



IBM GXT4500P and GXT6500P Graphics Accelerators and the T210 Flat-Panel Display Deliver High Performance with Advanced Technology

Overview

The GXT4500P and GXT6500P are a continuation of the successful family of graphics accelerators in support of RS/6000® workstations.

These two new products are based on a high-performance raster engine, which is the result of a design implemented in state-of-the-art IBM chip technology.

The **GXT4500P** is designed to meet the price/performance needs of the value-oriented market for entry 3D workstations.

The **GXT6500P**, with its hardware geometry accelerator chip implemented in copper technology, supports the higher performance requirements of the more demanding user of advanced 3D workstations.

These new graphics accelerators, when configured in the RS/6000 POWER3™-II-based workstations, offer an excellent combination of function and performance for complex and demanding graphics applications in areas such as:

- Mechanical Computer Aided Design (MCAD) and Engineering (MCAE) for automotive and aerospace
- Petroleum exploration and production
- Scientific visualization
- Other technical design and visualization

The GXT4500P and GXT6500P accelerators deliver native support in hardware for the OpenGL and IBM graPHIGS application programming interfaces (APIs). This results in unmatched flexibility of support for application software, regardless of the graphics API chosen for implementation.

The GXT4500P and GXT6500P accelerators are full-length PCI adapters that are supported for installation in a 64-bit PCI bus slot of the RS/6000 7044 Models 170 and 270 and 7043 Model 270 upgrade, but can also fit in a 32-bit slot of these systems. The GXT4500P is also supported in the RS/6000 7043 Model 150.

Advanced functionality of both accelerators over previous RS/6000 graphics products include:

- Resolutions up to 2048 x 1536 at 60 Hz (analog)
- Ability to use TFT digital displays at resolutions up to 2048 x 1536 at 30 Hz

The **T210 Flat-Panel Display** offers a large-size screen (20.8-inch viewable image area) in a space-saving design. The T210 will operate at a resolution of 2048 x 1536 pels (maximum) and will attach to your system by either an analog or digital connector.

In addition, **Logitech's 3-Button Wheel Mouse** is now supported on the RS/6000:

- 7043 Model 150
- 7044 Model 170
- 7044 Model 270

The Logitech Wheel Mouse offers fast scrolling and Web navigation and can be used on almost any surface without a mousepad.

Key Prerequisites

A supported RS/6000 PCI System and either AIX® Version 4.3.3 or 5.1, or later with either or both the included 3D APIs; OpenGL and graPHIGS.

At a Glance

The pacesetter capabilities of the GXT4500P and GXT6500P are driven by advanced electronics design throughout, resulting in some of the most progressive computer graphics ever produced for design and visualization.

Power GXT4500P

- Entry, 3D 64-bit PCI graphics accelerator
- Attachment via a single 64-bit or 32-bit PCI bus slot
- Native support for OpenGL and graPHIGS 3D APIs
- Advanced 3D texture mapping
- Ability to use TFT digital displays

Power GXT6500P

- Mid-range, 3D 64-bit PCI graphics accelerator
- Attachment via a single 64-bit or 32-bit PCI bus slot
- Native support for OpenGL and graPHIGS 3D APIs
- Advanced 3D texture mapping
- High-performance geometry engine on board
- Ability to use TFT digital displays

T210 Flat-Panel Display

- Space-saving design
- 20.8-inch viewable image area
- High resolution for graphic-intensive applications
- High screen data content allows easier viewing of multiple windows

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Your IBM representative, an IBM Business Partner, or IBM Americas Call Centers at

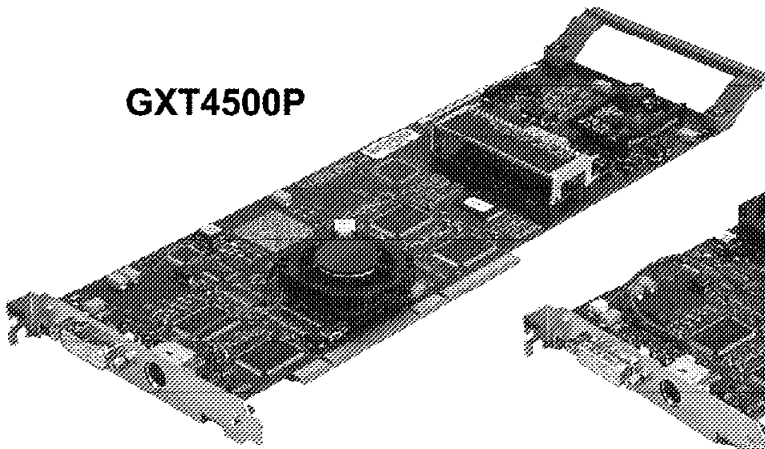
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Description

GXT4500P



GXT4500P

The GXT4500P:

- Meets the price/performance needs of the value-oriented market for entry 3D workstations
- Shows improvement over previous IBM graphics accelerators, while providing a very attractive price point

The IBM Power GXT4500P Graphics Accelerator is a 64-bit entry 3D PCI Graphics adapter for the RS/6000 Models 7044-170 and 7044-270, 7043-150 and 7043-270 upgrade. This adapter has the following base features:

- 128 MB Unified Frame Buffer
 - 24-Bit Double Buffered up to 2048 x 1536 on analog or digital displays
 - 24-Bit Double Buffered Stereo up to 1280 x 1024
 - 24-Bit Z-Buffer
 - 4/8-Bit Overlay
 - 8-Bit Double Buffered Alpha
 - 8-Bit Stencil
 - 8 Windows ID bits
 - 4 Clipping Planes
- Scissor Registers
- Texture Mapping
 - Up to 110 MB Texture Memory (1280 x 1024)
 - Dual Texture
 - 3D Texture
- Four Hardware Color Maps

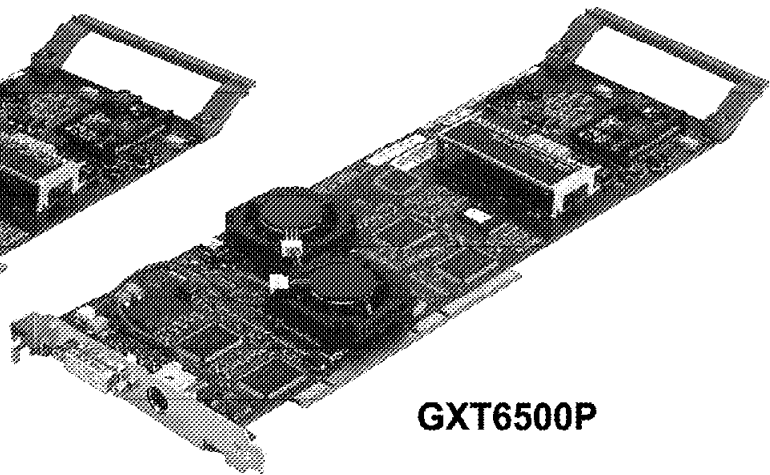
API Support:

- X11
- GraPHIGS
- OpenGL 1.2

Monitor Support:

- Resolutions Supported:
 - 1024 x 768 at 85 Hz (analog) or 60 Hz (digital)
 - 1280 x 1024 at 85 Hz (analog) or 60 Hz (digital)
 - 1600 x 1200 at 85 Hz (analog) or 60 Hz (digital)
 - 1920 x 1200 at 76 Hz
 - 2048 x 1536 at 60 Hz (analog) or 30 Hz (digital)
- DDC2B Support
- ISO 9241-3- and ISO 13406-2-Compliant

GXT6500P



GXT6500P

The GXT6500P, with its hardware geometry acceleration:

- Supports the higher performance requirements of the more demanding user of advanced 3D workstations
- Provides the highest level of graphics performance available for the RS/6000 workstations
- Delivers advances in performance as measured by the Graphics Performance Characterization (GPC) benchmarks and, more importantly, within MCAD and MCAE applications

In the GXT6500P, the geometry engine performs very-high, precision transformations on geometric models and provides clipping and multisource lighting.

The IBM Power GXT6500P Graphics Accelerator is a 64-bit, mid-range, 3D PCI Graphics adapter for the RS/6000 Models 7044-170 and 7044-270 and 7043-270 upgrade. This adapter has the following base features:

- 128 MB Unified Frame Buffer
 - 24-Bit Double Buffered up to 2048 x 1536 on analog or digital displays
 - 24-Bit Double Buffered Stereo up to 1280 x 1024
 - 24-Bit Z-Buffer
 - 4/8-Bit Overlay
 - 8-Bit Double Buffered Alpha
 - 4-Bit Stencil
 - 8 Windows® ID bits
 - 4-Bit Clipping Planes
- Scissor Registers
- Texture Mapping
 - Up to 110 MB Texture Memory (1280 x 1024)
 - Dual Texture
 - 3D Texture
- Four Hardware Color Maps
- Full OpenGL/graPHIGS Geometry Accelerator

API Support:

- X11
- GraPHIGS
- OpenGL 1.2.1

Monitor Support:

- Resolutions Supported, 8/24 bits:
 - 1024 x 768 at 85 Hz (analog) or 60 Hz (digital)
 - 1280 x 1024 at 85 Hz (analog) or 60 Hz (digital)
 - 1600 x 1200 at 85 Hz (analog) or 60 Hz (digital)
 - 1920 x 1200 at 76 Hz
 - 2048 x 1536 at 60 Hz (analog) or 30 Hz (digital)
- DDC2B Support
- ISO 9241-3 and ISO 13406-2 Compliant

T210 Flat-Panel Display

The T210 Flat-Panel Display offers:

- A large, 20.8-inch viewable image screen in a space-saving design
- High resolution, 2048 x 1536 pels (maximum), supports graphic-intensive applications
- Dual input — supports attachment via an analog or digital connector
- Picture-in-picture
- Tilt/swivel and lift positions for stand

Euro Currency

These products are not impacted by euro currency.

Product Positioning

Power GXT4500P

The Power GXT4500P is the second highest performing IBM graphics accelerator available for the RS/6000. It replaces the GXT4000P on the 7044 Models 170 and 270, 7043 Model 150, and the 7043 Model 270 upgrade. The GXT4500P, coupled with the 7044 Model 270 450 MHz system, delivers its highest graphics workstation performance; however, GXT4500P, with Model 170 333 MHz-, 400 MHz-, and 450 MHz-based systems, delivers the best price/performance.

Power GXT6500P

The Power GXT6500P is the highest performing IBM graphics accelerator available for the RS/6000. It replaces the GXT6000P on the 7044 Models 170 and 270 and the 7043 Model 270 upgrade. The GXT6500P, coupled with the 7044 Model 270 450 MHz system, delivers its highest graphics workstation performance.

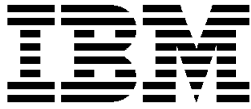
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IBM US Announcement Supplemental Information

February 5, 2002

Publications

The *Power GXT4500P and Power GXT6500P Graphics Adapter Installation and Using Guide* (SA23-1236) is shipped with the GXT4500P and GXT6500P Graphics Accelerators.

You can view or print this publication from the RS/6000® Install Options section of the RS/6000 System Books Web site at:

http://www.rs6000.ibm.com/resource/hardware_docs/

The Publication Notification System (PNS) is available by order number. Customers who currently subscribe to PNS receive publication updates automatically.

The Publication Notification System (PNS) is available at:

<http://www.ibm.com/shop/publications/pns/>

Technical Information

Physical Specifications: Both adapters are packaged on standard single-slot PCI cards.

Operating Environment: The PCI interfaces are 64-bit, up to 66 MHz and 3.3 volts.

Hardware Requirements: A supported RS/6000 system is required.

Software Requirements

- AIX® V4.3.3 or
- AIX V5.1, or later
- Either or both 3D APIs, OpenGL, or graPHIGS, included with AIX V4.3.3 and AIX V5.1

Planning Information

Cable Orders

Display Cable Feature Number Matrix: The following chart shows the cable feature to graphics accelerator reference. Check your specific system model to determine which graphics accelerators are supported on which model.

Graphics Accelerators

Displays	GXT120P/ GXT130P/ GXT110P (5D/DDC) ¹	GXT135P	GXT300P (15D/DDC)
P70	4238	4238	4238
P72 ²	Display	Display	Display
P76 ²	Display	Display	Display
P77 ²	Display ³	Display	Display
P92 ⁴	Display	Display	Display
P200	4238	4238	4238
P201	4237	4237	4237
P202 ⁴	Display	Display	Display
P260 ⁴	Display	Display	Display
P275 ⁴	Display ³	Display	Display
6091-19I	NS ⁵	NS	NS
POWERDP17	4217	NS	4217
POWERDP20	4217	NS	4217
9516-B03	4217	4217	4217
9511-Axx	Display	Display	NS
T54A/ T54H/ T540			
9519-Axx	Display	Display	NS
T85A			
9493-Axx	Display	Display	NS
T56A			
9494-xxx	NS	Display	NS
T860			
9497-Axx	Display ³	Display	Display
T86A			
6656-Hxx	NS	Display	NS
T560			
6658-Hxx	Display ³	Display	NS
T84H			
6659-Hxx	NS	Display	NS
T210			

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Displays	GXT2000P/ GXT3000P (15D/DDC)	GXT4000P/ GXT6000P (DVI/DDC)	GXT4500P/ GXT6500P (DVI/DDC)
P70	4238	4238 ⁶	4238 ⁶
P72 ²	Display	Display ⁶	Display ⁶
P76 ²	Display	Display ⁶	Display ⁶
P77 ²	Display	Display ⁶	Display ⁶
P92 ⁴	Display	Display ⁶	Display ⁶
P200	4238	4238 ⁶	4238 ⁶
P201	4237	4237 ⁶	4237 ⁶
P202 ⁴	Display	Display ⁶	Display ⁶
P260 ⁴	Display	Display	Display
P275 ⁴	Display	Display	Display
6091-19I	4239 ⁷	NS	NS
POWERDP17	4239 ⁷	NS	NS
POWERDP20	4239 ⁷	NS	NS
9516-B03	4217	4217 ⁶	4217 ⁶
9511-Axx T54A/ T54H/ T540	NS	NS	NS
9519-Axx T85A	Display	NS	Display
9493-Axx T56A	NS	NS	NS
9494-xxx T860	NS	NS	Display
9497-Axx T86A	Display	NS	Display ⁶
6656-Hxx T560	NS	NS	NS
6658-Hxx T84H	Display NS	Display	
6659-Hxx T210	NS	NS	Display

- 1 GXT130P only
- 2 Captured 15-pin, D-shell cable.
- 3 Display -- the appropriate cable is included with the display.
- 4 Dual input on monitor.
- 5 Not Supported -- this display/adaptor combination is not supported.
- 6 Must use DVI to 15-pin D-shell converter supplied with the GXT4000P, GXT4500P, GXT6000P, or GXT6500P.
- 7 Feature number 4239 (3 BNC Cable) is recommended on GXT2000P and GXT3000P. Feature number 4217 is a 5 BNC cable (external in H and V synch).

Security, Auditability, and Control

These products use the security and auditability features of host software and application software.

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

Terms and Conditions

Feature Section

This product is available for purchase under the terms of the IBM Customer Agreement.

IBM hardware products are manufactured from new parts and used parts. In some cases, the hardware product may have been previously installed. Regardless, IBM's warranty terms apply.

MES Discount Applicable: Equal to the volume commitment discount

Field-Installable Feature: Yes

Warranty Period: One year

Customer Setup: Yes, for machine types 7043, 7044, and 7028. No, for machine types 7026 and 7040.

Licensed Internal Code: Same license terms and conditions as designated machine

All other terms and conditions are the same as those applicable to the IBM Machine in which the feature is installed.

Prices

Description	Model	Feature Number	Purchase Price	Initial/MES/Both
Machine Type 7026				
T210 Flat-Panel Monitor	6M1	3635	\$10,995	Both
Machine Type 7028				
T210 Flat-Panel Monitor	6C1	3635	10,995	Both
	6E1	3635	10,995	Both
Machine Type 7040				
T210 Flat-Panel Monitor	61D	3635	10,995	Both
Machine Type 7043				
Power GXT4500P Graphics Accelerator	150	2842	2,495	Both
	270	2842	2,495	MES
Power GXT6500P Graphics Accelerator	270	2843	5,995	MES
T210 Flat-Panel Monitor	150	3635	10,995	Both
	270	3635	10,995	MES
Machine Type 7044				
Power GXT4500P Graphics Accelerator	170	2842	2,495	Both
	270	2842	2,495	Both
Power GXT6500P Graphics Accelerator	170	2843	5,995	Both
	270	2843	5,995	Both
T210 Flat-Panel Monitor	170	3635	10,995	Both
	270	3635	10,995	Both

ServiceSuite™ and ServiceElect Maintenance Charges: There are no monthly maintenance charges for the features in this announcement.

Order Now

Use Priority/Reference Code: RE001

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Note: Shipments will begin after the planned availability date.

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