

IBM 7131 SSA Multi-Storage Tower Model 405

If you need additional storage, the IBM 7131 Multi-Storage Tower Model 405 is a stand-alone storage tower that provides IBM's latest Serial Storage Architecture (SSA) hard disk drives. The 7131-405 is a leading-edge, second-generation serial storage subsystem. It uses the industry-standard Serial Storage Architecture to deliver outstanding performance and capacity/footprint, improved connectivity and availability, and enhanced attachability at a lower cost:

- Performance Improvements¹
 - Enhanced sustained data rate (up to 35MB/sec)
 - Greater attachment bandwidth (up to 80MB/sec/loop)
- Outstanding Capacity/Footprint¹
 - Eight times increase in density
 - Two times increase in disk drive capacity (up to 4.5GB/drive)

Part of the IBM StorageSmart™ family of products, the 7131 Multi-Storage Tower is sold configured with two of IBM's highest performance and capacity SSA Hot Swappable hard disk drives: either two 1.1GB, two 2.2GB or two 4.5GB IBM disk drives. The tower is also configured with three additional "hot swap" slots. These additional slots may be filled by the customer at the time of purchase, or later as needed to keep pace with the customer's storage needs.

The "hot swappable" slots can contain a mix of the following IBM SSA hard disk drives²:

- 1.1GB disk drive
- 2.2GB disk drive
- 4.5GB disk drive

In total, the tower provides up to 22.5GB of storage in a compact space. Using two towers, a customer can mirror data to provide a low-cost, back-up solution for critical environments.

¹ Compared to the industry-leading IBM 9333

² The 7131 Multi-Storage Tower has been tested for compatibility only with IBM hard drives. IBM makes no representation regarding the compatibility of the tower with other, non-IBM, drives.

Planned Availability Date: December 15, 1995

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IN BRIEF . . .

Product benefits and features

- ◆ Provides low-cost expansion
- ◆ Provides low-cost mirrored solution for data protection using two towers
- ◆ Incorporates SSA hard disk drives
- ◆ Provides up to 22.5GB of hard disk drive capacity²
- ◆ Provides external stand-alone device
- ◆ Provides 5 bays of "hot swappable" SSA hard disk drives²
 - 1.1GB hard disk drive
 - 2.2GB hard disk drive
 - 4.5GB hard disk drive
- ◆ Provides lockable door
- ◆ Provides SSA interface

For ordering and information, contact:

Your IBM representative, an IBM Authorized Business Partner, or IBM Direct at

800-IBM-CALL

Reference: RE001

Description

Description	Machine	Model	Feature
SSA Multi-Storage Tower	7131	405	
Select 1 base model:			
Base Tower w/2 1.1GB disk drives			(IPO) 2510
Base Tower w/2 2.2GB disk drives			(IPO) 2511
Base Tower w/2 4.5GB disk drives			(IPO) 2512

Select up to 3 additional "hot swappable" hard disk drives:

Hot swappable 1.1GB disk drive	(IPO or MES)	3085
Hot swappable 2.2GB disk drive	(IPO or MES)	3086
Hot swappable 4.5GB disk drive	(IPO or MES)	3087

The 6214 SSA adapter is the only SSA adapter that supports the 7131-405 attachment to the RISC systems. (The 6214 adapter is ordered with the RISC System/6000®.)

SSA adapter to tower or tower-to-tower cables

SSA Cable	1.0M 9167(IPO) 2895(IPO/MES)
SSA Cable	2.5M 9168(IPO) 2896(IPO/MES)
SSA Cable	5.0M 9169(IPO) 2897(IPO/MES)
SSA Cable	10.0M 9170(IPO) 2898(IPO/MES)
SSA Cable	25.0M 9174(IPO) 2899(IPO/MES)

The IBM 7131 SSA Multi-Storage Tower Model 405 is the newest member of IBM's StorageSmart¹ family of products and provides the growing customer expandable storage at low cost. The tower comes with IBM's latest technology SSA hard disk drives².

The tower has five "hot swappable" hard disk drive slots². The tower can be configured with up to 5 hot swappable SSA hard disk drives including:

- 1.1GB disk drive
- 2.2GB disk drive
- 4.5GB disk drive

Two IBM 7131 SSA Multi-Storage Towers can provide a low-cost mirrored solution for additional data protection in critical environments.

Product Positioning

The IBM 7131-405 SSA Multi-Storage Tower is a second-generation serial storage subsystem that significantly exceeds the performance and capacity available with directly attached SCSI disk drives. The SSA Four Port Adapter can deliver 35MB/sec sustained to the RS/6000™ Micro Channel®.

In the transaction processing environment, the 7131 Model 405 provides the ideal solution when used as mirrored storage for applications that require sustained high performance. In engineering/scientific application, the ability to sustain high data rates makes the 7131 Model 405 an attractive solution.

The dual systems attachment capability of SSA makes the IBM 7131 ideal for configurations of clustered RISC System/6000 servers.

The 7131 Subsystem provides a significant time-to-market advantage over other serial competitors and are priced at SCSI levels, making them extremely competitive.

The 7131 Subsystem is designed to provide the fastest response time when an application makes large numbers of requests for short blocks of data. Transaction processing applications are typical of response-time-sensitive applications.

Publications

The following publications are shipped with the product but must be specified.

Specify Code	Language	Title	Form Number
9300	English	Manual Kit User Guide (including Installation Guide)	GC26-7096
		Service Guide	SY27-7510
		Safety Information Manual	SA26-7003

Technical Information

Specified Operating Environment

Physical Specifications

- Width: 197 mm (7.75 inches)
- Depth: 483 mm (19.0 inches)
- Height: 407 mm (16.0 inches)
- Weight: 20 kg (44 pounds)

Operating Environment

- Temperature: 16° to 32°C (60.8° to 89.6°F)
- Relative Humidity: 20% to 80%
- Wet Bulb: 23.0°C (73.4°F maximum)

Voltage:	115 power supply setting	230 power supply setting
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Electrical power:	90 — 137 VAC 6.3 Amps 0.76 KVA 378 Watts	180 — 265 VAC 4.0 Amps 0.96 KVA 480 Watts
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Noise Level:	LwAu = 5.6 Bels idling (5 drives typical)	LwAu = 6.0 Bels operating
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FCC class — A
CISPR A
Japan VCCI: 1

- Japan Energy Saving Law Data:
 - Machine Type & Model — 7131-405
 - Maximum Useable Storage Capacity — 22.5GB
 - Energy Consumption in watts — 115V = 378W, 230V = 480W,
 - Watts per MB — 115V = .02W/MB 230V = .02W/MB

Hardware Requirements: This product attaches to the host RS/6000 via a SSA adapter. The only SSA adapter supported is the 6214.

Note: this adapter is ordered with the RISC System

The 7131 Model 405 attaches to the following RS/6000 systems:

- M/T 7012 Model 340, 34H, 350, 360, 370, 380, 390, 39H, G30
- M/T 7013 Model 52H, 53E, 53H, 550, 55E, 55S, 55L, 560, 56F, 57F, 570, 58F, 58H, 580, 59H, 590, 591, J01, J30

Software Requirements: This product is supported on AIX® 4.1.4.

Limitations: Maximum number of towers supported on an adapter is 4.

Rules for SSA loops

- Each SSA loop must be connected to a valid pair of connectors on an SSA adapter card (that is connectors A1 and A2, or connectors B1 and B2).
- Only one of the two pairs of connectors on an adapter card can be connected in a particular SSA loop.
- A maximum of 3 neighboring dummy disk drive modules can be connected in particular SSA loop.
- A maximum of 2 adapter-connector pairs can be connected in a particular SSA loop.
- A maximum of 2 adapters, that are connected in a particular SSA loop, can be installed in a single host system unit.

Additional Product Information

1.1GB, 2.2GB and 4.5GB Disk Drive — The IBM 1.1GB, 2.2GB, and 4.5GB Hard Disk Drives are the latest high-performance SSA IBM disk drives available. They rotate at a speed of 7200 RPM with an average latency of 4.17 milliseconds. The average seek time is 7.2 milliseconds.

Planning Information

Customer Responsibilities: The customer is responsible for set up of the 7131 subsystem.

Cable Orders: One SSA cable must be specified in the initial plant order. (The first cable is free with each tower purchased, additional cables are available for a fee).

Note: two cables are required to form initial loop, the second cable must be purchased. (Only one cable is required to add an additional tower to an existing loop). Select the cables from the following list:

Adapter to Tower or Tower-to-Tower cables, select length desired.

SSA Cable	1.0M 9167(IPO)	2895(IPO/MES)
SSA Cable	2.5M 9168(IPO)	2896(IPO/MES)
SSA Cable	5.0M 9169(IPO)	2897(IPO/MES)
SSA Cable	10.0M 9170(IPO)	2898(IPO/MES)
SSA Cable	25.0M 9174(IPO)	2899(IPO/MES)

Security, Auditability, and Control

This product uses the security and auditability features of the host RISC System/6000 and its application programs.

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

Terms and Conditions

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

Volume Orders: For information regarding volume orders, contact your IBM representative.

For further information regarding volume orders, contact your IBM representative.

IBM Credit Corporation Financing: Term leases and installment payment plans are available for commercial and state and local government customers.

Warranty Period: One year

Warranty Service: IBM On-Site Repair (IOR)

Maintenance Service: IOR

IBM Hourly Service Rate Classification: Two. IBM warranty service, maintenance service or hourly service may be obtained by calling 800-IBM-SERV (426-7378). IBM Hourly Service is available at the applicable rate and terms, including element exchange price if applicable.

Mid-Range System Option: The announced product is an eligible machine for the Mid-Range System Option of the IBM Customer Agreement.

Eligible Type	Discount	
	Three-Year	Five-Year
7131-405	12%	17%

Corporate Service Option: The announced product is an eligible machine for the Corporate Service Option of the IBM Customer Agreement.

	Discount	
	Three-Year	Five-Year
Network	15%	20%
System	12%	17%

Extended Maintenance Option: The announced product is an eligible machine under the Extended Maintenance Option of the IBM Customer Agreement.

Product Availability Status: New product available

Field-Installable Features: Yes

Model Conversions: No

Customer Setup: Yes

Licensed Internal Code: No

Educational Allowance: An educational allowance is available to qualifying institutions in accordance with the Attachment for Educational Allowance. The educational allowance may not be added to any other discount or allowance.

Charges

Product Charges

Description	Machine Type	Model	Feature Number	Purchase Price	Minimum Monthly Maintenance Charge
SSA Multi-Storage Tower	7131	405	—	—	—
Select one Base Model: (IPO)					
Base Tower with 2 — 1.1GB disk drives			2510	\$ 5,500	\$ 85
Base Tower with 2 — 2.2GB disk drives			2511	7,100	105
Base Tower with 2 — 4.5GB disk drives			2512	11,300	140
Select up to 3 additional "hot swappable" hard disk drives: (IPO or MES)					
Hot swappable 1.1GB disk drive			3085	1,700	
Hot swappable 2.2GB disk drive			3086	2,500	
Hot swappable 4.5GB disk drive			3087	4,600	
Adapter to Tower or Tower-to-Tower					
SSA cable		1.0M	2895	40	—
SSA cable		2.5M	2896	45	—
SSA cable		5.0M	2897	55	—
SSA cable		10.0M	2898	75	—
SSA cable		25.0M	2899	100	—

Call Now to Order

To order or to request more information, you can contact:

IBM Direct: IBM Direct, our national direct marketing organization, can also arrange to put your name on the mailing list for catalogs of IBM products.

Phone: 800-IBM-CALL
 Fax: 800-2IBM-FAX
 Internet: ibm_direct@vnet.ibm.com
 Mail: IBM Direct
 Dept. RE001
 P.O. Box 16848
 Atlanta, GA 30321-0848
 Reference: RE001

To identify your local IBM Authorized Business Partner or IBM representative, call 800-IBM-4YOU.

Note: Shipments will begin after the planned availability date.
