

basic systems MARKETING SUPPORT SERVICES

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THE RCB

ABSTRACT

This bulletin discusses the RCB and provides information on its usage with OS/3 program products.

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The purpose of this bulletin is to present an overview of the record control byte (RCB) and to describe its use in several OS/3 program products. A general knowledge of OS/3 is assumed.

OVERVIEW

The presence of a RCB in a file allows the user to logically delete records from MIRAM data files by marking them as void records. The marking process consists of setting the high order bit in the RCB. The records are not physically removed from the file.

If the records are fixed length, the RCB is prefixed to the front of each record. If the records are variable length, the third byte in the 4-byte overhead is used as the RCB.

The presence of a RCB when retrieving records is transparent to the user. Therefore, the following statements hold true no matter whether the program product that is accessing the file uses the RCB or not.

- If records are retrieved sequentially, the deleted records are skipped over.
- If records are retrieved randomly and the search argument specifies the key or relative record number of a deleted record, the result is a no-find error condition that is passed by data management to the program product.

USE OF RCB

The following table describes which program products use the RCB to logically delete records and the RIB default at file creation time. (The RIB (resource information block) macroinstruction is used internally to describe the file characteristics and processing requirements.) Further information is discussed in the comments. All information is common to both Release 7.1 and Release 8.0 except as noted in the comments.

Program products that use the RCB to delete records can access files that do not have a RCB; however, records can not be deleted from these files.

<u>PROGRAM PRODUCT</u>	<u>USES RCB</u>	<u>RIB DEFAULT</u>	<u>COMMENTS</u>
ASM	YES	NO	To change the default, specify RCB=YES in the RIB macroinstruction.
BASIC	NO	NO	

<u>PROGRAM PRODUCT</u>	<u>USES RCB</u>	<u>RIB DEFAULT</u>	<u>COMMENTS</u>
COBOL	YES	See comment	Relative and indexed files are created with a RCB. For compatibility, COBOL assumes the RCB to be present for sequential files and allows for it in the block size. However, sequential files created by COBOL have no RCB.
ESCORT	YES	YES	
FORTRAN	NO	YES	FORTRAN can not process files that do not have a RCB.
RPG	NO	NO	In Release 7.1, files containing a RCB can be accessed if the block length calculated by RPG or specified in the file description specification form is at least as large as the minimum allowable value. (See Consolidated Data Management Macroinstructions, UP-8826, Section 2.3.1 for the algorithm for determining the minimum allowable value.) In Release 8.0, a new source statement allows RPG to access files that have a RCB and to create files with a RCB. Specifying 'RCB' in columns 54-56 of the file specification continuation statement allows RPG to calculate the correct block size for files that have a RCB.
IMS	See comment1	See comment2	<p>1. In Release 7.1, IMS does not use the RCB. Only logical deletions (setting the first byte of non-key data in the data portion of the file to hex 'FF') are allowed. This deletion is recognized only by IMS. In Release 8.0, 'physical' deletions (actually a logical deletion by setting the RCB) are allowed by using the DELETP parameter. The default for this parameter is YES for multikey files, NO for single key files.</p> <p>2. File characteristics must be defined by the user before the file can be accessed by IMS. IMS does not create file characteristics.</p>

<u>PROGRAM</u> <u>PRODUCT</u>	<u>USES</u> <u>RCB</u>	<u>RIB</u> <u>DEFAULT</u>	<u>COMMENTS</u>
COPY	NA	NO	To change the default, specify RCB=YES.
DATA UTILITIES	NA	See Comment	The default is the input file characteristics. To specify no RCB, specify the CM or OMY parameter as follows: CM=(,,,R) or OMY=(,,,R).
EDT	NA	NO	To change the default, specify RCB=YES.

NA = not applicable