



## Media 100 HD Compatible Peripherals Guide

December 2004

### Introduction

Media 100 HD is the next generation in the evolution of the Media 100 i line of products. GenesisEngine technology developed for Media 100 844/X enables playback of native uncompressed HD video by taking full advantage of the increased data throughput and processing power of Apple's 64-bit dual processor Power Mac G5. The increased performance coupled with improvements in software also allows Media 100 HD to playback *multiple* streams of uncompressed SD-quality media.

The high data rates of uncompressed HD require both increased storage capacity and performance. HD and multiple streams of SD require up to 10 times the amount of data throughput, while AB Roll SD-level editing can continue using external storage previously certified for use with Media 100 i.

The increased throughput requirements can tax RAID's that operate with the SCSI 160 interface. Although these configurations may appear to work well initially, the effects of large file transfers and disk fragmentation will have negative long-term effects on system performance. All HD and multi-stream SD configurations will *require* the SCSI Ultra 320 or 2Gb Fibre channel interfaces.

Media 100 understands that a major part of any purchase involves balancing cost. We urge you however, to consider the hidden costs caused by downtime. Using inexpensive generic disk drives may end up costing considerably more in terms of lost productivity. Many of the calls Media 100 Technical Support receives are due to failure of non-certified, low quality devices. Hard Drives that do not adhere to consistent quality control procedures or fail to use high quality parts are among the most trouble-prone.

The Media 100 Peripherals Group goes to great lengths to test and certify high quality products that offer industry-leading technical support. When configuring your Media 100 HD system please choose products that are listed in the Compatible Peripherals Guide. Doing so will enhance long-term reliability and performance as well as guarantee high quality technical support in the event of a system failure.

Regards

Anthony Di Marco  
Media 100 Peripherals Group

### General System Requirements for Media 100 HD

Level	CPU	RAM	Processor	OS Version	QuickTime Version
Minimum Requirements	Apple PowerPC G5	1GB DDR SD RAM	Dual 2.0GHz or Dual 2.5	10.3.5	6.5.1
Recommended Requirements	Apple PowerPC G5	2GB DDR SD RAM	Dual 2.0GHz or Dual 2.5	10.3.6	6.5.2

\* Do not mix QT and OS versions. OS and QT versions should always be installed as a set respective to the specific system requirements.

\*\*Specific RAID configurations, such as the Rorke Galaxy HDi, require OS 10.3.6 and 6.5.2 for proper operation.

**Note:** **RAM Requirements**

Media 100 HD requires a minimum of 1GB of DDR SDRAM. For the best performance Media 100 *strongly recommends* 2GB of DDRSDRAM. It is **EXTREMELY** important to install RAM in matched pairs from the same manufacturer. Only Apple- approved “name-brand” RAM should be used. Inexpensive, low quality, “generic” RAM has caused stability and performance issues. Media 100 will not be held responsible for issues resulting from unapproved RAM.

### Media 100 HD G5 Configurations

#### Approved Apple Macintosh G5 Configurations for Media 100 HD

Processor	L2 Processor Cache	Bus Speed	RAM	Internal Disk Drive	Graphics Card
G5 dual 2.0GHz	512KB	1GHz	Max 8 GB	Internal 160GB SATA	NVIDIA GeForce FX5200 Ultra
G5 dual 2.5GHz	512KB	1.25GHz	Max 8GB	Internal 160GB SATA	ATI Radeon 9600 XT

**Note:** Maximum RAM

Although the G5 will accept up to 8GB of RAM, the Peripherals Group has only certified operation up to 2GB for Media 100 HD v10.0. Users, who choose to use more than 2GB, do so at their own risk. This 2GB limit may increase in future updates of the CPG depending on revisions made to Macintosh OS and Media 100 HD.

**Graphics Card Displays**

Model	Multi-monitor Support	Open GL Support	AGP or PCI	DDR Memory	Driver Version	CPU Compatibility
NVIDIA GeForce FX5200 Ultra	Dual	Yes	AGP	64MB	1.3.34	G5 2.0 and 2.5
ATI Radeon 9600 XT	Dual	Yes	AGP	128MB	1.3.34	G5 2.0 and 2.5

**Note:** Choosing the right Graphics Card

Space, heat and compatibility amongst hardware devices dictate which graphics card will work reliably within a Media 100 HD configured system. For instance some high performance graphics cards require the use of fan which intrudes on the minimum space required to properly cool the Media 100 HD hardware, while the drivers used to activate respective cards could cause conflicts in certain configurations. The Peripherals Group will continue to investigate alternate Graphic Cards. Users should only use the cards listed above to assure long-term reliability and performance.

## Media 100 HD G5 Configurations- continued

### Slot Assignments for Apple Macintosh G5

Slot #	Slot	Card
4	PCI-X 133MHz	Approved RAID HBA
3	PCI-X 100MHz	Media 100 VGA daughtercard
2	PCI-X 100MHz	Media 100 HD Board
1	8X AGP Pro Graphics	Approved Graphics Card

**Note:** Slot positions relative to G5 chassis

When installing cards note that the PCI-X 133MHz Slot (slot 4) is located toward the top of the Macintosh G5 closest to the internal disk and DVD-ROM drives, while the 8X AGP-Pro Graphics slot (slot 1) is located directly above the silver “G5” embossed heat sink

## Media 100 HD Storage Solutions

### Media 100 HD Approved RAID Configurations for multi-stream uncompressed SD and single stream HD playback\*

Supplier/Model	Capacity	Number of Drive Mechanisms	External Host Bus Adapter	Configuration
Rorke Data HDi	3.75TB	15 x 250	ATTO Celerity FC-22XH Fibre Channel card or Apple/LSI M8940/A Fibre Channel card	<b>Raid 5:</b> HDi contains two hardware RAID controllers which are configured to control two volumes of 7 striped drives and one back-up spare. The two resulting RAIDs appear to the G5 as two volumes. The two volumes are striped into a single volume (256K interleave) using ATTO ExpressStripe 3.0.
Huge Systems Media Vault U320RX	1.6TB	10 x 160GB or 10 x 250GB	ATTO Technologies UL4D driving two Huge hardware controllers in parallel	<b>RAID 0:</b> The U320RX contains two hardware RAID controllers which are configured to control two volumes of 5 striped drives. The two volumes are striped into a single volume (256K interleave) using ATTO ExpressStripe 3.0

Apple Xserve RAID**	3.5TB	14 x 250GB	Apple/LSI M8940G/A Fibre channel PCI controller driving two Xserve hardware controllers in parallel	<b>Raid 5:</b> Xserve contains two hardware RAID controllers which are configured to control two volumes of 7 striped drives. The two resulting RAIDs appear to the G5 as two volumes. The two volumes are striped into a single volume using Apple's Disk Utility
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**Media 100 HD Approved RAID Configurations for multiple stream SD (CODEC independent) playback\***

Supplier/Model	Capacity	Number of Drive Mechanisms	External Host Bus Adapter	Configuration
Huge Systems Media Vault U320R	1.2TB	5 x 250GB	ATTO Technologies UL4D driving single hardware controller	<b>RAID 0:</b> The U320R contains a single hardware RAID controller which is configured to control a single volume of 5 striped drives. This single volume is then initialized as a standard volume with ATTO ExpressStripe 3.0
Apple Xserve RAID**	1.0TB	4 x 250GB	Apple/LSI M8940G/A Fibre Channel PCI Controller driving two Xserve hardware controllers in parallel	<b>Raid 5:</b> Xserve contains two hardware RAID controllers which are configured to control two volumes of 2 striped drives. The two resulting RAIDs appear to the G5 as two volumes. The two volumes are striped into a single volume using Apple's Disk Utility
Rorke Data MaxArray	1.17TB	8 x 146GB	ATTO Technologies UL4D driving JBOD	<b>Raid 0:</b> JBOD of 8 drives striped together as a standard RAID 0 volume with ATTO ExpressStripe 3.0 (128K interleave size)

**Media 100 HD Approved Storage Configurations for Offline and AB Roll playback\*\*\*\***

Supplier/Model	Capacity	Number of Drive Mechanisms	G5 Interface	Configuration
Lacie d2 Extreme	500GB	2 x 250GB Maxtor MaxLine Plus II	FireWire 800 protocol	The d2 Extreme contains two Maxtor drives striped as a single volume with a single LaCie hardware RAID 0 controller. The single volume is initialized with Apple's Disk Utility. The LaCie d2 Extreme connects to the Power Mac G5 via a single 9-pin FireWire 800 cable.
Maxtor Internal SATA	250GB	1 x 250GB	150MBps G5 internal Serial ATA (SATA) Bus	Apple/ Dealer installed secondary SATA drive working off secondary 150MBps G5 internal SATA bus

***\*Although the Peripherals Group measures system performance under the most demanding conditions, there maybe unique circumstances where the layout or content of a timeline or a particular system's overhead could compromise performance. The Peripherals Group strongly recommends that users keep their Media 100 HD editing stations free of extraneous software and perform periodic clean-up of old, obsolete files.***

***\*\* Capacities do not reflect Macintosh disk management or RAID 5 overhead. Capacities are typically 10% to 20% less after configuration.***

***\*\*\* Apple Xserve requires 512MB Cache. Users should also "enable" both the "drive" and "write" cache in Advanced> Performance settings of the Apple Raid Admin Utility.***

***\*\*\*\*Low cost solutions are typically affected by cost reductions and changes in OEM suppliers. Therefore a Maxtor drive that was installed in the LaCie or Apple Computer sample certified by the Peripherals Group may have changed to a different model or manufacturer by the time you purchased it. Ask questions and make sure that the low-cost peripheral device meets the specifications listed in the above chart. RAIDs that were certified for Media 100 xr, v.8.2.2 may also be used in offline and AB Roll applications.***

**Note:** RAID performance: Space and Fragmentation

Performance will decrease as more data is written to a RAID and as the drive map become fragmented. For optimal performance, the Peripherals Group recommends using only 80% of overall disk capacity. In the event that your drive becomes severely fragmented Media 100 recommends copying any data that you need to keep to a low-cost FireWire drive, reformatting your RAID and then copying your data back. Users can also simply delete their media, format their RIAD and then use Media 100 HD's Batch Reacquire feature to restore their current project media.

**Miscellaneous Peripherals**

The following peripherals were used as references during Media 100 HD testing and should operate reliably at the product's **default factory settings**. As with all feature-rich peripheral devices there is the possibility that users may experience problems with certain configurations. Compatibility problems are often due to user error or improper configuration. Please refer to the respective devices manufacturer for troubleshooting information. Media 100 cannot be held responsible for changes respective manufacturers may apply to their products.

Company	Model	Type	Format	Comments
Sony	HDW- F500	Video Tape Recorder/Player	HDCAM	RS-422 Deck Control
Panasonic	AJ-HD1700	Video Tape Recorder/Player	DVCPro HD	RS-422 Deck Control
Midiman	Flying Cow	D/A, A/D Audio Converter	AES/EBU and S/PDIF Audio	24-bit resolution

## Peripherals Partner Contact Info

Company	Address	Phone	Fax	Website
Apple Computer	1 Infinite Loop Cupertino, CA 95014	408-996-1010	n/a	<a href="http://www.apple.com">www.apple.com</a>
ATI	62 Forest Street Marlborough, MA 01752	905-882-2626	n/a	<a href="http://www.ati.com">www.ati.com</a>
ATTO Technologies	155 CrossPoint Pkwy Amherst, NY 14068	716-691-1999	716-691-9353	<a href="http://www.attotech.com">www.attotech.com</a>
Huge Systems	30141 Agoura Road, Suite 212, Agoura Hills, CA 91301	818-991-1188	818-991-6893	<a href="http://www.hugesystems.com">www.hugesystems.com</a>
LaCie USA	22985 NW Eevergreen Pkwy Hillsboro, OR 97124	503-844-4500	503-844-4508	<a href="http://www.lacie.com">www.lacie.com</a>
LSI Logic	1621 Barber Lane, Milpitas, California 95035	Domestic 866-574-5741 International 408-954-3108		<a href="http://www.lsilogic.com">www.lsilogic.com</a>
Midiman/M-Audio	45 East Saint Joseph Street Arcadia, CA 91006 USA	800-969-6434 626-445-2842	626-445-7564	<a href="http://www.midiman.net">www.midiman.net</a>
NVIDIA	2701 San Tomas Expressway Santa Clara, CA 95050	408-486-2000	408-486-2200	<a href="http://www.nvidia.com">www.nvidia.com</a>
RAID Inc.	360 Merimack St., Building One, Lawrence, MA 01843	800-806-7335	978-683-6656	<a href="http://www.raidinc.com">www.raidinc.com</a>
Rorke Data	9700 West 76th St. Eden Prarie, MN 55344	800-328-8147	952-829-0988	<a href="http://www.rorke.com">www.rorke.com</a>

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