



# ibi™ FOCUS®

## z/OS Installation

Version 8207.27.0 and later | April 2024

# Contents

---

<b>Contents</b> .....	<b>2</b>
<b>Introduction to ibi™ FOCUS®</b> .....	<b>8</b>
Overview of ibi FOCUS .....	8
ibi FOCUS Allocations .....	9
HOME Libraries .....	9
CONF Libraries .....	10
Alias Libraries .....	11
Editing Library Members .....	13
FAQ About ibi FOCUS .....	15
<b>Installing ibi FOCUS With ISETUP</b> .....	<b>18</b>
Introduction to ISETUP .....	18
About the ISETUP Procedure .....	18
Overview of the ISETUP Procedure .....	19
Overview of the Electronic Download Process .....	19
Overview of ISETUP When Unloading From a Cartridge .....	20
Overview of Manual Steps Following ISETUP .....	20
Installing ibi FOCUS Using ISETUP .....	21
ISETUP Processing Flow .....	22
Installing FOCUS Using the FTP Option .....	23
Download HOME.DATA Automatically and RECEIVE it to a PDS .....	24
Downloading and Receiving HOME.DATA in a Batch Job .....	24
Create and Run the Batch Job to Download and Receive HOME.DATA .....	25
Sample JCL For Downloading and Receiving HOME.DATA .....	27
Downloading and Receiving HOME.DATA Interactively .....	28
FTP the HOME.DATA File to Your System .....	28
RECEIVE the HOME.DATA.RECV File to a PDS .....	31

Download the Installation Libraries Manually .....	32
Overview of Manual Download Steps .....	32
Download The Libraries Manually .....	33
Allocate Temporary Libraries on z/OS .....	34
FTP the Files to z/OS .....	35
RECEIVE Each File to the Appropriate PDS .....	36
Optionally, Specify Non-Standard Data Set Names .....	37
Invoke ISETUP to Install FOCUS With the FTP Option .....	37
Invoke ISETUP to Install FOCUS With the FTP Option .....	38
Sample FOCUS FTP Installation .....	45
Installing FOCUS Using the Tape Option .....	48
Unload HOME.DATA From the Distribution Cartridge .....	48
Optionally, Specify Non-Standard Data Set Names .....	49
Invoke ISETUP to Install FOCUS With the Tape Option .....	50
Invoke ISETUP to Install FOCUS With the Tape Option .....	50
Sample FOCUS Tape Installation .....	57
Download the Installation Libraries Manually .....	60
Overview of Manual Download Steps .....	61
Download The Libraries Manually .....	61
RECEIVE Each File to the Appropriate PDS .....	62
Preparing the Data Sets Needed for Installation .....	63
Allocate Temporary Libraries on z/OS .....	64
FTP the Files to z/OS .....	65
RECEIVE Each File to the Appropriate PDS .....	65
Installing ibi FOCUS .....	66
Optionally, Specify Non-Standard Data Set Names .....	67
Invoke ISETUP to Install ibi FOCUS .....	67
Invoke ISETUP to Install FOCUS With the Disk Option .....	67
Sample FOCUS Installation .....	74
Installing FOCUS to PDSE Libraries .....	77
Install FOCUS to PDSE Libraries .....	77

ISETUP Messages .....	80
ibi FOCUS License Keys .....	80
New ibi FOCUS License Management for z/OS Sites .....	83
New License Overview .....	83
Obtain the Required CPU information .....	84
Installation Instructions for Release 7.6.13 and Earlier .....	86
Installation Instructions for Release 7.7.03 and Higher .....	88
Previous Licensing Violation Message .....	91
New Licensing Violation Messages .....	91
Verifying ibi FOCUS Installation .....	92
Verifying ibi FOCUS Installation Interactively .....	93
Verifying ibi FOCUS Installation in Batch .....	99
Next Steps .....	103
Specifying Non-Standard Data Set Names .....	103
Creating a CLIST or Batch Job to Invoke the Installed Version of ibi FOCUS .....	105
Generating Sample ibi FOCUS Data Sources .....	105
Generate Sample ibi FOCUS Data Sources .....	105
Moving the Installed Version of ibi FOCUS to Production After Testing .....	107
<b>Customizing ibi FOCUS .....</b>	<b>108</b>
Changing the ibi FOCUS Defaults .....	108
Record Buffer Size .....	108
Setting the Maximum Number of Cache Pages .....	108
Set the Cache Page Limit .....	109
Configuring Default Space Allocations for Work Files: IBITABLA .....	109
Sample of Distributed IBITABLA .....	110
Adjusting the Number of Allowable Data Exceptions .....	111
Set a Maximum Number of Data Exceptions in a Session or Request .....	111
Selecting ibi FOCUS Default Startup Options .....	112
Edit the FOCPARM SET Commands .....	113
Create the System-Wide FOCPROF Profile .....	113

Optionally, Create the ODIN Communication File .....	114
ODIN Sample Files .....	115
Installing HiperFOCUS .....	116
Install HiperFOCUS .....	116
Activate HiperFOCUS .....	117
Creating Compiled ibi FOCUS Windows Files .....	117
Create Compiled Window Files .....	118
Installing the Re-entrant ibi FOCUS Modules .....	119
Installing the IBI Subsystem .....	119
Products that Require the IBI Subsystem .....	119
IBI Subsystem Technical Overview .....	120
IBI Subsystem Installation Requirements .....	121
IBI Subsystem Features and Functionality .....	121
IBI Subsystem Troubleshooting and Maintenance .....	121
IBI Subsystem Installation Planning .....	122
IBI Subsystem Capacity and Performance .....	122
IBI Subsystem Training .....	123
IBI Subsystem Installation Steps .....	123
IBI Subsystem Product-related Installation Issues .....	125
IBI Subsystem Maintenance Issues .....	125
Using the IBI Subsystem .....	126
The SUBSYSI Program .....	126
IBI Subsystem Operator Controls .....	127
IBI Subsystem Display Commands .....	127
IBI Subsystem SET Commands .....	128
IBI Subsystem Troubleshooting .....	129
IBI Subsystem Diagnostic information .....	129
Installing the Simultaneous Usage (SU) Facility .....	130
Allocate the Communication Data Set FOCSU .....	130
Create the Auxiliary ibi FOCUS Database FOCUSSU .....	131
Install the ibi FOCUS/SU Security Interface (Optional) .....	131

Using the ibi FOCUS/SU Security Interface .....	132
Making ibi FOCUS Database Servers Non-Swappable .....	132
Installing the IEDIT Feature .....	133
Installing IEDIT on z/OS .....	133
<b>Configuring ibi FOCUS for National Language Support Services .....</b>	<b>134</b>
Introduction to ibi FOCUS National Language Support (NLS) Services .....	134
Sample NLS Configuration Session .....	135
Overview of Steps for Configuring Code Page Settings .....	136
Overview of NLS Configuration Files .....	137
ibi FOCUS Default Code Page Configuration .....	139
Detailed NLS Configuration Steps .....	140
Adding New or Alternate Code Pages for ibi FOCUS .....	140
Add New or Alternate Code Pages to FOCUS .....	140
Configuring ibi FOCUS To Use a New Code Page .....	143
Configuring PC3270 Session Parameters .....	144
Verifying the ibi FOCUS Language Configuration .....	144
Advanced NLS Configuration Options .....	145
Configuring Customized ibi FOCUS NLS Monocasing .....	145
Customize Your NLS Monocasing Table .....	145
Configuring Customized ibi FOCUS NLS Sort Sequences .....	147
Customize Your NLS Sort Tables .....	147
Using the NLS Configuration Files .....	149
Use the NLS Configuration File (NLSCFG) .....	149
Sample NLSCFG File .....	152
Use the Code Page Definition File (CPnnnnn) .....	152
Structure of the Known Code Page File (CPXCPTBL) .....	153
Using the TSGU to Generate New Transcoding Tables .....	154
Use the TSGU Command .....	154
Submitting JCL to Generate the Transcoding Table and Unicode PDF Font Tables ..	155
Use the TSGU Info-Commands .....	156

Use the TSGU ? Command .....	157
<b>Interface Installation .....</b>	<b>160</b>
Upgrading and Using an External Password Security System .....	160
FOCUSibi FOCUS-Supplied CA-ACF2 Interface .....	161
Assign a Default FOCUS User ID .....	162
Assign an Imposed FOCUS User ID .....	163
Unidentified FOCUS Users .....	163
<b>Subsystem Sample JCL and Zaps .....</b>	<b>164</b>
SUBSYSNM: Changing the Subsystem Name .....	164
SUBSYSCP: Copying SUBSYSI Into a Separate Library .....	165
SUBSYSIJ: Running SUBSYSI .....	165
SUBSYSP: Sample Cataloged Procedure .....	166
<b>Subsystem Error Messages .....</b>	<b>167</b>
SUBSYSI Error Messages .....	167
<b>Link Pack Area Sample JCL .....</b>	<b>170</b>
JFSALLPA: Allocating Space for the ibi FOCUS LPA Library .....	170
JFSCPLPA: Copying the Reentrant Modules to FOCLPA.LOAD .....	172
JFSDELPA: Deleting the Reentrant Modules From FOCLIB.LOAD .....	175
JFSCPBACK: Restoring the Reentrant Modules to FOCLIB.LOAD .....	178
JFSCPCN1: Control Statements for JFSCPLPA and JFSCPBACK .....	180
JFSDLCN1: SCRATCH Statements Used by Job JFSDELPA .....	182
<b>ibi Documentation and Support Services .....</b>	<b>186</b>
<b>Legal and Third-Party Notices .....</b>	<b>187</b>

# Introduction to ibi™ FOCUS®

---

The ibi™ FOCUS® distribution library structure has been modeled after the ibi™ WebFOCUS® distribution library structure. However, the z/OS aliasing capability has been used to provide compatibility with the standard allocations from prior FOCUS® releases.

## Overview of ibi FOCUS

Starting with Version 7.7, the FOCUS library structure has been modeled after the ibi™ WebFOCUS® paradigm, so that a small number of libraries is being distributed. We recognize that the Mainframe FOCUS customer has a need to maintain continuity in the procedures used to run FOCUS. In order to ensure compatibility with the JCL (batch) and CLIST (TSO) procedures from prior FOCUS releases, FOCUS has implemented a new construct of physical and logical libraries. While the physical libraries have new names and functions, the logical libraries have the same names as the traditional FOCUS libraries so that the FOCUS startup procedures will be familiar to FOCUS users.

Because of the new construct that maps the logical (traditional) library names to the physical libraries actually distributed, it is no longer possible to run your own JCL procedures to install FOCUS. **You must use the ISETUP procedure distributed with your current release of FOCUS in order to do the installation.**

**Note:** Information about the new distribution library structure is being provided for the benefit of the FOCUS installer. End users should be able to interact with FOCUS using the traditional library names and have no need to know about the new structure.

This version of FOCUS is a fully 64-bit application. In concert with IBM, files are now delivered and must be run in Partitioned Data Set Extended (PDSE) LIBRARY format. Concatenation of these distributed libraries with existing 32-bit or PDS resources will have to be managed carefully. You also have the option to copy existing PDS data sets to PDSE data sets.

Starting in FOCUS Version 7.6, the HLI module was removed and replaced by HLIH.

This version of FOCUS is an LE application. If an existing HLI program is not LE compliant, it must be made so. There is a new stub to be used for linking 31-bit code to 64-bit FOCUS (ZOS31STB). This stub must be linked to customer code.

## ibi FOCUS Allocations

The FOCUS DASD footprint consists of three types of libraries, two of which are physical and one of which is logical:

- The physical distribution libraries that are used to run FOCUS have names of the form **install\_hlq.HOME.type**.
- The physical configuration libraries used to install and configure FOCUS have names of the type **install\_hlq.CONF.type**.
- The logical libraries have the traditional FOCUS library names. These logical libraries use the z/OS aliasing capability to point to the correct physical libraries.

## HOME Libraries

The following table describes the physical FOCUS HOME libraries:

Name	Description	Contents
<b>install_hlq.HOME.ACX</b>	Access File library.	Dependent on configuration options.
<b>install_hlq.HOME.BIN</b>	Contains files distributed in binary format.	For example, PFB files for fonts.
<b>install_hlq.HOME.DATA</b>	Installation library.	Contains the ISETUP installation utility and control files.
<b>install_hlq.HOME.ERR</b>	Error message library.	Contains contents of ERRNLS.DATA, ERRORS.DATA, and sample Maintain procedures.
<b>install_hlq.HOME.ETC</b>	General sample files and utilities.	Contains contents of FUSELIB.DATA.
<b>install_hlq.HOME.FOCEXEC</b>	Sample FOCEXEC	Contains distributed sample FOCUS procedures.

Name	Description	Contents
<b>hlq</b> .HOME.FEX	library.	
<b>install_hlq</b> .HOME.LOAD	Library containing FOCUS and adapter load modules.	For example, the modules previously found in FOCLIB.LOAD, FUSELIB.LOAD, FOCSQL.LOAD, and other adapter load libraries.
<b>install_hlq</b> .HOME.MAS	Sample MASTER library.	Contains distributed sample FOCUS Master File.

## CONF Libraries

The following table describes the physical FOCUS CONF libraries:

Name	Description	Contents
<b>install_hlq</b> .CONF.ACX	Access File library.	Depends on configuration options.
<b>install_hlq</b> .CONF.CFG	Configuration files for the FOCUS environment.	
<b>install_hlq</b> .CONF.DATA	Sample control files.	For example, FOCUSC, which is a CLIST built by ISETUP based on your installation naming conventions.
<b>install_hlq</b> .CONF.MAS	Master File library.	Depends on configuration options.
<b>install_hlq</b> .CONF.PRF	Profile library.	Contains the sample file EDASPROF.

## Alias Libraries

The aliases map the library names used in FOCUS 7.6 and prior releases to the current FOCUS libraries.

The alias libraries are essential to the FOCUS runtime environment. Deleting an alias can cause failures when accessing FOCUS runtime libraries, and the messages generated may be misleading.

The following table lists the aliases created by the installation process and the name of the corresponding physical library:

Alias	Description	Physical Library
ADABAS.DATA	Adapter for Adabas maintenance library.	HOME.DATA
ADABAS.LOAD	Adapter for Adabas load modules.	HOME.LOAD
DATAKOM.DATA	Adapter for CA-DATACOM maintenance library.	HOME.DATA
DATAKOM.LOAD	Adapter for CA-DATACOM load modules.	HOME.LOAD
ERRNLS.DATA	Text of FOCUS error messages.	HOME.ERR
ERRORS.DATA	Text of FOCUS error messages.	CONF.CFG
FMU.DATA	Compiled FOCUS Window files.	N/A
FOCCTL.DATA	FOCUS maintenance library.	HOME.DATA
FOCDBC.DATA	Adapter for Teradata maintenance library.	HOME.DATA
FOCDBC.LOAD	Adapter for Teradata load modules.	HOME.LOAD

<b>Alias</b>	<b>Description</b>	<b>Physical Library</b>
FOCEXEC.DATA	Sample FOCUS procedures.	HOME.FEX
FOCLIB.LOAD	FOCUS and Adapter load modules.	HOME.LOAD
FOCM204.DATA	Adapter for Model 204 maintenance library.	HOME.DATA
FOCM204.LOAD	Adapter for Model 204 load modules.	HOME.LOAD
FOCSQL.DATA	Adapters for Db2 and Oracle maintenance library.	HOME.DATA
FOCSQL.LOAD	Adapters for Db2 and Oracle load modules.	HOME.LOAD
FOCSTYLE.DATA	Sample StyleSheet files.	HOME.ETC
FUSELIB.DATA	FUSELIB maintenance library.	HOME.ETC
FUSELIB.LOAD	Load library of user-written routines.	HOME.LOAD
GIF.DATA	Sample gif images.	HOME.BIN
HTML.DATA	Sample HTML files.	HOME.ETC
IDMS.DATA	Adapter for CA-IDMS maintenance library.	HOME.DATA
IDMS.LOAD	Adapter for CA-IDMS load modules.	HOME.LOAD
IMS.DATA	Adapter for IMS maintenance library.	HOME.DATA

Alias	Description	Physical Library
IMS.LOAD	Adapter for IMS load modules.	HOME.LOAD
MASTER.DATA	Sample file descriptions.	HOME.MAS
MODEL.DATA		HOME.BIN
TRF.DATA	Distributed FOCUS Window files.	HOME.ETC

## Editing Library Members

While the aliasing methodology enables your JCL and CLIST procedures to use the standard library naming conventions from prior FOCUS releases, these logical names point to the physical data sets.

Therefore, when you edit a member in a library, the data set in which the member actually resides will have a name of the form **install\_hlq.HOME.type** or **install\_hlq.CONF.type**, as described in [FOCUS 7.7 Allocations](#). The physical data set name will display at the top of the screen when you edit a member using ISPF or IEDIT.

The following screen shows a listing of FOCUS alias libraries, generated in ISPF by displaying all data sets found under the FOCUS production high-level qualifier **install\_hlq**. Note that the user wants to edit the FOCEXEC.DATA library:

```

Menu  Options  View  Utilities  Compilers  Help
-----
-----
DSLIST - Data Sets Matching install_hlq.*                Row 1 of
43                                                         Scroll
Command ==>
==> PAGE

Command - Enter "/" to select action                    Message
Volume
-----
-----
install_hlq.ADABAS.DATA
*ALIAS

```

```

install_hlq.ADABAS.LOAD
*ALIAS
install_hlq.DATACOM.DATA
*ALIAS
install_hlq.DATACOM.LOAD
*ALIAS
install_hlq.ERRNLS.DATA
*ALIAS
install_hlq.ERRORS.DATA
*ALIAS
install_hlq.FOCCTL.DATA
*ALIAS
install_hlq.FOCDBC.DATA
*ALIAS
install_hlq.FOCDBC.LOAD
*ALIAS
  E
install_hlq.FOCEXEC.DATA
*ALIAS
install_hlq.FOCLIB.LOAD
*ALIAS
install_hlq.FOCM204.DATA
*ALIAS
install_hlq.FOCM204.LOAD
*ALIAS
install_hlq.FOCSQL.DATA
*ALIAS
install_hlq.FOCSQL.LOAD
*ALIAS
install_hlq.FOCSTYLE.DATA
*ALIAS

```

The physical library, named **install\_hlq.HOME.FEX**, opens for editing. The user can now select a member to edit:

```

  Menu  Functions  Confirm  Utilities  Help
-----
EDIT          install_hlq.HOME.FEX          Row 00001 of 00928
Command ==>>          Scroll
==> PAGE
  Name      Prompt      Size  Created      Changed
  ID
-----  ADDSCR
-----  ADUACC

```

----- ADUBTQ  
----- ADUBTQIN  
----- ADUB41IN  
----- ADUCLR  
----- ADUCOMPL  
----- ADUERR  
----- ADUGLOB  
----- ADUINST  
----- ADULOAD  
----- ADUMAIN  
----- ADUMAS  
----- ADUMOVE  
----- ADUOPT  
----- ADUPAR  
----- ADUPRO  
----- ADUREL  
----- ADUSEC

## FAQ About ibi FOCUS

This section contains Frequently Asked Questions about the current FOCUS structure and environment.

**Can I use my own JCL or any JCL from prior versions of FOCUS to install the current version of FOCUS?**

No, using your own JCL of any kind is not supported for installing FOCUS. You must use the ISETUP procedure supplied with the version of FOCUS you are installing.

**Do I have to modify the JCL and CLISTs of my users to point to the HOME.\* and CONF.\* libraries?**

No. If your production library naming convention utilizes a non-release name, such as FOCUS.PROD.FOCLIB.LOAD, then there is no need to change end-user JCL or CLISTs. If your production library naming convention utilizes a release number, such as FOCUS.PRODnnnn.FOCLIB.LOAD, then you should make an appropriate change to a middle-qualifier, but no change would have to be done for the FOCUS library suffix.

**Do I have to install FOCUS into PDSE libraries?**

Yes, FOCUS is now distributed in extended format. If you wish to convert the MASTER, FOCEXEC, and other libraries to PDS format, you can. However, all future versions of FOCUS will be delivered as PDSEs, so you may want to consider converting applications to PDSE. Also, if you want to concatenate your own data sets with the distributed libraries, you will need to be careful about the order of concatenation if you do not convert your data sets to PDSEs.

**Can I delete any of the alias libraries generated by the ISETUP utility?**

While it may be possible to delete an alias you are absolutely sure that no one at your site will ever use, there is no advantage to doing so, as the alias does not use DASD resources. The benefits of leaving the aliases in place far outweigh the risk of deleting an alias someone may need to use. For example, if you delete an alias, but the end-of-quarter or end-of-year processes require that alias library, these jobs will fail.

**How do I recreate a deleted alias library?**

ISETUP uses standard z/OS alias creation methodology to create the aliases for your site. As part of the installation process, ISETUP creates JCL for recreating all of the aliases created during the installation. This JCL can be found in the member named ALIAS in the **install\_hlq.CONF.DATA** library. Comment out all of the DEFINE statements for the aliases that were not deleted and then run this job to recreate the aliases that were deleted.

The following is a portion of the ALIAS job showing three DEFINE statements:

```
//JOB card goes here
//*
//*
//* *****
//*      This jcl is provided to re-create missing dataset alias
```

```
//* ****  
//ALIAS EXEC PGM=IKJEFT01  
//SYSTSPRT DD SYSOUT=*  
//SYSTSIN DD *  
DEF ALIAS(NAME('install_hlq.ADABAS.DATA') -  
RELATE('install_hlq.HOME.DATA'))  
DEF ALIAS(NAME('install_hlq.ADABAS.LOAD') -  
RELATE('install_hlq.HOME.LOAD'))  
DEF ALIAS(NAME('install_hlq.DATACOM.DATA') -  
RELATE('install_hlq.HOME.DATA'))
```

# Installing ibi FOCUS With ISETUP

---

FOCUS includes an automated installation and maintenance procedure named ISETUP. You must use this procedure in order to install or apply maintenance to FOCUS.

The ISETUP procedure simplifies the update process by:

- Requiring less interaction.
- Automating most of the procedure.
- Providing a log of all the activity that takes place, to allow for verification.

## Introduction to ISETUP

FOCUS includes an automated installation and maintenance procedure named ISETUP. You must use this procedure in order to install or apply maintenance to FOCUS.

There are aspects of the installation process that are not handled by ISETUP. These are detailed in this document and still require manual intervention.

ISETUP asks you for the high-level qualifier for your FOCUS data sets. Based on this qualifier and a list of all of the standard data set names (low level qualifiers), ISETUP installs all the necessary FOCUS libraries. The list of low level qualifiers ISETUP uses is in member FOCSNAME in the F.HOME.DATA data set. If you do not want to use the standard data set names, see [Specifying Non-Standard Data Set Names](#).

## About the ISETUP Procedure

The ISETUP procedure is an interactive process that uses ISPF panels.

**Important!** You must use the version of ISETUP that comes with your FOCUS release to install FOCUS.

Installing without the use of ISETUP is no longer supported. Additionally, you cannot use previous versions of your installation JCL to install FOCUS.

You must execute ISETUP from the ISPF command shell.

You should not use ISETUP to overwrite your current production FOCUS data sets with new versions.

**Note:** After running ISETUP, you will have to install the new FOCUS License key in order to verify your installation. For more information on requesting and installing your FOCUS license key, see [ibi FOCUS License Keys](#).

## Overview of the ISETUP Procedure

This topic provides a high-level overview of the installation procedure and the steps that may be needed after running the installation procedure.

## Overview of the Electronic Download Process

The following is a high level summary of how to receive the FOCUS release or maintenance electronically:

1. The following two steps to FTP GET and TSO RECEIVE the HOME.DATA library can be done in a batch job or interactively at the TSO Ready prompt. If you chose to use the batch job, it should take approximately one minute of run time to complete.
  - FTP the HOME.DATA file to your system.
  - RECEIVE the file to a PDS.
2. Execute the ISETUP procedure from the ISPF command shell.
  - a. Fill in the information requested on the screens displayed by ISETUP.
  - b. Submit the JCL created by ISETUP when ready to proceed.

**Note:** The FOCUS installation batch job created by ISETUP should take approximately 15 to 30 minutes of run time to complete.
  - c. Verify that the ISETUP job was successful by examining the completion codes for each step.

When this is complete, you have a basic test environment with the FOCUS installation or maintenance applied which is ready to be tested using the verification standards of your site.

3. After successful testing of the FOCUS release or maintenance, move the test

environment to production according to the standards of your site.

## Overview of ISETUP When Unloading From a Cartridge

The following is a high level summary of how to execute ISETUP:

1. Mount the distribution cartridge.
2. Create the JCL to unload the first data set from the distribution cartridge using the sample JCL provided in [Unload HOME.DATA From the Distribution Cartridge](#). This data set contains the ISETUP procedure.
3. Execute the ISETUP procedure from the ISPF command shell.
4. Fill in the information requested on the screens displayed by ISETUP.
5. Submit the JCL created by ISETUP when ready to proceed.
6. Verify that the job created by ISETUP was successful by examining the completion codes for each step.
7. When this is complete, you have a test environment with the installed version of FOCUS, which is ready to be tested using the verification standards of your site.
8. After successful testing of this environment, move the test environment to production according to the standards of your site.

## Overview of Manual Steps Following ISETUP

The following features are not installed by ISETUP. For these features, you must follow the instructions in the FOCUS Installation Guide for your current production version of FOCUS:

- The number of cache pages.
- FOCPARM member of ERRNLS.DATA data set.
- FOCPROF member of ERRNLS.DATA data set.
- IBITABLA member of FOCCTL.DATA data set.
- The FOCUS Menu.

- The FOCUS Toolkit.
- Simultaneous Usage facility (SU).
- User Exits.
- IBI Subsystem (the Subsystem name, however, is preserved).
- CA-ACF2 Interface.
- SU Security Interface (SUSI).
- NLS configuration.
- Maximum number of data exceptions.
- Data Adapters (Interfaces, for example, Db2 or ADABAS).

**Important:** All data adapter files are included and allocated in FOCUS once you run ISETUP. However, using the instructions in the relevant Installation Guides for those data adapters, you must reinstall every data adapter to which you want to have access in the installed version of FOCUS.

If you run FOCUS out of LPA libraries, you must do the following:

1. Copy all the reentrant modules back into FOCLIB.LOAD from FOCLPA.LOAD. (Use JOB JFSCPBACK.)
2. Run ISETUP.
3. Copy the reentrant modules from FOCLIB.LOAD back into FOCLPA.LOAD. (Repeat JOB JFSCPLPA.)
4. Delete the reentrant modules FROM FOCLIB.LOAD. (Repeat JOB JFSDELPA.)

## Installing ibi FOCUS Using ISETUP

You will install FOCUS from distribution files already on your system.

The ISETUP panels consist of **input** fields in which you can enter information and **display** fields in which you cannot enter information. Input fields have a red background and display fields have a white background.

**Note:** The ISETUP procedure is in a library named HOME.DATA. You should receive all data sets to a name that keeps the existing low-level qualifiers and prefixes them with a high-

level qualifier of your choice, followed by a required FOCUS qualifier consisting of the letter F. For example, HOME.DATA will become **new\_hql.F.HOME.DATA**.

After the ISETUP procedure has executed, all of your HOME libraries will have names of the form **new\_hql.F.HOME.suffix**, where **new\_hql** is the high-level qualifier you specify on the ISETUP panels. For example, if you specify the high-level qualifier FOCUS.*nnnn*, ISETUP will create a data set called FOCUS.*nnnn*.F.HOME.LOAD.

The installation procedure builds and, optionally, executes the JCL needed to install FOCUS.

Note that when a screen opens, its input fields may be populated with the values from a previous install. When you change any values, you must press **Enter** once to register the changes and then press **Enter** again to proceed to the next panel.

If you decide you are not satisfied with the values you entered and you want to change them, press **PF3** to return to the previous panel.

## ISETUP Processing Flow

The installation job should complete with 0 return codes for all steps, and 39 additional libraries will have been created under the high-level qualifier you entered on the ISETUP screen (for a total of 40 libraries).

There will be 26 logical alias libraries:

SYSADMIN1.ADABAS.DATA	*ALIAS
SYSADMIN1.ADABAS.LOAD	*ALIAS
SYSADMIN1.DATACOM.DATA	*ALIAS
SYSADMIN1.DATACOM.LOAD	*ALIAS
SYSADMIN1.ERRNLS.DATA	*ALIAS
SYSADMIN1.ERRORS.DATA	*ALIAS
SYSADMIN1.FOCCTL.DATA	*ALIAS
SYSADMIN1.FOCDBC.DATA	*ALIAS
SYSADMIN1.FOCDBC.LOAD	*ALIAS
SYSADMIN1.FOCEXEC.DATA	*ALIAS
SYSADMIN1.FOCLIB.LOAD	*ALIAS
SYSADMIN1.FOCM204.DATA	*ALIAS
SYSADMIN1.FOCM204.LOAD	*ALIAS
SYSADMIN1.FOCSTYLE.DATA	*ALIAS
SYSADMIN1.FOCSQL.DATA	*ALIAS
SYSADMIN1.FOCSQL.LOAD	*ALIAS
SYSADMIN1.FUSELIB.DATA	*ALIAS

SYSADMIN1.FUSELIB.LOAD	*ALIAS
SYSADMIN1.IDMS.DATA	*ALIAS
SYSADMIN1.IDMS.LOAD	*ALIAS
SYSADMIN1.IMS.DATA	*ALIAS
SYSADMIN1.IMS.LOAD	*ALIAS
SYSADMIN1.MASTER.DATA	*ALIAS
SYSADMIN1.MODEL.DATA	*ALIAS
SYSADMIN1.TRF.DATA	*ALIAS
SYSADMIN1.WINFORMS.DATA	*ALIAS

There will be eight physical HOME libraries

SYSADMIN1.F.HOME.BIN	USERM1
SYSADMIN1.F.HOME.FEX	USERM1
SYSADMIN1.F.HOME.ACX	USERM1
SYSADMIN1.F.HOME.LOAD	USERM1
SYSADMIN1.F.HOME.ERR	USERM1
SYSADMIN1.F.HOME.ETC	USERM1
SYSADMIN1.F.HOME.DATA	USERM1
SYSADMIN1.F.HOME.MAS	USERM1

There will be six physical CONF libraries:

SYSADMIN1.CONF.ACX	USERM1
SYSADMIN1.CONF.CFG	USERM1
SYSADMIN1.CONF.DATA	USERM1
SYSADMIN1.CONF.SQL	USERM1
SYSADMIN1.CONF.MAS	USERM1
SYSADMIN1.CONF.PRF	USERM1

To run the newly installed release of FOCUS, you can use your CLIST or JCL from a prior release of FOCUS by changing the high-level qualifier to the one you just installed. You *do not* have to modify the CLIST or JCL to allocate any CONF or HOME libraries. This is the reason the alias libraries were created.

**Note:** There is a sample CLIST (member FOCUSC), JCL (member FOCUS), and alias creation job (member ALIAS) in the CONF.DATA library.

## Installing FOCUS Using the FTP Option

This section describes how to install FOCUS by downloading the distribution files from an Information Builders FTP site.

You can download the distribution files automatically or manually. The manual option is available for cases in which the automatic download cannot be completed. For more information, see [Download the Installation Libraries Manually](#).

## Download HOME.DATA Automatically and RECEIVE it to a PDS

Prior to executing this step, you must know the FTP site, user ID, password, and directory path to the install folder. Information Builders will send you an email with this information when you order the install.

**Note:** There are separate domestic and international download sites. The domestic site is named `downloadftp.ibi.com`, and the international site is named `emeaftp.ibi.com`. The purpose of having separate sites is to make the download performance efficient for both domestic and international customers. Both sites contain identical files.

You have two choices for downloading and receiving the HOME.DATA library:

- You can do the download and receive steps in a batch job. This method is preferred because once you edit the JCL for one release of FOCUS 7.7, you can edit a few parameters and run the same JCL for any other release of FOCUS 7.7.
- You can do the download and receive steps interactively at the TSO Ready prompt. This method requires constant monitoring and responding to prompts and is prone to typographical errors. It is also a slower process than running the batch job.

## Downloading and Receiving HOME.DATA in a Batch Job

The JCL illustrated in this section will FTP GET the HOME.DATA library and TSO RECEIVE it into a PDS on your system. You must provide certain parameters to the job, but no other changes are necessary to reuse it for a new FOCUS release. The parameters needed for each execution of the job are provided in the download letter you receive with each release of FOCUS.

JCL created by ISETUP is supported in JES2 but not in JES3 environments. Those customers running JES3 will have to tailor the JCL to satisfy the JES3 (job submission) rules of their company.

For example, you may have to pre-allocate the libraries created by ISETUP in the JCL member ISETUPJ1 located in the library **install\_HLQ\_CONF.DATA**.

In order to create the ISETUPJ1 JCL, you have to invoke the ISETUP utility and fill in the appropriate input fields in the ISPF panels. On the confirmation panel, enter N (NO) to create the JCL but not submit the JCL.

**Note:** The batch job to download and receive the HOME.DATA library should take approximately one minute of run time to complete.

## Create and Run the Batch Job to Download and Receive HOME.DATA

This section provides sample JCL that you can copy into your JCL library and edit in order to create the download and receive job for the HOME.DATA library.

### Procedure

1. Copy the following JCL into a member named RECHOME in your JCL library:

```
//job card goes here
//*****
//*      JCL to FTP GET and TSO RECEIVE the HOME.DATA library
//*          for the purpose of installing FOCUS 7.7.x.
//*
//*
//*          Runtime Instructions
//* Please add an appropriate JOBCARD, a valid HLQ, a valid
//* userid, password, folder path (obtained from the download
//* instructions letter), an appropriate temporary DSNAME, and a
//* permanent DSNAME for the receive step. Then submit the JCL.
//*****
//STEP1    EXEC PGM=IKJEFT01,REGION=0M,DYNAMNBR=50
//SYSTSIN  DD *
ftp ftpsitename
//SYSTSPRT DD SYSOUT=*
```

```

//SYSTSOUT DD SYSOUT=*
//SYSIN DD * ftpsiteuserid ftpsitepassword
LOCSITE CYLINDERS PRI=10 SEC=1
LOCSITE LRECL=80 RECFM=FB BLKSIZE=27920
cd /path_to_service_pack_folder
BIN
GET HOME.DATA 'new_hlq.HOME.DATA.RECV' (REPLACE
quit
LOGOFF
//*
//* Receive the temporary HOME.DATA.RECV file into a PDS library
//*
//RECHD EXEC PGM=IKJEFT01
//SYSPRINT DD SYSOUT=*
//SYSTSPRT DD SYSOUT=*
//SYSTSIN DD DDNAME=SYSIN
//SYSIN DD *
RECEIVE INDATASET('new_hlq.HOME.DATA.RECV')
SPACE(10 1) CYL DSNAME('new_hlq.F.HOME.DATA')
//*
/*

```

where you must add a valid job card, copy the parameters to be substituted from the download instruction letter, and paste them into column 1 of the appropriate lines of the JCL, without extraneous characters or spaces:

### **ftpsitename**

Is the name of the FTP site provided to you by Information Builders in the download instructions e-mail.

### **ftpsiteuserid**

Is the user ID provided to you by Information Builders in the download instructions e-mail.

**Note:** The FTPSITE user ID will expire in 7 days.

The FTPSITE user ID is case-sensitive.

### **ftpsitepassword**

Is the password provided to you by Information Builders in the download

instructions e-mail.

**Note:** The FTPSITE password will expire in 7 days.

The FTPSITE password is case-sensitive.

### **path\_to\_service\_pack\_folder**

Is the path to the download folder provided to you by Information Builders in the download instructions e-mail.

### **new\_hlq**

Is the high-level qualifier under which the new release of FOCUS will be installed.

## Sample JCL For Downloading and Receiving HOME.DATA

The following JCL has sample values substituted for the parameters that need to be input. The high-level qualifier is user-defined. In this case, HOME.DATA will be downloaded to data sets under the high-level qualifier SYSADMIN1. In an actual install, you should use the same high-level qualifier under which you will install FOCUS:

```
//SYSADMIN1 JOB (ISETUP),MSGCLASS=X,CLASS=A,NOTIFY=SYSADMIN1,MSGLEVEL=
(1,1)
//*****
//*      JCL to FTP GET and TSO RECEIVE the HOME.DATA library
//*      for the purpose of installing FOCUS 7.7.x.
//*
//*
//*      Runtime Instructions
//* Please add an appropriate JOBCARD, a valid HLQ, a valid
//* userid, password, folder path (obtained from the download
//* instructions letter),an appropriate temporary DSNAME, and a
//* permanent DSNAME for the receive step. Then submit the JCL.
//*****
//STEP1 EXEC PGM=IKJEFT01,REGION=0M,DYNAMNBR=50
//SYSTSIN DD *
ftp downloadftp.ibi.com
//SYSTSPRT DD SYSOUT=*
//SYSTSOUT DD SYSOUT=*
//SYSIN DD *
```

```

F0zI552015@ibi.com
Qm4MRAe
LOC SITE CYLINDERS PRI=10 SEC=1
LOC SITE LRECL=80 RECFM=FB BLKSIZE=27920
cd /FOCUS/77/zOS_2_1_and_up_zSeries_64bit/7709M/Prod_1544
BIN
GET HOME.DATA 'SYSDMIN1.HOME.DATA.RECV' (REPLACE
quit
LOGOFF
/*
/* Receive the temporary HOME.DATA.RECV file into a PDS library
/*
//RECHD EXEC PGM=IKJEFT01
//SYSPRINT DD SYSOUT=*
//SYSTSPRT DD SYSOUT=*
//SYSTSIN DD DDNAME=SYSIN
//SYSIN DD *
RECEIVE INDATASET('SYSDMIN1.HOME.DATA.RECV')
SPACE(10 1) CYL DSNAME('SYSDMIN1.F.HOME.DATA')
/*
/*

```

## Downloading and Receiving HOME.DATA Interactively

This section describes how to download and receive the HOME.DATA library interactively at the TSO Ready prompt.

## FTP the HOME.DATA File to Your System

### Procedure

1. Issue the following command from the ISPF Command Shell (option 6) to FTP the HOME.DATA file:

```
FTP ftpsitename
```

where:

**ftpsitename**

Is the name of the FTP site provided to you by Information Builders in the download instructions e-mail.

2. Enter the user ID supplied by Information Builders when prompted by the following messages:

```
EZA1459I NAME (ftpsiteuserid):  
EZA1701I >>> USER
```

where:

**ftpsiteuserid**

Is the user ID provided to you by Information Builders in the download instructions e-mail.

**Note:** The FTPSITE user ID will expire in 7 days.

The FTPSITE user ID is case-sensitive.

3. Enter the password supplied by Information Builders when prompted by the following messages (the password will not display):

```
331 Password required for userid.  
EZA1789I PASSWORD:
```

where:

**ftpsitepassword**

Is the password provided to you by Information Builders in the download instructions e-mail.

**Note:** The FTPSITE password will expire in 7 days.

The FTPSITE password is case-sensitive.

The following messages indicate that you have successfully logged into the FTP site

and can issue FTP commands:

```
230 User userid logged in.
EZA1460I Command:
```

4. Change directories to the folder that contains the install and establish binary mode transfer:

```
CD /path_to_download_folder
BINARY
```

where:

#### **path\_to\_download\_folder**

Is the path to the download folder provided to you by Information Builders in the download instructions e-mail.

The following messages indicate that binary mode has been established, and FTP is waiting for a command:

```
EZA1701I >>> TYPE I
200 Type set to I.
EZA1460I Command:
```

5. Set the space and DCB parameters for the HOME.DATA file to be transferred:

```
LOCSITE RECFM=FB LRECL=80 BLKSIZE=27920 PRIMARY=10 SECONDARY=1
CYLINDERS
```

The following message indicates that FTP is waiting for another command:

```
EZA1460I Command:
```

6. Transfer HOME.DATA to your system:

```
GET HOME.DATA 'new_hlq.HOME.DATA.RECV'
```

The high-level qualifier, *new\_hlq*, is recommended to be the same high-level qualifier under which ISETUP will create the installed version of FOCUS.

Messages similar to the following indicate that the transfer was successful:

```
150 Opening BINARY mode data connection for HOME.DATA(1991120
bytes).
226 Transfer complete.
EZA1617I 1991120 bytes transferred in 0.440 seconds. Transfer rate
4525.27 Kbytes/sec.
EZA1460I Command:
```

7. Exit the FTP session:

```
QUIT
```

## RECEIVE the HOME.DATA.RECV File to a PDS

The HOME.DATA.RECV file is on your system in compressed format. You must issue the RECEIVE command to convert it to a PDS. The PDS will have the high-level qualifier of your choice (**new\_hlq**) and the required FOCUS qualifier that consists of the letter F.

### Procedure

1. Issue the following command from the ISPF Command Shell (option 6) to RECEIVE the HOME.DATA.RECV file:

```
RECEIVE INDATASET('new_hlq.HOME.DATA.RECV')
```

where:

#### 'new\_hlq.HOME.DATA.RECV'

Is the file you transferred to your system in [FTP the HOME.DATA File to Your System](#).

The following messages display indicating the data set name of the PDS that is being created:

```
INMR901I Dataset userid.DDNAME.XMITIN from userid on lpar
INMR906A Enter restore parameters or 'DELETE' or 'END' +
```

2. Enter the following space parameters:

```
SPACE(10 1) CYL DSNAME('new_hlq.F.HOME.DATA')
```

Note that the required FOCUS qualifier (F) has been added to the library name following your high-level qualifier.

**Note:** If you have additional required parameters, such as VOLSER, please refer to the TSO HELP RECEIVE information or the IBM Communications Server documentation for RECEIVE.

## Download the Installation Libraries Manually

In the event the Mainframe firewall at your site prevents you from running the ISETUP FTP option, you can use the following procedure to manually download the ISETUP libraries to a non-mainframe platform and then upload the libraries to the mainframe platform.

This procedure will transfer the ISETUP libraries necessary to install FOCUS on the mainframe. After the libraries have been transferred, you will use the ISETUP DISK option to complete the installation.

You should only run this procedure after getting approval from your management and security team so that you do not violate the mainframe security policies at your site.

Prior to executing this step, you must know the FTP site, user ID, password, and directory path to the installation folder. Information Builders will send you an email with this information when you order the FOCUS release.

**Note:** There are separate domestic and international download sites. The domestic site is named [downloadftp.ibi.com](http://downloadftp.ibi.com), and the international site is named [emeaftp.ibi.com](http://emeaftp.ibi.com). The purpose of having separate sites is to make the download performance efficient for both domestic and international customers. Both sites contain identical files.

## Overview of Manual Download Steps

The following is a high-level overview of the manual download process:

- Log on to your non-mainframe platform.
- Connect to the FTP site specified in the download instructions letter you received and download the files. Remain in the directory with the downloaded files.

- Log on to your z/OS platform and allocate temporary data sets.
- FTP the downloaded files from your non-mainframe platform to the temporary data sets on z/OS.
- RECEIVE the files into the appropriate PDS libraries.

## Download The Libraries Manually

First, you have to download to your preferred non-mainframe platform, then FTP the files to z/OS.

### Procedure

1. Log on to your non-mainframe platform.
2. Create a download directory (if necessary).
3. Connect to the FTP site specified in the download instructions letter:

```
ftp ftpsitename
```

4. Enter your user ID and password from the download instructions letter when prompted.
5. Enter binary mode by issuing the following command:

```
binary
```

6. On the local machine, change to the directory to which you will FTP the files:

```
lcd downloaddir
```

7. On the FTP site, change to the directory with the download files, as instructed in the download email:

```
cd path_to_download_folder
```

8. Retrieve the download libraries:

```

get HOME.DATA
get HOME.ETC
get HOME.BIN
get HOME.ACX
get HOME.FEX
get HOME.MAS
get HOME.ERR
get HOME.LOAD

```

9. Terminate your FTP connection:

```
quit
```

## Allocate Temporary Libraries on z/OS

You have downloaded the files to a non-mainframe platform. Now you must log on to z/OS and allocate temporary data sets.

Log on to TSO and allocate temporary sequential files using the preferred method for allocating files at your site, either ISPF or JCL. The temporary data sets should have the following suggested names and DCB attributes of XMIT formatted (compressed) files:

Data Set Name	DCB Attributes
new_hlq.HOME.DATA.TEMP	LRECL(80),RECFM(F,B),BLKSIZE (3120),SPACE=(CYL,(10,2))
new_hlq.HOME.ETC.TEMP	LRECL(80),RECFM(F,B),BLKSIZE (3120),SPACE=(CYL,(50,5))
new_hlq.HOME.BIN.TEMP	LRECL(80),RECFM(F,B),BLKSIZE (3120),SPACE=(CYL,(500,50))

Data Set Name	DCB Attributes
new_hlq.HOME.ACX.TEMP	LRECL(80),RECFM(F,B),BLKSIZE (3120),SPACE=(CYL,(5,1))
new_hlq.HOME.FEX.TEMP	LRECL(80),RECFM(F,B),BLKSIZE (3120),SPACE=(CYL,(25,5))
new_hlq.HOME.MAS.TEMP	LRECL(80),RECFM(F,B),BLKSIZE (3120),SPACE=(CYL,(10,1))
new_hlq.HOME.ERR.TEMP	LRECL(80),RECFM(F,B),BLKSIZE (3120),SPACE=(CYL,(90,10))
new_hlq.HOME.LOAD.TEMP	LRECL(80),RECFM(F,B),BLKSIZE (3120),SPACE=(CYL,(350,50))

## FTP the Files to z/OS

On your non-mainframe platform, you are in the directory that contains the files you downloaded. On z/OS, you are still logged into your TSO ID.

### Procedure

1. FTP to your z/OS platform:

```
ftp zosdomain
```

2. Establish binary mode transfer by issuing the following command:

```
binary
```

### 3. Retrieve the libraries to z/OS:

```
put HOME.DATA 'new_hlq.HOME.DATA.TEMP' (replace
put HOME.ETC 'new_hlq.HOME.ETC.TEMP' (replace
put HOME.BIN 'new_hlq.HOME.BIN.TEMP' (replace
put HOME.ACX 'new_hlq.HOME.ACX.TEMP' (replace
put HOME.FEX 'new_hlq.HOME.FEX.TEMP' (replace
put HOME.MAS 'new_hlq.HOME.MAS.TEMP' (replace
put HOME.ERR 'new_hlq.HOME.ERR.TEMP' (replace
put HOME.LOAD 'new_hlq.HOME.LOAD.TEMP' (replace
```

## RECEIVE Each File to the Appropriate PDS

The files have been transferred to z/OS into the temporary PDS libraries you allocated previously. Now you must RECEIVE them (uncompress them) into the permanent PDS installation libraries.

### Procedure

1. Using TSO, expand the files retrieved in the FTP step into PDSs using the following command for each temporary data set. For example:

```
RECEIVE INDSN('new_hlq.HOME.DATA.TEMP')
```

2. Reply to the restore prompt with the name of the receiving data set. The receiving data set has the character F after the high-level qualifier and does not have the .TEMP suffix. For example:

```
DSNAME('new_hlq.F.HOME.DATA')
```

### What to do next

The complete list of data sets after they are uncompressed follows:

```
new_hlq.F.HOME.DATA
new_hlq.F.HOME.ETC
new_hlq.F.HOME.BIN
new_hlq.F.HOME.ACX
new_hlq.F.HOME.FEX
```

```
new_hlq.F.HOME.MAS  
new_hlq.F.HOME.ERR  
new_hlq.F.HOME.LOAD
```

At the end of this process, you have created the product installation libraries. Proceed with installation using the DISK option, as described in [Installing FOCUS Using the Disk Option](#).

The temporary data sets (.TEMP files) should be deleted after the installation is complete and has been tested.

## Optionally, Specify Non-Standard Data Set Names

ISETUP asks you for the high-level qualifier for your FOCUS data sets. Based on this qualifier and a list of all of the standard data set names (low level qualifiers), ISETUP installs all the necessary FOCUS libraries. The list of low level qualifiers ISETUP uses is in member FOCSNAME in the F.HOME.DATA data set. If you do not want to use the standard data set names, see [Specifying Non-Standard Data Set Names](#).

## Invoke ISETUP to Install FOCUS With the FTP Option

Now that the F.HOME.DATA data set resides on your system, you can run the ISETUP procedure to install FOCUS.

JCL created by ISETUP is supported in JES2 but not in JES3 environments. Those customers running JES3 will have to tailor the JCL to satisfy the JES3 (job submission) rules of their company.

For example, you may have to pre-allocate the libraries created by ISETUP in the JCL member ISETUPJ1 located in the library **install\_HLQ\_CONF.DATA**.

In order to create the ISETUPJ1 JCL, you have to invoke the ISETUP utility and fill in the appropriate input fields in the ISPF panels. On the confirmation panel, enter N (NO) to create the JCL but not submit the JCL.

# Invoke ISETUP to Install FOCUS With the FTP Option

## Procedure

1. Invoke ISETUP by executing the CLIST contained in member ISETUP of the *new\_hlq.F.HOME.DATA* data set, where *new\_hlq* is the high-level qualifier for the downloaded version of HOME.DATA.

**Note:** You must use the version of ISETUP that you just downloaded with the new FOCUS data sets. You cannot use an older version of ISETUP.

You must execute this CLIST from the ISPF command shell (option 6):

```
EXEC 'new_hlq.F.HOME.DATA(ISETUP)'
```

The ISETUP Main Menu opens:

```
Information Builders      Installation and Configuration
Mainframe FOCUS
Command ===>
F0

Please select one of the following options:

      1. Mainframe FOCUS Installation
          . Install FOCUS into standard MVS libraries.

Enter selection (Default=1) ===> 1

Press Enter to continue, PF3 to END                      Version:
7703
```

2. Choose Option 1 for the Core FOCUS installation, and press Enter to register this choice.

Press Enter again to proceed to the next panel.

The FOCUS Installation and Configuration panel opens.

```

Information Builders   Installation and Configuration
Mainframe FOCUS
Command ==>
F1

Please select one of the following options:

      1. Install and Configure
      2. Refresh Installation (Reinstall, Keep Configurations)

Enter selection (Default=1) ==> 1
Input source              ==> D                (T)ape,(D)isk
or (F)tp
Installation Userid      ==> USERID1          Logged on
Userid

Enter Job Card information                Override JOB name checking
==> N
==> // JOB (ACCT INFO),_____
-----
==> //*_____
-----
==> //*_____
-----
Press Enter to continue, PF3 to END

```

3. Select Option 1 (Install and Configure, the default).

The **Input source** value will be filled in with default options. The **Installation Userid** field will contain your logon ID.

4. Change the **Input source** option to **F** (files are to be downloaded), and create a valid JOB card according to the specifications of your site.

**Note:** Your JOB card must have a REGION parameter that specifies at least 4M. For example:

```
//FOCUSER1 JOB (PDSINSTL,USR), 'J.USERNME', NOTIFY=FOCUSER1, REGION=4M
```

If you get messages similar to the following, the region size is not large enough to run ISETUP. In that case, change the REGION parameter to specify 0M and rerun

ISETUP.

```
13.13.10 JOB12752 IEA705I ERROR DURING GETMAIN SYS CODE = 878-10
QCSJLDPI CO
.
.
.
13.13.10 JOB12752 IEF450I QCSJLDPI COPY01 IFOCINST - ABEND=S878
U0000 REASON=0
```

Press Enter.

Press Enter again to proceed to the next panel.

The New Installation FTP Download panel opens.

```
Information Builders   Installation and Configuration
Mainframe FOCUS
Command ==>
FA
                                     New Installation

Please enter the following information for Mainframe FOCUS

Input FTP user information

FTP Userid                ==>
FTP Password              ==>

Output Libraries

Output Libraries HLQ      ==>
                                     Unit ==> SYSDA           Volume ==>

Installation JCL Library  ==> INSTALLED_HLQ.CONF.DATA

Press Enter to continue, PF3 to return to previous menu
```

5. Tab to the input fields and enter the values for FTP user ID, FTP password, and your output library high-level qualifier.

You can change the following input fields:

- **FTP Userid.** Enter the user ID for the FTP site from the Information Builders email.
- **FTP Password.** Enter the password for the FTP site from the Information Builders email.
- **Output Libraries HLQ.** Enter the high-level qualifier for the FOCUS libraries.  
**Note:** You must make sure that the combination of your high-level qualifier and the FOCUS library names is less than or equal to 44 characters, the maximum name length supported on z/OS.
- **Unit.** By default, the **Unit** value is **SYSDA**. SYSDA is defined by your systems programming group to be a type of DASD device. FOCUS must be installed into PDSE libraries on a 3390 device type. If the SYSDA definition at your site does not comply with these requirements, change the **Unit** value to an appropriate DASD subpool name that defines a 3390 PDSE library.
- **Volume.** This is an optional input value that can be used to place the FOCUS libraries on a specific volume.

When you are finished, press Enter.

Press Enter again to proceed to the next panel.

The New Installation FTP Confirmation panel opens:

```

Information Builders      Installation and Configuration
Mainframe FOCUS
Command ==>
      FB
                                New Installation

Please confirm the following information for Mainframe FOCUS

Input FTP user information
FTP Userid                ==>    FTPUSERID@ibi.com

      FTP Password                ==>    FTPpassword

Product Configuration parameters
Output Libraries HLQ      ==>    NEW_HLQ

```

```

                                Unit ==> SYSDA          Volume ==>
(Above will be used for all output libraries)

Installation JCL Library  ==> NEW_HLQ.CONF.DATA
Preview output allocations ==> N

Continue ? (N)o, (C)reate JCL only, (S)ubmit JCL ==> s   (Enter
N, C or S)
Press Enter to continue, PF3 to return to previous menu

```

**Note:** The FOCUS installation batch job created by ISETUP should take approximately 15 to 30 minutes of run time to complete.

6. Confirm the options that you entered on previous panels.

You can see what the installation process will allocate on your behalf by changing the **Preview output allocations** field from **N** to **Y** and pressing Enter.

If you changed **Preview output allocations** to **Y**, the preview panels will display before ISETUP creates the installation JCL. While you examine the Preview panels, if you see one or more values you want to correct, press **PF3** as many times as necessary to return to the panel that you want to modify.

There may be several Preview panels. You can navigate between them using the following keys:

- To continue to the next preview panel, press PF8.
- To return to the previous preview panel, press PF7.
- To exit the preview panels and return to the **Confirmation** panel, press Enter or PF3.

After you return from the preview panels to the **Confirmation** panel, the **Preview output allocations** field is reset to **N**.

The following are sample preview panels:

```

Information Builders          Installation and Configuration          Row 1
to 17 of 99
Command ==>
SCROLL ==> PAGE

```

## Datasets to be allocated (Listed by functional area)

Function	Action	DSN
-----	-----	----
HOME	CREATE	NEW_HLQ.F.HOME.ETC
HOME	CREATE	NEW_HLQ.F.HOME.ACX
HOME	CREATE	NEW_HLQ.F.HOME.FEX
HOME	CREATE	NEW_HLQ.F.HOME.MAS
HOME	CREATE	NEW_HLQ.F.HOME.BIN
HOME	CREATE	NEW_HLQ.F.HOME.ERR
HOME	CREATE	NEW_HLQ.F.HOME.LOAD
CONF	CREATE	NEW_HLQ.CONF.CFG
CONF	CREATE	NEW_HLQ.CONF.ACX
CONF	CREATE	NEW_HLQ.CONF.MAS
CONF	CREATE	NEW_HLQ.CONF.PRF
ALIAS	CREATE	NEW_HLQ.ADABAS.DATA
RELATED	-->	NEW_HLQ.F.HOME.DATA
ALIAS	CREATE	NEW_HLQ.ADABAS.LOAD
RELATED	-->	NEW_HLQ.F.HOME.LOAD

Information Builders

Installation and Configuration

Row 18 to

34 of 99

Command ==&gt;

SCROLL

==&gt; PAGE

DD

## Datasets to be allocated (Listed by functional area)

Function	Action	DSN
-----	-----	----
ALIAS	CREATE	NEW_HLQ.DATACOM.DATA
RELATED	-->	NEW_HLQ.F.HOME.DATA
ALIAS	CREATE	NEW_HLQ.DATACOM.LOAD
RELATED	-->	NEW_HLQ.F.HOME.LOAD
ALIAS	CREATE	NEW_HLQ.ERRNLS.DATA
RELATED	-->	NEW_HLQ.F.HOME.ERR
ALIAS	CREATE	NEW_HLQ.ERRORS.DATA

RELATED	-->	NEW_HLQ.CONF.CFG
ALIAS	CREATE	NEW_HLQ.FOCCTL.DATA
RELATED	-->	NEW_HLQ.F.HOME.DATA
ALIAS	CREATE	NEW_HLQ.FOCDBC.DATA

7. When you have verified your choices on the Confirmation panel, you must choose a continuation option:

- The default option is **N**, which cancels the process and returns to the FOCUS Installation panel.
- Option **C** creates the installation JCL and saves it to member ISETUPJ1 in the NEW\_HLQ.CONF.DATA data set. You can review, edit, update, or submit it manually without re-invoking ISETUP:

```
ISETUP - Allocating file 'NEW_HLQ.CONF.DATA'
ISETUP - Creating installation options file ISOPTS1
ISETUP - Creating main JCL ISETUPJ1
ISETUP - JCL created in NEW_HLQ.CONF.DATA but not submitted
ISETUP - You can manually submit the following JCL to complete
install
ISETUP - NEW_HLQ.CONF.DATA(ISETUPJ1)
***
```

- Option **S** creates the installation JCL, saves it to member ISETUPJ1 in the NEW\_HLQ.CONF.DATA data set, and submits the job directly to the system for processing:

```
ISETUP - Deleting file 'NEW_HLQ.CONF.DATA'
IDC0550I ENTRY (A) NEW_HLQ.CONF.DATA DELETED
ISETUP - Allocating file 'NEW_HLQ.CONF.DATA'
ISETUP - Creating installation options file ISOPTS1
ISETUP - Creating main JCL ISETUPJ1
ISETUP - Submitting JCL, use SDSF (or site standard) to monitor
job
IKJ56250I JOB USERID1I(JOB28173) SUBMITTED
***
```

To register your choice, press Enter.

To execute the option you chose, press Enter again.

## Sample FOCUS FTP Installation

Execute the ISETUP CLIST from the ISPF command shell (option 6).

Assume your new installed libraries will be under the high-level qualifier NEW\_HLQ, that you downloaded the HOME.DATA library under this same high-level qualifier, and that your userid is FOCUSUSER1:

```
EXEC 'NEW_HLQ.F.HOME.DATA(ISETUP)'
```

The ISETUP Main Menu opens:

```
Information Builders      Installation and Configuration
Mainframe FOCUS
Command ===>
      F0
```

Please select one of the following options:

1. Mainframe FOCUS Installation
  - . Install FOCUS into standard MVS libraries.

Enter selection (Default=1) ===> 1

Press Enter to continue, PF3 to END  
Version: 7703

Choose Option 1 for the Core FOCUS installation, and press Enter to register this choice.

Press Enter again to proceed to the next panel.

The FOCUS FTP Installation and Configuration panel opens.

```
Information Builders      Installation and Configuration
Mainframe FOCUS
Command ===>
```

F1

Please select one of the following options:

1. Install and Configure
2. Refresh Installation (Reinstall, Keep Configurations)

```

Enter selection (Default=1) ==> 1
Input source                    ==> F                (T)ape,(D)isk
or (F)tp
Installation Userid            ==> FOCUSER1          Logged on
Userid

```

```

Enter Job Card information          Override JOB name checking
==> N
==> //FOCUSER1 JOB
(PDSINSTL,USR),'J.USERNME',NOTIFY=FOCUSER1,REGION=4M_____
==> //*_____
-----
==> //*_____
-----
Press Enter to continue, PF3 to END

```

Change the **Input Source** option to **F** (files will be downloaded using FTP), and press Enter.

Press Enter again to proceed to the next panel.

The New Installation FTP Download panel opens.

```

Information Builders      Installation and Configuration
Mainframe FOCUS
Command ==>
  FA
                                New Installation

Please enter the following information for Mainframe FOCUS

Input FTP user information

FTP Userid                ==>  FTPuserid@ibi.com

```

```

FTP Password          ===>  FTPpassword

Output Libraries

Output Libraries HLQ      ===>  NEW_HLQ

                               Unit ===>  SYSDA          Volume ===>

Installation JCL Library  ===>  NEW_HLQ.CONF.DATA

Press Enter to continue, PF3 to return to previous menu

```

Change the following input fields:

- **FTP Userid.** Enter the user ID supplied in the email from Information Builders.
- **FTP Password.** Enter the password supplied in the email from Information Builders.
- **Output Libraries HLQ.** Enter NEW\_HLQ.  
**Note:** You must make sure that the combination of your high-level qualifier and the FOCUS library names is less than or equal to 44 characters, the maximum name length supported on z/OS.
- **Unit.** If SYSDA does not define a 3390 PDSE library, change the **Unit** value to an appropriate DASD subpool name that defines a 3390 PDSE library.

When you are finished, press Enter.

Press Enter again to proceed to the next panel.

The FTP Confirmation panel opens:

```

Information Builders      Installation and Configuration
Mainframe FOCUS
Command ===>
    FB
                               New Installation

Please confirm the following information for Mainframe FOCUS

Input FTP user information
FTP Userid                ===>  FTPuserid@ibi.com

FTP Password              ===>  FTPpassword

```

```

Product Configuration parameters
Output Libraries HLQ      ===> NEW_HLQ

                               Unit ===> SYSDA      Volume ===>
(Above will be used for all output libraries)

Installation JCL Library  ===> NEW_HLQ.CONF.DATA
Preview output allocations ===> N

Continue ? (N)o, (C)reate JCL only, (S)ubmit JCL ===> s  (Enter N, C
or S)
Press Enter to continue, PF3 to return to previous menu

```

Confirm the options that you entered on previous panels.

When you have verified your choices, enter **C** to create the installation JCL in member ISETUPJ1 in the NEW\_HLQ.CONF.DATA data set.

Press Enter to execute this option.

## Installing FOCUS Using the Tape Option

This section describes how to install FOCUS by unloading the distribution files from a cartridge.

## Unload HOME.DATA From the Distribution Cartridge

Use the following JCL as a model for unloading the first data set (HOME.DATA) from the distribution cartridge. The downloaded data set will have the same low level qualifiers and a new high-level qualifier of your choice followed by another qualifier consisting of the letter F.

```

//job card goes here
//* unload HOME.DATA from first file on the volume 1 cartridge
//ISETUNLD EXEC PGM=IEBCOPY

```

```
//SYSPRINT DD SYSOUT=*
//SYSUT1 DD DISP=OLD,DSN=HOME.DATA,
// UNIT=unit,LABEL=(1,SL),VOL=SER=volser
//SYSUT2 DD DISP=(NEW,CATLG),DSN=new_hlq.F.HOME.DATA,
// SPACE=(CYL,(10,1,15)),UNIT=SYSDA,
// DCB=(DSORG=PO,RECFM=FB,LRECL=80,BLKSIZE=27920)
//SYSIN DD DUMMY
//
```

where:

### **new\_hlq**

Is the high-level qualifier that will be used for the new FOCUS data sets created by ISETUP.

### **volser**

Is the volume serial number of the distribution cartridge. This value can be found on the label affixed to the front of the distribution cartridge.

### **unit**

Is a valid unit for the distribution cartridge. As of January 1, 2015, 3590 is the only supported tape media type.

## Optionally, Specify Non-Standard Data Set Names

ISETUP asks you for the high-level qualifier for your FOCUS data sets. Based on this qualifier and a list of all of the standard data set names (low level qualifiers), ISETUP installs all the necessary FOCUS libraries. The list of low level qualifiers ISETUP uses is in member FOCSNAME in the F.HOME.DATA data set. If you do not want to use the standard data set names, see [Specifying Non-Standard Data Set Names](#).

## Invoke ISETUP to Install FOCUS With the Tape Option

If you unloaded ISETUP from a cartridge, prior to executing ISETUP request that the distribution cartridge be given SYSTEM MOUNTED status by your operations staff.

## Invoke ISETUP to Install FOCUS With the Tape Option

Invoke ISETUP by executing the CLIST contained in member ISETUP of the *new\_hlq.F.HOME.DATA* data set, where *new\_hlq* is the high-level qualifier for the unloaded version of F.HOME.DATA and the new FOCUS data sets it will create. You must execute this CLIST from the ISPF command shell (option 6).

**Note:** You must use the version of ISETUP that you just unloaded with the new FOCUS data sets. You cannot use an older version of ISETUP from an ISETUP library from an older release or gen.

### Procedure

1. Issue the following command to execute ISETUP:

```
EXEC 'new_hlq.F.HOME.DATA(ISETUP)'
```

The ISETUP Main Menu opens:

```
Information Builders      Installation and Configuration
Mainframe FOCUS
Command ==>
      F0
```

Please select one of the following options:

1. Mainframe FOCUS Installation

```
. Install FOCUS into standard MVS libraries.
```

```
Enter selection (Default=1) ==> 1
```

```
Press Enter to continue, PF3 to END
Version: 7703
```

2. Choose Option 1 for the Core FOCUS installation, and press Enter to register this choice.

Press Enter again to proceed to the next panel.

The FOCUS Installation and Configuration panel opens.

```
Information Builders      Installation and Configuration
Mainframe FOCUS
Command ==>
      F1

Please select one of the following options:

      1. Install and Configure
      2. Refresh Installation (Reinstall, Keep Configurations)

Enter selection (Default=1) ==> 1
Input source                ==> T                (T)ape,(D)isk
or (F)tp
Installation Userid         ==> USERID1          Logged on
Userid

Enter Job Card information          Override JOB name
checking ==> N
==> // USERID1I JOB (PDSSERVE,PDS),NOTIFY=USERID1,REGION=4M_____
-----
==> //*_____
-----
==> //*_____
-----
```

Press Enter to continue, PF3 to END

3. Select Option 1 (Install and Configure, the default).

The **Input Source** value will be filled in with default options. The **Installation Userid** field will contain your logon ID.

4. Change the **Input Source** option to **T** (files will be unloaded from the distribution cartridge), and supply a valid JOB card.

**Note:** Your JOB card must have a REGION parameter that specifies at least 4M. If you get messages similar to the following, the region size is not large enough to run ISETUP. In that case, change the REGION parameter to specify 0M and rerun ISETUP.

Press Enter.

Press Enter again to proceed to the next panel.

The New Installation FOCUS Tape Definitions panel opens.

```

Information Builders      Installation and Configuration
Mainframe FOCUS
Command ==>
      F2

                                New Installation

Please enter the following information for Mainframe FOCUS

(blank any field for default)

Input Media

Volume serial number      ==> Txxxxx      Unit type ==> 3590
Work unit type            ==> SYSDA

Output Libraries
Output Libraries HLQ      ==> NEW_HLQ
Unit ==> 3390              Volume ==>

Installation JCL Library  ==> NEW_HLQ.CONF.DATA

Press Enter to continue, PF3 to return to previous menu

```

5. Tab to the input fields and enter the cartridge parameters and a high-level qualifier for the output libraries that will be created by ISETUP.

You can change the following input fields:

- **Volume serial number.** Enter the volume serial number for the distribution cartridge.
- **Unit type.** Enter the media type of the distribution cartridge.
- **Work unit type.** Enter the unit type on which the distribution cartridge is mounted.
- **Output Libraries HLQ.** Enter the high-level qualifier for the new FOCUS libraries.

**Note:** You must make sure that the combination of your high-level qualifier and the FOCUS library names is less than or equal to 44 characters, the maximum name length supported on z/OS.

- **Unit.** By default, the **Unit** value is **SYSDA**. SYSDA is defined by your systems programming group to be a type of DASD device. FOCUS must be installed into PDS libraries on a 3390 device type. If the SYSDA definition at your site does not comply with these requirements, change the **Unit** value to an appropriate DASD subpool name that defines a 3390 PDS library.
- **Volume.** This is an optional input value that can be used to place the new FOCUS libraries on a specific volume.

When you are finished, press Enter.

Press Enter again to proceed to the next panel.

The New Installation FOCUS Tape Confirmation panel opens:

```

Information Builders      Installation and Configuration
Mainframe FOCUS
Command ==>
      F5

                                New Installation

Please confirm the following information for Mainframe FOCUS
Input Media

Volume serial number      ==> Txxxxx   Unit type ==> 3590

```

```

Work unit type          ===> SYSDA

Product Configuration parameters

Output Libraries HLQ    ===> NEW_HLQ
                        Unit ===> SYSDA   Volume ===>
(Above will be used for all output libraries)

Installation JCL Library ===> NEW_HLQ.CONF.DATA
Preview output allocations ===> N          Y or N

Continue ? (N)o, (C)reate JCL only, (S)ubmit JCL ===> s   (Enter
N, C or S)
Press Enter to process, PF3 to return to previous menu

```

6. Confirm the options that you entered on previous panels.

You can see what the installation process will allocate on your behalf by changing the **Preview output allocations** field from **N** to **Y** and pressing Enter.

If you changed **Preview output allocations** to **Y**, the preview panels will display before ISETUP creates the installation JCL. While you examine the Preview panels, if you see one or more values you want to correct, press PF3 as many times as necessary to return to the panel that you want to modify.

There may be several preview panels. You can navigate between them using the following keys:

- To continue to the next preview panel, press PF8.
- To return to the previous preview panel, press PF7.
- To exit the preview panels and return to the **Confirmation** panel, press Enter or PF3.

After you return from the preview panels to the **Confirmation** panel, the **Preview output allocations** field is reset to **N**.

The following are sample preview panels:

```

Information Builders      Installation and Configuration      Row 1
to 17 of 99
Command ===>

```

SCROLL ==> PAGE

Datasets to be allocated (Listed by functional area)

Function	Action	DSN
-----	-----	---
HOME	CREATE	NEW_HLQ.F.HOME.ETC
HOME	CREATE	NEW_HLQ.F.HOME.ACX
HOME	CREATE	NEW_HLQ.F.HOME.FEX
HOME	CREATE	NEW_HLQ.F.HOME.MAS
HOME	CREATE	NEW_HLQ.F.HOME.BIN
HOME	CREATE	NEW_HLQ.F.HOME.ERR
HOME	CREATE	NEW_HLQ.F.HOME.LOAD
CONF	CREATE	NEW_HLQ.CONF.CFG
CONF	CREATE	NEW_HLQ.CONF.ACX
CONF	CREATE	NEW_HLQ.CONF.MAS
CONF	CREATE	NEW_HLQ.CONF.PRF
ALIAS	CREATE	NEW_HLQ.ADABAS.DATA
RELATED	-->	NEW_HLQ.F.HOME.DATA
ALIAS	CREATE	NEW_HLQ.ADABAS.LOAD
RELATED	-->	NEW_HLQ.F.HOME.LOAD

Information Builders      Installation and Configuration      Row 18 to  
34 of 99

Command ==>

SCROLL ==> PAGE

DD

Datasets to be allocated (Listed by functional area)

Function	Action	DSN
-----	-----	---
ALIAS	CREATE	NEW_HLQ.DATACOM.DATA
RELATED	-->	NEW_HLQ.F.HOME.DATA
ALIAS	CREATE	NEW_HLQ.DATACOM.LOAD
RELATED	-->	NEW_HLQ.F.HOME.LOAD
ALIAS	CREATE	NEW_HLQ.ERRNLS.DATA
RELATED	-->	NEW_HLQ.F.HOME.ERR

ALIAS RELATED	CREATE -->	NEW_HLQ.ERRORS.DATA NEW_HLQ.CONF.CFG
ALIAS RELATED	CREATE -->	NEW_HLQ.FOCCTL.DATA NEW_HLQ.F.HOME.DATA
ALIAS	CREATE	NEW_HLQ.FOCDBC.DATA

7. When you have verified your choices on the Confirmation panel, you must choose a continuation option:

- The default option is **N**, which cancels the process and returns to the FOCUS Library Installation panel.
- Option **C** creates the installation JCL and saves it to member ISETUPJ1 in the NEW\_HLQ.CONF.DATA data set. You can review, edit, update, or submit it manually without reinvoking ISETUP:

```
ISETUP - Allocating file 'NEW_HLQ.CONF.DATA'
ISETUP - Creating installation options file ISOPTS1
ISETUP - Creating main JCL ISETUPJ1
ISETUP - JCL created in NEW_HLQ.CONF.DATA but not submitted
ISETUP - You can manually submit the following JCL to complete
install
ISETUP - NEW_HLQ.CONF.DATA(ISETUPJ1)
***
```

- Option **S** creates the installation JCL, saves it to member ISETUPJ1 in the NEW\_HLQ.CONF.DATA data set, and submits the job directly to the system for processing:

```
ISETUP - Deleting file 'NEW_HLQ.CONF.DATA'
IDC0550I ENTRY (A) NEW_HLQ.CONF.DATA DELETED
ISETUP - Allocating file 'NEW_HLQ.CONF.DATA'
ISETUP - Creating installation options file ISOPTS1
ISETUP - Creating main JCL ISETUPJ1
ISETUP - Submitting JCL, use SDSF (or site standard) to monitor
job
IKJ56250I JOB USERID1I(JOB28173) SUBMITTED
***
```

To register your choice, press Enter.

To execute the option you chose, press Enter again.

## Sample FOCUS Tape Installation

Assume you unloaded the HOME.DATA data set under high-level qualifier NEW\_HLQ.

Issue the following command from the ISPF Command Shell (option 6):

```
EXEC 'NEW_HLQ.F.HOME.DATA(ISETUP)'
```

The ISETUP Main Menu opens:

```
Information Builders      Installation and Configuration      Mainframe
FOCUS
Command ===>
      F0
```

Please select one of the following options:

1. Mainframe FOCUS Installation
  - . Install FOCUS into standard MVS libraries.

```
Enter selection (Default=1) ===> 1
```

```
Press Enter to continue, PF3 to END
7703
```

```
Version:
```

Choose Option 1 for the Core FOCUS installation, and press Enter to register this choice.

Press Enter again to proceed to the next panel.

The FOCUS Installation and Configuration panel opens.

```
Information Builders      Installation and Configuration      Mainframe
FOCUS
Command ===>
      F1
```

Please select one of the following options:

1. Install and Configure
2. Refresh Installation (Reinstall, Keep Configurations)

```

Enter selection (Default=1) ==> 1
Input source                ==> T                (T)ape,(D)isk or
(F)tp
Installation Userid        ==> USERID1          Logged on Userid

Enter Job Card information          Override JOB name checking
==> N
==> // USERID1I JOB (PDSSERVE,PDS),NOTIFY=USERID1,REGION=4M_____
-----
==> //*_____
-----
==> //*_____
-----
Press Enter to continue, PF3 to END

```

Change the **Input Source** option to **T** (files will be unloaded from the distribution cartridge), and supply a valid JOB card.

Press Enter.

Press Enter again to proceed to the next panel.

The FOCUS Tape Definitions panel opens.

Tab to the input fields and enter the following parameters:

- **Volume serial number.** Enter the volume serial number for the distribution cartridge, T7703B.
- **Unit type.** Enter the media type of the distribution cartridge, 3590. As of January 1, 2015, this is the only supported tape media type.
- **Work unit type.** Enter the unit type on which the distribution cartridge is mounted, SYSDA.
- **Output Libraries HLQ.** Enter the high-level qualifier for the new FOCUS libraries NEW\_HLQ.

**Note:** You must make sure that the combination of your high-level qualifier and the

FOCUS library names is less than or equal to 44 characters, the maximum name length supported on z/OS.

- **Unit.** By default, the **Unit** value is **SYSDA**. SYSDA is defined by your systems programming group to be a type of DASD device. FOCUS must be installed into PDS libraries on a 3390 device type. If the SYSDA definition at your site does not comply with these requirements, change the **Unit** value to an appropriate DASD subpool name that defines a 3390 PDS library.

```

Information Builders      Installation and Configuration      Mainframe
FOCUS
Command ==>
  F2

                                New Installation

Please enter the following information for Mainframe FOCUS

(blank any field for default)

Input Media

  Volume serial number      ==> T7703B      Unit type ==> 3590
  Work unit type           ==> SYSDA

Output Libraries
  Output Libraries HLQ     ==> NEW_HLQ
                           Unit ==> 3390      Volume ==>

  Installation JCL Library ==> NEW_HLQ.CONF.DATA

Press Enter to continue, PF3 to return to previous menu

```

When you are finished, press Enter.

Press Enter again to proceed to the next panel.

The New Installation FOCUS Tape Confirmation panel opens:

```

Information Builders      Installation and Configuration      Mainframe
FOCUS
Command ==>
  F5

                                New Installation

```

```

Please confirm the following information for Mainframe FOCUS
Input Media

Volume serial number      ===> Txxxxx   Unit type ===> 3590
Work unit type            ===> SYSDA

Product Configuration parameters

Output Libraries HLQ      ===> NEW_HLQ
                          Unit ===> SYSDA   Volume ===>
(Above will be used for all output libraries)

Installation JCL Library  ===> NEW_HLQ.CONF.DATA
Preview output allocations ===> N           Y or N

Continue ? (N)o, (C)reate JCL only, (S)ubmit JCL ===> s   (Enter N, C
or S)
Press Enter to process, PF3 to return to previous menu

```

Confirm the options that you entered on previous panels.

When you have verified your choices, enter **C** to create the installation JCL in member ISETUPJ1 in the NEW\_HLQ.CONF.DATA data set.

Press Enter to execute this option.

## Download the Installation Libraries Manually

In the event the Mainframe firewall at your site prevents you from running the ISETUP FTP option, you can use the following procedure to manually download the ISETUP libraries to a non-mainframe platform and then upload the libraries to the mainframe platform.

This procedure will transfer the ISETUP libraries necessary to install FOCUS on the mainframe. After the libraries have been transferred, you will use the ISETUP DISK option to complete the installation.

You should only run this procedure after getting approval from your management and security team so that you do not violate the mainframe security policies at your site.

Prior to executing this step, you must know the FTP site, user ID, password, and directory path to the installation folder. Information Builders will send you an email with this information when you order the FOCUS release.

**Note:** There are separate domestic and international download sites. The domestic site is named `downloadftp.ibi.com`, and the international site is named `emeaftp.ibi.com`. The purpose of having separate sites is to make the download performance efficient for both domestic and international customers. Both sites contain identical files.

## Overview of Manual Download Steps

The following is a high-level overview of the manual download process:

- Log on to your non-mainframe platform.
- Connect to the FTP site specified in the download instructions letter you received and download the files. Remain in the directory with the downloaded files.
- Log on to your z/OS platform and allocate temporary data sets.
- FTP the downloaded files from your non-mainframe platform to the temporary data sets on z/OS.
- RECEIVE the files into the appropriate PDS libraries.

## Download The Libraries Manually

First, you have to download to your preferred non-mainframe platform, then FTP the files to z/OS.

### Procedure

1. Log on to your non-mainframe platform.
2. Create a download directory (if necessary).
3. Connect to the FTP site specified in the download instructions letter:

```
ftp ftpsitename
```

4. Enter your user ID and password from the download instructions letter when prompted.
5. Enter binary mode by issuing the following command:

```
binary
```

6. On the local machine, change to the directory to which you will FTP the files:

```
lcd downloaddirectory
```

7. On the FTP site, change to the directory with the download files, as instructed in the download email:

```
cd path_to_download_folder
```

8. Retrieve the download libraries:

```
get HOME.DATA  
get HOME.ETC  
get HOME.BIN  
get HOME.ACX  
get HOME.FEX  
get HOME.MAS  
get HOME.ERR  
get HOME.LOAD
```

9. Terminate your FTP connection:

```
quit
```

## RECEIVE Each File to the Appropriate PDS

The files have been transferred to z/OS into the temporary PDS libraries you allocated previously. Now you must RECEIVE them (uncompress them) into the permanent PDS installation libraries.

### Procedure

1. Using TSO, expand the files retrieved in the FTP step into PDSs using the following command for each temporary data set. For example:

```
RECEIVE INDSN('new_hlq.HOME.DATA.TEMP')
```

2. Reply to the restore prompt with the name of the receiving data set. The receiving data set has the character F after the high-level qualifier and does not have the .TEMP suffix. For example:

```
DSNAME('new_hlq.F.HOME.DATA')
```

## What to do next

The complete list of data sets after they are uncompressed follows:

```
new_hlq.F.HOME.DATA  
new_hlq.F.HOME.ETC  
new_hlq.F.HOME.BIN  
new_hlq.F.HOME.ACX  
new_hlq.F.HOME.FEX  
new_hlq.F.HOME.MAS  
new_hlq.F.HOME.ERR  
new_hlq.F.HOME.LOAD
```

At the end of this process, you have created the product installation libraries. Proceed with installation, as described in [Installing FOCUS Using the Disk Option](#).

The temporary data sets (.TEMP files) should be deleted after the installation is complete and has been tested.

# Preparing the Data Sets Needed for Installation

Once you have the downloaded installation files, you must transfer them to z/OS and RECEIVE them into z/OS data sets.

## Allocate Temporary Libraries on z/OS

You have downloaded the files to a non-mainframe platform. Now you must log on to z/OS and allocate temporary data sets.

Log on to TSO and allocate temporary sequential files using the preferred method for allocating files at your site, either ISPF or JCL. The temporary data sets should have the following suggested names and DCB attributes of XMIT formatted (compressed) files:

Data Set Name	DCB Attributes
new_hlq.HOME.DATA.TEMP	LRECL(80),RECFM(F,B),BLKSIZE(3120),SPACE=(CYL,(10,2))
new_hlq.HOME.ETC.TEMP	LRECL(80),RECFM(F,B),BLKSIZE(3120),SPACE=(CYL,(100,10))
new_hlq.HOME.BIN.TEMP	LRECL(80),RECFM(F,B),BLKSIZE(3120),SPACE=(CYL,(800,100))
new_hlq.HOME.ACX.TEMP	LRECL(80),RECFM(F,B),BLKSIZE(3120),SPACE=(CYL,(5,1))
new_hlq.HOME.FEX.TEMP	LRECL(80),RECFM(F,B),BLKSIZE(3120),SPACE=(CYL,(25,5))
new_hlq.HOME.MAS.TEMP	LRECL(80),RECFM(F,B),BLKSIZE(3120),SPACE=(CYL,(10,1))
new_hlq.HOME.ERR.TEMP	LRECL(80),RECFM(F,B),BLKSIZE(3120),SPACE=(CYL,(500,100))

Data Set Name	DCB Attributes
new_hlq.HOME.LOAD.TEMP	LRECL(80),RECFM(F,B),BLKSIZE (3120),SPACE=(CYL,(500,100))

## FTP the Files to z/OS

On your non-mainframe platform, you are in the directory that contains the files you downloaded. On z/OS, you are still logged into your TSO ID.

### Procedure

1. FTP to your z/OS platform:

```
ftp zosdomain
```

2. Establish binary mode transfer by issuing the following command:

```
binary
```

3. Retrieve the libraries to z/OS:

```
put HOME.DATA 'new_hlq.HOME.DATA.TEMP' (replace
put HOME.ETC 'new_hlq.HOME.ETC.TEMP' (replace
put HOME.BIN 'new_hlq.HOME.BIN.TEMP' (replace
put HOME.ACX 'new_hlq.HOME.ACX.TEMP' (replace
put HOME.FEX 'new_hlq.HOME.FEX.TEMP' (replace
put HOME.MAS 'new_hlq.HOME.MAS.TEMP' (replace
put HOME.ERR 'new_hlq.HOME.ERR.TEMP' (replace
put HOME.LOAD 'new_hlq.HOME.LOAD.TEMP' (replace
```

## RECEIVE Each File to the Appropriate PDS

The files have been transferred to z/OS into the temporary PDS libraries you allocated previously. Now you must RECEIVE them (uncompress them) into the permanent PDS

installation libraries.

### Procedure

1. Using TSO, expand the files retrieved in the FTP step into PDSs using the following command for each temporary data set. For example:

```
RECEIVE INDSN('new_hlq.HOME.DATA.TEMP')
```

2. Reply to the restore prompt with the name of the receiving data set. The receiving data set has the character F after the high-level qualifier and does not have the .TEMP suffix. For example:

```
DSNAME('new_hlq.F.HOME.DATA')
```

### What to do next

The complete list of data sets after they are uncompressed follows:

```
new_hlq.F.HOME.DATA  
new_hlq.F.HOME.ETC  
new_hlq.F.HOME.BIN  
new_hlq.F.HOME.ACX  
new_hlq.F.HOME.FEX  
new_hlq.F.HOME.MAS  
new_hlq.F.HOME.ERR  
new_hlq.F.HOME.LOAD
```

At the end of this process, you have created the product installation libraries. Proceed with installation, as described in [Installing FOCUS Using the Disk Option](#).

The temporary data sets (.TEMP files) should be deleted after the installation is complete and has been tested.

## Installing ibi FOCUS

This section describes how to install FOCUS using distribution files already on your system (Option D).

## Optionally, Specify Non-Standard Data Set Names

ISETUP asks you for the high-level qualifier for your FOCUS data sets. Based on this qualifier and a list of all of the standard data set names (low level qualifiers), ISETUP installs all the necessary FOCUS libraries. The list of low level qualifiers ISETUP uses is in member FOCSNAME in the F.HOME.DATA data set. If you do not want to use the standard data set names, see [Specifying Non-Standard Data Set Names](#).

## Invoke ISETUP to Install ibi FOCUS

Now you can invoke the ISETUP procedure to create a new instance of FOCUS using your previously installed version of FOCUS.

## Invoke ISETUP to Install FOCUS With the Disk Option

Invoke ISETUP by executing the CLIST contained in member ISETUP of the *installed\_hlq.F.HOME.DATA* data set, where *installed\_hlq* is the high-level qualifier for the previously unloaded or downloaded version of HOME.DATA.

### Procedure

1. You must execute this CLIST from the ISPF command shell (option 6):

```
EXEC 'installed_hlq.F.HOME.DATA(ISETUP)'
```

The ISETUP Main Menu opens:

```
ibi      Installation and Configuration      Mainframe FOCUS
Command ==>
        F0
```

Please select one of the following options:

1. Mainframe FOCUS Installation
  - . Install FOCUS into standard MVS libraries.

Enter selection (Default=1) ==> 1

Press Enter to continue, PF3 to END  
Version: 7703

2. Choose Option 1 for the Core FOCUS installation, and press **Enter** to register this choice.

Press **Enter** again to proceed to the next panel.

The FOCUS Installation and Configuration panel opens.

```

ibi      Installation and Configuration      Mainframe FOCUS
Command ==>
        F1

Please select one of the following options:

        1. Install and Configure
        2. Refresh Installation (Reinstall, Keep Configurations)

Enter selection (Default=1) ==> 1
Input source                ==> T                (T)ape,(D)isk
Installation Userid         ==> USERID1          Logged on
Userid

Enter Job Card information      Override JOB name
checking ==> N
==> // USERID1I JOB (PDSSERVE,PDS),NOTIFY=USERID1,REGION=4M_____
-----
==> // *-----
-----

```

```

===> /*-----
-----
Press Enter to continue, PF3 to END

```

3. Select Option 1 (Install and Configure, the default).

The **Input Source** value and job card information will be filled in the options used in your previous install, and the **Installation Userid** field will contain your logon ID:

4. Change the **Input Source** option to **D** (files reside on your system), and supply a valid JOB card.

**Note:** Your JOB card must have a REGION parameter that specifies at least 4M. If you get messages similar to the following, the region size is not large enough to run ISETUP. In that case, change the REGION parameter to specify 0M and rerun ISETUP.

Press **Enter**.

Press **Enter** again to proceed to the next panel.

The New Installation FOCUS Library Definitions panel opens.

The input and output libraries will be the values used in your previous install.

```

ibi      Installation and Configuration      Mainframe FOCUS
Command ===>
      F6

                                New Installation

Please enter the following information for Mainframe FOCUS

Input Libraries HLQ      ===> INSTALLED_HLQ

Output Libraries (blank any field for default)

Output Libraries HLQ      ===> NEW_HLQ

                                Unit ===> SYSDA      Volume ===>

Installation JCL Library  ===>NEW_HLQ.CONF.DATA

```

Press Enter to continue, PF3 to return to previous menu

5. Tab to the input fields and enter the high-level qualifier for the output libraries that will be created by ISETUP.

You can change the following input fields:

- **Input Libraries HLQ.** Enter the high-level qualifier of the installed FOCUS libraries.
- **Output Libraries HLQ.** Enter the high-level qualifier for the additional set of FOCUS libraries.  
**Note:** You must make sure that the combination of your high-level qualifier and the FOCUS library names is less than or equal to 44 characters, the maximum name length supported on z/OS.
- **Unit.** By default, the **Unit** value is **SYSDA**. SYSDA is defined by your systems programming group to be a type of DASD device. FOCUS must be installed into PDSE libraries on a 3390 device type. If the SYSDA definition at your site does not comply with these requirements, change the **Unit** value to an appropriate DASD subpool name that defines a 3390 PDSE library.
- **Volume.** This is an optional input value that can be used to place the new FOCUS libraries on a specific volume.

When you are finished, press **Enter**.

Press **Enter** again to proceed to the next panel.

The New Installation FOCUS Library Confirmation panel opens:

```

ibi      Installation and Configuration      Mainframe FOCUS
Command ==>
      F9

                                New Installation

Please confirm the following information for Mainframe FOCUS
Input Media

      Input Libraries HLQ      ==> INSTALLED_HLQ

Product Configuration parameters

```

```

Output Libraries HLQ          ===> NEW_HLQ

                                Unit ===> SYSDA   Volume ===>
(Above will be used for all output libraries)

Installation JCL Library    ===> NEW_HLQ.CONF.DATA
Preview output allocations  ===> N

Continue ? (N)o, (C)reate JCL only, (S)ubmit JCL  ===> N (Enter N,
C or S)
Press Enter to process, PF3 to return to previous menu

```

6. Confirm the options that you entered on previous panels.

You can see what the installation process will allocate on your behalf by changing the **Preview output allocations** field from **N** to **Y** and pressing Enter.

If you changed **Preview output allocations** to **Y**, the preview panels will display before ISETUP creates the installation JCL. While you examine the Preview panels, if you see one or more values you want to correct, press **PF3** as many times as necessary to return to the panel that you want to modify.

There may be several preview panels. You can navigate between them using the following keys:

- To continue to the next preview panel, press **PF8**.
- To return to the previous preview panel, press **PF7**.
- To exit the preview panels and return to the **Confirmation** panel, press **Enter** or **PF3**.

After you return from the preview panels to the **Confirmation** panel, the **Preview output allocations** field is reset to **N**.

The following are sample preview panels:

```

ibi          Installation and Configuration      Row 1 to 17 of 99
Command ===>
SCROLL ===> PAGE

Datasets to be allocated (Listed by functional area)

```

Function	Action	DSN
-----	-----	---
HOME	CREATE	NEW_HLQ.F.HOME.ETC
HOME	CREATE	NEW_HLQ.F.HOME.ACX
HOME	CREATE	NEW_HLQ.F.HOME.FEX
HOME	CREATE	NEW_HLQ.F.HOME.MAS
HOME	CREATE	NEW_HLQ.F.HOME.BIN
HOME	CREATE	NEW_HLQ.F.HOME.ERR
HOME	CREATE	NEW_HLQ.F.HOME.LOAD
CONF	CREATE	NEW_HLQ.CONF.CFG
CONF	CREATE	NEW_HLQ.CONF.ACX
CONF	CREATE	NEW_HLQ.CONF.MAS
CONF	CREATE	NEW_HLQ.CONF.PRF
ALIAS	CREATE	NEW_HLQ.ADABAS.DATA
RELATED	-->	NEW_HLQ.F.HOME.DATA
ALIAS	CREATE	NEW_HLQ.ADABAS.LOAD
RELATED	-->	NEW_HLQ.F.HOME.LOAD

```

ibi      Installation and Configuration      Row 18 to 34 of 99
Command ===>
==> PAGE

```

SCROLL

DD

Datasets to be allocated (Listed by functional area)

Function	Action	DSN
-----	-----	---
ALIAS	CREATE	NEW_HLQ.DATACOM.DATA
RELATED	-->	NEW_HLQ.F.HOME.DATA
ALIAS	CREATE	NEW_HLQ.DATACOM.LOAD
RELATED	-->	NEW_HLQ.F.HOME.LOAD
ALIAS	CREATE	NEW_HLQ.ERRNLS.DATA
RELATED	-->	NEW_HLQ.F.HOME.ERR
ALIAS	CREATE	NEW_HLQ.ERRORS.DATA
RELATED	-->	NEW_HLQ.CONF.CFG
ALIAS	CREATE	NEW_HLQ.FOCCTL.DATA

RELATED	-->	NEW_HLQ.F.HOME.DATA
ALIAS	CREATE	NEW_HLQ.FOCDBC.DATA

7. When you have verified your choices on the Confirmation panel, you must choose a continuation option:

- The default option is **N**, which cancels the process and returns to the FOCUS Library Installation panel.
- Option **C** creates the installation JCL and saves it to member ISETUPJ1 in the NEW\_HLQ.CONF.DATA data set. You can review, edit, update, or submit it manually without reinvoking ISETUP:

```
ISETUP - Allocating file 'NEW_HLQ.CONF.DATA'
ISETUP - Creating installation options file ISOPTS1
ISETUP - Creating main JCL ISETUPJ1
ISETUP - JCL created in NEW_HLQ.CONF.DATA but not submitted
ISETUP - You can manually submit the following JCL to complete
install
ISETUP - NEW_HLQ.CONF.DATA(ISETUPJ1)
***
```

- Option **S** creates the installation JCL, saves it to member ISETUPJ1 in the NEW\_HLQ.CONF.DATA data set, and submits the job directly to the system for processing:

```
ISETUP - Deleting file 'NEW_HLQ.CONF.DATA'
IDC0550I ENTRY (A) NEW_HLQ.CONF.DATA DELETED
ISETUP - Allocating file 'NEW_HLQ.CONF.DATA'
ISETUP - Creating installation options file ISOPTS1
ISETUP - Creating main JCL ISETUPJ1
ISETUP - Submitting JCL, use SDSF (or site standard) to monitor
job
IKJ56250I JOB USERID1I(JOB28173) SUBMITTED
***
```

To register your choice, press **Enter**.

To execute the option you chose, press **Enter** again.

## Sample FOCUS Installation

Execute the ISETUP CLIST from the ISPF command shell (option 6).

Assume your installed high-level qualifier is OLD\_HLQ, your new installed libraries will be under the high-level qualifier NEW\_HLQ, and your userid is FOCUSER1:

```
EXEC 'OLD_HLQ.F.HOME.DATA(ISETUP)'
```

The ISETUP Main Menu opens:

```
ibi      Installation and Configuration      Mainframe FOCUS
Command ===>
      F0
```

Please select one of the following options:

1. Mainframe FOCUS Installation
  - . Install FOCUS into standard MVS libraries.

Enter selection (Default=1) ===> 1

Press Enter to continue, PF3 to END  
7703

Version:

Choose Option 1 for the Core FOCUS installation, and press **Enter** to register this choice.

Press **Enter** again to proceed to the next panel.

The FOCUS Library Installation panel opens.

```
ibi      Installation and Configuration      Mainframe FOCUS
Command ===> 1
      F1
```

Please select one of the following options:

1. Install and Configure
2. Refresh Installation (Reinstall, Keep Configurations)

```
Enter selection (Default=1) ===> 1
Input source                ===> D                (T)ape,(D)isk
Installation Userid         ===> FOCUSER1         Logged on Userid
```

```
Enter Job Card information          Override JOB name checking
===> N
===> // FOCUSER1I JOB (PDSSERVE,PDS),NOTIFY=FOCUSER1,REGION=4M_____
-----
===> //*_____
-----
===> //*_____
-----
Press Enter to continue, PF3 to END
```

Change the **Input Source** option to **D** (files exist on your system), and press **Enter**.

Press **Enter** again to proceed to the next panel.

The FOCUS Library Definitions panel opens.

Change the following input fields:

- **Input Libraries HLQ.** Enter OLD\_HLQ.
- **Output Libraries HLQ.** Enter NEW\_HLQ.
- **Unit.** If SYSDA does not define a 3390 PDSE library, change the **Unit** value to an appropriate DASD subpool name that defines a 3390 PDSE library.

```
ibi      Installation and Configuration      Mainframe FOCUS
Command ===> 1
      F6
                                New Installation

Please enter the following information for Mainframe FOCUS

Input Libraries HLQ      ===> OLD_HLQ
```

```

Output Libraries (blank any field for default)

Output Libraries HLQ      ===> NEW_HLQ

                          Unit ===> SYSDA      Volume ===>

Installation JCL Library  ===> NEW_HLQ.CONF.DATA

Press Enter to continue, PF3 to return to previous menu

```

When you are finished, press **Enter**.

Press **Enter** again to proceed to the next panel.

The New Installation FOCUS Library Confirmation panel opens:

```

ibi      Installation and Configuration      Mainframe FOCUS
Command ===> 1
      F9

                          New Installation

Please confirm the following information for Mainframe FOCUS
Input Media

Input Libraries HLQ      ===> OLD_HLQ

Product Configuration parameters

Output Libraries HLQ      ===> NEW_HLQ

                          Unit ===> SYSDA      Volume ===>
(Above will be used for all output libraries)

Installation JCL Library  ===> NEW_HLQ.CONF.DATA
Preview output allocations ===> N

Continue ? (N)o, (C)reate JCL only, (S)ubmit JCL  ===> N (Enter N, C or
S)
Press Enter to process, PF3 to return to previous menu

```

Confirm the options that you entered on previous panels.

When you have verified your choices, enter **C** to create the installation JCL in member ISETUPJ1 in the NEW\_HLQ.CONF.DATA data set.

Press **Enter** to execute this option.

## Installing FOCUS to PDSE Libraries

The ISETUP procedure installs FOCUS to PDS libraries. If you want to install FOCUS to PDSE libraries, you must do an install to PDS libraries, set up the PDSE libraries in the ISETUP JCL, and then do a disk installation to propagate the PDS libraries to those PDSE libraries.

## Install FOCUS to PDSE Libraries

### Procedure

1. Allocate the F.HOME.DATA library as a PDSE, using a temporary high-level qualifier.

Choose a temporary high-level qualifier for the FTP libraries that conforms to the standards at your site. This topic will refer to this high-level qualifier as *OLD\_HLQ*. For example, allocate the F.HOME.DATA PDSE as:

```
OLD_HLQ.F.HOME.DATA
```

2. Download the HOME.DATA data set using one of the following methods.
  - If your site allows you to FTP HOME.DATA directly from the FTP site referenced in the Information Builders download instructions letter to z/OS, see [Installing ibi FOCUS Using ISETUP](#) or [Installing ibi FOCUS Using ISETUP](#).
  - To FTP the HOME.DATA data set to a PC and then download it manually, see [Installing ibi FOCUS Using ISETUP](#).
  - To unload the HOME.DATA data set from a distribution cartridge, see [Installing ibi FOCUS Using ISETUP](#).
3. Execute ISETUP and do an FTP installation, as described in [Installing ibi FOCUS Using ISETUP](#).

This step creates 40 data sets in PDS format using the temporary high-level qualifier.

At the end of the process, you can delete these data sets, if your goal is to run FOCUS only from PDSE libraries.

4. Rename the *OLD\_HLQ.F.HOME.DATA* data set to use the high-level qualifier you will use for your production version of FOCUS.

Choose a production high-level qualifier for the F.HOME.DATA library that conforms to the standards at your site. It will define the name of the libraries created by the ISETUP DISK installation option. These libraries will become your new production runtime libraries.

This topic will refer to this new production high-level qualifier as *NEW\_HLQ*. Once you rename *OLD\_HLQ.F.HOME.DATA*, you should have a data set named:

```
NEW_HLQ.F.HOME.DATA
```

5. Make a copy the IFOCINCY member of *NEW\_HLQ.F.HOME.DATA*. Name the member IFOCINCO.

**Note:** O at the end of the member name indicates that this is a backup copy of the original version of IFOCINCY. In the next step, you will edit the JCL in member IFOCINCY to allocate the FOCUS data sets that will be output from ISETUP as PDSE libraries.

6. Edit the IFOCINCY member of *NEW\_HLQ.F.HOME.DATA*.

Add the DSNTYPE=LIBRARY, option to the DCB= attribute for the allocation statements for DDNAMEs A1 through A8 and A12. For example, the allocation for DDNAME A1 follows with the DSNTYPE=LIBRARY option added:

```
//ALLOCATE EXEC PGM=IEFBR14

//A1      DD   DSN=&HOMEHLQ..&EDAHCETC,

//   SPACE=(CYL,(500,60,2000)),

//   DCB=
(DSORG=PO,RECFM=VB,LRECL=27994,BLKSIZE=27998),DSNTYPE=LIBRARY,
//   DISP=(NEW,CATLG,DELETE),UNIT=&UNIT,&SMS=&VOL
```

**Note:** The DSNTYPE=LIBRARY option can be found on the allocation statement for DDNAME A9. You can copy it from that statement and paste it into the A1 through A8 and A12 allocation statements.

- Execute ISETUP and do a DISK installation, as described in [Installing ibi FOCUS Using ISETUP](#). This time, call it from the renamed *NEW\_HLQ.F.HOME.DATA* data set.

On the ISETUP New Installation ISPF panel (panel F6), change the default library in the *Input Libraries HLQ* field to the *OLD\_HLQ* high-level qualifier.

This is the high-level qualifier of the new PDS formatted libraries you downloaded in step 2. In the *Output Libraries HLQ* field, enter the high-level qualifier for the new PDSE-formatted production libraries that will be created by the disk installation, shown on the following screen as *NEW\_HLQ*.

```

Information Builders      Installation and Configuration      Mainframe
FOCUS
Command ===>
  F6

                                New Installation

Please enter the following information for Mainframe FOCUS

Input Libraries HLQ          ===> OLD_HLQ

Output Libraries (blank any field for default)

Output Libraries HLQ          ===> NEW_HLQ

                                Unit ===> SYSDA      Type ===> VOL=SER  ===>

Installation JCL Library    ===> NEW_HLQ.CONF.DATA

Press Enter to continue, PF3 to return to previous menu

```

- Verify that the default library in the *Output Libraries HLQ* field is the *NEW\_HLQ* qualifier.
- Complete the panel, press Enter to move to the ISETUP Confirmation panel, then submit the JCL to JES.
- Verify that the new libraries were created with the *NEW\_HLQ* high-level qualifier.

The output library will match the production library name of the *F.HOME.DATA* library.

The disk installation should create 40 data sets. Of these, 39 will be in PDSE format. The remaining data set, *NEW\_HLQ.CONF.DATA*, will be in PDS format. You can copy this data set manually to a PDSE-formatted library using ISPF or batch JCL.

**Note:** If you intend to run FOCUS only from PDSE libraries, you can now delete all the *OLD\_HLQ.\** (FTP installation) and *NEW\_HLQ.\** (DISK installation) PDS-formatted libraries.

## ISETUP Messages

A message similar to the following is issued when the high-level qualifier is too long (when concatenated to the name of the install library):

```
IKJ56709I INVALID DATA SET NAME,  
'QCSPDS.R727703B.EDAPORT.BF9999.DATACOM.DATA '  
IKJ56709I INVALID DATA SET NAME,  
'QCSPDS.R727703B.EDAPORT.BF9999.FOCM204.DATA
```

The following warning message displays when libraries are about to be replaced:

```
Warning - One or more product files  
already exist. Press enter to continue  
(files will be deleted) or PF3 to  
return to previous panel to provide a  
different output high level qualifier.
```

The following confirmation message displays when libraries will be deleted:

```
Confirmation - Are you sure you want to  
continue? Files will be deleted.  
Press enter to confirm or PF3 to return  
to previous screen.
```

## ibi FOCUS License Keys

As of January 1st, 2023, the FOCUS licensing process and keys for FOCUS licenses have changed.

As a result of these changes, you need a new FOCUS license key if you are:

- Renewing your contract.
- Upgrading your FOCUS release.

- Upgrading or changing your hardware.
- Changing your CPU serial number.
- Requesting a disaster recovery key.

To request a new license key, open a Customer Support case and supply the following information:

- Output from the "? CPUID" command issued from the FOCUS command line of your current version of FOCUS.
- Output from the "D M=CPU" system command.
- Output from the "? REL" command.
- Expiration date of your current or renewed contract.

Once we receive all the necessary information, we can provide a new license key.

**If you are  
using  
FOCUS...**

**You will...**

Release 7.7.03M through Release 9.1.1	Receive a standardized IBICPUID load module, which you will add to your FOCLIB.LOAD library. Note that a new site code may be provided. This module will be zapped with your new CPUPLATE. (Note that we will provide JCL to zap the new site code, if
---------------------------------------	--

If you are using FOCUS...	You will...
	<p>required.)</p> <p>You will also receive a PTF that must be run. The PTF contains JCL and object code to call the IBICPUID module.</p>
Releases prior to Release 7.6.13	<p>Receive a standardized IBICPUID load module, which you will use to replace your existing module. Note that a new site code may be provided. This module will be zapped with your new CPUPLATE. (Note that we will provide JCL to zap the new site code, if required.)</p>

**Note:** Information on the new ibi™ FOCUS® License Management facility and installation instructions for installing the CPUPLATE are included in *New ibi™ FOCUS® License Management for z/OS Sites*.

# New ibi FOCUS License Management for z/OS Sites

ibi FOCUS has a new license management facility, which is a mechanism that registers your copy of FOCUS.

This facility checks that your site:

- Has registered the FOCUS software.
- Does not exceed its current expiration date.
- Is running on the registered hardware.

If any of these is not true, or the registration has not been done, an appropriate warning or violation message is displayed each time a user enters FOCUS, and FOCUS will not start.

This new FOCUS License Management facility requires a new version of the IBICPUID load module that is a member of FOCLIB.LOAD. The first time that you request a new key, this new module will be zapped with your information and shipped to you. You will only need to replace the existing IBICPUID module or add the IBICPUID module to FOCLIB.LOAD.

If you need a new CPUPLATE for any reason, you will be required to submit the information indicated below and a new IBICPUID module will be created and sent to you.

## New License Overview

The new license management facility is a processor, expiration date, and site code registration facility.

- **Processor registration.** The instructions for installing the CPUPLATE are contained in this document. ibi takes the required information and generates an encrypted registration ID called a CPUPLATE.
  - If your processor has not been registered, a warning message is displayed at FOCUS initialization and FOCUS will not start up.
  - If your copy of FOCUS is registered and then run on a processor other than the one on which FOCUS was registered, or has exceeded the registered expiration date, or if any error occurred during processor registration, a violation message is displayed and FOCUS will not start up.

- You will need to contact ibi Customer Support and request a new CPUPLATE.

In order to generate a CPU registration ID, ibi needs the following information:

- Output from the "? CPUID" command issued from the FOCUS command line of your current release of FOCUS.
  - Output from the "D M=CPU" system command.
  - Output from the "? REL" command.
  - Expiration date of your current or renewed contract.
- **Site code registration.** The instructions for installing the site code are documented in the OS/390 and MVS Installation Guide. We will be using your existing ibi site code, if possible. If required, we will send JCL to zap your site code.

## Obtain the Required CPU information

### Procedure

1. To obtain the CPU ID, issue the following command from the FOCUS command prompt:

```
? CPUID
```

This command displays the following information.

```
OBSERVED CPU:  
*** Processor mmmm Model nnnn-vv Max pp Site ssss.ss  
    LICENSED CPU(S)  
*** NONE
```

where:

***mmmm***

Is the Processor ID.

***nnnn***

Is the model number.

**vv**

Is the version number.

**pp**

Is the number of processors on the system.

**ssss.ss**

Is the site code.

2. You also need to capture the information from the operator console when issuing the following z/OS operator command:

```
D M=CPU
```

This command displays the following information.

```
IEE174I 12.16.10 DISPLAY M 218
```

```
PROCESSOR STATUS
```

ID	CPU	SERIAL
1	+	1115379121
2	+	2115379121
3	+	3115379121
4	+	4115379121

3. To run ? REL:
  - Start FOCUS.
  - From the FOCUS command prompt, issue the following command:

```
? REL
```

4. Issue the appropriate commands to obtain the required CPU information.
5. Open a Support Case with Customer Support.
6. Provide the CPU information for all CPUs to the Customer Support Consultant. They will provide you with the CPUPLATE ID for each CPU.

## Installation Instructions for Release 7.6.13 and Earlier

1. Download the zip file from the Support Case.
2. Expand the files in the zip file to a temporary directory.

For Release 7.0.8R through Release 7.6.09, you will have the following files:

- foclib.xmit
- jcl.xmit

For Release 7.6.10 through Release 7.6.13, you will have the following files:

- foclib.xmit
- jcl.xmit
- flicense.data

3. On your mainframe, allocate files to receive the files from the zip, as follows:

```
userid.IBIKEYS.LOAD.TEMP
LRECL(80),RECFM(F,B),BLKSIZE(3120),SPACE=(TRK,(5,5))
```

```
userid.IBIKEYS.JCL.TEMP
LRECL(80),RECFM(F,B),BLKSIZE(3120),SPACE=(TRK,(5,5))
```

**Note:** For FOCUS Release 7.6.10 through Release 7.6.13 only:

```
userid.IBIKEYS.FLICENSE.DATA,DISP=(,CATLG,DELETE),LIKE
focuslibrary.ERRORS.DATA
```

- Using FTP, transfer the following files to the temporary files you just created, as follows:

```
binary
put jcl.xmit 'userid.IBIKEYS.JCL' (REPLACE
put foclib.xmit 'userid.IBIKEYS.LOAD.TEMP' (REPLACE
```

**Note:** For FOCUS Release 7.6.10 through Release 7.6.13 only:

```
ascii
put flicense.data 'userid.FLICENSE.DATA(FLICENSE)' (REPLACE
quit
```

- Using TSO, expand the LOAD.TEMP dataset, as follows:

```
RECEIVE INDSN('userid.IBIKEYS.LOAD.TEMP')
```

Reply to the restore prompt with

```
DSNAME('userid.IBIKEYS.LOAD')
```

- Using TSO, expand the JCL.TEMP dataset, as follows:

```
RECEIVE INDSN('userid.IBIKEYS.JCL.TEMP')
```

Reply to the restore prompt with

```
DSNAME('userid.JCL.DATA')
```

- Make a backup of your FOCLIB.LOAD library.
- Copy and replace the IBICPUID module from 'userid.IBIKEYS.LOAD' to your FOCLIB.LOAD library.
- Edit 'userid.IBIKEYS.JCL' by adding a job card and updating the JCL SET to identify your FOCLIB.LOAD library.
 

**Note:** This will update the site code.
- Submit the JCL. This will apply the new site code.
- If you are running Release 7.6.10 through Release 7.6.13, replace your current

FLICENSE member with the one from the zip file.

12. If you have FOCUS loaded in LPA and/or linklist, you will need to refresh them with this newly zapped module. This is a systems task and should be referred to your systems group.
13. Verify your FOCUS license key installation by running FOCUS and issuing the ? CPUID command in both interactive and batch environments. If FOCUS starts then your installation has been successful. If FOCUS does not start, then the installation has not been successful. Please open a case with Customer Support to review the parameters that have been provided and the process that has been followed.

## Installation Instructions for Release 7.7.03 and Higher

1. Download the zip file from the Support Case.
2. Expand the files in the zip file to a temporary directory.

For Release 7.7.03 and higher, you will have the following files:

```
foclib.xmit
```

```
jcl.xmit
```

```
flicense.data
```

3. On your mainframe, allocate files to receive the files from the zip, as follows:

```
userid.IBIKEYS.LOAD.TEMP
LRECL(80),RECFM(F,B),BLKSIZE(3120),SPACE=(TRK,(5,5))
```

```
userid.IBIKEYS.JCL.TEMP
LRECL(80),RECFM(F,B),BLKSIZE(3120),SPACE=(TRK,(5,5))
```

```
userid.IBIKEYS.FLICENSE.DATA,DISP=(,CATLG,DELETE),LIKE
focuslibrary.ERRORS.DATA
```

- Using FTP, transfer the following files to the temporary files you just created, as follows:

```
ascii
put flicense.data 'userid.IBIKEYS.FLICENSE.DATA(FLICENSE) '
binary
put foelib.xmit 'userid.IBIKEYS.LOAD.TEMP' (REPLACE
put jcl.xmit 'userid.IBIKEYS.JCL.TEMP' (REPLACE
quit
```

- Using TSO, expand the LOAD.TEMP dataset, as follows:

```
RECEIVE INDSN('userid.IBIKEYS.LOAD.TEMP')
```

Reply to the restore prompt with

```
DSNAME('userid.IBIKEYS.LOAD')
```

- Using TSO, expand the JCL.TEMP dataset, as follows:

```
RECEIVE INDSN('userid.IBIKEYS.JCL.TEMP')
```

Reply to the restore prompt with

```
DSNAME('userid.JCL.DATA')
```

- Make a backup of your FOCLIB.LOAD library.
- Copy or copy and replace the IBICPUID module from 'userid.IBIKEYS.LOAD' to your FOCLIB.LOAD library.
- Create the 'userid.FOCLIB.LOAD.NEW' output library for the relinked module (R1FNS for Release 7.7.03M and Release 7.7.06M, FOCUS for Release 7.7.09M and higher).
- Edit the JCLPTF member of the 'userid.JCL.DATA' library following the instructions included in the JCL, which include:
  - Add a job card at the top of the JCL.
  - Add values to the three SETs at the top of the JCL:
    - PTFLIB = 'userid.JCL.DATA'

- OFOCLIB = '*your\_production.FOCLIB.LOAD*'
- NFOCLIB = '*userid.FOCLIB.LOAD.NEW*'

11. Submit the JCLPTF member.
12. Copy and replace the contents of '*userid.FOCLIB.LOAD.NEW*' to your production FOCUS library.
13. Replace the existing FLICENSE file in your production version of FOCUS with the FLICENSE in *userid.IBIKEYS.FLICENSE.DATA*.
14. If you have FOCUS loaded in LPA and/or linklist, you will need to refresh them with this newly zapped module. This is a systems task and should be referred to your systems group.
15. If you are running FOCUS Release 7.7.09M or higher, and are using FOCUSNA, you need to recreate the FOCUSNA module using the newly zapped FOCUS module you have just created.

The JCL to create the FOCUSNA module is distributed as member FOCUSNA in the FOCCTL.DATA library:

- a. Copy the FOCUSNA member to your FOCUS production JCL library.
- b. Make a copy of your FOCLIB.LOAD library and name it FOCLIBNA.LOAD.
- c. Make the recommended edits to the FOCUSNA JCL. Instructions for editing the JCL for your site are included as comments in the FOCUSNA member.
- d. Execute the FOCUSNA JCL.
- e. Check the FOCLIBNA.LOAD library for the presence of the new FOCUSNA module and EDASAFNA alias.
- f. Replace your production FOCUSNA with the FOCUSNA module just recreated.

**Note:** The FOCUSNA module will have an authorization attribute of AC/0, which means that the module was not linked with authorization.

16. Verify your FOCUS license key installation by running FOCUS and issuing the ? CPUID command in both interactive and batch environments. If FOCUS starts, then your installation has been successful. If FOCUS does not start, then the installation has not been successful. Please open a case with Customer Support to review the parameters that have been provided and the process that has been followed.

## Previous Licensing Violation Message

If FOCUS is registered and it is run on another processor, the following message display at initialization. This message also displays if there was an error in the License Management Facility installation procedure. FOCUS will not start until it is correctly registered.

```

FOCUSrelease 01/01/2023 13.39.43 27.02
*****
* VIOLATION:
* THIS COPY OF FOCUS IS RUNNING ON AN UNLICENSED CPU.
* PLEASE CONTACT ibi.
* "EX READMEF" FOR COMPLETE DETAILS.
*****
*** Processor mmmm Model nnnn-vv Max pp Site ssss.ss
LICENSED CPU(S):
*** Processor mmmm Model nnnn-vv Max pp > Registration qqqqqqqqqq
>

```

where:

### **mmmm**

Is the Processor ID.

### **nnnn**

Is the model number.

### **vv**

Is the version number.

### **pp**

Is the number of processors on the system.

### **qqqqqqqqqq**

Is the encrypted processor ID.

## New Licensing Violation Messages

If your site code is not registered, or the registered site code does not match the installation site code, one of the following messages display at the beginning of all FOCUS

user sessions.

```

FOCUSrelease 01/01/2023 13.39.43 27.02
*****
* VIOLATION:
* THE SITE CODE FOR YOUR COMPANY WAS NOT REGISTERED
* PROPERLY DURING THE FOCUS INSTALLATION PROCESS.
* PLEASE CONTACT ibi.
* "EX READMEF" FOR COMPLETE DETAILS.
*****

***** TOP OF DATA *****
FOCUSrelease 02/23/2023 14.19.46 xxxx
*****
* VIOLATION:
* THIS COPY OF FOCUS IS RUNNING ON AN UNLICENSED CPU.
* PLEASE CONTACT ibi.
* "EX READMEF" FOR COMPLETE DETAILS.
*****
OBSERVED CPU:

***** CEC: machine type type model ID model          capacity 45
***** LPAR: name L1                                capacity 45

***** VM: name N/A                                  capacity N/A
***** Processor processorinfo >Site xxxx

Licensed Site      xxxx Expires mmdyyyy
LICENSE PLATES:
16423513B000EBB3400E0119
2981AA172800
FOCUS TERMINATED
***** BOTTOM OF DATA *****

```

## Verifying ibi FOCUS Installation

The Installation Verification Procedure (IVP) tests the FOCUS installation by creating the CAR database and running tests of several areas of FOCUS processing against it.

In order to run the IVP, you must have a member named CAR in your allocation for DDNAME MASTER. If you do not have the CAR Master File in a data set allocated to DDNAME MASTER, create the member and copy the following syntax into it prior to running the IVP.

```

FILENAME=CAR, SUFFIX=FOC
SEGNAME=ORIGIN, SEGTYPE=S1
  FIELDNAME=COUNTRY, COUNTRY, A10, FIELDTYPE=I, $
SEGNAME=COMP, SEGTYPE=S1, PARENT=ORIGIN
  FIELDNAME=CAR, CARS, A16, $
SEGNAME=CARREC, SEGTYPE=S1, PARENT=COMP
  FIELDNAME=MODEL, MODEL, A24, $
SEGNAME=BODY, SEGTYPE=S1, PARENT=CARREC
  FIELDNAME=BODYTYPE, TYPE, A12, $
  FIELDNAME=SEATS, SEAT, I3, $
  FIELDNAME=DEALER_COST, DCOST, D7, $
  FIELDNAME=RETAIL_COST, RCOST, D7, $
  FIELDNAME=SALES, UNITS, I6, $
SEGNAME=SPECS, SEGTYPE=U, PARENT=BODY
  FIELDNAME=LENGTH, LEN, D5, $
  FIELDNAME=WIDTH, WIDTH, D5, $
  FIELDNAME=HEIGHT, HEIGHT, D5, $
  FIELDNAME=WEIGHT, WEIGHT, D6, $
  FIELDNAME=WHEELBASE, BASE, D6.1, $
  FIELDNAME=FUEL_CAP, FUEL, D6.1, $
  FIELDNAME=BHP, POWER, D6, $
  FIELDNAME=RPM, RPM, I5, $
  FIELDNAME=MPG, MILES, D6, $
  FIELDNAME=ACCEL, SECONDS, D6, $
SEGNAME=WARRANT, SEGTYPE=S1, PARENT=COMP
  FIELDNAME=WARRANTY, WARR, A40, $
SEGNAME=EQUIP, SEGTYPE=S1, PARENT=COMP
  FIELDNAME=STANDARD, EQUIP, A40, $

```

By default, the IVP creates a temporary CAR file that is deleted when you exit the FOCUS session. You can retain the CAR database by allocating DDNAME CAR to a permanent physical sequential file with record length and blocksize 4096. The standard naming convention is to use the high-level qualifier for your FOCUS production data sets and the low-level qualifier CAR.FOCUS. After the CAR database is created, allocate it with the disposition SHR in batch or SHR REUSE in TSO.

You can run FOCUS interactively, using a CLIST, or in batch, using JCL. The following sections describe how to run the IVP in each of these environments.

## Verifying ibi FOCUS Installation Interactively

If you are running FOCUS interactively, execute the CLIST that was created by the ISETUP installation procedure as member FOCUSC in the *install\_hlq.CONF.DATA* data set.

When the FOCUS prompt (>) displays, enter the following command in uppercase, and Press **Enter**.

```
EX CARTEST
```

The following messages display that show that the CAR Master File is valid and that the CAR database was created. The FOC486 message displays if you did not allocate DDNAME CAR to a permanent file.

```
TEST THE CAR MASTER FOR ERRORS
FOCUS 7.7.06          CREATED 01/17/2018  SITE.ID      XXX
NUMBER OF ERRORS=      0
NUMBER OF SEGMENTS=   7  ( REAL=    7  VIRTUAL=    0 )
NUMBER OF FIELDS=    20  INDEXES=    1  FILES=     1
TOTAL LENGTH OF ALL FIELDS= 221
OK CAR MASTER
(FOC486) A NEW FILE WAS DYNAMICALLY ALLOCATED
CREATE THE CAR FILE NUMBER OF SEGMENTS TO BE INPUT =102
LOADING OF DATA COMPLETE
SIMPLE TABLE ON CAR FILE OVERALL RATIO AT END= 1.21
PAUSE.. PLEASE ISSUE CARRIAGE RETURN WHEN READY
```

Press **Enter**.

A basic TABLE request is executed next. The following output displays.

```
PAGE      1
```

```
TEST1 SIMPLE TABLE
```

	AVE	AVE	
COUNTRY	RETAIL_COST	DEALER_COST	RATIO
-----	-----	-----	-----
ENGLAND	11,330	9,463	1.20
FRANCE	5,610	4,631	1.21
ITALY	12,766	10,309	1.24
JAPAN	3,239	2,756	1.18
W GERMANY	9,247	7,795	1.19
TOTAL	42,192	34,954	1.21

BOTTOM OF PAGE

END OF REPORT

Press **Enter** to close the report output.

A test that creates a HOLD file and uses the TABLEF command is executed next. The following output displays.

```

TEST OF A HOLD FILE AND A TABLEF REPORT AFTER
NUMBERS SHOULD BE SAME AS TEST1 WITHOUT RATIO
PAUSE.. PLEASE ISSUE CARRIAGE RETURN WHEN READY

PAGE      1

TEST2 TABLEF FROM HOLD FILE
          AVE          AVE
COUNTRY  RETAIL_COST  DEALER_COST
-----  -
ENGLAND      11,330      9,463
FRANCE       5,610      4,631
ITALY        12,766     10,309
JAPAN        3,239      2,756
W GERMANY    9,247      7,795

DEFINE TEST WITH REPORT .. TOTAL MARGIN SHOULD=99.50
FILE NAME          FIELD NAME          FORMAT  SEGMENT
TYPE
CAR                MARGIN                D10.2   4
PAUSE.. PLEASE ISSUE CARRIAGE RETURN WHEN READY

```

Press **Enter** to close the report output.

A test of the DEFINE command is executed next. The following output displays.

PAGE 1

TEST3 DEFINE MARGIN

TOTAL SUM OF MARGIN = 99.50

MODEL	MARGIN
-------	--------

-----	-----
-------	-------

INTERCEPTOR III	19.48
-----------------	-------

TR7	18.83
-----	-------

V12XKE AUTO	19.54
-------------	-------

XJ12L AUTO	20.52
------------	-------

504 4 DOOR	21.14
------------	-------

TOTAL	99.50
-------	-------

END OF REPORT

Press **Enter** to close the report output.

A test of the SCAN command is executed next. The following output displays.

```
SCAN TEST  SEATS 2 CHANGED TO SEATS 4

COUNTRY=ENGLAND    CAR=JAGUAR          MODEL=V12XKE AUTO
SEAT= 2
COUNTRY=ENGLAND    CAR=JAGUAR          MODEL=V12XKE AUTO
SEAT= 4
TESTING SML WITH SHORT MODEL

PAUSE... PLEASE ISSUE CARRIAGE RETURN WHEN READY

PAGE      1

          AVE
          RETAIL_COST
          -----
MILAGE RANGE
0 TO 12      16,495
13 TO 20     11,069
COMPARISON      1

                                END OF REPORT
```

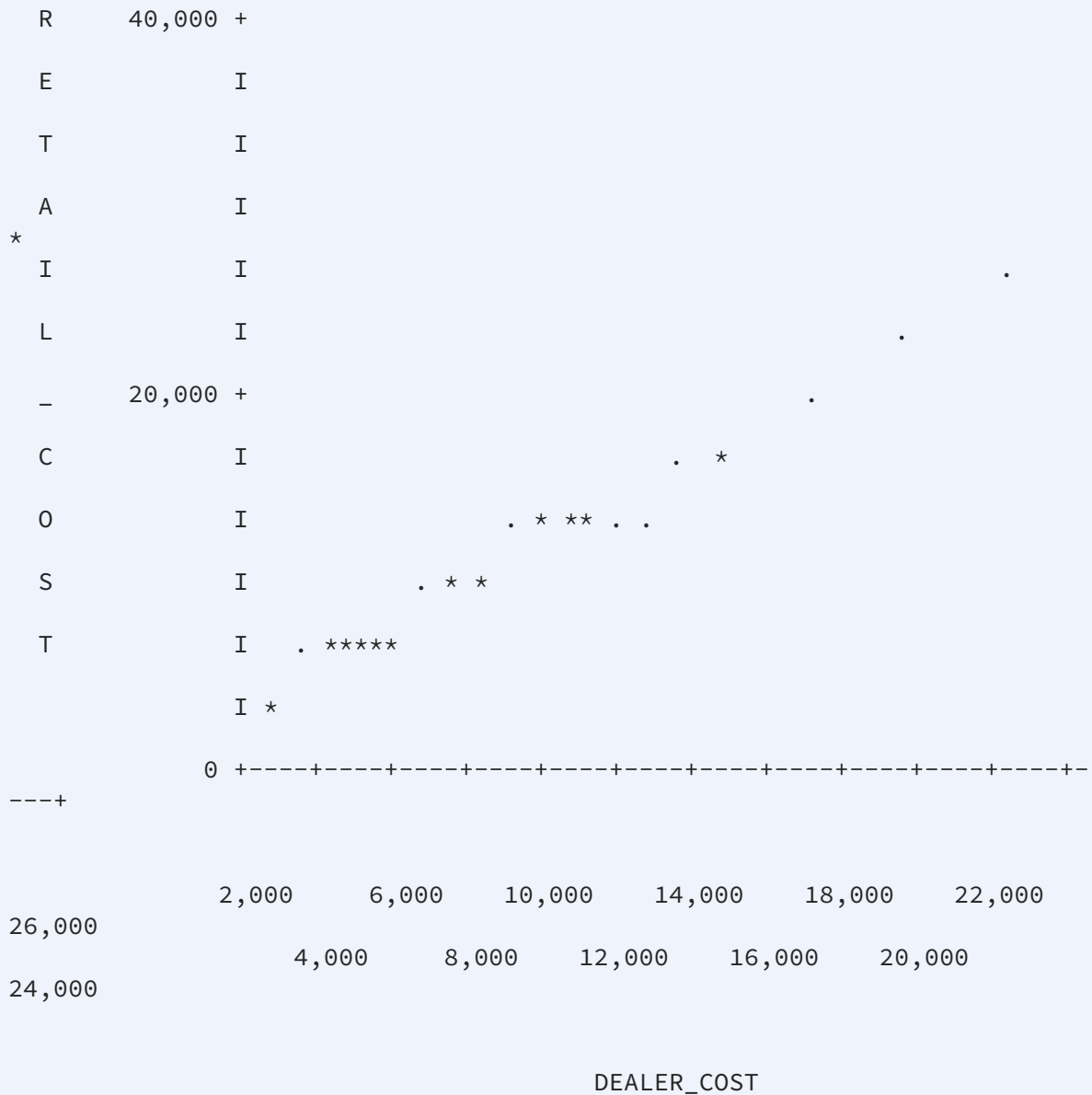
Press **Enter** to close the report output.

A GRAPH request is executed next. The following output displays.

```
TESTING GRAPHS
```

18 RECORDS SHOULD BE RETRIEVED AND PLOTTED

PAUSE..PLEASE ISSUE CARRIAGE RETURN WHEN READY



AT END OF TEST MAJOR AREAS OK

> >

These tests show that FOCUS is installed and operational. Enter the following command to exit FOCUS.

```
FIN
```

## Verifying ibi FOCUS Installation in Batch

If you are running FOCUS in batch, edit the FOCUS JCL that was created by ISETUP as member FOCUS in the *install\_hlq.CONF.DATA* data set to add the installation verification procedure.

The installation verification procedure will be added in the allocation for DDNAME SYSIN. The FOCUS member in the *install\_hlq.CONF.DATA* data set has the following JCL statements.

```
//SYSIN    DD *
Put your input here in uppercase
FIN
```

Replace the line that says **Put your input here in uppercase** with the following command.

```
EX CARTEST
```

Edit the JOB card with your information and submit the job. Output similar to the following will appear in the SYSPRINT DDNAME of the FOCUS step. Note that the FOC486 message will display if you did not allocate DDNAME CAR to a permanent file.

```
FOCUS  7.7.06  11.16.57  07/27/2018  CARTEST  LINE  20  XXX

SET MSG=OFF
FOCUS  7.7.06          CREATED 01/17/2018  SITE.ID      XXX
NUMBER OF ERRORS=      0
NUMBER OF SEGMENTS=   7  ( REAL=   7  VIRTUAL=   0  )
NUMBER OF FIELDS=    20  INDEXES=   1  FILES=    1
TOTAL LENGTH OF ALL FIELDS= 221
OK CAR MASTER
```

(FOC486) A NEW FILE WAS DYNAMICALLY ALLOCATED  
 CREATE THE CAR FILE NUMBER OF SEGMENTS TO BE INPUT =102  
 LOADING OF DATA COMPLETE  
 SIMPLE TABLE ON CAR FILE OVERALL RATIO AT END= 1.21  
 PAGE 1

TEST1 SIMPLE TABLE

COUNTRY	AVE RETAIL_COST	AVE DEALER_COST	RATIO
-----	-----	-----	-----
ENGLAND	11,330	9,463	1.20
FRANCE	5,610	4,631	1.21
ITALY	12,766	10,309	1.24
JAPAN	3,239	2,756	1.18
W GERMANY	9,247	7,795	1.19
TOTAL	42,192	34,954	1.21

BOTTOM OF PAGE

TEST OF A HOLD FILE AND A TABLEF REPORT AFTER  
 NUMBERS SHOULD BE SAME AS TEST1 WITHOUT RATIO

PAGE 1

TEST2 TABLEF FROM HOLD FILE

COUNTRY	AVE RETAIL_COST	AVE DEALER_COST
-----	-----	-----
ENGLAND	11,330	9,463
FRANCE	5,610	4,631
ITALY	12,766	10,309
JAPAN	3,239	2,756
W GERMANY	9,247	7,795

DEFINE TEST WITH REPORT .. TOTAL MARGIN SHOULD=99.50

FILE NAME TYPE	FIELD NAME	FORMAT	SEGMENT
-------------------	------------	--------	---------

```

CAR                               MARGIN                               D10.2           4
PAGE      1

TEST3 DEFINE MARGIN
TOTAL SUM OF MARGIN =           99.50
MODEL                               MARGIN
-----                               -
INTERCEPTOR III                   19.48
TR7                                   18.83
V12XKE AUTO                           19.54
XJ12L AUTO                             20.52
504 4 DOOR                             21.14

TOTAL                                99.50

```

SCAN TEST SEATS 2 CHANGED TO SEATS 4

```

COUNTRY=ENGLAND   CAR=JAGUAR           MODEL=V12XKE AUTO
SEAT= 2
COUNTRY=ENGLAND   CAR=JAGUAR           MODEL=V12XKE AUTO
SEAT= 4
TESTING SML WITH SHORT MODEL

```

PAGE 1

AVE

RETAIL\_COST

-----

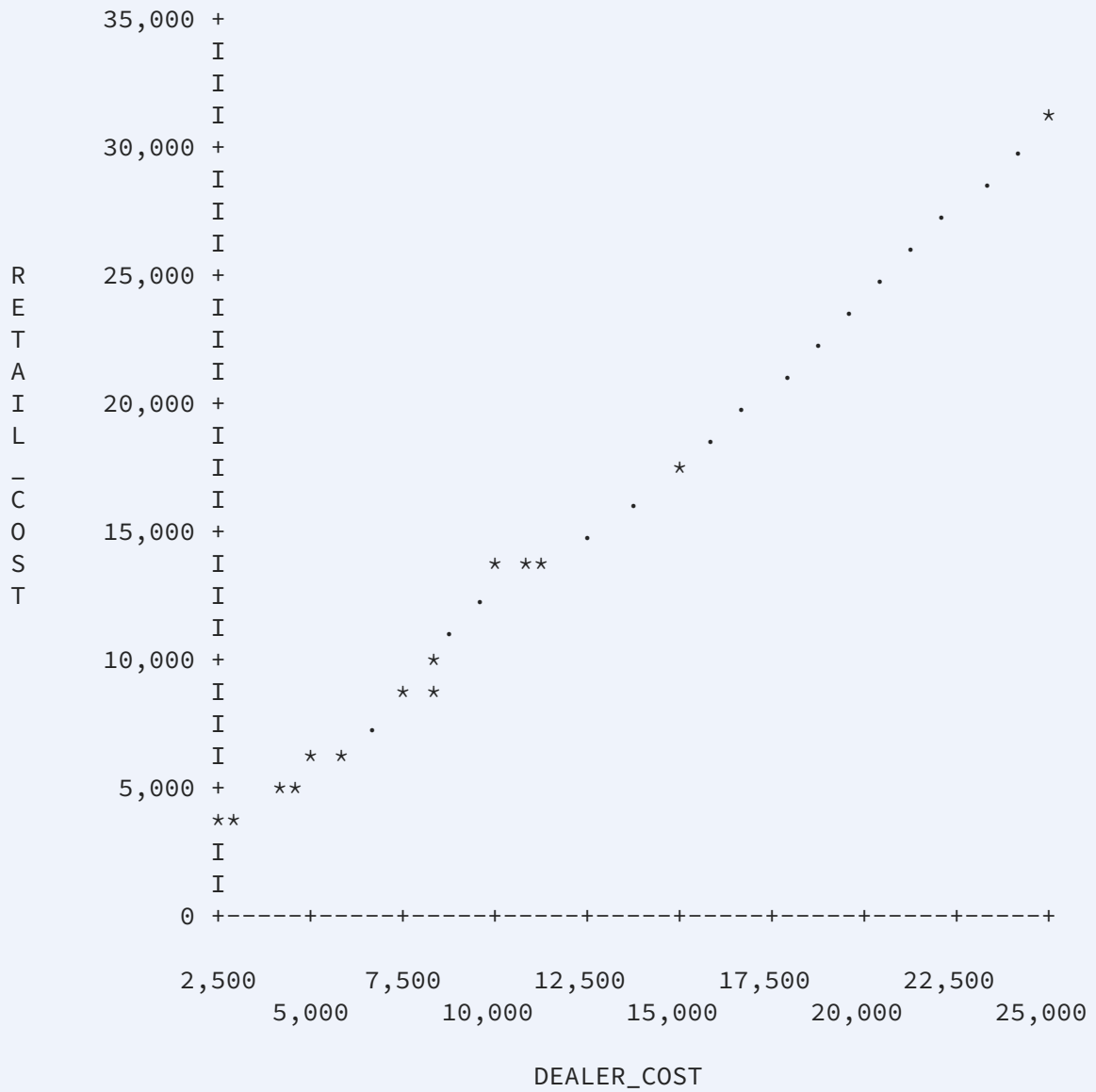
MILAGE RANGE

0 TO 12 16,495

13 TO 20 11,069

COMPARISON 1

TESTING GRAPHS  
18 RECORDS SHOULD BE RETRIEVED AND PLOTTED



AT END OF TEST MAJOR AREAS OK

This output shows that FOCUS is installed and operational.

## Next Steps

In the next steps, you will customize your CLIST or JOB to add private data sets and to move FOCUS to production. After performing those steps, you can run the IVP again to make sure the customized version of FOCUS is still operational. If you run into any problems at that stage, review your customization steps.

You may have inadvertently:

- Renamed required libraries so that they are not allocated correctly.
- Erased the aliases so that the required name transformations cannot be completed correctly.
- Moved members in the libraries so that they cannot be found using the standard DDNAMEs

## Specifying Non-Standard Data Set Names

ISETUP asks you for the high-level qualifier for your current production version of FOCUS. Based on this qualifier and a list of all of the standard data set names (low level qualifiers), ISETUP installs all the necessary FOCUS libraries. The list of low level qualifiers ISETUP uses is in member FOCSNAME in the F.HOME.DATA data set:

- If you use non-standard low level qualifiers for your FOCUS data sets, you must edit this file. Once you have done this, ISETUP will use these qualifiers for future installs as well as the current one.
- If you use multiple prefixes for your FOCUS data sets, you can edit this file to specify the correct data set names.

**Important:** You must use the version of FOCSNAME provided for the current release, not the version from a previous installation.

If you use only the standard FOCUS data set names, you do not have to perform this step.

**Note:** Only ISETUP uses FOCSNAME. FOCUS, once installed, does not use this member.

To edit FOCSSNAME, open member FOCSSNAME in the F.HOME.DATA data set and follow the instructions entered as comments at the top of the file.

The following is an example of a partial listing of the FOCSSNAME member. The contents of this member may change over time, but should be similar to the following.

```
//*****
//*Purpose: To Allow the setting of site specific low level qualifiers*
//*          for z/OS PDS FOCUS install process                               *
//*          *                                                                *
//*          Change the values below for the different datasets that      *
//*          may be allocated by the installation process. Keep in        *
//*          mind that a "qualifier" will be used as a suffix to these    *
//*          names so be careful as to length.                             *
//*          *                                                                *
//*****
//          SET  EDALOAD='F.HOME.LOAD'   Load Library
//          SET  EDAERR='F.HOME.ERR'     Errors files
//          SET  EDAHMAS='F.HOME.MAS'    Master files
//          SET  EDAHFEX='F.HOME.FEX'    RPCs
//          SET  EDAHETC='F.HOME.ETC'    Html and Text files
//          SET  EDAHACX='F.HOME.ACX'    Access files
//          SET  EDAHBIN='F.HOME.BIN'    Binary files
//          SET  EDAHDAT='F.HOME.DATA'   Isetup library
//          SET  PDSFOCD='CONF.DATA'     Focus Install/Runtime JCLs
//          SET  EDACCFG=&CONFTYPE..CFG  Configuration files
//          SET  EDAPROF=&CONFTYPE..PRF
//          SET  EDACACX=&CONFTYPE..ACX
//          SET  EDACMAS=&CONFTYPE..MAS
//          SET  EDACSQL=&CONFTYPE..SQL
//          SET  FOCUSU=&CONFTYPE..FOUSSU.FOCUS
```

As described, where necessary overwrite each standard name with your non-standard name.

For example, if you use the name CONFIG.DATA for your production configuration library, change the following line:

```
// SET  EDACCFG=&CONFTYPE..CFG           Configuration files
```

It should now say:

```
// SET  EDACCFG=&CONFTYPE..CONFIG.DATA   Configuration files
```

## Creating a CLIST or Batch Job to Invoke the Installed Version of ibi FOCUS

Edit a copy of the CLIST or batch JCL you use to invoke your current production version of FOCUS. Create a new CLIST or batch job with the new high level qualifiers to invoke the upgraded version of FOCUS.

The fact that the FOCUS data sets are distributed as PDSEs requires you to concatenate these PDSE libraries in front of any fixed blocked private data sets you want to carry forward from prior releases.

When you invoke FOCUS, the banner indicates that the version was upgraded.

## Generating Sample ibi FOCUS Data Sources

The sample FOCUS data sources are delivered as tutorials in a jtar file under USS, which must be unloaded to an application on z/OS.

## Generate Sample ibi FOCUS Data Sources

### Procedure

1. From the TSO command line, enter the following command.

```
OMVS
```

This command puts you in your root directory under USS. We will refer to this directory as `/u/user1`.

2. Create a directory for the jtar file and open that directory.

The following commands create a directory under your root directory named `unload` and opens that directory.

```
mkdir unload
cd unload
```

3. FTP to your MVS host.

The following command opens FTP to a host named *mvshost*.

```
ftp mvshost
```

You will be prompted to enter your user ID and password.

4. Establish binary transfer mode, transfer the jtar file to the directory you created, and quit out of FTP.

Issue the following commands.

```
bin
get 'hlq.f.home.bin(jtar)' jtar
quit
```

where *hlq* is the high-level qualifier under which you installed FOCUS.

5. Unload the jtar file.

Issue the following command.

```
tar -xvf jtar
```

6. Exit from USS.
7. Create a PDSE with a member named EDASERVE and concatenate it to the data sets allocated to DDNAME ERRORS in your FOCUS JCL or CLIST.

The EDASERVE member enables APPS by setting the APPROOT variable, and sets the edahome\_dir variable to the directory you created under USS. For example:

```
APPROOT=USER1.APPS
edahome_dir=/u/user1/unload
```

**Note:** The edahome\_dir variable line must be in lowercase.

8. Start FOCUS and issue the following command to create the FOCUS data sources.

```
EX SAMPLTUT TUTORIAL=LEGACY
```

The FOCUS data sources will be generated in an application named IBISAMP, which will consist of a set of data sets whose high-level qualifier consists the value of APPROOT, and the application name. For example, the following is a partial list of the data sets created for APP IBISAMP, where the user ID is USER1 and APPROOT is set to USER1.APPS:

```
USER1.APPS.IBISAMP.ACCESS.DATA  
USER1.APPS.IBISAMP.BROKERS.FOCUS  
USER1.APPS.IBISAMP.CAR.FOCUS  
USER1.APPS.IBISAMP.CASHFLOW.FOCUS  
USER1.APPS.IBISAMP.COURSE.FOCUS  
USER1.APPS.IBISAMP.DTD.DATA  
USER1.APPS.IBISAMP.EDUCFILE.FOCUS  
USER1.APPS.IBISAMP.EMPDATA.FOCUS  
USER1.APPS.IBISAMP.EMPLOYEE.FOCUS
```

If you do not want to run focus using APPS, you can copy the application data sets to other data sets and remove the data set you created with the EDASERVE member from the ERRORS concatenation.

For more information about APPS, see the *ibi™ FOCUS® Developing Applications* manual.

## Moving the Installed Version of ibi FOCUS to Production After Testing

After successful testing of the service pack or upgrade, move the test environment to production according to the standards of your site.

# Customizing ibi FOCUS

---

This chapter describes default FOCUS parameter settings and tells how to change them, as well as providing instructions for installing several of the major optional FOCUS features.

## Changing the ibi FOCUS Defaults

You can customize many of the default FOCUS space allocations, command lists and naming conventions while doing your install. Customizable items include:

- Number of cache pages permitted
- Space allocation for work files (IBITABLA)
- Number of data exceptions permitted before a session terminates

## Record Buffer Size

The default buffer size has been made unlimited. This is the required size for both the LINREC and DATREC buffers and may no longer be changed.

## Setting the Maximum Number of Cache Pages

FOCUS sites can limit the maximum number of cache pages allowed per FOCUS session. Check your IBM documentation for cache requirements. During installation, you can set a cache page limit of between 3 and 524,288 pages (the hardware maximum), with each page 4096 bytes in length. The FOCUS default is 0 pages. The HiperFOCUS default is 256.

Individual users or batch jobs can reset cache page limits to one less than the site-selected maximums by using the SET CACHE command.

# Set the Cache Page Limit

```
SET CACHE = {0|n}
```

where:

## **0**

The default FOCUS setting allocates no space for cache. Cache is inactive.

## **n**

Is the number of 4K-byte pages of contiguous storage allocated to cache memory. The minimum is two pages. The maximum value is either 524287, or one less than the site-specified maximum value.

In normal use, the number of pages requested by users should be far less than the hardware maximum to avoid degrading the performance of the paging subsystem.

## Configuring Default Space Allocations for Work Files: IBITABLA

FOCUS dynamically allocates output data sets not allocated by the user. To change the default space attributes for these dynamically allocated ddnames, edit member IBITABLA of the **install\_hlq.F.HOME.DATA** physical library.

To change the FOCUS default allocations for output data sets, you must copy file IBITABLA to the **install\_hlq.HOME.ERR** physical library that will be allocated to ddname ERRNLS. IBITABLA is a fixed columnar file and you must make all changes in the appropriate columns, which are as follows:

Column Name	Starting Column	Length
DDname	01	8
Allocation units ( <u>CYLS</u> ,TRKS)	10	4

Column Name	Starting Column	Length
Primary space	15	3
Secondary space	19	3
Number of Directory entries (PDS)	23	2
Sysout class (OFFLINE only)	26	1
Volume	28	6
Unit (SYSDA, DASD, HIPER, NOHIPER*)	35	8
Unit Count (multi-volume)	44	2

\*Use NOHIPER as a unit name to exclude particular data sets from HiperFOCUS.

## Sample of Distributed IBITABLA

IBITABLA defines the default allocations for all dynamically allocated FOCUS files. It is provided to allow each customer to tailor these defaults as required, thereby creating a local copy of IBITABLA.

```
*...+...1...+...2...+...3...+...4...+
HOLD      CYLS    5  10                      3,
HOLDMAST  TRKS    5  5 36                    NOHIPER  ,
SAVE      CYLS    5  10                      3,
REBUILD   CYLS    5  10                      3,
FOCSML    CYLS    5  5                      2,
FOCUS     CYLS    5  5                      1,
FOCSTACK  TRKS    5  5                      2,
FOCSORT   CYLS    5  5                      1,
OFFLINE   CYLS                    A          ,
SESSION   TRKS    5  5                      2,
FOCCOMP   TRKS    5  5 12                    ,
HOLDACC   TRKS    5  5 12                    ,
FMU       TRKS    5  5 12                    ,
TRF       TRKS    5  5 12                    ,
FOCPOOLT  CYLS    5  20                    NOHIPER  4,
FUSION    CYLS    5  50                    NOHIPER  4,
```

MDI	CYLS	5	20	NOHIPER	4,
FOC\$HOLD	CYLS	5	5		2,
EXTINDEX	CYLS	5	5		2,

## Adjusting the Number of Allowable Data Exceptions

FOCUS allows **ten** data exception interrupts before terminating a run with the following error message.

```
(FOC204) TOO MANY INTERRUPTS. RUN TERMINATED.
```

You can change this limit with the SET MAXDATAEXCPT command.

## Set a Maximum Number of Data Exceptions in a Session or Request

Issue the following command in any supported profile, in a FOCEXEC, or at the FOCUS prompt:

```
SET MAXDATAEXCPT={10|n}
```

Issue the following command in a TABLE request

```
ON TABLE SET MAXDATAEXCPT {10|n}
```

where:

**n**

Is a one to four-digit number that represents how many data exceptions can occur before the session is terminated. 10 is the default value. The value zero (0) allows an unlimited number of data exceptions. The value one (1) terminates the session at the

first data exception.

If MAXDATAEXCPT is changed in a request, a new count is established for the request. The session counter is saved and is restored after the request executes.

Each time you issue the command outside of a TABLE request, the running counter is reset to zero.

This command is not supported on a FOCUS Database Server (sink machine).

## Selecting ibi FOCUS Default Startup Options

Sites wishing to change FOCUS startup options have two options for implementing site-wide configuration parameters:

- They can either set their own defaults in the FOCPARM member of ERRNLS.DATA, a profile consisting of SET commands used to change default startup options.
- Or, they can set the defaults in the system-wide FOCPROF and/or EDASPROF profile, each of which is executed once per session. They can also create group profiles or user profiles (the member name is the user ID), all of which must be in the concatenation of data sets allocated to DDNAME ERRORS.

**Note:** These are independent procedures. A change made to one does not require changes to the other.

The order of execution of profiles is:

1. FOCPARM
2. EDASPROF
3. FOCPROF
4. Group profile
5. User profile

A site can also create an ODIN communication file (member ODIN in the concatenation of data sets allocated to DDNAME ERRORS). ODIN can point to remote servers and point sink machines and clients to subsystem names other than the default (IBIS).

## Edit the FOCPARM SET Commands

Member FOCPARM in ERRNLS.DATA is executed before FOCPROF and before each user's PROFILE FOCEXEC. It may only include SET commands. The FOCPARM file shipped with FOCUS follows:

```

--*-----*
--* THIS SECTION CONSISTS SOLELY OF SET COMMANDS USED TO CUSTOMIZE      *
--* THE BEHAVIOR OF FOCUS AT YOUR SITE. PLEASE NOTE THAT ONLY SET      *
--* COMMANDS ARE SUPPORTED, AND THAT ANY OTHER FOCUS COMMANDS ARE      *
--* NOT PERMITTED AND WILL FORCE YOU OUT OF FOCUS. THIS MEMBER MAY      *
--* NOT BE USED AS A PROFILE EXCEPT FOR SET COMMANDS.                  *
--*-----*
SET EMPTYREPORT=OFF
SET BLKCALC=NEW
SET FIELDNAME=NEW
SET QUALCH=.
SET QUALTITL=OFF
SET HOLDSTAT=OFF
SET HOTMENU=OFF
SET IMMEDTYPE=OFF
SET AUTOPATH=ON
SET AUTOINDEX=ON
SET COLLATION=BINARY
SET JOINLM=RANGE
--*FOR A MORE CONSERVATIVE ENVIRONMENT, ACTIVATE THE FOLLOWING SETTINGS:
--*SET EMPTYREPORT=ON
--*SET BLKCALC=OLD
--*SET FIELDNAME=OLD
--*SET AUTOPATH=OFF
--*SET AUTOINDEX=OFF
--*FOR A MORE AGGRESSIVE ENVIRONMENT, ACTIVATE THE FOLLOWING SETTINGS:
--*SET HOLDSTAT=ON
--*SET HOTMENU=ON
--*SET IMMEDTYPE=ON
--*SET CACHE=256
--*SET QUALTITL=ON
--*SET PRINTPLUS=ON

```

## Create the System-Wide FOCPROF Profile

FOCPROF is a global profile for FOCUS that can contain any command valid in a FOCEXEC, including: TABLE, MATCH, MODIFY, MAINTAIN, REBUILD, COMPILE, LOAD, Dialogue Manager

commands, TSO commands and DYNAM commands.

This gives you three FOCUS profiles: FOCPARM, FOCPROF, and PROFILE. FOCPARM and FOCPROF files are members of the ERRNLS PDS. The PROFILE file is a member of the FOCEXEC PDS. Their order of execution is:

1. FOCPARM, which can only contain FOCUS SET commands.
2. FOCPROF, a global profile.
3. PROFILE.

Create a new member of the ERRNLS PDS named FOCPROF and include any commands you wish to have executed each time FOCUS is invoked.

## Optionally, Create the ODIN Communication File

The ODIN communication file can contain nodes that enable access to remote servers (see the *ibi™ FOCUS® Overview and Operating Environments* manual) and that point sink machines and clients to subsystems that have been generated with non-default names.

The ODIN file can be used to control the name of the subsystem that is used for communication using the SBS protocol. SBS is the data exchange protocol on z/OS that uses the subsystem. The subsystem is a named driver resident in the host operating system.

The following rules determine the subsystem name for the FOCUS Database Server (sink machine). You must first have installed a subsystem with that name and started the subsystem, using the jobs described in [Subsystem Sample JCL and Zaps](#):

1. If ODIN exists, and there is a block with PROTOCOL=SBS that has a variable named SUBSYS within its body, the value of the SUBSYS variable is used as the subsystem name.
2. Else, if there is an environment variable named IBIS and it is not empty, its value is used as the subsystem name.
3. Otherwise, the default name IBIS is used as the subsystem name.

The following are CLIENT-side rules that determine the subsystem name (for example SUB1):

1. If ODIN exists, and there is a block NODE=SUB1 with CLASS=SUCCLIENT in its body, and the body has a variable named SUBSYS, the value of this SUBSYS variable is used as a subsystem name.
2. Otherwise, the previous rules for the sink machine are used.

When there is no ODIN file, or this file does not have any SUBSYS settings, the subsystem name is controlled by the IBIS environment variable. Its value can be set in the JCL by using one of the following methods:

- Using the ENVAR parameter. For example, the following EXEC card sets the variable IBIS to the value IBIT:

```
//FOCSINK EXEC PGM=HLISNK,PARM='ENVAR(IBIS=IBIT)/ ECHO'
```

This technique is not limited to HLISNK, but can be used for any startup, including FOCUS and HLI programs.

- Using an EDAENV DD card. For example, the following DD card sets the variable IBIS to the value IBIT:

```
//EDAENV DD *
IBIS=IBIT
```

## ODIN Sample Files

The following ODIN file makes the sink use subsystem name ABCD and makes clients use subsystem name ABCD.

```
PROTOCOL=SBS
BEGIN
  SUBSYS=ABCD
END
```

The following ODIN file makes the sink use subsystem name ABCD, makes clients connecting to sink FOCSBS use subsystem name IBIT, and makes clients connecting to other sinks use subsystem name ABCD.

```
PROTOCOL=SBS
BEGIN
```

```

SUBSYS=ABCD
END

NODE=FOCSBS
BEGIN
  CLASS=SUCLIENT
  PROTOCOL=SBS
  SUBSYS=IBIT
  SERVICE=USER1.FOCSU.DATA
END

```

The following ODIN file makes the sink use subsystem name IBIS (the default), makes clients connecting to sink FOCSBS use subsystem name IBIT, and makes clients connecting to other sinks use subsystem name IBIS.

```

NODE=FOCSBS
BEGIN
  CLASS=SUCLIENT
  PROTOCOL=SBS
  SUBSYS=IBIT
  SERVICE=USER1.FOCSU.DATA
END

```

## Installing HiperFOCUS

This section describes installation of HiperFOCUS.

HiperFOCUS is installed and customized using SET commands in the FOCPARM member of ERRNLS.DATA. You can install HiperFOCUS by simply adding SET HIPERINSTALL=ON to the FOCPARM entries and accepting the defaults.

All SET options (except for SET HIPERFOCUS) can be issued only from the FOCPARM member of the ERRNLS file. Issuing these commands from a FOCUS session produces a FOC964 error.

## Install HiperFOCUS

```
SET HIPERINSTALL={ON|OFF}
```

where:

**ON**

Installs HiperFOCUS.

**OFF**

Disables HiperFOCUS.

## Activate HiperFOCUS

```
SET HIPERFOCUS={ON|OFF}
```

where:

**ON**

Activates a HiperFOCUS session when HiperFOCUS is installed. ON is the default.

**OFF**

Deactivates a HiperFOCUS session.

## Creating Compiled ibi FOCUS Windows Files

Certain FOCUS interactive utilities present screens to the user. The source files for these screens are distributed as TRF files. In order to use them, you must run the TRF2FMU FOCEXEC, which compiles them into FMU files, which are formatted screens that are used by these utilities.

If you use any of the following FOCUS features or utilities, you must run the TRF2FMU FOCEXEC in order to create the FMU files:

- FOCUS Menu.
- FOCUS Shell.
- Power Reporter.
- SiteAnalyzer.

- Talk Technologies (TableTalk, ModifyTalk, PlotTalk, FileTalk).

## Create Compiled Window Files

### Procedure

1. Determine if your site runs any of the products listed above.
2. If so, make a copy of the TRF2FMU FOCEXEC that is distributed in the **install\_HLQ\_**FOCEXEC.DATA library.

For example, create a copy named TRF2FMUO (original).

3. Edit the TRF2FMU FEX and place your **install\_HLQ** in between the quotes of the -DEFAULT &INSTALLHLQ = ' ' command.

For example, specify the high-level qualifier used when you executed ISETUP to install FOCUS. Assume this high-level qualifier is INSTALLID.PROD7709. Change the following:

```
-DEFAULT &INSTALLHLQ = ' '
```

to:

```
-DEFAULT &INSTALLHLQ = 'INSTALLID.PROD7709'
```

**Note:** The TRF2FMU FOCEXEC will create a new library named INSTALLID.PROD7709.FMU.DATA.

4. Bring up FOCUS using the sample FOCUSCLIST that was created by ISETUP and resides in the install\_HLQ.CONF.DATA library.
5. Execute the TRF2FMU FOCEXEC from the FOCUS command prompt (it runs in less than 30 seconds).

For example:

```
> > ex trf2fmu
```

When the FOCUS prompt returns, the FOCEXEC has created all necessary compiled Window files.

6. Exit FOCUS by issuing the FIN command at the FOCUS prompt.

7. Edit the FOCUS CLIST and add an allocation for DDNAME FMU.

For example, add the following allocation to the FOCUS CLIST:

```
ALLOC F(FMU)          DA('INSTALLID.PROD7709.FMU.DATA') SHR REU
```

### What to do next

**Note:** You must use the updated FOCUS CLIST to run any of the FOCUS features or utilities that require compiled Window files. Prior releases of FOCUS required you to add allocations for DDNAMEs TRF and FMU. However, these allocations have now been automatically added to the CLIST by the TRF2FMU FOCEXEC.

## Installing the Re-entrant ibi FOCUS Modules

To optimize performance for each TSO/FOCUS user, place re-entrant and serially reusable FOCUS modules in the Extended Link Pack Area. All programs in the ELPA have corresponding entries in the LPA Directory, which is created at IPL. This both optimizes FOCUS performance and reduces total virtual storage requirements for each user.

Sample JCL for performing this procedure resides in members JFSALLPA, JFSCPLPA, JFSDELPA, and JFSCPBACK of the data set FOCCTL.DATA. For more information about these members, see [Link Pack Area Sample JCL](#).

## Installing the IBI Subsystem

The IBI Subsystem provides communication between and coordination among address spaces running FOCUS products on z/OS systems. The IBI Subsystem is also referred to as the *subsystem* in this document.

## Products that Require the IBI Subsystem

The following FOCUS products use the IBI Subsystem:

- **Simultaneous Usage (SU).** SU uses the IBI Subsystem to communicate between

FOCUS users and the FOCUS Database Server.

- **SmartMode.** Since SmartMode is an SU-based service, it uses the IBI Subsystem through SU.

## IBI Subsystem Technical Overview

The IBI Subsystem runs in the address space of the IBI product using its services. All subsystem modules are re-entrant and pageable, and reside in the Extended Common Storage Area (ECSA). Control blocks created by the subsystem also reside in the ECSA and are also pageable.

The subsystem uses 20K of ECSA for programs and control blocks, most of which is taken up by programs.

The subsystem is loaded and initialized by the SUBSYSI utility, which must be run from an APF-authorized library. SUBSYSI can also be used to stop, replace, and/or unload the subsystem modules.

When used for communications between address spaces, the subsystem can only use cross-memory services when the server address space (SU sink machine) is defined as non-swappable. If cross-memory services cannot be used, then an 8K mailbox is allocated in ECSA for each communication path used by the server. SU address spaces use one mailbox.

The subsystem code is run whenever any of the following events occur:

- A FOCUS product requests subsystem services.
- An operator command is issued, which includes the 4-digit subsystem name as the first four characters of the command.
- A task-end or memterm event occurs in an IBI address space.
- The SUBSYSI utility program is run.

**Note: Communication Data Sets FOCSU and FOCUSSU:** Communication data sets FOCSU and FOCUSSU are used with the IBI Subsystem. Since the data sets are never actually updated, it may be necessary to take action to prevent HSM or similar products from migrating them offline.

# IBI Subsystem Installation Requirements

IBI Subsystem installation requirements:

- An APF-authorized library is required for the subsystem modules.
- Activate the subsystem by running the SUBSYSI utility program.
- Optionally, edit SYS1.PARMLIB and IPL the operating system to activate the changes.

# IBI Subsystem Features and Functionality

The IBI subsystem provides the following features:

- Basic inter-address space communications, for SU.
- Use of cross-memory services for inter-address space communications.
- Operator controls, through system commands and through the SUBSYSI utility program.
- More efficient cleanup of CSA storage at task and address space failure.

# IBI Subsystem Troubleshooting and Maintenance

With the IBI Subsystem:

- The SUBSYSI utility enables you to install a new version of the subsystem without doing another IPL of the system.
- Operator commands support basic troubleshooting of the subsystem.
- The subsystem must be updated when installing a new release of FOCUS.

# IBI Subsystem Installation Planning

This section discusses the impact of installing the IBI Subsystem on your z/OS system. Please read this and the following section, before starting the installation procedure.

When installing FOCUS on z/OS, you may optionally update IEFSSNxx in SYS1.PARMLIB.

## Sample:

JES2	PRIMARY	JOB ENTRY SUBSYSTEM
RACF,	IRRSSI00,#	RESOURCE ACCESS CONTROL FACILITY
CICS		CUSTOMER INFORMATION CONTROL SYSTEM
IBIS		IBI SUBSYSTEM

Even though you update IEFSSNxx with the subsystem name, you must still run the SUBSYSI utility with the START option to load and activate the IBI Subsystem. You can use a name in IEFSSNxx if it is currently unused. The sample job SUBSYSNM, in FOCCTL.DATA, demonstrates replacing the default subsystem name with your own.

The SUBSYSI utility requires an APF-authorized library. This may be an existing library, a LNKLST member, or a new library created just for SUBSYSI. Whichever option you choose, you may wish to protect SUBSYSI to permit only authorized personnel to run it.

# IBI Subsystem Capacity and Performance

With the IBI Subsystem:

- 20K of ECSA is used to hold the subsystem modules and data. If the modules and data are deleted (by using the REMOVE option of SUBSYSI), 2K of ECSA is still used to hold items that may not be deleted. This storage is reclaimed if the subsystem is reactivated.
- If a server is running and is swappable, a mailbox must be allocated in ECSA.
- The subsystem uses Compare and Swap for serialization.
- The subsystem uses a PC routine and cross-memory services for moving data, as long as the server address space is non-swappable.

# IBI Subsystem Training

Appropriate operations and system support staff should be trained in the use of the SUBSYSI utility for starting and controlling the subsystem, and in the operator commands that the subsystem provides, DISPLAY and SET. It may also be necessary to update your system IPL procedures to ensure the subsystem is properly started after z/OS is initialized.

## IBI Subsystem Installation Steps

Perform these steps to install the IBI Subsystem. This procedure assumes that FOCUS is already installed and tested and that the data sets FOCLIB.LOAD and FOCCTL.DATA are loaded on your system.

All of the samples discussed herein are shipped in FOCCTL.DATA and are also reproduced for quick reference in [Subsystem Sample JCL and Zaps](#).

1. Choose a subsystem name.

Choose a valid 4-character name for the subsystem. The default name is IBIS.

2. Choose an APF-authorized library.

SUBSYSI must be run from an APF-authorized library. You may copy SUBSYSI to a library in the LNKLST or to an existing authorized library, or you may create a new library for this purpose. As SUBSYSI should only be run by authorized personnel, we recommend placing it in a secure library protected from unauthorized access. (Note that while FOCLIB.LOAD is APF-authorized when the zIIP feature is installed, all FOCUS users have access to it in order to run FOCUS.)

3. Update SYS1.PARMLIB (optional).

Update IEFSSNxx member of SYS1.PARMLIB with the name of the subsystem.

If creating a new APF-authorized library, or adding non-swappable programs (HLISNK for SU), update SYS1.PARMLIB as needed to specify these changes.

4. Zap to change subsystem name (optional).

If you select a name other than IBIS for the IBI Subsystem, edit the JCL in SUBSYSNM with the appropriate name and run it to apply the zap.

If a maintenance job (Service Pack) updates the IBI subsystem modules, and if those modules were moved to a separate subsystem library using the

FOCCTL.DATA.SUBSYSCP job, then they must be copied back into FOCLIB.LOAD for the maintenance job execution. On completion of the maintenance, the subsystem modules may be moved back into your subsystem library with the SUBSYSCP job.

You can use the ODIN communication file to point sink machines and clients to subsystems with non-default names, as described in [Selecting ibi FOCUS Default Startup Options](#).

5. Copy modules to an APF-authorized library and protect the library.

The JCL in SUBSYSCP will copy SUBSYSI and related modules from FOCLIB.LOAD into an APF-authorized library. This library can be a library dedicated to SUBSYSI, a member of the LNKLST, or any other library you choose. Since SUBSYSI is only for use by authorized personnel, ensure that the library is protected from unauthorized access.

6. Protect modules or delete them from FOCLIB.LOAD.

SUBSYSI and all other copied modules should be deleted from FOCLIB.LOAD or protected from unauthorized use.

7. Set up automatic start of the subsystem (optional).

If desired, set up JCL to run SUBSYSI and initialize the IBI Subsystem at system startup. Sample JCL to run SUBSYSI is found in members SUBSYSIJ and SUBSYSIH of FOCCTL.DATA.

8. Set up a SUBSYSI cataloged procedure (optional).

If desired, set up a cataloged procedure so SUBSYSI can be run as a started task. A sample procedure is delivered as member SUBSYSP in FOCCTL.DATA.

9. IPL the system (optional).

IPL the system to activate changes to SYS1.PARMLIB. If an authorized library was already available, no IPL is necessary in order to use the basic subsystem, although certain facilities, such as non-swappable servers, will not be available until you IPL the system.

If you are upgrading the subsystem but retaining its former name, you may have to perform an IPL. Please check the latest Tech Bulletins and our web site (<http://techsupport.informationbuilders.com/>) for the latest information.

10. Start the IBI Subsystem.

Bring up the subsystem by running SUBSYSI with the START parameter. It is now ready to use.

The SUBSYSI program requires the allocation of a STEPLIB DD statement when performing the START function. If the load library used (FOCLIB.LOAD) is defined in the link list, it will still require APF authorization (IEAAPF00) so that it may be executed from STEPLIB with the proper APF authorization.

If SUBSYSI START is executed without a STEPLIB statement, the following message will occur:

```
SUBSYS003 UNABLE TO LOAD MODULES TO CSA.
```

To remedy this situation, simply allocate the load library to STEPLIB.

## IBI Subsystem Product-related Installation Issues

- **HiperFOCUS**

It is recommended that the subsystem be initialized and the SET commands issued at z/OS startup. See the JCL in member SUBSYSIH of FOCCTL.DATA for an example.

- **SU, SmartMode**

No changes are required. Use of the subsystem is transparent for these products.

## IBI Subsystem Maintenance Issues

- **Applying Maintenance**

After applying maintenance to FOCUS, be sure to re-run all appropriate zap and copy jobs, and then run SUBSYSI with the REPLACE parameter to load the new subsystem modules.

Make sure that no servers are using the subsystem when you perform the REPLACE operation.

- **Multiple FOCUS Releases**

The subsystem supports use by multiple versions of FOCUS.

- **Removing the IBI Subsystem**

To remove the IBI Subsystem, run SUBSYSI with the REMOVE parameter. When doing so, make sure that no IBI server address spaces that use the IBI Subsystem are active.

## Using the IBI Subsystem

To use the IBI Subsystem, you must be familiar with the SUBSYSI program, the operator controls, the display commands, and the SET commands.

## The SUBSYSI Program

The SUBSYSI program is used to control the IBI Subsystem. Its basic function is to initialize the subsystem and it can also be used to stop, unload, and replace the subsystem modules in storage.

SUBSYSI can be run as a batch job or as a started task. JCL samples are provided in members SUBSYSIJ and SUBSYSP, respectively, of FOCCTL.DATA.

Do not use SUBSYSI to STOP or REMOVE the subsystem while any IBI server address spaces are running. All servers must be stopped before you stop the subsystem. HiperFOCUS users may continue to run.

Valid SUBSYSI parameters are:

- **START:** Initializes the subsystem load modules into CSA. If the modules are already loaded but the subsystem is not active (STOP issued), RESTART is assumed and executed.
- **STOP:** Logically disables the subsystem without removing the modules from CSA. Do not do this while any IBI servers are running.
- **RESTART:** Restarts the subsystem following the STOP command. The modules already exist in CSA (that is, START has already been run).
- **REPLACE:** Reloads modules into CSA. This can be used to upgrade without an IPL of the operating system. Only run this after performing a STOP.
- **REMOVE:** Disables the subsystem and removes modules from CSA. This operation will leave the SSCT entry and small (2K) module, but the module will be inactive. Do not do this while any IBI servers are running.

When START or RESTART is specified, SUBSYSI reads commands from SYSIN, as if issued from the z/OS console.

## IBI Subsystem Operator Controls

To issue operator commands to the subsystem, prefix them with the IBI Subsystem name. Leading blanks are not permitted in the command itself but blanks are permitted in the command text. For example, assuming the subsystem has been installed as IBIS, the following commands are all valid:

```
IBIS D SUBSYSTEM
IBIS DISPLAY IBIPROD
IBIS D IBIPROD
```

You can also control the subsystem with the SUBSYSI program, by submitting commands from SYSIN DD. In this case, do not specify the PARM parameter on the EXEC card. The following example illustrates supplying several commands in this manner. The output of these commands will be in the job log.

```
//SUBSYSI EXEC PGM=SUBSYSI,REGION=4096K,
//STEPLIB DD DSN=*****.SUBSYS.LOAD,DISP=SHR
//SYSIN DD *
D SUBSYSTEM
D IBIPROD/*
```

## IBI Subsystem Display Commands

The DISPLAY commands show subsystem-related or subsystem-managed information. The keyword DISPLAY can be abbreviated as D. The following commands are available:

- DISPLAY IBIPROD displays one line of information for every IBI address space running on the system.
- DISPLAY SUBSYSTEM shows internal information about the subsystem.

# IBI Subsystem SET Commands

The SET commands are used with the HiperBUDGET feature of HiperFOCUS to change the limit values. The keyword SET can be abbreviated as T. More than one limit may be set on the same command, as shown in the following example:

```
IBIS SET MVSLIM=500
IBIS T FILELIM=300, MVSLIM=500
```

Acceptable values are:

```
SET MVSLIM = {value|-1}
SET SERVLIM = {value|-1}
SET TCBLIM = {value|-1}
SET FILELIM = {value|-1}
```

A value of -1 specifies no limit checking for that particular parameter. The parameters MVSLIM and SERVLIM must be set in the subsystem by issuing IBIS SET commands in the console (see [IBI Subsystem Operator Controls](#)) or by running job SUBSYSIH (see [Subsystem Sample JCL and Zaps](#)).

TCBLIM and FILELIM have equivalents that can be used to set their values in FOCPARM, as indicated in the following table.

Subsystem Parameter	FOCPARM Equivalent	Definition
TCBLIM	HIPERSPACE	Maximum number of hiperspace pages/user.
FILELIM	HIPERFILE	Maximum number of hiperspace pages/file.
MVSLIM	None	Maximum number of hiperspace pages for all FOCUS products on the operating system.
SERVLIM	None	Maximum number of hiperspace pages allowed for multiple users per server.

# IBI Subsystem Troubleshooting

In the event of problems with the IBI Subsystem, check the following conditions before contacting the Customer Support team.

The following are the most common causes of problems with the IBI Subsystem:

- The zap job was not run, or did not run correctly, or an incorrect value may have been used for the zap.
- The zap job was run against the wrong library (SUBSYSI might be in two different libraries).
- SUBSYSI is not being run from an APF-authorized library.
- SUBSYSI was not run to START the subsystem.
- SUBSYSI was run with STOP or REMOVE and disabled the subsystem.
- For SU or other environments that require them, the communication data sets were not allocated.
- The communication data sets were allocated, but with the wrong ddname.
- The communication data sets were allocated incorrectly.
- There is a conflict with an existing subsystem name.
- There is a mismatch between the subsystem code and FOCUS code. If necessary for a new release of FOCUS, you must re-run the appropriate copy and zap jobs.
- FOCUS is running from a library that was not zapped.

## IBI Subsystem Diagnostic information

When contacting Customer Support for subsystem problems, some or all of the following information may be needed, depending on the nature of the problem:

1. For installation problems, the JCL, input, and output for all zap and copy jobs run.
2. For installation problems, all SYS1.PARMLIB updates performed.
3. The output from the D SUBSYSTEM and D IBIPROD commands.
4. The JCL, input, and output for all SUBSYSI jobs run.

5. The JCL and output for the failing address spaces.

## Installing the Simultaneous Usage (SU) Facility

This optional feature was described briefly in the first section of this manual and is fully documented in the *ibi™ FOCUS® Simultaneous Usage Reference Manual for z/OS*.

The installation steps are:

- Install the IBI Subsystem.
- Allocate the communication data set FOCSU.
- Create the auxiliary FOCUS database FOCUSSU.
- Create JCL for the Simultaneous Usage (SU) central database job.

If you wish to install the optional FOCUS/SU Security Interface, see [Install the FOCUS/SU Security Interface \(Optional\)](#).

## Allocate the Communication Data Set FOCSU

The database job that performs the centralized FOCUS I/O runs in its own address space, and makes its presence in the system known through a communication data set that is accessed by all TSO users and batch jobs that it services. This data set plays a role only in the initial handshake. Subsequent transfers of commands and of data between the central database job and client jobs or TSO IDs take place entirely in virtual storage.

The communication data set must be allocated and cataloged on a permanently mounted volume, and its name must be chosen so as to allow WRITE access by the central database job and READ access by any other TSO ID or batch job. The allocation is for a minimal amount of space for a single 16-byte fixed-length record. The actual data set name is irrelevant but we recommend using something suggestive of its role:

```
ATTR ADCB LRECL(16) RECFM(F) BLKSIZE(16)
ALLOCATE DA('SYS1.FOCSU.DATA') CATALOG SP(1) TRACK USING(ADCB)
```

You may want to run several central database jobs, each dedicated to a set of FOCUS data sources associated with a particular application. To do so, you must allocate a different communication data set to each such job.

# Create the Auxiliary ibi FOCUS Database

## FOCUSSU

This auxiliary FOCUS database is accessed in READ mode by the central database job, but not by the TSO users or batch jobs that it services. The same auxiliary database can be used by all central database jobs, if there is more than one. The following process creates it:

```
ALLOCATE F(MASTER) DA('prefix.FOCCTL.DATA') SHR
ALLOCATE F(ERRORS) DA('prefix.ERRORS.DATA') SHR
ALLOCATE F(FOCUSSU) DA('SYS1.FOCUSSU.FOCUS') CATALOG SP(1) TRACKS +
    LRECL(4096) BLKSIZE(4096) RECFM(F)
CALL 'prefix.FOCLIB.LOAD(FOCUS)'
CREATE FILE FOCUSSU
FIN
```

where:

### **prefix**

Is the high-level qualifier for your FOCUS production data sets.

## Install the ibi FOCUS/SU Security Interface (Optional)

The only installation step is authorization of the FOCLIB.LOAD library. An operating systems programmer must authorize the entire FOCLIB.LOAD library. This process allows some of the modules in FOCLIB.LOAD to issue certain privileged operating system functions, including making security requests. The module that actually issues the security requests is module SUSI. The HLISECUR module in FOCLIB.LOAD is the only module with a non-zero authorization code, meaning it is the only module that can be invoked directly as an authorized program. All other modules in FOCLIB.LOAD have authorization codes of zero, meaning they can only run authorized if invoked properly by HLISECUR.

The program HLISECUR simply links to the module HLISNK, which controls the FOCUS Database Server. This must run authorized so that the interface can later invoke module SUSI to do the security access checking.

The program SUSI checks security access on behalf of the source user. This program runs under the authorization of HLISECUR in order to issue the RACROUTE macro.

The modules HLISECUR and SUSI are the only modules in FOCLIB.LOAD that must run authorized.

Source code for these modules is provided on the tape to permit you to verify, if you wish, that these modules do not pose a system security risk when installed as authorized modules. The source code for HLISECUR and SUSI can be found in members HLISESRC and SUSISRC in the FOCCTL.DATA library.

## Using the ibi FOCUS/SU Security Interface

To use the interface, insert the following command in the SU profile:

```
SET SUSI=ON
```

The SU profile is member HLIPROF of a PDS allocated to ddname FOCEXEC on the FOCUS Database Server (sink machine).

Once the interface is installed, you must change all FOCUS Database Server jobs to execute the program HLISECUR, rather than HLISNK, as in the following JCL line:

```
//SINK EXEC PGM=HLISECUR,PARM='parameters'
```

You can use the same password and ECHO or STAT parameters for HLISECUR as for HLISNK.

For more information, see the *ibi™ FOCUS® Simultaneous Usage Reference Manual for z/OS*.

## Making ibi FOCUS Database Servers Non-Swappable

To ensure optimal communications between the client and the central database region, we recommend running the central database region as non-swappable. This requires APF authorization, as well as updating member SCHEDxx of SYS1.PARMLIB. To do this simply insert two PPT entries for the HLISNK and HLISECUR programs as follows:

```
PPT PGMNAME(HLISNK)NOSWAP CANCEL  
PPT PGMNAME(HLISECUR)NOSWAP CANCEL
```

These statements are activated with the next system IPL, or can be refreshed using certain operating system products.

## Installing the IEDIT Feature

The IEDIT command opens ISPF EDIT from within FOCUS. This feature enables z/OS users to edit and execute variable length files and those with record lengths longer than 80 bytes, which TED does not support.

In addition, IEDIT adds the following TED-like functionality to the editing session:

- You can issue the RUN command with or without parameters to save and execute a FOCEXEC that is open in the editor.
- The editor will be positioned to the line number where FOCUS encounters an error while executing a FOCEXEC.
- The last FOCEXEC executed will open when no file name is specified when you issue the IEDIT command.

All system editor commands are valid and any editor environment you establish as your default should be in force. TED commands other than RUN are not valid.

## Installing IEDIT on z/OS

Two files are required for using IEDIT. The files are distributed as members of the FOCCTL.DATA data set and must be copied to a library in the concatenation of data sets allocated to DDNAME SYSPROC.

- FOCIESTL. This macro enables the RUN command and determines where in the file the editor is positioned.
- FOCIERUN. This macro processes the RUN command.

# Configuring ibi FOCUS for National Language Support Services

---

This chapter describes how to add code pages to the FOCUS configuration and change the language settings in effect when FOCUS is invoked.

## Introduction to ibi FOCUS National Language Support (NLS) Services

NLS services enable FOCUS to support many different languages. Each supported language has an associated code page. In FOCUS, the mapping of graphic characters from one code page into the graphic characters of another is managed by the FOCUS NLS translation component.

FOCUS comes with the Transcoding Services Generation Utility (TSGU) program that you execute to generate the NLS transcoding table file based on the code page list of your site.

There are no additional allocations you need to issue in order to add or edit your code page and language settings. You can run the TSGU from FOCUS using the FOCUS CLIST or JCL created during installation.

**Note:** NLS is only supported if your terminal emulator is IBM Personal Communications (PC3270).

You can customize your NLS FOCUS configuration to:

- **Change your code page settings.** You can specify which code page transcoding tables you want to configure for FOCUS. For more information, see [Adding New or Alternate Code Pages to FOCUS](#).
- **Customize NLS default characteristics.** You can change the FOCUS code page and the language FOCUS uses for error messages. For more information, see [Configuring FOCUS Default Language Settings](#).
- **Customize monocasing.** You can customize the conversion of letters from lowercase to uppercase or uppercase to lowercase. For more information, see [Configuring](#)

### Customized FOCUS NLS Monocasing.

- **Customize sorting.** You can customize the sort sequence used by FOCUS. For more information, see [Configuring Customized FOCUS NLS Sort Sequences](#).

#### Note:

- Customization of your NLS configuration is only necessary if you require support for alternate or additional code pages, or custom monocasing and sorting.
- If you modified your code page configuration in a FOCUS release prior to FOCUS 7.7, and you want to keep the same language and code page configuration, you can copy the CPCODEPG file, any CP##### files that were modified, and the NLSCFG file from the FOCCTL.DATA library in the prior FOCUS release to the FOCUS 7.7 library named *install\_hlq.CONF.CFG*.
- When you upgrade from a FOCUS 7.7 release to a new release of FOCUS, and you want to keep the same code page and language configuration, you can copy your code page configuration files from the *install\_hlq.CONF.CFG* library in the old release of FOCUS to the *install\_hlq.CONF.CFG* library in the new release of FOCUS.
- If you want to customize your NLS configuration and the member NLSCFG does not exist in the concatenation of data sets allocated to DDNAME ERRORS, create a member named NLSCFG in the *install\_hlq.CONF.CFG* library.
- If you want to configure new code page and language settings for the new release of FOCUS, follow the instructions in [Configuring New or Alternate Code Pages for FOCUS](#).

## Sample NLS Configuration Session

This example adds French code page 297 to the FOCUS configuration. The instructions in the remainder of the chapter describe the process in detail but, in most cases, it is a simple process.

1. Copy the following line for French code page 297 into the CPCODEPG file.

```
CP00297  E SBCS  IBM MF France
```

2. Enter FOCUS and issue the following command to generate the transcoding tables.

```
TSGU
```

3. Create the NLSCFG file with the following settings to change the default code page and language settings.

```
LANG=FRE  
CODE_PAGE = 297  
DATEOUTPUT=DEFAULT  
COLLATION=CODEPAGE
```

The detailed instructions in [Detailed NLS Configuration Steps](#) first have you copy all files that may be modified or used for copying to a new location in order to leave the original files intact.

## Overview of Steps for Configuring Code Page Settings

You must perform the following steps to change your code page configuration:

1. Review your current code page list and decide whether you need alternate or additional code pages.
2. Update the code page generation list of your site with the code page information required for those alternate or additional code pages.
3. If you need to change any of the code pages to conform to the requirements of your site or for the purpose of monocasing or sorting, edit the appropriate code page definition files.
4. Start FOCUS and run the TSGU to generate the new transcoding tables based on the updated code page generation list.
5. If you generated a new FOCUS code page in step 4, configure FOCUS to use the new code page and/or language.
6. While logged out of z/OS, change the session parameters in your PC3270 configuration to use the same code page as the code page to be used by FOCUS.
7. Verify the configuration by logging back in to z/OS and invoking FOCUS.

- a. Issue the ? LANG query command to see the language and code page settings in effect. For example:

NATIONAL LANGUAGE INFORMATION		
Language	033/FRENCH	(FRE, fr)
Code Page	297	
Client Code Page	297	
Dollar	5B(\$)	
Lowcase alphabet	YES	
Decimal notation	OFF(.	
Currency symbol	\$	
Date/Time format	EDA	
NLS sort	NO(BINARY)	
NLS upcase/lowcase	NO	
NLS Control Characters	OFF	
DBCS Flag	OFF(SBCS)	

- b. Display data that has characters from the new code page to see that they display properly.

During NLS configuration, some of the distributed NLS files need to be edited. In order to leave the original files intact, copy the code pages that you will edit to *install\_hlq.CONF.CFG* and edit those copies.

**Note:** If you reinstall FOCUS over your current production FOCUS libraries, using the same names, the configuration changes will be overwritten. In this case, you should copy these files to another location before reinstalling, and then copy them back after the new installation process is complete.

## Overview of NLS Configuration Files

The following table describes the NLS configuration files distributed with FOCUS 7.7 in alias library *install\_hlq.ERRNLS.DATA* (physical library *install\_hlq.HOME.ERR*):

Member	Description and Use
CPCODEPG	<p><b>Description:</b> Code page generation list. This file is a list of currently active code pages.</p> <p><b>Use:</b> You must update this file in order to change your NLS</p>

Member	Description and Use
	configuration.
CPCPALL	<p><b>Description:</b> List of language codes and associated code pages.</p> <p><b>Use:</b> This file is a reference file containing a list of language codes and code pages for all languages supported for use with FOCUS.</p>
CPnnnnn	<p><b>Description:</b> Code page definition file. This file contains information on each code point value in the code page. There is a code page definition file for every code page listed in the known code page file (CPXCPTBL).</p> <p><b>Use:</b> This file will not be updated unless you want to change any character within the code page character definitions.</p>
CPXCPTBL	<p><b>Description:</b> Known code page list. This file contains a list of enabled code pages for FOCUS products.</p> <p><b>Use:</b> This file is a reference file for finding alternate or additional code pages to add to CPCODEPG.</p>

The following table describes the NLS configuration files that may be created by the TSGU (the utility that generates the tables required for your NLS configuration). These files are generated in the physical library *install\_hlq.CONF.CFG*:

Member	Description
CASETBL	<p><b>Monocasing table.</b> This file contains the monocasing tables, which are generated using the TSGU and are based on the code page generation list (CPCODEPG).</p> <p>You only need to generate this table if you customized the monocasing options in any of the code page definition files.</p>
SORTTBL	<p><b>Sorting table.</b> This file contains the sorting tables,</p>

Member	Description
	<p>which are generated using the TSGU and are based on the contents of the code page generation list (CPCODEPG).</p> <p>You only need to generate this table if you customized the sorting options in any of the code page definition files.</p>
TRANTBL	<p><b>Transcoding table.</b> This file contains the transcoding tables, which are generated using the TSGU and are based on the contents of the code page generation list (CPCODEPG).</p>

You also need to create an NLS configuration file, member NLSCFG in library *install\_hlq.CONF.CFG*, if you want to start FOCUS using a non-default language or code page.

You must also configure your terminal emulator software to use the same code page as FOCUS.

## ibi FOCUS Default Code Page Configuration

Code page settings are reflected in the code page generation list file *install\_hlq.ERRNLS.DATA(CPCODEPG)*. This file contains code page settings for FOCUS and it is used by the TSGU to generate the transcoding tables. To identify your current code page settings, view the code page generation list file (CPCODEPG).

During the FOCUS installation, FOCUS is set up by default with the US EBCDIC code page 37. The code page configuration for FOCUS is set up to support the following default code pages:

- CP00037 E SBCS US IBM MF EBCDIC code
- CP00437 A SBCS US PC ASCII code
- CP00137 A SBCS ANSI Character Set for MS-Windows
- CP01047 E SBCS IBM MF Open Systems (Latin 1)
- CP65001 A UTF8 Unicode (UTF-8)

You can add additional code pages to this configuration, replace existing code pages with alternates, or change the properties in a code page file to conform to the standards of your site or to modify the monocasing or sorting properties of the code page.

## Detailed NLS Configuration Steps

This section describes how to add code pages to the FOCUS configuration, implement default language settings, configure PC3270 for the same code page as FOCUS, and verify the configuration.

## Adding New or Alternate Code Pages for ibi FOCUS

Review your code page configuration requirements. If you did not previously modify your code page configuration but need to do so in the current release of FOCUS, follow the instructions in this section.

If you require customized monocasing or sorting for one or more of your configured code pages, edit the code page definition file for those code pages as described in [Advanced NLS Configuration Options](#).

## Add New or Alternate Code Pages to FOCUS

### Procedure

1. Copy member CPCODEPG (list of code pages to be configured), any CPnnnnn files that you may want to modify, member CPCPALL (list of languages, language codes, and their associated code pages), and member CPXCPTBL (known code page list) files from *install\_hlq.ERRNLS.DATA* to *install\_hlq.CONF.CFG*.

All changes will be made in the *install\_hlq.CONF.CFG* library so that the original files remain intact.

**Note:** If you reinstall FOCUS over your current production FOCUS libraries, using the

same names, the configuration changes will be overwritten. In this case, you should copy these files to another location before reinstalling, and then copy them back after the new installation process is complete.

2. Browse member CPCPALL in the *install\_hlq.CONF.CFG* library to determine which code pages are available and supported for the language you want to configure.

The following is a portion of the CPCPALL file that contains the language abbreviation and supported code pages for French:

```
* LANG=FRE
cp297
cp863
cp137
cp1047
cp37
cp65001
BR
```

3. Copy additional or alternate code pages into CPCODEPG from the known code page file, CPXCPTBL.

Add the information for each additional or alternate code page on a separate line. Note that only the characters CP and the code page number (for example, CP00297) are required to generate the new transcoding tables. The maximum number of code page entries in the file is 16.

- a. Open the known code page file, member CPXCPTBL in the library *install\_hlq.CONF.CFG*.

The following is a portion of the CPXCPTBL file that contains the code page information for French code page 297 (CP00297):

```
CP00281    E SBCS  IBM MF Japanese English
CP00284    E SBCS  IBM MF Spain/Latin America
CP00285    E SBCS  IBM MF United Kingdom
CP00297    E SBCS  IBM MF France
```

For a description of all of the fields in CPXCPTBL, see [Structure of the Known Code Page File \(CPXCPTBL\)](#).

- b. Copy the lines for the additional or alternate code pages you need from member CPXCPTBL to member CPCODEPG.

For example, to add French code page 297 to your configuration, copy the following line from CPXCPTBL to CPCODEPG:

```
CP00297  E SBCS  IBM MF France
```

If you started with the default CPCODEPG FILE, the new version will contain the following information:

```
CP00037  E SBCS  US IBM MF EBCDIC cod
CP00437  A SBCS  US PC ASCII code
CP00137  A SBCS  ANSI Character Set for MS-Windows
CP01047  E SBCS  IBM MF Open Systems (Latin 1)
CP65001  A UTF8  Unicode (UTF-8)
CP00297  E SBCS  IBM MF France
```

**Note:** If the desired code page is not listed in the known code page file (CPXCPTBL), refer to the appropriate IBM Character Data Representation Architecture (CDRA) document and create your own, or contact your local ibi representative for information about additional code pages.

#### 4. Execute the FOCUSC CLIST to start FOCUS.

The ISETUP installation procedure creates a CLIST named FOCUSC in the **install\_hlq.CONF.DATA** library. This CLIST allocates all of the required libraries for executing FOCUS using the high-level qualifier you chose during the installation process.

Alternatively, you can submit the FOCUS JCL generated by the installation process, member FOCUS in the **install\_hlq.CONF.DATA** library. In this case, place the TSGU command in SYSIN. For an example, see [Use the TSGU Command](#).

#### 5. At the FOCUS command prompt, issue the TSGU command to generate the necessary tables.

For example, to generate the transcoding table (TRANTBL) that adds the new or alternate code pages from the CPCODEPG file, issue the following command.

```
TSGU
```

The tables are created as members in the **install\_hlq.CONF.CFG** library.

Next, configure the FOCUS default code page and language as described in [Configuring the FOCUS Default Language Settings](#).

**What to do next**

If you modified the monocasing information in any of the code page definition files, issue the following command to generate the monocasing table (CASETBL):

```
TSGU CASE
```

If you modified the sorting sequence in any of the code page definition files, issue the following command to generate the sorting table (SORTTBL):

```
TSGU SORT
```

To create all three types of tables (transcoding, monocasing, and sort tables), issue the following command:

```
TSGU GEN
```

After running the TSGU, check the **install\_hlq.CONF.CFG** library to make sure the required tables were generated.

For complete information about TSGU command syntax, see [Generating New Transcoding Tables](#).

## Configuring ibi FOCUS To Use a New Code Page

When you invoke FOCUS, one language and code page combination will be in effect by default. When you configure NLS Services, the default language and code page are controlled by settings in the NLSCFG configuration file, member NLSCFG in the *install\_hlq.CONF.CFG* library.

For example, to change the default language to French and the code page to 297, enter the following settings in NLSCFG:

```
LANG=FRE
CODE_PAGE=297
```

If there is no NLSCFG member in the concatenation of data sets allocated to DDNAME ERRORS, the FOCUS default language and code page will be in effect. For information, see [FOCUS Default Code Page Configuration](#).

For complete information about the NLSCFG configuration file, see [Use the NLS Configuration File \(NLSCFG\)](#).

## Configuring PC3270 Session Parameters

Before invoking FOCUS, you must configure PC3270 to use the same code page that will be used by FOCUS.

1. Log off your z/OS session.
2. On the PC3270 Communication menu, select **Configure**.
3. Click **Session Parameters**.
4. Select the code page that FOCUS will use from the list of code pages, and click **OK**.

PC3270 will display a message about the new configuration. Accept the change to the new PC3270 code page, and wait for the screen to refresh before logging in again.

## Verifying the ibi FOCUS Language Configuration

Once you have configured FOCUS for a new code page and language, you should verify that they are in effect when FOCUS is invoked.

1. Log in to z/OS and invoke FOCUS. You can use the FOCUS CLIST that was created by the installation procedure.
2. Issue the ? LANG command to check that the language and code page you configured are in effect. For example:

NATIONAL LANGUAGE INFORMATION		
Language	033/FRENCH	(FRE, fr)
Code Page	297	
Client Code Page	297	
Dollar	5B(\$)	
Lowcase alphabet	YES	
Decimal notation	OFF(.)	
Currency symbol	\$	
Date/Time format	EDA	

NLS sort	NO (BINARY)
NLS upcase/lowcase	NO
NLS Control Characters	OFF
DBCS Flag	OFF (SBCS)

3. Display data that contains characters specific to the new code page to make sure that they display correctly.

## Advanced NLS Configuration Options

This section describes how to customize monocasing and sort sequences. Although these advanced options are available, they are not needed in a typical NLS configuration.

## Configuring Customized ibi FOCUS NLS Monocasing

Monocasing (also called Case Conversion) is the conversion of a letter from its lowercase to uppercase form (or vice versa). As part of the basic FOCUS initialization, FOCUS is set up with standard monocasing where all requests, except for data between single quotes, are converted to uppercase according to the monocasing table (CASETBL). The monocasing table file *install\_hlq.CONF.CFG(CASETBL)* converts a-z to A-Z only. If you require customized monocasing, such as special upper/lowercase accented characters, then you must modify the code page definition file (CPnnnnn) and then generate a new NLS monocasing table file (CASETBL) using the TSGU. The new monocasing table is based on the changes made to the code page definition file (CPnnnnn).

**Note:** The FOCUS functions LOCASE and UPCASE respect the NLS monocasing table file (CASETBL).

## Customize Your NLS Monocasing Table

**Note:** As part of the basic initialization, monocasing tables are provided for most of the common European languages. You will only need to customize the monocasing tables if you require a special monocasing configuration.

NLS monocasing involves language-sensitive (code page sensitive) uppercase and lowercase conversion. You can customize the attributes of each character by completing the following steps:

## Procedure

1. Copy the code page definition file you want to edit from the *install\_hlq.ERRNLS.DATA* library to the *install\_hlq.CONF.CFG* library. The code page definition file (CPnnnnn) is named by the code page number. For example, CP00037 contains the monocasing information for US English code page 37. For more information on the code page definition file (CPnnnnn), see [Use the Code Page Definition File \(CPnnnnn\)](#).

**Note:** You can reference the known code page file (CPXCPTBL) to find the name of the code page definition file.

2. Edit the code page definition file.

The code page definition file (CPnnnnn) contains the Code Point and Graphic Character Global Identifier (GCGID). Make the appropriate changes to GCGID uppercase in the third column and Character type in the fifth column.

The following is a chart of a sample code page definition file layout:

Code Point	GCGID	GCGID uppercase	Sort weight	Character type
00	..NUL...	.....	00	.
01	SS000000	.....	01	.
02	SS010000	.....	02	.
:				
40	SS050000	.....	40	S
41	SS000000	.....	41	U
42	SS000000	.....	42	U
:				
61	LA020000	LA010000	61	L
62	LB020000	LB010000	62	L
:				
F1	ND010000	.....	61	D
F2	ND020000	.....	62	D
:				
FF	SP300000	.....	FF	.

3. Edit the code page generation list file (CPCODEPG) and add the code page definition

information as described in [Adding New or Alternate Code Pages to FOCUS](#). The updated code page generation list (CPCODEPG) is used to regenerate the custom monocasing table file (CASETBL).

4. Execute the TSGU with the parameter CASE.

The TSGU generates the updated NLS monocasing table file *install\_hlq.CONF.CFG* (CASETBL).

## Result

**Note:** For additional information on modifying monocasing values in the code page definition file, refer to the IBM CDRA Library or contact your local ibi representative.

# Configuring Customized ibi FOCUS NLS Sort Sequences

As part of the basic FOCUS initialization, FOCUS is set up with standard sorting where FOCUS uses sort sequences of the binary representation of a character string. If you require customized sorting, such as changing your sort order to account for Swedish umlauts (Ü), then you must modify the NLS sorting table file (SORTTBL).

## Customize Your NLS Sort Tables

**Note:** As part of the basic initialization, sorting tables are provided for most of the common European languages. You will only need to customize the sorting tables if you require a special sorting sequence.

If you want to use a weighted sort that accounts for characters that are out of binary sequence, you can customize the sort tables by completing the following steps.

### Procedure

1. Copy the code page definition file *install\_hlq.ERRNLS.DATA(CPnnnnn)*, which is named by the code page number, to *install\_hlq.CONF.CFG(CPnnnnn)*. For example, CP00037 contains the sorting information for US English code page 37.

**Note:** You can reference the known code page file (CPXCPTBL) to find the name of the code page definition file.

2. Edit the code page definition file For more information on the code page definition file (CPnnnnn), see [Use the Code Page Definition File \(CPnnnnn\)](#).

The code page definition file (CPnnnnn) contains the Code Point and Graphic Character Global Identifier (GCGID). Make the appropriate changes to the Sort weight listed in the fourth column. The following is a chart of a sample code page definition file layout:

Code Point	GCGID	GCGID uppercase	Sort weight	Character type
00	..NUL...	.....	00	.
01	SS000000	.....	01	.
02	SS010000	.....	02	.
:				
40	SS050000	.....	40	S
41	SS000000	.....	41	U
42	SS000000	.....	42	U
:				
61	LA020000	LA010000	61	L
62	LB020000	LB010000	62	L
:				
F1	ND010000	.....	61	D
F2	ND020000	.....	62	D
:				
FF	SP300000	.....	FF	.

3. Edit the code page generation list file (CPCODEPG) and add the code page definition information as described in [Adding New or Alternate Code Pages to FOCUS](#). The updated code page generation list (CPCODEPG) is used to regenerate the custom sorting table file (SORTTBL).
4. Execute the TSGU from FOCUS with the parameter SORT.

The TSGU generates the updated NLS sorting table file *install\_hlq.CONF.CFG* (SORTTBL).

## Result

**Note:** For additional information on modifying monocasing values in the code page definition file, refer to the IBM CDRA Library or contact your local ibi representative.

# Using the NLS Configuration Files

This section provides detailed descriptions of the NLSCFG configuration file, the Code Page Definition File (CPnnnnn), and the Known Code Page File (CPXCPTBL).

## Use the NLS Configuration File (NLSCFG)

The NLSCFG configuration file controls the code page and the language used for error messages and characters in FOCUS. You can configure several different code pages and languages in the CPCODEPG file. Using the NLSCFG file, you can specify which one will be in effect when you invoke FOCUS.

You change the FOCUS code page and language by entering LANG and CODE\_PAGE settings in the NLSCFG configuration file. Changing the LANG setting sets all other parameters to valid values.

**Note:** The LANG setting should match the three-character language abbreviation (language ID) or the language name.

You can find the appropriate language abbreviation for each code page in member CPCPALL in the alias library **install\_hlq**.ERRNLS.DATA. The following shows a portion of the CPCPALL file, which includes the language setting for code page 297:

```
* LANG=FRE
cp297
cp863
cp137
cp1047
cp37
cp65001
BR
* LANG=GER
cp273
cp850
```

```
cp137
cp1047
cp37
cp65001
BR
```

If you do not configure FOCUS for NLS services, the LANG value used by FOCUS is AMENGLISH. To change the default language to French, enter the following setting in the NLSCFG configuration file:

```
LANG = FRE
```

Error messages are only translated for German, Spanish, French, Dutch, and Japanese. Error messages for all other languages are translated to English.

**Note:** Swedish and some other languages may only be partially translated.

The following is a reference of keywords in the NLSCFG file and their associated values:

#### **LANG=**

Is the language. The list of known languages file (CPCPALL), located in *install\_hlq.ERRNLS.DATA*, contains a list of valid values. The value of LANG determines the defaults for other parameters in FOCUS. The default value is AMENGLISH (American English).

#### **COLLATION=**

Establishes the collation (sort) sequence. Valid values are:

- **CODEPAGE.** Bases collation sequence on the code page in effect. This is the default value.
- **BINARY.** Bases the collation sequence on binary values. When code page files are not modified, CODEPAGE is the same as BINARY, except when LANGUAGE is Danish, Finnish, German, Norwegian or Swedish in an EBCDIC environment.
- **SRV\_CS.** Bases collation sequence on the LANGUAGE setting, and is case-sensitive.
- **SRV\_CI.** Bases collation sequence on the LANGUAGE setting, and is case-insensitive

This setting can be overridden by the SET COLLATION command.

**DATEOUTPUT=**

Localizes month and week names on date format output for display options T, t, TR, tr, W, w, WR and wr. Valid values are:

- **DEFAULT.** Generates English month and week names regardless of the language setting. This is the default setting.
- **LOCALIZED.** Generates localized month and week names for the current language setting.

For example, assume FOCUS is configured to use French code page 297. In the following request, the HIRE\_DATE field is displayed with the YYMDtr display option:

```
TABLE FILE EMPLOYEE
SUM CURR_SAL HIRE_DATE/YYMDtr
BY DEPARTMENT
ON TABLE SET PAGE NOPAGE
END
```

Omitting the DATEOUTPUT setting from NLSCFG or entering DATEOUTPUT=DEFAULT displays month names in English:

DEPARTMENT	CURR_SAL	HIRE_DATE
MIS	\$108,002.00	1981, November 2
PRODUCTION	\$114,282.00	1982, February 2

Entering the setting DATEOUTPUT=LOCALIZED in NLSCFG translates month names to French:

DEPARTMENT	CURR_SAL	HIRE_DATE
MIS	\$108,002.00	1981, novembre 2
PRODUCTION	\$114,282.00	1982, février 2

**CURRENCY=**

Is a one-to-four character string or a hexadecimal value that identifies a currency symbol. You can use any characters. The default currency symbol is the dollar sign (\$). Examples of popular currency symbols and their corresponding character abbreviations include the following.

- **€** or **EUR** for euro.
- **¥** or **JPY** for yen.
- **\$** or **USD** for U.S. dollar. This is the default currency symbol.
- **£** or **GBP** for British pound sterling.
- **NIS** for Israeli New Shekel.

The following are examples of hexadecimal values for code page 137.

- **0x80** for the euro symbol.
- **0x24** for the dollar sign.

## Sample NLSCFG File

The following NLSCFG file specifies French as the language and 297 as the code page.

```
LANG=FRE
CODE_PAGE = 297
DATEOUTPUT=DEFAULT
COLLATION=CODEPAGE
```

## Use the Code Page Definition File (CPnnnnn)

The code page definition file *install\_hlq.ERRNLS.DATA(CPnnnnn)* contains information on the characters for each code point value in the code page.

```
dd aaaaaaaaa aaaaaaaaa xx h
```

where:

### **dd**

Is the hexadecimal code point value (00 through FF).

### **aaaaaaaa**

Is the Graphic Character Global Identifier (GCGID).

**xx**

Is the Sort weight. Consists of a hexadecimal code point value (00 through FF).

**h**

Is the character type. Possible values are:

L for Lower-case alphabet.

U for Upper-case alphabet.

A for Asian (non-alphabet) character.

D for Digit.

S for Special character.

C for Control (non-printable) character.

## Structure of the Known Code Page File (CPXCPTBL)

When you add code pages to the FOCUS configuration, you copy code page information from the known code page file, member CPXCPTBL in the **install\_hlq**.ERRNLS.DATA library.

```
CPnnnnn b dbcS-id description
```

where:

**CP**

Is the code page prefix (always CP).

**nnnnn**

Is the code page number.

**b**

Is the character type. Possible values are:

A for ASCII.

E for EBCDIC.

**dbcs-id**

Is the DBCS identifier (DBCSID).

**description**

Is a description of the code page.

## Using the TSGU to Generate New Transcoding Tables

The TSGU is a multi-functional utility that is used to create the transcoding table (TRANTBL), sorting table (SORTTBL), and monocasing table (CASETBL).

## Use the TSGU Command

```
TSGU
TSGU GEN
TSGU KTBL {pdfy_name|??}
TSGU INFO info-command
TSGU CASE
TSGU SORT
```

where:

**no parameters**

Generates the NLS transcoding table (TRANTBL).

**GEN**

Generates all the tables (TRANTBL, CASETBL and SORTTBL).

**INFO**

Displays information about the current NLS configuration.

**CASE**

Generates the custom monocasing table (CASETBL) binary file.

**SORT**

Generates the custom sort sequence table (SORTTBL) binary file.

**KTBL PD??**

Generates the special font information tables (PDFYTBL) when Unicode fonts should be used in PDF format files. You can specify a *pdfy-name* font metrics file for a specific font, or use PD?? to generate all of the files.

## Submitting JCL to Generate the Transcoding Table and Unicode PDF Font Tables

In this example, the high-level qualifier for your FOCUS production libraries is FOC7706.

Taiwanese code page 937 has been added to member CPCODEPG in FOC7706.CONF.CFG:

```
CP00037  E SBCS  US IBM MF EBCDIC code
CP00437  A SBCS  US PC ASCII code
CP00137  A SBCS  ANSI Character Set for MS-Windows
CP01047  E SBCS  IBM MF Open Systems (Latin 1)
CP65001  A UTF8  Unicode (UTF-8)
CP00937  E SOSI  Taiwanese IBM MF (cp37+cp835)
```

The following JCL invokes FOCUS, issues the TSGU commands to generate the transcoding and PDF tables, and exits FOCUS:

```
//* YOUR JOB CARD GOES HERE
//*
//FOCUS      EXEC PGM=FOCUS
//STEPLIB   DD DSN=FOC7706.FOCLIB.LOAD,DISP=SHR
//ERRORS    DD DSN=FOC7706.CONF.CFG,DISP=SHR
//          DD DSN=FOC7706.ERRORS.DATA,DISP=SHR
//SYSPRINT  DD SYSOUT=*
//SYSIN DD *
TSGU
TSGU KTBL PD??
FIN
/*
```

SYSPRINT will show various Generating File messages.

Member NLSCFG in FOC7706.CONF.CFG has been created with the following commands to invoke FOCUS with the new code page and language:

```
LANG = T-CHINESE
CODE_PAGE = 937
DATEOUTPUT = DEFAULT
COLLATION = CODEPAGE
```

Now, you can invoke FOCUS, and code page 937 will be in effect with Taiwanese as the configured language. Issue the following command so that your emulator can display the Chinese characters:

```
SET TERMINAL=IBM5550
```

## Use the TSGU Info-Commands

```
TSGU INFO CP [DBCS] [nnn [nnn [...]]] [MAT [DES]]
TSGU INFO CP [SBCS] [nnn [nnn [...]]] [MAT [DES]]
TSGU INFO TRAN [idx [idx [...]]] [M] [V]
TSGU INFO CASE [nnn [nnn [...]]] [M] [V]
TSGU INFO SORT [nnn [nnn [...]]] [M] [V]
TSGU INFO SET
```

where:

### CP

Lists transcoding tables.

### DBCS

Lists only DBCS transcodings.

### SBCS

Lists only SBCS transcodings.

### nnn

Code page which only shows given code page transcodings (no leading zeros necessary).

**idx**

Index which only shows given index transcodings.

**MAT**

Creates a matrix report for transcoding tables.

**DES**

Reverses an order of code pages in a matrix report.

**TRAN**

Shows transcoding table contents (trantbl.err).

**CASE**

Shows uppercase/lowercase table contents (casetbl.err).

**SORT**

Shows sort table contents (sorttbl.err).

**M**

Masks null transcode values in tables.

**V**

Shows tables in vertical layout.

**SET**

Shows the list of available languages.

## Use the TSGU ? Command

To see the online help information for the TSGU command, issue the following command:

```
TSGU ?
```

The output is:

```

TSGU : GEN      : cpcodepg-id ::
      : TRAN    : cpcodepg-id :: (default)
      : CASE    : cpcodepg-id ::
      : SORT    : cpcodepg-id ::
      : INFO    : info-command ::
      : XLAT    : infile  : outfile  :::
      : XLAT    TEMPLATE : cp1 cp2 ::
      : KTBL    : ktbl-command : : xxxx : xxxx : ... ::::
      : ERR     : err-command :

```

```

GEN : generate all necessary tables (binary files)
TRAN : generate a TRANTBL and KTBL binary files
CASE : generate a CASETBL binary file
SORT : generate a SORTTBL binary file
INFO : display info of the current Translation Services (? LANG)
XLAT : convert a file by specified Code Pages in config file (tsgu.nls)
      TEMPLATE shows a sample batch file/unix shell script for multi-
      files to be XLATed. (tsgult only)
KTBL : generate individual KTBL binary files
ERR : convert EDAHOME/nls/*.err file (UNIX and Windows NT only)
xxxx : DBCS translation table identifier

```

#### cpcodepg-id:

Max 4 characters. To use customized and saved CPCODEPG.NLS  
 If specified, a file named 'cpcp:cpcodepg-id:.nls' is used instead.  
 cpcpall.nls and cpcpucs.nls are provided as samples.

#### info-command:

```

CP   :| DBCS | : : nnn | nnn | ... : : MAT : DES ::
      | SBCS |
TRAN : idx : idx : ... :: : M : : V ::
CASE : nnn : nnn : ... :: : M : : V ::
SORT : nnn : nnn : ... :: : M : : V ::
ALL

CP   : Show TRTIDX
DBCS : Show only DBCS translations
SBCS : Show only SBCS translations
  idx : Index, show only given indexes translations
  nnn : Code Page, show only given Code Pages translations
  MAT : Make a matrix report for TRTIDX
  DES : Reverses an order of Code Pages in a matrix report
  TRAN : Show translation tables (TRANTBL)

```

```

CASE : Show upcase/lowcase tables (CASETBL)
SORT : Show sort tables (SORTTBL)
M    : Mask null translate values in tables
V    : Show tables vertical layout against horizontal
ALL  : Show intlcm info for debugging

```

#### ktbl-command:

```

CHK
FMT
CNV : UDC : : nn | CPU | MEM :
RVS : UDC : : nn | CPU | MEM :
LST : FFFF :
ADD

CHK : Check the KTBLs translation integrity
FMT : Format the KTBLs
CNV : Convert the KTBLs
RVS : Make a reverse translation table for the KTBLs
LST : List the DBCS translation
ADD : Make a new DBCS translation from two KTBLs
UDC : Remove Unused UDC code translation
nn  : Threshold level for indexing the ranges
CPU : nn = 65536, to make only one index range
MEM : nn = 4, to make the smallest size format for the KTBLs
FFFF: Produce entries for source code even they are translated
      to invalid codes

```

#### err-command:

```

GEN  aaa
UCS  aaa

GEN : Create *:aaa:.err files in the directory EDACONF/etc.
      (JPE and GE5 only)
UCS : Create *(aaa).err files in Unicode (utf-8) into the
      directory EDACONF/etc.
aaa  : Language abbreviation

```

# Interface Installation

---

This chapter describes procedures for installing special interfaces for external security systems.

## Upgrading and Using an External Password Security System

This section describes how to use the CA-ACF2 Interface that you installed with prior releases of FOCUS.

This procedure assumes that the FOCUSID module that makes the connection between FOCUS and CA-ACF2 already exists. You may need to relink it to run it in this release.

If you install FOCUS 7.7.03 gen 778 or higher, and you had a working FOCUSID module in a prior FOCUS release (for example, 7.6.13) or a prior 7.7.03 gen, copy it from that release or gen to your newly installed test version of the **newhlq.FOCLIB.LOAD** library. If it has already been linked AMODE 31, RMODE ANY, then it will work without relinking. If the FOCUSID module was linked AMODE 24, RMODE 24, then FOCUS will abend with an 0C4. To prove that this abend is caused by the FOCUSID module, rename the FOCUSID module to FOCUSIDO and restart FOCUS. If FOCUS comes up without abending, then you must use the following JCL to relink the module AMODE 31, RMODE ANY.

```
//Add JOB card here
//*****
//* Update the 'installed_hlq' variable to the high-level qualifier
//* you used during ISETUP installation
//* Update the dsn_load variable to the fully-qualified name of
//* your test load library.
//* Note that the dsn_load value should not be in quotes.
//*****
//SETS      SET SOURCE='installed_hlq.F.HOME.DATA(FOCUSIDA) '
//          SET LOADLIB=dsn_load
//*****
//* Compile for ASSEMBLER (ASMA90) ...
//*****
```

```
//ASSEMBLR EXEC PGM=ASMA90,
// PARM='NODECK,OBJECT,LIST,XREF(SHORT)'
//SYSIN DD DISP=SHR,DSN=&SOURCE
//SYSLIB DD DISP=SHR,DSN=SYS1.MACLIB
// DD DISP=SHR,DSN=SYS1.MODGEN
//SYSTEM DD SYSOUT=*
//SYSPUNCH DD DUMMY
//SYSLIN DD DSN=&&LOADSET,DISP=(,PASS),UNIT=SYSDA,
// SPACE=(CYL,(1,1)),
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=3200)
//SYSPRINT DD SYSOUT=*
//SYSOUT DD SYSOUT=*
//SYSCPRT DD SYSOUT=*
//SYSUT1 DD SPACE=(CYL,(1,1)),UNIT=SYSDA
```

**Note:** Because your FOCUSID module is customized at your site and, therefore is not distributed with FOCUS, you must copy it to your new test and production environments every time you install a new gen of FOCUS.

## FOCUSibi FOCUS-Supplied CA-ACF2 Interface

The FOCUS/CA-ACF2 Interface is an optional FOCUS facility that integrates FOCUS security features with the CA-ACF2 file security system. It provides the following benefits to FOCUS users and security administrators:

- The FOCUS user ID set by the CA-ACF2 Interface is not echoed to the terminal and is not shown in batch job output listings. This ensures greater security than explicit SET USER and SET PASS commands, which both echo output to the screen and show it in batch output listings.
- Since FOCUS users do not need to know their FOCUS user IDs, security is improved.
- Many logon IDs can be translated into the same FOCUS user ID. This enables creation of classes of FOCUS users, each of whom has a private logon ID but the same level of access to FOCUS data sources.
- There is no need to embed FOCUS user ID declarations in catalogued FOCUS procedures. When employees leave or FOCUS user IDs are changed, security can be maintained without changing production procedures. In addition, database administrators can assume all responsibility for FOCUS user ID maintenance.

Each logon ID exists on a CA-ACF2 LOGONID record and is paired with a FOCUS user ID that provides access to FOCUS data sources. Upon entering FOCUS, the CA-ACF2 Interface infers

the FOCUS user ID from the user-supplied logon ID. This FOCUS user ID is maintained for the duration of the session, and may or may not be overridden by the user. The result of the inference is equivalent to issuing the FOCUS command:

```
SET USER = userid
```

Once installed, FOCUS users see no difference between the default version of FOCUS and the CA-ACF2 protected version until they attempt to override the FOCUS user IDs. Database administrators can use the CA-ACF2 CHANGE command to assign FOCUS user IDs to logon IDs as default or imposed FOCUS user IDs.

## Assign a Default FOCUS User ID

The LOGONID record contains a default FOCUS user ID that the user can override, which can be up to eight bytes long and is inferred for the LOGONID record of the user.

To assign a default FOCUS user ID for a logon ID, use the CHANGE command and specify a FOCUS user ID (up to eight bytes long) that does not end in a period. For example, if logon user SMITH wishes to access the data as TOM, he (or the /jadministrator) would issue the following CA-ACF2 command:

```
CHANGE SMITH FOCUSID(TOM)
```

This is functionally equivalent to issuing the FOCUS command

```
SET USER = TOM
```

or

```
SET PASS = TOM
```

issued by user ID SMITH. SMITH could override this latest access by issuing another SET USER or SET PASS command, or a Dialogue Manager -PASS command.

## Assign an Imposed FOCUS User ID

When the CA-ACF2 LOGONID record contains an imposed FOCUS user ID, the user cannot override it. An imposed FOCUS user ID can have up to seven bytes plus a period, for a maximum length of eight bytes.

To assign an imposed FOCUS user ID to a logon ID, use the CA-ACF2 CHANGE command and include a period (.) at the end of the FOCUS user ID. For example,

```
CHANGE SMITH FOCUSID(TOM.)
```

This assigns an imposed FOCUS user ID of TOM. for logon ID, SMITH. In this case, the user operates FOCUS with an imposed level of access to FOCUS files that he cannot change. FOCUS behaves as if user SMITH had entered

```
SET USER = TOM
```

as his first FOCUS command. However, the period at the end of the FOCUS user ID in the LOGONID record prevents the user from overriding this level of access. Any attempt to override the imposed ID results in a FOCUS diagnostic message.

## Unidentified FOCUS Users

It is not necessary to identify all possible FOCUS users in the CA-ACF2 LOGONID records. Users whose LOGONID records provide no FOCUS user ID operate FOCUS as if the FOCUS/CA-ACF2 Interface were not installed. If they wish to access files protected by FOCUS security features, they must identify themselves through an explicit SET USER or SET PASS command or the Dialogue Manager -PASS command.

# Subsystem Sample JCL and Zaps

---

The following members of FOCCTL.DATA contain sample JCL and zaps for use with the IBI Subsystem.

## SUBSYSNM: Changing the Subsystem Name

Run the SUBSYSNM zap to change the default Subsystem name:

```

//*** Your JOB card
//*
//*-----*
//*
//* This zap may be applied to change the default subsystem name *
//* used by the IBI Subsystem. *
//*
//* If you have defined the IBI Subsystem in SYS1.PARMLIB(IEFSSNxx), *
//* be sure to update the definition with the new subsystem name. *
//*
//* As this job updates one of the members copied by SUBSYSCP, *
//* SUBSYSCP must be run after this JOB. *
//*
//* Affected products: *
//*     SU, MS0, SmartMode, HiperFOCUS, IMS BMP *
//*-----*
//*
//ZAP      EXEC PGM=AMASPZAP
//SYSPRINT DD  SYSOUT=*
//SYSLIB   DD  DISP=SHR,DSN=prefix.FOCLIB.LOAD
//SYSIN    DD  *
           NAME MVSDLL  SUBSYSN
           REP  00  C9C2C9E2          <-- 'IBIS'
           NAME SUBSYSI  SUBSYSN
           REP  00  C9C2C9E2          <-- 'IBIS'
//*
//

```

## SUBSYSCP: Copying SUBSYSI Into a Separate Library

Use the SUBSYSCP JCL below to copy the IBI Subsystem modules from FOCLIB.LOAD to a secured library.

**Note:** When applying maintenance, such as a PTF or Service Pack, the IBI Subsystem modules must be in FOCLIB.LOAD. If they were moved to a separate library, copy them back into FOCLIB.LOAD and after executing the maintenance job, return them to your subsystem library with SUBSYSCP.

```
//*** Your JOB card
//*
//*-----*
//*
//* This job can be used to move the IBI Subsystem modules from      *
//* FOCLIB.LOAD to a secured library.  The target library must be    *
//* APF-authorized.                                                *
//*
//* If the zap provided in SUBSYSNM has been run, ensure that this   *
//* job is re-run.                                                 *
//*
//* Remove all members of SSLIB prior to running this.              *
//*
//* It is recommended that you delete the modules from FOCLIB.LOAD  *
//* after this job is run.                                          *
//*-----*
//*
//COPY      EXEC PGM=IEBCOPY
//FOCLIB    DD  DISP=SHR,DSN=prefix.FOCLIB.LOAD
//SSLIB     DD  DISP=OLD,DSN=prefix.SUBSYS.LOAD
//SYSIN     DD  *
COPYMOD    INDD=FOCLIB,OUTDD=SSLIB
S M=(SUBSYSI,SUBCSAMD,SUBPCRM,SUBPERMD,SUBVECMD)
/*
//
```

## SUBSYSIJ: Running SUBSYSI

Use the SUBSYSIJ JCL to start and control the IBI Subsystem:

```

//*** Your JOB card
//*
//*-----*
//*
//* Sample JCL to run SUBSYSI, used for starting and controlling *
//* the IBI Subsystem. (Additional controls are available from *
//* the system console; refer to the appropriate product *
//* documentation for details.) To run SUBSYSI as a started task, *
//* refer to member SUBSYSP. *
//* *
//* SUBSYSI must be run from an APF-authorized library. *
//* *
//* Update the PARM field to select the desired operation. *
//* Valid parameters are: START, RESTART, REPLACE, STOP, REMOVE *
//* *
//*-----*
//*
//SUBSYSI EXEC PGM=SUBSYSI,PARM=START
//STEPLIB DD DISP=SHR,DSN=prefix.SUBSYS.LOAD
//

```

## SUBSYSP: Sample Cataloged Procedure

The SUBSYSP JCL is a sample catalogued procedure for running the Subsystem as a started task:

```

//*-----*
//* SUBSYSP: Sample cataloged procedure for running SUBSYSI as a *
//* started task. To run SUBSYSI as a batch job, *
//* refer to member SUBSYSI. *
//* *
//*-----*
//*
//SUBSYSI PROC OPT=START
//*
//SUBSYSI EXEC PGM=SUBSYSI,PARM=&OPT
//STEPLIB DD DISP=SHR,DSN=prefix.SUBSYS.LOAD
//*
//*-----*

```

# Subsystem Error Messages

---

These SUBSYSI messages are written directly to the operating system console by a WTO operation. Since they are not read from ERRORS.DATA, there is no national language support for SUBSYSI messages.

## SUBSYSI Error Messages

```
SUBSYS001  UNABLE TO CREATE SUBSYSTEM
```

An error has been encountered while creating the subsystem. Contact your IBI support representative.

```
SUBSYS002  CREATED SUBSYSTEM NOT FOUND
```

The subsystem search has failed even though the subsystem has just been created. Contact your IBI support representative.

```
SUBSYS003  UNABLE TO LOAD MODULES TO CSA
```

Error during LOAD of modules to CSA. Refer to the accompanying CSVxxxx messages for further information.

```
SUBSYS004  INVALID PARAMETERS PASSED
```

An invalid parameter has been passed to SUBSYSI. Valid parameters are: START, RESTART, REPLACE, STOP, and REMOVE.

```
SUBSYS005  SUBSYSTEM XXXX NOT FOUND. UNABLE TO STOP
```

The specified subsystem cannot be located; the requested operation will not be performed.

```
SUBSYS006  SUBSYSTEM XXXX NOT FOUND. UNABLE TO REPLACE
```

The specified subsystem cannot be located; the requested operation will not be performed.

```
SUBSYS007  SUBSYSTEM XXXX NOT FOUND.  UNABLE TO REMOVE
```

The specified subsystem cannot be located; the requested operation will not be performed.

```
SUBSYS008  SUBSYSTEM XXXX NOT FOUND.  UNABLE TO INFO
```

The specified subsystem cannot be located; the requested operation will not be performed.

```
SUBSYS009  UNABLE TO ACTIVATE PC ROUTINE
```

A bad return code was received during activation of the PC routines. Contact your IBI support representative.

```
SUBSYS010  UNABLE TO RUN NON-AUTHORIZED
```

An attempt was made to run SUBSYSI from an unauthorized library. Copy SUBSYSI and the associated modules to an APF-authorized library and try again.

```
SUBSYS100  SUBSYSTEM XXXX SUCCESSFULLY CREATED
```

The subsystem control blocks have been created and linked to the system control blocks.

```
SUBSYS101  SUBSYSTEM XXXX SUCCESSFULLY INITIALIZED
```

The subsystem has been initialized and all control blocks have been filled in.

```
SUBSYS102  SUBSYSTEM XXXX DOES NOT EXIST.  START MODE ASSUMED
```

SUBSYSI was called with 'RESTART', but it has not been initialized. 'START' will be assumed.

```
SUBSYS103  SUBSYSTEM XXXX ALREADY EXISTS.  RESTART MODE ASSUMED
```

SUBSYSI was called with 'START' but it was already initialized. 'RESTART' will be assumed.

```
SUBSYS104  SUBSYSTEM XXXX ENVIRONMENT REPLACED
```

SUBSYSI was called with 'REPLACE' and the operation succeeded.

```
SUBSYS105  SUBSYSTEM XXXX STOPPED
```

The subsystem is logically stopped. The CSA modules are still loaded but are not active.

```
SUBSYS106  SUBSYSTEM XXXX INTERFACE REMOVED
```

The subsystem has been stopped, and modules have been removed from the CSA. The SSCT and the PC routine still exist, but are unused.

```
SUBSYS107  SUBSYSTEM XXXX COUNTER ERROR OCCURRED
```

The subsystem has been stopped, but one or more users are still using it. A 30-second wait to allow all activity to stop has not fixed this.

This message generally indicates that the subsystem was stopped while one or more IBI servers were still running. If this is not the case, contact your IBI support representative.

# Link Pack Area Sample JCL

---

The following members of FOCCTL.DATA contain sample JCL and control statements for placing re-entrant and serially reusable FOCUS modules in the Extended Link Pack Area.

## JFSALLPA: Allocating Space for the ibi FOCUS LPA Library

Run the JFSALLPA JCL to allocate the FOCUS LPA library, FOCLPA.LOAD:

```
//JFSALLPA JOB (USER,ACCOUNT), 'PROGRAMMER NAME', REGION=4096K,
//*          TYPRUN=SCAN,
//          CLASS=S,MSGCLASS=A,MSGLEVEL=(1,1),NOTIFY=USER
//*****
//*
//* NAME: JFSALLPA
//*
//* FUNCTION: ALLOCATE DASD SPACE FOR THE FOCUS LPA LIBRARY.
//*
//* USAGE NOTES:
//*
//* THIS JOB WILL ALLOCATE A PARTITIONED DATASET TO BE USED FOR
//* THE FOCUS LPA LIBRARY. IF YOU WISH TO OBTAIN GREATER
//* PERFORMANCE BENEFITS FOR TSO USERS AND MVS BATCH JOBS, YOU
//* MAY PERFORM THE OPTIONAL TASK OF MOVING THE REENTRANT FOCUS
//* MODULES, FROM THE FOCUS LOAD LIBRARY, FOCLIB.LOAD, TO A
//* SPECIAL LOAD LIBRARY, FOCLPA.LOAD, WHICH WOULD BE LIMITED TO
//* THE REENTRANT MODULES. PLEASE NOTE, HOWEVER, THAT THIS
//* SCENERIO IS ONLY APPLICABLE TO TSO AND MVS BATCH; MSO AND
//* EDA USE A DIFFERENT TECHNIQUE TO MANAGE THE PROGRAMS;
//* THEREFORE, NO BENEFITS WOULD BE REALIZED UNDER MSO AND EDA.
//*
//*
//* THE PROCEDURE FOR PERFORMING THIS TASK REQUIRES THE
//* FOLLOWING STEPS USING IBI SUPPLIED BATCH JOBS:
//*
//* A - ALLOCATE THE SPECIAL FOCUS LPA LIBRARY: FOCLPA.LOAD.
```

```

//*      (EXECUTE JOB JFSALLPA.) *
//* *
//* B - COPY THE REENTRANT FOCUS MODULES FROM FOCLIB.LOAD TO *
//*      FOCLPA.LOAD. (EXECUTE JOB .) *
//* *
//* C - INSTALL FOCLPA.LOAD INTO MVS AS AN LPA LIBRARY. *
//* *
//* D - DELETE THE REENTRANT FOCUS MODULES FROM FOCLIB.LOAD. *
//*      (EXECUTE JOB JFSDELPA.) *
//* *
//* *

```

```

//*      DUE CARE MUST BE TAKEN TO ENSURE THAT ANY MAINTENANCE, SUCH *
//*      AS A PTF OR PATCH TAPE, IS PROPERLY APPLIED TO THE REENTRANT *
//*      MODULES. THE PROCEDURE FOR PERFORMING MAINTENANCE IS AS *
//*      FOLLOWS, USING IBI SUPPLIED BATCH JOBS: *
//* *
//* A - COPY ALL THE REENTRANT MODULES BACK INTO FOCLIB.LOAD *
//*      FROM FOCLPA.LOAD. (USE JOB JFSCPBC. IT IS RECOMMENDED *
//*      THAT YOU COMPRESS FOCLIB.LOAD BEFORE YOU PERFORM THE COPY.) *
//* *
//* B - APPLY THE MAINTENANCE (PATCHES OR PTFs). *
//* *
//* C - COPY THE REENTRANT MODULES FROM FOCLIB.LOAD BACK INTO *
//*      FOCLPA.LOAD. (REPEAT JOB JFSCPLPA. IT IS RECOMMENDED THAT *
//*      YOU COMPRESS FOCLPA.LOAD BEFORE YOU PERFORM THE COPY.) *
//* *
//* D - DELETE THE REENTRANT MODULES FROM FOCLIB.LOAD. *
//*      (REPEAT JOB JFSDELPA). *
//* *
//* *
//* INSTRUCTIONS: *
//* *
//* 1 - UPDATE JOB CARD WITH VALID SITE SPECIFIC VALUES. *
//* *
//* 2 - PREFIX MUST BE CHANGED TO THE HIGH LEVEL QUALIFIERS *
//*      USED FOR FOCUS-PROGRAM DATASETS. *
//* *
//* *

```

```

//* 3 - VOLID MUST BE CHANGED TO A VALID VOLUME IDENTIFIER. *
//* *
//* 4 - DEVICE IS THE DEVICE TYPE FOR THE DISK ALLOCATIONS. *
//* *
//* *
//*****

```

```

//JFSALLPA  PROC  PREFIX='XXXXXXXX',
//          VOLID='XXXXXX',
//          DEVICE='SYSDA'
//*
//STEP1     EXEC  PGM=IEFBR14
//*
//FOCLPA    DD    DISP=(NEW,CATLG,DELETE),
//          DSN=&PREFIX..FOCLPA.LOAD,
//          UNIT=&DEVICE,
//          VOL=SER=&VOLID,
//          SPACE=(CYL,(20,1,24)),
//          DCB=(RECFM=U,BLKSIZE=13030,DSORG=PO,LRECL=0)
//*
//JFSALLPA  PEND
//DOIT     EXEC  JFSALLPA
//*****

```

## JFSCPLPA: Copying the Reentrant Modules to FOCLPA.LOAD

Run the JFSCPLPA JCL to copy the reentrant modules to the FOCUS LPA library, FOCLPA.LOAD:

```

//JFSCPLPA JOB (USER,ACCOUNT),'PROGRAMMER NAME',REGION=4096K,
//*          TYPRUN=SCAN,
//          CLASS=S,MSGCLASS=A,MSGLEVEL=(1,1),NOTIFY=USER
//*****
//*
//* NAME: JFSCPLPA
//*
//* FUNCTION: COPY REENTRANT MODULES FROM FOCLIB.LOAD TO FOCLPA.LOAD.*
//*
//* USAGE NOTES:
//*
//* This job will copy the REENTRANT modules from FOCLIB.LOAD to *
//* FOCLPA.LOAD. After this step is successfully completed, you *
//* must re-fresh the LPA library, using an IPL or another *
//* comparable method. Also, following the IPL, it is necessary *
//* to scratch the REENTRANT modules from FOCLIB.LOAD to insure *
//* that the REENTRANT modules are obtained from the LPA, and *
//* not from STEPLIB or JOBLIB. If you wish to obtain greater *
//* performance benefits for TSO users and MVS batch jobs, you *

```

```

/**      may perform the optional task of moving the REENTRANT FOCUS *
/**      modules, from the FOCUS LOAD library, FOCLIB.LOAD, to a *
/**      special LOAD library, FOCLPA.LOAD, which would be limited to *
/**      the REENTRANT modules. Please note, however, that this *
/**      scenario is only applicable to TSO and MVS batch; MSO AND *
/**      EDA use a different technique to manage the programs; *
/**      therefore, no benefits would be realized under MSO and EDA. *
/** *
/** *
/**      The procedure for performing this task requires the *
/**      following steps using IBI supplied batch jobs: *
/** *
/**      A - Allocate the special FOCUS LPA library: FOCLPA.LOAD. *
/**            (EXECUTE JOB JFSALLPA.) *
/** *
/** *
/**      B - Copy the REENTRANT FOCUS modules from FOCLIB.LOAD to *
/**            FOCLPA.LOAD. (EXECUTE JOB JFSCPLPA.) *
/** *
/**      Review the output of JFSCPLPA. The second step is a FOCUS *
/**      report that lists the ROOT modules in the newly created *
/**      FOCLPA LIBRARY. The total amount of LPA storage that the *
/**      modules require is listed on the report. *
/** *
/**      Verify that all the members are listed with a "Y" in the *
/**      RENT, REUS, AND EXEC columns. Normally this will be the *
/**      case. However, applying MAINTENANCE may, in rare *
/**      circumstances, change the execution characteristics of the *
/**      module. *
/** *
/**      Delete any module in FOCLPA that does not have a "Y" in *
/**      all THREE of these attributes. *
/** *
/**      Also update the members JFSDLCN1 and JFSCPCN1 to remove *
/**      the references to those modules as well. This will *
/**      ensure that the MAINTENANCE procedure below will work *
/**      correctly. *
/** *
/**      C - Install FOCLPA.LOAD into MVS as an LPA library. *
/** *
/**      D - Delete the REENTRANT FOCUS modules from FOCLIB.LOAD. *
/**            (EXECUTE JOB JFSDELPA.) *
/** *
/** *
/**      Due care must be taken to ensure that any MAINTENANCE, such *
/**      as a PTF, is properly applied to the REENTRANT modules. The *

```

```

/**      procedure for performing MAINTENANCE is as follows, using      *
/**      IBI supplied batch jobs:                                       *
/**      *                                                                 *
/**      A - Copy all the REENTRANT modules back into FOCLIB.LOAD        *
/**      from FOCLPA.LOAD. (USE JOB JFSCPBC. It is recommended          *
/**      that you compress FOCLIB.LOAD before you perform the copy.)    *
/**      *                                                                 *
/**      B - Apply the MAINTENANCE (PTFS).                               *
/**      *                                                                 *
/**      C - Copy the REENTRANT modules from FOCLIB.LOAD back into      *
/**      FOCLPA.LOAD. (REPEAT JOB JFSCPLPA. It is recommended that    *
/**      you compress FOCLPA.LOAD before you perform the copy.)         *
/**      *                                                                 *
/**      D - Delete the REENTRANT modules from FOCLIB.LOAD.            *
/**      (REPEAT JOB JFSDELPA).                                         *
/**      *                                                                 *
/**      *                                                                 *
/**      *                                                                 *

```

```

/** INSTRUCTIONS:                                                         *
/** *                                                                     *
/** 1 - Update the JOB CARD with valid site specific values.            *
/** *                                                                     *
/** 2 - All copy control statements are in the member JFSCPCN1.         *
/** This member is allocated to the SYSIN DD contained herein.         *
/** Review the statements in member JFSCPCN1 to verify that the        *
/** copy for CORFOC is consistent with your current installation        *
/** of FOCUS, ie: Has the CORFOC module name been changed? Call       *
/** IBI TECHNICAL SUPPORT for assistance if necessary at               *
/** 212-736-4433. Make appropriate adjustments as needed.              *
/** *                                                                     *
/** 3 - PREFIX attribute must be changed to the High Level Qualifiers *
/** used for FOCUS-PROGRAM datasets. Adjust the JCL as needed.         *
/** *                                                                     *
/** *                                                                     *
/*******
/**JFSCPLPA  PROC  PREFIX='XXXXXXXX'
/**
/**COPY2LPA EXEC PGM=IEBCOPY
/**SYSPRINT DD  SYSOUT=*
/**SYSUT3  DD  UNIT=VIO,SPACE=(CYL,(1,1))
/**SYSUT4  DD  UNIT=VIO,SPACE=(CYL,(1,1))
/**INLIB   DD  DISP=SHR,DSN=&PREFIX..FOCLIB.LOAD
/**OUTLIB  DD  DISP=SHR,DSN=&PREFIX..FOCLPA.LOAD
/**SYSIN   DD  DISP=SHR,DSN=&PREFIX..FOCCTL.DATA(JFSCPCN1)
/**LISTLPA EXEC PGM=FOCUS
/**STEPLIB DD DISP=SHR,DSN=&PREFIX..FOCLIB.LOAD

```

```

//ERRORS DD DISP=SHR,DSN=&PREFIX..ERRORS.DATA
//FOCEXEC DD DISP=SHR,DSN=&PREFIX..FOCCTL.DATA
//MASTER DD DISP=SHR,DSN=&PREFIX..MASTER.DATA
//FOCMAP DD DISP=SHR,DSN=&PREFIX..FOCLPA.LOAD
//SYSPRINT DD SYSOUT=*
//JFSCPLPA PEND
//LISTLPA EXEC JFSCPLPA
//LISTLPA.SYSIN DD *
TABLE FILE FOCMAP
HEADING CENTER
"<DSN"
" "
" SIZE AND LKED ATTRIBUTES OF LPA ROOT MEMBERS "
" ALIAS NAMES ARE NOT LISTED "
" "
SUM ISIZE AS 'LPA SIZE' WHERE ALIAS NE 'Y'
PRINT ALIAS RENT REUS EXEC
      ISIZE AS 'SIZE,DEC'
BY TTR
BY MEMBER
ON TABLE COLUMN-TOTAL
END
FIN
/*

```

## JFSDELPA: Deleting the Reentrant Modules From FOCLIB.LOAD

After copying the reentrant modules to FOCLPA.LOAD, run this job to delete them from FOCLLIB.LOAD:

```

//JFSDELPA JOB (USER,ACCOUNT), 'PROGRAMMER NAME', REGION=4096K,
//*          TYPRUN=SCAN,                                     *
//          CLASS=S,MSGCLASS=A,MSGLEVEL=(1,1),NOTIFY=USER
//*****
//*                                               *
//* NAME: JFSDELPA                                     *
//*                                               *
//* FUNCTION: DELETE REENTRANT MODULES FROM FOCLIB.LOAD. *
//*                                               *
//* USAGE NOTES:                                       *
//*                                               *
//*                                               *

```

```

//*      THIS JOB WILL DELETE THE REENTRANT MODULES FROM FOCLIB.LOAD. *
//*      EXECUTE THIS JOB AFTER YOU HAVE SUCCESSFULLY COPIED THE      *
//*      REENTRANT FOCUS MODULES FROM FOCLIB.LOAD INTO FOCLPA.LOAD.   *
//*      IF YOU WISH TO OBTAIN GREATER PERFORMANCE BENEFITS FOR TSO   *
//*      USERS AND MVS BATCH JOBS, YOU MAY PERFORM THE OPTIONAL TASK  *
//*      OF MOVING THE REENTRANT FOCUS MODULES, FROM THE FOCUS LOAD   *
//*      LIBRARY, FOCLIB.LOAD, TO A SPECIAL LOAD LIBRARY, FOCLPA.LOAD,*
//*      WHICH WOULD BE LIMITED TO THE REENTRANT MODULES. PLEASE NOTE,*
//*      HOWEVER, THAT THIS SCENERIO IS ONLY APPLICABLE TO TSO AND MVS*
//*      BATCH; MSO AND EDA USE A DIFFERENT TECHNIQUE TO MANAGE THE   *
//*      PROGRAMS; THEREFORE, NO BENEFITS WOULD BE REALIZED UNDER MSO *
//*      AND EDA. *
//* *

```

```

//*      THE PROCEDURE FOR PERFORMING THIS TASK REQUIRES THE          *
//*      FOLLOWING STEPS USING IBI SUPPLIED BATCH JOBS:                *
//* *
//*      A - ALLOCATE THE SPECIAL FOCUS LPA LIBRARY: FOCLPA.LOAD.     *
//*      (EXECUTE JOB JFSALLPA.) *
//* *
//*      B - COPY THE REENTRANT FOCUS MODULES FROM FOCLIB.LOAD TO    *
//*      FOCLPA.LOAD. (EXECUTE JOB JFSCPLPA.) *
//* *
//*      C - INSTALL FOCLPA.LOAD INTO MVS AS AN LPA LIBRARY. *
//* *
//*      D - DELETE THE REENTRANT FOCUS MODULES FROM FOCLIB.LOAD.    *
//*      (EXECUTE JOB JFSDELPA.) *
//*      THE IEHPROGM CONTROL CARDS ARE CONTAINED IN ONE OR *
//*      MORE MEMBERS OF ....FOCCTL.DATA. SEE THE SYSIN DD *
//*      CARD FOR THE ACTUAL MEMBER(S) THAT ARE REFERENCED. *
//* *

```

```

//*      DUE CARE MUST BE TAKEN TO ENSURE THAT ANY MAINTENANCE, SUCH *
//*      AS A PTF OR PATCH TAPE, IS PROPERLY APPLIED TO THE REENTRANT *
//*      MODULES. THE PROCEDURE FOR PERFORMING MAINTENANCE IS AS *
//*      FOLLOWS, USING IBI SUPPLIED BATCH JOBS: *
//* *
//*      A - COPY ALL THE REENTRANT MODULES BACK INTO FOCLIB.LOAD *
//*      FROM FOCLPA.LOAD. (USE JOB JFSCPBCK. IT IS RECOMMENDED *
//*      THAT YOU COMPRESS FOCLIB.LOAD BEFORE YOU PERFORM THE COPY.) *
//* *
//*      B - APPLY THE MAINTENANCE (PATCHES OR PTFs). *
//* *
//*      C - COPY THE REENTRANT MODULES FROM FOCLIB.LOAD BACK INTO *
//*      FOCLPA.LOAD. (REPEAT JOB JFSCPLPA. IT IS RECOMMENDED THAT *

```

```

//*      YOU COMPRESS FOCLPA.LOAD BEFORE YOU PERFORM THE COPY.)      *
//*                                                                 *
//* D - DELETE THE REENTRANT MODULES FROM FOCLIB.LOAD.                *
//*      (REPEAT JOB JFSDELPA).                                       *
//*                                                                 *
//*                                                                 *
//* INSTRUCTIONS FOR TAYLORING THIS JOB AND REFERENCED IEHPROGM      *
//* CONTROL CARDS.                                                    *
//*                                                                 *
//* 1 - UPDATE JOB CARD WITH VALID SITE SPECIFIC VALUES.            *
//*                                                                 *
//* 2 - USE THE ISPF EDITOR TO MAKE THE FOLLOWING CHANGES GLOBALLY   *
//*      WITHIN THIS MEMBER AND ALL MEMBERS THAT ARE ALLOCATED TO    *
//*      THE SYSIN DD CARD OF THIS JOB.                                *
//*                                                                 *
//*                                                                 *

```

```

//*      A - "PREFIX" MUST BE CHANGED TO THE HIGH LEVEL QUALIFIERS    *
//*      USED FOR FOCUS-PROGRAM DATASETS.                              *
//*                                                                 *
//*      B - "VOLID" MUST BE CHANGED TO A VALID VOLUME IDENTIFIER.    *
//*      THIS "VOLID" MUST SPECIFY THE VOLUME SERIAL NUMBER          *
//*      WHERE FOCLIB.LOAD RESIDES.                                    *
//*                                                                 *
//*      C - "DEVICE" IS THE DEVICE TYPE FOR THE IEHPROGM UTILITY.    *
//*      THIS "DEVICE" MUST SPECIFY THE ACTUAL DEVICE TYPE WHERE     *
//*      FOCLIB.LOAD RESIDES, SUCH AS 3390 OR 3380, ETC.             *
//*                                                                 *
//* 3 - WHEN YOU ARE MODIFYING A MEMBER ALLOCATED TO SYSIN           *
//*      BE SURE TO USE THE PROPER SYNTAX FOR IBM OS UTILITIES.      *
//*                                                                 *
//*      A - LINE CONTINUATIONS REQUIRE A NON-BLANK CHARACTER IN     *
//*      COLUMN 72.                                                   *
//*                                                                 *
//*      B - ALL CONTINUATIONS MUST BEGIN EXACTLY IN COLUMN 16.       *
//*                                                                 *
//*                                                                 *

```

```

//*****
//*
//STEP1   EXEC PGM=IEHPROGM
//SYSPRINT DD  SYSOUT=*
//FOCLIB   DD  DISP=SHR,UNIT=DEVICE,
//          VOL=SER=VOLID
//SYSIN    DD  DISP=SHR,DSN=PREFIX.FOCCTL.DATA(JFSDLCN1)
//*

```

# JFSCPBACK: Restoring the Reentrant Modules to FOCLIB.LOAD

When applying maintenance to the FOCUS libraries, first restore them from FOCLPA.LOAD to FOCLIB.LOAD using this job:

```
//JFSCPBACK JOB (USER,ACCOUNT), 'PROGRAMMER NAME', REGION=409
//*          TYPRUN=SCAN,
//          CLASS=S,MSGCLASS=A,MSGLEVEL=(1,1),NOTIFY=USER
//*****
//*
//* NAME: JFSCPBACK
//*
//* FUNCTION: COPY REENTRANT MODULES FROM FOCLPA.LOAD TO FOCLIB.LOAD.*
//*          (IE: USE THIS JOB TO RESTORE THE MODULES)
//*
//* USAGE NOTES:
//*
//* THIS JOB WILL COPY THE REENTRANT MODULES FROM FOCLPA.LOAD TO *
//* FOCLIB.LOAD. THE PRIMARY PURPOSE OF THIS JOB IS TO          *
//* FACILITATE MAINTENANCE, SUCH AS THOSE PERFORMED WITH A PATCH *
//* OR AN INDIVIDUAL PTF TAPE. UPON COMPLETION OF THE          *
//* MAINTENANCE, THE PROCEDURES FOR COPYING THE REENTRANT      *
//* MODULES INTO FOCLPA MUST BE REPEATED. IF YOU WISH TO OBTAIN *
//* GREATER PERFORMANCE BENEFITS FOR TSO USERS AND MVS BATCH   *
//* JOBS, YOU MAY PERFORM THE OPTIONAL TASK OF MOVING THE      *
//* REENTRANT FOCUS MODULES, FROM THE FOCUS LOAD LIBRARY,      *
//* FOCLIB.LOAD, TO A SPECIAL LOAD LIBRARY, FOCLPA.LOAD, WHICH *
//* WOULD BE LIMITED TO THE REENTRANT MODULES. PLEASE NOTE,    *
//* HOWEVER, THAT THIS SCENERIO IS ONLY APPLICABLE TO TSO AND  *
//* MVS BATCH; MSO AND EDA USE A DIFFERENT TECHNIQUE TO MANAGE *
//* THE PROGRAMS; THEREFORE, NO BENEFITS WOULD BE REALIZED UNDER *
//* MSO AND EDA.
//*
//*
//* THE PROCEDURE FOR PERFORMING THIS TASK REQUIRES THE        *
//* FOLLOWING STEPS USING IBI SUPPLIED BATCH JOBS:
//*
//* A - ALLOCATE THE SPECIAL FOCUS LPA LIBRARY: FOCLPA.LOAD.    *
//*      (EXECUTE JOB JFSALLPA.)
//*
//* B - COPY THE REENTRANT FOCUS MODULES FROM FOCLIB.LOAD TO   *
//*      FOCLPA.LOAD. (EXECUTE JOB JFSCPLPA.)
```

```

//*                                     *
//* C - INSTALL FOCLPA.LOAD INTO MVS AS AN LPA LIBRARY.           *
//*                                     *
//* D - DELETE THE REENTRANT FOCUS MODULES FROM FOCLIB.LOAD.     *
//*   (EXECUTE JOB JFSDELPA.)                                       *
//*                                     *
//*                                     *
//*   DUE CARE MUST BE TAKEN TO ENSURE THAT ANY MAINTENANCE, SUCH *
//*   AS A PTF OR PATCH TAPE, IS PROPERLY APPLIED TO THE REENTRANT *
//*   MODULES. THE PROCEDURE FOR PERFORMING MAINTENANCE IS AS     *
//*   FOLLOWS, USING IBI SUPPLIED BATCH JOBS:                     *
//*                                     *
//* A - COPY ALL THE REENTRANT MODULES BACK INTO FOCLIB.LOAD     *
//*   FROM FOCLPA.LOAD. (USE JOB JFSCPBC. IT IS RECOMMENDED      *
//*   THAT YOU COMPRESS FOCLIB.LOAD BEFORE YOU PERFORM THE COPY.) *
//*   THE IEBCOPY CONTROL STATEMENTS ARE CONTAINED IN ONE OR    *
//*   MORE MEMBERS OF FOCCTL.DATA. REFER TO THE SYSIN DD CARD     *
//*   FOR THE SPECIFICS.                                           *
//*                                     *
//* B - APPLY THE MAINTENANCE (PATCHES OR PTFs).                 *
//*                                     *
//* C - COPY THE REENTRANT MODULES FROM FOCLIB.LOAD BACK INTO    *
//*   FOCLPA.LOAD. (REPEAT JOB JFSCPLPA. IT IS RECOMMENDED THAT *
//*   YOU COMPRESS FOCLPA.LOAD BEFORE YOU PERFORM THE COPY.)     *
//*                                     *
//* D - DELETE THE REENTRANT MODULES FROM FOCLIB.LOAD.           *
//*   (REPEAT JOB JFSDELPA).                                       *
//*                                     *

```

```

//*                                     *
//* INSTRUCTIONS:                                                 *
//*                                     *
//* 1 - UPDATE JOB CARD WITH VALID SITE SPECIFIC VALUES.       *
//*                                     *
//* 2 - ALL COPY CONTROL STATEMENTS ARE IN THE MEMBER JFSCPCN1.  *
//*   THIS MEMBER IS ALLOCATED TO THE SYSIN DD BELOW.           *
//*   REVIEW THE STATEMENTS IN MEMBER JFSCPCN1 TO VERIFY THAT THE *
//*   COPY FOR CORFOC IS CONSISTENT WITH YOUR CURRENT INSTALLATION *
//*   OF FOCUS, IE: HAS THE CORFOC MODULE NAME BEEN CHANGED? CALL *
//*   IBI TECHNICAL SUPPORT FOR ASSISTANCE IF NECESSARY AT      *
//*   212-736-4433. MAKE APPROPRIATE ADJUSTMENTS AS NEEDED.     *
//*                                     *
//* 3 - PREFIX MUST BE CHANGED TO THE HIGH LEVEL QUALIFIERS     *
//*   USED FOR FOCUS-PROGRAM DATASETS. ADJUST THE JCL AS NEEDED. *
//*                                     *
//*                                     *

```

```

//*****
//JFSCPBACK PROC PREFIX='XXXXXXXX'
//*
//STEP1 EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//SYSUT3 DD UNIT=VIO,SPACE=(CYL,(1,1))
//SYSUT4 DD UNIT=VIO,SPACE=(CYL,(1,1))
//INLIB DD DISP=SHR,DSN=&PREFIX..FOCLPA.LOAD
//OUTLIB DD DISP=SHR,DSN=&PREFIX..FOCLIB.LOAD
//JFSCPBACK PEND
//DOIT EXEC JFSCPBACK
//SYSIN DD DISP=SHR,DSN=&PREFIX..FOCCTL.DATA(JFSCPCN1)
/*

```

## JFSCPCN1: Control Statements for JFSCPLPA and JFSCPBACK

This member contains the IEBCOPY control statements used by jobs JFSCPLPA and JFSCPBACK:

```

*
* MEMBER: JFSCPCN1
* DATASET: PREFIX.FOCCTL.DATA
*
* This member contains IEBCOPY UTILITY CONTROL STATEMENTS for
* the jobs JFSCPLPA AND JFSCPBACK. They copy REENTRANT FOCUS
* modules to the appropriate library. See the descriptions in
* the aforementioned jobs for detailed instructions.
*
* The PRIMARY or ROOT names of the modules are in alphabetical
* sequence. Any ALIAS names are included in the same select
* statement that specifies the ROOT name.
*
* FOCUS modules that have an RMODE OF 24 are excluded from
* being copied. In addition, the following module(s) are excluded
* because their control points are subject to being "ZAPPED".
*   MVSDLL, SSCONSEC, HFINST
*
*
*
*

```

\*  
\*

```

COPY      INDD=( (INLIB,R) ),OUTDD=OUTLIB
SELECT    MEMBER=(CDTAB)
SELECT    MEMBER=(CORFOC)
SELECT    MEMBER=(DQSQLF)
SELECT    MEMBER=(EDXFOC)
SELECT    MEMBER=(EMGSRV)
SELECT    MEMBER=(FMI)
SELECT    MEMBER=(FOCMIL)
SELECT    MEMBER=(FOCUTL)
SELECT    MEMBER=(GNTINT)
SELECT    MEMBER=(GRMMNT)
SELECT    MEMBER=(HFFUNC)
SELECT    MEMBER=(IMSRV)
SELECT    MEMBER=(INTCBS)
SELECT    MEMBER=(MASPAR)
SELECT    MEMBER=(MFP)
SELECT    MEMBER=(MNTIPR)
SELECT    MEMBER=(NLSP)
SELECT    MEMBER=(NTDM)
SELECT    MEMBER=(NTDUMP)
SELECT    MEMBER=(NTHR)
SELECT    MEMBER=(NWH)
SELECT    MEMBER=(OSL)
SELECT    MEMBER=(PARSER)
SELECT    MEMBER=(QDATACOM)
SELECT    MEMBER=(QFMI)
SELECT    MEMBER=(QFQDBE)
SELECT    MEMBER=(QIDMSR)
SELECT    MEMBER=(QIMSX)
SELECT    MEMBER=(QLEGACY,QTOTAL,QTOTIN,           X
           QS2K,QHLIX,QFSP000)

```

```

SELECT    MEMBER=(QMFINT)
SELECT    MEMBER=(QSQLDS)
SELECT    MEMBER=(QSWDB2)
SELECT    MEMBER=(QVSAMX)
SELECT    MEMBER=(RMH)
SELECT    MEMBER=(RTH)
SELECT    MEMBER=(SQLDS)
SELECT    MEMBER=(SQLFOC)
SELECT    MEMBER=(SQLGET)
SELECT    MEMBER=(TSCOM3)

```

```

SELECT MEMBER=(UFAAPI)
SELECT MEMBER=(UTL)
SELECT MEMBER=(VSAMX)
SELECT MEMBER=(VVSET)
SELECT MEMBER=(WFINIT)
SELECT MEMBER=(WTINIT)
SELECT MEMBER=(XVSRV)
* END OF MEMBER: JFSCPCN1

```

## JFSDLCN1: SCRATCH Statements Used by Job JFSDLEPA

This member is used by job JFSDLEPA to remove the reentrant modules from FOCLIB.LOAD after copying them to FOCLPA.LOAD:

SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=CDTAB	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=CORFOC	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=DQSQLF	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=EDXFOC	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=EMGSRV	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=FMI	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=FOCMIL	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=FOCUTL	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=GNTINT	C C

SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=GRMMNT	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=HFFUNC	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=IMSRV	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=INTCBS	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=MASPAR	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=MFP	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=MNTIPR	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=NLSP	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=NTDM	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=NTDUMP	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=NTHR	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=NWH	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=OSL	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=PARSER	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=QDATACOM	C C

SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=QFMI	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=QFQDBE	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=QHLLIX	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=QIDMSR	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=QIMSX	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=QLEGACY	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=QTOTAL	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=QTOTIN	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=QS2K	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=QFSP000	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=QMFINT	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=QSQLDS	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=QSWDB2	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=QVSAMX	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=RMH	C C

SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=RTH	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=SQLDS	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=SQLFOC	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=SQLGET	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=TSKOM3	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=UFAAPI	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=UTL	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=VSAMX	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=VVSET	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=WFINIT	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=WTINIT	C C
SCRATCH	DSNAME=PREFIX.FOCLIB.LOAD, VOL=SYSDA=VOLSER, MEMBER=XVSRV	C C

# ibi Documentation and Support Services

---

For information about this product, you can read the documentation, contact Support, and join Community.

## How to Access ibi Documentation

Documentation for ibi products is available on the [Product Documentation website](#), mainly in HTML and PDF formats.

The [Product Documentation website](#) is updated frequently and is more current than any other documentation included with the product.

## Product-Specific Documentation

The documentation for this product is available on the [ibi™ FOCUS® Documentation](#) page.

## How to Contact Support for ibi Products

You can contact the Support team in the following ways:

- To access the Support Knowledge Base and getting personalized content about products you are interested in, visit our [product Support website](#).
- To create a Support case, you must have a valid maintenance or support contract with a Cloud Software Group entity. You also need a username and password to log in to the [product Support website](#). If you do not have a username, you can request one by clicking **Register** on the website.

## How to Join ibi Community

ibi Community is the official channel for ibi customers, partners, and employee subject matter experts to share and access their collective experience. ibi Community offers access to Q&A forums, product wikis, and best practices. It also offers access to extensions, adapters, solution accelerators, and tools that extend and enable customers to gain full value from ibi products. For a free registration, go to [ibi Community](#).

# Legal and Third-Party Notices

---

SOME CLOUD SOFTWARE GROUP, INC. (“CLOUD SG”) SOFTWARE AND CLOUD SERVICES EMBED, BUNDLE, OR OTHERWISE INCLUDE OTHER SOFTWARE, INCLUDING OTHER CLOUD SG SOFTWARE (COLLECTIVELY, “INCLUDED SOFTWARE”). USE OF INCLUDED SOFTWARE IS SOLELY TO ENABLE THE FUNCTIONALITY (OR PROVIDE LIMITED ADD-ON FUNCTIONALITY) OF THE LICENSED CLOUD SG SOFTWARE AND/OR CLOUD SERVICES. THE INCLUDED SOFTWARE IS NOT LICENSED TO BE USED OR ACCESSED BY ANY OTHER CLOUD SG SOFTWARE AND/OR CLOUD SERVICES OR FOR ANY OTHER PURPOSE.

USE OF CLOUD SG SOFTWARE AND CLOUD SERVICES IS SUBJECT TO THE TERMS AND CONDITIONS OF AN AGREEMENT FOUND IN EITHER A SEPARATELY EXECUTED AGREEMENT, OR, IF THERE IS NO SUCH SEPARATE AGREEMENT, THE CLICKWRAP END USER AGREEMENT WHICH IS DISPLAYED WHEN ACCESSING, DOWNLOADING, OR INSTALLING THE SOFTWARE OR CLOUD SERVICES (AND WHICH IS DUPLICATED IN THE LICENSE FILE) OR IF THERE IS NO SUCH LICENSE AGREEMENT OR CLICKWRAP END USER AGREEMENT, THE LICENSE(S) LOCATED IN THE “LICENSE” FILE(S) OF THE SOFTWARE. USE OF THIS DOCUMENT IS SUBJECT TO THOSE SAME TERMS AND CONDITIONS, AND YOUR USE HEREOF SHALL CONSTITUTE ACCEPTANCE OF AND AN AGREEMENT TO BE BOUND BY THE SAME.

This document is subject to U.S. and international copyright laws and treaties. No part of this document may be reproduced in any form without the written authorization of Cloud Software Group, Inc.

ibi, the ibi logo, FOCUS, iWay, WebFOCUS, RStat, Information Builders, Studio, and TIBCO are either registered trademarks or trademarks of Cloud Software Group, Inc. in the United States and/or other countries.

All other product and company names and marks mentioned in this document are the property of their respective owners and are mentioned for identification purposes only. You acknowledge that all rights to these third party marks are the exclusive property of their respective owners. Please refer to Cloud SG’s Third Party Trademark Notices (<https://www.cloud.com/legal>) for more information.

This document includes fonts that are licensed under the SIL Open Font License, Version 1.1, which is available at: <https://scripts.sil.org/OFL>

Copyright (c) Paul D. Hunt, with Reserved Font Name Source Sans Pro and Source Code Pro.

Cloud SG software may be available on multiple operating systems. However, not all operating system platforms for a specific software version are released at the same time. See the “readme” file for the availability of a specific version of Cloud SG software on a specific operating system platform.

THIS DOCUMENT IS PROVIDED “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT.

THIS DOCUMENT COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. CHANGES ARE PERIODICALLY ADDED TO THE INFORMATION HEREIN; THESE CHANGES WILL BE INCORPORATED IN NEW EDITIONS OF THIS DOCUMENT. CLOUD SG MAY MAKE IMPROVEMENTS AND/OR CHANGES IN THE PRODUCT(S), THE PROGRAM(S), AND/OR THE SERVICES DESCRIBED IN THIS DOCUMENT AT ANY TIME WITHOUT NOTICE.

THE CONTENTS OF THIS DOCUMENT MAY BE MODIFIED AND/OR QUALIFIED, DIRECTLY OR INDIRECTLY, BY OTHER DOCUMENTATION WHICH ACCOMPANIES THIS SOFTWARE, INCLUDING BUT NOT LIMITED TO ANY RELEASE NOTES AND "README" FILES.

This and other products of Cloud SG may be covered by registered patents. For details, please refer to the Virtual Patent Marking document located at <https://www.cloud.com/legal>.

Copyright © 2021-2024. Cloud Software Group, Inc. All Rights Reserved.