IBM

Program Directory for

Control Center for VSE

Version 7 Release 1.0
Release 1.0

Program Number 5697-F42

for Use with
VSE/ESA

Document Date: September 2000

GI10-5003-00

┌─ **Note!** ───┐

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

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This program directory, dated September 2000, applies to Control Center for VSE Version 7 Release 1.0, Program Number 5697-F42 for the following:

COMPIDs	Feature Numbers	System Name
5697F4206	5988	VSE/ESA
5697F4206	5989	VSE/ESA
5697F4206	5978	VSE/ESA
5697F4206	6047	VSE/ESA

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Notices

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1.0 Introduction

This program directory is intended for the system programmer responsible for program installation and maintenance. It contains information concerning the material and procedures associated with the installation of Control Center. You should read all of this program directory before installing the program and then keep it for future reference.

Support for 6 national languages (American English, Chinese, French, German, Japanese, and Upper Case English) is included on the distribution tape. Instructions for choosing a language other than American English are in 7.8, "Step 8: Select a Language" on page 21 and 7.9, "Step 9: Remove Unnecessary Languages" on page 22.

- 2.0, "Program Materials" on page 2 identifies the basic and optional program materials and documentation for Control Center.

- 3.0, "Program Support" on page 4 describes the IBM support available for Control Center.

- 5.0, "Installation Requirements and Considerations" on page 6 identifies the resources and considerations for installing and using Control Center.

    Installation requirements and procedures specific to installing this licensed program in a VSE environment are described. This product must be installed using the Maintain System History Program (MSHP).

- 6.0, "Installing or Migrating Control Center for VSE V7.1" on page 8 describes installing Control Center to run under CICS V2.3 and CICS/TS V1.1.

Before installing Control Center, read 3.1, "Preventive Service Planning" on page 4. This section tells you how to find any updates to the information and procedures in this program directory.

2.0 Program Materials

An IBM program is identified by a program number and a feature code. The program number for Control Center is 5697F4206.

The program announcement material describes the features supported by Control Center. Ask your IBM marketing representative for this information if you do not have a copy.

The following sections identify:

- The basic and optional program materials available with this program

- A list of publications that would be useful during installation can be found in the *Control Center Operations Guide for VSE*, GC09-2992.

2.1 Basic Machine-Readable Material

The distribution medium for this program is 9-track magnetic tape (written at 6250 BPI), 3480 cartridge, or 1/4-inch tape cartridge, or 4mm tape cartridge. The tape or cartridge contains all the programs and data needed for installation. Control Center is installed using the instructions described herein. See the installation chapter for more information about how to install the program. Table 1 describes the tape or cartridge. Table 2 describes the file content of the program tape or cartridge.

Table 1. Basic Material: Program Tape

Medium	Feature Number	Physical Volume	External Label Identification	VOLSER
6250 tape	5988	1	Control Center VSE	N/A
3480 cart.	5989	1	Control Center VSE	N/A
1/4 inch cart.	5978	1	Control Center VSE	N/A
4mm cart.	6047	1	Control Center VSE	N/A

Table 2. Program Tape: File Content

VOLSER	File	Name
N/A	1	Copyright Records
N/A	2	History File
N/A	3	Product
N/A	4	Tape Mark
N/A	5	Tape Mark

2.2 Optional Machine-Readable Material

There are no optional machine-readable materials for Control Center.

2.3 Program Publications

The following sections identify the basic and optional publications for Control Center.

2.3.1 Basic Program Publications

Table 3 identifies the basic program publications for Control Center. One copy of each of these publications is included when you order the basic materials for Control Center. For additional copies, contact your IBM representative.

Table 3. Basic Material: Unlicensed Publications

Publication Title	Form Number
Control Center Operations Guide for VSE	GC09-2992

2.3.2 Optional Program Publications

None

2.4 Program Source Materials

There are no source materials available for Control Center.

2.5 Publications Useful During Installation

You can find a list of related publications in *Control Center Operations Guide for VSE*, GC09-2992.

3.0 Program Support

This section describes the IBM support available for Control Center.

3.1 Preventive Service Planning

Before installing Control Center, check with your IBM Support Center or use either Information/Access or SoftwareXcel Extended to see whether there is additional Preventive Service Planning (PSP) information that you should know. To obtain this information, specify the following UPGRADE and SUBSET values:

Table 4. PSP Upgrade and Subset ID

UPGRADE	SUBSET	RETAIN Release
DB2VSE710	CCVSE	1NQ

If you have received Control Center only from IBM Software Distribution, then before installing Control Center, you should also check with your IBM Support Center or use either Information/Access or SoftwareXcel Extended to see if there is additional PSP information that you should know.

3.2 Statement of Support Procedures

Report any difficulties you have using this program to your IBM Support Center. If an APAR is required, the Support Center will provide the address to which any needed documentation can be sent.

Table 5 identifies the component IDs (COMPID) for Control Center.

Table 5. Component IDs

COMP ID	Component Name	REL
5697F4206	Control Center for VSE V7.1	1NQ

4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of Control Center. The program level refers to the APAR fixes incorporated into the program. The service level refers to the PTFs integrated. Information about the cumulative service tape is also provided.

4.1 Program Level Information

This new version of Control Center for VSE has incorporated all closed APARs from previous versions/releases at the time of this product's General Availability (GA).

4.2 Service Level Information

Check the DB2VSEVM710 PSP bucket for any additional PTFs that should be installed or any additional installation information.

4.3 Cumulative Service Tape

There is no cumulative service tape for Control Center.

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5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating Control Center.

5.1 System Requirements

There are no special programming requirements for the system.

5.1.1 Programming Requirements

This section summarizes the products required for Control Center. Unless otherwise stated, Control Center should work with subsequent versions, releases, and modification levels of the products listed in this section.

These operating system(s):

- VSE/Enterprise Systems Architecture Version 2 Release 3 Modification level 1 or later

These products also provide required product support:

- DB2 Server for VSE Version 6 Release 1, or later
- VSE/REXX (which is part of VSE/Central Functions, and later releases
- LE for VSE/ESA

5.1.2 DASD Storage Requirements

For details on DASD requirements, refer to 7.1, "Step 1: Ensure Adequate Production Library Space" on page 11.

5.1.3 Processor Storage Requirements

The target libraries (data sets) and their attributes for the installation of Control Center can be found in the installation and migration chapters later in this document.

5.1.4 Operating System Requirements

Control Center operates under the VSE/ESA operating system.

5.1.5 Machine Requirements

There are no special machine requirements for Control Center.

5.2 Program Considerations

There are no program, system, or special considerations for Control Center.

6.0 Installing or Migrating Control Center for VSE V7.1

Ensure that the VSE operating system and all necessary software is already installed and running correctly. See 5.1.1, "Programming Requirements" on page 6.

Control Center for VSE V7.1 operates in these environments with DB2 Server for VSE, Version 6.1 or later:

- CICS V2.3 under VSE 2.3
- CICS V2.3 under VSE 2.4
- CICS/TS V1.1 under VSE 2.4

The installation or migration process is fairly quick. Read the installation steps and mark any changes to the JCL in this book. Then, punch the .Z members from the installation library after it has been loaded from the distribution tape. Edit the members as noted and submit the installation steps. For someone experienced with DB2 and CICS the process will take less than 2 hours.

You will need a listing of the VTOCs on the disk volumes where you intend to put Control Center and its user catalog.

6.1 IBM-Supplied Installation Aids

The product tape includes job control members to help you install Control Center. These are distributed as Z-type source members in the Control Center library. The member names typically begin with `SQ`; load them as part of the installation process described in 7.4, "Step 4: Define VSAM User Catalog and Datasets" on page 14.

You may have to change some of the job control members before submitting them for execution. These changes are discussed in the Installation Steps described in this chapter. Punch the members from the distribution library for editing and submission. Alternatively, you can type them in manually.

These types of changes must be made to the installation JCL before using it.

- JECL and JCL must be changed after the jobs are punched from the installation library.

    - globally replace $ $$ with * $$ ex: `ch/$ $$/* $$/ * g`
    - globally replace #   with /   ex: `ch.#./. * g`

- The name of the Control Center installation library in the installation JCL is `PRD2.CCF710`; this may be changed if you want.

- The database name values in the JCL must be changed to the name of the database with which you will want Control Center to run. In many of these cases, the installation step must be run once for each database involved. These steps contain comments about re-running them.

    In the sample JCL, the database name used is `SQLDS710` You may change this to the name of your own database if you want.

In some of the installation jobs, you may find the angle brackets, **<** and **>**. They are used to identify text you need to change and must be removed before the jobs are executed.

NOTICE

For most of these steps, you must punch the referenced job from your installation library and then make the necessary changes.

THESE CHANGES APPLY TO MOST OF THE INSTALLATION STEPS, ESPECIALLY THOSE WITH JOBS TO SUBMIT. CHECK EACH STEP FOR APPLICABILITY.

For a list of other IBM-supplied installation aids distributed with Control Center, see Appendix A, "Installation JCL" on page 34.

6.2 Machine-Readable Material

The format of the machine-readable product tape is:

- *File 1* Copyright Records
- *File 2* History File
- *File 3* Product
- *File 4* Tape Mark
- *File 5* Tape Mark

This tape is intended for Control Center processing by the VSE Maintain System History Program (MSHP), or VSE/II. To install the Control Center product, you need:

- to know that the tape label for Control Center is `DB2CC.7.1.0`.

- and to make sure you have a distribution tape in the correct format for your VSE system. To verify this tape, scan it by running the sample JCL shown in Figure 1 on page 10 and check that the tape format is correct.

```
$ $$ JOB JNM=SQMTSCAN,CLASS=0,DISP=D,PRI=9
$ $$ LST CLASS=Q
// JOB SQMTSCAN SCAN CONTROL CENTER TAPE
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* PLEASE MOUNT CONTROL CENTER DISTRIBUTION TAPE AND
* ASSIGN SYS006 TO THAT TAPE DRIVE
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
// PAUSE PLEASE ASSIGN SYS006 NOW...
// ASSGN SYS006,5A0
// MTC REW,SYS006
// EXEC LIBR
RESTORE LIB302.BUILD71.*.* TAPE=SYS006 SCAN=YES
#*
// MTC RUN,SYS006
#&
$ $$ EOJ
```

Figure 1. Scanning the Control Center Distribution Library (SQMTSCAN JCL)

Look in the output listing for a line following the RESTORE record that shows the backup file ID. It should say

BACKUP FILE ID= 'DB2CC.7.1.0ƀƀƀƀƀ'

where "ƀ" is a blank (space), and list lots of members starting with SQ. There is one member that starts with HD and a few with ARI.

Note: The copy of **SQMTSCAN.Z** on the installation tape has a different RESTORE statement. It produces a different result that the one described here.

6.3 Stored Procedure Support

DB2 UDB's Web Control Center, running on your workstation, can be used to perform certain tasks using a DB2 Server for VSE & VM database. Control Center for VSE and VM provides stored procedures that are used to do that type of processing. The stored procedures are invoked by UDB's Web Control Center to process DB2 commands such as Reorganize Index and Rebind Package.

The installation process loads support modules for two IBM-supplied stored procedures into the installation library.

After you have completed the installation of Control Center, you can choose install this support; see the Control Center Operations Manual for directions.

7.0 Installation and Migration Steps

This Program Directory includes instructions for installing Control Center under CICS/TS V1.1 and CICS V2.3 under VSE 2.3 or later. Some steps are optional if you are migrating from an earlier version of Control Center (or SQL Master). This is noted where it applies.

Note: References to Control Center Version 1.2 mean SQL Master Version 1.2.

The steps described below are used for the initial installation of Control Center. Four steps are marked optional; they involve installing under MSHP, National Language Support, and the Control Center work files.

- Using MSHP is highly recommended because of the ease with which any future service can be applied.
- Selecting a specific National Language other than American English should only be done if you need it.
- Regardless of whether you select a National Language or stay with the default American English, after that step is complete, you may optionally delete all of the National Language support files. This will recover a considerable amount of disk space (see Table 6 on page 12).
- The final installation step involves defining the Control Center work files. This step can be deferred until needed. The files are needed for any analysis or reorganization of DBSPACEs and tables, and for the package utility.

Note: Some of the steps require that you punch a member from the installation library. When you submit a job that punches to the VSE punch queue, remember that the name given to the output file in the punch queue is the same name as the JNM parameter on the `* $$ JOB card`. When you request that the punch queue file be copied to your primary library, the member that will be created is named from the JNM parameter. If your punch job in the ICCF library is same name as the JNM, then you can't get the punch output into your ICCF library unless you delete the existing ICCF member with the same name.

IF YOU ARE MIGRATING FROM A PREVIOUS VERSION OF Control Center (OR SQL MASTER) some of the installation steps are not required. These are individually marked as optional but may be used if you choose.

If an installation step is not marked as optional, it is required.

7.1 Step 1: Ensure Adequate Production Library Space

This step is optional for migration from Control Center Version 6.1.

Control Center for VSE V7.1 is designed to be installed into a installation library whose name can be specified by you. The default name is `PRD2.CCF710`. You must have this library accessible through `LIBDEF.PROC` or by your CICS start-up JCL. Before you install Control Center, make sure the library contains enough space. Table 6 on page 12 shows the space requirements on various DASD devices.

Control Center requires approximately 2450 blocks of 1024 bytes for the base product's one language (for example, English) production environment. Control Center requires approximately 3800 blocks for installation, after which the space requirement can be reduced to 2450 blocks.

The distribution tape and installation process will load support for **ALL** of the languages that Control Center supports, such as English, and French, and German, and so forth. The table shows the space required for initial loading of Control Center in the Base + All Language column, and the space required if you delete the screen maps, help file, and message files, for all but one language. The space requirements shown in Table 6 include an allowance for growth.

The installation process tailors Control Center to use just one language's maps, message, and help files. After installation is complete, you can delete the files for the languages you are not using. (See Section 7.8, Step 8: Select a Language and Section 7.9, Step 9: Remove Unnecessary Languages.) Be sure to read the notes below the following table.

Table 6. Approximate DASD Space Requirements			
DASD Device Type	**Base + All Languages**[1]	**Base After One Language Chosen**[2]	**MSHP File Space Required**
3375	13.1 cylinders	103 tracks	1 track
3380	8.5 cylinders	83 tracks	1 track
3390	8 cylinders	78 tracks	1 track
9345	9.5 cylinders	92 tracks	1 track
FB-512[2]	7850 blocks	5100 blocks	47 blocks

Notes:

1. This is a close approximation but does not include an allowance for maintenance.
2. This is based on an actual installation and includes a 5% allowance for maintenance. The number of 1K blocks needed is 2425.
3. FB-512 devices include the 0671, 3370, 9332, 9335, and 9336.

7.2 Step 2: Create MSHP History File

This step is optional but is recommended for all users.

Installation of and service to Control Center use the features of the Maintain System History Product (MSHP). If you have not previously installed Control Center, you must create an MSHP history file for it. `SQMCRHST.Z`, shown below, will do the job for you.

1. You will need to assign DASD space for the MSHP history file; it cannot be in a VSAM space. See 7.1, "Step 1: Ensure Adequate Production Library Space" on page 11 for size information.
2. Be sure you change all of the fields tagged with angle brackets "<" and ">".
3. The tag **<MSHP VOLUME NAME>** must be replaced with the volid of the volume on which the Control Center MSHP history file is to be placed.

4. The tags **<MSHP HISTORY FILE START>** and **<SIZE>** must be replaced with actual values. For FBA
   devices, these are block values; otherwise, they are track values.
5. Submit the job.

```
$ $$ JOB JNM=SQMCRHST,CLASS=0,DISP=D,PRI=9
$ $$ LST CLASS=Q,DISP=D,PRI=9
// JOB SQMCRHST CREATE CC PRODHST
* STEP001 CREATE DB2 CONTROL CENTER PRODUCT HISTORY FILE
// ASSGN SYS021,DISK,VOL=<MSHP VOLUMN NAME>,SHR
// EXEC MSHP,SIZE=1024K

CREATE HISTORY AUX

     DEFINE HISTORY AUX        -
         EXTENT=<MSHP HISTORY FILE START>:<SIZE> -
         UNIT=SYS021           -
         ID='DB2CC VSE 5697-F42 7.1.0 BASIC HISTORY'

ARCHIVE 5697-F42-06                            /* COMPONENT ID */

ARCHIVE F421NQ                                 /* PRODUCT ID */
     RESOLVES 'DB2CC/VSE.7.1.0 - 5697-F42'

     COMPRISES 5697-F42-06        -
         MACROS=SQM*              -
             TYPE=A
     COMPRISES 5697-F42-06        -
         PHASES=SQM*              -
         MACROS=SQM*              -
             TYPE=C
     COMPRISES 5697-F42-06        -
         PHASES=SQB*              -
         MODULES=(SQB*,ARI*)
     COMPRISES 5697-F42-06        -
         PHASES=SQC*
     COMPRISES 5697-F42-06        -
         MACROS=(SQB*,SQC*,ARI*)    -
             TYPE=Q
     COMPRISES 5697-F42-06        -
         MACROS=(HD*,SQM*,SQR*)    -
             TYPE=Z

RESIDENCE PRODUCT=F421NQ             -
     PRODUCTION=PRD2.CCF710
#*
#&
$ $$ EOJ
```

Figure 2. Create MSHP History File (SQMCRHST.Z)

7.3 Step 3: Install Control Center Modules

You can load the Control Center modules in one of two ways. You can use the VSE/Interactive Interface, Product Installation Dialog in VSE/ESA, or punch **SQMMSHPI.Z** (show in Figure 3 on page 14) and use that.

You must:

- update your **LIBDEF.PROC** to include in the PHASE,SEARCH statement, the Control Center installation library and the DB2 execution library. Or, you can change your CICS startup JCL (for each partition running Control Center) so that these libraries can be searched.
- update your **LIBDEF.PROC** to include in the SOURCE,SEARCH statement, the Control Center installation library. Some of the generated jobs refer to CONNECT and GRANT statement members in this library.
- Copy SQR02.PROC to IJSYSRS.SYSLIB. This REXX procedure must be accessible when running a job generated by the Package View tool.

During installation, you will receive various messages from MSHP. See the *VSE/ESA Messages and Codes* manual for information about these messages.

```
 $ $$ JOB JNM=SQMMSHPI,CLASS=0,DISP=D,PRI=9
 $ $$ LST CLASS=Q
 // JOB SQMMSHPI LOAD CONTROL CENTER TAPE
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
 * MOUNT CONTROL CENTER DISTRIBUTION TAPE
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
 // PAUSE PLEASE MOUNT THE TAPE
 // ASSGN SYS006,590
 // MTC REW,SYS006
 // EXEC MSHP,SIZE=1024K
 INSTALL PRODUCT                     -
      FROMTAPE ID='DB2CC.7.1.0'      -
      PROD INTO=PRD2.CCF710
 /*
 // MTC REW,SYS006
 /&
 $ $$ EOJ
```

Figure 3. Load Control Center Distribution Library (SQMMSHPI.Z)

7.4 Step 4: Define VSAM User Catalog and Datasets

Control Center uses VSAM to manage its own control files as well as unloaded data and DDL files. The generated batch jobstreams that perform functions such as reorganization expect to find these files in a catalog with the filename **SQMCAT**. Library member **SQMVSAM.Z**, shown in Figure 9 on page 35, contains the JCL and Access Methods Services commands needed to define an appropriate VSAM environment.

In this step, you allocate VSAM space for **SQMCAT**, the Control Center VSAM catalog. Table 7 on page 15 shows the approximate size of a starter catalog on various DASD devices. **SQMCAT** contains these system files:

```
SQLMSTR.MESSAGES                    Error Messages
SQLMSTR.REORG.DATA                  Batch REORG Data
SQLMSTR.REORG.PARMS                 DBSPACE REORG Parameters
SQLMSTR.TABLE.PARMS                 TABLE REORG Parameters
SQLMSTR.WORK.FILES                  Work File Labels
```

In addition, the catalog holds VSAM-managed SAM Data Definition Language (DDL) and data files for long-term storage and re-use. If you intend to run many REORGs or if your DBSPACEs or tables are very large, you should monitor the VSAM catalog and be prepared to expand it.

Table 7. Average Starter Control Center Catalog Sizes						
	3350 Cyls	**3375 Cyls**	**3380 Cyls**	**3390 Cyls**	**9345 Cyls**	**FB-512 Blocks**
Minimum	120	150	100	90	110	90000
Average	240	300	200	180	220	180000

SQMVSAM defines:

```
SQLMSTR.USER.CATALOG               User Catalog
A VSAM data space
A default model                    For Control Center Managed SAM Files
SQLMSTR.MESSAGES                   Error Message Repository
SQLMSTR.REORG.PARMS                DBSPACE Parameter File
SQLMSTR.REORG.DATA                 Timekeeping Data
SQLMSTR.TABLE.PARMS                Table Parameter File - new with Version 6.1
SQLMSTR.WORK.FILES                 Work File Labels
```

Before executing **SQMVSAM**:

1. If you choose NOT to define **SQLMSTR.USER.CATALOG** but place the Control Center files in another existing catalog:

    a. Remove the DEFINE UCAT statement.
    b. Remove the DEFINE SPACE statement.
    c. Remove the default model DEFINE CLUSTER statement.
    d. Change the CATALOG parameter in the DEFINE CLUSTER statements to point to your catalog.

2. **IF YOU ARE MIGRATING**, in addition to the actions in the next two steps, you must consider that redefining the Work File Labels file, **SQLMSTR.WORK.FILES - SQMWORK**, and the reorganization data file, **SQLMSTR.REORG.PARMS - SQMPARM**, may have data that will be destroyed.

    SQMWORK contains JCL that identifies where your DDL and DATA, and PACKAGE work files are stored. This is actual disk extent and tape label information. The files identified by the JCL are not cataloged by Control Center because they cannot be VSAM files. For information on how to save the file contents, see the labeled box at the start of Section 7.17, "Step 17: Define Work File Labels" on page 28.

SQMPARM contains information about DBSPACE and table reorganization that is currently in progress or is scheduled. Because of this, **DO NOT REDEFINE THIS FILE WHILE A REORGANIZATION IS IN PROCESS**. Once all reorganization jobs have finished, you can safely redefine this file.

3. **If you are migrating from Version 6.1,** you must modify and use **SQMVSAM** to re-define the Table Parameters and Messages files, and remove all other define statements. The Table Parameters file size has not changed, but the SHR option and its record and block length have changed. The Version 7.1 messages file requires space for 2300 fixed length 80 byte records (about 185K bytes).

4. **If you are migrating from Version 1.2 or 5.1,** you must modify and use **SQMVSAM** to at least define the Table Parameters file and re-define the **SQLMSTR.REORG.PARMS** (**SQMPARM**) and the **SQLMSTR.MESSAGES** (**SQMMESG**) file. You can then remove all other define statements. The Table Parameters file is new and the others have increased in size.

   The Version 7.1 messages file requires space for 2300 fixed length 80 byte records (about 185K bytes). If your current space allocation is not adequate, delete and re-define it.

5. If you do any of the preceding two steps, you will need to add VSAM cluster delete statements ahead of the define statements so that the new definitions will be effective. The delete statement format is:

   ```
   DELETE (filename) PURGE CLUSTER -
        CATALOG(SQLMSTR.USER.CATALOG)
   ```

6. You must do the usual changes to change the JCL and JECL into the proper syntax.

7. The comments at the start of the job also instruct you to do the following.

   - Replace "XXXXXX" with your VOLID.
   - Replace "YYYY" with your catalog origin.
   - Replace "ZZZZ" with your space origin.

8. You may want to remove the editing comments before running the job so that there are fewer messages on the system console.

9. Submit the job.

Note: You might experience a file opening problem for the **SQLMSTR.REORG.PARMS** or **SQLMSTR.TABLE.PARMS** files the very first time you run a DBSPACE Reorganization Tool job or a Table Reorganization job.

   If you do, you can fix the problem by opening the file under DITTO option 2.1 (Edit A VSAM File), inserting a dummy record, and saving the file. Add one record to the file:

   SQLMSTR.REORG.PARMS   44 letter "Z" followed by a "0" (zero). If you are using a National Language Character set other than American English, instead of "Z", use the letter highest in your character set that can appear as a database, owner, or DBSPACE name.

   SQLMSTR.TABLE.PARMS   44 letter "Z" followed by one "0" (zero). If you are using a National Language Character set other than American English, instead of "Z", use the letter highest in your character set that can appear as a database, owner, or DBSPACE name.

   The problem should never occur again.

7.5 Step 5: Load Standard Labels

This step is optional for migration from Control Center Version 6.1.

Users migrating from Control Center Version 5.1 or earlier must, at a minimum, define the labels for `SQMTPRM`**, the Table Parameters file.**

In order for Control Center to find its VSAM files, their labels must be added to the system standard label area (or be in the CICS start-up JCL). Library member `SQMSTD.Z`, shown in Figure 4 on page 18, contains a two step job that that will first add the DLBLs to the active system standard label area and then update STDLABUP in IJSYSRS.SYSLIB.

The DLBL name of the Control Center catalog **must** be `SQMCAT`. If you choose to define or use a catalog other than the default catalog name of `SQLMSTR.USER.CATALOG`, you must change the `SQMCAT` DLBL in the first step to point to the catalog on which the Control Center files will reside.

Warning: The records in `SQMSTD.Z` may **ONLY** be changed when:

- you are migrating and you are using the standard Control Center definitions, and do not need to redefine the labels. AS NEEDED, you can remove matching records from STEP0001 and STEP0002.

- you want to use a catalog other than SQLMSTER.USER.CATALOG. Change the first "A" card in STEP0002, replacing the file identifier, e.g., SQLMSTR.USER.CATALOG, with the new file identifier - the FILE-ID must still start in column 48. Then, in STEP0001, change the file identifier on the `SQMCAT` DLBL to that of your catalog.

```
$ $$ JOB JNM=SQMSTD,CLASS=0,DISP=D,PRI=9
$ $$ LST CLASS=Q
// JOB SQMSTD SETUP CONTROL CENTER STANDARD LABELS
* STEP0001 ADD DLBLS TO SYSTEM STANDARD LABEL AREA
// OPTION STDLABEL=ADD
// DLBL SQMCAT,'SQLMSTR.USER.CATALOG',,VSAM
// DLBL SQMMESG,'SQLMSTR.MESSAGES',,VSAM,CAT=SQMCAT
// DLBL SQMPARM,'SQLMSTR.REORG.PARMS',,VSAM,CAT=SQMCAT
// DLBL SQMRDAT,'SQLMSTR.REORG.DATA',,VSAM,CAT=SQMCAT
// DLBL SQMWORK,'SQLMSTR.WORK.FILES',,VSAM,CAT=SQMCAT
// DLBL SQMTPRM,'SQLMSTR.TABLE.PARMS',,VSAM,CAT=SQMCAT
#*
* STEP0002 UPDATE SYSTEM STANDARD LABEL PROCEDURE
// EXEC IESVCLUP,SIZE=AUTO
A SQLMSTR.USER.CATALOG                        SQMCAT
A SQLMSTR.MESSAGES                            SQMMESG SQMCAT
A SQLMSTR.REORG.PARMS                         SQMPARM SQMCAT
A SQLMSTR.REORG.DATA                          SQMRDAT SQMCAT
A SQLMSTR.WORK.FILES                          SQMWORK SQMCAT
A SQLMSTR.TABLE.PARMS                         SQMTPRM SQMCAT
#*
#&
$ $$ EOJ
```

Figure 4. Control Center Standard Label Definitions (SQMSTD.Z). (Warning, the data in the "A" records in STEP0002 is column sensitive.)

If Control Center is installed in a library other than the default PRD2.CCF710, then that library must be accessible to the CICS partition in which Control Center executes (either directly by a LIBDEF or indirectly by a LIBDEF in `LIBDEF.PROC`. If `SQMSTD.Z` is not being used, or is being entered into the system manually, the DLBL statements must be added to your system and it must be restarted to make the LIBDEFs active.

7.6 Step 6: Prepare CICS

This step must be run once for each unique CICS CSD that you are using.

This step defines the resources required to install Control Center in the CICS V2.3 or the CICS/TS V1.1 environment, under VSE Version 2.3 or later.

> **IMPORTANT - YOU NEED TO KNOW THAT**
>
> - Control Center requires that your CICS SIT's SPOOL parameter be YES.
>
> - the Control Center installation process will define to CICS its transactions, files, etc. The addition of any new CICS transactions for any other application will eventually result in your running the CATSEC program (even if you use online definition). Therefore, it is necessary that Control Center insure that its transactions are redefined at that time. To do this, the installation process inserts a VSE * `$$ SLI` record into the SECMAC member in ICCF library 51. Do not remove that record.

There are three types of resources that must be defined:

1. Programs
2. Transactions
3. Files

7.6.1 Defining Programs and Transactions

Member `SQMCSDUP.Z`, a **summary** of which is shown in Figure 10 on page 37, is a job that uses CICS Resource Definition Online (RDO) to define the Control Center programs and transactions to CICS. Punch, tailor if necessary, and run this job.

7.6.2 Defining Transaction Security

CICS has a Transaction Security attribute associated with each transaction. Assigning these must be done as a separate sequence of steps from the transaction definition process. To do this:

1. Punch `SQMTRNSE.A` (Figure 11 on page 39) and put it in your ICCF library as member `SQMTRNSE`. This contains the Control Center transaction security definitions. Edit the member and remove any lines other than the DTSECTXN macro statements.

2. Punch `SQMCATSE.Z` (Figure 12 on page 39) and put it in the same ICCF Library as member `SQMTRNSE`. This job assembles and links the transaction security definitions. Edit the member, and change the leading JCL characters into their proper form.

3. Edit SECMAC in ICCF library 51. This member contains the system standard transaction security definitions.

4. Insert this line following the first DTSECTXN macro (the "*" should be in column 1).
   `* $$ SLI ICCF=(SQMTRNSE),LIB=(your ICCF library number)`
   Substitute your ICCF library number where indicated. This statement will cause the Control Center definitions to be inserted into the set of system standard definitions whenever the transaction security table is rebuilt. Leave this statement in SECMAC for reuse whenever other applications are defined to CICS.

5. Submit `SQMCATSE` and check the output. This job assembles and links the transaction security table.

6. Go to the CICS window available from the VSE/ESA Function Selection menu by pressing F6.

7. Type CEMT PERFORM SECURITY REBUILD and press ENTER. The response should be "NORMAL".

8. Press F3 to return to the VSE/ESA Function Selection menu.

For these changes to become effective CICS must be stopped and restarted.

7.6.3 Defining Control Center Files

To define the Control Center files to CICS, you must update and reassemble your File Control Table (FCT). Member `SQMFCT.A`, shown in Figure 13 on page 40, illustrates the required macros.

To complete this step:

1. Punch `SQMFCT.A` and edit it.
2. Imbed or include it in your CICS FCT table.
3. Assemble your FCT; a skeleton is in ICCF library 59 as DFHFCTxx.
4. Stop and restart CICS.

Note: Control Center's on-line transactions are designed to be run in only one CICS partition at a time; the Control Center and CICS version do not matter.[1] Our files defined to CICS in `SQMFCT.A` are defined with the attributes OPEN and ENABLED. They are defined to VSAM (by our SQMVSAM) with the SHR (share) option 2. This means that the files can be used for concurrent input with one concurrent output. Option 2 is used to speed processing and because with only one Control Center partition operating at any one time, there will be no contention for the files.

However, if you should have two or more CICS partitions started and both have FCTs that include Control Center's `SQMFCT.A`, then the CICS partition started last may end up with "ownership" of the file and the earlier-started partitions will be unable to process requests that involve the use of

---

[1] Note that if you switch between different partitions running Control Center, the second partition running Control Center will have problems opening some of the files. You will have to go into the previous partition and manually close the files, and then restart the second partition's CICS job or manually open the files in that partition.

Note, however, that if both partitions are started at IPL-time, the later-opening partition may get ownership of the files.

some of these files. The error message will say what file is "closed". (Appendix B in the Operations manual describes the files and their file name.)

The only fix for the problem, other than "don't do it," is to shut down the CICS partitions other than the one in which you want to do the function and then manually open the file using the CICS transaction **CEMT Inquire File**.

7.7 Step 7: Define the Package Sublibrary

This step is optional for migration from Control Center Version 5.1 or 6.1.

This step defines SQLMSTR.PACKAGE, the Librarian library into which Control Center will unload database packages and from which they will be reloaded.

The default size for the package library, 10 cylinders, is probably much more than you will ever need. Most installations will probably average less than 8K per package. You can use the 8K figure, multiplied by the maximum number of packages you expect to have unloaded at any one time, to make a better estimate of the size file you need.

Unloaded packages are stored as `.PKG` members and are retained until **you** specifically delete them. You can delete an un-needed package from the file using the Librarian or DITTO.

Member `SQMLIBDF.Z`, in the distribution library, contains a sample job to define the `SQLMSTR.PACKAGE` library. A sample `SQMLIBDF.Z` is shown in Figure 14 on page 41. To complete this step:

1. Punch `SQMLIBDF.Z` and edit it.
2. Replace "XXXXXX" with your VOLID.
3. Change the library size (number of cylinders or tracks) if you will not use the package functions a lot or if you will be periodically removing un-needed packages.
4. Submit the job.

7.8 Step 8: Select a Language

This step is optional.

This step replaces the language-specific modules of the default install language (mixed-case American English) with those of the language of your choice.

If you are using American English, you do **not** need to run this step. You may still want to run the next step; it deletes unneeded language support saving DASD space. If you are using American English, you may still want to delete the American English modules using the next installation step because American English is already automatically installed as the default language.

Member **SQMRENAM.Z**, shown in Figure 5 on page 22 contains the JCL required to invoke the **SQMRENAM**
REXX exec that replaces the default American English modules with those of the selected language. To
complete this step:

1. Punch **SQMRENAM.Z** and edit it.
2. Make sure the CCLIB parameter in the SETPARM statement points to your installation library.
3. In the SETPARM statement, replace "A" with the one character language code, based on this list:

Language	Code
Mixed English	A
Uppercase English	U
French	F
German	G
Japanese	J
Simplified Chinese	C

```
$ $$ JOB JNM=SQMRENAM,DISP=D,CLASS=0
$ $$ LST CLASS=Q
// JOB SQMRENAM          INSTALL SPECIFIC NATIONAL LANGUAGE SUPPORT
#*
#* USE THIS PROGRAM TO REPLACE THE DEFAULT AMERICAN ENGLISH MODULES
#* WITH THOSE FOR ANOTHER LANGUAGE.  CHANGE THE SETPARM AS NEEDED.
#*
#* THE LANGUAGE CODES ARE:  A=AMERICAN ENGLISH, C=CHINESE, F=FRENCH,
#*                          G=GERMAN, J=JAPANESE, U=UPPERCASE ENGLISH
#*
#* CONTROL CENTER IS DELIVERED WITH AMERICAN ENGLISH ALREADY INSTALLED
#*
// SETPARM LANG='A',CCLIB='PRD2.CCF710'
// LIBDEF *,SEARCH=&CCLIB
// EXEC REXX=SQMRENAM,SIZE=1024K,PARM='&LANG &CCLIB'
#*
#&
$ $$ EOJ
```

Figure 5. Select A Language (SQMRENAM.Z)

Note: REXX/VSE support must be active in the VSE system for this step to work.

7.9 Step 9: Remove Unnecessary Languages

This step is optional.

This step lets you delete the National Language Support modules associated with an unneeded language.
Member **SQMDELET.Z**, shown in Figure 6 on page 23, contains the JCL required to execute the **SQMDELET**
REXX exec that will delete the NLS modules for the language you specify.

Note: If you want to delete unneeded modules:

- If the language you are "keeping" is other than the default American English (A), then you **MUST** have run Step 7.8, "Step 8: Select a Language" before you run this step.
- This step should be run **once** for each language you want to delete. You **can** delete the American English modules (code A) if you want because they are automatically installed first.
- Don't delete a language's modules if there is a chance that you might want to use that language at a later time. However, if they have been deleted, you can always reinstall the modules from the installation tape.
- The space required for each of the American English, upper-case English, French, and German modules is approximately 2.1MB. For Chinese and Japanese, which use the Double Byte Character System, the space for the messages and help text is about double that for the other languages. For maps, the space needed is about 15% more.

    A significant amount of space can be saved by deleting the language modules you do not intend to use.

To complete this step:

1. Punch **SQMDELET.Z** and edit it.
2. Make sure the CCLIB parameter in the SETPARM statement points to your installation library.
3. In the SETPARM statement, replace "A" with the one character language code, shown in the table in 7.8, "Step 8: Select a Language" on page 21, for the language you want to delete. **Execute this job once for each language to be deleted.**

```
$ $$ JOB JNM=SQMDELET,DISP=D,CLASS=0
$ $$ LST CLASS=Q
// JOB SQMDELET.Z
#* DELETE AN UN-NEEDED NATIONAL LANGUAGE'S MODULES
#*
#* BECAUSE AMERICAN ENGLISH WAS AUTOMATICALLY INSTALLED AS THE DEFAULT
#* LANGUAGE, YOU CAN DELETE ITS MODULES TO RECOVER SOME DISK SPACE.
#*
#* THE LANGUAGE CODES ARE:  A=AMERICAN ENGLISH, C=CHINESE, F=FRENCH,
#*                          G=GERMAN, J=JAPANESE, U=UPPERCASE ENGLISH
#*
#* RUN THIS PROGRAM ONCE FOR EACH LANGUAGE TO BE DELETED
#*
#*
// SETPARM LANG='A',CCLIB='PRD2.CCF710'
// LIBDEF *,SEARCH=&CCLIB
// EXEC REXX=SQMDELET,SIZE=1024K,PARM='&LANG &CCLIB'
#*
#&
$ $$ EOJ
```

Figure 6. Delete Unnecessary Languages (SQMDELET.Z)

Note: REXX/VSE support must be active in the VSE system for this step to work. If REXX is not active, you can "manually" delete the maps, SQMxxs.PHASE, (where xx is the map number and "s" is the language suffix) for the un-needed languages. Also, delete the NLS message files, **SQMESSGs.Z**, and help text file, **SQMHLPTs.Z**. The suffix codes are shown in the preceding step. **SQMESSGS.Z** (note the trailing "S") is the default, American English file name.

7.10 Step 10: Load Error Message File

This step loads the error message text into SQLMSTR.MESSAGES, the Control Center VSAM error message file. Member **SQMLDMSG.Z**, shown in Figure 7 on page 24, contains the JCL necessary to load the error message file. Member **SQMESSGS.Z** contains the error message texts; you do not need to punch this member.

To load the error message file:

1. Punch **SQMLDMSG.Z** and edit it.
2. Make sure the LIBDEF card and the sublibrary parameter (S=) on the SLI statement point to your installation library.
3. Make sure **SQMMESG** is closed to CICS (that is, not in use) when you execute this job. Otherwise, the load will fail with an Open error. To tell if a file is open to CICS, use
   `CEMT I DAT(filename)`.
   If the file is open (OPE), overtype the OPE with CLO and press ENTER.

```
$ $$ JOB JNM=SQMLDMSG,CLASS=0,DISP=D,PRI=9
$ $$ LST CLASS=Q
// JOB SQMLDMSG LOAD CONTROL CENTER ERROR MESSAGES
// ASSGN SYS008,SYSRDR
// DLBL SQMMESG,'SQLMSTR.MESSAGES',,VSAM,CAT=SQMCAT,DISP=(NEW,KEEP)
// ASSGN SYS011,SYSLST
// LIBDEF *,SEARCH=PRD2.CCF710
// PAUSE OPERATOR: PLEASE BE SURE SQMMESG IS CLOSED TO CICS
// EXEC SQB03,SIZE=AUTO
$ $$ SLI MEM=SQMESSGS.Z,S=PRD2.CCF710
#*
#&
$ $$ EOJ
```

Figure 7. Load Control Center Error Messages (SQMLDMSG.Z)

You can remove the LIBDEF statement if Control Center can be accessed by your **LIBDEF.PROC** definitions.

During execution of this program, you will receive messages stating the total number of messages in and the total number of messages out (in from the source messages file and out to the disk). It is normal for these totals to differ because unused message records are not stored in the output file.

7.11 Step 11: Grant DBA Authority to SQLMSTR

This step is optional for migration from earlier versions of Control Center or SQL Master. However, ...

YOU MUST DO THIS FOR EACH DATABASE USED BY CONTROL CENTER.

This step grants DBA authority to SQLMSTR, the ID under which Control Center does its work. Control Center requires DBA authority to perform some of its DBSPACE and table functions. Library member

SQMGRANT.Z (Figure 8 on page 25) contains a multi-user mode DBSU jobstream that will grant DBA authority to SQLMSTR. The database must be up for this job to complete successfully.

To complete this step:

1. Punch **SQMGRANT.Z** and edit it.
2. Change the LIBDEF card to point to your installation library if necessary.
3. Change the database name parameter on the EXEC ARIDBS card to point to your database if necessary.
4. Member **SQMCDBA.C** refers to the default password for SQLDBA. If you have changed SQLDBA's password, punch, update, and re-catalog **SQMCDBA.C** with the updated SQLDBA password.
5. Member **SQMGDBA.C** contains the statement that GRANTs DBA authority to SQLMSTR. The password it assigns to SQLMSTR (Control Center) **absolutely must not** be changed.

   Warning: The Control Center (SQLMSTR's) password is in **SQMCONN.C**, **SQMGDBA.C**, and **SQMGDBA.C**. The nature of DB2 programming in Control Center also requires the password to be hard-coded in a number of executable modules. The password **MUST NOT** be changed!

```
$ $$ JOB JNM=SQMGRANT,CLASS=0,DISP=D,PRI=9
$ $$ LST CLASS=Q
// JOB SQMGRANT GRANT CONTROL CENTER DBA AUTHORITY
// LIBDEF *,SEARCH=PRD2.CCF710
// ASSGN SYSLST,IGN
// EXEC ARIDBS,SIZE=AUTO,PARM='D(SQLDS710)'
READ MEMBER SQMCDBA.C
READ MEMBER SQMGDBA.C (NOCONT
#*
#&
$ $$ EOJ
```

Figure 8. Grant Control Center DBA Authority (SQMGRANT.Z)

7.12 Step 12: Define and Load the Help Table

YOU MUST DO THIS FOR EACH DATABASE USED BY CONTROL CENTER.

This step defines and loads the **SQMHELP** table. This table holds the information you access when you enter the Help Facility, or press F1 from a Control Center screen.

Member **SQMCRHLP.Z**, shown in Figure 15 on page 42, in the distribution library contains a batch DBSU job to define and load **SQMHELP**. **SQMCRHLP** acquires a 128-page public DBSPACE in storage pool 1. If you want to place **SQMHELP** elsewhere (many DBAs reserve storage pool 1 for SYS001, the catalog DBSPACE), you may change the STORPOOL parameter (about line 22). Since **SQMHELP** is not updated during execution, you can place it in a non-recoverable storage pool.

SQMCRHLP reads input from member **SQMHLPTX.Z** using a * **$$ SLI** statement. You do not need to punch **SQMHLPTX.Z** into your library.

For defining and loading the **SQMHELP** table:

1. Punch `SQMCRHLP.Z` and edit it.
2. If necessary, change the STORPOOL parameter of the ACQUIRE command.
3. If necessary, change the LIBDEF card to point to your installation library, or remove the LIBDEF card.
4. If necessary, change the sub-library parameter (S=) on the SLI statement to point to your DB2 installation library.
5. If necessary, change the database name parameter on the // EXEC ARIDBS card to point to your database.
6. Return Code 6 is acceptable if the `PUBLIC.SQMHELP` DBSPACE has not been previously acquired.

7.13 Step 13: Define the Maintenance Tracking Table

This step is optional for migration from earlier versions; however, ...

AN SQLMAINT TABLE MUST EXIST IN EACH DATABASE USED BY CONTROL CENTER.

This step defines SQLMAINT, the maintenance table. Control Center keeps maintenance statistics, dates, and elapsed time information in the SQLMAINT table for use in selecting candidates for reorganization, etc.

Member `SQMCRMNT.Z`, shown in Figure 16 on page 43, contains a batch DBSU job to define the SQLMAINT table. `SQMCRMNT` acquires a 128-page public DBSPACE in storage pool 1. If you want to place SQLMAINT in a different pool, you may change the STORPOOL parameter. SQLMAINT should be placed in a recoverable storage pool.

To complete this step:

1. Punch `SQMCRMNT.Z` and edit it.
2. If necessary, change the STORPOOL parameter of the ACQUIRE command.
3. If necessary, change the LIBDEF card to point to your installation library.
4. If necessary, change the database name parameter on the EXEC ARIDBS card to point to your database.
5. Return Code 6 is acceptable if the PUBLIC.SQLMAINT DBSPACE has not been previously acquired.

7.14 Step 14: Define the Monitor Tables

This step is optional for migration from Control Center Version 5.1 or 6.1; however, ...

YOU MUST DO THIS FOR EACH DATABASE USED BY CONTROL CENTER.

This step defines the monitor tables and indexes. Control Center stores monitor definition information and the data it collects in these tables.

Member `SQMCRMON.Z`, shown in Figure 17 on page 44, contains a batch DBSU job to define the monitor tables and indexes.   `SQMCRMON` acquires a 128-page public DBSPACE in storage pool 1. If possible, you

should change the STORPOOL parameter to specify another recoverable storage pool so that I/O contention for storage pool 1 is minimized.

You may also want to consider specifying a larger DBSPACE, if you intend to keep large amounts of monitor information. A final consideration is whether you want to put some of the monitor data tables such as SQLMSTR.SHOW_ACTIVE in their own DBSPACES. This is good design and might provide slightly improved concurrency.

To define the monitor tables:

1. Punch **SQMCRMON.Z** and edit it.
2. If necessary, change the LIBDEF card to point to your installation library.
3. If necessary, change the database name parameter on the EXEC ARIDBS card to point to your database.
4. If desired, change the PAGES parameter of the ACQUIRE command.
5. If desired, change the STORPOOL parameter of the ACQUIRE command.
6. Submit **SQMCRMON**.
7. Return Code 6 is acceptable if the PUBLIC.CC_MONITOR DBSPACE has never been previously acquired.

7.15 Step 15: Define the Group Authorization Tables

This step is optional for migration from Control Center Version 5.1 or 6.1; however, ...

YOU MUST DO THIS FOR EACH DATABASE USED BY CONTROL CENTER.

This step creates the Group Authorization tables. The tool uses five indexed tables, which are in a separate public DBSPACE. **SQMCRGRP.Z**, shown in Figure 18 on page 51, contains a DBSU jobstream to define these tables. A free public DBSPACE, as referenced in the jobstream, must be available.

To run **SQMCRGRP**:

1. Punch **SQMCRGRP.Z** and edit it.
2. If necessary, change the LIBDEF to point to your installation library.
3. If necessary, change the database name parameter on the EXEC ARIDBS card to point to your database.
4. If necessary, change the DBSPACE NAME, PAGES, and/or STORPOOL parameters of the ACQUIRE command.
5. Submit **SQMCRGRP**.
6. Return Code 6 is acceptable if the PUBLIC.ADMGROUP DBSPACE has not been previously acquired.

7.16 Step 16: Load the Control Center Packages into the Database

YOU MUST DO THIS FOR EACH DATABASE USED BY CONTROL CENTER.

This step loads the Control Center packages into your databases. Member `SQMRLDPK.Z`, shown in Figure 19 on page 54, contains a multiple-user-mode DBSU job to RELOAD the Control Center packages. Depending on your particular environment, you may need to change the LIBDEF and EXEC ARIDBS statements.

`SQMRLDPK` reads the packages (.Q members) from the distribution library. **You do not need to punch the .Q members.**

To load the Control Center packages into a database:

1. Punch member `SQMRLDPK.Z` and edit it.
2. If necessary, change the LIBDEF card to point to your installation library.
3. If necessary, change the database name parameter on the EXEC ARIDBS card.

7.17 Step 17: Define Work File Labels

This step is optional for migration from earlier versions of Control Center; however, ...

As of Version 7.1, we have more meaningful estimates for the size of the package work file (10K bytes) and the message file (6K bytes). If your files are larger, you can redefine them with this step, making them smaller and recovering some space. The new size values include an allowance for expansion.

```
┌─ IMPORTANT - YOU NEED TO KNOW THAT ──────────────────────────────────────────┐
```

IMPORTANT - YOU NEED TO KNOW THAT

If you are migrating from a previous version of Control Center, you MUST take note that executing this step may result in the loss of some Control Center information. See item 2 on page 15.

Information about DASD and tape labels that were created during your previous installation (or later) will be lost. This information was defined using the Work File Label Definition tool (option 4 on the Control Center main menu).

To preserve this information about the labels:

1. Invoke the Work File Label Definition tool.

2. For file type 1 (data work files) type file number 1 (small) and press ENTER. If you had defined a "size" 1 work file, its work file information will be displayed. Make a note of the values for use in 7.17, "Step 17: Define Work File Labels" on page 28. Repeat this for file numbers (sizes) 2 and 3.

3. Repeat step 2 on page 28 for file type 2 (DDL work files).

4. For file type 3 (package work files), type a partition number and press ENTER. Make a note of the values shown. Repeat this for **EACH** fixed VSE partition for which you might have defined a package work file.

   Only fixed partitions are supported by Control Center; however, you might have accidentally defined a work file for a dynamic partition, so be sure you check all possible partition values. If you find a work file for a dynamic partition, you can recover the DASD space.

5. For file type 4 (messages) no file/partition number is needed. Press ENTER and make a note of the values.

6. For tape labels, do not enter a File Type of File/Partition Number. Instead, type the name of your TLBL file-ID and press ENTER. Make a note of the values.

When you do 7.17, "Step 17: Define Work File Labels" on page 28, enter the values you have saved from this process.

This step defines the JCL label definition statements and establishes the disk extents for a set of Control Center SAM work files that cannot be put in VSAM.

Before you start, you will need a VTOC list for the DASD volumes on which you intend to place your SAM files. You can use DITTO or the VSE/ESA main Function menu and select Resource Definition to get this information.

Note: You must manually allocate the SAM space to be used for Control Center's run-time temporary DDL, unloaded data, package, and message files. The Work File Label Definition function of Control Center affects **ONLY** internal tables kept by Control Center.

Control Center invokes the DB/2 Database Service Utility (DBSU) to UNLOAD and RELOAD DBSPACE data and DDL and to UNLOAD and RELOAD packages. DBSU unloads into variable-length, spanned,

blocked (SPNBLK) records. Since the VSAM SAM-management feature does not support SPNBLK records, SAM files must be used. This step defines those files.

To minimize the amount of SAM work file definition, Control Center uses three sets of two predefined SAM work files for the DBSPACE and table reorganization, UNLOAD, and RELOAD functions. The three sets are called the small, medium, and large work file sets, and are identified by the (respective) numbers 1, 2, and 3. Each set has a work file for unloading DDL and one for unloading data. You define them here and select the one you want to use whenever you run a REORGanization or UNLOAD. Table 8 on page 30 shows space estimates for these work files.

The View Package Utility uses a SAM work file (`SQLPKGx`) to hold the currently unloaded package used to produce the Package Report. You must allocate a work file for **each** partition that might use the View Package tool. The partition number is the "x" in the name `SQLPKGx`. The tool also uses a SAM work file to hold package report headings (see 7.4, "Step 4: Define VSAM User Catalog and Datasets" on page 14) when generating reports. Table 8 also shows space estimates for these work files.

Because of the number of different device types and blocking factors in use, the table gives allocation information in FBA-512 block numbers. Using your own device characteristics and blocking factors you can easily determine the number of blocks needed on your system. Only the package report headings file is an exact value.

Table 8. Sample Control Center Work File Space Allocations			
File Name	**Size**	**Type**	**FB-512 Blocks**
SQMDAT1	Small	Data	22500
SQMDAT2	Medium	Data	45000
SQMDAT3	Large	Data	90000
SQMDDL1	Small	DDL	600
SQMDDL2	Medium	DDL	1200
SQMDDL3	Large	DDL	2400
SQLPKGx		package work file	20
SQLPMSG		package report headings	12
TOTAL ALLOCATION			162600

Note: These allocations are approximate. Depending on your definition of what is a small, medium, or large DBSPACE, you may want to make different allocations using the Work File Label Definition Facility.

To define your work file labels:

 1. Start Control Center by typing the TRANSID `SQM` from a blank CICS screen and press ENTER. The Control Center Main Menu will be shown.

2. Select Option **4** (Work File Label Definition) and press ENTER. The Work File Label Definition Menu will be shown.

7.17.1 DDL and Data Files

7.17.1.1 Using Disk

The following partial screen images are from the Work File Label Definition panel and show only the relevant parts.

Note: If you do not expect to do concurrent operations, you could choose to define only one size set of files, for example, size "2" (medium) and always use that size number. We suggest "2" because that is the default in many menus.

To define **SQMDAT1**, the small unloaded data file (see Table 8), enter the FILE TYPE and FILE NUMBER as:

```
FILE TYPE          => 1 (1=DATA                2=DDL             )
                       (3=PACKAGES             4=MESSAGES        )
FILE/PARTITION     => 1          OPTION 1 - 2 : FILE SIZE NUMBER
NUMBER                           OPTION 3     : PARTITION NUMBER
                                 OPTION 4     : NOT USED
```

Press ENTER to display the Disk Work File Label Definition screen. (If you do not enter a TLBL_FILE_ID, Control Center assumes you are defining DASD files.) Enter SERIAL-NUMBER, RELATIVE-TRACK/BLOCK, and NUMBER-OF-TRACKS/BLOCKS. VSE treats the starting track/block and number as blocks or tracks depending on the device type of the unit name entered as the SERIAL_NUMBER.

```
SERIAL-NUMBER                => SYSWK1

RELATIVE-TRACK/BLOCK         => 02985_____

NUMBER-OF-TRACKS/BLOCKS      => 00375_____
```

Press ENTER to return to the Work File Label Definition Menu and look for this message: WORKFILE UPDATED SUCCESSFULLY! If the the update was not successful, an error message indicating the problem will be shown.

Repeat the above for **SQMDAT2** and **SQMDAT3** (the medium and large data data files, and **SQMDDL1**, **SQMDDL2**, and **SQMDDL3**, the small, medium, and large DDL files.

Note: Having three sets of files also allows you to have up to three REORGs or RELOADs happening (or pending) at the same time, assuming the file sizes are adequate.

7.17.1.2 Using Tape

To use a tape file, enter a TLBL FILE_ID (and no FILE TYPE nor FILE/PARTITION NUMBER) and press ENTER.

Note: A tape file can be used only for unloading data. Unloaded DDL must be defined on DASD but the data can be on tape **or** disk.

```
TLBL FILE-ID      => SQMHELP_____
```

Press ENTER to display the Tape Work File Label Definition screen. Then, enter the Tape Operands:

```
************************    TAPE OPERANDS    ***********************

FILE-SERIAL-NUMBER       => 004001
VOLUME-SEQUENCE-NUMBER   => ____
FILE-SEQUENCE-NUMBER     => ____
GENERATION-NUMBER        => ____
VERSION-NUMBER           => __
DATE                     => _____  (YYYY/DDD OR 0-9999)
DEVICE CLASS             => 1        (1=CARTRIDGE/2=TAPE)
MODE                     => __
```

Press ENTER to return to the Work File Label Definition Menu and look for this message: WORKFILE UPDATED SUCCESSFULLY!

When doing a DBSPACE reorganization, it is possible to choose to use a disk DDL file and tape data file. Information about this is in the Control Center Operations manual section about DBSPACE reorganization.

7.17.2 Package Files

You must define a package work file for each partition in which you intend to run a batch View Package jobstream. Therefore, you may have to run this step more than once. Control Center unloads the package into a package work file and processes it to produce a package report. Only static partition numbers are allowed.

For example, if you want to run View Package jobs in background (CLASS 0), you would specify FILE TYPE 3 (PACKAGES) and FILE/PARTITION NUMBER 0 (CLASS 0 = BG) as:

```
FILE TYPE           => 3 (1=DATA                    2=DDL             )
                          (3=PACKAGES               4=MESSAGES        )
FILE/PARTITION      => 0        FILE TYPE 1 - 2 : FILE SIZE NUMBER
NUMBER                          FILE TYPE 3    : PARTITION NUMBER
                                FILE TYPE 4    : NOT USED
```

Press ENTER to display the Disk Work File Label Definition screen. Then enter SERIAL-NUMBER, RELATIVE-TRACK/BLOCK, and NUMBER-OF-TRACKS/BLOCKS. Note that as of Version 7.1, the suggested size of the package work file is 10K bytes; this is adequate for a report on a very big package. If necessary, you can redefine the file sizes at a later time.

The message file size should be 6K bytes. If you are migrating and your files are larger, you can redefine them with this step, making them smaller. The new size values include an allowance for expansion.

```
SERIAL-NUMBER                => SYSWK1

RELATIVE-TRACK/BLOCK         => 03685_____

NUMBER-OF-TRACKS/BLOCKS      => 12_____
```

Press ENTER to return to the Work File Label Definition Menu and look for this message: WORKFILE UPDATED SUCCESSFULLY!

Repeat this process for each partition into which you want to submit batch View Package jobstreams.

7.17.3 Package Messages File

You must also define a single package messages file that will be shared by all partitions. The (batch) Package Report job obtains report headings from this file. To define the file, specify FILE TYPE 4 (MESSAGES). When the FILE TYPE is 4, the FILE/PARTITION NUMBER is not used.

```
FILE TYPE           => 4 (1=DATA                    2=DDL             )
                          (3=PACKAGES               4=MESSAGES        )
FILE/PARTITION      => _        FILE TYPE 1 - 2 : FILE SIZE NUMBER
NUMBER                          FILE TYPE 3    : PARTITION NUMBER
                                FILE TYPE 4    : NOT USED
```

Press ENTER to display the Disk Work File Label Definition screen. Then enter SERIAL-NUMBER, RELATIVE-TRACK/BLOCK, and NUMBER-OF-TRACKS/BLOCKS:

```
SERIAL-NUMBER                  => SYSWK1

RELATIVE-TRACK/BLOCK           => 03695_____

NUMBER-OF-TRACKS/BLOCKS        => 20_____
```

Press ENTER to return to the Work File Label Definition Menu and look for this message: WORKFILE
UPDATED SUCCESSFULLY!

You have now completed the Control Center installation or migration process.

Appendix A. Installation JCL

The Control Center distribution library contains all of the JCL necessary to install the product. You will need to punch these members and import them into your editor so that you can customize them as necessary before submitting them. Listed below are the members that contain JCL and a brief description of their function. In parentheses, is the page on which you can find a listing of the referenced module.

SQMCRGRP.Z	DBSU Job Defining Group Authorization Tables (51)
SQMCRHLP.Z	Create and load the Control Center help table (42)
SQMCRHSP.Z	Create MSHP History File (13)
SQMCRMNT.Z	Create the Control Center maintenance table (43)
SQMCRMON.Z	DBSU Job Defining Monitor Tables (44)
SQMCSDUP.Z	Update the CICS System Definition file in off-line, RDO mode (37)
SQMDELET.Z	Remove Unnecessary Languages (23)
SQMFCT.A	Control Center FCT Macros (40)
SQMGRANT.Z	Grant DBA authority to SQLMSTR (25)
SQMLDMSG.Z	Load the Control Center error messages (24)
SQMLIBDF.Z	Control Center Package Library Definition (41)
SQMMSHPI.Z	Load Control Center into your installation library (14)
SQMRENAM.Z	Select a Language (22)
SQMRLDPK.Z	Load Control Center Packages (54)
SQMSTD.Z	Define the Control Center standard labels (18)
SQMTSCAN.Z	Scan the Control Center distribution tape (10)
SQMVSAM.Z	Define the Control Center VSAM environment (35)

Note: The installer should:

- check all of the JCL, especially LIBDEFs, for verification of database and product library names.
- be sure the PHASE LIBDEF statement in STDLABELS.PROC includes the Control Center installation library.
- be sure the PROC LIBDEF statement in STDLABEL.PROC includes the Control Center installation library or else copy SQR02.PROC from the Control Center installation library into IJSYSRS.SYSLIB.

```
$ $$ JOB JNM=SQMVSAM,CLASS=0,DISP=D,PRI=9
$ $$ LST CLASS=Q
// JOB SQMVSAM SETUP CONTROL CENTER VSAM ENVIRONMENT  04/21/2000
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*
* BEFORE SUBMITTING THIS JOB:
* GLOBALLY REPLACE '$ $$' WITH '* $$'     EX: CH/$ $$/* $$/ G
* GLOBALLY REPLACE '#'    WITH '/'        EX: CH|#|/| * G
*
* GLOBALLY REPLACE XXXXXX WITH YOUR VOLID EX: CH/XXXXXX/DATA12/ G
*          REPLACE YYYY   WITH YOUR CATALOG ORIGIN
*          REPLACE ZZZZ   WITH YOUR SPACE ORIGIN
*
* THE FORMAT FOR A DELETE SATEMENT IS:
*     DELETE (filename) PURGE CLUSTER -
*        CATALOG(SQLMSTR.USER.CATALOG)
*
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
// EXEC IDCAMS,SIZE=AUTO

    DEFINE UCAT                    /* DEFINE USER CATALOG */   -
        (NAME(SQLMSTR.USER.CATALOG)                            -
         CYL(1)                                                -
         ORIGIN(YYYY)          /* <=== CATALOG ORIGIN HERE */  -
         VOL(XXXXXX))

    DEFINE SPACE                      /* DEFINE SPACE */       -
        (CYL(200)                                              -
         ORIGIN(ZZZZ)          /* <=== SPACE ORIGIN HERE */    -
         VOL(XXXXXX))                                          -
    CAT(SQLMSTR.USER.CATALOG)

    DEFINE CLUSTER                 /* DEFINE DEFAULT MODEL */  -
        (NAME(DEFAULT.MODEL.ESDS.SAM)                          -
         NOALLOCATION                                          -
         NONINDEXED                                            -
         RECORDFORMAT(UNDEF)                                   -
         RECORDS(1000 100)                                     -
         RECORDSIZE(2000 2000)                                 -
         REUSE                                                 -
         SPEED                                                 -
         VOLUMES(XXXXXX))                                      -
    CATALOG(SQLMSTR.USER.CATALOG)

    DEFINE CLUSTER                    /* DEFINE SQMMESG */     -
        (NAME(SQLMSTR.MESSAGES)                                -
         CYL(2 2)                                              -
         FSPC(0 0)                                             -
         IXD                                                   -
```

Figure 9 (Part 1 of 3). Control Center VSAM Definitions (SQMVSAM.Z)

```
        RECSZ(80 80)                                       -
        REUSE                                              -
        SHR(4)                                             -
        VOL(XXXXXX))                                       -
DATA                                                       -
     (NAME(SQLMSTR.MESSAGES.DATA)                          -
      KEYS(4 0))                                           -
INDEX                                                      -
     (NAME(SQLMSTR.MESSAGES.INDEX))                        -
CATALOG(SQLMSTR.USER.CATALOG)

DEFINE CLUSTER                    /* DEFINE SQMPARM */     -
     (NAME(SQLMSTR.REORG.PARMS)                            -
      CYL(2 2)                                             -
      FSPC(15 7)                                           -
      IXD                                                  -
      RECSZ(165 165)                                       -
      REUSE                                                -
      SHR(4)                                               -
      VOL(XXXXXX))                                         -
DATA                                                       -
     (NAME(SQLMSTR.REORG.PARMS.DATA)                       -
      CISZ(4096)                                           -
      KEYS(45 0))                                          -
INDEX                                                      -
     (NAME(SQLMSTR.REORG.PARMS.INDEX))                     -
CATALOG(SQLMSTR.USER.CATALOG)

DEFINE CLUSTER                    /* DEFINE SQMTPRM */     -
     (NAME(SQLMSTR.TABLE.PARMS)                            -
      CYL(2 2)                                             -
      FSPC(15 7)                                           -
      IXD                                                  -
      RECSZ(200 200)                                       -
      REUSE                                                -
      SHR(4)                                               -
      VOL(XXXXXX))                                         -
DATA                                                       -
     (NAME(SQLMSTR.TABLE.PARMS.DATA)                       -
      CISZ(4096)                                           -
      KEYS(45 0))                                          -
INDEX                                                      -
     (NAME(SQLMSTR.TABLE.PARMS.INDEX))                     -
CATALOG(SQLMSTR.USER.CATALOG)

DEFINE CLUSTER                    /* DEFINE SQMRDAT */     -
     (NAME(SQLMSTR.REORG.DATA)                             -
      CYL(2 2)                                             -
      FSPC(15 7)                                           -
      IXD                                                  -
      RECSZ(87 87)                                         -
      REUSE                                                -
      SHR(4)                                               -
      VOL(XXXXXX))                                         -
```

Figure 9 (Part 2 of 3). Control Center VSAM Definitions (SQMVSAM.Z)

```
        DATA                                              -
            (NAME(SQLMSTR.REORG.DATA.DATA)                -
             CISZ(4096)                                   -
             KEYS(44 0))                                  -
        INDEX                                             -
            (NAME(SQLMSTR.REORG.DATA.INDEX))             -
        CATALOG(SQLMSTR.USER.CATALOG)

        DEFINE CLUSTER                 /* DEFINE SQMWORK */   -
            (NAME(SQLMSTR.WORK.FILES)                    -
             CYL(2 2)                                     -
             FSPC(15 7)                                   -
             IXD                                          -
             RECSZ(90 90)                                 -
             REUSE                                        -
             SHR(2)                                       -
             VOL(XXXXXX))                                 -
        DATA                                              -
            (NAME(SQLMSTR.WORK.FILES.DATA)                -
             CISZ(4096)                                   -
             KEYS(18 0))                                  -
        INDEX                                             -
            (NAME(SQLMSTR.WORK.FILES.INDEX))             -
        CATALOG(SQLMSTR.USER.CATALOG)
#*
#&
$ $$ EOJ
```

Figure 9 (Part 3 of 3). Control Center VSAM Definitions (SQMVSAM.Z)

```
$ $$ JOB JNM=SQMCSDUP,DISP=D,CLASS=0
$ $$ LST CLASS=Q
// JOB SQMCSDUP DEFINE CONTROL CENTER PROGRAMS/TRANSACTIONS TO CICS
// DLBL DFHCSD,'CICS.CSD',,VSAM,CAT=VSESPUC
// LIBDEF *,SEARCH=PRD1.BASE
// EXEC DFHCSDUP,SIZE=AUTO
ADD GROUP(SQM) LIST(VSELIST)
DEFINE PROGRAM(SQC01)    LANGUAGE(COBOL)      GROUP(SQM)

(Similar DEFINE PROGRAM statements are included for COBOL programs:)
SQC02 - SQC12
SQC16 - SQC17
SQC19
SQC20 - SQC29
SQC40 - SQC49
SQC50 - SQC54
SQC60 - SQC66


DEFINE PROGRAM(SQM01)    LANGUAGE(ASSEMBLER) GROUP(SQM)
(Similar DEFINE PROGRAM statements are included for MAP programs:)
SQM03 - SQM12
SQM14
SQM16 - SQM19
SQM20 - SQM29
SQM40 - SQM45
SQM60 - SQM66
SQM99
```

Figure 10 (Part 1 of 2). Define Control Center Programs and Transactions to CICS (summary of SQMCSDUP.Z)

```
DEFINE TRANSACTION(SQM)  PROGRAM(SQC01)     GROUP(SQM)
(Similar DEFINE TRANSACTION statements are included for transactions/programs:)

TRANS. PROG.       TRANS. PROG.       TRANS. PROG.       TRANS. PROG.
SQHD   SQC02       SQPS   SQC17       SQRM   SQC41       SQR6   SQC52
SQFM   SQC03       SQGA   SQC19       SQRP   SQC42       SQR7   SQC53
SQFD   SQC04       SQUG   SQC20       SQRL   SQC43       SQR8   SQC54
SQDR   SQC05       SQL2   SQC22       SQRV   SQC44       SQTU   SQC60
SQDS   SQC06       SQL3   SQC23       SQRR   SQC45       SQTR   SQC61
SQHM   SQC07       SQL4   SQC24       SQRK   SQC46       SQTS   SQC62
SQMM   SQC08       SQUF   SQC25       SQR1   SQC47       SQTL   SQC63
SQML   SQC09       SQAG   SQC26       SQL1   SQC21       SQS1   SQC64
QMS    SQC10       SQAU   SQC27       SQR2   SQC48       SQTC   SQC65
QOM    SQC11       SQAO   SQC28       SQR3   SQC49       SQS2   SQC66
QOD    SQC12       SQAD   SQC29       SQR4   SQC50
QPM    SQC16       SQRU   SQC40       SQR5   SQC51

 . . .

#*
#&
$ $$ EOJ
```

Figure 10 (Part 2 of 2). Define Control Center Programs and Transactions to CICS (summary of SQMCSDUP.Z)

```
DTSECTXN TRANSACTION(SQM)  TRANSEC(1)

(Similar DEFINE TRANSACTION statements are included for transactions:)

SQAD    SQFD    SQL2    SQMS    SQRL    SQR1    SQR7    SQTR
SQAG    SQFM    SQL3    SQOD    SQRM    SQR2    SQR8    SQTS
SQAO    SQGA    SQL4    SQOM    SQRP    SQR3    SQS1    SQTU
SQAU    SQHD    SQM     SQPM    SQRR    SQR4    SQS2    SQUF
SQDR    SQHM    SQML    SQPS    SQRU    SQR5    SQTC    SQUG
SQDS    SQL1    SQMM    SQRK    SQRV    SQR6    SQTL
```

Figure 11. Transaction Security Definitions (summary of SQMTRNSE.A)

```
$ $$ JOB JNM=SQMCATSE,DISP=D,PRI=3,CLASS=0
$ $$ LST DISP=H
// JOB SQMCATSE  CATALOG DTSECTXN
* CATALOG MODIFIED SECMAC AS DTSECTXN
// EXEC LIBR,PARM='MSHP'
   ACC S=PRD2.CONFIG
   CATALOG DTSECTXS.A REPLACE=YES
$ $$ SLI ICCF=(SECMAC),LIB=(51)
#*
* SAVE OLD DTRISEC.Z
// EXEC LIBR
   CONN S=IJSYSRS.SYSLIB:PRD2.SAVE
   COPY DTRISEC.Z REPLACE=YES
#*
* ASSEMBLE THE MODIFIED 51/SECMAC
// LIBDEF PHASE,CATALOG=IJSYSRS.SYSLIB
// OPTION ERRS,SXREF,SYM,NODECK,CATAL
// EXEC ASMA90,SIZE=(ASMA90,64K),PARM='EXIT(LIBEXIT(EDECKXIT)),SIZE(MAXC
               -200K,ABOVE)'
$ $$ SLI ICCF=(SECMAC),LIB=(51)
#*
// IF $MRC GT 4 THEN
// GOTO NOLNK
* LINKEDIT NEW SECURITY TABLE
// EXEC LNKEDT,SIZE=256K,PARM='MSHP'
#*
// EXEC LIBR,PARM='MSHP'
   CONN S=IJSYSRS.SYSLIB:PRD2.SAVE
   COPY DTSECTXN.PHASE REPLACE=YES
#*
/. NOLNK
* END OF SQMCATSE
#&
$ $$ EOJ
```

Figure 12. Transaction Security Application Job (SQMCATSE.Z)

```
***********************************************************************
*                  CONTROL CENTER VSE V7.1 FCT ENTRIES               *
***********************************************************************
*
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*               (1) CONTROL CENTER ERROR MESSAGE FILE
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*
SQMMESG  DFHFCT TYPE=FILE,                                           X
                ACCMETH=(VSAM,KSDS),                                 X
                FILE=SQMMESG,                                        X
                FILSTAT=(ENABLED,OPENED),                            X
                SERVREQ=(BROWSE),                                    X
                STRNO=2
*
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*               (2) CONTROL CENTER DBSPACE PARAMETER FILE
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*
SQMPARM  DFHFCT TYPE=FILE,                                           X
                ACCMETH=(VSAM,KSDS),                                 X
                FILE=SQMPARM,                                        X
                FILSTAT=(ENABLED,OPENED),                            X
                SERVREQ=(ADD,BROWSE,DELETE,UPDATE),                  X
                STRNO=2
*
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*               (3) CONTROL CENTER WORK FILE LABEL FILE
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*
SQMWORK  DFHFCT TYPE=FILE,                                           X
                ACCMETH=(VSAM,KSDS),                                 X
                FILE=SQMWORK,                                        X
                FILSTAT=(ENABLED,OPENED),                            X
                SERVREQ=(ADD,BROWSE,DELETE,UPDATE),                  X
                STRNO=2
*
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*               (4) CONTROL CENTER TABLE PARAMETER FILE
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*
SQMTPRM  DFHFCT TYPE=FILE,                                           X
                ACCMETH=(VSAM,KSDS),                                 X
                FILE=SQMTPRM,                                        X
                FILSTAT=(ENABLED,OPENED),                            X
                SERVREQ=(ADD,BROWSE,DELETE,UPDATE),                  X
                STRNO=2
```

Figure 13. Control Center FCT Entries (SQMFCT.A)

```
$ $$ JOB JNM=SQMLIBDF,CLASS=0,DISP=D,PRI=3
$ $$ LST CLASS=Q
// JOB SQMLIBDF
// EXEC IDCAMS,SIZE=AUTO
 DEFINE CLUSTER                       -
       (NAME (SQLMSTR.LIBRARY)        -
        CYL(10 1)                     -
        SHAREOPTIONS (3)              -
        RECORDFORMAT (NOCIFORMAT)     -
        VOLUMES (XXXXXX)              -
        NOREUSE                       -
        NONINDEXED                    -
        TO (99366))                   -
        DATA (NAME (SQLMSTR.LIBRARY.DATA ) ) -
        CATALOG (SQLMSTR.USER.CATALOG)
   IF LASTCC NE 0 THEN CANCEL JOB
#*
// OPTION STDLABEL=ADD
// DLBL SQLMSTR,'SQLMSTR.LIBRARY',,VSAM,CAT=SQMCAT,DISP=(OLD,KEEP)
#*
// EXEC IESVCLUP,SIZE=AUTO
A SQLMSTR.LIBRARY                              SQLMSTR SQMCAT
#*
// EXEC LIBR,PARM='MSHP'
DEFINE LIB=SQLMSTR     REPLACE=YES
DEFINE SUBLIB=SQLMSTR.PACKAGE      REPLACE=YES
#*
#&
$ $$ EOJ
```

Figure 14. Define the Control Center Package Library (SQMLIBDF.Z)

```
$ $$ JOB JNM=SQMCRHLP,CLASS=0,DISP=D,PRI=9
$ $$ LST CLASS=Q
// JOB SQMCRHLP        CREATE AND LOAD THE HELP TEXT TABLE
// LIBDEF *,SEARCH=(PRD2.DB2710,PRD2.CCF710)
// EXEC ARIDBS,SIZE=AUTO,PARM='D(SQLDS710)'
READ MEMBER SQMCONN.C NOCONT
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '*                                               *'
COMMENT '*  CREATE AND LOAD THE CONTROL CENTER SQMHELP TABLE   *'
COMMENT '*                                               *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * *'
SET AUTOCOMMIT (ON)
SET ERRORMODE CONTINUE
COMMENT '* * * * * * *        Drop DBSPACE          * * * * *'
DROP DBSPACE PUBLIC.SQMHELP;
COMMENT '* * * * * * *        Acquire DBSPACE       * * * * *'
ACQUIRE PUBLIC DBSPACE NAMED PUBLIC.SQMHELP
(PAGES    = 128,
 PCTINDEX = 33,
 PCTFREE  = 0,
 NHEADER  = 1,
 STORPOOL = 1,
 LOCK     = PAGE);
COMMENT '* * * * * * *        Create TABLE          * * * * *'
CREATE TABLE SQLMSTR.SQMHELP
(SUBJECT          CHAR(8)    NOT NULL,
 LINE_NO          SMALLINT   NOT NULL,
 TEXT             CHAR(68)   NOT NULL)
IN PUBLIC.SQMHELP;
COMMENT '* * * * * * *        Set Automatic Upstats Off  * * *'
SET UPDATE STATISTICS (OFF)
COMMENT '* * * * * * *        Dataload TABLE        * * * * *'
DATALOAD TABLE (SQLMSTR.SQMHELP)
     SUBJECT    01-08
     LINE_NO    09-12
     TEXT       13-80
INFILE(*)
$ $$ SLI MEM=SQMHLPTX.Z,S=PRD2.CCF710
ENDDATA
COMMENT '* * * * * * *        Primary Key           * * * * *'
CREATE UNIQUE INDEX SQLMSTR.SQMHELP_INDX1
ON SQLMSTR.SQMHELP
(SUBJECT          ASC,
 LINE_NO          ASC)
PCTFREE = 0;
COMMENT '* * * * * * *        Update All Statistics * * * * *'
UPDATE ALL STATISTICS FOR DBSPACE
PUBLIC.SQMHELP;
COMMENT '* * * * * * *        Table Grants          * * * * *'
GRANT SELECT ON SQLMSTR.SQMHELP
TO PUBLIC;
#*
#&
$ $$ EOJ
```

Figure 15. Define and Load the Control Center Help Table (SQMCRHLP.Z)

```
$ $$ JOB JNM=SQMCRMNT,CLASS=0,DISP=D,PRI=9
$ $$ LST CLASS=Q
// JOB SQMCRMNT             CREATE MAINTENANCE TRACKING TABLE
// LIBDEF *,SEARCH=(PRD2.CCF710,PRD2.DB2710)
// EXEC ARIDBS,SIZE=AUTO,PARM='D(SQLDS710)'
READ MEMBER SQMCONN.C NOCONT
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '*                                                   *'
COMMENT '*  CREATE THE CONTROL CENTER SQLMAINT TABLE         *'
COMMENT '*                                                   *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * * *'
SET AUTOCOMMIT (ON)
SET ERRORMODE (CONTINUE)
COMMENT '* * * * * * *          Drop DBSPACE          * * * * *'
DROP DBSPACE PUBLIC.SQLMAINT;
COMMENT '* * * * * * *          Acquire DBSPACE       * * * * *'
ACQUIRE PUBLIC DBSPACE NAMED PUBLIC.SQLMAINT
(PAGES    = 128,
 PCTINDEX = 33,
 PCTFREE  = 10,
 NHEADER  = 1,
 STORPOOL = 1,
 LOCK     = PAGE);
COMMENT '* * * * * * *          Create TABLE          * * * * *'
CREATE TABLE SQLMSTR.SQLMAINT
(OWNER             CHAR(8),
 DBSPACENAME       CHAR(18),
 DBSPACENO         SMALLINT,
 FREEPCT           SMALLINT,
 UPSTAT_DATE       DATE,
 UPSTAT_TIME       TIME,
 UPSTAT_ELAPSED    TIME,
 REORG_DATE        DATE,
 REORG_TIME        TIME,
 REORG_ELAPSED     TIME,
 REORG_FREEPCT     SMALLINT,
 REORG_PCTINDX     SMALLINT,
 REORG_STATUS      CHAR(2),
 REORG_WEIGHT      SMALLINT,
 NPAGES            INTEGER)
IN PUBLIC.SQLMAINT;
COMMENT '* * * * * * *          Primary Key           * * * * *'
CREATE UNIQUE INDEX SQLMSTR.SQLMAINT_INDX1
ON SQLMSTR.SQLMAINT
(OWNER             ASC,
 DBSPACENAME       ASC)
PCTFREE = 10;
COMMENT '* * * * * * *          Update All Statistics * * * * *'
UPDATE ALL STATISTICS FOR DBSPACE
PUBLIC.SQLMAINT;
COMMENT '* * * * * * *          Table Grants          * * * * *'
GRANT SELECT ON SQLMSTR.SQLMAINT
TO PUBLIC;
#*
#&
$ $$ EOJ
```

Figure 16. Define the Maintenance Tracking Table (SQMCRMNT.Z)

```
$ $$ JOB JNM=SQMCRMON,CLASS=0,DISP=D,PRI=9
$ $$ LST CLASS=A
// JOB SQMCRMON          CREATE MONITOR CONTROL TABLES
// LIBDEF *,SEARCH=(PRD2.DB2710,PRD2.CCF710)
// EXEC ARIDBS,SIZE=AUTO,PARM='D(SQLDS710)'
READ MEMBER SQMCONN.C NOCONT
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '*                                                     *'
COMMENT '*  CREATE THE CONTROL CENTER MONITOR TABLES           *'
COMMENT '*                                                     *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
SET AUTOCOMMIT (ON);
SET ERRORMODE CONTINUE;
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '*           SET AUTOMATIC UPDATE STATISTICS OFF       *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
SET UPDATE STATISTICS (OFF);
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '*                    DROP DBSPACE                     *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
DROP DBSPACE PUBLIC.CC_MONITOR;
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '*                   ACQUIRE DBSPACE                   *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
ACQUIRE PUBLIC DBSPACE NAMED PUBLIC.CC_MONITOR
(PAGES    = 128,
 PCTINDEX = 33,
 PCTFREE  = 0,
 NHEADER  = 8,
 STORPOOL = 1,
 LOCK     = PAGE);
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '*              CREATE CONTROL TABLE                   *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
CREATE TABLE SQLMSTR.MONITOR_CONTROL
(MONITOR_NO        CHAR(2)    NOT NULL,
 DBSPACE_NO        CHAR(5)    NOT NULL,
 ACTIVE_IND        CHAR(1)    NOT NULL,
 RUN_SUN_IND       CHAR(1)    NOT NULL,
 RUN_MON_IND       CHAR(1)    NOT NULL,
 RUN_TUE_IND       CHAR(1)    NOT NULL,
 RUN_WED_IND       CHAR(1)    NOT NULL,
 RUN_THU_IND       CHAR(1)    NOT NULL,
 RUN_FRI_IND       CHAR(1)    NOT NULL,
 RUN_SAT_IND       CHAR(1)    NOT NULL,
 LAST_RUN_DATE     DATE       NOT NULL,
 LAST_RUN_TIME     TIME       NOT NULL,
 START_TIME        TIME       NOT NULL,
 STOP_TIME         TIME       NOT NULL,
 INTERVAL          DEC(6,0)   NOT NULL,
 RESET_DATA_IND    CHAR(1)    NOT NULL,
 RESET_DAY_NO      CHAR(1)    NOT NULL,
```

Figure 17 (Part 1 of 7). Create the Monitor Control Tables (SQMCRMON.Z)

```
 PRINT_REPORT_IND   CHAR(1)    NOT NULL,
 REPORT_NAME        CHAR(8)    NOT NULL,
 CLASS              CHAR(1)    NOT NULL,
 PRI                CHAR(1)    NOT NULL,
 DISP               CHAR(1)    NOT NULL,
 SCAN_CKPT_WAIT     CHAR(1)    NOT NULL,
 SCAN_USER_WAIT     CHAR(1)    NOT NULL,
 SCAN_AGENT_NOT     CHAR(1)    NOT NULL,
 SCAN_INACT         CHAR(1)    NOT NULL,
 SCAN_CKPT          CHAR(1)    NOT NULL,
 SCAN_ANY           CHAR(1)    NOT NULL,
 SCAN_PCT_USED      CHAR(2)    NOT NULL,
 MONITOR_NAME       CHAR(12)   NOT NULL,
 DATABASE_NAME      CHAR(18)   NOT NULL,
 DESCRIPTION        CHAR(50)   NOT NULL)
IN PUBLIC.CC_MONITOR;
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '*            CREATE CONTROL TABLE PRIMARY KEY      *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * *'
CREATE UNIQUE INDEX SQLMSTR.MONITOR_CONTROL_PK
ON SQLMSTR.MONITOR_CONTROL
(MONITOR_NO        ASC,
 DBSPACE_NO        ASC)
PCTFREE = 10;
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '*              CREATE SHOW ACTIVE TABLE           *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * *'
CREATE TABLE SQLMSTR.SHOW_ACTIVE
(DATE              DATE       NOT NULL,
 TIME              TIME       NOT NULL,
 NACTIVE           SMALLINT   NOT NULL,
```

Figure 17 (Part 2 of 7). Create the Monitor Control Tables (SQMCRMON.Z)

```
  NIW              SMALLINT   NOT NULL,
  R_O              SMALLINT   NOT NULL,
  R_W              SMALLINT   NOT NULL,
  NEW              SMALLINT   NOT NULL,
  COMMUNICATION_WAIT SMALLINT  NOT NULL,
  LOCK_WAIT        SMALLINT   NOT NULL,
  CHECKPOINT_WAIT  SMALLINT   NOT NULL,
  PAGE_BUFFER_WAIT SMALLINT   NOT NULL,
  BLOCK_BUFFER_WAIT SMALLINT  NOT NULL,
  I_O_WAIT         SMALLINT   NOT NULL)
IN PUBLIC.CC_MONITOR;
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '*          CREATE SHOW ACTIVE PRIMARY KEY        *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * *'
CREATE UNIQUE INDEX SQLMSTR.SHOW_ACTIVE_PK
ON SQLMSTR.SHOW_ACTIVE
(DATE             ASC,
 TIME             ASC)
PCTFREE = 10;
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '* * *        CREATE SHOW LOCK TABLE        * * *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * *'
CREATE TABLE SQLMSTR.SHOW_LOCK
(DATE             DATE       NOT NULL,
 TIME             TIME       NOT NULL,
 NLRBS            INTEGER    NOT NULL,
 IN_USE           INTEGER    NOT NULL,
 FREE             INTEGER    NOT NULL,
 NLRBU            INTEGER    NOT NULL,
 MAX_USED_BY_LUW  INTEGER    NOT NULL,
 LOCKWAIT_DBSPACENO INTEGER  NOT NULL,
 LOCK_HOLDER      CHAR(8)    NOT NULL,
 LOCK_REQUESTER   CHAR(8)    NOT NULL)
IN PUBLIC.CC_MONITOR;
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '* * *        CREATE SHOW LOCK PRIMARY KEY      * * *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * *'
CREATE UNIQUE INDEX SQLMSTR.SHOW_LOCK_PK
ON SQLMSTR.SHOW_LOCK
(DATE             ASC,
 TIME             ASC)
PCTFREE = 10;
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '* * *        CREATE SHOW DBEXTENT TABLE        * * *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * *'
CREATE TABLE SQLMSTR.SHOW_DBEXTENT
(DATE             DATE       NOT NULL,
 TIME             TIME       NOT NULL,
 POOL             SMALLINT   NOT NULL,
 TOTAL_PAGES      INTEGER    NOT NULL,
 USED_PAGES       INTEGER    NOT NULL,
 FREE_PAGES       INTEGER    NOT NULL,
 RESERVE_PAGES    INTEGER    NOT NULL,
```

Figure 17 (Part 3 of 7). Create the Monitor Control Tables (SQMCRMON.Z)

```
 PCT_USED          SMALLINT   NOT NULL,
 TOTAL_EXTENTS     INTEGER    NOT NULL,
 SOS               CHAR(1)    NOT NULL)
IN PUBLIC.CC_MONITOR;
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '* * *           CREATE SHOW DBEXTENT PRIMARY KEY    * * *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
CREATE UNIQUE INDEX SQLMSTR.SHOW_DBEXTENT_PK
ON SQLMSTR.SHOW_DBEXTENT
(DATE              ASC,
 TIME              ASC,
 POOL              ASC)
PCTFREE = 10;
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '* * *          CREATE SHOW LOG TABLE           * * *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
CREATE TABLE SQLMSTR.SHOW_LOG
(DATE              DATE       NOT NULL,
 TIME              TIME       NOT NULL,
 PCT_USED          SMALLINT   NOT NULL,
 PCT_BEFORE_ARCHIVE SMALLINT  NOT NULL,
 PCT_BEFORE_OVERFLO SMALLINT  NOT NULL,
 PAGES_BEFORE_CKPT INTEGER    NOT NULL,
 AGENTS_BEFORE_CKPT SMALLINT  NOT NULL,
 ARCHIVE_STATUS    CHAR(8)    NOT NULL)
IN PUBLIC.CC_MONITOR;
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '* * *          CREATE SHOW LOG PRIMARY KEY       * * *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
CREATE UNIQUE INDEX SQLMSTR.SHOW_LOG_PK
ON SQLMSTR.SHOW_LOG
(DATE              ASC,
 TIME              ASC)
PCTFREE = 10;
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '* * *          CREATE SHOW CONNECT TABLE         * * *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
CREATE TABLE SQLMSTR.SHOW_CONNECT
(DATE              DATE       NOT NULL,
 TIME              TIME       NOT NULL,
 USERS_CONNECTED   SMALLINT   NOT NULL,
 USERS_ACTIVE      SMALLINT   NOT NULL,
 USERS_INACTIVE    SMALLINT   NOT NULL,
 AGENTS_AVAILABLE  SMALLINT   NOT NULL,
 AGENTS_PROC       SMALLINT   NOT NULL,
 AGENTS_NOT_PROC   SMALLINT   NOT NULL)
IN PUBLIC.CC_MONITOR;
```

Figure 17 (Part 4 of 7). Create the Monitor Control Tables (SQMCRMON.Z)

```
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '* * *          CREATE SHOW CONNECT PRIMARY KEY   * * *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
CREATE UNIQUE INDEX SQLMSTR.SHOW_CONNECT_PK
ON SQLMSTR.SHOW_CONNECT
(DATE               ASC,
 TIME               ASC)
PCTFREE = 10;
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '* * *          CREATE SHOW DBSPACE TABLE        * * *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
CREATE TABLE SQLMSTR.SHOW_DBSPACE
(DATE               DATE      NOT NULL,
 TIME               TIME      NOT NULL,
 DBSPACE_NO         CHAR(5)   NOT NULL,
 TOTAL_HPAGES       INTEGER   NOT NULL,
 USED_HPAGES        INTEGER   NOT NULL,
 PCT_USED_HPAGES    SMALLINT  NOT NULL,
 PCT_FREE_HPAGES    SMALLINT  NOT NULL,
 EMPTY_HPAGES       INTEGER   NOT NULL,
 TOTAL_DPAGES       INTEGER   NOT NULL,
 USED_DPAGES        INTEGER   NOT NULL,
 PCT_USED_DPAGES    SMALLINT  NOT NULL,
 PCT_FREE_DPAGES    SMALLINT  NOT NULL,
 EMPTY_DPAGES       INTEGER   NOT NULL,
 TOTAL_IPAGES       INTEGER   NOT NULL,
 USED_IPAGES        INTEGER   NOT NULL,
 PCT_USED_IPAGES    SMALLINT  NOT NULL,
 PCT_FREE_IPAGES    SMALLINT  NOT NULL,
 EMPTY_IPAGES       INTEGER   NOT NULL)
IN PUBLIC.CC_MONITOR;
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '* * *          CREATE SHOW DBSPACE PRIMARY KEY   * * *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
CREATE UNIQUE INDEX SQLMSTR.SHOW_DBSPACE_PK
ON SQLMSTR.SHOW_DBSPACE
(DATE               ASC,
 TIME               ASC,
 DBSPACE_NO         ASC)
```

Figure 17 (Part 5 of 7). Create the Monitor Control Tables (SQMCRMON.Z)

```
PCTFREE = 10;
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '* * *            CREATE COUNTER TABLE          * * *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
CREATE TABLE SQLMSTR.COUNTER
(DATE             DATE      NOT NULL,
 TIME             TIME      NOT NULL,
 RDSCALL          INTEGER   NOT NULL,
 DBSSCALL         INTEGER   NOT NULL,
 BEGINLUW         INTEGER   NOT NULL,
 ROLL_BACK        INTEGER   NOT NULL,
 CHKPOINT         INTEGER   NOT NULL,
 LOCKLMT          INTEGER   NOT NULL,
 ESCALATE         INTEGER   NOT NULL,
 WAITLOCK         INTEGER   NOT NULL,
 DEADLCK          INTEGER   NOT NULL,
 LPAGBUFF         INTEGER   NOT NULL,
 PAGEREAD         INTEGER   NOT NULL,
 PAGWRITE         INTEGER   NOT NULL,
 LDIRBUFF         INTEGER   NOT NULL,
 DIRREAD          INTEGER   NOT NULL,
 DIRWRITE         INTEGER   NOT NULL,
 LOGREAD          INTEGER   NOT NULL,
 LOGWRITE         INTEGER   NOT NULL,
```

Figure 17 (Part 6 of 7). Create the Monitor Control Tables (SQMCRMON.Z)

```
 DASDREAD           INTEGER    NOT NULL,
 DASDWRIT           INTEGER    NOT NULL,
 DASDIO             INTEGER    NOT NULL)
IN PUBLIC.CC_MONITOR;
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '* * *            CREATE COUNTER PRIMARY KEY     * * *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
CREATE UNIQUE INDEX SQLMSTR.COUNTER_PK
ON SQLMSTR.COUNTER
(DATE              ASC,
 TIME              ASC)
PCTFREE = 10;
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '*                  UPDATE ALL STATISTICS          *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
UPDATE ALL STATISTICS FOR DBSPACE
PUBLIC.CC_MONITOR;
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '*                    TABLE GRANTS                 *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
GRANT SELECT ON SQLMSTR.MONITOR_CONTROL
TO PUBLIC;
GRANT SELECT ON SQLMSTR.SHOW_ACTIVE
TO PUBLIC;
GRANT SELECT ON SQLMSTR.SHOW_LOCK
TO PUBLIC;
GRANT SELECT ON SQLMSTR.SHOW_DBEXTENT
TO PUBLIC;
GRANT SELECT ON SQLMSTR.SHOW_LOG
TO PUBLIC;
GRANT SELECT ON SQLMSTR.SHOW_CONNECT
TO PUBLIC;
GRANT SELECT ON SQLMSTR.SHOW_DBSPACE
TO PUBLIC;
GRANT SELECT ON SQLMSTR.COUNTER
TO PUBLIC;
#*
#&
$ $$ EOJ
```

Figure 17 (Part 7 of 7). Create the Monitor Control Tables (SQMCRMON.Z)

```
$ $$ JOB JNM=SQMCRGRP,CLASS=0,DISP=D,PRI=9
$ $$ LST CLASS=A
// JOB SQMCRGRP
// LIBDEF *,SEARCH=(PRD2.DB2710,PRD2.CCF710)
// EXEC ARIDBS,SIZE=AUTO,PARM='D(SQLDS710)'
READ MEMBER SQMCONN.C NOCONT
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '*                                                     *'
COMMENT '* CREATE THE CONTROL CENTER GROUP AUTHORIZATION TABLES*'
COMMENT '*                                                     *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
SET AUTOCOMMIT (ON);
SET ERRORMODE CONTINUE;
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '*          SET AUTOMATIC UPDATE STATISTICS OFF        *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
SET UPDATE STATISTICS (OFF);
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '*                   DROP DBSPACE                      *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
DROP DBSPACE PUBLIC.ADMGROUP;
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '*                   ACQUIRE DBSPACE                   *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
ACQUIRE PUBLIC DBSPACE NAMED PUBLIC.ADMGROUP
(PAGES    = 256,
 PCTINDEX = 10,
 PCTFREE  = 10,
 NHEADER  = 1,
 STORPOOL = 1,
 LOCK     = PAGE);
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '*               CREATE TABLES                        *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * * * *'
CREATE TABLE "SQLMSTR"."APPL_GROUP_TAB" (
  "APPL_GROUP_NAME" CHAR(8)    NOT NULL
 ,"APPL_GROUP_ID" SMALLINT     NOT NULL
 ,"APPL_TYPE" CHAR(1)          NOT NULL
 ,"APPL_DESC" VARCHAR(50)      NOT NULL
 ) IN "PUBLIC"."ADMGROUP"               ;
```

Figure 18 (Part 1 of 4). Create the Group Authorization Tables (SQMCRGRP.Z)

```
CREATE TABLE "SQLMSTR"."GROUP_AUTH_TAB" (
  "USERID_GROUP_ID" SMALLINT   NOT NULL
 ,"APPL_GROUP_ID" SMALLINT     NOT NULL
 ,"S_AUTH" CHAR(1)             NOT NULL
 ,"I_AUTH" CHAR(1)             NOT NULL
 ,"D_AUTH" CHAR(1)             NOT NULL
 ,"U_AUTH" CHAR(1)             NOT NULL
 ,"A_AUTH" CHAR(1)             NOT NULL
 ,"E_AUTH" CHAR(1)             NOT NULL
 ) IN "PUBLIC"."ADMGROUP"               ;
CREATE TABLE "SQLMSTR"."OBJECT_TAB" (
  "OBJECT_OWNER" CHAR(8)       NOT NULL
 ,"OBJECT_NAME" CHAR(18)       NOT NULL
 ,"APPL_GROUP_ID" SMALLINT     NOT NULL
 ) IN "PUBLIC"."ADMGROUP"               ;
CREATE TABLE "SQLMSTR"."USERID_GROUP_TAB" (
  "GROUP_NAME" CHAR(8)         NOT NULL
 ,"GROUP_ID" SMALLINT          NOT NULL
 ,"GROUP_STATUS" CHAR(1)       NOT NULL
 ,"GROUP_DESC" CHAR(50)        NOT NULL
 ) IN "PUBLIC"."ADMGROUP"               ;
CREATE TABLE "SQLMSTR"."USERID_TAB" (
  "USERID" CHAR(8)             NOT NULL
 ,"GROUP_ID" SMALLINT          NOT NULL
 ) IN "PUBLIC"."ADMGROUP"               ;
```

Figure 18 (Part 2 of 4). Create the Group Authorization Tables (SQMCRGRP.Z)

```
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '*              CREATE INDEXES                     *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
CREATE UNIQUE INDEX "SQLMSTR"."APIX1"
 ON "SQLMSTR"."APPL_GROUP_TAB"
 ("APPL_GROUP_NAME" )
 PCTFREE =  10;
CREATE UNIQUE INDEX "SQLMSTR"."APIX2"
 ON "SQLMSTR"."APPL_GROUP_TAB"
 ("APPL_GROUP_ID" )
 PCTFREE =  10;
CREATE INDEX "SQLMSTR"."GAX1"
 ON "SQLMSTR"."GROUP_AUTH_TAB"
 ("USERID_GROUP_ID" )
 PCTFREE =  10;
CREATE INDEX "SQLMSTR"."GAX2"
 ON "SQLMSTR"."GROUP_AUTH_TAB"
 ("APPL_GROUP_ID" )
 PCTFREE =  10;
CREATE UNIQUE INDEX "SQLMSTR"."OIX1"
 ON "SQLMSTR"."OBJECT_TAB"
 ("APPL_GROUP_ID" ,
  "OBJECT_OWNER" ,
  "OBJECT_NAME" )
```

Figure 18 (Part 3 of 4). Create the Group Authorization Tables (SQMCRGRP.Z)

```
 PCTFREE =  10;
CREATE UNIQUE INDEX "SQLMSTR"."IX1"
 ON "SQLMSTR"."USERID_GROUP_TAB"
 ("GROUP_NAME" )
 PCTFREE =  10;
CREATE UNIQUE INDEX "SQLMSTR"."IX2"
 ON "SQLMSTR"."USERID_GROUP_TAB"
 ("GROUP_ID" )
 PCTFREE =  10;
CREATE UNIQUE INDEX "SQLMSTR"."UIX1"
 ON "SQLMSTR"."USERID_TAB"
 ("GROUP_ID" ,
  "USERID" )
 PCTFREE =  10;
CREATE INDEX "SQLMSTR"."UIX2"
 ON "SQLMSTR"."USERID_TAB"
 ("USERID" )
 PCTFREE =  10;
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
COMMENT '*                 UPDATE ALL STATISTICS          *'
COMMENT '* * * * * * * * * * * * * * * * * * * * * * * * * *'
UPDATE ALL STATISTICS FOR DBSPACE
PUBLIC.ADMGROUP;
#*
#&
$ $$ EOJ
```

Figure 18 (Part 4 of 4). Create the Group Authorization Tables (SQMCRGRP.Z)

```
$ $$ JOB JNM=SQMRLDPK,CLASS=0,DISP=D,PRI=9
$ $$ LST CLASS=Q
// JOB SQMRLDPK RELOAD CONTROL CENTER PACKAGES   04/21/2000
// OPTION LOG
// LIBDEF *,SEARCH=(PRD2.CCF710,PRD2.DB2710)
*
* ******* LOAD CONTROL CENTER PACKAGES
* ******* THIS PROCESS TAKES 2 TO 3 MINUTES
*
// EXEC ARIDBS,SIZE=AUTO,PARM='D(SQLDS710)'
READ MEMBER SQMCONN.C NOCONT
RELOAD PACKAGE (SQLMSTR.SQB01)  REPLACE KEEP
INFILE(SYSIPT BLKSZ(80) PDEV(DASD));
READ MEMBER SQB01.Q (NOCONT
 . . .
 The preceding COMMENT through READ lines are repeated for each of these
 SQLMSTR packages:

 SQB02     SQC08     SQC21     SQC29     SQC47     SQC60
 SQB05     SQC10     SQC22     SQC40     SQC48     SQC61
 SQB60     SQC11     SQC23     SQC41     SQC49     SQC62
 SQC01     SQC12     SQC24     SQC42     SQC50     SQC63
 SQC02     SQC16     SQC25     SQC43     SQC51     SQC64
 SQC05     SQC17     SQC26     SQC44     SQC52     SQC66
 SQC06     SQC19     SQC27     SQC45     SQC53
 SQC07     SQC20     SQC28     SQC46     SQC54
 . . .
 #*
 #&
 $ $$ EOJ
```

Figure 19. Load the Control Center Packages (SQMRLDPK.Z).   This is a summary of SQMRLDPK.Z because it consists of very large sets of almost identical lines.

Appendix B. Miscellaneous Installation Library Members

The distribution tape also contains miscellaneous members that must be installed in the installation library. They are listed below with a brief description.

SQMCDBA.C   SQL statement to connect as SQLDBA
```
CONNECT SQLDBA IDENTIFIED BY SQLDBAPW;
```

SQMGDBA.C   SQL statement to grant DBA to SQLMSTR
```
GRANT DBA TO SQLMSTR IDENTIFIED BY ADVOCATE;
```

SQMCONN.C   SQL statement to connect as SQLMSTR
```
CONNECT SQLMSTR IDENTIFIED BY ADVOCATE;
```

SQMESSGS.Z   Control Center error message text

SQMHLPTX.Z   Control Center help text

ARIS7VE .OBJ   Part of ARISVEF (Visual Explain) stored procedure

ARIS7VE .Q   Unloaded package for ARIS7VE stored procedure

ARISCCF .OBJ   Reorg and Rebind stored procedure object deck

ARISLKSV.OBJ   Link edit INCLUDE statements for linking ARISVEF PHASE

ARISVEF .OBJ   Part of ARISVEF (Visual Explain) stored procedure

ARISVEF .PHASE   A sample load module for the ARISVEF (Visual Explain) stored procedure. This module is re-created when the user installs stored procedure support (described in the Operations manual.

SQMSPRC1.Z   A job to install the supplied stored procedures.

Appendix C. Installation Tape Contents

After installation, the installation library (typically PRD2.CCF710) will contain file SQMPLIST.Z. The file, shown below, lists the files that are initially copied from the the product distribution tape.

Control Center uses these prefixes for program names:

SQB   COBOL or Assembler programs used in batch jobs.

SQC   "online" COBOL programs run as transactions

SQM   CICS Basic Mapping Services maps (screen layouts)

SQR   REXX programs run in batch jobs.

```
This file lists all of the Control Center modules that should be on the
installation tape for Control Center for VSE Version 7.1.

INSTALLATION MODULES
====================
HDF421NQ.Z         Control Center V7.1 MSHP header file
SQMCATSE.Z         job to build CICS transaction security table
SQMCDBA .C         SQL statement to connect as SQLDBA
SQMCONN .C         SQL statement to connect as SQLMSTR
SQMCRGRP.Z         job to create the Group Authorization Tables
SQMCRHLP.Z         job to create the help messages table
SQMCRHST.Z         job to create the MSHP History File
SQMCRMNT.Z         job to create the DBSPACE Analysis Table
SQMCRMON.Z         job to create the monitor tables
SQMCSDUP.Z         job to update CICS CSD
SQMDELET.PROC      REXX exec executed by SQMDELET.Z
SQMDELET.Z         job to delete un-needed NLS language support
SQMESSGS.Z         Error message text (American Eng.)
SQMFCT  .A         File control table
SQMGDBA .C         SQL statement to grant DBA status to SQLDBA
SQMGRANT.Z         job to grant DBA authority to Control Center
SQMHLPTX.Z         Help text (American English)
SQMLDMSG.Z         job to load the messages file into VSAM
SQMLIBDF.Z         job to define package tool's disk library
SQMMSHPI.Z         job to unload Control Center modules from tape
SQMPLIST.C         this file
SQMRENAM.PROC      REXX exec executed by SQMRENAM.Z
SQMRENAM.Z         job to select specific NLS language support
SQMRLDPK.Z         job to load the Control Center packages in data bases
SQMSPRC1.Z         used in stored procedure support
SQMSTD  .Z         job to define the Control Center standard labels
SQMTRNSE.A         transaction security definitions
SQMTSCAN.Z         job to scan the distribution tape
SQMVSAM .Z         job to define Control Center to VSAM

STORED PROCEDURE SUPPORT
========================
ARIS7VE .OBJ       part of ARISVEF (Visual Explain)
ARIS7VE .Q         unloaded package for ARIS7VE
ARISCCF .OBJ       reorg and rebind stored procedure
ARISLKSV.OBJ       link edit statements for linking ARISVEF PHASE
ARISVEF .OBJ       part of ARISVEF (Visual Explain)
```

```
ARISVEF .PHASE      part of ARISVEF (Visual Explain)
SQMSPRC1.Z          job to install the supplied stored procedures
  Note ARISVEF.PHASE is on the tape but not listed in SQMPLIST.C.  It is
  included as an example of a stored procedure phase but is not required.
```

```
EXECUTABLE MODULES AND PACKAGES
===============================
SQB01.PHASE and .Q       SQC24.PHASE and .Q
SQB02.PHASE and .Q       SQC25.PHASE and .Q
SQB03.PHASE              SQC26.PHASE and .Q
                         SQC27.PHASE and .Q
SQB05.PHASE and .Q       SQC28.PHASE and .Q
SQB06.PHASE              SQC29.PHASE and .Q
SQB07.PHASE              SQC40.PHASE and .Q
SQB08.PHASE              SQC41.PHASE and .Q
SQB60.PHASE and .Q       SQC42.PHASE and .Q
SQB62.PHASE              SQC43.PHASE and .Q
SQC01.PHASE and .Q       SQC44.PHASE and .Q
SQC02.PHASE and .Q       SQC45.PHASE and .Q
SQC03.PHASE              SQC46.PHASE and .Q
SQC04.PHASE              SQC47.PHASE and .Q
SQC05.PHASE and .Q       SQC48.PHASE and .Q
SQC06.PHASE and .Q       SQC49.PHASE and .Q
SQC07.PHASE and .Q       SQC50.PHASE and .Q
SQC08.PHASE and .Q       SQC51.PHASE and .Q
SQC09.PHASE              SQC52.PHASE and .Q
SQC10.PHASE and .Q       SQC53.PHASE and .Q
SQC11.PHASE and .Q       SQC54.PHASE and .Q
SQC12.PHASE and .Q       SQC60.PHASE and .Q
SQC16.PHASE and .Q       SQC61.PHASE and .Q
SQC17.PHASE and .Q       SQC62.PHASE and .Q
SQC19.PHASE and .Q       SQC63.PHASE
SQC20.PHASE and .Q       SQC64.PHASE and .Q
SQC21.PHASE and .Q       SQC65.PHASE and .Q
SQC22.PHASE and .Q       SQC66.PHASE
SQC23.PHASE and .Q
SQR02.PROC      REXX exec to print package view reports

MAPS    (A map's number corresponds to the SQCxx module that displays it)
====
SQM01.PHASE          All maps are initially loaded (the "base" version)
SQM02.PHASE          in the American English form.  There are 6 more
SQM03.PHASE          versions of each map, one for each of the national
SQM04.PHASE          languages, although they are not shown in this
SQM05.PHASE          list.  The extra maps are named SQMxxa, where XX is
SQM06.PHASE          the map number and A is the language suffix.  The
SQM07.PHASE          the installation process contains steps to select a
SQM08.PHASE          specific national language and to delete the the
SQM09.PHASE          maps not needed.
SQM10.PHASE
SQM11.PHASE          A correspondence between programs, maps, and
SQM12.PHASE          transactions can be found by examining SQMCSDUP.Z.
SQM14.PHASE
SQM16.PHASE          SQM41.PHASE
SQM17.PHASE          SQM42.PHASE
SQM19.PHASE          SQM43.PHASE
SQM20.PHASE          SQM44.PHASE
SQM21.PHASE          SQM45.PHASE
SQM22.PHASE          SQM60.PHASE
SQM23.PHASE          SQM61.PHASE
SQM24.PHASE          SQM62.PHASE
SQM25.PHASE          SQM63.PHASE
SQM26.PHASE          SQM64.PHASE
SQM27.PHASE          SQM65.PHASE
SQM28.PHASE          SQM66.PHASE
SQM29.PHASE          SQM99.PHASE
SQM40.PHASE
```

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Reader's Comments

Program Directory for Control Center for VSE Version 7 Release 1.0

You may use this form to comment about this document, its organization, or subject matter with the understanding that IBM may use or distribute whatever information you supply in any way it believes appropriate without incurring any obligation to you.

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

```
 ┌── RATING SCALE ──────────────────────────────────────────────────┐
 │                                                                    │
 │    very                              very           not            │
 │  satisfied  <===================>  dissatisfied  applicable        │
 │     1         2       3       4          5            N             │
 │                                                                    │
 └────────────────────────────────────────────────────────────────────┘
```

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

Did you order this product as an independent product or as part of a package?

___   Independent
___   Package

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

___   Yes
___   No

Were the people who did the installation experienced with the installation of these products?

__   Yes

__   No

If yes, how many years? __

If you have any comments to make about your ratings above, or any other aspect of the product installation, please list them below:

_____

_____

_____

_____

_____

_____

_____

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_____

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Please provide the following contact information:

_____

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_____

Organization

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Thank you for your participation.

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