/output sound, please follow the steps as given below:

Steps

1. Connect sound source (ex. sound output from sound card, sound output from CD player or DVD player, etc.) to Audio In.

2. Connect sound source receiver (ex. sound input or Mic input from the sound card) to Mic out.

3. At the front of the monitor there are two connection, Audio Out and Mic In. Connect any type of sound output device (ex. speaker, earphone, etc.) to Audio Out. Mic In is for microphone input connection.

Audio Out

Mic In

Audio in cable
Mic out cable
AC power adapter
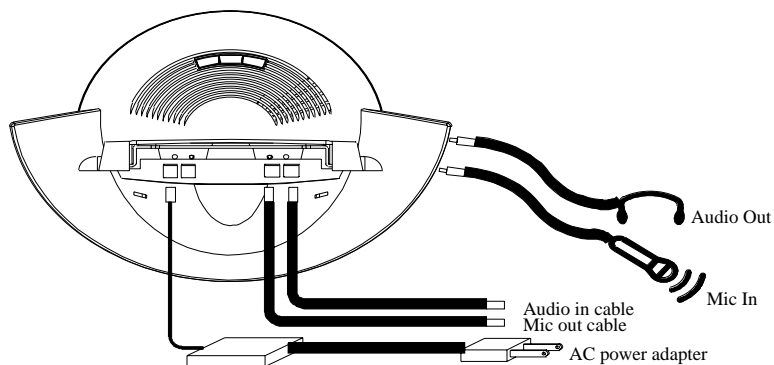
Display for Video and Image Playback

Explains how to use our AGM17TK/AGM18TK to play VCR, view television, video game, or digital camera images. It also show you how to connect video and other types of video equipment to the display.

Connecting with Video Equipment

You can connect many types of video equipment to the display. The equipment must have either Super VHS video (S-video) ports or composite video ports. To install the monitor to your video equipment, please follow the steps as given below:

Steps

1. Make sure the video equipment has a Super VHS (S-video) or a Composite video connector.
2. Turn off the computer, display, and video equipment before any types of connection.
3. For composite video, plug one end of an RCA cable into the video out port on the video equipment then connect the other end to the monitor video input port.
4. For S-video, plug one end of the S-video cable into the video out port on the video equipment then connect the other end to the monitor S-video input port.
5. Connect the DC power to the DC power connector on the monitor.
6. Connect one end of AC power cord into the AC Adapter and the other end to AC power outlet.
7. Then turn the video equipment on and then the monitor.

Connecting to a Television Signal

The display doesn't have a tuner. To view television on the display, you need to use either the VCR or TV tuner card in your computer to change channels.

Video and Sound

This monitor does have speakers for sound. If you're using the display to play a video or view television images, you need to connect the speakers to your television or video equipment for sound. Please review page 13 for sound connection.

USB DC loop cable

S-Video cable
C-Video cable
Analog signal cable
Digital signal cable (DVI)
USB cable from monitor to PC
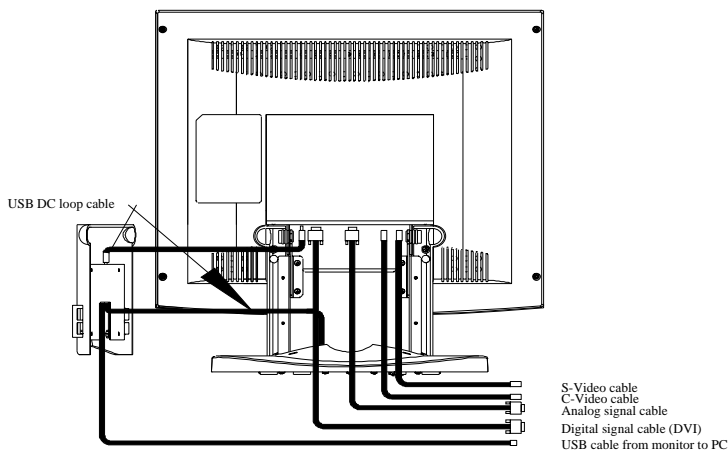
USER CONTROLS

Front Panel Controls

1. Power LED: Lights up to indicate the power is turned ON.
2. Power Switch: To turn ON or OFF the power.
3. +:   To increase the value of the parameter in the OSD you have selected for adjustment.
   To increase the brightness directly when OSD menu is not activated.
4. -:   To decrease the value of the parameter in the OSD you have selected for adjustment.
                   To increase the brightness directly when OSD menu is not activated.
5. Select Up: To enter OSD menu then can use as moving upward in the OSD menu.
6. Select Down: To move downward in the OSD menu.
                   Switch PC display to Video display and vice versa by one touch when OSD menu is not activated.
7. Auto Button: One touch Auto adjust or Exit OSD menu.
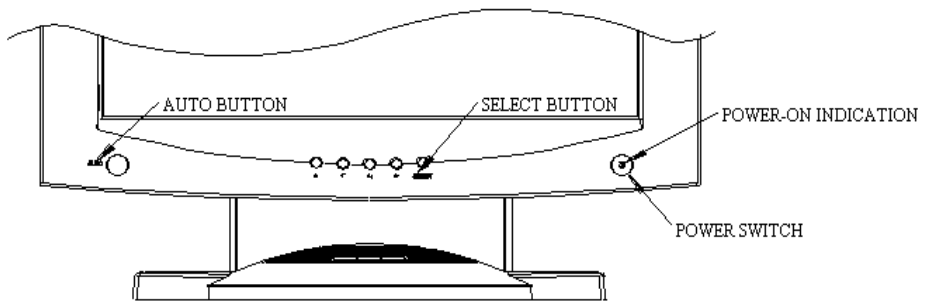
Standard OSD Operation

1. Press menu button to activate the OSD.

2. Use Select Up or Down keys to move up or down through the menu. The parameter will be highlighted wehn selected.

3. Then use + or - to increase or decrease the value of the parameter, or make selection between different options.

4. To quit the OSD screen at any time during the operation, press Auto button. If no keys are pressed for a time period, the OSD automatically disappears.

OSD Screen Basic Section (VGA)

For OSD display, push "Menu". For selecting Icon, push "Up" or "Down"
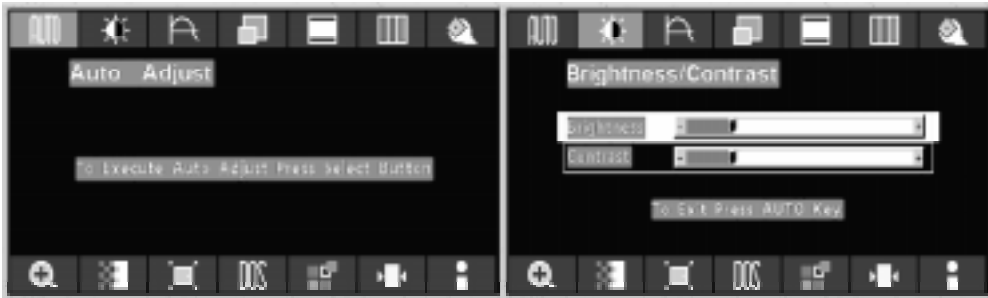
Push the select button to execute the Auto Setup function

Push "Up" or "Down" button to select between "Brightness" or "Contrast" then push "Select" Use "Left" or "Right" button to adjust

Push "Up" or "Down" button to select between "Frequency" or "Phase" then push "Select" Use "Left" or "Right" button to adjust

Push "Up" or "Down" button to select between "Horizontal" or "Vertical" then push "Select" Use "Left" or "Right" button to adjust

Push "Up" or "Down" button to select between "OSD Hor. Pos.", "OSD Ver. Pos.", "OSD Background", or "User Timeout" then push "Select" Use "Left" or "Right" button to adjust

Push "Left" or "Right" to select Color Temp between "5000", "6500", 7300", "9500", or "User" then push "Select"
If "User" were slected, push "Up" or "Down" button to select between "Red", "Green", or "Blue" then push "Select"
Use "Left" or "Right" button to adjust

OSD Screen Basic Section (VGA)

For OSD display, push "Menu". For selecting Icon, push "Up" or "Down"

Push "Up" or "Down" button to select between "DPMS", "Auto Source Select", "Freeze Frame", or "ADC Calibration" then push "Select"
Use "Left" or "Right" button to adjust

Push the select button to execute the Zoom function

Push the select button
Use "Left" or "Right" button to adjust

Push the select button
Use "Left" or "Right" button to adjust

Push "Up" or "Down" button to select between "640 Mode" or "720 Mode"
Use "Left" or "Right" to choose the correct mode then push "Select" button

Push "Up" or "Down" button to select between "Analog RGB", "Digital RGB", "Composite Video" or "Super Video"
Use "Left" or "Right" to choose the correct mode then push "Select" button

OSD Scren Basic Section (VGA)

For OSD display, push "Menu". For selecting Icon, push "Up" or "Down"
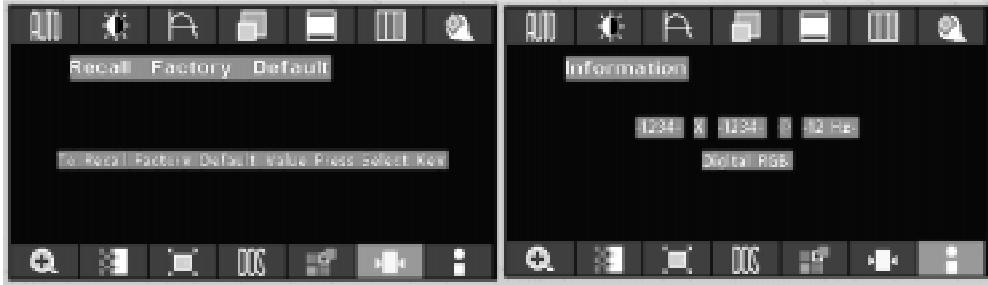
Push the select button to execute Recall Factory Default

Push the select button to execute Information

OSD Scren Basic Section (C-Video or S-Video)

For OSD display, push "Menu". For selecting Icon, push "Up" or "Down"
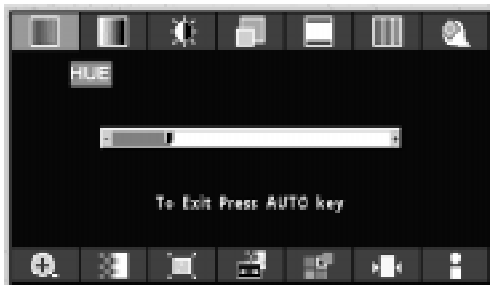
Push "Select" button
Push "Left" or "Right" button to adjust

Push "Select" button
Push "Left" or "Right" button to adjust

Push "Up" or "Down" button to select between "Brightness" or "Contrast" then push "Select"
Use "Left" or "Right" button to adjust

Push "Up" or "Down" button to select between "Horizontal" or "Vertical" then push "Select"
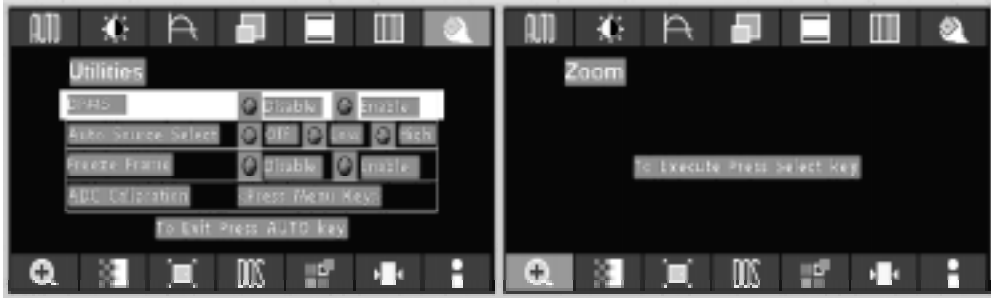Use "Left" or "Right" button to adjust

Push "Up" or "Down" button to select between "OSD Hor. Pos.", "OSD Ver. Pos.", "OSD Background", or "User Timeout" then push "Select"
Use "Left" or "Right" button to adjust

Push "Left" or "Right" to select Color Temp between "5000", "6500", 7300", "9500", or "User" then push "Select"
If "User" were slected, push "Up" or "Down" button to select between "Red", "Green", or "Blue" then push "Select"
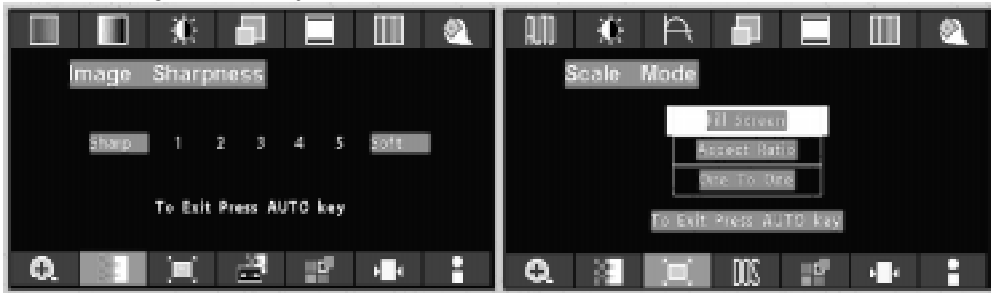Use "Left" or "Right" button to adjust

OSD Screen Basic Section (C-Video or S-Video)

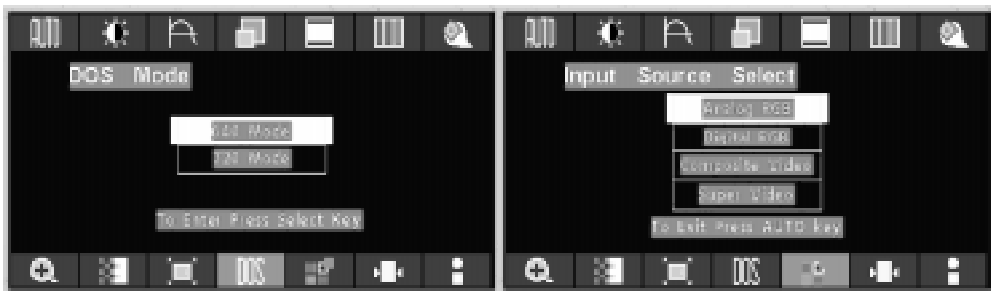For OSD display, push "Menu". For selecting Icon, push "Up" or "Down"

Push "Up" or "Down" button to select between "DPMS", "Auto Source Select", "Freeze Frame", or "ADC Calibration" then push "Select"
Use "Left" or "Right" button to adjust

Push the select button
Use "Left" or "Right" button to adjust

Push the select button
Use "Left" or "Right" button to adjust

Push the select button
Use "Left" or "Right" button to adjust

Push the select button
Use "Left" or "Right" button to adjust

Push "Up" or "Down" button to select between "Analog RGB", "Digital RGB", "Composite Video" or "Super Video"
Use "Left" or "Right" to choose the correct mode then push "Select" button

OSD Scren Basic Section (C-Video or S-Video)

For OSD display, push "Menu". For selecting Icon, push "Up" or "Down"

Push the select button to execute Recall Factory Default
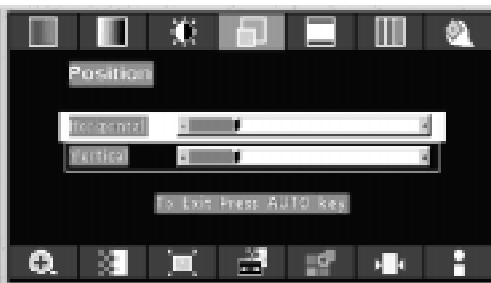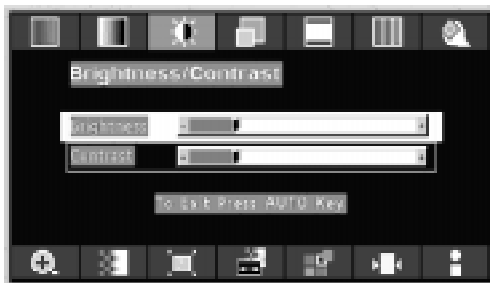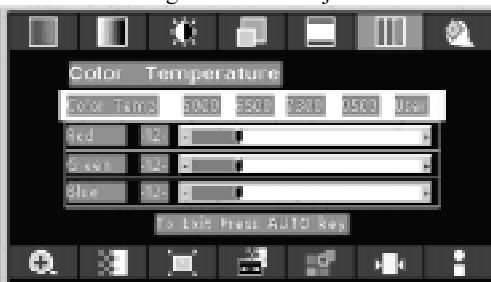
Push the select button to execute Information

OSD Function Description (Under VGA Display)

Item	Function Description
Auto Adjust	The Auto-Adjust will automatically adjust V-Position, H-Position, Clock, Clock-Phase, and Contrast, the whole process takes about 5 seconds. (Please use the test pattern file in the attached LCD monitor utility disk for Auto Adjust).
Brightness	To increase or decrease the brightness.
Contrast	To increase or decrease the contrast.
Black Level	To increase or decrease the black level.
Frequency	To adjust frequency (dot clock).
Phase	To adjust phase (clock-phase).
Horizontal	To move the screen left or right.
Vertical	To move the screen upward or downward.
OSD Hor Pos	To move OSD menu left or right.
OSD Ver Pos	To move OSD menu upward or downward.
OSD Background	Choose between Opaque or Translucent.
User Timeout	Set OSD screen appearing time.
Color Temp	Choose between 5000, 6500, 7300, 9500, or User for color temp.
Red	Balance Red.
Green	Balance Green.
Blue	Balance Blue.
DPMS	Enable or Disable DPMS.
Auto Source Select	Adjust auto source select between off, low, or hight.
Freeze Frame	Enable or Disable freeze frame
ADC Calibration	
Zoom	Enable zoom-in function
Image Sharpness	Set image sharpness from 1 to 5.
Scale Mode	Choose scale mode between fill screen, aspect ratio, or one to one
DOS Mode	Set display under DOS mode at 640 or 720.
Input Source Select	Choose input source between analog RGB, digital RGB, composite video, or super video
Recall Factory Default	Set to factory default.
Infomation	Display information on resolution, refresh rate, and input mode.

OSD Function Description (Under C-Video or S-Video Display)

Item	Function Description
Hue	To increase or decrease the hue level.
Saturation	To increase or decrease the saturation level.
Brightness	To increase or decrease the brightness.
Contrast	To increase or decrease the contrast.
Black Level	To increase or decrease the black level.
Horizontal	To move the screen left or right.
Vertical	To move the screen upward or downward.
OSD Hor Pos	To move OSD menu left or right.
OSD Ver Pos	To move OSD menu upward or downward.
OSD Background	Choose between Opaque or Translucent.
User Timeout	Set OSD screen appearing time.
Color Temp	Choose between 5000, 6500, 7300, 9500, or User for color temp.
Red	Balance Red.
Green	Balance Green.
Blue	Balance Blue.
DPMS	Enable or Disable DPMS.
Auto Source Select	Adjust auto source select between off, low, or hight.
Freeze Frame	Enable or Disable freeze frame.
ADC Calibration	
Zoom	Enable zoom-in function.
Image Sharpness	Set image sharpness from 1 to 5.
Video Scale Mode	Choose video scale mode between normal, 4:3 scale mode, or 16:9 scale mode.
Video Sharpness	To increase or decrease the video sharpness.
Input Source Select	Choose input source between analog RGB, digital RGB, composite video, or super video
Recall Factory Default	Set to factory default.
Infomation	Display information on resolution, refresh rate, and input mode.

TROUBLESHOOTING

Before sending your LCD monitor for servicing, please check the troubleshooting list below to see if you can self-diagnose the problem.

Problems	Current Status	Remedy
No Picture	LED ON	• Using OSD, adjust brightness and contrast to maximum or reset to their default settings.
	LED OFF	• Check the power switch.
		• Check if AC power cord is properly connected to the AC adapter.
	LED Blinking	• Check if video signal cable is properly connected at the back of monitor.
		• Check if the power to computer system is ON.
Abnormal Picture	Unstable Picture	• Check if the specification of graphics adapter and monitor is in compliance which may be causing the input signal frequency mismatch.
	Display is missing, center shift, or too small or too large in display size	• Using Auto Setup button, if still display abnormal picture then adjust CLOCK, CLOCK-PHASE, H-POSITION and V-POSITION with non-standard signals.
		• Using OSD, in case of missing full-screen image, please select other resolution in your Operating System (Windows 95/98, NT) or other vertical refresh timing.
		• Must wait for a few seconds after adjusting the size of the image before changing or disconnecting the signal or powering OFF the monitor.

SPECIFICATION

AMM17TK	
LCD Panel	44.2cm/17.4-inch Color TFT Panel
Type	Active Matrix
Resolution	1280 dots x 1024 lines (Recommended)
Pixel Pitch	0.27mm
Display Color	16 million colors
Response Time	25ms
Color Tone	Up to 256 tone
Color Filter	RGB vertical stripe type
Face Finishing	Anti-Glare Hard Coated
Viewing Angle	160°H 160°V (CR>=10)
Video	0.7Vp-p analog RGB & TMDS (PanelLink) Digital 165 MHz x 1
Input Signal	
Sync	2.5~5.0Vp-p separated sync
Input Impedance (Analog)	Video - 75 Ohm Sync - 1k Ohm
Composite Sync	C-Video, S-Video
Digital	3 channel TMDS receiver, single pixel 24 bit MSB-aligned RGB TFT
Scanning Frequency	
Horizontal	30~68kHz
Vertical	56~85Hz (UP to 85Hz at 1024 x 768 mode and up to 75Hz at 1280 x 1024)
Display Size	
H x V	13.6" x 10.9" (345.0mm x 276.48mm)
Brightness, Contrast Radtio, Gray Scales	
Brightness	220 cd/m2, Standard
Contrast Ratio	400:1 Typ.
Gray Scales	Up to 256 steps
Signal Input Connector	
Video	DB9-15pin, Digital DVI, NTSC, S-Video
Touchscreen	RS-232 DB-9 (Optional)
Temperature Environment	
Operating Temperature	32° ~ 104°F (0° - 35°C)
Storage Temperature	-4° ~ 140°F (20° - 60°C)
Humidity	10 ~ 90%RH (without condensation)
Power Source	
Display Monitor	DC 12V
AC-Adapter	AC100~240V 60W (Without option, Normal Operation)
Regulations	
Safety and EMC	UL/cUL, FCC, CE, TCO99, Energy Star, CB, MPR II, ERG/GS.VCCI, UL2601-1, EN60601-1
Cabinet	
Desktop Stand	17.5inch (W) x 17.8inch (H) x 9.5inch (D) 450mm (W) x 455mm (H) x 245mm (D)
Free Mount	17.5inch (W) x 14.25inch (H) x 3inch (D) 450mm (W) x 362mm (H) x 76mm (D)
Weight	
Desktop Stand	20.6 lb. (9.3Kg)
Free Mount	16 lb. (7.3Kg)
Tilt Base	
	5° Down 30° Up
	Stereo speaker, USB (Rev 1.0)
Optional Module	
	Touch Panel

* All contents are subject to change without notice.
* Touch Screen Model doesn't include the Video-in (C-Video, S-Video) function.
* Surface Wave Touchscreen model AMM17TK/18TK/19TK-TEW and Resistive Touchscreen model AMM17TK/18TK/19TK-TE

SPECIFICATION

AMM 18TK	
LCD Panel	46cm/18.1-inch Color TFT Pane
Type	Active Matrix
Resolution	1280 dots x 1024 lines (Recommended)
Pixel Pitch	0.28mm
Display Color	16 million colors
Response Time	40ms
Color Tone	Up to 256 tone
Color Filter	RGB vertical stripe type
Face Finishing	Anti-Glare Hard Coated
Viewing Angle	160°H 160°V (CR>=10)
Video	0.7Vp-p analog RGB & TMDS (PanelLink) Digital 165 MHz x 1
Input Signal	
Sync	2.5~5.0Vp-p separated sync
Input Impedance (Analog)	Video - 75 Ohm Sync - 1k Ohm
Composite Sync	C-Video, S-Video
Digital	3 channel TMDS receiver, single pixel 24 bit MSB-aligned RGB TFT
Scanning Frequency	
Horizontal	30~68kHz
Vertical	56~85Hz (UP to 85Hz at 1024 x 768 mode and up to 75Hz at 1280 x 1024)
Display Size	
H x V	14.13" x 11.3" (359mm x 287mm)
Brightness, Contrast Radtio, Gray Scales	
Brightness	200 cd/m2, Standard
Contrast Ratio	250:1 Typ.
Gray Scales	Up to 256 steps
Signal Input Connector	
Video	DB9-15pin, Digital DVI, NTSC, S-Video
Touchscreen	RS-232 DB-9 (Optional)
Temperature Environment	
Operating Temperature	41° ~ 95°F (5° - 35°C)
Storage Temperature	-4° ~ 140°F (20° - 60°C)
Humidity	10 ~ 90%RH (without condensation)
Power Source	
Display Monitor	DC 12V
AC-Adapter	AC100~240V 27W (Without option, Normal Operation)
Regulations	
Safety and EMC	UL/cUL, FCC, CE, TCO99, Energy Star, CB, MPR II, ERG/GS.VCCI, UL2601-1, EN60601-1
Cabinet	
Desktop Stand	17.5inch (W) x 17.8inch (H) x 9.5inch (D)
Free Mount	17.5inch (W) x 14.25inch (H) x 3inch (D)
Weight	
Desktop Stand	22.8 lb. (10.4Kg)
Free Mount	18.1 lb. (8.2Kg)
Tilt Base	
	0° Down 28° Up
	Stereo speaker, USB (Rev 1.0)
Optional Module	
	Touch Panel

* All contents are subject to change without notice.

* Touch Screen Model doesn't include the Video-in (C-Video, S-Video) function.

* Surface Wave Touchscreen model AMM17TK/18TK/19TK-TEW and Resistive Touchscreen model AMM17TK/18TK/19TK-TE

SPECIFICATION

AMM 19TK	
LCD Panel	48cm/19-inch Color TFT Pane
Type	Active Matrix
Resolution	1280 dots x 1024 lines (Recommended)
Pixel Pitch	0.294mm
Display Color	16 million colors
Response Time	25ms
Color Tone	Up to 256 tone
Color Filter	RGB vertical stripe type
Face Finishing	Anti-Glare Hard Coated
Viewing Angle	170°H 170°V (CR>=10)
Video	0.7Vp-p analog RGB & TMDS (PanelLink) Digital 165 MHz x 1
Input Signal	
Sync	2.5~5.0Vp-p separated sync
Input Impedance (Analog)	Video - 75 Ohm Sync - 1k Ohm
Composite Sync	C-Video, S-Video
Digital	3 channel TMDS receiver, single pixel 24 bit MSB-aligned RGB TFT
Scanning Frequency	
Horizontal	30~68kHz
Vertical	56~85Hz (UP to 85Hz at 1024 x 768 mode and up to 75Hz at 1280 x 1024)
Display Size	
H x V	14.8" x 11.9" (376mm x 301mm)
Brightness, Contrast Radtio, Gray Scales	
Brightness	250 cd/m2, Standard
Contrast Ratio	500:1 Typ.
Gray Scales	Up to 256 steps
Signal Input Connector	
Video	DB9-15pin, Digital DVI, NTSC, S-Video
Touchscreen	RS-232 DB-9 (Optional)
Temperature Environment	
Operating Temperature	41° ~ 95°F (5° - 35°C)
Storage Temperature	-4° ~ 140°F (20° - 60°C)
Humidity	10 ~ 90%RH (without condensation)
Power Source	
Display Monitor	DC 12V
AC-Adapter	AC100~240V 27W (Without option, Normal Operation)
Regulations	
Safety and EMC	UL/cUL, FCC, CE, TCO99, Energy Star, CB, MPR II, ERG/GS.VCCI, UL2601-1, EN60601-1
Cabinet	
Desktop Stand	17.5inch (W) x 17.8inch (H) x 9.5inch (D)
Free Mount	17.5inch (W) x 14.25inch (H) x 3inch (D)
Weight	
Desktop Stand	22.8 lb. (10.4Kg)
Free Mount	18.2 lb. (8.3Kg)
Tilt Base	
	0° Down 28° Up
	Stereo speaker, USB (Rev 1.0)
Optional Module	
	Touch Panel

* All contents are subject to change without notice.

* Touch Screen Model doesn't include the Video-in (C-Video, S-Video) function.

* Surface Wave Touchscreen model AMM17TK/18TK/19TK-TEW and Resistive Touchscreen model AMM17TK/18TK/19TK-TE

Connectors

DC Input
Connector Jack Power Input
The SCD-014-1-A (SHIUA CHYUAN) or equivalent.

Pin Description
1 +12V DC
2 GND

Video Input

15 pin D-subminiature connector.
The vedor P/N is DHSB-15 FRF7(LEOCO) or equivalent.

Description	Pin	Description	Pin
Red Video	1	NC	9
Green Video	2	VGA Con	10
Blue Video	3	NC	11
NC	4	SDA (DDC1/2)	12
Logic Ground	5	H-sync	13
Red Video Ground	6	V-sync	14
Green Video Ground	7	SCL (DDC2B)	15
Blue Video Ground	8		

24 pin DVI-D connector.
DDWG or equivalent connector.

Pin	Signal Assignment	Pin	Signal Assignment	Pin	Signal Assignment
1	T.M.D.S. Data2-	9	T.M.D.S. Data1-	17	T.M.D.S. Data0-
2	T.M.D.S. Data2+	10	T.M.D.S. Data1+	18	T.M.D.S. Data0+
3	T.M.D.S. Data2/4 Shield	11	T.M.D.S. Data1/3 Shield	19	T.M.D.S. Data0/5 Shield
4	T.M.D.S. Data4-	12	T.M.D.S. Data3-	20	T.M.D.S. Data5-
5	T.M.D.S. Data4+	13	T.M.D.S. Data3+	22	T.M.D.S. Data5+
6	DDC Clock	14	+5V Power	22	T.M.D.S. Clock Shield
7	DDC Data	15	Ground (for +5V)	23	T.M.D.S. Clock+
8	No Connect	16	Hot Plug Detect	24	T.M.D.S. Clock-

Touch Port

9Pin D-subminiature connector.

Description	Pin	Description	Pin
DCD	1	DSR	6
RXD	2	RTS	7
TXD	3	CTS	8
DTR	4	RIN C	9
Logic Ground	5		

Description of Warranty

Advan warrants that the goods the goods sold hereunder will be free of defects in materials and workmanship, and such goods will substantially conform to the specifications furnished by Advan, and to any drawings or specifications furnished to Advan by the Buyer if approved by Advan. This warranty shall be effective only if Advan receives notice of such defect or nonconformance during the period of the warranty. Advan sole and exclusive the Advan product(s) with refurbished units provide a credit to buyer in the amount of the purchase
price.

Commencement and Duration of Warranty

The warranty period begins on the date of shipment from Advan. The goods sold hereunder are warranted for a period of three years (36 months) from date of shipment unless otherwise agreed to by Buyer and Advan. No extension of the warranty will be given during the time the goods are in Advan possession.

Place of Repair or Replacement

In order to obtain service under this warranty, Buyer must notify Advan of the defect before expiration on the warranty period, and request a "Return Material Authorization Number." If the configuration has been modified in any manner, the product must be returned to its original configuration before any warranty service will be perfomed by Advan. No goods are to be returned to Advan without prior authorization. Buyer will be responsible for packaging and shipping the defective goods to the Advan Service Facility with shipping charges prepaid.

Limitation of Warranty

Monitor:
For three years (36 months) after the date of purchase, ADVAN or its Authorized Service Centers, will repair or replace if defective in material or workmanship. This Limited Warranty does not include cleaning, or damage caused by accident, neglect, misuse or improper installation or operation, any damage caused from service, maintenance, modifications or tampering by anyone other than an ADVAN Authorized Service Representative, or by the use of supplies, consumable items and conditions beyond the control of ADVAN, such as common carrier provided equipment and/or facilities, operation of ADVAN product in excess of the specifications or with the Serial Number or Rating label removed.

*Touch Screen:
For one year after the date of purchase, ADVAN or its Authorized Service Centers, will repair or replace if defective in material or workmanship. This Limited Warranty does not include cleaning, or damage caused by accident, neglect, misuse or improper installation or opera-tion, any damage caused from service, maintenance, modifications or tampering by anyone other than an ADVAN Authorized Service Representative, or by the use of supplies, consum-able items and conditions beyond the control of ADVAN, such as common carrier provided equipment and/or facilities, operation of ADVAN product in excess of the specifications or with the Serial Number or Rating label removed.

ADVAN DISCLAIMS ALL OTHER WARRANTIES EXPRESS OR IMPLIED INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE, EXCEPT TO THE EXTENT THAT ANY WARRANTIES IMPLIED BY LAW CANNOT BE VALIDLY WAIVED.

No oral or written information or advice given by ADVAN, its authorized service center, distributors, dealers, agents or employees, shall create another warranty or modify this warranty. This warranty states ADVAN's entire liability and your exclusive remedy against ADVAN for any failure of the ADVAN's product to operate properly.

Neither ADVAN nor anyone else involved in the development, production, or delivery of this product shall be liable for any indirect, incidental, special consequential, exemplary, or punitive damages, including lost profits, arising from the use of or inability to consequential or incidental damages, the above limitation may not apply to you.

This Limited Warranty gives you special legal rights and you may also have other right, which vary from State to State.

Installation
Advan makes no warranty with respect to any installation of Advan's product(s) by Advan, any authorized dealer, or any other person.

Technical Assistance
For technical assistance please call (510)490-1005 between 8:00 a.m. and 5:00 p.m. PST, Monday through Friday or email to support@mail.advancorp.com with a description of your technical issues.

Service
If your Medical Monitor needs service, call Advan Customer Service at (510)490-1005 between 7:00 a.m and 4:00 p.m PST, Monday through Friday or fax to (510)490-1151. You will need the unit's serial number and a brief description of the problem and where unit were purchased to receive a RMA number.

If a service is required please return the product for service using the original shipping container with the RMA number included in package on the outside of the box.

In order to protect ADVAN employees form potential health hazards, ADVAN requires that the RMA product be disinfected before returning to ADVAN for service. Any product not cleaned prior to shipment will be returned to the customer.

Note: Returns will not be accepted without an assigned RMA number.

In-transit damage is not covered by warranty. We suggest you always insure your shipment. Advan will only pay for the return shipment by surface transportation. It is the responsibility of the sender to prepay transportation charges.

Tounchscreen User's Manual (AMM17TK-TE/AMM18TK-TE/ AMM19TE or AMM17TK-TEW/AMM18TK-TEW/AMM19TK-TEW)

Quick Start

1.Connect Power Code and VGA Cable of LCD Monitor.
2.Connect Touchscreen DB9 male RS-232 cable.
3.Turn the LCD display Power ON.
4.Adjust the tilt of LCD Monitor.
5.Adjust the Picture of LCD Monitor.
6.Install driver software of Touchscreen (See "Driver software" for details).

7.Adjust the calibration of Touchscreen (See "Driver software" for details).

Introduction

The ELO IntelliTouch Touchscreen system consists of a touchscreen and an electronic touchscreen controller. The touchscreen may be a flat, spherical, or cylindrical and is installed over the face of the LCD. The touchscreen controller installed inside of theLCD.

The IntelliTouch Touchscreen

The IntelliTouch surface wave touchscreen consists of a glass panel molded to the precise shape of a display's face. A scratch-resistant, hard-coated plastic cover sheet may be clear for best image clarity or have an antiglare finish.

The IntelliTouch Controller

The IntelliTouch controllers provide the drive signal for touchscreen, convert the received analogue signals into digital touch coordinates, and send these coordinates to the computer.

Touchmonitor installation

Cable Connection

1. Connect and test LCD as a video display only.
2. Plug the DB9 male into the DB9 female connector labled "TOUCHSCREEN"
on the back of the LCD Monitor.

Driver software
ELO provide driver programs for the DOS, Windows 3.1, Windows 95/98,
Windows NT, Windows 2000, Windows XP, OS/2, and Macintosh systems.
Additional drivers may be available for other system. Contact ELO for details.
Installing Driver software for Windows / Windows NT
1. Shutdown Windows or Windows NT and turn off your computer.
2. Install touchscreen hardware as described in the "Quick start" or "Touchmonitor
installation".
3. Start your computer.
4. Insert the Windows or Windows NT driver disk into diver A or B.
5. Browse for "setup.exe" in the directory to which you extracted the driver files.
6. Type "setup.exe" in the space provided and press Enter.
7. The touchscreen setup wizard will appear. You will need to select serial port,
type of touchscreen controller, and language.
8. Complete the setup program.
9. Shutdown and restart windows NT.
10. Click the start button, then click control panel.
11. Double-click touchscreen control panel.
12. Click the calibrate button and touch each of the three targets as they appear
on the screen.

Contacting ELO
www.elotouch.com

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