

# BACKUP and RECOVERY

Two products for CICS journal users  
from **MacKinney Systems**

## **FORWARD RECOVERY SYSTEM for CICS (CICS/FRS)**

Forward Recovery System using CICS Journals.  
Reapply all updates processed by CICS to rebuild  
a lost or corrupted VSAM file.

## **JOURNAL ARCHIVE PROGRAM for CICS (CICS/JAR)**

Automatically copy CICS journals to tape when  
journals are switched.

*Users will just love  
rekeying 300,000 lost  
transactions!*



## **MacKinney Systems**

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# FORWARD RECOVERY for CICS

## Features

When a VSAM file is corrupted or lost you need to recover it quickly and correctly. The journal facility of CICS provides the data, but it is each installation's responsibility to write recovery programs for each file which CICS updates. Most installations have not done this. MacKinney Systems Forward Recovery System for CICS (CICS/FRS) fills this void.

## CICS/FRS

- ♦ eliminates the programming required for file recovery
- ♦ selects CICS journal records based on a variety of parameters (date, time, terminal, transaction, file)
- ♦ selectively updates your backup files to get your users on-line quickly
- ♦ recovers multiple files in a single run
- ♦ scan function tells you the number of journal records which apply to each file eliminating the guesswork about the contents of various journal tapes

Dynamic Transaction Backout does not keep your files from being corrupted by program error, software problems, disk drive failure, or power supply problems. It only helps if a transaction abends. To ensure that the work done through CICS is not lost, you need CICS/FRS.

## How it works

CICS/FRS runs as a batch job OUTSIDE of your CICS system. NO MODIFICATIONS are required to CICS or CICS programs.

CICS/FRS uses a procedure requiring a minimum of JCL to ease the effort involved in recovering a production KSDS, RRDS, or ESDS VSAM dataset. Input to the procedure is a set of simple control records (commands) that identify the file involved, the transaction(s) involved, the beginning and ending time(s) and date(s), and the terminal(s) creating the changes to the file.

To identify which data is on a particular CICS Journal file, a CHECK (or scan) may be made where no data is moved, but a report is generated detailing the contents of the journal file. This capability becomes very important in the case of corruption and can be invaluable when multiple files are involved.

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## Sample CICS/FRS control cards

Not all recovery parameters must be specified. Only those which meet the needs of the recovery being done. In this case no transactions, no beginning or ending times or dates, and no special terminals are specified. This example recovers all records for file EMPFILE from the CICS journals and applies them to the backup. It prints only those records for which recovery errored and was not done.

```
RECOVER FCT(EMPFILE) TYPE(KSDS) RECFM(V) PRINT(ERROR)
```

This example recovers records for file EMPFILE from the CICS journals with transaction prefixes PA and EM but excludes transactions PAY1 and EMP2. It prints all records recovered.

```
RECOVER FCT(EMPFILE) TYPE(KSDS) RECFM(V) PRINT(ALL)
INCL-TRAN(PA**,EM**)
EXCL-TRAN(PAY1,EMP2)
```

Here all transactions from the CICS journals except those done with PAY1, PAY2, and EMP4 are applied to EMPFILE. It recovers only transactions done on February 20, 1993 (93/051) between 1:00 PM (13:00:00) and 1:45 PM (13:45:00). All records are printed.

```
RECOVER FCT(EMPFILE) TYPE(KSDS) RECFM(V) PRINT(ALL)
START-TIME(13:00:00) END-TIME(13:45:00)
START-DATE(93/051) END-DATE(93/051)
EXCL-TRAN(PAY1,PAY2,EMP4)
```

Multiple files can be recovered in a CICS/FRS job. Standard MVS or VSE batch JCL is wrapped around as many RECOVER control cards as you wish.

## Installation

Forward Recovery System for CICS installs in less than an hour and can quickly be tested on a copy of a backup file. No modification to the CICS journaling process is needed. CICS journals are maintained through standard CICS procedures. All you must do is use our JCL to run our CICS/FRS program and specify the files to be recovered.

You can easily cost justify CICS/FRS the first time you need it. It is an inexpensive solution to the problem of CICS file recovery.

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# JOURNAL ARCHIVE for CICS

Your CICS journal data set is your key to recovering corrupted or lost databases or user files. But to recover you must have every journal record that was created since the last backup. Journal records written to a CICS journal dataset are particularly vulnerable to loss due to human error. If the operator forgets to submit the journal backup job, the journal can be overwritten on the next switch. Users can be required to wait while the operator completes backup submission and journal switching data integrity can be compromised if backups are not submitted properly.

## Journal Archive for CICS can provide the following:

- ◆ automated submission of backup jobs when CICS journals are filled and switched by CICS
- ◆ eliminates accidental overwrites, user waiting, and lack of data integrity
- ◆ reduces console operator intervention and ensures that proper journal archive tapes are created
- ◆ allows reducing the size of your journal files, thus saving valuable DASD space

## Easy to install and use

- ◆ installs in one hour
- ◆ requires no modifications to application programs
- ◆ requires no modifications to CICS, MVS, or VSE
- ◆ processes both CICS system logs and journal datasets

## Prerequisites

- ◆ CICS release 1.7 or higher
- ◆ (MVS) assumes the use of the internal reader facility (INTRDR)
- ◆ (VSE) uses the POWER spooling macro 'PUTSPOOL' so POWER must be generated with 'SPOOL=YES'

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