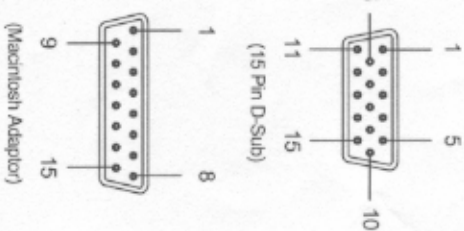


■ Pin assignment table D-Sub Mini 15pin connector

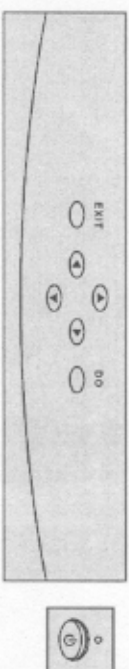
Pin No.	15 Pin D-Sub	Macintosh
1	Red Video	Red Ground
2	Green Video	Red Video
3	Blue Video	HV Sync
4	Frame Ground	Sense (0)
5	N.C	Green Video
6	Red Ground	Green Ground
7	Green Ground	Sense (1)
8	Blue Ground	N.C
9	N.C	Blue Video
10	Sync. Ground	Sense (2)
11	Ground	Ground
12	SDA	V-Sync.
13	H-Sync.	Blue Ground
14	V-Sync.	Ground
15	SCL	H-Sync.



■ Function of controls

OSD Controls

"ON SCREEN MENU" controls include the following extended controls such as Size, Position, Geometry Distortion, Color temp, Degauss, More on & off, Language, OSD-Position, Recall, Cont & Bit, etc.



Function of OSD buttons on the front of the monitor

- DO : In the main menu, proceeds to the selected menu.
- In a submenu, proceeds to the control in that sub-menu.
- Controls ▲/▼ : Move the function to select one of the controls.
- Controls ◀/▶ : In the main menu, moves the function to select one of the controls.
- In a submenu, moves the bar in the ◀ or ▶ direction to increase or decrease the adjustment.
- EXIT : In the main menu, exit the OSD controls. In a submenu, exit to the OSD main menu.

Additional up front controls

- Power Switch : Turns the monitor power on or off. When the power is on, the LED is lit.

Accessing on screen menu

Press DO Button.

- Controls ▲/▼ : Direct Brightness access.
- Controls ◀/▶ : Direct Contrast access.

Turning off on screen menu

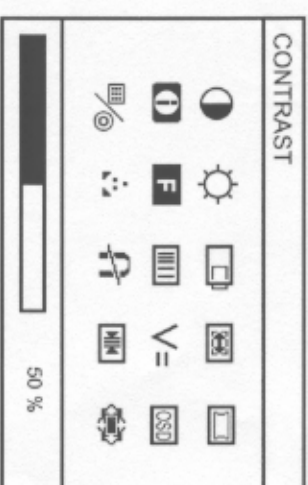
When in the main menu, press exit button.

When in submenus, press the exit button twice.

■ OSD Menus

Main Menu

"ON SCREEN MENU" Main Menu of Controls gives you an overview of the selection of controls available.



Use the ▲/▼ or ◀/▶ : Control buttons to scroll through all of the menus.

Main Menu control guide

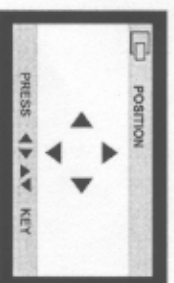
- EXIT : Exit the OSD controls.
- Controls ▲/▼ : Move the function to choose.
- Controls ◀/▶ : Move the function to choose.
- DO : Proceed to the selected menu choice.

Contrast & Brightness Menu



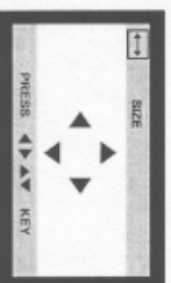
- EXIT : Exit the Brightness or Contrast menu.
- Cursor ▲/▼ : Increase or decrease the Brightness
- Cursor ◀/▶ : Increase or decrease the Contrast.

Position Menu



- ▲/▼ : Move the image vertically up or down.
- ◀/▶ : Move the image horizontally left or right.

Size Menu

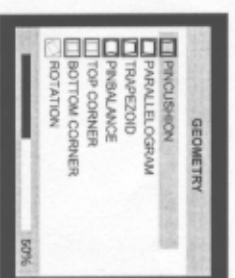


- ▲/▼ : Increase or decrease the vertical size of the image.
- ◀/▶ : Increase or decrease the horizontal size of the image.

Position and Size Menu control guide

- EXIT : Exit to the main menu.
- Controls ▲/▼ : Refer to Tall/Short (or ▲/▼)
- Controls ◀/▶ : Refer to Narrow/Wide (or ◀/▶)
- DO : Toggle position and size menu directly.

Geometry Controls Menu



The Geometry controls allow you to adjust the curvature or angle of displayed image.

- Pincushion : Increase or decrease the curvature of the sides either inward or outward.
- Parallelogram : Increase or decrease the tilt of the sides either to the left or right.
- Trapezoid : Increase or decreases the bottom of the screen to be the same as the top.
- Pin Balance : Increase or decrease the curvature of the sides.
- Top Corner : Increase or decreases the curvature of the top sides.
- Bottom Corner : Increase or decrease the curvature of the bottom sides.
- Rotation : Rotate the entire display clockwise or counterclockwise.

Geometry Menu Control Guide

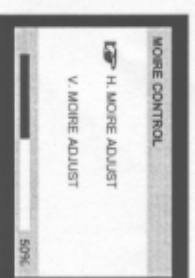
- EXIT : Exit to the main menu.
- Controls ▲/▼ : Move the function to choose.
- Controls ◀/▶ : Move the bar in the ◀ or ▶ direction to increase or decrease the adjustment.

Language Menu



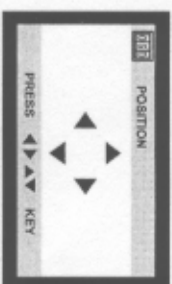
- ▲/▼ : Select the language using ▲/▼ key.

Moire Control



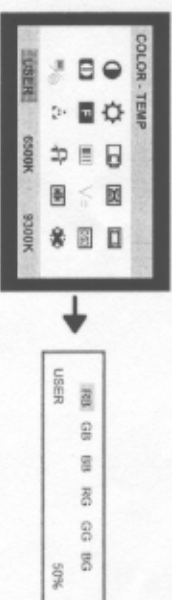
- ▲/▼ : Select the H. Moire or V. Moire Adjust.
- ◀/▶ : Adjust the Moire

OSD Position Menu



- ▲/▼ : Moves the OSD Position vertically up or down.
- ◀/▶ : Moves the OSD Position horizontally left or right.

Color Adjust Controls Menu



- EXIT : Exit to the main menu.
- Controls ▲/▼ : Increase or decrease the Selected color adjustment.
- Controls ◀/▶ : Move the bar in the ◀ or ▶ direction to select the color setting (USER, 6500K, 9300K).
- DO : Proceed to the selected Submenu choice (Press DO button for 5 seconds).
- Presetting : Select the desired color setting. The bar is replaced by the color setting choice "USER, 6500K or 9300K". Each color setting is adjusted at user mode to choose degree or Kelvin.

Controls	ICON	Function
Information		This control shows the Factory and user mode information.
Video Level		This control allows the video input level selection applied by signal source. (0.7Vp-p1.0Vp-p)
D-Sub/BNC		This control allows the video input type selection. (BNC/D-SUB)
DeGauss		This control removes the build-up of magnetic fields that can affect color purity and convergence. Note : The picture shakes while degaussing is taking place. After internal degaussing the circuitry takes about 30 minutes to regain its maximum power.
Recall		This controls recalls certain factory setting such as size, position, geometry and color by pressing DO button. If the monitor is operation in a user mode, this controls has no effect.
Zoom Menu		◀/▶ : Increase or decrease the Vertical and Horizontal size of image at the same time.

■ Troubleshooting guide

If your monitor is not performing properly, please use the following troubleshooting chart for quick solutions to common problems.

Problem	Possible cause	Remedy
No Picture	Is the power cord connected?	Connect power cord.
	Is the power switch on?	Turn on power switch.
	Is the signal cable properly connected?	Connect signal cable properly
Picture is unstable	Is the monitor in the power save mode?	Press any key on the keyboard or move the mouse.
	Is the signal cable properly connected?	Connect signal cable properly
	Are there signals which are outside of the required frequency range?	Input signals which are within the range of the monitor.
The display image is not centered, too small or large.	Is the signal connector pin assignments correct?	Use correct signal connector.
	Are there signals which are outside of the required frequency range?	Use correct signal which within the frequency range of the monitor (if the signal is correct, adjust the controls to desired image.)
	Is the magnetic object nearby?	Move object far away.
The color of image on screen is abnormal.	Is the pin arrangement of the signal connector correct?	Use correct signal cable. Use degauss control.

■ Electrical Specifications

ITEM	B19CL
CRT Type	19", 90° deflection, FST
CRT Dot pitch	0.26mm (0.22 in Hor.)
CRT Surface	Non-glare, APASC
Input Signal	H/V Separate, TTL, positive/negative H/V Composite, TTL, positive/negative RGB Analog (0.7Vp-p), positive
Video	75 Ω Terminated
Scanning frequency	Horizontal 30kHz~96kHz (Automatically) Vertical 47Hz~150Hz (Automatically)
Maximum Resolution	1600Dots × 1200Lines (Non-Interface)
Pixel Clock(Max.)	202.5 MHz
Display Size (Standard)	Horizontal 350mm, Vertical 262mm
Power Consumption	120 W
Power Supply	AC 100~240Volt 50/60Hz ±3Hz
Input Connector	D-Sub, 15Pin Connectors
Display Colors	Unlimited

■ Mechanical Specifications

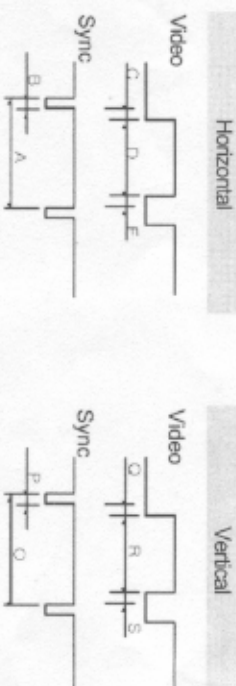
ITEM	B19CL
Dimension	18.5"(W) × 18.9"(D) × 18.5"(H) 470mm(W) × 487mm(D) × 470mm(H) 21.6"(W) × 22.6"(D) × 22.4"(H) 548mm(W) × 574mm(D) × 568mm(H)
Weight	Net 23.1kg (50.9lbs) Gross 28.1kg (61.9lbs)

■ Environmental Specifications

ITEM	B19CL
Temperature	Operating 32°F to 104°F (0°C to 40°C) Storage -4°F to 140°F (-20°C to 60°C)
Humidity	10% to 85% R.H. Non-condensing

■ Preset Timings

This Monitor B19AL has preset modes for the 14 most popular industry standards for "Plug and Play" capability.



Resolution	IBM				VESA			
	VGA/70Hz 720 × 400	VGA/60Hz 640 × 480	640/75Hz 640 × 480	640/60Hz 640 × 480	800/75Hz 800 × 600	800/60Hz 800 × 600	1024/75Hz 1024 × 768	1024/60Hz 1024 × 768
Timing								
H-Freq	31.469	31.469	37.5	37.5	43.289	43.289	53.674	53.674
A _{sync}	31.777	31.777	28.667	23.111	23.333	18.631	16.660	16.660
B _{sync}	3.813	3.813	2.032	1.556	1.616	1.138	1.219	1.219
C _{sync}	1.907	1.907	3.61	2.222	3.232	2.702	2.235	2.235
D _{sync}	26.422	26.422	20.317	17.778	16.162	14.222	13.003	13.003
E _{sync}	0.636	0.636	0.508	0.323	0.569	0.203	0.077	0.077
V-Freq	70.09	59.94	75	85.006	75	85.061	75.029	75.029
Onscreen	14.268	16.694	13.333	11.764	13.333	11.766	13.328	13.328
Prasec	0.064	0.064	0.08	0.069	0.064	0.056	0.056	0.056
Onmsc	1.08	1.046	0.427	0.578	0.448	0.503	0.466	0.466
Rmsc	12.711	16.253	12.8	11.093	12.8	11.179	12.785	12.785
Srsec	0.413	0.316	0.027	0.023	0.021	0.019	0.017	0.017
Pixel rate	25.322	25.175	31.500	36	49.5	66.25	78.750	78.750
H-Polarity	Negative	Negative	Negative	Negative	Negative	Positive	Positive	Positive
V-Polarity	Positive	Negative	Negative	Negative	Negative	Positive	Positive	Positive

Resolution	VESA				MACINTOSH			
	1024/65Hz 1024 × 768	1280/75Hz 1280 × 1024	1280/65Hz 1280 × 1024	1600/75Hz 1600 × 1200	640/67Hz 640 × 480	832/75Hz 832 × 624	1152/75Hz 1152 × 870	1152/60Hz 1152 × 870
Timing								
H-Freq	68.677	79.976	81.146	93.75	35	49.726	68.681	68.681
A _{sync}	14.561	12.504	10.971	10.667	28.571	20.11	14.560	14.560
B _{sync}	1.016	1.067	1.016	0.948	2.116	1.117	1.280	1.280
C _{sync}	2.201	1.837	1.422	1.501	3.175	3.91	1.440	1.440
D _{sync}	10.836	9.481	8.127	7.901	21.164	14.524	11.520	11.520
E _{sync}	0.508	0.119	0.406	0.316	2.116	0.559	0.320	0.320
V-Freq	84.997	75.025	85.024	75.000	66.667	74.551	75.062	75.062
Onscreen	11.765	13.329	11.761	13.333	15	13.414	13.322	13.322
Prasec	0.044	0.030	0.033	0.052	0.096	0.06	0.044	0.044
Onmsc	0.524	0.475	0.579	0.491	1.114	0.784	0.568	0.568
Rmsc	11.183	12.804	11.235	12.800	13.714	12.549	12.667	12.667
Srsec	0.015	0.013	0.011	0.011	0.096	0.02	0.044	0.044
Pixel rate	64.5	135	167.5	202.5	30.24	57.284	100	100
H-Polarity	Positive	Positive	Positive	Positive	Negative	Negative	Negative	Negative
V-Polarity	Positive	Positive	Positive	Positive	Negative	Negative	Negative	Negative