

TFT-LCD MONITOR SPECIFICATIONS

Size	Model	Version	Version
10.4"	MT3210AX		-0C1
14"	MT3214AX		-0C1
15"	MT32151AX		-0C4
17"	MT32171AX		-0C5
17W"	MT3217WAX		-0C6
19"	MT3219AX		-0C2
19"	MT32191AX		-0C5
19W"	MT3219WAX		-0C1
20"	MT3220AX		-0A2
23"	MT3223AX		-0L1
26"	MT3226AX		-0A2
27"	MT3227AX		-0C1
32"	MT3232AX		-0A1
37"	MT3237AX		-0A1
40"	MT3240AX		-0S2
42"	MT3242AX		-0L2



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HUAI I ELECTRONICS CO., LTD.

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PRODUCT

Note : Save the original box and packing material for future shipping needs.

Contents

- ◆ The Accessories in this LCD Monitor Model.
Accessory Box:
 1. VGA cable X 1
 2. AC to DC adapter X 1
 3. Power Cord X 1
 4. User's manual X 1
 5. CGA signal cable (Optional)

Features

- ◆ High Brightness.
- ◆ Fast response time.
- ◆ Power Saver.
- ◆ Low electromagnetic wave and power saver.
- ◆ Safety certifications.

Power saver

- ◆ Power control system, also called (Power Saver), is installed inside the LCD Monitor.
- ◆ If the monitor has not been used for a certain period of time, the system will turn the monitor to low voltage mode to save power. Slight moving or any click will return to the original image.
- ◆ The VGA card inside the computer handles *Power Saver*. You can use computer software to set the function.
- ◆ The LCD Monitor is compatible with EPA ENERGY STAR and N TEK if used with a VESA DPMS computer.
- ◆ To save power, turn off the power of the LCD monitor when not in use.

Plug & play

- ◆ The new VESA Plug and Play function is used which eliminates the complicated and time-consuming installation process.
- ◆ You can use the Plug and Play system without encountering usual installation problems. Your computer system can easily identify and automatically adjust the monitor.
- ◆ The LCD Monitor uses Display Data Channel (DDC) to send Extended Display Identification Data (EDID) to the computer system, so the computer system can be set to monitor auto adjust.

SAFETY

Note: Please note the following safety precaution before using this monitor.

Electrical	
Check the Voltage	<ul style="list-style-type: none"> ◆ Before connecting the AC power cord to the DC adapter socket, make sure that voltage of the DC adapter is suitable for local power.
Electrical Shock	<ul style="list-style-type: none"> ◆ Do not insert any metal object into opening on the LCD monitor casing to prevent electrical shock. ◆ To prevent electrical shock, do not touch the interior of the LCD monitor. Only a qualified technician should open the casing of monitor. ◆ If the power cord is damaged, do not use the LCD monitor. Do not place any object on the power cord, and place the power cord away from crowded areas. ◆ While pulling the LCD monitor plug away from the socket on the wall, hold the plug not the power cord. ◆ Do not expose the LCD monitor in the rain or somewhere closed to the water (such as in the kitchen, near the pool). ◆ If the LCD monitor is dampened, please unplug the power cord and contact Service Center.
Unusual condition	<ul style="list-style-type: none"> ◆ If the LCD monitors functions improperly, especially when making unusual noise or spreading strange odor, unplug it immediately and contact service center.
Common	
Monitor and Screen Care	<ul style="list-style-type: none"> ◆ Avoid touching the screen with your fingers or any tough objects. Oil from the skin is difficult to remove, and touching objects to the screen may damage the panel. It is suggested to clean the monitor by first turning it off and using a soft, dry cloth. ◆ The LCD monitor should be placed in areas with low humidity and less dust. Please watch out for environmental conditions on humidity and ventilation. ◆ The LCD monitor should be kept away from heat sources and irradiation. For example: kitchen, oven or direct sunlight and etc. ◆ To reduce glare, avoid placing the monitor in a place that receives direct sunlight. ◆ Avoid letting small children play with monitor. The frequent touching of the panel will cause panel to look dirty and will affect the quality of the brightness if too dirty. ◆ If moving the monitor, please handle with care when unplugging and moving it. ◆ Do not place items over the monitor when placing and adjusting the LCD monitor. ◆ If the LCD monitor is not in use for a long time, please unplug it and restore it into the proper package, the original carton & packaging stuffs are preferred. ◆ The opening on the LCD Monitor casing is for the purpose of ventilation. To prevent overheating, the openings should not be blocked or covered. Do not place the LCD monitor on a bed, sofa, blanket or other soft surfaces; or else the soft objects will block the openings of the LCD monitors. ◆ If you place the LCD Monitor on a bookshelf or other airtight spaces, it's essential to leave a space of 4"(10cm) distance between the Monitor and the hard surface.
Clean screen	<ul style="list-style-type: none"> ◆ Ensure the area around the LCD monitor is clean and free of moisture. Please refer to [Maintenance] chapter for normal maintenance practice.

SET UP YOUR LCD MONITOR

Installation Notes

Note: Please read last section " Safety" before you install the LCD Monitor. Please note the instruction below prior to installing your LCD monitor.

Installation Position

- ◆ Choose a position where the reflection of light is minimal and away from a window for maximizing the quality of the screen image.

- ◆ It is important to keep 30 cm between the LCD monitor to minimize eyestrain.

Workstation Height

- ◆ Position the LCD monitor slightly above your horizontal vision as you are sitting.

Angle of Vision Quick Installation

- ◆ Tilt either forward or backward for the most comfortable viewing angle. This LCD monitor supports connection to a computer or workstation. The steps are described as Quick Setup.

- ◆ After installation, please refer to "Auto Adjust" for automatic adjust procedures.

Screen Adjustments

Auto Adjust

Though your computer system can identify the new LCD monitor system, the Auto Adjust function can be as to enhance the display. To enter adjust mode, please refer to "OSD Control".

- ◆ Turn the computer and LCD monitor on.

- ◆ Press 'Auto' button to start Auto Adjust.

- ◆ The LCD monitor will start the Auto Adjust process automatically for 10 consecutive seconds, where you will notice the image change as the Auto Adjust is working.

- ◆ Your LCD monitor provides a STFC function, through which you can check whether the LCD monitor functions are working properly.

- ◆ If your LCD monitor is properly connected, but there is no image showing and the indicator light keeps orange, please follow the steps below to start STFC.

- Shutdown computer and LCD monitor.
- Unplug the signal connector from the back of computer.
- Turn the LCD monitor on.

If the image connector is disconnected or damaged, the image shown on following figure will also appear during normal operation.



- Turn off the LCD monitor and reconnect signal cable, and then turn the computer and LCD monitor on.

- ◆ If the LED of the LCD monitor is an orange color after completing the steps above, please check your VGA card and computer system. Your monitor should be operating properly.

OSD Control

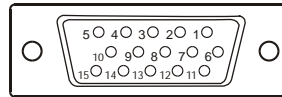
Thanks to the user-friendly design of OSD (On Screen Display), you can adjust your monitor by the keypads in the front of the monitor.

15", 17", 19"



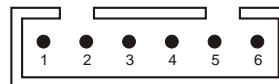
1	Power Switch	Power On/Off
2	LED	Power Indicator Green: Normal Orange: Power Saving Off: Power Off
3	Auto	Automatically optimize positions, phase & clock when OSD is not shown
4	+	Selection or adjustment when OSD is shown
5	-	Adjustment when OSD is shown
6	Menu	Enter OSD Access sub-menu & selection

VGA Signal Connector



Pin 1	Analog Red Input
Pin 2	Analog Green Input
Pin 3	Analog Blue Input
Pin 4	Ground
Pin 5	Digital Ground
Pin 6	Analog Red Ground
Pin 7	Analog Green Ground
Pin 8	Analog Blue Ground
Pin 9	Ground
Pin 10	Sync Ground
Pin 11	Ground
Pin 12	SDA (DDC Data)
Pin 13	H. Sync or H+V Sync.
Pin 14	V. Sync
Pin 15	SCL (DDC CLK)

(OPTIONAL) CGA Signal Connector

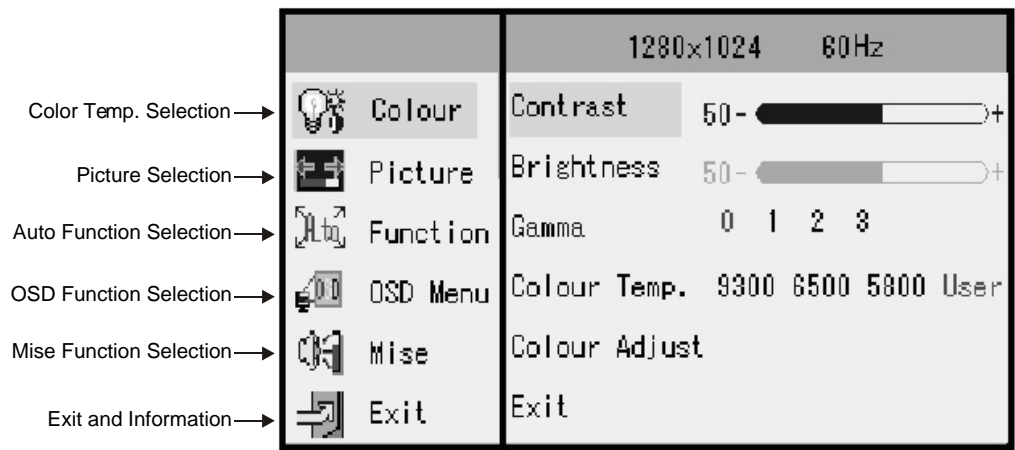


Pin 1	CGA Analog Red Input
Pin 2	CGA Analog Green Input
Pin 3	CGA Analog Blue Input
Pin 4	Ground
Pin 5	H. Sync or H+V Sync
Pin 6	V. Sync

Operate Explanation

Your LCD has been adjusted to its optimal status before shipment. You can also adjust the image in accordance with the following illustrations and steps.

- ◆ Press the "Menu" button to start the OSD feature.
- ◆ Click the "+" or "-" button to select the function to be adjusted.
- ◆ Click the "Menu" button to access into the function to be adjusted.
- ◆ Click the "+" or "-" button to change the current setting of the function.
- ◆ To exit the OSD menu or go back to the previous action by clicking the "Auto" button. It will save the change automatically.
- ◆ To repeat above steps for changing the setting of other functions.
- ◆ (CGA optional) Click the "Auto" button to select CGA mode for optimize positions.



Notes

- ◆ The OSD disappears several seconds after you stop pressing the buttons while performing an adjustment.
- ◆ Any changes are automatically saved in the memory when the OSD disappears. Turning off the power should be avoided while using the menu.
- ◆ Adjustments for clock, phase and positions are saved for each signal timing. Except for these adjustments, all other adjustments have only one setting which applies to all signal timings.
- ◆ The color will change from white to pink while the function is selected.

**Adjustment of
Screen**

Function Definition

Primary Directory	Secondary Directory	Description
Color	Contrast	Adjust the contrast of the image.
	Brightness	Adjust the brightness of the screen.
	Gamma	Adjust the gamma of the image.
	9300K	Set up the color temp. to be 9300K white color.
	6500K	Set up the color temp. to be 6500K white color.
	5800K	Set up the color temp. to be 5800K white color.
	User/Red	Adjust red/green/blue gain.
	User/Green	
	User/Blue	
Picture	H. Position	Move the image left and right on the screen.
	V. Position	Move the image up and down on the screen.
	Phase	Adjust the focus of the image.
	Clock	Adjust the clock pulse of the image.
	Sharpness	Adjust the picture sharpness of lower resolutions. (CGA) Select CGA mode for optimize positions.
Function	Auto Adust	Automatically optimize positions, phase & clock.
	Auto Colour	Automatically optimize colour.
OSD Menu	Language	Select the language you want.
	OSD H. Position	Move OSD display position to any position.
	OSD V. Position	
	OSD Timer	Adjust OSD display time setting
	Translucent	Adjust OSD traslucout
Mise	Signal Source	Analog, Digital signal input.
	Mode Select	640x400 or 720x400
	Reset	Restore to factory settings
	Volume	Adjust the volume of the audio.
Exit		Information of code version and check sum.

TROUBLE SHOOTING

Check the information in this section to see if the problems can be solved before requesting repair.

Note : The consumers are only allowed to solve the problems described as below. Any unauthorized product modification, or failure to follow instructions supplied with the product will end the warranty immediately.

No image	<ul style="list-style-type: none"> ◆ Make sure power button is ON.
No Signal Input	<ul style="list-style-type: none"> ◆ Check whether the LCD monitor and computer power cords are plugged and whether there is a supply of power.
"Out Of Range"	<ul style="list-style-type: none"> ◆ Check the signal connection between the computer and LCD monitor.
Fuzzy image	<ul style="list-style-type: none"> ◆ Check the computer image output resolution and frequency and compare the value with the preset values (Please refer to [Appendix-Display Mode]).
Image too bright Image too dark	<ul style="list-style-type: none"> ◆ Adjust Phase.
Irregular image	<ul style="list-style-type: none"> ◆ Adjust brightness and contrast by OSD.
Distorted image	<ul style="list-style-type: none"> ◆ Check the signal connection between the computer and LCD monitor. ◆ Perform Auto Adjust.
Image is not centered Size is not appropriate	<ul style="list-style-type: none"> ◆ Reset the LCD monitor. (perform the "Recall" function by OSD) ◆ Take off extra accessories (such as signal extension cord). ◆ Use OSD Image Menu to adjust H. Position and V. Position. ◆ Check image size setting. ◆ Perform Auto Adjust.
Uneven color Color too dark Dark area distorted White color is not white	<ul style="list-style-type: none"> ◆ Use OSD Color Menu to adjust color setting.
Can't adjust LCD monitor with the buttons in the front. The other problem	<ul style="list-style-type: none"> ◆ Please contact the stores where you purchased the unit or service center listed at your warranty card.

MAINTENANCE

This product is under strict quality control in the production process. Maintaining the LCD monitor, refer to the description as below, and is important for maximizing the display performance and product life.

Warning: To prevent electrical shock, do not open the LCD monitor casing. Users shall not repair the LCD monitor on their own. Users' maintenance is limited to cleaning of the parts below.

Unplug the power	◆ Unplug the LCD monitor from an AC socket before conducting maintenance.
Check the cover	◆ Check to see if the LCD Monitor and accessories are damaged, broken, or strained.
Clean	◆ Never spray or pour any liquid directly onto the screen or case.
Cleaner	◆ Avoid water or and liquid permeating into the LCD monitor or accessories.
Screen	<ul style="list-style-type: none"> □ Pure water or non-ammonia, non-alcohol based glass cleaner. □ Do not use ketene (such as acetone), ethanol, toluene, acetic acid, methane, chloride, or abrasive detergent to clean the monitor because those chemicals can damage the LCD monitor.
Case	<ul style="list-style-type: none"> □ To clean your LCD monitor screen, use water or mild cleaner, as above, to gently moist a soft, clean cloth. □ If possible, use a special screen cleaner sheet or a solution suitable for static electricity application.
Accessory	<ul style="list-style-type: none"> □ To clean your LCD monitor case, use water or mild cleaner, as above, to gently moist a soft, clean cloth. □ To clean your accessories, use water or mild cleaner, as above, to gently moist a soft, clean cloth.
Conserve	◆ If the LCD monitor is not in use for a long time, please unplug and save in original box in order to avoid any unexpected damage.
Disclaimer	◆ Any damage resulting from use of any cleaner that is not mentioned above is not covered under this warranty term.

10"~19" SPECIFICATIONS

FEATURES:

- ◆ High Brightness.
- ◆ External OSD key board.
- ◆ Fast response time.
- ◆ Low electromagnetic wave and power saver.
- ◆ Safety certifications.



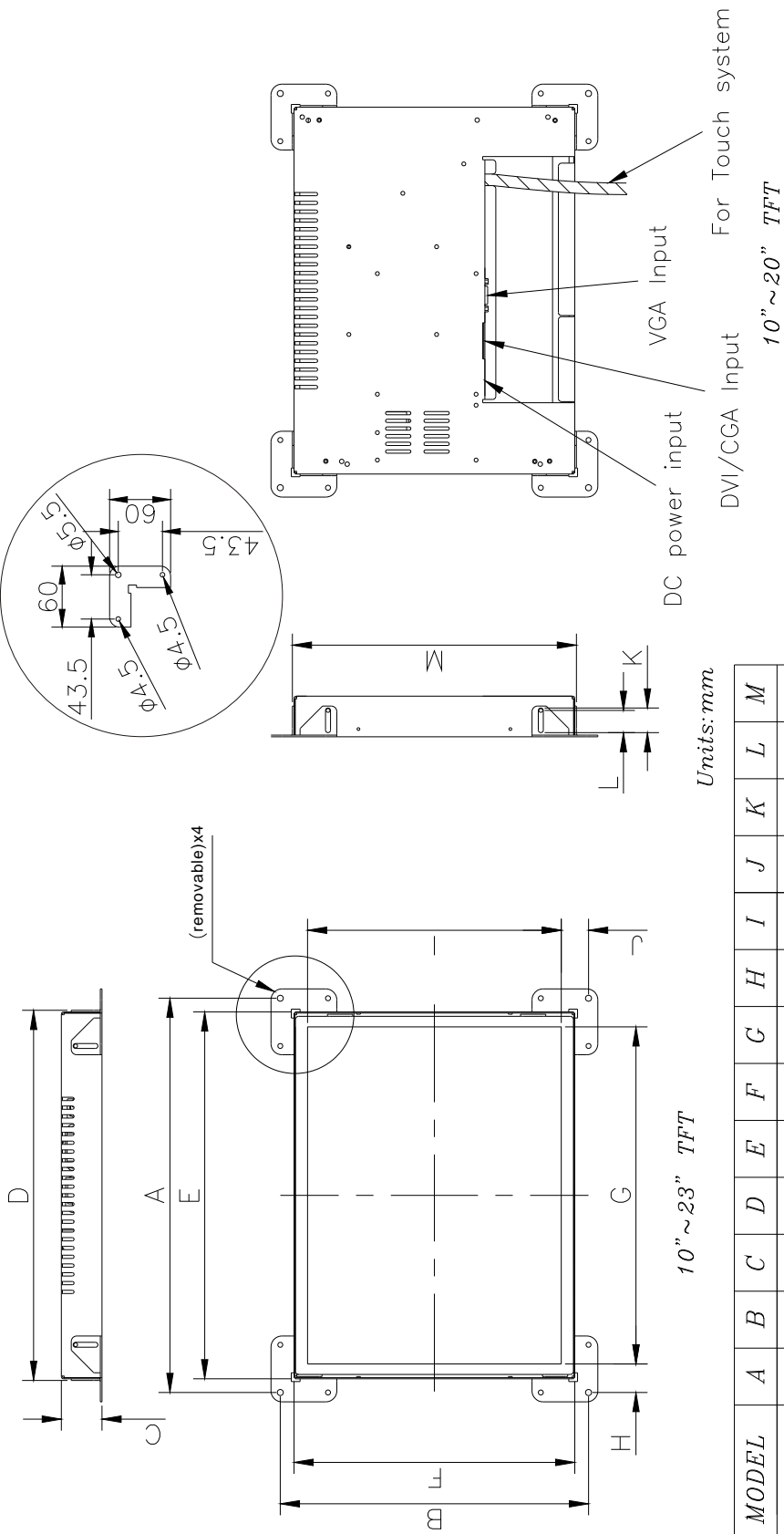
10"~20" LCD

Model		MT3210A	MT3214A	MT32151A	MT3217WA	MT32171A	MT3219A	MT32191A	MT3219WA	
Touch System	Model	CMT3210A	CMT3214A	CMT32151A	CMT3217WA	CMT32171A	CMT3219A	CMT32191A	CMT3219WA	
	3M Touch			AMT32151A		AMT32171A				
	A-Touch			OMT32151A		OMT32171A	OMT3219A	OMT32191A	OMT3219WA	
Model Selection Guide.		MT321XA@ (@=0 for PC only, @=1 for CGA+PC, @=2 for DVI+PC)								
LCD Panel	Screen Size	10.4" TFT		14.0" TFT	15.0" TFT	17.0" TFT		19.0" TFT		
	Pixel Pitch (mm)	0.264 x 0.264		0.4455 x 0.4455	0.297 x 0.297	0.28875 x 0.28875	0.264 x 0.264		0.294 x 0.294	0.285 x 0.285
	Backlight	CCFL x 2		CCFL x 4U	CCFL x 2	CCFL x 4				
	Cell Type	MVA		TN	MVA	TN	MVA	TN	TN	
Video	Aspect Ratio	4 : 3		4 : 3	4 : 3	15 : 9	4 : 3	4 : 3	16 : 10	
	Input Mode	CGA / EGA / VGA			CGA / EGA / XGA	WXGA	CGA / EGA / SXGA			WXGA
	Input Signal	0.7Vpp Analog 75 ohm								
Scan Frequency	Horizontal	15~37KHZ		15~60KHZ	15~70KHZ	15~80KHZ				
	Vertical	48~75HZ								
	Sync	TTL Level Separate, Composite								
Display	Horizontal Size	211.2mm	285.12mm	304.13mm	369.6mm	337.9mm	376.32mm		410.4mm	
	Vertical Size	158.4mm	213.84mm	228.10mm	221.76mm	270.34mm	301.056mm		256.5mm	
	Colors	262K Colors			16.2M Colors					
	Resolution	640 x 480		1024 x 768	1280 x 768	1280 x 1024	1280 x 1024		1440 x 900	
	Bandwidth	30MHZ Dot Clock			80MHZ Dot Clock	82MHZ Dot Clock	130MHZ Dot Clock	130MHZ Dot Clock		130MHZ Dot Clock
	Contrast Ratio	400 : 1 Typ.	500 : 1 Typ.	350 : 1 Typ.	600 : 1 Typ.	450 : 1 Typ.	500 : 1 Typ.			
	Brightness	350cd/m ²	400cd/m ²	250cd/m ²	450cd/m ²	300cd/m ²	250cd/m ²	300cd/m ²	300cd/m ²	
Power	Input	AC/DC Adapter 100~240VAC 47/63HZ 12VDC/4A		AC/DC Adapter 100~240VAC 47/63HZ 12VDC/3A	AC/DC Adapter 100~240VAC 47/63HZ 12VDC/4A					
	Consumption	20Wmax	40Wmax	40Wmax	42Wmax	42Wmax	45Wmax			
	Management	VESA-DPMS 20 Watts; Power Down Mode </=3 Watts		VESA-DPMS 40 Watts; Power Down Mode </=3 Watts	VESA-DPMS 42 Watts; Power Down Mode </=3 Watts	VESA-DPMS 42 Watts; Power Down Mode </=3 Watts	VESA-DPMS 45 Watts; Power Down Mode </=3 Watts			
Operations	Function Key	5 Keys								
	OSD Adjustment	Contrast, Brightness, Phase, Clock, H-position, V-position, V-size,... ,Exit								
Viewing Angle	Horizontal	120°	170°	120°	178°	140°	170°	150°	150°	
	Vertical	95°	170°	100°	178°	120°	170°	130°	130°	
Windows Compatibility		Windows 98 / 2000								
PC Interface		Analog Interface								
Signal Cable		Standard VGA cable w/15-pin D-sub								
Response Time (ton + toff)		40ms Typ	25ms Typ	23ms Typ	50ms Typ	16ms Typ	25ms Typ	8ms Typ	18ms Typ	
EMI / Safety					CE / TUV	CE / TUV				
Operating Temperature		0°C ~ 40°C								
Humidity		10 ~ 85%								
Outer Dimension (L x W x H) mm		236 x 178.5 x 34.5	311.5 x 242 x 61	334.5 x 256 x 36.5	419 x 262 x 42	368x 299 x 42	414.7 x 332.5 x 47		430 x 280x 48	
Packing Dimension (L x W x H) mm		326 x 385 x 278.5 mm*4 Pcs	412 x 424 x 342 mm*4 Pcs	430 x 393.5 x 404 mm*5 Pcs	520 x 348 x 362 mm*4 Pcs	464 x 352 x 399 mm*4 Pcs	507.5 x 365 x 432.5 mm*4Pcs		530 x 337 x 330 mm*4 Pcs	
Weight Approx	W / O Touch	18.0Kg / 6 Pcs	21.0Kg / 4 Pcs	23.5 Kg / 5 Pcs	26.0Kg / 4 Pcs	24kg / 4 Pcs	27.5 Kg / 4 Pcs		25 Kg / 4 Pcs	
	W / I Touch			27.5 Kg / 5 Pcs			32.5 Kg / 4 Pcs			

**Support
PC Timing**

Item	Resolution	H Freq.(kHz)	V Freq.(Hz)	Note
1	604x436@57	26.445	57.386	EGA
2	754x353@61	24.822	59.812	EGA
3	750x365@57	24.408	57.566	EGA
4	680X350@60	23.196	59.477	EGA
5	620x256@50	15.613	50.365	CGA
6	650x215@61	16.013	61.118	CGA
7	650x215@62	16.304	62.229	CGA
8	640x215@63	16.606	63.382	CGA
9	630x215@64	16.800	64.122	CGA
10	640x215@53	15.750	53.030	CGA
11	680x215@57	15.104	57.649	CGA
12	640x400@70	31.469	70.087	VGA
13	640x480@60	31.469	59.940	VESA
14	640x480@66	35.000	66.667	MAC
15	640x480@72	37.861	72.809	VESA
16	640x480@75	37.500	75.000	VESA
17	720x400@70	31.469	70.087	TEXT
18	800x600@56	35.156	56.250	VESA
19	800x600@60	37.879	60.317	VESA
20	800x600@72	48.077	72.188	VESA
21	800x600@75	46.875	75.000	VESA
22	832x624@75	49.107	75.087	MAC
23	1024x768@60	48.363	60.004	VESA
24	1024x768@70	56.476	70.069	VESA
25	1024x768@75	60.023	75.029	VESA
26	1024x768@75	60.241	75.020	MAC
27	1280x1024@60	64	60.003	VESA
28	1280x1024@70	74.5	70.087	VESA
29	1280x1024@72	76.8	72.0	VESA
30	1280x1024@75	80.0	75.0	VESA

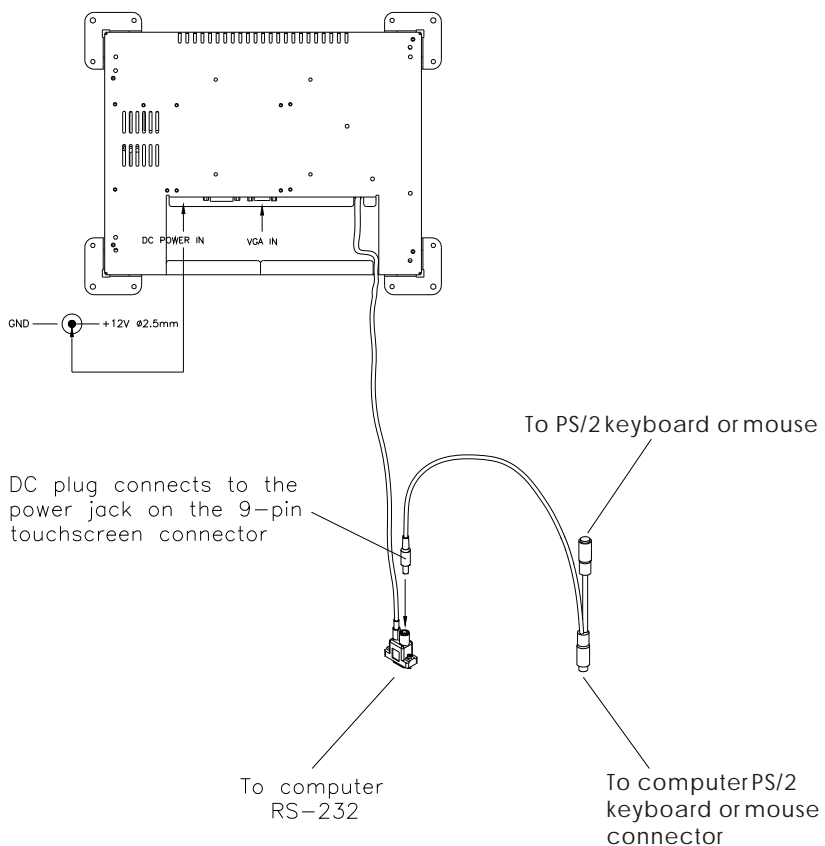
OUTER DIMENSION



MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M
MT3210A	261	203.8	34.4	239	236	178.8	215.4	23.5	161.8	22.2	22.5	20.2	181.8
MT3214A	339.4	270	61	314.4	311.4	242	289	25.1	217.8	26	34.5	32.5	245
MT3215A	359.5	281	37	337.5	334.5	256	307.4	26	231	24.8	22.5	20.2	259
MT3217A	393	324	43	371	368	299	341.2	26	274	24.2	22.5	20.2	302
MT3217WA	442.5	287	42	422	419	262	374.5	34	226.5	29	22.5	20.2	265
MT3219A	439.7	357.5	47	417.7	414.7	332.5	380	29.8	305	26.2	22.5	20.2	335.5
MT3219WA	455.2	305.4	48	433.2	430.2	280.4	414.3	34	260.4	29	22.5	20.2	283.4
MT3220A	477	281	45	455	452	350	413	32	311	32	22.5	20.2	353
MT3223A	556	324	78.5	534	531	329	506.5	24.7	306	27.7	22.5	20.2	332

TOUCH SYSTEM CONNECTION

<3M Touch>



<3M Touch>

