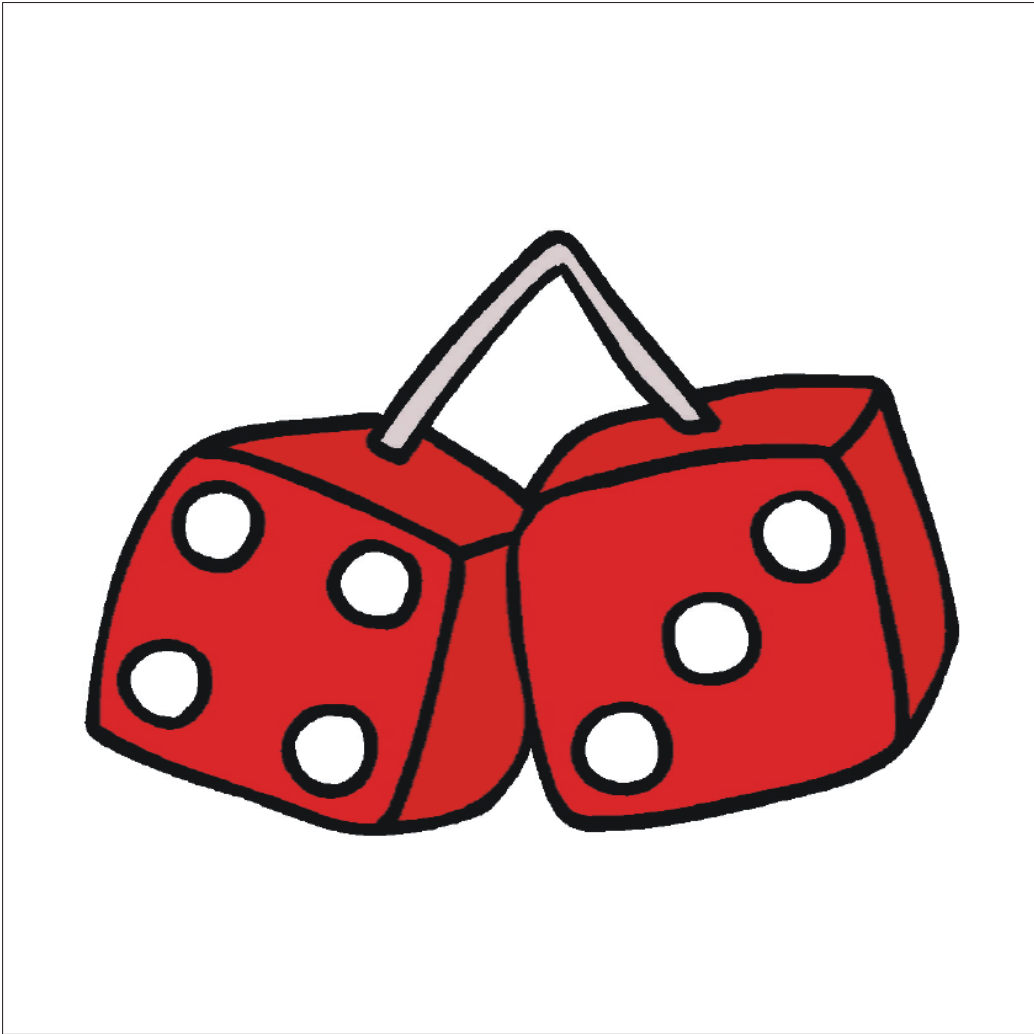


# Dicer

Programmer's Guide and Reference



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## Edition Notice

Fifth Edition (June 2007)

This edition applies to the licensed program Dicer (Program 2A55DCR), V1R5M0, and to all subsequent releases and modifications until otherwise indicated in new editions. This revision makes all previous editions obsolete. Make sure you are using the proper edition for the level of the product.

A version of this manual in Adobe's Portable Document Format (PDF) is available on the web.

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# Chapter 1 Introduction

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## What's In This Chapter

This chapter introduces you to Dicer. The chapter:

- o Describes the features of Dicer
- o Describes what Dicer does
- o Describes Dicer's relationship to other products
- o Outlines future directions for the product

---

## Dicer Features

Dicer is a software utility that allows you to merge, sort, dice (split), and/or duplicate the content of I5/OS spooled files, creating one or more new spooled files as a result. With Dicer you can reorganize an application's output without modifying the application.

As examples, these capabilities allow you to:

- o Merge a spooled file contain customer invoices with a spooled file containing the related packing slips, sorting by customer number. The resulting spooled file will contain each customers' invoice and related packing slip as consecutive pages eliminating the manual effort required to collate the original spooled files.
- o Duplicate a spooled file to additional output queues for printing.
- o Sort the contents of a spooled file to avoid manual collating steps.
- o Split the pages of a large spooled files into multiple spooled files containing only the pages specific to a department, user, store or branch.

Dicer supports the following I5/OS print data streams:

- o \*SCS (SNA Character String)
- o \*IPDS (Intelligent Printer Data Stream)
- o \*AFPDS (Advanced Function Printing Data Stream)

Our Display Page Data (DSPPAGDTA) command is included in the product. The command allows you to display selected data from within a spooled file. The command supports output to a display, to print, and most interestingly to an output file. For example, by displaying the page positions of the customer number in spooled files containing invoices, you can create an index from customer number to the related spooled files that contain their invoices.

Our Retrieve Page Data (RTVPAGDTA) command is included in the product. The command allows you to retrieve data from a specific position spooled file. The requested data is returned in a Control Language (CL) program variable. For example, by retrieving the page position of the customer number in a spooled file containing an invoice, you can determine the customer number for which the invoice was generated from within a CL program.

Dicer includes a work-a-like for I5/OS's Work with Spooled File (WRKSPLF) command called Work with Gumbo Spooled Files (WRKGSISPLF). It also includes a work-a-like for I5/OS's Work with Output Queue (WRKOUTQ) command called Work with Gumbo Output Queue (WRKGSIOUQ). These commands provide the same functions as their I5/OS equivalent. In addition they provide an option that allows you to access the function of Dicer by entering an option number.

## What Dicer Does

The main function of Dicer is accessed by running the Merge Spooled File (MRGSPLF) command. The command takes one or more existing I5/OS spooled files as input and merges, sorts, dices (splits) and/or duplicates the spooled files' content based on the criteria you specify. The command creates one or more new spooled files which are placed in the requested output queue. The merge process is described in detail in Chapter 5 Merge Processing.

## Product Positioning

Gumbo Software, Inc. has several i5/OS based products:

### Number Licensed Program

2A55RM1	Report Manager - Monitors output queues and distributes spooled files.
2A55SM1	SpoolMail - Sends spooled files as email.
2A55SAM	Spool-a-Matic - Converts spooled files into PC files.
2A55XL1	Excel-erator - Converts/emails database files into/as Excel Spreadsheets.
2A55DCR	Dicer - Merge/sort/split/duplicate spooled files.
2A55RDA	Report Designer - Edit DDS, RPG and ILE/RPG print specifications.
2A55SM2	Gumbo Mail - Sends email from your applications.

There is some overlap between and unique function within the products. Choose the product or combination of products that provide the function you need:

Function	Product						
	RM1	SM1	SAM	XL1	DCR	RDA	SM2
Monitor an output queue for work	YES	YES	YES	-	-	-	-
Spooled file distribution	YES	-	-	-	-	-	-
Burst (bundle) spooled files	YES	YES	YES	-	YES	-	-
Merge/sort/duplicate spooled files	YES	-	-	-	YES	-	-
Convert spool to ASCII text PC file	YES	-	YES	-	-	-	-
Convert spool to PDF/RTF/HTML etc.	-	-	YES	-	-	-	-
Convert database file to Excel	-	-	-	YES	-	-	-
Email spool as ASCII text attach	YES	YES	-	-	-	-	-
Email spool as PDF/RTF/HTML etc.	-	YES	-	-	-	-	-
Email database file as Excel	-	-	-	YES	-	-	-
Email any IFS file	-	YES	-	YES	-	-	YES
Set up i5/OS SMTP & mail router	YES	YES	-	YES	-	-	YES
Edit DDS, RPG, ILE/RPG source code	-	-	-	-	-	YES	-

Figure: Product Function Comparison

## Future Directions

Future releases of Dicer will include enhanced functionality based on customer feedback. Additionally, enhancements are often added to a current release by Program Temporary Fix (PTF). Candidate enhancements include:

- o Additional control over the attributes of the generated spooled files.

Contact Gumbo Software Inc for information on scheduling or to suggest additional enhancements.

# Chapter 2 Installation

---

## What's In This Chapter

This chapter describes:

- o How to install Dicer
  - o How to verify the installation
  - o API authority granted during installation
  - o How to include the Dicer library in a job's library list
  - o How to determine release dependencies
  - o How to test a new release while leaving the old in production.
  - o How to delete Dicer from the system
  - o How to find additional installation information
  - o How to contact technical support
  - o Hot site installation
- 

## Installing The Dicer Licensed Program Product

Follow these instructions to install Dicer V1R5M0 on your System i5:

**Note:** If you have downloaded this software from the web, instructions specific to installing from the download can be found in the file "readme.htm" which is included in the download.

1. Sign on to the system as the security officer (QSECOFR).
2. Verify that your machine is at i5/OS V5R3M0 or later by running:

```
DSPDTAARA DTAARA(QGPL/QSS1MRI)
```

**Note:** If you are running a version of i5/OS earlier than V5R3M0 you can not install Dicer V1R5M0 on your machine. You must install an earlier version of Dicer or upgrade the operating system.

3. Verify that user domain objects are allowed in the libraries DICER and QSRV, by running:

```
WRKSYSVAL SYSVAL(QALWUSRDMN)
```

Take option 5 to display the value. If the value is not \*ALL, use option 2 to add libraries DICER and QSRV to the list of libraries where user domain objects are allowed.

**Note:** QSRV is required to correctly process PTFs when they are loaded and applied.

4. Insure that i5/OS will be able to verify the signatures that we apply to our product's objects by installing our Signing Certificate and Root CA Certificate using Digital Certificate Manager. Alternately, insure that signature verification will not prevent the restore operation by running:

```
WRKSYSVAL SYSVAL(QVfyOBRST)
```

Take option 5 to display the value. If the value is 3 or higher, use option 2 to temporarily change the value to 1.

5. Mount the distribution media in the appropriate device.
6. Submit the Restore Licensed Program (RSTLICPGM) command to batch:

```
RSTLICPGM LICPGM(2A55DCR) DEV(device-name) LNG(2924)
```

**Note:** "device-name" is the device the media was mounted on and is usually OPT01.

**Note:** During the restore operation the system operator message queue may receive inquiry message CPA3DE4 "Directory not registered. (C G)". Unless you are using a directory

naming convention similar to ours (that is the directory specified in the CPA3DE4's second level text is unrelated to our software), You can safely respond with a "G" to reestablish the relationship between the directory and the product. Typically the message will occur three times.

When the RSTLICPGM command finishes a new library DICER and a new directory '/Gumbo/ProdData/2A55DCR' are on the system. You can access the Dicer menu by entering the following command:

```
GO MENU(DICER/DICER)
```

You can determine which PTFs were included on the media by entering the command:

```
DSPPTF LICPGM(2A55DCR)
```

A list of current PTFs can be found at [www.gumbo.com](http://www.gumbo.com). If there are newer PTFs available, download and apply them. The bottom of our PTF web page also includes a listing of any IBM PTFs that affect the product.

**Note:** Gumbo Software recommends downloading the current cumulative PTF package after installing the software.

---

## Verifying Dicer Installation

You may verify that Dicer has been correctly installed by running the installation verification program.

- o Access the Dicer menu by entering the following command:

```
GO MENU(DICER/DICER)
```

- o Select the option to 'Verify that Dicer is installed correctly' and press enter.

If the message 'Dicer is installed correctly.' is displayed on the bottom of your display when the option finishes, installation is complete.

---

## API Authority Granted During Installation

The first time the product is installed on a system, public authority \*USE is granted to 3 of the i5/OS supplied spooling APIs. These are QSPOPNP, QSPGETSP, and QSPCLOSP. The APIs are used to open, read and close spooled files. This is required in order to process spooled file contents.

Security restrictions and authority requirements pertaining to spooled files and output queues remain in effect and are enforced by i5/OS during use of the APIs. However, if you are operating a highly secured environment you may wish to review and revise the authority granted during installation.

No authority is granted during installation if the product exists on the system. This prevents new releases from altering changes made after the initial installation.

---

## Library List Considerations

Library DICER must be in the library list of jobs using Dicer commands, or the commands must be qualified with library DICER. Depending on your installation and intended use you may choose to:

- o Add library DICER to the system library list. This insures every job in the system has access to SpoolMail commands. However this introduces problems with installing new releases and is not recommended.
- o Add library DICER to the initial library list parameter of job descriptions controlling jobs which will use Dicer commands. (recommended)

- o Run a ADDLIBLE DICER command in individual jobs requiring Dicer commands.
- o Qualify the command names on each use:

DICER/CHGDCRAUT

Library DICER will be temporarily added to the product portion of the job's library list.

Determine the best method for your installation and perform any changes required.

---

## Release Considerations

Dicer operates under i5/OS V5R3M0 or higher. Releases occur on a different schedule than IBM releases. Once Dicer is installed the following considerations apply:

- o A new release of i5/OS may be installed without installing a new release of Dicer.  
Dicer uses only published or IBM sanctioned interfaces and is upward compatible with all releases of i5/OS. The Dicer authorization code does not change.
- o A new release of Dicer may be installed without installing a new release of i5/OS.

Any change in the requirements for operating system release level will be noted in the documentation accompanying the Dicer release. The new authorization for the release must be entered.

- o More than one release of Dicer may be installed on a system at one time.

By restoring Dicer to a library other than DICER a new release can be installed for testing while the current release remains in production. Any release to release considerations that may apply will be noted in the documentation accompanying the new release. Additional operational considerations may apply. For more information on renaming a library during licensed program installation see the Restore Licensed Program (RSTLICPGM) command and the New Release Testing section of this chapter.

- o When a new release of Dicer is installed in the same library as an old release the following processing is performed in order to preserve data and authorization information:
  1. All objects are saved to the save file QGPL/DCRV1R5M0.
  2. Product objects that contain default settings and operational information are copied to library QTEMP.
  3. The Dicer library is cleared.
  4. Dicer is restored.
  5. Default settings and operational information are copied to the product objects.
  6. All objects duplicated to QTEMP are deleted.
  7. Save file QGPL/DCRV1R5M0 is deleted.

**Note:** Gumbo Software recommends making a backup of the current release before installing a new release of Dicer.

---

## New Release Testing

Unlike IBM licensed programs, Gumbo Software licensed programs are packaged in a way that allows multiple release to be installed on your System i5 at the same time. This feature allows you to test a new release while the current release remains in production.

The key to new release testing are the LIB() and CODHOMEDIR() parameters of i5/OS's Restore License Program (RSTLICPGM) command which allow you to restore the product to a library name and directory different than the those used during packaging. To test a new release, follow this procedure:

1. Install the new release in library DCRV1R5M0 and directory '/Gumbo/ProdData/2A55DCRV1R5M0':

```
RSTLICPGM LICPGM(2A55DCR) DEV(device-name) LIB(DCRV1R5M0) REPLACERLS(*NO) LNG(2924)
          CODHOMEDIR(' /Gumbo/ProdData/2A55DCRV1R5M0')
```

2. Perform your new release testing.
3. When testing is complete you must delete the new release.

```
DLTLICPGM LICPGM(2A55DCR) RLS(V1R5M0) OPTION(*ALL)
```

**Note:** Do not delete nor rename libraries and directories to move the new release into production. Doing so will corrupt the license program information kept internally by i5/OS. If this has already occurred, see the "Software Installation Problems" section of the "Trouble Shooting" chapter.

4. Follow the installation instructions to place the new release into production.

---

## Deleting the Dicer Licensed Program Product

Follow these instructions to remove Dicer from your System i5:

1. Sign on to the system as the security officer (QSECOFR).
2. Delete the product by using the Delete Licensed Program (DLTLICPGM) command:

```
DLTLICPGM LICPGM(2A55DCR) OPTION(*ALL)
```

---

## Additional Installation Information

Additional detailed installation information and instructions can be found in the InfoCenter: [i5/OS and related software](#) -> [Install, upgrade, or delete i5/OS and related software SC41-5120](#).

---

## Technical Support

If you encounter a problem with Dicer you should:

- o Review the information in chapter 7 Trouble Shooting for a description of and solution to common problems.
- o Load and apply the current cumulative PTF package for the software. You can obtain the current package by visiting the web site listed below.

If the problem remains unresolved, contact:

Mailing address: Gumbo Software, Inc.  
809 W Howe St  
Seattle, WA 98119  
United States of America  
Fax: (206) 284-5029  
Telephone: (206) 284-5078  
E-mail: support@gumbo.com  
World Wide Web: www.gumbo.com

If your problem involves spooled file processing, the best method for getting it resolved is to capture the spooled file using the Create Spool Save File (CRTSPLSAVF) command and e-mail the resulting save file along with a description of the problem to the address listed above. Be sure to include contact information.

**Note:** See Chapter 7 Trouble Shooting for details on creating and sending spool save files.

---

## Hot Site Installation

In the event of a catastrophic system failure, an otherwise properly licensed and authorized copy of our product may be copied to a back up or fail over machine. The product's authorization algorithm will detect that the software is operating on a machine serial number different than the licensed and authorized serial number and automatically create and install a 30 day temporary authorization code for the back up or fail over machine. You do not need to contact Gumbo Software, Inc. in the event of an emergency.

An otherwise properly licensed and authorized copy of this product may be transferred to a back up or fail over machine for the purpose of testing your emergency recovery procedures and the product's automatic temporary authorization function.

The correct sequence of steps is as follows:

1. Install the software and enter the permanent authorization on your production machine.
2. Save the software from your production machine using the Save Licensed Program (SAVLICPGM) command. This creates an authorized copy, save it with your back ups.
3. When restoring to the back up or fail over machine you must first insure that any previous copies have been deleted. To delete a previous copy use the Delete Licensed Program (DLTLICPGM) command.
4. Restore the authorized copy to the back up or fail over machine using the Restore License Program (RSTLICPGM) command.
5. The first time the software is used on the back up or fail over machine the product's authorization algorithm will create and install a temporary authorization code running for 30 days. This allows you install the authorized copy in advance of a disaster.

# Chapter 3 Dicer Menu

## What's In This Chapter

This chapter describes how to access the Dicer menu, and reviews the functions that can be performed from the menu.

## Accessing The Menu

The Dicer commands and functions that you will use are collected on a single menu named DICER. To access this menu use the Go To Menu (GO) command:

```
GO MENU(DICER/DICER)
```

Library DICER is added to the product portion of your job's library list while the menu is displayed.

## Menu Options

```
-----+-----
DICER                               Dicer                               System:  GUMBO
Select one of the following:
    1.  Online Manual
    Spool-a-Matic
    2.  Merge/Sort/Dice/Duplicate Spooled File      MRGSPLF
    3.  Work with Gumbo Spooled Files              WRKGSISPLF
    4.  Work with Gumbo Output Queue              WRKGSIOUQ
    5.  Dump Page Index Positions                 DMPPIP
    6.  Display Page Data                        DSPPAGDTA
    7.  Retrieve Page Data                       RTVPAGDTA
    10. Verify that Dicer is working correctly
    Other Options
    61. Display Current PTF Status                DSPTF
                                                More...
Selection or command
===> _____
F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel
(C) Copyright Gumbo Software, Inc. 2002, 2006. All Rights Reserved.
-----+-----
```

Figure: Dicer Menu

The Dicer (DICER) menu options are summarized below:

**Note:** See the detailed descriptions in chapters 5 and 6 for a complete explanation of each option.

### Option 1. Online Manual

The online manual allows you to view the contents of the Dicer Manual from a work station.

### Option 2. Merge Spooled File

The Merge Spooled File (MRGSPLF) command combines the pages of one or more spooled files to create a new spooled file and optionally sorts the pages.

### Option 3. Work with Gumbo Spooled Files

The Work with Gumbo Spooled Files (WRKGSISPLF) command works like I5/OS's Work with Spooled Files (WRKSPLF) command but provides additional options to access the functions of this product.

### Option 4. Work with Gumbo Output Queue

The Work with Gumbo Output Queue (WRKGSIOUQ) command works like I5/OS's Work with Output Queue (WRKOUTQ) command but provides additional options to access the functions of this product.

**Option 5. Dump Page Index Positions**

The Dump Page Index Positions (DMPPIP) command prints the line and position values, for data found in the spooled file, as calculated by the software. These are used to specify data selection criteria for the spooled file.

**Option 6. Display Page Data**

The Display Page Data (DSPPAGDTA) command shows the contents of a spooled file's pages at specified locations. The contents can be shown, printed, or directed to database output file (OUTFILE).

**Option 7. Display Page Data**

The Retrieve Page Data (RTVPAGDTA) command retrieves data from a specific location in a spooled file. The requested data is returned in a Control Language (CL) program variable.

**Option 10. Verify that Dicer is installed correctly**

Installation verification checks to make sure that Dicer has been correctly installed.

**Option 61. Display Current PTF Status**

Displays the Dicer PTFs that have been applied to the software.

**Option 62. Change Dicer Authorization**

The Change Dicer Authorization (CHGDCRAUT) command changes the authorization value for Dicer. The command is used to extend a demonstration period or to permanently authorize Dicer for a system.

**Option 63. Search Help Index**

Search help index allows you to access the Dicer help index and search for specific information.

**Option 64. Change Dicer Default**

The Change Dicer Default (CHGDCRDFT) command changes values used by Dicer to control processing and other activities.

**Option 65. Create Spool Save File**

The Create Spool Save File (CRTSPLSAVF) command creates a save file containing a spooled file and all its related resources. The save file is suitable for e-mailing with a problem report.

**Option 66. Check Dicer Authorization**

The Check Dicer Authorization (CHKDCRAUT) command executes Dicer's authorization verification function. This allows you to determine whether and how the product is authorized for use.

# Chapter 4 Implementation

---

## What's In This Chapter

This chapter describes how to implement Dicer in your environment. The chapter:

- o Gives an overview of implementation choices.
- o Describes changing programs to process spooled files.
- o Describes manually processing spooled files.

---

## Overview

The main function of Dicer is accessed by running the Merge Spooled File (MRGSPLF) command. The command takes one or more existing I5/OS spooled files as input and merges, sorts, dices (splits) and/or duplicates the spooled files' content based on the criteria you specify. To implement Dicer in your environment you have two basic choices:

1. Modify each program that creates spooled files that will be processed to directly run the Merge Spooled File (MRGSPLF) command.  
**Pros** The spooled files are always processed as soon as they are created.  
**Cons** Programs must be modified and recompiled.
2. Manually run the Merge Spooled File (MRGSPLF) command from a command line or using option 15 from the Work with Gumbo Spooled Files (WRKGSISPLF) or Work with Gumbo Output Queue (WRKGSIOUQ) displays.  
**Pros** Good for casual or on demand use, no program changes required.  
**Cons** Requires manual operations and scheduling.

---

## Changing Programs

Dicer can be implemented by changing the programs that create spooled files to convert them directly. A typical batch Control Language (CL) program that creates a spooled file would contain the following CL sequence:

```
OVRDBF      FILE(CUSTOMER) TOFILE(ACGLIB/CUSTOMER)
OVRDBF      FILE(OPNINVOICE) TOFILE(ACGLIB/OPNINVOICE)
OVRDBF      FILE(SHIPMENTS) TOFILE(INVLIB/SHIPMENTS)
CALL        PGM(ACGLIB/PRTINVOICE)
CALL        PGM(INVLIB/PRTPACKSLP)
```

If program PRTINVOICE generates spooled file INVOICES and program PRTPACKSLP generates spooled file PACKSLIP then the following changes will merge the 2 spooled files into one new spooled file:

**Note:** In this example the customer number is 9 positions long and is located at line 2 position 12 in the invoices and at line 15 position 44 in the packing slips.

```
OVRDBF      FILE(CUSTOMER) TOFILE(ACGLIB/CUSTOMER)
OVRDBF      FILE(OPNINVOICE) TOFILE(ACGLIB/OPNINVOICE)
OVRDBF      FILE(SHIPMENTS) TOFILE(INVLIB/SHIPMENTS)
OVRPRTF     FILE(INVOICES) HOLD(*YES) /* Can't let it print */
CALL        PGM(ACGLIB/PRTINVOICE)
OVRPRTF     FILE(PACKSLIP) HOLD(*YES) /* Can't let it print */
CALL        PGM(INVLIB/PRTPACKSLP)
MRGSPLF     MRGFILE((INVOICES * *LAST (2 12 9)) (PACKSLIP * *LAST (15 44 9))) +
            TOFILE(INVPCKSLP)
RLSSPLF     FILE(INVOICES) SPLNBR(*LAST) /* Now it can print */
RLSSPLF     FILE(PACKSLIP) SPLNBR(*LAST) /* Now it can print */
RLSSPLF     FILE(INVPCKSLP) SPLNBR(*LAST)
```

The 2 spooled files are merged into one new spooled file with the name INVPCKSLP which contains the invoice for customer number 1 followed by the packing slip for customer number 1 then the invoice for customer number 2, etc. The spooled files are processed as soon as they are generated.

---

## Manually Processing Spooled Files

Dicer can be implemented by assigning an operator the task of manually processing spooled files. The Merge Spooled File (MRGSPLF) command can be run from any command line, from the DICER menu, or from Dicer's Work with Gumbo Spooled Files (WRKGSISPLF) or Work with Gumbo Output Queue (WRKGSIOUQ) commands.

# Chapter 5 Merge Processing

---

## What's In This Chapter

This chapter describes the spooled file merge processing available with Dicer. The chapter:

- o Gives an overview of the merging processing
- o Describes the details of the merge processing
- o Describes the limitations of merge processing

---

## Overview

The Merge Spooled File (MRGSPLF) command retrieves each requested spooled file from I5/OS's spool store, merges the contents of the spooled files' print data streams and outputs a new spooled file. Dicer can process spooled files containing the following I5/OS print data streams:

- o \*SCS (SNA Character String)
- o \*IPDS (Intelligent Printer Data Stream)
- o \*AFPDS (Advanced Function Printing Data Stream)

**Note:** The type of data stream produced for a spooled file is determined by the DEVTYPE parameter of the printer file associated with the application.

The following section describe the processing in more detail.

---

## Merge Processing Details

As described above, the Merge Spooled File (MRGSPLF) command retrieves each requested spooled file from I5/OS's spool store. It then builds an index over each spooled file based on the Page sort key specified. The entries from each index are sorted together and the print data stream for each page is copied from the original spooled file into a new spooled file.

The attributes of the resulting output spooled file are copied from the first spooled file specified in the merge file list. The new spooled file is given the name specified and placed into the output queue specified.

Since the print data stream is copied unaltered, each source spooled file must contain the same data stream type. You can determine a spooled file's print data stream type by running the Work with Spooled File Attr (WRKSPLFA) command and locating the "Printer device type" value. You can change the print data stream generated by a printer file by overriding (OVRPRTF) or changing (CHGPRTF) it's DEVTYPE() parameter.

If Generate multiple files SPLIT(\*YES) is specified on the Merge Spooled File (MRGSPLF) command, a new spooled file is created each time the Page sort key data in the index entry changes. Each resulting spooled file has its User data (USRDTA) attribute set to the first 10 characters of the Page sort key data.

---

## Merge Processing Limitations

Dicer imposes the following limitations:

- o The spooled files must contain one of the following print data streams types:
  - \*SCS (SNA Character String)
  - \*IPDS (Intelligent Printer Data Stream)
  - \*AFPDS (Advanced Function Printing Data Stream)
- o Each spooled file in a single merge must have the same print data stream types.
- o The combined sorted index used to process the output spooled file is limited by the current implementation to 16 Meg. Each entry is 32 bytes long and there is overhead of 1K plus and additional 1K per source spooled file. Therefore the total number of pages of combined output is limited to approximately 750,000 pages.
- o The attributes of the output spooled file are copied from those of the first source spooled file specified. If the source spooled files are sufficiently dissimilar in their attributes such as page size, an unprintable spooled file may result.

# Chapter 6 Command Descriptions

---

## What's In This Chapter

This chapter describes the control language (CL) commands supplied by the product. Commands are arranged in alphabetic order by command name (mnemonic). In the printed version of the manual, each description contains a syntax diagram presenting all the parameters and values that can be coded for a command. In both the printed and online version an explanation is given for all the parameters and values that can be coded for a command. A detailed explanation of the format of the command descriptions and syntax diagrams can be found in [Control Language Reference SC41-5722](#).







## Create Spool Save File (CRTSPLSAVF) Command

```

Job: B,I Pgm: B,I REXX: B,I Exec
>>--CRTSPLSAVF--FILE(--spooled-file-name--)---SAVF(--+-----+--file-name--)----->
+*CURLIB/-----+
+--library-name/--+
>----->
| +*-----+ | | +*LAST-----+ |
|--JOB(-----+-----+job-name-----)-+ | +SPLNBR(--+*ONLY-----+--)-+ |
| +-----+-----+user-name/--+ | +-----+ |
| +-job-number/--+ | +-----+ |
>----->
| +*YES--+ | | +*NONE-----+ |
|--SAVRSC(-----*NO-----)-+ | +MSG(-----message-----)-+

```

### PURPOSE

The Create Spool Save File (CRTSPLSAVF) command creates a save file containing a spooled file and all its related resources. The save file is suitable for e-mailing with a problem report.

### Spooled file name (FILE)

Specifies the name of the spooled file to be saved.

### Save file (SAVF)

Specifies the name of the save file that is used to contain spooled file data. The saved file must not exist and will be created by the command.

The possible **library** values are:

**\*CURLIB:** Use the current library for the job. If no library is specified as the current library for the job, QGPL is used.

*library-name:* Specify the name of the library.

### Job name (JOB)

Specifies the name of the job that created the spooled file.

\*  
- The name of the job that issued the command is used.

### job-name

Specify the name of the job.

### user-name

Specify the user name associated with the job.

### job-number

Specify the system assigned job number.

### Spooled file number (SPLNBR)

Specifies the number of the spooled file to send.

### \*LAST

The highest numbered spooled file with the specified file name is used.

### \*ONLY

The number of the only spooled file with the specified file name is used.

### spooled-file-number

Specify the number of the spooled file.

### Save resources (SAVRSC)

Specifies if external resource such as overlays and page segments are included in the save file.

### \*YES

Resources are saved.

### \*NO

Resources are not saved.

### Message (MSG)

Specifies a short message to include in the save file.

### \*NONE

No message is included.

### message

Specify a short message to include in the save file.

### Examples

```
CRTSPLSAVF FILE(QSYSPRT)
SAVF(QGPL/PRBRPT)
```

This command creates save file PRBRPT in library QGPL. The last spooled file named QSYSPRT is saved along with its resources. The current job is searched to locate the file.

```
CRTSPLSAVF FILE(QPQUPRFIL) SAVF(NEWPRB)
SPLNBR(3)
```

The file named QPQUPRFIL which is spooled file number 3 in the job executing this command is saved to save file NEWPRB. The save file is placed in job's \*CURLIB.

## Dump Page Index Positions (DMPPIP) Command

```

Job: B,I Pgm: B,I REXX: B,I Exec
>>--DMPPIP--FILE(--spooled-file-name--)-----
>-----
| +-*-----+ | | +-*LAST-----+ |
+--JOB(-----job-name-----)-+ +--SPLNBR(-----)-+
      +-----user-name/-+
      +-job-number/-+
      +-spooled-file-number-+
>-----
| +-1-----+ +-*END-----+ |
+--PAGERANGE(-----*ENDPAGE-----ending-page-----)-+
      +-starting-page-+
  
```

### PURPOSE

The Dump Page Index Positions (DMPPIP) command prints the line and position values, for data found in the spooled file, as calculated by the software. These are used to specify data selection criteria for the spooled file.

#### Spooled file name (FILE)

Specifies the name of the spooled file to be dumped.

#### Job name (JOB)

Specifies the name of the job that created the spooled file.

\*  
- The name of the job that issued the command is used.

#### job-name

Specify the name of the job.

#### user-name

Specify the user name associated with the job.

#### job-number

Specify the system assigned job number.

#### Spooled file number (SPLNBR)

Specifies the number of the spooled file to send.

#### \*LAST

The highest numbered spooled file with the specified file name is used.

#### \*ONLY

The number of the only spooled file with the specified file name is used.

#### spooled-file-number

Specify the number of the spooled file.

#### Page range to print (PAGERANGE)

Specifies the starting and ending pages to process.

##### Element 1 Starting page

1

Processing begins at page 1.

##### \*ENDPAGE

The starting page to print is the ending page to print. Only the ending page is printed.

##### starting-page-number

Specify the starting page.

##### Element 2 Ending page

\*END

Processing continues until the end of file.

##### ending-page-number

Specify the ending page.

#### Examples

```
DMPPIP FILE(QSYSPRT)
JOB(033194/QPGMR/MONTHEND) SPLNBR(2)
```

This command dumps data position information for spooled file number 2, QSYSPRT, from job 033194/QPGMR/MONTHEND.

```
DMPPIP FILE(QSYSPRT) PAGERANGE(3 4)
```

This command dumps data position information for the last spooled file with name QSYSPRT from the job running the command. Only the data for pages 3 and 4 is dumped.



## DSPPAGDTA

Position and length are ignored as data does not appear on the printed page and the length is derived from the value stored.

### \*DOCIDXRPP

Data specified on the DDS DOCIDXTAG() keyword is retrieved. Only tags specified at the "group" level are processed. These tags inherit the page number of the next page to occur in the spooled file and are propagated to subsequent pages in the page group. Propagation processing gives the appearance that the "group" level tag was specified directly on each subsequent page in the group.

This value is only valid with \*AFPDS spooled files. Position and length are ignored as data does not appear on the printed page and the length is derived from the value stored.

### Job name (JOB)

Specifies the name of the job that created the spooled file.

\*  
- The name of the job that issued the command is used.

### job-name

Specify the name of the job.

### user-name

Specify the user name associated with the job.

### job-number

Specify the system assigned job number.

### Spooled file number (SPLNBR)

Specifies the number of the spooled file to send.

### \*LAST

The highest numbered spooled file with the specified file name is used.

### \*ONLY

The number of the only spooled file with the specified file name is used.

### spooled-file-number

Specify the number of the spooled file.

### Output (OUTPUT)

Specifies the kind of output generated by the command.

\*  
- The output is displayed (if requested by an interactive job) or printed with the job's spooled output (if requested by a batch job).

### \*PRINT

The output is printed with the job's spooled output.

### \*OUTFILE

The output is directed to the database file specified on the File to receive output prompt (OUTFILE parameter).

### File to receive output (OUTFILE)

Specifies the name and library of the database file to which the output of the command is directed. If the file does not exist, the command creates one in the specified library. Data is output in the PDPAGDRF record format which is documented in the appendix. The possible library values are:

### \*LIBL

The library list is used to locate the file. If the file is not found, one is created in the current library.

### \*CURLIB

Use the current library for the job. If no library is specified as the current library for the job, QGPL is used.

### library-name

Specify the name of the library.

### Output member options (OUTMBR)

Specifies the name of the database file member that receives the output of the command. The possible name values are:

### \*FIRST

The first member in the file receives the output. If it does not exist, the system creates a member with the name of the file specified in the File to receive output prompt (OUTFILE parameter).

### member-name

Specify the name of the member that receives the output. If it does not exist, the system creates it.

The possible values for how information is stored are:

### \*REPLACE

The system clears the existing member and adds the new records.

### \*ADD

The system adds the new records to the end of the existing records.

### Parameter Dependencies

OUTFILE parameter required with OUTPUT(\*OUTFILE).

OUTFILE parameter can only be specified with OUTPUT(\*OUTFILE).

OUTMBR parameter can only be specified with OUTPUT(\*OUTFILE).

### Examples

```
DSPPAGDTA FILE(QSYSVRT)
PAGDTA((3 4 10) (*STRPAGGRP))
JOB(033194/QPGMR/MONTHEND) SPLNBR(2)
```

This command displays data from line 3, position 4 for a length of 10 from each page in the spooled file as the page group names added using the STRPAGGRP() DDS keyword. The spooled file processed is file number 2, QSYSVRT, from job 033194/QPGMR/MONTHEND.

```
DSPPAGDTA FILE(INVOICE)
PAGDTA((*DOCIDXTAG))
OUTPUT(*OUTFILE)
OUTFILE(HISTORY/INVSPLF) OUTMBR(*FIRST
*ADD)
```

This command retrieves data stored in DOCIDXTAG() DDS keywords for all pages of the spooled file INVOICE found in the current job. The data is added to the first member of the file INVSPLF found in library HISTORY.



## MRGSPLF

Specifies the name of the output queue to receive the merged (output) spooled file.

**\*FIRST:** The output queue name is that of the first spooled file.

*output-queue-name:* Specify the name of the output queue.

The possible **library** values are:

**\*LIBL:** All libraries in the job's library list are searched.

**\*CURLIB:** Use the current library for the job. If no library is specified as the current library for the job, QGPL is used.

*library-name:* Specify the name of the library.

### Generate multiple files (SPLIT)

Specifies whether or not a new spooled file is created each time the Page sort key changes.

**\*NO**  
The combined output of the merge is placed in a single spooled file.

**\*YES**  
For each unique value found in the Page sort key a new spooled file is created.

### EXAMPLES

```
MRGSPLF MRGFILE((QSYSPRT))
```

```
TOFILE(NEWFILE) TOOUTQ(PRT01)
```

The last spooled file from the current job with the name QSYSPRT is simply duplicated. The new duplicate is given the name NEWFILE and placed in output queue PRT01.

```
MRGSPLF MRGFILE((QSYSPRT) (QPRINT))
```

This command combines the contents of the last spooled file named QSYSPRT with the contents of the last spooled file named QPRINT. The current job is searched to locate the files. The merge (output) spooled files has the same attributes as QSYSPRT and is placed on the same output queue.

```
MRGSPLF MRGFILE((QPQUPRFL * 3 (2 3 8))  
(QPRINT * 4 (1 120 6))) SPLIT(*YES)
```

The file named QPQUPRFL which is spooled file number 3 in the job executing this command is merged with the file named QPRINT which is spooled file number 4 in the job executing the command. The combined set of pages is sorted based on the 8 characters found at line 2 position 3 of each page in QPQUPRFL and on the 6 characters found at line 1 position 120 of each page in QPRINT. Each time the data at these positions changes, a new spooled file is created.

## Retrieve Page Data (RTVPAGDTA) Command

Pgm: B,I

```

>>--RTVPAGDTA--FILE(--spooled-file-name--)--RTNDATA(-variable-)--PAGDTA(--+line---position---length--+--)->
+--*STRPAGGRP-----+
+--*DOCIDXTAG-----+
+--*DOCIDXPAG-----+
+--*DOCIDXGRP-----+
+--*STRPAGGRPP-----+
+--*DOCIDXTAGP-----+
+--*DOCIDXGRPP-----+

>----->
| +--1-----+ |
+--PAGE(--+*LAST-----)-+
+--page-number--+

>-----><
| +--*-----+ | | +--*LAST-----+ |
+--JOB(--+-----job-name---)-+ +--SPLNBR(--+*ONLY-----)-+
+-----user-name/-+ +-----spooled-file-number--+
+--job-number/-+

```

### PURPOSE

The Retrieve Page Data (RTVPAGDTA) command retrieves data from a specific location in a spooled file and places it into the specified CL variable.

### Spooled file name (FILE)

Specifies the name of the spooled file from which data is retrieved. This is a required parameter.

### CL var for data (1-255) (RTNDATA)

Specifies the CL variable which is to receive the data returned by the command. The variable can have a declared length between 1 and 255 and it must be as long as or longer than the requested data length. This is a required parameter.

### Page data (PAGDTA)

Specifies the location (line, position and length), on the page of the spooled file, from which data is retrieved. This is a required parameter.

### line-position-length

Specify the line number, position on line, and length of data that is retrieved.

### \*STRPAGGRP

Data specified on the DDS STRPAGGRP() keyword is retrieved. These keywords inherit the page number of the next page to occur in the spooled file.

This value is only valid with \*AFPDS spooled files. Position and length are ignored as data does not appear on the printed page and the length is derived from the value stored.

### \*DOCIDXTAG

Data specified on the DDS DOCIDXTAG() keyword is retrieved. Tags specified at both the "page" level and "group" level are processed. "Group" level tags inherit the page number of the next page to occur in the spooled file.

This value is only valid with \*AFPDS spooled files. Position and length are ignored as data does not appear on the printed page and the length is derived from the value stored.

### \*DOCIDXPAG

Data specified on the DDS DOCIDXTAG() keyword is retrieved. Only tags specified at the "page" level are

processed.

This value is only valid with \*AFPDS spooled files. Position and length are ignored as data does not appear on the printed page and the length is derived from the value stored.

### \*DOCIDXGRP

Data specified on the DDS DOCIDXTAG() keyword is retrieved. Only tags specified at the "group" level are processed. These tags inherit the page number of the next page to occur in the spooled file.

This value is only valid with \*AFPDS spooled files. Position and length are ignored as data does not appear on the printed page and the length is derived from the value stored.

### \*STRPAGGRPP

Data specified on the DDS STRPAGGRP() keyword is retrieved. These keywords inherit the page number of the next page to occur in the spooled file and are propagated to subsequent pages in the page group. Propagation processing gives the appearance that the keyword was specified directly on each subsequent page in the group.

This value is only valid with \*AFPDS spooled files. Position and length are ignored as data does not appear on the printed page and the length is derived from the value stored.

### \*DOCIDXTAGP

Data specified on the DDS DOCIDXTAG() keyword is retrieved. Tags specified at both the "page" level and "group" level are processed. "Group" level tags inherit the page number of the next page to occur in the spooled file and are propagated to subsequent pages in the page group. Propagation processing gives the appearance that the "group" level tag was specified directly on each subsequent page in the group.

This value is only valid with \*AFPDS spooled files. Position and length are ignored as data does not appear on the printed page and the length is derived from the value stored.

### \*DOCIDXGRPP

Data specified on the DDS DOCIDXTAG() keyword is retrieved. Only tags specified at the "group" level are processed. These tags inherit the page number of the next page to occur in the spooled file and are

## RTVPAGDTA

propagated to subsequent pages in the page group. Propagation processing gives the appearance that the "group" level tag was specified directly on each subsequent page in the group.

This value is only valid with \*AFPDS spooled files. Position and length are ignored as data does not appear on the printed page and the length is derived from the value stored.

### Page number (PAGE)

Specifies the page number from which data is retrieved.

1 Data is retrieved from the first page of the spooled file.

**\*LAST** Data is retrieved from the last page of the spooled file.

**page-number**  
Specifies the page from which data is retrieved.

### Job name (JOB)

Specifies the name of the job that created the spooled file.

**\***  
- The name of the job that issued the command is used.

**job-name**  
Specify the name of the job.

**user-name**  
Specify the user name associated with the job.

**job-number**  
Specify the system assigned job number.

### Spooled file number (SPLNBR)

Specifies the number of the spooled file to send.

**\*LAST**  
The highest numbered spooled file with the specified file name is used.

**\*ONLY**  
The number of the only spooled file with the specified file name is used.

**spooled-file-number**  
Specify the number of the spooled file.

### Examples

```
DSPPAGDTA FILE(QSYSPRT)
RTNDATA(&CUSTNO) PAGDTA(3 4 10)
JOB(033194/QPGMR/MONTHEND) SPLNBR(2)
```

This command retrieve data from line 3, position 4 for a length of 10 from the first page in the spooled file and places the data in the variable &CUSTNO. The spooled file processed is file number 2, QSYSPRT, from job 033194/QPGMR/MONTHEND.



## Work with Gumbo Spooled File (WRKGSISPLF) Command

```

Job: B,I Pgm: B,I REXX: B,I Exec
>>--WRKGSISPLF----->
>----->
| +-*CURRENT--+ +-*ALL-----+ +-*ALL-----+ +-*ALL-----+ |
+-SELECT(---*ALL-----+---*OUTQ-----+---*STD-----+---user-data---)-+
| +-*-----+ |
+-OUTPUT(---*PRINT---)-+

```

### PURPOSE

The Work with Gumbo Spooled Files (WRKGSISPLF) command works like i5/OS's Work with Spooled Files (WRKSPFL) command but provides additional options to access the functions of this product.

### Select files for (SELECT)

Specifies the criteria used to further select spooled files for display. Selection criteria consist of 4 elements. Only spooled files that match each of the values are selected. The possible values are:

#### Element 1 User:

##### \*CURRENT

Spooled files created by the user of the current job are selected.

##### \*ALL

All spooled files are selected regardless of the user creating them.

##### user-name

Specify a user name. Only spooled files created by the user are selected.

#### Element 2 Print device

##### \*ALL

All spooled files are selected regardless of the device or output queue.

##### \*OUTQ

All files on any user-created output queue are selected. A user-created output queue is any output queue that is not automatically created by a device. A user-created output queue does not generally have the same name as a device, but if it does, it does not reside in library QUSRSYS.

#### device-name

Specify a device name. Only files on the device created output queue for that device are selected. A device created output queue is one that has the same name as a device and resides in the QUSRSYS library. Unless it already exists, it will automatically be created by the system when the device is created. A device created output queue cannot be deleted.

#### Element 3 Form type

##### \*ALL

All spooled files are selected regardless of their form type.

##### \*STD

Only files that specify the standard form type are selected.

##### form-type

Specify the form type to select the file.

#### Element 4 User data

##### \*ALL

All spooled files are selected regardless of their user data.

##### user-data

Specify the user data to select the file.

### Output (OUTPUT)

Specifies the kind of output generated by the command. The possible values are:

\*

The output is displayed (if requested by an interactive job) or printed with the job's spooled output (if requested by a batch job).

##### \*PRINT

The output is printed with the job's spooled output.

### EXAMPLES:

```
WRKGSISPLF SELECT(*ALL *ALL *ALL *ALL)
```

This command allows you to work with all of the spooled files on the system.

```
WRKGSISPLF SELECT(CASMITH *ALL *ALL
MEMO)
```

This command allows you to work with all of the spooled files on the system for the user named CASMITH that have MEMO specified in the user data for the spooled file.

# Chapter 7 Trouble-Shooting

---

## What's In This Chapter

This chapter provides information and procedures useful for correcting or reporting Dicer problems. The chapter:

- o Describes general trouble-shooting
- o Describes software installation problems
- o Describes merge specific problems
- o Describes how to create a spool save file
- o Describes how to e-mail a spool save file

---

## General Trouble-Shooting

If a command fails to run to completion or if the results you receive are different than those expected, perform these items:

- o Check the messages in your job log:
  - Run the DSPJOBLOG command.
  - Press F10 to display detailed messages.
  - Locate the messages related to the conversion.
  - Place your cursor on each message in turn and press F1.
  - Take any corrective actions suggested by the messages.
- o Download the current cumulative PTF package from [www.gumbo.com](http://www.gumbo.com).
- o Check the bottom of the PTF page at [www.gumbo.com](http://www.gumbo.com) for IBM PTFs that may be required.
- o Review the detailed trouble shooting procedures in this chapter for solutions related to your problem.

If you are unable to correct the problem, prepare a problem report and contact your service provider.

---

## Software Installation Problems

This sections describes problems, causes, and solutions specific to software installation.

- o Installation Generates "Directory not registered. (C G)"

**Symptom** During installation inquiry message id CPA3DE4 "Directory not registered. (C G)" is issued.  
**Cause** i5/OS has lost the relationship between the product and the directory and hence the inquiry.  
**Solution** You can safely take a "G" to this message. You will receive the message 3 times.

- o Installation Fails

**Symptom** Installation fails and diagnostic message id CPF9898 "Unable to clear old release. Is the software being used?." appears in the job log. Or, when the installation verification option is run, verification fails with diagnostic message id CPD0C2E appearing in the job log.  
**Cause** This usually arises from attempting to install a new release over an old release while objects in the old release are in use.  
**Solution** End the jobs that are holding locks on (using) objects from the old release and perform the installation again.

- o Installation Fails or Installation Verification Fails

**Symptom** Installation or installation verification fails and messages in the job log do not help in recovering.  
**Cause** The software is not installed correctly or the installation is damaged. This can be caused for a variety of reasons including renaming of libraries, directories, or objects that make up the product.  
**Solution** Get the system to a clean and stable state and re-install the software by performing the following:

1. Delete the licensed program by running:

```
DLTLICPGM LICPGM(2A55DCR) RLS(*ALL) OPTION(*ALL)
```

It is okay if this fails with diagnostic CPD3D91 "Product 2A55DCR option \*ALL release \*ALL not installed."

2. Delete the product's library by running:

```
DLTLIB LIB(DICER)
```

It is okay if this fails with escape CPF2110 "Library DICER not found."

3. Delete the product's directory by running:

```
RMVLNK OBJLNK('/Gumbo/ProdData/2A55DCR')
```

It is okay if this fails with escape CPFA0A9 "Object not found. ...". But if it fails because the directory is not empty, delete the contents using WRKLNK.

If there are no other products installed:

```
RMVLNK OBJLNK('/Gumbo/ProdData')  
RMVLNK OBJLNK('/Gumbo')
```

4. Rebuild i5/OS's internal licensed program information by running:

CALL PGM(QSYS/QSZRECOV)

This takes several minutes depending on machine size.

5. Install the product according to the instructions in the Installation chapter.
6. Enter your authorization code.

---

## Merge Specific Problems

This sections describes problems, causes, and solutions specific to merge processing

- o Pages are in an unexpected order

<b>Symptom</b>	The Merge Spooled File (MRGSPLF) command completes without error however the pages in the resulting spooled file are in an unexpected order.
<b>Cause</b>	The Page sort key value does not select the intended data.
<b>Solution</b>	Use the Dump Page Index Positions (DMPPIP) command to print a dump that shows the line and position values of data in the spooled file. Use the generated listing to correct the Page sort key values specified on the Merge Spooled File (MRGSPLF) command.

---

## Creating a Spool Save File

A save file containing all the information needed to transport and reproduce a spooled file on a Gumbo Software, Inc. development system can be produced using the Create Spool Save File (CRTSPLSAVF) command. To create a spool save file:

- o Determine the identity of the spooled file to be saved. A spooled file's identity consists of the file's name, the name/user/number of the job that created it, and the spooled file's number within the job. You can find this information using option 8 from the Work with Spooled Files (WRKSPLF) or Work with Output Queue (WRKOUTQ) commands among others.
- o Determine a library to contain the save file. Typically this is your test library. If you do not have a test library, QGPL can be used.
- o Determine a name for the save file. It must be a file name that does not exist in the library determined above.
- o Run the Create Spool Save File (CRTSPLSAVF) command entering the information from the preceding steps.

**Note:** The command allows for a short message to be included in the save file. Use this to describe the reason for the save file and to include contact information such as your name and phone number.

In saving the spooled file the command creates a temporary library. It retrieves the contents and attributes of the spooled file and stores these in a user space. Any resources used (such as page segments or overlays) are duplicated to the temporary library. Data areas containing various system values and the message are placed in the library. After creating the requested save file, the library is saved to it and finally the temporary library is deleted.

---

## E-mailing a Spool Save File

Once a spool save file has been created using the Create Spool Save File (CRTSPLSAVF) command you can download it to your PC and e-mail it to Gumbo Software, Inc. by following these steps:

1. From your System i5 insure the FTP server is active by running:

```
STRTCPSVR SERVER(*FTP)
```

2. From your PC open a command prompt (DOS session).

3. From your PC create a temporary directory and change to it:

```
md c:\gumbo  
cd c:\gumbo
```

4. From your PC open an FTP connection to the System i5 by substituting your system's name and running:

```
ftp as400_system_name
```

5. From your PC enter a user name and password as prompted.

6. From your PC change to binary (image) mode by running:

```
binary
```

7. From your PC change to library/file/member mode by running:

```
quote site namefmt 0
```

8. From your PC download the spool save file by running (in this example the save file's name is QGPL/TEST):

```
get qgpl/test
```

9. From your PC end the ftp session by running:

```
quit
```

10. Send e-mail to support@gumbo.com after attaching file c:\gumbo\test.

Include in your e-mail a description of the problem encountered and the command parameter values you were using when it happened.

# Appendix A Record Descriptions

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## What's In This Appendix

This appendix provides information on Dicer files and structures. The appendix:

- o Describes the display page data record

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## Display Page Data Record

The Display Page Data (DSPPAGDTA) command generates output files with PDPAGDRF as the record. PDPAGDRF is made up of several groups of fields that describe an element of the page.

- o Spooled file. These fields provide information about the spooled file from which the data was taken.
  - PDJSYS Name of the system where the job that created the spooled file ran.
  - PDJJOB Name of the job that created the spooled file.
  - PDJUSR Name of the user who produced the spooled file.
  - PDJNBR Number of the job in the system.
  - PDJSPF Name of the spooled file.
  - PDJSP#Spooled file number within the job.
- o Location. These fields describe the location of the data in the spooled file.
  - PDPAGE Page number.
  - PDLINE Line number the data appears on. The possible special values and their meanings are:
    - 53 = \*DOCIDXTAG:** The data was added to the spooled file using the DDS DOCIDXTAG() keyword at either the page level or group level.
    - 54 = \*DOCIDXPAG:** The data was added to the spooled file using the DDS DOCIDXTAG() keyword at the page level.
    - 55 = \*DOCIDXGRP:** The data was added to the spooled file using the DDS DOCIDXTAG() keyword at the group level.
    - 56 = \*STRPAGGRP:** The data was added to the spooled file using the DDS STRPAGGRP() keyword.
    - 57 = \*DOCIDXTAGP:** The data was added to the spooled file using the DDS DOCIDXTAG() keyword at the page level, group level or was propagated from the group level to all pages in the group.
    - 58 = \*DOCIDXGRPP:** The data was added to the spooled file using the DDS DOCIDXTAG() keyword at the group level or was propagated from the group level to all pages in the group.
    - 59 = \*STRPAGGRPP:** The data was added to the spooled file using the DDS STRPAGGRP() keyword or was propagated from the keyword to all pages in the page group.
  - PDSPPOS Position on the line the data starts. When PDLINE contains one of the special values, PDSPPOS is zero.
- o Data. These fields contain the data.
  - PDVLEN Length of data contained in the following field.
  - PDVDTA Data retrieved from the page. When PDLINE is one of the special values related to the DDS STRPAGGRP() keyword, PDVDTA contains the "group-name" specified. When PDLINE is one of the special values related to the DDS DOCIDXTAG() keyword, PDVDTA contains the "attribute-value" specified.
  - PDNLEN Length of data contained in the following field.
  - PDNDTA Name data. When PDLINE is one of the special values related to the DDS DOCIDXTAG() keyword, PDNDTA contains the "attribute-name" specified otherwise it is blank.



# Appendix B Notices

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