

New Software Version 1.15

For FFD 2.5" Ultra ATA

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Description

A new software version 1.15 has been released for the FFD 2.5" Ultra ATA, which replaces the current software version 1.14. The new software version supports higher-density flash components, resulting in the following product modifications:

- Updated CHS parameters
- Improved power consumption parameters
- Higher density per case height
- Improved Mean Time Between Failures

CHS Parameters

The FFD 2.5" Ultra ATA CHS parameters have been changed, as described in the table below:

Density (MB)	LBA		Cylinders		Heads		Sectors	
	1.14	1.15	1.14	1.15	1.14	1.15	1.14	1.15
1024	1980498	1982464	1966	1966	16	16	63	63
2048	3993764	3995648	3963	3963	16	16	63	63
4096	8020296	7991296	7958	7928	16	16	63	63
8192	16073359	16044032	15947	15917	16	16	63	63
12288	24126423	24096768	16383	16383	16	16	63	63
16384	32179487	32149504	16383	16383	16	16	63	63
24576	48285614	48254976	16383	16383	16	16	63	63
32768	64391741	64360448	16383	16383	16	16	63	63
40960	80497869	80465920	16383	16383	16	16	63	63
49152	96603996	96571392	16383	16383	16	16	63	63
57344	112710124	112680960	16383	16383	16	16	63	63
65536	128816251	128786432	16383	16383	16	16	63	63
73728	144922378	144891904	16383	16383	16	16	63	63
81920	161028506	160997376	16383	16383	16	16	63	63
90112	177134633	177102848	16383	16383	16	16	63	63
98304	193240760	193208320	16383	16383	16	16	63	63
106496	209346888	209317888	16383	16383	16	16	63	63
114688	225453015	225423360	16383	16383	16	16	63	63

Density (MB)	LBA		Cylinders		Heads		Sectors	
	1.14	1.15	1.14	1.15	1.14	1.15	1.14	1.15
122880	241559142	241528832	16383	16383	16	16	63	63
131072	257665270	257634304	16383	16383	16	16	63	63

Power Consumption

The power consumption parameters for FFD 2.5" Ultra ATA have been improved, as described in the table below:

Disk Mode/Unformatted Disk Density	1GB - 8GB	16GB	64GB	128GB
Power Mode STANDBY	2.54 W/500 mA	2.48 W/489 mA	2.84 W/568 mA	2.84 W/568 mA
Power Mode IDLE	2.54 W/500 mA	2.66 W/524 mA	2.84 W/568 mA	2.9 W/580 mA
Sustained Write/Read	2.64 W/520 mA	2.66 W/524 mA	2.84 W/568 mA	3.0 W/600 mA
Sanitize ERASE/FILL	2.69 W/530 mA	3.02 W/595 mA	4.78 W/940 mA	5.7 W/1140 mA

Physical Characteristics

Each case height can now accommodate higher densities than previously designated, due to added support for higher-density flash components. As a result, the physical characteristics of the FFD 2.5" Ultra ATA have been updated, as described in the table below:

		Inches	Millimeters	Max. Density	Max. Unit Weight (kg)
H:	A	0.370	9.4	1GB to 8GB, 16GB	0.10
	B	0.527	13.4	12GB, 24GB to 64GB	0.14
	C	0.685	17.4	72GB to 112GB	0.18
	D	0.842	21.4	120GB, 128GB	0.22
W:		2.75	69.85	-	-
L:		3.945	100.2	-	-

Please note that case "F" (29.4 mm) will no longer be offered.

Mean Time Between Failures (MTBF)

The Mean Time Between Failures (MTBF) for the FFD 2.5" Ultra ATA has been improved, as described in the table below:

Density	MTBF (Hours)	FIT (Failure Rate per Million Hours)
1GB – 8GB, 16GB	1,485,397	0.6808
32GB	1,056,635	1.4037
48GB	871,839	1.1470
64GB	547,105	1.8278
80GB	601,214	1.6633
128GB	471,209	2.1222

Ordering Information

The ordering information has been modified, as described in the table below:

Product	Density (MB) [1024MB=1GB]	Ordering Information
FFD 2.5" Ultra ATA	1024, 2048, 4096, 8192, 16384	FFD-25-UATA-CCCCC-T-A-P
	12288, 24576, 32768, 40960, 49152, 57344, 65536	FFD-25-UATA-CCCCC-T-B-P
	73728, 81920, 90112, 98304, 106496, 114688	FFD-25-UATA-CCCCC-T-C-P
	122880, 131072	FFD-25-UATA-CCCCC-T-D-P

The product ordering information indicates:

CCC: Disk density	A, B, C, D: Case height (in mm)
T: Operating temperature range	A: 9.4
Blank: Commercial: 0°C to +70°C	B: 13.4
N: Enhanced: -25°C to +75°C	C: 17.4
X: Extended: -40°C to +85°C	D: 21.4
P: RoHS compatibility	
Blank: Non-ROHS version	
P: RoHS-compliant version	

Reason for Change

Using higher-density flash components enables doubling the disk density in the same case height, which benefits applications that have limited physical space for deployment.

In addition, as higher-density flash components become more commonly available on the market, lower-density flash component are being phased out and are subject to lower availability.

Availability

The FFD 2.5" Ultra ATA will be manufactured with software version 1.15 from January 2006. Customers that prefer to keep the previous software version 1.14 for new ordered units must notify M-Systems. Special ordering information will be provided to indicate that the FFD 2.5" Ultra ATA has been shipped with the requested older software version.

How to Contact Us

Please contact your M-Systems representative or visit the Embedded Systems area on the M-Systems website (www.m-systems.com) for any further information or assistance.

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