

■
Unison

RoadRunner



Unison **STORAGE**
MANAGEMENT



Getting Started



Headquarters ■ Santa Clara, CA ■ 408/998-2800 ■ Fax 408/988-2236

Austin Division ■ Austin, TX ■ 512/478-0611 ■ Fax 512/479-0735

UK Division ■ Harpenden, Herts ■ 0582 462424 ■ Fax 0582 462425

Notice

Document Number RR-500000-1196-0

Printed in USA November 96

Unison Software
811 Barton Springs Road
Austin, Texas 78704 USA
(512) 478-0611
Fax (512) 479-0735

Copyright © 1992-1996 by Unison Software

The information in this document is subject to change without notice.

Unison Software makes no warranty of any kind with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Unison shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

Unison Software assumes no responsibility for the use or reliability of its software on equipment other than as specified in the documentation.

This document contains proprietary information which is protected by copyright. All rights are reserved. No part of this document may be photocopied, or reproduced in any form, including electronic, without the prior written consent of Unison Software.

Printing History

An **edition** of the manual represents a complete revision, in which all pages are replaced. An **update** contains additional and replacement pages to be inserted by the customer. Editions and updates are identified by a date. The date in the notice section above corresponds to that of the current edition or update. The software **version** corresponding to each edition or update is listed below; be aware, however, that not all version changes require changes to the manual.

11/96 Edition Version 4.6.5

Conventions Used in this Manual

MPE and RoadRunner commands and keywords appear in the Bold Courier monospaced typeface, in both text and examples. MPE commands are preceded by a colon.

```
full  
or  
:run rr.pub.tym
```

In examples of RoadRunner syntax, the bold Courier font designates words and symbols that you must type as shown. Italic Courier indicates a variable parameter for which you must substitute an appropriate value. Text or symbols inside brackets ([]) are optional. If brackets are nested, you can specify parameters in the inner brackets *only* if you have specified parameters in the outer brackets. In the following command:

```
report [[fields] [with options] [to devs] [format formats]]
```

- Everything except the report keyword is optional.

- If you use the options, they must be typed within parentheses.
- **with**, **to** and **format** must be typed exactly as shown, and each has a variable parameter for which you supply a value.

For example:

```
report (with command to 25 format 2 up, duplex)
```

Options that are mutually exclusive (you must select only one of them) are separated by vertical bars. In this example, you can choose either **ansi** or **rr**.

```
label [ansi|rr]
```

Elements that can be repeated are followed by an ellipsis (...). In the next example, you can specify as many filesets as you like; each one must be preceded by a comma.

```
excluding fileset [,fileset]...
```

For example:

```
excluding @.@.SYS,@.JUNK.MYACCT, @.@.TELESUP
```

In examples of computer/user dialogue and in examples that show both prompts and responses, user input appears in boldface.

```
ANY CHANGES?YES
or
:run rr.pub.tym
<01>select @.steve.rr
<02>store to *t
<rr>/go
```

Online Module

Descriptions of features not included in the RoadRunner base product are marked with a block in the margin, as shown at left. These modules must be purchased separately.

For specifying filesets, RoadRunner supports the following wild card characters:

@	Zero or more alphanumeric characters.
?	Exactly one alphanumeric character.
\$	Exactly one alpha character.
#	Exactly one numeric character.
[abc]	Exactly one character from the list in brackets. A range of characters can be specified with a dash, as in [a-z].

Where To Go For Help

If you have a question which you cannot answer using the manual or the online help system, call Technical Support at 512/478-0611 (Austin) or 408/988-2800 (Santa Clara) between 8:30 and 5:30 Central and Pacific respectively. In the U.K., please call Unison Software (UK) Limited at 1-582-462424. Elsewhere, call your local distributor.

When calling, please follow these guidelines:

- Know what version of the product you are using (run RR.PUB.TYM).
- If you prefer to send a fax describing the problem prior to contacting support, our fax number in Austin is 512/479-0735 and 408/988-2236 in Santa Clara. In the U.K. it is 1-582-462425.
- Technical Support can also be contacted electronically through Internet e-mail at support@unison.com or the Internet using ftp.unison.com, or www.unison.com.

-
- If you have an emergency after business hours, in the U.S, call 512/478-0611 and leave a voice mail in the emergency support mailbox. Your call will be returned within 30 minutes. In the U.K. call 01-582-767556.
 - For Sales and marketing information, call any of the above numbers or email info@unison.com.
 - For documentation changes, email doccomm@unison.com.

Getting Started

The purpose of this section is to get you started using Unison RoadRunner for MPE as quickly as possible. The next few pages of this guide covers:

- how to install RoadRunner
- starting execution and entering commands
- how to store and restore a file
- introduction to the command editor
- file specification and selection
- stopping execution.

New Installation Instructions

RoadRunner is operated from the TYM account. If it does not presently exist on your system, build the TYM account on your system by entering the following:

```
:HELLO MANAGER.SYS
:NEWACCT TYM,MANAGER;CAP=AM,AL,GL,SF,ND,PH,DS,MR,PM,IA,BA;&
:          ACCESS=(R,L,X:ANY;W,A:AC)
```

If the TYM account already exists on your system, ensure that the account has the proper characteristics by doing the following:

```
:HELLO MANAGER.SYS
:ALTACCT TYM;CAP=AM,AL,GL,SF,ND,PH,DS,MR,PM,IA,BA;&
:          ACCESS=(R,L,X:ANY;W,A:AC)
:ALTGROUP PUB.TYM;CAP=PH,DS,MR,PM,IA,BA;&
:          ACCESS=(R,L,X:ANY;W,A,S:AL,GU)
:ALTUSER MANAGER.TYM;CAP=AM,AL,GL,SF,ND,PH,DS,MR,PM,IA,BA
```

The RoadRunner distribution tape is an MPE iX :STORE tape that contains all files needed to install and use the product. Load the files from this tape into the TYM account and initialize the program. See the instructions below. For most upgrades, you will only need to restore the files from tape with MPE iX **restore**, if you need to do anything special, additional instruction will be sent with the upgrade. **Upgrades include demonstrations of all RoadRunner modules, including Online and Pro. These modules can be used and normally expire in 30 days, see the expiration notice in RoadRunner banner of your standard list. This will not affect the existing RoadRunner application or any previously purchased modules.**

Note

If you are installing an upgrade, you DO NOT need to initialize or revalidate RoadRunner as described in the following example.

```

:HELLO MANAGER.SYS
:FILE TYMTAPE;DEV=TAPE
:RESTORE *TYMTAPE;@.@.TYM
:RUN RR.PUB.TYM;INFO="-I"
    
```

Do not enter this last step if you are not updating.

The following files are installed on your system:

File	Description
AUTOREP	A utility used to configure tape drives to auto reply mode, useful for performing unattended backup.
BACKMSG	The BackPack/XL message catalog, containing user messages and help.
BACKREST	BackPack/V restore module. This is provided in case it's necessary to restore from a BackPack/XL created tape on a MPE V system that doesn't have BackPack/V.
BPTAPEON	Program that gives the capability to put the following tape drives online programmatically: 7980A, 7980XC, and any 4mm DDS tape unit.
BPUTIL	A utility used to copy BackPack-created virtual tape files to magnetic tape and to perform other file manipulation functions. Not used with RoadRunner backups. Upgrading users should see chapter 4 of the "RoadRunner for MPE User Guide" for a table of corresponding RoadRunner functions.
BMXL	Segmented Library containing the procedures for BackPack/XL's DBCHECK module.
BPXL	The BackPack/XL restore program file. This program provides BackPack/XL users with the capability to restore files from tapes created with BPXL.
BPXLBIT	A support tool.
JBPINSTL	Jobstream that executes the TYMAIF program, and then purges it.
JRRFULL	A text file containing the commands necessary for performing a full backup in batch mode.
JRRINCR	A text file containing the commands necessary for performing an incremental backup in batch mode.
JRRINTM	A text file containing the commands necessary for performing an interim backup in batch mode.
JRRPART	A text file containing the commands necessary for performing a partial backup in batch mode.
MORETIME	A support tool.
NETXFER	File transfer program used by Unison to transfer files to or from a customer's system, as necessary. Program is provided free of charge by Telamon, Inc. to third party software vendors to ship with their software.
NFDXL	Diagnostic program used only under the direction of Unison Software's technical support department.
RR	RoadRunner program file.
RR1L	Environment files used to format reports for LaserJet compatible printers: Landscape formatting.
RR2L	2-up landscape formatting.
RR4L	4-up landscape formatting.
RR1P	Portrait formatting.
RR2P	2-up portrait formatting.
RR4P	4-up portrait formatting.
RRCAT000	RoadRunner message catalog. If you move the RoadRunner program file out of PUB.TYM, you must move RRCAT000 into the same group. Use the MPE/iX :COPY command to move these files, as FCOPY does not preserve necessary information in the user label.

File	Description
RRHLP000	RoadRunner help catalog. If you move the RoadRunner program file out of PUB.TYM, you must move RRHLP000 into the same group. Use the MPE/iX :COPY command to move these files, as FCOPY does not preserve necessary information in the user label.
TYMAIF	Native mode program that puts Unison's Architected Interface authorization number into the AIFKUF.PUB SYS file. Required by HP for vendors using AIFs.
TYMLINK	A file transfer program the Unison support staff can use if we need to supply you with additional files via modem.
XLOGOFF	A utility used to log off users prior to backup.

Starting Execution and Entering Commands

Before you can perform a store or restore operation with RoadRunner, you must first start the program with the following MPE/iX :RUN command:

```
:run rr.pub.tym
```

RoadRunner displays the prompt <01>, indicating that you are in command entry mode. You can run RoadRunner interactively (from a terminal) or in batch mode (from a job stream.) It is not recommended to run RoadRunner from the system console. Tying up the console for backup complicates routine operations such as replying to tape requests for other processes.

You can enter any RoadRunner command as the INFO parameter on the MPE/iX :RUN command. RoadRunner executes the command, then exits.

```
:run rr.pub.tym;info="full to tape1"
```

To execute a lengthy RoadRunner command, place the command in a text file and include the file on the INFO string. This is useful if you are running RoadRunner from a UDC and need to execute a lengthy command:

```
:run rr.pub.tym;info="include fullldat"
```

Refer to chapter 2 in the *"Unison RoadRunner for MPE User Guide"* for detailed information on writing RoadRunner commands. Chapters 4 and 5 are the Command Reference sections.

Basic Commands

How to Store Files

The following command stores all of the files in the version4 group of the prod account to a tape drive on ldev 7:

```
select @.version4.prod store to 7
/go
```


Batch or Job Stream Example

The following jobstream performs a store to ldev7:

```
!job jstore,operator.sys[/password]
!run rr.pub.tym
    select @.version4.prod
    store to 7
    report
    /go
    exit
!eof
```

How to Restore Files

Interactive Example

The following command restores all files in april group of the gl account from the backup on ldev 7:

```
select @.april.gl
restore from 7
/go
```

Batch or Job Stream Example

The following jobstream performs the same restore:

```
!job jrestore,operator.sys
!run rr.pub.tym
    select @.april.gl
    restore from 7
    report
    /go
    exit
!eof
```

Introduction to the Command Editor

Unison RoadRunner can read any ASCII text file, so you can create and modify it's commands using any editor. For your convenience, the product also includes a basic editor.

To use the command editor, run RoadRunner as follows:

```
:run rr.pub.tym
```

RoadRunner displays the prompt <01>, indicating that you are in command entry mode. You can begin entering commands and keywords at the prompt. After you press the return key, the line just entered is sent to a holding area called a buffer. Additional lines you type are placed in the buffer as well.

```
:run rr.pub.tym
<01>select @.steve.sales
<02>store to 7
```

To execute, save, or modify the contents of the command buffer, enter a slash in column one at any line number prompt:

```
:run rr.pub.tym
<01>select @.steve.sales
<02>store to 7
<03>/
<rr>
```

The slash terminates command entry mode, and the <rr> prompt is displayed. At this prompt, you can enter any one of the utility functions RoadRunner provides to manipulate the contents of the command buffer.

Refer to chapter 2 of the *"RoadRunner for MPE User Guide"* for detailed information on command editor functions.

check

Use **check** at any time to examine the syntax of the current command buffer. If no errors are found, RoadRunner displays a message and returns to the <rr> prompt.

```
:run rr.pub.tym
<01>select @.steve.sales
<02>store to 7
<03>report
<04>/
<rr>check
No syntax errors were found in the current command
<rr>
```

If it finds errors, **check** displays the line on which the error occurs, indicates the location of the error with a caret (^), and displays a brief description of the error.

```
:run rr.pub.tym
<01>select @.steve.sales
<02>dore to 7
<03>/
<rr>check
dore to 7
^
Error processing command in line 2, column 1
Unknown or unexpected command or keyword: dore
<rr>
```

While **check** examines the command syntactically, it cannot ensure the completeness or functionality of the command.

Note

Read Chapter 2, "Basic Operations," in the *"RoadRunner for MPE User Guide"* before attempting to create or modify RoadRunner commands. This chapter contains important information, including a detailed description of the command editor functions.

File Specification and Selection in RoadRunner

In all commands where filesets are specified, RoadRunner allows either MPE-style or HFS-style file names. In those cases where fileset lists are specified, the two styles can be interspersed.

RoadRunner recognizes a fileset to be HFS-style when the first character is either . or /. To continue a path name that does not fit on one line, place a backslash (\) at the end of the line and continue the path name on the next line.

Note

If the last component in the selection path matches a file name only, and the path name ends with a slash (or **tree** is specified), nothing is selected. If the last component in the selection path matches a file name only, and the path name does not end with a slash (or **notree** is specified), RoadRunner selects the matching file only.

Wildcards

RoadRunner wildcard usage (described in chapter 2 of the *RoadRunner for MPE User Guide*) has not changed with the new HFS capability. Wildcard usage remains the same in both the MPE and POSIX environments with one exception. RoadRunner now has the % wildcard character in its wildcard set.

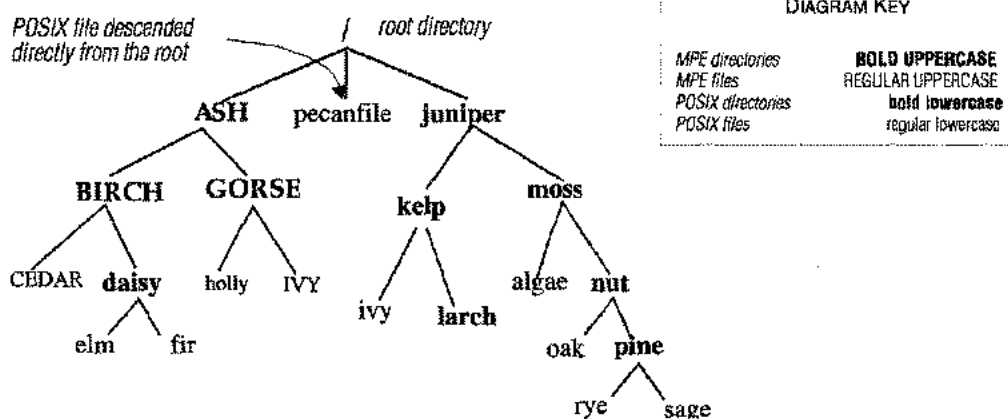
The % wildcard character

RoadRunner version 4.5 incorporates the percent wildcard (%), for use in HFS-style path names. Later RoadRunner versions will also have this feature. The % character represents zero or more directories within a file specification pathname.

The % character must be followed by a slash. This is because the % character initiates a search for a directory, not a file, and the POSIX syntax requires a slash after directory names.

If no directories are found at the end of the pathname, the %/ characters select any files in that position in the pathname.

Directory Tree Example



Some examples of file selections using wildcard in a HFS environment follow. All directories in the examples refer to the directory structure represented above. As in the diagram on page 1 of this update, upper case letters represent MPE structures, while lower case letters represent POSIX structures.

In the following examples, **username** syntax is used:

Using...	Selects...
/	All the directories and their contents under the root.
/%/@	All the directories and files under the root.
/@/	The contents of directories and the directories under the root, except for the pecanfile (a file located in the root directory).
/@	All files in the root directory (in this case, the pecanfile).
/ASH/	The files in directory ASH, and all subdirectories and their contents that are descended from ASH.
/%/[Cif]@	All files below the root that begin with C, i or f. Using the example diagram, this would include the file CEDAR in MPE namespace and the POSIX fir and ivy files.
/%/[GI]@/	All files in directories that begin with G or I. Using the example diagram, this expression chooses the files in the IVY directory and holly file in the GORSE directory.
/%/[a-f]@	All files beginning with any letter in the range from lowercase a to lowercase e (algae, elm, and fir from the sample diagram).
/juniper/kelp/larch/	All files in the larch directory.

The following examples illustrate the use of wildcard characters but do not refer to the sample directory.

Using...	Selects...
<code>/*.@c</code>	All files on the system that have names ending in <code>.c</code>
<code>/*/source/*.h</code>	All files with names ending in <code>.h</code> in any subdirectory named <code>source</code> .
<code>/*/austin/*/dev/*/@tom</code>	All files that have <code>austin</code> and <code>dev</code> somewhere on their path and have names ending with the letters <code>tom</code> .
<code>/*/tom@</code>	Any files that begin with the letters <code>tom</code> along with all files in any directories that begin with the letters <code>tom</code> .
<code>/*/tom@/</code>	All files in any directory that begin with the letters <code>tom</code> along with all files in all directories below them.
<code>/austin/</code>	All files in the <code>austin</code> directory and all directories below it.
<code>/austin</code>	If <code>austin</code> is a file, it is selected, if it is a directory, all files in it are selected, but none of its dependent directories are selected.
<code>./</code>	The current working directory and its descendants.

The following examples illustrate the use of wildcard characters in MPE commands.

Using...	Selects...
<code>@.@@</code>	All the directories and their contents under the root.
<code>@.@.ACCT</code>	Only files in MPE namespace under <code>ACCT</code> .
<code>@.@.?@</code>	All files in MPE namespace.

Stopping Execution

You can terminate a RoadRunner operation prematurely using any method normally used to abort a tape operation:

- From the system console, enter the `:ABORTIO` command, specifying the LDEV of the tape drive or drives as shown in the following examples. You may need to enter the `:ABORTIO` command several times depending on the operations. After the `:ABORTIO` command has been accepted, enter the `:ABORTJOB` command on the terminal from which the operation was initiated. This method is available only when you are running RoadRunner in session mode.
- Reply with a 0 (zero) to RoadRunner's request for the LDEV number of the tape drive. Do this from the system console.
- `:Reply PIN#,0`

- Enter the `:ABORTIO` and `:ABORTJOB` commands from the system console at any point in the operation.

Note

You may need to enter the `:ABORTIO` command several times before it is accepted.

If running RoadRunner from a job:

```
:ABORTIO tapeldev  (aborts I/O on the tape drive)
:ABORTJOB #Jnnn    (aborts the job)
```

If running RoadRunner from a session:

Note

Perform the following commands from the console or a terminal other than the one running RoadRunner.

```
:ABORTIO tapeldev  (aborts I/O on the tape drive)
:ABORTIO stdinldev (aborts I/O on the terminal)
:ABORTJOB #Snnn    (aborts the session)
```

WARNING

Failure to execute an `'ABORTIO:'` on the tape drive prior to executing an `'ABORTJOB:'` can put the RoadRunner operation in a morgue state. If this occurs, it may be necessary to **restart the system** to remove the RoadRunner job.

When using one of these methods to stop RoadRunner in the middle of a store, the program may not terminate immediately. The program may require a few minutes to reset the store bits in the file labels of the files that were to be stored. During this process, the following message is displayed:

```
Releasing locked files
```

If you are running RoadRunner as a session from the console (not recommended), use the control-shift-a key combination to enter the `=ABORTIO` and `=ABORTJOB` commands, or switch the console to a different terminal and issue the `:ABORTIO` and `:ABORTJOB` commands.

- To terminate RoadRunner normally, enter `EXIT` in response to the `<RR>` prompt.

