

## Paper 210-28

**ODS in an Instant!**

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**ABSTRACT**

Do you need to generate high impact word processor, printer- or web- ready output? Want to skip the SAS Output Delivery System (ODS) learning curve? Make it happen with Instant ODS!. What is Instant ODS! ? A suite of ready-to-run ODS style templates, developed to provide instant access to a wide variety of business-ready style templates. Your SAS output is automatically formatted in the selected style and ready for a word-processor, PDF or the web. See how easy it is to create your own stylized results. If you are a new SAS user or an experienced SAS user new to ODS, then this is for you!

**INTRODUCTION**

The SAS Output Delivery System provides the tools to customize your output layout and to generate output in RTF, PDF and HTML formats making it easier to share and edit documents and to assimilate SAS output into other business documents.

With this power comes the challenge of learning how to build these layouts, called templates, using the `TEMPLATE` procedure. Most users have neither the time nor the inclination to learn the over 100 report components and all the associated settings. To assist users, SAS supplies 17 style templates. Now, more pre-customized style templates are available using Instant ODS! .

This paper provides:

- an overview of the Output Delivery System and templates
- instructions on using ODS with the SAS supplied templates
- an introduction to Instant ODS! .

**OVERVIEW OF SAS OUTPUT-- PAST AND PRESENT**

Before Version 7, SAS output was generated for line printers. Tables were a combination of spaces and characters. Column widths were difficult to change and fixed width fonts were required to maintain proper column spacing. Version 7 of SAS introduced the Output Delivery System (ODS). Using ODS, many output destinations are now available, such as:

- Rich Text Format (RTF- Microsoft Word-Ready) Output
- HTML Output for the web
- PDF Output (Adobe Acrobat-Ready)
- SAS Datasets.

ODS separates the data from the output formatting making it possible for users to have more control. One way to control output formatting is with templates.

**WHAT IS AN ODS TEMPLATE?**

Templates are stored collections of formatting instructions that control the individual components of a report. There are over 100 individual components or style elements that can be customized to meet your reporting needs.

There are two main types of ODS templates: style templates and table templates. Style templates provide output specifications and formatting for the entire SAS program. Table templates provide specifications for individual tables or selected procedure output within a program.

**WHAT IS CONTROLLED BY STYLE TEMPLATES?**

Style templates provide specifications for the following style elements for the entire SAS job:

- Fonts
- Colors
- Borders
- Margins
- Background colors and images
- Cell spacing and padding
- HTML – links, body, contents and page settings.

**WHAT IS CONTROLLED BY TABLE TEMPLATES?**

Table templates provide specifications for selected tables:

- Order of data columns
- Assigning attributes to selected columns, headers, and cells
- Formatting data values
- Assigning table attributes (colors, fonts, etc.) based on data values (traffic lighting).

**USING ODS: DEFAULT TEMPLATES**

Use the ODS statement to specify an output destination and output filename. When the `STYLE=` setting is omitted, your output is automatically formatted using the default SAS style templates for the selected destination.

To create an RTF file using the default, try the following:

```
ODS RTF file="myoutput1.rtf";
proc print data=sashelp.class;
run;
ODS RTF close;
```

The output is stored in file "myoutput1.rtf". A sample of the resulting RTF output is below.

Obs	Name	Sex	Age	Height	Weight
1	Alice	F	13	56.5	84.0
2	Barbara	F	13	65.3	98.0
3	Carol	F	14	62.8	102.5
4	Jane	F	12	59.8	84.5
5	Janet	F	15	62.5	112.5

**USING ODS: SAS SUPPLIED STYLE TEMPLATES**

SAS provides the following 17 styles templates with version 8.2 to produce stylized output:

BarrettsBlue	Beige
Brick	Brown
D3d	Default
Minimal	NoFontDefault
Printer	Rtf
Sasweb	Statdoc
Theme	fancyPrinter
sansPrinter	sasdocPrinter
serifPrinter	

These style templates can be used to create HTML, RTF, and PDF output.

To create an RTF file using a SAS supplied template, try the following:

```
ODS RTF style=minimal file="myoutput2.rtf";
proc print data=sashelp.class;
run;
ODS RTF close;
```

A sample of the resulting RTF output is below.

Obs	Name	Sex	Age	Height	Weight
1	Alice	F	13	56.5	84.0
2	Barbara	F	13	65.3	98.0
3	Carol	F	14	62.8	102.5
4	Jane	F	12	59.8	84.5
5	Janet	F	15	62.5	112.5

**USING ODS: INSTANT ODS!**

Instant ODS! is a suite of 50 ready-to-use ODS style templates that provides instant access to pre-defined styles designed for RTF, PDF, and HTML output destinations.

To apply the pre-defined templates, follow these steps:

1. Assign a libname to defined the directory path of the Instant ODS! template library.
2. Use the ODS PATH statement to define a template library search order and access permission. Use "(read)" to permit read-only access to the template libraries. SASHELP.TMPLMST contains the SAS supplied templates.
3. Use the ODS statement to specify a destination, style name and output file name.
4. Run your selected SAS program code
5. Close the ODS output destination.

**EXAMPLE: RTF OUTPUT**

To create an RTF file using Instant ODS! template, COLOR\_7, try the following:

```
LIBNAME INSTANT "c:\instantods";           * (1) Create a libref pointing to the directory
                                           containing the Instant ODS! templates;

ODS PATH INSTANT.ODS(read) SASHELP.TMPLMST(read); * (2) Define template library search path to
                                           retrieve templates from the Instant ODS!
                                           templates first, then the SAS supplied templates
                                           in SASHELP.TMPLMST. Access both libraries in
                                           read-only mode.;

ODS RTF style=COLOR_7 file="myoutput2.rtf";   * (3) Use the ODS statement to specify a
                                           destination (RTF), template style name (COLOR_7)
                                           and filename (myoutput2.rtf).;

<proc print program>                         * (4) add your program code here ;

ODS RTF CLOSE;                               * (5) close the output destination.;
```

A sample of the resulting RTF output is below.

<b>Distances between Major Cities</b>			
<b>Starting City</b>	<b>Destination City</b>	<b>Distance (miles)</b>	<b>Distance (km)</b>
<b>New York, New York, USA</b>	Copenhagen, Denmark	3,856	2,396
	Dallas/Fort Worth, Texas, USA	1,383	859
	Frankfurt, Germany	3,857	2,397
	Los Angeles, California, USA	2,475	1,538
	London, England, UK	3,442	2,139
	Chicago, Illinois, USA	740	460
	Paris, France	3,635	2,259
	Washington, DC, USA	229	142
	Toronto, Canada	366	227
<b>London, England, UK</b>	Frankfurt, Germany	210	130
	Hong Kong, China	5,980	3,716
	Mexico City, Mexico	5,540	3,443
	Nome, Alaska, USA	4,380	2,722
	Rome, Italy	890	553

**EXAMPLE: HTML OUTPUT**

To create an HTML file using [Instant ODS!](#) template, COLOR\_7, try the following:

```
LIBNAME INSTANT "c:\instantods";
ODS PATH INSTANT.ODS(read) SASHELP.TMPLMST(read);

ODS HTML style=COLOR_7
  FRAME="myhtml.htm"
  PAGE="myhtmlPAGE.htm"
  CONTENTS="myhtmlCONTENTS.htm"
  BODY="myhtmlBODY.htm";

<proc print program>

ODS HTML CLOSE;
```

A sample of the resulting HTML output is below.

**Table of Contents**

- The Print Procedure
  - [Data Set WORK.FLINFO](#)
- The Report Procedure
  - [Detailed and/or summarized report](#)

**Table of Pages**

- The Print Procedure
  - [Page 1](#)
- The Report Procedure
  - [Page 2](#)

Starting City	Destination City	Distance (miles)	Distance (km)
<b>New York, New York, USA</b>	Copenhagen, Denmark	3,856	2,396
	Dallas/Fort Worth, Texas, USA	1,383	859
	Frankfurt, Germany	3,857	2,397
	Los Angeles, California, USA	2,475	1,538
	London, England, UK	3,442	2,139
	Chicago, Illinois, USA	740	460
	Paris, France	3,635	2,259
	Washington, DC, USA	229	142
	Toronto, Canada	366	227
	<b>London, England, UK</b>	Frankfurt, Germany	210
Hong Kong, China		5,980	3,716

**EXAMPLE: PDF OUTPUT**

To create a PDF file using Instant ODS! template, COLOR\_7, try the following:

```
LIBNAME INSTANT "c:\instantods";
ODS PATH INSTANT.ODS(read) SASHELP.TMPLMST(read);

ODS PDF style=COLOR_7 file="color_7.pdf";

<proc print program>

ODS PDF CLOSE;
```

A sample of the resulting PDF output is below.

The screenshot shows the Adobe Acrobat interface with a PDF document titled "COLOR\_7.pdf". The document content is as follows:

### Distances between Major Cities

Starting City	Destination City	Distance (miles)	Distance (km)	
New York, New York, USA	Copenhagen, Denmark	3,856	2,396	
	Dallas/Fort Worth, Texas, USA	1,383	859	
	Frankfurt, Germany	3,857	2,397	
	Los Angeles, California, USA	2,475	1,538	
	London, England, UK	3,442	2,139	
	Chicago, Illinois, USA	740	460	
	Paris, France	3,635	2,259	
London, England, UK	Washington, DC, USA	229	142	
	Toronto, Canada	366	227	
	Frankfurt, Germany	210	130	
Peking, China	Hong Kong, China	5,980	3,716	
	Mexico City, Mexico	5,540	3,443	
	Nome, Alaska, USA	4,380	2,722	
	Rome, Italy	890	553	
	Calcutta, India	2,020	1,255	
	Capetown, South Africa	8,050	5,002	
	Melborne, Australia	5,670	3,523	
Tokyo, Japan	Oslo, Norway	4,360	2,709	
	Shanghai, China	660	410	
	Tokyo, Japan	1,310	814	
	Distance (miles)	Distance (km)	Starting City	Destination City
	210	130	London, England, UK	Frankfurt, Germany
	229	142	New York, New York, USA	Washington, DC, USA
	366	227	New York, New York, USA	Toronto, Canada
660	410	Peking, China	Shanghai, China	
740	460	New York, New York, USA	Chicago, Illinois, USA	
890	553	London, England, UK	Rome, Italy	
1,310	814	Peking, China	Tokyo, Japan	
1,383	859	New York, New York, USA	Dallas/Fort Worth, Texas, USA	
2,020	1,255	Peking, China	Calcutta, India	
2,475	1,538	New York, New York, USA	Los Angeles, California, USA	
3,442	2,139	New York, New York, USA	London, England, UK	
3,635	2,259	New York, New York, USA	Paris, France	

## CONCLUSION

The Output Delivery System makes it possible to create business-ready output for popular output destinations such as: RTF, PDF and HTML. The SAS supplied templates provide default formats for getting started. Instant ODS! provides 50 additional style templates to add professional, consistent appeal to output generated from your SAS programs.

## REFERENCES

For more information on using the SAS Output Delivery System, see

*The Complete Guide to the SAS® Output Delivery System, Version 8*  
Cary, NC: SAS Institute Inc.

For more information on using ODS Templates, see

*Output Delivery System: The Basics*  
Lauren E. Haworth  
Cary, NC: SAS Institute Inc.

## CONTACT INFORMATION

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