



Rocket Model 204 Fast/Backup

User's Guide

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Notices

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Fast/Backup is a plug compatible replacement for the BACKUP and RESTORE commands provided with *Model 204*. *Fast/Backup* combines the functional appeal of the *Model 204* backup program with the speed of a system backup utility such as IBM's DF/DSS®.

Fast/Backup is part of a collection of object code enhancements to the *Model 204* database-engine nucleus. These enhancements are distributed as components of the *Sirius Mods* and make up a collection of products including *Fast/Backup*. The *Sirius Mods* include many products such as SirField, Fast/Reload and the Fast/Unload User Language Interface that have nothing to do with *Fast/Backup*. No *Sirius Mods* products are required to run *Fast/Backup* other than itself.

Therefore, to install *Fast/Backup* the *Sirius Mods* must be installed. When the *Sirius Mods* are installed, all other products owned by the installing site that are part of the *Sirius Mods* will also be installed. Please refer to the ***Sirius Mods Installation Guide*** for installation instructions.

Since *Fast/Backup* is part of the *Sirius Mods*, the version number of *Fast/Backup* is considered to be the version of the *Sirius Mods* in which it is contained. This document, the *Fast/Backup User's Guide*, assumes that a site is running *Sirius Mods* version 4.2 or later. Any documented feature or facility that requires a later version of the *Sirius Mods* will be clearly marked to indicate this. For example, a parameter that is only available in versions 5.0 and later of the *Sirius Mods* will have a sentence such as "This parameter is only available in version 5.0 or later of the *Sirius Mods*" in its documentation. If a feature or parameter is not indicated as requiring any specific version of the *Sirius Mods*, it can be assumed that it is available as documented in all versions of the *Fast/Backup* since version 4.2 of the *Sirius Mods*.

Using Fast/Backup under MVS

Fast/Backup supports the same command structure as the *Model 204* DUMP and RESTORE commands. *Fast/Backup* also provides additional options which are detailed in “[Fast/Backup Options](#)” on page 9.

Fast/Backup acquires its own database buffers to avoid impacting *Model 204* buffer pool performance. The storage is acquired “above the line” in XA and ESA environments.

A special subtask is created for *Fast/Backup* under MVS to avoid delays in the online environment due to tape volume mounts.

You can set the DUMPTMIN and DUMPTMAX parameters to optimize dumps in an updating environment. Normally, updating transactions are delayed while second or subsequent tape volumes are mounted during a DUMP. Now, *Fast/Backup* writes updated pages to CCATEMP while waiting for a volume mount. This allows updating transactions to continue, since a pre-image page is immediately logged in CCATEMP. As soon as the tape volume becomes available, the CCATEMP pages are written to it and freed. DUMPTMIN sets the minimum number of CCATEMP pages that must be available when *Fast/Backup* requires one for pre-image logging. DUMPTMAX sets the maximum number of pages a single DUMP can use. You can set the DUMPOPTS flag to indicate the action to take if either of these limits are violated. The action can be either CANCEL (X'80') or WAIT (X'00'). CANCEL terminates the DUMP immediately (Any other DUMPs in progress continue). WAIT causes the DUMP process to wait for the volume mount forcing any updating transactions to wait also.

Fast/Backup automatically selects the best possible blocksize for the sequential dataset. Unless you have special restrictions or considerations, do not code a BLKSIZE parameter on your DD statement or in your ALLOCATE command.

If, for any reason, you wish to use standard CCA DUMP or RESTORE after you've installed *Fast/Backup*, you can do this by changing your DUMP commands to DUMPX, and your RESTORE commands to RESTOREX. These commands will invoke the standard CCA utilities.

Using Fast/Backup under CMS

Fast/Backup supports the same command structure as the *Model 204* DUMP and RESTORE commands. *Fast/Backup* also provides additional options which are detailed in “[Fast/Backup Options](#)” on page 9.

Fast/Backup acquires its own database buffers to avoid impacting *Model 204* buffer pool performance. The storage is acquired “above the line” in XA and ESA environments.

Fast/Backup automatically selects the best possible blocksize for the sequential dataset. Unless you have special restrictions or considerations, do not code a BLKSIZE parameter on your DD statement or in your ALLOCATE command.

If, for any reason, you wish to use standard CCA DUMP or RESTORE after you've installed *Fast/Backup*, you can do this by changing your DUMP commands to DUMPX, and your RESTORE commands to RESTOREX. These commands will invoke the standard CCA utilities.

Fast/Backup does not support DUMP or RESTORE for database files which reside on a CMS minidisk. DUMP or RESTORE will revert to the standard CCA routines in this case.

Fast/Backup examines the device type and allocation of the database files before allocating I/O buffers. *Fast/Backup* attempts to use full cylinder I/O whenever possible, but any physical extents in the database that are not cylinder aligned are read a track at a time. Thus, you can maximize the performance of *Fast/Backup* by ensuring that all database extents are allocated on cylinder boundaries.

Fast/Backup reads and writes full tracks or cylinders in each database I/O operation, and requires two database I/O buffers to achieve best performance. For 3380 devices this means that 1.3 Megabytes of “above the line” storage is required for the database buffers. You may need to adjust the size of your region before using *Fast/Backup*.

The NBUFF option sets the number of sequential I/O buffers for the DUMP or RESTORE operation. You should set this value as high as possible to avoid sequential I/O bottlenecks, but this storage is allocated for use by BSAM and must be “below the line”, except in DF/SMS environments. Setting NBUFF too high can induce high paging rates if corresponding real storage is not available, or exhaust free storage in the online. See “[Fast/Backup Options](#)” on page 9 for more details on NBUFF.

Fast/Backup Options

NBUFF NBUFF set the number of sequential I/O buffers for BACKUP or RESTORE. Code the NBUFF keyword after the DUMP or RESTORE command. For example:

```
RESTORE 192 FROM TESTFILE NBUFF 50
```

Each buffer is equal in size to the blocksize of the sequential dataset. Thus, if NBUFF is 20, and the sequential dataset blocksize is 30920 bytes, 618,400 bytes of storage will be needed for the sequential I/O buffers. NBUFF can be set to any number between 1 and 99 inclusive.

```
pagesize * 180 / blocksize
```

DUMPTMIN This user resettable system parameter sets the minimum number of free CCATEMP pages that must be available for DUMP to use for pre-imaging when waiting for second or subsequent tape volume mounts.

DUMPTMAX This user resettable system parameter set the maximum number of CCATEMP pages any individual DUMP can use.

DUMPOPTS This user resettable system parameter sets system-wide DUMP options.

X'00' Indicates that if the DUMPTMIN or DUMPTMAX values are violated, DUMPs should wait for tape mounts without using CCATEMP pages. This will force updating transactions to wait also.

X'80' Indicates that DUMPs should be canceled if either DUMPTMAX or DUMPTMIN limits are violated.

CHAPTER 6 *Messages*

Please refer to M204wiki
(http://M204wiki.rocketsoftware.com/index.php/Category:Sirius_Mods_messages) for
messages related to *Fast/Backup*.

APPENDIX A *Date Processing*

This chapter presents date processing issues for *Fast/Backup*. The only use of dates within *Fast/Backup* is to examine the CPU clock (as returned by the STCK hardware instruction) to determine the current date, in case *Fast/Backup* is under a rental or trial agreement. Please note that *Fast/Backup* itself does not produce any results which depend on the content of any data which may be date values. However, since it does dump and restore *Model 204* files, if any fields or procedures contain two digit year date values, the customer must ensure that any application using that data has an algorithm or rule for unambiguously determining the correct century for the values.

You must examine all uses of date values in your applications to ensure that each of your applications produces correct results. Furthermore, both the operating system and *Model 204* must correctly process and transmit dates beyond 1999 in order for *Fast/Backup* to operate properly.

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