CICS® Transaction Server for VSE/ESA™

Report Controller User's Guide

Release 1

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First Edition (June 1999)

This edition applies to Release 1 of CICS Transaction Server for VSE/ESA, program number 5648-054, and to all subsequent versions, releases, and modifications until otherwise indicated in new editions. Make sure you are using the correct edition for the level of the product.

The CICS for VSE/ESA Version 2.3 edition remains applicable and current for users of CICS for VSE/ESA Version 2.3.

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Preface

What this book is about
This book is about using the IBM CICS Transaction Server report controller facility. It provides guidance about report controller functions, including day-to-day tasks, and a complete description of the end-user interface.

Who this book is for
This book is for supervisory and master terminal operators. System and application programmers should also find it useful because it contains a complete description of the end-user interface.

What you need to know to understand this book
You should be familiar with using terminals and printers. You do not need to know anything about CICS to use the reports, printers, and JCL reports (jobs) options of the report controller. However, to use the transient data queues option, you need to know what transient data queues are and how they can be used.

How to use this book
Read Part 1, "Introducing the report controller" on page 1 first to find out what the report controller can help you do. Then read Part 2, "Tutorial" on page 9 to find out how to use the report controller.

The tutorial is designed to be used at a terminal with a set of sample reports (which it shows you how to obtain). If you don't want to use the tutorial in this way, just read its step-by-step instructions and find out what happens by looking at the illustrations.

You may then want to read Part 3, "Day-to-day tasks" on page 53, to find out about other things the report controller can help you do. You can try out some of the tasks with the sample reports.

When you are familiar with the basic functions of the report controller, refer to Part 4, "Reports – reference information" on page 73, and Part 5, "Printers – reference information" on page 99 for *complete* descriptions of the reports and printers options. For *outlines* of two further options, refer to Part 6, "JCL reports (jobs) (CEMS only) – reference information" on page 119, and Part 7, "Transient data queues (CEMS only) – reference information" on page 131.

Part 9, "Your own information" on page 143 gives you space to note the names of reports, printers, and so on, that you use. Part 10, "Information for supervisors" on page 145 should help supervisory operators answer questions they may get from report controller users.

At the back of the book, as well as a a glossary and an index, there is a quick reference list, which gives brief reminders of how to perform a number of tasks.

Some terms (for example, **resume** and **paused**) have a special meaning for the report controller. These terms, plus names of keys, things that you type or that the report controller displays on your terminal screen, are shown in a different type (for example, `RESUME`, `PAUSED`, `ENTER`, and `REPORT LIST`).

Notes on terminology

The terms listed in Table 1 are commonly used in the CICS Transaction Server for VSE/ESA Release 1 library. See the *CICS Glossary* for a comprehensive definition of terminology.

Table 1 (Page 1 of 2). Commonly used words and abbreviations	
Term	**Definition (and abbreviation if appropriate)**
$(the dollar symbol)	In the character sets and programming examples given in this book, the dollar symbol ($) is used as a national currency symbol and is assumed to be assigned the EBCDIC code point X'5B'. In some countries a different currency symbol, for example the pound symbol (£), or the yen symbol (¥), is assigned the same EBCDIC code point. In these countries, the appropriate currency symbol should be used instead of the dollar symbol.
BSM	BSM is used to indicate the basic security management supplied as part of the VSE/ESA product. It is RACROUTE-compliant, and provides the following functions: - Signon security - Transaction attach security
C	The C programming language
CICSplex	A CICSplex consists of two or more regions that are linked using CICS intercommunication facilities. Typically, a CICSplex has at least one terminal-owning region (TOR), more than one application-owning region (AOR), and may have one or more regions that own the resources accessed by the AORs
CICS Data Management Facility	The new facility to which all statistics and monitoring data is written, generally referred to as "DMF"
CICS/VSE	The CICS product running under the VSE/ESA operating system, frequently referred to as simply "CICS"
COBOL	The COBOL programming language
DB2 for VSE/ESA	Database 2 for VSE/ESA which was previously known as "SQL/DS".

Table 1 (Page 2 of 2). Commonly used words and abbreviations	
Term	**Definition (and abbreviation if appropriate)**
ESM	ESM is used to indicate a RACROUTE-compliant external security manager that supports some or all of the following functions: • Signon security • Transaction attach security • Resource security • Command security • Non-terminal security • Surrogate user security • MRO/ISC security (MRO, LU6.1 or LU6.2) • FEPI security.
FOR (file-owning region)—also known as a DOR (data-owning region)	A CICS region whose primary purpose is to manage VSAM and DAM files, and VSAM data tables, through function provided by the CICS file control program.
IBM C for VSE/ESA	The Language Environment-conforming version of the C programming language compiler. Generally referred to as "C/VSE".
IBM COBOL for VSE/ESA	The Language Environment-conforming version of the COBOL programming language compiler. Generally referred to as "COBOL/VSE".
IBM PL/I for VSE/ESA	The Language Environment-conforming version of the PL/I programming language compiler. Generally referred to as "PL/I VSE".
IBM Language Environment for VSE/ESA	The common runtime interface for all LE-conforming languages. Generally referred to as "LE/VSE".
PL/I	The PL/I programming language
VSE/POWER	Priority Output Writers Execution processors and input Readers. The VSE/ESA spooling subsystem which is exploited by the report controller.
VSE/ESA System Authorization Facility	The new VSE facility which enables the new security mechanisms in CICS, generally referred to as "SAF"
VSE/ESA Central Functions component	The new name for the VSE Advanced Function (AF) component
VSE/VTAM	"VTAM"

Determining if a publication is current

IBM regularly updates its publications with new and changed information. When first published, both the printed hardcopy and the BookManager softcopy versions of a publication are in step, but subsequent updates are normally made available in softcopy before they appear in hardcopy.

For CICS Transaction Server for VSE/ESA Release 1 books, softcopy updates appear regularly on the *Transaction Processing and Data Collection Kit* CD-ROM, SK2T-0730-xx and on the *VSE/ESA Collection Kit* CD-ROM, SK2T-0060-xx. Each reissue of the collection kit is indicated by an updated order number suffix (the -xx part). For example, collection kit SK2T-0730-20 is more up-to-date than SK2T-0730-19. The collection kit is also clearly dated on the front cover.

For individual books, the suffix number is incremented each time it is updated, so a publication with order number SC33-0667-02 is more recent than one with order number SC33-0667-01. Updates in the softcopy are clearly marked by revision codes (usually a "#" character) to the left of the changes.

Note that book suffix numbers are updated as a product moves from release to release, as well as for updates within a given release. Also, the date in the edition notice is not changed until the hardcopy is reissued.

Part 1. Introducing the report controller

This section introduces you to the IBM® CICS® Transaction Server for VSE/ESA™ report controller. When you have read it, you should know what the report controller is, and how it can help you with your work.

1

What is the report controller?

The report controller looks after data that is produced in the computer for printing. This data may have been produced by you, or it may have been created by other parts of the computer system and then sent to the report controller. A collection of this data is called a **report**. A report[1] can be any set of information (both text and illustrations) that you need to print, and can be from a single line through 65 535 pages long.

What does the report controller help you do?

Using the report controller, you can control reports and printers *from your terminal*. You can:

- Organize reports as you want, hold them until you want to print them, and delete them when you no longer need them.

- Control the printers that you use to print your reports. You can start and stop a printer, and change what is printed, say which paper is to be used, and check which paper is loaded. You can print test pages to check whether newly loaded paper is correctly lined up.

- List reports and printers to find out what is currently happening to them.

The report controller controls printing so that you do not have to wait for any reports to finish being printed before you send others, and you can use your terminal for other work while your reports are being printed. Also, you should only have to go to the printer if you are responsible for loading new paper, collecting printed reports, or fixing the printer.

Figure 1 on page 3 shows an example of an office layout, with the report controller receiving input from terminals and looking after reports and printers. The terminals and printers can be in the same room or in different rooms, or there can be several printers in the same room. You can also use printers in locations other than the one in which you work.

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[1] Reports can be created by programmers using CICS commands in their programs. If you want to know more about creating reports, see the *CICS Report Controller Planning Guide* (The SPOOL commands are documented in the *CICS Application Programming Reference* manual.
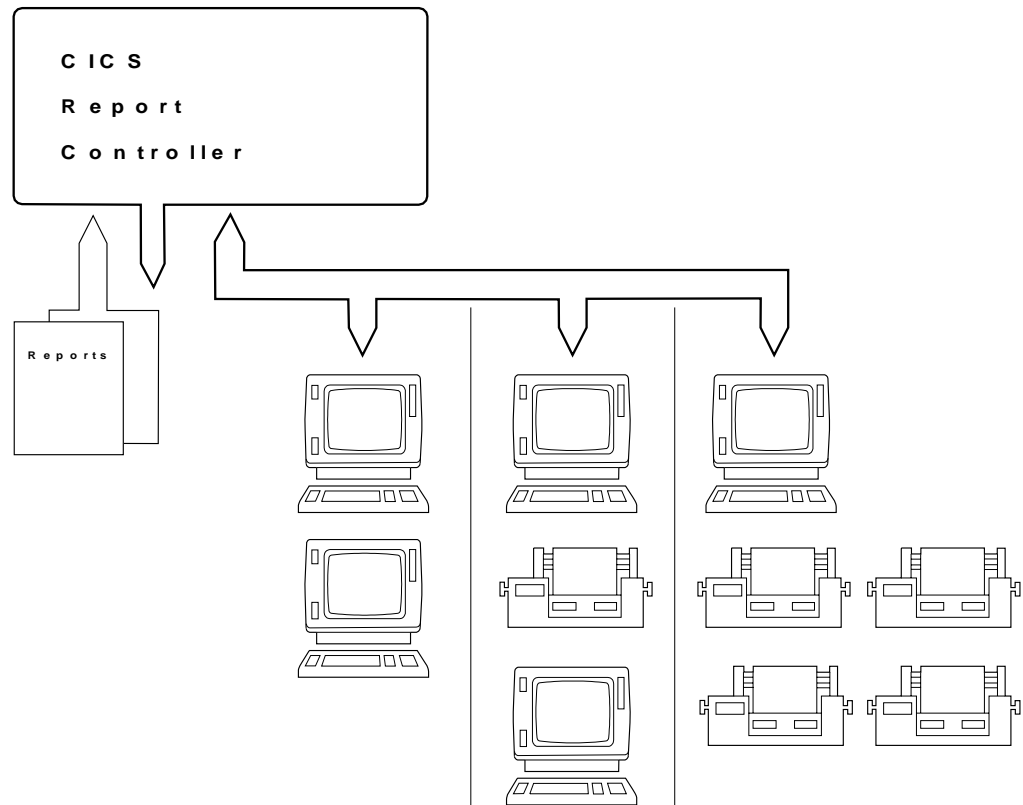
Figure 1. Example of an office layout with the report controller

Printing when you want

You use the **panels**[2] that the report controller displays on your terminal screen to get your printing done *when* you want. For example, you may want to print in any of the following situations:

- When a report is needed urgently, for example, for an important meeting. You can stop what is being printed on a particular printer, print the urgent report, and then go back to the first report.

- When there has been a printer or computer system failure, or the computer system has been started after overnight end of work.

Printing where you want

You use the panels that the report controller displays on your terminal screen to get your printing done *where* you want. For example, you may want to change where your printing is done because:

- You need to use a printer with special features, such as fast printing, or top quality output.

- Reports must be printed at a different location.

- The printer you normally use is not working.

---

[2] A **panel** is the information that the report controller displays on your terminal screen at any one time.

Reorganizing your printing

You use the panels that the report controller displays on your terminal screen to *reorganize* your printing. You can stop the printer:

- At any time. For example, you can stop it if you want to print different reports, to change the paper, or to reprint pages of certain reports.

- Without having to wait for all the reports to be printed if you do not need them right now. You can then print them, for example, the next day.

How to get your reports printed the way you want

To get the report controller to print reports as you want them, you need to understand how to use **report and printer characteristics**. As these terms suggest, **report characteristics** make up the description of a report and the way it is printed, and **printer characteristics** make up the description of a printer and what it is printing. The report controller displays these characteristics in panels on your terminal screen, where you can change them as you want. You do not need to know how to do this yet; you can find out in the Part 2, "Tutorial" on page 9. However, you should read the following description of characteristics before you begin the tutorial.

When you start using the report controller, it probably already contains some reports. They may have been created by you or by other users in another part of the computer system, and then sent to the report controller to be stored.

When you turn on a printer, it may start to print reports already sent by you or by other users. This is because the report controller has stored the instructions given to it about the reports, and the report and printer characteristics match.

Getting report and printer characteristics to match

Making report and printer characteristics match is important, because the report controller prints reports that are ready to be printed only if the following three characteristics match on reports and printers:

- DESTINATION
- CLASS
- FORMS.

These characteristics have the following meanings for reports and printers:

- DESTINATION

  For a **report**, destination is where the report is printed. For a **printer**, destination is the name of the group the printer is assigned to. Destinations are flexible names for groups of printers. They are set up by your own organization. There can be one or more printers in the group. (Printer names identify individual printers.) Some possible destinations are: the name of a department (for example, ACCOUNTS), or your name, or an identifier (often known as a user ID) that you use when you work with the computer.

  Changing destination lets you reorganize your printing because you do not have to wait for one particular printer. For example, if your printer is out of service, or the kind of paper you want is already loaded on another printer, or another user wants the report, or the report is assigned to a different printer, you can change the destination. The report is printed on the first available printer of the group, if the other characteristics match.

  Destination also lets you spread the load of your printing. Suppose, for example, that you have to do all the printing for the accounts department. You would give your reports the destination ACCOUNTS, and the report controller would distribute them to all the printers assigned to that destination, (printers named PRT1, PRT2, PRT3, and PRT4, as shown in Figure 2).
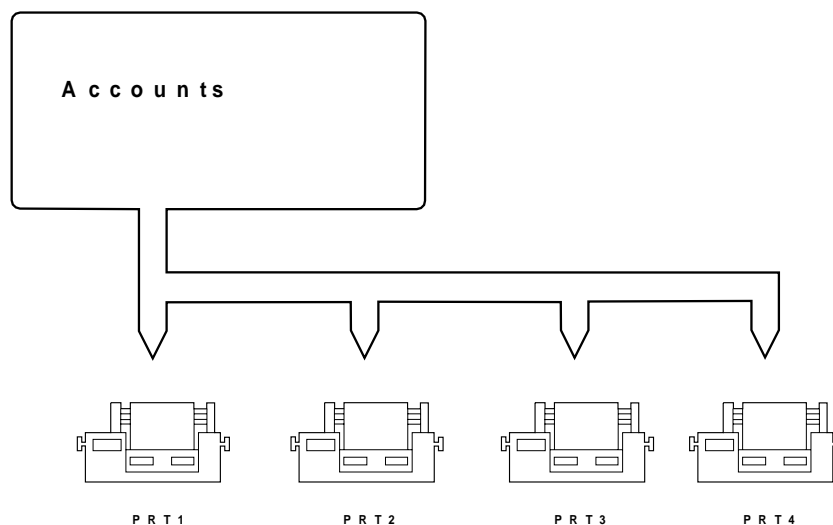
Figure 2. Example of printer destinations

- CLASS
  For **reports**, class is a single-letter or single-digit identifier that groups them for printing. For a **printer**, class identifies the reports it is to print. Classes are set up by your organization, and each one can have a special meaning. For example, one type of report may always be of the same class, or particular users or printers may always use certain classes only.

- FORMS
  For a **report**, forms identifies the kind of paper the report must be printed on. For a **printer**, forms identifies the kind of paper that must be loaded. You can change the forms that a printer is using, but not the forms that a report must be printed on.

Changing other characteristics

You can change the following report and printer characteristics:

COPIES   The number of copies of a report to be printed. You can ask for any number of copies in the range 1 through 255.

PRIORITY
  The urgency with which reports of a particular class are printed. Priority 9 is the most urgent, and 1 is the least urgent.

START PAGE and END PAGE
  The pages of the report on which printing is to start and end.

SEPARATOR PAGE
  A divider page printed at the beginning and end of reports to separate and identify them.

ALIGN FORMS
  A test print of a few report pages, so that you can check whether newly loaded paper is correctly lined up.

ALIGN PAGES
  The number of pages to be printed when you use ALIGN FORMS. The report controller automatically prints one align forms page, so you only need to change the number if you want more.

PRINTER MESSAGES
  Messages issued by the printer (for example, if it is stopped by a report controller user). You can choose whether they are printed.

STATUS   What is currently happening to a report, or what a printer is doing. Each report status is explained in "Status" on page 77, and each printer status is described in Table 2 on page 105.

Options available on the report controller

There are four options available on the report controller:

- The **reports** option.
  Use this option to control reports to be printed.

- The **printers** option.
  Use this option to control printers used to print reports.

- The **JCL reports (jobs)** option.
  Use this option to control jobs to be run in the computer. (JCL stands for job control language.)

- The **transient data queues** option.
  Use this option to control transient data queues, and to create reports from them.

- The **restart CXPB Transaction** option.
  Use this option to restart the POWER-CICS communication path handled by CICS-supplied transaction CXPB. Note that this option can only be exercised when CXPB status shows as Inactive.

How to get these options

There are two instructions (known as **transactions**) that you can send to the computer to tell it that you want to use the report controller. The transactions are called **CEOS** and **CEMS**.

Important

To use the report controller transactions CEMS and CEOS on a KANJI or CHINESE terminal, the TYPETERM definition of that terminal must be defined with SOSI=YES and EXTENDEDDS=YES in order to display the DBCS fields correctly.

The CEOS transaction lets you use the reports and printers options, as shown in Figure 3.
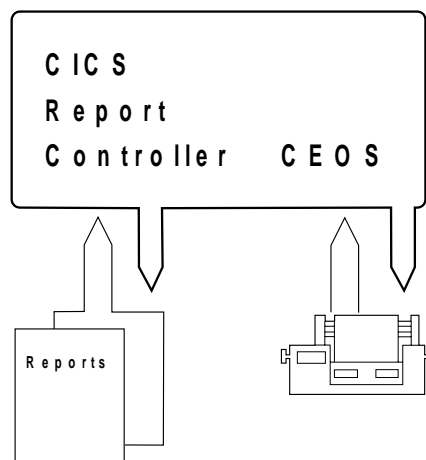
Figure 3. Map of CEOS transaction

The CEMS transaction lets you use the reports, printers, JCL reports (jobs), and transient data queues options, as shown in Figure 4. You should only need to use the CEMS transaction if you use JCL reports (jobs), or transient data queues.
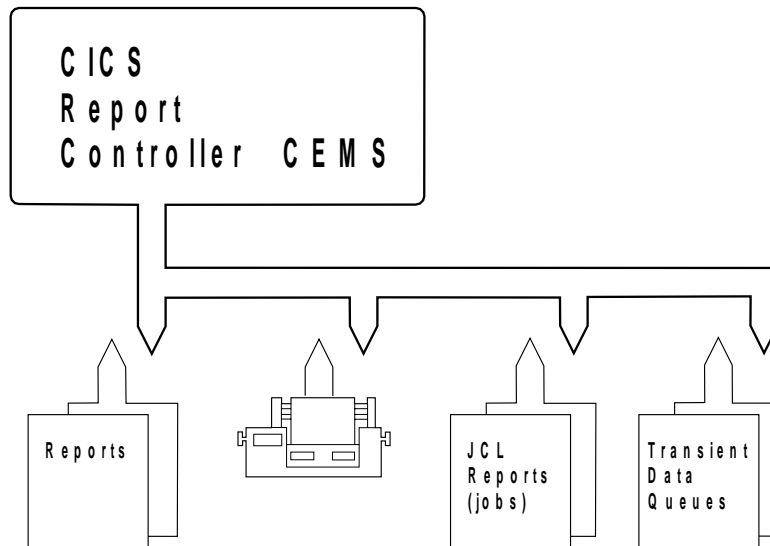
Figure 4. Map of CEMS transaction

Choosing the option you want to use

You type the name of the transaction you want to use on your terminal screen. The computer then displays a panel called `CICS REPORT CONTROLLER`. You use this panel to tell the report controller which option you want. When you have finished with that option and want to use another, you go back to the `CICS REPORT CONTROLLER` panel to select it. This is explained in Part 2, "Tutorial" on page 9.

Part 2. Tutorial

This section leads you through the basic tasks that you can perform with the report controller. You can try out what is described in this chapter at your terminal, using some sample reports. (You are shown how to get these reports at the beginning of the section.) If you don't want to use the sample reports, you can just read this chapter to get a general picture of what happens when you start using the report controller.

Supervisors should see Part 10, "Information for supervisors" on page 145 to find out what must be provided to use the tutorial with the sample reports.

In this section, a small square distinguishes what *you* have to do (such as pressing a key or making a note of something) from descriptions of what the *report controller* does.

Map of reports and printers panels
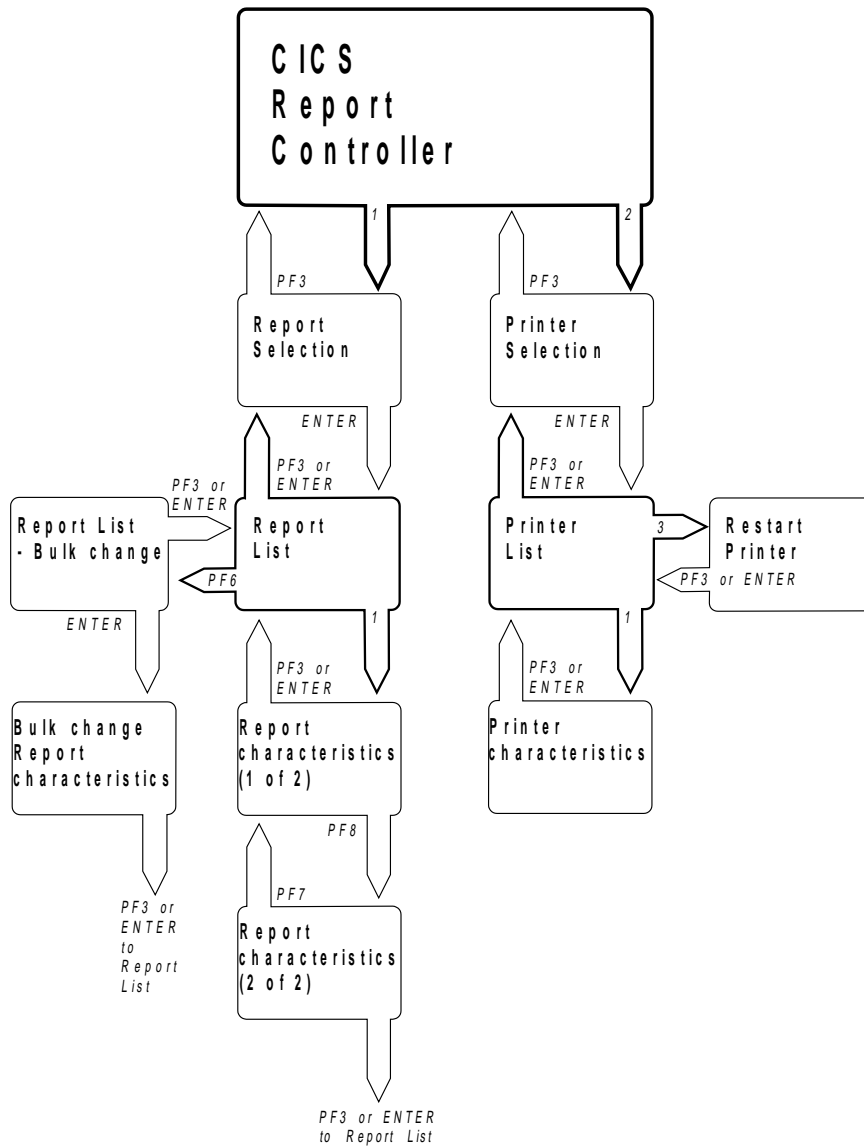
Figure 5. Map of report and printer panels

You may find it useful to refer to Figure 5 while you are working through the tutorial. It shows you the name of each panel in the reports and printers options, and which keys to press to get from one panel to another. Also, at the beginning of each section that provides reference information for an individual option, a map is given of that option.

What you can find out from the tutorial

When you have finished this section, you should know how to use the report controller to inquire into (and control) the printing of your reports.

How much time do I need to spend?

It should take you between one and two hours to work through this tutorial. Don't worry if it takes you longer than this because you want to take your time over reading the descriptions, or follow up references to other parts of the book. These point to extra information that isn't essential to understanding the tutorial. You may want to follow up these references immediately, or you may prefer to read the extra information at another time. At the end of the tutorial you can experiment further, if you want to, perhaps using some of Part 3, "Day-to-day tasks" on page 53.

Can I stop before the end?

If you want to know how to stop working through the tutorial at any time, see "Ending the tutorial" on page 49.

Before you start

You should read Part 1, "Introducing the report controller" on page 1, if you haven't already done so.

If you want to use the tutorial with a set of sample reports, ask your supervisor to make sure everything you need is available.

Signing on to CICS

Sign on to CICS. If you haven't done this before, ask your supervisor to show you how. When you have signed on, you are ready to get some sample reports.

Getting some sample reports

To get the sample reports:

- Ensure that your terminal screen is clear before you type anything. If it is not clear, press the CLEAR key.

- Type the letters srep (or SREP), as shown in Figure 6.

```
srep
```
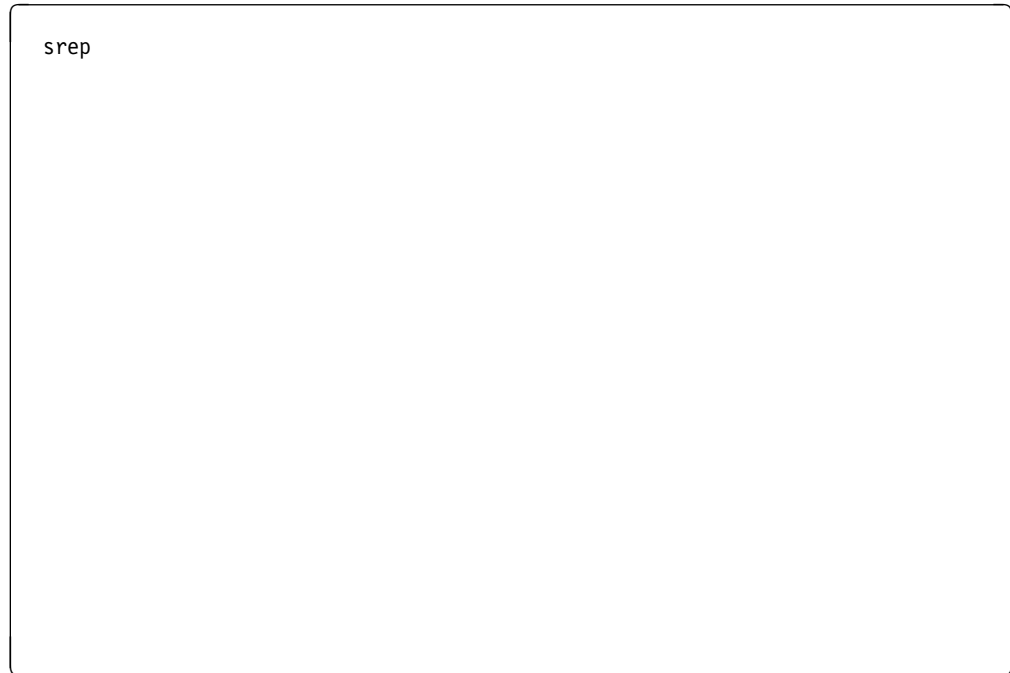
Figure 6. Sample reports initial panel

SREP is an instruction (known as a **transaction**) that tells the computer that you want to get some sample reports. The computer creates the contents of these reports; you do not have to type them yourself.

- Now press the ENTER key to "send" what you have typed on your terminal screen to the computer. Anything you type on your screen won't be sent to the computer if you press a different key.

After a short time, you should get a message on your screen, as shown in Figure 7 on page 13. If you get a different message, or no message at all, ask your supervisor to help you.

Your sample reports

Figure 7 shows the message you should get on your terminal screen when your sample reports have been created.

```
SREP
SAMPLE REPORTS ARE ABOUT TO BE CREATED FOR DESTINATION 'PENNY   '
36 REPORTS HAVE BEEN CREATED SUCCESSFULLY FOR YOUR DESTINATION. PLEASE REMEMBER
TO DELETE THEM WHEN YOU HAVE FINISHED USING THEM.
```

Figure 7. Sample reports panel 2

- Make a note of the DESTINATION given in the message on **your** terminal screen.

In all the examples in the tutorial, the name PENNY is used as the destination.

If you have not already read Part 1, "Introducing the report controller" on page 1, and you want to know more about destination now, see "Getting report and printer characteristics to match" on page 5.

Starting a session with the report controller

When your sample reports have been created, you are ready to start your tutorial session with the report controller.

If you want to stop working through this tutorial before you get to the end, follow the instructions in "Ending the tutorial" on page 49.

■ Press the CLEAR key to get a blank screen.

■ Type the letters ceos, (or CEOS) as shown in Figure 8.

CEOS is a transaction that tells the computer you want to use the report controller.

```
ceos
```
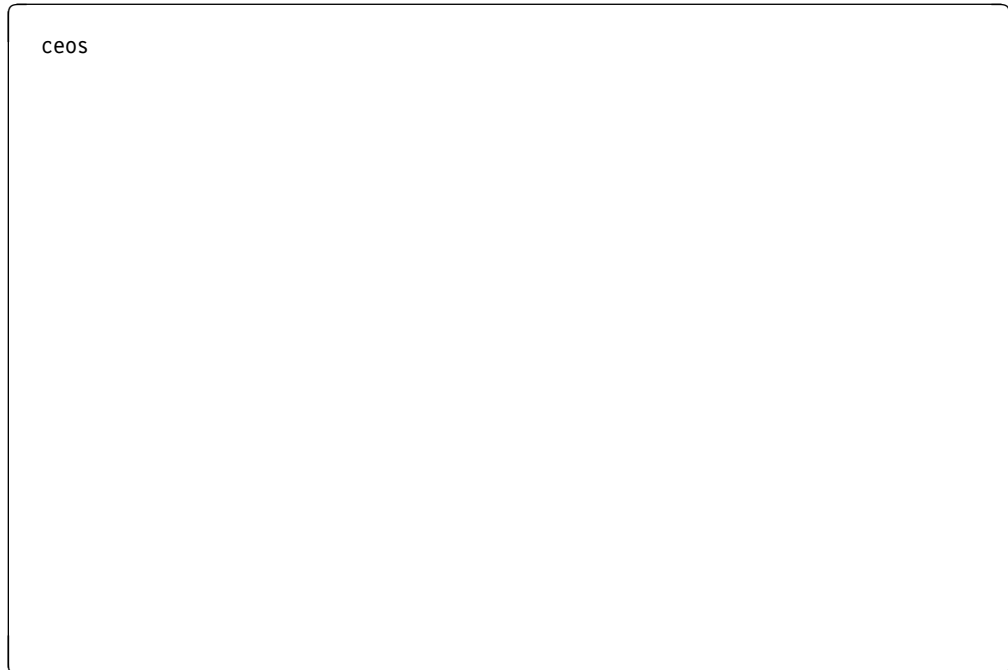
Figure 8. CEOS initial panel

■ Now press ENTER.

You get a panel like the one shown in Figure 9 on page 15. If you do not get this panel, but get a message on the screen telling you that the report controller is not available, ask your supervisor to help you.

The CICS REPORT CONTROLLER panel

This is the CICS REPORT CONTROLLER panel. You get this panel every time you start using the report controller.

```
  CEOS:  1                    CICS REPORT CONTROLLER

  Select one of the following options:

               1  Report selection.
               2  Printer selection.




              Selection ==>  _






  PF1=Help PF3=End ENTER=Continue.

```

Figure 9. CEOS: 1 CICS REPORT CONTROLLER panel

At the top, this panel reminds you that you are using the CEOS transaction, that the panel number is 1, and that its name is CICS REPORT CONTROLLER. All panels have numbers as well as names. You don't need to learn these numbers right away, but you may find them useful as an extra way of identifying the panels and of remembering where you are in the panel structure when you are using the report controller in your daily work. All the panel numbers in option 1 begin with 11, and in option 2 they begin with 12.

Figure 5 on page 10 shows you which keys you need to press to get from one panel to another. You may find it useful to refer to this figure while you are using the tutorial.

There are two numbered options on the CICS REPORT CONTROLLER panel that you can choose between. As you can see in Figure 9, they are:

1 Report selection.
2 Printer selection.

You type the number of the option you want to use in the space after:

Selection ==>

The last line of this panel reads:

PF1=Help PF3=End ENTER=Continue.

This is to remind you what happens when you press the keys mentioned. All the report controller panels have a line like this.

Do not confuse the PF keys (marked `PF1` through `PF12`) with the numeric keys (marked `1` through `0`). The letters PF stand for **program function**. What this means is that each PF key has a particular task (known as a function) attached to it. All you have to do is press the PF key that gives the function you want. The function of each PF key is stored in the report controller, and is the same on every panel (with the exception of the Report Browse panel) However, not every PF key is used on every panel in the report controller. The last line of each panel lists only the keys that are used on that panel, and what each of them does.

The first key mentioned on the `CICS REPORT CONTROLLER` panel shown in Figure 9 on page 15 is `PF1=Help`.

- Press the `PF1` key on your terminal, and you get a help panel like the one shown in Figure 10 on page 17.

A HELP panel

Help panels give you information about the panel you are using. The help panel shown in Figure 10 gives you information about the panel shown in Figure 9 on page 15.

Help panels are just for information—you cannot type anything on them. From any panel in the report controller, you can get a help panel by pressing PF1. All help panels have similar numbers and names as the panels they refer to. The only differences are that the help panel numbers end with H and their names with - HELP.

```
 _CEOS: 1H              CICS REPORT CONTROLLER - HELP              Page 1 of 1

  TO SELECT REPORTS:
    Type 1 and press ENTER to go to REPORT SELECTION where you can specify
    criteria to determine the contents of a report list.
    From the list you can print, hold, and delete reports, and see/change report
    characteristics.  You may also browse a report.

  TO SELECT PRINTERS:
    Type 2 and press ENTER to go to PRINTER SELECTION where you can specify
    criteria to determine the contents of a printer list.
    From the list you can start and stop printers, and see/change printer
    characteristics.




    PF3=End
```

Figure 10. CEOS: 1H Help panel

- Press the PF3 key.

You get back to the CICS REPORT CONTROLLER panel, which is where you started from. Wherever you are in the report controller, pressing PF3 takes you back from the current panel to a previous panel. See Figure 5 on page 10 to see what pressing PF3 does on every panel in the reports and printers options.

If you press PF3 (or any other PF key), any changes you have typed on a panel are not sent to the report controller. (For that, you have to press ENTER.) If you change your mind about something you have typed on a panel, pressing PF3 is a useful way to avoid having to erase it. It doesn't matter if you press a PF key that isn't used on the panel you're on. The report controller just gives you a message on the panel telling you that the key you pressed has no effect.

- Now press PF3.

Ending a session with the report controller

You get the transaction name `CEOS` and the message `SESSION ENDED` on an otherwise blank screen, as shown in Figure 11.

```
CEOS
  SESSION ENDED
```
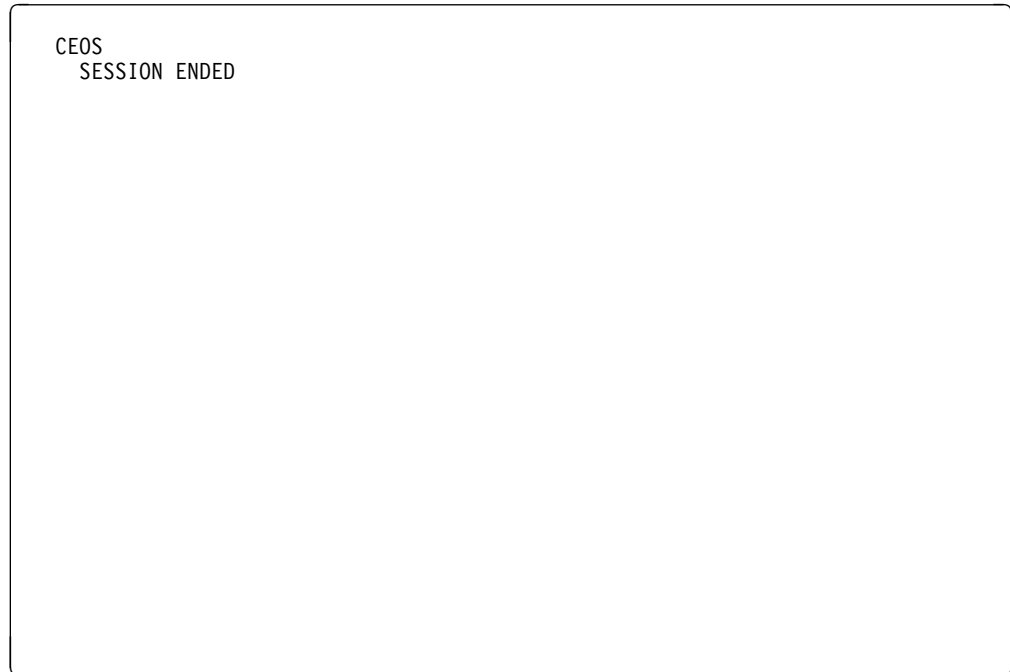
Figure 11. CEOS - SESSION ENDED panel

- Press the `CLEAR` key.
- Type `ceos` and press `ENTER` to start another session.

Starting a new session with the report controller

You get the CICS REPORT CONTROLLER panel again, as shown in Figure 12.

```
  CEOS:  1                    CICS REPORT CONTROLLER

  Select one of the following options:

              1  Report selection.
              2  Printer selection.




              Selection ==> _




  PF1=Help PF3=End ENTER=Continue.
```

Figure 12. CEOS: 1 CICS REPORT CONTROLLER panel

Beginning with the reports option

Now, to investigate the report controller further, begin with the reports option:

- Type a 1 for Report selection on the CICS REPORT CONTROLLER panel, and press ENTER.

You get the REPORT SELECTION panel, as shown in Figure 13.

```
CEOS: 11                      REPORT SELECTION

     You may list all reports or only those reports that match
     your selection criteria.

     Type your selection criteria:
       Report number  ==> _
       Report name    ==>
       Destination    ==>
       Forms          ==>
       Class          ==>             A-Z / 0-9
       From date      ==>             mm/dd/yy
       To date        ==>             mm/dd/yy
       Power Sysid    ==>             1-9

     To select Status type a Y against one, or more of the following:
       In use         ==>             Held (L)      ==>
       Resume         ==>             Held (H)      ==>
       Error creating ==>             Ready (K)     ==>
       Error printing ==>             Ready (D)     ==>

PF1=Help PF3=End ENTER=Continue.
```

Figure 13. CEOS: 11 REPORT SELECTION panel

The REPORT SELECTION panel is like an order form for getting lists of information about reports. If you press ENTER without typing anything on this panel, you are asking to see a list of **all** the reports you can list. However, it is not usual to list everything, because such a list can be very long, and would probably include reports that you are not able to use.

To ask for a list of the reports you **want** to see, you type characteristics on the REPORT SELECTION panel. Characteristics make up a description of a report, and how it is to be printed. (Refer back to the section beginning with "How to get your reports printed the way you want" on page 4 for a description of characteristics and how they are used.)

Listing reports for your destination

Suppose you want to see a list of reports that are to be printed at the destination you are using.

- Next to Destination ==> on the REPORT SELECTION panel, type the destination you noted from the message on your terminal screen telling you that your sample reports had been created. This message was shown in Figure 7 on page 13.

In the examples, the destination used is PENNY, as you can see in Figure 14.

You only have to type in the things you want—you can leave the rest of the REPORT SELECTION panel blank. (To see what else you can type on this panel, see "Using the REPORT SELECTION panel to list reports" on page 75.)

```
    CEOS: 11                    REPORT SELECTION


        You may list all reports or only those reports that match
        your selection criteria.

        Type your selection criteria:
          Report number  ==>
          Report name    ==>
          Destination    ==> penny
          Forms          ==>
          Class          ==>              A-Z / 0-9
          From date      ==>              mm/dd/yy
          To date        ==>              mm/dd/yy
          Power Sysid    ==>              1-9

        To select Status type a Y against one, or more of the following:
          In use          ==>           Held (L)      ==>
          Resume          ==>           Held (H)      ==>
          Error creating ==>            Ready (K)      ==>
          Error printing ==>            Ready (D)      ==>

    PF1=Help PF3=End ENTER=Continue.
```

Figure 14. CEOS: 11 REPORT SELECTION panel

- Press ENTER.

You get the panel shown in Figure 15 on page 22.

If you get a message telling you that there are no reports that match what you typed, ask your supervisor to help you.

The REPORT LIST panel

```
 CEOS: 111                    REPORT LIST                    1 TO     18 OF     36

  Enter Options (1=See/Change Characteristics 3=Print 5=Delete 6=Hold 8=Browse)
 OPT  NAME    USERDATA        NUMBER STATUS    FORMS CLS PAGES CPY PRI DEST
      SWIFT   SWIFT           00007 READY(D)     S      1   1  5  PENNY
      SAMPLEB SAMPLEB         00010 HELD(L)      S      1   1  5  PENNY
      LONG    SAMPLE OF LONG R 00011 HELD(L)     S     12   2  5  PENNY
      SAMPLEB SAMPLEB         00018 HELD(L)      S      1   1  5  PENNY
      ALIGN   ALIGNMENT PATTER 00023 HELD(L)     S      1   1  5  PENNY
      SAMPLEB SAMPLEB         00026 HELD(L)      S      1   1  5  PENNY
      SAMPLEB SAMPLEB         00032 HELD(L)      S      1   1  5  PENNY
      SAMPLEB SAMPLEB         00036 HELD(L)      S      1   1  5  PENNY
      SAMPLEB SAMPLEB         00040 HELD(L)      S      1   1  5  PENNY
      MONTH01 JANUARY TOTALS  00008 HELD(L)      S      1   1  4  PENNY
      DAILY   MONDAY          00009 HELD(L)      S      2   1  4  PENNY
      MONTH02 FEBRUARY TOTALS 00012 HELD(L)      S      1   1  4  PENNY
      DAILY   TUESDAY         00013 HELD(L)      S      2   1  4  PENNY
      SAMPLEA SUPPLIED DATA   00014 HELD(L)      S      1   3  4  PENNY
      MONTH03 MARCH TOTALS    00016 HELD(L)      S      1   1  4  PENNY
      DAILY   WEDNESDAY       00017 HELD(L)      S      2   1  4  PENNY
      MONTH04 APRIL TOTALS    00020 HELD(L)      S      1   1  4  PENNY
      DAILY   THURSDAY        00021 HELD(L)      S      2   1  4  PENNY
 PF1=Help PF3=End PF6=Bulk Change PF8=Forward ENTER=Continue.
```

Figure 15. CEOS: 111 REPORT LIST panel 1

This is a REPORT LIST panel. Notice the numbers in the top right-hand corner. In
this example they are 1 TO 18 OF 36, which shows you that the list fills more than
one panel. The panel shown in Figure 15 contains the first 18 reports in the list.
(There are 36 reports altogether.) Depending on the size of your terminal screen,
there may be more than 18 reports displayed on your REPORT LIST panel. In this
case, the other list panels start from the next report. However, whatever the size of
your screen, you should still have the same 36 reports, beginning in the same order
as shown in Figure 15. If you have a list of more than 36 reports, ask your
supervisor what to do.

Moving from one list panel to the next

- Press the PF8 key to see the next panel in the list.

You can see that the numbers in the top right-hand corner have changed, to show that you are looking at the next panel in the list. (In the example, they are 19 TO 36 OF 36.)

```
  CEOS: 111                    REPORT LIST                    19 TO     36 OF     36

  Enter Options (1=See/Change Characteristics 3=Print 5=Delete 6=Hold 8=Browse)
  OPT   NAME    USERDATA          NUMBER STATUS    FORMS CLS PAGES CPY PRI DEST
        SAMPLEA SUPPLIED DATA     00022 HELD(L)         S     1   3   4  PENNY
        MONTH05 MAY TOTALS        00024 HELD(L)         S     1   1   4  PENNY
        DAILY   FRIDAY            00025 HELD(L)         S     2   1   4  PENNY
        MONTH06 JUNE TOTALS       00027 HELD(L)         S     1   1   4  PENNY
        DAILY   SATURDAY          00028 HELD(L)         S     2   1   4  PENNY
        SAMPLEA SUPPLIED DATA     00029 HELD(L)         S     1   3   4  PENNY
        MONTH07 JULY TOTALS       00030 HELD(L)         S     1   1   4  PENNY
        DAILY   SUNDAY            00031 HELD(L)         S     2   1   4  PENNY
        MONTH08 AUGUST TOTALS     00033 HELD(L)         S     1   1   4  PENNY
        SAMPLEA SUPPLIED DATA     00034 HELD(L)         S     1   3   4  PENNY
        MONTH09 SEPTEMBER TOTALS  00035 HELD(L)         S     1   1   4  PENNY
        MONTH10 OCTOBER TOTALS    00037 HELD(L)         S     1   1   4  PENNY
        SAMPLEA SUPPLIED DATA     00038 HELD(L)         S     1   3   4  PENNY
        MONTH11 NOVEMBER TOTALS   00039 HELD(L)         S     1   1   4  PENNY
        MONTH12 DECEMBER TOTALS   00041 RESUME          S     1   1   4  PENNY
        SAMPLEA SUPPLIED DATA     00042 HELD(L)         S     1   3   4  PENNY
        ACCUME  ACCUME            00015 RESUME    SAMP  S     2   1   4  PENNY
        DISTRIB TO DIST LIST      00019 HELD(L)   SAMP  S     1  25   3  PENNY
  PF1=Help PF3=End PF6=Bulk Change PF7=Back ENTER=Continue.
```

Figure 16. CEOS: 111 REPORT LIST panel 2

What you can find out from the REPORT LIST panel

■ Press PF7, to get back to the first panel of the report list.

```
  CEOS: 111                    REPORT LIST                   1 TO     18 OF    36

   Enter Options (1=See/Change Characteristics 3=Print 5=Delete 6=Hold 8=Browse)
  OPT  NAME     USERDATA        NUMBER STATUS    FORMS CLS PAGES CPY PRI DEST
       SWIFT    SWIFT           00007 READY(D)         S     1   1   5  PENNY
       SAMPLEB  SAMPLEB         00010 HELD(L)          S     1   1   5  PENNY
       LONG     SAMPLE OF LONG R 00011 HELD(L)         S    12   2   5  PENNY
       SAMPLEB  SAMPLEB         00018 HELD(L)          S     1   1   5  PENNY
       ALIGN    ALIGNMENT PATTER 00023 HELD(L)         S     1   1   5  PENNY
       SAMPLEB  SAMPLEB         00026 HELD(L)          S     1   1   5  PENNY
       SAMPLEB  SAMPLEB         00032 HELD(L)          S     1   1   5  PENNY
       SAMPLEB  SAMPLEB         00036 HELD(L)          S     1   1   5  PENNY
       SAMPLEB  SAMPLEB         00040 HELD(L)          S     1   1   5  PENNY
       MONTH01  JANUARY TOTALS  00008 HELD(L)          S     1   1   4  PENNY
       DAILY    MONDAY          00009 HELD(L)          S     2   1   4  PENNY
       MONTH02  FEBRUARY TOTALS 00012 HELD(L)          S     1   1   4  PENNY
       DAILY    TUESDAY         00013 HELD(L)          S     2   1   4  PENNY
       SAMPLEA  SUPPLIED DATA   00014 HELD(L)          S     1   3   4  PENNY
       MONTH03  MARCH TOTALS    00016 HELD(L)          S     1   1   4  PENNY
       DAILY    WEDNESDAY       00017 HELD(L)          S     2   1   4  PENNY
       MONTH04  APRIL TOTALS    00020 HELD(L)          S     1   1   4  PENNY
       DAILY    THURSDAY        00021 HELD(L)          S     2   1   4  PENNY
  PF1=Help PF3=End PF6=Bulk Change PF8=Forward ENTER=Continue.
```

Figure 17. CEOS: 111 REPORT LIST panel 1

Before doing anything with this panel, have a look at what it can tell you about the reports listed in it. Figure 17 shows you the following details about the first report in the list. (**Some of the report characteristics displayed on your panels (for example,** NUMBER**,** CLS **(class), and** DEST **(destination) may be different from the ones shown in this book**.)

- NAME

  This is SWIFT. A name is given to each report when it is created.

- USERDATA

  This is SWIFT. The USERDATA is given to the report when it is created. It can be given by whoever created the report, or it can be taken from the report TITLE or NAME. The sample reports include various examples of USERDATA. For the report named SWIFT, the USERDATA is the same as the name. For the report named MONTH01, it is JANUARY TOTALS, which gives a description of that report. For the reports named DAILY, it has been used to distinguish between individuals in a group of reports with the same name—MONDAY, TUESDAY, and so on.

- NUMBER

  This is 00007. The computer automatically gives a number to each report when it is created. The number can be used to identify different reports that have the same NAME and USERDATA (for example, SAMPLEB).

- STATUS

  This is READY(D). The STATUS is what is currently happening to the report. In this case, it is ready to be printed, and the (D) indicates that it will be deleted after printing.

- FORMS

  This is blank. FORMS shows the name given to the type of paper a report is printed on. It can be plain paper, or perhaps a preprinted form. If there is no entry next to a particular report in the column headed FORMS, that report is printed on **standard** paper. This can be whatever your organization has decided. (A forms type is given to each report when it is created, and cannot be changed.)

- CLS

  This is S. CLS stands for class. It is an identifier that groups the reports for printing. Some classes may have special purposes in your organization. You should ask your supervisor about this before ever trying to change the class of a report.

- PAGES

  This is 1. It means that the report has one page.

- CPY

  This is 1. CPY stands for copies. It means that one copy of the report is to be printed. You can print copies of reports in the range 0-255.

- PRI

  This is 5. PRI stands for priority. Priority 5 is around the middle of the range of priorities, because the highest priority is 9 and the lowest 1.

- DEST

  This is PENNY. DEST stands for destination. It is the name of the group a printer is assigned to, and at which a report is printed. There can be one or more printers in the group. Destination is used to link a report to a printer. You can have one or more printers that are always set up to print reports for a particular destination. Or you can print reports for several destinations on the same printer by stopping the printer, changing its destination, and then starting it again.

Order of reports on the REPORT LIST panel

Reports are displayed in the following order on the REPORT LIST panel:

1. Class (in numeric, then alphabetical order)

   Within class, those whose status is READY (that is, READY(D) or READY(K)) appear first, in order of priority (from 9 down to 1), and then forms type. (See "Status" on page 77 for a summary of status information.) Other statuses are mixed, but are in order of priority and then forms type.

2. Next class.

Within the order shown above, newly created reports are ordered according to when the report controller received them. A list of reports whose characteristics are all the same will also be in the order in which the report controller received them.

This is in order of the 5-digit REPORT NUMBER. However, this order changes when report status and characteristics are changed.

You can see later that the order in which the READY status reports are displayed within class and destination is the order in which they are printed when you start the printer. For more information about this, see "Order in which reports are printed" on page 82.

Browsing through a report

Now try browsing through a report.

- Look down the REPORT LIST panel for a report named LONG.

- Type an 8 for Browse, in the OPT column next to this report, and press ENTER.

You get a panel that lets you browse through the report. This panel looks similar to Figure 18.

At the top of the panel you can see the name of the report, how many pages there are in the report, and also which page is currently displayed. You can see if there is anything more to browse in the current page by looking next to More: on the top right of the panel. If there is a + next to More:, you know that there is more to see.

There is an easy way to search for information in the report.

Suppose that you want to find information about aligning paper:

- Type align next to Search for ==>, and press ENTER. The panel shown in Figure 18 is then displayed.

```
CEOS: 1114      Browsing: LONG    SAMPLE OF LONG R   PAGE 9     OF    12
Search for ==> align                                          More:     +
----+---10----+---20----+---30----+---40----+---50----+---60----+---70----+---

SAMPLE HEADER

The ALIGN report shows that reports do not have to have text.

This report has a pattern of 'X' which you may like to use to
check that you can line your paper up properly.   However the
pattern may not match your paper size, so don't spend too long
on it.




SAMPLE FOOTING                                                          9

PF1=Help      PF2=Scr Cursor  PF3=Quit   PF4=Scr Left PF5=Scr Right  PF6=Home
PF7=Scr Back  PF8=Scr Fwd     PF9=Repeat PF10=Page-1  PF11=Page+1    PF12=Scale
```
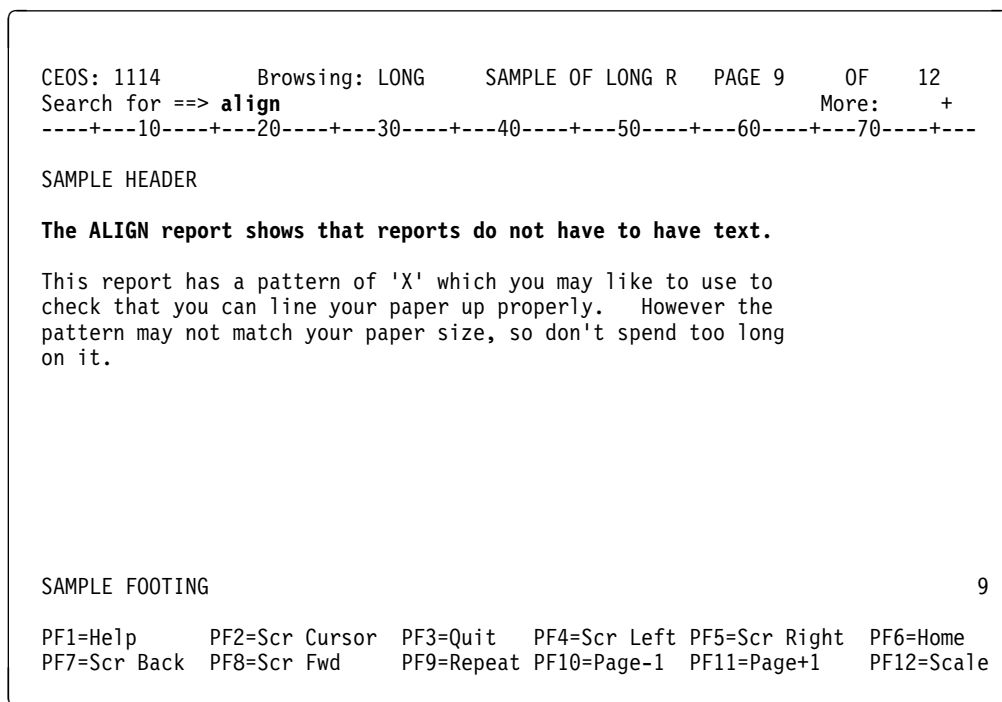
Figure 18. CEOS: 1114 Browsing panel

The line containing the word you searched for is shown in highlighting. You can search for further occurrences of the word by pressing PF9. To scroll through a report use the PF keys as follows:

- Press PF12, and a scale appears on the third line of the screen.

- Press PF5. The display scrolls to the right by the width of the screen. You can see that the scale has changed to show the new position in the report.

- Press PF4, and the display scrolls back to the left.

- Press PF8. The report controller displays the next screen in this page of the report.

- Press PF7, and the report controller displays the first screen again.

- Position the cursor on a word somewhere in the middle of the screen, and press PF2. The display changes so that the word is now at the top left of the screen.

- Press PF6. The display changes so that line 1, column 1 of the current report page is again at the top left of the screen.

- Press PF11. The report controller displays the next page of the report. Note that 2 is displayed next to PAGE.

- Press PF10. The report controller displays the first page of the report again.

- Type 2 over the 1 next to PAGE, and press ENTER. The report controller displays page 2 of the report.

You can get online help about using the browse facility by pressing PF1.

- Press PF3 to quit the Browsing panel.

Sending a report for printing

Now try sending the report called SWIFT for printing.

- Make a note of the FORMS, CLS (class), and DEST (destination) for the report named SWIFT, as shown on the REPORT LIST panel in Figure 17 on page 24.

As you have just seen, FORMS is blank (meaning standard paper), CLS (class) is S, and DEST (destination) is PENNY. You need this information to direct the report controller to start a printer to print the report.

To start a printer, you must use the printers option. To get there:

- Press PF3, to take you back to the previous panel (REPORT SELECTION).

- Press PF3 again, and you get back to the CICS REPORT CONTROLLER panel.

- Type a 2 for Printer selection, and press ENTER.

Choosing a printer

You now see the PRINTER SELECTION panel, as shown in Figure 19. This panel is similar to the REPORT SELECTION panel.

```
  CEOS: 12                      PRINTER SELECTION

       You may list all printers or only those printers that match
       your selection criteria.

        Type your selection criteria:

         Printer name    ==> pt01
         Destination     ==>
         Class           ==>            A-Z / 0-9
         Forms           ==>

        To select Status type a Y against one, or more of the following:
         Printing        ==>
         Waiting         ==>
         Stopped         ==>
         Aligning        ==>
         Unavailable     ==>
         Out of service  ==>
         Paused          ==>


  PF1=Help PF3=End ENTER=Continue.

```

Figure 19. CEOS: 12 PRINTER SELECTION panel

- Next to Printer name ==> type the name of the printer your supervisor has asked you to use for this tutorial.

If you don't know what printer name you should use, ask your supervisor. In these examples, the name PT01 is used.

- Press ENTER.

You get the PRINTER LIST panel with only that printer listed, as shown in Figure 20 on page 29.

Note: If you wanted to see a list of all the printers, you would type nothing on the PRINTER SELECTION panel, and just press ENTER.

Checking the printer status and characteristics

```
   CEOS: 121                    PRINTER LIST                   1 TO    1 OF    1

   Enter Options(1=See/Change Characteristics   2=Start   3=Restart   4=Align
      5=Stop now   6=Stop after copy   7=Stop after report  8=Pause  9=Resume)
   OPT  PRINTER DESTINATION STATUS                 CLASS FORMS REPORT NAME NUMBER
        PT01    PENNY       STOPPED                  S












   PF1=Help PF3=End ENTER=Continue.
```

Figure 20. CEOS: 121 PRINTER LIST panel

▪ Note the status of the printer. If it is not STOPPED, ask your supervisor what to do.

The printer name, destination, and class on your PRINTER LIST panel are probably different from those shown in Figure 20.

▪ Check whether the DESTINATION, CLASS, and FORMS on the PRINTER LIST panel match those for the report you want to print.

If they do match, you could start the printer immediately. If they *do not* match, you need to change the printer characteristics. Have a look at the PRINTER CHARACTERISTICS panel (in Figure 21 on page 30) to find out what you have to do if the characteristics *do not* match. The PRINTER LIST panel has two lines near the top that say:

Enter Options(1=See/Change Characteristics 2=Start 3=Restart 4=Align
5=Stop now 6=Stop after copy 7=Stop after report 8=Pause 9=Resume)

These are to remind you of the numbers you can type on this panel, and what each of them does.

▪ Type a 1 for See/Change Characteristics in the OPT column, and press ENTER.

There is an OPT column on all LIST panels. It gives you a single space next to the details of each report or printer, where you can type the number of an option.

Changing the printer characteristics

The PRINTER CHARACTERISTICS panel tells you what[3] shown in Figure 21.

```
  CEOS: 1211                PRINTER CHARACTERISTICS

   PRINTER   STATUS
   PF6F      STOPPED

   Report Details:
     Name           :
     Number         :
     Total copies   :
     Total pages    :
     Last page printed :

   Type required values against one or more of the following characteristics:

     Destination      ==>  DFITZP
     Class            ==>  B          A-Z / 0-9
     Forms            ==>
     Align pages      ==>  01         1-99
     Printed messages ==>  NO         No │ Yes
     FCB name         ==>
     Insert Skip      ==>  NO         No │ Yes

  PF1=Help PF3=End ENTER=Continue.

```

Figure 21. CEOS: 1211 PRINTER CHARACTERISTICS panel

Printer characteristics make up a description of a printer, and what it is printing. If you want a general description of characteristics, see the section beginning "How to get your reports printed the way you want" on page 4. If you want to know more about the characteristics displayed on this panel, and the changes you can make to them, see "Information on the PRINTER CHARACTERISTICS panel" on page 114, and "Printer characteristics to see and change" on page 115.

- Look at the PRINTER CHARACTERISTICS panel to see if the Destination, Class, or Forms that you noted for the report that you want to print are the same as those on the printer.

- If they are different, type the changes needed to make them match. (Leave Forms blank because you are using standard paper.) If they are the same, do not type anything, just press ENTER. You get the PRINTER LIST panel with your changes displayed.

---

[3] A characteristics panel the characteristics were at the moment you asked for the panel. However, if another user makes changes while you are looking at it, you do not see them until you ask for a new characteristics panel, although you can see changes that you make. To get a new characteristics panel, press ENTER to get back to the PRINTER LIST panel, type a 1 for See/Change Characteristics next to the printer name in the OPT column, and press ENTER.

Starting printing

You can now print the report.

- Type a 2 for Start in the OPT column on the PRINTER LIST panel next to the printer you want to start, and press ENTER. The report starts being printed.

Now go back to the REPORT LIST panel to see what it says about the report.

- Press PF3 twice to go back to the CICS REPORT CONTROLLER panel.

- Type a 1 for Report selection, and press ENTER to get the REPORT SELECTION panel.

- Type the destination you are using (in the examples, it is PENNY) and press ENTER to get the REPORT LIST panel.

If the report named SWIFT is still being printed, its status is IN USE, as shown in Figure 22.

```
   CEOS: 111                    REPORT LIST                    1 TO     18 OF     36

    Enter Options (1=See/Change Characteristics 3=Print 5=Delete 6=Hold 8=Browse)
   OPT  NAME     USERDATA        NUMBER STATUS    FORMS CLS PAGES CPY PRI DEST
        SWIFT    SWIFT           00007 IN USE         S     1   1   5  PENNY
        SAMPLEB  SAMPLEB         00010 HELD(L)        S     1   1   5  PENNY
        LONG     SAMPLE OF LONG R 00011 HELD(L)       S    12   2   5  PENNY
        SAMPLEB  SAMPLEB         00018 HELD(L)        S     1   1   5  PENNY
        ALIGN    ALIGNMENT PATTER 00023 HELD(L)       S     1   1   5  PENNY
        SAMPLEB  SAMPLEB         00026 HELD(L)        S     1   1   5  PENNY
        SAMPLEB  SAMPLEB         00032 HELD(L)        S     1   1   5  PENNY
        SAMPLEB  SAMPLEB         00036 HELD(L)        S     1   1   5  PENNY
        SAMPLEB  SAMPLEB         00040 HELD(L)        S     1   1   5  PENNY
        MONTH01  JANUARY TOTALS  00008 HELD(L)        S     1   1   4  PENNY
        DAILY    MONDAY          00009 HELD(L)        S     2   1   4  PENNY
        MONTH02  FEBRUARY TOTALS 00012 HELD(L)        S     1   1   4  PENNY
        DAILY    TUESDAY         00013 HELD(L)        S     2   1   4  PENNY
        SAMPLEA  SUPPLIED DATA   00014 HELD(L)        S     1   3   4  PENNY
        MONTH03  MARCH TOTALS    00016 HELD(L)        S     1   1   4  PENNY
        DAILY    WEDNESDAY       00017 HELD(L)        S     2   1   4  PENNY
        MONTH04  APRIL TOTALS    00020 HELD(L)        S     1   1   4  PENNY
        DAILY    THURSDAY        00021 HELD(L)        S     2   1   4  PENNY
   PF1=Help PF3=End PF6=Bulk Change PF8=Forward ENTER=Continue.
```

Figure 22. CEOS: 111 REPORT LIST panel

- If the status of the report named SWIFT is still IN USE, press ENTER twice to get another REPORT LIST panel to see whether it has disappeared from the list. You can do this as many times as you like until you have found out that this has happened. List panels, like characteristics panels, are "snapshots" of what is happening.

Report named SWIFT has been printed

When the report named SWIFT has disappeared from the report list, it has been printed. When this happens, the number of reports at the top of the panel changes from 36 to 35, as shown in Figure 23.

The report named SWIFT disappeared from the REPORT LIST panel when it had been printed because it was created with READY(D) status. (As you will see later in this tutorial, reports that are created with the HELD(L) status go back to HELD(L) status after they have been printed, and remain on the REPORT LIST panel. If this is so, they move to the end of the group of HELD(L) reports for the same class, forms, and priority).[4]

Before continuing with this tutorial, have a look at the printed report. Notice that, as well as the text of the report, there are some extra pages. These are known as **separator pages**. They are printed at the beginning and end of each report, and between copies of a report. They contain information about the report and when and where it was printed. To find out more, see "Report controller separator page sizes" on page 91, and "Information about report controller separator pages" on page 92.

```
   CEOS: 111                   REPORT LIST                   1 TO     18 OF     35

    Enter Options (1=See/Change Characteristics 3=Print 5=Delete 6=Hold 8=Browse)
   OPT  NAME     USERDATA         NUMBER STATUS    FORMS CLS PAGES CPY PRI DEST
        SAMPLEB  SAMPLEB          00010 HELD(L)        S       1   1   5  PENNY
        LONG     SAMPLE OF LONG R 00011 HELD(L)        S      12   2   5  PENNY
        SAMPLEB  SAMPLEB          00018 HELD(L)        S       1   1   5  PENNY
        ALIGN    ALIGNMENT PATTER 00023 HELD(L)        S       1   1   5  PENNY
        SAMPLEB  SAMPLEB          00026 HELD(L)        S       1   1   5  PENNY
        SAMPLEB  SAMPLEB          00032 HELD(L)        S       1   1   5  PENNY
        SAMPLEB  SAMPLEB          00036 HELD(L)        S       1   1   5  PENNY
        SAMPLEB  SAMPLEB          00040 HELD(L)        S       1   1   5  PENNY
        MONTH01  JANUARY TOTALS   00008 HELD(L)        S       1   1   4  PENNY
        DAILY    MONDAY           00009 HELD(L)        S       2   1   4  PENNY
        MONTH02  FEBRUARY TOTALS  00012 HELD(L)        S       1   1   4  PENNY
        DAILY    TUESDAY          00013 HELD(L)        S       2   1   4  PENNY
        SAMPLEA  SUPPLIED DATA    00014 HELD(L)        S       1   3   4  PENNY
        MONTH03  MARCH TOTALS     00016 HELD(L)        S       1   1   4  PENNY
        DAILY    WEDNESDAY        00017 HELD(L)        S       2   1   4  PENNY
        MONTH04  APRIL TOTALS     00020 HELD(L)        S       1   1   4  PENNY
        DAILY    THURSDAY         00021 HELD(L)        S       2   1   4  PENNY
        SAMPLEA  SUPPLIED DATA    00022 HELD(L)        S       1   3   4  PENNY
   PF1=Help PF3=End PF6=Bulk Change PF8=Forward ENTER=Continue.
```

Figure 23. CEOS: 111 REPORT LIST panel 2

---

[4] Reports created with READY(K) status are not deleted, and HELD(H) reports are deleted after printing. See "Status" on page 77, or ask your supervisor for more information about this.

Looking at and changing some report characteristics

Have a look at some report characteristics.

- Look down the REPORT LIST panel for a report named LONG.

- Type a 1 for See/Change Characteristics in the OPT column next to this report, and press ENTER.

You get a panel showing the characteristics for that report, as shown in Figure 24.

```
  CEOS: 1111              REPORT CHARACTERISTICS              Page 1 of 2

   NAME      USERDATA          NUMBER  STATUS   FORMS  PAGES  PRMODE
   LONG      SAMPLE OF LONG R  00011   HELD(L)         00012

   TITLE :  SAMPLE OF LONG REPORT


   Type required values against one or more characteristics:

     Class        ==> S           A-Z / 0-9
     Disposition  ==> L           D | H | K | L
     Copies       ==> 002         1-255
     Priority     ==> 5           1-9
     Destination  ==> PENNY
     Start page   ==> 00001
     End page     ==> 00012
     Separator page ==> YES       Yes | No
     Power Sysid  ==> 2           1-9 / N


  PF1=Help PF3=End PF8=Forward ENTER=Continue.
```

Figure 24. CEOS: 1111 REPORT CHARACTERISTICS panel

At the top of this panel, you can find the NAME, USERDATA, NUMBER, STATUS, FORMS, PAGES, PRMODE, and TITLE of the report named LONG. (See "Information on the first REPORT CHARACTERISTICS panel" on page 87 for more information about the report title.) Suppose that you need only one copy of this report. The space after Copies ==> on this panel reads 002.

- Type a 1 over the 2 after Copies ==>

  Do NOT press ENTER yet, because there is another REPORT CHARACTERISTICS panel to see.

- Press PF8.

You get the second REPORT CHARACTERISTICS panel, as shown in Figure 25 on page 34. This panel has more information about reports.

Notice the page numbers in the top right-hand corner of the panel (in this case, they are Page 2 of 2). Like the ones on the list panels, they tell you whether there is more to see.

```
┌─────────────────────────────────────────────────────────────────────────┐
│                                                                           │
│    CEOS: 1111                 REPORT CHARACTERISTICS            Page 2 of 2│
│                                                                           │
│      NAME       USERDATA          NUMBER  STATUS    FORMS  PAGES  PRMODE   │
│      LONG       SAMPLE OF LONG R   00011   HELD(L)          00012         │
│                                                                           │
│      TITLE :   SAMPLE OF LONG REPORT                                      │
│                                                                           │
│      Created on    : 03/06/92       Associated FCB :                     │
│      at            : 12:46:15                                             │
│      by            : PENNY                                                │
│      Recovery      : LOGICAL                                              │
│      Format        : ASA                                                  │
│      Noconv        : NO                                                   │
│      Page size     : 17                                                   │
│      Line length   : 080                                                  │
│      Page Head/Foot : FOOT                                                │
│      Date/time     : NO                                                   │
│      Printfail     : NO                                                   │
│      Mapname       :                                                      │
│      Mapset        :                                                      │
│      Escape        :                                                      │
│                                                                           │
│    PF1=Help PF3=End PF7=Back ENTER=Continue.                             │
│                                                                           │
│                                                                           │
└─────────────────────────────────────────────────────────────────────────┘
```

Figure 25. CEOS: 1111 REPORT CHARACTERISTICS panel 2

At the top of this panel, you can find the same information about the report (NAME,
USERDATA, and so on) as is on the first REPORT CHARACTERISTICS panel.

This panel shows the date (next to Created on) and time (next to at) when the
report was created. In the examples, the date the report was created is shown with
the month first, then the day, and finally the year. (It is shown in the same format
on all the panels in this book.) The panels you use may have been changed by
your organization, and could be in "day/month/year" order, or in "year/month/day"
order. For more information about using report dates, see "From date and To date"
on page 77.

The panel also has the identifier (known as **user ID**) of the person who created it
(next to by). (In the example, it is PENNY.) The user ID on the panel on your screen
is yours if you typed srep to get some sample reports at the beginning of this
tutorial.

There is more information on this panel (described under "The second REPORT
CHARACTERISTICS panel" on page 94), which you do not need for this tutorial,
but which may be useful when you are printing your own reports.

■ Press ENTER to send the change you typed on the first REPORT CHARACTERISTICS
    panel to the report controller.

Notice that you are now back at the REPORT LIST panel, without pressing PF3. The
report controller does this because usually, when you press ENTER to send a
change, you have finished with the panel you typed the changes on, and so it is
saving you the trouble of pressing PF3 in addition to pressing ENTER. It is also
showing you that it has accepted your changes.

Notice also that, as shown in Figure 26 on page 36, the CPY column for the LONG report on the REPORT LIST panel now reads 1, as you requested. There is also an asterisk (*) in the OPT column next to the report named LONG. An asterisk in the OPT column on a LIST panel means that you have looked at (or successfully changed) something using the associated CHARACTERISTICS panel. If a change is not accepted by the report controller, a question mark (?) is placed in the OPT column, and an error message is displayed across the panel.

Sending the report named LONG for printing

```
 CEOS: 111                  REPORT LIST                    1 TO    18 OF    35

  Enter Options (1=See/Change Characteristics 3=Print 5=Delete 6=Hold 8=Browse)
 OPT  NAME    USERDATA       NUMBER STATUS    FORMS CLS PAGES CPY PRI DEST
      SAMPLEB  SAMPLEB        00010 HELD(L)        S    1    1   5 PENNY
  *   LONG     SAMPLE OF LONG R 00011 HELD(L)      S   12    1   5 PENNY
      SAMPLEB  SAMPLEB        00018 HELD(L)        S    1    1   5 PENNY
      ALIGN    ALIGNMENT PATTER 00023 HELD(L)      S    1    1   5 PENNY
      SAMPLEB  SAMPLEB        00026 HELD(L)        S    1    1   5 PENNY
      SAMPLEB  SAMPLEB        00032 HELD(L)        S    1    1   5 PENNY
      SAMPLEB  SAMPLEB        00036 HELD(L)        S    1    1   5 PENNY
      SAMPLEB  SAMPLEB        00040 HELD(L)        S    1    1   5 PENNY
      MONTH01  JANUARY TOTALS  00008 HELD(L)       S    1    1   4 PENNY
      DAILY    MONDAY          00009 HELD(L)       S    2    1   4 PENNY
      MONTH02  FEBRUARY TOTALS 00012 HELD(L)       S    1    1   4 PENNY
      DAILY    TUESDAY         00013 HELD(L)       S    2    1   4 PENNY
      SAMPLEA  SUPPLIED DATA   00014 HELD(L)       S    1    3   4 PENNY
      MONTH03  MARCH TOTALS    00016 HELD(L)       S    1    1   4 PENNY
      DAILY    WEDNESDAY       00017 HELD(L)       S    2    1   4 PENNY
      MONTH04  APRIL TOTALS    00020 HELD(L)       S    1    1   4 PENNY
      DAILY    THURSDAY        00021 HELD(L)       S    2    1   4 PENNY
      SAMPLEA  SUPPLIED DATA   00022 HELD(L)       S    1    3   4 PENNY
 PF1=Help PF3=End PF6=Bulk Change PF8=Forward ENTER=Continue.
```

Figure 26. CEOS: 111 REPORT LIST panel

- Type a 3 for `Print` in the `OPT` column next to the report named `LONG`, and press `ENTER`. The report's status changes to `READY(K)`, and it is printed immediately. This is because its class, destination, and forms type already match those on the printer.

- Press `PF3` to go back to the `REPORT SELECTION` panel.

- Press `ENTER` to get the `REPORT LIST` panel again. The destination name you typed earlier is still there, so you do not have to type anything on the `REPORT SELECTION` panel. This is because the report controller always saves what you type on a selection panel, if you stay within the same report controller option.

The status of the report named `LONG` has changed to `IN USE`, which means that it is being printed. Because its status is `IN USE`, the report has moved to the top of the `REPORT LIST` panel. (You may already have noticed that both these things happened to the report named `SWIFT` when it was being printed.)

When the report named `LONG` has been printed, its status changes to `HELD(L)` because this was the status it was in before it was made ready for printing. When its status has changed to `HELD(L)`, it goes to the bottom of the group of reports on the `REPORT LIST` panel that have the same class, priority, and forms type. To find out when the report's status changes to `HELD(L)`, ask for the `REPORT LIST` panel again by pressing `ENTER` twice. However, you do not need to do this, because you do not need to wait for printing to finish before you send another report for printing.

Sending many reports for printing together

Now, suppose you want to print all the reports with names that begin with MONTH. There is a quick way of doing this.

- Press PF3 to go back to the REPORT SELECTION panel.

- Next to Report name ==>, type month and an asterisk (*), as shown in Figure 27.

You can use an asterisk anywhere after the first character of a report name to stand for up to seven letters or numbers of that name. (See "Reports with similar names" on page 76 for more examples of listing reports in this way.) You can use an asterisk in a similar way for printer names, job names, and transient data queue names. You can use an asterisk in this way on the name characteristic only. However, see "Forms" on page 76 to find out how to use an asterisk to list reports that have no forms type displayed.

You do not need to type the destination[5] name, because it is still on the panel. (This was explained in the section beginning "Sending the report named LONG for printing" on page 36.)

```
   CEOS: 11                   REPORT SELECTION

        You may list all reports or only those reports that match
        your selection criteria.

        Type your selection criteria:
          Report number  ==>
          Report name    ==> month*
          Destination    ==> PENNY
          Forms          ==>
          Class          ==>                A-Z / 0-9
          From date      ==>                mm/dd/yy
          To date        ==>                mm/dd/yy
          Power Sysid    ==>                1-9

        To select Status type a Y against one, or more of the following:
          In use         ==>            Held (L)      ==>
          Resume         ==>            Held (H)      ==>
          Error creating ==>            Ready (K)     ==>
          Error printing ==>            Ready (D)     ==>

     PF1=Help PF3=End ENTER=Continue.
```

Figure 27. CEOS: 11 REPORT SELECTION panel

---

5 If you have come from "Interrupting printing" on page 45, and are sending these reports for printing a second time, you do need to type the destination, because you have moved from one report controller option to another.

- Now press ENTER. You get a REPORT LIST panel showing only the reports beginning with MONTH, as in Figure 28.

```
  CEOS: 111                    REPORT LIST                     1 TO     12 OF    12

   Enter Options (1=See/Change Characteristics 3=Print 5=Delete 6=Hold 8=Browse)
  OPT  NAME      USERDATA         NUMBER STATUS    FORMS CLS PAGES CPY PRI DEST
       MONTH01   JANUARY TOTALS    00008 HELD(L)          S      1   1   4 PENNY
       MONTH02   FEBRUARY TOTALS   00012 HELD(L)          S      1   1   4 PENNY
       MONTH03   MARCH TOTALS      00016 HELD(L)          S      1   1   4 PENNY
       MONTH04   APRIL TOTALS      00020 HELD(L)          S      1   1   4 PENNY
       MONTH05   MAY TOTALS        00024 HELD(L)          S      1   1   4 PENNY
       MONTH06   JUNE TOTALS       00027 HELD(L)          S      1   1   4 PENNY
       MONTH07   JULY TOTALS       00030 HELD(L)          S      1   1   4 PENNY
       MONTH08   AUGUST TOTALS     00033 HELD(L)          S      1   1   4 PENNY
       MONTH09   SEPTEMBER TOTALS  00035 HELD(L)          S      1   1   4 PENNY
       MONTH10   OCTOBER TOTALS    00037 HELD(L)          S      1   1   4 PENNY
       MONTH11   NOVEMBER TOTALS   00039 HELD(L)          S      1   1   4 PENNY
       MONTH12   DECEMBER TOTALS   00041 RESUME           S      1   1   4 PENNY




  PF1=Help PF3=End PF6=Bulk Change ENTER=Continue.
```

Figure 28. CEOS: 111 REPORT LIST panel

Notice that the PF key line at the bottom of the REPORT LIST panel includes PF6=Bulk Change.

- Press PF6.

You get the panel shown in Figure 29 on page 39.

A list of reports to be changed together

This is a REPORT LIST - BULK CHANGE panel. You get this panel by pressing PF6 on the REPORT LIST panel. It gives you a quick way of making the same change, or changes, to the characteristics (or status) of many reports together.

```
 ┌──────────────────────────────────────────────────────────────────────────┐
 │                                                                            │
 │   CEOS: 112              REPORT LIST - BULK CHANGE       1 TO    12 OF   12 │
 │                                                                            │
 │  To adjust list of reports to be changed enter Options (0=Exclude, 1=Include) │
 │  OPT   NAME      USERDATA       NUMBER STATUS FORMS CLS PAGES   CPY PRI DEST │
 │   1    MONTH01  JANUARY TOTALS   00008 HELD(L)       S     1    1   4  PENNY │
 │   1    MONTH02  FEBRUARY TOTALS  00012 HELD(L)       S     1    1   4  PENNY │
 │   1    MONTH03  MARCH TOTALS     00016 HELD(L)       S     1    1   4  PENNY │
 │   1    MONTH04  APRIL TOTALS     00020 HELD(L)       S     1    1   4  PENNY │
 │   1    MONTH05  MAY TOTALS       00024 HELD(L)       S     1    1   4  PENNY │
 │   1    MONTH06  JUNE TOTALS      00027 HELD(L)       S     1    1   4  PENNY │
 │   1    MONTH07  JULY TOTALS      00030 HELD(L)       S     1    1   4  PENNY │
 │   1    MONTH08  AUGUST TOTALS    00033 HELD(L)       S     1    1   4  PENNY │
 │   1    MONTH09  SEPTEMBER TOTALS 00035 HELD(L)       S     1    1   4  PENNY │
 │   1    MONTH10  OCTOBER TOTALS   00037 HELD(L)       S     1    1   4  PENNY │
 │   1    MONTH11  NOVEMBER TOTALS  00039 HELD(L)       S     1    1   4  PENNY │
 │   1    MONTH12  DECEMBER TOTALS  00041 RESUME        S     1    1   4  PENNY │
 │                                                                            │
 │                                                                            │
 │                                                                            │
 │                                                                            │
 │                                                                            │
 │                                                                            │
 │   PF1=Help PF3=End ENTER=Continue.                                         │
 │                                                                            │
 └──────────────────────────────────────────────────────────────────────────┘
```

Figure 29. CEOS: 112 REPORT LIST - BULK CHANGE panel

The REPORT LIST - BULK CHANGE panel is almost identical to the REPORT LIST panel, except that there are only two numbers you can type in the OPT column. They are: 0=Exclude, 1=Include. The report controller automatically puts a 1 in the OPT column next to each report in the list. This means that all the reports are included in any bulk changes you make. All you have to do is type a 0 for Exclude over the 1 next to any reports you do not want to change.

In the example in Figure 29, there is one report, MONTH12, whose status is RESUME, which means that it is not yet complete, and so it should not be included in the bulk change.

- Type a 0 for Exclude over the 1 in the OPT column next to the report named MONTH12, and press ENTER.

You get the BULK CHANGE REPORT CHARACTERISTICS panel shown in Figure 30 on page 40.

Changing the list of reports

This is the BULK CHANGE REPORT CHARACTERISTICS panel. It is similar to the REPORT CHARACTERISTICS panel except that the changes you make here apply to more than one report.

```
   CEOS: 1121            BULK CHANGE REPORT CHARACTERISTICS

                Total reports to be changed:      11

     To print or hold all reports included in the list enter command:

       Command        ==>            Print | Hold

     Enter required values against any characteristic(s) to be changed:

       Class          ==>            A-Z / 0-9
       Copies         ==>            1-255
       Priority       ==>            1-9
       Destination    ==>
       Start page     ==>
       End page       ==>
       Separator page ==>            Yes | No
       Power Sysid    ==>            1-9 / N



   PF1=Help PF3=End ENTER=Continue.
```

Figure 30. CEOS: 1121 REPORT CHANGE BULK CHARACTERISTICS panel

Notice that there is a line at the top of this panel that says:

Total reports to be changed

In the example, the total is 11.

The only other difference from the REPORT CHARACTERISTICS panel is that you can use the BULK CHANGE REPORT CHARACTERISTICS panel to change the **status** of reports.

Now you can make all the reports in the bulk change list ready for printing. To do this:

- Next to Command ==> type print and press ENTER.

The status of these reports changes to READY(K) and they start being printed when the report named LONG has finished. You can leave them to be printed while you continue with the rest of this tutorial.

When you pressed ENTER after making this change, you were taken back to the REPORT LIST panel shown in Figure 31 on page 41, in the same way as you were when you pressed ENTER on the REPORT CHARACTERISTICS panel.

All the reports have been sent for printing

Figure 31 shows a list with the reports MONTH01 through MONTH11 all in READY(K) status. MONTH12, which you did not include in the bulk change, is still in RESUME status.

There is also a message at the bottom of the panel telling you how many reports have been changed. If any reports were not changed, there will be a message telling you so. If this happens:

■ Look at the REPORT LIST panel, and check that there is an asterisk in the OPT next to all the reports except the one named MONTH12.

■ If necessary, repeat the bulk change.

Typing print or hold to change the status of reports to READY(K) or HELD(L) is not the only bulk change you can make. You can change any of the characteristics shown in Figure 30 on page 40. For more information about doing this, as either an individual or a bulk change, see "Report characteristics to see and change" on page 88, or "Bulk changes you can make" on page 97.

```
  CEOS: 111                    REPORT LIST                   1 TO    12 OF    12

  Enter Options (1=See/Change Characteristics 3=Print 5=Delete 6=Hold 8=Browse)
 OPT  NAME     USERDATA         NUMBER STATUS     FORMS CLS PAGES CPY PRI DEST
   *   MONTH01  JANUARY TOTALS    00008 READY(K)       S     1    1   4  PENNY
   *   MONTH02  FEBRUARY TOTALS   00012 READY(K)       S     1    1   4  PENNY
   *   MONTH03  MARCH TOTALS      00016 READY(K)       S     1    1   4  PENNY
   *   MONTH04  APRIL TOTALS      00020 READY(K)       S     1    1   4  PENNY
   *   MONTH05  MAY TOTALS        00024 READY(K)       S     1    1   4  PENNY
   *   MONTH06  JUNE TOTALS       00027 READY(K)       S     1    1   4  PENNY
   *   MONTH07  JULY TOTALS       00030 READY(K)       S     1    1   4  PENNY
   *   MONTH08  AUGUST TOTALS     00033 READY(K)       S     1    1   4  PENNY
   *   MONTH09  SEPTEMBER TOTALS  00035 READY(K)       S     1    1   4  PENNY
   *   MONTH10  OCTOBER TOTALS    00037 READY(K)       S     1    1   4  PENNY
   *   MONTH11  NOVEMBER TOTALS   00039 READY(K)       S     1    1   4  PENNY
       MONTH12  DECEMBER TOTALS   00041 RESUME         S     1    1   4  PENNY




 PF1=Help PF3=End PF6=Bulk Change ENTER=Continue.
    11 of    11 reports have been altered.      0 errors have occurred.
```

Figure 31. CEOS: 111 REPORT LIST panel

Printing an urgent report

Suppose that, while the MONTH reports are being printed, you get a call from someone who urgently needs a copy of today's DAILY report.

- Press PF3 to go back to the REPORT SELECTION panel.

- Type daily next to Report name.

You do not need to type the destination you are using because it is still displayed on the panel, as shown in Figure 32.

```
CEOS: 11                     REPORT SELECTION

    You may list all reports or only those reports that match
    your selection criteria.

    Type your selection criteria:
      Report number  ==>
      Report name    ==>
      Destination    ==>
      Forms          ==>
      Class          ==>             A-Z / 0-9
      From date      ==>             mm/dd/yy
      To date        ==>             mm/dd/yy
      Power Sysid    ==>             1-9

    To select Status type a Y against one, or more of the following:
      In use         ==>         Held (L)      ==>
      Resume         ==>         Held (H)      ==>
      Error creating ==>         Ready (K)     ==>
      Error printing ==>         Ready (D)     ==>

 PF1=Help PF3=End ENTER=Continue.
```

Figure 32. CEOS: 11 REPORT SELECTION panel

- Press ENTER.

You get the REPORT LIST panel shown in Figure 33 on page 43.

Finding the report you want

```
 CEOS: 111                      REPORT LIST                   1 TO     7 OF     7

  Enter Options (1=See/Change Characteristics 3=Print 5=Delete 6=Hold 8=Browse)
 OPT  NAME      USERDATA       NUMBER STATUS    FORMS CLS PAGES CPY PRI DEST
      DAILY     MONDAY         00009 HELD(L)        S     2   1   4  PENNY
      DAILY     TUESDAY        00013 HELD(L)        S     2   1   4  PENNY
      DAILY     WEDNESDAY      00017 HELD(L)        S     2   1   4  PENNY
      DAILY     THURSDAY       00021 HELD(L)        S     2   1   4  PENNY
      DAILY     FRIDAY         00025 HELD(L)        S     2   1   4  PENNY
      DAILY     SATURDAY       00028 HELD(L)        S     2   1   4  PENNY
      DAILY     SUNDAY         00031 HELD(L)        S     2   1   4  PENNY













     PF1=Help PF3=End PF6=Bulk Change ENTER=Continue.
```

Figure 33. CEOS: 111 REPORT LIST panel

■ Look down the column headed USERDATA on the REPORT LIST panel until you
  find today's DAILY report.

■ Type a 1 for See/Change Characteristics in the OPT column next to the DAILY
  report you have chosen, and press ENTER.

You get a REPORT CHARACTERISTICS panel for the DAILY report you have chosen, as
shown in Figure 34 on page 44. In the example, FRIDAY has been chosen.

Changing the priority of the report

```
┌─────────────────────────────────────────────────────────────────────────┐
│                                                                           │
│   CEOS: 1111               REPORT CHARACTERISTICS            Page 1 of 2  │
│                                                                           │
│     NAME      USERDATA           NUMBER STATUS   FORMS PAGES  PRMODE       │
│     DAILY     FRIDAY             00025  HELD(L)         00002              │
│                                                                           │
│     TITLE :  FRIDAY                                                        │
│                                                                           │
│                                                                           │
│     Type required values against one or more characteristics:             │
│       Class          ==> S           A-Z / 0-9                             │
│       Disposition    ==> L           D │ H │ K │ L                         │
│       Copies         ==> 001         1-255                                 │
│       Priority       ==> 4           1-9                                   │
│       Destination    ==> PENNY                                            │
│       Start page     ==> 00001                                            │
│       End page       ==> 00002                                            │
│       Separator page ==> YES         Yes │ No                             │
│       Power Sysid    ==> 2           1-9 / N                               │
│                                                                           │
│                                                                           │
│                                                                           │
│   PF1=Help PF3=End PF8=Forward ENTER=Continue.                            │
│                                                                           │
│                                                                           │
└─────────────────────────────────────────────────────────────────────────┘
```

Figure 34. CEOS: 1111 REPORT CHARACTERISTICS panel

- Type a 9 next to `Priority`, and press `ENTER`.

Priority is the urgency with which a report is printed. Priority `9` is the most urgent,
and `1` is the least urgent. The `MONTH` reports are printing with a priority of `4`, so the
`DAILY` report will be printed with greater urgency.

You are now back at the `REPORT LIST` panel.

- Type a `3` for `Print` and press `ENTER`.

In this case, the report named `DAILY` begins being printed when the last copy of the
current `MONTH` report has been printed, because the forms type, class, and
destination already match those on the printer, and because you have just given it
a priority of `9` while the `MONTH` reports have a priority of `4`. If you had given the
`DAILY` report a priority the same as or lower than the `MONTH` reports, it would not
have been printed until after all the `MONTH` reports had been printed.

When you are using the report controller in your daily work, the report and printer
characteristics do not always match, and you have to make sure they do before a
report whose priority you have made higher can be printed. (Look back at
"Sending a report for printing" on page 27 to remind yourself how to do this.)

Interrupting printing

You can interrupt the printer at any time. Suppose that you want to do this so that you can check that the printing quality is satisfactory. To make sure that something is being printed when you do this, go back to "Sending many reports for printing together" on page 37, and send the reports named MONTH for printing again.

- Press PF3 three times to get back to the CICS REPORT CONTROLLER panel.

- Type a 2 for Printer selection, and press ENTER.

- On the PRINTER SELECTION panel, type the name of the printer you are using, and press ENTER.

- On the PRINTER LIST panel, type an 8 for Pause in the OPT column, as shown in Figure 35, and press ENTER.

```
 CEOS: 121                  PRINTER LIST                   1 TO     1 OF    1

 Enter Options(1=See/Change Characteristics   2=Start   3=Restart   4=Align
    5=Stop now   6=Stop after copy   7=Stop after report  8=Pause  9=Resume)
 OPT  PRINTER DESTINATION STATUS             CLASS FORMS REPORT NAME NUMBER
  8   PT01    PENNY       PRINTING             S          MONTH04     00020












 PF1=Help PF3=End ENTER=Continue.

```

Figure 35. CEOS: 121 PRINTER LIST panel

The printer status changes to PAUSED, as shown in Figure 36.

```
  CEOS: 121                    PRINTER LIST                 1 TO    1 OF    1

  Enter Options(1=See/Change Characteristics   2=Start   3=Restart   4=Align
     5=Stop now   6=Stop after copy   7=Stop after report  8=Pause  9=Resume)
  OPT  PRINTER DESTINATION STATUS              CLASS FORMS REPORT NAME NUMBER
   *   PT01    PENNY       PAUSED (OPERATOR)      S         MONTH04    00020
















  PF1=Help PF3=End ENTER=Continue.
```

Figure 36. CEOS: 121 PRINTER LIST panel 2

This means that the printer has stopped printing the report, but it can continue
printing from where it left off when you tell it to. The advantages of changing a
printer status to PAUSED instead of STOPPED are:

- The printer keeps its place in the report.

- The report controller does not change the status of the report as it would if you
  STOPPED the printer. This is important, because you would have to change the
  status back to READY(K), and start printing the whole report again. See the
  section beginning with "Stop printer" on page 107 to learn more about what
  happens to a report's status when you change the printer's status to STOPPED.

- Other report controller users who look at the PRINTER LIST panel will not think
  that the printer is free.

Before setting the printer going again, notice that after the word PAUSED there is the
word OPERATOR in parentheses. This tells you that a report controller operator,
namely you, changed the printer status to PAUSED. Some other printer statuses
have an extra word or two after them to help you to find out why the printer is in
that status. They are described in Table 2 on page 105.

The PRINTER LIST panel also reminds you of the REPORT NAME and NUMBER. In the example, these are MONTH04 and 00020. PRINTER LIST and PRINTER CHARACTERISTICS panels always display report details when a printer is PAUSED part-way through printing a report, or is PRINTING. To see the kind of report information that would be displayed on the PRINTER CHARACTERISTICS panel, see Figure 58 on page 114.

Now, assume that you have looked at the printed report. If you are satisfied with its quality, and you want to set the printer going again:

- Type a 9 for Resume in the OPT column of the PRINTER LIST panel, as shown in Figure 37, and press ENTER.

```
  CEOS: 121                    PRINTER LIST                1 TO     1 OF     1

  Enter Options(1=See/Change Characteristics   2=Start   3=Restart    4=Align
     5=Stop now   6=Stop after copy   7=Stop after report  8=Pause  9=Resume)
  OPT  PRINTER DESTINATION STATUS                CLASS FORMS REPORT NAME NUMBER
   9    PT01    PENNY       PAUSED                  S         MONTH04    00020



















  PF1=Help PF3=End ENTER=Continue.
```

Figure 37. CEOS: 121 PRINTER LIST panel 3

The printer status changes to PRINTING again, and it begins printing from where it left off. You can also make a PAUSED printer begin printing from a *different* page. For example, you may notice that the printing is faint because the printer ribbon needs changing. While the printer is PAUSED, you can change the ribbon. Then, if you want to reprint the faint pages, tell the printer the number of the page you want it to start printing from. To do this, you would use the RESTART PRINTER panel, (as described under "Restart printing from a particular page" on page 111) before typing a 9 for Resume.

Investigating further

You have now reached the end of the tutorial. You have looked at two report controller options—reports and printers. All the options of the report controller are set out in a similar way. If you want to know more about the reports option, see Part 4, "Reports – reference information" on page 73. Similarly, if you want to know more about the printers option, see Part 5, "Printers – reference information" on page 99. At the beginning of each of these sections, there is a "map" of all the panels for the option.

Experiment a little more with your sample reports, if you want to. For some more ideas of what to do, look at the contents of the sample report named `LONG` that you printed earlier. You could also try doing some of the things described in Part 3, "Day-to-day tasks" on page 53.

If you feel you have done enough for the moment, but would like to experiment more with the sample reports later, arrange with your supervisor to use the sample program another time.

Ending the tutorial

When you have finished using the sample reports, you must **stop the printer** and **delete all the sample reports** you have been using. Your sample reports may not all have been printed yet. Unless you particularly want printed copies of all of them, you do not need to wait until the last one has been printed before you stop the printer and delete them. If you **do** want printed copies of all your reports:

- Look at the REPORT LIST panel to find out if any reports are still IN USE.

- If the status of any of the reports is IN USE, press ENTER twice at intervals until the status of the last one (MONTH11) has changed back to HELD(L). This shows that it has been printed. When this has happened, go to "Stopping the printer," below.

Stopping the printer

To stop the printer:

- Press PF3 repeatedly until you get back to the CICS REPORT CONTROLLER panel.

- Type a 2 for Printer selection, and press ENTER.

- On the PRINTER SELECTION panel, type the printer name or destination you have been using, and press ENTER.

- On the PRINTER LIST panel, find out whether the printer status is PRINTING or WAITING.

- If it is WAITING, type a 5 in the OPT column next to the name of the printer, and press ENTER.

- If it is PRINTING, type a 7 in the OPT column next to the name of the printer, and press ENTER.

  As you can see on the Enter Options line on this panel, 5 means Stop now. You must use this kind of stop on a printer that is not currently printing. Option 7 means Stop after report. This means that the printer stops after it has printed all copies of the current report, and is the kind of stop you should normally use on a printer that is currently printing. To know more about the different ways of stopping a printer, when you should use them, and what effects they have, see "Stop printer" on page 107.

- Wait until the printer stops. Before it does this, it may print a message giving its name, destination, and the time and date it was stopped.

- The printer status changes to STOPPING. If it is printing anything, its status then changes to PRINTING (STOPPING). Finally, the printer status changes to STOPPED.

- When this has happened, press PF3 twice to get back to the CICS REPORT CONTROLLER panel.

Deleting the sample reports

To delete the sample reports you used for the tutorial:

- Type a 1 for `Report selection` and press `ENTER` to get the `REPORT SELECTION` panel.

- Type the destination you have been using for this tutorial, and press `ENTER`.

  It is important that you type the destination you have been using. If you simply press `ENTER` without typing anything on the `REPORT SELECTION` panel, you may get reports belonging to someone else.

- You get a `REPORT LIST` panel with the first of the remaining 35 sample reports. (There will be 36 reports if you are ending this tutorial without having printed any reports.)

```
 CEOS: 111                     REPORT LIST                   1 TO    18 OF    35

  Enter Options (1=See/Change Characteristics 3=Print 5=Delete 6=Hold 8=Browse)
 OPT  NAME     USERDATA        NUMBER STATUS    FORMS CLS PAGES CPY PRI DEST
  5   SAMPLEB  SAMPLEB         00010 HELD(L)        S     1   1   5  PENNY
  5   LONG     SAMPLE OF LONG R 00011 HELD(L)       S    12   1   5  PENNY
  5   SAMPLEB  SAMPLEB         00018 HELD(L)        S     1   1   5  PENNY
  5   ALIGN    ALIGNMENT PATTER 00023 HELD(L)       S     1   1   5  PENNY
  5   SAMPLEB  SAMPLEB         00026 HELD(L)        S     1   1   5  PENNY
  5   SAMPLEB  SAMPLEB         00032 HELD(L)        S     1   1   5  PENNY
  5   SAMPLEB  SAMPLEB         00036 HELD(L)        S     1   1   5  PENNY
  5   SAMPLEB  SAMPLEB         00040 HELD(L)        S     1   1   5  PENNY
  5   MONTH01  JANUARY TOTALS  00008 HELD(L)        S     1   1   4  PENNY
  5   DAILY    MONDAY          00009 HELD(L)        S     2   1   4  PENNY
  5   MONTH02  FEBRUARY TOTALS 00012 HELD(L)        S     1   1   4  PENNY
  5   DAILY    TUESDAY         00013 HELD(L)        S     2   1   4  PENNY
  5   SAMPLEA  SUPPLIED DATA   00014 HELD(L)        S     1   3   4  PENNY
  5   MONTH03  MARCH TOTALS    00016 HELD(L)        S     1   1   4  PENNY
  5   DAILY    WEDNESDAY       00017 HELD(L)        S     2   1   4  PENNY
  5   MONTH04  APRIL TOTALS    00020 HELD(L)        S     1   1   4  PENNY
  5   DAILY    THURSDAY        00021 HELD(L)        S     2   1   4  PENNY
  5   SAMPLEA  SUPPLIED DATA   00022 HELD(L)        S     1   3   4  PENNY
 PF1=Help PF3=End PF6=Bulk Change PF8=Forward ENTER=Continue.
```

Figure 38. CEOS: 111 REPORT LIST panel

- On the `REPORT LIST` panel, type a 5 for `Delete` in the `OPT` column next to each report, as shown in Figure 38.

  Notice that the `OPT` column has only one character space, so that when you type anything in it, the cursor automatically goes to the next line without your having to press the new-line key.

  Do not press `ENTER` **yet, because you have a second panel of reports to delete**.

- Press `PF8` to get to the second (and last) panel of the list, and type a 5 for `Delete` next to each of the reports in the same way until you reach the end of the list.

- Now press `ENTER` and, after a few moments, you get a panel like the one in Figure 39 on page 51.

```
CEOS: 111                   REPORT LIST                  19 TO    35 OF    35

 Enter Options (1=See/Change Characteristics 3=Print 5=Delete 6=Hold 8=Browse)
OPT  NAME     USERDATA          NUMBER STATUS   FORMS CLS PAGES CPY PRI DEST
 *   ALIGN    Report deleted.
 *   SAMPLEB  Report deleted.
 *   SAMPLEB  Report deleted.
 *   SAMPLEB  Report deleted.
 *   SAMPLEB  Report deleted.
 *   SAMPLEB  Report deleted.
 *   LONG     Report deleted.
 *   SAMPLEB  Report deleted.
 *   MONTH01  Report deleted.
 *   DAILY    Report deleted.
 *   MONTH02  Report deleted.
 *   DAILY    Report deleted.
 *   SAMPLEA  Report deleted.
 *   MONTH03  Report deleted.
 *   DAILY    Report deleted.
 *   MONTH04  Report deleted.
 *   DAILY    Report deleted.
 *   SAMPLEA  Report deleted.
PF1=Help PF3=End PF6=Bulk Change PF8=Forward ENTER=Continue.
```

Figure 39. CEOS: 111 REPORT LIST panel

- Press PF7 to go back to the first REPORT LIST panel to check that the first panel of reports has been deleted.

- Press PF3 three times to end the session with the report controller. You get a panel like the one shown in Figure 40.

```
CEOS
  SESSION ENDED




















```

Figure 40. CEOS - SESSION ENDED panel

- Sign off from CICS. If you have not done this before, ask your supervisor to help you.

You have now completed the tutorial, and should know most of the basic things about using the report controller. If you want to go over anything again, ask your supervisor to arrange for you to use the tutorial at another time.

Part 3. Day-to-day tasks

This section covers a number of situations, not covered in Part 2, "Tutorial" on page 9, that you might encounter in your day-to-day use of the report controller, including loading paper and dealing with errors.

As in Part 2, "Tutorial" on page 9, a small square is used to distinguish what you have to do (such as pressing a key or making a note of something) from descriptions of what the report controller does.

Supervisors should see Part 10, "Information for supervisors" on page 145 for information they may need to help users of the report controller.

Map of reports and printers panels
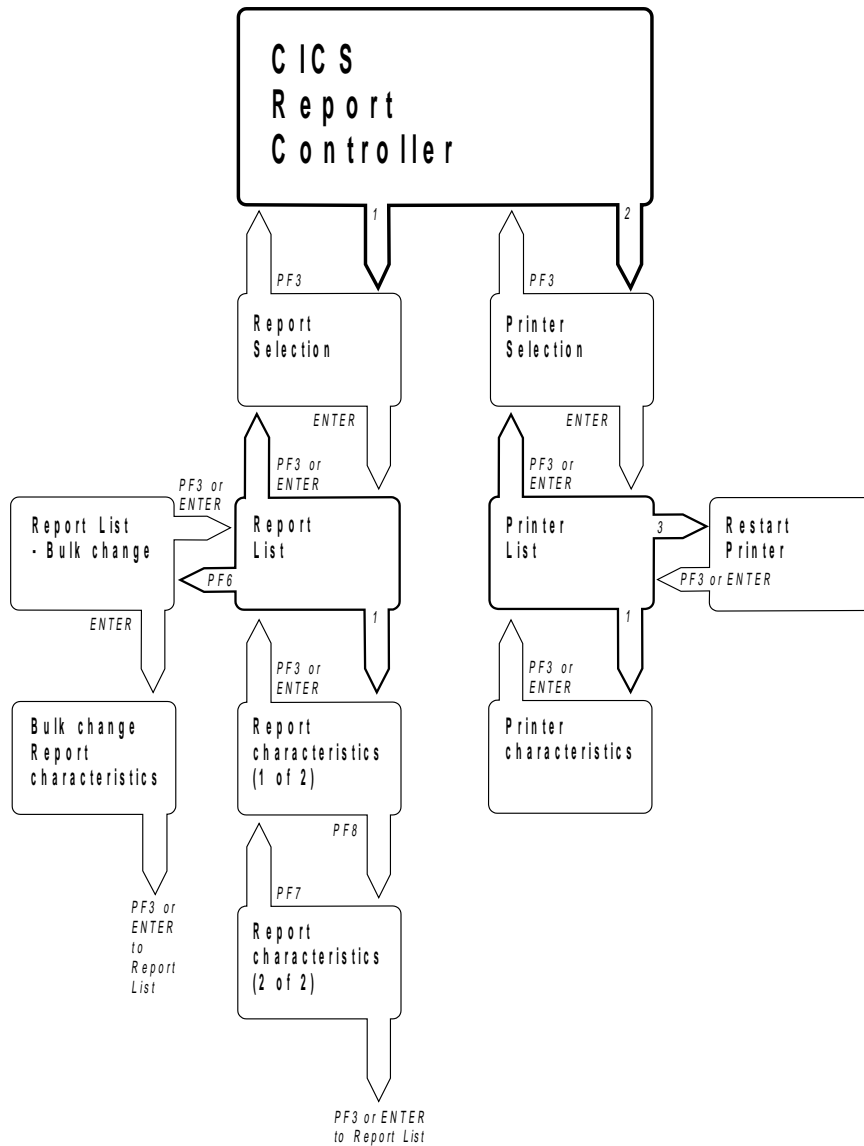
Figure 41. Map of reports and printers panels

You may find it useful to refer to Figure 41 while you are working through this section. It shows you the name of each panel in the reports and printers options, and which keys to press to get from one panel to another. Also, at the beginning of each section that provides reference information for an individual option, a map is given of that option.

What you should know (or find out) before you start

You need to know:

How to operate the printer, including:

Turning it on and off
Changing and loading paper
Changing printer ribbon and ink supply
Fixing a jammed printer.

What information you need to give the report controller[6], including:

Names of reports you can use
Names of destinations you can use
Names of printers that use these destinations
Changes you are allowed to make to destinations and classes
Which paper to load for which forms type.

Who to contact if you need help.

If you need help finding out how to do any of the above, ask your supervisor.

If you are not sure how to get to a particular report controller panel while you are using this chapter, see Figure 41 on page 54.

---

[6] You can use the form in Part 9, "Your own information" on page 143 to make a note of report names, printer names, destinations, and so on.

Starting printing (at the beginning of the day)

Before you start printing, you need to know the status of the reports you want to print.

You should also check whether there are any restrictions on the kind of reports that can be printed on particular printers. If you try to print a report on a printer that is not authorized to print it, the status of that report changes to ERRPRT. If this happens, see "Report in ERRPRT status" on page 68 to find out what to do.

- To find out what status your reports are in, look at the column headed STATUS on the REPORT LIST panel.

- If they are READY(D), or READY(K) see "Reports in READY status."

- If they are HELD(H), or HELD(L) see "Reports in HELD status" on page 58.

- If they are in ERRCRT status, see "Report in ERRCRT status" on page 67.

- If they are in ERRPRT status, see "Report in ERRPRT status" on page 68.

- If they are in RESUME status, this means that they are not complete yet, and so you should not print them.

Reports in READY status

This section describes what to do for reports that have the READY status, that is, either READY(D) or READY(K) status.

Getting ready to print

To prepare for printing:

- From the REPORT LIST panel, make a note of the forms type, class, and destination of the reports you want to print.

Before you can print your reports, you need to know the name of the printer you want to use. If you do not know it:

- Go to the PRINTER SELECTION panel and press ENTER, without typing anything else, to get a list of all printers available to you.

- Look at the PRINTER LIST panel to find out if there is a printer that already has the same forms type, class, and destination as the reports you want to print.

Starting the printer

If there is a printer that has the forms type, class, and destination you want, and it is already started, there is nothing else you have to do to get your reports printed.

If there is a printer that has the forms type, class, and destination you want, but it is not started:

- Type a 2 for `Start` next to that printer in the `OPT` column on the `PRINTER LIST` panel, and press `ENTER`. Your reports start being printed.

If there is no printer that has the forms type, class, and destination you want:

- Type a 1 for `See/Change Characteristics` in the `OPT` column on the `PRINTER LIST` panel next to a printer whose status is `STOPPED` and press `ENTER`. You can then change the characteristics of the printer as necessary.

If there is no printer whose status is STOPPED:

- Find a printer that is not printing, type a 5 for `Stop now` next to it in the `OPT` column on the `PRINTER LIST` panel, and press `ENTER`. If the printer you choose to stop is in `PAUSED` status, you have to type a 9 for `Resume` after you have requested it to stop. (See "Resume printing after pause" on page 111 for more information about doing this.) If all the printers are printing, type a 7 for `Stop after report` next to one of them in the `OPT` column on the `PRINTER LIST` panel, and press `ENTER`. The printer status changes to `STOPPED`, (via `STOPPING` and `PRINTING (STOPPING)`).

- Ensure that the right paper is loaded on the printer. If you need to change it, see "Changing forms type" on page 59.

- If you need to change the class, or destination, or both, go to the `PRINTER CHARACTERISTICS` panel (or the `REPORT CHARACTERISTICS` panel), type the class and destination you want, and press `ENTER`.

- On the `PRINTER LIST` panel, type a 2 for `Start` in the `OPT` column next to the printer, and press `ENTER`. The printer starts. The reports continue to be printed as long as there are some with the same forms type, class, and destination as the printer.

When there are no reports left for the forms currently being used, the printer status changes to `PAUSED (FORMS "xxxx")` where xxxx is the forms type required.

- See "Changing forms type" on page 59 to find out what to do.

When there are no reports left for the class and destination currently being used, the printer status changes to `WAITING` until some more reports become `READY` for that class and destination.

Reports in HELD status

This section describes what to do for reports that have the HELD status, that is, HELD(L) or HELD(H) status.

To print the reports:

- Look at the REPORT LIST panel, and decide which of the reports you want to be printed.

- Make a note of the forms type, class, and destination of these reports.

- Decide whether you want to change the status of each of these reports to READY(D) or READY(K) now, or a few at a time once you have started the printer.

- Type a 3 for Print in the OPT column next to each report you want to make READY, and press ENTER.

The status of each of these reports changes to READY, and the highest-priority report starts to be printed when a printer is started. Refer to "Starting the printer" on page 57 to see how to start a printer.

The reports continue to be printed as long as there are some left for the forms type, class, and destination of the printer.

When there are no reports left for the current class and destination, the printer status changes to WAITING.

The printer status changes again when some more reports are READY for the current class and destination.

When there are no reports left for the current forms type, the printer status changes to PAUSED (FORMS "xxxx"), where xxxx is the forms type required.

- See "Changing forms type" on page 59 to find out what to do.

Changing forms type

This section describes what you have to do to change the forms type for reports.

Reports in READY status

If your reports are all in READY status, and the printer is started, then the printer finds a report type that has the highest priority but needs a different forms type. This makes the printer pause. The printer status on the PRINTER LIST panel changes to PAUSED (FORMS "xxxx"), where xxxx is the forms type required.

What you do next depends on whether you want to print the report now or later.

To print this report now:

- Load the paper on the printer.

If you do not know how to load the paper, ask your supervisor to help you.

When you have loaded the paper, you may want to print a few test pages to check that it is lined up correctly.

- See "Lining up new paper" on page 61 to find out how to do this.

You can now set the printer going again:

- Type a 9 for Resume in the OPT column, and press ENTER.

You must use Resume to set a PAUSED printer going if you want it to start from the page on which it stopped. For the printer to start from a different page, you must type a 3 for Restart. (For more information, there is a description of Restart in "To choose the page that the printer starts from" on page 64.)

The reports should start printing immediately. The FORMS column on the PRINTER LIST panel is automatically changed to display the new forms type.

You can check that this is so:

- Press ENTER twice on the PRINTER LIST panel to get the latest printer status.

If you do not want to print this report yet:

- Type a 5 for Stop now in the OPT column on the PRINTER LIST panel next to the printer details, and press ENTER. The printer stores this command.
- Type a 9 for Resume. The printer then stops. Before it stops, the printer may also print out a message telling you its name, its destination, and the time and date it was stopped.

The report that was being printed changes to ERRPRT status, which shows that the printer began printing the report but did not complete it. There may also be a message on the printer telling you the name of the report that is in ERRPRT status, and the time and date it was put in this status.

Being in ERRPRT status does not harm a report. You can change its status to READY and print it in the same way as a report that is in HELD status. (See "Report in ERRPRT status" on page 68.)

Before you start the printer again:

- Look at the `REPORT LIST` panel to see if there are any other reports that are in `READY(D)` or `READY(K)` status whose forms type is different from that of the current ones.

- Change the status of any you do not want to print yet to `HELD(H)` or `HELD(L)` by typing a `6` for `Hold` next to each one in the `OPT` column and pressing `ENTER`.

When you want to print these reports, you can start the printer again, and if there are any reports for the destination, class, and forms type you want, the printer prints them all. The printer status changes to `WAITING` when it has finished printing all the `READY` reports.

You may find it helpful to always change reports that need different forms types to `HELD` status until you are ready to print them. This is particularly so if reports are being created for you all the time, because it saves you having to spend too much time changing the paper and starting the printer again.

Reports in HELD status

If you generally use reports that are created in `HELD(H)` or `HELD(L)` status, then, when you have finished printing all the reports for one forms type:

- Type a `3` for `Print` in the `OPT` column on the `REPORT LIST` panel and press `ENTER` to change the reports for the forms type to `READY(D)` or `READY(K)` status.

If the reports have the same destination and class as the printer you do not need to stop the printer, because its status changes to `PAUSED (FORMS "xxxx")`.

- Change the paper as described in "To print this report now" on page 59.

If the reports have a different destination and class from the printer:

- If there is nothing being printed, type a `5` for `Stop now` in the `OPT` column on the `PRINTER LIST` panel to stop the printer.

- If there is a report being printed, type a `7` for `Stop after report` in the `OPT` column on the `PRINTER LIST` panel, and press `ENTER` to stop the printer.

- Load the paper on the printer. To check whether the paper is correctly lined up, see "If the printer status is STOPPED" on page 61.

- Go to the `PRINTER CHARACTERISTICS` panel, and change the destination, class, and forms type to the ones you want.

- Go to the `PRINTER LIST` panel, and type a `2` for `Start` in the `OPT` column to start the printer.

Lining up new paper

If you have just loaded some paper on the printer, and you want to check whether it is properly lined up, you can do this using the `Align forms` command, which lets you print one or more test pages of a report.

The printer you are going to use must be in `PAUSED` status.

- Look at the `PRINTER LIST` panel to see what the printer status is.
- Now look at the headings below to see which applies to the printer.

If the printer status is PAUSED (FORMS "xxxx")
- Load the paper on the printer.
- Go to "Aligning forms" on page 63.

If the printer status is PRINTING
- Type an `8` for `Pause` in the `OPT` column on the `PRINTER LIST` panel, and press `ENTER`. The printer status changes to `PAUSED (OPERATOR)` immediately, and it pauses when:

    - Separator pages (if any) for the current report have been printed.

    - Everything in the printer **buffer** has been printed. (The printer gets data from the report controller faster than it can print it, and the buffer is where this data is stored before being printed.) If the reports are short, the buffer may not be empty until several reports later.

- Now go to "Aligning forms" on page 63.

If the printer status is STOPPED
- Look at the `REPORT LIST` panel and make sure the highest priority report that is `READY` to print is for the forms type you want to align.

- If not, find a report that does have the forms type you want, type a `3` for `Print` in the `OPT` column, and press `ENTER`.

- On the `PRINTER LIST` panel, check that the printer has the forms type, class, and destination needed for the report. If it does not, type a `1` for `See/Change Characteristics` in the `OPT` column, make the changes on the `PRINTER CHARACTERISTICS` panel, and press `ENTER`.

- Type a `2` for `Start` in the `OPT` column on the `PRINTER LIST` panel, and press `ENTER` to start the printer.

- Now type an `8` for `Pause` in the `OPT` column, and press `ENTER`, to make the printer pause.

If the report has separator pages, they may be printed before the printer pauses, or else they are printed before you align pages, when you use `Align forms`.

- Now go to "Aligning forms" on page 63.

If the report is a short report, and has no separator pages, you may not be able to make the printer pause before the report has been printed. In this case:

- Check on the `REPORT LIST` panel that there are no reports for other forms types that have this class and destination.

- Go to the `PRINTER CHARACTERISTICS` panel, and change the forms type.

- Go to the `PRINTER LIST` panel, and start the printer.

The printer does not find any reports with this forms type, and its status changes to `PAUSED (FORMS "xxxx")`, where `xxxx` is the forms type required.

- Now go to "Aligning forms" on page 63.

If the printer status is WAITING

If the next reports are to be printed using the ***same class and destination as are on the printer, but on different forms***, all you have to do is change the report status to `READY`. To do this:

- Type a `3` for `Print` in the `OPT` column on the `REPORT LIST` panel, and press `ENTER`.

The printer status changes to `PAUSED`.

- Load the paper on the printer.
- Go to "Aligning forms" on page 63.

If the printer is `WAITING`, and the reports are to be printed using a ***different class and destination*** from those on the printer:

- Type a `5` for `Stop now` in the `OPT` column on the `PRINTER LIST` panel, and press `ENTER`.

- See "If the printer status is STOPPED" on page 61.

If the printer is `WAITING`, and the reports are to be printed on the ***same forms*** as are on the printer:

- Type a `5` for `Stop now` in the `OPT` column on the `PRINTER LIST` panel, and press `ENTER`.

The printer stops.

Now find a report that has the forms you want to align, and change its status to `READY`:

- Type a `3` for `Print` in the `OPT` column on the `REPORT LIST` panel and press `ENTER`.

If you change the report's status to `READY` ***without*** stopping the printer first, it may be printed before you can make the printer pause to align the forms type, and the report is printed unaligned. If this happens, see "Reprinting some reports" on page 65.

- Now follow the instructions under "If the printer status is STOPPED" on page 61.

Aligning forms

The `Align forms` command lets you print one or more test pages of a report, so that you can see if newly loaded paper is correctly lined up.

When you use the `Align forms` command, the printer status must be `PAUSED`. (To know how to do this, see "Lining up new paper" on page 61.)

To use the `Align forms` command:

- Type a `4` for `Align` in the `OPT` column next to the printer on the `PRINTER LIST` panel, and press `ENTER`.

The printer prints a page of the report with all the letters changed to `Xs`, and all the numbers to `9s`. (The report controller does this so that you do not get unaligned pages of real reports.)

You can adjust the paper in the printer, and then repeat the `Align forms` command as many times as you want until you are satisfied with the results.

You can also change the number of pages that are printed. See "Number of paper align pages to be printed (Align pages)" on page 116.

Beginning printing after using the Align forms command

When you have finished aligning, you can start printing again. You can start printing from the page that was being printed when you paused the printer, or from a page that you choose.

To start printing from where the printer was paused:

- Type a `9` for `Resume` in the `OPT` column on the `PRINTER LIST` panel, and press `ENTER`.

The printer starts printing from where it was paused.

To choose the page that the printer starts from:

- Type a `3` for `Restart` in the `OPT` column on the `PRINTER LIST` panel, and press `ENTER`.

This takes you to the `RESTART PRINTER` panel, where you can type the number of the page you want the printer to restart from.

- Type the page number next to `Start page ==>` on that panel, and press `ENTER`.

- On the `PRINTER LIST` panel, type a `9` for `Resume` in the `OPT` column, and press `ENTER`.

The printer starts printing from the page you requested. (For more information about the `RESTART PRINTER` panel, see "Restart printing from a particular page" on page 111.)

If some reports were printed before you used the `Align forms` command, you may want to reprint them; see "Reprinting some reports" on page 65.

Reprinting some reports

If the printing on reports is faint, the paper may be creased, or they may have been printed before the paper was aligned. To reprint reports:

- On the CICS REPORT CONTROLLER panel, type a 1 for Report selection and press ENTER.

- On the REPORT SELECTION panel, type the characteristics of the reports you want to see, and press ENTER. (See "Choosing reports to be listed" on page 76, for a description of the characteristics you can use to do this.)

If you get a message telling you that there are no reports that match the characteristics you correctly typed, it is because the reports were created in a way that meant they were deleted when they had been printed. In this case, you have to ask whoever created the reports to create new ones.

If the reports have not been deleted, you get a list of them on the REPORT LIST panel. They are all in HELD status. To reprint them:

- Type a 3 for Print next to each report you want to print, and press ENTER to change the status to READY.

You can use bulk change if there are many reports, see "Sending many reports for printing together" on page 37. For more information about the kind of changes you can make, see "Changing many reports together (BULK CHANGE)" on page 96.

- Make a note of the forms type, class, and destination of the reports you want to print.

- Go to the PRINTER LIST panel, type a 1 for See/Change Characteristics in the OPT column next to the name of the printer you want to use, and press ENTER.

You get the PRINTER CHARACTERISTICS panel.

- Type the forms type, class, and destination of the reports you want to print, and press ENTER.

- Now type a 2 for Start next to the printer name in the OPT column on the PRINTER LIST panel, and press ENTER.

The reports start being printed.

Finding out why printing has stopped unexpectedly (and starting it again)

If the printer has stopped unexpectedly, you need to find out why, and then start printing again:

- Go to the PRINTER LIST panel and find out what the printer status is.

If the printer status is PAUSED (FORMS "xxxx"):

When the printer is in this status, there may also be a message on the last page that came out of the printer. See "Printer messages to be printed or not (Printer messages)" on page 116.

- Make a note of the forms type needed.
- Go to "Changing forms type" on page 59.

If the printer status is PAUSED (OPERATOR):

- Find out who changed the printer STATUS to PAUSED, and why.

If it is alright to begin printing again:

- Go to the PRINTER LIST panel, type a 9 for Resume in the OPT column, and press ENTER.

If the printer status is STOPPED:

When the printer is in this status, there may also be a message on the last page that came out of the printer. See "Printer messages to be printed or not (Printer messages)" on page 116.

- Find out if another user stopped it, and why.

If it is alright to start the printer again:

- Go to the PRINTER LIST panel, type a 2 for Start in the OPT column, and press ENTER.

If the printer status is OUT OF SERVICE or UNAVAILABLE:

- Ask your supervisor for help.

If none of the above applies:

- Check the printer itself, to see whether it needs attention.

- If the printer has jammed, see "Recovering from a paper jam" on page 69.

- If you do not get any response from your terminal, some part of the computer system may have failed. If this happens, ask your supervisor for help.

After a computer system failure, you should look at the REPORT LIST panel to see if any reports are in ERRCRT or ERRPRT status. If there are any reports in either of these statuses, see "Report in ERRCRT status" on page 67, or "Report in ERRPRT status" on page 68, as appropriate.

Report in ERRCRT status

If a report is in ERRCRT status, this means that some sort of error occurred when it was being created. This may have been an error made by whoever created the report, or a computer system failure of some sort.

To deal with a report on the REPORT LIST panel that is in ERRCRT status:

- Go to the REPORT CHARACTERISTICS panel for that report, look under the word PAGES, and note what the number is.

If the number of pages is less than usual for this type of report, decide whether you think it is worth trying to print the report.

If you decide to print the report:

- Make a note of the report's number (from either the REPORT LIST panel, or the REPORT CHARACTERISTICS panel) so that you or your supervisor can follow it up later, if necessary.

- Type a 3 for Print in the OPT column on the REPORT LIST panel, press ENTER to change the report's status to READY, and print it as usual.

If you cannot print the report successfully, or if you decide not to print it:

- Go to the second REPORT CHARACTERISTICS panel.

- Make a note of the user ID of the user who created the report. (This is displayed next to by.)

- Contact that person, tell them what is wrong with the report, and ask them to re-create it.

To delete the report (after the problem has been followed up):

- Go to the REPORT LIST panel.
- Type a 5 for Delete in the OPT column next to that report, and press ENTER.

Report in ERRPRT status

If a report is in ERRPRT status, this means that some sort of error occurred when it was being printed. This may have happened because the report was sent for printing on a printer that was not authorized to print it, because the printer was stopped using Stop now or Stop after copy, or because some part of the computer system failed.

To deal with a report on the REPORT LIST panel that is in ERRPRT status:

- Make a note of the report number, so that you (or your supervisor) can follow it up later, if necessary.

- Go to the REPORT LIST panel, and change the report status to READY.

If the report is printed successfully:
There is nothing else you need to do. The report is either deleted or changes to HELD status in the usual way.

You should leave a report in ERRPRT status until you want to print it. It remains on the REPORT LIST panel just as it would in HELD status. Also, seeing a report in ERRPRT status on the REPORT LIST panel is a useful reminder that it needs further attention if you cannot deal with it immediately.

You can change the status of an ERRPRT report to HELD if necessary. However, it's important to note that if you do this, and then print the report successfully, its status may change to HELD(L) after it has been printed. It may be important that this does not happen to certain reports. You should check with your supervisor before changing the status of an ERRPRT report to HELD. If a report remains in ERRPRT status after you have tried printing it a second time, you should ask your supervisor for help. See page 78 for more information.

If the report is not printed successfully:

- If the report remains in ERRPRT status, ask your supervisor to help you.

Recovering from a paper jam

If printing stops, the paper may have jammed. You can recover from such a situation as follows:

- On the `CICS REPORT CONTROLLER` panel, type a 2 for `Printer selection`, and press `ENTER`.

- On the `PRINTER SELECTION` panel, type the name or destination of the printer, and press `ENTER`.

- On the `PRINTER LIST` panel, the printer status is `PAUSED (PRINTER)`.

- Go to the printer and sort out the paper jam.

- Have a look at the report that has just come out of the printer to see whether it was damaged.

If the report was not damaged, you can start printing from the page on which it stopped:

- Type a 9 for `Resume` in the `OPT` column on the `PRINTER LIST` panel, next to the printer details, and press `ENTER`.

The printer starts printing again.

If the report was damaged, you can start printing from before the page on which it stopped:

- Make a note of the number of the first damaged page.

- Type a 3 for `Restart` next to the printer details on the `PRINTER LIST` panel, and press `ENTER`.

You get the `RESTART PRINTER` panel, (see "Restart printing from a particular page" on page 111).

- Next to `Start page ==>`, type the page number you noted when you looked at the printer, and press `ENTER`.

- Now type a 9 for `Resume` in the `OPT` column next to the same printer, and press `ENTER`.

The printer starts printing from the page you requested.

If several reports need printing, see "Reprinting some reports" on page 65.

Interrupting or abandoning the printing of a report

You may want to stop the printer before a report, or all its copies, have been printed. For example, you may want to do this if you realize that a report was mistakenly sent for printing, or too many copies were requested.

- Go to the `PRINTER LIST` panel and type a `5` in the `OPT` column if you want the printer to stop, or type a `6` if you want it to stop when it has finished the current copy of the report it is printing. Press `ENTER`.

The printer stops printing when it has emptied its buffer if you used `Stop now`, or when it has completed the current copy of the report if you used `Stop after copy`.

The printer status then changes to `STOPPED`, (via `STOPPING` and `PRINTING (STOPPING)`), and the report status changes to `ERRPRT`. However, if the printer stopped after it had printed *all* copies of a report, the report will either be in `HELD(L)` or `READY(K)` status, or it will have disappeared from the list. (This depends on how the report was created. If you need to know more, ask your supervisor.)   `ERRPRT` status here shows that the printer began printing the report, but did not complete it.

If you used `Stop after copy`, the number of copies under `CPY` on the `REPORT LIST` panel, and next to `Copies` on the `REPORT CHARACTERISTICS` panel changes back to what it was before the report began being printed. This means that, if you send the report for printing again, the total number of copies *originally* requested are printed, and not just the ones that were still to be printed when you stopped the printer.

Decide whether you want to print the report now or later, or if you want to delete it.

To print the report later:

- Go to the `REPORT LIST` panel and change the status of the report to `HELD`.

When you want to print the report:

- Go to the `REPORT LIST` panel and change the status of the report to `READY`.

If the forms type, class, and destination of the printer still match those on the report, it is printed. If these characteristics of the printer do not match those on the report, you have to change them so that they do match. See "Sending a report for printing" on page 27.

To delete the report:

- Type a `5` for `Delete` in the `OPT` column of the `REPORT LIST` panel next to the report name, and press `ENTER`.

Closing down printing

At the end of the day, you may have to close down printing:

- On the CICS REPORT CONTROLLER panel, type a 1 for Report selection and press ENTER. You get the REPORT SELECTION panel.

- Next to Destination, type the destination you have been using.

- Type a "y" next to Ready on the REPORT SELECTION panel and press ENTER.

- Count the number of reports in the list to be printed, and notice if they are mostly long or short. If the number is small, and the reports are short, you may want to wait until they have all been printed. If the number is large, or some of the reports are long, you may prefer to stop the printer after the current report has been printed. If there is nothing left to be printed, you can stop the printer immediately.

- Press PF3 twice to get back to the CICS REPORT CONTROLLER panel.

- Type a 2 for Printer selection and press ENTER to get the PRINTER SELECTION panel.

- Type the destination or the printer name of the printer that you have been using, and press ENTER to get the PRINTER LIST panel.

- If you want all the reports to be printed, wait until the printer status changes to WAITING. (If it changes to PAUSED (FORMS "xxxx"), see "Changing forms type" on page 59.) When the printer status has changed to WAITING, type a 5 for Stop now in the OPT column next to the printer name, and press ENTER.

- If there is nothing being printed, type a 5 for Stop now in the OPT column next to the printer name, and press ENTER. If there is a report being printed, type a 7 for Stop after report in the OPT column next to the printer name, and press ENTER. The printer status changes to STOPPED.

- Wait for the printer to stop printing, that is, when it has finished the last copy of the current report.

- Press PF3 three times to end the session with the report controller.

- Sign off from CICS. If you have not done this before, ask your supervisor to help you.

- Turn off the terminal and then turn off the printer.

day-to-day tasks

Part 4. Reports – reference information

This section gives a complete description of the reports option of the report controller. It is assumed that you are familiar with the subject matter of Part 3, "Day-to-day tasks" on page 53.

Map of reports panels
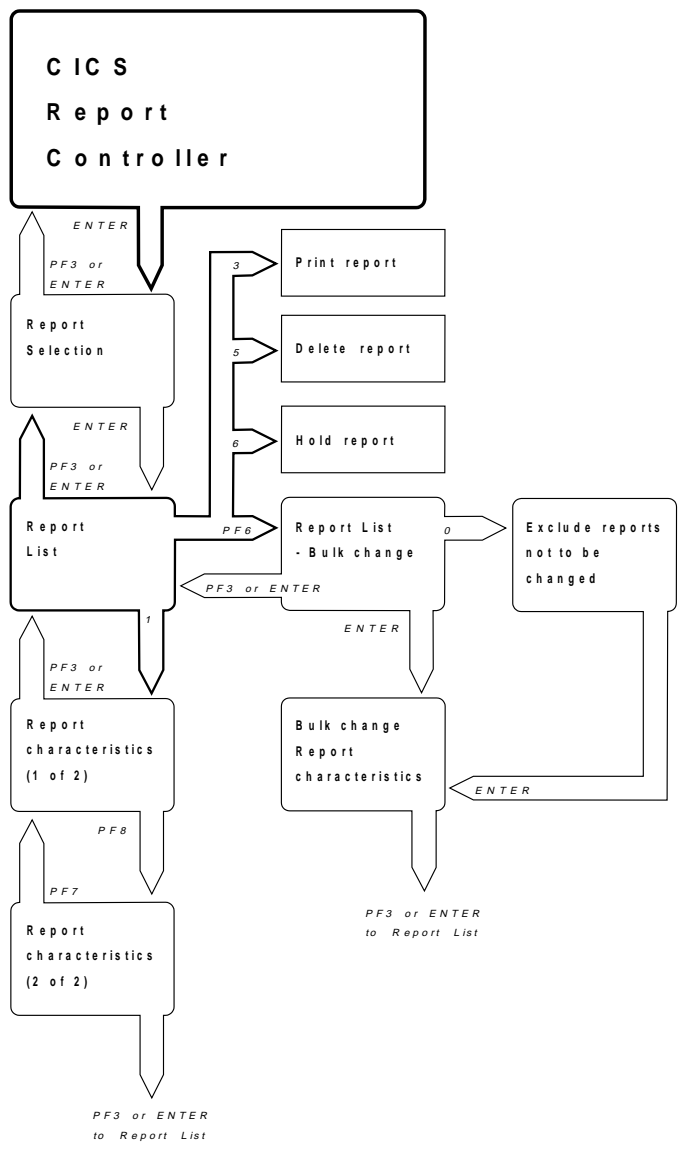
Figure 42. Map of reports panels

Figure 42 shows you the name of each panel in the reports option, and which keys to press to get from one panel to another.

Using the REPORT SELECTION panel to list reports

You get the REPORT SELECTION panel by typing a 1 for Report selection on the
CICS REPORT CONTROLLER panel, and pressing ENTER. (See Figure 9 on page 15.)

```
   CEOS: 11                   REPORT SELECTION

       You may list all reports or only those reports that match
       your selection criteria.

       Type your selection criteria:
         Report number  ==> _
         Report name    ==>
         Destination    ==>
         Forms          ==>
         Class          ==>            A-Z / 0-9
         From date      ==>            mm/dd/yy
         To date        ==>            mm/dd/yy
         Power Sysid    ==>            1-9

       To select Status type a Y against one, or more of the following:
         In use         ==>            Held (L)       ==>
         Resume         ==>            Held (H)       ==>
         Error creating ==>            Ready (K)      ==>
         Error printing ==>            Ready (D)      ==>

   PF1=Help PF3=End ENTER=Continue.

```

Figure 43. CEOS: 11 REPORT SELECTION panel

Listing all reports

To list all reports in the report controller, do not type anything on the REPORT
SELECTION panel, and press ENTER. This takes you to the REPORT LIST panel with all
reports listed.

Choosing reports to be listed

You can list reports according to the following characteristics on the REPORT SELECTION panel:

Report number

The computer gives each report a 5-digit number that is unique to each one (unlike the name, which can be the same for more than one report). To select a particular report, type its number next to Report number, and press ENTER.

Report name

A name (2 through 8 characters) is given to each report when it is created. To select a particular report, type its name next to Report name, and press ENTER.

Reports with similar names

If you know that several reports have names that begin with the same characters, you can list them together. To do this, type an asterisk (*) after the first few characters of the report name (for example REP*) next to Report name, and press ENTER. This gives you a list of any reports whose names begin with REP. For example: REPA, REPX1, REPZ, REP01, REPA, REP1A. The list does *not* contain any report that has REP anywhere else in its name (for example, PREP1). **You can use an asterisk in this way on the name characteristic only**. You can use an asterisk after any one or more characters. Here are two more examples:

    A* lists all reports beginning with A
    A01* lists all reports beginning with A01.

Listing reports in this way can save you time typing report names, or scanning a complete list of reports (which can be very long), if you are unsure of complete report names. It can also be useful to make a list of reports for **bulk change**. (See "Changing many reports together (BULK CHANGE)" on page 96 for more information.)

Destination

To list all reports that have the same destination, type a destination name of up to 8 characters next to Destination, and press ENTER.

Forms

To list reports to be printed on the same kind of paper, type a forms type of up to 4 characters next to Forms, and press ENTER. Reports that are printed on standard paper have Forms blank. To list them, type an asterisk (*) next to Forms before pressing ENTER. If you do **not** do this, the report controller ignores Forms because it has no way of telling that you intended to include it in the list.

Class

To list all the reports in the same class, type a single letter from A through Z or a number from 0 through 9 (for the class you want to list) next to Class, and press ENTER.

From date and To date

Each report shows in the list the date on which it was created. It is displayed on the REPORT CHARACTERISTICS panel. (See "The first REPORT CHARACTERISTICS panel" on page 87.) The date (and time) can also be printed in the heading line of each page of the report. To find out whether the date and time are printed on your report, look at the second REPORT CHARACTERISTICS panel. (See "The second REPORT CHARACTERISTICS panel" on page 94.)

You can type a From date, which gives you a list of reports created **on or after** that date, or a To date, which gives you a list of reports created **on or before** that date. You can type From date and To date either on their own or together. If you type the same From date and To date, you get a list of reports created **on that date only**. Listing by date is particularly useful for tracking down missing reports.

As you can see on the REPORT SELECTION panel, the From date and To date lines also contain the letters mm/dd/yy, to show how the date is set out. The panels you use may have been changed by your organization, and could have dd/mm/yy or yy/mm/dd. Two numbers stand for each part of the date. For example, if you want to see reports dated October 30 1995, you type 10/30/95. If the number of the month or day is less than 10, you must put a zero before it. For example, if you want to see reports dated April 3 1995, you type 04/03/95.

If the year specified is greater than 88, the Report Controller assumes that the year is 19xx, any other year value is assumed to be 20xx (where xx is the actual year entered). For example, specifying the following on either the Report Selection or JCL Report Selection panels of CEMS/CEOS:

```
From date ==> 06/25/97      mm/dd/yy
To date   ==> 06/25/01      mm/dd/yy
```

is interpreted as being the range of dates from 25 June 1997 to 25 June 2001.

PWRSYSID

To list reports intended for a specific VSE/ESA system in a shared spooling environment, enter the number, 1 through 9, of the required system and press ENTER.

Status

To list reports according to their status, type a y (for yes) on the REPORT SELECTION panel next to each status you want, and press ENTER. The status of a report is a reflection of the **disposition** of the report. For example, the letter in parentheses after READY and HELD indicates the disposition of the report. You can list reports that are in any of the following statuses:

- IN USE

  The report is currently being printed or is being used by another part of the system.

- READY(D)

  The report is ready to be printed. A report can be created with the READY(D) status, or can be changed to READY(D) from HELD(H) when it is to be printed. A report created with READY(D) status is deleted when it has been printed.

- READY(K)

The report is ready to be printed. A report can be created with the `READY(K)` status, or can be changed to `READY(K)` from `HELD(L)` when it is to be printed. A report created with `READY(K)` status remains in the report list after printing.

- `HELD(H)`

  The report has not yet been printed. A report created with `HELD(H)` status is deleted when it has been printed.

- `HELD(L)`

  The report has not yet been printed, or it has been printed and has not yet been deleted. A report created with `HELD(L)` status remains on the report list after printing.

- `RESUME`

  The report is temporarily complete, but can be added to.

- `ERRCRT`

  An error occurred when the report was being created. This may be because there was an error in the report itself, or because there was a computer system failure of some sort. You can change a report from `ERRCRT` status to `READY` and print it. For example, you may need to do this if whoever created the report wants to see where printing stopped, to help them find out where the error is before re-creating the report.

- `ERRPRT`

  Something happened to stop a report that was being printed. This may be because the report was sent for printing on a printer that was not authorized to print it, because the printer was stopped by a user of the report controller part-way through a report, or because there was a printer failure of some sort. If many printer errors occur in quick succession (that is, on the same page or in the same buffer), the printer may put the report into `ERRPRT` status. **This does not harm the report**. You can change it back to `READY` and print it again. The report is either deleted or changed to `HELD` status in the usual way.

  You should leave a report in `ERRPRT` status until you want to print it. It remains on the `REPORT LIST` panel just as it would in `HELD` status. Seeing a report in `ERRPRT` status on the `REPORT LIST` panel is a useful reminder that it needs further attention if you cannot deal with it immediately.

  You can change the status of an `ERRPRT` report to `HELD` if necessary. However, it's important to note that if you do this, and then print the report successfully, its status may change to `HELD(L)` after it has been printed. It may be important that this does not happen to certain reports. Your organization can create reports in `HELD(H)` status so that they are deleted as soon as they have been printed, to make sure that they are printed only once. For example, numbered order forms, or reports that contain confidential information.

Combining characteristics (and statuses) of reports in a list

You can combine characteristics on the `REPORT SELECTION` panel, so that the list you get is shorter. For example, you can list all reports that went to a particular destination yesterday, or all reports that are more than two days old and are still in `ERRCRT` status.

The report controller saves anything you type on the `REPORT SELECTION` panel, and redisplays it when you go back to that panel, if you have stayed within the reports

option. This means that you can use the same report characteristics again or build on those you have already typed.

After you have typed selections on the REPORT SELECTION panel

If the report controller cannot find any reports that match what you typed on the REPORT SELECTION panel, it continues to display that panel and issues a message telling you that there are no reports that match what you typed. If this happens you can do one of the following:

• Type some different characteristics on the REPORT SELECTION panel, and press ENTER to try again.

• Erase any characteristics already on the REPORT SELECTION panel, and press ENTER to get a complete list of reports.

• Press PF3 to go back to the CICS REPORT CONTROLLER panel to use a different option, or to end the session with the report controller.

Using the REPORT LIST panel to control reports

Figure 44 shows an example of a `REPORT LIST` panel.

A `REPORT LIST` panel tells you what the state of the reports is at the moment you request it, but if anybody else makes changes while you are looking at the list, you do not see them until you ask for a new list (although you can see any changes that you make). When you have the `REPORT LIST` panel displayed, you can get a new list by pressing `ENTER` twice.

```
   CEOS: 111                   REPORT LIST                  1 TO    18 OF    24

    Enter Options (1=See/Change Characteristics 3=Print 5=Delete 6=Hold 8=Browse)
   OPT  NAME      USERDATA       NUMBER STATUS    FORMS CLS PAGES CPY PRI DEST
        SALES     SALES REP1     04207 IN USE     SALE   A     5   6   5  ACCOUNTS
        ACCOUNT   ACCOUNTS 1276  04210 READY(D)   ACCS   A    18   3   5  ACCOUNTS
        PAYROLL   PAYROLL DETAILS 04211 HELD(L)   PAYR   A    12   2   5  ACCOUNTS
        ACCOUNT   ACCOUNTS 1279  04218 HELD(L)    ACCS   A     4   1   5  ACCOUNTS
        FIGURES   SALES FIGURES 86 04223 HELD(L)  FIG1   A     7   7   5  ACCOUNTS
        ACCOUNT   ACCOUNTS 1280  04226 HELD(L)    ACCS   A     1   1   4  ACCOUNTS
        ACCOUNT   ACCOUNTS 1281  04232 HELD(L)    ACCS   A     2   5   3  ACCOUNTS
        ACCOUNT   ACCOUNTS 1282  04236 HELD(L)    ACCS   A    21   1   2  ACCOUNTS
        ACCOUNT   ACCOUNTS 1283  04240 HELD(L)    ACCS   A    19   1   1  ACCOUNTS
        MONTH01   JANUARY TOTALS 04208 HELD(L)    TOTL   B     8   1   4  ACCOUNTS
        DAILY     MONDAY         04209 HELD(L)           B     2   1   4  ACCOUNTS
        MONTH02   FEBRUARY TOTALS 04212 HELD(L)   TOTL   B    42   1   4  ACCOUNTS
        DAILY     TUESDAY        04213 HELD(L)           C     2   1   4  ACCOUNTS
        ACCOUNT   ACCOUNTS 1284  04214 HELD(L)    ACCS   D    76   3   4  ACCOUNTS
        MONTH03   MARCH TOTALS   04216 HELD(L)    TOTL   D    26   1   4  ACCOUNTS
        DAILY     WEDNESDAY      04217 RESUME            D    11   1   4  ACCOUNTS
        MONTH04   APRIL TOTALS   04210 ERRCRT     TOTL   D    56   1   4  ACCOUNTS
        DAILY     THURSDAY       04221 ERRPRT            D     4   1   4  ACCOUNTS
   PF1=Help PF3=End PF6=Bulk Change PF8=Forward ENTER=Continue.
```

Figure 44. CEOS: 111 REPORT LIST panel

You can type more than one option on the panel, and the report controller works through them one at a time, from top to bottom.

When you select a report or make changes to it (including changing its status or deleting it), the report controller checks its list of users who are authorized to see or change that report. If you are not on the list, it issues a message telling you that you are not authorized to use that report. If this happens, ask your supervisor whether you should be allowed to use it.

Information on the REPORT LIST panel

The `REPORT LIST` panel gives you the following information about each report:

- NAME

  A name (2 through 8 characters) given to the report when it is created.

- USERDATA

  Some extra identifying information that can be given to the report when it is created. It can be up to 16 characters. The characters allowed are `A` through `Z`, `0` through `9`, and `@ # $ - .` and `/`. This information can be used to give a description of the report. For example, the detail `SALES FIGURES 95` could be given to a report named `FIGURES`, as shown in Figure 44 on page 80.

  If no such information is given to the report when it is created, the report controller automatically takes it from the first 16 characters of the report title. (See "Information on the first REPORT CHARACTERISTICS panel" on page 87 for more about report titles.) If there are any **nonalphanumeric**[7] characters other than `@ # $ - .`, or `/` in the report title, they appear as blanks in `USERDATA`. This is because they are allowed in the title, but not in the `USERDATA`. If the report has no title, `userdata` is the same as the report `NAME`.

- NUMBER

  The report controller automatically gives a unique 5-digit number to each report when it is created.

- STATUS

  What is currently happening to the report. For explanations of each report status, see "Status" on page 77.

- FORMS

  A 4-character name for the kind of paper a report is to be printed on. It can be plain paper, or perhaps a preprinted form. If the `FORMS` column is blank, this means standard paper, which can be whatever forms type your organization has decided.

- CLS

  A class identifier that orders reports for printing. See "Order of reports on REPORT LIST panel" on page 82.

- PAGES

  The number of pages in a report. If the report has a special format (for example, it uses BMS maps or an ESCAPE program, or it was created using `NOCONV`, see page 94), it is the number of records, which is not necessarily the same as the number of pages. To find out if the report uses any of these by looking at the second `REPORT CHARACTERISTICS` panel, as described on page 94.

- CPY

  The number of copies of a report to be printed. If you look at the `REPORT LIST` panel while a particular report is being printed, the number under `CPY` will have decreased by the number of copies that have been printed. If you press `ENTER`

---

[7] Nonalphanumeric characters are characters on your keyboard other than `A` through `Z`, or `0` through `9`.

twice to request a new REPORT LIST panel, you get the latest number of copies to be printed.

- PRI

  The priority with which a report is to be printed. It is a number from 1 through 9. (The most urgent is 9.)

- DEST

  The name of a group of printers (destination) on which a report can be printed.

Order of reports on REPORT LIST panel

Reports are displayed in the following order on the REPORT LIST panel.

1. Class (in numeric, then alphabetical order):

   a. Within class, those whose status is READY
   b. Within READY status, in order of priority (from 9 down to 1)
   c. Within the same priority, forms type
   d. All other statuses in this class, not sorted by status but:

      1) By priority
      2) Within the same priority, by forms type.

2. Next class.

Within the order above, newly created reports are ordered according to when the report controller received them. A list of reports whose characteristics are all the same will also be in the order the report controller received them, that is, in order of the 5-digit REPORT NUMBER. However, this order changes to the order described above when report statuses and characteristics are changed.

Order in which reports are printed

The order in which reports are displayed on the REPORT LIST panel also shows the order in which they are printed within class. For example:

```
STATUS      FORMS    CLASS     PRIORITY

IN USE               A         9
READY(K)             A         9
READY(K)    FRM1     A         5
READY(K)    SLS2     A         3
HELD(L)     ACCS     A         3
READY(K)    ACCS     B         9
HELD(L)     FRM4     B         6
```

In this example, the fourth of the READY(K) reports in the list is behind a report that is HELD(L), even though its priority is also higher. This is because its class is B, and the class of the HELD(L) report is A, which is also the class currently on the printer.

When the class and destination of the report match those on the printer, the report controller prints any reports of that class and destination whose status is READY. If there are no reports in READY status, the printer status changes to WAITING until some reports are in READY status. If there are some reports in READY status, the report controller looks for the highest-priority report. If the highest priority report has the same forms type as those loaded on the printer, it is printed immediately.

The report controller continues working down the order of priority until it reaches a report that is to be printed on a different forms type. The printer status then changes to PAUSED (FORMS "xxxx"), where xxxx is the forms type. In this case, you must load the printer with the forms type named between the double quotation marks. See "Changing forms type" on page 59.

When there are no more reports in READY status that have the same class and destination as on the printer, the printer status changes to WAITING until some more reports **are** in READY status.

Making reports ready for printing

Before you make a report ready for printing on a particular printer, check whether there are any restrictions on the kind of reports it can print. If you send a report for printing on a printer that is not authorized to print it, the status of that report changes to ERRPRT. If this happens, see "Report in ERRPRT status" on page 68.

You can make a report ready for printing by typing a 3 for Print next to it in the OPT column on the REPORT LIST panel, and pressing ENTER. The status of the report changes to READY(D) or READY(K). (When the report is being printed, its status changes to IN USE.)

If the report cannot be made ready for printing, the report controller issues a message telling you that it is being printed, or that it is being used. If this happens, wait a short time and ask for another list to get the latest report status. If you have the REPORT LIST panel displayed, you can do this by pressing ENTER twice.

Holding reports

To hold a report, type a 6 for Hold next to it in the OPT column on the REPORT LIST panel, and press ENTER.

If the report can be held, its status changes to HELD, and it is not printed until, you or another user make it ready for printing.

If the report cannot be held, the report controller issues a message telling you that it is being printed, or that it is being used. If this happens, wait a short time and then ask for another list to get the latest report status. If you still have the REPORT LIST panel displayed, you can do this by pressing ENTER twice.

Reports created in READY or HELD status

What happens to reports after they are printed depends on the **disposition** characteristic given to individual reports when they are created. The disposition is shown in parentheses with the status of the report, for example, READY(K), HELD(L). Reports created in READY(D) status disappear from the REPORT LIST panel when they have been printed, while reports in READY(K) status remain. Reports created in HELD(L) status change back to HELD(L) status when they have been printed, while reports created in HELD(H) status are deleted after they have been printed.

An advantage of READY(D) or READY(K) status is that you can have reports printed automatically when a printer of the same class, destination, and forms is started. This is particularly useful if you have many reports that are to be printed on the same type of paper.

Reports that are created in `HELD(L)` status are particularly useful if you want to print reports more than once. For example, you can send a report for printing at a particular destination. When it has been printed and changes back to `HELD(L)` status, you can change its destination and send it for printing by someone else rather than sending them paper copies of it.

Deleting reports

Warning: Take care when you use `Delete` because there may not be any way of recovering a report when you have deleted it.

To delete a report, type `5` for `Delete` next to it in the `OPT` column on the `REPORT LIST` panel, and press `ENTER`. If the report can be deleted, the report controller issues a message telling you so. If the report cannot be deleted because it is `IN USE`, the report controller issues a message telling you so.

Choosing reports for display on the REPORT CHARACTERISTICS panel

To choose reports whose characteristics you want to see or change, type a `1` for `See/Change Characteristics` next to each one in the `OPT` column on the `REPORT LIST` panel, and press `ENTER`. This takes you to the `REPORT CHARACTERISTICS` panel, where you can make the changes. If you type a `1` next to more than one report, the report controller gives you a `REPORT CHARACTERISTICS` panel for each one in turn.

Getting to the REPORT LIST – BULK CHANGE panel

If you press `PF6` on the `REPORT LIST` panel, the report controller displays the `REPORT LIST - BULK CHANGE` panel, where you can make changes to the characteristics of many reports together. See "Changing many reports together (BULK CHANGE)" on page 96.

After you have typed changes on the REPORT LIST panel

When you look at the `REPORT LIST` panel after typing numbers on it, there may be asterisks (∗) and there may also be question marks in the `OPT` column. An asterisk means that you have looked at or successfully changed a report.

A question mark means that a change you typed was not made by the report controller. There is a message next to each question mark telling you why. The message appears where the report details are usually displayed on the `REPORT LIST` panel. To see the report details again, remove the message by overtyping the question mark with a different number, or with a blank space, and pressing `ENTER`. You usually have to do this before you can use `PF7` or `PF8` to move up or down the list again.

Browsing reports

If you enter option 8 for a report on the `REPORT LIST` panel, you can browse that report. The report controller displays a screen like Figure 45 on page 85. You can only browse certain types of report. You cannot browse reports that have the ESCAPE or T3270/SCS formats or those created with the NOCONV option. You cannot browse JCL reports (jobs) or transient data queues. You must also have the necessary authority to browse reports. If you are not sure what types of report

you can browse, ask your supervisor. For more information about browse security, see the *CICS Report Controller Planning Guide*.

```
CEOS: 1114        Browsing: USERTEST TERMS              PAGE 2     OF    10
Search for ==>                                              More:     + >
----+---10----+---20----+---30----+---40----+---50----+---60----+---70----+---



                          FEB 23, 1993                       CONFIGURATION REP



                      UNIT MDL/FC           DESCRIPTION                QTY


                      9373-030 PROCESSOR                                 1
                          4002 4MB MAIN MEMORY ADDITION                  1
                          4591 AIR FLOW CD 1.2" (NON-ORD.)               5
                          5030 9370 I/O EXTENSION UNIT                   1
                          6003 SYS/370 BLK MULTIPLEX CHNL                1
                          6031 MULT-PRO 2-LN COMM ADAPTER                4
                          6120 WORKSTA SUBSYSTEM CONTROLLER              2



PF1=Help      PF2=Scr Cursor  PF3=Quit   PF4=Scr Left PF5=Scr Right  PF6=Home
PF7=Scr Back  PF8=Scr Fwd     PF9=Repeat PF10=Page-1  PF11=Page+1    PF12=Scale
```

Figure 45. CEOS: 1114 The browsing screen

The first line of the `Browsing` panel shows the name of the report you are browsing and the number of the page you are looking at. On the second line, `More:` and the following indicators tell you whether there is more data to view in the current page:

<   There is more data to the left.

>   There is more data to the right.

–   There is data preceding the current screen.

+   There is data after the current screen.

Next to `Search for`, you can enter a string of up to 42 characters to search for in the report. It does not matter whether you enter the characters in uppercase or lowercase. When you press `ENTER`, the report controller displays the lines in the report that contain your search string in highlighting. You may have to scroll left or right to see the search string. So that you do not have to wait too long, the report controller only searches for 5 seconds. To continue with the search you press `PF9`. You can only search in a forward direction in a report. When the end of the report is reached, the search stops and you have to press `PF9` again to resume the search from the top of the report.

To go directly to a particular page in a report, type over the page indicator with the required page number, and press `ENTER`. The report controller then goes to that page.

The third line is an optional scale line. You turn the scale on and off by using `PF12`.

Between the scale line and the PF key definitions at the bottom, the report is displayed.   You can scroll this report display up and down, left and right. You use the PF keys to look at different parts of the report:

PF1   Gives you detailed help information about using the browse facility.

PF2   Allows you to position the cursor and display that position at the top left of the screen.   You can place the cursor anywhere on a data line, but not on a blank line. When you press PF2, the data at the cursor position is then positioned at the top left of the scrollable area.

PF3   Quits from browsing the report.

PF4   Lets you scroll sideways to the left. The display scrolls by the width of the screen. The maximum width of the report is 512 characters.

PF5   Lets you scroll sideways to the right. The display scrolls by the width of the screen. The maximum width of the report is 512 characters.

PF6   Restores the display to line 1 column 1 of the current page.

PF7   Takes you to the next screen in the current page of the report.

PF8   Takes you to the previous screen in the current page of the report.

PF9   Continues searching for a string that you specified in `Search for`.

PF10   Takes you to the start of the previous page in the report.

PF11   Takes you to the start of the next page in the report.

PF12   Turns the scale on and off.

The first REPORT CHARACTERISTICS panel

```
CEOS: 1111              REPORT CHARACTERISTICS              Page 1 of 2

   NAME       USERDATA            NUMBER  STATUS   FORMS  PAGES  PRMODE
   FIGURES    SALES FIGURES 95    04223   HELD(L)  FIG1   00007  SOSI1


   TITLE :  SALES FIGURES 1995


   Type required values against one or more characteristics:

      Class          ==> A          A-Z / 0-9
      Disposition    ==> L          D | H | K | L
      Copies         ==> 007        1-255
      Priority       ==> 5          1-9
      Destination    ==> ACCOUNTS
      Start page     ==> 00001
      End page       ==> 00007
      Separator page ==> YES        Yes | No
      Power Sysid    ==> 2          1-9 / N



   PF1=Help PF3=End PF8=Forward ENTER=Continue.
```

Figure 46. CEOS: 1111 First REPORT CHARACTERISTICS panel

Information on the first REPORT CHARACTERISTICS panel

The second and third lines of the first REPORT CHARACTERISTICS panel show you the NAME, USERDATA, NUMBER, STATUS, FORMS, and PAGES for the report.

Printing mode (PRMODE)

PRMODE is shown on the third line of the REPORT CHARACTERISTICS panel. A value is shown next to PRMODE when the report contains shift-out/shift-in (SOSI) control sequences. These control sequences are used to allow the printing of special characters such as Japanese characters. The PRMODE value indicates whether the control sequences should appear in the report:

- SOSI1—the control sequences should occupy a print position.
- SOSI2—the control sequences should not occupy a print position.

To ensure that control sequences are printed (or not printed) as intended, the report must be printed on the correct type of printer. For more information, see the *CICS Report Controller Planning Guide*.

Title

The fourth line shows you the TITLE of up to 32 characters that was given to the report when it was created. The report title does not appear on the printed report, but is displayed on both the REPORT CHARACTERISTICS panels. It allows a fuller description of the report because it can be much longer than USERDATA or NAME. If whoever creates the report does not give it a title, the report controller automatically takes the title from the report NAME.

Defaults

In the panel shown in Figure 46 on page 87 the **default** values for the characteristics are displayed. Therefore, a report printed using all the defaults shown would have a class of A, there would be seven copies, and its priority would be 5. The report would be printed at the destination named ACCOUNTS. Printing would start on page 1 and end on page 7, which are the first and last pages of the report, and the report would have separator pages.

Report characteristics to see and change

This section of the book shows you how to change report characteristics using the REPORT CHARACTERISTICS panel.

Before typing anything on the REPORT CHARACTERISTICS panel, check whether the status of the report is not IN USE.

You should also check the TITLE of the report because, if you are using **non-CICS created** reports, you cannot change the Start page or End page, or the Separator page setting. Reports not created by CICS have the title NON-CICS CREATED REPORT.

A REPORT CHARACTERISTICS panel tells you what the characteristics were at the moment you asked for the panel. However, if another user makes changes while you are looking at it, you do not see them until you ask for a new characteristics panel, although you can see any changes that you make. If you have the REPORT CHARACTERISTICS panel displayed, you can ask for a new characteristics panel by:

1. Pressing ENTER twice to get back to the REPORT SELECTION panel.

2. Pressing ENTER again to get the latest REPORT LIST panel.

3. Typing a 1 See/Change Characteristics in the OPT column, and pressing ENTER to get the REPORT CHARACTERISTICS panel again.

Group in which report is to be printed (CLASS)

Class is an identifier that orders the reports for printing. Report class must match printer class before a report can start to be printed. See "Order of reports on REPORT LIST panel" on page 82 and "Order in which reports are printed" on page 82.

To change the class of a report, type a single letter from A through Z, or a number from 0 through 9 next to Class on the REPORT CHARACTERISTICS panel, and press ENTER. Note that particular classes may have special meanings in your organization, and you should check this before making changes.

If the report controller does not recognize what you typed, it issues a message prompting you to type a class from A through Z, or 0 through 9.

Disposition of the report (Disposition)

The disposition of a report is a reflection of the status of the report. The disposition may indicate what happens to the report on printing, or that an error has occurred on creating or printing the report. You can change a report's disposition to any of D, H, K, or L. The meaning of these dispositions is explained on page 77. To change the disposition of a report, type the required disposition letter next to Disposition, and press ENTER.

Note: A report can have a disposition other than D, H, K, or L, but you can only change the disposition to one of these four values.

Number of copies to be printed (Copies)

To change the number of copies of a report to be printed, type a number from 1 through 255 next to Copies, and press ENTER.

If the report controller does not recognize what you typed, it issues a message prompting you to type a number of copies from 1 through 255.

Urgency of reports to be printed (Priority)

You may want to change the priority of a report, if you need an urgent copy of a report, or if you want to delay printing of a report.

To change the priority, type a number from 1 through 9 (9 is the highest priority) next to Priority, and press ENTER.

Remember that for a report to be printed, the forms type, class, and destination must match the ones already on the printer you are using. See "Sending a report for printing" on page 27. Changing priority only affects reports within a particular class. For example, suppose reports with class C and priority 3 are currently being printed. There are several of these reports, and they are all in READY status. There may be other reports to be printed at this destination that have higher priority and are also in READY status. Only if their class is changed to C, are these reports printed before the lower-priority C-class reports.

Where report is to be printed (Destination)

A destination states where a report is to be printed. See "Getting report and printer characteristics to match" on page 5. To change the destination of a report, type a destination name of up to 8 characters next to Destination, and press ENTER. (The first character must be a letter.)

The destination name **SYSPRT may mean that reports are printed on the system printer. The system printer is probably in your data processing center, and someone else has control over stopping and starting it, loading the paper, and so on.

Page on which printing is to start (Start page)

Changing the page on which printing is to start is useful if you want to print part of a report.

Type the number of the page on which you want printing to start next to Start page, and press ENTER. The number you type must be less than, or equal to, both the total number of pages in the report and the number you type for End page, if you use it.

For reports that have a special format (for example, those that use BMS maps or ESCAPE program reports, or those created using NOCONV), the page number is the number of data records that have been sent to the printer, rather than actual numbers of printed pages. That is, if you type a 3 next to Start page, the printer starts printing from the third record, which may not be the third page.

You cannot change the Start page setting of reports that were not created by CICS. (These have the title NON-CICS CREATED REPORT.) You can only change the

`Start page` setting of reports that are printed on CICS-controlled printers. If you type anything next to `Start page` in either of these cases, the change is displayed on the `REPORT CHARACTERISTICS` panel, but is not made when the report is printed.

Page on which printing is to end (End page)

Changing the page on which printing is to end is useful if you want to print part of a report.

Type the number of the page on which you want printing to stop next to `End page`, and press `ENTER`. The number you type must be less than, or equal to, both the total number of pages in the report and the number you type for `Start page`, if you use it.

For reports that have a special format (for example, BMS maps, ESCAPE reports and reports created using `NOCONV`), the page number is the number of data records that have been sent to the printer, rather than actual numbers of printed pages. That is, if you type a `3` next to `End page`, the printer stops printing at the end of the third record, which may not be the third page.

You cannot change the `End page` setting of reports that were not created by CICS. (These have the title `NON-CICS CREATED REPORT`.) You can only change the `End page` setting of reports that are printed on CICS-controlled printers. If you type anything next to `End page` in either of these cases, the change is displayed on the `REPORT CHARACTERISTICS` panel, but is not made when the report is printed.

Separator page to be printed or not (Separator page)

Separator pages are divider pages printed at the beginning and end of a report, and between copies of a report. To find out more about the sizes of separator pages, see "Report controller separator page sizes" on page 91.

Separator pages have the report name, number, userdata, and the date and time of printing. The report name, number, and userdata can be useful if you have to print many reports that have very similar contents, and you need to identify them quickly. The date and time are also useful (for example, if you want to find the most recent reports, or those printed on a particular date). To know more about what is printed on separator pages, see "Information about report controller separator pages" on page 92.

To specify whether a separator page is to be printed or not, type either `yes` or `no` next to `Separator page`, and press `ENTER`.

You cannot change the `Separator page` setting for reports that were not created by CICS. (These have the title `NON-CICS CREATED REPORT`.) **You can only change the** `Separator page` **setting for reports that are printed on CICS-controlled printers**. If you type anything next to `Separator page` for a report that cannot be changed, the change is displayed on the `REPORT CHARACTERISTICS` panel, but is not made when the report is printed. Whether a separator page is printed or not depends on what your organization has decided.

Report controller separator page sizes

Figure 47 shows an example of a report controller separator page.

```
******************** FIGURES  04223 *** SALES FIGURES 95  ********************
******************** FIGURES  04223 *** AUTHOR:  SIMPSON  ********************
******************** FIGURES  04223 *** DATE:    03/06/97 ********************
******************** FIGURES  04223 *** TIME:    12:46:15 ********************
******************** FIGURES  04223 *** DEST:    ACCOUNTS ********************

**** START ** PRT: PTO2  FNO: FIG1       NODE:    NODE49   O-USR: SYSCICSB *****
**** START ** CL:  A     FCB:            O-NODE:  NODE49   O-NBR: O1517    *****
```

Figure 47. Example of a report controller separator page (80 characters)

Reports that are printed on printers that do not have the destination **SYSPRT have separator pages like the one shown in Figure 47. For reports printed on printers that have the destination **SYSPRT, the separator pages are different.

There are normally separator pages at the beginning and at the end of each **CICS-created report**. (For **non-CICS created reports**, the number of separator pages is whatever was specified when the report was created.)

The page size (that is, the number of lines on the page) of report controller separator pages is always the same; if you are printing reports with a smaller page size than this, each separator covers more than one page. (The page size of a report is displayed on the REPORT CHARACTERISTICS panel (page 2 of 2), as shown in Figure 51 on page 94.)

The report controller automatically changes the line length of each separator page to match the line length of the report. (The line length of a report is displayed on the REPORT CHARACTERISTICS panel (page 2 of 2), as shown in Figure 51 on page 94.)

As you can see in Figure 47, the separator page information is printed in the center and the space needed to fill the line length is printed as asterisks. In Figure 47, the line length is 80 characters. For reports with a longer line length, there are more asterisks to fill the space on each side of the information.

As the line length of reports gets shorter, an even amount of information is removed from each side, beginning with the asterisks, as shown in Figure 48, and in Figure 50 on page 92.

```
********** FIGURES  04223 *** SALES FIGURES 95  ***********
********** FIGURES  04223 *** AUTHOR:  SIMPSON  ***********
********** FIGURES  04223 *** DATE:    03/06/97 ***********
********** FIGURES  04223 *** TIME:    12:46:15 ***********
********** FIGURES  04223 *** DEST:    ACCOUNTS ***********

 START ** PRT: PTO2  FNO: FIG1       NODE:    NODE49    O-USR
 START ** CL:  A     FCB:            O-NODE:  NODE49    O-NBR
```

Figure 48. Example of a report controller separator page (60 characters)

As you can see in Figure 49 on page 92, with a line length of 40 characters, the report and printer information is still printed. Only some of the information on the

right, which is information about parts of the computer system being used, has gone.

```
FIGURES  04223 *** SALES FIGURES 95  **
FIGURES  04223 *** AUTHOR: SIMPSON    **
FIGURES  04223 *** DATE:   03/06/97   **
FIGURES  04223 *** TIME:   12:46:15   **
FIGURES  04223 *** DEST:   ACCOUNTS   **

START ** PRT: PTO2  FNO: FIG1     NODE
START ** CL:  A     FCB:          O-NO
```

Figure 49. Example of a report controller separator page (40 characters)

When all the asterisks on the first five lines have gone, the information is removed beginning from the right. The line length can be as small as 15 characters, and you can still read the report name and number, as shown in Figure 50.

```
FIGURES  04223
FIGURES  04223
FIGURES  04223
FIGURES  04223
FIGURES  04223

START ** PRT:
START ** CL:
```

Figure 50. Example of a report controller separator page (15 characters)

Information about report controller separator pages

Separator pages contain the following information (see Figure 47 on page 91):

- The name of the report. In the example, this is FIGURES.

- The number of the report. In the example, this is 04223.

- The userdata. In the example, this is SALES FIGURES 95.

- The person who created the report. This can be a user ID. In the example, this is SIMPSON. (This is not displayed for **non-CICS created reports**.)

- The date the report was printed. In the example, this is 03/06/95.

- The time the report was printed. In the example, this is 12:46:15.

- The printer destination. In the example, this is ACCOUNTS.

- Whether it is the START or END separator page. In the example, it is START. START is displayed on the separator page at the beginning of **each copy** of a report. END is displayed on the separator page at the end of the **last copy** of a report.

- Next to PRT:, the printer used to print this report. In the example, this is PT02.

- Next to CL:, the class of the report when it was printed. In the example, this is A.

- Next to FNO:, the forms type used. In the example, this is FIG1.

You may not need to know what the following information means, but you or your supervisor may need it to follow up questions about a report or how it was printed.

- Next to `FCB:`, the forms control buffer (FCB) image phase used during printing. This is displayed **for non-CICS created reports only**.

- Next to `NODE:`, the name of the part of the computer network at which the report was printed. In the example, this is `NODE49`.

- Next to `O-NODE:`, the name of the part of the computer network at which the report was created. In the example, this is `NODE49`.

- Next to `O-USR:`, the name of the computer job used to create this report. In the example, this is `SYSCICSB`.

- Next to `O-NBR:`, the number that this computer job gave to the report when it was created. (It is `01517` in the example.) If the computer job did not give the report a number, `O-NBR` is the same as the report number displayed on the report controller panels.

POWER SYSID

POWER SYSID allows you to change the specific VSE/ESA system (1 - 9) on which the report will be processed in a shared spooling environment. `N` indicates that the report is not directed at a specific system. Note that this is meaningful only for reports not printed by POWER or subsystems other than CICS.

The second REPORT CHARACTERISTICS panel

```
 CEOS: 1111              REPORT CHARACTERISTICS              Page 2 of 2

   NAME      USERDATA            NUMBER  STATUS   FORMS  PAGES  PRMODE
   FIGURES   SALES FIGURES 95    04223   HELD(L)  FIG1   00007  SOSI1

   TITLE :  SALES FIGURES 1995

   Created on    : 03/06/95      Associated FCB :
   at            : 12:46:15
   by            : SIMPSON
   Recovery      : LOGICAL
   Format        : ASA
   Noconv        : NO
   Page size     : 17
   Line length   : 080
   Page Head/Foot : FOOT
   Date/time     : NO
   Printfail     : NO
   Mapname       :
   Mapset        :
   Escape        :

 PF1=Help PF3=End PF7=Back ENTER=Continue.
```

Figure 51. CEOS: 1111 Second REPORT CHARACTERISTICS panel

Information on the second REPORT CHARACTERISTICS panel

You can look at, but not change, the information on the second of the two REPORT CHARACTERISTICS panels.

You may need to give this information to your supervisor if you have questions about reports, for example, questions about report format and printing. The following list tells you what each of the items means:

- Created on. The date on which a report was created. (It is not displayed for non-CICS created reports.) In the example in Figure 51, this date is in month/day/year format. The date on the panels in your organization may have been changed to day/month/year, or to year/month/day format.

- at. The time at which a report was created. (It is not displayed for non-CICS created reports.)

- by. The user ID of the person who created the report. (It is not displayed for non-CICS created reports.)

- Recovery. The type of recovery specified for a report. It can be LOGICAL, PHYSICAL, or NONE. (It is not displayed for non-CICS created reports.)

- Format. The format of a report. It can be: ASA, NOCC, MCC, SCS, T3270, MAP, or ESCAPE. (It is always MCC for non-CICS created reports.) These formats correspond to options on the CICS command used to create reports (see the *CICS Report Controller Planning Guide*).

- Noconv. Whether NO CONVERSION has been specified. (In this case, the report can be printed successfully only on a printer that can handle the format

specified. Formatting is totally under the control of whoever created the report.) It is used to print reports that need special printing features, such as color.

- `Page size`. The number of lines on each page. It can be `0` through `99`. This includes the running head and foot, both of which have a blank line with them (after the running head and before the running foot). Page breaks are calculated either from lines per page or from special commands known as **carriage control characters** that are given to the report when it is created. (They are used if the page size is `0`.)

- `Line length`. This tells you the maximum length of each line in characters. It can be up to 205 characters.

  If the line length is wider than the printer can print, it attempts to print the overlength data on the next line.

  If you know how many characters your printer prints per inch, you can use line length and lines per page to work out the size of paper a report should be printed on.

- `Page Head/Foot`. This tells you whether the report is printed with automatic page numbering on heading and footing lines. It can be `HEAD`, `FOOT`, `BOTH`, or `NONE`. (It is always `NONE` for non-CICS created reports.)

- `Date/time`. Whether the date and time the report was created is inserted into the heading line 20 spaces from the end of the line when the report is printed. It can be `YES` or `NO`. (It is always `NO` for non-CICS created reports.)

- `Printfail`. Whether `PRINTFAIL` has been specified for this report. It can be `YES` or `NO`. (It is always `NO` for non-CICS created reports.)

  If it is `YES`, you or another report controller user must intervene to recover from a printer failure. `PRINTFAIL` is a security measure to stop a report being automatically reprinted if the printer fails, because it may be important that certain reports are printed only once. For example, if they are orders for goods, or perhaps because the information in them is confidential.

  If it is `NO`, CICS attempts to recover from the printer failure. If the recovery is successful, printing continues. If it is not, the report goes into `ERRPRT` status.

  `PRINTFAIL` only applies to reports that are printed on CICS-controlled printers. You may need to ask your supervisor about any special procedures your organization has for reports that are not printed on CICS-controlled printers.

- `Mapname`. The BMS map name used to format this report, if one is used. BMS allows for special report formats.

- `Mapset`. The BMS mapset used to format this report, if one is used. BMS allows for special report formats.

- `Escape`. The name of the Escape program used by the print program to format the report, if one is used. `Escape` allows for special formats and graphics. For more information see the *CICS Report Controller Planning Guide*.

- `Associated FCB`. The name of the forms control buffer used during printing. For more information see the *CICS Report Controller Planning Guide*.

Changing many reports together (BULK CHANGE)

Changing the characteristics of many reports together is called **bulk changing**. Press PF6 on the REPORT LIST panel to get to the REPORT LIST - BULK CHANGE panel, as shown in Figure 52. You can use this panel to make up a list of reports that you want to change.

```
  CEOS: 112            REPORT LIST - BULK CHANGE          1 TO    12 OF    12

  To adjust list of reports to be changed enter Options (0=Exclude, 1=Include)
  OPT  NAME      USERDATA       NUMBER STATUS FORMS CLS PAGES  CPY PRI DEST
   1   MONTH01  JANUARY TOTALS  04208 HELD(L) TOTL   B      8  23   4  ACCOUNTS
   1   MONTH02  FEBRUARY TOTALS 04212 HELD(L) TOTL   B     42  11   4  ACCOUNTS
   1   MONTH03  MARCH TOTALS    04216 HELD(L) TOTL   B     26  31   4  ACCOUNTS
   1   MONTH04  APRIL TOTALS    04220 HELD(L) TOTL   B     56   2   4  ACCOUNTS
   1   MONTH05  MAY TOTALS      04224 HELD(L) TOTL   B      5   3   3  ACCOUNTS
   1   MONTH06  JUNE TOTALS     04227 HELD(L) TOTL   B     24   4   3  ACCOUNTS
   1   MONTH07  JULY TOTALS     04230 HELD(L) TOTL   B     68   8   3  ACCOUNTS
   1   MONTH08  AUGUST TOTALS   04233 HELD(L) TOTL   B      3  56   3  ACCOUNTS
   1   MONTH09  SEPTEMBER TOTALS 04235 HELD(L) TOTL  B      3  45   2  ACCOUNTS
   1   MONTH10  OCTOBER TOTALS  04237 HELD(L) TOTL   B      1  67   2  ACCOUNTS
   1   MONTH11  NOVEMBER TOTALS 04239 HELD(L) TOTL   B     22  96   2  ACCOUNTS
   1   MONTH12  DECEMBER TOTALS 04241 HELD(L) TOTL   B     34  56   2  ACCOUNTS




  PF1=Help PF3=End ENTER=Continue.
```

Figure 52. CEOS: 112 REPORT LIST - BULK CHANGE panel

When you first get the panel there is a 1 in the OPT column next to each report. A 1 next to a report means that it is included in the list for bulk changing. Take out any reports you do not want to bulk change by overtyping the associated 1 with a 0 for Exclude.

If the REPORT LIST - BULK CHANGE panel covers more than one screen press PF8 to move down and exclude any more reports you do not want to change. When you press PF7 or PF8, you get a message next to any reports you have excluded from the list to be bulk changed.

If you type anything other than a 0 or a 1 in the OPT column, you get a question mark (?) in the OPT column, plus a message reminding you that you can only type a 0 or a 1 there. You have to correct this before you can press PF7 or PF8 to move up or down the list again.

When you have finished your bulk change list, press ENTER to go to the BULK CHANGE REPORT CHARACTERISTICS panel, where you can make the changes.

Bulk changes you can make

```
   CEOS: 1121            BULK CHANGE REPORT CHARACTERISTICS

              Total reports to be changed:    12

   To print or hold all reports included in the list enter command:

     Command       ==>              Print | Hold

   Enter required values against any characteristic(s) to be changed:

     Class         ==>              A-Z / 0-9
     Copies        ==>              1-255
     Priority      ==>              1-9
     Destination   ==>
     Start page    ==>
     End page      ==>
     Separator page ==>             Yes | No
     Power Sysid   ==>              1-9 / N



  PF1=Help PF3=End ENTER=Continue.

```

Figure 53. CEOS: 1121 BULK CHANGE REPORT CHARACTERISTICS panel

Use the BULK CHANGE REPORT CHARACTERISTICS panel to type as many
characteristics as you want to change, and then press ENTER. As you can see on
the panel, you can change the status of reports to READY (by typing print) or HELD
(by typing hold). You can also change the following characteristics: Class, Copies,
Priority, Destination, Start page, End page, and Separator page in the same
way as on the REPORT CHARACTERISTICS panel. Remember that you can only
change start page, end page, and separator page of CICS-created reports that are
printed on CICS-controlled printers, as described in "Report characteristics to see
and change" on page 88.

Type the changes you want to make and press ENTER. The report controller takes
you back to the REPORT LIST panel. If you just press ENTER without typing any
characteristics on the BULK CHANGE REPORT CHARACTERISTICS panel, the report
controller takes you back to the REPORT LIST panel; no changes are made because
there are no **defaults** for bulk change.

If the report controller accepts your changes, it redisplays the REPORT LIST panel
with a message telling you how many reports have been changed. If the report
controller rejects any of your changes, it displays a question mark in the OPT
column and a message over the report details telling you why the change was not
made. If the list covers more than one panel, you may need to correct the error,
and press PF8 to find out if there are more messages.

Part 5. Printers – reference information

This section gives a description of the printers option of the report controller. It is assumed that you are familiar with the subject matter in Part 3, "Day-to-day tasks" on page 53.

Map of printer panels
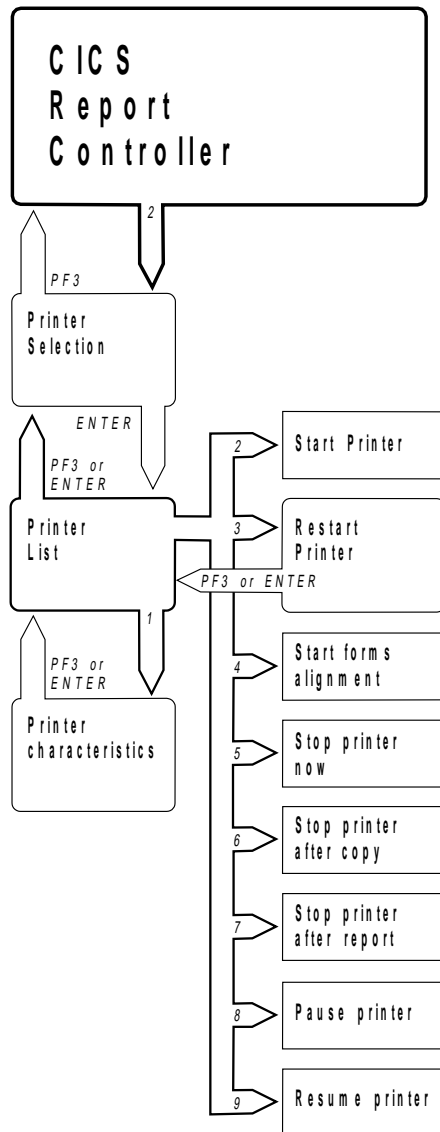
Figure 54. Map of printer panels

Figure 54 shows you the name of each panel in the printers option, and which keys to press to get from one panel to another.

Using the PRINTER SELECTION panel to list printers

You get the PRINTER SELECTION panel by typing a 2 for Printer selection on the CICS REPORT CONTROLLER panel and pressing ENTER. (See Figure 9 on page 15.)

```
  CEOS: 12                      PRINTER SELECTION

        You may list all printers or only those printers that match
        your selection criteria.

         Type your selection criteria:

           Printer name   ==>  _
           Destination    ==>
           Class          ==>              A-Z / 0-9
           Forms          ==>

         To select Status type a Y against one, or more of the following:
           Printing       ==>
           Waiting        ==>
           Stopped        ==>
           Aligning       ==>
           Unavailable    ==>
           Out of service ==>
           Paused         ==>


   PF1=Help PF3=End ENTER=Continue.
```
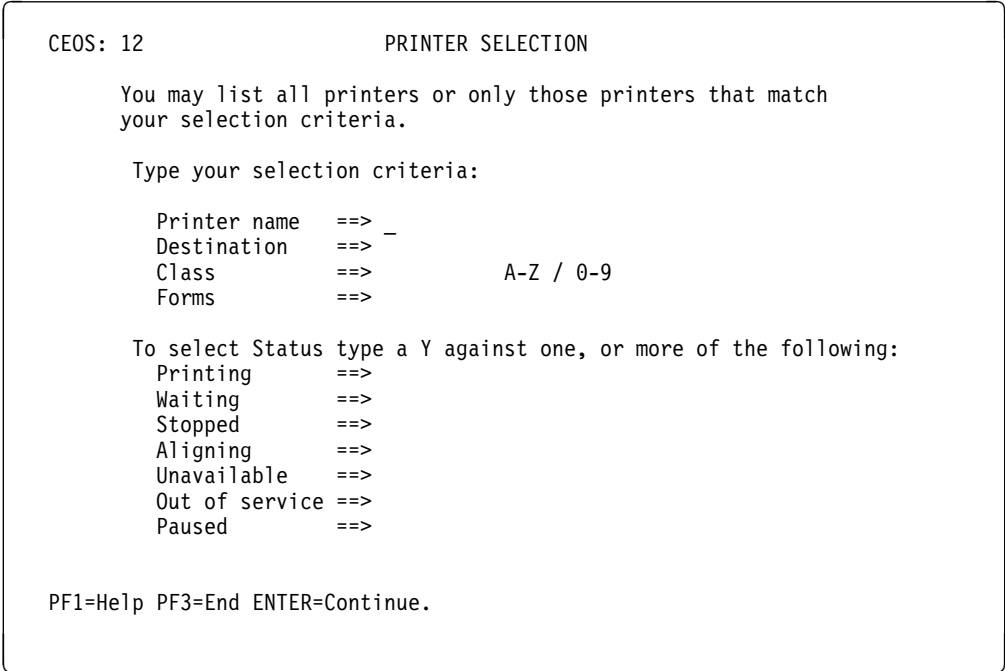
Figure 55. CEOS: 12 PRINTER SELECTION panel

The printers in the list are those that you are authorized to use. If you cannot see a printer that you think you should be allowed to use, ask your supervisor.

Listing all printers

To list all printers, don't type anything on the PRINTER SELECTION panel, and press ENTER. This gets you to the PRINTER LIST panel with all of your printers listed.

Choosing printers to be listed

You can list printers according to the following characteristics on the PRINTER CHARACTERISTICS panel:

Printer name

You may want to list a printer by name because it has special printing features, for example, it is a fast printer, or maybe one that prints top quality output.

To select a particular printer, type its name next to Printer name on the PRINTER SELECTION panel, and press ENTER.

Printer names identify individual printers; for example, printers PT01, PT02, and PT03 at destination ACCOUNTS. If there is only one printer assigned to a particular destination, the name and destination can be the same. It depends what your organization has decided.

Printer names are included in messages issued by printers. See "Printer messages to be printed or not (Printer messages)" on page 116.

Printers with similar names

If you know that several printers have names that begin with the same characters, you can list them together. To do this, type an asterisk (*) after the first few characters of the printer name (for example, `PR*`) next to `Printer name` on the `PRINTER SELECTION` panel, and press `ENTER`. This gives you a list of printers (if any) whose names begin with `PR`. For example:

`PRT2`, `PRB1`, `PR1`, `PR01`, `PRD`, `PR2A`.

The list does not contain any printers with `PR` anywhere else in their names, (for example, `APRT`). You can use an asterisk in this way on the name characteristic only.

You can use an asterisk after any one or more characters. Here are some more examples:

`P*` would give you a list of printers (if any) whose names begin with `P`.
`P01*` would give you a list of printers (if any) whose names begin with `P01`.

Listing printers in this way can save you time typing each printer name, or scanning a long list of printers. It can also be useful if you are unsure of complete printer names.

Destination

To list the printers allocated to a particular destination, type that destination name next to `Destination`, and press `ENTER`.

Class

To list printers in a particular class, type a single letter from `A` through `Z`, or a number from `0` through `9` next to `Class`, and press `ENTER`. See "Order in which reports are printed" on page 82.

Forms

To find out which printers are assigned to printing reports on a particular kind of forms, type that forms type next to `Forms`, and press `ENTER`.

To list printers that have no forms displayed against them (and are therefore using the standard paper), type an asterisk (*) next to `Forms`, before pressing `ENTER`. If you do not do this, the report controller ignores `Forms`, because it has no way of telling that you intended to include it in the list.

Status

To list printers according to their status (that is, what is currently happening to them), type a `y` (for yes) next to each status you want, and press `ENTER`. You can list printers in status the following statuses: `PRINTING`, `WAITING`, `STOPPED`, `ALIGNING`, `UNAVAILABLE`, `OUT OF SERVICE`, `RELEASED`, `STARTING`, or `PAUSED`. See Table 2 on page 105.

Combining characteristics (and statuses) of printers in a list

You can combine characteristics so that the list you get is shorter. For example, you can list a printer that is printing reports in class B to be printed on forms FRM2, or all printers at destination ACCOUNTS whose status is PAUSED.

The report controller saves anything you type on the PRINTER SELECTION panel, and redisplays it when you go back to that panel, if you have stayed within the printers option. This means that you can use the same printer characteristics again or build on those you have already typed.

After you have typed selections on the PRINTER SELECTION panel

If the report controller cannot find any printers that match what you typed, it displays the PRINTER SELECTION panel with a message telling you so. If this happens, you can do one of the following:

- Type some different characteristics on the PRINTER SELECTION panel and press ENTER to try again.

- Erase what is already typed on the PRINTER SELECTION panel and press ENTER to get a complete list of printers.

- Press PF3 to go back to the CICS REPORT CONTROLLER panel to use a different option or to end the session with the report controller.

Using the PRINTER LIST panel to control printers

Figure 56 shows an example of a `PRINTER LIST` panel.

A `PRINTER LIST` panel tells you the state of the printers at the moment you asked for the list. However, if anybody else makes changes while you are looking at the list, you do not see them until you get a new list, although you can see any changes that you make. If you still have the `PRINTER LIST` panel displayed, you can ask for a new list by pressing `ENTER` twice.

```
 CEOS: 121                    PRINTER LIST                   1 TO     7 OF     7

 Enter Options(1=See/Change Characteristics   2=Start   3=Restart    4=Align
    5=Stop now   6=Stop after copy    7=Stop after report  8=Pause  9=Resume)
 OPT   PRINTER DESTINATION STATUS              CLASS FORMS REPORT NAME NUMBER
   _   PRT1    ACCOUNTS   PAUSED    (FORMS "FRM3") C   ACC1  ACCOUNT      04296
       PRT2    GRD1       OUT OF SERVICE          C
       PRT3    STORES     STOPPED                 C
       L840    PAYROLL    WAITING                 D   ACC2
       PMR7    MAILROOM   PRINTING                D   ACC3  ACCOUNT      04293
       A102    DEST3      UNAVAILABLE             E
       L842    DEST4      ALIGNING                F   SALE  SALES        04294




 PF1=Help PF3=End ENTER=Continue.

```

Figure 56. CEOS: 121 PRINTER LIST panel

Information on the PRINTER LIST panel

For each printer named in the `PRINTER` column, you can find out which destination it is assigned to, what its status is (see Table 2 on page 105), the class of reports assigned to it, and the forms type currently loaded. You can tell which report is being printed by looking at the `REPORT NAME` and `NUMBER` columns. (You may have to press `ENTER` twice to get the latest `PRINTER LIST` panel before this is displayed.)

Information about printer status

Some printer statuses are followed by a **qualifier** in parentheses, which tells you why the printer has that particular status. Table 2 on page 105 shows all the printer statuses, explains what each one means, and suggests what you should do next. A dashed line (-----) in the column headed **Qualifier** means that there is no qualifier for that status.

Table 2 (Page 1 of 2). Printer statuses and their meanings		
Printer status	**Qualifier**	**Explanation**
ALIGNING	-----	The printer is aligning forms. You must wait until the status changes to PAUSED before you can use the printer. (Press ENTER twice to get the latest status.)
OUT OF SERVICE	-----	You cannot use this printer until an authorized person puts it in service. If you want to use this printer, ask your supervisor to help you.
PAUSED	(FORMS "xxxx")	The printer is PAUSED for forms change. The forms type required is xxxx. (For standard paper, it is four blank spaces.) This is displayed until you change the paper on the printer, type a 9 for Resume, and press ENTER. (See "Changing forms type" on page 59.) If you typed a 4 for Align, the printer status changes back to PAUSED (FORMS "xxxx") after the aligned pages have been printed. To start the printer, type a 9 for Resume, and press ENTER. When the printer status changes to PAUSED (FORMS "xxxx"), a message may be printed. See "Printer messages to be printed or not (Printer messages)" on page 116.
PAUSED	(OPERATOR)	The printer has been PAUSED by a user of the report controller. To start the printer, type a 9 for Resume, and press ENTER.
PAUSED	(PRINTER)	The printer needs attention to fix an error, for example, a paper jam. (There may be a short delay after the error has occurred before you see this status.) When the printer has been fixed, type a 9 for Resume, and press ENTER.
PRINTING	-----	The printer is currently printing a report. The REPORT NAME and NUMBER columns tell you which report.
PRINTING	(ERROR)	This status occurs before PAUSED (PRINTER) when the report controller has detected a printer error or when Resume has been used after a printer error. After a few moments, the printer status changes to PAUSED or PRINTING. (Press ENTER twice to get the latest status.) If it does not change, and the printer is turned on and is not jammed, there may be a computer system failure, or some other fault.
PRINTING	(STOPPING)	The printer has received a request to Stop now, Stop after copy, or Stop after report. Wait until the status changes to STOPPED. (Press ENTER twice to get the latest status.)

Table 2 (Page 2 of 2). Printer statuses and their meanings		
Printer status	**Qualifier**	**Explanation**
STOPPED	-----	A user of the report controller has stopped the printer. Type a 2 for Start if you want to start the printer.
STOPPING	-----	A user of the report controller has sent a Stop request to the printer and this has not yet been completed. Wait until the status changes to PRINTING (STOPPING) and then STOPPED. (Press ENTER twice to get the latest status.)
UNAVAILABLE	-----	The printer is temporarily not available for you to use, because it is being used by another part of the computer system.
WAITING	-----	The printer is waiting for work (for example, for more reports of a particular class and destination to be made ready for printing. Look at the REPORT LIST panel to find the characteristics and status of reports to be printed, and change the report status or printer characteristics to print the reports you want.
RELEASED	-----	The printer is waiting for work (see WAITING above) but has been idle for more than the time-out period specified for it. The device itself is free for other users of the computer system but currently is not in use. You can perform the same actions as with WAITING to make more reports available for printing. You can stop the printer with Stop now when it has this status.
RELEASED	(IN USE)	As with RELEASED, the printer has been idle for more than the specified time-out period. Another part of the computer system is currently using the device. When more reports become available for the printer, they are printed when the device is free. You can stop the printer with Stop now when it has this status.
STARTING	-----	The printer has had the RELEASED status and now more reports are ready for printing on it. The report controller is in the process of starting the printer again. You cannot stop the printer when it has this status.
STARTING	(IN USE)	This is essentially the same as STARTING but currently another part of the computer system is using the printer. As soon as it becomes free, printing is resumed. You cannot stop the printer when it has this status.

Start printer

You may want to start a printer on which you have just made a report ready to print.

If you try to print a report on a printer that is not authorized to print it, the status of the report changes to ERRPRT. If this happens, see "Report in ERRPRT status" on page 68 to find out what to do.

You can use Start only on a printer whose status is STOPPED. If the printer you want to use is PAUSED, see "Resume printing after pause" on page 111, which tells you how to set a PAUSED printer going.

Type a 2 for Start next to the printer details in the OPT column on the PRINTER LIST panel, and press ENTER.

If the printer can be started, and there are reports in READY(D) or READY(K) status whose characteristics match those on the printer, the printer status changes to PRINTING. If no reports are ready to print, the printer status changes to WAITING.

If the printer cannot be started, the report controller issues a message telling you that the printer is out of service or is being used. If the printer is out of service, only an authorized person can put it in service. If the printer is being used, wait a short time, and then get another printer list to see if its status has changed. If you have the PRINTER LIST panel displayed, you can do this by pressing ENTER twice.

Stop printer

You can stop a report printing:

- Immediately
- After the current copy has been printed
- After all copies have been printed.

Before the printer stops, it can print a message giving its name, destination, and the time and date when it was stopped. (See "Printer messages to be printed or not (Printer messages)" on page 116 for how to control whether this message is printed.)

If you just want to interrupt printing briefly, (for example, to make some adjustment to the printer), you should use Pause. See "Making the printer pause" on page 110.

Stop printer immediately (Stop now)

Use Stop now to stop a printer that is not currently printing a report, but whose status is not STOPPED. You can also use Stop now if you need to stop the printer, regardless of whether it has reached the end of a report or current copy of a report. For example, you might need to do this if you notice that the wrong report is being printed, or that it is being printed on the wrong paper. If you want the printer to finish printing the **current copy** of a report, see "Stop printer after current copy printed (Stop after copy)" on page 108. If you want the printer to finish printing **all copies** of a report, see "Stop printer after all copies printed (Stop after report)" on page 109.

To stop the printer immediately, type a 5 for `Stop now` in the `OPT` column of the `PRINTER LIST` panel, and press `ENTER`. The printer status can be `WAITING`, `PRINTING`, `PAUSED`, or `ALIGNING`,

If the printer is `PAUSED` or `ALIGNING` when you request it to stop, you also have to type a 9 for `Resume` before it can stop. See "Resume printing after pause" on page 111.

If the printer can be stopped, its status changes to `STOPPING`, then to `PRINTING` (`STOPPING`), and then to `STOPPED`. If the printer was not printing anything, and no printer messages are printed, the printer status changes straight from `STOPPING` to `STOPPED`. There may be a short delay while this happens, because the printer has to clear its **buffer** before it can stop. (The printer gets data from the report controller faster than it can print it. The buffer is where it stores this data before it is printed.) The length of the delay depends on the size of the buffer. To find out if the status has changed to `STOPPED`, press `ENTER` twice to get the latest `PRINTER LIST` panel.

The printer may also print out a message giving the printer name, destination, and the time and date it was stopped; or, if it is part-way through printing a report when you request it to `Stop now`, it may print out a message telling you which report was being printed, and the time and date the printer was stopped. For more information about printer messages, see "Printer messages to be printed or not (Printer messages)" on page 116.

If the printer cannot be stopped, the report controller issues a message telling you why.

If you use `Stop now` before all copies of a report have been printed, the status of that report changes to `ERRPRT`. This shows that the report controller began printing the report, but did not complete it. If this happens, you can change the status of the report back to `READY` when you want to print it again. For more information about `ERRPRT` status, see "Report in ERRPRT status" on page 68, and the description on page 78.

If a report is being printed using ESCAPE format, the printer does not stop until it has printed all copies of that report. (ESCAPE allows for special formatting and graphics.) This is because the report controller has to wait until it gets control of the report back from the separate program that is used to print ESCAPE format reports. This happens at the end of the current report, which is when the printer stops. (You may therefore prefer to use `Stop after report`. See "Stop printer after all copies printed (Stop after report)" on page 109.)

You can find out if a report is an ESCAPE report by looking at the second `REPORT CHARACTERISTICS` panel, described on page 94.

Stop printer after current copy printed (Stop after copy)

Use `Stop after copy` if you want to stop the printer soon, but you do not want it to stop part-way through a copy of the report it is currently printing.

If there is no report being printed, you cannot use `Stop after copy`; you must use `Stop now.` See "Stop printer immediately (Stop now)" on page 107.

Type a 6 for `Stop after copy` in the `OPT` column on the `PRINTER LIST` panel next to the details of a printer that is `PAUSED`, `PRINTING`, or `ALIGNING`, and press `ENTER`.

If a printer status was `PAUSED` or `ALIGNING` when you requested it to stop, you must also type a 9 for `Resume` before it can stop. See "Resume printing after pause" on page 111.

If the printer can be stopped, its status changes to `STOPPING`, then to `PRINTING` `(STOPPING)`, and then to `STOPPED` when it has finished the current copy of the report. How soon this happens depends on how much of that copy is still to be printed. If you want to find out when the status changes to `STOPPED`, get the latest `PRINTER LIST` panel.

If the printer cannot be stopped the report controller issues a message telling you why. The printer may also print out a message giving the printer name, destination, and the time and date it was stopped. For more information about printer messages, see "Printer messages to be printed or not (Printer messages)" on page 116.

If you use `Stop after copy` when the last copy of the report is being printed, it either disappears from the list, or remains on the list depending on the **disposition** with which it was created.

If you use `Stop after copy` before all copies of a report have been printed, the status of that report changes to `ERRPRT`. This shows that the report controller began printing the report but did not complete it. The `COPIES` number on the `REPORT LIST` and `PRINTER LIST` panels changes back to the number it was before the report began being printed, so that, when the report is printed again, the number of copies is the number originally requested. You can change the status back to `READY` when you want to print the report again. or more information about `ERRPRT` status, see "Report in ERRPRT status" on page 68, and the description on page 78. the description on page 78.

If a report is being printed using an ESCAPE program, the printer does not stop until it has printed all copies of that report. (ESCAPE allows for special formatting and graphics.) This is because the report controller has to wait until it gets control of this report back from the separate program that is used to print ESCAPE reports. This happens at the end of the current report, which is when the printer stops. (You may therefore prefer to use `Stop after report`. See "Stop printer after all copies printed (Stop after report).") You can find out if a report is an ESCAPE report by looking at the second `REPORT CHARACTERISTICS` panel (page 2 of 2). This panel is described on page 94.

Stop printer after all copies printed (Stop after report)

Use `Stop after report` if you want the printer to print all the copies of the current report before it stops. Because the printer does not have to stop either part-way through a report, or before it has printed all the copies requested, it does not put the report it was printing into `ERRPRT` status. You should therefore use `Stop after report` when there is no urgent reason for stopping the printer, and when you are closing down printing (for example, at the end of the day).

If there is no report being printed, you cannot use `Stop after report`; you must use `Stop now`. See "Stop printer immediately (Stop now)" on page 107.

Type a 7 for `Stop after report` in the `OPT` column on the `PRINTER LIST` panel next to the details of a printer that is `PAUSED`, `PRINTING`, or `ALIGNING`, and press `ENTER`.

If a printer was `PAUSED` or `ALIGNING` when you requested it to stop, you also have to type a 9 for `Resume` before it can stop. See "Resume printing after pause" on page 111.

If the printer can be stopped, its status changes to `STOPPING`, then to `PRINTING (STOPPING)`, and then to `STOPPED` when the printer has finished all copies of the report it is currently printing. How soon this happens depends on how many copies are still to be printed.

If you want to find out if the status has changed to `STOPPED`, get the latest `PRINTER LIST` panel.

The printer may also print out a message giving the printer name, destination, and the time and date it was stopped. For more information about printer messages, see "Printer messages to be printed or not (Printer messages)" on page 116.

If the printer cannot be stopped, the report controller issues a message telling you why.

The report either disappears from the `REPORT LIST` or remains depending on the **disposition** with which its was created.

Making the printer pause

When you want to interrupt printing as soon as possible without affecting the report that is being printed, you should change the printer status to `PAUSED`. This does not make the printer available to be used by parts of the computer system other than the report controller. Other users of the report controller can see that the printer status is not `STOPPED`, and so they will not think that it is free.

The printer status can also be changed to `PAUSED` by the report controller itself, for example, when a forms change is needed, or when the printer needs attention for some reason. You might want to change the printer status to `PAUSED` if you notice that there is a problem with a report while it is being printed, for example, printing on a report has become faint or the paper is creased. If this happens, you can change the printer status to `PAUSED`, and then use the `RESTART PRINTER` panel to make it reprint the spoiled pages. (See "Restart printing from a particular page" on page 111.)

To change the printer status to `PAUSED`, type an 8 for `Pause` in the `OPT` column on the `PRINTER LIST` panel next to the details of a printer that is currently `PRINTING`, and press `ENTER`.

If the printer can be paused, its status changes to `PAUSED (OPERATOR)`.

If the printer status cannot be changed to `PAUSED`, the report controller issues a message telling you why. If this happens, look at the `PRINTER LIST` panel to find out the current printer status. To find out what you should do next, look at the entry for that status in Table 2 on page 105.

You cannot change a printer's status to `PAUSED` while it is printing an ESCAPE report. This is because the report controller has to wait until it gets control of this

report back from the separate program that is used to print ESCAPE reports. This happens at the end of the current report, which is when the printer status changes to PAUSED. You can find out if a report is an ESCAPE report by looking at the second REPORT CHARACTERISTICS panel (page 2 of 2), described on page 94.

You can stop a printer that is in PAUSED status. For example, you may want to do this to prevent any more printing being started. To do this, type a 5, 6, or 7, depending on whether you want to Stop now, Stop after copy, or Stop after report. For the stop request to be accepted by the printer, you must then type a 9 for Resume, and press ENTER. (For more information about Resume, see "Resume printing after pause.")

Resume printing after pause

You can only use Resume on a printer that is in PAUSED status.

Type a 9 for Resume in the OPT column on the PRINTER LIST panel next to the details of a paused printer, and press ENTER.

You also use Resume on a printer that was in PAUSED status when you requested it to stop. When you have typed your stop request (see "Stop printer" on page 107), type a 9 for Resume, and the printer stops. If the printer status can be changed, this happens immediately. Usually, the printer begins printing from where it left off (unless it paused because intervention was required, in which case some pages may be duplicated), but if another user of the report controller requested that printer to stop while it was in PAUSED status, it stops immediately, after the current copy, or after the current report.

If the printer status cannot be changed, the report controller issues a message telling you why. If this happens, look at the PRINTER LIST panel to find out the current printer status. To find out what you should do next, look at the entry for that status in Table 2 on page 105.

If you notice that the print quality is not as good as you want, you can reprint the affected pages. To do this, use the RESTART PRINTER panel instead of using Resume (see "Restart printing from a particular page").

Restart printing from a particular page

You may find that you need to reprint certain pages of a report because they have not been printed satisfactorily. For example, the printing may be faint, or the paper creased. If you notice this while the report is still being printed, and it is being printed on a CICS-controlled printer, you can use the RESTART PRINTER panel. If you do not discover a printing problem until after the report has been printed, you must send the report for printing again (see "Reprinting some reports" on page 65). To do this, first change the printer status to PAUSED. (See "Making the printer pause" on page 110.) Type a 3 for Restart next to the printer's name in the OPT column on the PRINTER LIST panel, and press ENTER. This gets you to the RESTART PRINTER panel, shown in Figure 57 on page 112.

```
┌─────────────────────────────────────────────────────────────────────┐
│                                                                     │
│    CEOS: 1213                      RESTART PRINTER                   │
│                                                                     │
│     PRINTER  DESTINATION  STATUS          CLASS FORMS               │
│     PTR7      ACCOUNTS     PAUSED            C                      │
│                                                                     │
│     Report Details:                                                 │
│       Name               : SALES                                    │
│       Number             : 04275                                    │
│       Total copies       : 001                                      │
│       Total pages        : 00008                                    │
│       Last page printed : 00005                                     │
│                                                                     │
│     You may change Start page by overtyping with                    │
│     the required value:                                             │
│               Start page       ==> 00000                            │
│                                                                     │
│                                                                     │
│                                                                     │
│                                                                     │
│     PF1=Help PF3=End ENTER=Continue.                                │
│                                                                     │
└─────────────────────────────────────────────────────────────────────┘
```

Figure 57. CEOS: 1213 RESTART PRINTER panel

The top two lines of the `RESTART PRINTER` panel tell you the name, destination, status, class, and forms type of the printer. Under `Report Details` the panel gives you the following information about the report that was being printed:

- `Name`
- `Number`
- `Total copies` (the number of printed copies requested)
- `Total pages` (the number of pages to be printed in each copy)
- `Last page printed` (the number of the last page of a particular copy printed).

Overtype the number next to `Start page ==> 00000` with the number of the page on which you want printing to restart. (You cannot specify a page number higher than 65535.) To get the page number look at the reports that have just come out of the printer and find out where the spoiled pages began. Press `ENTER`. To set the printer going again, you must then type a 9 for `Resume` in the `OPT` column on the `PRINTER LIST` panel, and press `ENTER`. (See "Resume printing after pause" on page 111.)

Start forms alignment

When you have just loaded some new paper on a printer, you can request forms alignment. This involves printing a few test pages so that you can find out if the paper is straight, and if the left and right margins are as you want them. You can ask for as many or as few pages as you want, and you can repeat the process until you are satisfied with the results.

What is printed on these pages varies with the type of report. For some types of reports (those known as: `ASA`, `NOCC`, `MCC`, `SCS` without `NOCONV`, and `T3270 without NOCONV`), you get the complete pages of the report you requested, but with the letters all changed to `X`, and the numbers changed to `9`. For other types of reports, (those known as `SCS` and `T3270 with NOCONV` specified, and for ESCAPE reports,

and BMS reports) you get one line of text (which is also printed as Xs and 9s) for each page you asked for. You can find out, by looking at the second REPORT CHARACTERISTICS panel, which of these types is applicable to the report. This panel is described on page 94.

To start forms alignment, type a 4 for Align in the OPT column next to the details of a PAUSED printer on the PRINTER LIST panel, and press ENTER. You can adjust the paper on the printer, and then repeat forms alignment as many times as you want until you are satisfied with the results.

For more information about forms alignment according to printer status, see "Lining up new paper" on page 61.

The report controller prints one alignment page unless you request more. See "Number of paper align pages to be printed (Align pages)" on page 116.

If forms alignment can start, the printer status changes to ALIGNING. If forms alignment cannot start, the report controller issues a message telling you why. If this happens, look at the PRINTER LIST panel to find out the current printer status. To find out what you should do next, look at the entry for that status in Table 2 on page 105.

Choosing printers for display on the PRINTER CHARACTERISTICS panel

From the PRINTER LIST panel, you can get to the PRINTER CHARACTERISTICS panel, where you can see and change the characteristics of a printer that is STOPPED or OUT OF SERVICE. If you want to change the forms type when you get to the PRINTER CHARACTERISTICS panel, the printer status can also be WAITING. If you want to change the number of align pages to be printed, the printer status can also be PAUSED or WAITING.

To get to the PRINTER CHARACTERISTICS panel, type a 1 for See/Change Characteristics next to one or more printers in the OPT column on the PRINTER LIST panel, and press ENTER. If you type a 1 next to more than one printer, the report controller displays a PRINTER CHARACTERISTICS panel for each one in turn.

Any changes you make to printer characteristics are displayed on the latest PRINTER LIST and PRINTER CHARACTERISTICS panels. They are made when the printer is next started—except forms types, which take effect immediately.

If you cannot see or change the characteristics of the printer you have chosen, the report controller issues a message telling you why. If this happens, look at the PRINTER LIST panel to find out the current printer status. To find out what you should do next, look at the entry for that status in Table 2 on page 105.

After you have made changes on the PRINTER LIST panel

When you look at the PRINTER LIST panel after typing numbers on it, there are asterisks, and there may be question marks, in the OPT column. An asterisk means that you have looked at or made changes to a printer. Any change is displayed in the STATUS column. A question mark in the OPT column means that the report controller did not accept a change that you typed.

There is a message next to each question mark telling you what went wrong. The message appears where the printer details are usually displayed. If you want to

see the printer details again, you have to remove the message by overtyping the
question mark with a different number, or with a blank space, and pressing ENTER.
You have to do this before you can use PF7 or PF8 to move up or down the list
again.

The PRINTER CHARACTERISTICS panel

Figure 58 shows you an example of a PRINTER CHARACTERISTICS panel.

```
  CEOS: 1211                 PRINTER CHARACTERISTICS


   PRINTER   STATUS
   PF6F      STOPPED

   Report Details:
     Name            :
     Number          :
     Total copies    :
     Total pages     :
     Last page printed :

   Type required values against one or more of the following characteristics:

      Destination     ==>  DFITZP
      Class           ==>  B          A-Z / 0-9
      Forms           ==>
      Align pages     ==>  01         1-99
      Printed messages ==> NO         No │ Yes
      FCB name        ==>
      Insert Skip     ==>  NO         No │ Yes

  PF1=Help PF3=End ENTER=Continue.
```

Figure 58. CEOS: 1211 PRINTER CHARACTERISTICS panel

Information on the PRINTER CHARACTERISTICS panel

You can use the PRINTER CHARACTERISTICS panel to find out if a printer is printing
and, if it is, which report and how much of that report it has printed. You can look
at, but not change, the following information:

* Under PRINTER, the printer name (1 through 4 characters).

* Under STATUS, what the printer is currently doing.

* Under Report Details, information about the report currently being printed.
  (You may have to get the latest PRINTER CHARACTERISTICS panel before these
  are displayed.) The report details are blank if the printer status is not PRINTING,
  PAUSED, or ALIGNING. The report details are:

  – Its name
  – Its number
  – Next to Total copies, the number of copies requested
  – Next to Total pages, the number of pages in each copy
  – Next to Last page printed, the number of the last page printed.

If a report has very small pages, the page number next to `Last page printed` and the number on the actual page may be different. This is because the report controller counts the number of pages it has sent to the printer, and some of these may still be stored in the buffer waiting to be printed.

For reports that have special formats (for example, BMS maps and ESCAPE reports), the page number shows the number of blocks of data that have been sent, and not the number of printed pages.

Defaults

In the example in Figure 58 on page 114, the **default** values for the printer are shown. The destination is `ACCOUNTS`, the class is `C`, standard paper is being used, the number of `Align pages` that are printed if `Align forms` is used is `1`, and, if the printer issues any messages, they are not printed.

Printer characteristics to see and change

You can use the `PRINTER CHARACTERISTICS` panel to change a number of printer characteristics. A `PRINTER CHARACTERISTICS` panel shows you what the characteristics were at the moment you asked for the panel. However, if another user makes changes while you are looking at it, you do not see them until you ask for a new characteristics panel, although you can see any changes that you make. If you have the `PRINTER CHARACTERISTICS` panel displayed, you can ask for a new characteristics panel by pressing `ENTER` twice to get back to the `PRINTER SELECTION` panel, pressing `ENTER` again to get the latest `PRINTER LIST` panel, and then typing a `1` for `See/Change Characteristics` in the `OPT` column and pressing `ENTER` to get the `PRINTER CHARACTERISTICS` panel again.

Printer or printer group for printing on (Destination)

To change the destination of a printer, type a destination name of up to 8 characters (the first character must be a letter) next to `Destination`, and press `ENTER`. For example, you may want to do this if there are many reports to be printed at the same destination, and you want to add another printer to print them. (You should check with your supervisor that it is alright to make a change.) See "How to get your reports printed the way you want" on page 4 for more information about destination.

Group of reports to be printed (Class)

The `Class` characteristic groups reports for printing and tells the printer which ones to print. The class and destination of the printer must match the class and destination of the reports for those reports to be printed. Within a class, all reports whose status is `READY` are in order of priority. See "Order of reports on REPORT LIST panel" on page 82.

To change the class of reports to be printed, type a single letter from `A` through `Z`, or a number from `0` through `9` next to `Class`, and press `ENTER`. If you try to change the class to anything other than a letter, the report controller issues a message prompting you to type a valid class.

Particular classes can have special purposes in your organization. You should check this with your supervisor before making changes.

Paper to be used (Forms)

Forms types are names (1 through 4 characters) for different types of paper. Which forms type is used for which kind of paper is determined by your organization.

If you leave forms type blank, your report is printed on standard paper. This can be plain paper or whatever your organization has decided.

The PRINTER LIST panel shows that the printer status has been changed to PAUSED status for a forms type change when the printer status is PAUSED (FORMS "xxxx"). The forms type is xxxx. Now go to the PRINTER CHARACTERISTICS panel, type that name next to Forms, and press ENTER.

Load the paper on the printer, and align if necessary (see "Start forms alignment" on page 112).

When you are ready to start printing, go to the PRINTER LIST panel, type a 9 for Resume, and press ENTER (see "Resume printing after pause" on page 111).

If you try to type a forms type that the report controller does not recognize, it issues a message prompting you to type a valid one.

Number of paper align pages to be printed (Align pages)

You can change the number of pages printed for forms alignment. For example, you may want to do this if you know that the report you are about to print has different amounts of text on each page. Type a page number in the range 1 through 99 next to Align pages on the PRINTER CHARACTERISTICS panel, and press ENTER. If you do not change the number of align pages, the report controller automatically prints one page; you only need to change it if you want to print more.

See "Start forms alignment" on page 112 for details of how to start forms alignment.

Printer messages to be printed or not (Printer messages)

The following changes to printer status or characteristics can cause a message to be printed as well as these changes being displayed on the PRINTER LIST panel.

- Stopping the printer. The message gives you the printer name, destination, and the time and date it was stopped.

- Printer status is PAUSED (FORMS "xxxx"). The message tells you which forms type to load, and the name of the report that is printed. It also reminds you to make sure the line counter on the printer is set appropriately for the new forms.

- Requesting the printer to Stop now when it is halfway through printing a report. The message tells you which report was being printed, and the time and date the printer was stopped.

- A mapping failure on a report that is being printed using BMS mapname or BMS mapset. The message tells you which report was being printed when the mapping failure occurred, and what the current status of the report is.

You may find the information in these messages useful, and want them to be printed. However, there may be some kinds of paper that you do not want them to be printed on, for example, numbered forms such as invoices, orders, sales receipts, each of which must be accounted for. All the printer messages have a

line length of 80 characters, and should not be printed with reports whose line length is shorter. (The line length of a report is displayed on the second REPORT CHARACTERISTICS panel.)

To state whether you want these messages to be printed, enter yes or no next to Printer messages on the PRINTER CHARACTERISTICS panel. Either type yes and press ENTER, or just press ENTER to accept the default no, which already appears on the panel.

Printer specific forms control buffer (FCB Name)

Control over the verticial movement of the printer page is provided by a forms control buffer (FCB). This option allows a default FCB name to be specified for this specific printer. Under normal conditions, you should not need to enter or change anything here because the FCB will have been assigned by your systems department.

Reports not starting with a new page (Initial Skip)

The initial skip option allows you to override the default action when printing a report which does not begin with a skip command (new page). Under normal conditions you should not need to enter or change anything here.

Sharing a report controller printer with another user of the computer

Normally, when a printer is started, the report controller has control of that printer until someone stops the printer. In some environments, this could mean an inefficient use of the printer. Therefore, the report controller provides a facility that allows the printer to be shared with other users of the computer system.

The printer sharing facility is activated when the resources are defined for the CICS system. At this time, a time-out value can be specified for the printer. This time-out value can be in the range 0 through 59 minutes. For example, a time-out value of 5 would mean that the printer becomes available for sharing after 5 minutes. A time-out value of 0 means that there is no printer sharing.

If the printer status is WAITING for more than the specified period, it is released (RELEASED status) and becomes available for other users. If more work becomes available for the printer after it has been released, it is restarted automatically as soon as it is free. See "Information about printer status" on page 104 for details of the printer states relevant to printer sharing.

Part 6. JCL reports (jobs) (CEMS only) – reference information

This section gives a description of the JCL reports (jobs) option of the report controller.

Map of JCL reports (jobs) panels
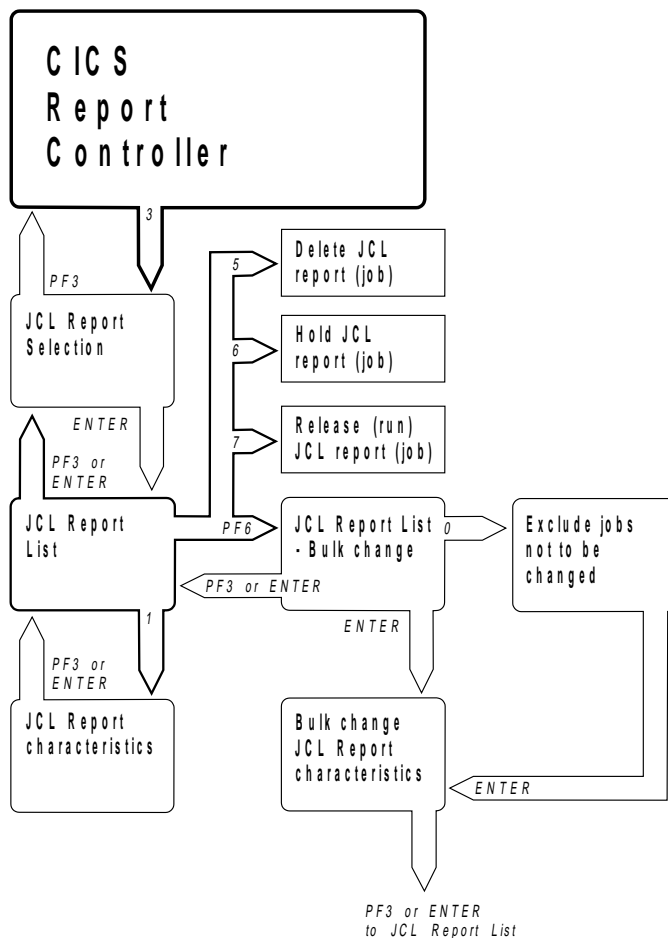
Figure 59. Map of JCL report panels

Figure 59 shows you the name of each panel in the JCL reports (jobs) option, and which keys to press to get from one panel to another.

Introduction

The CEMS transaction is an example of an **online program**. You type data and press ENTER, and press PF keys, and it responds immediately. **Batch programs** require all their input at the beginning. You cannot interrupt them later to give them more input. Batch programs take this input and run in the background without your being aware of what they are doing. When they have finished running, they may produce a report of some kind. They may also create information in files for use by other programs. You can use online programs to create the input to a batch program as **card images** in a file. Each time a batch program is run, it is known as a **job**; so the word job refers to the input for one job (or run of a batch program).

A job usually consists of job control (JCL) statements, before and after data, or requests of some kind. For example:

```
* $$ JOB JNM=PMR,DISP=H,USER=INFORMATION
// JOB LIST REGCL
// OPTION LOG,ACANCEL,LOGSRC,JCANCEL
// EXEC LIBR
  LISTDIR SUBLIB=REG170.REGCL18 OUTPUT=NORMAL
/*
/&
* $$ EOJ
```

JNM=PMR shows that this job creates a JCL report named PMR. DISP=H shows that the status of the job is HELD(H). USER=INFORMATION shows that the userdata on the JCL report is INFORMATION. When the job is run, it creates a JCL report containing the library contents.

How to get the JCL reports (jobs) option

You use the JCL reports (jobs) option of the report controller to run, delete, check the status, and change the characteristics of your JCL reports (jobs).

To get the JCL reports (jobs) option, you must use the CEMS transaction to start a session with the report controller. You do this in just the same way as with CEOS, as described in Part 2, "Tutorial" on page 9. When you have done this, you get a panel like the one shown in Figure 60.

```
   CEMS:  1                    CICS REPORT CONTROLLER

 Select one of the following options:

              1   Report selection.
              2   Printer selection.
              3   JCL report (job) selection.
              4   Transient data queue selection.
              5   Restart CXPB Transaction.
                  CXPB Status:     Active



              Selection ==> _





 PF1=Help PF3=End ENTER=Continue.

```

Figure 60. CEMS: 1 CICS REPORT CONTROLLER panel

The `CEMS:  1` panel gives you access to the reports and printers options that are available with CEOS, and additionally:

3   JCL report (job) selection.
4   Transient data queue selection.
5   Restart CXPB Transaction

Type a 3 for `JCL report (job) selection` in the space after `Selection ==>` and press `ENTER`. You get a panel like the one shown in Figure 61 on page 123.

The JCL REPORT SELECTION panel

Notice that the panel is numbered 13. All the panel numbers in this option begin with 13.

```
  CEMS: 13                     JCL REPORT SELECTION

        You may list all JCL reports or only those JCL reports that
        match your selection criteria.

        Type your selection criteria:

          Job number    ==>  _
          Job name      ==>
          Job class     ==>           A-Z, 0-9
          From date     ==>           mm/dd/yy
          To date       ==>           mm/dd/yy


        To select Status type a Y against one, or more of the following:

          Held          ==>
          Ready         ==>
          In use        ==>



  PF1=Help PF3=End ENTER=Continue.

```

Figure 61. CEMS: 13 JCL REPORT SELECTION panel

Listing all JCL reports (jobs)

To get a complete list of JCL reports (jobs), do not type anything on the JCL REPORT SELECTION panel, and press ENTER.

Listing particular JCL reports (jobs)

You can get lists of JCL reports (jobs) by typing characteristics on the JCL REPORT SELECTION panel. Characteristics are: Job number, Job name, Class, From date[8] and To date. You can select from the statuses: HELD, READY, or IN USE.

Listing JCL reports (jobs) with similar names

Type the first characters of the JCL report (job) name plus an asterisk (*) next to Job name, and press ENTER. For example, typing J* gives you a list of all the JCL reports (jobs) beginning with J. **You can use an asterisk in this way on the job name characteristic only**.

---

[8] The date format on your JCL REPORT SELECTION panel may have been changed by your organization from mm/dd/yy to dd/mm/yy or yy/mm/dd.

Using the JCL REPORT LIST panel

Figure 62 shows an example of a JCL REPORT LIST panel. The list may cover more than one panel.

```
 CEMS: 131                     JCL REPORT LIST              1 TO     3 OF    3

  Enter Options(1=See/Change Characteristics  5=Delete  6=Hold  7=Release)
 OPT  NAME       USERDATA        NUMBER  STATUS  CARDS  PRI  CLASS
  _    F3FIGS     SALES FIGURES   03522   IN USE    27   2     3
       J2ACCS     ACCOUNTS JAN    03567   READY     80   4     A
       J3ACCS     ACCOUNTS FEB    04698   HELD      92   7     9















      PF1=Help PF3=End PF6=Bulk Change ENTER=Continue.
```

Figure 62. CEMS: 131 JCL REPORT LIST panel

The JCL REPORT LIST panel shows you the following JCL report (job) characteristics: NAME, USERDATA, NUMBER, STATUS, CARDS (that is, the number of cards, or card images, in the job), PRI (priority), and CLASS.

You use the JCL REPORT LIST panel to delete, hold, or release (run) a JCL report (job), and to get to the JCL REPORT CHARACTERISTICS panel.

You can get lists of all available JCL reports (jobs) on the JCL REPORT LIST panel. However, to make changes to JCL reports (jobs) you must be authorized to access them. You should consult your supervisor if you are unable to access JCL reports.

Deleting JCL reports (jobs)

To delete a JCL report (job), type a 5 for Delete next to its name in the OPT column, and press ENTER.

Holding JCL reports (jobs)

To hold a JCL report (job) before it is run, type a 6 for Hold next to its name in the OPT column and press ENTER.

Releasing JCL reports (jobs)

To release a JCL report (job) to be run, type a `7` for `Release` next to its name in the `OPT` column and press `ENTER`.

Choosing JCL reports (jobs) to see and change

Type a `1` for `See/Change Characteristics` in the `OPT` column next to any JCL report (job) whose characteristics you want to see or change, and press `ENTER`.

Getting to the JCL REPORT LIST BULK CHANGE panel

To go from the `JCL REPORT LIST` panel to the `JCL REPORT LIST - BULK CHANGE` panel, press `PF6`.

The JCL REPORT CHARACTERISTICS panel

Figure 63 shows an example of a `JCL REPORT CHARACTERISTICS` panel.

```
 CEMS: 1311                   JCL REPORT CHARACTERISTICS

   NAME      USERDATA          NUMBER  STATUS    CARDS
   J2ACCS    ACCOUNTS JAN      03567   READY     00027

   TITLE :   THIS IS A JCL REPORT

   Created on      : 11/04/92
   at              : 16:40:46

   Type required values against one or more characteristics:

   Class          ==> A           A-Z, 0-9
   Priority       ==> 4           1-9




   PF1=Help PF3=End ENTER=Continue.
```

Figure 63. CEMS: 1311 JCL REPORT CHARACTERISTICS panel

Changing the class of a JCL report (job)

To change the class of a JCL report (job), type a single letter from `A` through `Z` or a number from `0` through 9 next to `Class`, and press `ENTER`.

Changing the priority of a JCL report (job)

To change the priority of a JCL report (job), type a single number from `1` through 9 (9 is the highest priority) next to `Priority` and press `ENTER`.

Information on the JCL REPORT CHARACTERISTICS panel

You can get the following information from the `JCL REPORT CHARACTERISTICS` panel:

- Under `NAME`, the name (2 through 8 characters) given to this JCL report (job).

- Under `USERDATA`, the userdata (1 through 16 characters) given to this JCL report (job) when it was created. If no userdata is given, the column is blank.

- Under `NUMBER`, the 5-digit number given to this JCL report (job) by the report controller.

- Under STATUS, what is currently happening to the JCL report (job). This can be:

  READY   The JCL report (job) is ready to be run.

  IN USE   The JCL report (job) is being created or is running.

  HELD   The JCL report (job) has been created but has not yet been run, or has been run but has not yet been deleted.

- Under CARDS, the number of cards (or card images) in the JCL report (job). This can be in the range 1 through 65 535.

- Next to TITLE, the title of the JCL report (job). This is given automatically by the report controller. For JCL reports (jobs), the title is always:

  THIS IS A JCL REPORT

- Next to Created on, the date the JCL report (job) was created.[9]

- Next to at, the time the JCL report (job) was created.

- Next to Class, the class given to the JCL report (job). This can be a single letter A through Z, or a single number 0 through 9.

- Next to Priority, the priority given to the JCL report (job). This can be a single number 1 through 9.

Notice that you do not need to give a destination for JCL reports (jobs). This is because the report controller recognizes that this kind of report is to be run as a job instead of being printed, and so sends it to the job reader queue.

Defaults
In the example shown in Figure 63 on page 126, you can see that the JCL report (job) has a default class of A and a default priority of 4.

---

[9] The date format on your JCL REPORT CHARACTERISTICS panel may have been changed by your organization from month/day/year order to day/month/year, or year/month/day order.

Bulk changing JCL report (job) characteristics

You get the `JCL REPORT LIST - BULK CHANGE` panel by pressing `PF6` on the `JCL REPORT LIST` panel.

```
   CEMS: 132          JCL REPORT LIST - BULK CHANGE          1 TO     3 OF     3

   To adjust list of reports to be changed enter Options (0=Exclude, 1=Include)
   OPT  NAME      USERDATA        NUMBER  STATUS  CARDS  PRI  CLASS
    1   F3FIGS    SALES FIGURES   03522   IN USE    27    2    3
    1   J2ACCS    ACCOUNTS JAN    03567   READY     80    4    A
    1   J3ACCS    ACCOUNTS FEB    04698   HELD      92    7    9

















   PF1=Help PF3=End ENTER=Continue.
```

Figure 64. CEMS: 132 JCL REPORT LIST - BULK CHANGE panel

Choosing JCL reports (jobs) to be bulk changed

All JCL reports (jobs) on the `JCL REPORT LIST - BULK CHANGE` panel are automatically included in the list to be bulk changed. Type a `0` for `Exclude` in the `OPT` column next to any JCL report (job) you do not want to bulk change, and press `ENTER`. You get the `BULK CHANGE JCL REPORT CHARACTERISTICS panel`, as shown in Figure 65 on page 129.

The BULK CHANGE JCL REPORT CHARACTERISTICS panel

Figure 65 shows the BULK CHANGE JCL REPORT CHARACTERISTICS panel.

```
  CEMS: 1321        BULK CHANGE JCL REPORT CHARACTERISTICS

  Total reports to be changed:     3

    To release or hold all reports included in the list enter command:

      Command        ==> _              Release | Hold

    Enter required values against any characteristic(s) to be changed:

      Class          ==>               A-Z, 0-9
      Priority       ==>               1-9




  PF1=Help PF3=End ENTER=Continue.
```

Figure 65. CEMS: 1321 BULK CHANGE JCL REPORT CHARACTERISTICS panel

Making bulk changes

You can make the following bulk changes to a JCL report (job) using the BULK CHANGE JCL REPORT CHARACTERISTICS panel:

- Type release next to Command and press ENTER to change the status of a JCL report (job) to READY. (The job is ready to be run.)

- Type hold next to Command and press ENTER to change the status of a JCL report (job) to HELD. (The status of the job has to be changed to READY before the job can be run.)

- Change the class of a JCL report (job) by typing a single letter A through Z or a single number 0 through 9 next to Class, and pressing ENTER.

- Change the priority of a JCL report (job) by typing a single number 1 through 9 next to Priority, and pressing ENTER.

Part 7. Transient data queues (CEMS only) – reference information

This section gives a description of the transient data queues option of the report controller.

Map of transient data queues panels
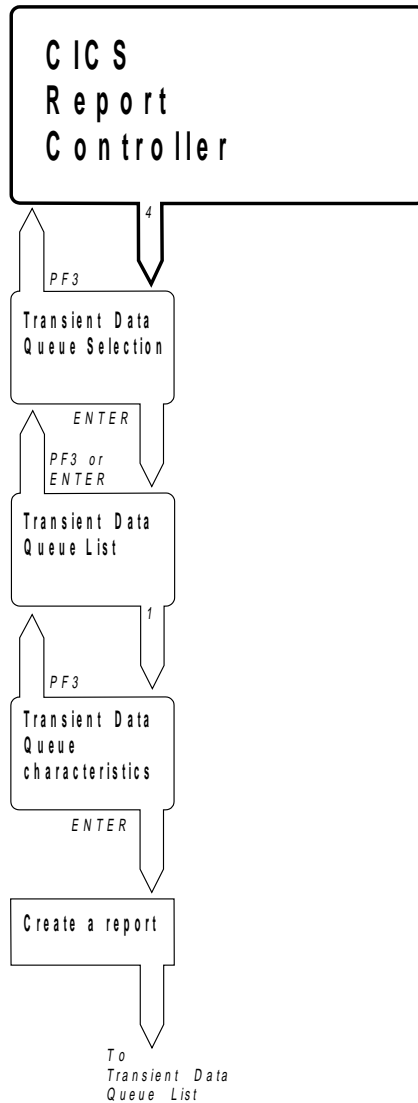
Figure 66. Map of transient data queues panels

Figure 66 shows you the name of each panel in the transient data queues option, and which keys to press to get from one panel to another.

Introduction

Transient data is used by CICS programs to store information. Any part of CICS can write to it to create a queue. The data in this queue can be added to, until it reaches a limit of 32 767 records. A task can create a **transient data queue** of items, which can then be stored under a name selected by that task. The report controller can then have access to this queue. See the section on transient data control (intrapartition only) in the *CICS Application Programming Guide* for more information.

The transient data queues option of the report controller allows you to create reports from these queues. You can then print them as you would any other report. It is important to note that the records in a transient data queue can be read only once, so when you create a report those records are destroyed. However, the queue itself continues to exist and new records can be sent to it.

How to get the transient data queues option

You use the transient data queues option of the report controller to check the status of transient data queues and to create reports from them.

To get the transient data queues option, you must use the CEMS transaction to start a session with the report controller. You do this in just the same way as with CEOS, as described in Part 2, "Tutorial" on page 9. When you have done this, you get a panel like the one shown in Figure 67.

```
    CEMS:  1                  CICS REPORT CONTROLLER

    Select one of the following options:

                 1  Report selection.
                 2  Printer selection.
                 3  JCL report (job) selection.
                 4  Transient data queue selection.
                 5  Restart CXPB Transaction.
                    CXPB Status:     Active



                 Selection ==>  _






    PF1=Help PF3=End ENTER=Continue.
```

Figure 67. CEMS: 1 CICS REPORT CONTROLLER panel

The `CEMS:  1` panel gives you access to the reports and printers options that are available with CEOS, and additionally:

3   `JCL report (job) selection.`
4   `Transient data queue selection.`
5   `Restart CXPB Transaction`

Type a `4` for `Transient data queue selection` in the space after `Selection ==>`, and press `ENTER`. You get a panel like the one shown in Figure 68 on page 135.

TRANSIENT DATA QUEUE SELECTION panel

Notice that the panel is numbered 14. All the panel numbers in this option begin with 14.

```
  CEMS: 14                  TRANSIENT DATA QUEUE SELECTION

       You may list all transient data queues or only transient
       data queues that match your selection criteria


   Type your selection criteria:


         Queue name ==>












  PF1=Help PF3=End ENTER=Continue.

```

Figure 68. CEMS: 14 TRANSIENT DATA QUEUE SELECTION panel

Listing all transient data queues

To get a complete list of transient data queues, do not type anything on the
TRANSIENT DATA QUEUE SELECTION panel, and press ENTER.

Listing a particular transient data queue

To list a particular transient data queue, type its name next to
Queue name on the TRANSIENT DATA QUEUE SELECTION panel, and press ENTER.

Listing transient data queues with similar names

Type the first characters of the transient data queue names plus an asterisk (*),
and press ENTER. For example, typing T* gives you a list of all the transient data
queues beginning with T.

Using the TRANSIENT DATA QUEUE LIST panel

Figure 69 shows an example of a TRANSIENT DATA QUEUE LIST panel. The list may cover more than one panel.

```
   CEMS: 141          TRANSIENT DATA QUEUE LIST                1 TO     18 OF    39

   Enter Option (1=Create a report)
   OPT   QUEUE-NAME  RECORDS  STATUS
    _      L2A9          42     SPOOLING
           PT7           13     AVAILABLE
           PSNO         984     AVAILABLE
           PSPH        1323     AVAILABLE
           ACC2          15     AVAILABLE
           PSLG       32767     AVAILABLE
           ECMG        3379     AVAILABLE
           RFL1          38     AVAILABLE
           MTP6         705     AVAILABLE
           PMR1        1722     AVAILABLE
           LCH0        9990     AVAILABLE
           DJB8         749     AVAILABLE
           DEJH         900     AVAILABLE
           DK12         398     AVAILABLE
           ARR4        3829     AVAILABLE
           JW          1746     AVAILABLE
           MF7            0     EMPTY
           L860           0     EMPTY
   PF1=Help PF3=End PF8=Forward ENTER=Continue.
```

Figure 69. CEMS: 141   TRANSIENT DATA QUEUE LIST panel

You use the TRANSIENT DATA QUEUE LIST panel to get information about particular transient data queues, and to choose transient data queues from which to create reports.

When you ask to see a transient data queue's characteristics, or make changes to them, the report controller checks to see whether you have authority to access the transient data queue. You cannot see or change that transient data queue, and the report controller issues a message telling you so. If this happens, ask your supervisor if you should be authorized to use that transient data queue. If so, your security administrator will have to change your authorization.

Number of records in a transient data queue

To find the number of records in a transient data queue, look at the RECORDS column.

Status of a transient data queue

To find out a transient data queue's current status. look at the STATUS column. The status of a transient data queue can be:

- SPOOLING

  The queue is currently being used to create a report.

- AVAILABLE

  The records currently in a queue have not yet been used to create a report.

- EMPTY

  There are no records in the queue. This may be because it has not yet had any records sent to it, or because it has already been used to create a report and the records have therefore been destroyed in being read.

Getting to the TRANSIENT DATA QUEUE REPORT CHARACTERISTICS panel

You can use the TRANSIENT DATA QUEUE LIST panel to choose a transient data queue from which to create a report. When the report has been created you can see, change, and print it using the reports and printers options of the report controller as you would for any other report.

Type a 1 for Create a report in the OPT column next to the transient data queue you want to use, and press ENTER. This takes you to the TRANSIENT DATA QUEUE REPORT CHARACTERISTICS panel (shown in Figure 70 on page 138), where you can type the characteristics of the report you want to create. If you type a 1 next to more than one queue, the report controller gives you a TRANSIENT DATA QUEUE REPORT CHARACTERISTICS panel for each queue in turn.

If any of the transient data queues you have chosen is being used to create a report (that is, its status is SPOOLING), you cannot see or change its characteristics, and the report controller issues a message telling you so. When the status is no longer SPOOLING, this changes to EMPTY, and there are no records left in it.

The TRANSIENT DATA QUEUE REPORT CHARACTERISTICS panel

Figure 70 shows an example of a TRANSIENT DATA QUEUE REPORT CHARACTERISTICS panel.

```
  CEMS: 1411          TRANSIENT DATA QUEUE REPORT CHARACTERISTICS

          QUEUE-NAME   RECORDS   QUEUE-STATUS
          PRT7           13       AVAILABLE

     To specify report characteristics overtype the following fields:

          Disposition    ==> D              D │ H │ K │ L
          Destination    ==> ACCOUNTS
          Title          ==>
          Userdata       ==>
          Copies         ==> 001            1-255
          Class          ==> C              A-Z / 0-9
          Priority       ==> 3              1-9
          Separator page ==> YES            Yes │ No
          Security (RSL) ==> PUBLIC         1-24 │ Public




     PF1=Help PF3=End ENTER=Continue.
```

Figure 70. CEMS: 1411 TRANSIENT DATA QUEUE REPORT CHARACTERISTICS panel

Transient data queue report characteristics

You can use the TRANSIENT DATA QUEUE REPORT CHARACTERISTICS panel to change the characteristics of a transient data queue from which you want to create a report.

Disposition of report (Disposition)

The report disposition determines what happens to the report when it is processed. From a transient data queue you can create a report with one of the four dispositions, D, H, K, or L. To specify the disposition of a report, type the required disposition letter next to Disposition, and press ENTER. The meaning of these dispositions is explained on page 77.

Where report is to be printed (Destination)

To choose the destination at which the report is to be printed, type a destination of up to 8 characters (the first character must be a letter) next to Destination. If you do not type a destination, you get the default destination for the terminal you are using.

Title of report (Title)

To specify the title of a transient data queue report, type up to 32 characters next to `Title`. **You must type a title to create a report, because there is no default**. You do not need to give a name to the report, because the report controller automatically uses the transient data queue name.

User description of report (Userdata)

To specify the userdata of a report, type up to 16 characters next to `Userdata`. If you do not type anything, the userdata is automatically taken from the first 16 characters of the transient data queue report title. If there are any nonalphanumeric characters (other than `@ $ / # -` or `.`) in the title, they appear as blanks in the userdata.

Number of copies of report (Copies)

To specify the number of copies of a transient data queue report, type a number in the range `1` through `255` next to `Copies`.

Group to which report is to belong (Class)

To specify the class of a transient data queue report, type a single letter in the range `A` through `Z`, or a number from `0` through `9` next to `Class`.

Urgency of report (Priority)

To specify the priority of a transient data queue report, type a single number in the range `1` through `9` (where `9` is the highest priority) next to `Priority`.

Separator page between reports (Separator page)

To specify whether you require a separator page when the transient data queue report is printed, type `yes` or `no` next to `Separator page`.

Security of report (SECURITY (RSL))

To specify the security value (RSL) for a report, type either `PUBLIC`, or a number in the range `1` through `24` next to `Security (RSL)`. The value you type should match the ESM defined authority of the people who must use the report.

Creating a report from a transient data queue

To create a report from a transient data queue, type the title you want to give the transient data queue report next to `Title` and press `ENTER`. You can change any of the other characteristics displayed on the panel, but you do not have to do so. However, you must type a title for the report to be created. This is because all the other characteristics on this panel except `Title` have **defaults**.

Defaults

In the example shown in Figure 70 on page 138, you can see that a report using all the defaults is created in `READY` status, has a destination of `ACCOUNTS`, will have one copy when it is printed, and has the class `C`, priority `3`, a separator page, and a security value of `PUBLIC`.

After you request a report to be created

You should get a message telling you that a report has been created. If you get a message telling you that no report has been created, this may be because:

- The transient data queue you chose is currently being used to create a report, or

- It has already been used to create a report and is therefore EMPTY, or

- You did not type a title on the TRANSIENT DATA QUEUE REPORT CHARACTERISTICS panel.

If you decide not to create a report, just press PF3 to get back to the TRANSIENT DATA QUEUE LIST panel, and no report will be created.

Part 8. Restart CXPB Transaction (CEMS only)–reference information

This section gives a description of the restart CXPB transaction option of the report controller.

Introduction

CXPB serves as the communication handler between POWER and CICS, and is responsible for intercepting the PSTART requests issued by the VSE operators and users of the report controller. It is the task that starts the printers under CICS.

Recovering from a CXPB failure

When CXPB fails a message is written to the VSE console (either DFHRC531I or DFHRC5312I) and the status on the CEMS: 1 CICS REPORT CONTROLLER panel will display as Inactive. When CXPB is inactive you will not be able to operate any report controller printers.

You should use the information provided by the error message, and any accompanying transaction dumps, to determine the cause of the failure, and take any corrective action necessary. Once you have done this, the Restart CXPB Transaction option can be used to restart CXPB, and the report controller printers can be operated.

Part 9. Your own information

This section gives you space to note information (such as names of reports, destinations, printers, types of paper, and so on) that you may find useful when you are using the report controller. Keep the details by your terminal so that you can refer to them easily.

143

your own information

Names of reports you can use:

_ _

_ _

_ _

Names of destinations you can use:

_ _

_ _

_ _

Names of printers that use these destinations:

_ _

_ _

_ _

What changes to destinations are acceptable in your organization?

_ _

_ _

_ _

What changes to classes are acceptable in your organization?

_ _

_ _

_ _

Which paper to load for which forms type:

_ _

_ _

_ _

Person to contact if you need help:

_ _

Part 10. Information for supervisors

This section gives information that supervisors may find useful when answering questions that they may get from users of the report controller.

Introduction

Supervisors should:

- Know how to use the CEOS and CEMS transactions.

- Help users of the report controller with any problems or questions they may have. For example, printers run out of ink and reports have to be reprinted, paper can become jammed on a printer, an extra copy of a report may be required, or copies of a report may be needed quickly.

- Be able to contact the appropriate people in their organization who can solve problems outside their control (for example, if the computer system, or part of it, fails).

- Keep a check on reports and printers that are under their supervision. For example, they should check that reports are being printed as scheduled, and that they are deleted when necessary.

- Make sure that new users are trained as appropriate. Be aware that users' skills, the frequency with which they use the report controller, and the tasks for which they use it all vary. For some users, printing may be automatic, if reports are created in READY status, and report and printer characteristics are always the same. Other users, such as those who print a variety of reports on different kinds of paper, will use more of the report controller.

Using the tutorial

The Part 2, "Tutorial" on page 9 is to help new users to learn the basic principles of using the report controller. It is designed to be used at a terminal with a set of sample reports. The tutorial covers only the reports and printers options, but the JCL reports (jobs) and transient data queues sections are structured in a similar way, and users of these options should have no trouble in applying what they have learned in the tutorial.

How much time to allow

Users should be given between one and two hours to work through the tutorial itself. They will need more time if they want to do extra reading, for example, Part 1, "Introducing the report controller" on page 1. This should take about half an hour. Some users may also want to follow up references to more detailed information in the sections Part 4, "Reports – reference information" on page 73 and Part 5, "Printers – reference information" on page 99 while they are working through the tutorial. These users will also need more time. You may also want to allow either more time, or a separate session, for users to experiment further with the sample reports, for example using some of Part 3, "Day-to-day tasks" on page 53. However, if users use Part 3, "Day-to-day tasks" on page 53 with the sample programs, they should be aware that not all the situations described can be set up for them to try (for example, a paper jam).

What is needed for the tutorial

Users need the following to do the tutorial:

- A printer that is:

    - Linked to CICS
    - Stopped, but is turned on and ready to print
    - Loaded with standard paper.

- The 4-character name of the printer.

- A 3270-type terminal that is linked to CICS.

- Instructions for signing on to CICS, including a user ID, and password.

The user ID can be used as the destination for the sample reports, as is shown in the examples given in Part 2, "Tutorial" on page 9. **Make sure users know what to use as a destination if your organization is not using user ID in this way**. If your organization uses signon and signoff, you can give your users the instructions under "Signing on to CICS" on page 148 and "Signing off from CICS" on page 151. If your organization does not use signon and signoff, make sure your users know what they **should** use.

Signing on to CICS

You probably start from a panel with a logo that tells you the name of the computer system you are using. This is shown, for example, in Figure 71.

```
 WELCOME TO CICS 12:19:33




                 ******\  ******\  ******\   ******\
                ********\ ******\ ********\ ********\
                **\\\\**\   **\\\ **\\\\**\ **\\\\**\
                **\    \\   **\   **\    \\ **\    \\
                **\        **\   **\       *******\
                **\        **\   **\        *******\
                **\        **\   **\          \\\\**\
                **\   **\  **\   **\   **\ **\   **\
                ********\ ******\ ********\ ********\
                 ******\\ ******\  ******\\  ******\\
                  \\\\\\   \\\\\\   \\\\\\    \\\\\\ TM
```

Figure 71. WELCOME TO CICS panel

- Press the CLEAR clear to get a blank screen.
- Type the letters cesn, as shown in Figure 72 on page 149, and press ENTER.

```
cesn
```

Figure 72. Using CESN

You get a panel like the one shown in Figure 73.

```
                            Signon for CICS                  APPLID CICSA1

   WELCOME TO CICS



   Type your userid and password, then press ENTER:

          Userid . . . .              Groupid . . .
          Password . . .
          Language . . .

      New Password . . .





   DFHCE3520 Please type your userid.
   F3=Exit
```

Figure 73. CESN sign-on panel

- Next to `Userid`, type the user ID that your supervisor has told you to use for this tutorial.

- Next to `Password`, type the password that your supervisor has told you to use for this tutorial.

- Next to `Language`, type the letter for the language you work in, for example `E` for English, `G` for German, or `K` for Kanji.

Note: The New Password field is displayed only if YES has been specified on the EXTSEC system initialization parameter when bringing up CICS.

When you type the **password**, the cursor moves, but no characters appear on the screen. This is to prevent anyone else from seeing what you type, and then using your user ID and password to gain access to the computer system.

- Press ENTER.

You get a screen like the one in Figure 74.

```
    DFH3504 14:51:54 SIGN-ON IS COMPLETE (LANGUAGE E).
```
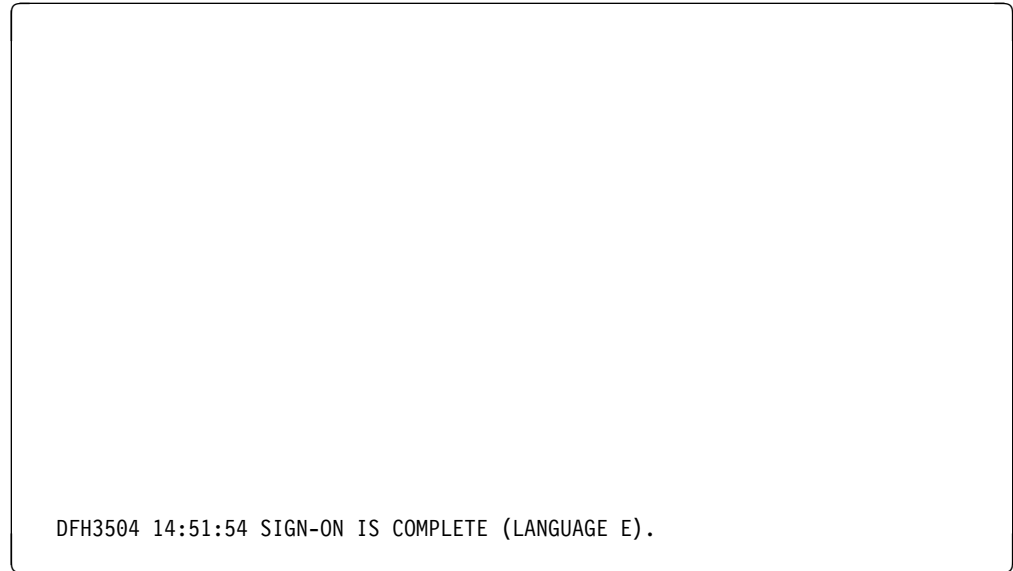
Figure 74. SIGN-ON IS COMPLETE panel

You have now signed on to CICS, and can begin using the tutorial, starting from "Getting some sample reports" on page 12.

Signing off from CICS

To sign off from CICS:

- Press the CLEAR key and then type cesf, as shown in Figure 75.

```
  cesf
```
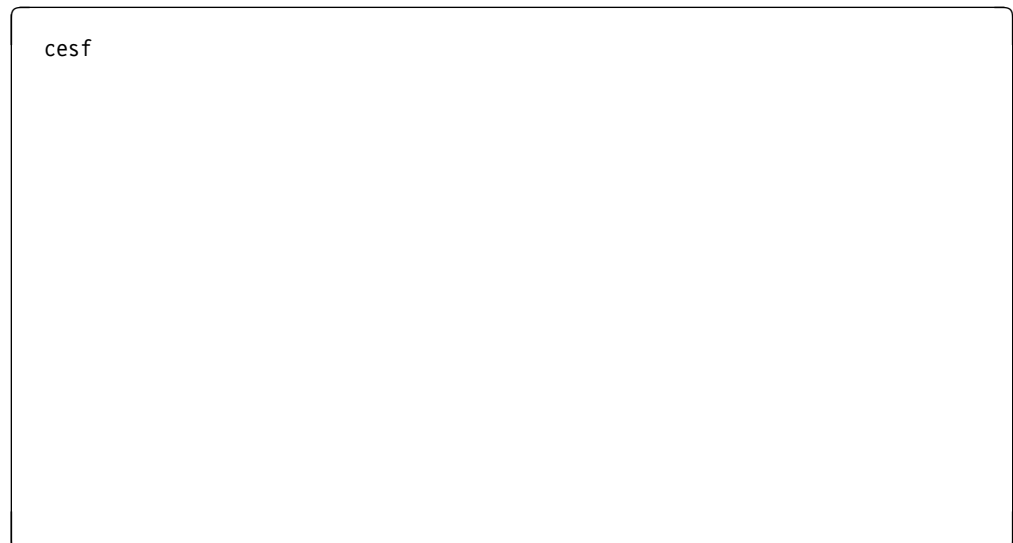
Figure 75. Signing off

- Press ENTER, and you get the message shown in Figure 76 on page 152.

```
   DFH3506I 16:42:55 SIGN-OFF IS COMPLETE
```

Figure 76. SIGN-OFF IS COMPLETE panel

Questions that users may ask during the tutorial

This section deals mainly with any unexpected responses that users may get while using the tutorial with the set of sample reports.

Clearing the screen

If the user has pressed CLEAR and the screen has not cleared, they may not have pressed ALT at the same time as CLEAR, or the keyboard may have locked, in which case they should press RESET.

No response from terminal

If there is still no response, there may have been a computer system failure. Contact the DP Center and ask if this is so. Find out how long it is likely to last and advise your users whether to wait or to turn off their terminals.

If a user had already created the sample reports when the computer system failed, you should delete these reports when the computer system is available again. See "Deleting the sample reports" on page 50. This is important, because if these unwanted sample reports remain in the computer system, they could either confuse a new user who is using the tutorial or be listed by users who are using the report controller with their own reports.

No message telling them sample reports created

If a user does not get a message telling them that their sample reports have been created (like the one shown in Figure 7 on page 13):

- Check that they signed on correctly

- Check that they typed srep to get the sample reports

- Check with your system programmer that the sample program is installed and working. There are versions of the sample program in a number of languages, see the *CICS Report Controller Planning Guide* for a list of program names.

Report controller not available

A user has successfully created the sample reports using the SREP transaction. They have typed the CEOS transaction, but have received a message saying the report controller is not available. If the computer system has failed, find out how long it will be unavailable, and advise the user whether to wait or to turn the terminal off. When the report controller is available again, you can either:

- Tell the user to start the tutorial again; or

- Start a session with the report controller yourself and delete the sample reports, using the instructions in "Deleting the sample reports" on page 50.

No sample reports listed

If the user gets a message saying that there are no reports that match what was typed, make sure that the destination being used is exactly the one given in the message indicating that their sample reports had been created. Tell the user to type that destination on the REPORT SELECTION panel, and press ENTER. If the same message is displayed again, the user should press PF3 twice to end the session, go back to "Getting some sample reports" on page 12, and try getting some sample reports again.

More than 36 reports in the report list

Make sure that the user typed a correct destination when requesting the REPORT LIST panel. If the user did not type a destination, then every report in the report controller is listed. In this case, tell the user to go back to the REPORT SELECTION panel, type the correct destination, press ENTER, and carry on with the tutorial.

If the user did type the correct destination, this probably means that someone else has been using some sample reports with the same destination, and has not deleted them when they finished. In this case, before the user continues with the tutorial, you should delete all the reports in the list, using the instructions in "Deleting the sample reports" on page 50.

Printer status is not STOPPED

Find out if someone else is using this printer. When they have finished, check the status of the printer again, using the PRINTER LIST panel, and change it to STOPPED, if it is not already. (If the printer status is PAUSED, you have to type a 9 for Resume after you have requested it to stop.)

What users need to know for day-to-day use of the report controller

Users need to know the following:

- How to operate the printer, including:

    - Turning it on and off
    - Changing and loading paper
    - Changing a printer ribbon
    - Sorting out a jammed printer.

    You should refer to the appropriate printer manuals for information about operating printers.

- Information they need to give the report controller:

    - Names of reports they can use
    - Names of destinations they can use
    - Names of printers that use these destinations
    - Changes they can make to destinations
    - Which paper to load for which forms type.

- Persons to contact if they need help.

Refer users to Part 9, "Your own information" on page 143, where they can note names, destination, and so on.

Restrictions on changes users can make to characteristics

Users need to know what changes they can make to forms type, class, and destination, and what effect these changes have.

Forms type

Make sure users know which forms type gives which kind of paper. They also need to know what kind of paper standard paper is (that is, where forms type is blank on report controller panels).

Class

Make sure users know which classes they should use, what changes they can make to report and printer class, which classes (if any) have special purposes in your organization, and what these purposes are. For example, some classes may be attached to particular printers, or particular kinds of paper, or a particular class might be used only for new users who are working on the tutorial.

Destination

You should tell users the destinations they can use, and what changes they can make. For example, a particular destination may be used for all of a department's printing, or for reports that are printed on a printer that has special features, such as fast printing.

Questions arising from day-to-day use of the report controller

This section deals with questions users may have when they are using the report controller to do their work.

Computer system failure

You should contact the DP Center to find out which part of the computer system has failed, and how long it is likely to be unavailable. Advise users whether they should wait or turn off the terminal and printer and do other work.

Security

In CICS Transaction Server for VSE/ESA, Version 1 Release 1, the internal security scheme using numeric keys (RSLC) has been removed; all security checks are now performed using an external security manager (ESM).

CICS resources such as printers, transient data queues, etc. are defined by name to the ESM. In a similar way, users are also defined to the ESM in a profile which describes the resources which they have authority to access. Each time a user attempts to access a particular resource, the ESM checks if this is permitted. If not, the user cannot access a resource within a report controller option (a report, printer, JCL report (job), or transient data queue) which the user should be authorized to use. Access authority can be changed by the security administrator who would add the appropriate resource name to the user's profile.

Printers must be authorized for reports

If a printer is started that has a class and destination that match those of a particular report, the printer can only print that report if it is authorized to do so by the ESM. If the printer is not authorized, then the report is given ERRPRT status. If this happens, the report status can be changed back to READY, and the report can be printed on a different printer. (If the user who started the printer that caused the ERRPRT status is not authorized to use that report, the change must be made by a user who is authorized to alter the status of that report.) Users should be aware that some reports cannot be printed on certain printers, and that they may find reports in ERRPRT status if another user has tried to print them on the wrong printer. They should know what to do about reports in ERRPRT status. For more information, see "Report in ERRPRT status" on page 68.

Users should also be aware that printer security authorization may not be the same if they are working in a different location. They will be able to get access to the same reports as usual (with the CEOS or CEMS transaction) if they are using signon, but they may not be able to print anything using the local printer at that location. Even if they have been authorized to start the printer (or if someone else has started it for them), the printer may not have the matching authority for their reports. If the reports do have ERRPRT status in such a situation, this is probably the cause. The security administrator should check the authorities for the reports and printer concerned, and make the appropriate changes if necessary.

Date format on panels and printed reports

The date can be displayed on report controller panels and on printed reports in one of the following orders:

month/day/year (for example, 04/28/99 for April 28 1998)
day/month/year (for example, 28/04/99 for 28 April 1998)
year/month/day (for example, 99/04/28 for 1999 April 28).

The order is shown on the report controller panels as mm/dd/yy, dd/mm/yy, or yy/mm/dd. The order is specified by your system programmer in the system initialization table, and is the same for all reports and report controller panels.

Defaults

Defaults (that is, the value the report controller uses for any characteristic that the user does not type on a CHARACTERISTICS panel) are displayed on report controller CHARACTERISTICS panels wherever they apply. The default for forms type is blank, which means standard paper. If you think any default needs to be changed, ask your system programmer.

Formatting information on second REPORT CHARACTERISTICS panel

The second REPORT CHARACTERISTICS panel gives details about the report that you may need to give to your system programmer if users have problems or questions about a particular report. This information is described in detail under "Information on the second REPORT CHARACTERISTICS panel" on page 94. You may need to make a note of some or all of it to give to your system programmer. For **printing** questions, the information under the following headings may be useful:

Recovery, Format, Noconv, Page size, Line length
Page Head/Foot, Date/time, Printfail, Mapname, Mapset, Escape.

Printer status is PRINTING (ERROR) or PAUSED (PRINTER)

The printer status is PRINTING (ERROR). This status occurs before PAUSED (PRINTER) when an error has been detected, or when Resume has just been used after a printer error. After a few moments, the printer status should change to PAUSED or PRINTING. If it does not change, check the printer to see whether it is turned on, or whether it is jammed. If the printer is alright, there may be a computer system failure, or some other fault. Contact your DP Center to find out whether the computer system has failed. Find out how long it will take before it is working again, and advise users what to do.

Printer OUT OF SERVICE

Users cannot change this status using any of the report controller panels. If the printer status is OUT OF SERVICE, contact an authorized person (usually someone authorized to use the master terminal transaction CEMT), and ask them to put the print in service, if possible. They will need the name of the printer. Tell users if the printer **cannot** be put in service.

Printer status is UNAVAILABLE

This status means that some part of the computer system other than the report controller is using the printer. The status changes when the printer is no longer being used. However, if the part of the computer system that is using the printer fails, the printer status remains UNAVAILABLE. You should ask someone who is authorized to use the master terminal transaction CEMT to find out why the printer is in this status.

Reports in ERRPRT status

Users are told that if they have a report in ERRPRT status, they can change its status to READY when they want to print it. The report is then either deleted or changes to HELD status in the usual way. They are advised to leave a report in ERRPRT status until they want to print it. It remains on the REPORT LIST panel just as it would in HELD status. Also, seeing a report in ERRPRT status on the REPORT LIST panel is a useful reminder that it needs further attention if you cannot deal with it immediately.

You can change the status of an ERRPRT report to HELD if necessary. However, if you do this, and then print the report successfully, its status may change to HELD after it has been printed. It may be important that this does not happen to certain reports. Reports can be created with such a status (HELD(H) and READY(D)) that they are deleted as soon as they have been printed, to make sure that they are printed only once. For example, numbered order forms, or reports that contain confidential information. Make sure your users know which reports (if any) they can change to HELD from ERRPRT.

Reports remain in ERRPRT status

You should contact your system programmer if a report remains in ERRPRT status after a second attempt to print it. There may have been some problem with the report controller or with the printer.

There may have been some problem with a BMS map or an ESCAPE program report. To find out whether a report was printed using either of these and, if so, what their names are, look at the second REPORT CHARACTERISTICS panel. Ask your system programmer to make sure that these programs are available and are functioning correctly.

Reports in ERRCRT status

This status means that an error occurred when the report was being created. This may have been caused by an error in the report itself, or by a computer system failure. Users can change an ERRCRT report status to READY and print the report again. This can be useful if whoever created the report wants to see where the report stopped printing to help them find out where the error occurred before they re-create the report.

A report can only change to ERRCRT status if it had **physical recovery** specified when it was created. (To find out which kind of recovery a report has, look next to Recovery on the second REPORT CHARACTERISTICS panel.) If a report had **logical recovery** specified, it does not appear on the REPORT LIST panel if an error occurred when it was being created.

Reports deleted accidentally or deleted when printed

If a user deletes a report accidentally, it may have to be re-created. You can find out who deleted a report, and when, by asking your system programmer to print the CSPA audit trail, which contains the characteristics of every report that has been changed. However, if your computer system uses POFFLOAD, it may be possible to retrieve the deleted reports. Ask your system programmer if your computer system uses POFFLOAD. (A **VSE/POWER**[10] command used if there is a computer system failure.) It puts the reports onto tape at regular intervals (for example, overnight). If the computer system does use POFFLOAD, give your system programmer the names and numbers of the deleted reports that need to be retrieved. If your computer system does not use POFFLOAD, ask whoever created the report to re-create it. You can find out who created a report by looking at the second REPORT CHARACTERISTICS panel.

Two kinds of separator pages

There are two kinds of separator pages. One is the kind produced by the report controller. The other is the kind produced by VSE/POWER.

Computer system information from report controller separator pages

The separator pages produced by the report controller are described fully under "Report controller separator page sizes" on page 91, and "Information about report controller separator pages" on page 92. In addition to report and printer information, a separator page contains some information about the computer system. This is:

- The name of the node in the computer system at which the report was printed.

- The name of the node in the computer system at which the report was created.

- The name of the computer job used to create the report.

- The number given to the report by the computer job, if any. If the computer job did not give a number to the report, it is the same as the one given by the report controller.

- For **non-CICS created reports** only, the forms control buffer (FCB) image phase used during printing.

This is described in detail under "Information about report controller separator pages" on page 92. If your users have problems or questions about printing reports, your system programmer may want some, or all of the information printed on the separator page.

VSE/POWER separator pages

For reports printed on printers that have the destination **SYSPRT, the separator pages are those produced by VSE/POWER. If you want to know more about the size of these separator pages and what is printed on them, see the *VSE/POWER Administration and Operation Guide*.

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[10] VSE/POWER is a part of the computer system that controls spooling, job queuing, and input and output of data. It is documented in the *VSE/POWER Administration and Operation Guide*.

Reports created in READY or HELD status

The information in this section applies to **CICS-created reports**. See "Non-CICS created reports" for information about that kind of report.

The advantage of using reports that are created in `READY(D)` status is that printing and deletion can be done automatically. That is, if reports are always created with a certain class, destination, and forms type, and there is a printer that always has the same class, destination, and forms type, these reports are printed whenever that printer is started. As soon as each of these reports has been printed, it is deleted automatically. This is useful if you have reports that must only be printed once, for example, invoices, or confidential information.

The advantage of creating reports in `HELD(L)` status is that users can decide when they are deleted, because these reports return to `HELD(L)` status instead of being deleted after they have been printed.

Having reports created in `READY(K)` status so that they change to `HELD(L)` status when they have been printed is particularly useful if you want to print things more than once, because they do not have to be re-created. You can also print a report and then send it for printing again at another destination. When this report has been printed, and its status has changed back to `HELD(L)`, you can change its destination and send it for printing by someone else rather than sending them paper copies of the report. (They must have a printer with a security key that matches the report for the report to be printed. See "Printers must be authorized for reports" on page 156 for more information about report and printer security keys.)

Whether reports are deleted when they have been printed depends on the **disposition** given to them when they were created. For `READY` reports, a disposition of `D` means that they are deleted when printed, and a disposition of `K` means that the status changes to `HELD(L)` when printed. For `HELD` reports, a disposition of `H` means that they are deleted when printed, and a disposition of `L` means that their status changes back to `HELD(L)` when printed. Reports for your organization may always be created in the same way. If you need to know which kind of reports your organization uses, ask your system programmer.

CICS and non-CICS reports and printers

This section discusses CICS-created reports, non-CICS created reports, and CICS-controlled and non-CICS controlled printers.

Non-CICS created reports

"Reports created in READY or HELD status" applies to **CICS-created reports**. What happens to **non-CICS created** reports after they have been printed depends on the characteristics given to individual reports when they were created. This depends on the VSE/POWER keywords that were used by whoever created the report.

Some characteristics are not displayed on the report controller panels for non-CICS created reports. These are mentioned in Part 4, "Reports – reference information" on page 73. Users are also told to look for the title `NON-CICS CREATED REPORT`.

Reports printed on non-CICS controlled printers

If a report is to be printed on a non-CICS controlled printer, users cannot change the page on which printing starts or ends, or whether separator pages are printed; nor can they use the RESTART PRINTER panel. Users are also told to look for the destination ∗∗SYSPRT on the REPORT LIST panel. System printers with this destination are not displayed on the PRINTER LIST panel because they cannot be controlled using the report controller.

However, if the destination name ∗∗SYSPRT does appear on the PRINTER LIST panel, this means that it is a CICS-controlled printer that users can control using the report controller panels. This kind of printer also has fast printing and larger buffers. Larger buffers mean that any numbers on the report controller panels that are updated as printing progresses (for example, Last page printed) are updated sooner and therefore give users more current information.

Generally, reports that need the control over printing that the report controller allows should be printed on CICS-controlled printers. Reports that have a special format, such as those using BMS map name, BMS mapset, or ESCAPE programs must also be printed on CICS-controlled printers. System printers may be more useful for many long reports that need to be printed quickly.

For information about **separator pages** for reports printed on non-CICS controlled printers, see "VSE/POWER separator pages" on page 159.

Destination name LOCAL

If your organization uses the destination name LOCAL, it is displayed as ∗∗SYSPRT on report controller panels, because it means a system printer.

information for supervisors

Glossary

A

align forms. A test print of pages of a report to check that newly loaded paper is lined up correctly. All letters are printed as Xs and all numbers as 9s. Displayed on the PRINTER LIST panel.

align pages. The number of pages (1 through 99) to be printed when using align forms. If no number is given, the report controller prints one page. Displayed on the PRINTER CHARACTERISTICS panel.

ALIGNING. A printer status. The printer is currently aligning forms. You must wait for the printer to go back to PAUSED status before you can use it. Displayed on the PRINTER LIST and PRINTER CHARACTERISTICS panels. See also **align forms**.

alphanumeric. Letters A through Z and numbers 0 through 9. See also **nonalphanumeric** and **USERDATA**.

AVAILABLE. The status a transient data queue is in before the records currently in it have been used to create a report. Displayed on the TRANSIENT DATA QUEUE LIST and TRANSIENT DATA QUEUE REPORT CHARACTERISTICS panels.

B

background. Computers can use a background and foreground system to organize their tasks. That is, tasks that do not need any further input from users, such as printing (which is also time-consuming), are done in the background, while those that do need input from users are done in the foreground. The foreground gets priority for the computer's attention. Background tasks are suspended for the short time it takes the computer to do a foreground task.

batch. A way in which a computer deals with its work. All the information needed to do a particular job is grouped together and loaded into the computer. The computer then runs the job without needing any more instructions or data.

BMS. Basic mapping support. Allows for special report formats. See also **ESCAPE**, **map name**, and **mapset**.

BOTH. If the BOTHNUM option is specified when the report is created, the report controller automatically adds page numbering to the line printed at the top and bottom of each page of the report (see the *CICS Report Controller Planning Guide*). Displayed as BOTH on the second REPORT CHARACTERISTICS panel. See also **footing, page**, and **heading, page**.

browse. A facility that allows you to look at reports. You can only look at certain types of report, for example you cannot browse JCL reports (jobs).

buffer. Printers get data from the report controller faster than they can print it. The buffer is where this data is stored while it is waiting to be printed.

bulk change. A way of making the same changes to many reports or JCL reports (jobs) together instead of requesting a separate CHARACTERISTICS panel for each one. Used on these panels: REPORT LIST - BULK CHANGE, BULK CHANGE REPORT CHARACTERISTICS, JCL REPORT LIST - BULK CHANGE, and BULK CHANGE JCL REPORT CHARACTERISTICS.

C

card images. A set of records of programming instructions needed by the computer to run a job.

CARDS. The number of card images in a JCL report (job). Can be 1 through 65535 . Displayed on these panels: JCL REPORT LIST, JCL REPORT CHARACTERISTICS, and JCL REPORT LIST - BULK CHANGE. See also **card images**.

carriage control characters. A special character in a report that determines how many lines should be skipped before the next line is printed.

CEMS. A transaction that tells the computer that you want to use the report controller. CEMS gives you the reports, printers, JCL reports (jobs), and transient data queues options.

CEOS. A transaction that tells the computer that you want to use the report controller. CEOS gives you the reports and printers options.

characteristics. Characteristics make up descriptions of reports, printers, JCL reports (jobs), and transient data queues. They are displayed on: (a) SELECTION panels, where they can be used to request lists, (b) LIST panels, where they give information, and (c) CHARACTERISTICS panels, where they can be changed.

CICS. The computer program that contains the report controller. CICS (Customer Information Control System) is a general purpose data communication system that can support a network of many hundreds of terminals, and help to make the best use of the computer's resources.

class. An identifier A through Z and 0 through 9 for reports, printers, and JCL reports (jobs). Class groups reports for printing, and identifies the reports a printer is to print. When the class on the report and the printer match, all the reports of that class that are in READY status are printed in order of priority. Displayed on SELECTION, LIST, and CHARACTERISTICS panels.

CLS. Class of report, as displayed on REPORT LIST panels. See **class**.

copies. The number of copies of a report to be printed. Displayed on the REPORT CHARACTERISTICS and REPORT CHARACTERISTICS BULK CHANGE panels.

CPY. The number of copies of a report to be printed. Displayed on the REPORT LIST panels.

criteria. The characteristics and statuses that you type on a SELECTION panel to choose what is displayed on a LIST panel. Displayed on CICS REPORT CONTROLLER panel, and on SELECTION and SELECTION - HELP panels.

cursor. The small underscore or square on your screen that shows you where the next character you type will appear.

D

date. See **from date** and **to date**.

date/time. This can be YES or NO according to whether the date and time a report was created is printed in the heading line when that report is printed. Displayed on the second REPORT CHARACTERISTICS panel.

default. Defaults are values for some report, printer, JCL report (job), or transient data queue characteristics that are stored in the report controller. When you press ENTER on a CHARACTERISTICS panel, the report controller automatically uses a default for any characteristic that you do not change, if that characteristic **has** a default. Defaults are displayed on CHARACTERISTICS panels in the spaces after each characteristic they apply to. Blank spaces mean that there is no default, except for Userdata, which defaults to title (or to name, if there is no title) for reports, JCL reports (jobs), and transient data queues.

delete. Applies to reports and JCL reports (jobs) only. Allows you to remove them when they are no longer needed. Displayed on the REPORT LIST and JCL REPORT LIST panels.

destination. An identifier of up to 8 characters. For a report, the destination is where it is printed. For a printer, the destination is the name of the group it is assigned to. There can be one or more printers in the group. Some possible destinations are: the name of a

department (for example, ACCOUNTS), or your name, or an identifier (often known as a userid) that you may use when you work on the computer. Changing the destination of a report lets you rearrange your printing. Displayed on SELECTION, LIST, and CHARACTERISTICS panels. See also **printer name**.

disposition. A characteristic of reports that reflects the status of the report. The disposition can indicate what happens to the report on printing, or whether there was an error on creation or printing. Reports can be created, for example, with a disposition of D (delete after processing), H (hold job), K (keep after processing) or L (leave in queue).

E

EMPTY. The status a transient data queue is in before any data has been sent to it, or after it has been used to create a report. The information in a transient data queue is destroyed in being read, and so there are no records left in the queue. Displayed on the TRANSIENT DATA QUEUE LIST and TRANSIENT DATA QUEUE REPORT CHARACTERISTICS panels.

end page. The page on which printing is to end. You can use it to print selected pages of a report. Displayed on the REPORT CHARACTERISTICS panel. See also **start page**.

ENTER. The name of the key you press to communicate with the report controller. Pressing ENTER sends what you have typed on a panel (if anything) to the report controller. Anything you type on your screen is not sent to the computer until you press ENTER. The report controller responds by displaying another panel or issuing a message.

ERRCRT. A report status that means an error occurred when a report was being created. This may be an error in the report itself, or a computer system failure. Displayed on the REPORT SELECTION panel (as Error creating), the REPORT LIST panel under STATUS, and on the REPORT CHARACTERISTICS panel. See also **ERRPRT**.

ERRPRT. A report status that means an error occurred when a report was being printed. This may be because the printer was not authorized to print the report, because printing was stopped part-way through printing a report, or because there was a printer failure of some sort. Displayed on the REPORT SELECTION panel (as Error printing), the REPORT LIST panel under STATUS, and the REPORT CHARACTERISTICS panel. See also **ERRCRT** and **PRINTFAIL**.

ESCAPE. The ESCAPE program that may be used by the printing program to format a report. ESCAPE allows for special formats and graphics. If used, it is

displayed on the second REPORT CHARACTERISTICS panel. See also **BMS, map name, and mapset**.

F

FOOT. If FOOT is specified when the report is created, the report controller automatically adds page numbering to the line printed at the bottom of each page of the report. Displayed on the second REPORT CHARACTERISTICS panel. See also **footing, page**.

footing. A line that is printed at the bottom of every page of a report. It is specified when the report is created. See also **FOOT**.

format. How a report is set out on a page. This is specified for each report when it is created. Displayed on second REPORT CHARACTERISTICS panel.

forms. A name of up to 4 characters for a type of paper. It can be plain paper or a preprinted form. On REPORT panels, it shows the kind of paper a report must be printed on. (This is specified when the report is created, and cannot be changed.) On PRINTER panels, it shows the kind of paper that is currently loaded on the printer. See also **align forms, PAUSED (FORMS "xxxx")**.

forms control buffer (FCB). A buffer for controlling the vertical format of printed output. See **buffer**

from date. Displayed on the REPORT SELECTION, and JCL REPORT SELECTION panels, where it can be used to get lists of reports created *on or after* a certain date. See also **to date**.

function key. See **PF key**.

H

HEAD. If HEAD is specified when the report is created, the report controller automatically adds page numbering to the line printed at the top of each page of the report. Displayed on second REPORT CHARACTERISTICS panel. See also **heading, page**.

heading. A line that is printed at the top of every page of a report. It is specified when the report is created. See also **HEAD**.

HELD. A report or JCL report (job) status. Reports and JCL reports (jobs) can be created or given HELD status, and cannot then be printed or run without being given READY status. A report or JCL report (job) can also return to HELD status *after* being printed or run. Displayed on the REPORT LIST, REPORT LIST - BULK CHANGE, JCL REPORT LIST - BULK CHANGE, BULK CHANGE REPORT CHARACTERISTICS, BULK CHANGE JCL REPORT

CHARACTERISTICS, REPORT CHARACTERISTICS, and JCL REPORT CHARACTERISTICS panels.

I

IN USE. A report and JCL report (job) status. It means that a report is currently being printed or is being used by another part of the computer system, or that a JCL report (job) is currently being created or run. Displayed on the REPORT LIST, REPORT LIST - BULK CHANGE, JCL REPORT LIST - BULK CHANGE, BULK CHANGE REPORT CHARACTERISTICS, BULK CHANGE JCL REPORT CHARACTERISTICS, REPORT CHARACTERISTICS, and JCL REPORT CHARACTERISTICS panels.

J

JCL. Job control language. A set of commands with which an operator can set up the computer system for a particular processing run. See also **JCL report** and **job**.

JCL report (job). A report that consists of job control language, to be run as a batch job. See also **batch**, **JCL**, and **job**.

job. See **JCL**, **JCL report**, and **VSE/POWER**.

L

line length. The maximum length of each line of a printed report. It can be up to 205 characters. Displayed on the second REPORT CHARACTERISTICS panel.

M

map name. The BMS map name that can be used to format a report. It allows for special report formats. If used, it is displayed on the second REPORT CHARACTERISTICS panel. See also **BMS**, **ESCAPE**, and **mapset**.

mapset. The BMS mapset that can be used to format a report. It allows for special report formats. If used, it is displayed on the second REPORT CHARACTERISTICS panel. See also **BMS**, **ESCAPE**, and **map name**.

N

NOCONV. If displayed, this means that the NOCONV (no conversion) option was specified when the report was created. It allows for special formats and is used to print reports that need special printing features, such as color. Displayed on the second REPORT CHARACTERISTICS panel.

nonalphanumeric. Characters on your keyboard other than letters A through Z, and numbers 0 through 9. For example: @ # $ - . and / . See also **alphanumeric** and **USERDATA**.

number. A 5-digit number is automatically given to each report and JCL report (job) by the report controller to identify it uniquely. It can be used on the REPORT SELECTION panel to list a report. Displayed on the REPORT LIST and REPORT CHARACTERISTICS panels under STATUS, and (when a report is being printed) on the PRINTER LIST and PRINTER CHARACTERISTICS panels. It is printed on the separator pages, if the report has any. For JCL reports (jobs), it can be used on the JCL REPORT SELECTION panel to get lists of JCL reports (jobs). Displayed on the JCL REPORT LIST and JCL REPORT CHARACTERISTICS panels under STATUS.

O

online. Connected to and communicating with a computer.

OPT. The heading of a column on LIST panels in which you can type a single number to get to; (a) the REPORT CHARACTERISTICS panel, or to print, delete, or hold a report; (b) the PRINTER CHARACTERISTICS panel to start a printer, get to the RESTART PRINTER panel, or to start forms alignment, stop a printer now, after copy, or after report, or to put a printer into PAUSE or RESUME status; (c) the JCL REPORT CHARACTERISTICS panel, or to print, delete, or release (run) a JCL report (job); or (d) the TRANSIENT DATA QUEUE REPORT CHARACTERISTICS panel. The OPT column also displays the results of changes you have made. An asterisk (*) in the OPT column means that you have looked at or successfully changed a report, printer, JCL report (job), or transient data queue. A question mark (?) in the OPT column means that the report controller did not make a change that you typed.

OUT OF SERVICE. A printer status. The printer is not available for use, and an authorized person must be contacted to put it in service. Displayed on the PRINTER LIST, and PRINTER CHARACTERISTICS panels.

P

page head/foot. This tells you whether a report is printed with automatic page numbering on the heading and footing lines. It can be HEAD, FOOT, BOTH, or NONE. Displayed on the second REPORT CHARACTERISTICS panel.

page size. Number of lines on each printed page of a report. It can be 0 through 99. It includes the page footing and heading, both of which have a blank line with them (after the heading and before the footing).

Displayed on the second REPORT CHARACTERISTICS panel.

PAGES. The number of pages in a report. For a report created using NOCONV, or one to be printed using BMS maps or an ESCAPE program, the number displayed is the number of *records*. Displayed on the REPORT LIST, REPORT LIST - BULK CHANGE, BULK CHANGE REPORT CHARACTERISTICS, and REPORT CHARACTERISTICS panels.

panel. The report controller information that is displayed on a terminal screen at any one time (for example, the CICS REPORT CONTROLLER panel). A panel can have more than one "page" (for example, LIST panels).

PAUSED. Printer status that occurs when a printer has been temporarily interrupted. Its STATUS may have been changed to PAUSED by a user of the report controller or by the report controller itself. Displayed on the PRINTER LIST and PRINTER CHARACTERISTICS panels. See also **PAUSED (FORMS "xxxx")**, **PAUSED (OPERATOR)**, and **PAUSED (PRINTER)**.

PAUSED (FORMS "xxxx"). Printer status that occurs when a printer has been temporarily interrupted for a forms change. The forms type that has been requested is xxxx. Displayed on the PRINTER LIST, and PRINTER CHARACTERISTICS panels. See also **PAUSED**, **PAUSED (OPERATOR)**, and **PAUSED (PRINTER)**.

PAUSED (OPERATOR). Printer status that occurs when a printer has been temporarily interrupted by a user of the report controller requesting the printer to pause. Displayed on the PRINTER LIST and PRINTER CHARACTERISTICS panels. See **PAUSED**, **PAUSED (FORMS "xxxx")**, and **PAUSED (PRINTER)**.

PAUSED (PRINTER). Printer status that occurs when a printer has been temporarily interrupted because it requires user action to fix an error. Displayed on the PRINTER LIST, and PRINTER CHARACTERISTICS panels. See also **PAUSED**, **PAUSED (FORMS "xxxx")**, and **PAUSED (OPERATOR)**.

PF key. (Also called a *function key*.) A key on your terminal keyboard that has a particular function attached to it. All you need to do to is to press a PF key once to perform the function you want; for example, pressing PF1 gets you a help panel. Pressing a PF key does not send the changes you type on a panel (if any) to the report controller. To do this, you must press ENTER. See also **ENTER**, **PF1**, **PF3**, **PF6**, **PF7**, and **PF8**.

PF1. In the report controller, pressing PF1 gets you a panel of help information for the panel you are using.

PF3. In the report controller, pressing PF3 on a panel gets you back to the previous panel.

PF6. In the report controller, pressing `PF6` when you are on either the `REPORT LIST` panel or the `JCL REPORT LIST` panel gets you to the `REPORT LIST - BULK CHANGE` or to the `JCL REPORT LIST - BULK CHANGE` panel, where you can choose a list of reports, or JCL reports (jobs), to which you want to make the same changes.

PF7. In the report controller, pressing `PF7` gets you to the previous panel in a list, or back to the first of two `CHARACTERISTICS` or `HELP` panels.

PF8. In the report controller, pressing `PF8` gets you to the next panel in a list, or to the second of two `CHARACTERISTICS` or `HELP` panels.

VSE/POWER. A part of the computer system that controls spooling, job queuing, and input and output of data. See also **spooling**.

PRI. Priority of report and JCL report (job), as displayed on `REPORT LIST` and `JCL REPORT LIST` panels. See **priority**.

printer name. A 4-character name that identifies a particular printer. Displayed on `PRINTER SELECTION`, `PRINTER LIST`, `PRINTER CHARACTERISTICS`, and `RESTART PRINTER` panels. See also **destination**.

printer sharing. A facility of the report controller that allows printers to be shared with other users of the computer system. Printers can be shared only if sharing is defined for them when the CICS system is set up.

PRINTFAIL. Can be `YES` or `NO`. If it is `YES`, a user of the report controller must intervene to recover from the printer failure. It is a security measure to stop a report being reprinted automatically if a printer fails. If it is `NO`, CICS attempts to recover from the printer failure. If recovery is successful, printing continues. If it is not, the report goes into `ERRPRT` status. See also **ERRPRT**.

PRINTING. Printer status meaning that the printer is currently printing a report. Displayed on the `PRINTER LIST` and `PRINTER CHARACTERISTICS` panels. See also **PRINTING (ERROR)** and **PRINTING (STOPPING)**.

PRINTING (ERROR). Printer status that occurs before the status `PAUSED (PRINTER)` when a printer error has been detected by the report controller, or when `RESUME` has just been used after a printer error. Displayed on `PRINTER LIST` and `PRINTER CHARACTERISTICS` panels. See also **PRINTING**, **PRINTING (STOPPING)**, and **PAUSED (PRINTER)**.

PRINTING (STOPPING). Printer status that occurs when a printer that is printing has received a request from the report controller to stop. When it has finished, the status changes to `STOPPED`. Displayed on the `PRINTER LIST`, and `PRINTER CHARACTERISTICS` panels.

See also **PRINTING**, **PRINTING (ERROR)**, and **STOPPED**.

priority. A number 1 through 9 that determines the urgency with which reports within a certain class are printed. The highest priority is priority 9.

Q

qualifier. A word that appears in brackets after some printer statuses. Helps to tell you why the printer has that particular status. Displayed on `PRINTER LIST` panel.

queue name. A name automatically given to a transient data queue by the computer system. Can be typed on the `TRANSIENT DATA QUEUE SELECTION` panel to get lists of transient data queues on the `TRANSIENT LIST` panel. Displayed under `QUEUE-NAME` on the `TRANSIENT DATA QUEUE LIST` and `TRANSIENT DATA QUEUE REPORT CHARACTERISTICS` panels.

R

READY. The status a report must have to be printed, or that a job must have to be run.

records. The number of items of data stored in a transient data queue. The maximum is 32 767. The records in a transient data queue are destroyed when that queue is used to create a report. The queue itself is not destroyed, but retains `EMPTY` status until more records are stored in it. Displayed on the `TRANSIENT DATA QUEUE LIST`, and `TRANSIENT DATA QUEUE REPORT CHARACTERISTICS` panels.

release. You type `release` on the `BULK CHANGE JCL REPORT CHARACTERISTICS` panel to change the status of a group of JCL reports to `READY`, or on the `TRANSIENT DATA QUEUE REPORT CHARACTERISTICS` panel to create a report in `READY` status.

RELEASED. Printer status that occurs when a printer is waiting for work. The printer is available for other users of the computer system but is not in use. See also **RELEASED (IN USE)**, **STARTING**, and **STARTING (IN USE)**.

RELEASED (IN USE). Printer status that occurs when another part of the computer system is using the printer. When the printer becomes free, reports can be printed again. See also **RELEASED**, **STARTING**, and **STARTING (IN USE)**.

report. A collection of information, that is capable of being printed. See also **JCL report**.

report name. A name (2 through 8 characters) given to a report when it is created. Displayed on the `REPORT LIST` and `REPORT CHARACTERISTICS` panels, and (when a

report is being printed) on the `PRINTER LIST` and `PRINTER CHARACTERISTICS` panels.

RESTART. Using the `RESTART PRINTER` panel, you can state which pages of a report you want a `PAUSED` printer to reprint. For example, if you notice that the printing on a report is faint, you can adjust the printer and then use the `RESTART PRINTER` panel to type the number of the page from which you want printing to restart. You then use `RESUME` to set the printer going.

RESUME. (1) A status a report can have if it is temporarily complete and can be added to later. (2) A request that sets a `PAUSED` printer going.

RSL. You can give a security key (RSL) to a report created from a transient data queue by typing either `public` or a number 1 through 24, next to `Security (RSL)` on the `TRANSIENT DATA QUEUE REPORT CHARACTERISTICS` panel. Displayed on the `TRANSIENT DATA QUEUE REPORT CHARACTERISTICS` panel. See also **security**.

S

security. Each user of the report controller, and each report, printer, JCL report (job), and transient data queue has a security key (a number 1 through 24 or `PUBLIC`). `PUBLIC` means that all users are authorized to see or change the report. Numbers 1 through 24 restrict access. When you ask for a list of reports, JCL reports (jobs), or transient data queues, you see all those that are available, but the report controller only allows you to change the characteristics or status of those that match your security key. When you ask for a list of printers, the report controller displays only those that match your security key. See also **RSL**.

separator page. A divider page printed at the beginning and end of reports to separate and identify them. On the `REPORT CHARACTERISTICS` and `TRANSIENT DATA QUEUE REPORT CHARACTERISTICS` panels you can type `yes` or `no` according to whether you want separator pages.

snapshot. Used to describe the information shown on `LIST` and `CHARACTERISTICS` panels. The information on these panels is like a snapshot because they show you the situation at the moment you ask for it. If another user makes changes, you cannot know what they are until you ask for a new panel. You can see changes that you make, because you are making them on your own "snapshot."

SOSI control sequences. Shift-out/shift-in (SOSI) control sequences cause suitable printers to switch to a different character set to allow the printing of special characters, for example, Japanese Kanji characters.

spooling. The report controller does this. The computer produces data faster than printers can deal with it. Spooling saves data temporarily on a computer storage disk until it can be printed. This means that the computer does not have to leave all its other activities while it deals with the slower task of printing. See also **VSE/POWER**.

SPOOLING. The status a transient data queue has while it is being used to create a report. Displayed on the `TRANSIENT DATA QUEUE LIST` and `TRANSIENT DATA QUEUE REPORT CHARACTERISTICS` panels.

SREP. A transaction that creates some sample reports for you to use with the tutorial section of this book.

start page. The page on which printing is to start. You can use it to print selected pages of a report. Displayed on the `REPORT CHARACTERISTICS` and `RESTART PRINTER` panels. See also **end page**.

STARTING. Printer status that occurs when a printer has had the `RELEASED` status and reports are now ready for printing on it. In this state the report controller is in the process of starting the printer again. See also **RELEASED**, **RELEASED (IN USE)**, and **STARTING (IN USE)**.

STARTING (IN USE). Printer status that occurs when a printer has had the `RELEASED` status, but another part of the computer system is using the printer. In addition, some reports are ready for printing, and will be printed when the printer becomes free. See also **RELEASED**, **RELEASED (IN USE)**, and **STARTING**.

STATUS. What is currently happening to a report, printer, JCL report (job), or transient data queue. Displayed on `LIST` and `CHARACTERISTICS` panels.

stop after copy. A request to the printer to stop after it has finished printing the *current copy* of a report. Displayed on the `PRINTER LIST` panel. See also **stop after report** and **stop now**.

stop after report. A request to the printer to stop after it has finished printing *all copies* of the current report. Displayed on the `PRINTER LIST` panel. See also **stop after copy** and **stop now**.

stop now. A request to the printer to stop immediately. Displayed on the `PRINTER LIST` panel. See also **stop after copy** and **stop after report**.

STOPPED. The status a printer has after it has completed a request to stop. Displayed on the `PRINTER LIST` and `PRINTER CHARACTERISTICS` panels. See also **PRINTING (STOPPING)**, **STOPPING**, **stop now**, **stop after copy**, and **stop after report**.

STOPPING. The status a printer has after a user of the report controller has requested it to stop. The

printer has received the request but has not yet completed it. It changes to PRINTING (STOPPING) (unless nothing is being printed) and then to STOPPED. Displayed on the PRINTER LIST, and PRINTER CHARACTERISTICS panels. See also **PRINTING (STOPPING)** and **STOPPED**.

supervisor. A user of the report controller who can use both the CEOS and CEMS transactions, and can help other users with any report controller-related problems or questions they may have. Supervisors should also know who to contact if there are problems with the report controller that are outside their control. They should keep a check on reports and printers that are under their supervision, and make sure that new users are trained as appropriate.

T

terminal. A screen and keyboard linked to a computer that you can use to communicate with that computer.

title. A title of up to 32 characters given to a report, JCL report (job), or transient data queue report when it is created. Displayed on CHARACTERISTICS panels and on separator pages. See also **USERDATA**.

to date. Displayed on the REPORT SELECTION and JCL REPORT SELECTION panels, where it can be used to get lists of reports created **on or before** a certain date. See also **from date**.

transaction. An instruction that you send to the computer by typing it on a blank screen and pressing ENTER; for example, the CEOS transaction.

transient data queue. A queue of data created in other parts of CICS, and from which a report can be created using the report controller.

U

UNAVAILABLE. Printer status meaning that a printer is temporarily not available for use because it is being used by some part of the computer system other than the report controller. Displayed on the PRINTER LIST, and PRINTER CHARACTERISTICS panels.

USERDATA. Userdata can be given to a report or JCL report (job) when it is created. It can be up to 16 characters. The characters allowed are A through Z, 0 through 9, and the nonalphanumeric characters: @ # $ - . and / .

Userdata can be used to give a description of the report. For example, the userdata SALES FIGURES 92 for a report named FIGURES. If no userdata is given to a *report* when it is created, it is automatically taken from the first 16 characters of the report title, or from the report name if the report has no title. If no userdata is given to a *JCL report (job)* when it is created, it is blank. If there are any nonalphanumeric characters other than @ # $ - . or / in the report title, they are displayed as blanks in the userdata. This is because they are allowed in the title, but not in the userdata. See also **title**.

user ID. A personal identifier (perhaps your name) that you can use to start a session of work with the computer. The user ID tells the computer which parts of the computer system you are authorized to use. For example, in the case of the report controller, it lets you change the characteristics of certain reports, JCL reports, and transient data queues, and list certain printers.

VSE/POWER. A part of the computer system that controls spooling, job queuing, and input and output of data. See also **spooling**.

W

WAITING. Printer status meaning that the printer is waiting for work; for example, for more reports of a particular class and destination to be changed to READY status. Displayed on the PRINTER LIST and PRINTER CHARACTERISTICS panels.

Tasks – quick reference

Use for quick reminders of how to do common tasks. Items point to more detailed information. If you do not find the task you want here, see "Index" on page 179. See map diagrams shown at the start of each part in this book. to find your way round the panels.

browse report
Go to **Report List:** type 8 next to report. Use PF keys to move around the report. More on page 84.

change paper
Go to **Report List:** note FORMS/go to printer, change paper.
Go to **Printer List:** check FORMS value matches paper/type 9 next to printer. See page 59.

delete report
Go to **Report List:** find report/if status not HELD or IN USE, ensure you really want to delete/type 5 next to report. See page 84.

end CEMS/CEOS
Press PF3 repeatedly until "SESSION ENDED" displayed. See page 50.

interrupt printing
Go to **Printer List:** type 8 next to printer. See page 45.

line up new paper
Go to **Printer List:** check printer STATUS is PAUSED/if not type 8 next to printer/type 4 next to printer. See page 61.

list reports
Go to **Report Selection:** choose sublist (example, NAME=WEEK* for reports WEEK1, WEEK2, WEEKDAY) or press ENTER for complete list. See page 75.

many reports handled as one
Go to **Report Selection:** choose list of reports.
Go to **Report List:** press PF6/take out unwanted reports with 0 in OPT column.
Go to **Bulk Change Report Characteristics:** make change. See page 39.

number of copies printed
Go to **Report Characteristics:** for report you want/type number next to COPIES.

print report
Go to **Report List:** find FORMS, CLASS, and DESTINATION values of reports to print/type 3 next to reports.
Go to **Printer List:** check same values are available on a printer not OUT OF SERVICE or UNAVAILABLE/(if not, consider changing report or printer characteristics)/note printer status/if STOPPED type 2 if PAUSED type 9 next to printer. See page 27.

print some pages only
Go to **Report Characteristics:** type START and END PAGE numbers. See page 89.

printer working or not
Go to **Printer List:** note STATUS/see explanations of status on page 105.

recover from paper jam
Go to printer/examine report/note number of last successful page/reload paper.
Go to **Printer List:** type 9 next to printer to start from same page/type 3 next to printer to start from earlier page.
Go to **Restart Printer:** type page number.
Go to **Printer List:** type 9 next to printer. See page 69.

recover from system failure
Go to **Report List:** note STATUS of report/if ERRCRT see page 67/if ERRPRT see page 68/Supervisors, see page 158.

re-create deleted report
See supervisor. Supervisors, see page 159.

report printed or not
Go to **Report List:** see STATUS column/if HELD or if no longer in list, report printed/if READY or IN USE, not yet printed. See page 32.

reprint reports
Go to **Report List:** if reports still in list see **Print:**/if reports not in list, see supervisor. Supervisors, see page 159.

reprint some pages
Go to **Printer List:** if no longer printing report, see **print some pages only**/ if still printing report, see **restart printing from chosen page**

restart printing from chosen page
Go to **Printer List:** type 8 next to printer to PAUSE/type 3 next to printer.
Go to **Restart Printer:** type page number to start printing from chosen page.
Go to **Printer List:** type 9 next to printer. See page 111.

send reports to chosen printers
Go to **Printer List:** note DESTINATION of required printer not OUT OF SERVICE or UNAVAILABLE.
Go to **Report Characteristics:** type DESTINATION of printer. See page 89.

start printing at beginning of day
Go to **Report List:** change STATUS of reports you want to print to READY/note FORMS, CLASS, and DESTINATION/go to printer, check turned on and correct paper loaded.
Go to **Printer List:** find printer with same FORMS, CLASS, and DESTINATION/if not change printer characteristics/type 2 next to printer. See page 56.

start PAUSED printer
Go to **Printer List:** type 9 next to printer. See page 111.

start report controller
Sign on to CICS. Ask supervisor. Supervisors, see page 148/type CEOS (CEMS if authorized.) See page 14.

start STOPPED printer
Go to **Printer List:** type 2 next to printer. See page 107.

stop printing at end of day
Go to **Report List:** note reports IN USE and READY/decide whether to wait till all printed or stop printer.
Go to Printer List: type 7 next to printer. See page 71.

stop printing now
Go to **Printer List:** decide whether stop must be immediate or when current copy finished/type 5 to stop now or 6 to stop after copy next to printer. See page 107.

urgent print
Go to **Report List:** note characteristics of reports currently printing (if any).
Go to **Report Characteristics:** type 9 next to Priority/change report FORMS, CLASS, and DESTINATION to match those printing if necessary. See page 42.

Bibliography

CICS Transaction Server for VSE/ESA Release 1 library

Evaluation and planning	
Release Guide	GC33-1645
Migration Guide	GC33-1646
Report Controller Planning Guide	SC33-1941
General	
Master Index	SC33-1648
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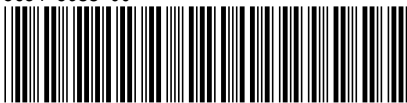- Your name and address/telephone number/fax number/network ID.

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