FUJITSU

*10 Fujitsu Technology Solutions

*10 ASSEMBH (BS2000/OSD)
*10 Version 1.3A
*11 December 2012

Release Notice

1   General

ASSEMBH is the compiler for the assembler and macro languages in the BS2000 *) environment.

*10   Delivery includes ASSEMBH (maximum configuration) V1.3 with SDF control and
*7   COMOPT control.

*10   This Release Notice is a summary of the major extensions, requirements and op-
*10   erating information with regard to ASSEMBH V1.3.

*11   The release level is that of December 2012.
*11   Changes to release level June 2012 are marked with "*11".
*10   Changes to release level October 2007 are marked with "*10".

*10   This and other current Release Notices are shipped on the SoftBooks DVD and are
*10   available online at http://manuals.ts.fujitsu.com/.

*9   If one or more previous versions are skipped when this product version is used,
*9   the information from the Release Notices (and README files) of the previous ver-
*9   sions must be noted.

1.1   Ordering

*10   ASSEMBH V1.3 can be purchased from your local distributors.

*10   ASSEMBH V1.3 is subject to the general terms and conditions of the software
product use and service agreement.

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*) BS2000/OSD (R) is a registered trademark of Fujitsu Technology Solutions.

1.2 Delivery

*10   The ASSTRAN V1.3 files are supplied via SOLIS.

The current file and volume characteristics are listed in the SOLIS2 delivery cover letter.

The following files are included:

*10	SYSPRG.ASSEMBH.013	Library with starter modules
*10		and listing generators
*10		
*10	SYSLNK.ASSEMBH.013	Load module library
*10		
*10	ASSEMBH.COLINDA	Columbus tool: COLINDA
*10	ASSEMBH.COLLIST	Columbus tool: COLLIST
*10	ASSEMBH.COLNAS	Columbus tool: COLNAS
*10	ASSEMBH.COLNUMA	Columbus tool: COLNUMA
*10		
*10	SYSLIB.ASSEMBH.013	Library for the Assembler runtime system
*10		and macros for structured programming
*10		
*10	SYSSDF.ASSEMBH.013	SDF system syntax file
*10		
*10	SYSSSC.ASSEMBH.013	Subsystem declaration file
*10		
*10	SYSFGM.ASSEMBH.013.D	Release notice (German)
*10	SYSFGM.ASSEMBH.013.E	Release notice (English)
*10		
*10	SYSRME.ASSEMBH.013.D	README file (German)
*10	SYSRME.ASSEMBH.013.E	README file (English)
*10		
*10	SYSSDF.ASSEMBH.013.USER	SDF user syntax file
*10		
*10	SYSMES.ASSEMBH.013	ASSEMBH message file
*10		
*10	SINPRC.ASSEMBH.013	Library with installation procedures
*10		
*10	SYSSII.ASSEMBH.013	IMON structure and installation informa-
*10		tion file

1.3   Documentation

*10   The documentation for ASSEMBH V1.2 also applies to ASSEMBH V1.3
*10
*10   ASSEMBH V1.2A   User Guide
*10   ASSEMBH V1.2A   Reference Manual
*10   AID (BS2000)   Debugging of ASSEMBH Programs
*10   User Guide
*10
*10   The BS2000/OSD documentation is available in German and English on DVD with
*10   the title BS2000/OSD SoftBooks.
*10
*10   The documentation is also available in the form of online manuals at
*10   http://manuals.ts.fujitsu.com or can be ordered at extra cost at
*10   http://manualshop.ts.fujitsu.com. In the manual shop only manuals are available
*10   for products which are still orderable.
*10
*10   The manuals may be supplemented with README files. These contain changes
*10   and extensions to the manual of the product concerned. The file names are made
*10   up as follows:
*10
*10   SYSRME.<product>.<version>.E (file with English text)
*10   SYSRME.<product>.<version>.D (file with German text)
*10
*10   When printing the files, you should specify the CONTR-CHAR=EBCDIC operand
*10   in the PRINT-FILE command.

2 Software extensions

2.1 New functions and extensions

As of version 1.2A:

- It is possible to generate an object in LLM format.
  Control is via the COMPILER-ACTION option with the
  MODULE-FORMAT=*LLM operand.

- The command sets have been extended by ESA commands.
  Specify under the SOURCE-PROPERTIES option with the
  INSTRUCTION-SET=*BS2000-ESA operand.

- Generation of a structured listing when the macros for
  structured programming are used. Control is via the
  SOURCE-FORMAT=*STRUCTURED operand of the LISTING option.

- Output of the GENERATE options when the stand-alone
  list generator is used.

- The ENTRY parameter can be used with the @ENTR macro.

*3   For V1.2B, tuning measures have been taken with regard to output in LLM format.
*3   Switching to a new CIF format has resulted in quicker output of listings.

*7   As of V1.2C ASSEMBH supports IMON installations.

2.2 Renamed SDF options (as of Version 1.2A)

The following options and operands are no longer allowed in prompted dialog. In
unprompted dialog and in procedures, they can be used as previously:

```
-------------------------------------------------------------------------------------
        Old                      |        Replaced by
-------------------------------------------------------------------------------------
LISTING=(MACRO-PRINT=            |   LISTING=(MACRO-PRINT=
 *PAR(PREFIX-EXCEPTION=          |    *PAR(NOPRINT-PREFIX=
  ... <name 1..1>))              |     ... <name 1..64>))
                                 |
      The PREFIX-EXCEPTION specifications are only evaluated
        when there are no NOPRINT-PREFIX specifications.
                                 |
-------------------------------------------------------------------------------------
TEST-SUPPORT= *NO / *YES    |   TEST-SUPPORT= *NONE / *AID
-------------------------------------------------------------------------------------
```

2.3 Extended SDF options (as of Version 1.2A)

The following SDF options have been extended. Compatibility with V1.1 has been achieved by the selection of corresponding default values.

For more information, please refer to the User Guide.

```
-------------------------------------------------------------------------------------------------
      Old                         |       New
-------------------------------------------------------------------------------------------------
COMPILER-ACTION=                  |  COMPILER-ACTION=
 *MODULE-GENERATION(...)          |   *MODULE-GENERATION(...
                                  |    MODULE-FORMAT= *OM / *LLM(...))
-------------------------------------------------------------------------------------------------
LISTING=*PAR(...)                 |  LISTING=*PAR(...,SOURCE-FORMAT=
                                  |   *STD / *STRUCTURED(...))
-------------------------------------------------------------------------------------------------
```

*10
*10
*10
*10

2.4 Product-internal adaptation

To improve the maintainability of ASSEMBH a product-internal adaptation has been implemented in Version 1.3A.

3 Technical information

3.1 Resource requirements

ASSEMBH stores all its internal tables (intermediate language, symbol table, etc.) in the virtual memory. Information about listing generation is also kept in the memory when the user does not request a PLAM library element via the COMPILATION-INFO operand.

For efficient listing generation, the PLAM library element is copied to the virtual memory. If there is not enough virtual memory for compilation, the compilation process will abort with message ASS6075/ASS6127.

The system administrator must increase the authorization level for the virtual memory or compilation and listing generation can be performed less efficiently with less storage consumption if

    COMPILATION-SPACE = *SMALL and
    COMPILATION-INFO = (OUTPUT = *LIBRARY-ELEMENT(...))
are specified in the //COMPILE statement or

    GENERATION-SPACE = *SMALL
is specified in the //GENERATE statement.

3.2 Software configuration

*10   ASSEMBH V1.3A is released for BS2000/OSD-BC as of V7.0 and OSD/XC as of
*10   V3.0.

*10   Additional software requirements:
*10
*10   - for use ASSDIAG: EDT as of V16.6
*10   - for the assembler runtime system: ILCS as of V1.9
*10   - for debugging with AID: AID as of V3.1

3.3 Product installation

3.3.1 Standard installation

The standard installation procedure is SOLIS. During this procedure, all product files are entered in the BS2000 system under the $TSOS identifier and all other necessary installation processes are also performed.

ASSEMBH has been implemented as a dynamic subsystem.To install this, the system administrator must take the descriptions of the dynamic
*10   subsystems from the SYSSSC.ASSEMBH.013 file.The library
*10   SYSLNK.ASSEMBH.013 from which the dynamic subsystem are loaded must reside under the installation user ID.

*7   By using the /START- and /STOP-SUBSYSTEM commands the system adminis-
*7   trator can set up and delete the dynamic subsystem in
*7   memory class 4.

3.3.2 Installation under any ID

*7   As of version 1.2C ASSEMBH may be installed under any user ID by means of
*7   IMON.
*7
*7   Only for special cases (a system without IMON, need of paralell installation of dif-
*7   ferent ASSEMBH versions) the old private installation described below is still sup-
*7   ported.

Store all product files under the user ID desired and start the following procedure:

*10   /CALL-PROC (SINPRC.ASSEMBH.013,ASS-PRIVATE-INSTALLATION),-
        /   PROC-PAR=(<userid>)

<userid>: determines the ID under which ASSEMBH is to be installed. The ID
           must be specified without a leading $ character and without a period.

Note: For modifying the SDF syntax files and procedures, the installation proce-
dure requires the LMS, SDF-A and EDT software products.

*7   After proper execution the system administrator must add the
*10   SYSSDF.ASSEMBH.013
*7   syntax file to the system. This step can be omitted if the user
*10   assigns the SYSSDF.ASSEMBH.013.USER user syntax file with the

/MOD-SDF-OPTIONS

command.

Once the syntax file has been assigned or merged, ASSEMBH can be called up
via the

/START-ASSEMBH[C]

command.

*7   If the user syntax file is used ASSEMBH cannot be called using the START-
*4   ASSEMBH[C] command (CMD00373).
*4   In this case, you must start ASSEMBH using
*4
*10   /START-PROGRAM *PHASE(LIBRARY=$<userid>.SYSPRG.ASSEMBH.013,-
*4   /   ELEMENT=ASSEMBH[C])

The system administrator can transfer the message file to the system via:

/MODIFY-MSG-FILE-ASSIGNMENT ADD-FILE=<message-file>)

The message file is assigned to a specific task with the same command, if issued
in a user task. (As of BS2/OSD 2.0 controllable by means of the SCOPE=*TASK
option.)

Message text output can be switched to another language for each specific task
via:

/MODIFY-MSG-ATTRIBUTES TASK-LANGUAGE=<identifier>

<identifier> can be set to D or E.

Delivery includes German and English messages.

3.3.3 Starter installation procedure for start with START-PROGRAM

Optionally, you can start ASSEMBH as before with the START-PROGRAM command or the ISP command EXEC. The system administrator has to start the following procedure:

```
*10        /CALL-PROC (<userid>SINPRC.ASSEMBH.013.ASS-SEL-STARTER) -
*10        /   [ ,PROC-PAR=(INSTLIB=<userid>SYSPRG.ASSEMBH.013) ]
```

*8   Perform this procedure as the last one during installation to install the starters on the actual ID.

*8   You have to replace <userid> with the installation ID of ASSEMBH with leading $
*8   and completed with a period.
*8   If ASSEMBH is installed on the actual ID, the procedure parameter can be omit-
*8   ted.

3.4 Product use

-

3.5 Obsolete functions (and those to be discontinued)

- none -

3.6 Incompatibilities

As of V1.2, ASSEMBH and ASSLG start is performed with the following commands:

```
/START-ASSEMBH or /START-ASSEMBHC
/START-ASSLG
```

*3   The format of the CIF information has changed with V1.2B.
*3   To allow you to continue to output the CIFs generated with ASSEMBH V1.1A and
*3   V1.2A, a standalone LG ASSLG12A is supplied in
*10   SYSPRG.ASSEMBH.013.

*3   You start this with the SDF command
*3
*3   /START-PROGRAM FROM-FILE=   -
*10   /   *PHASE(LIBRARY=$<userid>.SYSPRG.ASSEMBH.013, -
*3   /   ELEMENT=ASSLG12A).
*3
*3   <userid> must be replaced by name of the user ID.
*3
*3   If ASSLG Version 1.2B is offered an old CIF, message LGR0124 is issued.
*3
*3   In F-ASSEMB-COMPATIBLE mode, the year is also output in 4-digit format as of
*3   Version 1.2B.

*9   The macro ALIGN is removed from SYSLIB of ASSEMBH. It will be delivered with
*9   the operating system. The libraries are called
*9   SYSLIB.BS2CP.<vers>
*9   where vers=110|112|120| is related to the version of the operating system.

*9   The macro ALIGN will no longer be delivered with ASSEMBH.

*7   In the syntax of the stand-alone listing generator ASSLG the value *SAVLST for
*7   operand OUTPUT in statement GENERATE is removed as of version 1.2C (no
*7   loss because there has never been a functionality connected to this value).
*7

3.7 Restrictions

*3   There are no longer any restrictions for outputting an object in LLM format.

3.8 Procedure in the event of errors

If an error occurs, please create the following documentation and send it to your
local office:

  a) Compilation errors
     - Description of the error condition
     - Source
     - Options used
     - Macro libraries

  b) Execution errors
    In addition to a):
     - Linkage editor listing
     - Input/output data
     - Runtime log.

4 Hardware support

*10   ASSEMBH V1.3A will run on all central units supported by
*10   -   BS2000/OSD-BC as of V7.0 and
*10   -   OSD/XC as of V3.0.