



# **Program Directory for IBM HourGlass**

V06.01.00

Program Number 5697-P29

FMID HAD5610

for Use with  
z/OS  
OS/390

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GI11-7890-00

**Note!**

Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 18.

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## 1.0 Introduction

This Program Directory is intended for the system programmer responsible for program installation and maintenance. It contains information concerning the material and procedures associated with the installation of IBM HourGlass. This publication refers to IBM HourGlass as HourGlass.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic and optional program materials and documentation for HourGlass.
- 3.0, “Program Support” on page 6 describes the IBM support available for HourGlass.
- 4.0, “Program and Service Level Information” on page 7 lists the APARs (program level) and PTFs (service level) incorporated into HourGlass.
- 5.0, “Installation Requirements and Considerations” on page 8 identifies the resources and considerations required for installing and using HourGlass.
- 6.0, “Installation Instructions” on page 14 provides detailed installation instructions for HourGlass. It also describes the procedures for activating the functions of HourGlass, or refers to appropriate publications.

Before installing HourGlass, read the *CBPDO Memo To Users* and the *CBPDO Memo To Users Extension* that were supplied with this program in softcopy form as well as this Program Directory and then keep them for future reference. Section 3.2, “Preventive Service Planning” on page 6 tells you how to find any updates to the information and procedures in this Program Directory.

HourGlass is supplied in a Custom-Built Product Delivery Offering (CBPDO, 5751-CS3). The Program Directory is provided in softcopy form on the CBPDO tape which is identical to the hardcopy form provided with your order. All service and HOLDDATA for HourGlass are included on the CBPDO tape.

Do not use this Program Directory if you are installing HourGlass with a SystemPac or ServerPac. When using these offerings, use the jobs and documentation supplied with the offering. This documentation may point you to specific sections of the Program Directory as required.

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### 1.1 HourGlass Description

HourGlass facilitates the testing of time-sensitive applications by eliminating the POR (Power-On-Reset) procedures. Additionally, unlike the POR method, one may set as many altered date and time values as needed, and the altered values affect only the applications specified. All other applications and system components such as tape management system and system catalog are unaffected. With HourGlass, the testing of time-sensitive applications becomes simpler and less disruptive to operation.

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## 1.2 HourGlass FMIDs

HourGlass consists of the following FMIDs:

HAD5610

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## 2.0 Program Materials

An IBM program is identified by a program number. The program number for HourGlass is 5697-P29.

Basic Machine-Readable Materials are materials that are supplied under the base license and feature numbers, and are required for the use of the product. Optional Machine-Readable Materials are orderable under separate feature numbers, and are not required for the product to function.

The program announcement material describes the features supported by HourGlass. Ask your IBM representative for this information if you have not already received a copy.

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### 2.1 Basic Machine-Readable Material

The distribution medium for this program is magnetic tape or downloadable files. It is installed using SMP/E, and is in SMP/E RELFILE format. See 6.0, "Installation Instructions" on page 14 for more information about how to install the program.

Information about the physical tape for the Basic Machine-Readable Materials for HourGlass can be found in the *CBPDO Memo To Users Extension*.

Figure 1 describes the program file content for HourGlass.

*Figure 1 (Page 1 of 2). Program File Content*

<b>Name</b>	<b>O R G</b>	<b>R E C M</b>	<b>L R E C L</b>	<b>BLK SIZE</b>
SMPMCS	SEQ	FB	80	6160
IBM.HAD5610.F1	SEQ	FB	80	6160
IBM.HAD5610.F2	PDS	FB	80	8800
IBM.HAD5610.F3	PDS	FB	80	8800
IBM.HAD5610.F4	PDS	FB	80	8800
IBM.HAD5610.F5	PDS	U	0	6144
IBM.HAD5610.F6	PDS	U	0	6144
IBM.HAD5610.F7	PDS	FB	80	8800
IBM.HAD5610.F8	PDS	VB	1000	27998
IBM.HAD5610.F9	PDS	FB	80	8800
IBM.HAD5610.F10	PDS	FB	80	8800

Figure 1 (Page 2 of 2). Program File Content

Name	O R G	R E C F M	L R E C L	BLK SIZE
IBM.HAD5610.F11	PDS	FB	80	8800

---

## 2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for HourGlass.

---

## 2.3 Program Publications

The following sections identify the basic and optional publications for HourGlass.

### 2.3.1 Basic Program Publications

Figure 2 identifies the basic unlicensed program publications for HourGlass. One copy of each of these publications is included when you order the basic materials for HourGlass. For additional copies, contact your IBM representative.

Figure 2. Basic Material: Unlicensed Publications

Publication Title	Form Number
HourGlass for z/OS License Information	GI11-7889-00
HourGlass for z/OS Program Directory	GI11-7890-00
HourGlass Usage and Installation Guide	SC23-8561-00

No optional publications are provided for HourGlass.

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## 2.4 Program Source Materials

No program source materials or viewable program listings are provided for HourGlass.

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## 2.5 Publications Useful During Installation

The publications listed in Figure 3 on page 5 may be useful during the installation of HourGlass. To order copies, contact your IBM representative or visit the IBM Publications Center on the World Wide Web at: <http://www.ibm.com/shop/publications/order>

<i>Figure 3. Publications Useful During Installation</i>	
<b>Publication Title</b>	<b>Form Number</b>
<i>IBM SMP/E for z/OS User's Guide</i>	SA22-7773
<i>IBM SMP/E for z/OS Commands</i>	SA22-7771
<i>IBM SMP/E for z/OS Reference</i>	SA22-7772
<i>IBM SMP/E for z/OS Messages, Codes, and Diagnosis</i>	GA22-7770

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## 3.0 Program Support

This section describes the IBM support available for HourGlass.

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### 3.1 Program Services

Contact your IBM representative for specific information about available program services.

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### 3.2 Preventive Service Planning

There is no PSP support for HourGlass.

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### 3.3 Statement of Support Procedures

Report any difficulties you have using this program to your IBM Support Center. If an APAR is required, the Support Center will advise how you should submit any needed information or documentation.

Figure 4 identifies the component IDs (COMPID) for HourGlass.

<i>Figure 4. Component IDs</i>			
<b>FMID</b>	<b>COMPID</b>	<b>Component Name</b>	<b>RETAIN Release</b>
HAD5610	5655U4200	HourGlass	610

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## **4.0 Program and Service Level Information**

This section identifies the program and any relevant service levels of HourGlass. The program level refers to the APAR fixes incorporated into the program. The service level refers to the PTFs incorporated into the program.

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### **4.1 Program Level Information**

No APARs have been incorporated into HourGlass.

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### **4.2 Service Level Information**

No PTFs against this release of HourGlass have been incorporated into the product tape.

Over time it is HIGHLY recommended that you frequently check the HourGlass PSP bucket for HIPER and SPECIAL Attention PTFs against all FMID(s) which should be installed.

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## 5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating HourGlass. The following terminology is used:

- *Driving system*: the system used to install the program.  
The program may have specific operating system or product level requirements for utilizing processes such as binder or assembly utilities during the install.
- *Target system*: the system on which the program is intended to run.  
The program may have specific product level requirements such as needing access to another product's library for link-edits that may directly affect the elements during the install or for its basic or enhanced operation. These requirements may be mandatory or optional.

In many cases, the same system can be used as both a driving system and a target system. However, you may want to set up a clone of your system to use as a target system by making a separate IPL-able copy of the running system. The clone should include copies of all system libraries that SMP/E updates, copies of the SMP/E CSI data sets that describe the system libraries, and your PARMLIB and PROCLIB.

Some cases where two systems should be used include the following:

- When installing a new level of a product that is already installed, the new product will delete the old one. By installing onto a separate target system, you can test the new product while still keeping the old one in production.
- When installing a product that shares libraries or load modules with other products, the installation can disrupt the other products. Installing onto a test system or clone will allow you to assess these impacts without disrupting your production system.

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### 5.1 Driving System Requirements

This section describes the environment of the driving system required to install HourGlass.

#### 5.1.1 Machine Requirements

The driving system can run in any hardware environment that supports the required software.

#### 5.1.2 Programming Requirements

Figure 5. Driving System Software Requirements

Program Number	Product Name and Minimum VRM/Service Level
Any <b>one</b> of the following:	
5694-A01	z/OS V1.09.0 or later
5655-G44	IBM SMP/E for z/OS V3.03.0 or later

## 5.2 Target System Requirements

This section describes the environment of the target system required to install and use HourGlass.

HourGlass installs in the z/OS (Z038) SREL.

### 5.2.1 Machine Requirements

The target system can run in any hardware environment that supports the required software.

### 5.2.2 Programming Requirements

#### 5.2.2.1 Installation Requisites

An installation requisite is defined as a product that is required and **must** be present or one that is not required but **should** be present on the system for the successful installation of this product.

A mandatory installation requisite identifies products that are required, without exception, or this product **will not install** on your system. This includes products specified as PREs or REQs.

HourGlass has no mandatory installation requisites.

A conditional installation requisite identifies products that are **not** required for successful install but may resolve such things as certain warning messages at installation time. They include products that are specified as IF REQs.

HourGlass has no conditional installation requisites.

### 5.2.2.2 Operational Requisites

An operational requisite is defined as a product that is required and **must** be present or a product that is not required but **should** be present on the system in order for this product to operate all or some of its functions.

A mandatory operational requisite identifies products that are required, without exception, or this product **will not operate** its basic function unless the requisite is met. This includes products specified as PREs or REQs.

<i>Figure 6. Mandatory Operational Requisites</i>	
<b>Program Number</b>	<b>Product Name and Minimum VRM/Service Level</b>
5694-A01	z/OS V1.09.0 or later

### 5.2.2.3 Toleration/Coexistence Requisites

A toleration/coexistence requisite is defined as a product that must be present on a sharing system. These systems can be other systems in a multisystem environment (not necessarily sysplex), a shared DASD environment (such as test and production), or systems that reuse the same DASD at different time intervals.

HourGlass has no toleration/coexistence requisites.

### 5.2.2.4 Incompatibility (Negative) Requisites

A negative requisite identifies products that must *not* be installed on the same system as this product.

HourGlass has no negative requisites.

## 5.2.3 DASD Storage Requirements

HourGlass libraries can reside on all supported DASD types.

Figure 7 lists the total space required for each type of library.

<i>Figure 7. Total DASD Space Required by HourGlass</i>	
<b>Library Type</b>	<b>Total Space Required in 3390 Trks</b>
Target	145
Distribution	145

#### Notes:

1. IBM recommends use of system determined block sizes for efficient DASD utilization for all non-RECFM U data sets. For RECFM U data sets, IBM recommends a block size of 32760, which is the most efficient from a performance and DASD utilization perspective.

2. Abbreviations used for the data set type are:

- U** Unique data set, allocated by this product and used only by this product. To determine the correct storage needed for this data set, this table provides all required information; no other tables (or Program Directories) need to be referenced for the data set size.
- S** Shared data set, allocated by this product and used by this product and others. To determine the correct storage needed for this data set, the storage size given in this table needs to be added to other tables (perhaps in other Program Directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.
- E** Existing shared data set, used by this product and others. This data set is NOT allocated by this product. To determine the correct storage needed for this data set, the storage size given in this table needs to be added to other tables (perhaps in other program directories). This existing data set must have enough free space to accommodate the storage size given in this table.

If you currently have a previous release of this product installed in these libraries, the installation of this release will delete the old one and reclaim the space used by the old release and any service that had been installed. You can determine whether or not these libraries have enough space by deleting the old release with a dummy function, compressing the libraries, and comparing the space requirements with the free space in the libraries.

For more information on the names and sizes of the required data sets, please refer to 6.1.5, "Allocate SMP/E Target and Distribution Libraries" on page 16.

3. Abbreviations used for the HFS or zFS Path type are:

- N** New path, created by this product.
- X** Path created by this product, but may already exist from a previous release.
- P** Previously existing path, created by another product.

4. All target and distribution libraries listed have the following attributes:

- The default name of the data set may be changed.
- The default block size of the data set may be changed.
- The data set may be merged with another data set that has equivalent characteristics.
- The data set may be either a PDS or a PDSE.

5. All target libraries listed have the following attributes:

- The data set may be SMS-managed.
- It is not required for the data set to be SMS-managed.
- It is not required for the data set to reside on the IPL volume.
- The values in the "Member Type" column are not necessarily the actual SMP/E element types identified in the SMPMCS.

6. All target libraries listed which contain load modules have the following attributes:

- The data set may be in the LPA.

- It is not required for the data set to be in the LPA.
- The data set may be in the LNKLIST.
- It is not required for the data set to be APF-authorized.

The following figures describe the target and distribution libraries and HFS or zFS paths required to install HourGlass. The storage requirements of HourGlass must be added to the storage required by other programs having data in the same library or path.

**Note:** The data in these tables should be used when determining which libraries can be merged into common data sets. In addition, since some ALIAS names may not be unique, ensure that no naming conflicts will be introduced before merging libraries.

*Figure 8. Storage Requirements for HourGlass Target Libraries*

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
SAGGCLIB	CLIST	TVOL1	U	PDS	FB	80	3	2
SAGGDBRM	DATA	TVOL1	U	PDS	FB	80	3	2
SAGGEXEC	EXEC	TVOL1	U	PDS	FB	80	3	2
SAGGLLIB	LMOD	TVOL1	U	PDS	U	0	18	2
SAGGLOAD	LMOD	TVOL1	U	PDS	U	0	38	20
SAGGMLIB	MESSAGES	TVOL1	U	PDS	FB	80	2	2
SAGGNOTC	DATA	TVOL1	U	PDS	VB	1000	30	5
SAGGPINT	DATA	TVOL1	U	PDS	FB	80	13	10
SAGGPLIB	PANEL	TVOL1	U	PDS	FB	80	18	11
SAGGSAMP	SAMPLE	TVOL1	U	PDS	FB	80	15	11
SAGGINST	SAMPLE	TVOL1	U	PDS	FB	80	2	2

*Figure 9 (Page 1 of 2). Storage Requirements for HourGlass Distribution Libraries*

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
AAGGCLIB	U	PDS	FB	80	3	2
AAGGDBRM	U	PDS	FB	80	3	2
AAGGEXEC	U	PDS	FB	80	3	2
AAGGLLIB	U	PDS	U	0	18	2

Figure 9 (Page 2 of 2). Storage Requirements for HourGlass Distribution Libraries

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
AAGGLOAD	U	PDS	U	0	38	20
AAGGMLIB	U	PDS	FB	80	2	2
AAGGNOTC	U	PDS	VB	1000	30	5
AAGGPINT	U	PDS	FB	80	13	10
AAGGPLIB	U	PDS	FB	80	18	11
AAGGSAMP	U	PDS	FB	80	15	11
AAGGINST	U	PDS	FB	80	2	2

### 5.3 FMIDs Deleted

Installing HourGlass may result in the deletion of other FMIDs. To see what FMIDs will be deleted, examine the ++VER statement in the product's SMPMCS.

If you do not wish to delete these FMIDs at this time, you must install HourGlass into separate SMP/E target and distribution zones.

**Note:** These FMIDs will not automatically be deleted from the Global Zone. Consult the SMP/E manuals for instructions on how to do this.

### 5.4 Special Considerations

HourGlass has no special considerations for the target system.

---

## 6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of HourGlass.

Please note the following:

- If you want to install HourGlass into its own SMP/E environment, consult the SMP/E manuals for instructions on creating and initializing the SMP/CSI and the SMP/E control data sets.
- Sample jobs have been provided to help perform some or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries required for SMP/E execution have been defined in the appropriate zones.
- The SMP/E dialogs may be used instead of the sample jobs to accomplish the SMP/E installation steps.

---

### 6.1 Installing HourGlass

#### 6.1.1 SMP/E Considerations for Installing HourGlass

This release of HourGlass is installed using the SMP/E RECEIVE, APPLY, and ACCEPT commands. The SMP/E dialogs may be used to accomplish the SMP/E installation steps.

#### 6.1.2 SMP/E Options Subentry Values

The recommended values for some SMP/E CSI subentries are shown in Figure 10. Use of values lower than these may result in failures in the installation process. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. Refer to the SMP/E manuals for instructions on updating the global zone.

*Figure 10. SMP/E Options Subentry Values*

SUB-ENTRY	Value	Comment
DSSPACE	600,200,300	Space for SMPTLIB
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

#### 6.1.3 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install HourGlass:

Figure 11. Sample Installation Jobs

Job Name	Job Type	Description	RELFILE
AGG1DCSI	DEFCSI	Sample DEFCSI job	IBM.HAD5610.F1
AGG2RECV	RECEIVE	Sample RECEIVE job	IBM.HAD5610.F1
AGG3ALCS	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.HAD5610.F1
AGG4DDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.HAD5610.F1
AGG5APLY	APPLY	Sample APPLY job	IBM.HAD5610.F1
AGG6ACPT	ACCEPT	Sample ACCEPT job	IBM.HAD5610.F1

You can access the sample installation jobs by performing an SMP/E RECEIVE and then copying the jobs from the relfiles to a work data set for editing and submission. See Figure 11 on page 14 to find the appropriate relfile data set.

You may also choose to copy the jobs from the tape or product files by submitting the job below. Use either the //TAPEIN or the //FILEIN DD statement, depending on your distribution medium, and comment out or delete the other statement. Add a job card and change the lowercase parameters to uppercase values to meet your site's requirements before submitting.

```
//STEP1 EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//TAPEIN DD DSN=IBM.HRMU110.F10,UNIT=tunit,
// VOL=SER=volser,LABEL=(x,SL),
// DISP=(OLD,KEEP)
//FILEIN DD DSN=IBM.HRMU110.F10,UNIT=SYSALLDA,DISP=SHR,
// VOL=SER=filevol
//OUT DD DSNAME=jc1-library-name,
// DISP=(NEW,CATLG,DELETE),
// VOL=SER=dasdvol,UNIT=SYSALLDA,
// SPACE=(TRK,(primary,secondary,dir))
//SYSUT3 DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN DD *
COPY INDD=xxxxIN,OUTDD=OUT
/*
```

In the sample above, update the statements as noted below:

If using TAPEIN:

**tunit** is the unit value matching the product tape.

**volser** is the volume serial matching the product tape.

**x** is the tape file number where the data set name is on the tape.

Refer to the documentation provided by CBPDO to see where IBM.HRMU110.F10 is on the tape.

If using FILEIN

**filevol** is the volume serial of the DASD device where the downloaded files reside.

OUT

**jcl-library-name** is the name of the output data set where the sample jobs will be stored.

**dasdvol** is the volume serial of the DASD device where the output data set will reside.

SYSIN

**xxxxIN** is either TAPEIN or FILEIN depending on your input DD statement.

## 6.1.4 Perform SMP/E RECEIVE

You can also choose to edit and submit sample job AGG2RECV to perform the SMP/E RECEIVE for HourGlass. Consult the instructions in the sample job for more information.

## 6.1.5 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job AGG3ALCS to allocate the SMP/E target and distribution libraries for HourGlass. Consult the instructions in the sample job for more information.

**Expected Return Codes and Messages:**

## 6.1.6 Create DDDEF Entries

Edit and submit sample job AGG4DDEF to create DDDEF entries for the SMP/E target and distribution libraries for HourGlass. Consult the instructions in the sample job for more information.

## 6.1.7 Perform SMP/E APPLY

Perform an SMP/E APPLY CHECK for HourGlass.

1. After you have taken any actions indicated by the APPLY CHECK, remove the CHECK operand and run the job again to perform the APPLY.

**Note:** The GROUPEXTEND operand indicates that SMP/E apply all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

## 6.1.8 Perform SMP/E ACCEPT

Edit and submit sample job AGG6ACPT to perform an SMP/E ACCEPT CHECK for HourGlass. Consult the instructions in the sample job for more information.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the following on the ACCEPT CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E).

Before using SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. This will cause entries produced from JCLIN to be saved in the distribution zone whenever a SYSMOD containing inline JCLIN is ACCEPTed. For more information on the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E manuals.

Once you have taken any actions indicated by the ACCEPT CHECK, remove the CHECK operand and run the job again to perform the ACCEPT.

**Note:** The GROUPEXTEND operand indicates that SMP/E accept all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

#### **Expected Return Codes and Messages from ACCEPT CHECK:**

If PTFs containing replacement modules are being ACCEPTed, SMP/E ACCEPT processing will link-edit/bind the modules into the distribution libraries. During this processing, the Linkage Editor or Binder may issue messages documenting unresolved external references, resulting in a return code of 4 from the ACCEPT step. These messages can be ignored, because the distribution libraries are not executable and the unresolved external references will not affect the executable system libraries.

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## **6.2 Activating HourGlass**

The publication *HourGlass User's Guide and Installation Manual, SC23-8561-00* contains the step-by-step procedures to activate the functions of HourGlass.

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## 7.0 Notices

References in this document to IBM products, programs, or services do not imply that IBM intends to make these available in all countries in which IBM operates. Any reference to an IBM product, program, or service is not intended to state or imply that only IBM's product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe on any of IBM's intellectual property rights may be used instead of the IBM product, program, or service. Evaluation and verification of operation in conjunction with other products, except those expressly designated by IBM, is the user's responsibility.

APAR numbers are provided in this document to assist in locating PTFs that may be required. Ongoing problem reporting may result in additional APARs being created. Therefore, the APAR lists in this document may not be complete. To obtain current service recommendations and to identify current product service requirements, always contact the IBM Customer Support Center or use S/390 SoftwareXcel to obtain the current "PSP Bucket".

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# Reader's Comments

## Program Directory for IBM HourGlass, January 2009

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For each of the topics below please indicate your satisfaction level by circling your choice from the rating scale. If a statement does not apply, please circle N.

RATING SCALE						
very satisfied	<----->				very dissatisfied	not applicable
1	2	3	4	5	N	

	Satisfaction					
Ease of product installation	1	2	3	4	5	N
Contents of Program Directory	1	2	3	4	5	N
Installation Verification Programs	1	2	3	4	5	N
Time to install the product	1	2	3	4	5	N
Readability and organization of Program Directory tasks	1	2	3	4	5	N
Necessity of all installation tasks	1	2	3	4	5	N
Accuracy of the definition of the installation tasks	1	2	3	4	5	N
Technical level of the installation tasks	1	2	3	4	5	N
Ease of getting the system into production after installation	1	2	3	4	5	N

How did you order this product?

- CBPDO
- CustomPac
- ServerPac
- Independent
- Other

Is this the first time your organization has installed this product?

- Yes
- No

Were the people who did the installation experienced with the installation of z/OS products?

- Yes





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