

## 3 Product Specifications

### 3-1 Specifications

Item	Description	
Picture Tube:	15-Inch (38 cm): 13.8-inch (35 cm) viewable, 16-Inch (40 cm): 15.0-inch (38 cm) viewable, 17-Inch (43 cm): 15.7-inch (39.80 cm) viewable, Full-square flat-face tube, 90° Deflection, 0.28 mm Dot pitch, Semi- tint, Non-glare, Invar shadow mask, Anti-static silica coating Conventional type (16"), AK Shadow mask (16")	
Scanning Frequency	Horizontal : 30 kHz to 70 kHz (Automatic) Vertical : 50 Hz to 160 Hz (Automatic)	
Display Colors	Unlimited colors	
Maximum Resolution	Horizontal : 1280 Dots                      Vertical : 1024 Lines	
Input Video Signal	Analog, 0.714 Vp-p positive at 75 $\Omega$ , internally terminated	
Input Sync Signal	Separate Sync : TTL level positive/negative	
Maximum Pixel Clock rate	110 MHz	
Active Display	CHB5**7L ; Horizontal : 267 mm $\pm$ 3 mm, Vertical : 200 mm $\pm$ 3 mm CHB6**7L ; Horizontal : 290 mm $\pm$ 3 mm, Vertical : 217.5 mm $\pm$ 3 mm CHB7**7L ; Horizontal : 306 mm $\pm$ 3 mm (4:3 ratio), Vertical : 230 mm $\pm$ 3 mm	
Input Voltage	AC 90 to 264 Volts, 60 Hz or 50 Hz $\pm$ 3 Hz	
Power Consumption	80 Watt (max) : 15"/16", 90 Watt (max) : 17"	
Dimensions	Unit (W x D x H)	Carton (W x D x H)
	CHB5**7L	14.3 x 15.4 x 14.8 Inches (362 x 390 x 377 mm)
	CHB6**7L	15.6 x 16.7 x 16.1 Inches (395 x 425 x 401 mm)
	CHB7**7L	16.5 x 16.7 x 16.6 Inches (420 x 425 x 421 mm)
Weight  (Net/Gross)	CHB5**7L : 27.94 lbs (12.7 kg) / 31.90 lbs (14.5 kg) CHB6**7L : 32.63 lbs (14.8 kg) / 37.04 lbs (116.8 kg) CHB7**7L : 36.38 lbs (16.5 kg) / 41.89 lbs (19 kg)	
Environmental Considerations	Operating Temperature : 32°F to 104°F (0°C to 40°C) Humidity : 10 % to 80 %  Storage Temperature : -4°F to 113°F (-20°C to 45°C) Humidity : 5 % to 95 %	
Speaker System Specifications (Optional)	<ul style="list-style-type: none"><li>• Output Power : 3 Watt/CH (THD 10%)</li><li>• Speaker Drivers : 2 Inch Neodymium</li><li>• Impedance (System) : 4 ohm <math>\pm</math> 15%</li><li>• S/N Ratio : 50 dB      • Accessory : Two (2) Stereo Cable</li><li>• Frequency Response : 240 Hz – 15,000 Hz</li><li>• Input Level : 500 mV <math>\pm</math> 50 mV</li><li>• Power Supply : from Monitor 12V 1A</li><li>• Net : 1.7 lbs (770g)      • Dimensions : 10.2" (D) x 10.8" (W) x 3.3" (H)</li></ul>	
<ul style="list-style-type: none"><li>• Above models comply with SWEDAC (MPR II) recommendations for reduced electromagnetic fields.</li><li>• Designs and specifications are subject to change without prior notice.</li></ul>		

3-2 Pin Assignments

<div><div>Sync Type</div><div>Pin No.</div></div>	15-Pin Signal Cable Connector (Figure 3-1)	Cable Adapter (Figure 3-2)
	Separate	Macintosh
1	Red	GND-R
2	Green	Red
3	Blue	H/V Sync
4	GND	Sense 0
5	DDC Return	Green
6	GND-R	GND-G
7	GND-G	Sense 1
8	GND-B	Reserved
9	Reserved	Blue
10	GND-Sync/Self-raster	Sense 2
11	GND	GND
12	DDC Data	V-Sync
13	H-Sync	GND-B
14	V-Sync	GND
15	DDC Clock	H-Sync

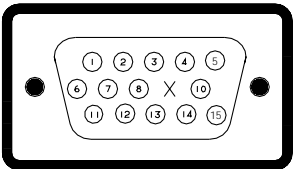


Figure 3-1. Male Type

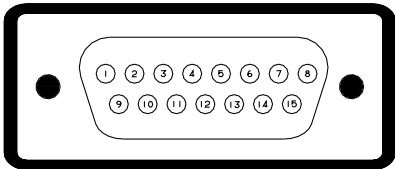


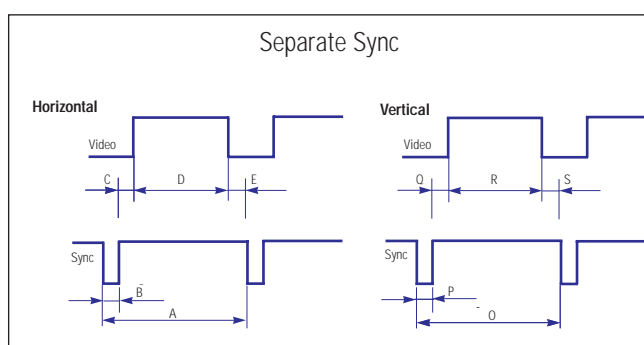
Figure 3-2. Male Type

### 3-3 Timing Chart

This section of the service manual describes the timing that the computer industry recognizes as standard for computer-generated video signals.

Table 3-1. Timing Chart

Mode  Timing	IBM		VESA					
	VGA2/70 Hz 720 x 400	VGA3/60 Hz 640 x 480	640/75 Hz 640 x 480	640/85 Hz 640 x 480	800/75 Hz 800 x 600	800/85 Hz 800 x 600	1024/75 Hz 1024 x 768	1024/85 Hz 1024 x 768
fH (kHz)	31.469	31.469	37.500	43.269	46.875	53.674	60.023	68.677
A $\mu$ sec	31.777	31.778	26.667	23.111	21.333	18.631	16.660	14.561
B $\mu$ sec	3.813	3.813	2.032	1.556	1.616	1.138	1.219	1.016
C $\mu$ sec	1.907	1.907	3.810	2.222	3.232	2.702	2.235	2.201
D $\mu$ sec	25.422	25.422	20.317	17.778	16.162	14.222	13.003	10.836
E $\mu$ sec	0.636	0.636	0.508	1.556	0.323	0.569	0.203	0.508
fV (Hz)	70.087	59.940	75.000	85.008	75.000	85.061	75.029	84.997
O msec	14.268	16.683	13.333	11.764	13.333	11.756	13.328	11.765
P msec	0.064	0.064	0.080	0.671	0.064	0.056	0.050	0.044
Q msec	1.080	1.048	0.427	0.578	0.448	0.503	0.466	0.524
R msec	12.711	15.253	12.800	11.093	12.800	11.179	12.795	11.183
S msec	0.413	0.318	0.027	0.023	0.021	0.019	0.017	0.015
Clock Frequency (MHz)	28.322	25.175	31.500	49.500	36.000	56.250	78.750	94.500
Polarity H.Sync	Negative	Negative	Negative	Negative	Positive	Positive	Positive	Positive
V.Sync	Positive	Negative	Negative	Negative	Positive	Positive	Positive	Positive
Remark	Separate	Separate	Separate	Separate	Separate	Separate	Separate	Separate



A : Line time total

B : Horizontal sync width

O : Frame time total

P : Vertical sync width

C : Back porch

D : Active time

Q : Back porch

R : Active time

E : Front porch

S : Front porch

## Memo