

Bering

OptiPac-3™

3.5" 1.3GB Rewritable
Magneto-Optical Disk Subsystems

Mass Storage Solutions
For Vintage Hewlett-Packard
HP 9000 and 1000 Computers

HP-IB and MAC Interfaces

OptiPac-3 Storage for High Capacity Data Archiving

OptiPac-3 *Rewritable* MO storage subsystems feature a 3.5" removable MO disk media drive that can store and retrieve up to 1.3GB of data. The OptiPac-3 MO series are designed for legacy HP 9000 and HP 1000 computer systems with HP-IB interface or HP13037 (MAC) disk controller.

By its nature, MO technology offers significant advantages over other removable storage devices, tape backup, and fixed hard disks—long data archival life, safety, and reliability. MO media cartridges are resistant to environmental conditions and electromagnetic interference. Projected archival life of the disk media is over twenty-five years. This makes the OptiPac-3 subsystem the best choice for keeping data safe for a long time. A very long time.

OptiPac-3's are versatile workhorses for the many chores that require long archival life, data security, data exchange, and transportation of large databases.

Store large image files. **Archive** important data to keep it safe. **Expand** your storage capacity. **Transport** data, pick up a cartridge and carry it with you. **Exchange** data. **Backup** the hard disk.

Drop-In Replacements

Retrofitting your vintage HP computer is simple—no additional software utilities, no need for hardware changes. Most importantly, no need to "regenerate" the operating system when installing the new disk—just plug it in, configure, and get to work. This saves time and massive headaches, particularly when retrofitting a vintage HP 1000 system with RTE.

OptiPac-3 Models

There are three basic model configurations for the OptiPac-3 series: single 1.3GB MO drive, dual 1.3GB MO, and a combination MO drive with HDD. The combination MO/HDD subsystem creates a storage symbiotic relationship; the HDD stores the data and can then copy it to the MO drive for safekeeping.

The OptiPac-3 MO Series 8601, 8602, and 8611 models support HP 9000 and HP 1000 systems to replace HP's standard CS/80 disk drives with HP-IB interfaces.

The 6611B supports AMIGO disk drives with HP-IB interfaces and the 6611M supports AMIGO disk drives with the MAC disk controller (HP13037). Bering includes a separate 2000MX Disk Controller Kit with the 6611M to replace the computer's existing HP 13037A-D MAC Disk Controller and interfaces.

Backup Option!

HP9144

Tape Emulation!



OptiPac-3™

1.3 GB Magneto-Optical Disk Subsystems
(Single, Dual, and Combination HDD)

MAC Multi-Disk Support— System + Peripheral Disk

Bering also offers a special multiple disk configuration on single HP 1000 (M, E, or F) systems with MAC disk controller. The MultiPac 6611S serves as the "System" disk and supports up to six 6611P "Peripheral" disk subsystems.

Disk Emulation—HP Disk Replacements

Many vintage HP systems are limited in supporting specific HP disk drives. Bering's OptiPac-3 can emulate these older HP disk drives such as HP 7906 or HP 7907. In these cases Bering emulates the original disk drive by partitioning the HDD or MO media cartridge into multiple volumes or "RINGS." This limitation does not apply to CS/80 disk drives and the OptiPac-3 does not need to specifically emulate a HP disk drive. (Note that specific disk emulations may dictate the actual disk volume size.) Upgrade from a 9153 or other HP hard disk systems with a OptiPac-3 plus hard disk solution.

Options LT or LX—

HP9144/HP9145 Tape Emulation Backup

If your HP system supports the HP9144 tape device, you can order Bering's option for HP9144/9145 tape emulation (LINUS format) and use the OptiPac-3 to backup data as an image copy or file-by-file using your HP computer's 9144/9145 backup utilities.

Note: The 8601LT only emulates the HP9144 tape drive while the 8601LX emulates the HP9144 as well as a removable disk drive while the 8611LX emulates HP 7908/7911/7912/7914/7942A/7946A hard disk systems with a 9144 tape drive. To make it easy to transfer data from your HP drive, the 8601LX also allows you to import/export data from/to an external HP-IB disk without the host computer. The 8611LX allows you to import data from an external HP-IB drive without a host computer.

LCD Controls and Disk Utilities

The OptiPac-3 includes a front-panel LCD with push-button controls to use the system's built-in disk utilities. These utilities are useful for system configuration, set addresses, perform basic diagnostics, ring-to-ring copy (with Model 6611M), and to do off-line "disk-to-disk" copy functions.

HP Compatibility

Refer to Bering's Selection Guide on our website at www.bering.com for specific O/S, Disk Emulation, and Bus Interface support on HP 1000 and HP 9000 computers. Alternatively, you may call Bering directly for assistance in selecting the right storage system for you.

OptiPac-3 Rewritable Magneto-Optical Specifications¹

Models	Description	Interface	Disk Protocol
8601	OptiPac-3, 1.3GB GIGAMO, Single	HP-IB	CS/80 and SS/80
8601LT	OptiPac-3 LT, 1.3GB GIGAMO, Single, <u>HP9144/HP9145 Tape Emulation Only</u>	HP-IB	CS/80 and SS/80
8601LX	OptiPac-3 LX, 1.3GB MO plus HP9144/HP9145 Tape Emulation (Import/Export Data from/to External HP-IB Drive Without Host)	HP-IB	CS/80 and SS/80
8602	OptiPac-3, 1.3GB GIGAMO, Dual Drives	HP-IB	CS/80 and SS/80
8611	OptiPac-3, 1.3GB GIGAMO + 1.3GB HDD	HP-IB	CS/80 and SS/80
8611LX	OptiPac-3 LX, 1.3GB GIGAMO + 1.3GB HDD plus HP9144/HP9145 Tape Emulation (Import Data from an External HP-IB Disk without Host)	HP-IB	CS/80 and SS/80
8611B	OptiPac-3, 1.3GB MO + 1.3GB HDD	HP-IB	AMIGO
6611M	OptiPac-3, 1.3GB MO + 1.3GB HDD	MAC	AMIGO
6611S	OptiPac-3, 1.3GB MO + 1.3GB HDD, System Disk Multiple Disk Support	MAC	AMIGO
6611P	OptiPac-3, 1.3GB MO + 1.3GB HDD, Peripheral Disk (Connects to 6611S)	SCSI	AMIGO

Performance

	MO ISO/IEC 15041, Over-Write ²	MO GIGAMO	HDD
Formatted Capacity ³	634MB/533MB/228MB/127MB	1.24GB	1.24GB
Avg. Seek Time (ms) ³	28	28	10
Rotational Speed (RPM) ⁴	4,500	3,214	7,500
Maximum HP-IB Speed (MB/sec) ⁵	1.0	1.0	4.0
Maximum MAC Speed (MB/sec) ⁵	4.0	4.0	4.0

Power Requirements

Line Voltage	90-260V
Line Frequency	47Hz-440Hz
Maximum Current	1.1 Amp

Miscellaneous

Interface	HP-IB (8600x) MAC/HP13037 (6600x)
Rackmount	HP Standard Rack or EIA/RETMA 19" Standard (Bering Model Number: ACCS-7206)
Unit Dimensions	Model 86xxxy/66xxxy 3" x 12.8" x 14" (76mm x 325mm x 356mm)
Net Weight	Up to 27 lbs. (12.6kg)
Warranty	One Year Limited System Warranty

¹ All information is subject to change without notice.

² Supports *Over-Write* MO disk format.

³ Minimum rotational speed.

⁴ Formatted capacity at 1024 bytes/sector. Capacity is limited to specific volume size for HP disk emulation.

⁵ All transfer rates are dependent on computer types and application environment.

MAINTENANCE NOTE:

To ensure long-term and trouble-free operation, Bering recommends cleaning the MO head and disk media once every three months. When used in a dirty environment more frequent cleaning may be needed. Use the GIGAMO Head + Optical Disk Cleaning Kit.

Bering ordering number: **ACCS-3513**.



Bering Technology, Inc.
1400 Dell Avenue, Ste. B
Campbell, CA 95008-6620 USA

Find Out About It—Contact Bering Today!

Worldwide Tel@	408.364.6500
USA Toll-Free@	800.237.4641
Fax@	408.364.6501
E-mail@	info@bering.com
Web@	www.bering.com