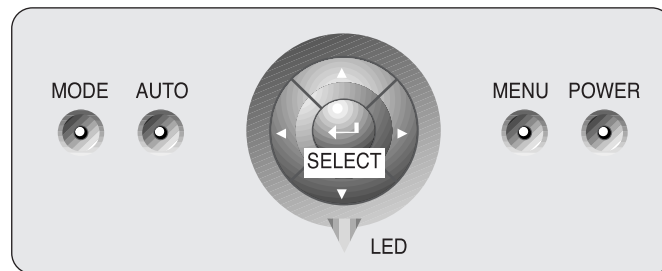


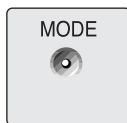
4 Adjusting The Monitor



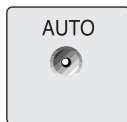
The Function Control Buttons



How to use the Hot Key.



: When you push the mode button, the mode changes PC ⇄ DIGITAL ⇄ VIDEO1 ⇄ VIDEO2 ⇄ TV. When the mode changes, time spend 2~3sec.



: When you push Auto button, this will optimize image quality automatically.



: When you push the Left/Right button, you can adjust the volume.



: When you push the Up/Down button, you can adjust the channel. (Only HLM170M)

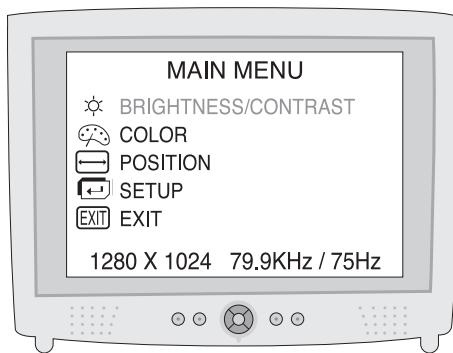
Notice

If you select "AIR" in channel of the menu, the channel displays from CH2 to CH 69.
If you select "CABLE", the channel displays from CH1 to CH125.
If you select "AUTO CHANNEL", the channel memorizes automatically.
(If receiving signal is weak, installation of the antenna.)



Main OSD Menu

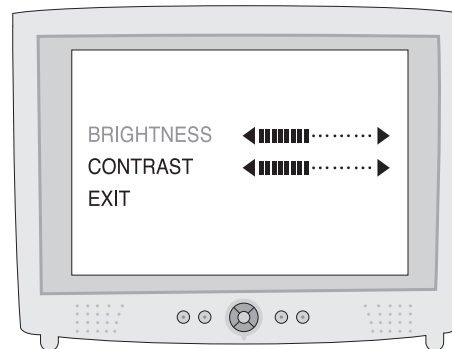
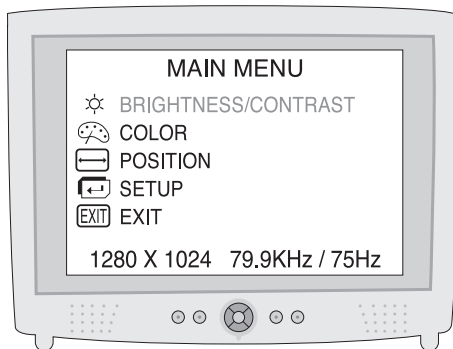
When you push the menu button, you can see below main OSD menu.



BRIGHTNESS/CONTRAST

Brightness / Contrast

- Brightness : Changes the overall light intensity of the images being displayed.
- Contrast : Changes the ratio of light intensity between the brightest white and darkest black.
- You can adjust contrast values that you want by this hot key.
- Default set : Discards current setting and replaces corresponding parameters with the factory default values about brightness/contrast.

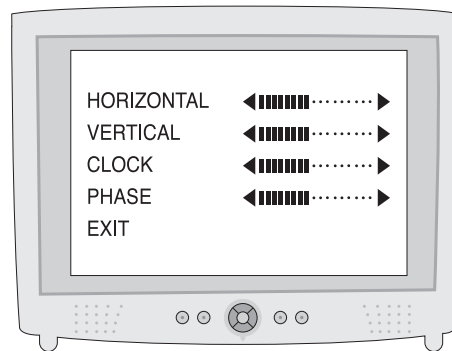
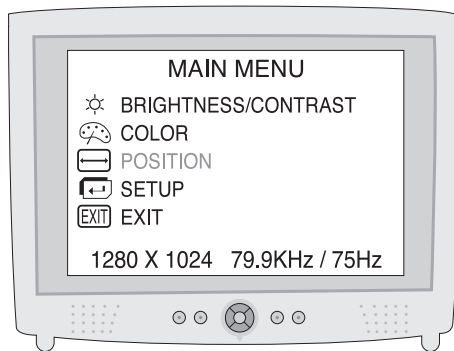




POSITION & CLOCK/PHASE

Clock / Phase

- When image is not clear, you can use clock/phase menu.
- PHASE/ CLOCK : Although 'Auto Adjustment' automatically finds the optimum values of Clock and Phase parameters as well as image position, it may be necessary for you to adjust those parameters manually. It is recommended for you to use 'Auto Adjustment' first. If the adjustment results are not satisfactory, then use Clock and Phase adjustment features to get the best adjustment results. Bear in mind that Clock and Phase adjustment may change the width of the image and affect image position as well. If the image is clear while out of center by a couple of pixels, use image position to center the image.
- Default set : Discards current setting and replaces corresponding parameters with the factory default values about Clock/Phase.



Position

- Changes the location of the image.
- H-Position : Moves to the Left/Right
- V-Position : Moves to the Bottom/Top

Notice

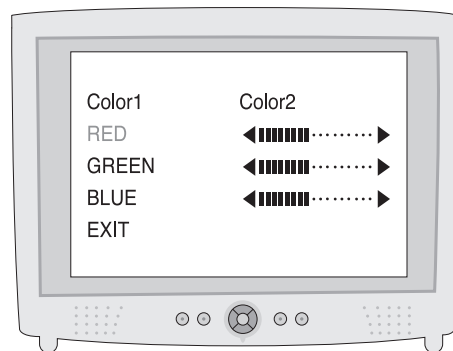
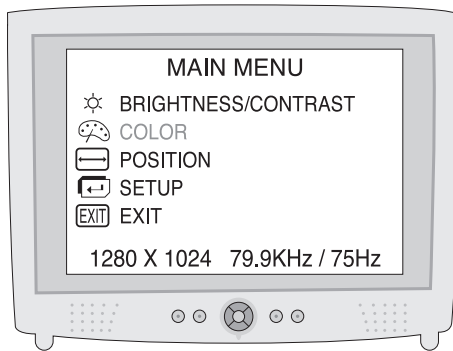
If image is not clear (noise), you can adjust Clock/Phase.



COLOR

COLOR

- The tone of color can be changed from bluish white to reddish white.
- Color1 - Blue type
- Color2 - Red type
- RED, GREEN, BLUE - You can adjust red, green and blue values that you want.



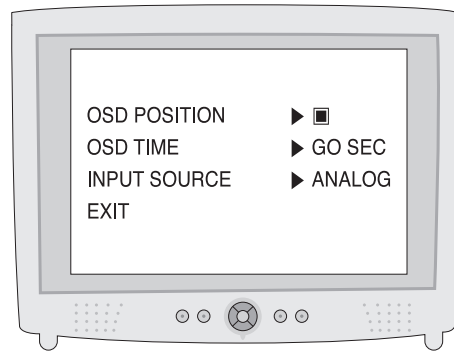
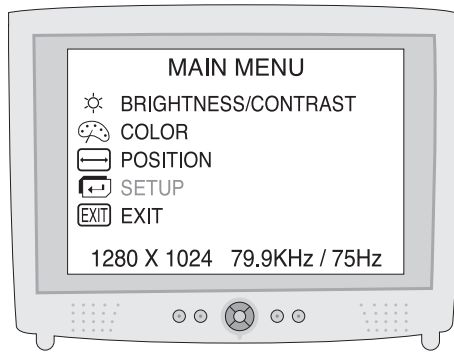


HLM170M/HLM170S®

OSD MENU ADJUSTMENT & INPUT SOURCE

OSD menu adjustment

- Sets the OSD menu display position.
- OSD Position : Moves the OSD menu to the horizontal or vertical direction.
- OSD TIME : Shows the OSD TIME displays from 5 to 60sec.



Input Source

- INPUT SOURCE : Selects input signal.
(PC ⇄ DIGITAL ⇄ VIDEO1 ⇄ VIDEO2 ⇄ TV)

Notice

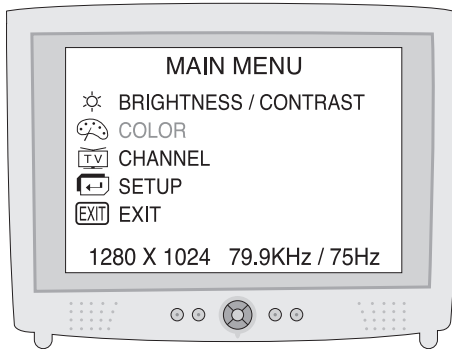
The mode button can adjust Input Source by hot key.
In this case, the mode change time spend 2~3sec.



VIDEO1, VIDEO2, TV

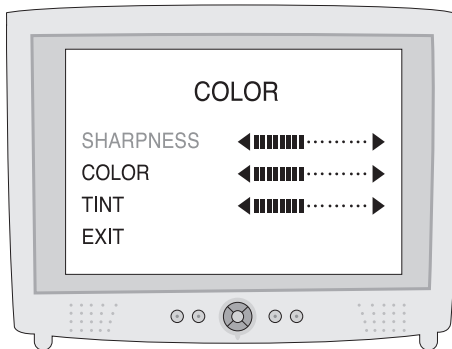
- Apply these functions (VIDEO1, VIDEO2, TV) to HLM170M.

• MAIN MENU



- BRIGHTNESS / CONTRAST : Increase or decreases the light intensity of the screen / increase or decrease the ratio of the light intensity between the brightest white and the darkest black.
- COLOR : Refer to below color menu.
- CHANNEL : Refer to below channel menu. (TV installation)
- SETUP : Refer to OSD menu adjustment.
- EXIT : Finish the current status.

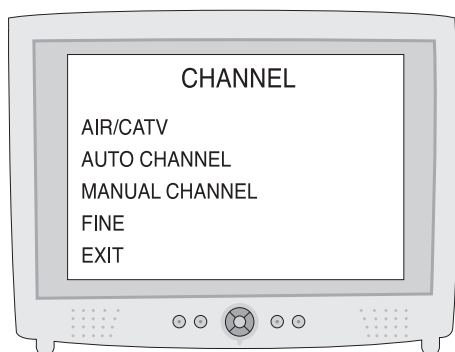
• COLOR



- SHARPNESS : Make image of the VIDEO/TV looked sharper.
- COLOR : Adjust color intensity of the VIDEO/TV.
- TINT : Adjust a color tone of the VIDEO/TV.
- SETUP : Refer to OSD menu adjustment.

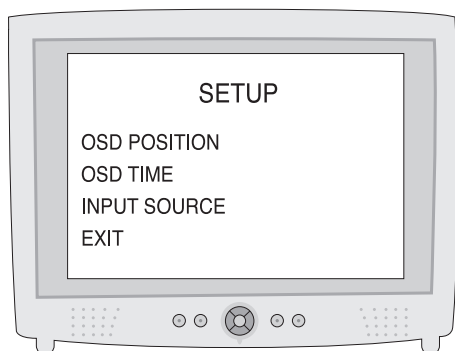


• CHANNEL



- AIR/CATV : Select AIR or CATV.
- AUTO CHANNEL : Search the channel automatically.
(SELECT button ◀ ▶ button : select channel ◀
SELECT button (ADD/DEL))
- MANUAL CHANNEL : Search the channel manually.
- FINE : Adjust image quality of the TV.

• SETUP



- OSD POSITION : Set the OSD menu display position.
- OSD TIME : Show the OSD display time.
- INPUT SOURCE : Select input signal.
(PC ◀ DIGITAL ◀ VIDEO1 ◀ VIDEO2 ◀ TV)

5 Appendix



Appendix A. Specifications

Panel	Type	TFT active matrix
	Size	17inch 337.92 X 270.336 mm
	Brightness	250cd/m ²
	Viewing Angle [L/R/U/D]	L/R : 75/75° U/D : 65/60°
	Pixel Pitch	0.264 mm X 0.264 mm
	Display Color	8-bit (16,777,216 colors)
	Response Time	Tr : 5 ms, Tf : 20ms
Display Resolution	Basic	1280 x 1024 @60Hz
	Maximum	1280 x 1024 @75Hz
Frequency	Horizontal	31.5~80KHz
	Vertical	56~75Hz
Sync Signal		TTL, P. or N.
Connector		Analog RGB (0.7Vp-p, 75Ω) D-Sub 15pin connector DVI 24pin connector *1 Speaker Input /Headphone Output (Audio Cable) Antenna *2 Video1(Composite) RCA JACK *2 Video2(S-Video) MINIDEAN JACK *2 Line Out *2
Tilting Degree (U/D)		+10/+30 Degree
Plug & Play		VESA DDC1/2B/2Bi
Power	Input	90~265 VAC
	Output	Adapter DC 12V, 4.16A
	Consumption	Under 40W
	Standby mode	5W less
Power Management		VESA DPMS
Environmental Considerations	Temperature	0 ~ 40 °C (32 °F ~ 104 °F)
	Humidity	90% less



HLM170M/HLM170S*

Dimensions	Outside	413mm(W) X 407mm(D) X 162mm(H)
Weight	Monitor	5.8kg
	Carton	3kg

※ The specification of this monitor is subject to be changed without notice to improve performance.

※ *1 is option

※ *2 is HLM170M only

Appendix B. Display Modes

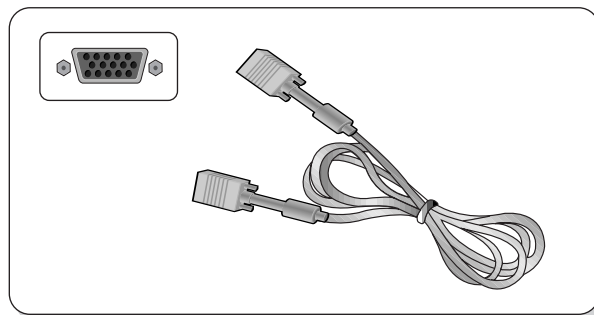
Mode	Resolution	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Pixel Clock Frequency (MHz)	Sync Polarity (H/V)
VGA	720 X 400	31.468	70.087	28.322	-/+
	640 X 480	31.468	59.940	25.175	-/-
		35.000	66.670	30.240	-/-
		37.500	75.000	31.500	-/-
SVGA	800 X 600	37.879	60.300	40.000	+/+
		48.077	72.188	50.000	+/+
		46.875	75.000	49.500	+/+
XGA	1024 X 768	48.363	60.004	65.000	-/-
		56.476	70.000	75.000	-/-
		60.023	75.029	78.750	+/+
SXGA	1280 X 1024	63.981	60.020	108.000	+,-/+,-
		79.976	75.025	135.000	+/+



Appendix C. 15-pin D-Sub Connector

- Input signal : Analog RGB
- 15-pin D-Sub connector

Pin No.	Signal Name	Pin No.	Signal Name	Pin No.	Signal Name
1	Analog Red Input	6	Analog Red Ground	11	Ground
2	Analog Green Input	7	Analog Green Ground	12	DDC Data
3	Analog Blue Input	8	Analog Blue Ground	13	Horizontal Sync
4	Ground	9	No Connect	14	Vertical Sync
5	DDC Ground	10	Sync Ground	15	DDC Clock



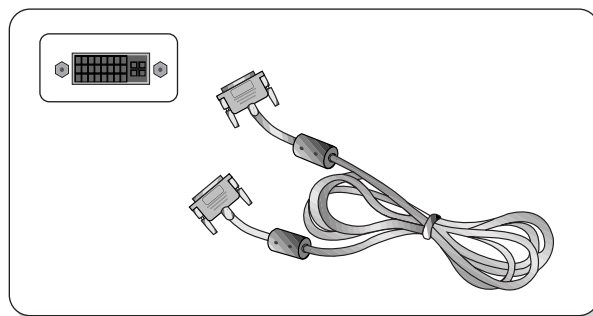
15pin D-Sub Signal Cable



Appendix D. 24-pin DVI Connector

- Input signal : Digital
- 24-pin DVI connector

Pin No.	Signal Name	Pin No.	Signal Name	Pin No.	Signal Name
1	TMDS DATA2-	9	TMDS DATA1-	17	TMDS DATA-
2	TMDS DATA2+	10	TMDS DATA1+	18	TMDS DATA+
3	DGND	11	DGND	19	DGND
4	NC	12	NC	20	NC
5	NC	13	NC	21	NC
6	DDC CLOCK	14	+5V POWER	22	DGND
7	DDC DATA	15	AGND	23	TMDS CLOCK+
8	Analog vertical Sync	16	NC	24	TMDS CLOCK-



DVI



Appendix D. DPMS Power Saving Mode

This monitor has a built-in power management system called DPMS Power Saving Mode. This system saves energy by switching your monitor into a low-power mode when it has not been used for a certain period of time. The available modes are “ON”, “Standby”, “Suspend”, and “OFF”.

State	Signal			Power Consumption	Recovery Time	LED Color and Operating status
	H-sync	V-sync	RGB			
ON	Active	Active	Active	Under 40Watt	-	Green
Standby mode	Inactive	Active	Blanked	Less than 5Watt	Within 2 Sec	Alternating Green/Orange (0.5 Sec interval)
Suspend mode	Active	Inactive	Blanked			Alternating Green/Orange (1 Sec interval)
OFF	Inactive	Inactive	Blanked			Orange

6 Troubleshooting



What you see...	Suggested Actions
Screen is blank and power indicator is off	<ul style="list-style-type: none"> • Ensure that the power cord is firmly connected and the LCD monitor is on.
“out of range” message	<ul style="list-style-type: none"> • Check the maximum resolution and the frequency of the video adaptor. • Compare these values with the data in the Display Modes Timing Chart.
“No signal input” message	<ul style="list-style-type: none"> • Ensure that the signal cable is firmly connected to the PC or video sources. • Ensure that the PC or video sources are turned on.
Image is not stable and may appear to vibrate	<ul style="list-style-type: none"> • Check that the display resolution and frequency from your PC or video board is an available mode for your monitor. On your computer check : Control Panel, Display, Settings • Note : Your monitor supports multiscan display functions within the following frequency domain: <ul style="list-style-type: none"> • Horizontal frequency : 31~60KHz • Vertical frequency : 55~75Hz • Maximum refresh rate : 1024 x 768 @75Hz
The image is too light or too dark	<ul style="list-style-type: none"> • Adjust the Brightness and Contrast. • Refer to the Brightness/Contrast
The image color is not good	<ul style="list-style-type: none"> • Adjust the Color • Refer to the Color
Image is not centered on the screen	<ul style="list-style-type: none"> • Executes Auto Configuration.
Screen is blank and power indicator light is steady amber or blinks every 0.5 or 1 seconds	<ul style="list-style-type: none"> • The monitor is using its power management system. • Move the computer’s mouse or press a key on the keyboard.