

## *New Software Version 1.07*

### *For FFD 3.5" Ultra320 SCSI*

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### Description

A new software version 1.07 has been released for the FFD 3.5" Ultra320 SCSI, which replaces the current software version 1.06. The new software version offers the following improvements:

- Single software version that manages both the 80-pin version and the new 68-pin version of the FFD 3.5" Ultra320 SCSI
- Support for higher-density flash components
- Support for higher densities of up to 352GB in a 1" case height
- Full support for the IREC (IRIG) 106, Chapter 10 requirement

### CHS Parameters

The FFD 3.5" Ultra320 SCSI CHS parameters have been changed, as described in the table below:

Density		LBA		Cylinders		Heads		Sectors	
(MB)	(GB)	1.06	1.07	1.06	1.07	1.06	1.07	1.06	1.07
1024	1	1980498	2023424	1934	1976	16	16	64	64
2048	2	3993764	4079616	3900	3984	16	16	64	64
4096	4	8020296	7991296	7800	7804	16	16	64	64
8192	8	16073359	16044032	15665	15668	16	16	64	64
12288	12	24126423	24096768	23529	23532	16	16	64	64
16384	16	32179487	32149504	31393	31396	16	16	64	64
20480	20	40232550	40202240	39258	39260	16	16	64	64
24576	24	48285614	48254976	47122	47124	16	16	64	64
32768	32	64391741	64360448	62851	62852	16	16	64	64
40960	40	80497869	80465920	78579	78580	16	16	64	64
49152	48	96603996	96571392	94308	94308	16	16	64	64
57344	56	112710124	112680960	110036	110040	16	16	64	64
65536	64	128816251	128786432	125765	125768	16	16	64	64
73728	72	144922378	144891904	141494	141496	16	16	64	64
81920	80	161028506	160997376	157222	157224	16	16	64	64
98304	96	193240760	193208320	188680	188680	16	16	64	64

Density		LBA		Cylinders		Heads		Sectors	
(MB)	(GB)	1.06	1.07	1.06	1.07	1.06	1.07	1.06	1.07
106496	104	209346888	209317888	204408	204412	16	16	64	64
114688	112	225453015	225423360	220137	220140	16	16	64	64
122880	120	241559142	241528832	235866	235868	16	16	64	64
131072	128	257665270	257634304	251594	251596	16	16	64	64
139264	136	273771397	273739776	267323	267324	16	16	64	64
147456	144	289877524	289845248	283052	283052	16	16	64	64
155648	152	305983652	305954816	298780	298784	16	16	64	64
163840	160	322089779	322060288	314509	314512	16	16	64	64
172032	168	338195907	N/A	330237	N/A	16	N/A	64	N/A
180224	176	354302034	354271232	345966	345968	16	16	64	64
196608	192	N/A	386482176	N/A	377424	N/A	16	N/A	64
212992	208	N/A	418697216	N/A	408884	N/A	16	N/A	64
229376	224	N/A	450908160	N/A	440340	N/A	16	N/A	64
245760	240	N/A	483119104	N/A	471796	N/A	16	N/A	64
262144	256	N/A	515334144	N/A	503256	N/A	16	N/A	64
278528	272	N/A	547545088	N/A	534712	N/A	16	N/A	64
294912	288	N/A	579756032	N/A	566168	N/A	16	N/A	64
311296	304	N/A	611971072	N/A	597628	N/A	16	N/A	64
327680	320	N/A	644182016	N/A	629084	N/A	16	N/A	64
344064	336	N/A	676392960	N/A	660540	N/A	16	N/A	64
360448	352	N/A	708608000	N/A	692000	N/A	16	N/A	64

## Power Consumption

The FFD 3.5" Ultra320 SCSI power consumption has been improved, as described in the table below:

Disk Density (GB)	Disk Type	
	Idle Mode	Read/Write Mode
32	1.1 A/5.5 W	1.3 A/6.5 W
128	1.2 A/6.0 W	1.4 A/7.0 W
224	1.2 A/6.0 W	1.4 A/7.0 W
320	1.3 A/6.5 W	1.5 A/7.5 W
352	1.3 A/6.5 W	1.6 A/8.0 W

## 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 3.5" Ultra320 SCSI have been updated, as described in the table below:

Memory Density (GB)	Case Height (in)	Maximum Weight (g)
1 – 8, 16, 24, 32	0.5	250
12, 20, 40 – 128	0.5	275
136 – 224	1	415
240 – 320	1	480
336 – 352	1	525

## Declassification Based on IREC (IRIG) 106 (NTISSP-9)

IRIG (Inter-Range Instrumentation Group) 106 are a set of telemetry standards, which provide the necessary criteria on which to base equipment design and modification.

The National Telecommunication & Information Security Systems (NTISSP-9) Chapter 10 describes the requirements for SOLID STATE RECORDER STANDARD. Section 10.8 (declassification) addresses declassification for various Solid-State Disks.

The FFD 3.5" Ultra320 SCSI now supports the requirement to keep all *failed to erase* and *failed to write* blocks in tables, and to enable the user to read the data in these tables. The added support for these tables also improves sanitization support as required by IREC (IRIG) 106 (NTISSP-9), chapter 10.

## Ordering Information

The following ordering information has been modified:

Product	Density (GB)	Ordering Information
FFD 3.5" Ultra320 SCSI	1, 2, 4, 8, 12, 16, 20, 24, 32, 40, 48, 56, 64, 72, 80, 96, 104, 112, 120, 128, 136, 144, 152, 160, 176, 192, 208, 224, 240, 256, 272, 288, 304, 320, 336, 352	FFD35-U3S-CCC-T-PXX

The product ordering information indicates:

**CCC:** Disk density

**PXX:** SCSI connector

**T:** Operating temperature range

**P68:** 68-pin connector

**Blank:** Commercial: 0°C to +70°C

**P80:** 80-pin connector

**N:** Enhanced: -25°C to +75°C

**X:** Extended: -40°C to +85°C

Densities up to 128GB are supported in a 0.5" case height. Densities above 128GB (up to 352GB) are supported in a 1" case height.

## Reason for Change

The FFD 3.5" Ultra320 SCSI product line has been expanded, and the new firmware version supports the new 68-pin product version. In addition, full support has been added to improve sanitization support, as per the IREC (IRIG) 106, Chapter 10 requirement.

Moreover, 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-capacity flash component are being phased out and are subject to lower availability.

## Availability

The FFD 3.5" Ultra320 SCSI will be manufactured with software version 1.07 from January 2006. Customers that prefer to keep the previous software version 1.06 for new ordered units must notify M-Systems. Special ordering information will be provided to indicate that the FFD 3.5" Ultra320 SCSI has been shipped with the requested older software version.

## How to Contact Us

Please contact your M-Systems representative or visit the Embedded Systems section on the M-Systems website ([www.m-systems.com](http://www.m-systems.com)) for any further information or assistance.

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