




DiamondMax™ **20** **VL**

 Announcing the new DiamondMax™ VL 20 (Value Line) series from Maxtor. These 1- and 2-disk products are expressly designed for entry-level commercial systems and consumer electronics applications where disk storage value is paramount. Available in capacities up to 20 GB, the VL series provides the proven quality and reliability of the original DiamondMax products and includes Maxtor's innovative ShockBlock™ and MaxSafe™ feature set for added reliability and superior protection from shock and damage. An UltraDMA 66 interface, 512 KB cache buffer and 9.5 ms seek performance come standard on all VL products. When your application requires a cost effective storage device, choose the leader of innovative storage products—specify Maxtor's DiamondMax VL series.

5,400 RPM

**3.5-INCH
HIGH-
PERFORMANCE
HARD DRIVES**

Capacities up to 20 GB

*Designed for Entry-level Systems
and Consumer Electronics
Applications*

FEATURES:

*Fast ATA/Enhanced
IDE compatible*

*Digital Signal Processor
(DSP)-Based Architecture*

*UltraDMA 66
Data Transfer Rate*

*512 KB SDRAM
Cache Buffer*

9.5 ms Seek Time

*No Quibble®
Service and Support*



Win 100 Hardware
DiamondMax 4320 (17.2 GB)
Windows Magazine, June 1999



CRN Test Center Recommended
DiamondMax 6800 (27.2 GB)
Computer Reseller News, April 1999



Recommended List
DiamondMax Plus 5120 (20.4 GB)
Windows Magazine, August 1999



Editor's Choice Award
DiamondMax Plus 2500 (10.0 GB)
DiamondMax 2880 (11.5 GB)
Storage Review, Summer 1998

DiamondMax[™] 20 VL

Maxtor's DiamondMax Value Line series VL 20 deliver outstanding value including:

- 5,400 RPM spin speed
- 10.2 GB of storage per disk
- 9.5 ms average seek
- 512 KB cache buffer
- Fast data transfer rates (up to 66 MB/sec)



MODEL	92041U4	91741U4	91531U3	91301U3	91021U2	90871U2	90431U1
SERIES	VL 20	VL 17	VL 20	VL 17	VL 20	VL 17	VL 17
CAPACITY	20,490 MB	17,410 MB	15,367 MB	13,010 MB	10,245 MB	8,710 MB	4,310 MB
HEADS	4	4	3	3	2	2	1
DISKS	2	2	2	2	1	1	1

PERFORMANCE SPECIFICATIONS

Seek Times (typical)	
Track to Track	1 ms
Average	9.5 ms
Maximum	< 20 ms
Average Latency	5.55 ms
Rotation Speed (± 0.1%)	5,400 RPM
Controller Overhead	< 0.3 ms
Start Time (0 - drive ready)	7.3 sec typical

DATA TRANSFER RATES

To/From Interface	up to 66.7 MB/sec
To/From Media on VL 20 Series	up to 36.9 MB/sec
To/From Media on VL 17 Series	up to 34.2 MB/sec

DRIVE CONFIGURATION

Integrated Controller	ATA-5/UDMA 66
Buffer Size	512 KB
Buffer Type	SDRAM
Data Zones per Surface	16
Bytes per Sector/Block	512

RELIABILITY SPECIFICATIONS

Start/Stop Cycles	50,000 (minimum)
Component Design Life	5 years (minimum)
Data Errors (non-recoverable)	< 1 per 10 ¹⁴ bits read
Annual Return Rate (ARR)	<1%

POWER REQUIREMENTS (TYPICAL)

MODE	12V±10%	5V±5%	POWER
Spin-up (peak)	2100 mA	275 mA	
Seek	740 mA	420 mA	11.0 W
Read/Write	295 mA	440 mA	5.7 W
Idle	230 mA	380 mA	4.7 W
Standby	20 mA	220 mA	1.3 W

ENVIRONMENTAL LIMITS

ACOUSTICS

Idle mode	3.3 bel (average sound power)
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TEMPERATURE

Operating	5° C - 55° C
Non-operating, Storage	-40° C - 71° C

RELATIVE HUMIDITY (NON-CONDENSING)

Operating, Non-operating, Storage	5% - 95%
Maximum Wet Bulb	30° C

ALTITUDE (RELATIVE TO SEA LEVEL)

Operating	-200 - 10,000 feet
Non-operating	-200 - 40,000 feet

VIBRATION**

Operating, random, no errors	10 - 45 Hz at 0.004 G2/Hz 48 - 62 Hz at 0.008 G2/Hz 65 - 300 Hz at 0.004 G2/Hz 301 - 500 Hz at 0.0006 G2/Hz
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Non-operating, random	10 - 2,000 Hz at 4.1 Grms, no damage
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Operating, swept sine (1 octave per minute)

5 - 20 Hz	0.049" double amplitude
21 - 300 Hz	1.0 G peak amplitude

SHOCK**

Operating Mechanical Shock	30 Gs, 2 ms, no errors
Non-operating Mechanical Shock	250 Gs, 2 ms, no damage

**Without non-recoverable errors.

PHYSICAL DIMENSIONS

Height	1.02 in	2.59 cm
Length	5.78 in	14.67 cm
Width	4.00 in	10.20 cm
Weight	1.30 lbs	0.59 kg



All Maxtor products are backed by the *No Quibble*[®] service policy, the benchmark for service and support in the industry. *No Quibble* includes:

- Advance replacement in 2 business days
- MaxFax[™] 24-hour automated technical support
- Maxtor's commitment to total customer satisfaction
- Phone technicians available Monday–Friday

For more information or to talk to a customer support representative, call: (U.S. and Canada) 800-2MAXTOR. Available 5 A.M. – 5 P.M. (PT) Mon – Fri; (Europe) +353 1 204 1111. Available 9:30 A.M. – 6 P.M. (CET) Mon – Thurs and 9:30 A.M. – 5 P.M. (CET) Fri; (Asia/Pacific) 800-481-6788. Available 8 A.M. – 5:30 P.M. (GMT+8) Mon – Fri; or visit our homepage on the Internet at <http://www.maxtor.com>.

Specifications subject to change without notice. Maxtor defines 1 megabyte as 10⁶ or 1 million bytes and 1 gigabyte as 10⁹ or 1 billion bytes. Acoustic measurement at 5,200 feet altitude. DiamondMax[™], DualWave[™], MaxFax[™], MaxSafe[™] and ShockBlock[™] are trademarks of Maxtor. No Quibble is a registered trademark of Maxtor. Printed in the U.S.A. Copyright © 1999 Maxtor Corporation. 8/99 Stock #VL20/17 Rev. 4402

