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**Corsair Technology, Inc.**



CENTRAL

**Installation Guide**  
**for the Siemens-Nixdorf Electronic Printers**  
**Version 4R5**

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The Central software provides on-line access to Siemens electronic printers from Unisys Series 1100/2200 or System 11 computers via a byte or block multiplexor channel.

This installation guide will help you install the Central software on your Unisys Series 1100/2200 or System 11 computer.

The following documents are included with the Central software:

- *SPIN-X Central Installation Guide*
- *SPIN-X Central Reference Guide*
- *SPIN-X Central Operator Guide*

This installation guide assumes the Installation Administrator has access to the following Unisys documents (for EXEC Level 39R3 or higher):

- *Series 2200 Operating System Installation and Configuration Guide* (7830 7915-012)
- *OS2200 Exec System Software Executive Control Language* (7830 7949-004)
- *OS2200 Exec System Software Administrative Reference Manual* (7831 0323-007).
- *OS 2200 Exec System Software Installation and Configuration Guide* (7830 7915)

Users running on the 2200-500 or 2200-900 will refer to the

- *2200 Series Site Configuration Management System (SCMS)* (7832-8861-00x)



The Central software package provides on-line access to Siemens electronic printers from Unisys Series 1100/2200 mainframe computers via a block multiplexor channel. The term "Siemens electronic printer" will be used in this document to refer to either the Siemens 2090 or 2140 printers. The Siemens electronic printer, as driven by Central, emulates an IBM 3800 model 3 printer in compatibility mode. Additionally, Central utilizes the Siemens Enhanced Mode Software capability which is an extension to the IBM 3800 standard.

This *Installation Guide* contains information needed to install the Central software on your Unisys Series 1100/2200 systems.

---

## 1.1 Overview of Installation

---

The Central software consists of programs for the Unisys 1100/2200; it is installed using the procedures given in Section 4.1. The Central program performs the following functions:

- Print queue manipulation,
- Print file interpretation,
- Channel program generation, and
- Error recovery.

The software for the 1100/2200 is copied from the Central Release Tape for the 1100/2200 to disk using an ECL addstream. Once this software has been placed in the appropriate files and your system configuration has been modified to define the electronic printer, Central may be started with an **ST** console keyin. Section 4.1 describes the installation of the Central software for the 1100/2200 in detail.

The purpose of the SPIN-X bus and tag cable adapters is to overcome a Unisys to IBM environment incompatibility; this incompatibility is explained in Section 4.2.

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## 1.2 Restrictions

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- The Central 4R4 software requires Unisys Series 1100/2200 EXEC Level 39R3 or above.
- Central 4R4 software requires an Extended Instruction Set (not extended mode) capable Unisys computer. These include all 2200, 1100/90, and 1100/60/70 x2 models; but not 1100/80 or 1100/60/70 x1 models.
- If a daisy-chain method is being used to connect from the 1100/2200 to your printer, then the printer must be placed after the last Unisys devices in the chain. This restriction is discussed in more detail in Section 4.2.

---

## 1.3 Update Installation

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If an earlier version of Central is already installed at your site you will want to perform an update installation only. This assumes that your printer is already installed and configured to your system and that your Format Definition Program input parameters are already tailored to your site's specifications. All that is needed is to copy the new Central absolutes from the installation tape and execute the new FDP program using your existing format definitions. Note that beginning with version 4R1 the Format Definition Program (formerly referred to as the Forms Definition Program) uses several new files and requires a new @FDP addstream which will also be copied from tape. See section 4.1.1.1 "File Transfer for Update Installation" for instructions on how to use a special addstream which copies only those files needed for an update installation. Then refer to Chapter 3 of the *SPIN-X Central Reference Manual* on how to run the Format Definition Program.

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## 1.4 Technical Support

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If you require technical assistance regarding SPIN-X please call the telephone number below between 8:30 A.M. - 5:00 P.M. Eastern Time, Monday-Friday, and request "SPIN-X technical assistance".

**(404)-688-3033**

or FAX us at

**(404)-688-3033**

Any regular mail correspondence should be sent to:

Corsair Technology  
10 Park Place South, Suite LLE  
Atlanta, Georgia 30303  
USA

Visit our website at [www.corsairtech.com](http://www.corsairtech.com)

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## **2.1 Hardware Requirements**

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This section explains what physical hardware requirements are necessary for the Central software.

### **2.1.1 Processors**

---

The Central software may be installed on any of the following Unisys Series mainframe computers:

- 1100/60 1100/70 1100/80 1100/90
- 1100/50 (System 11)
- 2200/200 2200/400 2200/600
- 2200/900 2200/500

### **2.1.2 Printers**

---

This SPIN-X Central Installation Guide is for use with the following printers:

- Siemens-Nixdorf electronic printers: 2090 2140 2240

### **2.1.3 Bus and Tag Cables**

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- For the Unisys 1100 series

Connection is made from the Unisys 1100 through a 48-pin byte or block multiplexor channel (depending on the 1100 processor type) and a standard Unisys number **3626139** 48-pin to 48-pin bus and tag cable to the SPIN-X bus and tag cable adapters.

If you are routing through a Channel Transfer Switch (CTS), use a Unisys number **3626138** 48-pin to 55-pin bus and tag cable from the multiplexor to the CTS and a Unisys number **4268520** cable from the CTS to the SPIN-X bus and tag cable adapters.

- For the Unisys 2200 series

Connection is made from the Unisys 2200 through a 48-pin byte multiplexor channel and a standard Unisys 48-pin to 48-pin bus and tag cable (part number **4397540**, feature number **F5267**) to the SPIN-X bus and tag cable adapters.

### 2.1.4 Storage

---

The minimum main storage requirements for the Central software on the 1100/2200 are as follows:

IBANK+DBANK+PCT size = 400K words.

The above figure reflects the main storage necessary to control one printer. Add 27K words for each additional printer.

The minimum mass storage requirement for Central on the 1100/2200 is 365 tracks.

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## 2.2 Software Requirements

---

Central requires Unisys Series 1100/2200 EXEC Level 39R3 or above. Central requires any applicable Unisys EXEC PCR(s) from Appendix B. The Central run will have QUOTA requirements depending on the level of QUOTA you currently have configured (refer to Section 2.4 for details). Central requires several security privileges as discussed in the next section. Central 4R4 requires PCIOS to be installed in its common bank form.

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## 2.3 Security Requirements

---

Because Central interfaces with the EXEC to perform many of its specialized functions, it requires several security privileges.

If your Unisys 1100/2200 system does not have security configured (SENTRY\_CONTROL = FALSE), then the userid under which Central runs must be the Security Officer's userid.

If your Unisys 1100/2200 has security configured (SENTRY\_CONTROL = TRUE), then the userid under which Central runs must have the ER privilege and operation privileges indicated below.

- Privileged ER:

**MODP\$\$** -Modify Privileged State. Allows Central to perform ER MODP\$\$ in order to modify its privileged state.

- Privileged operations (if secured):

If SENTRY is being used, then use the indicated privilege mnemonics; if SIMAN is being used, then use the privilege explanation listed at the right of the privilege mnemonic, as shown below:

**SSBPC** -Bypass Private File Check. Permits Central to assign a private file regardless of the projectid or account number under which the file was made private.

**SSBRWK** -Bypass Read/Write Key Check. Allows Central to assign a file that is read and/or write protected without specifying the keys on the @ASG control statement.

**SSLOGER** -Allow EXEC Log Entries. Permits Central to make symbiont log entries.

**SSADID** -Allow Absolute Device-ID Assignment. Permits Central to assign symbiont controlled devices.

**SSBYCL** -Bypass Clearance Level Validation. Indicates that clearance level enforcement is not in effect for Central.

**SSBAFC** -Bypass ACR Evaluation. Permits Central to avoid Access Control Record evaluation.

**SSCONSOLE** -Allow ER KEYIN\$ and Privileged ER COM\$ Functions. Permits Central to execute ER KEYIN\$ and ER COM\$ with routing information to be sent to remote consoles with specification of runids for logging of the console messages.

**SSSMOQUE** -Allow the use of Privileged ER SMOQUE\$ Functions. Permits Central to perform the Change Entry function and to use restricted mode bits associated with ER SMOQUE\$.

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## 2.4 Accounting Requirements

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The Central run will have QUOTA requirements depending upon the level of QUOTA you currently have configured. It should be understood that requirements for a specific QUOTA level are dependent upon previous levels, for example, the requirements for QUOTA level 3 assume that the requirements for levels 0 through 2 have been satisfied. The QUOTA requirements for Central are described below:

- If QUOTA level 1 is configured, an acceptable account number must be supplied for Central.
- If QUOTA level 3 is configured, the account number chosen for Central must be able to exceed the SUA QUOTA limits specified in the basic accounting block.
- If QUOTA level 4 is configured, an appropriate QUOTA set must be assigned to the account number given to Central, which allows the following:
  - a. Absolute device assignments, and
  - b. Real-time level of 33

For detailed information on QUOTA, see the *Series 1100/2200 Operating System Installation Reference*.



This section describes the contents of the release package that you receive. Every package contains a Central Release Tape for the 1100/2200, a bus and tag cable adapter and documentation.

### 3.1 The Central Release Tape for the Unisys 1100/2200

The Central Release Tape for the Unisys 1100/2200 was created at 1600 BPI and contains the following files in "@COPY,G" format:

*Type Legend:* 1-Symbolic 2-Relocatable 3-Absolute 4-Omnibus 5-Data 6-ZOOM

File	Contents	Type	Description
1	COPYRIGHT	1	Contains the copyright notification for the Central code and documentation
2	SPIN-X	3	The Central program absolute for the 1100/2200
	FORMS-DEF	5	The Central Format Definition File in a special format
	LOAD/HOST-FILES	1	An addstream which catalogues necessary files and copies the rest of the Central Release Tape for the 1100/2200
	UPDATE/HOST-FILES	1	An addstream which copies only those files needed for updating Central to a newer release level on the 1100/2200
3	FDP	1,3	The SPIN-X Format Definition Program absolute
	FDP/TOPRODUCTION	1	An addstream which is used to copy the Format Definition File and its related database files to the production version of these files
	ID	1,2	A routine required by FDP for its processor call line
	GET	1,2	A routine required by FDP for I/O functions
	IOW	1,2	A routine required by FDP for I/O functions

**Table 3-1** Description of the Central Release Tape for the 1100/2200(*continued on next page*)

File	Contents	Type	Description
4	FDP-INPUT	1	The input file which was used to generate the Format Definition File and its related database files
5	SRI\$DATABASE	5	A component of the SPIN-X Database
6	SRI\$FLATFILE	5	A component of the SPIN-X Database
7	SPIN-X-RUN\$	1	A symbolic runstream that starts Central and should be copied to SYSS\$LIB\$*RUN\$.SPIN-X
8	SPIN-X	2	The Central software for the 1100/2200 in a relocatable form
	MAP	1	The collector statements necessary to link user exits
	UXRBANPG	1	An example of a banner page user exit routine
	UXRTRAPG	1	An example of a trailer page user exit routine
	UXASTEB	1	An example of an ASCII to EBCDIC translate table
	AED	1,4	The A\$EDIT Packet data structure
	FCT	1,4	The File Control Table data structure
	FDT	1,4	The Format Definition Table data structure
	PCB	1,4	The Printer Control Block data structure
	PCR	1,4	The Printer Control Record data structure
	SQE	1,4	The SMOQUE\$ Entry data structure
	DDT	1,4	The Device Descriptor Table
	LCN	1,4	The Location Counter Equates
	DEVICES	1,4	The device definitions supported by Central

**Table 3-1** Description of the Central Release Tape for the 1100/2200 (continued on next page)

File	Contents	Type	Description
9	TYPE	3	A utility program which is used in various addstreams in order to type to the screen
	CLEANQ	1,3	An unsupported utility program which may be used to clear in-progress bits for SMOQUE entries
	SMOQUETEST	1,3	A utility program which is used to test SMOQUE\$ compatibility relative to Central
	FOBCON	6	SPIN-X Forms Overlay Buffer (FOB) Processor
	PLIST	6	Processor for dumping printfiles
10	TESTPRINT	1	A test print file which may be used to verify installation
11	FONTFILE	5	An SDF file containing fonts for input into the database

**Table 3-1** Description of the SPIN-X Release Tape for the 1100/2200

---

## 3.2 The Bus and Tag Cable Adapters

---

Included within the Central Release Package contents are the bus and tag cable adapters, which are needed for the Unisys to printer environment (see Section 4.2 for information regarding the installation of the bus and tag cable adapters).

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## 3.3 Attachments

---

The following attachments are included in the Central Release Package:

- The *SPIN-X Central Installation Guide* (this document)
- The *SPIN-X Central Operator's Guide*
- The *SPIN-X Central Reference Guide*



This section describes the entire installation procedure for Central in detail. Section 4.1 (involving the installation of the Central software for the 1100/2200) and Section 4.2 (involving the installation of the SPIN-X bus and tag cable adapters) will always be performed.

**No modifications such as installing Central user-exits should be attempted until Section 5 (Verification of Installation) has been successfully completed.**

---

## 4.1 Central Installation on the Unisys 1100/2200

---

This section explains the procedures necessary for installing Central on your Unisys Series 1100/2200 computer.

### 4.1.1 File Transfer from the Central Release Tape

---

The following ECL commands will copy the contents of the Central Release Tape for the Unisys 1100/2200 to disk:

**NOTE: If you are performing an update installation see 4.1.1.1 instead.**

The qualifier **SYSS\$PRINTER\$** will be used by the addstream LOAD/HOST-FILES to catalogue production versions of the Central files. The "production" versions of the files are those read by the Central program. This addstream will also create files needed to tailor Central to your site's current or future requirements. These "generation" files must be catalogued under another qualifier besides SYSS\$PRINTER\$ by specifying an @QUAL command as shown in the ECL below. We recommend using "SPIN-X" as the qualifier for the generation versions of the Central files. You can see what files are created for production and generation purposes by consulting Appendix C.

```
@CAT SYSS$PRINTER$*SPIN-X.///512      .Catalog the file for SPIN-X code
@ASG,A SYSS$PRINTER$*SPIN-X.          .Assign the file
@ASG,TJ TAPE.,U9V, reel number, ,NORING .Assign the Release Tape
@MOVE TAPE.,1                          .Skip to the 2nd file
@COPY,G TAPE.,SYSS$PRINTER$*SPIN-X.    .Copy 1 file
@QUAL qualifier                       .Qualifier for generation versions of files
@ADD,PL SYSS$PRINTER$*SPIN-X.LOAD/HOST-FILES
@                                       .Above addstream copies remaining files
@ADD,L *FDP.FDP/TOPRODUCTION
@ . The FDP/TOPRODUCTION addstream creates production database files.
```

### 4.1.1.1 File Transfer for Update Installation Only

---

The following ECL commands will copy the contents of the Central Release Tape needed for an update installation if a previous release of Central is already installed at your site.

```
@CAT SYS$PRINTER$*SPIN-X(+1).,///4096 .Assign the file
@ASG,TJ TAPE.,U9V, reel number, ,NORING .Assign the Release Tape
@MOVE TAPE.,1 .Skip to the 2nd file
@COPY,G TAPE.,SYS$PRINTER$*SPIN-X. .Copy 1 file
@QUAL qualifier .Qualifier for the rest of the files
@ADD,PL SYS$PRINTER$*SPIN-X.UPDATE/HOST-FILES
. Copy the files needed for an update installation
@COPY,O SYS$PRINTER$*SPIN-X(-1).,SYS$PRINTER$*SPIN-X. .Copy FOBs forward
```

**NOTE:** Be sure to recompile your old FDP-INPUT file using the new @FDP program as described in section 3.5 of the *SPIN-X Central Reference Guide*.

## 4.1.2 Configuring the Printer for Exec

---

This section provides information for configuring the printer to Exec depending upon the 1100/2200 model. The TERM SGS provided in section 4.1.3 and the DEVICE SGS provided in section 4.1.4 must also be included.

### 4.1.2.1 Printer Configuration for C-Series

---

**NOTE:** The following System Generation Statements apply to SPIN-X ver. 4R4B or higher running on 1100/90 or 2200/100, 200, 400 or 600 and level SB5R3 (exec level 44R3) or above.

The NODE SGSs for the printer control unit (formerly SYMSUB) is replaced by **ARBCU** and printer device (formerly SYMDEV) is replaced by **ARBDEV**. These are arbitrary device configuration declarations. The following example NODE SGSs should be included in the Exec system configuration:

```
NODE IOMODO IS CHBMX AND CONNECTS TO IOPO VIA CHANNEL 0
NODE CUSEPS IS ARBCU AND CONNECTS TO IOMODO VIA SUB-CHANNEL 6
NODE SEPS IS ARBDEV AND CONNECTS TO CUSEPS VIA DEVICE-ADDRESS 0
. SEPS is a mnemonic for Siemens electronic printing system
```

For additional information on configuring devices to the Exec, see the *OS 2200 Exec System Software Installation and Configuration Guide*.

### 4.1.2.2 Printer Configuration for M-Series

---

**NOTE:** The following System Generation Statements apply to SPIN-X ver. 4R4B or higher running on 2200/500 or 2200/900 and level SB5R3 (exec level 44R3) or above.

The NODE SGSs for the printer control unit (formerly SYMSUB) and printer device (formerly SYMDEV) are replaced by arbitrary device configuration declarations via SCMS. The printer control unit "CUSEPS" is type ARB-CU, and the printer device "SEPS" is type **ARB-DEV**. For information on configuring the printer as an arbitrary device see *2200 Series Site Configuration Management System Administration Guide, Volume 1* (SCMS manual 7832-8861)

## 4.1.3 TERM SGS for Both M-Series and C-Series Systems

---

The following example TERM SGS should be included in the EXEC sysgen.

```
TERM CUSEPS BYTEMUX
```

## 4.1.4 DEVICE SGS for Both M-Series and C-Series Systems

---

The following example DEVICE SGS should be included in the Exec sysgen:

```
DEVICE SEPS,0,CUSEPS PRINTER,770 PRI,00 66,132,6,6,3
```

### 4.1.5 Example Exec Queues for Both M-Series and C-Series Systems

The following example OUTPUT SGS's correspond to the Formats provided on the Central Release Tape. The site may wish to define OUTPUT queues that reflect their site's applications:

```
OUTPUT SPINX1 SEPS
OUTPUT SPINX2 SEPS
OUTPUT SPINX3 SEPS
OUTPUT REPRT1 SEPS
OUTPUT REPRT2 SEPS
OUTPUT REPRT3 SEPS
```

In the future you may choose to make a print queue your site default print queue (for @SYM commands that have no format name specified) by adding the PRINT option to its OUTPUT SGS.

**NOTE:** The TERM, DEVICE and OUTPUT SGSs must be included in all Systems SYSGEN, even the 'M' series using SCMS for device configuration.

A site may choose to define STATION LOCAL's for prints that require special Operator intervention for printing. An example STATION LOCAL SGS follows:

```
STATION PKEYIN LOCAL
```

Central prints from STATION LOCAL queues only when directed by the Operator via the following keyin:

```
L* SEPS P PKEYIN
```

The Exec limits the number of OUTPUT queues for a device to 63. To overcome this limitation several STATION LOCAL's may be grouped together in an OUTPUT SGS. The Operator can print from all these STATION LOCAL's in the OUTPUT queue group via the Central L\* "P" keyin as shown in the following:

Example:

```
STATION SPLS1 LOCAL
STATION SPLS2 LOCAL
STATION SPLS3 LOCAL
STATION SPLS4 LOCAL
STATION SPLS5 LOCAL
OUTPUT SPGRP1 SPLS1 , SPLS2 , SPLS3 , SPLS4 , SPLS5
L* SEPS P SPGRP1
```

See the *Central Operator Guide* for more information on SPIN-X keyins.

---

## 4.1.6 Defining the Printing Configuration to Central

---

A processor is provided on the 1100/2200 Release Tape to define the printing environment to Central; this processor is the Format Definition Program (FDP). FDP accepts keyword oriented commands that define to Central the devices to be serviced and the "print Formats". A print Format defines for Central the printing attributes to be used for files obtained from a particular queue. FDP reads its commands from the SDF file named \*FDP-INPUT. This file, as supplied from the 1100/2200 Release Tape, defines a single Siemens electronic printer with device mnemonic SEPS, and it contains some example print Format definitions.

You may choose to update the \*FDP-INPUT file to specify the Exec printer device mnemonic and the print Formats needed for your site. The device mnemonic definition is shown in Section 4.1.3. **A SPIN-X Central FDP FORMAT command must be provided for each OUTPUT and STATION LOCAL queue you define in Section 4.1.4.** After updating the file \*FDP-INPUT, the FDP program must be executed to compile the commands for output to the Central database.

**NOTE:** Whenever the Format Definition Program is used to successfully change the Central configuration, the output files generated must be copied to their corresponding production versions under the SYS\$PRINTER\$ qualifier. The addstream FDP/TOPRODUCTION is provided to copy the newly generated files to the appropriate production files. After this addstream is performed, the Central program must be brought down (if active) and back up for the changes to take effect. Refer to Chapter 3 of the *SPIN-X Central Reference Guide* for information about using the Format Definition Program.

### 4.1.7 Modifying SY\$LIB\$\*RUN\$.SPIN-X

The file *SPIN-X-RUN\$.SPIN-X-RUN\$*, which is provided on the Central Release Tape for the 1100/2200, contains the runstream that will be used when Central is started from the 1100/2200 console. This element should be copied to **SY\$LIB\$\*RUN\$.SPIN-X**. The following modifications should be made to this runstream:

1. As discussed in Section 2.3, Central requires certain security privileges in order to function properly, therefore, an appropriate userid (depending on whether or not your 1100/2200 has extended security configured) must be chosen from which Central will run. Add this userid and an account number to the *@RUN* statement of the Central runstream.
2. The following processor call options are available to control Central execution:

Option	Description
<b>F</b>	- Suppress consecutive page ejects. If the <b>F</b> option is set and there are consecutive top of form requests, only the first request will be honored.
<b>I</b>	- If the <b>I</b> option is set Central will ignore the "S" 060 control image. This will suppress the control special forms message.
<b>L</b>	- The <b>L</b> option informs Central that it must write a one line entry to PRINT\$ after each file is printed. Information in this entry includes the date and time, userid, account, runid, filename, printer, pages printed, and the average number of bytes per page. Having this information provides an alternative to searching the system logfile to obtain a listing of the files printed.
<b>M</b>	- This option causes vertical bars to be printed on separator pages between printfiles for easier report separation. This option results in five pages ejecting between reports.
<b>T</b>	- A channel program trace is written to Central's PRINT\$ file. This option is intended for debugging only; it should not normally be activated because of the increased overhead and performance reduction.
<b>U</b>	- If the <b>U</b> option is set Central will convert lower case letters to upper case. This option is normally only used for impact printers with upper case only print bands.
<b>W</b>	- Assumes a type 060 "A" print control image was issued for each print.
<b>X,Y,Z</b>	- Reserved for the user exit programmer for processing options.

An example of a SPIN-X Central processor call with the "M" option is shown below:

```
@TPF$.SPIN-X,M
```

---

## 4.1.8 Modifying the BOOTELT

---

This section suggests a method you may use to start Central when booting the 1100/2200.

For Unisys EXEC levels above 39R5, there is an element within SYS\$LIB\$\*RUN\$ named AUTO\$START which is used to start site-dependent runstreams on all system boots (on EXEC levels 39R3-39R5 this element is named AUTO\$RUN). In order to start the Central run on each boot add the following @*START* statement to the element in SYS\$LIB\$\*RUN\$:

```
@START SYS$LIB$*RUN$.SPIN-X,,,account/userid
```

If you choose to start Central using this method, then the @**RUN** card for Central should **not** contain the **R** option.

## 4.2 Installation of the Bus and Tag Cable Adapters

This section explains installation procedures for the SPIN-X bus and tag cable adapters, which are included with the release package that you receive.

The SPIN-X bus and tag cable adapters consist of a pair of 48-pin cables approximately three feet in length. The cable adapters open the pins carrying the 1100/2200 6 volt Propagate Select Out (PSO) signal. Some Unisys devices require the 6 volts, but IBM compatible devices cannot accept this signal. **Therefore, if your site daisy chains Unisys devices with IBM compatible devices, then all IBM compatible devices must follow the Unisys devices in the chain to assure that the Unisys devices receive the PSO signal. In this case, the bus and tag cable adapter must be placed between the Unisys devices and the IBM compatible devices in the chain.**

In general, the bus and tag cable adapter must be placed immediately after the Unisys 1100/2200 environment, but immediately before entrance to the IBM compatible environment. This organization is illustrated by Figure 4-1. Note, in the special case where intermediate boxes (such as IBM compatible channel extenders and channel interface switches) are used, the bus and tag cable adapter must be placed before any boxes of this type.

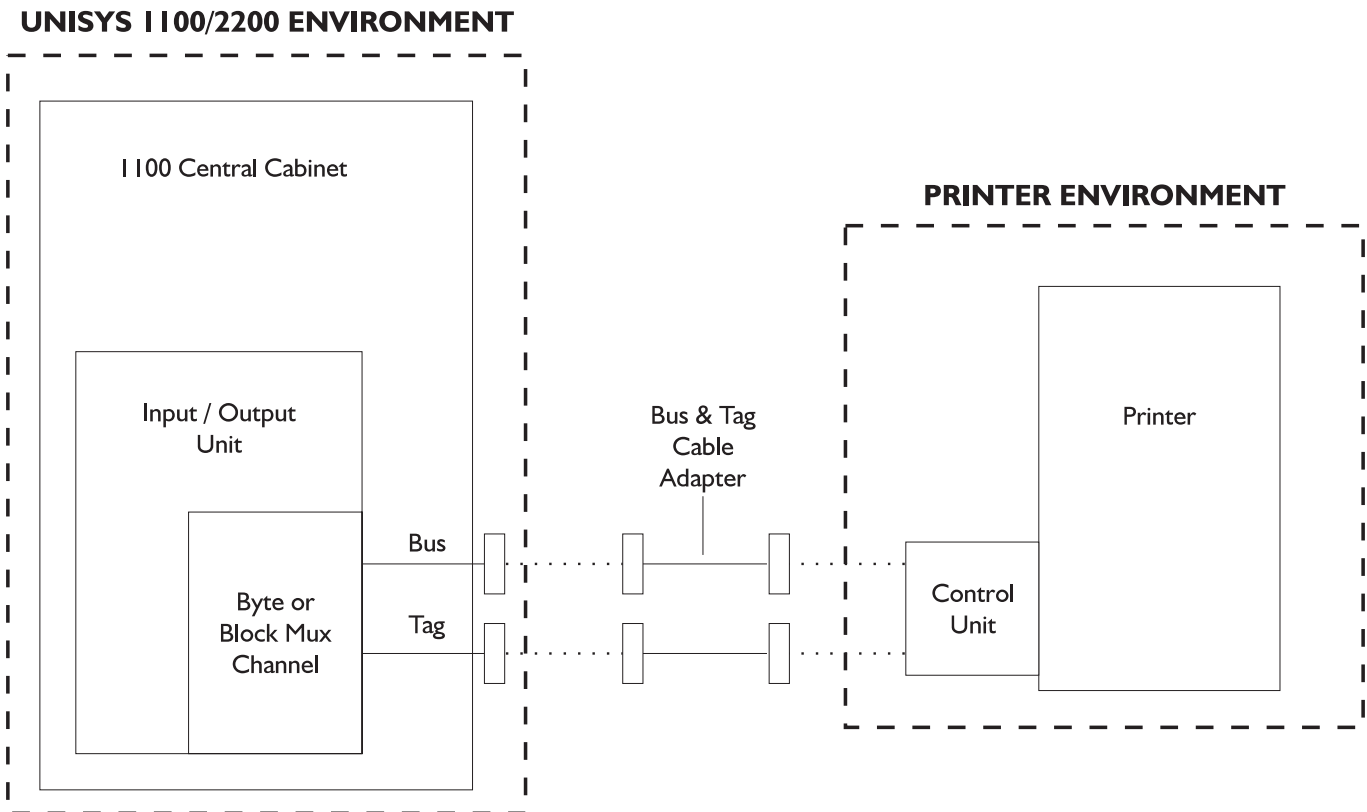


Figure 4-1

**NOTE:** By examining the SPIN-X bus and tag cable adapter, you will notice that one end is grey and the other end is black. When the adapter is installed, the grey end of the adapter should be oriented toward the printer, whereas the black end should be oriented toward the 1100/2200. It does not matter which one of the cable adapters of the pair is attached to the bus or the tag cable.

The *SPIN-X Central Reference Guide* discusses the placement of the bus and tag cable adapter for various connections of the Unisys 1100/2200 host to the printer. If your connection...

- is direct from the 1100/2200 to the printer then one end of the bus and tag cable adapter is attached to a 48-pin connector of a Unisys bus and tag cable, while the other end is connected to the printer's controller.
- is via a Unisys Byte Channel Transfer Switch (BCTS) then one end of the bus and tag cable adapter is attached to a 48-pin connector of a Unisys bus and tag cable leading from the BCTS, while the other end connects directly to the printer's controller.
- is a channel interface switch then the bus and tag cable adapter is placed after the Unisys bus and tag cable but immediately before any switch of this type.
- is via some form of channel extension then the bus and tag cable adapter must be placed after the Unisys cable but before the channel extension device.
- involves multiple hosts and/or printers then refer to section 6.3 of the *SPIN-X Central Reference Guide*.

---

## 4.3 Configuration Settings on the Siemens Electronic Printer

---

This section describes the configuration settings the Siemens Field Engineer (FE) should set when installing the printer.

### 4.3.1 Setting the Device Address on the Printer

---

The device address assigned to the printer is defined to Exec by SCMS (M-Series) or NODE SGS's (C-Series). The Siemens FE will set the device address on the printer, but (s)he must be informed by the Installation Administrator of the device address to be used in order that the printer can communicate with the Unisys channel. This section discusses equating Unisys device addresses with device addresses on the printer.

The following example shows a printer control unit and printer defined by two "NODE" SGS's:

```
NODE CUSEPS IS SYMSUB AND CONNECTS TO IOMODO VIA SUB-CHANNEL 6
NODE SEPS IS SYMDEV AND CONNECTS TO CUSEPS VIA DEVICE-ADDRESS 0
```

In the above example, the printer control unit's address is six and the device's address is zero; both values are in base ten. These combine to form the complete device address "60"; the printer's control unit (SUB-CHANNEL) address is the most significant digit and the device address the least significant digit. In this example, the device address is "six-zero".

As mentioned above, the device addresses in the NODE SGS's are provided in base ten. However, in IBM terminology device addresses are normally defined in base sixteen (hexadecimal). Therefore, we need to equate NODE addresses in base ten to their hex equivalents; for example, a host printer control unit address ten or higher would be expressed with the corresponding hex digit, e.g. "A". The following example illustrates:

```
NODE CUSEPS IS SYMSUB AND CONNECTS TO IOMODO VIA SUB-CHANNEL 14
NODE SEPS IS SYMDEV AND CONNECTS TO CUSEPS VIA DEVICE-ADDRESS 0
```

The printer's control unit address, 14 in base ten, equates to "E" in hexadecimal; the hexadecimal complete device address is "E0". Therefore, "easy-zero" should be configured on the printer.



**1. Hardware Checklist**

- \_\_\_ Order and install the Unisys bus and tag cables.
- \_\_\_ Install the SPIN-X BUS and TAG cable adapter. Make sure the lighter ends of the cable adapters point toward the device, and the darker ends point toward the host.
- \_\_\_ Set the device address and 3800 Model 3 emulation mode on the printer.
- \_\_\_ Ensure microcode Q16 - V300 ED 1.12.03 is installed in printer.

**2. Software Checklist**

- \_\_\_ Install the Central 1100/2200 Release Tape.
- \_\_\_ Update your EXEC by adding the appropriate Type 2 Onsite-Configuration and Symbiont class SGS's.
- \_\_\_ Apply the Unisys PCR(s) that are applicable to your EXEC level; see Appendix B.
- \_\_\_ Update the Central configuration in the file \*FDP-INPUT by specifying your site's printer mnemonic and print formats.
- \_\_\_ Compile the updated FDP commands by executing @\*FDP.FDP
- \_\_\_ Copy the compiled Central configuration files into production by @ADDING the element \*FDP.FDP/TOPRODUCTION.

**3. Verification of Installation Checklist**

- \_\_\_ Print the test file (provided on the Central Release Tape for the 1100/2200) and verify that it matches the sample given in Appendix D.



---

# B

# Unisys Exec PCR's

The Unisys PCR's included in this appendix must be incorporated into your site's Exec based on the chart below:

## Exec Release Level

	39R3-39R3D	39R3E	39R5	39R6-39R7	39R8	39R9
29881	*	*	*			
30780			*	*		
35452					*	

## Exec Release Level

	40R1	40R2	40R3A	41Rxx	43Rxx	44Rxx
29882	*	*	*			
30779	*	*	*			

\* An asterisk denotes that this PCR needs to be included in the indicated level of the Exec.

**NOTE:** Failure to apply the appropriate Unisys PCR's to your site's Exec could result in Exec 042 stops. The PCRs above are given in COMUS batch insert mode on the following pages.

```
INSERT EXEC CHANGE BATCH
NUM EXEC36
MSQ 1
P SPERRY
C1 FIX
C2 MINOR
C3 MAJOR
K 42-STOPS REAL-TIME DEACTIVATE-FUNCTION SMOQUE$
APPL 39R5
RC 29881/RD
D When queuing a file, SMUPQ activates any SMOQUE$ program that is
D waiting for the file. SMUPQ calls ACT, and then loads the PCT address
D from the switchlist and calls DECSWPLKXPT. If control of the processor
D goes to the program before going back to SMUPQ, and the program does
D an ER EXIT$, the switchlist will be released before SMUPQ loads the PCT
D address. This causes a 042 or 063 stop in DECSWPLKXPT.
*SMUPQ
-2199          L          A3,SD,A0          . PCT ADDRESS FOR DECSWPLKXPT
-2202,2203
@EOF
```

```
INSERT EXEC CHANGE BATCH
NUM EXEC38
P SPERRY
C1 FIX
K 40ML 40R1SL 40R2SL 40R3SL ER-SMOQUE$ ERFI-827 EXERR-042
K EXERR-063 PRINT-FILE RFI-860429 SYMBIONT
APPL 40R1
RC 29882/RD
D When queuing a file, SMUPQ activates any SMOQUE$ program that is
D waiting for the file. SMUPQ calls ACT, and then loads the PCT address
D from the switchlist and calls DECSWPLKXPT. If control of the processor
D goes to the program before going back to SMUPQ, and the program does
D an ER EXIT$, the switchlist will be released before SMUPQ loads the PCT
D address. This causes a 042 or 063 stop in DECSWPLKXPT.
*SMUPQ
-2562 PCR 29882          L          A3,SD,A0          . PCT ADDRESS FOR DECSWPLKXPT
-2565,2566 PCR 29882
@EOF
```

```
INSERT EXEC CHANGE BATCH
NUM EXEC39
P SPERRY
C1 FIX
K 40ML 40R1SL 40R2SL 40R3SL ER-SMOQUE$ ERFI-1418 EXERR-042
K PRINT-FILE RFI-870504 SWAPLOCK SYMBIONT
APPL 40R1
```

```

RC 30779/RD
D After processing an ER SMOQUE$ request, SYISMOQUE must activate the
D user program. It activates the program and then loads the PCT address
D from the switchlist and calls DECSWPLKXPT. If control of the processor
D goes to the program before going back to SYISMOQUE, and the program does
D an ER EXIT$, the switchlist will be released before SYISMOQUE loads the
D PCT address. This causes a 042 or 063 stop in DECSWPLKXPT.
*SYISMOQUE
-362
    DECLARE pct_pointer                : 18 BIT MACHINE POINTER PCT;
        "
        "
        " Pointer to the users PCT.
        "
        "
-647
        pct_pointer := user-swl.pct -> swl.pct_ptr;
-649,649
        dec_swap_lock(pct_pointer,xpoint);
@EOF

```

```

INSERT EXEC CHANGE BATCH
NUM EXEC37
MSQ 1
P SPERRY
C1 FIX
C2 MINOR
C3 MAJOR
K 42-STOPS REAL-TIME ACTIVATE-FUNCTION SMOQUE$
APPL 39R5
RC 30780/RD
D After processing an ER SMOQUE$ request, SYISMOQUE must activate the
D user program. It activates the program and then loads the PCT address
D from the switchlist and calls DECSWPLKXPT. If control of the processor
D goes to the program before going back to SYISMOQUE, and the program does
D an ER EXIT$, the switchlist will be released before SYISMOQUE loads the
D PCT address. This causes a 042 or 063 stop in DECSWPLKXPT.
*SYISMOQUE
-356
    DECLARE PCT_POINTER:      18 BIT MACHINE POINTER PCT;
-749
    PCT_POINTER := USER_SWL -> SWL.PCT_PTR;
-751,751
    DEC_SWAP_LOCK(PCT_POINTER,XPOINT);
@EOF

```

```

BATCH INSERT CHG EXEC
DATE      871117
UPDDATE   880126
P         SPERRY
C1        FIX
SYSNUM    39.160.68.233      39.505.56      39.567.43

```

```

SYSNUM      39.596.22          39.611
K           39R3SL            39R6SL
K           39R7SL            39R8SL
K           BANNER-ID        ERFI-1975
K           RFI-871130       SYM
K           SYMBIONTS
RC          30172/AL
RC          35452/RD
PLE         10596203    10703832

```

D PROBLEM:

D When a user @SYMS a file and doesn't specify a banner-id, the banner-id  
D in the SMOQUE entry may have more characters than it should have. The  
D first six characters are correct, but the seventh through the twelfth  
D characters may contain garbage.

D ANALYSIS:

D In the main path, SMBKP is not setting up the runid correctly to place  
D in the banner field. The RUNID is placed into user reg A4, but A5  
D is not set up with blanks. Therefore, whatever residue in A5 is placed  
D into the second word of the banner-id.

D SOLUTION:

D We will set up both the RUNID and a word of blanks to place into the  
D banner-id field.  
D \*\*Note: this fix is not needed beyond 39-level Exec, as the code that  
D will fix this problem is already in those levels.

\*SMBKP

```

-1850                                     PCR 35452
      L          A4,SMQRID,X9          . Get runid
      L          A5,SPACES             . and a word of spaces

```

@EOF

---

## C.1 ECL to Load Central Software from Tape (LOAD/HOST-FILES)

---

```

@ . This element, LOAD/HOST-FILES, is an addstream which is used
@ . during the initial installation of SPIN-X. It copies the necessary
@ . files from the SPIN-X Release Tape for the 1100/2200 to the disk
@ . files which are catalogued below. These files are catalogued using
@ . the qualifier indicated on the @QUAL statement as discussed in
@ . section 4.1.1 of the SPIN-X Installation Guide. If desired, this
@ . element may be removed from SYS$PRINTER$*SPIN-X after successful
@ . installation of SPIN-X.
@ .
@CAT *COPYRIGHT.
@CAT *FDP.
@CAT *FDP-INPUT.
@CAT *SRI$DATABASE(+1).,///1024
@CAT *SRI$FLATFILE(+1).,///1024
@CAT *FONTFILE.,///4096
@CAT *SPIN-X-RUN$.
@CAT *SRO.,///512
@CAT *UTILITY.
@CAT *TESTPRINT.
@CAT SYS$PRINTER$*SRI$DATABASE(+1).,///1024
@CAT SYS$PRINTER$*SRI$FLATFILE(+1).,///1024
@CYCLE *SRI$DATABASE.,2
@CYCLE *SRI$FLATFILE.,2
@CYCLE SYS$PRINTER$*SRI$DATABASE.,2
@CYCLE SYS$PRINTER$*SRI$FLATFILE.,2
@ASG,A *COPYRIGHT.
@ASG,A *FDP.
@ASG,A *FDP-INPUT.
@ASG,A *FONTFILE.,///4096
@ASG,A *SPIN-X-RUN$.
@ASG,A *SRO.
@ASG,A *UTILITY.
@ASG,A *TESTPRINT.
@ASG,A SYS$PRINTER$*SRI$DATABASE.
@ASG,A SYS$PRINTER$*SRI$FLATFILE.
@REWIND TAPE.
@COPY,G TAPE.,*COPYRIGHT.
@MOVE TAPE.,1
@COPY,G TAPE.,*FDP.
@COPY,G TAPE.,*FDP-INPUT.
@COPY,G TAPE.,SYS$PRINTER$*SRI$DATABASE.
@COPY,G TAPE., SYS$PRINTER$*SRI$FLATFILE.
@COPY,G TAPE.,*SPIN-X-RUN$.
@COPY,G TAPE.,*SRO.
@COPY,G TAPE.,*UTILITY.
@COPY,G TAPE.,*TESTPRINT.
@COPY,G TAPE.,*FONTFILE.

```

---

## C.2 ECL to Perform an Update Installation (UPDATE/HOST-FILES)

---

. This element, UPDATE/HOST-FILES, is an addstream which is used for  
. updating SPIN-X files. It copies the necessary files from the SPIN-X  
. Release Tape to the disk files which have been previously catalogued.  
. These files are copied to the qualifier indicated on the @QUAL statement  
. as discussed in the SPIN-X Installation Guide. If desired, this element  
. may be removed from SYS\$PRINTER\$\*SPIN-X after successful updating of  
. SPIN-X files.

```
.  
@ASG,A *FDP.  
@ASG,A *SRO.  
@ASG,A *UTILITY.  
@ASG,A *TESTPRINT.  
@REWIND TAPE.  
@MOVE TAPE.,2  
@COPY,G TAPE.,*FDP.  
@MOVE TAPE.,4  
@COPY,G TAPE.,SRO.  
@COPY,G TAPE.,UTILITY.  
@COPY,G TAPE.,TESTPRINT.
```

---

### C.3 ECL to Run Central (SPIN-X-RUN\$)

---

```
@RUN,/KL SPINX,/,SPIN-X
@ . FILL-IN APPROPRIATE account#/userid FOR YOUR SITE ON @RUN ABOVE
@FREE TPF$.
@ASG,T TPF$.,/32//4096
@COPY,A SYS$PRINTER$*SPIN-X.SPIN-X,TPF$.SPIN-X
@ASG,T FORMSDEF. ,/32//4096
@COPY,I SYS$PRINTER$*SPIN-X.FORMS-DEF,FORMSDEF.
@ASG,AX SYS$PRINTER$*SRI$DATABASE.
@ASG,AX SYS$PRINTER$*SRI$FLATFILE.
@USE SRI$DATABASE,SYS$PRINTER$*SRI$DATABASE.
@USE SRI$FLATFILE,SYS$PRINTER$*SRI$FLATFILE.
@TPF$.SPIN-X
@PMD,PE
@FIN
```