

High-End Graphics Cards

		PC Magazine Editors' Choice						
	Cardexpert Technology Inc. Cardex Genesis	Diamond Multimedia Systems Inc. Stealth 64 Video VRAM	Diamond Multimedia Systems Inc. Viper Pro Video	ELSA Inc. Winner2000- Pro/X	Genoa Systems Corp. VideoBlitz III AV	Hercules Computer Technology Inc. Graphite Terminator Professional	Matrox Graphics Inc. MGA Impression Plus PCI	Matrox Graphics Inc. MGA Impression Plus 220 PCI
Price of tested configuration	\$439 (list)	\$559 (street)	\$649 (street)	\$699 (list)	\$629 (list)	\$569 (list)	\$599 (list)	\$699 (list)
Graphics accelerator chip	S3 Vision 964	S3 Vision 968	Weitek Power 9100	S3 Vision 968	S3 Vision 968	S3 Vision 968	MGA 64-bit	MGA 64-bit
VGA BIOS manufacturer	S3	Diamond	Diamond	ELSA	Phoenix	Phoenix	Matrox	Matrox
Display Characteristics								
Maximum noninterlaced resolution (dpi)	1,600 x 1,200	1,600 x 1,200	1,600 x 1,200	1,600 x 1,200	1,600 x 1,200	1,600 x 1,200	1,600 x 1,200	1,600 x 1,200
Maximum number of colors at:								
1,600-by-1,200 resolution	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000
1,280-by-1,024 resolution	65,000	16.7 million	16.7 million	65,000	16.7 million	16.7 million	16.7 million	16.7 million
1,024-by-768 resolution	16.7 million	16.7 million	16.7 million	16.7 million	16.7 million	16.7 million	16.7 million	16.7 million
Maximum noninterlaced refresh rate with maximum color depth at:								
1,600-by-1,200 resolution	60 Hz	76 Hz	66 Hz	80 Hz	72 Hz	76 Hz ¹	72 Hz	85 Hz
1,280-by-1,024 resolution	75 Hz	100 Hz ¹	75 Hz	104 Hz	75 Hz	100 Hz ¹	76 Hz	110 Hz
1,024-by-768 resolution	75 Hz	120 Hz ¹	100 Hz	104 Hz	84 Hz	120 Hz ¹	76 Hz	120 Hz

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Text window	N	Y	Y	Y	Y	Y	Y	Y
Chip Features								
Bitmap caching	Y	Y	Y	Y	Y	Y	Y	Y
Font caching	Y	Y	Y	Y	Y	Y	Y	Y
Hardware video acceleration	N	Y	Y	Y	Y	Y	Y	Y
True x, y video scaling	N	N	Y	N	N	N	N	N
Microsoft Windows Utilities								
Resolution switching	N	Y	Y	Y	Y	N	Y	Y
Virtual desktop	N	Y	N	Y	Y	N	Y	Y
Maximum resolution	N/A	2,048 x 1,536	N/A	1,600 x 1,200	1,600 x 1,200	N/A	1,600 x 1,200	1,600 x 1,200
Pan/Zoom	NN	YY	NY	YY	YY	NY	YY	YY
Color calibration/Gamma correction	NN	YY	YY	YY	NN	YY	YY	YY
Windows/DOS monitor tuning	NY	YY	YY	YY	YY	YN	YY	YY
Windows/DOS installation	NY	YY	YY	YY	YY	NY	YY	YY
Customer Support								
Toll-free technical support	Y	Y	Y	Y	Y	Y	Y	Y
Toll-free number	None	800-468- 5846	800-468-5846	800-272- 3572	None	800-532- 0600	800-361- 1408	800-361- 1408

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Toll number	510-252-1118	408-325-7000	408-325-7000	408-565-9669	408-432-9090	510-623-6030	514-685-2630	514-685-2630
BBS number	510-354-3800	408-325-7175	408-325-7175	408-565-9630	408-943-1231	510-623-7449	514-685-6008	514-685-6008
Warranty	3 years	5 years	5 years	3 years	2 years	5 years	2 years	2 years
Upgrade/return policy	NN	YN	YN	NN	NN	YN	NN	NN
	N/A Not applicable: The product does not have this feature.	1 We were not able to verify this refresh rate in testing.	2 AutoCAD drivers are available, although we did not receive them in time for testing.					

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	Matrox Graphics Inc. MGA Millennium	Number Nine Visual Technology Corp. #9FX Motion771	Number Nine Visual Technology Corp. #9GXE64 Pro 1600 PCI	Number Nine Visual Technology Corp. #9 Imagine128/1600	Number Nine Visual Technology Corp. #9 Imagine128 Pro 8MB	rPC, a division of Radius Inc. FireStorm 192	STB Systems Inc. Velocity 64V	UMAX Technologies Inc. Maxmedia CX/Pro
Price of tested configuration	\$948 (list)	\$499 (street)	\$799 (street)	\$1,199 (street)	\$1,999 (street)	\$999 (list)	\$449 (list)	\$1,299 (list)
Graphics accelerator chip	MGA-2064W	S3 Vision 968	S3 Vision 964	Imagine128	Imagine128	S3 Vision 864	S3 Vision 968	S3 Vision 864
VGA BIOS manufacturer	Matrox	Number Nine	Number Nine	Number Nine	Number Nine	Phoenix	STB	UMAX
Display Characteristics								
Maximum noninterlaced resolution (dpi)	1,600 x 1,200	1,600 x 1,200	1,600 x 1,200	1,600 x 1,200	1,920 x 1,060	1,600 x 1,200	1,600 x 1,200	1,600 x 1,200
Maximum number of colors at:								
1,600-by-1,200 resolution	16.7 million	65,000	65,000	65,000	16.7 million	16.7 million	65,000	16.7 million
1,280-by-1,024 resolution	16.7 million	65,000	65,000	65,000	16.7 million	16.7 million	16.7 million	16.7 million
1,024-by-768 resolution	16.7 million	16.7 million	16.7 million	16.7 million	16.7 million	16.7 million	16.7 million	16.7 million
Maximum noninterlaced refresh rate with maximum color depth at:								
1,600-by-1,200 resolution	72 Hz	75 Hz	76 Hz	79 Hz	72 Hz	66 Hz	80 Hz	66 Hz
1,280-by-1,024 resolution	90 Hz	85 Hz	76 Hz	90 Hz	112 Hz	85 Hz	85 Hz	90 Hz ¹
1,024-by-768 resolution	120 Hz	93 Hz	120 Hz ¹	185 Hz ¹	156 Hz ¹	120 Hz ¹	100 Hz	120 Hz ¹

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	Matrox Graphics Inc. MGA Millennium	Number Nine Visual Technology Corp. #9FX Motion771	Number Nine Visual Technology Corp. #9GXE64 Pro 1600 PCI	Number Nine Visual Technology Corp. #9 Imagine128/1600	Number Nine Visual Technology Corp. #9 Imagine128 Pro 8MB	rPC, a division of Radius Inc. FireStorm 192	STB Systems Inc. Velocity 64V	UMAX Technologies Inc. Maxmedia CX/Pro
Preset refresh rate for specific monitors	Y	Y	Y	N	N	Y	Y	Y
Custom refresh rate for specific monitors	Y	Y	Y	Y	Y	Y	Y	Y
Frame-buffer features:								
Display memory	8MB WRAM	4MB VRAM	4MB VRAM	4MB VRAM	8MB VRAM	6MB DRAM	4MB EDO VRAM	6MB DRAM
User-installable memory upgrade	Y	N	N	Y	Y	N	N	N
Maximum installable memory	8MB	4MB	4MB	4MB	8MB	6MB	4MB	6MB
RAMDAC features:								
Manufacturer and model number	TI PTVP3026	IBM RGB524	TI PTVP3025	TI PTVP3024	IBM RGB528	TI PTVP3026	IBM RGB524	TI PTVP3026
Clock speed	175 MHz	220 MHz	220 MHz	220 MHz	220 MHz	175 MHz	220 MHz	175 MHz
Software Drivers								
AutoCAD (Revision 12)	Y	Y	Y	Y	N	Y	Y2	Y2
Protected-mode ADI	Y	Y	Y	Y	N/A	Y	Y2	Y2
Display-list processor or driver	Y	Y	Y	Y	N/A	Y	Y2	Y2
8514/A	N	N	N	N	N	N	N	Y
Microsoft Windows NT 3.5	Y	N	N	Y	N	N	Y	Y
OS/2 Warp, Version 3	N	Y	Y	Y	N	N	Y	Optional
AutoCAD Features								
Bird's-eye zoom	Y	Y	Y	Y	N/A	Y	Y2	Y2

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Text window	Y	Y	Y	Y	N/A	Y	Y2	Y2
Chip Features								
Bitmap caching	Y	Y	Y	N	N	Y	Y	Y
Font caching	Y	Y	Y	Y	Y	Y	Y	Y
Hardware video acceleration	Y	Y	N	Y	Y	N	Y	N
True x, y video scaling	N	N	N	N	N	N	N	N
Microsoft Windows Utilities								
Resolution switching	Y	N	N	N	N	Y	Y	N
Virtual desktop	Y	Y	Y	Y	Y	Y	Y	Y
Maximum resolution	1,600 x 1,200	2,048 x 2,048	2,048 x 2,048	2,048 x 1,200	2,048 x 1,024	1,600 x 1,200	1,600 x 1,200	2,048 x 1,024
Pan/Zoom	YY	YY	YY	YY	YY	YY	YY	YY
Color calibration/Gamma correction	YY	YY	YY	YY	YY	YY	YY	YY
Windows/DOS monitor tuning	YY	YY	YY	YY	YN	YN	YY	YN
Windows/DOS installation	YY	YN	YN	YN	YN	YY	YY	YY
Customer Support								
Toll-free technical support	Y	Y	Y	Y	Y	Y	Y	Y
Toll-free number	800-361-1408	800-438-6163	800-438-6163	800-438-6163	800-438-6163	800-459-4772	800-234-4334	800-562-0311

