HIGHLIGHTS

The RM/COS version 2.4 release provides several new capabilities as well as many corrections and improvements to version 2.3 features. The new capabilities in 2.4 include:

- A new (upward compatible) RM/COBOL for RM/COS;
- Support for remote terminals;
- The FLAW-TRACK and MAP-FLAWS commands;
- A new SYSTEM-SHUTDOWN command.

The existing RM/COS capabilities that have been extended and improved include:

- TAPE-ASSIGN, which now accepts a PREMOUNT parameter to permit unattended operation;
- Translation of lower case JDL input to upper case;
- Log-in process, which now allows the terminal type to be specified at log-in time, rather than at system configuration;
- INITIALIZE command, which now displays an indication of its progress;
- A system configuration parameter to specify the size of the keyboard type-ahead buffer.

Additionally, several optional patches are provided to allow tailoring the system behavior to match the special requirements of some users.

IMPROVEMENTS AND ENHANCEMENTS

1. COBOL Language Upgrade -
   The RM/COBOL language for RM/COS has been upgraded to support many new features. The details describing these changes may be found in the accompanying RM/COBOL Language Manual Release 2.4 Updates document. Also see the RM/COS User Guide for details of the ANSI option on the COBOL compiler.

2. Remote Terminal Support -
   Support is provided for remote (dial-up) terminals on RM/COS. This support consists of several new features. (1) When a terminal disconnects from RM/COS the associated terminal partition is automatically terminated; any associated nonterminal partitions are UNCOUPLEd from the terminal partition. (2) The KTASK command may now be used to kill a terminal partition from a different terminal partition. (3) Following log-out at a remote terminal, the user has 30 seconds in which to start log-in, after which RM/COS disconnects from the terminal. (4) The terminal type may be specified as unknown at system configuration time, in which case the user is asked to enter the type when logging-in.

3. Disk Flaws -
   Disk tracks with flaws ("bad" tracks) may now be marked as unusable with the FLAW-TRACK or FLAW-ADU command. Previously, flaws could only be specified on the INITIALIZE command. A list of the flaws known to RM/COS may be obtained via the MAP-FLAWS command.

4. Orderly System Shutdown -
   When the computer is to be shut down, either to re-IPL or to turn the machine off, the SYSTEM-SHUTDOWN command should be used. This command will notify any other users of the impending shutdown, terminate any active partitions which do not terminate voluntarily, log-out the user who entered the command and unload all loaded disk volumes. This is the only command which can unload the system disk volume.

5. PREMOUNT Option on TAPE-ASSIGN -
   An option has been added to the TAPE-ASSIGN command to indicate that a tape volume has been mounted ahead of time ("premounted"). This is useful in batch streams intended to execute when no operator is present to mount the tape. For more information see the description of the TAPE-ASSIGN command in the User Guide.

6. Lower Case JDL Input -
   All JDL input is now translated to upper case, except quoted string parameters. This simplifies the use of terminals which do not have a "caps lock" key or which have an electronic "caps lock" which is initially off. During log-in, the terminal type and user ID are also translated to upper case; the passcode is not.

7. Type-ahead Buffer Size -
   The size of the keyboard type-ahead buffer is now a system configuration parameter. The lower limit on the size is one. There is no upper limit. The default size is five characters.

8. INITIALIZE Command Enhanced -
   The INITIALIZE command now displays the number of the track it is currently initializing and the total number of tracks on the disk. This permits the user to see how the command is progressing.

9. Open Input/Extend on Terminals -
   An open Extend on a terminal (VDT) device will not alter the data on the screen. Thus, the JDL command option XL (extend listing) now has the same effect on terminals as on other devices. Opening a terminal Output will still erase the screen. An open Input will roll the data on the screen up one line.

CAUTIONS

While Ryan-McFarland Corporation makes every attempt to minimize the number of incompatibilities visible to the user, some necessary improvements and problem corrections result in some degree of incompatiblity between releases of the system. In most cases, these are downward incompatibilities. The following differences between release 2.3 and 2.4 should be reviewed by all users prior to installing the 2.4 release:

1. The disk allocation map has been changed to allow any ADU to be flawed (marked "bad"). Disks INITIALIZEd by 2.4 can not be used with 2.3. Old disks can be LOADed by 2.4 and used, but the FLAW-ADU and FLAW-TRACK commands may not be used on old format disks.

2. A bug in the data compression algorithm in 2.2 systems and a few early 2.3 systems was fixed in 2.4. (A patch was available for 2.3). The effect of this bug was that a spurious character was appended to some compressed records. An attempt to read such a record under 2.4 may get a "9703" error (record length exceeds the length of the record area). See optional patch #4 in the following section.

3. All lower-case JDL input including condition codes is translated to upper-case except in a quoted string. Thus, condition codes may never be set to lower-case letters. If a user has a batch stream which treats lower-case condition code letters different from upper-case letters, it will need to be changed.

OPTIONAL PATCHES

The following patches may be applied to the installed system to produce the results indicated. They are not required for correct system operation. Be sure to re-IPL the system after applying any patches.

1. Suppress form feed on Open Output of printer -
   An open Output of the printer will force the printer to top of form. An open Extend will not. If problems occur at your installation as a result of this behavior, contact your system support person for patches.

```
/FMODIFY, NAME=SYSTEM, MEMBER=SYSTEM, OFFSET=42A0,
          VERIFY=6630, PATCH=6030, CHECKSUM=6030
```

2. T7000 alternate keypad mode off -
   The WICAT T7000 terminal is normally set up so that the ENTER key produces an RM/COS SEND function. This is "alternate keypad mode". If alternate keypad mode is disabled, the ENTER key is treated the same as the RETURN key. The following patch disables alternate keypad mode.

```
/FMODIFY, NAME=SYSTEM, MEMBER=TDT7000, OFFSET=4A,
          VERIFY=1B3D, PATCH=7F7F, CHECKSUM=7F7F
```

3. Bi-sync character translation changes -
   In some cases, the need to change the EBCDIC <-> ASCII character translation in the 3780/2780 package arises. This situation should occur only when operating with other emulators which do not correctly emulate the 3780 terminal. If problems occur at your installation under these circumstances, contact your system support person for patches.

4. Release 2.2 compressed file problem -
   A problem existed in RM/COS release 2.2 which caused the writing of malformed compressed records in some circumstances. These bad records were not detected by 2.2 and were, therefore, readable. RM/COS 2.4 detects the bad format and generates a "9703" error when the system attempts to read the bad record(s). If you suspect that you are seeing "9703" errors which have no reasonable cause and that occur on a record last written by 2.2, contact your system support person.

COMPONENT DESCRIPTION

Your RM/COS release 2.4 system consists of several components:

1. These release notes

2. The operating system release diskette(s) -
   The RM/COS system proper is released in bootable form on a floppy diskette. The volume name of this diskette is "RMCOS24". In some cases (e.g., CIE Systems 680 edition), more than one diskette is required to install the full RM/COS system. If this is the case, the first diskette volume name is "RMCOS241" and the second is "RMCOS242" and so forth. In any case, the Operator Guide should be read thoroughly before attempting to either install the 2.4 release or update an existing 2.3 release to the 2.4 level.

3. The system documentation package -
   The documentation package is supplied in one of two forms:
   A) If your license provides reproduction rights for the RM/COS manuals, you are provided a set of one-sided reproduction masters for all of the 2.4 release documentation. This set of masters will include only those documents that have changed since the last release that you received. Note that the masters have different even and odd page gutter sizes to allow for two-sided reproduction with holes punched. For this reason, it is important to have the printer reproduce all of the pages of a particular manual, including blank pages between chapters. The RM/COBOL Language Reference Manual, if included, is two-sided on thick paper stock.
   B) If your license does not provide for reproduction rights for the manuals, you are provided one copy of each of the RM/COS manuals appropriate for this release. Additional manuals are available from your RM/COS supplier or by contacting your Ryan-McFarland sales representative.

RM/COS User Guide Errata

The following list indicates pages in the RM/COS User Guide which have errors. The indicated corrections should be marked in your copy of the manual.

vii The abbreviation for the Modify Profile Screen Editor command should be "MP", not "MR".

1-6 The third paragraph from the bottom of the page should be changed to read as follows:

> The number of blocking buffers specifies the amount of a user partition which is to be used, while a file is open, as buffer storage for logical blocks. Within limits, providing multiple blocking buffers reduces IO time at the expense of the additional memory used. Indexed file IO benefits most from an increase in the number of blocking buffers. Unlike the other file characteristics, the number of blocking buffers is not a fixed attribute of the file, but is established each time the file is assigned.

2-5 Add the following 5 record parameter after the Event log buffer size:

> Col 30-34 Disk verify buffer size. The size of the allocated disk verify buffer. The size is specified in bytes and will be rounded up to the next 1K byte boundary (up to a maximum of 64512 bytes). The buffer is allocated only if the verify option is selected on at least one disk.

2-5 Change the last sentence on the page to read as follows:

> If this record is omitted, the default is to require user log-in with a valid user ID, require pressing the Log-in Key to initiate log-in, set command prompt characters to [ ], allocate a five character type-ahead buffer for each terminal, disable event logging, and allocate a 1024 byte disk verify buffer if the verify option is selected for any disk.

2-9 The KILL-PARTITION command should be added to the list of commands available in batch mode. The commands LOGOUT, REMOVE-SYSTEM, and TEST-SYSDEFIL should be added to the list of commands available in interrupt mode. The commands LOGOUT and SYSTEM-SHUTDOWN should be added and EXIT should be removed from the list of commands available before the time has been initialized.

3-3 In the first starred item at the bottom of the page, the reference to Chapter 2 should be a reference to Chapter 1.

3-16 The description of the BUFFERS parameter on the ASSIGN command should read as follows:

> Number of blocking buffers to be allocated for I/O to a disk file. The program opening the file can override this parameter by specifying the number of buffers in the RESERVE integer AREAS clause in the COBOL program. If no RESERVE integer AREAS clause is specified and no number is entered, then a sequential or relative file is allocated one buffer if opened INPUT and two buffers for other open modes, and indexed files are allocated two buffers if opened INPUT for sequential access and five buffers otherwise. The system ensures that at least two buffers are allocated for indexed files opened other than INPUT. The buffers are allocated when the file is opened and released when it is closed. If a device name is assigned to a logical name, this parameter is ignored.

3-16 The number of buffers in the example should be changed from 2 to 10 for better performance. The word "two" in the last sentence on the page should be changed to "ten".

3-21 The second sentence on the page should read as follows:

> The condition code is set to the character T if the time of day has not been initialized or if this is the first batch stream to run after IPL.

3-21 Add the following sentence at the end of the second paragraph:

> The .TIME batch stream may be modified to allow other initialization tasks, such as loading of fixed disks, to be performed.

3-21 The word "usr's" on the second line from the bottom of the page should be "user's".

3-38 The description of the BUFFERS parameter on the CREATE command should read as follows:

> Number of blocking buffers to be allocated for I/O to the file if a logical name parameter is also specified. Blocking buffers have a size equal to the block size specified in the BLOCK SIZE parameter plus overhead (see Appendix C, Memory Requirements). The program opening the file can override this parameter by specifying the number of buffers in the RESERVE integer AREAS clause in the COBOL program. If no RESERVE integer AREAS clause is specified and no number is entered, then a sequential or relative file is allocated one buffer if opened INPUT and two buffers for other open modes, and indexed files are allocated two buffers if opened INPUT for sequential access and five buffers otherwise. The system ensures that at least two buffers are allocated for indexed files opened other than INPUT. The buffers are allocated when the file is opened and released when it is closed.
>
> Unlike other parameters to the CREATE command, the BUFFERS option is not preserved on disk; it applies to the file only until the file is released, and is ignored if no logical name is specified.

3-40 The fifth line of the paragraph describing the SCRATCH attribute should read as follows:

> scratch files are not entered in the disk

3-59 The arrow in the right margin is meaningless and should be ignored. The sentence which begins on the line following the arrow should read as follows:

> Note that even though .GREEN.BACKUP is contained in the .GREEN directory, it will be skipped by FILE-BACKUP since it is the backup file.

3-91 The "t" which begins the last sentence of the first paragraph should be capitalized.

3-128 The description of the BUFFERS parameter on the SCRATCH command should read as follows:

> Number of blocking buffers to be allocated for I/O to the file. Blocking buffers have a size equal to the block size specified in the previous parameter plus overhead (see Appendix C, Memory Requirements). The program opening the file can override this parameter by specifying the number of buffers in the RESERVE integer AREAS clause in the COBOL program. If no number is entered, the value entered when the template file was assigned is used. If no RESERVE integer AREAS clause is specified and no number is entered for the scratch file nor for the template file, then a sequential or relative file is allocated one buffer if opened INPUT and two buffers for other open modes, and indexed files are allocated two buffers if opened INPUT for sequential access and five buffers otherwise. The system ensures that at least two buffers are allocated for indexed files opened other than INPUT. The buffers are allocated when the file is opened and released when it is closed.

3-137 and 3-138 Replace the description of the SETCOND command (pages numbered 3-137 and 3-138 which follow the errata).

3-174 The first sentence of the second paragraph should read as follows:

> As part of the user log-in procedures, the system will set the condition code to the letter T if the time has not been previously initialized or if this is the first batch stream to run after IPL.

7-20 Properly align the list of commands which are available in interrupt mode.

7-82 The title "SYSTEM-SHUTDOWN error codes" should read "SYSTEM-SHUTDOWN ERROR CODES".

7-94 Change the information under item 1 part c for error 9000 to read as follows:

> Attempt to write or rewrite a write protected file opened for I-O. An OPEN I-O of a write protected file or a file assigned with read only access is treated as an OPEN INPUT.

7-104 Change the explanation for error 9900 RECORD LOCKED to read as follows:

1) An I/O statement to a sequential, relative, or indexed organization file rejected because referenced record was locked by another user's program.
2) A statement will generate this code only if both a USE procedure and a FILE STATUS data item are in effect for the file associated with the referenced record; otherwise the operation waits until the record is available. The referenced record is placed in the record area, but an INTO phrase is not executed. A format 1 READ would obtain the following record, if any. A format 2 READ would be required to re-obtain with lock the record which was just read.

7-111 Add the following SYSTEM STOP CODE:

A023 S RECORD CONTAINS INVALID VERIFY BUFFER SIZE

1) The system configuration record in the System Definition File contains a disk verify buffer size which is not blank and contains nonnumeric characters.
2) The invalid size specification is ignored. A 1024 byte buffer is allocated.

A-20 Add the following SYSTEM STOP Code:

A023 S record contains invalid verify buffer size

C-6 Change the first paragraph on the page to read as follows:

For each logical disk file which is open, blocking buffers are allocated in the user's partition. The size of each buffer is (18 + logical block size) bytes. The number of buffers is specified in the RESERVE integer AREAS clause in the COBOL program, or on the CREATE or ASSIGN JDL commands. If not specified, a sequential or relative file is allocated one buffer if opened INPUT and two buffers for other open modes, and indexed files are allocated two buffers if opened INPUT for sequential access and five buffers otherwise. Indexed files opened I-O or OUTPUT require at least two buffers.

I-7 The word "statemet" on the top line of the third paragraph should be "statement".

J-4 The name associated with ASCII code 7C should be "Vertical Line" rather than "Split Vertical Line".

J-6 The name associated with ASCII code 7C should be "Vertical Line" rather than "Split Vertical Line".

SETCOND <Terminal, Batch, Interrupt>

Function:

Batch mode JDL commands may be conditionally executed; the condition code of the partition in which a batch stream executes controls conditional execution. The SETCOND command sets the condition code for a partition.

Format:

```
PARTITION: [ int ]
VALUE: [ string ]
IF: [ TIME ¦ SWITCH-1 ¦ SWITCH-2 ¦ SWITCH-3 ¦ SWITCH-4
           ¦ SWITCH-5 ¦ SWITCH-6 ¦ SWITCH-7 ¦ SWITCH-8 ]
```

Where:

PARTITION
: Number of the partition to which the command applies. When no number is entered, the partition in which the command is executed applies.

VALUE
: New condition code, a single character string, which may be enclosed in quotes. If no value is entered, a blank is the new condition code. A lower-case letter is converted to the corresponding upper-case letter, even if enclosed in quotes.

IF
: In batch streams, the name of a condition which is tested prior to setting the new condition code. If the specified condition is not true, the command does nothing; the condition code is not set. The condition names and the associated condition are as follows:

TIME	Time of day has been initialized.
SWITCH-n	Switch number "n" is on in the partition in which the command is executing.

Initially, the condition code of a partition is a blank but is set to the letter Z after a JDL command detects an error. The user may set the condition code to any (upper-case) letter, or to a blank. Condition codes control conditional execution of batch mode JDL commands.

Examples:

```
[] SET
PARTITION:
VALUE: A
```

The command sets the condition code for the user's terminal partition to A.

```
[ ] SETCON
PARTITION: 102
VALUE: Q
```

The command sets the condition code for partition 102 to the letter Q. This command could be used to force the exit of batch processing in partition 102.

```
[ ] SET
PARTITION:
VALUE:
```

The command sets the condition code for the partition executing the command to a blank.

```
/SETCOND, VALUE=Y, IF=TIME
```

The command sets the condition code for the partition executing the command to the letter Y if time has been initialized.

```
/SETCOND, VALUE=RCV, IF=SWITCH-2
```

The command sets the condition code for the partition executing the command to the letter R if switch number two is on. If switch number two is off the condition code is not changed.