

# SPOOL-A-MATIC

Version 1 Release 7 Modification 0  
Enhancement Summary  
Program Number 2A55-SAM

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**Sixth Edition (January 2004)**

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## Installation Instructions

### Restoring the new release

Read the Enhancement Summary to determine if any changes affect your installation. To install Ver 1 Rel 7 Mod 0, sign on as the security officer.

1. Verify that your machine is at OS/400 V4R5M0 or later by running:

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

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

```
RSTLICPGM LICPGM(2A55SAM) DEV(device-name) LNG(2924)
```

4. Enter your permanent authorization code.

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## Enhancements for Spool-A-Matic Version 1 Release 7 Modification 0

### What's In This Section

This section provides information on Spool-a-Matic enhancements for the current release, notes any customer code implications, and describes where to find more information when applicable.

### PDF Bookmarking Capability Enhanced

In previous releases, Spool-a-Matic's Portable Document Format (PDF) conversion has automatically created bookmarks for \*AFPDS spooled files that contained the DDS DOCIDXTAG at the page level. The bookmarking support has been enhanced to provide control and more options for the source of bookmarking data.

When converting spooled files to PDF with Spool-a-Matic you can specify that bookmarks are to be included in the generated PC file. Bookmarks provide easy navigation to specific portions of the report. When a bookmark is clicked, Adobe's Acrobat viewer positions the file directly to the page the bookmark references.

The inclusion of bookmarks is controlled by the "PDF bookmark style" PDFBKMSTY() and "PDF bookmark data source" PDFBKMSRC() command parameters which specify what data to use for bookmarking and how the bookmarks are presented.

Consider the following sample pages from a spooled file:

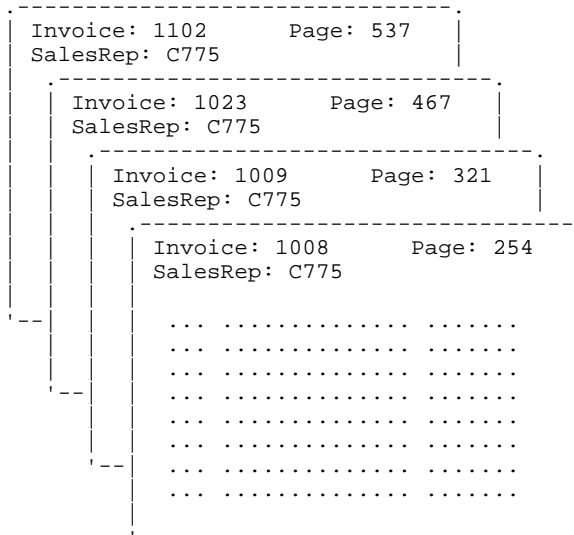


Figure: Sample Spooled File Pages

Specifying line=2, position=12, length=4 as name 'Rep No.' and line=1, position=11, length=4 as 'Invoice' with one level of bookmarking:

```
PDFBKMSTY(*ONELEVEL)
PDFBKMSRC((2 12 4 'Rep No.') (1 11 4 'Invoice'))
```

Generates the following bookmarks in the PDF:

```
|
+--Invoice
|   +--1008
|   +--1009
|   +--1023
|   +--1102
|
+--Rep No.
|   +--C775
|       +--254
|       +--321
|       +--467
|       +--537
```

Using \*TWOLEVEL instead of \*ONELEVEL generates (the invoice top level bookmark has been omitted from the diagram for brevity):

```
|
+--Rep No.
|   +--C775
|       +--Invoice
|           +--1008
|           +--1009
|           +--1023
|           +--1102
|       +--Page
|           +--254
|           +--321
|           +--467
|           +--537
```

### **Dump Page Index Positions (DMPPIP) command added**

When specifying line and position values for the new indexing capability, it is sometimes difficult to determine the correct values using OS/400's Display Spooled File (DSPSPLF) command.

Spool-a-Matic now includes a Dump Page Index Positions (DMPPIP) command which prints a formatted dump of the spooled file's print data showing accurate line and position numbers. These can be used to accurately specify data selection criteria for the spooled file.

### **CHGSAMDFT PDFIMGPBL() Parameter Added**

Parameter "PDF image process blending" (PDFIMGPBL) has been added to Spool-a-Matic's CHGSAMDFT command to provide additional control over the processing of images when converting spooled files to Adobe's Portable Document Format (PDF).

The \*NOPREBLEND32, \*PREBLEND32, \*NOPREBLEND4, \*PREBLEND4 parameter values define the way in which banded (usually color) 32 bit and 4 bit image data is managed. When \*NOPREBLEND32 and \*NOPREBLEND4 are specified, the generated PDF takes advantage of the blending facilities implemented in Acrobat 5.0 and higher to significantly reduce the OS/400 processing required to render full color images. However, these images do not display properly in Acrobat 4 and below, 4 bit images may be too dark, and the file size may be larger and the file may take longer to display. With \*PREBLEND32 and \*PREBLEND4 you can specify that additional processing be performed on your system to "pre-blend" images before placing them into the generated PDF. In particular, color matching for pure 4 bit images may also be improved. The recommended settings are \*NOPREBLEND32 and \*PREBLEND4.

### **Installation Manager Updated**

Installation manager now preserves existing blend settings during replace release process.

### **TRGCCSID(\*UTF8) Added**

A New "Target coded character set id" parameter special value, \*UTF8, was added and represents CCSID 1208. \*UTF8 is the recommended CCSID for HTML conversions.

### **\*USRDFNDTA Special Value Added To TOOBJ() Parameter**

A new special value, \*USRDFNDTA has been added to the Object (TOOBJ) parameter. When specified, the value of the spooled file's "User Defined Data" (USRDFNDTA) attribute is substituted into the path.

### **\*USRDFNTXT Special Value Added To TOOBJ() Parameter**

A new special value, \*USRDFNTXT has been added to the Object (TOOBJ) parameter. When specified, the value of the spooled file's "User Defined Text" attribute is substituted into the path. See OS/400's Change User Print Info (CHGUSRPRTI) command for information on setting "User Defined Text".

### **REPLACE(\*NO) Error Corrected**

Incorrect processing allowed an existing file to be deleted when REPLACE(\*NO) was specified.

### **SPLAMATIC Menu Corrected**

SPLAMATIC menu was calling wrong program for options 12 and 13 resulting in "Program SMCL815 in library \*LIBL not found."

## PDF Generator Corrections And Updates

- o Corrected IPDS COR first line y-axis positioning.
- o Enable COR for \*AFPDS pages greater than 14 inches wide.
- o Correct include page overlay positioning and rotation.
- o ToUnicode CMAP /Registry and /Ordering strings were not being encrypted and should be.
- o GOCA box drawing graphics orders were implemented.
- o Corrected font sizing for DBCS data when spooled file is \*COR'd.
- o DBCS data on a page was not properly escaped resulting in incorrect characters appearing in the generated PDF typically when \*UNICODE was specified.
- o DBCS data with an odd number of bytes i.e. invalid DBCS sequences, was causing conversion failures. Code now silently insures valid lengths by truncating to an even number.
- o The order that page segments occur relative to page overlays is now maintained preventing overlay data being obscured by page segments.
- o Font and calculations used to perform underscoring of print data were improved. Specifying TXTRERPOS(\*EXACT) now further increases accuracy.
- o SCS overstrike bolding algorithm enhanced to better detect overstrike bolding and to select a better bolding offset.
- o Corrected a problem that was generating MCH3601 pointer not set when processing \*AFPDS DOCIDXTAG's into bookmarks.
- o Error in ILE/C compiler creates invalid optimized code resulting in MCH3601 pointer not set when processing some images. Code was restructured to avoid the error.
- o Invalid IBM MMR G4 image data cause extra data to be placed in generated PDF file. The invalid data is now tolerated.
- o Corrected handling of PDF white space characters. Encryption generates these which was resulting in occasional mangled characters in book mark, subject, title, etc.
- o Corrected potential write buffer overrun when processing encrypted Document Strings.
- o Corrected potential truncated or garbage data in book mark text.
- o All PDF document strings are now \*UNICODE encoded when \*UNICODE is specified as the target CCSID. Additionally, all document strings are now \*UNICODE encoded when the source ccsid is something other than straight single byte.
- o Enable image pre-blend specification.
- o CMYK 4 bit images were being mangled when the file was encrypted (a password specified).
- o Font imbedding directives were being ignored for overlays specified on \*SCS and \*IPDS spooled files.
- o All inlined image keywords are now abbreviated to save space.

- o Using PDFOVL() gives MCH3601 if spooled file has more than one page.
- o Correct SCS processing of top margin when value is very small.
- o Enable processing of overlays specified on Medium Maps.
- o Enable page multiply blending which corrects wrong overlay problem for some \*AFPDS files.
- o COR processing acts as if 3812 ascii workstation controller logic is in play even if the reference printer device is not ascii workstation controller attached. The problem was corrected.
- o Corrected reference coordinate system specification for FS/45 images.
- o COR logic uses ratios to convert PTX or SCS page positions to the COR equivalent. The ratios were being stored as 1/100. This lead to rounding error which are corrected.
- o Correct text orientation after drawing rules.
- o External Resource Group specified in a spooled file's print data stream is mapped and processed in the required order.
- o Jpeg images erroneously bypassed encryption processing resulting in a broken image when unencrypted by Acrobat. Symptoms include Message "Insufficient data for an image".
- o Remove overlay blending which utilizes PDF 1.4 constructs that are not ready for prime time. Also we note that Acrobat 5.0 is much slower, generating larger streams to the printer regardless of the content of the Pdf file. We recommend Acrobat 4 when printing performance is critical.
- o Single byte portion of mixed DBCS/SBCS print data streams incorrectly converted when the target CCSID is \*UNICODE.
- o All document strings (title, subject, keywords etc.) are now unicode encoded for DBCS files.
- o Corrected handling of PDF special syntactic characters \, (, and ) in document strings.
- o Corrected conversion of data for document strings.
- o Constant back overlays were being mishandled for AFPDS spooled files.
- o Document passwords are now interpreted as being coded in the job's default CCSID for conversion purposes.

#### **AFP Print File Generator Corrections And Updates**

- o Generator now properly processes mapped spooled file resources.

#### **Configuration Processor Corrections And Updates**

- o Corrected COR error that occurred \*INLINE/\*INLINED FORMDF specifications.
- o Added Get function to retrieve 3812 emulation true/false from abstract printer.

#### **Font Processor Corrections And Updates**

- o Parsing of type 1 font pfb data resulted in unsightly "C2M1212 - The pointer parameter passed to free or realloc is not valid." messages in the joblog. These are corrected.

- o When parsing font character sets that do not declare nominal size information, the missing information is taken from base font information table if available.
- o Information for additional Elixir fonts added to base font information table.
- o Four Traditional Chinese character set name definitions, inadvertently remove from base font information table, were replaced.
- o Prompting the TXTRELPOS() parameter caused the prompter to end in error because the special values were made up of undisplayable low hex in a character field. Parameter is now declared as \*INT2 and the special values are displayed as numbers.
- o Some (newer) IBM font character sets contain font indexes with empty entries at the end. This caused character look ups to fail as the data is therefore not in order as required by the architecture. FNIs are now inspected as the resource is retrieved to get an actual count of the data present.
- o TXTRELPOS(\*EXACT) implemented for fonts specified as printer resident through font global ids (FGIDs). Metrics for the fonts are draw from equivalent host based font resources.
- o User space containing resolved coded font definitions is now locked during update to insure additions are serial.
- o Font base definitions were updated with information for new fonts and to add print emulation fonts.
- o Erroneous define was causing printer resident (fgid specified) fonts to be imbedded.
- o At V5R2M0 OS/400 adds a x1F font descriptor triplet to raster fonts specified as host resident exposing a font sizing error. Triplet should not have been applied to font and was.
- o At V5R2M0 OS/400 DBCS Font Collection includes new outline technology fonts that have non-standard construction. These caused MCH3601 when using CRTSPLSAVF to save a spooled file that specifies them.

### **Graphic Object Processing Corrections And Updates**

- o Implement Box Drawing Graphic Orders
  - Box drawing graphic order primitives are now processed. Previously they were ignored.

### **HTML Generator Corrections And Updates**

- o PAGESIZE comment was malformed and look too much like html, confusing some parsers.
- o The \*HTMLBASIC conversion is now Double Byte Character Set (DBCS) enabled. The recommended target CCSID is \*UTF8=1208.
- o A HTTP-EQUIV META tag is now included in the generated file for the following encodings:
  - UTF-8
  - ISO-8859-2
  - ISO-8859-5
  - ISO-8859-6
  - ISO-8859-7
  - ISO-8859-8
  - ISO-8859-9
  - BIG5



## **MODCA Processor Corrections And Updates**

- o Added mapping functions to allow ordered processing of a spooled file's external (to the document but internal to the spooled file) resources.
- o Internal change to allow sharing of font stack during resource processing for SCS and IPDS.
- o Enabled processing of overlays specified in medium maps.
- o External Resource Group specified in a spooled file's print data stream is mapped and processed in the required order.
- o External resource name now posted internally during mapped resource processing.

## **Print Data Stream Processor Corrections And Updates**

- o Print data stream positioning logic for seek to zero enhanced to avoid unneeded processing and diagnostic messages.
- o Overprint logic now treats SCS Required Space (x41) in the same way as a space character. "Real" characters now "win" when overprinting x41.

## **Program Distribution Corrections And Updates**

- o Product packaging has been changed to include the following directory structure with the product:

```
/Gumbo/ProdData/2A55SAM  
/Gumbo/ProdData/2A55SAM/doc  
/Gumbo/ProdData/2A55SAM/tmp
```

The /doc directory contains product documentation including a copy of the manual in the PDF format. The /tmp directory is used to store temporary files created by the product during processing and is normally empty. These directories can be renamed during the install process using RSTLICPGM's CODHOMEDIR() parameter.

- o Installation procedure is now more robust, saving the previous release contents and restoring them if the install fails. The product usually remains usable after a failure such as objects locked by a user.

Previously, a failed install could leave the product with a mix of old and new objects or missing objects rendering it unuseable.

## **RTF Generator Corrections And Updates**

- o Font size calculations were enhanced. Previously, font size was calculated based on the spooled file's page size. Now the font size is calculated considering the spooled file's font declaration as well as page size, preventing line wrapping for some spooled files.

## **SCS Processor Corrections And Updates**

- o Subscript/Superscript were implemented. Previously the SCS parser ignored control codes for subscripting and superscripting print data. The codes are implemented.
- o Correct processing of top margin when value is very small.
- o Corrected problem that generated a MCH3601 pointer not set error when processing a non-DBCS spooled file that actually contains DBCS data.

## **Spool Indexing Corrections And Updates**

- o Extend Spooled File Indexing

Indexing was reimplemented and extended using string spaces. This lifts the internal limit on "page key data stores" from 16 to 256 bytes per index key and breaks the one to one restriction between index key and pages allowing none or many keys per page for a single page key index.

Indexing was enhanced to provide indexing of AFPDS's STRPAGGRP fields in both propagating and non-propagating mode and to provide indexing of AFPDS's DOCIDXTAG fields at the page, group and combined levels.

Additional enhancements were added to provide key to page mapping, page to key mapping, various map operators and ordered retrieval of index entries.

- o DMPPIP Command Suppresses Blanks

If a data segment is entirely blank, it is omitted from the Dump Page Index Position report generated by the DMPPIP command.

- o Overprint logic now treats SCS Required Space (x41) in the same way as a space character. "Real" characters now "win" when overprinting x41.

## **Space Management Component Corrections And Updates**

- o String Space Implemented

New support for "string spaces", including fix or variable length, self management, automatic ordering, and natural or sorted retrieval order was implemented.

- o Added lock/unlock functions for spaces.

## **Text Generation Corrections And Updates**

- o New \*TXTTRIM Transform Added

When converting with the \*TXT transform, each page is "filled" to its full length using empty lines (i.e <CR><FL>). A new \*TXTTRIM transform was added which produces the same results as \*TXT except that the last page is not filled to the full length. This is important for some printing software.