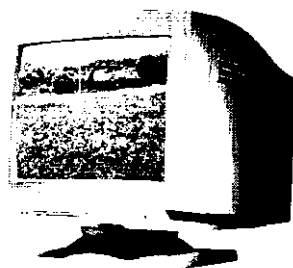


DB-456 SERIES
User's Guide



14" High Resolution Color Monitor

Federal Communications Commission (FCC) Statement

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.

Warning:

- It is essential that only the supplied power cord be used.
- Use only shielded signal cables to connect I/O devices to this equipment.
- You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void by your authority to operate the equipment.



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1 Introduction

DB-456 AA is a high performance digital color monitor for use with IBM PC/XT/AT and PS/2 computers or compatibles with analog RGB output.

Contents of purchase

Your DB-456 AA package includes the following:

- **DB-456 AA** high performance color monitor.
- Power cord.
- User's guide.

Features

- True multi scanning ability allows automatic tracking of horizontal frequencies from **30** to **57** KHz and vertical frequencies from **50** to **120** Hz.
- Microprocessor based controls save your adjustments for each video mode. There is no need to make adjustments every time you use your computer.
- **Ten** factory preset modes are available for image size and positioning.
- **Ten** additional timings are user definable for a total of **20** timing setting.
- Digital control system Horizontal size/center Vertical size/center Pincushion Trapezoid are adjustable to adapt to a variety of graphic cards.
- Fine phosphor pitch provides greater image clarity.
- Equipped with **DDC1, DDC2B** for plug&play compatibility.
- Universal power supply input of AC **100~240V 50/60**Hz.
- Power management circuit conforms to VESA DPMS standards and controls energy consumption when the monitor is not in use.
- Automatic degaussing circuit which activates when the monitor is turned-on at cold start.

▼ Dimensions

Front View

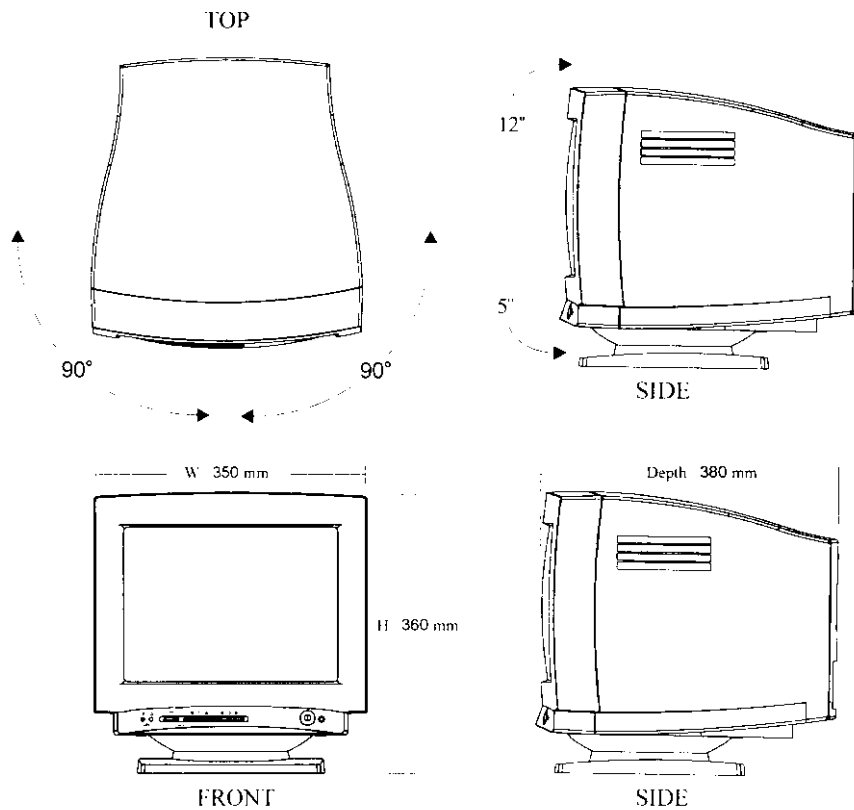
Width: 350 mm
Height: 360 mm
Base: 240 mm

Side View

Depth: 380 mm
Tilt
UP: 12°
DOWN: 5°

Top View

Depth: 380 mm
Swivel Angle
LEFT: 90°
RIGHT: 90°

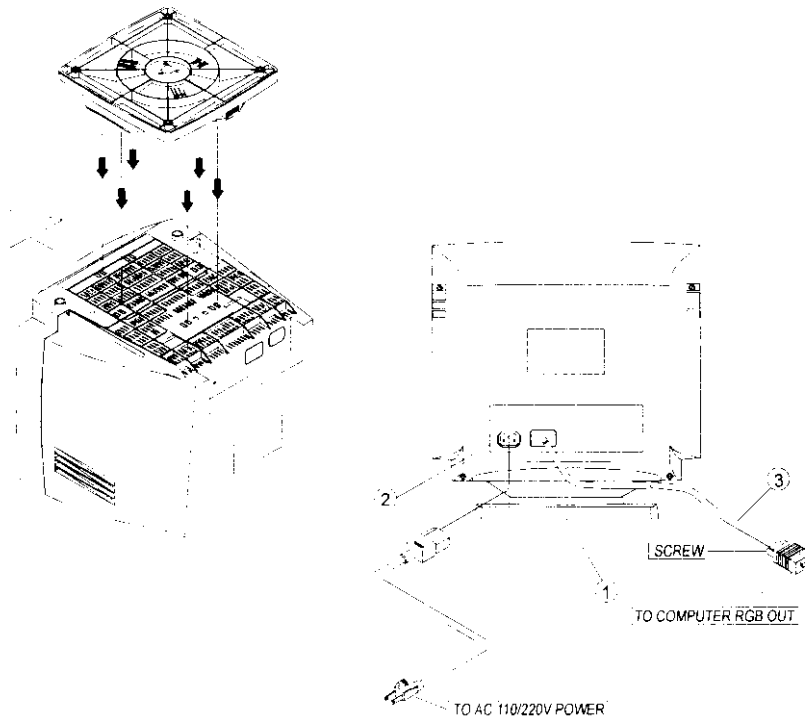


2 Installation

Caution:

Be sure to turn off the AC power to the monitor before making connections.

1. Assemble the tilt swivel base as show below.
2. Connect the power cord as show below.
3. Connect the end of the signal cable to the display connector of computer and tighten the screws as show below.
4. Turn monitor on and then turn computer on.



▼ Using the right power cord for 230VAC

For units used at 120V : Use a UL list cord set consisting of a minimum No.18 AWG, Type SVT or SJT, rated 6A minimum 125V, three conductor cord a maximum of 15 ft in length and a parallel blade, grounding type attachment plug.

For units used at 230V(domestic use) : Use a UL list cord set consisting of a minimum No.18 AWG, Type SVT or SJT, rated 3A minimum 250V, three conductor cord a maximum of 15 ft in length and a tandem blade, grounding type attachment plug

For units used at 230V(outside of U.S.) : Use a cord set consisting of a minimum No.18 AWG cord and grounding type attachment plug rated 3A minimum 250V. The cord set should have the appropriate safety approvals for the country in which the equipment will be installed and marked HAR.

Tilt/swivel base

Turn the monitor to a comfortable viewing angle within *180* degrees horizontally and *17* degrees vertically.

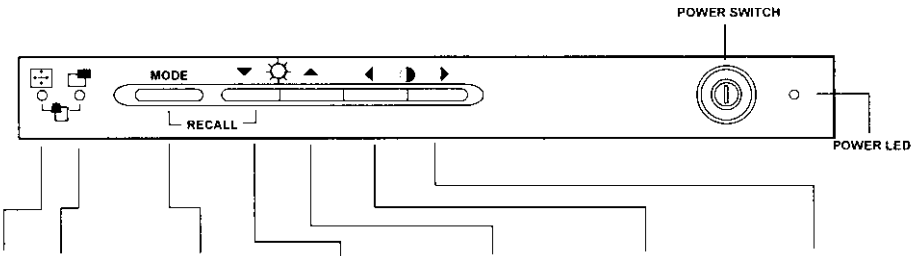
Signal input connector(15 pin mini D-sub)

Connect to the display adapter output of a computer having analog video output.

AC input connector(Appliance coupler)

Connect to AC outlet with supplied power cord.

3 Operation



LED1	LED2	MODE	▼	▲	◀	▶
○	○	Function 1	Brightness -	Brightness +	Contrast -	Contrast +
●	○	Function 2	V-Size -	V-Size +	H-Size -	H-Size +
○	●	Function 3	V-Position -	V-Position +	H-Position -	H-Position +
●	●	Function 4	Trapezoid -	Trapezoid +	Pincushion -	Pincushion +

LED ● : On ○ : Off LED Blink : Adjust limit



MODE / ▼ Recall all factory preset data.

MODE / ▲ Recall Contrast / Brightness factory preset data only.

▼ Description



Brightness

The Brightness option adjusts the image brightness, the black level of the background.

LED1 LED2  Increases the brightness of the image.
  Decreases the brightness of the image.



Contrast

The Contrast option adjusts the contrast between the background and the foreground of the image.

LED1 LED2  Increases the contrast of the image.
  Decreases the contrast of the image.



Horizontal Size Control

The Horizontal Size option adjusts the width of the screen.

LED1 LED2  Increases the width of the screen.
  Decreases the width of the screen.



Horizontal Center Control

The Horizontal Center moves the screen left or right.

LED1 LED2  Moves the screen to right.
  Moves the screen to left.





Vertical Size Control

The Vertical Size option adjusts the height of the screen.

LED1 LED2  Increases the height of the screen.
  Decreases the height of the screen.





Vertical Center Control

The Vertical Center moves the screen up or down.

LED1 LED2  Moves the screen to up.
   Moves the screen to down.





Pincushion Control

The Pincushion option straightens the vertical side of the screen.

LED1 LED2  Curves the screen's vertical edges outward.
   Curves the screen's vertical edges inward.

Trapezoid Control

The Trapezoid option adjusts the vertical sides of the screen's parallel.

LED1 LED2  Widens the screen at the top and narrows at the bottom.
   Narrows the screen at the top and widens at the bottom.

Recall

The Recall option resets all your adjustments to factory settings.

▼ Factory Preset Timings

Timing Chart

The **DB-456 AA** digital monitor can run at extensive range of resolutions and refresh rates. Certain standard resolutions are factory preset. There are also fourteen timings which are user definable. For example, if your video card is set up to run 1024 pixels x 768 lines at an 60 Hz refresh rate, once you have adjusted the screen size and position to your preferences, the monitor will save this information to memory. Every time you run this resolution at this refresh rate, the monitor will recall your adjustments.

The following table lists the maximum refresh rates at which the **DB-456 AA** will operate at a number of standard resolutions. While the monitor is capable of this level of performance, not all video cards are capable of running at these high refresh rates. Please see your video card user's guide to ensure compatibility.

The following table lists the factory preset timings:

	Resolution	Horizontal Frequency	Vertical Frequency	SYNC Polarity
	Pixels x Lines	KHz	Hz	H/V
Mode 1	640 x 350	31.47	70	+/-
Mode 2	640 x 400	31.47	70	-/+
Mode 3	640 x 480	31.47	60	-/-
Mode 4	800 x 600	37.88	60	+/+
Mode 5	720 x 400	37.93	85	-/+
Mode 6	640 x 480	43.26	85	-/-
Mode 7	1024 x 768	48.36	60	-/-
Mode 8	800 x 600	53.67	85	+/+

▼ Plug and Play

The **DB-456 AA** digital monitor supports DDC (Display Data Channel) 1/2B standard, and the monitor is self-installing when used with a DDC compatible video card.

DDC is a protocol which allows the monitor to communicate with the video card. The monitor sends the factory preset modes to the video card. Then, a table is created which matches the maximum refresh rates of the monitor with those of the video card. When you choose a resolution in Windows 95, the monitor will automatically run at its high refresh rate.

Power Management System

The **DB-456 AA** monitor supports EPA or VESA (option) power management function, indicated by the LED on the front panel.

State	LED Color	Power Consumption	Recovery Time
ON	Green	Normal	—
Standby/Suspend	Amber	<15 W	<3 sec
OFF	Amber	< 5 W	<8 sec

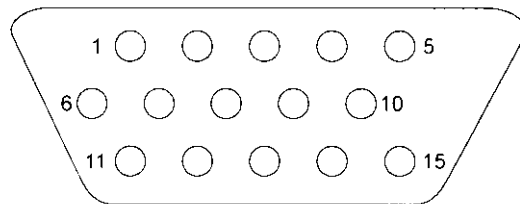
The monitor remains in the power saving state until you press any key on the keyboard or move the mouse. The power consumption and recovery time vary as indicated above.

4 Specification

MODEL	DB-456 AA	
CRT	Size	14" (13.2" Viewable diagonal)
	Deflection Angle	90 degrees
	Phosphor Pitch	0.28 mm
Graphics Standards Compatibility	XGA, 8514A, Super VGA, VGA, VESA(800x600)	
Resolution(Max)	1024 x 768 (Non-Interlaced)	
Video Band Width(Dot Rate)	85 MHz	
Synchronization	Horizontal	30K - 57KHz
	Vertical	50Hz - 120Hz
Input Signal	Video-RGB Analog 0.7VP-P/75 ohms positive Vertical-TTL separate	
Display Colors	Unlimited	
Display Area	Factory Setting	256mm(H) x 192mm(V)
	Large Scan (Dependent upon signal timing used)	280mm(H) x 210mm(V)
Power Source	AC 100 - 240V + 10% 50/60Hz ± 3Hz	
Power Consumption	75W	
Input connector	Video: 15pin min D-SUB Power: 3pin plug	
Dimension	350mm(W) x 360mm(H) x 380mm(D)	
Weight	Net: 11.1kgs Gross: 13.0kgs	
User Controls and Function	Power-switch, Brightness, Contrast H-size, H-center, V-size, V-center, Pincushion Trapezoid	
Operating Conditions	Temperature	10°C to 40°C
	Humidity	10% - 90%
	Altitude	TO 10,000 feet
Storage Conditions	Temperature	-20°C to 60°C
	Humidity	10% - 95%
	Altitude	TO 50,000 feet
Power Savings LED mode	ON	▶ Green
	Standby/Suspend	▶ Amber
	OFF	▶ Amber
Other Features	Compatible with the Display Data Channel DDC1 and DDC2B. Plug&Play for Windows95/ Windows98	

NOTE: DB-456 BA is a Low-Radiation MPR II standard.

▼ Input Pin Assignment



Pin No	Signal
1	RED VIDEO
2	GREEN VIDEO
3	BLUE VIDEO
4	NC
5	GROUND
6	RED VIDEO RETURN
7	GREEN VIDEO RETURN
8	BLUE VIDEO RETURN
9	NC
10	GROUND
11	NC
12	SDA
13	HORIZONTAL SYNC
14	VERTICAL SYNC (VCLK)
15	SCL

5 Additional Information

Helpful Hints

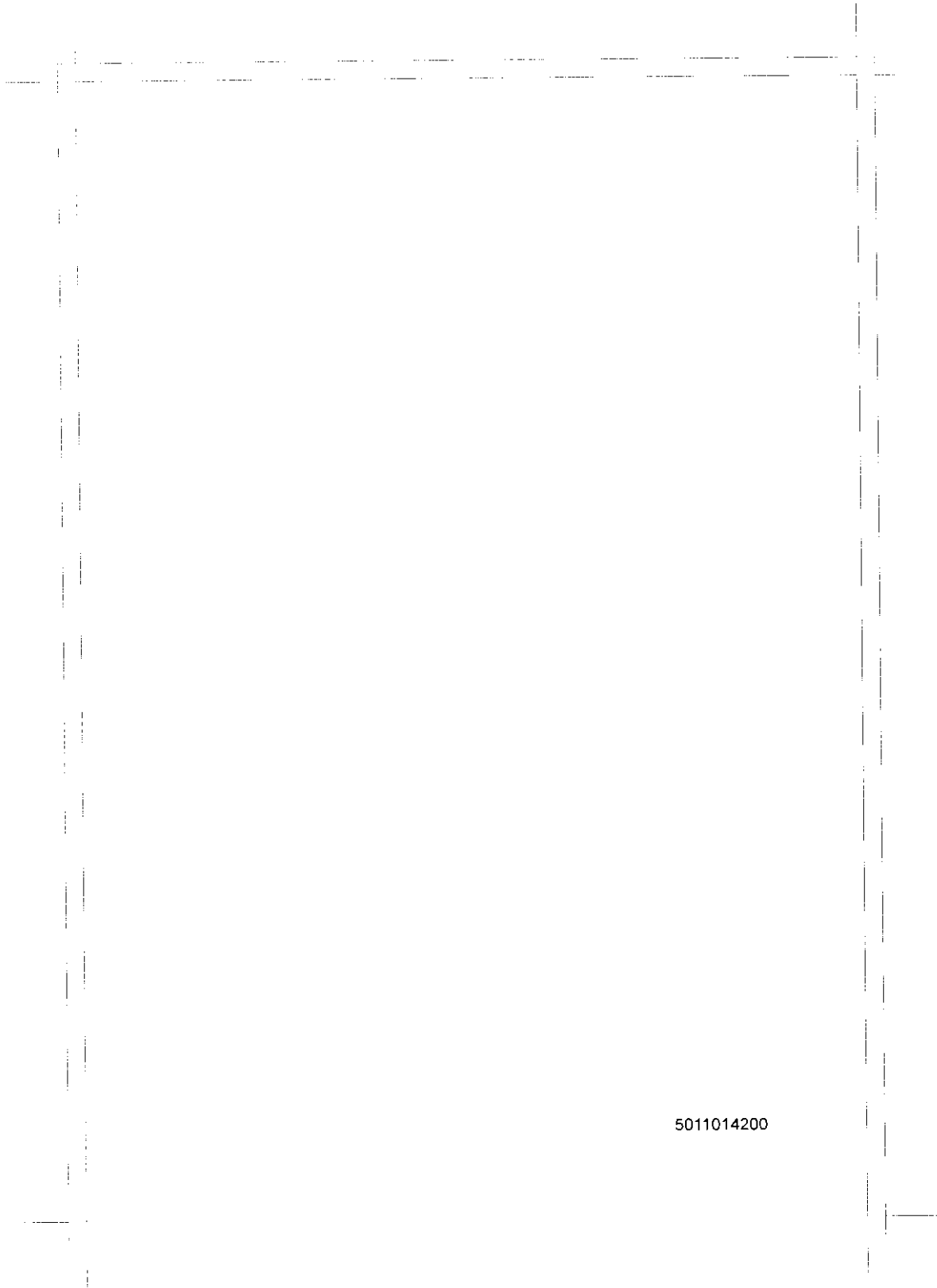
- Avoid exposing the monitor to direct sunlight or other heat source.
- Keep the monitor away from magnets, motors, transformers, speakers, and televisions.
- Do not place heavy objects on the cable or power cord.

Safety Tips

- If smoke, abnormal noise, or foul odor is present, immediately switch the monitor off and call your dealer. It is dangerous to continue using the monitor.
- Never remove the rear cover. The display unit contains high-voltage parts. You may suffer electric shock if you touch these parts. Call your dealer or DELTA Customer support.

Care of Your Monitor

- Use only non-ammonia glass cleaner on the monitor ~~screen~~.
- Use only a soft, dry cloth to clean the display case. If the plastic is very dirty, use a neutral, non-abrasive detergent. Do not use an alcohol based cleaner or polish.
- Avoid spilling liquid on the monitor.
- Always handle your monitor with care when moving it.



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