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CSI-QCOPY

THE VM/POWER REPORT UTILITY

INSTALLATION AND OPERATIONS GUIDE

Release 1.4

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GETTING STARTED

Preface

This manual explains the installation, customization and operation of CSI-QCOPY.

Installation of CSI-QCOPY consists of loading the distribution tape to your POWER reader queue, cataloging CSI-QCOPY to your libraries, and becoming familiar with the many features of CSI-QCOPY that you can use to meet your report distribution requirements.

How Should I Use This Manual?

First, review the section "System Requirements" on page 13, which covers the disk and Operating System requirements for CSI-QCOPY.

Then, if you are converting from a previous release of BIM-QCOPY or BIMSPLIT, review the section "Migration Requirements" on page 12 which covers any changes made to the installation since your current release. You should also review section "New For This Release" on page 9, which contains a summary of the newest features of CSI-QCOPY.

Perform the installation steps contained in the section "Installation " on page 14, and then review the following sections to familiarize yourself with the many features available in CSI-QCOPY:

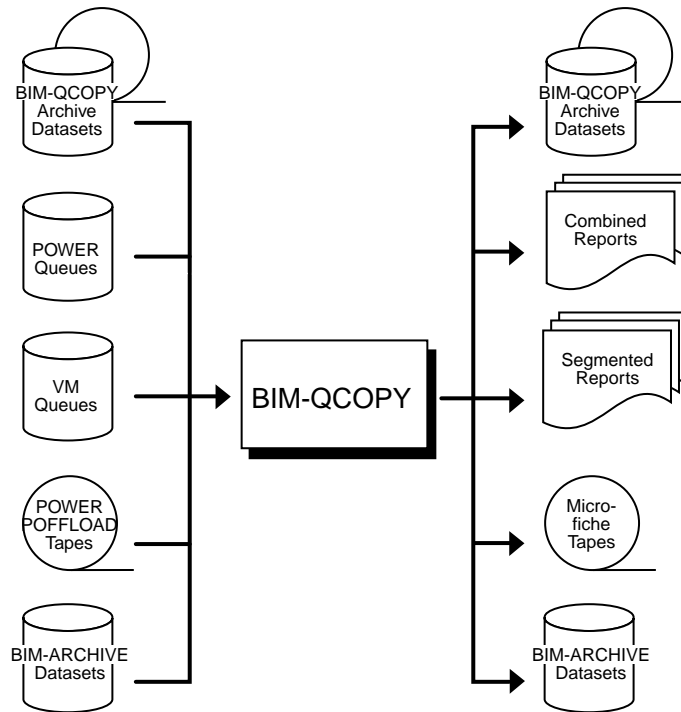
- Learning the Basics on page 23.
- Sorting Reports on page 28.
- Combining Reports on page 31.
- Multiple Report Outputs on page 39.
- Archiving Reports on page 42.
- DIRECTORY Reports on page 45.
- Commands and Operands on page 48 .

CSI-QCOPY

Introduction

CSI-QCOPY is a batch utility that transfers, archives, combines, re-segments, and/or re-sequences reports from any combination of VM/SP's Spool Queues, POWER Spool Queues, POWER Poffload tapes, BIM-ARCHIVE datasets, or CSI-QCOPY Archive datasets. The output from CSI-QCOPY can be directed to any combination of CSI-QCOPY Archive datasets, BIM-ARCHIVE datasets, Fiche tapes, or POWER's List or Punch Queues.

[This Picture needs to be re-made – don't know how to do it as it is in PostScript. Need to replace BIM-QCOPY with CSI-QCOPY and add RAAD Dataset to both sides.]



Overview of CSI-QCOPY

Features of CSI-QCOPY

CSI-QCOPY is a comprehensive report utility that can be used in almost limitless ways. A powerful, yet simple to use, set of input Commands and Operands provides the flexibility you need to perform the exact report manipulations you require.

This section describes the features of the full-function version of CSI-QCOPY. If you have purchased the "BIMSPLIT Only" version of CSI-QCOPY, your functionality will be limited to accessing the POWER LST queue and generating segmented reports.

Sources of Input to CSI-QCOPY

- Reports contained in the VM List, Reader, or Punch Queues.
- Reports contained in the POWER List, Reader, Punch, or Transmit Queues.
- Reports contained on POWER Poffload tapes.
- Reports contained on CSI-QCOPY Archive datasets.
- Reports contained in BIM-ARCHIVE datasets. BIM-ARCHIVE is a companion product from B I Moyle Associates, Inc.

CSI-QCOPY Output Destinations

- The POWER Reader, List or Punch Queues.
- CSI-QCOPY Archive datasets.
- Datasets suitable for Microfiche
- BIM-ARCHIVE datasets. BIM-ARCHIVE is a companion product from B I Moyle Associates, Inc.
- RAAD datasets.

CSI-QCOPYY Processing Features

- Any combination of reports from any input source can be combined in a single execution of CSI-QCOPYY.
- Reports can be selected from each input source by individual report names or via generic selection masks.
- Entire reports can be selected, specific page ranges can be selected, or pages can be selected based on selection criteria using data contained within the report.
- Any combination of output destinations can be generated in a single execution of CSI-QCOPYY. Selected sections of a report can be broadcast to any combination of Output Destinations.
- Single reports can be re-segmented (by page) based on comparisons of data contained within individual report pages.
- Multiple reports can be combined, sorted, and re-segmented (by page) based on comparisons of data contained within individual report pages.
- Multiple reports can be merged based on user defined merge keys.
- CSI-QCOPYY can reformat selected pages of your reports. Specified columns can be rearranged, or removed from the report. This feature can be used to prevent unauthorized users from having access to privileged data.
- CSI-QCOPYY can "broadcast" selected reports or report pages by using multiple output destinations.
- Reports can be archived to disk or tape files for backup purposes. CSI-QCOPYY can selectively reload reports from these Archive datasets.
- CSI-QCOPYY can selectively reload reports from existing POWER Poffload tapes.
- CSI-QCOPYY can access reports from, and add reports to your BIM-ARCHIVE dataset. BIM-ARCHIVE is a companion product from B I Moyle Associates, Inc.
- CSI-QCOPYY can print "directory" reports from Archive datasets, or any other input source.
- The CSI-QCOPYY POWERSEG Command can be used to segment the output of multi-step jobs.
- The CSI-QCOPYY POWERCMD and/or VMCMD Commands can be used to have POWER and/or VM Console Commands executed from a batch job stream.

- CSI-QCOPY uses the POWER XPCC interface for generating output reports and altering or deleting input reports. Reports are accessed using CSI-QCOPY's own physical IOCS routines, for maximum efficiency. The POWER GETSPOOL, CTLSPool, and PUTSPOOL facilities are not used.
- CSI-QCOPY can be executed from your System Console. This can be important if you loose your POWER Reader Queue and need to do an emergency restore of a CSI-QCOPY Archive dataset.

New For This Release

This section highlights the new features that have been added to this release of CSI-QCOPYY. Detailed information on each of these features can be found in the remainder of this manual. (NOTE: Release levels were renumbered when this product was renamed from BIM-QCOPYY to CSI-QCOPYY. Release numbers are now maintained in synch with RAAD, also available from Connectivity Systems, Inc.)

New for Release 1.4

- Reports can be directed to an HFS file system.
- Reports can be read from an HFS file system.
- Output can be produced in PDF format.
- Miscellaneous bug fixes revealing as of yet unknown bugs.

New for Release 1.0

- Reports can be retrieved from the RAAD Dataset
- Reports can be written to the RAAD Dataset
- "POWERDISP" keyword added to Report Completion Processing

New For Release 2.4

- Output can now be directed to the POWER Reader Queue.
- Minor changes have been made to handle the years 2000 and above. Two new "System Fields" have been added for 4-digit years; %RPTYR4 and %CURYR4. Refer to section "System Fields" on page 92 for more information.

New For Release 2.3

- CSI-QCOPYY has new support for accessing BIM-ARCHIVE datasets. BIM-ARCHIVE is a companion product from B I Moyle Associates, Inc.

A new queue "ARC" has been added to the INPUT and OUTPUT Sub-Commands for use in accessing BIM-ARCHIVE datasets.

New For Release 2.2

- CSI-QCOPYY has new support for output banner pages and output report index summary pages. The following Commands and Operands have been added to support these features:

RECIPIENT Command

TORECIPIENT Operand on the OUTPUT Sub-Command

BANNER Operand on the OUTPUT Sub-Command

INDEX Operand on the OUTPUT Sub-Command

- Output ARCHIVE datasets can now be generated in one of three formats:
 - BIM The standard CSI-QCOPYY format used for general report archival.
 - POFFLOAD The same format that POWER generates when you spool a LST file to tape.
 - FICHE A format suitable for generating FICHE tapes.
- The SORT Sub-Command has been expanded to allow sorting in ascending or descending sequence by individual field. The requirement that all output FIELD references be specified on the SORT Sub-Command has also been removed.
- A new Operand (MERGE) has been added to the INPUT Sub-Command as an alternate to using SORT. CSI-QCOPYY can now merge the input from any number of INPUTs without using a SORT which will reduce run time and will improve resource utilization.
- A new Operand (INSERT) has been added to the OUTPUT Sub-Command. This can be used to cause CSI-QCOPYY to insert special control information or character strings at specified locations in the generated output.
- Three new Operands (DISPLAY, ERASE, and LINEFORMAT) have been added to the OUTPUT Sub-Command. These Operands can be used if you want CSI-QCOPYY to alter the physical appearance of the generated reports.
- A new selection condition (UNSELECTED) has been added to the COND Operand. This can be used to cause all report pages that have not been selected for any previous OUTPUT to be selected for the current OUTPUT.

- A new Operand (PAGEFORMAT) has been added to the INPUT Sub-Command to simplify "Selection-criteria" required to control processing options that are based on the format of the current report page.
- System Fields now have "Alias" names. These will simplify the specification of "Selection Criteria" and "Variable Substitution in Literals". Refer to sections "System Fields" on page 92 and "Variable Substitution in Literals" on page 93 for more information.

Migration Requirements

The following sections cover the changes in the installation of CSI-QCOPY that may be required if you are migrating from an earlier release of CSI-QCOPY . The changes are grouped by each release level. You will not need to consider the changes for releases older than the one you are currently using. You will need to consider changes for all releases since the release you are currently using.

CSIQCOPYChanges from Release 2.3

- The default for the STATS operand of the OPTION command has been changed from SYSLST to NONE.
- The BIMIOGEN.E macro shipped with this release is not compatible with releases of CSI-QCOPY prior to 2.3F and some other BIM products. If you have a BIM-FLEET prior to release 1.1B, or a BIM-RECOV prior to release 3.0B, or a BIM-JOURNAL prior to release 2.1A, then you must install this release of CSI-QCOPY into a separate VSE library. I/O modules generated with the BIMIOGEN in this release cannot be used by releases of CSI-QCOPY prior to 2.3F, or by the other products just mentioned. You **must** also regenerate **all** I/O modules that you use with your current release of CSI-QCOPY.

Changes from Release 2.2

- The **POWER** and **VM** Operands of the INPUT Sub-Command are no longer required. CSI-QCOPY will determine the input source from the 3-character queue name (LST | RDR | PUN | XMT | VML | VMR | VMP | ARC).

System Requirements

- VSE Release 1.2.0 or higher
- VSE/SP Release 2.1.0 or higher
- VSE/ESA
- VM/SP Release 3 or higher
- VSE Partition Size 300k
- Partition Getvis Size 128k

|

Installation

CSI-QCOPY runs under VSE and is distributed on an unlabeled tape or cartridge. When this tape is loaded into your Reader Queue, there will be one POWER job which will catalog the following modules to your libraries:

Core Image Library:

CSIQCOPY	Spool Transfer program
BIMQCYAM	Default ARCHIVE I/O Module
BIMQCYAD	ARCHIVE I/O Module for Disk
BIMQCYAT	ARCHIVE I/O Module for Tape
BIMQCYAF	ARCHIVE I/O Module for Fiche Tapes
BIMQCYEX	Security exit module
BIMGETSP	POWER access module
BIMGSP00	POWER access control module
BIMXPC00	POWER XPCC interface module

Source Library Modules:

BIMIOGEN.E	I/O Module Customization Macro
BIMQCYAM.A	Default ARCHIVE I/O Module
BIMQCYAD.A	ARCHIVE I/O Module for Disk
BIMQCYAT.A	ARCHIVE I/O Module for Tape
BIMQCYAF.A	ARCHIVE I/O Module for Fiche Tapes
BIMQCYEX.A	Sample Security exit (BAL)
BIMQCYEX.C	Sample Security exit (COBOL)
BIMQCYIX.A	Sample INSERT Operand exit (BAL)
BIMQCYDA.A	Record description for ARCHIVE file (BAL)
BIMQCYDA.C	Record description for ARCHIVE file (COBOL)
BIMVMQ00.A	Macro required for installation step 4c.
BIMFCB.E	FCB Generation Macro
BIMFCB.A	Sample FCB Source Code and JCL

Installation Step 1.

Mount the distribution tape on a tape drive and enter the following POWER command on the console:

```
S RDR, cuu
```

where "cuu" is the address of the tape drive.

Installation Step 2.

Alter the POWER job (CSIQCOPY) that was loaded in the Reader Queue to run in a partition that has labels established for link editing. This job has a pause statement that allows you to enter a "LIBDEF" statement if necessary.

```
A RDR, CSIQCOPY, DISP=D, CLASS=?
```

Installation Step 3

When job CSIQCOPY starts up, it will pause allowing you to enter "// LIBDEF" statements. You must enter a "// LIBDEF" statement with the "TO=" option for a core image library unless it has already been set to use permanent LIBDEFs.

The following LIBDEF prompts are displayed on the system console:

```
* <<<< FOR VSE 1.3.X USE THE FOLLOWING LIBDEFS >>>>
* // LIBDEF CL,TO=USRCL?
*
* <<<< FOR VSE 2.1.X USE THE FOLLOWING LIBDEF >>>>
* // LIBDEF *,CATALOG=LIB?.SUBLIB?,SEARCH=LIB?.SUBLIB?
*
* RE-ENTER LIB?.SUBLIB? IN RESPONSE TO VSE MESSAGES
* L032I LIBDEF MISSING FOR TO LIBRARY ....
* L146I ENTER THE LIBRARY.SUBLIBRARY .....
// PAUSE ENTER ABOVE LIBDEFS AS REQUIRED
```

When the installation job is complete, review the printed output for errors. Common problems that may occur during the installation job are:

- Your library has filled up and requires condensing.
- A LIBDEF statement was omitted or improperly declared.
- Install job was run in a partition not set up for link editing.

Installation Step 4

This step (including steps 4a, 4b and 4c) can be bypassed if you will not be using CSI-QCOPYY to access reports from your VM Spool Queues.

The VM/SP System Owned Volumes, as defined in the DMKSYS assembly, must be present in all VSE machines that will run CSI-QCOPYY. This requires additional MDISK statements in the VM/SP directory for the VSE guest machine(s), and ADD statements in the VSE IPL procedure(s). The following two installation steps cover these additions.

Installation Step 4a - VM/SP Directory

The following conditions must be met in the VM directory of every virtual machine that will run CSI-QCOPYY ...

- The virtual machine must have privilege classes "C" or "E" to allow CSI-QCOPYY to access reports in VM Spool Queues.
- The virtual machine must also have privilege class "D" if you want to delete reports in VM Spool Queues using CSI-QCOPYY.
- You must provide access to all CP owned DASD volumes. This can be accomplished in one of two ways:
- LINK MAINT xxx AS cuu RR

This assumes that your MAINT user has access to the CP owned volumes as "full-pack" MDISKs. (This is IBM's recommended method of handling CP owned disks.)

"xxx" is MAINT's virtual disk address.

"cuu" is the virtual disk address for the guest machine.

- MDISK cuu dvctype strtcyl endcyl valid

You can code your own MDISK statement for each CP owned volume. This is not the recommended method as it requires duplicate MDISK statements in the VM Directory, one for MAINT and one for the VSE guest machine.

Installation Step 4b - VSE ASI procedure

This step must be performed for each VSE guest machine that needs to run CSI-QCOPYY.

- For each VM/SP System Owned Volume, you must have a corresponding ADD statement in your VSE IPL procedure (ASIPROC). The "cuu" given in the ADD statement must match the virtual "cuu" supplied on the MDISK or LINK MAINT statement supplied in the previous step.
- The VM Spool Queue Access requires a transient, **\$\$BBIMVM**. You should add this transient to your ASI procedure at the point that it adds phases to the SDL as follows:

```
SET SDL
$$BBIMVM, MOVE
```

Installation Step 4c - VM/ESA

If you are using **VM/ESA**, you will need to create a phase containing a list of the VM System Owned Volumes for your VM installation. A macro has been provided to assist in this process. This step is **ONLY** required if you are using **VM/ESA**.

```
* $$ JOB JNM=BIMVMQ00, CLASS=0
* $$ LST CLASS=Q
// JOB BIMVMQ00
// LIBDEF PHASE, CATALOG=your.lib
// LIBDEF *, SEARCH=your.lib
// OPTION CATAL
  PHASE BIMVMQ00, S, NOAUTO, SVA
// EXEC ASSEMBLY, SIZE=400K
      COPY BIMVMQ00
      BIMVMQ00 SYSOWN=(vmsres, vmpk01, ...)
      END

/*
// EXEC LNKEDT
/&
* $$ EOJ
```

notes:

- Catalog the phase into a library that is available to CSI-QCOPY at execution.
- The SEARCH LIBDEF must point to the CSI-QCOPY distribution library.
- The SYSOWN operand must contain all of the VM System Owned Volumes, in the same sequence that they are specified in the VM System Gen.

Installation Step 5

If you are upgrading to a new release of CSI-QCOPY, and you were a prior user of BIMSPLIT, there may have been a copy made of the CSIQCOPY phase to the BIMSPLIT name to avoid JCL changes of your pre-existing BIMSPLIT jobs. If a copy was made, make sure that you replace that copy with this new release.

Installation Step 6

Review the chapter "USING " on page 21 for an overview of the Spool Transfer process and for instructions on how to use the various transfer features available.

USING CSI-QCOPY

Learning the Basics

CSI-QCOPY is a powerful utility that can be used to:

- Copy reports or JCL from one Spool Queue to another.
- Combine reports and optionally re-sequence pages within the reports.
- Segment reports by any criteria you choose, naming the new reports anything you want.

All this power and flexibility is provided by an extensive set of commands and operands that you specify to CSI-QCOPY.

Learning all these commands could seem a very complex task. To simplify the process, this section will walk through a common example of how CSI-QCOPY can be used, explaining each of the commands and operands being used.

In the following example, we will be using CSI-QCOPY to read the output from the printing of a CICS Dump dataset. We will be segmenting the printout into individual listings for each transaction dump. To make the dumps easier to find, we will name each dump by the CICS Abend code that caused the dump, and include the CICS Tran ID along with the date and time of the abend in the POWER User Information field.

The following sample page shows the beginning of a typical CICS transaction dump. We have added a ruler (or grid) to show the lines and columns containing the desired data. To help you in determining the lines and columns of your own reports, CSI-QCOPY can print your report with a ruler. Refer to the RULER Operand on page 107 for more information.

```

1...5...10...15...20...25...30...35...40...45...50...55...60...65...70...75...80...85...90...95...100...105...110...115...120
CUSTOMER INFORMATION CONTROL SYSTEM STORAGE DUMP CODE=ASRA TASK=TX01 DATE=01/01/89 TIME=12:01:00 PAGE 1
SYMPTOMS= AB/UASRA PIDS/5746XX300 FLDS/F000KC RIDs/PROGNAME
CICS/VS LEVEL = 0160

```

The following CSI-QCOPYY job will read a CICS dump printout and format it as discussed above.

```

1  * $$ JOB JNM=SAMPLE
2  // JOB SAMPLE
3  // LIBDEF PHASE,SEARCH=lib.sublib
4  // ASSGN SYS012,6E1
5  // EXEC CSIQCOPY,SIZE=(CSIQCOPY,100K)
6  TRANSFER
7  INPUT(
8  POWER LST
9  NAME(FIRST dumpcics)
10 CLASS(Q)
11 FIELDS(
12 1 (LINES(1) COLS(40 30)
13 MASK('*CODE=*') EXTRACT(5 4) )
14 2 (LINES(1) COLS(50 30)
15 MASK('*TASK=*') EXTRACT(5 4) )
16 3 (LINES(1) COLS(80 30)
17 MASK('*DATE=*') EXTRACT(5 5) )
18 4 (LINES(1) COLS(90 30)
19 MASK('*TIME=*') EXTRACT(5 5) )
20 5 (LINES(1) COLS(118)
21 EXTRACT(0 3) )
22 )
23 NODELETE
24 SELECT ( COND( FLD(1) EQ ASRA AICA) )
25 )
26 OUTPUT(
27 LST SYS(012)
28 JNM('DUMP%FLD(1)')
29 USER('%FLD(2) %FLD(3) %FLD(4)')
30 CLASS(Q)
31 SEGMENT ( COND( FLD(5) EQ ' 1' ) )
32 )
33 /*
34 /&

```

Notes on Sample CSIQCOPY Job

All CSI-QCOPY jobs require access to the POWER queue and data files via DLBLs and EXTENTs for IJQFILE and IJDFILE. You can use the DLBLs in standard labels, but you must ensure that the SYS numbers used in the EXTENTs are assigned to the proper DASD volume(s) when phase CSIQCOPY is executed. If you are using CSI-QCOPY to sort reports, you must also ensure that the SYS numbers used for the POWER files do not conflict with the SYS numbers used for the sort work files. If they do, you must provide alternate POWER DLBLs and EXTENTs for the CSI-QCOPY job using different SYS numbers.

Line 4: Assigns the SYSnnn used for output (See **Line 27**) to a printer type device. If you already have standard assigns for printers, you can omit this line.

Lines 6 through 32:

These lines represent **one** TRANSFER Command. The individual operands within the TRANSFER Command tell CSI-QCOPY which reports to read, what to look for in each page of each input report, which pages to keep from each input report, where to output the selected pages, what to call the output report(s), and when to segment the output if multiple output reports are desired.

Multiple TRANSFER Commands can be specified in a single execution of CSI-QCOPY. TRANSFER Commands are processed one at a time, in the sequence specified. Special formats of the SEGMENT and ARCHIVE Operands can be used if you want to combine the output from more than one TRANSFER Command.

Lines 7 through 25:

These lines represent **one** INPUT Sub-Command. The individual operands within the INPUT Sub-Command tell CSI-QCOPY which reports to read, what to look for in each page of each input report, and which pages to keep from each input report.

You must include at least one INPUT Sub-Command in each TRANSFER Command. If you have several reports of the same format that you want to combine, you can specify all the reports with a single INPUT Sub-Command by listing the report names in the NAME Operand. If you have different report formats that you want to combine, specify each report format with a separate INPUT Sub-Command within the same TRANSFER Command. CSI-QCOPY will input each report in the sequence that the INPUT Sub-Commands are specified.

Line 8: Defines the input as being from the POWER LST Queue. CSI-QCOPYY can also accept input from any other POWER Queue, from any VM Spool Queue, from a POWER POFFLOAD tape, or from a CSI-QCOPYY Archive file.

Lines 9 through 10:

Directs CSI-QCOPYY to search the POWER LST Queue for a report with a name of "dumpcics" in Class "Q". If you wanted several reports to be combined, you could list the individual (or generic) names in the NAME Operand. CSI-QCOPYY has several other operands that can be specified to limit which reports are accepted for input.

Lines 11 through 22:

The FIELDS Operand is used to define special "user" fields that you want to use for determining which pages to keep, when to segment the generated output, what to name the output, and how to sort the pages, if sorting is desired. Each user field is identified by a field number in the range 1 - 899. CSI-QCOPYY supplies several special "System" fields that you can use, numbered 900 - 999.

Lines 12 through 13:

User field 1 will extract the CICS Abend Code. CSI-QCOPYY has been told to search the 1st line of each page, starting in column 40, for 30 print positions. CSI-QCOPYY is to search for the character string 'CODE='. The leading and trailing '*' will allow the character string to appear anywhere between columns 40 and 69. If the character string is located, the Abend Code will be extracted from offset 5 from the start of the string for a length of 4 characters. If the string 'CODE=' cannot be located, User field 1 will be set to a "null" string.

A DEFAULT Operand could be added to this definition to define a character string to be used when the MASK cannot be located. The LINES could also be specified as a range if you are not sure which line of the report contains the desired data.

Lines 14 through 19:

User fields 2, 3, and 4 are similar in definition. They are used to extract the CICS Tran ID, and the Date and Time of the Abend.

Lines 20 through 21:

User field 5 will extract the Page number within the dump. It is used to control when the output is segmented. In this example we know exactly where the Page number is located on each page of the dump, therefore we have not included any MASK specification.

Line 23: Tells CSI-QCOPY not to delete the input report from the POWER LST Queue. You can also direct CSI-QCOPY to alter the input report to a different Class, Disposition, Priority, Remote ID, Destination, User, and/or Sys ID.

Line 24: The SELECT Operand is used to specify which pages are to be selected from the input report. If this operand is omitted, all pages will be selected.

In this example User field 1 is being checked for the values 'ASRA' or 'AICA'. Dumps for any other CICS Abend codes will be skipped.

Lines 26 through 32:

These lines describe the OUTPUT Sub-Command. The individual operands within the OUTPUT Sub-Command tell CSI-QCOPY where to output the selected pages, what to call the output report(s), and when to segment the output, if multiple output reports are desired.

If you omit the OUTPUT Sub-Command, CSI-QCOPY will direct all output to SYSLST using the POWER JECL values from the first selected input report.

Line 27: The selected pages are to be output to the POWER LST Queue using SYS012 as the printer. You must ensure that the SYSnnn you use is assigned to the proper type of device for the POWER Queue you are using.

Line 28: The name of each generated report is to be formed from the characters 'DUMP' followed by the contents of User field 1. The report name is formed whenever CSI-QCOPY is instructed to issue a SEGMENT.

Line 29: The USER field of each generated report is to be formed from the contents of User fields 2, 3, and 4.

Line 30: The reports are to be directed to POWER Class "Q".

Line 31: The generated output report is to be segmented each time the contents of User field 5 is equal to ' 1'. This will result in each CICS Transaction Dump appearing in the POWER LST Queue as a separate report. Optional operands in the SEGMENT Operand can be specified to direct the segment to occur prior to or after the output is complete for the page that satisfies the SEGMENT Operand. The default is "before".

Sorting Reports

CSI-QCOPY contains a built-in sorting capability that allows individual selected pages from all selected input reports to be sorted into any sequence you desire.

CSI-QCOPY invokes your installation's sort package using input and output exit sort processing to ensure maximum efficiency. The SORTOPTION Command can be used to override the defaults that CSI-QCOPY will use for sort work areas, maximum sort record sizes, and sort OPTION Operands.

To activate the sorting feature of CSI-QCOPY, you simply need to include a SORT Sub-Command within the TRANSFER Command. The SORT Sub-Command provides the "User" and "System" fields that CSI-QCOPY will use to build the sort key for each selected report page.

The "User" fields specified in the SORT Sub-Command are defined via the FIELDS Operand of the INPUT Sub-Command. If your TRANSFER Command contains more than one INPUT Sub-Command, you must specify the "User" fields used in the SORT on every INPUT Sub-Command.

This section will walk through an example of how CSI-QCOPY can be used to sort reports. This example is based on the CICS Dump example that was covered in section "Learning the Basics" on page 23. You should become familiar with that section before continuing from here.

In this example, we will be using CSI-QCOPY to read the output from the printing of a CICS Dump dataset. We will be sorting the dumps and segmenting the printout so that all identical Abend codes for the same Tran ID will appear in a single report.

```

1  * $$ JOB JNM=SORTDUMP
2  // JOB SORTDUMP
3  // LIBDEF PHASE,SEARCH=lib.sublib
4  // ASSGN SYS012,6E1
5  // EXEC CSIQCOPY,SIZE=(CSIQCOPY,100K)
6  TRANSFER
7      INPUT (
8          POWER LST
9          NAME(FIRST dumpcics)
10         CLASS(Q)
11         FIELDS(
12             1 (LINES(1) COLS(40 30)
13                MASK('*CODE=*') EXTRACT(5 4) )
14             2 (LINES(1) COLS(50 30)
15                MASK('*TASK=*') EXTRACT(5 4) )
16             3 ('%FLD(2)%FLD(1)')
17         )
18         NODELETE
19     )
20     SORT(3/8/A)
21     OUTPUT(
22         LST SYS(012)
23         JNM('DUMP%FLD(2)')
24         USER('CODE=%FLD(1)')
25         CLASS(Q)
26         SEGMENT ( COND( FLD(3) CHANGED )
27     )
28 /*
29 /&

```

Notes on Sample CSIQCOPY SORT Job

All CSI-QCOPYY jobs require access to the POWER queue and data files via DLBLs and EXTENTs for IJQFILE and IJDFILE. You can use the DLBLs in standard labels, but you must ensure that the SYS numbers used in the EXTENTs are assigned to the proper DASD volume(s) when phase CSIQCOPYY is executed. If you are using CSI-QCOPYY to sort reports, you must also ensure that the SYS numbers used for the POWER files do not conflict with the SYS numbers used for the sort work files. If they do, you must provide alternate POWER DLBLs and EXTENTs for the CSI-QCOPYY job using different SYS numbers.

Line 16: User field 3 will create a single User field from the contents of User fields 2 and 1. This will simplify the SEGMENT processing during OUTPUT because CSI-QCOPYY is able to check a single field for a control break.

Line 20: Tells CSI-QCOPY that sorting is required. The sort key is to be User field 3. User field 3 is 8 characters long. The "A" indicates that the field is to be sorted into ascending sequence. Since we only have one INPUT Sub-Command, the length could have been omitted. If you have more than one INPUT Sub-Command, you must ensure that the User fields being used as part of the sort key have the same length in all INPUT Sub-Commands.

CSI-QCOPY will automatically include a sort control field, (System field 900), to the end of the sort key to ensure that pages within the report are maintained in sequence.

Line 23: The name of each generated report is to be formed from the characters 'DUMP' followed by the contents of User field 2. The report name is formed whenever CSI-QCOPY is instructed to issue a SEGMENT.

Line 24: The USER field of each generated report is to be formed from the characters 'CODE=' followed by the contents of User field 1.

Line 26: The generated output report is to be segmented each time the contents of User field 3 changes. This will result in a new report being created each time either the Abend code or the Tran ID changes. Remember that the pages are sorted into Abend code within Tran ID sequence.

Combining Reports

This section will walk through two examples of how CSI-QCOPY can be used to combine reports created by one or more applications, re-sequence the reports by for instance department or branch, and segment the output in such a way that each department or branch would get one report containing all of its pages from each of the original input reports.

You should become familiar with section "Learning the Basics" on page 23 before continuing from here.

In the following examples, we will be using CSI-QCOPY to read two sample reports. Each report contains data for two departments, "ACCT" and "PAY". We want to combine the data from the two reports and generate one report for each department. The report for each department will have the data from each input report. For report routing purposes, we want to send the "ACCT" report to POWER Remote ID 100, and the "PAY" report to POWER Remote ID 200.

CSI-QCOPY supports two methods for accomplishing this combining task:

- 1) CSI-QCOPY can read all of the required input, sort the pages into the required sequence, and generate the output reports, segmenting them when required.
- 2) CSI-QCOPY can merge multiple input reports using a separate INPUT Sub-Command for each report to be merged, and generate the output reports, segmenting them when required.

The method you choose depends on the following:

- If the input reports are not in the same relative sequence, you must use the sort method. The merge method assumes that all input is in the same sequence.
- If the number of input reports varies from run to run, or if the input reports are being selected using "generic" identification, again, you must use the sort method.
- If your combining process always uses a fixed number of input reports that are in the same relative sequence, it will be faster and more efficient to use the merge method to combine them.

The following sample reports were used as input to our examples.

REPORT1

1...5...10...15...20...25...30...35...40...45...50...55...60...65...70...75...80			
SAMPLE REPORT - ONE	DEPARTMENT-ACCT	PAGE	1
DATA FOR SAMPLE REPORT			
SAMPLE REPORT - ONE	DEPARTMENT-ACCT	PAGE	2
DATA FOR SAMPLE REPORT			
SAMPLE REPORT - ONE	DEPARTMENT-PAY	PAGE	1
DATA FOR SAMPLE REPORT			

REPORT2

1...5...10...15...20...25...30...35...40...45...50...55...60...65...70...75...80			
SAMPLE REPORT - TWO	DEPARTMENT-ACCT	PAGE	1
DATA FOR SAMPLE REPORT			
SAMPLE REPORT - TWO	DEPARTMENT-ACCT	PAGE	2
DATA FOR SAMPLE REPORT			
SAMPLE REPORT - TWO	DEPARTMENT-PAY	PAGE	1
DATA FOR SAMPLE REPORT			

The following output reports were generated by our example.

REPTACCT

1...5...10...15...20...25...30...35...40...45...50...55...60...65...70...75...80			
SAMPLE REPORT - ONE	DEPARTMENT-ACCT	PAGE	1
DATA FOR SAMPLE REPORT			
SAMPLE REPORT - ONE	DEPARTMENT-ACCT	PAGE	2
DATA FOR SAMPLE REPORT			
SAMPLE REPORT - TWO	DEPARTMENT-ACCT	PAGE	1
DATA FOR SAMPLE REPORT			
SAMPLE REPORT - TWO	DEPARTMENT-ACCT	PAGE	2
DATA FOR SAMPLE REPORT			

RETPAY

1...5...10...15...20...25...30...35...40...45...50...55...60...65...70...75...80			
SAMPLE REPORT - ONE	DEPARTMENT-PAY	PAGE	1
DATA FOR SAMPLE REPORT			
SAMPLE REPORT - TWO	DEPARTMENT-PAY	PAGE	1
DATA FOR SAMPLE REPORT			

The following CSI-QCOPY job will read REPORT1 and REPORT2 and format them as discussed above using the sort method.

```

1  * $$ JOB JNM=COMBINE1
2  // JOB COMBINE1
3  // LIBDEF PHASE,SEARCH=lib.sublib
4  // ASSGN SYS012,6E1
5  // EXEC CSIQCOPY,SIZE=(CSIQCOPY,100K)
6  TABLE NAME(REMOTE) -
7  ARG(ACCT 100) -
8  ARG(PAY 200) -
9  TRANSFER -
10 INPUT ( -
11     POWER LST -
12     NAME(REPORT1) -
13     FIELDS ( -
14         1 (LINES(1) COLS(1 30) EXTRACT(16 3) -
15           MASK('*SAMPLE REPORT - *') ) -
16         2 (LINES(1) COLS(25 35) EXTRACT(11 4) -
17           MASK('*DEPARTMENT-*') ) -
18         3 (FLD(2) LOOKUP(REMOTE) ) -
19     ) -
20     NODELETE -
21 ) -
22 INPUT ( -
23     POWER LST -
24     NAME(REPORT2) -
25     FIELDS ( -
26         1 (LINES(1) COLS(1 30) EXTRACT(16 3) -
27           MASK('*SAMPLE REPORT - *') ) -
28         2 (LINES(1) COLS(30 30) EXTRACT(11 4) -
29           MASK('*DEPARTMENT-*') ) -
30         3 (FLD(2) LOOKUP(REMOTE) ) -
31     ) -
32     NODELETE -
33 ) -
34 SORT (2/4 1/3) -
35 OUTPUT ( -
36     LST SYS(012) -
37     JNM('REPT%FLD(2)') -
38     CLASS(Q) -
39     REMOTE('%FLD(3)') -
40     SEGMENT ( COND( FLD(2) CHANGED ) ) -
41 ) -
42 /* -
43 /&

```

Notes on Sample CSIQCOPY Combine Job Using Sort

All CSI-QCOPY jobs require access to the POWER queue and data files via DLBLs and EXTENTs for IJQFILE and IJDFILE. You can use the DLBLs in standard labels, but you must ensure that the SYS numbers used in the EXTENTs are assigned to the proper DASD volume(s) when phase CSIQCOPY is executed. If you are using CSI-QCOPY to sort reports, you must also ensure that the SYS numbers used for the POWER files do not conflict with the SYS numbers used for the sort work files. If they do, you must provide alternate POWER DLBLs and EXTENTs for the CSI-QCOPY job using different SYS numbers.

Lines 6 through 8:

These lines represent a TABLE Command. This table is referenced by the FIELDS Operands in **Line 18** and **Line 30**. This table is used to convert the department name to a POWER Remote ID.

Lines 10 through 21:

These lines represent the first of two INPUT Sub-Commands in this TRANSFER Command. For this example we used a separate INPUT for each report. Since our example reports are almost the same format, we could have accessed both reports with a single INPUT by changing **Line 12** to include both reports.

Lines 14 through 17:

User field 1 will extract the name of the report for sorting purposes. User field 2 will extract the department name.

Line 18:

User field 3 tells CSI-QCOPY to use the department name extracted in User field 2 as a search argument in the TABLE with a NAME of REMOTE. User field 3 will be set to the replacement argument found in the TABLE, in this case a POWER Remote ID.

Lines 22 through 33:

These lines represent the second INPUT Sub-Command in this TRANSFER Command. This defines the second report to be accessed. If the format of the second report had been substantially different than the first report, the FIELDS Operands could have been changed to extract the department and report name from the proper locations. Since the User fields are being used in a SORT in **Line 34**, we must provide the same field numbers in every INPUT Sub-Command.

Line 34:

Tells CSI-QCOPY that sorting is required. The sort key is to be User field 2 and User field 1. This sequence will sort the reports into report name within department sequence.

Lines 35 through 41:

These lines describe the OUTPUT Sub-Command. The individual operands within the OUTPUT Sub-Command tell CSI-QCOPY where to output the selected pages, what to call the output report(s), and when to segment the output.

Line 36:

The selected pages are to be output to the POWER LST Queue using SYS012 as the printer. You must ensure that the SYSnnn you use is assigned to the proper type of device for the POWER Queue you are using.

Line 37:

The name of each generated report is to be formed from the characters 'REPT' followed by the contents of User field 2. The report name is formed whenever CSI-QCOPY is instructed to issue a SEGMENT.

Line 39:

The POWER Remote ID is obtained from User field 3.

Line 40:

The generated output report is to be segmented each time the contents of User field 2 changes. This will result in a separate report for each department.

The following CSI-QCOPY job will read REPORT1 and REPORT2 and format them as discussed above using the merge method.

```

1  * $$ JOB JNM=COMBINE2
2  // JOB COMBINE2
3  // LIBDEF PHASE,SEARCH=lib.sublib
4  // ASSGN SYS012,6E1
5  // EXEC CSIQCOPY,SIZE=CSIQCOPY
6  TABLE NAME(REMOTE)
7  ARG(ACCT 100)
8  ARG(PAY 200)
9  TRANSFER
10 INPUT (
11     POWER LST
12     NAME(REPORT1)
13     FIELDS (
14         1 (LINES(1) COLS(1 30) EXTRACT(16 3)
15            MASK('*SAMPLE REPORT - *') )
16         2 (LINES(1) COLS(25 35) EXTRACT(11 4)
17            MASK('*DEPARTMENT-*') )
18         3 (FLD(2) LOOKUP(REMOTE) )
19     )
20     MERGE (2/4 1/3)
21     NODELETE
22 )
23 INPUT (
24     POWER LST
25     NAME(REPORT2)
26     FIELDS (
27         1 (LINES(1) COLS(1 30) EXTRACT(16 3)
28            MASK('*SAMPLE REPORT - *') )
29         2 (LINES(1) COLS(30 30) EXTRACT(11 4)
30            MASK('*DEPARTMENT-*') )
31         3 (FLD(2) LOOKUP(REMOTE) )
32     )
33     MERGE (2/4 1/3)
34     NODELETE
35 )
36 OUTPUT (
37     LST SYS(012)
38     JNM('REPT%FLD(2)')
39     CLASS(Q)
40     REMOTE('%FLD(3)')
41     SEGMENT ( COND( FLD(2) CHANGED ) )
42 )
43 /*
44 /&

```

Notes on Sample CSIQCOPY Combine Job Using Merge

All CSI-QCOPY jobs require access to the POWER queue and data files via DLBLs and EXTENTs for IJQFILE and IJDFILE. You can use the DLBLs in standard labels, but you must ensure that the SYS numbers used in the EXTENTs are assigned to the proper DASD volume(s) when phase CSIQCOPY is executed. If you are using CSI-QCOPY to sort reports, you must also ensure that the SYS numbers used for the POWER files do not conflict with the SYS numbers used for the sort work files. If they do, you must provide alternate POWER DLBLs and EXTENTs for the CSI-QCOPY job using different SYS numbers.

Lines 10 through 21:

These lines represent the first of two INPUT Sub-Commands in this TRANSFER Command. Unlike the sort method, the merge method requires a separate INPUT for each report..

Line 20:

The MERGE Operand specifies the the FIELDS that CSI-QCOPY is to use to construct the merge key for each selected page of the report. Each INPUT Sub-Command that is to be merged must contain the MERGE Operand.

Lines 23 through 35:

These lines represent the second INPUT Sub-Command in this TRANSFER Command. This defines the second report to be merged.

Line 33:

This MERGE Operand specifies the FIELDS that CSI-QCOPY is to use to construct the merge key for each selected page of the second report. The FIELD numbers on this MERGE Operand do not have to be the same as those used on the first MERGE Operand, however, the fields must be the same length on all MERGE Operands or the merge will not work properly.

Lines 36 through 42:

These lines describe the OUTPUT Sub-Command. The individual operands within the OUTPUT Sub-Command tell CSI-QCOPY where to output the selected pages, what to call the output report(s), and when to segment the output.

The OUTPUT Sub-Command uses information from the FIELD Operands to control the segmentation of the output reports, and to construct the Job name. Since multiple INPUT Sub-Commands have been specified, the definition for each FIELD number reference in the OUTPUT, must appear in each INPUT.

Multiple Report Outputs

In the previous section, "Combining Reports", two input reports were sorted and combined creating a separate output report for each department. This section will use the Multiple Output capabilities of CSI-QCOPY to perform the same task without requiring a sort.

You should become familiar with section "Combining Reports" on page 31 before continuing from here.

In the following example, we will be using CSI-QCOPY to read two sample reports. Each report contains data for two departments, "ACCT" and "PAY". We want to combine the data from the two reports and generate one report for each department. The report for each department will have the data from each input report.

Since the input reports are already in the sequence we want, we do not need to sort them like the previous example showed. Instead of sorting we will use a separate OUTPUT Sub-Command for each department's report.

The sample input and output reports for this example are identical to those shown in section "Combining Reports" on page 31.

The following CSI-QCOPYY job will read REPORT1 and REPORT2 and format them as discussed above.

```

1  * $$ JOB JNM=MULTOUT
2  // JOB MULTOUT
3  // LIBDEF PHASE,SEARCH=lib.sublib
4  // ASSGN SYS012,6E1
5  // ASSGN SYS013,6E2
6  // EXEC CSIQCOPY,SIZE=(CSIQCOPY,100K)
7  TRANSFER
8  INPUT (
9      POWER LST
10     NAME (REPORT1)
11     FIELDS (
12         1 (LINES(1) COLS(25 35) EXTRACT(11 4)
13           MASK('*DEPARTMENT-*') )
14     )
15 )
16 INPUT (
17     POWER LST
18     NAME (REPORT2)
19     FIELDS (
20         1 (LINES(1) COLS(30 30) EXTRACT(11 4)
21           MASK('*DEPARTMENT-*') )
22     )
23 )
24 OUTPUT (
25     LST SYS(012)
26     JNM('REPTACCT')
27     CLASS(Q)
28     REMOTE(100)
29     SELECT ( COND( FLD(1) EQ 'ACCT' ) )
30 )
31 OUTPUT (
32     LST SYS(013)
33     JNM('REPTPAY')
34     CLASS(Q)
35     REMOTE(200)
36     SELECT ( COND( FLD(1) EQ 'PAY' ) )
37 )
38 /*
39 /&

```

Notes on Sample CSIQCOPYY Multiple Output Job

All CSI-QCOPYY jobs require access to the POWER queue and data files via DLBLs and EXTENTs for IJQFILE and IJDFILE. You can use the DLBLs in standard labels, but you must ensure that the SYS numbers used in the EXTENTs are assigned to the proper DASD volume(s) when phase CSIQCOPYY is executed. If you are using CSI-QCOPYY to sort reports, you must also ensure that the SYS numbers used for the POWER files do not conflict with the SYS numbers used

for the sort work files. If they do, you must provide alternate POWER DLBLs and EXTENTs for the CSI-QCOPY job using different SYS numbers.

Lines 4 through 5:

These lines assign the SYS numbers that will be used by CSI-QCOPY to generate the output reports. The SYSnnn values are specified in **Line 25** and **Line 32** of this example.

Lines 8 through 15:

These lines represent the first of two INPUT Sub-Commands in this TRANSFER Command. We will be using separate INPUT Sub-Commands for each input report to ensure that the reports are accessed in the proper sequence.

Lines 11 through 14:

User field 1 will extract the department name. This is used to determine which OUTPUT to send each page to.

Lines 16 through 23:

These lines represent the second INPUT Sub-Command in this TRANSFER Command. This defines the second report to be accessed. If the format of the second report had been substantially different from the first report, the FIELDS Operands could have been changed to extract the department from the proper location. Since the User field is being used in the OUTPUT Sub-Commands in **Line 29** and **Line 36**, we must provide the same field number in every INPUT Sub-Command.

Lines 24 through 30:

These lines describe the first OUTPUT Sub-Command. The individual operands within the OUTPUT Sub-Command tell CSI-QCOPY where to output the selected pages, what to call the output report(s), and when to segment the output.

Line 25: This report will be generated using the printer defined at SYS012.

Line 29: Only pages that are identified as being for department 'ACCT' will be directed to this OUTPUT Sub-Command.

Lines 31 through 37:

These lines describe the second OUTPUT Sub-Command.

Line 32: This report will be generated using the printer defined at SYS013.

Line 36: Only pages that are identified as being for department 'PAY' will be directed to this OUTPUT Sub-Command.

Archiving Reports

CSI-QCOPY provides a flexible and easy-to-use report archiving and retrieval facility. This can be used to replace the limited POFFLOAD facility supplied with POWER.

Using the standard TRANSFER Command of CSI-QCOPY, you can specify any combination of reports to be input, sorted into a particular sequence if you wish, and to be output to an ARCHIVE file either on disk or tape.

CSI-QCOPY can read these archive files and select any or all of the reports to be placed back in a POWER Spool Queue. CSI-QCOPY also has a DIRECTORY function to list the contents of an ARCHIVE file.

CSI-QCOPY can access reports archived either by CSI-QCOPY itself, or by POWER in standard POFFLOAD format.

ARCHIVE datasets can be generated in one of three formats:

- | | |
|----------|---|
| BIM | The standard CSI-QCOPY format used for general report archival and retrieval. |
| POFFLOAD | The same format that POWER generates when you spool a LST file to tape. |
| FICHE | A format suitable for generating FICHE tapes. |

The type of ARCHIVE dataset generated is specified via the FORMAT Operand of the OUTPUT Sub-Command.

If you are generating an ARCHIVE dataset using FORMAT(FICHE), special considerations may be required for your choice of MODNAME and use of the SEGMENT Operand. Refer to the "SEGMENT Operand" on page 120 for a discussion of the actions taken by CSI-QCOPY for the various SEGMENT Operands. Also refer to chapter "CUSTOMIZING " on page 135 for a discussion of the various options available when generating I/O modules for ARCHIVE datasets. In particular the choice for RECFORM.

This section will walk through an example of how CSI-QCOPY can be used to select reports for archiving, write them to an ARCHIVE file, and then read the ARCHIVE file back in and print a directory of the ARCHIVE file.

```

1  * $$ JOB JNM=ARCHIVE
2  // JOB ARCHIVE
3  // LIBDEF PHASE,SEARCH=lib.sublib
4  // TLBL BIMRCHF,'BIM ARCHIVE FILE'
5  // ASSGN SYS004,cuu
6  // EXEC CSIQCOPY,SIZE=(CSIQCOPY,100K)
7  TRANSFER
8      INPUT (
9          POWER LST
10         NAME (ALL REPT*)
11         NODELETE
12     )
13     OUTPUT (
14         ARCHIVE (
15             FILENAME (BIMRCHF/4)
16             MODNAME (BIMQCYAM)
17             FORMAT (BIM)
18         )
19     )
20 TRANSFER
21     INPUT (
22         ARCHIVE (
23             FILENAME (BIMRCHF/4)
24             MODNAME (BIMQCYAM)
25             FORMAT (BIM)
26         )
27         NAME (ALL *)
28     )
29     OUTPUT (
30         DIRECTORY
31         SYS (LST)
32     )
33 /*
34 /&

```

Notes on Sample CSIQCOPY Archive Job

All CSI-QCOPY jobs require access to the POWER queue and data files via DLBLs and EXTENTs for IJQFILE and IJDFILE. You can use the DLBLs in standard labels, but you must ensure that the SYS numbers used in the EXTENTs are assigned to the proper DASD volume(s) when phase CSIQCOPY is executed. If you are using CSIQCOPY to sort reports, you must also ensure that the SYS numbers used for the POWER files do not conflict with the SYS numbers used for the sort work files. If they do, you must provide alternate POWER DLBLs and EXTENTs for the CSI-QCOPY job using different SYS numbers.

Lines 4 through 5:

Provide the JCL needed to access the ARCHIVE file. CSIQCOPY can access either disk or tape files, depending on the MODNAME provided as part of the ARCHIVE Operand.

Lines 7 through 19:

These lines represent the first of two TRANSFER Commands in this example. The first TRANSFER Command will select all reports from the POWER LST Queue that have a NAME starting with the characters 'REPT' and write them to the archive file.

Line 15: Provides the name of the TLBL/DLBL that CSI-QCOPY is to use to access the ARCHIVE file and the SYSnnn to use for tape ARCHIVE files. In this example we will access the tape drive using SYS004.

Line 16: Provides the name of the I/O module that CSI-QCOPY is to use to access the ARCHIVE file. Three I/O modules have been provided with the CSI-QCOPY installation tape:

BIMQCYAF	for FICHE ARCHIVE files
BIMQCYAT	for BIM tape ARCHIVE files
BIMQCYAD	for BIM disk ARCHIVE files

You can use one of these modules, or generate your own. Refer to the chapter "CUSTOMIZING " on page 135 for information on how to generate your own I/O modules.

Line 17: The ARCHIVE file is to be generated in BIM format. CSI-QCOPY can also generate POWER POFFLOAD tapes and datasets suitable for FICHE.

Lines 20 through 32:

These lines represent the second of two TRANSFER Commands in this example. This TRANSFER Command will access the ARCHIVE file just created, and print a DIRECTORY of all reports in the file.

Line 25: The ARCHIVE file is in BIM format. CSI-QCOPY can also access POWER POFFLOAD tapes as an INPUT ARCHIVE file.

Line 30: The output of CSI-QCOPY is a DIRECTORY report. You can specify the SORT Sub-Command with a list of desired "System fields" if you wish to have a "customized" directory report in a specific sequence. Refer to the section "DIRECTORY Reports" on page 45 for more information about "customized" reports.

Line 31: The DIRECTORY report is to be generated on SYSLST. You can direct the report to any SYSnnn that is assigned to a printer.

DIRECTORY Reports

CSI-QCOPY provides a flexible and easy-to-use DIRECTORY function that can be used to list information about reports from any source that can be accessed by the INPUT Sub-Command. This includes:

- Reports from any POWER Spool Queue
- Reports from any VM Spool Queue
- Reports from a CSI-QCOPY ARCHIVE file
- Reports from a POWER POFFLOAD tape

NOTE: CSI-QCOPY cannot be used to provide a directory of an HFS extent. Use the utility program (CSIHFBAT) supplied with HFS for directory purposes.

Using the standard TRANSFER Command of CSI-QCOPY, you can specify any combination of reports from any combination of sources, to be input, sorted into a particular sequence if you wish, and output as a DIRECTORY report.

This section will walk through an example of how CSI-QCOPY can be used to select reports for a DIRECTORY report. It will also show you how to generate "customized" DIRECTORY reports with specific sets of fields in any sequence you desire.

```

1  * $$ JOB JNM=DIRECT
2  // JOB DIRECT
3  // LIBDEF PHASE,SEARCH=lib.sublib
4  // EXEC CSIQCOPY,SIZE=(CSIQCOPY,100K)
5  TRANSFER
6      INPUT(
7          POWER LST
8          NAME(ALL REPT*)
9          NODELETE
10     )
11     SORT (914 912 913 916 901 902 903 904 908)
12     OUTPUT(
13         DIRECTORY
14         SYS(LST)
15     )
16 /*
17 /&

```

Notes on Sample CSIQCOPY Directory Job

All CSI-QCOPY jobs require access to the POWER queue and data files via DLBLs and EXTENTs for IJQFILE and IJDFILE. You can use the DLBLs in standard labels, but you must ensure that the SYS numbers used in the EXTENTs are assigned to the proper DASD volume(s) when phase CSIQCOPY is executed. If you are using CSI-QCOPY to sort reports, you must also ensure that the SYS numbers used for the POWER files do not conflict with the SYS numbers used for the sort work files. If they do, you must provide alternate POWER DLBLs and EXTENTs for the CSI-QCOPY job using different SYS numbers.

Lines 6 through 10:

The input to the DIRECTORY report can be any one or more INPUT Sub-Commands. You can include any desired combination of reports from any sources into a single DIRECTORY report.

You cannot specify the FIELDS Operand when generating a DIRECTORY report because no report data is accessed, and no page selection is performed.

You can include SELECT, STOP, and EXCLUDE Sub-Commands, but they can only reference "System fields".

Line 11: The SORT Sub-Command must be specified if you want the DIRECTORY report in a specific sequence, or if you want to generate a "customized" DIRECTORY report.

Only "System fields" can be specified in the SORT Sub-Command for a DIRECTORY report.

If the SORT is specified, the DIRECTORY report will only contain the fields listed in the SORT Sub-Command. The fields will be printed across the print line in the sequence that they appear in the SORT Sub-Command.

Refer to section "System Fields" on page 92 for a complete list of the fields that are available for a Directory Report.

Line 13: The output of CSI-QCOPY is a DIRECTORY report.

Line 14: The DIRECTORY report is to be generated on SYSLST. You can direct the report to any SYSnnn that is assigned to a printer.

Default DIRECTORY Report

The following report format is generated by CSI-QCOPY if no SORT Sub-Command is specified for a DIRECTORY.

	INPUT	ENTRY	QUE	JOB NAME/NBR	CDP	USER	INFO	CREATE	TIME
1									
2	1	1	LST	rept001/12345	QD3	SAMPLE	REPT001	02/15/89	09:04:29
3	1	2	LST	rept002/12346	QD3	SAMPLE	REPT002	02/15/89	09:06:40
4	1	3	LST	rept002/12347	QD3	SAMPLE	REPT002	02/15/89	09:12:01

Notes on DIRECTORY Report

- INPUT** Relative INPUT Sub-Command from which CSI-QCOPY selected the report. This field is generated from "System field" 927.
- ENTRY** Relative Spool Queue entry number within the INPUT Sub-Command. The field is generated from "System field" 926.
- CDP** Report's Class, Disposition, and Priority.
- CREATE** Date that the report was created.
- TIME** Time that the report was created.

Commands and Operands

Parameter cards are supplied to program CSIQCOPY to specify which spool entries are to be processed, and to specify the destination of the selected spool entries. Optional parameters may also be specified to selected pages or lines of input to be transferred, and to control report segmentation for POWER LST output.

Syntax

The syntax of CSI-QCOPY's commands is the same as the one used by the IBM utility IDCAMS:

- A **command followed by keyword operands**, with the value to be assigned to a keyword specified in parentheses.
- **Blanks** or **commas** are used to separate operands from the command and from other operands.
- **Continuation** is specified by coding a dash as the last non-blank on the line to be continued.
- **Comments** may appear before, between, and/or after operands.
- A **comment** starts with the characters "/*", is ended by the characters "*/", and may be continued to multiple lines as needed.

In the following instructions, the CSI-QCOPY Commands and Operands should be interpreted as follows:

- UPPER CASE = the exact characters to be entered
- lower case = values to be supplied by you
- **boldface/underlined** keywords or values = default values
- Vertical bar "|" separates mutually exclusive operands
- [values enclosed in brackets] are optional

Refer to "APPENDIX A" on page 177 for a more complete description of how to code commands and operands.

Command Input Sources

Commands can be input to CSI-QCOPY in any of the following ways:

- 1) As SYSIN input following the "// EXEC" JECL statement. Commands are terminated using the standard VSE "/*" JECL statement.
- 2) As PARM= input included on the "// EXEC" JECL statement. Commands are separated using a ";". Commands contained in a PARM= are processed prior to Commands supplied via SYSIN.
- 3) If CSI-QCOPY is executed from the VSE System Console, all Commands must also be entered from SYSLOG. Enter each Command or Command line in response to message:

```
CSIQCOPY-1109 ENTER COMMAND
```

When all Commands have been entered, respond to the above message by entering a "/*".

Commands

The Commands that are used in CSI-QCOPY are the following:

- | | | |
|----|------------|---|
| 1. | OPTION | Provide overrides to specific CSI-QCOPY processing options. See page 51. |
| 2. | PASSWORD | Provides POWER passwords for reports that can be accessed via the TRANSFER Command. See page 59. |
| 3. | POWERCMD | Can be used to issue POWER commands. See page 60. |
| 4. | POWERSEG | Can be used to issue a POWER segment. See page 61. |
| 5. | RECIPIENT | Provides output characteristics and Banner Page information for individual recipients. See page 63. |
| 6. | SORTOPTION | Provides overrides to specific CSI-QCOPY sorting options. See page 66. |
| 7. | TABLE | Provides data lookup and conversion rules for use with the FIELDS Operand. See page 68. |
| 8. | TRACE | Provides options to activate and control the CSI-QCOPY internal trace facility. See page 70. |
| 9. | TRANSFER | Causes one or more selected reports to be directed to a specific output. See page 71. |

10. VMCMD

Can be used to issue VM commands. See page 132.

OPTION Command

The OPTION Command is used to specify special processing options and defaults for CSI-QCOPY.

Any options or defaults that are specified via an OPTION Command will remain in effect until another OPTION Command is specified.

How to enter

OPTION	-
[DFILE (<u>IJDFILE</u> dddddd)	-]
[ERROR (<u>SYSLST</u> CONSOLE SYSnnn NONE)	-]
[FCB (<u>\$\$BFCB00</u> xxxxxxxx)	-]
[LINE (FCB <u>PHYSICAL</u>)	-]
[MASKTYPE (<u>FIELDMASK</u> NOFIELDMASK	-]
[INPUTMASK <u>NOINPUTMASK</u>	-]
[CONDMASK <u>NOCONDMASK</u>	-]
[TABLEMASK <u>NOTABLEMASK</u>	-]
[)	-]
[MISCHAN (<u>CANCEL</u> CONVERT)	-]
[POFFBUFSZ (<u>12288</u> nnnnn)	-]
[QFILE (<u>IJQFILE</u> qqqqqqq)	-]
[RAADID (CSIRAAD rrrrrr)	-]
[SUMMARY (<u>NONE</u> SYSnnn SYSLST)	-]
[STATS (<u>NONE</u> SYSLST CONSOLE SYSnnn)	-]
[XPCCBUFSZ (<u>8192</u> nnnnn)]

Explanation

DFILE (IJDFILE | dddddd)

This operand is used to supply an alternate DLBL name for the POWER Data file.

All CSI-QCOPY jobs require access to the POWER queue and data files via DLBLs and EXTENTs for IJQFILE and IJDFILE. You can use the DLBLs in standard labels, but you must ensure that the SYS numbers used in the EXTENTs are assigned to the proper DASD volume(s) when phase CSIQCOPY is executed. If you are using CSI-QCOPY to sort reports, you must also ensure that the SYS numbers used for the POWER files do not conflict with the SYS numbers used for the sort work files. If they do, you must provide alternate POWER DLBLs and EXTENTs for the CSI-QCOPY job using different SYS numbers.

Refer to operand QFILE.

ERROR (**SYSLST** | CONSOLE | SYSnnn | NONE)

You can use this operand to direct error messages generated by CSI-QCOPY and the Input Edit Report, to any destination of your choice.

The OPTION Command must be specified as the first Command for CSI-QCOPY, or SYSLST will be used.

The default is to SYSLST. The destination can be changed to the CONSOLE or any SYSnnn defined as a printer device.

If NONE or CONSOLE is specified, the CSI-QCOPY Input Edit Report will be suppressed.

This Operand only applies to messages numbered 200-499. Messages numbered from 100-199 and 800-899 are controlled by the STATS Operand. Messages numbered from 1000-9999 will always be directed to SYSLST.

FCB (**\$BFCB00** | xxxxxxxx)

You can use this operand to provide the name of the FCB to be used for those reports that do have an FCB defined for them.

LINE (FCB | **PHYSICAL**)

This operand specifies how CSI-QCOPY counts lines in each report page. This option will determine how you specify which line or lines should be searched for a field in the FIELDS Operand.

FCB You will specify the selection lines based on where the line will appear on the printed page, using the FCB for placing channel skips.

PHYSICAL You will specify the selection lines based on their physical appearance in the input. Channel skips and space immediate commands are not counted as PHYSICAL lines.

```

MASKTYPE ( FIELDMASK | NOFIELDMASK
           INPUTMASK | NOINPUTMASK
           CONDMASK | NOCONDMASK
           TABLEMASK | NOTABLEMASK
           )
    
```

You can use this operand to tell CSI-QCOPYY what type of generic masks you are using for each of CSI-QCOPYY's operand types.

CSI-QCOPYY supports two types of generic masks:

- "Standard generic masks" that can contain an "*" to mean any number of characters, or a "+" to mean any single character.
- "Picture generic masks" that can contain several special characters to represent matches for many types of data (see the following table and descriptions).

The individual operands within MASKTYPE indicate whether you are using "Standard" or "Picture" masks for each type of CSI-QCOPYY operand.

FIELDMASK	You are using "Picture" mask formats for "literals" in the FIELDS Operand.
NOFIELDMASK	You are using "Standard" mask formats for "literals" in the FIELDS Operand.
INPUTMASK	You are using "Picture" mask formats for all report selection fields in the INPUT Sub-Command.
NOINPUTMASK	You are using "Standard" mask formats for all report selection fields in the INPUT Sub-Command.
CONDMASK	You are using "Picture" mask formats for "literals" in the COND Operands.
NOCONDMASK	You are using "Standard" mask formats for "literals" in the COND Operands.
TABLEMASK	You are using "Picture" mask formats for search arguments in the TABLE Command.

NOTABLEMASK You are using "Standard" mask
formats for search arguments in the
TABLE Command.

The following table lists each of the generic characters that can be specified in a "Generic Picture Mask" string along with a definition of its use.

Mask Code	Meaning
*	Any number of any character
+	Any single character
@	Any single Alpha (A-Z)
#	Any single Numeric (0-9)
&	Any single Alphanumeric (A-Z,0-9)
.	Any single non-printable
!	Any single special character
?	Any single non-blank printable character
>	Any number of the following character or mask code
~	'not' a match for the following character or mask code
%	The following mask code should be treated as a character
	'or' the match with the next character or mask code

Picture Mask examples:

MASK ('%##~##')

Search for a character sequence of a '#', followed by a numeric, followed by a non-numeric, followed by a numeric.

Strings that match '#1A1 '
 '#1B2 '

Strings that do not match '#111 '
 '#1AA '
 '\$1A1 '

MASK ('A>#B>-%##')

Search for a character sequence of an 'A', followed by any number of numerics (including none), followed by a 'B', followed by any number of '#' (including none), followed by a '#'.

Strings that match 'A1BXXXX#'
 'A2222BX#'
 'AB#'

Strings that do not match 'BA#'
 'AAB#'
 'A1B##'

MASK ('&D|H|K|L#')

Search for a character sequence of an Alpha-numeric, followed by a 'D' or 'H' or 'K' or 'L', followed by a numeric.

Strings that match 'AD9'
 '9H0'
 'ZL1'

Strings that do not match 'AA9'
 '.HO'
 'ZLA'

MISCHAN (CANCEL | CONVERT)

You can use this operand to tell CSI-QCOPY what action should occur if an INPUT report contains a channel request that cannot be located in the FCB being used.

The default action is to display an error message and CANCEL the job.

If you specify CONVERT, CSI-QCOPY will treat the invalid channel request as a "single space" request.

You can use the USEFCB Operand to override the FCB used by CSI-QCOPY for individual INPUT Sub-Commands.

POFFBUFSZ (12888 | nnnnn)

This operand allows you to specify the blocksize used for an ARCHIVE(FORMAT(POFFLOAD)...) output. The default is 12888.

RAADID (CSIRAAD | rrrrrrrr)

This operand allows you to specify the cross partition identification for access to the RAAD dataset. By default this is "CSIRAAD." If you changed this identification online using the RAAD System Configuration screen, then you must also supply it here for CSIQCOPY.

QFILE (**IJOBFILE** | qqqqqqqq)

This operand is used to supply an alternate DLBL name for the POWER Queue file. CSI-QCOPYY must know the DLBL name of the file labels that you have cataloged as part of the installation process. Refer to operand DFILE.

STATS (**NONE** | SYSLST | CONSOLE | SYSnnn)

If STATS is specified as other than NONE, statistical messages showing page and line counts will be generated on SYSLST. The message destination can be specified as SYSLST, the CONSOLE or any SYSnnn defined as a printer device.

If STATS(NONE) is specified, or allowed to default, no statistical or trace messages will be generated by CSI-QCOPYY.

Statistical messages are numbered 100-199. Trace messages are numbered from 800-899. Refer to the chapter "MESSAGES" on page 151 for a description of these messages.

SUMMARY (**NONE** | SYSnnn | SYSLST)

SUMMARY specifies that an Input Summary Report is to be generated and where it is to be printed.

If NONE is specified, no report will be generated.

A sequence of messages will be generated each time an OUTPUT segmentation occurs showing where the pages of the segmented report came from.

```

1  rrrrrrrr SEGMENTED ON SYSnnn - FCB=ffffffff,CLASS=c
2          --- PAGES --- ---- JOB -----
3          FROM      TO  NAME      NUMBER
4          nnn       mmm  jjjjjjjj  nnnnnn
5          nnn       mmm  jjjjjjjj  nnnnnn
    
```

Notes on Summary Report

Line 1: Defines the report that was generated. It provides the report name, SYSnnn that it was written to, followed by the JECL that was used to SEGMENT the report.

Lines 2 through n:

One line will be generated for each sequence of pages selected for inclusion in the output report. Each line defines the range of pages selected from the input report, along with the job name and job number of the input report.

XPCCBUFSZ (**8192** | nnnnn)

You can use this Operand to control the size of the data block that CSI-QCOPY will pass to POWER via the XPCC interface. This value will affect the amount of Partition GETVIS used by CSI-QCOPY.

The smallest value you can specify is the length of the largest report line + 16. The largest value you can specify is 32768.

PASSWORD Command

You must specify the PASSWORD Command if you want CSI-QCOPY to access reports with a POWER Password. This Command provides a list of passwords for reports that CSI-QCOPY is authorized to access.

The PASSWORD Command must precede any TRANSFER Commands that require it.

POWER Password Authorization processing is performed by the CSI-QCOPY Security Access module "BIMQCYEX". The default module shipped with CSI-QCOPY will not select any reports that contain passwords if you do not specify the proper PASSWORD Command. Refer to chapter "CUSTOMIZING " on page 135 for more information on the Security Access module.

How to enter

```
PASSWORD ppppppppp, ppppppppp, ...
```

Explanation

ppppppppp

Specifies the list of POWER Passwords that CSI-QCOPY is authorized to access. Any number of Passwords can be specified.

The maximum length is 8 characters.

POWERCMD Command

This Command can be used to issue most POWER console Commands from a batch job stream.

How to enter

```
POWERCMD 'command string'
```

Explanation

'command string'

Specifies the Command that CSI-QCOPY is to pass to POWER. The following POWER commands can be specified:

A	Alter
C	Cancel
L	Delete (except L qq,ALL)
H	Hold
R	Release

CSI-QCOPY will display a message (106) on the System Console each time this Command is processed.

POWERSEG Command

This Command can be used to issue a POWER segment at any point in a batch job stream.

This can be useful when you want to segment application output, and change the Job name on the resulting POWER Queue data.

CSI-QCOPY will normally generate an Input Edit Report on SYSLST, showing all Commands that have been specified. If you intend to use the POWERSEG Command to segment SYSLST, you should specify the following Command as the first Command for CSI-QCOPY:

```
OPTION ERROR (NONE) STATS (NONE)
```

NOTE: Starting with VSE/SP3 and above, POWER defers the segment until after the next data line is sent to the SYSnnn, or until the end of the current POWER job. As a result, the POWERSEG Command cannot be used to segment a report and then use the segmented report in a TRANSFER Command in the same execution of CSI-QCOPY.

How to enter

```
POWERSEG SYS (LST|PCH|nnn)      -
[          CLASS (x)             -]
[          COPY (nn)             -]
[          DEST (node/user)      -]
[          DISP (x)              -]
[          FCB (xxxxxxxx)        -]
[          FNO (ffff)           -]
[          JNM (jobname)         -]
[          JSEP (n)              -]
[          PRI (p)               -]
[          PWD (password)        -]
[          RBS (nnnnn)           -]
[          REMOTE (nnn)          -]
[          SYSID (n)             -]
[          USER ('uuuuuuuuuuuuuu') ]
```

Explanation

SYS (LST|PCH|nnn)

Specifies the DOS/VSE SYS number of the spool destination that is to be segmented.

LST - for SYSLST
 PCH - for SYSPCH
 nnn - is any valid programmer logical unit for the VSE partition.

CLASS (c)	Report Class
COPY (nn)	Number of Copies
DEST (node/user)	POWER Destination Node and User
DISP (d)	POWER Disposition
FCB (xxxxxxxx)	Report FCB name
FNO (ffff)	Report Forms ID
JNM (jobname)	Report Jobname
JSEP (n)	POWER JSEP Value
PRI (p)	Report Priority
PWD (password)	POWER Report Password
RBS (nnnnn)	POWER Report Segmentation
REMOTE (nnn)	POWER Remote ID
SYSID (s)	POWER Sys ID
USER ('uuuuuuuuuuuuuu')	POWER User Information

These Operands allow you to specify the attributes of the new segment. The rules for each Operand are the same as for the POWER LST/PUN JECL statement.

Only the values specified will be used for the segment, all omitted Operands will default to your installation's POWER defaults.

RECIPIENT Command

This Command can be used to provide CSI-QCOPY with a table of report output characteristics for each of your report recipients.

You can specify one RECIPIENT Command that defines several recipients, or you can specify separate RECIPIENT Commands.

CSI-QCOPY searches this table of recipients each time an output report is about to be segmented, and the OUTPUT Sub-Command contains a TORECIPIENT Operand.

The Operands provided in this table will override the corresponding values specified in the OUTPUT Sub-Command. (Except for the BANNER Operand.)

How to enter

The general format of the RECIPIENT Command is a series of one or more RECIPIENT entries, each with a unique name, followed by one or more Operands:

```
RECIPIENT  -
            name1 (. . . . .operands . . . . .)
            .
            .
            namen (. . . . .operands . . . . .) -
```

The format of each RECIPIENT Command entry is as follows:

```

name (
[          BANNER(line1,          -]
[          line2,                -]
[          line3,                -]
[          line4,                -]
[          POS(line,col),        -]
[          )                      -]
[          INDEX|NOINDEX        -]
[          CLASS(x)              -]
[          COPY(nn)              -]
[          DEST(node/user)       -]
[          DISP(x)               -]
[          FNO(ffff)             -]
[          JNM(jobname)          -]
[          JSEP(n)               -]
[          PRI(p)                -]
[          PWD(password)         -]
[          RBS(nnnnn)            -]
[          REMOTE(nnn)           -]
[          SYSID(n)              -]
[          USER('uuuuuuuuuuuuuu') -]
[          )

```

Explanation

name

Specifies the name of the recipient. This can be any character string from one to eight characters in length. If the name contains spaces, enclose the name in quotes.

The TORECIPIENT Operand of the OUTPUT Sub-Command is used to refer to entries in the RECIPIENT table.

```

BANNER(line1,
        line2,
        line3,
        line4,
        POS(line,col),
)

```

This Operand can be used to cause CSI-QCOPY to generate a Banner page at the beginning of each report segment.

Refer to the BANNER Operand on page 102 for more information.

INDEX | **NOINDEX**

This Operand can be used to cause CSI-QCOPY to generate an index page at the end of each report segment.

Refer to the INDEX Operand on page 106 for more information.

CLASS (c)	Report Class
COPY (nn)	Number of Copies
DEST (node/user)	POWER Destination Node and User
DISP (d)	POWER Disposition
FNO (ffff)	Report Forms ID
JNM (jobname)	Report Jobname
JSEP (n)	POWER JSEP Value
PRI (p)	Report Priority
PWD (password)	POWER Report Password
RBS (nnnnn)	POWER Report Segmentation
REMOTE (nnn)	POWER Remote ID
SYSID (s)	POWER Sys ID
USER ('aaaaaaaaaaaaaaaa')	POWER User Information

These Operands override the corresponding Operands of the OUTPUT Sub-Command on an Operand by Operand basis.

Refer to these Operands in the "OUTPUT Sub-Command" on page 99 for more information.

SORTOPTION Command

The SORTOPTION Command is used to tailor the parameters that are passed to your installation's sort program.

The SORTOPTION Command must precede any TRANSFER Commands for which the the sorting options are to be in effect.

How to enter

```
SORTOPTION -
  [WORK (DA | string) -]
  [SORTRECL (8192 | n) -]
  [RECORDPARM('string') -]
  [SORTPARM('string') -]
  [OPTIONPARM('string') ]
```

Explanation

WORK (DA | string)

Specifies a string of characters to be used as an override value for the "WORK=" operand of the SORT parameter that is internally generated by CSI-QCOPY. Check the documentation for your sort package to determine what to use for this operand. The default is:

WORK=DA

The maximum string length allowed is 16 bytes.

SORTRECL (8192 | n)

This value is used to limit the length of the records passed to your sort package. If any selected report page exceeds this length, it will be passed to SORT in segments which are re-assembled by CSI-QCOPY before being processed to the OUTPUT Command.

The minimum value allowed is 1000. The maximum is only limited by your sort package. Normally the maximum will be 32767 or the track capacity of your disk.

RECORDPARM('string')

Allows the specification of a complete replacement of the RECORD Command internally generated by CSI-QCOPY and passed to your sort package. For CKD sort work devices, the record length parameter passed to SORT must not exceed the track capacity. For FBA, it must not exceed 32767. These limits are based on the requirements of IBM's SM2 sort program. Other vendors' sort programs may have different limits. If you do not specify this parameter, the default is:

```
RECORD TYPE=V,LENGTH=nnnnn
```

where "nnnnn" is the value specified in the SORTRECL operand. If you specify a different length value here, you should also provide the length via the SORTRECL Operand. The maximum string length allowed is 256 bytes.

SORTPARM('string')

Allows the specification of a complete replacement of the SORT Command internally generated by CSI-QCOPY and passed to your sort package.

The maximum string length allowed is 256 bytes.

OPTIONPARM('string')

Allows the specification of a complete replacement for the OPTION command internally generated by CSI-QCOPY and passed to your sort package. The default is:

```
OPTION PRINT=CRITICAL
```

The maximum string length allowed is 256 bytes.

TABLE Command

You can use the TABLE Command to specify a conversion table that CSI-QCOPY will use to convert extracted FIELDS to specified constants.

The LOOKUP Operand of the FIELDS Operand is used to activate the conversion process for a specific field. The LOOKUP Operand provides the NAME of the TABLE Command that CSI-QCOPY is to search for the extracted field. If a match is made, any replacement data is used in place of the originally extracted field data.

The TABLE Command must precede any LOOKUP Operand that references it.

You can create a "conversion table" by specifying a series of ARGUMENT Operands with replacement values, followed by a final ARGUMENT Operand with a search value of '*' and no replacement value.

You can create an "edit table" by specifying a series of ARGUMENT Operands with or without replacement values, without the final '*' entry. If CSI-QCOPY cannot locate an entry in the table, the DEFAULT action specified for the FIELDS Operand will be used.

How to enter

```
TABLE -
  NAME (xxxxxxxx) -
  ARGUMENT (search-arg [replace-arg [/length]]) -
  •
  ARGUMENT (from-arg/to-arg [replace-arg [/length]]) -
  •
  ARGUMENT (search-arg [replace-arg [/length]]) -
```

Explanation

NAME (xxxxxxxx)

Specifies the name of the TABLE. The LOOKUP Operand must specify this same name for CSI-QCOPY to use the proper search/replace table.

The maximum length is 8 characters.

```
ARGUMENT(search-arg [replace-arg[/length]])  
ARGUMENT(from-arg/to-arg [replace-arg[/length]])
```

Specifies the search and optionally the replacement data for the table. You specify a separate ARGUMENT Operand for each search/replace entry in the table. The search-arg can be specified as a single value, or as a from/to range. The two types of ARGUMENT Operands can be intermixed as required. The maximum table size is only limited by the size of your partition.

from-arg/to-arg

Specifies the search data for each ARGUMENT Operand in the table. The 'from-arg/to-arg' is assumed to be a standard character string. The maximum size of each string is 256 characters. When CSI-QCOPY looks up a field in a table, a match is made if the field is greater than or equal to the 'from-arg' and less than or equal to the 'to-arg'.

search-arg

Specifies the search data for each ARGUMENT Operand in the table. The 'search-arg' is assumed to be a "generic mask" literal. The maximum search-arg size is 256 characters. (Refer to from-arg/to-arg operand.)

Refer to the TABLEMASK Operand on page 53 for a discussion of the options available to you for generic search arguments.

replace-arg[/length]

Specifies the replacement data for each ARGUMENT Operand in the table. The replace-arg is assumed to be a standard character string. An optional length can be specified to override the actual length of the replacement data. The replacement data will be left justified and space filled. The maximum replace-arg size is 256 characters.

If no replace-arg is specified for an ARGUMENT Operand, and the search-arg matches the LOOKUP data, CSI-QCOPY leaves the LOOKUP data intact.

TRACE Command

You can use the TRACE Command to activate an internal trace facility provided by CSI-QCOPY. This can be used if you cannot get CSI-QCOPY to extract the desired data from pages of your reports.

The TRACE facility will generate a series of messages (numbered from 800-899), showing all the decisions CSI-QCOPY is making for report selection and FIELD extraction. The messages will be generated on the destination specified for the STATS operand of the "OPTION Command". Refer to page 57 for more information.

How to enter

```
TRACE [ALL  
      PAGE (from, to)  
      SELECT]
```

Explanation

ALL

Specifies that all possible trace messages are to be generated.

PAGE (from, to)

Specifies that trace messages should only be generated while processing the range of pages specified.

SELECT

Specifies that only trace messages related to report selection should be generated.

TRANSFER Command

The TRANSFER Command is used to initiate a Spool Queue entry transfer. Any number of TRANSFER Commands can be specified in a single execution of CSI-QCOPY. The TRANSFER Command consists of three Sub-Commands:

INPUT	Defines the input spool entry or entries to be transferred. Any number of INPUT Sub-Commands can be specified. See page 73.
SORT	Provides the sort key that CSI-QCOPY will use to sort the selected input report pages. See page 97.
OUTPUT	Defines the output destination type and segmentation rules. Any number of OUTPUT Sub-Commands can be specified. See page 99.

How to enter

```
TRANSFER          -
  INPUT ( . . . ) -
  [SORT ( . . . ) -]
  OUTPUT ( . . . )
```

The TRANSFER Command also contains five major Operand groups that can be specified as part of the INPUT and/or OUTPUT Sub-Commands to control which pages are selected, when to stop reading input or generating output, and when to segment output reports:

FIELDS	Defines fields that CSI-QCOPY will extract from specified locations in each report page. These fields can then be used for page selection, and to control output report segmentation. See page 83.
SELECT	Specifies selection criteria that CSI-QCOPY will use to determine which pages to be selected for INPUT and/or OUTPUT. See page 117.
EXCLUDE	Specifies selection criteria that CSI-QCOPY will use to determine which pages should be excluded from INPUT and/or OUTPUT. See page 118.
STOP	Specifies selection criteria that CSI-QCOPY will use to determine when to stop accessing an INPUT or OUTPUT. See page 119.

SEGMENT Specifies selection criteria that CSI-QCOPY will use to determine when to segment an OUTPUT report. See page 120.

Each of the Sub-Commands and Operands of the TRANSFER Command is described in detail on the following pages.

INPUT Sub-Command

The INPUT Sub-Command of the TRANSFER Command is required, and is used to describe the input Spool Queue entry or entries to be included in the transfer operation. Any number of INPUT Sub-Commands can be specified in a single TRANSFER Command. INPUT Sub-Commands are processed in the order they are specified.

How to enter

```

INPUT (
    [LST | RDR | PUN | XMT | VML | VMR | VMP | ARC          -]
    [ARCHIVE (                                             -]
    [      FILENAME (xxxxxxx [/sss] )                    -]
    [      FORMAT (BIM | POFFLOAD)                        -]
    [      MODNAME (BIMQCYAM | cccccccc)                 -]
    [      )                                              -]
    [NAME ( [FIRST | ALL] jobname/number/sfx ... )       -]
    [CLASS (ALL | cccc) -]
    [CREATOR (vm-user, ...)                              -]
    [DAYSOLD (condition nnn)                             -]
    [DEFERRED | NODEFERRED                               -]
    [DESCRIPTION (arcdesc, ...)                          -]
    [DEST (power-destid, ...)                            -]
    [DISP (d, ...)                                       -]
    [FORM (ffff, ...)                                    -]
    [FCBPRESERVE | NOFCBPRESERVE                         -]
    [GROUP (arcgroup, ...)                               -]
    [OWNER (vm-user, ...)                                -]
    [PRI (p, ...)                                        -]
    [REMOTE (nnn, ...) -]
    [SYSID (n, ...)                                     -]
    [TYPE (vm-filetype, ...)                             -]
    [USEFCB (ffffff) -]
    [USER (power-userid, ...)                            -]
    [USERINFO (user-info, ...)                          -]
    [DELETE | NODELETE | ALTER | POWERDISP (           -]
    [      class, disp, pri, rem, dest, user, sysid)     -]
    [HFS (. . .) -]
    [FIELDS (...)                                       -]
    [MERGE (nnn/[length] / [A|D], ...)                  -]
    [PAGEFORMAT (...) -]
    [SELECT (...)                                       -]
    [EXCLUDE (...)                                       -]
    [STOP (...)                                         -]
)

```

Explanation**LST** | RDR | PUN | XMT | VML | VMR | VMP | ARC

Defines the source of the spool entries as one of the VM Queues, one of the POWER Queues of the current VSE machine, or the BIM-ARCHIVE dataset. If omitted, the POWER LST Queue is used as the source.

LST - POWER List Queue
 RDR - POWER Reader Queue
 PUN - POWER Punch Queue
 XMT - POWER Transmit Queue
 VML - VM List Queue
 VMR - VM Reader Queue
 VMP - VM Punch Queue
 ARC - BIM-ARCHIVE dataset
 RAD - RAAD dataset

DEFERRED | **NODEFERRED**

Valid only for the RAD queue, RAAD to respond with all entries that are currently marked for Deferred Delete (consult the RAAD manual for more information). This also signals RAAD that these reports are eligible for permanent deletion once processed by CSI-QCOPY.

ARCHIVE (. . .)

Identifies the source of input as being a CSI-QCOPY archive dataset, or a POWER Poffload tape.

If this Operand is specified, the queue names above, are used to specify the spool queue of the desired reports on the CSI-QCOPY archive dataset. The queue names are ignored if the ARCHIVE dataset is a POWER Poffload tape.

Refer to the following Operands that can be specified for the ARCHIVE source.

FILENAME (xxxxxxx [/sss])

This Operand can only be specified as part of an ARCHIVE definition. It specifies the TLBL/DLBL name of the CSI-QCOPY archive dataset. If omitted, BIMRCHV is used.

The value "sss" can be specified for tape archive files. It specifies the SYSsss that CSI-QCOPY is to use to access the tape drive. If this value is omitted, the SYSsss generated for the I/O module specified in the MODNAME Operand will be used.

FORMAT (**BIM** | POFFLOAD)

This Operand can only be specified as part of an ARCHIVE definition. It specifies the format of the input CSI-QCOPY archive dataset. If omitted, the BIM internal format is assumed.

POFFLOAD format is the format produced by POWER/VSE in response to the "POFFLOAD SAVE" console command.

MODNAME (**BIMQCYAM** | cccccccc)

This Operand can only be specified as part of an ARCHIVE definition. It specifies the name of the I/O module to be used to access the CSI-QCOPY archive dataset. If omitted, BIMQCYAM is used.

You can customize your own I/O modules and provide the name via this Operand. Refer to "CUSTOMIZING " on page 135 for information on creating you own I/O modules.

NAME ([**FIRST** | ALL] jobname/number/sfx ...)

Specifies the jobname(s) of the individual Spool Queue entry or entries to be accessed. You can select multiple Spool Queue entries either by specifying generic jobnames or by specifying a list of specific jobnames separated by spaces or commas.

The first value in this Operand specifies whether you want CSI-QCOPY to select ALL reports that match entries in the jobname list, or if CSI-QCOPY should only select the FIRST report for each entry in the list.

The "number" field can be used to select a specific POWER job number or VM spoolid.

The "sfx" field can be used to select a specific POWER report suffix. POWER uses suffix numbers to identify individual segments of a segmented report.

If more than one jobname is specified, CSI-QCOPY will select the reports in the sequence they are located in the input Spool Queue or ARCHIVE file. If you want the output to be generated in a specific sequence, you must use the SORT Sub-Command.

Refer to the INPUTMASK Operand on page 53 for a discussion of the options available to you for generic jobnames.

FCBPRESERVE | NOFCBPRESERVE

This Operand specifies whether or not any FCB images that were "preserved" on the input Spool Queue entry are to be used. If NOFCBPRESERVE is specified, CSI-QCOPY will use the FCB name to access the current image from your Load Library.

Refer to the FCBPRESERVE Operand on page 105 for more information.

CLASS (**ALL** | cccc)

Up to four individual classes can be specified to restrict the search for a Spool Queue entry. There are 26 valid classes for VM (A-Z), and 36 valid classes for POWER (A-Z,0-9). If this Operand is omitted, all valid classes will be searched.

CREATOR (vm-user, ...)
 DAYSOLD (condition nnn.)
 DESCRIPTION (arcdesc, ...)
 DEST (power-destid, ...)
 DISP (d, ...)
 FORM (ffff, ...)
 GROUP (arcgroup, ...)
 OWNER (vm-user, ...)
 PRI (p, ...)
 REMOTE (nnn, ...)
 SYSID (n, ...)
 TYPE (vm-filetype, ...)
 USER (power-userid, ...)
 USERINFO (user-info, ...)

These Operands are used to specify additional selection criteria to be used to qualify which reports will be selected from the input. Any combination of the above keywords can be specified.

Each of the keywords can be specified preceded by "NOT" to indicate that a match cannot be made:

CREATOR(list) NOTCREATOR(list)

Most of the keywords are followed by a list that can contain one or more values separated by commas. For a report to be selected, it must match one of the values specified in each of the keyword lists and it cannot match any of the values in the lists following "NOT" type keywords.

Refer to the following table for a definition of each keyword. If a keyword is specified as being generic, the value(s) within its list can contain an "*" to mean any number of characters, or a "+" to mean any single character. These are the same formats and rules as are used for generic values in the CICS "CEMT" transaction.

Refer to the INPUTMASK Operand on page 53 for a discussion of other options available to you for generic names.

The contents of some of the keywords will vary depending on which Spool Queue the report was created in.

The following codes are used in the keyword table to indicate which Spool Queue the report is from:

VM	=	VM Spool Queues
PWR	=	POWER Spool Queues
ARC	=	BIM-ARCHIVE dataset

The contents of most of the keywords for BIM-ARCHIVE dataset reports (ARC), will vary depending on which Spool Queue the report was originally created in, prior to being added to the BIM-ARCHIVE dataset.

Keyword	Generic	List	Spool Queue	Contents for specified Spool Queue
CREATOR	yes	yes	VM PWR ARC	report creator originator's node name based on original Spool Queue
DAYSOLD	no	no	all	number of days since report was created. "condition" is the compare type (LT,GT,EQ,LE,GE) and "nnn" is the number of days.
DESCRIPTION	yes	yes	VM PWR ARC	not used not used BIM-ARCHIVE Group Description
DEST	yes	yes	VM PWR ARC	distribution code destination node based on original Spool Queue
DISP	no	yes	VM PWR ARC	report disposition (D or H) report disposition (D, H, K, L) based on original Spool Queue
FORM	yes	yes	all	report Forms ID
GROUP	yes	yes	VM PWR ARC	not used not used BIM-ARCHIVE Group Name
JOBNM	yes	yes	all	report/jobname
OWNER	yes	yes	VM PWR ARC	report owner originator's User ID based on original Spool Queue
PRI	no	yes	VM PWR ARC	forced to 1 report priority based on original Spool Queue
REMOTE	no	yes	VM PWR ARC	not used Remote ID based on original Spool Queue
SYSID	no	yes	VM PWR ARC	not used report's System ID based on original Spool Queue
USER	yes	yes	VM PWR ARC	destination User ID destination User ID based on original Spool Queue
USERINFO	yes	yes	VM PWR ARC	not used USER= from job based on original Spool Queue

USEFCB (ffffffff)

This Operand can be specified to force the use of a specific FCB when CSI-QCOPY processes the selected reports. If this Operand is omitted, CSI-QCOPY will use the FCB that was defined when the reports were created.

NODELETE | DELETE | ALTER | POWERDISP (class, disp, pri, rem, dest, user, sysid)

This Operand is used to specify whether or not to delete or alter the Spool Queue entries following a successful transfer. The default is to NOT delete the input.

If ALTER is specified, only the Operands specified will be changed.

If POWERDISP is specified then the report will be treated according to POWER Disposition rules, that is, reports of Disp = D will be deleted, reports of DISP = k will be altered to DISP = l. Any other report dispositions will be ignored.

This Operand will have no effect if the input is from either the BIM-ARCHIVE dataset, or a CSI-QCOPY archive dataset.

FIELDS (...)

This Operand is used to define one or more fields that CSI-QCOPY is to extract from specified locations within specified pages in each input report.

These extracted fields can be used in the SELECT, EXCLUDE, STOP, SEGMENT, and OUTPUT Commands and Sub-Commands to control which pages are selected by CSI-QCOPY, and when the output is to be segmented.

Refer to the "FIELDS Operand" on page 83 for a complete description of its use.

HFS (extent 'file name' ...)

Refer to the "HFS Operand" section below for more information.

MERGE (nnn/ [length] / [**A**|D] , ...)

This Operand is used to specify that this INPUT is part of a merge process with other INPUT Sub-Commands.

This Operand specifies which FIELDS are to be used to construct the merge key that CSI-QCOPY will use to determine the relative sequence of pages when merging this INPUT with the other INPUTs that contain a MERGE Operand.

Any number of INPUT Sub-Commands can be merged at one time. All inputs that are to be merged together, must be specified as a consecutive series of INPUT Sub-Commands:

- (1) INPUT ...
- (2) INPUT ... MERGE (...)
- (3) INPUT ... MERGE (...)
- (4) INPUT ... MERGE (...)
- (5) INPUT ...

In the above example, INPUT (1) will be processed by itself; then INPUTs (2), (3), and (4) will be merged, and finally INPUT (5) will be processed.

The format and rules for the MERGE Operand are the same as the SORT Sub-Command.

All User field numbers specified in the MERGE Operand must be defined in a FIELDS Operand of the same INPUT Sub-Command

Refer to section "Combining Reports" on page 31 for an example and description of its use.

PAGEFORMAT (...)

This Operand is used to define names for the various page formats contained in your reports.

This Operand can be useful if your reports contain several page formats and you have specified the DISPLAY, LINEFORMAT, INSERT, and/or ERASE Operands in the OUTPUT Sub-Command.

Refer to the section "PAGEFORMAT Operand" on page 95 for a complete description of its use.

SELECT (...)

This Operand is used to define the criteria that must be met before CSI-QCOPY will accept a page for OUTPUT processing.

Any pages from the INPUT that do not match at least one of the criteria specified will be skipped. If this Operand is omitted, ALL pages will be matched, unless specifically excluded via the EXCLUDE Operand.

Refer to section "SELECT Operand" on page 117 for a complete description of its use.

EXCLUDE (. . .)

This Operand is used to define the criteria that must be met for CSI-QCOPY to exclude a page from OUTPUT processing.

Any pages from the INPUT that match at least one of the criteria specified will be skipped.

Refer to the section "EXCLUDE Operand" on page 118 for a complete description of its use.

STOP (. . .)

This Operand is used to define the criteria that must be met for CSI-QCOPY to STOP reading pages from the current INPUT report. If this Operand is omitted, all input pages will be read and matched against any SELECT/EXCLUDE Operands.

Refer to the section "STOP Operand" on page 119 for a complete description of its use.

Examples:

INPUT (VML NAME (FIRST DMKRIO) NODELETE)

This INPUT Sub-Command requests the transfer of the first report with the name "DMKRIO" from the VM List Queue. The original report will NOT be deleted following the transfer.

INPUT (LST NAME (ALL BIM*) DELETE)

In this example, all POWER (default) LST Queue entries with jobnames starting with "BIM" will be transferred. The reports will be deleted from the POWER LST Queue after transfer.

INPUT (LST NAME (ALL *) OWNER (DAVE001))

In this example, all POWER (default) LST Queue entries currently owned by "DAVE001" will be transferred. The reports will be not be deleted (default) from the POWER LST Queue after transfer.

INPUT (VMR NAME (FIRST /127) NODELETE)

This requests the transfer of the VM Reader Queue entry with the VM spoolid of 127. The VM Reader Queue entry will NOT be deleted.

```
INPUT (ARCHIVE (FILENAME (TAPEIN) FORMAT (POFFLOAD) -  
NAME (ALL BIM*) )
```

This requests the transfer of ALL reports having jobnames starting with BIM contained on the POWER Poffload tape identified by a // TLBL TAPEIN statement in the CSI-QCOPY JCL..

FIELDS Operand

The FIELDS Operand can be specified as part of an INPUT Sub-Command to define one or more fields that CSI-QCOPY is to extract from specified locations, within each page in each input report.

These extracted fields can be used in the SELECT, EXCLUDE, STOP, and SEGMENT Operands, and the SORT and OUTPUT Sub-Commands to control which pages are selected from each INPUT, the sequence the pages should be sorted into, which pages are to be directed to each OUTPUT, and when each OUTPUT is to be segmented.

Basic Format

```
FIELDS (nnn (...), ..., nnn (...))
```

The basic format of the FIELDS Operand is a list of one or more "Field Definitions". Each "Field Definition" contains a field number "nnn" followed by a list of Operands that define how the field is to be extracted.

Field numbers can be from 1 to 899. Leading zeros are not required. The field numbers are used to uniquely identify the extracted field data for the duration of the INPUT Command.

Field Definitions

nnn('literal'	LINES(line, count) COLS(column, count) MASK('mask')	FLD(nnn)	-
[{	EXTRACT(offset, length, <u>LEFT</u> RIGHT) EXTRACTMASK(offset, length, <u>LEFT</u> RIGHT)		-]
[EDIT (-]
[MATCH (<u>ALL</u> ANY)			-]
[RANGE (from/to, ...)			-]
[NOTRANGE (from/to, ...)			-]
[VALUE (list)			-]
[NOTVALUE (list)			-]
[)			-]
[LOOKUP (tablename)			-]
[DEFAULT (<u>NULL</u> 'literal' FLD(nnn) LEAVE)			-]
)			

Each "Field Definition" provides up to five types of information about the data element to be extracted:

1. The source of the data. This can be a 'literal', data from a specified location in the report page, or the contents from another Field Definition.
2. The portion of the source data to be extracted for this specific Field Definition.
3. Special EDIT criteria that the extracted field must match. This can be used to search for specific data from columns in each report page.
4. The name of an optional "Lookup Table" that CSI-QCOPY is to use to convert extracted data elements to specific values.
5. Default actions that CSI-QCOPY is to perform if the field element cannot be located.

Field Length Calculations

CSI-QCOPY will calculate the length of each FIELD using the following rules:

1. The initial length is derived from the source of the FIELD:

If it is a 'literal', the literals length will be used.

If it is a FLD(nnn), the length of the specified field will be used.

If a MASK is specified, the length of data matching the MASK will be used.

If a 'count' is specified for COLS, it will be used, if no MASK is specified.

If non of the above tests are satisfied, a length of 1 is used.

2. If the EXTRACT Operand is provided, the initial length will be changed to the 'length' specified in the EXTRACT Operand.
3. If a LOOKUP Operand is provided, the extracted length will be changed to the length specified for the replacement field in the lookup TABLE.

Explanation

'literal'

You can equate a field to a specific value. When this options is used, no other Operands can be specified within the "Field Definition".

The 'literal' you specify can contain "Variable Substitution". Refer to section "Variable Substitution in Literals" on page 93 for more information.

FLD (nnn)

You can equate one field to the current value of another field. This is useful when a second field can be extracted from within a previously defined field, or when a table LOOKUP is required.

The value FLD(nnn) must refer to a field with a lower number than the field being defined, except for references to "System Fields". Refer to the section "System Fields" on page 92 for more information.

```
LINES ({+|-}line, {+|-}count)
COLS  ({+|-}column, count)
MASK ('mask')
```

These Operands define a box within each page of the input report bounded vertically by LINES and horizontally by COLS. CSI-QCOPY will search the area within this box for a character string that matches the value specified for MASK.

'line' specifies on which line on each page to begin the search. If 'line' is specified as positive, this represents the line counted from the top of the page. If 'line' is negative, this represents the line counted from the bottom of the page. CSI-QCOPY can count lines either as they appear in the input report, or as they would appear on the physical page. Refer to the LINE Operand on page 52 for more information.

'column' specifies in which column in each line to begin the search. If 'column' is specified as positive, this represents the column counted from the beginning of each line. If 'column' is negative, this represents the column counted from the end of each line.

'count' specifies how many lines or columns are to be searched. If 'count' is specified as positive, the direction of the search is down the page. If 'count' is negative, the direction of the search is up the page. The search for columns within a line is always left to right.

'mask' specifies a "pattern" of what CSI-QCOPY should look for in the "box" bounded by the LINES and COLS. You can use a 'mask' if the data you want to extract can move from one page to another, or does not appear on all pages of the report. The 'mask' is similar to the generic character strings that can be used for several of the Operands within CSI-QCOPY except that additional generic characters are provided to allow for much more sophisticated comparisons to be specified.

MASK Example:

MASK ('*%##-##*')

Search for a character sequence of a '#', followed by a numeric, followed by a non-numeric, followed by a numeric. The '*' at the front and back of the mask allows the string to occur anywhere within the COLS specified.

Refer to the FIELDMASK Operand on page 53 for a discussion of the options available to you for generic masks.

You can omit the MASK if the data you want does not move from one page to the next, and it appears on all pages, and the values you have specified for LINES and COLS points to its exact location.

All values specified for 'line', 'column', and 'count' are relative to 1.

If the LINES Operand is omitted, CSI-QCOPY will search the entire page from the first line to the last line.

If the COLS Operand is omitted, CSI-QCOPY will search the entire line.

If the MASK Operand is omitted, CSI-QCOPY will select a single byte at the LINE and COLS specified. If LINES, COLS, and MASK are all omitted, CSI-QCOPY will select the very first byte on the page.

EXTRACT(offset, length, **LEFT** | RIGHT)
EXTRACTMASK(offset, length, **LEFT** | RIGHT)

You can use one of these Operands if you only want to keep part of the data element that was identified by either the 'FLD(nnn)' or 'MASK' reference.

If the EXTRACT is from a MASK match in a report line, you can either extract data from within the MASK match area, by using the EXTRACTMASK Operand, or you can extract data from the beginning of the MASK match area to the end of the report line, by using the EXTRACT Operand.

If the EXTRACT is from a 'FLD(nnn)', the extracted data must come from within the input field.

- 'offset' Specifies the offset into the field or MASK area that the extract is to begin. The offset is relative to zero.
- 'length' Specifies the number of characters you want extracted.

If the specified 'offset' is beyond the end of the 'FLD(nnn)', a NULL string will be returned. If the specified 'offset' results in a shorter length than the requested EXTRACT 'length', the data element will be justified based on the specification of LEFT or RIGHT and padded with spaces.

- NOTE** If the FIELD you are extracting is going to be used for sorting, then you must specify its length explicitly using either the 'length' Operand of the EXTRACT, or the 'length' Operand of the SORT Sub-Command.

```
EDIT (
  MATCH (ALL | ANY)
  RANGE (from/to, ...)
  NOTRANGE (from/to, ...)
  VALUE (list)
  NOTVALUE (list)
)
```

You can use the EDIT Operand to specify special editing criteria that the extracted data must match. This can be used to determine if a column of data in a report page contains specific values. All of the following operands are optional:

- MATCH** Specifies whether the extracted data must match ALL of the RANGE and/or VALUE specifications, or whether the extracted data only needs to match ANY one of the RANGE and/or VALUE specifications.
- RANGE** Specifies a list of one or more pairs of from/to ranges that the extracted data must be within. To match a RANGE, the extracted data must be greater or equal to the 'from' value and less than or equal to the 'to' value.

The values for 'from' and 'to' are character strings. If the character strings contain blanks, enclose the strings in quotes.

If more than one from/to range is specified, the extracted data must match at least one of the ranges.

NOTRANGE Specifies a list of one or more pairs of from/to ranges that the extracted data must not be within. The rules for 'from' and 'to' are the same as for RANGE.

If more than one from/to range is specified, the extracted data must not match any of the ranges.

VALUE Specifies a list of one or more character strings that the extracted data must be equal to.

The character strings in the list are each assumed to be a "Generic Picture Mask". Refer to the MASKTYPE Operand on page 53 for a description and rules for "Generic Picture Masks". If the character strings contain blanks, enclose the strings in quotes.

If more than one character string is specified, the extracted data must match at least one value in the list.

NOTVALUE Specifies a list of character strings that the extracted data must not match. The rules for the character strings are the same as for VALUE.

If more than one character string is specified, the extracted data must not match any value in the list.

LOOKUP (tablename)

You can use the LOOKUP Operand to specify the NAME of a TABLE Command that CSI-QCOPY will use to convert the extracted data element from one value to another.

This can be used if you have reports that represent the same value in more than one way, such as a branch number or office number, and you want to use a constant value as part of the report name, or for selection purposes.

If the data element cannot be located in the TABLE, the DEFAULT action is taken. Refer to the "TABLE Command" on page 68, and the DEFAULT Operand for more information.

DEFAULT (NULL | 'literal' | FLD(nnn) | LEAVE | PREVIOUS)

This Operand tells CSI-QCOPY what to do when a requested data element cannot be located or extracted.

The following conditions can result in CSI-QCOPY not being able to locate or extract a FIELD:

- The requested LINES and/or COLS are not contained within the current report page.
- Data matching the MASK could not be located within the requested LINES and/or COLS.
- The EXTRACT specified an 'offset' beyond the end of the report line or the input 'FLD(nnn)'.
- The EXTRACTMASK specified an 'offset' beyond the end of the data matched by the MASK.
- None of the extracted data located within the requested LINES and/or COLS matched the EDIT specifications.

You can have CSI-QCOPY take any one of the following actions:

<u>NULL</u>	Set the field to NULL (binary zeros).
'literal'	Set the field to a specific value. The 'literal' you specify can contain "Variable Substitution". Refer to section "Variable Substitution in Literals" on page 93 for more information.
FLD(nnn)	Set the field to the value of a specific FIELD. The field number 'nnn' must be less than the field number being defined, except for references to "System fields".
LEAVE	Set the FIELD to the value it had the last time it was successfully extracted from a "selected" page.
PREVIOUS	Set the FIELD to the value it had the last time it was successfully extracted from <u>any</u> page.

If the FIELD has never been successfully extracted, it will be set to NULL.

System Fields

CSI-QCOPY provides a number of fields called "System Fields". They contain important data related to the current report that you will probably want to use in SELECT, EXCLUDE, STOP, and SEGMENT Operands. These fields can be used anywhere that a field defined via the FIELDS Operand can be used.

System Fields are numbered 900 through 999. They also have been assigned "Alias" variable names. Refer to section "Variable Substitution in Literals" on page 93 for more information.

FLD	Alias	Length	Description
900	%CONTROL	8	Sort Control Area. Used to ensure proper sort sequence. CSI-QCOPY will append this field to your SORT key.
901	%JNAM	8	Jobname of the current input report.
902	%CLASS	1	Class of the current input report.
903	%DISP	1	Disposition of the current input report.
904	%PRI	1	Priority of the current input report.
905	%FCB	8	FCB name used for the current input report.
906	%FORM	4	Forms ID of the current input report.
907	%REMOTE	3	Remote ID of the current input report.
908	%USERINFO	16	User Info from the current input report.
909	%SYSID	1	POWER Sys ID of the current input report.
910	%DESTNODE	8	POWER Destination Node of the current input report.
911	%DESTUSER	8	POWER Destination User of the current input report.
912	%RPTMO	2	Month that current input report was created (mm).
913	%RPTDY	2	Day of month that current input report was created (dd).
914	%RPTYR	2	Year that current input report was created (yy).
915	%DAYOLD	5	Number of days since current input report was created.
916	%RPTTIME	8	Time that current input report was created (hh:mm:ss).
917	%QUEUE	3	Spool Queue that current input report is from (LST,RDR,PUN,XMT,VMR,VMP,VML,ARC).
918	%CURMO	2	Today's month (mm).
919	%CURDY	2	Today's day within month (dd).
920	%CURYR	2	Today's year (yy).
921	%CURTIME	8	Current time (hh:mm:ss).
922	%OWNER	8	VM Creator of the current input report.
923	%CREATOR	8	VM Owner of the current input report.
924	%CURPAGE	5	Current page within the report.
925	%CURLINE	7	Current line within the report.
926	%RELQUE	5	Relative Spool Queue entry within current INPUT. (only valid for OUTPUT DIRECTORY).
927	%RELINP	6	Relative INPUT Sub-Command within the TRANSFER. (only valid for OUTPUT DIRECTORY).
928	%JSEP	1	POWER JSEP value of the current input report.
929	%PWD	8	POWER Password of the current input report.
930	%COPY	3	Copy count of the current input report.
931	%JNUM	3	Job number of the current input report.
932	%PAGEFORMAT	8	Current PAGEFORMAT.
934	%LINES	7	Number of lines in current input report.
935	%PAGES	5	Number of pages in current input report (zero for VM)
936	%GROUP	8	BIM-ARCHIVE dataset Group name
937	%DESCRIPTION	16	BIM-ARCHIVE Group Description
938	%RPTYR4	4	Year that current input report was created (yyyy).
939	%CURYR4	4	Today's year (yyyy).

Variable Substitution in Literals

Except where specifically noted in this documentation, CSI-QCOPYY will perform "Variable Substitution" for all Operands specified using the 'literal' format.

CSI-QCOPYY's Variable Substitution can be used to construct a character string made up of constants and data from one or more FIELD Operands.

You can specify Variable Substitution by using the following format:

```
'data1%variabledata2%variabledata3'
```

The values 'data1', 'data2' and 'data3' can be any characters that you want to appear at the specified locations in the generated Operand. Any or all of them can be omitted.

The values '%variable' indicate the places that CSI-QCOPYY should substitute some other information. The following formats can be used for '%variable':

%FLD (nnn)	Specifies the FIELD number whose <u>data</u> should be inserted at the specified location. 'nnn' can be any number defined in a FIELD Operand, or any "System Field" (900-999).
%FCO (nnn)	Specifies the FIELD number whose <u>starting column</u> should be inserted at the specified location. 'nnn' can be any number defined in a FIELD Operand.
%FLI (nnn)	Specifies the FIELD number whose <u>line on page</u> should be inserted at the specified location. 'nnn' can be any number defined in a FIELD Operand.
%FLN (nnn)	Specifies the FIELD number whose <u>data length</u> should be inserted at the specified location. 'nnn' can be any number defined in a FIELD Operand.
%alias	Specifies the "alias" name of one of the "System Fields". Refer to section "System Fields" on page 92 for a table of the valid "alias" names.

Note 1: If the 'literal' being substituted is being used as part of a FIELDS Operand, you can only substitute using "System Fields" or FIELD numbers that are less than the FIELD number containing the current 'literal'.

Note 2: If the 'literal' being substituted is being used as part of an OUTPUT Sub-Command, any User field numbers (1-899) specified for Variable Substitution must be defined in a FIELDS Operand in every INPUT Sub-Command that provides report pages for the OUTPUT.

Note 3: If the length of the substitution string results in an Operand length longer than would be allowed for the Operand, CSI-QCOPY will truncate to the maximum allowed.

PAGEFORMAT Operand

The PAGEFORMAT Operand can be specified as part of an INPUT Sub-Command. It is used to define names for the various page formats contained in your input reports.

The PAGEFORMAT Operand can be useful if your reports contain several page formats and you have specified the DISPLAY, LINEFORMAT, INSERT, and/or ERASE Operands in the OUTPUT Sub-Command.

You specify one PAGEFORMAT Operand for each unique format of report page. CSI-QCOPY will examine each PAGEFORMAT Operand for each page in the report. The report page is assigned the name of the first matching PAGEFORMAT Operand.

You can use the name of the page in COND Operands and any other Operand that %FLD(nnn) or FLD(nnn) can be specified. The name is contained in System field 932. (Alias %PAGEFORMAT.)

How to enter

```
PAGEFORMAT (           -
      NAME (name)       -
      COND (value1 condition [value2 [,value3, ...]]) -
    )
```

Explanation

NAME (name)

This Operand specifies the name to be assigned to the current report page if the COND Operands match. The name can be any character string from one to eight characters in length.

If a matching page format is found, CSI-QCOPY stores the name in System Field 932. This can be referenced in COND Operands by using one of the following formats for 'value1':

```
FLD (932)
' %PAGEFORMAT '
```

COND(value1 condition [value2 [,value3, ...]])

This Operand specifies the conditions that must be met before CSI-QCOPY will assign the specified NAME to the current report page.

Any number of COND Operands can be specified. If more than one COND Operand is specified, they all must be true or the PAGEFORMAT Operand will be ignored.

Refer to the section "Selection-Criteria" on page 122 for a complete description of this Operand.

SORT Sub-Command

The SORT Sub-Command of the TRANSFER Command is optional and is used to provide CSI-QCOPY with the sorting sequence required for the OUTPUT reports being generated.

The SORT Sub-Command provides a list of one or more field numbers that CSI-QCOPY will use to form the sort key for each selected input page. You can use any field numbers defined via the FIELDS Operand of the INPUT Sub-Command, or any System Fields (900-999). CSI-QCOPY will automatically append System Field 900 (Sort Control Area) to the end of your sort key unless you specify it elsewhere in your sort key.

You can only specify one SORT Sub-Command for each TRANSFER Command.

If you specify more than one INPUT Sub-Command, each INPUT Sub-Command must contain a FIELDS definition for the field numbers specified in the sort key (except for System Fields which are numbered 900 through 999).

How to enter

```
SORT( nnn/[length]/ [A|D] , ...)
```

Explanation

nnn

Specifies a field number to be included in the sort key. This can be a System Field (900 - 999) or a field number from a FIELDS Operand of the INPUT Sub-Command.

length

Specifies the length of each field in the sort key. If this is omitted, the length defined for the field via the FIELDS Operand will be used. You must ensure that each field in the sort key has the same length for all selected pages from all INPUT reports or the output report(s) will not be generated in the desired sequence.

If one or more of the OUTPUT Sub-Commands is a DIRECTORY, the 'length' must be specified for all field numbers except for "System Fields".

A|D

Specifies whether the sort for the specified field should be in ascending or descending sequence.

OUTPUT Sub-Command

The OUTPUT Sub-Command of the TRANSFER Command is optional. It is used to provide the requirements for the output spool entry or entries created by the TRANSFER function. Any number of OUTPUT Sub-Commands can be specified.

When more than one OUTPUT Sub-Command is used, each output must be directed to a unique destination. You will also need to specify the SELECT, EXCLUDE, and/or STOP Operands as part of your OUTPUT specifications unless you want all pages selected from the INPUT to be directed to all OUTPUT Sub-Commands.

If no OUTPUT Sub-Commands are specified, CSI-QCOPY will transfer all selected INPUT reports to SYSLST using the report's Job name from the input, and defaulting all other POWER JECL values to your installation's POWER defaults.

How to enter

```

OUTPUT (
  LST | RDR | PUN | ARC | DIRECTORY | ARCHIVE (
                                FILENAME (xxxxxxx[/sss])
                                FORMAT (BIM | POFFLOAD | FICHE)
                                CLOSE | NOCLOSE
                                MODNAME (BIMQCYAM | ccccccc)
                                )
  [ADDCHANEL1 | NOADDCHANEL1
  [BANNER (line1,
  [   line2,
  [   line3,
  [   line4,
  [   POS (line, col),
  [   )
  [DISPLAY ( [LINES (from, len)] [COLS (from/len, ...)]
  [   [COND (...)]
  [ERASE ( [LINES (from, len)] [COLS (from/len, ...)]
  [   [COND (...)] ) -]
  [EXCLUDE (...)]
  [FCB (ffffff ABEND | FORCE | SWITCH)
  [FCBPRESERVE | NOFCBPRESERVE

```

```
[HFS ( . . . ) -]
[ID (name) -]
[INDEX | NOINDEX -]
[INSERT (...) -]
[LINEFORMAT ( [LINES (from,len)] [COLS (from/len, ...)] -]
[ [COND (...)] -]
[RULER | NORULER -]
[SEGMENT (...) -]
[SELECT (...) -]
[STOP (...) -]
[SYS (XPC | LST | PCH | nnn) -]
[TORECIPIENT (recipientid) -]
[COPY (nn) -]
[DEST (node/user) -]
[FNO (ffff) -]
[JNM (jobname) -]
[CLASS (c) -]
[DISP (d) -]
[JSEP (n) -]
[PRI (p) -]
[PWD (password) -]
[REMOTE (nnn) -]
[RBS (mnnnn) -]
[SYSID (s) -]
[USER ('uuuuuuuuuuuuuuuuuu') -]
)
```

Explanation

LST | RDR | PUN | ARC | DIRECTORY | ARCHIVE (. . .)

Specifies the type of spool destination:

RDR Directs the output to the POWER Reader Queue. Output will be truncated to 80 characters. This option requires that the SYS operand be allowed to default to SYS(XPC).

PUN Directs the output to the POWER Punch Queue. Output will be truncated to 80 characters.

LST Directs the output to the POWER List Queue. This is the default unless SYS(PCH) is specified for the output device.

ARC Directs the output to the BIM-ARCHIVE dataset. The report will be processed by BIM-ARCHIVE using its standard catalog mechanisms. You can specify the various CSI-QCOPY Operands such as CLASS, DEST, etc, to influence the BIM-ARCHIVE processing, but you cannot direct the report into a specific BIM-ARCHIVE Group Name.

DIRECTORY

Generates a Directory Report showing the reports that were selected. The actual report data lines are not output.

ARCHIVE

Generates a CSI-QCOPY archive dataset on either Disk or Tape. Reports that have been Archived can be accessed by CSI-QCOPY using the INPUT ARCHIVE Sub-Command.

ADDCHANNEL1 | NOADDCHANNEL1

This Operand can be used to request the automatic generation of a "skip to channel 1" printer command at the beginning of each output SEGMENT. This Operand should be specified if your input reports do not contain their own printer commands.

If you specify this option and your reports already contain printer commands, CSI-QCOPY will not insert an additional "skip to channel 1".

```
BANNER(line1,  
       line2,  
       line3,  
       line4,  
       POS(line,col),  
       )
```

This Operand can be used to cause CSI-QCOPY to generate a Banner page at the beginning of each report segment.

Up to four 30-byte 'literals' can be specified to appear on the banner page with the upper left hand corner located at POS. The default is POS(31,26) which is near the center of an 8.5x11 page.

If the TORECIPIENT Operand is specified, the values for line1 through line4 will be overridden by the RECIPIENT values. The values for POS, however, will not be overridden.

The 'literals' can contain variables. Refer to section "Variable Substitution in Literals" on page 93 for more information.

The following is a sample banner page. The value 'USR01' is the name of the RECIPIENT if the TORECIPIENT Operand is used, otherwise it is the report name.

The name, date, and time will automatically shift up or down based on the placement of the banner lines.

The value for OUTPUT is from the ID Operand of the OUTPUT Sub-Command.

```

CSI-QCOPY      01-10-90  09.15  THE VM/POWER REPORT UTILITY
                COPYRIGHT (C) 1991, B I MOYLE ASSOCIATES, INC.

BBBBBB      IIIIII  MM   MM  UU   UU   SSSS  RRRRRR  0000      1
BB  BB      II     MMM  MMM  UU   UU   SS  SS  RR  RR  00 00      11
BB  BB      II     MMMMMM  UU   UU   SS  SS  RR  RR  00 00      111
BB  BB      II     MM  MM  UU   UU   SS  SS  RR  RR  00 00      1111
BBBBBB      II     MM   MM  UU   UU   SSSS  RRRRRR  00 00      11
BB  BB      II     MM   MM  UU   UU   SS  SS  RR  RR  00 00      11
BB  BB      II     MM   MM  UU   UU   SS  SS  RR  RR  00 00      11
BB  BB      II     MM   MM  UU   UU   SS  SS  RR  RR  00 00      11
BBBBBB      IIIIII  MM   MM   UUUU   SSSS  RR   RR   0000      111111

      0000      1      1      0000      9999      0000
      00 00      11      11      00 00      99 99      00 00
      00 00      111      111      00 00      99 99      00 00
      00 00      1111      1111      00 00      99 99      00 00
      00 00      11      -----      11      00 00      -----      99 99      00 00
      00 00      11      11      00 00      9999      00 00
      00 00      11      11      00 00      99      00 00
      00 00      11      11      00 00      99      00 00
      00 00      11      11      00 00      99      00 00
      0000      111111      111111      0000      99      0000

                                Line1 from BANNER Operand
                                Line2 from BANNER Operand
                                Line3 from BANNER Operand
                                Line4 from BANNER Operand
                                OUTPUT:outputid
                                JNAM:jobname
                                USER:user.info
                                JECL:class=q,disp=h

      0000      9999      1      555555      44      0000
      00 00      99 99      11      55      444      00 00
      00 00      99 99      ::      111      55      ::      4444      00 00
      00 00      99 99      ::      1111      555555      ::      44 44      00 00
      00 00      99 99      ::      11      55      ::      44 44      00 00
      00 00      9999      ::      11      55      ::      44444444      00 00
      00 00      99      ::      11      55      ::      44      00 00
      00 00      99      ::      11      55 55      ::      44      00 00
      0000      99      111111      55555      44      0000
    
```

CLOSE | NOCLOSE

This Operand can only be specified as part of an ARCHIVE definition. It specifies whether or not the output ARCHIVE tape should be closed at the end of the current TRANSFER Command.

IF NOCLOSE is specified, you can combine the OUTPUT from multiple TRANSFER Commands onto a single ARCHIVE tape.

CSI-QCOPY will automatically close any open ARCHIVE tapes at end of job.

```

DISPLAY (LINES (from, len)
        COLS (from/len, ...)
        COND (value1 condition [value2 [,value3, ...]])
        )
    
```

This Operand can be specified to limit the data displayed on a page to specific column ranges within specific line ranges.

Refer to the "DISPLAY/ERASE/LINEFORMAT Operands" on page 111 for a complete description of its use.

```
ERASE(LINES(from,len)
      COLS(from/len,...)
      COND(value1 condition [value2 [,value3, ...]])
      )
```

This Operand can be specified to prevent the data in specific column ranges within specific lines ranges from being displayed on a page.

Refer to the "DISPLAY/ERASE/LINEFORMAT Operands" on page 111 for a complete description of its use.

```
EXCLUDE(...)
```

This Operand is used to define the criteria that must be met for CSI-QCOPYY to exclude a page from being directed to this OUTPUT Sub-Command.

Refer to the "EXCLUDE Operand" on page 118 for a complete description of its use.

```
FCB(ffffffff ABEND | FORCE | SWITCH)
```

Specifies the name of the FCB-image phase that CSI-QCOPYY is to use in printing the report. If omitted, CSI-QCOPYY will use the FCB specified when the report was originally created. VM reports do not have FCBs. If this Operand is omitted for VM reports, CSI-QCOPYY will use the POWER default FCB.

The second field provides the action that CSI-QCOPYY is to take if more than one FCB is detected in the selected input reports:

ABEND CSI-QCOPYY will issue an error message and terminate processing if more than one FCB is detected in the input.

FORCE CSI-QCOPYY will generate the entire output report with FCB 'ffffffff' specified in field one.

SWITCH CSI-QCOPYY will switch FCBs on page breaks using the appropriate FCB for each page.

FCBPRESERVE | **NOFCBPRESERVE**

This Operand specifies whether or not FCB images are to be "preserved" on the ARCHIVE tape. Using FCBPRESERVE will allow a report to be printed by CSI-QCOPY on a system that does not contain the FCB in any Load Library.

FILENAME (xxxxxxx [/sss] [xxxxxxx [/sss]])

This Operand can only be specified as part of an ARCHIVE definition. It specifies the TLBL/DLBL name of the CSI-QCOPY archive dataset. If omitted, BIMRCHV is used.

The value "sss" can be specified for tape archive files. It specifies the SYSsss that CSI-QCOPY is to use to access the tape drive. If this value is omitted, the SYSsss generated for the I/O module specified in the MODNAME Operand will be used.

CSI-QCOPY can generate "mirror" ARCHIVE files by specifying a second TLBL/DLBL name. If you are generating tape ARCHIVE files, you must specify the /sss value on at least one of the output names, because the two tape files cannot share the same SYSnnn.

FORMAT (**BIM**)

FORMAT (POFFLOAD [**UNLOAD** | NORWND | REWIND])

FORMAT (FICHE)

This Operand can only be specified as part of an ARCHIVE definition. It specifies the format of the CSI-QCOPY archive dataset to be generated by CSI-QCOPY. If omitted, the BIM internal format is assumed.

BIM

An internal format used by CSI-QCOPY for general report archiving. This format can be used as input to CSI-QCOPY to restore selected reports.

POFFLOAD

This is the same format that would be generated by POWER if LST output is spooled to tape.

An additional operand can be specified for POFFLOAD that specifies what should happen to the tape after it is closed. The options are: UNLOAD, NORWND, and REWIND.

FICHE This format generates a file containing only carriage control and data. The file can be generated in either fixed or variable-blocked format depending on the I/O module used. Refer to Operand MODNAME for more information.

HFS (extent 'file name' ...)

Refer to the "HFS Operand" section below for more information. ID (name)

This Operand allows you to uniquely identify each OUTPUT Sub-Command. This is only required if you will be combining the output from more than one TRANSFER Command, and each TRANSFER Command has more than one OUTPUT Sub-Command.

INDEX | **NOINDEX**

This Operand can be used to cause CSI-QCOPY to generate an index page at the end of each report segment.

The format of the index page is the same as the Summary report generated as a result of the SUMMARY Operand of the OPTION Command.

INSERT (...)

This Operand is used to define additional printer data or control information that CSI-QCOPY is to insert into the output report at specified locations.

Refer to the "INSERT Operand" on page 115 for a complete description of its use.

LINEFORMAT (LINES (from, len)
COLS (from/len, ...)
COND (value1 condition [value2 [, value3, ...]])
)

This Operand can be specified to rearrange the data in specific lines ranges on a page.

Refer to the "DISPLAY/ERASE/LINEFORMAT Operands" on page 111 for a complete description of its use.

MODNAME (**BIMQCYAM** | cccccccc)

This Operand can only be specified as part of an ARCHIVE definition. It specifies the name of the I/O module to be used to generate the ARCHIVE file. If omitted, BIMQCYAM is used.

You can customize your own I/O modules and provide the name via this Operand. Refer to "CUSTOMIZING " on page 135 for information on creating your own I/O modules.

This Operand is not used for ARCHIVE files generated with a FORMAT(POFFLOAD). A special internal DTF is used by CSI-QCOPY to generate these datasets in POWERs unique format:

- Tape datasets only
- Unlabeled
- Blocksize = 12288

The blocksize of the POFFLOAD tape can be overridden using the POFFBUFSZ operand of the OPTION Command. See page 56 for more information.

RULER | **NORULER**

This Operand can be used to request generation of line and column rulers around the text output of the selected reports. You may find this helpful in determining the locations of data elements that you wish to extract via the FIELD Operand.

SEGMENT (. . .)

This Operand is used to define the criteria that must be met for CSI-QCOPY to issue a POWER SEGMENT for the OUTPUT report being generated.

If this Operand is omitted, CSI-QCOPY will generate a single output report from all selected input.

Refer to the "SEGMENT Operand" on page 120 for a complete description of its use.

SELECT (. . .)

This Operand is used to define the criteria that must be met before CSI-QCOPY will direct a page to this OUTPUT Sub-Command. This Operand will probably be needed if you have specified more than one OUTPUT Sub-Command.

If this Operand is omitted, ALL selected input pages will be directed to this OUTPUT, unless specifically excluded via the EXCLUDE Operand.

Refer to the "SELECT Operand" on page 117 for a complete description of its use.

STOP (...)

This Operand is used to define the criteria that must be met for CSI-QCOPY to STOP directing pages to this OUTPUT Sub-Command.

Refer to the "STOP Operand" on page 119 for a complete description of its use.

SYS (**XPC** | LST | PCH | nnn)

Specifies the DOS/VSE SYS number of the spool destination.

XPC - for POWER XPCC interface (default)
LST - for SYSLST
PCH - for SYSPCH
nnn - is any valid programmer logical unit for the VSE partition.

You must ensure that an appropriate "// ASSIGN" and "* \$\$ LST" or "* \$\$ PUN" is provided in the JCL used to execute CSIQCOPY.

If this Operand is omitted, or XPC is specified, CSI-QCOPY will output your reports using the POWER XPCC interface. You do not need any POWER JECL specified in your jobstream when using the XPCC interface.

SYS(XPC) is required for output to the POWER Reader Queue (RDR).

This Operand is ignored for ARCHIVE and ARC output destinations.

TORECIPIENT(recipientid)

This Operand supplies the name of an entry in the RECIPIENT table that CSI-QCOPY constructed using the RECIPIENT Command.

CSI-QCOPY will use the Operands you supplied in the RECIPIENT Command for BANNER and INDEX generation, and for the output characteristics of the report.

If no entry can be found in the RECIPIENT table, the values for BANNER, INDEX, and the output characteristics from the OUTPUT Sub-Command will be used.

The 'recipientid' can contain Variable Substitution. Refer to section "Variable Substitution in Literals" on page 93 for more information.

CLASS (c)	Report Class
COPY (nn)	Number of Copies
DEST (node/user)	POWER Destination Node and User
DISP (d)	POWER Disposition
FNO (ffff)	Report Forms ID
JNM (jobname)	Report Jobname
JSEP (n)	POWER JSEP Value
PRI (p)	Report Priority
PWD (password)	POWER Report Password
RBS (nnnnn)	POWER Report Segmentation
REMOTE (nnn)	POWER Remote ID
USER ('uuuuuuuuuuuuuuuu ')	POWER User Information
SYSID (s)	POWER Sys ID

These Operands allow you to specify the contents of the POWER * \$\$ LST card that will be associated with the output report.

The individual Operands default to your installation's POWER defaults, except for JNM and USER, which default to the values contained in the first input report that is selected for OUTPUT processing. If multiple reports are being selected for output, the contents of these Operands will not change unless they are specified here. The changes will then occur as each SEGMENT is satisfied.

These fields can be specified as 'literal' values containing Variable Substitution. Refer to section "Variable Substitution in Literals" on page 93 for more information.

If you want an Operand to always contain the value from the current input report, specify the Operand(s) using "Variable Substitution" with the "Alias" names corresponding "System Field":

```

CLASS ('%CLASS')
COPY ('%COPY')
DEST ('%DESTNODE' / '%DESTUSER')
DISP ('%DISP')
FNO ('%FORM')
JNM ('%JNAM')
JSEP ('%JSEP')
PRI ('%PRI')
PWD ('%PWD')
REMOTE ('%REMOTE')
USER ('%USERINFO')
SYSID ('%SYSID')

```

Examples:

```

OUTPUT (
    SYS (LST)
    JNM (JOB0010)
)

```

This example specifies that the transferred spool entries are to be directed to SYSLST and named "JOB0010".

```

OUTPUT (
    PUN
    SYS (006)
    JNM ('%FLD (901)')
    SEGMENT (COND (FLD (901) CHANGED))
)

```

This example specifies that the transferred spool entries are to be directed to SYS006 as punched output. The output spool entries will be segmented for each report and will be assigned the same names as they have on the input spool.

The SEGMENT Operand in this example could also have been specified as:

```

SEGMENT (REPORT)

```

DISPLAY Operand
ERASE Operand
LINEFORMAT Operand

These three Operands can be specified as part of an OUTPUT Sub-Command to alter the appearance of selected pages of selected reports.

The DISPLAY Operand can be specified to limit the data displayed on specified pages to specific column ranges within specific lines ranges.

The ERASE Operand can be specified to prevent the data in specific column ranges within specific lines ranges from being displayed on specified pages.

The LINEFORMAT Operand can be specified to rearrange the data in specific line ranges on specified pages.

You can specify as many of these Operands as you need on each OUTPUT Sub-Command. CSI-QCOPY will process these Commands in the sequence specified. COND Operands can be included to limit the formatting actions to specific pages of specific reports.

The formatting performed by these Operands does not affect the data extraction rules for the FIELDS Operand of the INPUT Sub-Command. The FIELDS Operand extracts data based on the original format of each page.

How to enter

```

DISPLAY (                                     -
  LINES (from,nbr)                           -
  COLS (from/nbr, ...)                        -
  COND (value1 condition [value2 [,value3, ...]])... -
)
ERASE (                                       -
  LINES (from,nbr)                           -
  COLS (from/nbr, ...)                        -
  COND (value1 condition [value2 [,value3, ...]])... -
)
LINEFORMAT (                                  -
  LINES (from,nbr)                           -
  COLS (from/nbr, ...)                        -
  COND (value1 condition [value2 [,value3, ...]])... -
)

```

Explanation

LINES (from, nbr)

This Operand specifies the range of lines within each page for which re-formatting should occur.

from specifies the starting line number. The first line on the page is 1.

nbr specifies the number of lines to include in the formatting.

If this Operand is omitted, the entire page will be re-formatted.

Since the formatting required on specific pages will vary depending on the contents of the page, CSI-QCOPY provides three special variables that can be used for the "from" and/or "nbr" values:

'%FLI (nnn) ' Use the line number on the page that FIELD nnn was found

'%FCO (nnn) ' Use the column number in the line that FIELD nnn was found

'%FLN (nnn) ' Use the length of FIELD nnn.

COLS (from/nbr, from/nbr, ...)

This Operand specifies the range of columns within each selected line of the page for which re-formatting should occur.

from specifies the starting (left most) column number. The first column in each line is 1.

nbr specifies the number of print positions to include in the formatting.

You can specify any number of "from/nbr" pairs within the COLS Operand.

Since the formatting required on specific pages will vary depending on the contents of the page, CSI-QCOPY provides three special variables that can be used for the "from" and/or "nbr" values:

'%FLI (nnn) ' Use the line number on the page that FIELD nnn was found

'%FCO (nnn) ' Use the column number in the line that FIELD nnn was found

'%FLN (nnn) ' Use the length of FIELD nnn.

When used with the LINEFORMAT Operand:

- The COLS Operand is required.
- The "from/nbr" pairs provide the input locations of the data to be arranged in the output report line. CSI-QCOPY arranges the data in the output lines in the sequence of the "from/nbr" pairs. A special format of "from/nbr", "0/nbr", can be specified to insert one or more blanks into the output line.
- If a "from/nbr" pair references a column beyond the end of the current report line, BIM-QOPY issues an error and terminates processing.

When used with the DISPLAY Operand:

- If a "from/nbr" pair references a column beyond the end of the current report line, CSI-QCOPY uses the end of the line instead.
- If the COLS Operand is omitted, the entire report line is displayed.

When used with the ERASE Operand:

- If a "from/nbr" pair references a column beyond the end of the current report line, CSI-QCOPY uses the end of the line instead.
- If the COLS Operand is omitted, the report line is deleted from the page, and all following lines will move up by one. If COLS(1,999) is specified, the line is set to spaces and remains in the page.

COND (. . .)

This Operand specifies the conditions that must be met before CSI-QCOPY will process the DISPLAY, ERASE or LINEFORMAT Operand.

Any number of COND Operands can be specified. If more than one COND Operand is specified, they all must be true or the DISPLAY, ERASE or LINEFORMAT Operand will be ignored.

Refer to the section "Selection-Criteria" on page 122 for a complete description of this Operand.

Example:

```
LINEFORMAT (                               -  
    LINES (1, 66)                           -  
    COLS (1/10, 0/3, 20/5, 0/3, 11/9)       -  
    COND (%PAGEFORMAT EQ DETAIL)           -  
)
```

This example specifies that the first 66 lines of each page with a PAGEFORMAT of "DETAIL" should be re-arranged. The new line format will contain the following:

- columns 1 - 10 from the input line
- 3 spaces
- columns 20 - 24 from the input line
- 3 spaces
- columns 11 - 19 from the input line

A PAGEFORMAT Operand would also be required to define the conditions that a page must meet to be assigned the name "DETAIL".

INSERT Operand

The INSERT Operand can be specified as part of an OUTPUT Sub-Command. It is used to define additional printer data or control information that CSI-QCOPY is to insert into the output report at specified locations.

You can specify as many INSERT Operands as you need on each OUTPUT Sub-Command. CSI-QCOPY will process the INSERT Commands in the sequence specified.

If you specify more than one INSERT with the 'BEFORE FIRST' location, you must specify them in reverse sequence, because, as each INSERT is processed by CSI-QCOPY, its data will be inserted at the beginning of the page or line.

How to enter

```

INSERT ( [ BEFORE ] , [ FIRST ] , [ PAGE ] ,
        [ AFTER ] , [ EVERY ] , [ LINE ] ,
        [ LAST ] , [ SEGMENT ] ) ,
[      CC(cc)                               -]
[      DATA( ['string' ] )                 -]
[      EXIT(name)                           -]
[      PHASE(name)                           -]
[      COND(value1 condition [value2 [,value3, ...]]) -]
)

```

Explanation

```

[ BEFORE ] , [ FIRST ] , [ PAGE ] ,
[ AFTER ] , [ EVERY ] , [ LINE ] ,
[ LAST ] , [ SEGMENT ] ,

```

These three Operands describe when and where the data or control information is to be inserted. You must choose one option from each column. If you omit these Operands, the default is:

BEFORE FIRST PAGE

which will insert the data prior to the first output page of each report segment generated by the OUTPUT Sub-Command.

CC(cc)

This Operand specifies the channel command that should precede the inserted data. The channel command is specified as a two-digit hexadecimal value:

CC (8B)

This Operand is ignored if the EXIT Operand is specified.

If this Operand is omitted, CSI-QCOPY assumes that the inserted data is to be added to an existing report line.

DATA (['string' ,
X'xxxxxxx'])

This Operand specifies the string of data to be inserted by CSI-QCOPY. This string can be up to 256 bytes in length. (128 if entered in hexadecimal.)

This Operand is ignored if either the EXIT or PHASE Operand is specified.

If the CC Operand is omitted, CSI-QCOPY will insert this string into the existing report line according to the BEFORE | AFTER Operand.

EXIT (name)

This Operand specifies the name of a user supplied exit program that CSI-QCOPY will call at the specified times.

Refer to chapter "CUSTOMIZING " on page 135 for information on how to write the exit program.

PHASE (name)

This Operand specifies the name of a user supplied load module that will be loaded by CSI-QCOPY.

CSI-QCOPY" assumes that the contents of the phase can be sent to the output "as-is".

If the CC Operand is specified, CSI-QCOPY will construct an output line using the CC value followed by the contents of the PHASE.

COND (. . .)

This Operand specifies the conditions that must be met before CSI-QCOPY will process the INSERT Operand.

Any number of COND Operands can be specified. If more than one COND Operand is specified, they all must be true or the INSERT Operand will be ignored.

Refer to the section "Selection-Criteria" on page 122 for a complete description of this Operand.

SELECT Operand

The SELECT Operand can be specified as part of an INPUT Sub-Command. It is used by CSI-QCOPY to determine which pages from each input report are to be kept for OUTPUT processing.

The SELECT Operand can also be specified as part of an OUTPUT Sub-Command. It is used by CSI-QCOPY to determine which selected input pages are to be directed to each of the OUTPUT Sub-Commands.

You can specify as many SELECT Operands as you need on each INPUT and/or OUTPUT Sub-Command. If you don't specify any SELECT Operands, CSI-QCOPY will "select" all pages, unless the EXCLUDE Operand is specified.

If you specify more than one SELECT Operand, CSI-QCOPY will examine each one, in the order specified, to determine if a page should be "selected". Each page must match at least one SELECT Operand or it will not be "selected".

If you specify both SELECT and EXCLUDE Operands, CSI-QCOPY will examine them in the sequence they are specified. The first SELECT/EXCLUDE that matches a page will determine the action for the page.

How to enter

```
SELECT {
  ALL
  COND (UNSELECTED)
  COND (value1 condition [value2 [,value3, ...]])
  PAGES (from [,to])
  LINES (from [,to])
} , ...)
```

Refer to the section "Selection-Criteria" on page 122 for a complete description of this operand.

EXCLUDE Operand

The EXCLUDE Operand can be specified as part of an INPUT Sub-Command. It is used by CSI-QCOPY to determine which pages from each input report are to be excluded from OUTPUT processing.

The EXCLUDE Operand can also be specified as part of an OUTPUT Sub-Command. It is used by CSI-QCOPY to determine which selected input pages are to be excluded from each of the OUTPUT Sub-Commands.

You can specify as many EXCLUDE Operands as you need on each INPUT and/or OUTPUT Sub-Command. If you don't specify any EXCLUDE Operands, CSI-QCOPY will "select" all pages, unless the SELECT Operand is specified.

If you specify more than one EXCLUDE Operand, CSI-QCOPY will examine each one, in the order specified, to determine if a page should be "excluded". Each page of the input report(s) must match at least one EXCLUDE if it is to be "excluded".

If you specify both SELECT and EXCLUDE Operands, CSI-QCOPY will examine them in the sequence they are specified. The first SELECT/EXCLUDE that matches a page will determine the action for the page.

How to enter

```
EXCLUDE ( { COND (value1 condition [value2 [,value3, ...]])  
          { PAGES (from [,to])  
          { LINES (from [,to]) } , ... )
```

Refer to the section "Selection-Criteria" on page 122 for a complete description of this operand.

STOP Operand

The STOP Operand can be specified as part of an INPUT Sub-Command. It is used by CSI-QCOPYY to determine when to stop reading input for a particular input report.

The STOP Operand can also be specified as part of an OUTPUT Sub-Command. It is used by CSI-QCOPYY to determine when to stop sending pages to each of the OUTPUT Sub-Commands.

You can specify as many STOP Operands as you need on each INPUT and/or OUTPUT Sub-Command. If you don't specify any STOP Operands, CSI-QCOPYY will read all pages from the reports specified by the INPUT Sub-Command and direct all selected pages to the OUTPUT Sub-Command.

If you specify more than one STOP Operand, CSI-QCOPYY will examine each one, in the order specified, to determine if a page should be the last one processed.

How to enter

$\text{STOP} \left\{ \begin{array}{l} \text{NOW} \\ \text{AFTER} \\ \text{COND (UNSELECTED)} \\ \text{COND (value1 condition [value2 [,value3, ...]])} \\ \text{PAGES (page)} \\ \text{LINES (line)} \end{array} \right\} , \dots$
--

Refer to the section "Selection-Criteria" on page 122 for a complete description of this operand.

SEGMENT Operand

The SEGMENT Operand can be specified as part of an OUTPUT Sub-Command. It is used by CSI-QCOPY to determine when to segment the output report being generated.

You can specify as many SEGMENT Operands as you need on each OUTPUT Sub-Command. If you don't specify any SEGMENT Operands, CSI-QCOPY will generate a single OUTPUT report from all INPUT reports selected.

If you specify more than one SEGMENT Operand, CSI-QCOPY will examine each one, in the order specified, to determine when to segment the output report.

The actions performed by CSI-QCOPY for a SEGMENT vary depending on the type of OUTPUT being generated:

- If the OUTPUT is going to a POWER Queue, the SEGMENT causes a new report entry to be generated.
- If the OUTPUT is going to an ARCHIVE dataset using FORMAT(BIM), a new "queue" entry is generated in the ARCHIVE dataset.
- If the OUTPUT is going to an ARCHIVE tape using FORMAT(POFFLOAD), a tape-mark is generated, and a new "queue" entry is written to the ARCHIVE tape.
- If the OUTPUT is going to an ARCHIVE tape using FORMAT(FICHE), the ARCHIVE dataset is closed and reopened. You must specify a MODNAME of an I/O module with NORWD specified if you want to SEGMENT the output for FORMAT(FICHE).

How to enter

SEGMENT ($\left\{ \begin{array}{l} \text{FIRST} \\ \text{REPORT} \\ \text{NONE} \\ \text{NOW} \\ \text{AFTER} \\ \text{COND}(\text{value1 condition} [\text{value2} [, \text{value3}, \dots]]) \\ \text{PAGES}(\text{page}) \\ \text{LINES}(\text{line}) \end{array} \right\}$, ...)
-----------	---	--------

Explanation

FIRST

Specifies that a SEGMENT should occur prior to CSI-QCOPY outputting the first line of the first selected report. This is the default if the SEGMENT Operand is omitted for all output types except ARCHIVE.

SEGMENT (FIRST)

REPORT

Specifies that a SEGMENT should occur prior to CSI-QCOPY outputting the first line of each selected report. This is the default if the SEGMENT Operand is omitted for output ARCHIVE processing.

SEGMENT (REPORT)

NONE

Specifies that a SEGMENT should never be done. This allows the output from more than one TRANSFER Command to be combined into a single OUTPUT.

SEGMENT (NONE)

NOW | AFTER

One of these values can be specified as the first Operand of the SEGMENT Operand.

NOW Specifies that the SEGMENT should occur before the current page is directed to the OUTPUT destination.

AFTER Specifies that the SEGMENT should occur after the current page is directed to the OUTPUT destination.

SEGMENT (NOW selection-criteria)

Refer to the section "Selection-Criteria" on page 122 for a complete description of the remaining Operands for SEGMENT.

Selection-Criteria

The DISPLAY, ERASE, EXCLUDE, INSERT, LINEFORMAT, PAGEFORMAT, SEGMENT, SELECT, and STOP Operands allow any number of "Selection-Criteria" to be entered in a single Operand.

If more than one COND, PAGES and/or LINES "Selection-Criteria" is specified, a report page must match all the specified "Selection-Criteria" or the primary Operand will not be processed.

How to enter

```

{
  ALL
  NOW|AFTER
  FIRST
  REPORT
  NONE
  COND (UNSELECTED)
  COND (value1 condition [value2 [,value3, ...]])
  PAGES (page [,topage])
  LINES (line [,toline])
}

```

Explanation

ALL

Only valid for the SELECT Operand. Specifies that all pages are to be selected. This is the default if the SELECT and EXCLUDE Operands are both omitted.

SELECT (ALL)

FIRST

Only valid for the SEGMENT Operand. Specifies that a SEGMENT should occur prior to CSI-QCOPY outputting the first line of the first selected report. This is the default if the SEGMENT Operand is omitted for all output types except ARCHIVE.

SEGMENT (FIRST)

REPORT

Only valid for the SEGMENT Operand. Specifies that a SEGMENT should occur prior to CSI-QCOPY outputting the first line of each selected report. This is the default if the SEGMENT Operand is omitted for output ARCHIVE processing.

SEGMENT (REPORT)

NONE

Only valid for the SEGMENT Operand. Specifies that a SEGMENT should never be done. This allows the output from more than one TRANSFER Command to be combined into a single OUTPUT.

SEGMENT (NONE)

NOW | AFTER

One of these values can be specified as the first Operand of the STOP or SEGMENT Operands.

NOW Specifies that the STOP or SEGMENT should occur before the current page is directed to the OUTPUT destination.

AFTER Specifies that the STOP or SEGMENT should occur after the current page is directed to the OUTPUT destination.

SEGMENT(NOW selection-criteria)
STOP(AFTER selection-criteria)

COND (UNSELECTED)

Only valid as part of a SELECT or STOP Operand in an OUTPUT Sub-Command, or as part of a STOP or PAGEFORMAT Operand in an INPUT Sub-Command.

This COND is considered 'True' if the current report page has not been matched by any prior SELECT Operands.

This COND can be used to cause all pages not selected for a previous OUTPUT Sub-Command to be selected for the current OUTPUT Sub-Command.

It can also be used to cause processing to STOP when a non-selected page is found.

A page processed using this COND Operand is not considered to be a 'selected' page. You can therefore specify this COND in more than one place.

COND(value1 condition [value2 [,value3, ...]])

This type of Selection-Criteria can be used to make logical comparisons between one or more fields or literals.

The COND Selection-Criteria consists of three parts;

'value1' Specifies the field or 'literal' to be compared. It can be specified as either a field or a 'literal':

FLD(nnn) Specifies a Field Definition.

'literal' Specifies a literal.

The 'literal' can contain "Variable Substitution". Refer to section "Variable Substitution in Literals" on page 93 for more information.

If a 'literal' is specified for 'value1' and an 'equal' condition is being tested, the 'literal' is assumed to be a generic mask and any 'literals' specified for the second Operand will be assumed to be character strings.

Refer to the CONDMASK Operand on page 53 for a discussion of the options available to you for generic masks.

'condition' 'value1' will be compared with the second Operand and will be considered a match if the specified condition is true:

Condition	Meaning
EQ	Equal
GT	Greater than
LT	Less than
NE	Not equal
GE	Greater than or equal
LE	Less than or equal
CHANGED	The value for the field changed from the previously selected report page
NOTCHANGED	The value for the field has not changed from the previously selected report page

'value2' This is the second Operand in the comparison. 'value1' will be compared to this value. It is not used for conditions CHANGED and NOTCHANGED. It can be specified as either a field or a literal:

FLD(nnn) Specifies a Field Definition

'literal' Specifies a literal

The second Operand can contain any number of fields and/or literals. If more than one value is specified, the comparison with 'value1' must match at least one 'value2' in the specified list.

If a 'literal' is specified for 'value2' and an 'equal' condition is being tested, and 'value1' is not specified as a 'literal', the 'literal' is assumed to be a generic mask and will be compared with 'value1'.

Refer to the CONDMASK Operand on page 53 for a discussion of the options available to you for generic masks.

PAGES (page [, topage])

This type of Selection-Criteria can be used to cause selection or segmentation to occur when a specific page or range of pages has been reached.

CSI-QCOPY determines pages by counting each time the FCB is wrapped.

If you omit the "topage" value, the "page" value will be tested as a single page. "topage" is not valid when used in the STOP or SEGMENT operands.

LINES (line [, toline])

This type of Selection-Criteria can be used to cause selection or segmentation to occur when a specific line or range of lines has been reached.

CSI-QCOPY only counts lines that contain data to be printed or punched. Immediate skips to a printer channel, or "space immediate" printer commands are not counted as lines. Line processing is best used with Reader and Punch Queue entries.

If you omit the "toline" value, the "line" value will be tested as a single line. "toline" is not valid when used in the STOP or SEGMENT operands.

Selection-Criteria Example

The following example is intended to illustrate how selection criteria can be combined to perform complex selections. The TRANSFER command in this example will select two combinations of report pages:

- 1) It will select pages 10 and 11 from all of the CLASS Q POWER reports with a name of either REPORT1 or REPORT2.
- 2) It will also select pages 5 and 6 from all of the POWER reports with a name of REPORT3.

```
TRANSFER -
INPUT ( -
    POWER LST NAME (ALL REPORT*) -
    SELECT ( -
        COND (%JNAM EQ REPORT1 REPORT2) -
        COND (%CLASS EQ Q) -
        PAGES (10 11) -
    ) -
    SELECT ( -
        COND (%JNAM EQ REPORT3) -
        PAGES (5 6) -
    ) -
) -
OUTPUT (...) -
)
```

HFS Operand

The HFS operand can appear as part of either the INPUT or OUTPUT sub-command. - or both. The operand is formatted the same in both cases, but there are subtle usage differences that are noted below.

```
HFS ( extent 'file name' -
      [DUPLICATEFILE(REPLACE | RENAME | APPEND) -]
      [ASCII | NOASCII ) -]
      [FORMAT{CRLF|LENCC|FIXED|VAR|VAR1|PDF|RAAD|HFS len) -]
      [TRANSLATE ('translate file name') -]
      [PDFCONFIG ( RAAD (name) |
                  HFS (extent 'file name') |
                  LIBR(lib sublib name extension)
                  ) -]
      ) -]
```

Extent

Field is required and identifies the HFS extent for this file. This is the seven character DLBL name of the HFS extent.

'file name'

Field is required and is the fully qualified path name of the file to be written to or retrieved from the HFS. The name must begin with the a forward slash ("/) which is the directory separator used by QCOPY for HFS files. Variable substitution for the name is available as in other fields in QCOPY.

The remaining entries in the HFS Operand are optional

DUPLICATE FILE (REPLACE | RENAME | APPEND)

Refers to output HFS files only and indicates the processing that will be performed when a file of the specified name is encountered in the HFS. Entry is ignored for input files. Processing can be:

REPLACE - File will be replaced - this is the default

RENAME - File will be renamed (see below)

APPEND - Current data will be appended onto the existing file.

When RENAME is specified and a duplicate file is encountered, QCOPY will examine the file name from right to left looking for the character string "0000" (three zeroes). This numeric value will then be incremented until an unique name is derived. For example:

```
HFS (HFS01 'File 000.TXT' DUPLICATEFILE(RENAME) )
```

Might result in the following files stored on the HFS:

File 000.TXT

File 001.TXT

File 002.TXT

FORMAT{**CRLF**|LENCC|FIXED|VAR|VAR1|PDF|RAAD|HFS len

QCOPY supports a variety of formats for data in the HFS. These are:

CRLF	Both	On output, the file will be created with carriage return and line feed (CRLF) characters added between lines. On input, the file is assumed to be in this state. If ASCII is specified (see above) the CRLF sequence will be x'0D0A', otherwise the CRLF sequence will be x'0D25' (EBCDIC line feed is x'25').
LENCC	Both	This format consists of a two byte length followed by the carriage control as retrieved from POWER followed by the data. The length includes itself (2 bytes) and the carriage control byte (1 byte) for a total of 3 bytes more than the data line itself.
FIXED len	Both	Data from POWER will be written to the HFS in fixed length lines,. POWER carriage control will not be preserved. You must also specify the line length to be used in the FORMAT entry.
VAR	Both	This format consists of a two byte length followed by the line data. POWER carriage control is not preserved. The length value includes itself (2 bytes).
VAR1	Both	Similar to VAR format above, the length value for the VAR1 format does not include itself.
PDF	Output Only	Indicates that the output is to be generated as a PDF file - see PDFCONFIG below. NOTE: in this release, only one PDF output may be creted in a single execution of QCOPY.
RAAD	Both	RAAD provides an extension table that can be used to determine the file format. If you use RAAD, specify this option to utilize the extension table from RAAD to determine the file format. If you are not licensed for RAAD, QCOPY will terminate if this option is specified.
HFS	Input Only	File created through HFS, and in some instances FTP, contain formatting information with the HFS itself. When you specify this option QCOPY will attempt to use the formatting information supplied by the HFS system for input files from HFS.

TRANSLATE ('translate file name')

The HFS system provides the capability of creating custom translation tables for your use. You can use these translate tables with QCOPY by specifying the name of the custom translate table here. QCOPY will look for this file in HFS extent "HFSGEN" and directory "\$\$XLAT". Do not specify a leading separator for this name. (Code page translation sets are available from CSI Technical Support.)

```

PDFCONFIG ( RAAD (name) | -
            HFS (extent 'file name') | -
            LIBR(lib sublib name extension) -
            ) -

```

The format of the resulting PDF file is controlled by configuration parameters as described in the *TCP/IP for VSE User's Guide* and are not repeated here. These configuration parameters can be retrieved from one of three different locations - it's your choice as to which location works best for your installation.

RAAD (name)	The PDF configuration parameters are located in the RAAD JCL definition portion of the RAAD Control File (see RAAD documentation for more information). If you are not also licensed for RAAD, QCOPY will terminate when encountering this option.
HFS (extent 'file name')	The PDF configuration parameters are located in the name HFS extent and file name. The parameters are assumed to be fixed length 80 byte records which is consistent with the format provided by the HFS LOADFILE command.
LIBR (lib sublib name ext)	The PDF configuration parameters will be found in the named VSE library.sublibrary with the name and extension supplied in the operand. This is consistent with TCP/IP for VSE itself and makes it easy to share configurations between QCOPY and other applications.

NOTE: HFS Input processing

1. When the HFS operand is encountered in the INPUT sub-command, other operands such as field definitions, and selection options are ignored. The HFS file is assumed to be selected in its entirety and uniquely named in the HFS operand.
2. For those formats which do not preserve POWER carriage control (FIXED, VAR, VAR1) QCOPY cannot properly determine page length. In these cases, QCOPY arbitrarily uses 66 lines as the page length and presents pages to the QCOPY output processing accordingly.
3. No attempt has been made in this release of QCOPY to deconstruct a PDF file on input. PDF files are output only.

VMCMD Command

This Command can be used to issue most VM console Commands from a batch job stream.

How to enter

```
VMCMD 'command string'
```

Explanation

'command string'

Specifies the Command that CSI-QCOPY is to pass to VM.

Example:

```
'VM CHANGE MAINT PRT 237 CLASS Q'
```

No form of 'PURGE qqg ALL' Command will be allowed.

CSI-QCOPY will display a message (106) on the System Console each time this Command is processed.

TRACE Command

You can use the TRACE Command to activate an internal trace facility provided by CSI-QCOPY. This can be used if you cannot get CSI-QCOPY to extract the desired data from pages of your reports.

The TRACE facility will generate a series of messages (numbered from 800-899), showing all the decisions CSI-QCOPY is making for report selection and FIELD extraction. The messages will be generated on the destination specified for the **Error! Reference source not found.** operand of the "**Error! Reference source not found.**". Refer to page **Error! Bookmark not defined.** for more information.

How to enter

```
TRACE [ ALL  
      PAGE (from, to)  
      SELECT ]
```

Explanation

ALL

Specifies that all possible trace messages are to be generated.

PAGE (from, to)

Specifies that trace messages should only be generated while processing the range of pages specified.

SELECT

Specifies that only trace messages related to report selection should be generated.

CUSTOMIZING CSI-QCOPY

INSERT Operand Exit

CSI-QCOPY allows you to provide an Exit Module that can be used to manipulate the contents of pages in your output reports.

This exit is entered as a result of the INSERT Operand of the OUTPUT Sub-Command. To invoke this exit, specify:

```
INSERT (. . .EXIT (phasename) . . .)
```

Due to the method CSI-QCOPY uses to maintain report pages in memory, this exit must be written in BAL. CSI-QCOPY is delivered with a sample module "BIMQCYIX" that you can use to create your own INSERT Exit.

The source for this module is supplied on the Product Installation tape as module BIMQCYIX.A.

Exit Type (I) - INSERT Operand Exit

CSI-QCOPY will call the INSERT Exit module whenever the conditions specified on the corresponding INSERT Operand are met. The INSERT module is provided with two parameter areas:

1. The first parameter area provides the exit type (I), the address of the output page in memory, and the address of the current line in the page.

If the INSERT Operand specifies BEFORE FIRST PAGE, the line address will point to the first line of the first page. If the INSERT Operand specifies AFTER FIRST PAGE, the line address will point to the last line of the first page.

2. The second parameter area identifies the input report that is currently being processed.

Refer to the supplied source for BIMQCYIX for a description of each of these parameter areas.

Security Exit

CSI-QCOPY allows you to provide a Security Module that can be used to control who can access specific reports in your installation.

CSI-QCOPY is delivered with a simple Security Module "BIMQCYEX" that will verify that a valid PASSWORD Command is supplied before access will be allowed.

The source for this module is supplied on the Product Installation tape as modules BIMQCYEX.A (BAL) and BIMQCYEX.C (COBOL).

CSI-QCOPY contains two types of security exits:

- A Report Access Authorization
- C VMCMD and POWERCMD Authorization

When CSI-QCOPY calls the security module, it passes the exit type (A or C) in the parameter area. The security module should examine this code to determine what actions, if any, should occur.

Exit Type (A) - Report Access Authorization

CSI-QCOPY will call the Security module for each input report it is about to access as part of a TRANSFER Command. The Security module is provided with three parameter areas:

1. The first parameter area provides the exit type (A), the return action that CSI-QCOPY is to take, and the information that identifies the CSI-QCOPY Job being executed.
2. The second parameter area identifies the input report that is about to be accessed.
3. The final parameter area provides a count and list of any passwords that have been provided via a PASSWORD Command.

The security exit should determine if access should be allowed by the requesting job and set the return action in the first parameter area.

Refer to the supplied source for BIMQCYEX for a description of each of these parameter areas.

Exit Type (C) - Report Access Authorization

CSI-QCOPY will call the Security module each time a POWERCMD or VMCMD Command is about to be executed. The Security module is provided with four parameter areas:

1. The first parameter area provides the exit type (C), the return action that CSI-QCOPY is to take, and the information that identifies the CSI-QCOPY Job being executed.
2. The second parameter area is the 71 byte command string that was specified in the POWERCMD or VMCMD Command. This field is left justified, space filled.
3. The third parameter area provides a count and list of any passwords that have been provided via a PASSWORD Command.
4. The fourth parameter area is a one-byte field that identifies which Command is being executed. (P) for POWERCMD, (V) for VMCMD.

The security exit should determine if the Command should be allowed by the requesting job and set the return action in the first parameter area.

Refer to the supplied source for BIMQCYEX for a description of each of these parameter areas.

ARCHIVE I/O Modules

CSI-QCOPY uses customizable I/O modules to generate and access ARCHIVE files. A default I/O module has been provided in both source and object form. Customization of this module may be required to change Device types, Blocksizes, or other options defined below.

Macro BIMIOGEN has been provided to customize the Default I/O module or to generate additional I/O modules to be used for varying the formats of ARCHIVE files created or accessed by CSI-QCOPY. If you are generating your own I/O modules for multiple formats of ARCHIVE files, the names used for your I/O modules should NOT begin with the letters BIM, unless you are replacing one of the supplied Default I/O modules.

BIMQCYAM (Default ARCHIVE I/O module)

Module BIMQCYAM is the default I/O module used by CSI-QCOPY to generate and access ARCHIVE files. The MODNAME Operand of the INPUT Sub-Command can be used to provide the name of a different I/O module.

Listed below are the Operands that were used to generate module BIMQCYAM:

10..16..20...25...30...35.....72	
BIMIOGEN	X
OPSYS= VSE ,	X
RECFORM= SPNBLK ,	X
BLKSIZE= 32767 ,	X
IOAREAS= YES ,	X
DEVICE= TAPE ,	X
SYSNBRI= SYS004 ,	X
SYSNBRO= SYS005 ,	X
LABEL= STD ,	X
REWINDI= UNLOAD ,	X
REWINDO= UNLOAD	

This macro call and its associated JCL are supplied in member BIMQCYAM.A. You may move this member to your text editor or code it manually as shown in the example later on. If you use the prototype in BIMQCYAM.A, be sure to change the default values as required for your system.

BIMQCYAD (Disk ARCHIVE I/O module)

Module BIMQCYAD is an I/O module that can be used by CSI-QCOPY to generate and access Disk ARCHIVE files. The MODNAME Operand of the INPUT and OUTPUT Sub-Commands can be used to provide the name of this I/O module.

Listed below are the Operands that were used to generate module BIMQCYAD:

10..16..20...25...30...35.....72	
BIMIOGEN	X
OPSYS= VSE ,	X
RECFORM= SPNBLK ,	X
BLKSIZE= 4096 ,	X
IOAREAS= NO ,	X
DEVICE= DISK ,	X
SYSNBRI= SYS004 ,	X
SYSNBRO= SYS005 ,	X
LABEL= STD ,	X
REWINDI= UNLOAD ,	X
REWINDO= UNLOAD	

This macro call and its associated JCL are supplied in member BIMQCYAD.A. You may move this member to your text editor or code it manually as shown in the example later on. If you use the prototype in BIMQCYAD.A, be sure to change the default values as required for your system.

BIMQCYAT (TAPE ARCHIVE I/O module)

Module BIMQCYAT is an I/O module that can be used by CSI-QCOPY to generate and access Tape ARCHIVE files. The MODNAME Operand of the INPUT and OUTPUT Sub-Commands can be used to provide the name of this I/O module.

Listed below are the Operands that were used to generate module BIMQCYAT:

10..16..20...25...30...35.....72	
BIMIOGEN	X
OPSYS= VSE ,	X
RECFORM= SPNBLK ,	X
BLKSIZE= 32767 ,	X
IOAREAS= YES ,	X
DEVICE= TAPE ,	X
SYSNBRI= SYS004 ,	X
SYSNBRO= SYS005 ,	X
LABEL= STD ,	X
REWINDI= UNLOAD ,	X
REWINDO= UNLOAD	

This macro call and its associated JCL are supplied in member BIMQCYAT.A. You may move this member to your text editor or code it manually as shown in the example later on. If you use the prototype in BIMQCYAT.A, be sure to change the default values as required for your system.

BIMQCYAF (FICHE ARCHIVE I/O module)

Module BIMQCYAF is an I/O module that can be used by CSI-QCOPY to generate ARCHIVE files suitable for FICHE. The MODNAME Operand of the OUTPUT Sub-Command can be used to provide the name of this I/O module.

Listed below are the Operands that were used to generate module BIMQCYAF:

10..16..20...25...30...35.....72	
BIMIOGEN	X
OPSYS= VSE ,	X
RECFORM= VARBLK ,	X
BLKSIZE= 32767 ,	X
IOAREAS= YES ,	X
DEVICE= TAPE ,	X
SYSNBRI= SYS004 ,	X
SYSNBRO= SYS005 ,	X
LABEL= STD ,	X
REWINDI= NORWD ,	X
REWINDO= NORWD	

This I/O module has been generated with the "norewind" option. This allows multiple reports to be archived to a single tape as separate FICHE datasets.

This macro call and its associated JCL are supplied in member BIMQCYAF.A. You may move this member to your text editor or code it manually as shown in the example later on. If you use the prototype in BIMQCYAF.A, be sure to change the default values as required for your system.

Generating a Custom I/O Module

To generate an I/O module, use the BIMIOGEN macro described below. An example of a job that generates and catalogs an I/O module is shown at the end of this section.

The following pages provide a detailed explanation of the BIMIOGEN macro and its Operands.

How to enter

```

10..16..20...25...30...35.....72
BIMIOGEN      X
      OPSYS=VSE,                                X
      BLKSIZE=32767 | nnnnn,                      X
      DEVICE=DISK | TAPE,                          X
      IOAREAS=NO | YES,                            X
      LABEL=NO | STD,                              X
      LENERR=ERROR | TRUNCATE,                    X
      PAD=00 | nn,                                X
      RECFORM=SPNBLK | FIXBLK | VARBLK,          X
      RECSIZE=nnnnn,                                X
      REWINDI=UNLOAD | REWIND | NORWD,           X
      REWINDO=UNLOAD | REWIND | NORWD,          X
      SYSNBRI=SYS004 | SYSnnn,                   X
      SYSNBRO=SYS005 | SYSnnn

```

NOTE: If you use a Disk/Tape Management System, you may be able to specify some of the BIMIOGEN options via the Management System's JCL.

Explanation:

OPSYS=**VSE**

Must be set to the Operating System in use (in this case VSE).

BLKSIZE=**32767** | nnnnn

Maximum Blocksize of the dataset. This can be any value up to the track capacity of your device (if CKD).

If DEVICE=DISK is specified, you must specify the blocksize as 8 greater than the actual dataset will contain. This is a DTF requirement for VSE Disk datasets.

Unless you override the RECFORM Operand, CSI-QCOPY will create its ARCHIVE datasets in a VBS format (variable blocked spanned) which allows logical records to span multiple blocks. The record format in the DTF is "undefined", and CSI-QCOPY does its own blocking.

DEVICE=**DISK** | TAPE

Specifies the type of device containing the journal file.

IOAREAS=**NO** | YES

Specifies whether or not to generate internal I/O areas. For VSE 1.3.5 or later, specify "NO" for DISK and "YES" for TAPE. Prior to VSE 1.3.5, specify "YES" for both DISK and TAPE devices.

LABEL=**NO** | STD

For tape datasets. This option defines whether or not the tape is labeled (specify STD for standard labeled tapes and NO for unlabeled tapes).

LENERR=**ERROR** | TRUNCATE

This option is only used if Operand FORMAT=FIXBLK is specified.

This Operand specifies the action that CSI-QCOPY should take character when generating an ARCHIVE dataset and the actual record length is greater than the value specified for the RECSIZE Operand:

ERROR This will result in CSI-QCOPY generating an error message and terminating the TRANSFER process.

TRUNCATE This will result in CSI-QCOPY truncating the output line to the value specified for the RECSIZE Operand.

PAD=00 | nn

This option is only used if Operand FORMAT=FIXBLK is specified.

This Operand specifies the pad character to be used when CSI-QCOPY is generating an ARCHIVE dataset and the actual record length is less than the value specified for the RECSIZE Operand.

The pad character is specified as a two-digit hexadecimal value.

RECFORM=**SPNBLK** | FIXBLK | VARBLK

This option defines the format of the data. The FIXBLK and VARBLK formats should only be required for FICHE datasets. Standard CSI-QCOPY ARCHIVE datasets should use the SPNBLK format.

SPNBLK The data is read and written using the standard IBM Variable-Blocked Spanned format. This is the default used by CSI-QCOPY.

FIXBLK The data is read and written using the standard IBM Fixed-Blocked format. You must specify the RECSIZE Operand if this format is used. Also refer to Operand LENERR.

VARBLK The data is read and written using the standard IBM Variable-Blocked non-spanned format.

RECSIZE=nnnnn

This option is only used, and is required if Operand FORMAT=FIXBLK is specified.

This Operand specifies the size of each logical record to be read from or written to the ARCHIVE dataset.

For output operations, if the actual record length is less than RECSIZE, the line is padded with the value specified for the PAD Operand. If the actual record length is greater than RECSIZE, the action specified for the LENERR Operand is taken.

REWINDI=**UNLOAD** | REWIND | NORWD

For tape datasets. This option defines the action to occur when the tape is opened or closed for Input operations.

- UNLOAD will rewind at open, and rewind unload the tape at close.
- REWIND will rewind the tape without unloading it.
- NORWD will leave the tape positioned as is.

REWINDO=**UNLOAD** | REWIND | NORWD

For tape datasets. This option defines the action to occur when the tape is opened or closed for Output operations.

- UNLOAD will rewind the tape at open, and unload the tape at close.
- REWIND will rewind the tape without unloading it.
- NORWD will leave the tape positioned as is.

SYSNBRI=**SYS004** | SYSnnn

For tape datasets. This is the SYSnnn to be used for accessing the tape drive during Input operations.

SYSNBRO=**SYS005** | SYSnnn

For tape datasets. This is the SYSnnn to be used for accessing the tape drive during Output operations.

MESSAGES

- CSIQCOPY-101 PROGRAM COMPLETE, HIGHEST RETURN CODE=rr**
hh:mm:ss ELAPSED, n.n CPUS, sss SIOS
PAGES: iii IN, mmm SELECTED, eee EXCLUDED, ooo OUTPUT
 This message is generated on SYSLST at the completion of CSI-QCOPY's processing. You can suppress it by specifying a DEFAULT STATS(NONE) Command. A Return code other than zero implies that an error has occurred. Specific message(s) for the error will have been generated prior to this message.
- Additional statistical information is supplied:
- | | | |
|----------|---|--|
| rr | - | return code |
| hh:mm:ss | - | the elapsed time of processing |
| n.n | - | the number of CPU seconds used |
| sss | - | the number of start I/Os issued |
| iii | - | the total number of input pages read |
| mmm | - | the total number of input pages selected |
| eee | - | the total number of input pages excluded |
| ooo | - | the total number of pages output |
- CSIQCOPY-102 PASSWORD PRINTING SUPPRESSED**
 This is an informational type message that is generated whenever a PASSWORD Command is found as input to CSI-QCOPY. For security reasons, the PASSWORD Command is not printed.
- CSIQCOPY-103 LIST JOB jjjjjjj, SEGMENTED ON SYSnnn USING (JECL Operands for this report segment)**
 This is an informational type message that is generated whenever a report segmentation occurs. You can suppress it by specifying a DEFAULT STATS(NONE) Command.
- CSIQCOPY-104 OUTPUT SUB-COMMAND OMITTED - OUTPUT DIRECTED TO SYSLST**
 This is an informational type message that is generated whenever a TRANSFER Command is supplied without an OUTPUT Sub-Command. CSI-QCOPY will direct the output to SYSLST using the same JECL Operands contained in the input report(s). You can suppress this message by specifying a DEFAULT STATS(NONE) Command.
- CSIQCOPY-105 PROCESSING qqq JOB jjjjjjj/nnn USING iii INPUT COMMAND**
 This is an informational type message that is generated whenever a new input Spool Queue entry is accessed by CSI-QCOPY. You can suppress this message by specifying a DEFAULT STATS(NONE) Command.
- | | | |
|----------|---|--|
| qqq | - | name of Spool Queue being accessed |
| jjjjjjjj | - | the report jobname being accessed |
| nnn | - | the report job number being accessed |
| iii | - | the relative INPUT Sub-Command within the TRANSFER Command |

- CSIQCOPY-106** **command-string**
COMMAND ISSUED FROM pp:jobname date time RC=rc
command-response
This is an informational message that is displayed on SYSLST and the System Console whenever a POWERCMD or VMCMD Command is executed by CSI-QCOPY. This message shows the Command that was executed, and the response that was returned by POWER or VM. If the RC value is non-zero, you should request technical assistance. You can suppress this message by specifying a OPTION STATS(NONE) Command.
- CSIQCOPY-107** **SYSxxx SEGMENTED JNM=jjjjjjj, USER=uuuuuuuuuuuuuuuuuuuu**
*** \$\$ LST (data from POWERSEG Command)**
This is an informational message that is displayed on SYSLST whenever a POWERSEG Command is executed by CSI-QCOPY. This message includes all of the Operands that were specified on the POWERSEG Command. You can suppress this message by specifying a OPTION STATS(NONE) Command.
- CSIQCOPY-200** **COMMAND NOT PROCESSED DUE TO ERRORS**
This message is displayed on SYSLST if any errors are detected in the Commands or Operands that were input to CSI-QCOPY. Other messages will have been generated for the specified errors detected. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-201** **xxxxx OPERAND NOT ALLOWED WITH yyyyy OPTION**
This message is displayed on SYSLST if you specify conflicting Operands and/or Options. Refer to the CSI-QCOPY documentation for the proper usage of the xxxxx and yyyyy Operands and Options. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-202** **FIELD NUMBER MISSING IN SORT OPERAND, ENTRY eee**
This message is displayed on SYSLST. The format of the SORT field list is "number/length". CSI-QCOPY has detected a length Operand without a corresponding field number. "eee" is the relative entry within the SORT list that contains the error. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-203** **SUB-OPERANDS NOT ALLOWED FOR xxx OPERAND OF yyy SUB-COMMAND**
This message is displayed on SYSLST. There is a conflict in your input specifications. Refer to the CSI-QCOPY documentation for the proper usage of the xxx Operand. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-204** **xxx OPERAND NOT ALLOWED FOR yyy SUB-COMMAND OF zzz COMMAND**
This message is displayed on SYSLST. There is a conflict in your input specifications. Refer to the CSI-QCOPY documentation for the proper usage of the xxx Operand. Processing is terminated with a Jobstep Return/Condition code of 12.

- CSIQCOPY-209 ALTER OPERAND OF THE *iiii* INPUT SUB-COMMAND DOES NOT CONTAIN ANY ALTERABLE SUB-OPERANDS**
 This message is displayed on SYSLST. If the ALTER Operand is specified on the INPUT Sub-Command, it must contain at least one entry in the sublist, (class, disposition, priority, etc). If you do not want the input Spool Queue entry altered, use the NODELETE Operand instead. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-210 *xxx* SUB-OPERAND OF ALTER OPERAND OF *iii* INPUT SUB-COMMAND IS IN ERROR**
 This message is displayed on SYSLST. The Sub-Operand "*xxx*" of the ALTER Operand is not a valid POWER specification for Class, Disposition, Priority, etc. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-211 OUTPUT SYS(*nnn*) IS INVALID**
 OUTPUT SYS numbers must be; LST, PUN, or a numeric, not greater than the maximum allowable number for the partition in which CSI-QCOPY was executed. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-212 CONFLICTING OPERANDS ON OUTPUT SUB-COMMAND - ARCHIVE AND

LST
PUN
 This message is displayed on SYSLST. A single TRANSFER Command cannot generate both an ARCHIVE file and printed/punched output. You must use a separate TRANSFER Command for each Output type. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-213 '*ddd*' ENTRY IN

REPORTDATE
CREATEDATE

 OPERAND LIST OF *iii* INPUT SUB-COMMAND - INVALID DATE FORMAT, MUST BE MM/DD/YY**
 This message is displayed on SYSLST. For selection by REPORTDATE or CREATEDATE, the date must be specified in mm/dd/yy format. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-217

SELECT
EXCLUDE
STOP
SEGMENT

 OPERAND OF *iii*

INPUT
OUTPUT

 SUB-COMMAND MUST CONTAIN AT LEAST ONE COND, PAGE, OR LINE SUB-OPERAND**
 This message is displayed on SYSLST. A COND, PAGE, or LINE Sub-Operand is required for the SELECT, EXCLUDE, STOP, and SEGMENT Operands. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-218 FIELD # *fff* (*nnn* FIELDS OPERAND OF *iii* INPUT SUB-COMMAND) PREVIOUSLY DEFINED**
 This message is displayed on SYSLST. You have specified the same field number for two FIELDS Operands of the same INPUT Sub-Command. Processing is terminated with a Jobstep Return/Condition code of 12.

- CSIQCOPY-219** **FIELD # fff (nnn FIELDS OPERAND OF iii INPUT SUB-COMMAND)
CONFLICTING SUB-OPERANDS : xxx,yyy**
This message is displayed on SYSLST. Sub-Operands 'xxx' and 'yyy' conflict. Refer to the "FIELDS Operand" on page 83 for proper usage of these Sub-Operands. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-220** **FIELD # fff (nnn FIELDS OPERAND OF iii INPUT SUB-COMMAND)
xxx SUB-OPERAND INCOMPLETE - yyy MISSING**
This message is displayed on SYSLST. Sub-Operand 'yyy' is required to complete this FIELDS Operand. Refer to the "FIELDS Operand" on page 83 for proper usage of these Sub-Operands. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-221** **FIELD # fff SPECIFIED IN SORT SUB-COMMAND IS NOT DEFINED
IN iii INPUT SUB-COMMAND**
This message is displayed on SYSLST. Field numbers specified in the SORT Sub-Command must be present in all INPUT Sub-Commands. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-222** **FIELD # fff SPECIFIED IN

SELECT
EXCLUDE
STOP
SEGMENT

 OPERAND OF

INPUT
OUTPUT

SUB-COMMAND IS NOT DEFINED IN iii INPUT SUB-COMMAND**
This message is displayed on SYSLST. Field numbers specified in SELECT, EXCLUDE, and STOP Operands must be defined within the same INPUT Sub-Command. Field numbers specified in SEGMENT Operands must be defined in all INPUT Sub-Commands. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-223** **VARIABLE SUBSTITUTION 'fff' OF xxx OPERAND OF THE OUTPUT
SUB-COMMAND NOT FOUND IN iii INPUT SUB-COMMAND**
This message is displayed on SYSLST. Field numbers specified for variable substitution within the OUTPUT Sub-Command must be present in all INPUT Sub-Commands. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-225** **'ddd' ENTRY IN

PRIORITY
SYSID

 OPERAND LIST OF iii INPUT
SUB-COMMAND IS NOT NUMERIC**
This message is displayed on SYSLST. PRIORITY and SYSID values must be numeric. Processing is terminated with a Jobstep Return/Condition code of 12.

- CSIQCOPY-226** 'd' ENTRY IN $\left[\begin{array}{l} \text{DISP} \\ \text{NOTDISP} \end{array} \right]$ OPERAND LIST OF iii INPUT
SUB-COMMAND IS NOT A VALID DISPOSITION
This message is displayed on SYSLST. DISP and NOTDISP values must be 'D', 'H', 'K', OR 'L'. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-227** **FIELD NUMBERS 900-999 ARE RESERVED FOR CSI-QCOPY INTERNAL USE**
This message is displayed on SYSLST. Refer to the "FIELDS Operand" on page 83 for the proper use of field numbers 900-999. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-228** **FIELD # fff SPECIFIED IN xxx OPERAND OF yyy SUB-COMMAND IS BEYOND SUPPLIED INTERNAL FIELD LIMIT**
This message is displayed on SYSLST. Refer to section "FIELDS Operand" on page 83 for the proper use of field numbers 900-999. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-229** **FIELD # fff (nnn FIELDS OPERAND OF iii INPUT SUB-COMMAND) INVALID INDIRECTION IN xxx SUB-OPERAND**
This message is displayed on SYSLST. When you are equating one field with another, the equated field number must be less than the field number being defined. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-230** **TABLE NAME MISSING, TABLE COMMAND IGNORED**
This message is displayed on SYSLST. The NAME Operand of the TABLE Command is required. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-231** **NO ARGUMENTS SPECIFIED FOR TABLE, TABLE COMMAND IGNORED**
This message is displayed on SYSLST. A TABLE Command must contain at least one ARGUMENT Operand. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-232** **nnn ARGUMENT OF TABLE nnn MISSING SEARCH FIELD**
This message is displayed on SYSLST. The 'search-arg' is required for the ARGUMENT Operand. The 'replace-arg' is optional. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-233** **FIELD # fff (nnn FIELDS OPERAND OF iii INPUT SUB-COMMAND) LOOKUP TABLE nnn NOT FOUND**
This message is displayed on SYSLST. The TABLE Command must be specified before any TRANSFER Command that references it. Processing is terminated with a Jobstep Return/Condition code of 12.

- CSIQCOPY-234 SYS(nnn) MISSING OR INVALID**
 This message is displayed on SYSLST. The SYS Operand is required for the POWERSEG Command. The SYS Operand must specify LST, PUN, or a number from 1 - 256. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-235 SEGMENT JECL CARD TOO LONG
 (jecl statement)**
 This message is displayed on SYSLST. The POWER Segment facility limits the data in the LST or PUN JECL statement to 71 bytes. This message will be displayed if the Operands specified on the POWERSEG Command result in a JECL statement longer than 71 bytes. You must remove enough Operands to reduce the space requirement to no more than 71. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-236 COMMAND NOT [AUTHORIZED
 ALLOWED]**
 This message is displayed on SYSLST. The POWERCMD and VMCMD Commands may be restricted at your installation. If the message text shows 'AUTHORIZED', the CSI-QCOPY security exit has rejected the Command. If the message text shows 'ALLOWED', CSI-QCOPY has rejected the Command. Refer to the section of this documentation for the individual Command for more information on allowable Command formats. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-238 COLUMN PAIR MUST BE SPECIFIED FOR xxx LINEFORMAT
 OPERAND OF THE yyy OUTPUT SUB-COMMAND**
 This message is displayed on SYSLST. The LINEFORMAT Operand must contain at least one COLS specification. Refer to the section of this documentation for the LINEFORMAT Operand for more information. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-239 NON-NUMERIC COLUMN PAIR SPECIFIED FOR THE xxx
 [DISPLAY
 ERASE
 LINEFORMAT] OPERAND OF THE yyy OUTPUT SUB-COMMAND**
 This message is displayed on SYSLST. The values specified for the COLS Operand must all be numeric. Refer to the section of this documentation for the Operand in error for more information. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-240 CONFLICTING OPERANDS ON xxx INSERT OPERAND OF THE yyy
 OUTPUT SUB-COMMAND**
 This message is displayed on SYSLST. If an EXIT(name) is specified, you cannot also specify either or both of the CC or DATA Operands. If PHASE(name) is specified, you cannot also specify the DATA Operand. Refer to the "INSERT Operand" on page 115 for more information. Processing is terminated with a Jobstep Return/Condition code of 12.

- CSIQCOPY-241 DATA LINE MISSING IN xxx INSERT OPERAND OF THE yyy OUTPUT SUB-COMMAND**
 This message is displayed on SYSLST. The DATA Operand is required if neither EXIT(name) nor PHASE(name) is specified. Refer to the "INSERT Operand" on page 115 for more information. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-242 RDR QUEUE OUTPUT REQUIRES SYS(XPC) IN nnn OUTPUT SUB-COMMAND**
 This message is displayed on SYSLST. Output being sent to the POWER RDR queue must be sent via the XPCC interface, not a SYSnnn. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-300 UNEXPECTED RETURN CODE FROM SPOOL ACCESS MODULE RC=rr**
 CSI-QCOPY received an internal error condition from one of its queue access modules. A previous message will have been displayed for the internal error. Refer to the documentation on the internal message for the cause of the problem. Processing for the current TRANSFER Command is terminated with a Jobstep Return/Condition code of 12. You should request product support if this message occurs.
- CSIQCOPY-301 SKIP TO CHANNEL c ENCOUNTERED IN JOB jjjjjjj/nnnnn, BUT CORRESPONDING CHANNEL NOT FOUND IN FCB=ffffff**
[PROCESSING TERMINATED
LINE CONVERTED TO SINGLE SPACE]
 CSI-QCOPY found a skip to channel Command not contained in the FCB defined for the report. Refer to the MISCHAN and USEFCB Operands for more information. If processing for the current TRANSFER Command is terminated, a Jobstep Return/Condition code of 12 is used.
- CSIQCOPY-302 JECL CARD IS LONGER THAN 71 BYTES**
1...5...10...15...20...25...30...35...40...45...50
(first 50 bytes of JECL)
...55...60...65...70...75...80...85...90...95..100
(second 50 bytes of JECL)
 The CLASS, DISP, FCB, FNO, RBS, USER, PRI, and REMOTE Operands of the OUTPUT Sub-Command are used to construct a POWER LST or PUN JECL card. It is possible, if most Operands are used, to overrun the 71 byte limit imposed by POWER/V5. If this condition occurs, you must specify your options by placing a *\$\$ LST or *\$\$ PUN JECL card in your CSI-QCOPY execution JCL. Processing for the current TRANSFER Command is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-303 FCB CONFLICT, fffffff IN USE WHEN nnnnnnnn DETECTED, CURRENT INPUT jjjjjjj,nnnnn**
 CSI-QCOPY found a second FCB 'nnnnnnn' within a single TRANSFER Command. You can specify what action CSI-QCOPY is to take by using either the USEFCB Operand or the SWITCH Option of the FCB Operand.

Processing for the current TRANSFER Command is terminated with a Jobstep Return/Condition code of 12.

CSIQCOPY-304 NO MATCHING QUEUE ENTRIES FOUND FOR iii INPUT SUB-COMMAND

No input Spool Queue entries were found which satisfied the selection criteria on the indicated INPUT Sub-Command. Processing for the current TRANSFER Command continues, but the Jobstep will end with a Return/Condition code of 04.

CSIQCOPY-305 III OUTPUT SPECIFIED BY SYSxxx DIRECTED TO ppp DEVICE

CSI-QCOPY has determined that SYSnnn is not assigned to the same type of device as has been specified in the OUTPUT Sub-Command. CSI-QCOPY will continue with the device type determined by the SYSnnn. Processing for the current TRANSFER Command continues, but the Jobstep will end with a Return/Condition code of 04.

CSIQCOPY-306 ERROR OCCURRED IN INPUT MODULE, PROCESSING IS TERMINATED,

```
...   ERROR CODE           -  xx
...   FEEDBACK             -  xxxxxxxx
...   FUNCTION             -  xx
...   MODNAME              -  pppppppp
```

This message is displayed on the system console and on SYSLST if an error occurs while CSI-QCOPY is accessing an ARCHIVE file. Processing is terminated with a Jobstep Return/Condition code of 12.

ERROR CODE		FEEDBACK
01	getmain/getvis failed	amount of getmain (hex)
02	freemain/freevis failed	
03	freemain/freevis wrong area	
04	bad block length field	blocklength and "LL" field
05	llbb larger than physical block	blocklength and "LL" field
06	spanned record exceeds 32k	
07	varblk rec exceeds blksize	max varblk and "LL" field
08	fixblk rec exceeds recsize	max fixblk and "LL" field
09	fixblk invalid blksize	blksize and recsize field

FUNCTION is one of the following

00	open input
04	open output
08	close
0C	sequential input
10	sequential output (buffered)
14	sequential output (force write)

- CSIQCOPY-307 INPUT ARCHIVE FORMAT INCORRECT - FILE IN** **BIM
FICHE
POFFLOAD**
FORMAT
This message occurs when an ARCHIVE file is being read by CSI-QCOPY and it is determined that the format of the file is not what was specified for the FORMAT Operand of the INPUT Sub-Command. Since CSI-QCOPY cannot always detect this situation at the start of the file, processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-400 FIELD fff NOT FOUND IN SORT KEY
PROGRAM ABENDED**
CSI-QCOPY detected an internal error condition. A snap dump is generated that may be required for problem resolution. You should request product support if this message occurs.
- CSIQCOPY-401 FIELD fff NOT FOUND IN FIELD CHAIN
PROGRAM ABENDED**
CSI-QCOPY detected an internal error condition. A snap dump is generated that may be required for problem resolution. You should request product support if this message occurs.
- CSIQCOPY-402 EXCESSIVE LOOPING WHILE EVALUATING FIELD fff
PROGRAM ABENDED**
CSI-QCOPY detected an internal error condition. A snap dump is generated that may be required for problem resolution. You should request product support if this message occurs.
- CSIQCOPY-403 UNEXPECTED RETURN CODE FROM BIMMDBMD, RC=rr
PROCESSING TERMINATED**
CSI-QCOPY received an internal error condition from its storage management module. A snap dump is generated that may be required for problem resolution. You should request product support if this message occurs.
- CSIQCOPY-404 ERROR DURING INPUT SORT, RC=nnn (X'hh')
PROCESSING IS TERMINATED**
This message is displayed on the system console and on SYSLST if any errors are detected during the input sort. The return code from your sort package is displayed in both decimal and hex. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-406 UNABLE TO LOAD EXIT PHASE 'BIMQCYEX'
PROCESSING TERMINATED**
CSI-QCOPY could not load the exit module 'BIMQCYEX'. Processing is terminated with a Jobstep Return/Condition code of 12.

- CSIQCOPY-407 UNABLE TO LOCATE ENTRY POINT IN EXIT 'BIMQCYEX' PROCESSING TERMINATED**
CSI-QCOPY could not locate the entry point to the exit module 'BIMQCYEX'. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-408 UNABLE TO LOAD PHASE pppppppp DURING INSERT PROCESS PROCESSING TERMINATED**
Either an INSERT EXIT or PHASE was specified, but CSI-QCOPY could not locate the module in any library in the LIBDEF chain. Processing is terminated with a Jobstep Return/Condition code of 12.
- CSIQCOPY-501 JNM MISSING FROM [INPUT OUTPUT] STATEMENT**
The JNM operand is required on these commands. Processing is terminated with a Jobstep Return/Condition code of 8.
- CSIQCOPY-503 TEST CAN BE EQ/NE/GT/LT/GE/LE**
This message is generated if a SELECT command contains an invalid value for the TEST operand. Processing is terminated with a Jobstep Return/Condition code of 8.
- CSIQCOPY-800 <mmm> EXTRACTING FROM [PAGE: nnnn/jjjjjjj/nnn/s vm-owner] [SORT: rel/disp]**
This is a CSI-QCOPY internal trace message. CSI-QCOPY has started to extract field <mmm>. If extraction is occurring on the input side of the SORT, or if no SORT exists for this TRANSFER, the message will show the PAGE format of this message. If the extraction is occurring on the output side of the SORT, the message will show the SORT format.
- | | |
|----------|---|
| nnnn | page number |
| jjjjjjj | report jobname |
| nnn | report job number |
| s | report segment number |
| vm-owner | report's owner (origination User ID) |
| rel | relative SORT key field |
| disp | displacement of field in SORT key field |
- CSIQCOPY-801 <mmm> EQUATED TO FIELD nnn**
This is a CSI-QCOPY internal trace message. Field <mmm> has been specified as:

FIELD(mmm(FLD(nnn))
Following this message will be the trace messages for field nnn.
- CSIQCOPY-802 <mmm> LITERAL 'xxxxxxx'**
This is a CSI-QCOPY internal trace message. Field <mmm> has been specified as:

FIELD(mmm('xxxxxxx'))

If the literal contains imbedded fields, you will see trace messages for the imbedded fields following this message.

- CSIQCOPY-803** **<mmm> SEARCH (phy,log)/(col,len) 'xxxxxxx'**
 This is a CSI-QCOPY internal trace message. The current report page is about to be searched for field <mmm>.
- | | |
|---------|--|
| phy | physical line number |
| log | logical line number |
| col | starting column number |
| len | number of columns to search |
| 'xxxxx' | data found at specified location in page |
- CSIQCOPY-804** **<mmm> DEFAULT TO LITERAL 'xxxxxxx'**
 This is a CSI-QCOPY internal trace message. CSI-QCOPY is taking the DEFAULT action for Field <mmm>. The DEFAULT has been specified as a literal.
- CSIQCOPY-805** **<mmm> DEFAULT TO NULL**
 This is a CSI-QCOPY internal trace message. CSI-QCOPY is taking the DEFAULT action for Field <mmm>. The DEFAULT has been specified as NULL.
- CSIQCOPY-806** **<mmm> DEFAULT TO FIELD nnn**
 This is a CSI-QCOPY internal trace message. CSI-QCOPY is taking the DEFAULT action for Field <mmm>. The DEFAULT has been specified as DEFAULT(FLD(nnn)).
- CSIQCOPY-807** **<mmm> DEFAULT TO [PREVIOUS PREVIOUS NULL]**
 This is a CSI-QCOPY internal trace message. CSI-QCOPY is taking the DEFAULT action for Field <mmm>. The DEFAULT has been specified as DEFAULT(LEAVE). If the field has never been evaluated, the 'PREVIOUS NULL' message will be shown.
- CSIQCOPY-808** **<mmm> MASK SATISFIED, LENGTH: lll 'xxxxxxx'**
 This is a CSI-QCOPY internal trace message. The MASK associated with field <mmm> has been matched.
- | | |
|---------|--|
| lll | length of MASK matching data from page |
| 'xxxxx' | data that matched the MASK |
- CSIQCOPY-809** **<mmm> FIELD EVALUATED, LENGTH: lll 'xxxxxxx'**
 This is a CSI-QCOPY internal trace message. Field <mmm> has been successfully evaluated.
- | | |
|---------|-----------------|
| lll | length of field |
| 'xxxxx' | data for field |

- CSIQCOPY-810** **PROCESSING**

SELECT
STOP
EXCLUDE

, **iii** **INPUT**
- This is a CSI-QCOPYY internal trace message. This message indicates why a field is being evaluated.
- iii relative INPUT Sub-Command
- CSIQCOPY-811** **PROCESSING SEGMENT**
- This is a CSI-QCOPYY internal trace message. This message indicates that a field is being evaluated as part of a SEGMENT Operand.
- CSIQCOPY-812** **<mmm> REQUESTED FOR SUBSTITUTION, FIELD xxxxxxxx**
- This is a CSI-QCOPYY internal trace message. Field <mmm> has been specified for substitution in field 'xxxxxx' in the OUTPUT Sub-Command.
- CSIQCOPY-813** **<mmm> UNABLE TO LOCATE REQUESTED LINES (ll,ll)**
- This is a CSI-QCOPYY internal trace message. The requested lines (ll,ll) for Field <mmm> could not be located on the current page. The DEFAULT action will be taken.
- CSIQCOPY-814** **<mmm> UNABLE TO ACCESS REQUESTED COL, LINE ll (cc,cc)**
- This is a CSI-QCOPYY internal trace message. The current LINE 'll' is not long enough to contain the columns specified (cc,cc) for Field <mmm>. If a range of LINES was specified, processing continues, otherwise the DEFAULT action will be taken.
- CSIQCOPY-815**

SEGMENT
SELECT
STOP
EXCLUDE

EVALUATES

TRUE
FALSE
- This is a CSI-QCOPYY internal trace message. This message indicates the final evaluation of the specified Operand.
- CSIQCOPY-825** **PROCESSING SPOOL QUEUE ENTRY: jjjjjjj/nnnnn/ss**
- This is a CSI-QCOPYY internal trace message. This message identifies the input Spool Queue entry that is going to be tested for possible selection.
- CSIQCOPY-826** **QUEUE ENTRY ACCEPTED**
- This is a CSI-QCOPYY internal trace message. The Spool Queue entry identified in Message 825 matches all input selection criteria.
- CSIQCOPY-827** **QUEUE ENTRY BYPASSED - xxxxxxxxxxxxxxxxx**
- This is a CSI-QCOPYY internal trace message. The Spool Queue entry identified in Message 825 fails the input selection criteria specified for xxxxxxxxxxxxxxxxx.
- CSIQCOPY-828** **QUEUE ENTRY REJECTED BY USER EXIT (BIMQCYEX)**
- This is a CSI-QCOPYY internal trace message. The User Security Exit module has rejected access to the report identified in message 825.

- CSIQCOPY-1000 'x' IS AN INVALID COMMAND**
The first word in the line, "x", is not a valid Command. If it is a parameter intended to be part of a previous Command, check for valid continuation on the end of the previous line. If it is supposed to be part of a comment, check for the proper use of "/"* (start of comment),";" (end of Command), and continuation characters.
- CSIQCOPY-1001 'x' IS AN INVALID KEYWORD FOR 'y'
SUB-PARAMETERS FOLLOWING IT ARE IGNORED**
The character string "x" was specified as a sub-parameter of "y", and is not a valid keyword for "y". Any sub-parameters coded for "x" are ignored. If "x" was not intended to be a sub-parameter of "y", check your use of parentheses. If "x" is a Command, a previous Command may have been continued improperly.
- CSIQCOPY-1002 'x' EXCEEDS THE NUMBER OF POSITIONAL PARAMETERS
ALLOWED FOR 'y'
SUB-PARAMETERS FOLLOWING IT ARE IGNORED**
Positional parameters are allowed for "y", but the maximum number allowed had already been specified before "x" was found. Any sub-parameters coded for "x" are ignored. If "x" was not intended to be a sub-parameter of "y", check your use of parentheses. If "x" is a Command, a previous Command may have been continued improperly.
- CSIQCOPY-1003 'x' IS INVALID - NO PARAMETERS ALLOWED FOR 'y'
SUB-PARAMETERS FOLLOWING IT ARE IGNORED**
No sub-parameters are allowed for "y", but "x" was coded as a sub-parameter. Any sub-parameters coded for "x" are ignored. If "x" was not intended to be a sub-parameter of "y", check your use of parentheses.
- CSIQCOPY-1004 'x' CAN BE SPECIFIED ONLY n TIMES FOR 'y'
SUB-PARAMETERS FOLLOWING IT ARE IGNORED**
A list of repeated sub-parameters (maximum of "n") are allowed for "y", but "x" exceeds this maximum. Any sub-parameters coded for "x" are ignored. If "x" was not intended to be a sub-parameter of "y", check your use of parentheses.
- CSIQCOPY-1006 'x' IS NOT A VALID NUMERIC VALUE**
The character string "x" was coded where a numeric value is expected, but it is not a valid number. If "x" was not intended to be a number, it may be positioned incorrectly in relation to other sub-parameters at the same level, or incorrect use of parentheses may have caused it to be associated with the wrong parameter.
- CSIQCOPY-1007 'x' EXCEEDS THE ALLOWED NUMBER OF n CHARACTERS/DIGITS**
For a non-numeric positional parameter, "x" contains too many characters. For a numeric parameter, "x" is too large a number for the positional parameter. If "x" is correct as coded, it may be positioned incorrectly in relation to other sub-parameters at the same level, or the incorrect use of parentheses may have caused it to be associated with the wrong parameter.

- CSIQCOPY-1009 DELIMITER 'x' IS INVALID FOLLOWING 'y', AND IS IGNORED**
The delimiter "x" was coded where it is not allowed. A "/" delimiter is allowed only after certain parameters, and a "(" cannot immediately follow another delimiter.
- CSIQCOPY-1010 EXTRA RIGHT PARENTHESES FOLLOWING "x" IGNORED**
More right parentheses ")" have been found than are needed. Either a left parenthesis "(" is missing, or too many right parentheses were coded.
- CSIQCOPY-1011 MISSING n RIGHT PARENTHESES AT END OF COMMAND**
The end of Command has been reached, but "n" left parentheses "(" have not been paired with right parentheses)". Either a continuation character is missing (the next line will start a new Command), or too few right parentheses ")" were coded.
- CSIQCOPY-1012 COMMENT IS NOT TERMINATED WITH '*/', OR CONTINUATION IS MISSING ON THIS LINE**
A comment was started with "/*" but was not terminated properly. Comments follow the same continuation rules as parameters, and must be terminated by "*/".
- CSIQCOPY-1013 STRING 'x' IS NOT TERMINATED WITH A QUOTE, OR CONTINUATION IS MISSING ON THIS LINE**
The character string "x" was started as a quoted string, but an ending quote (') was not found.
- CSIQCOPY-1014 STRING 'x' IS NOT FOLLOWED BY A SEPARATOR CHARACTER, OR ONE QUOTE WAS CODED WHERE TWO ARE REQUIRED**
The character string "x" was started as a quoted string, and another quote (') was found which was not followed by a separator character (to end the string).
- CSIQCOPY-1015 END OF INPUT REACHED - LAST INPUT LINE CANNOT BE CONTINUED**
The last line in the SYSIN file ended with a continuation character. Since there are no more lines to process, continuation is invalid. If you did not intend the SYSIN file to end at this point, check your input for "/*" appearing in the first position of a SYSIN line. This is treated as end-of-file, not the start of a comment.
- CSIQCOPY-1016 COMMAND NOT PROCESSED DUE TO SYNTAX ERRORS - CONDITION CODE n**
The condition code set by previous errors for this Command exceeds the maximum allowed. The highest condition code for all errors for this Command is "n".
- CSIQCOPY-1096 PATCH HEX STRING CONTAINS ODD NUMBER OF DIGITS**
The internal debugging facility has been invoked to patch a module. A hexadecimal verify or replace string was coded which does not represent a whole number of bytes. For example, X'47F0' is valid; x'47F' is not valid.

- CSIQCOPY-1097 PATCH VERIFY ERROR**
The internal debugging facility has been invoked to patch a module, but the data being verified does not match what is in the module.
- CSIQCOPY-1098 INTERNAL ERROR - CANNOT FIND TYPE=FINAL**
An internal logic error has occurred. Request assistance from a support representative.
- CSIQCOPY-1099 INTERNAL ERROR - CANNOT FIND TYPE=SEG FOR xxxxxxxx**
An internal logic error has occurred. Request assistance from a support representative.
- CSIQCOPY-1100 (module+offset) INTERNAL ERROR - INVALID MESSAGE NUMBER X'xxxxxxx'(n)**
An internal program error has occurred at the location indicated by the module and offset information. The module has attempted to issue an error number which is not in any message tables. When requesting technical assistance for this error, please state the full error message.
- CSIQCOPY-1101 (module+offset) function/macro INTERNAL ERROR - RETURN CODE X'xxxxxxx'(n)**
An internal program function has issued an operating system macro which failed. The function was called at the location indicated by the module and offset information. When requesting technical assistance for this error, please state the full error message.
- CSIQCOPY-1102 (module+offset) function/macro INTERNAL ERROR - RETURN CODE X'xxxxxxx'(n) WHILE ISSUING MESSAGE mmmm**
While attempting to issue message number "mmmm", an internal program function issued an operating system macro which failed. The function was called at the location indicated by the module and offset information. Also refer to message "CSIQCOPY-mmmm" which may help you determine the cause of the problem. When requesting technical assistance for this error, please state the full error message.
- CSIQCOPY-1103 GETMAIN(GM) / FREEMAIN(FM) STATISTICS**
GMCOUNT=n GMTOT=n
FMCOUNT=n FMTOT=n
CURRENT=n MAXIMUM=n
LARGEST SINGLE GETMAIN=n
An internal debugging function has requested a display of the memory statistics.
- CSIQCOPY-1104 (module+offset) function/macro PROGRAM 'xxxxxxx' NOT FOUND**
CSI-QCOPY attempted to load program "xxxxxxx", but it was not found in the load libraries available in the job step. The load function was called at the location indicated by the module and offset information. This message is issued only if the program cannot be found; other load errors will produce message CSIQCOPY-1105 or CSIQCOPY-1108

- CSIQCOPY-1105** **function/macro REQUEST FOR n BYTES OF MAIN STORAGE FAILED. USE A LARGER PARTITION, OR A SMALLER SIZE PARAMETER**
The indicated internal function issued an operating system macro which required more main storage than was available. If the number of bytes needed is not known, the message will say "REQUEST FOR MAIN STORAGE FAILED." Execute CSIQCOPY in a larger partition (or use a smaller SIZE= parameter). If the problem persists, determine the cause of excessive main storage use.
- CSIQCOPY-1106** **(module+offset) function/macro INVALID PRINT FILE 'filename'**
CSI-QCOPY was unable to open "filename" as a printer file. Check your JCL and parameters. If you request technical assistance for this error, please state the full error message.
- CSIQCOPY-1107** **CANNOT LOAD SORT - ADD AT LEAST nK TO EXEC SIZE**
CSI-QCOPY attempted to load the SORT program into the partition, but the SIZE= parameter on the EXEC JCL statement is too small. The SIZE parameter must allow enough room for CSIQCOPY, plus at least 64K for SORT.
- CSIQCOPY-1108** **(module+offset) function/macro INTERNAL ERROR - ABEND CODE X'xxxx', REASON CODE X'xxxx'**
An internal program function has issued an operating system macro which failed. The function was called at the location indicated by the module and offset information. The system abend code and reason code are displayed. When requesting technical assistance for this error, please state the full error message.
- CSIQCOPY-1109** **ENTER COMMAND**
This message is displayed when CSI-QCOPY is executed from the VSE System Console. You reply to this message with the Commands and Operands required for the current execution of CSI-QCOPY.
You must follow the standard rules for Command Syntax. When you have entered the last Command, respond to this message with a "/"*".
- CSIQCOPY-1150** **(module+offset) xxxxxxxx FUNCTION HAS BEEN ENTERED**
The operating system interface module has been called from (module+offset) to perform a "xxxxxxx" function. This message is issued only if the internal trace has been turned on.
- CSIQCOPY-1501** **VM NOT PRESENT IN MACHINE**
An attempt was made to access a VM/SP Spool Queue entry in a VSE system that is not a VM/SP guest machine.
- CSIQCOPY-1502** **DIAGNOSE qq ERROR RC=rr EC=cc**
An error occurred while CSI-QCOPY attempted to issue the specified VM DIAGNOSE instruction. When requesting technical assistance for this error, please state the full error message.

CSIQCOPY-1506 UNSUPPORTED DEVICE CUU

The VM/SP system volume at virtual address "cuu" is not currently supported by CSI-QCOPYY. When requesting technical assistance for this error, please state the full error message and also provide information on the type of DASD at the Virtual address "cuu".

CSIQCOPY-1507 I/O ERROR CCB=xxxxxxxxxxxxxxxxx SEEK=xxxxxxxxxxxxxxxxx

An I/O error occurred while CSI-QCOPYY attempted to read a VM spool data record. When requesting technical assistance for this error, please state the full error message.

CSIQCOPY-1508 INVALID ALTERATION REQUEST (x/xx)

This is an internal error that should never occur. When requesting technical assistance for this error, please state the full error message.

CSIQCOPY-1509 DASD VOLUME=vvvvvv NOT FOUND

The indicated DASD device could not be located in the VSE machine. You will need to change your ASI IPL procedure to include an ADD statement for this device, and re-IPL the VSE machine. VM system disks do not need to be assigned, but they must be present in the VSE guest machine.

CSIQCOPY-1510 DASD EXTENT ERROR RC=xx

This error occurs if you have DASD File Protect on your VSE machine and there is no room left in the VSE JIB table to add the EXTENTs for the VM Data File.

CSIQCOPY-1590 VM ACCESS ERROR RC=xx, EC=yy

This is an internal error that should never occur. The RC indicates the type of error:

- 04 - Invalid Request
- 08 - Excessive Looping
- 0C - Unrecognizable VM Block

When requesting technical assistance for this error, please state the full error message.

CSIQCOPY-1601 GETVIS FAILURE RC=rr

An attempt to acquire partition GETVIS space failed. The RC indicates the type of error:

- 04 - Partition running real. CSI-QCOPYY must run in a virtual partition.
- 08 - GETVIS space exhausted. You must make more partition GETVIS available to CSI-QCOPYY.
- 12 - Same as RC=08

CSIQCOPY-1690 SPOOL INTERFACE ERROR RC=xx, EC=yy

This is an internal error that should never occur. The RC indicates the type of error:

- 08 - Invalid Request
- 0C - Indexing Error

When requesting technical assistance for this error, please state the full error message.

CSIQCOPY-1701 OUTPUT MODULE ERROR RC=xx, EC=yy

This is an internal error that should never occur. The RC indicates the type of error:

- 04 - Unrecognizable Control Block
- 08 - Invalid Request
- 0C - Function not available
- 10 - Extract Error

When requesting technical assistance for this error, please state the full error message.

CSIQCOPY-1702 GETVIS FAILURE RC=rr

An attempt to acquire partition GETVIS space failed. The RC indicates the type of error:

- 04 - Partition running real. CSI-QCOPY must run in a virtual partition.
- 08 - GETVIS space exhausted. You must make more partition GETVIS available to CSI-QCOPY.
- 12 - Same as RC=08

CSIQCOPY-1705 UNABLE TO FIT DATA LINE IN BUFFER

An output data line exceeds 6144 bytes, which is the size of the output buffer used by CSI-QCOPY.

CSIQCOPY-1707 SYSnnn INVALID SYSNUMBER

The SYSnnn you provided for your output device does not follow the valid syntax of VSE SYS numbers, or it is not valid for the partition being used.

CSIQCOPY-1708 SYSnnn ASSIGNED UA

The SYSnnn you provided for your output device is currently assigned as unavailable. No output can be generated.

CSIQCOPY-1709 SYSnnn ASSIGNED IGN

The SYSnnn you provided for your output device is currently assigned as ignored. No output can be generated.

CSIQCOPY-1710 SYSnnn UNSUPPORTED DEVICE TYPE (xx)

The SYSnnn you provided for your output device is currently assigned to a device type (xx) that is not supported by CSI-QCOPY. All Punch and Printer devices with device codes of x'20' through x'4F' are supported.

- CSIQCOPY-1801 EXCESSIVE TCB LOOPING**
This is an internal error that should never occur. When requesting technical assistance for this error, please state the full error message.
- CSIQCOPY-1802 CANNOT RECOGNIZE POWER**
The version of POWER you are using is not supported by CSI-QCOPY. When requesting technical assistance for this error, please state the full error message.
- CSIQCOPY-1803 NO POWER PARTITION FOUND**
The POWER accessing technique used by CSI-QCOPY requires at least one VSE partition to be executing under the control of POWER. When requesting technical assistance for this error, please state the full error message.
- CSIQCOPY-1804 POWER NOT ACTIVE**
No access to POWER Spool Queues can be performed unless POWER is active in the current VSE machine. When requesting technical assistance for this error, please state the full error message.
- CSIQCOPY-1901 INVALID REQUEST**
An internal program error has occurred. When requesting technical assistance for this error, please state the full error message.
- CSIQCOPY-1902 BATCH OR CICS NOT INDICATED BY CALLER**
An internal program error has occurred. When requesting technical assistance for this error, please state the full error message.
- CSIQCOPY-1904 POWER/VSE IS NOT OPERATIONAL**
This message occurs if you attempt to run CSI-QCOPY in a VSE machine that does not have a POWER partition.
- CSIQCOPY-1905 CANNOT ASSIGN (MCB xFILE n cuu) - GETVCE = xx, ASSIGN = xx**
Applies to systems without DASD File Protect. CSI-QCOPY attempted to dynamically assign a SYS number to device CUU and there were no more logical units available.
- CSIQCOPY-1906 QUEUE ALTERED BY POWER DURING SEARCH**
During the search of the POWER Queue for a selected report, CSI-QCOPY sensed that a modification was made by POWER that could cause a processing loop to occur. Try Command again.
- CSIQCOPY-1907 CANNOT DEFINE XECB**
An attempt was made to process a POWER alter or delete Command and communications with the POWER partition could not be established. Try Command again.
- CSIQCOPY-1908 REPORT DELETED FROM POWER QUEUE**
The report currently being processed by CSI-QCOPY has been deleted from the POWER Queue by some other user. The current function is terminated.

- CSIQCOPY-1909 I/O ERROR, (MCB xFILE n cuu)CCB-(.....) SEEK-(.....)**
An I/O error occurred while CSI-QCOPY was reading the POWER file indicated by the xFILE (Qfile or Dfile).
- CSIQCOPY-1910 INSUFFICIENT WORK AREA - NEED nnnn MORE BYTES**
An internal program error has occurred. When requesting technical assistance for this error, please state the full error message.
- CSIQCOPY-1911 JOB NAME, NUMBER NOR REMOTE ID SPECIFIED**
Access to POWER can only be made with at least one of these fields specified.
- CSIQCOPY-1912 CANNOT FIND LABEL FOR xxxxxxx**
Applies to systems with DASD file protect. An attempt was made to find the label in the label area with a DLBL name of "xxxxxxx". This should never occur if you use IJQFILE and IJDFILE for your Queue and Data file DLBL names. However, if you have specified override values for IJQFILE and IJDFILE and forget to supply matching DLBL and EXTENT cards, this message will be displayed.
- CSIQCOPY-1913 xxxxxxx - SYSnnn ASSIGNED TO cuu,SHOULD BE cuu (vvvvvv)**
Applies to systems with DASD file protect. While it was verifying the assignments on the EXTENT card(s) for the POWER file indicated by "xxxxxxx", CSI-QCOPY determined that the SYS number was assigned to another device. Be sure that the SYS numbers on the extent card are correct.
- CSIQCOPY-1914 LABEL ACCESS ROUTINE IS BUSY - TRY AGAIN**
Applies to systems with DASD file protect. An attempt was made to find the labels for IJQFILE and IJDFILE for your Queue and Data file DLBL names but the VSE label access routine was busy. Try Command again.
- CSIQCOPY-1915 ZERO LENGTH DATA RECORD FOUND**
The report being processed in a POWER queue contains a data record with a length of zero. This either means the report itself is bad, or an internal logic error exists in CSI-QCOPY. Try recreating the report. If the error reoccurs, request technical assistance.
- CSIQCOPY-1917 DATA BLOCK (xxxxxxxx) INVALID**
This is an internal error. It indicates that an improper parameter error was passed between program modules. When requesting technical assistance for this error, please state the full error message.
- CSIQCOPY-1918 UNABLE TO LOAD BIMPWR00**
This error occurs on VSE/SP 3.1 and above if the SVA module BIMPWR00 cannot be loaded. Refer to the installation section for information on how to install this module.

- CSIQCOPY-1919 BIMPWR00 MUST BE IN SVA**
This error occurs on VSE/SP 3.1 and above if the SVA module BIMPWR00 was not loaded into the SVA. Refer to the installation section for information on how to install this module.
- CSIQCOPY-2201 CDLOAD ERROR ON BIMXPC00**
CSI-QCOPY uses the POWER XPCC interface. As part of this interface, CSI-QCOPY requires access to module BIMXPC00 which contains the required XPCC control blocks. Module BIMXPC00 was provided on the Product Installation Tape. Make sure it is in a Library accessible to CSI-QCOPY.
- CSIQCOPY-2202 IDENTIFY FAILURE, RC=xx**
VSE rejected the attempt by CSI-QCOPY to identify itself to the POWER XPCC interface. Refer to the POWER Application Programming manual for return codes at IJBXRETC as a result of an IDENT function.
- CSIQCOPY-2203 VSE/POWER BEING TERMINATED**
The VSE XPCC interface has notified CSI-QCOPY that POWER is being terminated.
- CSIQCOPY-2204 CONNECT FAILURE, RC=xx**
VSE rejected the attempt by CSI-QCOPY to connect itself to the POWER XPCC interface. Refer to the POWER Application Programming manual for return codes at IJBXRETC as a result of a CONNECT function.
- CSIQCOPY-2205 CONNECT NOT COMPLETED IN 2 MINUTES**
POWER did not respond to the connection request from CSI-QCOPY within a 2 minute timer. Request technical assistance for this problem.
- CSIQCOPY-2206 DISCONNECT FAILURE, RC=xx**
VSE rejected the attempt by CSI-QCOPY to disconnect itself from the POWER XPCC interface. Refer to the POWER Application Programming manual for return codes at IJBXRETC as a result of a DISCONN function.
- CSIQCOPY-2207 TERMINATE FAILURE, RC=xx**
VSE rejected the attempt by CSI-QCOPY to terminate the POWER XPCC interface. Refer to the POWER Application Programming manual for return codes at IJBXRETC as a result of a TERMIN function.
- CSIQCOPY-2208 VSE/POWER TERMINATED ABNORMALLY**
The VSE XPCC interface has notified CSI-QCOPY that POWER has terminated abnormally.
- CSIQCOPY-2209 SENDR FAILURE, VSE RC/REAS=rc/re,
PWR RC/FDBK=rc/fb**
A failure occurred while CSI-QCOPY was attempting to send data to POWER via the XPCC interface. If the VSE return code/reason code is non-zero, then VSE rejected the request. If the PWR return code/feedback are non-zero, then POWER rejected the request. Refer to the POWER

Application Programming manual for return codes at IJBXRETC and IJBXREAS as a result of a SENDR function. If POWER rejects the request, request technical assistance for this problem.

- CSIQCOPY-2210 **[PUT
PUT-EOF
PUT-QUIT
COMMAND] FAILURE AT [OPEN
SDATA
SENDER],
PWR RC/FDBK=rc/fb**
A failure occurred while CSI-QCOPY was attempting to use the POWER XPCC interface. Request technical assistance for this problem.
- CSIQCOPY-2211 **INPUT LINE LONGER THAN SEND-BUFFER, xxxx/yyyy**
CSI-QCOPY attempted to send a single line of data to POWER that was longer than the maximum expected. 'xxxx' is the line length in Hex, yyyy is the maximum expected in Hex.
- CSIQCOPY-2212 **INSUFFICIENT GETVIS IN POWER PARTITION**
CSI-QCOPY could not activate the current XPCC link to POWER without the possibility of POWER running out of GETVIS. Try the request again later. If the problem persists, consider increasing the GETVIS size in your POWER partition. Each XPCC link requires a minimum of 3k of GETVIS in the POWER partition, plus space for a POWER data buffer.
- CSIQCOPY-2299 **INVALID PARM AREA - xxxxxxxx**
An internal error occurred attempting to pass data to module BIMXCPMD. Request technical assistance for this problem.
- CSIQCOPY-2501 **CDLOAD ERROR ON BIMXMC00**
CSI-QCOPY requires access to module BIMXMC00 which contains the required XPCC control blocks for Cross-Partition Communication. Module BIMXMC00 was provided on the Product Installation Tape. Make sure it is in a Library accessible to CSI-QCOPY.
- CSIQCOPY-2502 **IDENTIFY FAILURE, IDENT=xxxxxxx, RC=xx**
VSE rejected the attempt by CSI-QCOPY to identify itself to the XPCC interface as 'xxxxxxx'. The VSE XPCC interface is documented in the VSE/POWER manuals. Refer to the POWER Application Programming manual for return codes at IJBXRETC as a result of an IDENT function.
- CSIQCOPY-2503 **REQUESTED APPLICATION-xxxxxxx IS NOT ACTIVE**
CSI-QCOPY cannot communicate to Application 'xxxxxxx' because the Application is not active in your VSE System.
- CSIQCOPY-2504 **CONNECTION TO xxxxxxxx IS BUSY**
Request technical assistance for this problem.

- CSIQCOPY-2505 CONNECTION TO xxxxxxxx NOT COMPLETED IN 2 MINUTES**
Application 'xxxxxxx' did not respond to the connection request from CSI-QCOPY within a 2 minute timer. Request technical assistance for this problem.
- CSIQCOPY-2506 DISCONNECT FAILURE, RC=xx**
VSE rejected the attempt by CSI-QCOPY to disconnect itself from the XPCC interface. The VSE XPCC interface is documented in the VSE/POWER manuals. Refer to the POWER Application Programming manual for return codes at IJBXRETC as a result of a DISCONN function.
- CSIQCOPY-2507 TERMINATE FAILURE, RC=xx**
VSE rejected the attempt by CSI-QCOPY to terminate the XPCC interface. The VSE XPCC interface is documented in the VSE/POWER manuals. Refer to the POWER Application Programming manual for return codes at IJBXRETC as a result of a TERMIN function.
- CSIQCOPY-2508 CONNECTION TO xxxxxxxx TERMINATED ABNORMALLY**
The VSE XPCC interface has notified CSI-QCOPY that Application 'xxxxxxx' has terminated abnormally.
- CSIQCOPY-2509 xxxxxxxx FAILURE, VSE RC/REAS=rc/re**
A failure occurred while CSI-QCOPY was attempting XPCC function 'xxxxxxx'. Request technical assistance for this problem.
- CSIQCOPY-2510 RECEIVE FROM xxxxxxxx NOT COMPLETED IN 2 MINUTES**
Application 'xxxxxxx' did not respond to the receive request from CSI-QCOPY within a 2 minute timer. Request technical assistance for this problem.
- CSIQCOPY-2511 CONNECTION TO xxxxxxxx TERMINATED NORMALLY**
Request technical assistance for this problem.
- CSIQCOPY-2512 XMCFPOST DETECTED**
Request technical assistance for this problem.
- CSIQCOPY-2599 INVALID PARM AREA - xxxxxxxx**
An internal error occurred attempting to pass data to module BIMXMCMD. Request technical assistance for this problem.
- CSIQCOPY-2600 FUNCTION NOT SUPPORTED FOR ARCHIVE**
Internal error, should not occur. Contact BIM technical support for assistance.
- CSIQCOPY-2601 ERROR IN FILE ACCESS fffffff mmmmmmmmmmmmm**
File access error for file fffffff. Additional information is shown in the message depending on the type of file error encountered. The possibilities are:
- | | |
|------------|---|
| DATASET ID | The Dataset ID was not found in the CICS FCT. |
|------------|---|

DUPLICATE KEY	Should not occur. Contact BIM technical support.
I/O ERROR	Additional information should be displayed on the system console to help resolving this problem.
NO SPACE	The indicated dataset is full.

CSIQCOPY-2602 ARCHIVE SYSTEM AT MAXIMUM REQUESTS

The archive system is at the limit you specified on either the batch SYSTEM Command or on-line on the SYSTEM MANAGEMENT screen. In either case, BIM-ARCHIVE cannot service this request at this time. Try again later. If the problem persists, you may need to increase the maximum requests to allow for more concurrent processing.

CSIQCOPY-2603 UNEXPECTED RESPONSE FROM ARCHIV RC=xx

Something unusual happened in the BIM-ARCHIVE system. The return code can be:

- 01 System at maximum requests (see message 2602)
- 02 System busy, cannot close
- 03 System is unable to re-open data files
- 04 System is quiesced
- 05 Should not occur. Contact BIM technical support for assistance in resolving this problem.

CSIQCOPY-9998 WARNING - PRODUCT AUTHORIZATION EXPIRES IN 30 DAYS OR LESS

This message is displayed on the system console if the copy of CSI-QCOPY you are using is about to expire. Contact your BIM product sales representative for a new Expiration Password.

CSIQCOPY-9999 PRODUCT AUTHORIZATION HAS EXPIRED

CSI-QCOPY is protected with an Expiration Password. This message is displayed on the system console if that Password has expired. Contact your BIM product sales representative for a new Expiration Password.

APPENDIX A

How to Code Commands (Syntax)

This section describes the rules for coding CSI-QCOPY Commands and their Operands. The meaning and use of the Commands themselves are not described here. The examples given here are intended only to clarify the coding syntax, not to show how to use a particular Command or Operand.

Commands are coded as one or more lines in a SYSIN file. Each Command may be continued using any number of lines.

A Command may contain comments, which can be coded anywhere within the Command. Comments may also be coded separately, rather than as part of a Command.

Terminology

The special terms defined below are used to describe the Command syntax.

- **COMMAND**: A Command is a CSI-QCOPY-defined Command name followed by Operands and comments. Each Command is defined and processed by CSI-QCOPY as a single entity, and may or may not be related to other Commands.
- **KEYWORD Operand**: Keyword Operands are represented in Command descriptions with upper-case letters, and indicate CSI-QCOPY-defined words which either identify Sub-Operands that follow the keyword in parentheses, or modify the action taken during the processing of a Command.
- **POSITIONAL Operand**: Positional Operands are represented in Command descriptions with lower-case letters, and indicate user-provided data needed by the Command.
- **SEPARATOR CHARACTER**: A separator character is used to end an Operand, and to indicate the relationship of that Operand to other Operands. The separator characters are: space, comma, left and right parentheses, slash, and semi-colon.
- **COMMENTS**: CSI-QCOPY allows you to code comments in the SYSIN file. Comments are for your own documentation and are printed, but not processed, with the Commands.

Coding CSI-QCOPY Operands

CSI-QCOPY Commands all have the following general structure:

COMMAND-NAME Operands ... ;

The semi-colon (;) is optional, and signals the end of the Command. If you are using SYSIN Commands, anything coded after a semi-colon is ignored. If you are using PARM= Commands, the semi-colon marks the end of the current Command and the beginning of the next Command. The Command-name must be the first word in a Command, terminated by a space. It is normally followed by Operands which further define the action to be taken by the Command. The Operands which are allowed after the Command-name are separated using one or more spaces. If an Operand requires one or more Sub-Operands, the Sub-Operands are coded in parentheses in the following manner ...

```
COMMAND  PARM-1  PARM-2 (SUB-A (...) SUB-B) PARM-3...
```

where PARM-1, PARM-2, SUB-A, SUB-B, and PARM-3 are valid keyword or positional Operands defined for the Command named "COMMAND". Only Operands defined as valid for PARM-2 may be coded as Sub-Operands following PARM-2. The Operands PARM-1, PARM-2, and PARM-3 are considered to be at the same logical level, regardless of any Sub-Operands specified for each of them. Operands and Sub-Operands of all logical levels follow the same coding rules.

The Command-name, Operands, and separator characters may be preceded or followed by any number of spaces. This can be used to make Commands more readable, and easier to maintain.

Keyword Operands can be coded in any order, unless the description of a Command states otherwise. Some keywords may be defined as having one or more prefixes which alter the meaning of the keyword.

Positional Operands may be coded in a variety of ways, to allow you to specify any type of data. If the data needed for an Operand contains separator characters or non-printable characters, code the Operand as a **quoted string** or as a **hexidecimal string**. If an Operand is defined as a number, you may code it either as a decimal number, or use hexadecimal notation. The relative position of each positional Operand within the Command determines the sequence in which they are acted upon.

Coding Continuation

You may specify any CSI-QCOPY Command on more than one input line by coding either a "+" or "-" as the **last non-blank character** of all but the last line of the Command. If a "-" is used as the continuation character, the Command is continued starting at the **left margin** of the following line. If a "+" is used, the Command is continued starting with the **first non-blank character** of the following line. All data on the line up to, but not including, the "+" or "-" is used. The following examples will all have the same result:

```

COMMAND PARM-1 PARM-2 (SUB-A (DATA) SUB-B) PARM-3

COMMAND PARM-1 PARM-2 (SUB-A (DA+
      TA) SUB-B) PARM-3

COMMAND PARM-1 PARM-2 (SUB-A (DA-
      TA) SUB-B) PARM-3

COMMAND PARM-1
      PARM-2 (
                SUB-A (DATA)
                SUB-B
                )
      PARM-3

```

Continuation works in the same way regardless of whether it takes place in the middle of a word, within a quoted string or comment, between Operands, or after a semi-colon (;). It takes place as the lines are read, before any other characters are interpreted.

Coding Quoted Strings

Quoted strings are valid for any positional Operand, to allow you to:

- Code data that contains separator characters - 'NOT FOUND'.
- Code data that would otherwise be interpreted as a keyword.
- Code data in hexadecimal notation - x'C8C5E7'.
- Code lower case data - 'This will remain lower case'.

To specify the quote character within a quoted string, code two consecutive quotes:

```
"THIS STRING CONTAINS "QUOTES" IN IT"
```

Coding Comments

It is often useful to put comments with the Operands. Since a semi-colon ";" ends the Operand processing of a Command, anything coded after a semi-colon is treated as a comment. If continuation is specified after a semi-colon, the Command is continued to the next line.

A more flexible method of coding comments is provided. A comment may appear at any point that a separator character is valid, by coding "/* comment */". Any characters may appear between the "/*" and "*/", and the comment may be continued to any number of lines by using the normal continuation method. If you do not end the comment, or code a continuation character on the line, an error message is issued. In the following examples, the lower case characters represent data that are treated as comments:

```
COMMAND PARM-1;parm-2(sub-a(data) sub-b) parm-3
COMMAND PARM-1      /* comment for parm-1 */           -
      PARM-2( /* comment for parm-2 */                 -
              /* more comments */                       -
      SUB-A(DATA)   -
      )             -
      /* a single comment can be-
      continued */
```

APPENDIX B

Generating FCBs

If your system has a printer that uses FCBs (forms control buffers), then you may be able to skip this section since your system already has FCBs cataloged to your Core Image Library.

Systems with printers that use carriage control tapes (therefore not requiring FCBs) will need an FCB generated for each form used with this product. Information on coding your own FCB is found in 'DOS/VSE SYSTEM CONTROL STATEMENTS'.

For your convenience, we have provided a macro that will simplify this process. It is called BIMFCB and has the following format.

1.....10....16..20...25...30...35..	..72
FCBNAME BIMFCB TYPE=,	X
LINES=,	X
LPI=,	X
CHANNEL=,	X
POS=	

where:

- FCBNAME - is the FCB phase name
- TYPE - may be INITIAL, FINAL or omitted
- LINES - indicates the page length
- LPI - indicates lines per inch - either 6 or 8
- CHANNEL - indicates channel 1 thru 12
- POS - indicates lines 1 thru 255

(A sample FCB is shown on the following page)

Sample FCB

Shown below is a sample FCB with the following characteristics:

- FCB name is 'FCB001'
- 66 lines per page
- 6 lines per inch
- channel 1 is on line 1
- channel 2 is on lines 12 and 16
- channel 12 is on line 56

```
1.....10....16..20...25...30...35...40          ..72
FCB001  BIMFCB TYPE=INITIAL,                        X
          LINES=66,                                X
          LPI=6
          BIMFCB CHANNEL=1, POS=1
          BIMFCB CHANNEL=2, POS=(12,16)
          BIMFCB CHANNEL=12, POS=56
          BIMFCB TYPE=FINAL
          END
```

Notes:

- LINES and LPI can only be used with TYPE=INITIAL.
- CHANNEL and POS must be used together and no other Operand may be specified along with them.
- TYPE=INITIAL must be coded first, TYPE=FINAL must be coded last (before the END card) and the CHANNEL cards must be coded in between.
- A value in POS may not be greater than LINES.

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