

DITTO/ESA



Installation and Customization Guide

Release 3

DITTO/ESA



Installation and Customization Guide

Release 3

Note!

Before using this information and the product it supports, be sure to read the general information under "Notices" on page 109.

First Edition (June 1999)

This edition applies to Release 3 Modification Level 0 of IBM Data Interfile Transfer, Testing, and Operations Utility for ESA (DITTO/ESA), program numbers 5655-103 (OS/390 or MVS), 5654-029 (VM), 5648-099 (VSE), and to any subsequent releases until otherwise indicated in new editions. Make sure you are using the correct edition for the level of the product.

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About This Book

This book provides information needed to plan for, install, customize, maintain, and diagnose problems with Data Interfile Transfer, Testing, and Operations Utility for ESA (DITTO/ESA).

This includes the following products:

- DITTO/ESA for MVS (program number 5655-103)
- DITTO/ESA for VM (program number 5654-029)
- DITTO/ESA for VSE (program number 5648-099)

Unless otherwise stated, the abbreviation “DITTO/ESA” in this book refers to either:

- Any of the above products,
- or
- Where the context is environment-specific (MVS, VM, or VSE), to the product relevant to that operating environment.

(NLV) Japanese Feature

In addition to information about the Base Function of DITTO/ESA, this book also provides information needed to install the Japanese Language Version (NLV Japanese) of DITTO/ESA.

Unless otherwise stated, the information provided in this book refers to the Base Function of DITTO/ESA.

Where a section of information specifically relates to the Base Function (as opposed to the Japanese Feature), or specifically relates to the Japanese Feature of DITTO/ESA, we either:

- Qualify the section heading (“...Base Function...”, or “...Japanese Feature...”),
- or
- Indicate the alternative information for the Japanese Feature.

Overview of DITTO/ESA

DITTO/ESA for MVS, DITTO/ESA for VM, and DITTO/ESA for VSE are IBM licensed programs that help you work with various storage media and maintain data in the MVS, VM, and VSE environments respectively.

DITTO/ESA contains many versatile functions for working with tapes, disks, VTOCs and catalogs, VSAM data, VSE library members, sequential data sets and files, MVS Object Access Method (OAM) objects, and card images.

DITTO/ESA provides you with a consistent package of functions with a common user interface whether you're working in a MVS, VM, or VSE environment. In an ESA environment, it supports the respective ESA operating system to help you to display, duplicate, maintain, repair, and even recover data.

You can use DITTO/ESA's functions in full-screen mode using its own interactive panel driver, independent of VSE ICCF or MVS ISPF interactive full-screen environments.

You can use DITTO/ESA in REXX execs or procedures using DITTO/ESA's keyword command mode. For routine tasks, you can use DITTO/ESA in batch jobs using control statements. In emergency situations, you can use it on a system console in dialog mode. If you are a VSE user, it is additionally available on a VSE stand-alone backup tape.

DITTO/ESA uses 31-bit addressing. It is enabled for National Language Support and can be translated if requested.

Who Should Use This Book

This book is for system programmers and system administrators who plan for, install, customize, and maintain DITTO/ESA on MVS, VM, or VSE.

It is also relevant to users who carry out diagnostic tasks on this product.

To use this book, you need to be familiar with the MVS, VM, or VSE operating system, the publications that describe your system, and job control language (JCL) or exec processing.

Experienced Users Installing on MVS

If you are installing on MVS and are experienced in installing products with SMP/E, refer to the following fast path sections in the *Program Directory for DITTO/ESA for MVS*, G110-0425:

1. "Installation Requirements and Considerations"; see sub-section "DASD Storage Requirements"
2. "Installation Instructions for DITTO/ESA for MVS Release 3 Base Function"; follow each instruction as described in the *Program Directory*

Note: For the Japanese Feature, see "Installation Instructions for DITTO/ESA for MVS Release 3 Japanese Feature".

Experienced Users Installing on VM

If you are installing on VM and are experienced in installing products with VMSES/E, refer to the following fast path sections in the *Program Directory for DITTO/ESA for VM*, G110-0438:

1. "Installation Requirements and Considerations"; see sub-section "DASD Storage and User ID Requirements"
2. "Installation Instructions"; follow each instruction as described in the *Program Directory*

Note: If you are installing the Japanese Feature, refer to the above sections in the *Program Directory for DITTO/ESA for VM NLV Japanese*, G110-0427.

Experienced Users Installing on VSE

For those installing on VSE who are experienced in installing products with MSHP, use the following fast path items in this book:

1. “DASD Storage Required” on page 52
2. Chapter 11, “Installing DITTO/ESA Base Function for VSE” on page 55

Note: For the Japanese Feature, see Chapter 12, “Installing DITTO/ESA Japanese Feature for VSE” on page 63.

Terminology in This Book

For simplicity, many of the full IBM product names are shortened to just the generic acronym:

- MVS is used in this manual to refer to Multiple Virtual Storage/Enterprise Systems Architecture (MVS/ESA™) and to OS/390®.
- CMS is used in this manual to refer to Conversational Monitor System on Virtual Machine/Enterprise Systems Architecture (VM/ESA®).
- VSE is used in this manual to refer to Virtual Storage Extended/Enterprise Systems Architecture (VSE/ESA™).

Other Documentation You Might Need

For the installation of DITTO/ESA for MVS Base Function, or for the installation of DITTO/ESA Japanese Feature, you will need to refer to the *Program Directory for DITTO/ESA for MVS*, GI10-0425.

For the installation of DITTO/ESA for VM Base Function, you will need to refer to the *Program Directory for DITTO/ESA for VM*, GI10-0438.

For the installation of DITTO/ESA for VM Japanese Feature, you will need to refer to the *Program Directory for DITTO/ESA for VM NLV Japanese*, GI10-0427.

You may also need to refer to the *DITTO/ESA User's Guide and Reference*, SH19-8221.

DITTO/ESA publications, related product publications, and their order numbers are listed in the “Bibliography” on page 111.

Syntax Notation

Throughout this book, syntax descriptions use the structure defined below.

- Read the syntax diagrams from left to right, from top to bottom, following the path of the line.

The ► symbol indicates the beginning of a statement.

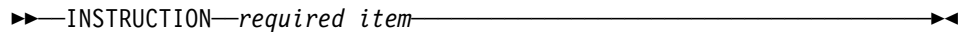
The → symbol indicates that the statement syntax is continued on the next line.

The ► symbol indicates that a statement is continued from the previous line.

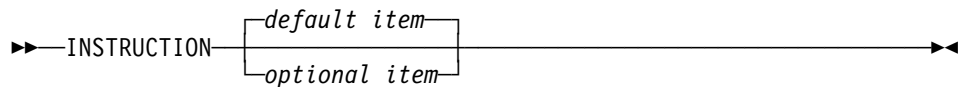
The →◀ indicates the end of a statement.

Diagrams of syntactical units other than complete statements start with the ► symbol and end with the —► symbol.

- **Keywords** appear in uppercase letters (for example, ASPACE) or upper and lower case (for example, PATHFile). They must be spelled exactly as shown. Lower case letters are optional (for example, you could enter the PATHFile keyword as PATHF, PATHFI, PATHFIL or PATHFILE).
- **Variables** appear in all lowercase letters in a special typeface (for example, *integer*). They represent user-supplied names or values.
- If punctuation marks, parentheses, or such symbols are shown, they must be entered as part of the syntax.
- Required items appear on the horizontal line (the main path).

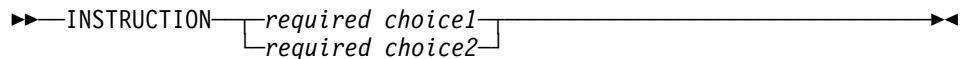


- Optional items appear below the main path. If the item is optional and is the default, the item appears above the main path.

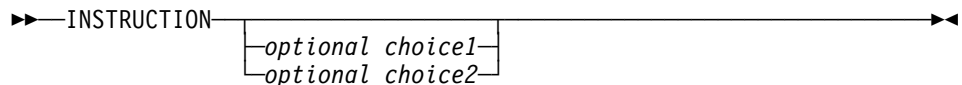


- When you can choose from two or more items, they appear vertically in a stack.

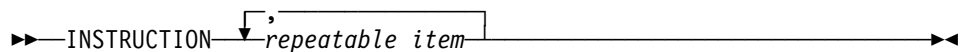
If you **must** choose one of the items, one item of the stack appears on the main path.



If choosing one of the items is optional, the whole stack appears below the main path.

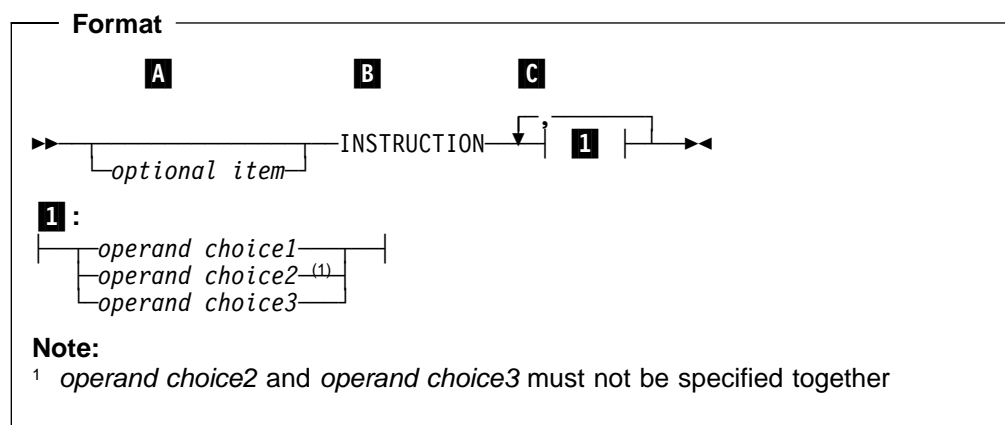


- An arrow returning to the left above the main line indicates an item that can be repeated. When the repeat arrow contains a separator character, such as a comma, you must separate items with the separator character.



A repeat arrow above a stack indicates that you can make more than one choice from the stacked items, or repeat a single choice.

The following example shows how the syntax is used.



- A** The item is optional, and can be coded or not.
- B** The INSTRUCTION key word must be specified and coded as shown.
- C** The item referred to by **1** is a required operand. Allowable choices for this operand are given in the fragment of the syntax diagram shown below **1** at the bottom of the diagram. The operand can also be repeated. That is, more than one choice can be specified, with each choice separated by a comma.

Summary of Changes

This section lists the major changes that have been made to the DITTO/ESA product.

Major Changes to DITTO/ESA

Release 3, June 1999

- The following enhancements improve tape support:
 - For 3590 devices, you can now limit the amount of data stored on a tape to a percentage of its capacity, using the new SCALE parameter of the Initialize Tape (INT) function.
 - Standard Label (SL) processing for basic tape functions under MVS.
 - Support for ANSI Version 4 tape labels.
- VSE External Security Manager support offers improved security checking for VSE users.
- The new Spool Services (SPS) function enables VSE users to work with all VSE POWER spool queues (LST, PUN, RDR, XMT) using DITTO/ESA's full-screen interactive user interface. This function lists all entries of the selected queue and allows you to enter a command directly on an entry to browse, alter, delete, hold, release, or transfer it.
- Support for wide screens in DITTO/ESA list functions, displaying more information without scrolling.
- Improved performance under MVS of System Catalog Services (SCS) and VSAM Data Set List (VDL) functions, by exploiting the new catalog search interface introduced by DFSMS™ 1.4. The full-screen display now includes more SMS-related information, and statistical information has changed from byte to kilobyte (KB) to support larger amounts.
- In full-screen mode, enhanced dynamic QSAM data set allocation allows you to specify an existing data set to be used as a model for the new data set (LIKE option) and to release any unused space when the data set is closed (RELEASE option).
- You can now sort the output of the Library Directory List (LDL) function by library name then member name within each library, using the new LIB value of the SORTBY parameter.
- In full-screen mode, the new Tab-to-action-bar option on the View menu changes the behavior of the Tab key so that it moves the cursor to the action bar.
- In full-screen mode, the new ABAR command displays or hides the action bar.
- When editing data in full-screen mode, you can use the new ISPF-like CAPS command to translate text into uppercase. The CAPS command is similar to, but not identical to, the existing CASE command.

- For improved compatibility with the ISPF editor, you can specify the syntax of the browse and edit LOCATE subcommand and the edit CHANGE subcommands, using the new CMDSYNTAX parameter of the SET function.
- The Display VTOC (DVT) function now displays the record format, record size, and block size values from the new VTOC Format 1 label.
- In full-screen mode, the Catalog Services (SCS) function now displays extent information for VSAM files.
- New MOVE and REPLACE parameters in the Library Member to Library Member (LL) function allow you to move and optionally replace VSE Librarian members.
- If DFSMS/MVS 1.4 or later is installed on your system, the Catalog Services (SCS) function now lists all catalog entries when you specify a data set name of '***'. Previously, the SCS function listed only the master catalog entries.
- Functions that were listed in the *DITTO/ESA Release 2 User's Guide and Reference* Appendix A, "Compatibility with Previous Releases of DITTO," under the heading "DITTO Functions That are Not Recommended," are no longer supported in Release 3.

Release 2, December 1996

- Year 2000 support, to sort and display dates beyond 2000.
- A new Advanced Print Browse (APB) function provides a readable display to quickly browse Advanced Function Printing™ (AFP™, LIST3820) format data.
- VM/VSE users can now execute DITTO/ESA for VSE on a local or remote VSE system directly from a VM DITTO/ESA session in client/server mode. In this mode, all of the normal VSE functions are available as well as additional functions to copy CMS files to and from library members, SAM files, and VSAM files.
- A new function, DLA, displays or prints the contents of the VSE label area. From the DLA display, DITTO line commands can be entered to work with the listed data sets.
- A new Disk Track Edit (DTE) function. This function lets you insert and delete records, and change the length and contents of key and data on a Count Key Data (CKD) disk track.
- New functions (LS, SL) for copying VSE library members to and from sequential data sets.
- Padding/truncating records while copying.
- Additional record formats, spanned records for tape.
- Enhanced TLT function to better support continuation volumes.
- Improved tape end-of-volume processing.
- Support for the IBM 3590 tape drive.
- ANSI label support.
- Performance enhancements for various functions.
- DITTO/ESA is now enabled for NLS translation.

Release 1, April 1995

DITTO/ESA is a follow-on product for the MVS/DITTO product, the DITTO for VSE and VM base product, and the DITTO 3.2 Productivity Features.

Changes for OS/390 or MVS Users

DITTO/ESA provides the following enhancements:

- Exploitation of MVS/ESA™
- Task-oriented function selection panels
- The ability to use keywords in command mode
- Support for disk fullpack processing in batch mode
- Enhanced security
- Enhanced tape bypass label processing (BLP) support
- The ability to specify a panel library, user profile data set, and OAM database name at customization time
- A new VSAM Edit function
- New functions to copy REXX stem variables to and from tape files and VSAM data sets
- A function to display disk information on the console
- Enhanced disk browse and update support for new MVS data structures
- Additional statistical information about catalogs
- Object Access Method (OAM) enhancements
- Enhanced Tape to Labeled Tape function
- The ability to route print output to a REXX stem variable
- Additional print format option for the TMP function
- The ability to set a tape mode code in batch mode
- Double-byte character set (DBCS) options
- The ability to copy a multifile tape to a sequential data set
- Support for tape blocks longer than 64KB
- New fill patterns for the data creation functions

Changes for VSE Users

DITTO/ESA provides the following enhancements:

- Exploitation of VSE/ESA™
- Task-oriented function selection panels
- The ability to use keywords in command mode
- Automated tape library support
- Support for some DITTO functions in the VSE stand-alone environment
- A new VSAM Edit function
- New Library Member Edit and Library Member Rename functions

- New functions to copy REXX stem variables to and from tape files, VSAM data sets, and library members
- A function to display disk data set extents
- Enhanced Tape to Labeled Tape function
- The ability to copy, rename, and delete multiple library members
- The ability to limit a library list by creation date
- The ability to set a tape mode code in batch mode
- The ability to set the page size for print output
- The ability to limit a catalog list or VSAM list by space ID
- The ability to copy a multifile tape to a sequential data set
- Additional statistical information about catalogs and library members
- New fill patterns for the data creation functions

The following enhancements are incorporated from the DITTO 3.2 Productivity Features:

- Enhanced Common User Access® (CUA®) interface, with more extensive online help
- VSE/ICCF is no longer required to run DITTO in full-screen mode under VSE. Full-screen DITTO is now started as a CICS® transaction under VSE.
- Enhanced security, through the use of a security exit
- A connection to REXX/VSE, which allows easy integration of DITTO commands in user-defined procedures
- A function for copying multifile, multivolume standard labeled tapes
- A function for working with lists of members in a library
- Browse, update, print, and erase functions for library members
- Functions for copying library members to and from tape, VSAM files, and cards
- A function for working with lists of catalog entries. This function also lets you display, define, delete, and alter VSAM catalog entries
- The ability to route print output to a REXX stem variable
- The ability to assign tapes permanently (for the duration of a DITTO session)
- Batch support for the ERT and PVT functions
- Additional print format option for the TMP function
- Improved tape record format support
- Improved tape and DASD error handling
- Support for tape blocks longer than 64KB

Changes for CMS Users

DITTO/ESA provides the following enhancements:

- Exploitation of VM/ESA®
- Task-oriented function selection panels
- The ability to use keywords in command mode
- Support for VSAM input, VSAM output, and SAM input functions in batch mode
- A new VSAM Edit function
- New functions to copy REXX stem variables to and from tape files and VSAM data sets
- A function to display disk data set extents

- Enhanced Tape to Labeled Tape function
- The ability to set a tape mode code in batch mode
- The ability to set the page size for print output
- The ability to limit a VSAM list by space ID
- New fill patterns for the data creation functions

The following enhancements are incorporated from the DITTO 3.2 Productivity Features:

- Enhanced Common User Access (CUA) interface, with more extensive online help
- Enhanced security, through the use of RACF® or a security exit
- Support for labeled tape processing in batch mode
- A function for copying multifile, multivolume standard labeled tapes
- The ability to route print output to a REXX stem variable
- Batch support for the ERT and PVT functions
- Additional print format option for the TMP function
- Improved tape record format support
- Improved tape and DASD error handling
- Support for tape blocks longer than 64KB

Compatibility with Previous Releases of DITTO

Several parameters have been changed in DITTO/ESA. For compatibility, most of the old parameters are still supported in batch mode. In interactive mode, several commands can be entered in a shorter form.

In line mode and command mode, many commands have new parameters or have the same parameters in a different order. To run an existing procedure with DITTO/ESA, you should compare all of the DITTO commands with the syntax described in this book.

If you want a procedure to run unchanged from one release of DITTO to the next, you should use the new keyword syntax for all DITTO commands in the procedure. Any DITTO commands that are specified with keywords are not affected by changes in the prompting order for parameters.

The following functions are *not supported* in DITTO/ESA:

- Functions that work with ISAM files
- Functions that work with diskettes
- Functions that work with 96-column cards
- Functions that work with split-cylinder disk data
- Invoking full-screen mode DITTO under VSE/ICCF.

DITTO/ESA for MVS

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Chapter 1. Planning for Installing DITTO/ESA for MVS

All of the information you need for planning the installation of DITTO/ESA on MVS is contained in the *Program Directory for DITTO/ESA for MVS*, GI10-0425. See the section "Installation Requirements and Considerations".

Chapter 2. Installing DITTO/ESA for MVS

Most of the information you need to install DITTO/ESA for MVS is contained in the *Program Directory for DITTO/ESA for MVS*, G110-0425. However, some intermediate steps involved in the installation process are contained in this book. To install DITTO/ESA for MVS, you will need both this book and the *Program Directory* as follows:

1. Installation up to, and including, SMP/E APPLY

See the *Program Directory*.

2. Post-APPLY tasks

See "Post-APPLY Tasks" on page 5.

3. Customization

See Chapter 3, "Customizing DITTO/ESA for MVS" on page 7.

4. Verification

See Chapter 4, "Verifying DITTO/ESA for MVS Installation" on page 17.

5. Completion of installation (ACCEPT processing)

See the following sections in the *Program Directory*:

- "Perform SMP/E ACCEPT CHECK"
- "Perform SMP/E ACCEPT"

This chapter, Chapter 3, and Chapter 4, lead you through the installation process and direct you to the appropriate documentation.

Installation up to, and Including, SMP/E APPLY

See the *Program Directory* section "Installation Instructions for DITTO/ESA for MVS Release 3 Base Function" and perform each of the steps described within that section up to, and including, "Perform SMP/E APPLY".

Note: If you are installing the Japanese Feature of DITTO/ESA, you will also need to see the section "Installation Instructions for DITTO/ESA for MVS Release 3 Japanese Feature" in the *Program Directory*.

Post-APPLY Tasks

When you have completed the SMP/E APPLY, you need to perform the following steps:

- Concatenate SDITMOD1 to your LNKLIST
- Authorize DITTO/ESA
- Authorize DITTO/ESA for running under TSO

The following sections, which involve updating members in your SYS1.PARMLIB library, describe these additional steps.

For more information about updating SYS1.PARMLIB members, see the *OS/390 MVS Initialization and Tuning Reference*, SC28-1752.

Concatenating SDITMOD1 to your LNKLST

To make DITTO/ESA commonly available, add the DIT.H0GB310.SDITMOD1 library to your concatenated LNKLST. To do this, add this library to either your LNKLSTxx or PROGxx (if available on your system) member in SYS1.PARMLIB.

Note: Data set name must be in master catalog to add to LNKLST.

Authorizing DITTO/ESA

For details about running DITTO/ESA with APF authorization, see “Running DITTO/ESA with APF Authorization (MVS Only)” on page 92. You should add the DIT.H0GB310.SDITMOD1 data set to your site-specific IEAAPFxx or PROGxx (if available on your system) member in SYS1.PARMLIB to authorize this library.

Additional authorization for DITTO/ESA running under TSO

To run DITTO/ESA authorized in TSO, add the program entry name DITTOA as an authorized TSO-Command to the IKJTSOxx member in SYS1.PARMLIB.

By default, DITTO/ESA is linked using three entry points (see Table 1) to let you decide if you want DITTO/ESA to run under TSO in authorized mode or not.

Table 1. Authorization of Entry Points Under TSO

Entry Point	Authorization	Entry in IKJTSOxx
DITTO	Installation decision	Installation decision
DITTOA	Yes	Yes
DITTOU	No	No

If you want to run DITTO/ESA authorized by default, specify the entry name DITTO as well.

Customization

You now need to customize DITTO/ESA. See Chapter 3.

Chapter 3. Customizing DITTO/ESA for MVS

This chapter describes:

- Customizing the operating environment for DITTO/ESA
- Customizing DITTO/ESA

Customizing the Operating Environment for DITTO/ESA

After you have completed the initial installation of DITTO/ESA, as described in Chapter 2, “Installing DITTO/ESA for MVS” on page 5, you can customize the operating environment for DITTO/ESA:

The following sections describe how to perform this customization.

Modifying your ISPF and ISPF/PDF Environment

To make it easy to start DITTO/ESA:

1. Update your ISPF or ISPF/PDF main menu (for example, ISP@MSTR or ISR@PRIM) by inserting the additional lines (◀) for DITTO/ESA as shown in Figure 1.

```

:
)BODY  CMD(ZCMD)
:
9  IBM Products  IBM program development products
10 SCLM          SW Configuration Library Manager
D  DITTO         DITTO/ESA ◀ New
:
)PROC
:
&ZSEL = TRANS( TRUNC (&ZCMD, '.'))
:
9, 'PANEL(ISRDIIS) ADDPOP'
10, 'PGM(ISRSCLM) NOCHECK'
D, 'CMD(DITTO)'          /* DITTO/ESA */ ◀ New
:

```

Figure 1. ISPF or ISPF/PDF Main Menu Update

2. Add the three entry points of DITTO/ESA to your installation-specific ISPTCM module as shown in Table 2 on page 8.

By default, DITTO/ESA is linked using the three entry points to let you decide if you want DITTO/ESA to run under ISPF in authorized mode or not.

Note: You can run DITTO/ESA in fullscreen mode outside of ISPF.

Table 2. Authorization of Entry Points Under ISPF

Entry Point	Authorization	ISPTCM Flag
DITTO	Installation decision	Installation decision
DITTOA	Yes	X'62'
DITTOU	No	X'42'

If you want DITTO/ESA to run in authorized mode by default, specify an ISPTCM flag value of X'62' for entry name DITTO as well; otherwise specify X'42'.

For more information about updating ISPTCM, see *OS/390 ISPF Planning and Customizing*, SC28-1298.

Modifying Your TSO Logon Procedure

If you did not add DIT.H0GB310.SDITMOD1 to the LNKSTxx member or PROGxx (if available on your system) of SYS1.PARMLIB as described in Chapter 2, “Installing DITTO/ESA for MVS” on page 5, you must add this library to the STEPLIB DD-statement in your TSO logon procedure.

Note: In order to run DITTO with APF authorization, all concatenated STEPLIB data sets must be APF-authorized.

Customize the DITTO/ESA Panel Library Name

To customize the DITTO/ESA panel library name:

Base Function

If the name of your DITTO/ESA panel library is not DIT.H0GB310.SDITPLIB, you must customize the DITPLIB parameter in the installation profile DITPROFL (see “Changing the Default SET Parameters” on page 10), or add an appropriate DITPLIB DD-statement to your TSO logon procedure.

Japanese Feature

If you do not use the default library names:

- DIT.H0GB310.SDITPLIB for the Base Function panels
- or
- DIT.H0GB310.SDITPJPN for the Japanese Feature panels,

then either:

- The Japanese panel library name must be DITPLIB.JPN (the base panel library name with the low-level qualifier .JPN added),
- or
- You must add an appropriate DITPJPN DD-statement to your TSO logon procedure.

Customize the User Profile Data Set

DITTO/ESA maintains information specific to each user (SET processing options) in a user profile data set. By default, DITTO/ESA dynamically allocates data set *userid.DITPROF*. To change the name, you must customize the DITPROF parameter in the installation profile DITPROFL (see “Changing the Default SET Parameters” on page 10), or add an appropriate DITPROF DD-statement to your TSO logon procedure.

DITTO/ESA can use any allocated sequential or partitioned data set with RECFM=FB and LRECL=80; for example, the ISPF profile data set. A size of 1 track is sufficient.

Customize the Default National Language

If you installed the Japanese Feature (or you provided locally translated messages and panels), you may change the default national language for your installation. For more information about defining the default national language, see “Changing the Default SET Parameters” on page 10.

Customize the Security Environment

DITTO/ESA provides secure control of function authorization through RACF, an equivalent security package, or through the DITSECUR exit.

If you are migrating from MVS/DITTO 2.1 to DITTO/ESA, and the FACILITY class contains the DITTO/ESA generic profile DITTO.**, you must delete it and add the individual group profiles. It is recommended you define the following profiles:

```
RDEFINE FACILITY DITTO.DISK.*          UACC(READ)    or NONE
RDEFINE FACILITY DITTO.DISK.FULLPACK  UACC(NONE)
RDEFINE FACILITY DITTO.TAPE.*         UACC(READ)    or NONE
RDEFINE FACILITY DITTO.TAPE.BLP      UACC(NONE)
RDEFINE FACILITY DITTO.VSAM.*        UACC(READ)    or NONE
RDEFINE FACILITY DITTO.OAM.*         UACC(READ)    or NONE
RDEFINE FACILITY DITTO.OTHER.ALL     UACC(READ)    or NONE
```

For more information, see Appendix A, “Customizing the Security Environment” on page 91.

Binding DB2® for Use of DITTO/ESA Object Access Method (OAM) Functions

If you intend to use DITTO/ESA OAM functions, you need to run job DITBIND from DIT.H0GB310.SDITSAM1. DITBIND binds the plan DITODIRS (also in DIT.H0GB310.SDITSAM1) into your DB2 system to allow the proper working of OAM functions. Customize DITBIND according to your DB2 installation.

The following DB2 authorities must also be granted to each user of OAM functions:

- Directory processing requires READ authority for the following tables:

```
GROUPnn.OSM_OBJ_DIR (all group directories)
SYSIBM.SYSTABLES
owner.VOLUME
OAMADMIN.CBR_COLLECTION_TBL
OAMADMIN.CBR_MGT_CLASS_TBL
OAMADMIN.CBR_STO_CLASS_TBL
```

- Restoring objects requires UPDATE authority for the following tables:

GROUP nn .OSM_OBJ_DIR (all group directories)
OAMADMIN.CBR_COLLECTION_TBL

Other Customization

There is further customization of the operating environment for DITTO/ESA that you can perform:

Customize Base Function

To prepare and execute the USERMOD customization jobs, DITUMOD n :

1. Edit DITUMOD n in the DITTO/ESA sample library (DIT.H0GB310.SDITSAM1).
2. Change the JOB statement and the # variables to meet your specific installation requirements.
3. Run the job (expected return code is zero).

Notes:

1. Some tables have a changed layout in this version of DITTO/ESA. Do not use the old tables from the previous version or release.
2. Each of these USERMOD customization jobs are shown in more detail further in this chapter.

Customize Japanese Feature

The DITTO/ESA Japanese Feature provides translation tables for display and print that are used by DITTO/ESA when the Japanese language is selected. You may customize the Japanese translation tables to meet your needs.

1. Change the translation table definition statements in the DITTRJPN source member in the DIT.H0GB310.SDITSAMJ library.
2. Adapt the DITUMODJ member in the DIT.H0GB310.SDITSAMJ library to meet your specific installation requirements.
3. Install SMP/E usermod DITUMODJ.

Activate your changes

To activate your updates in the PARMLIB, restart your system or use the appropriate MVS commands to activate them dynamically if supported on your level of MVS.

Customizing DITTO/ESA

You can customize, or modify, DITTO/ESA only after installing the product.

Changing the Default SET Parameters

If you want to change the default settings for the SET parameters, you can change the profile supplied with DITTO/ESA.

You can change the SET profile as follows:

1. Change the default options in the DITPROFL member in the DIT.H0GB310.SDITSAM1 library.

2. Adapt the DITUMODP member in the DIT.H0GB310.SDITSAM1 library to meet your specific installation requirements.
3. Install SMP/E usermod DITUMODP.

Figure 2 shows DITPROFL, as supplied by IBM.

```

DITPROFL CSECT
DITPROFL AMODE 31
DITPROFL RMODE ANY
          DC AL2(PROFLEN)           length must be specified !
PROFSTRT DC C'SET'
          DC C',ASCII=NO'           or YES, IN, OUT or BOTH
*                                     if ASCII translation needed
          DC C',DATAHDR=YES'        or NO for left aligned data
          DC C',DUMP=UPDOWN'        or ACROSS for horizontal DUMP
          DC C',HEADERPG=YES'       or NO if none desired
          DC C',LANGUAGE=ENGLISH'   or installation provided lang.
          DC C',PAGESKIP=NO'        or YES for new page each time
          DC C',PRINTLEN=132'       or 80 for example on terminals
          DC C',PRTRAN=ON'          or OFF, but slower printing,
*                                     or KN if using Katakana printer
          DC C',DBCSVRT=OFF'        or 3200 or SOSI (2-byte chars)
          DC C',PAD=OFF'            or ON or char or hex value
          DC C',RECLIMIT=(1,*)'     or limit it, e.g. (1,80)
          DC C',TERMTYPE=3270'      or 3270KN if using Katakana
          DC C',TAPELBL=SL'         or AL for ASCII labels
          DC C',CYLHD=ABSOLUTE'     or RELATIVE if desired
          DC C',PRINTOUT=SYSRINT'    or TERMINAL or SYSOUT=c
          DC C',PAGESIZE=60'        or any value between 1 and 999
          DC C',DITPLIB=DIT.H0GB310.SDITPLIB' panel library name
          DC C',DITPROF=&&USER..DITPROF' profile dataset
****    DC C',DITPROF=&&USER..ISPF.ISPPROF'
****    DC C',OAMDBASE=CBROAM'      OAM data base name
****                                     (if omitted, CBROAM is used)
PROFLEND DC C' ' FINAL STOPPING BLANK. DO NOT REMOVE !!
PROFLEN  EQU *-PROFSTRT
          END

```

Figure 2. DITPROFL Profile Listing (MVS)

Installation-Defined Parameters

The following parameters are included in the profile, but are not accessible using the SET function:

TERMTYPE=3270|3270KN

Specify 3270 for standard 3270 terminals.

Specify 3270KN to support terminals that use Japanese Katakana characters. (Alternatively, individual users can enter the KEYS command and set the terminal type to 3270KN.)

If 3270KN is specified, DITTO/ESA translates message text to uppercase if LANGUAGE=ENGLISH is specified, and translates panel text to uppercase regardless of the language.

DITPLIB=dsname

The data set name of the DITTO/ESA panel library. Specify this if the installation does not use the default name.

DITPROF=dsname

The data set name of the DITTO/ESA profile data set, which may be a sequential or partitioned data set. The data set name may contain the variables &USER. and &PREFIX. which DITTO/ESA replaces with the actual TSO user ID and TSO prefix.

OAMDBASE=database name|CBROAM

The OAM database name. By default, the IBM-supplied database name CBROAM is used.

For details of other SET processing options, see the *DITTO/ESA User's Guide and Reference*, SH19-8221.

Changing the Print and Display Translation Tables

By default, DITTO/ESA translates all unprintable characters to blanks (PRTTTRANS=ON in the DITTO/ESA SET function). The printer therefore does not need to search through all of its available characters for characters that it does not have. This improves the speed of printing.

Sometimes you may want to display special characters on a terminal during a DITTO/ESA session, or print DITTO/ESA output in lowercase alphanumeric characters. To do this:

1. Check that the terminal on which you want to display DITTO/ESA panels supports the display of special characters, or that the universal character buffer (UCB) of your printer has the characters you want to use.
2. Use the DITTO/ESA SET function to specify PRTTTRANS=ON.
3. Modify the DITTO/ESA translation table as follows:
 - a. Change the translation table definition statements in the DITTRTBS source member in the DIT.H0GB310.SDITSAM1 library.
 - b. Adapt the DITUMODT member in the DIT.H0GB310.SDITSAM1 library to meet your specific installation requirements.
 - c. Install SMP/E usermod DITUMODT.

Translating the Message Text

All DITTO/ESA messages are stored in the DITMSG00 file. This CSECT is part of the root module so that an English version of the messages is always available.

The DITMSG00 file contains the assembler source for these messages. You can use this to provide your own set of translated messages. The message set in effect for a DITTO/ESA session or job is then controlled by the LANGUAGE parameter of the SET function.

To provide translated versions of the messages:

1. Change the message text in the DITMSG00 member in the DIT.H0GB310.SDITSAM1 library
2. Adapt the DITUMODM member in the DIT.H0GB310.SDITSAM1 library to meet your specific installation requirements.

In this member, use the following language codes:

FRA	French
DEU	German
ITA	Italian
JPN	Japanese
PTG	Portuguese
ESP	Spanish
XXX	Other

3. Install SMP/E usermod DITUMODM.
4. Create a National Language Support (“NLS”) version of the translation table as follows:
 - a. Make a copy of the DITTRTBS member with the name DITTRyyy, where yyy is the desired language code.
 - b. Adapt the DITUMODX member in the DIT.H0GB310.SDITSAM1 library to meet your specific installation requirements.
 - c. Install SMP/E usermod DITUMODX.

If a DITTO/ESA user specifies one of the above languages with the SET parameter LANGUAGE (for example, LANGUAGE=SPANISH), the corresponding messages and translation table are used.

Translating the Panel Text

All DITTO/ESA panels are provided in English. You can translate some or all of these panels into another language. (If no translated version of a particular panel is available, DITTO/ESA uses the English version.)

All DITTO/ESA panels are stored in DIT.H0GB310.SDITPLIB. You translate a panel as follows:

1. Change the panel text.
2. Store the translated panels in a separate library. If the panel members contain any .INCLUDE or .HELP statements, also store the referenced members in this library.
3. Allocate this library to the ddname DITPyyy, where yyy is one of the following language codes:

FRA	French
DEU	German
ITA	Italian
JPN	Japanese
PTG	Portuguese
ESP	Spanish
XXX	Other

The translated panel will be used if a DITTO/ESA user specifies this language with the SET parameter (for example, LANGUAGE=SPANISH).

4. To use the translated version of the panels at your site, you can update the user logon procedure. The following example sets the user environment to use German panels wherever possible. If no German panel is available, the system defaults to English.

```
//DITPDEU DD DSN=USER.PLIB,DISP=SHR
```

If the user wants to use the translated panels occasionally, the allocation can be performed dynamically, using the TSO ALLOCATE command. For example, to use French panels, the user could enter:

```
ALLOC FILE(DITPFRA) DA('USER.PLIB') SHR
```

Alternatively, you can store the translated panels in a data set named *ditplib.yyy*, where *ditplib* is the value of the DITPLIB parameter in the DITPROFL profile (initially set to DIT.H0GB310.SDITPLIB) and *yyy* is a language code. DITTO/ESA allocates this data set dynamically when selecting the language.

Changing the ASCII Translation Tables

You can use DITTO/ESA to translate tape data from:

- Translate tape input from ASCII format to EBCDIC format.
- Translate tape output from EBCDIC format to ASCII format.
- Translate tape input from ASCII format to EBCDIC format, and translate tape output from EBCDIC format to ASCII format.

If you want to use an ASCII or EBCDIC character set other than the character sets supplied by IBM, you can change the translation table definition statements.

To change the ASCII translation tables:

1. Change the translation table definition statements in the DITASCII source member in the DIT.H0GB310.SDITSAM1 library
2. Adapt member DITUMODA in DIT.H0GB310.SDITSAM1 to meet your specific installation requirements.
3. Install SMP/E usermod DITUMODA.

Granting Access to OAM Directory Tables

To work with OAM objects you need certain authorities:

- Directory processing requires READ authority for the following tables:

```
GROUPnn.OSM_OBJ_DIR  
SYSIBM.SYSTABLES  
owner.VOLUME  
OAMADMIN.CBR_COLLECTION_TBL  
OAMADMIN.CBR_MGT_CLASS_TBL  
OAMADMIN.CBR_STO_CLASS_TBL
```

- Restoring objects requires UPDATE authority for the following tables:

```
GROUPnn.OSM_OBJ_DIR  
OAMADMIN.CBR_COLLECTION_TBL
```

Security

You should also customize the security environment. For more information, see Appendix A, “Customizing the Security Environment” on page 91.

If your system has no security package installed and you decide to use the DITTO/ESA DITSECUR exit, perform the following steps:

1. Modify the DITSECUR file in DIT.H0GB310.SDITSAM1.

2. Adapt the DITUMODS member in the DIT.H0GB310.SDITSAM1 library to meet your specific installation requirements.
3. Install SMP/E usermod DITUMODS.

Verification

You now need to verify your installation. See Chapter 4.

Chapter 4. Verifying DITTO/ESA for MVS Installation

After you have completed all the necessary steps involved in the initial installation¹ (see Chapter 2) and customization (see Chapter 3) of DITTO/ESA for MVS Base Function, you need to perform the following steps to verify your installation, before completing the installation process. You may also need to refer to the *DITTO/ESA User's Guide and Reference*, SH19-8221.

1. Log on a TSO user ID that is enabled to access and use DITTO/ESA.
2. Start DITTO/ESA:
 - To start DITTO/ESA from the TSO command line, enter `ditto` at the READY prompt.
 - To start DITTO/ESA from an ISPF panel, enter `tso ditto` on the ISPF command line.

The DITTO/ESA main menu should appear.

Note: The first time you use DITTO/ESA, a Copyright panel appears. After reading the panel text, press the Cancel key (PF12). In subsequent DITTO/ESA sessions, this panel will not automatically appear.

3. Press the Menu key (PF2) to flip between the task selection menu and the primary function menu. Later, you can decide your preference for daily operation.
4. Enter `news` in the entry field or in the command line to display details of the new functions and features of this release of DITTO/ESA.
Press the Exit key (PF3) to return to the menu.
5. Enter `1v1` in the entry field or in the command line to display the release level, PTF level, and whether APF authorization is set on or off.
Check that the information displayed conforms with the level of DITTO/ESA that you want installed.
6. Press the Exit key (PF3) to end the DITTO/ESA session.

Complete the Installation

You now need to complete the installation of DITTO/ESA for MVS by performing the ACCEPT processing. The two steps involved are described in the section "Installation Instructions for DITTO/ESA for MVS Release 3 Base Function" in the *Program Directory for DITTO/ESA for MVS*, GI10-0425 under the following headings:

1. "Perform SMP/E ACCEPT CHECK"
2. "Perform SMP/E ACCEPT"

¹ Up to, but not including, ACCEPT processing.

Verifying the Japanese Feature Installation

After you have completed all the necessary steps involved in the initial installation¹ (see Chapter 2) and customization (see Chapter 3) of DITTO/ESA for MVS Japanese Feature, you need to perform the following steps to verify your installation, before completing the installation process. You may also need to refer to the *DITTO/ESA User's Guide and Reference*, SH19-8221.

Note: DITTO/ESA for MVS Japanese Feature requires the DITTO/ESA for MVS Base Function product to have already been installed.

1. Log on a TSO user ID that is enabled to access and use DITTO/ESA.
2. Start DITTO/ESA:
 - To start DITTO/ESA from the TSO command line, enter `ditto` at the READY prompt.
 - To start DITTO/ESA from an ISPF panel, enter `tso ditto` on the ISPF command line.

The English or Japanese DITTO/ESA main menu should appear depending on the default defined.

Note: The first time you use DITTO/ESA, a Copyright panel appears. After reading the panel text, press the Cancel key (PF12). In subsequent DITTO/ESA sessions, this panel will not automatically appear.

3. If the English menu appears:
 - Enter `set` in the command line to invoke the SET function
 - Change the language to `japanese`
 - Press the Exit key (PF3)

You should return to the Japanese menu panel.

4. Press the Menu key (PF2) to flip between the task selection menu and the primary function menu. Later, you can decide your preference for daily operation.
5. Enter `news` in the entry field or in the command line to display details of the new functions and features of this release of DITTO/ESA.
Press the Exit key (PF3) to return to the menu.
6. Enter `lv1` in the entry field or in the command line to display the release level, PTF level, and whether APF authorization is set on or off.
Check that the information displayed conforms with the level of DITTO/ESA that you want installed.
7. Press the Exit key (PF3) to end the DITTO/ESA session.

Complete the Installation

You now need to complete the installation of DITTO/ESA for MVS by performing the ACCEPT processing. The two steps involved are described in the section "Installation Instructions for DITTO/ESA for MVS Release 3 Japanese Feature" in the *Program Directory for DITTO/ESA for MVS*, GI10-0425 under the following headings:

1. "Perform SMP/E ACCEPT CHECK"
2. "Perform SMP/E ACCEPT"

Chapter 5. Maintaining DITTO/ESA for MVS

This chapter describes how to re-install DITTO/ESA and how to apply service updates to DITTO/ESA. To use the maintenance procedures effectively, you should have already installed DITTO/ESA and any required products.

In addition, this chapter describes how to remove DITTO/ESA.

Re-installing DITTO/ESA

To re-install DITTO/ESA:

- If you did not use the SMP/E ACCEPT command, then use a SMP/E APPLY REDO command.
- If you did use the SMP/E ACCEPT command, then you need to remove DITTO/ESA before installing again. For more information, see “Removing DITTO/ESA” on page 23.

Applying Service Updates

You might need to apply maintenance or service updates to DITTO/ESA periodically.

What You Receive

If you report a problem with DITTO/ESA to your IBM Support Center, you will receive a tape containing one or more Authorized Program Analysis Reports (APARs) or Program Temporary Fixes (PTFs) that have been created to solve your problem.

You might also receive a list of prerequisite APARs or PTFs, which should be applied to your system before applying the current service. These prerequisite APARs or PTFs might relate to DITTO/ESA or any other licensed product you have installed, including MVS.

Checklist for Applying Service

Table 3 on page 22 lists the steps and associated SMP/E commands to install corrective service on DITTO/ESA. You can use Table 3 on page 22 as a checklist.

Table 3. Summary of Steps for Installing Service on DITTO/ESA

Step	Description	SMP/E Command	Page
__ 1	Prepare to install service.		22
__ 2	Receive service.	RECEIVE	22
__ 3	Accept previously applied service (optional).	ACCEPT	22
__ 4	Apply service.	APPLY	22
__ 5	Test service.		23
__ 6	Accept service.	ACCEPT	23

Step 1. Prepare to Install Service

Before you start applying service:

1. Create a backup copy of the current DITTO/ESA library. Save this copy of DITTO/ESA until you have completed installing the service and you are confident that the service runs correctly.
2. Research each service tape through the IBM Support Center for any errors or additional information. Note all errors on the tape that were reported by APARs and apply the relevant fixes.

Step 2. Receive the Service

Receive the service using the SMP/E RECEIVE command from either the SMP/E dialogs in ISPF, or using a batch job.

Step 3. Accept Applied Service (Optional)

If there is any service which you applied earlier but did not accept, and the earlier service is not causing problems in your installation, accept the applied service from either the SMP/E dialogs in ISPF, or using a batch job.

Accepting the earlier service allows you to use the SMP/E RESTORE command to return to your current level if you encounter a problem with the service you are currently applying. You can do this either from the SMP/E dialogs in ISPF, or using a batch job.

Step 4. Apply the Service

Apply the service using the SMP/E APPLY command. You should use the SMP/E APPLY command with the CHECK operand first. Check the output; if it shows no conflict, rerun the APPLY without the CHECK option. This can be done from the SMP/E dialogs in ISPF or using a batch job.

Do not apply the documented USERMODs until PTF service has been ACCEPTed. This is to avoid regressing service to the affected parts.

Step 5. Test the Service

Thoroughly test your updated DITTO/ESA. Do not accept a service update until you are confident that it runs correctly.

In the event of a serious problem, you can restore the backup copy of DITTO/ESA.

Step 6. Accept the Service

Accept the service using the SMP/E ACCEPT command. You should use the SMP/E ACCEPT command with the CHECK operand first. Check the output; if it shows no conflict, rerun the ACCEPT without the CHECK option. You can do this either from the SMP/E dialogs in ISPF, or using a batch job.

Removing DITTO/ESA

To delete DITTO/ESA, you must:

1. Make sure no other products depend on it.
2. Create a dummy function SYSMOD to delete it.
3. Receive, apply and accept the dummy function, and run the UCLIN to delete the SYSMOD entries for the deleted function and the dummy function.

Edit and submit job DITDEL0 to delete DITTO/ESA. Consult the instructions in the sample job for more information. For the Japanese Feature, use job DITDEL0J.

Expected Return Codes and Messages: You receive message GIM39701W because the dummy function SYSMOD has no elements. The SMP/E RECEIVE command returns a return code of 4. If any USERMODs have been applied then the SMP/E APPLY command issues a GIM44502W message indicating USERMOD changes will be lost with a return code of 4. Both these warning messages can be ignored.

The target and distribution libraries can now be deleted. For a list of these libraries, see the *Program Directory for DITTO/ESA for MVS*, G110-0425.

Reporting a Problem with DITTO/ESA

Report any difficulties with this product to your IBM Support Center. In the United States, if an APAR is required, submit the data to the location identified in *Field Engineering Programming System General Information*, G229-2228 as being responsible for the failing component.

Table 4 identifies the component IDs (COMP ID) for DITTO/ESA.

Table 4. DITTO/ESA Component IDs

FMID	COMP ID	Component Name	REL
H0GB310	565510300	DITTO/ESA MVS	310
J0GB320	565510300	DITTO/ESA MVS JAPANESE	320

Obtaining Service Information

Preventive Service Planning (PSP) information is continually updated as fixes are made available for problems. Check with your IBM Support Center or use either Information/Access or SoftwareXcel Extended to see whether there is additional PSP information you need. To obtain this information, specify the UPGRADE and SUBSET values shown in Table 5.

Table 5. DITTO/ESA Upgrade and Subset Values

UPGRADE	SUBSET
DITTOESA	MVS/130
DITTOESA	MVS/130J

DITTO/ESA for VM

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Chapter 6. Planning for Installing DITTO/ESA for VM

All of the information you need to plan the installation of DITTO/ESA on CMS is contained in the *Program Directory for DITTO/ESA for VM*, GI10-0438. See the section "Installation Requirements and Considerations" in the *Program Directory*.

Note: If you are planning to install the Japanese Feature of DITTO/ESA, you should see the separate document, *Program Directory for DITTO/ESA for VM NLV Japanese*, GI10-0427.

You should also see the subsequent chapters in this book, Chapter 7, "Installing DITTO/ESA for VM" on page 29 and Chapter 8, "Customizing DITTO/ESA for VM" on page 33.

Chapter 7. Installing DITTO/ESA for VM

All of the information you need to install DITTO/ESA on CMS is contained in the *Program Directory for DITTO/ESA for VM*, GI10-0438. See the section “Installation Instructions” in the *Program Directory*.

Note: If you are installing the Japanese Feature of DITTO/ESA, you should see the separate document, *Program Directory for DITTO/ESA for VM NLV Japanese*, GI10-0427.

After you have completed the “Installation Instructions” in the *Program Directory*, see the following “Post-Installation Activities.”

Post-Installation Activities

After you have installed DITTO/ESA (either the Base Function or the Japanese Feature), you need to complete the installation process. See either “Base Function” or “Japanese Feature” on page 30 that follow.

Base Function

Following installation of the Base Function of DITTO/ESA, complete the installation process by verifying that you have successfully installed DITTO/ESA.

Verifying the DITTO/ESA for VM Installation

Once you have completed all necessary steps to install and customize DITTO/ESA Base Function, perform the following steps to verify your installation.

1. Log on a CMS user ID that is enabled to access and use DITTO/ESA (that is, a user who can link to the DITTO/ESA production disk or SFS directory).
2. Enter `ditto` after READY; appears on your CMS terminal.
The DITTO/ESA for VM Release 3 main menu should appear.
3. Press the Menu key (PF2) to flip between the task selection menu and the primary function menu. Later on, you can determine and set your preference for daily operation.
4. Enter `news` in the entry field or in the command line to display details of the new functions and features of this release of DITTO/ESA.
Read the information presented and then press the Exit key (PF3) to return to the menu.
5. Enter `lvl` in the entry field or in the command line to display the release level and PTF level.
Check that the information displayed conforms with the level of DITTO/ESA that you want installed.
6. Press the Exit key (PF3) to end the DITTO/ESA session.

Japanese Feature

Following installation of the Japanese Feature of DITTO/ESA, you may need to perform some post-installation customization that is specific to the Japanese Feature, before verifying that you have successfully installed DITTO/ESA.

The post-installation customization steps and verification process are described in the following sections.

Make Japanese the Default Language

Defining the default language for your installation is part of the DITTO/ESA Base Function product customization.

For more information, see “Changing the Default SET Parameters” on page 33.

Customize the Japanese Translation Tables

DITTO/ESA Japanese Feature provides translation tables for display and print that are used by DITTO/ESA when the Japanese language is selected. You may customize the Japanese translation tables to meet your needs.

1. On the SAMPLE (2C2 or SFS directory .SAMPLE) disk, edit file DITTRJPN SAMPASM and change the translation table definitions as required for your installation.
2. File the result with the name DITTRJPN SSML0004 E2.
3. Run the DITUMODJ EXEC to build the customized DITTRJPN MODULE file on the BUILD (400 or SFS directory .TPRODUCT) disk by entering the following command:

```
DITUMODJ PPF 5654029E component-name
```

where *component-name* is DITTO to install on minidisks, or DITTO_SFS to install in Shared System Directories.

Verifying the Japanese Feature Installation

Once you have completed all necessary steps to install and customize DITTO/ESA Japanese Feature, perform the following steps to verify your installation.

1. Log on a CMS user ID that is enabled to access and use DITTO/ESA.

You must use a terminal session that is capable of displaying Japanese DBCS text.
2. Enter ditto after READY; appears on your CMS terminal.

The English or Japanese DITTO/ESA for VM main menu should appear, depending on the default language defined.
3. If the English menu appears:
 - Enter set in the entry field or in the command line to invoke the SET function
 - Change the language to japanese
 - Press the Exit key (PF3)

You should return to the Japanese menu panel.

4. Enter news in the entry field or in the command line to display details of the new functions and features of this release of DITTO/ESA.

Read the information presented and then press the Exit key (PF3) to return to the menu.

5. Enter 1v1 in the entry field or in the command line to display the release level and PTF level.

Check that the information displayed conforms with the level of DITTO/ESA that you want installed.

6. Press the Exit key (PF3) to end the DITTO/ESA session.

Chapter 8. Customizing DITTO/ESA for VM

You can customize, or modify, DITTO/ESA only after installing the product (as described in Chapter 7, “Installing DITTO/ESA for VM” on page 29)

Note: In this chapter, a number of EXECs are mentioned in various customization steps. For a full description of their use, invoke the EXEC with a “?” parameter. For example, DITUMODP ?.

Changing the Default SET Parameters

If you want to change the default settings for the SET parameters, you can change the profile supplied with DITTO/ESA.

Change the SET profile as follows:

1. Logon to DITTO/ESA service user ID 5654029D.
2. If the Software Inventory disk (MAINT 51D) was accessed in R/O (read only) mode, then establish R/W (read/write) access to it.

Note: If the MAINT 51D minidisk was accessed in R/O mode, it indicates that another user has accessed it in R/W mode. In this case, that user needs to re-link it in R/O mode. You can then issue the following commands to obtain R/W access:

```
LINK MAINT 51D 51D MR
ACCESS 51D D
```

The 51D minidisk is where the VMSES/E Software Inventory files and other product-dependent files reside.

3. Establish the correct minidisk access order by entering one of the following commands, depending where DITTO/ESA is installed:
 - If DITTO/ESA is installed on minidisks, enter this command:

```
VMFSETUP 5654029D DITTO
```

- If DITTO/ESA is installed in Shared File System directories, enter this command:

```
VMFSETUP 5654029D DITTO$SFS
```

In the above commands, 5654029D represents the PPF (Product Parameter File) that was shipped with the product. If you have your own PPF override, you should substitute your PPF name for 5654029D.

4. On the SAMPLE disk, edit the DITTO \$PROFILE file and change it to meet your needs. Each line of the profile must start with the SET command.
5. File the result with the name DITTO \$PRL0001 E2.
6. Run the DITUMODP EXEC to rebuild a customized DITTO \$PROFILE file on the test build disk.
7. Copy from the test build disk to the production build disk using one of the following commands, depending where DITTO/ESA is installed:
 - If DITTO/ESA is installed on minidisks, enter this command:

```
VMFCOPY DITTO $PROFILE I = = J2 (PRODID 5654029D%DITTO OLDDATE REPLACE
```

- If DITTO/ESA is installed in Shared File System directories, enter this command:

```
VMFCOPY DITTO $PROFILE I = = J2 (PRODID 5654029D%DITTO$FS OLDDATE REPLACE
```

In the above commands, 5654029D represents the PPF that was shipped with the product. If you have your own PPF override, you should substitute your PPF name for 5654029D.

Figure 3 shows DITTO \$PROFILE, as it is supplied by IBM.

```
* DITTO/ESA USER PROFILE:
*
SET PRINTOUT=PRINTER,PRINTLEN=132,PAGESIZE=60,PRTRTRANS=ON,DBCSPRT=OFF
SET HEADERPG=YES,PAGESKIP=NO,DUMP=UPDOWN,DATAHDR=YES,ASCII=NO,PAD=OFF
SET TAPELBL=SL,RECLIMIT=(1,*),LANGUAGE=ENGLISH,TERMTYPE=3270
SET CMDSYNTAX=DITTO
*
```

Figure 3. DITTO \$PROFILE Listing

The TERMTYPE Parameter and the KEYS Command

The TERMTYPE parameter is included in the profile, but is not available within the SET function:

TERMTYPE=3270|3270KN

Specify 3270 for standard 3270 terminals.

Specify 3270KN to support terminals that use Japanese Katakana characters. (Alternatively, individual users can enter the KEYS command and set the terminal type to 3270KN.)

If 3270KN is specified, DITTO/ESA translates message text to uppercase if LANGUAGE=ENGLISH is specified, and translates panel text to uppercase regardless of the language.

For details of other SET processing options, see the *DITTO/ESA User's Guide and Reference*, SH19-8221.

Changing the Print and Display Translation Tables

By default, DITTO/ESA translates all unprintable characters to blanks (PRTRTRANS=ON). The printer therefore does not need to search the whole print train for characters that it does not have. This improves the speed of printing.

Sometimes you may want to display special characters on a terminal during a DITTO/ESA session, or print DITTO/ESA output in lowercase alphanumeric characters. To do this:

1. Check that the terminal on which you want to display DITTO/ESA panels supports the display of special characters, or that the universal character buffer (UCB) of your printer has the characters you want to use.
2. Set the PRTRTRANS parameter of the SET function to ON.
3. Modify the DITTO/ESA translation table as follows:

- a. Logon to DITTO/ESA service user ID 5654029D.
- b. If the Software Inventory disk (MAINT 51D) was accessed in R/O (read only) mode, then establish R/W (read/write) access to it.

Note: If the MAINT 51D minidisk was accessed in R/O mode, it indicates that another user has accessed it in R/W mode. In this case, that user needs to re-link it in R/O mode. You can then issue the following commands to obtain R/W access:

```
LINK MAINT 51D 51D MR
ACCESS 51D D
```

The 51D minidisk is where the VMSES/E Software Inventory files and other product-dependent files reside.

- c. Establish the correct minidisk access order by entering one of the following commands, depending where DITTO/ESA is installed:
 - If DITTO/ESA is installed on minidisks, enter this command:

```
VMFSETUP 5654029D DITTO
```

- If DITTO/ESA is installed in Shared File System directories, enter this command:

```
VMFSETUP 5654029D DITTOSFS
```

In the above commands, 5654029D represents the PPF (Product Parameter File) that was shipped with the product. If you have your own PPF override, you should substitute your PPF name for 5654029D.

- d. On the SAMPLE disk, edit the DITTRTBS SAMPASM file and change the translation table definitions to meet your needs.
- e. File the result with the name DITTRTBS SSML0002 E2.
- f. Run the DITUMODT EXEC to rebuild a customized DITMODTR MODULE file on the test build disk.
- g. Copy from the test build disk to the production build disk using one of the following commands, depending where DITTO/ESA is installed:
 - If DITTO/ESA is installed on minidisks, enter this command:

```
VMFCOPY DITMODTR MODULE I = = J2 (PRODID 5654029D%DITTO OLDDATE REPLACE
```

- If DITTO/ESA is installed in Shared File System directories, enter this command:

```
VMFCOPY DITMODTR MODULE I = = J2 (PRODID 5654029D%DITTOSFS OLDDATE REPLACE
```

In the above commands, 5654029D represents the PPF that was shipped with the product. If you have your own PPF override, you should substitute your PPF name for 5654029D.

Translating the Message Text

All DITTO/ESA messages are stored in the DITMSG00 file. This CSECT is part of the root module (DITMOD) so that an English version of the messages is always available.

The DITMSG00 file contains the assembler source for these messages. You can use this to provide your own set of translated messages. The message set in effect for a DITTO/ESA session or job is then controlled by the LANGUAGE parameter of the SET function.

To provide translated versions of the messages:

1. Logon to DITTO/ESA service user ID 5654029D.
2. If the Software Inventory disk (MAINT 51D) was accessed in R/O (read only) mode, then establish R/W (read/write) access to it.

Note: If the MAINT 51D minidisk was accessed in R/O mode, it indicates that another user has accessed it in R/W mode. In this case, that user needs to re-link it in R/O mode. You can then issue the following commands to obtain R/W access:

```
LINK MAINT 51D 51D MR
ACCESS 51D D
```

The 51D minidisk is where the VMSES/E Software Inventory files and other product-dependent files reside.

3. Establish the correct minidisk access order by entering one of the following commands, depending where DITTO/ESA is installed:

- If DITTO/ESA is installed on minidisks, enter this command:

```
VMFSETUP 5654029D DITTO
```

- If DITTO/ESA is installed in Shared File System directories, enter this command:

```
VMFSETUP 5654029D DITTOSFS
```

In the above commands, 5654029D represents the PPF (Product Parameter File) that was shipped with the product. If you have your own PPF override, you should substitute your PPF name for 5654029D.

4. On the SAMPLE disk, edit the DITMSG00 SAMPASM file and change the message text.
5. File the result with the name DITMSyyy SSML0003 E2, where yyy is one of the following:

FRA	French
DEU	German
ITA	Italian
JPN	Japanese
PTG	Portuguese
ESP	Spanish
XXX	Other

6. Run the DITUMODM EXEC to build a customized DITMSyyy MODULE file on the test build disk.
7. Create an NLS version of the translation table as follows:

- a. On the SAMPLE disk, edit the DITTRTBS SAMPASM file and customize the translation table as required for the messages.
- b. File the result with the name DITTRyyy SSML0004 E2, where yyy is the language code specified previously.
- c. Run the DITUMODX EXEC to build a customized DITTRyyy MODULE file on the test build disk.
- d. Copy new modules to the production build disk using one of the following commands, depending where DITTO/ESA is installed:
 - If DITTO/ESA is installed on minidisks, enter this command:

```
VMFCOPY DITTRyyy MODULE I = = J2 (PRODID 5654029D%DITTO OLDDATE REPLACE
```

- If DITTO/ESA is installed in Shared File System directories, enter this command:

```
VMFCOPY DITTRyyy MODULE I = = J2 (PRODID 5654029D%DITTO$SFS OLDDATE REPLACE
```

In the above commands, 5654029D represents the PPF that was shipped with the product. If you have your own PPF override, you should substitute your PPF name for 5654029D.

Translating the Panel Text

All DITTO/ESA panels are provided in English. You can translate some or all of these panels into another language. (If no translated version of a particular panel is available, DITTO uses the English version.)

Each panel is stored in the library DITPLIB MACLIB. You translate a panel as follows:

1. Logon to DITTO/ESA service user ID 5654029D.
2. If the Software Inventory disk (MAINT 51D) was accessed in R/O (read only) mode, then establish R/W (read/write) access to it.

Note: If the MAINT 51D minidisk was accessed in R/O mode, it indicates that another user has accessed it in R/W mode. In this case, that user needs to re-link it in R/O mode. You can then issue the following commands to obtain R/W access:

```
LINK MAINT 51D 51D MR
ACCESS 51D D
```

The 51D minidisk is where the VMSES/E Software Inventory files and other product-dependent files reside.

3. Establish the correct minidisk access order by entering one of the following commands, depending where DITTO/ESA is installed:
 - If DITTO/ESA is installed on minidisks, enter this command:


```
VMFSETUP 5654029D DITTO
```
 - If DITTO/ESA is installed in Shared File System directories, enter this command:


```
VMFSETUP 5654029D DITTO$SFS
```

In the above commands, 5654029D represents the PPF (Product Parameter File) that was shipped with the product. If you have your own PPF override, you should substitute your PPF name for 5654029D.

4. Extract the panel from the DITPLIB MACLIB by entering the following statements:

```
FILEDEF CLEAR
FILEDEF IN DISK DITPLIB MACLIB I2 (MEMBER panel)
FILEDEF OUT DISK panel COPY A
MOVEFILE
```

where *panel* is the panel name.

5. Translate the panel text.
6. Use the CMS MACLIB command to store the panel in DITPyyy MACLIB, where *yyy* is one of the following language codes:

FRA	French
DEU	German
ITA	Italian
JPN	Japanese
PTG	Portuguese
ESP	Spanish
XXX	Other

If the panel member contains any .INCLUDE or .HELP statements, make sure that the referenced members are also stored in DITPyyy MACLIB. Update or create DITPyyy MACLIB on the test build disk.

7. For each translated panel, create an entry in the VVT log on the SAMPLE disk with the VMFSIM command:

```
VMFSIM LOGMOD 5654029D VVTLCL E TDATA :PART fn CPY :MOD LCLnnnn
```

where *fn* is the panel file name and *nnnn* is an unused local modification number. The log entry will cause a warning message whenever a translated panel is affected by service.

8. Move to the production build disk using one of the following commands, depending where DITTO/ESA is installed:

- If DITTO/ESA is installed on minidisks, enter this command:

```
VMFCOPY DITPyyy MACLIB I = = J2 (PRODID 5654029D%DITTO OLDDATE REPLACE
```

- If DITTO/ESA is installed in Shared File System directories, enter this command:

```
VMFCOPY DITPyyy MACLIB I = = J2 (PRODID 5654029D%DITTO$SFS OLDDATE REPLACE
```

In the above commands, 5654029D represents the PPF that was shipped with the product. If you have your own PPF override, you should substitute your PPF name for 5654029D.

If a DITTO/ESA user specifies one of the above languages with the SET parameter LANGUAGE, the translated panels are used.

Changing the ASCII Translation Tables

You can use DITTO/ESA to translate tape data from:

- Translate tape input from ASCII format to EBCDIC format.
- Translate tape output from EBCDIC format to ASCII format.
- Translate tape input from ASCII format to EBCDIC format, and translate tape output from EBCDIC format to ASCII format.

If you want to use an ASCII or EBCDIC character set other than the character sets supplied by IBM, you can change the translation table definition statements.

To change the ASCII translation tables:

1. Logon to DITTO/ESA service user ID 5654029D.
2. If the Software Inventory disk (MAINT 51D) was accessed in R/O (read only) mode, then establish R/W (read/write) access to it.

Note: If the MAINT 51D minidisk was accessed in R/O mode, it indicates that another user has accessed it in R/W mode. In this case, that user needs to re-link it in R/O mode. You can then issue the following commands to obtain R/W access:

```
LINK MAINT 51D 51D MR
ACCESS 51D D
```

The 51D minidisk is where the VMSES/E Software Inventory files and other product-dependent files reside.

3. Establish the correct minidisk access order by entering one of the following commands, depending where DITTO/ESA is installed:

- If DITTO/ESA is installed on minidisks, enter this command:

```
VMFSETUP 5654029D DITTO
```

- If DITTO/ESA is installed in Shared File System directories, enter this command:

```
VMFSETUP 5654029D DITTOSFS
```

In the above commands, 5654029D represents the PPF (Product Parameter File) that was shipped with the product. If you have your own PPF override, you should substitute your PPF name for 5654029D.

4. On the SAMPLE disk, edit the DITASCII SAMPASM file and change the translation table definitions to meet your needs.
5. File the result with the name DITASCII SSML0005 E2.
6. Run the DITUMODA EXEC to rebuild a customized DITMODAC MODULE file on the test build disk.
7. Move to the production build disk using one of the following commands, depending where DITTO/ESA is installed:
 - If DITTO/ESA is installed on minidisks, enter this command:


```
VMFCOPY DITMODAC MODULE I = = J2 (PRODID 5654029D%DITTO OLDDATE REPLACE
```
 - If DITTO/ESA is installed in Shared File System directories, enter this command:

```
VMFCOPY DITMODAC MODULE I = = J2 (PRODID 5654029D%DITTO$FS OLDDATE REPLACE
```

In the above commands, 5654029D represents the PPF that was shipped with the product. If you have your own PPF override, you should substitute your PPF name for 5654029D.

Security

You should also customize the security environment. For more information, see Appendix A, “Customizing the Security Environment” on page 91.

If you decide to use a customized DITSECUR exit for function protection, perform the following steps:

1. Logon to DITTO/ESA service user ID 5654029D.
2. If the Software Inventory disk (MAINT 51D) was accessed in R/O (read only) mode, then establish R/W (read/write) access to it.

Note: If the MAINT 51D minidisk was accessed in R/O mode, it indicates that another user has accessed it in R/W mode. In this case, that user needs to re-link it in R/O mode. You can then issue the following commands to obtain R/W access:

```
LINK MAINT 51D 51D MR
ACCESS 51D D
```

The 51D minidisk is where the VMSES/E Software Inventory files and other product-dependent files reside.

3. Establish the correct minidisk access order by entering one of the following commands, depending where DITTO/ESA is installed:
 - If DITTO/ESA is installed on minidisks, enter this command:


```
VMFSETUP 5654029D DITTO
```
 - If DITTO/ESA is installed in Shared File System directories, enter this command:


```
VMFSETUP 5654029D DITTO$FS
```

In the above commands, 5654029D represents the PPF (Product Parameter File) that was shipped with the product. If you have your own PPF override, you should substitute your PPF name for 5654029D.

4. On the SAMPLE disk, edit the DITSECUR SAMPASM file and change it to meet your needs.
5. File the result with the name DITSECUR SSML0006 E2.
6. Run the DITUMODS EXEC to rebuild a customized DITSECUR MODULE file on the test build disk.
7. For security reasons, place the DITSECUR module on a read-only disk accessed by all CMS users.
8. Move to the production build disk using one of the following commands, depending where DITTO/ESA is installed:
 - If DITTO/ESA is installed on minidisks, enter this command:


```
VMFCOPY DITSECUR MODULE I = = J2 (PRODID 5654029D%DITTO OLDDATE REPLACE
```

- If DITTO/ESA is installed in Shared File System directories, enter this command:

```
VMFCOPY DITSECUR MODULE I = = J2 (PRODID 5654029D%DITTO$SFS OLDDATE REPLACE
```

In the above commands, 5654029D represents the PPF that was shipped with the product. If you have your own PPF override, you should substitute your PPF name for 5654029D.

Chapter 9. Maintaining DITTO/ESA for VM

This chapter describes how to re-install, or remove DITTO/ESA and how to apply service updates. To effectively use the maintenance procedures, you must have already installed DITTO/ESA and any required products.

To become more familiar with service using VMSES/E, you should read the introductory chapters in *VMSES/E Introduction and Reference*, SC24-5444. This book also contains the command syntax for the VMSES/E commands listed in the procedure.

Re-installing DITTO/ESA

You should delete the product and commence the installation process from the beginning. To delete the product, see "Removing DITTO/ESA." When the product is deleted, start the installation as described in the *Program Directory for DITTO/ESA for VM*, G110-0438.

Note: For the Japanese Feature, see the *Program Directory for DITTO/ESA for VM NLV Japanese*, G110-0427.

Applying Service Updates

For details about applying service updates, see the *Program Directory for DITTO/ESA for VM*, G110-0438.

Note: For the Japanese Feature, see the *Program Directory for DITTO/ESA for VM NLV Japanese*, G110-0427.

Removing DITTO/ESA

Use the VMFINS DELETE command to remove DITTO/ESA from your system. For information on how to do this, see the chapter on product deletion in *VMSES/E Introduction and Reference*, SC24-5444.

Reporting a Problem with DITTO/ESA

Report any difficulties you have using this product to your IBM Support Center. In the United States, if an APAR is required, submit the data to the location identified in the *Field Engineering Programming System General Information*, G229-2228.

Table 6 identifies the component ID (COMP ID) for DITTO/ESA.

Table 6. Component IDs

Feature	COMP ID	Component Name	REL
Base Function	565402901	DITTO/ESA VM BASE	310
Japanese Feature	565402901	DITTO/ESA for VM 1.3.0 NLV Japanese	320

Obtaining Service Information

Preventive Service Planning (PSP) information is continually updated as fixes are made available for problems. Check with your IBM Support Center or use either Information/Access or SoftwareXcel Extended to see whether there is additional PSP information you need. To obtain this information, specify the UPGRADE and SUBSET values shown in Table 7.

Table 7. DITTO/ESA: Upgrade and Subset Values

UPGRADE	SUBSET
DITTOESA	VM/130
DITTOESA	VM/130J

DITTO/ESA for VSE

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Chapter 10. Planning for Installing DITTO/ESA for VSE

This section contains the following planning information to help you properly install DITTO/ESA on VSE:

- Worksheet
- What you receive with DITTO/ESA
- Choosing required and optional software
- Verifying that you have enough DASD storage
- Deciding where to install
- Checking service updates

Worksheet: Planning for Installing DITTO/ESA for VSE

Before you begin the installation you should:

- | | |
|--|--|
| <p>___ 1. Determine which of the following you are installing DITTO/ESA from:</p> <p>___ A stacked tape (with one or more products besides DITTO/ESA)</p> <p>___ A tape with just DITTO/ESA on it</p> <p>See "What You Receive with DITTO/ESA" on page 48.</p> <p>___ 2. Determine the product parts to be installed:</p> <p>For Base Function:</p> <p>___ COMPID <i>564809901</i></p> <p>___ Feature number ___</p> <p>___ Tape label <i>unlabeled</i></p> <p>For Japanese Feature:</p> <p>___ COMPID <i>564809902</i></p> <p>___ Feature number ___</p> <p>___ Tape label <i>unlabeled</i></p> <p>See "Basic Material" on page 48.</p> <p>___ 3. Verify that required software (and optional software, if appropriate) is at the level</p> | <p>needed. See "What You Need to Install DITTO/ESA" on page 51.</p> <p>___ 4. Verify that adequate storage is available. See "DASD Storage Required" on page 52.</p> <p>___ 5. Determine how you are going to install DITTO/ESA:</p> <p>___ Using Interactive Interface.</p> <p>___ Using a batch installation job.</p> <p>See "Planning Where to Install DITTO/ESA" on page 53.</p> <p>___ 6. Determine which of the following you want to install in:</p> <p>___ Default library and sublibrary</p> <p>___ A different library and sublibrary</p> <p>If you are using a different library and sublibrary, verify that space is sufficient. See "Planning Where to Install DITTO/ESA" on page 53.</p> <p>___ 7. Check on the latest service updates needed. See "Program Support" on page 53.</p> |
|--|--|

What You Receive with DITTO/ESA

You receive one of the following when you order DITTO/ESA for VSE Release 3 Base Function:

COMPID	Feature Number	System Name
564809901	5801	VSE/ESA
564809901	5802	VSE/ESA
564809901	6662	VSE/ESA

You receive one of the following when you order DITTO/ESA for VSE Release 3 Japanese Feature:

COMPID	Feature Number	System Name
564809902	5811	VSE/ESA
564809902	5812	VSE/ESA
564809902	6663	VSE/ESA

Distribution Media

DITTO/ESA is distributed on one of the following media:

- Unlabeled 9-track magnetic tape written at 6250 BPI
- 3480 tape cartridge
- 4mm DAT tape cartridge

The tape or cartridge contains all the programs and data needed for installation.

Basic Material

Base Function

Table 8 describes the program tape or cartridge. Table 9 on page 49 describes the file content of the program tape or cartridge.

Table 8. Basic Material: Program Tape (Base Function)

Medium	Feature Number	Physical Volume	External Label Identification	VOLSER
6250 tape	5801	1	DITTO/ESA VSE	unlabeled
3480 cart.	5802	1	DITTO/ESA VSE	unlabeled
4mm DAT cartridge	6662	1	DITTO/ESA VSE	unlabeled

Table 9. Program Tape: File Content (Base Function)

File	Description
1	Header file containing DITTO/ESA copyright statement
2	Backup file ID "DITTO.....1.3.0" followed by a MSHP System History File
3	DITTO/ESA library file containing the production sublibrary
4	Tape mark
5	End of backup record
6	Tape mark

VSE/ESA uses the Maintain System History Program (MSHP) to install this product.

Japanese Feature

Table 10 describes the program tape or cartridge. Table 11 describes the file content of the program tape or cartridge.

Table 10. Basic Material: Program Tape (Japanese Feature)

Medium	Feature Number	Physical Volume	External Label Identification	VOLSER
6250 tape	5811	1	DITTO/ESA VSE JPN	unlabeled
3480 cartridge	5812	1	DITTO/ESA VSE JPN	unlabeled
4mm cartridge	6663	1	DITTO/ESA VSE JPN	unlabeled

Table 11. Program Tape: File Content (Japanese Feature)

File	Description
1	Header file containing DITTO/ESA copyright statement
2	Backup file ID "DITTO.JPN..1.3.0" followed by a MSHP System History File
3	DITTO/ESA library file containing the production sublibrary
4	Tape mark
5	End of backup record
6	Tape mark

VSE/ESA uses the Maintain System History Program (MSHP) to install this product.

Optional Material

If you received DITTO/ESA for VM Release 3 as an optional feature to DITTO/ESA for VSE Release 3, refer to the corresponding *Program Directory*. Table 12 on page 50 and Table 13 on page 50 describe the tape or cartridge for VM.

DITTO/ESA for VSE

Table 12. Optional Material: Program Tape and Cartridge (Base Function) for VM

Medium	Feature Number	Physical Volume	Tape Content	External Label Identification	VOLSER
6250 tape	5821	1	DITTO/ESA VM BASE	DITTO/ESA VM	unlabeled
3480 cartridge	5822	1	DITTO/ESA VM BASE	DITTO/ESA VM	unlabeled
4mm DAT cartridge	6664	1	DITTO/ESA VM BASE	DITTO/ESA VM	unlabeled

Table 13. Optional Material: Program Tape and Cartridge (Japanese Feature) for VM

Medium	Feature Number	Physical Volume	Tape Content	External Label Identification	VOLSER
6250 tape	5160	1	DITTO/ESA VM JAPANESE	DITTO/ESA VM JPN	unlabeled
3480 cartridge	5122	1	DITTO/ESA VM JAPANESE	DITTO/ESA VM JPN	unlabeled
4mm cartridge	5180	1	DITTO/ESA VM JAPANESE	DITTO/ESA VM JPN	unlabeled

Cumulative Service Tape

You might receive an additional tape containing cumulative service with your order. The PTFs on this tape have not yet been incorporated into this release.

Program Publications and Softcopy

This section identifies the basic and optional publications for DITTO/ESA.

Table 14 identifies the basic program publications for DITTO/ESA. One copy of each of these publications is included when you order the basic materials for DITTO/ESA. For additional copies, contact your IBM representative.

Table 14 (Page 1 of 2). Basic Material: Unlicensed Publications

Publication Title	Form Number	Language
DITTO/ESA for VSE Release 3 Base Function Material		
<i>Licensed Program Specifications</i>	GH19-8223	US-English
<i>Introducing DITTO/ESA</i>	GH19-8222	US-English
<i>User's Guide and Reference</i>	SH19-8221	US-English
<i>Reference Summary</i>	SX11-6110	US-English
<i>Installation and Customization Guide</i>	GC26-9598	US-English

Table 14 (Page 2 of 2). Basic Material: Unlicensed Publications

Publication Title	Form Number	Language
DITTO/ESA for VSE Release 3 Japanese Feature Material		
<i>Licensed Program Specifications</i>	GH19-8223	US-English
<i>Introducing DITTO/ESA</i>	GH19-8222	US-English
<i>User's Guide and Reference</i>	SH88-7301	Japanese
<i>Reference Summary</i>	SX11-6110	US-English
<i>Installation and Customization Guide</i>	GD88-7335	Japanese

For a list of books for related products, see "Bibliography" on page 111.

Program Source Materials

There are no source materials available for DITTO/ESA.

Optional Program Publications

Table 15 identifies the optional licensed program publications for DITTO/ESA. The first copy is available at no charge to licensees of the optional material. For additional copies, contact your IBM representative.

Table 15. Optional Material: Licensed Publications

Publication Title	Form Number	Feature Number/ Product ID First Copy	Feature Number/ Product ID Additional Copy
<i>Online Library Omnibus Edition VSE Collection</i>	SK2T-0060	5636-PUB	5636-PUB

What You Need to Install DITTO/ESA

The following sections identify the system requirements for installing DITTO/ESA.

Required and Optional Software

This section describes the environment required to install and use DITTO/ESA.

DITTO/ESA runs on VSE with the required licensed programs listed in Table 16. **You should install all licensed programs with the minimum release listed or with any subsequent release.**

Table 16. Required Programs

Required Licensed Program	Minimum Version Supported
VSE/ESA	Version 2 Release 4

Note: References to CICS/VSE® also apply to CICS/VSE/TS.

DASD Storage Required

The disk space requirements for DITTO/ESA are shown in tracks on the various CKD disk devices and in blocks for Fixed Block Architecture (FBA) disk devices.

Table 17 shows the disk space required for the MSHP History File.

Table 17. DASD Storage Required for the MSHP History File

Number of Tracks on CKD Disk Devices			Number of FBA Blocks
3380	3390	9345	
0002	0002	0002	0100

Table 18 shows the disk space required for the production sublibrary for the Base Function (Component ID 564809901) and for the Japanese Feature (Component ID 564809902).

Table 18. DASD Storage Required for the Production Sublibrary

Component ID	Number of Tracks on CKD Disk Devices			Number of FBA Blocks	Number of Library Blocks
	3380	3390	9345		
564809901	0193	0181	0213	11912	5946
564809902	0078	0071	0083	4600	2300

Note: The above figures indicate the space occupied by the DITTO/ESA for VSE Release 3 sublibrary. During service apply, up to 25% additional space may be temporarily required.

Processor Storage Requirements

DITTO/ESA requires a minimum of 500KB program storage for batch mode and line mode operation, and a minimum of 900KB for full-screen operation (plus 20KB in the CICS partition). The total program storage required depends on the number of different functions invoked in one DITTO/ESA session.

If all SVA eligible phases are loaded in the SVA, DITTO/ESA requires 4 KB program storage in the partition, 35 KB SVA-24 storage, and 1,2 MB SVA-31 storage.

The DITTO/ESA function Catalog Services (SCS) needs additional storage to load the IDCAMS utility program.

For most DITTO/ESA sessions, approximately 128KB storage for data buffers will be sufficient. However, additional storage may be required to process large catalogs, libraries, VTOCs, or data blocks.

Specifying the size of GETVIS storage in the EXEC statement is not required. If the SIZE parameter is specified, it is ignored.

Planning Where to Install DITTO/ESA

The DITTO/ESA default library is PRD1; the default sublibrary is BASE. All DITTO/ESA installation jobs assume you are using sublibrary PRD1.BASE. If you decide to install DITTO/ESA in a different library and sublibrary, you need to change some names in the installation jobs.

You might have selected PRD2 as a library because other products that work with DITTO/ESA use PRD2 as a default library. If you plan to install DITTO/ESA into an existing PRD2 sublibrary, make sure there is enough free space to accommodate the additional library blocks.

To check the space, list the directory information of the PRD2 library, using the LISTDIR command of the LIBR program. Make sure there are sufficient library blocks in the free space.

You can use Interactive Interface to install DITTO/ESA, or the documented sample batch job.

Selecting National Language Support

When installing DITTO/ESA, you can choose which language you want to use for messages and panels.

For full details, see “Translating the Message Text” on page 75 and “Translating the Panel Text” on page 76.

Program Support

This section describes the IBM support available for DITTO/ESA.

Program Service

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

Preventive Service Planning

Before installing DITTO/ESA, you should also check with your IBM Support Center or use IBMLink™ (ServiceLink) within the USA or EMEA DIAL within Europe to see whether there is additional Preventive Service Planning (PSP) information which you should be aware of. To obtain this information, specify the following UPGRADE and SUBSET values:

Table 19. PSP Upgrade and Subset ID

UPGRADE	SUBSET	RETAIN® Release
DITTOESA	VSE/130	360
DITTOESA	VSE/130J	370

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.

Use DITTO function LVL (VER) to display the current release and PTF level of DITTO/ESA prior to searching for information or reporting a problem.

Table 20 identifies the Component Level Code (CLC), the Component ID (COMP ID), and the Field Engineering Service Number (FESN) for DITTO/ESA.

Table 20. Component IDs

CLC	COMP ID	Component Name	FESN
36O	564809901	DITTO/ESA VSE	0600336
37O	564809902	DITTO/ESA VSE JAPANESE	0600336

Program and Service Level Information

This section identifies the program and any relevant service levels of DITTO/ESA.

No APARs against this release of DITTO/ESA have been incorporated into the product tape.

Service Level Information

No PTFs against this release of DITTO/ESA have been incorporated into the product tape.

Publications Useful during Installation

For a list of related publications for VSE, see “Bibliography” on page 111.

Chapter 11. Installing DITTO/ESA Base Function for VSE

This chapter describes the installation method and the step-by-step procedures you use to install and activate the functions of DITTO/ESA Base Function.

Note: If you are intending to install the Japanese Feature of DITTO/ESA (which is described in Chapter 12), you need to first install the Base Function of DITTO/ESA as described in this chapter.

Overview of Installation

If you have received the DITTO/ESA for VSE Release 3 Base Function as a single product, you can use the Interactive Interface to install it into VSE/ESA. In this case, use the Interactive Interface installation panels to guide you through the installation.

If you are not using the Interactive Interface dialogs, use the installation jobs as described in this chapter.

You install this release of DITTO/ESA by using the Maintain System History Program (MSHP).

Checklist for Installing DITTO/ESA Base Function

Table 21 lists the steps and associated jobs to install DITTO/ESA Base Function. The remaining sections in this chapter describe each step. You can use Table 21 as a checklist.

Table 21. Summary of Steps for Installing DITTO/ESA (Base Function)

Step	Description	Installation Job	Page
__ 1	Back up the original system.	—	56
__ 2	Allocate space for the library. (Omit if using the default sublibrary.)	DITDEF	56
__ 3	Install DITTO/ESA Base Function.		57
	Method 1. Install DITTO/ESA Base Function using the Interactive Interface.	—	57
	Method 2. Install DITTO/ESA Base Function using a batch job.	DITINST	58
__ 4	Verify the installation of DITTO/ESA Base Function.	—	61

Step 1: Back Up the Original System

Make a backup copy of your current DITTO/ESA Base Function library or the library into which you intend to install DITTO/ESA Base Function, and the system history file.

For information about backing up libraries and the system history file, see *VSE/ESA System Control Statements*, SC33-6613.

Step 2: Allocate Space for the Library (Omit if Using the Default Sublibrary)

By default, DITTO/ESA Base Function is installed into the PRD1.BASE sublibrary. If you decide to install DITTO/ESA Base Function into a sublibrary other than PRD1.BASE then proceed with this step.

Decide where to allocate space for the DITTO/ESA Base Function sublibrary. Identify, on the disk volume (or volumes) to be used for the library, suitable areas of free space. To do this, list the volume table of contents (VTOC) of the disk or disks to be used.

Use the LVTOC utility program. The sample job shown in Figure 4 shows the JCL needed to list the VTOC for the volume with serial number SYSWK1.

```
// JOB DITVTOC    LIST VOLUME TABLE OF CONTENTS
// ASSGN SYS004,DISK,TEMP,VOL=SYSWK1,SHR
// ASSGN SYS005,SYSLST
// EXEC LVTOC
/*
/ &
```

Figure 4. Job to List the Contents of a DASD Volume

Use the disk space selected for DITTO/ESA Base Function in the LIBR installation job to allocate the VSE Librarian library in the sample job shown in Figure 5 on page 57.

```

// JOB DITDEF
* CREATE A LIBRARY FOR THE DITTO/ESA Base Function
// OPTION LOG
* Label for the DITTO/ESA Base Function
* Library 1
// DLBL DITTO,'DITTO.LIBRARY',99/365,SD
// EXTENT SYS002,SYSWK1,,,rtrk,ntrk
// ASSGN SYS002,DISK,VOL=SYSWK1,SHR
* -----
* Define the DITTO/ESA Base Function Library 2
* -----
// EXEC LIBR
  DELETE LIB=DITTO
  DEFINE LIB=DITTO
/*
/&

```

Figure 5. Job to Allocate the DITTO/ESA Library Space (Base Function)

In area 1, change the filename (DITTO in the example) and the file ID (DITTO.LIBRARY in the example) to suit your installation. Points to consider are:

- *rtrk* represents the start position of the extent. Change *rtrk* to a value to suit the type of device being used for the current installation.
- *ntrk* indicates the number of tracks or blocks required. This is the size of the extent needed in Figure 5.
- If you are using an FBA device, such as an IBM 3370, or a CKD device such as an IBM 3380, see the information in “DASD Storage Required” on page 52 for the number of blocks/tracks required.

The Librarian job step in area 2 includes a DELETE statement before the DEFINE statement so the job can be rerun. This means the following messages are issued when the job runs for the first time; please ignore these messages. The job continues to allocate the library.

The messages are:

```

L101I  LIBRARY DITTO DOES NOT EXIST
L027I  ABNORMAL END DURING DELETE COMMAND
        PROCESSING
L113I  RETURN CODE OF DELETE IS 8

```

Step 3: Install DITTO/ESA Base Function

You can install DITTO/ESA Base Function using either the Interactive Interface or a batch installation job.

Method 1. Install DITTO/ESA Base Function Using the Interactive Interface

The VSE/ESA Interactive Interface enables you to use dialog requests to install DITTO/ESA Base Function. For more information about installing licensed programs using the Interactive Interface, see *VSE/ESA Installation*, SC33-6604.

To install DITTO/ESA Base Function using the Interactive Interface:

1. Log on to the VSE/ESA Interactive Interface as the system administrator.
2. Mount the DITTO/ESA Base Function distribution tape on an available tape drive.

In the following menus, enter the **highlighted** items that appear after the ==> symbol.

3. On the **VSE/ESA FUNCTION SELECTION** menu, select:

==> **1**
(Installation)

4. On the **INSTALLATION** menu, select:

==> **2**
(Install Programs - Non-stacked V2 Format or V1 Format)

5. On the **INSTALL PROGRAMS - NON-STACKED V2 OR V1 FORMAT** panel, enter:

TAPE.NO	TAPELABEL	LIBRARY NAME	SUBLIBRARY NAME
01	DITTO.....1.3.0	PRD1	BASE

Note: If you did not use the default library and sublibrary PRD1.BASE, enter the name of your library and sublibrary on this screen.

Press PF5 (PROCESS) to generate the installation job.

6. On the **VSE/ESA INSTALL PRODUCT(S) TAPE SPECIFICATION** panel, enter:

==> **cuu**
(Address of the tape drive where you mounted the DITTO/ESA Base Function tape)

7. On the **JOB DISPOSITION** panel, make any changes required, then press Enter to submit the job and install DITTO/ESA Base Function.

Respond to the partition pause message from the VSE operator console.

If the job does not receive a return code of zero:

- Check the list output for error conditions
- See *VSE/ESA Messages and Codes*, SC33-6607 for corrective action
- Correct the error
- Rerun the job
- Recheck the return code

Method 2. Install DITTO/ESA Base Function Using a Batch Job

A sample batch job to install DITTO/ESA Base Function is shown in Figure 6 on page 59.

If you have chosen this method of installing DITTO/ESA Base Function, create and tailor the job stream shown in Figure 6, mount the distribution tape, and run the job.

The tailoring requirements for this sample job are discussed in the notes following Figure 6.

```

// JOB DITINST
// OPTION LOG
*
* Label information for the system history file.
*
// DLBL IJSYSHF,'VSE.HISTORY.FILE',0,SD 1
// EXTENT SYS002,volser,,,rtrk,nrk 2
// ASSGN SYS002,DISK,VOL=volser,SHR 3
*
* Assign for the distribution tape.
*
// ASSGN SYS006,uu 4
// MTC REW,SYS006
*
* Install DITTO/ESA Base Function step.
*
// EXEC MSHP,SIZE=900K
INSTALL PROD FROMTAPE ID='DITTO.....1.3.0' - } 5
    PROD INTO=PRD1.BASE
/*
*
* List DITTO/ESA Base Function directory step.
*
// EXEC LIBR
LISTDIR SUBLIB=PRD1.BASE - } 6
    OUTPUT=NORMAL -
    UNIT=SYSLST
/*
*
* Retrace DITTO/ESA Base Function step.
*
// EXEC MSHP,SIZE=900K
RETRACE COMPONENT IDENTIFIER=5648-099-01 } 7
/*
// MTC RUN,SYS006
/*
/&

```

Figure 6. Job to Install DITTO/ESA Base Function

- 1** Label information for the system history file.
Replace *VSE.HISTORY.FILE* with the filename of the system history file to which you are adding DITTO/ESA Base Function.
- 2** Extent information for the system history file.
 - Replace *volser* with the serial number of the volume on which the system history file is defined.
 - Replace *rtrk* with the beginning track or FBA block of the extent.
 - Replace *nrk* with the number of blocks/tracks allocated to the system history file.
- 3** Assign for the system history file.
Change *volser* to match the volume serial number specified in **2**.
Usually, you will not need to specify label information for the system history file. Your installation should have a permanent system standard label for the file, with IJSYSHF as the filename. (IJSYSHF is the default

system history filename for MSHP.) If this is the case, you can delete lines **1**, **2** and **3** from the job stream.

4 Assign for the distribution tape.

Replace *cuu* with the address of the tape drive on which the distribution tape is to be mounted.

5 Install DITTO/ESA Base Function step.

This job step invokes MSHP to install DITTO/ESA Base Function into the sublibrary identified on the INTO operand of the INSTALL statement.

If you are not installing DITTO/ESA Base Function into the default sublibrary, change *PRD1.BASE* to the name of the sublibrary into which you are installing DITTO/ESA Base Function.

For more information about the install options, see *VSE/ESA System Control Statements*, SC33-6613.

6 List DITTO/ESA Base Function directory step.

This job step invokes LIBR to list the directory entries of the sublibrary into which DITTO/ESA Base Function was installed. Remove this step if the directory list is not required.

If the directory list is required, change *PRD1.BASE* to match the sublibrary specified in **5**.

Entries for DITTO/ESA Base Function have a three-character prefix of DIT to distinguish them from other products; there are three exceptions to this rule:

- HD099360.Z
- \$SVADIT.PHASE
- \$SVADIT.OBJ

7 Retrace DITTO/ESA Base Function step.

This job step prints the component records for DITTO/ESA Base Function from the system history file. Remove this step if a retrace listing is not required.

If the job does not receive a return code of zero:

- Check the list output for error conditions.
- See *VSE/ESA Messages and Codes*, SC33-6607 for corrective action.
- Correct the error.
- Restore the system history file (use the backup created in “Step 1: Back Up the Original System” on page 56).
- If installing into a new library, rerun the space allocation job in “Step 2: Allocate Space for the Library (Omit if Using the Default Sublibrary)” on page 56. Otherwise, restore the library that DITTO/ESA Base Function is being installed into (use the backup created in “Step 1: Back Up the Original System” on page 56).
- Rerun the job.
- Recheck the return code.

Step 4: Verify the Installation of DITTO/ESA Base Function

After you have completed all necessary steps to install and customize² DITTO/ESA Base Function, verify your installation by performing the following steps:

1. Log on a CICS user ID that is enabled to access and use DITTO/ESA.
2. Select DITTO from the proper selection panel or invoke the DITTO transaction.
The DITTO/ESA Main menu should appear.
3. Press the Menu key (PF2) to flip between the Task Selection menu and the Primary Function menu. Later on, you can determine your preference for daily operation.
4. Enter news in the entry field or in the command line to display details of the new functions and features of this release of DITTO/ESA.
Read the information presented and then press the Exit key (PF3) to return to the menu.
5. Enter 1v1 in the entry field or in the command line to display the release level and PTF level.
Check that the information displayed conforms with the level of DITTO/ESA that you want installed.
6. Press the Exit key (PF3) to end the DITTO/ESA session.

² See Chapter 13, "Customizing DITTO/ESA for VSE" on page 71.

Chapter 12. Installing DITTO/ESA Japanese Feature for VSE

This chapter describes the installation method and the step-by-step procedures you use to install and activate the functions of DITTO/ESA Japanese Feature.

Note: Before you can install the Japanese Feature of DITTO/ESA, you need to have first installed the Base Function of DITTO/ESA (see Chapter 11, "Installing DITTO/ESA Base Function for VSE" on page 55).

Overview of Installation

If you have received the DITTO/ESA for VSE Release 3 Japanese Feature as a single product, you can use the Interactive Interface to install it into VSE/ESA. In this case, use the Interactive Interface installation panels to guide you through the installation.

If you are not using the Interactive Interface dialogs, use the installation jobs as described in this chapter.

The Japanese Feature must be installed in sublibrary **PRD2.DITJPN** or in a private sublibrary named **DITNLS.DITJPN** rather than in the VSE/ESA default sublibrary for optional products.

You install this release of DITTO/ESA by using the Maintain System History Program (MSHP).

Checklist for Installing DITTO/ESA Japanese Feature

Table 22 lists the steps and associated jobs to install DITTO/ESA Japanese Feature. The remaining sections in this chapter describe each step. You can use Table 22 as a checklist.

Table 22. Summary of Steps for Installing DITTO/ESA (Japanese Feature)

Step	Description	Installation Job	Page
__ 1	Back up the original system.	—	64
__ 2	Allocate space for the library.	DITDEFJ	64
__ 3	Install DITTO/ESA Japanese Feature.		66
	Method 1. Install DITTO/ESA Japanese Feature using the Interactive Interface.	—	66
	Method 2. Install DITTO/ESA Japanese Feature using a batch job.	DITINSTJ	67
__ 4	Verify the installation of DITTO/ESA Japanese Feature.	—	69

Step 1: Back Up the Original System

Make a backup copy of your current DITTO/ESA Japanese Feature library or the library into which you intend to install DITTO/ESA Japanese Feature, and the system history file.

For information about backing up libraries and the system history file, see *VSE/ESA System Control Statements*, SC33-6613.

Step 2: Allocate Space for the Library

DITTO/ESA Japanese Feature is installed in sublibrary **PRD2.DITJPN** or in a private sublibrary named **DITNLS.DITJPN**.

Note: Do not install DITTO/ESA Japanese Feature into the same library as DITTO/ESA Base Function, as both have panels with the same name.

Decide where to allocate space for the DITTO/ESA Japanese Feature sublibrary. Identify, on the disk volume (or volumes) to be used for the library, suitable areas of free space. To do this, list the volume table of contents (VTOC) of the disk or disks to be used.

Use the LVTOC utility program. The sample job shown in Figure 7 shows the JCL needed to list the VTOC for the volume with serial number SYSWK1.

```
// JOB DITVTOC    LIST VOLUME TABLE OF CONTENTS
// ASSGN SYS004,DISK,TEMP,VOL=SYSWK1,SHR
// ASSGN SYS005,SYSLST
// EXEC LVTOC
/*
/ &
```

Figure 7. Job to List the Contents of a DASD Volume

Use the disk space selected for DITTO/ESA Japanese Feature in the LIBR installation job to allocate the VSE Librarian library in the sample job shown in Figure 8 on page 65.

```

// JOB DITJDEF
* CREATE A LIBRARY FOR THE DITTO/ESA Japanese Feature
// OPTION LOG
* Label for the DITTO/ESA Japanese Feature
* Library 1
// DLBL filename, 'DITTO.JPN.LIBRARY', 99/365, SD
// EXTENT SYS002, SYSWK1, ,, rtrk, ntrk
// ASSGN SYS002, DISK, VOL=SYSWK1, SHR
* -----
* Define the DITTO/ESA Japanese Feature Library 2
* -----
// EXEC LIBR
  DELETE LIB=filename
  DEFINE LIB=filename
/*
/ &

```

Figure 8. Job to Allocate the DITTO/ESA library space (Japanese Feature)

In area **1**, change *filename* to the library where DITTO/ESA Japanese Feature is to be installed (PRD2 or DITNLS) and the file ID (DITTO.JPN.LIBRARY in the example) to suit your installation. Points to consider are:

- *rtrk* represents the start position of the extent. Change *rtrk* to a value to suit the type of device being used for the current installation.
- *ntrk* indicates the number of tracks required. This is the size of the extent needed in Figure 8.
- If you are using an FBA device, such as an IBM 3370, or a CKD device such as an IBM 3380, see the information in “DASD Storage Required” on page 52 for the number of blocks/tracks required.

The Librarian job step in area **2** includes a DELETE statement before the DEFINE statement so the job can be rerun. Change *filename* to PRD2 or DITNLS (depending which library you are using) These two statements cause the following messages to be issued when the job runs for the first time; please ignore these messages. The job continues to allocate the library.

The messages are:

```

L101I  LIBRARY filename DOES NOT EXIST
L027I  ABNORMAL END DURING DELETE COMMAND
        PROCESSING
L113I  RETURN CODE OF DELETE IS 8

```

Step 3: Install DITTO/ESA Japanese Feature

You can install DITTO/ESA Japanese Feature using either the Interactive Interface or a batch installation job.

Method 1. Install DITTO/ESA Japanese Feature Using the Interactive Interface

The VSE/ESA Interactive Interface enables you to use dialog requests to install DITTO/ESA Japanese Feature. For more information about installing licensed programs using the Interactive Interface, see *VSE/ESA Installation*, SC33-6604.

To install DITTO/ESA Japanese Feature using the Interactive Interface:

1. Log on to the VSE/ESA Interactive Interface as the system administrator.
2. Mount the DITTO/ESA Japanese Feature distribution tape on an available tape drive.

In the following menus, enter the **highlighted** items that appear after the ==> symbol.

3. On the **VSE/ESA FUNCTION SELECTION** menu, select:

```
==> 1
      (Installation)
```

4. On the **INSTALLATION** menu, select:

```
==> 2
      (Install Programs - Non-stacked V2 Format or V1 Format)
```

5. On the **INSTALL PROGRAMS - NON-STACKED V2 OR V1 FORMAT** panel, enter:

TAPE.NO	TAPELABEL	LIBRARY NAME	SUBLIBRARY NAME
01	DITTO.JPN..1.3.0	PRD2	DITJPN

Note: If you did not use the default library and sublibrary PRD2.DITJPN, enter the name of the private library and sublibrary DITNLS.DITJPN on this screen.

Press PF5 (PROCESS) to generate the installation job.

6. On the **VSE/ESA INSTALL PRODUCT(S) TAPE SPECIFICATION** panel, enter:

```
==> cuu
      (Address of the tape drive where you mounted the DITTO/ESA Japanese
      Feature tape)
```

7. On the **JOB DISPOSITION** panel, make any changes required, then press Enter to submit the job and install DITTO/ESA Japanese Feature.

Respond to the partition pause message from the VSE operator console.

If the job does not receive a return code of zero:

- Check the list output for error conditions
- See *VSE/ESA Messages and Codes*, SC33-6607 for corrective action
- Correct the error
- Rerun the job
- Recheck the return code

Method 2. Install DITTO/ESA Japanese Feature Using a Batch Job

A sample batch job to install DITTO/ESA Japanese Feature is shown in Figure 9 on page 68.

If you have chosen this method of installing DITTO/ESA Japanese Feature, create and tailor the job stream shown in Figure 9, mount the distribution tape, and run the job.

The tailoring requirements for this sample job are discussed in the notes following Figure 9.

- 1** Label information for the system history file.
Replace *VSE.HISTORY.FILE* with the filename of the system history file to which you are adding DITTO/ESA Japanese Feature.
- 2** Extent information for the system history file.
 - Replace *volser* with the serial number of the volume on which the system history file is defined.
 - Replace *trk* with the beginning track or FBA block of the extent.
 - Replace *ntrk* with the number of blocks/tracks allocated to the system history file.
- 3** Assign for the system history file.
Change *volser* to match the volume serial number specified in **2**.
Usually, you will not need to specify label information for the system history file. Your installation should have a permanent system standard label for the file, with IJSYSHF as the filename. (IJSYSHF is the default system history filename for MSHP.) If this is the case, you can delete lines **1**, **2** and **3** from the job stream.
- 4** Assign for the distribution tape.
Replace *cuu* with the address of the tape drive on which the distribution tape is to be mounted.
- 5** Install DITTO/ESA Japanese Feature step.
This job step invokes MSHP to install DITTO/ESA Japanese Feature into the sublibrary identified on the INTO operand of the INSTALL statement.
If you are not installing DITTO/ESA Japanese Feature into the default library and sublibrary, change PRD2.DITJPN to DITNLS.DITJPN (the name of the alternative private library and sublibrary).
For more information about the install options, see *VSE/ESA System Control Statements*, SC33-6613.
- 6** List DITTO/ESA Japanese Feature directory step.
This job step invokes LIBR to list the directory entries of the sublibrary into which DITTO/ESA Japanese Feature was installed. Remove this step if the directory list is not required.
If the directory list is required, change (if necessary) PRD2.DITJPN to match the library and sublibrary specified in **5**.

```

// JOB DITJINST
// OPTION LOG
*
* Label information for the system history file.
*
// DLBL IJSYSHF,'VSE.HISTORY.FILE',0,SD 1
// EXTENT SYS002,volser,,,rtrk,ntrk 2
// ASSGN SYS002,DISK,VOL=volser,SHR 3
*
* Assign for the distribution tape.
*
// ASSGN SYS006,uuu 4
// MTC REW,SYS006
*
* Install DITTO/ESA Japanese Feature step.
*
// EXEC MSHP,SIZE=900K
INSTALL PROD FROMTAPE ID='DITTO.JPN..1.3.0' - } 5
    PROD INTO=PRD2.DITJPN
/*
*
* List DITTO/ESA Japanese Feature directory step.
*
// EXEC LIBR
LISTDIR SUBLIB=PRD2.DITJPN - } 6
    OUTPUT=NORMAL -
    UNIT=SYSLST
/*
*
* Retrace DITTO/ESA Japanese Feature step.
*
// EXEC MSHP,SIZE=900K
RETRACE COMPONENT IDENTIFIER=5648-099-02 } 7
/*
// MTC RUN,SYS006
/*
/&

```

Figure 9. Job to Install DITTO/ESA Japanese Feature

Entries for DITTO/ESA Japanese Feature have a three-character prefix of DIT to distinguish them from other products; there are three exceptions to this rule:

- HD099370.Z
- \$SVADITJ.PHASE
- \$SVADITJ.OBJ

7 Retrace DITTO/ESA Japanese Feature step.

This job step prints the component records for DITTO/ESA Japanese Feature from the system history file. Remove this step if a retrace listing is not required.

If the job does not receive a return code of zero:

- Check the list output for error conditions.
- See *VSE/ESA Messages and Codes*, SC33-6607 for corrective action.
- Correct the error.

- Restore the system history file (use the backup created in “Step 1: Back Up the Original System” on page 64).
- If installing into a new library, rerun the space allocation job in “Step 2: Allocate Space for the Library” on page 64. Otherwise, restore the library that DITTO/ESA Japanese Feature is being installed into (use the backup created in “Step 1: Back Up the Original System” on page 64).
- Rerun the job.
- Recheck the return code.

Step 4: Verify the Installation of DITTO/ESA Japanese Feature

Once you have completed all necessary steps to install and customize³ DITTO/ESA Japanese Feature, verify your installation by performing the following steps:

1. Logon a CICS user ID that is enabled to access and use DITTO/ESA.
2. Select DITTO from the proper selection panel or invoke the DITTO transaction.

The English or Japanese DITTO/ESA Main menu should appear, depending on the default defined. If the English menu appears:
 - Enter set in the command line to invoke the SET function
 - Change the language to japanese
 - Press the Exit key (PF3)
3. Press the Menu key (PF2) to flip between the task selection menu and the primary function menu. Later on, you can determine your preference for daily operation.
4. Enter news in the entry field or in the command line to display details of the new functions and features of this release of DITTO/ESA.

Read the information presented and then press the Exit key (PF3) to return to the menu.
5. Enter 1v1 in the entry field or in the command line to display the release level and PTF level.

Check that the information displayed conforms with the level of DITTO/ESA that you want installed.
6. Press the Exit key (PF3) to end the DITTO/ESA session.

³ See Chapter 13, “Customizing DITTO/ESA for VSE” on page 71.

Chapter 13. Customizing DITTO/ESA for VSE

You can customize, or modify, DITTO/ESA only after installing the product (as described in Chapter 11, “Installing DITTO/ESA Base Function for VSE” on page 55). This chapter covers:

- Storage Requirements
- Customizing the Startup Job
- Customizing DITTO/ESA if it is installed after VSE
- Changing the Default SET Parameters
- Changing the Print and Display Translation Tables
- Translating the Message Text
- Translating the Panel Text
- Changing the ASCII Translation Tables
- Setting Up CMS/VSE Mode
- Security
- Optionally defining DITTO/ESA to the Interactive Interface

Storage Requirements

DITTO/ESA requires a minimum of 500KB program storage for batch mode and line mode operation, and a minimum of 900KB for full-screen operation. The total program storage required depends on the number of different functions invoked in one DITTO/ESA session. The DITTO/ESA function SCS needs additional storage to load the IDCAMS utility program.

For most DITTO/ESA sessions, approximately 128KB storage for data buffers will be sufficient. However, additional storage may be required to process large catalogs, libraries, VTOCs, or data blocks.

Specifying the size of GETVIS storage in the EXEC statement is not required. If the SIZE parameter is specified, it is ignored.

When you choose a default job class for full-screen DITTO/ESA, you should anticipate supporting several concurrent DITTO/ESA users, and provide a partition size sufficient for day-to-day DITTO/ESA operations.

Customize the Startup Job

Note: This can also be referred to as “customizing the VSE full-screen environment”.

The DITTO/ESA transaction creates VSE/POWER and job control statements for the DITTO/ESA job dynamically. The exit routine DITJOBFS contains the job skeleton and the defaults for the substitution variables (and additionally the messages used by the CICS/VSE transaction).

The IBM supplied startup job skeleton looks like:

```

* $$ JOB JNM=&JOBNAME,CLASS=&JOBCLAS,DISP=D,SEC=(&USERID,&PWD)
* $$ LST CLASS=&LSTCLAS,DISP=L
* $$ PUN CLASS=&PUNCLAS,DISP=&PUNDISP
// JOB &JOBNAME &ACCOUNT
LIBDEF *,SEARCH=PRD1.BASE,CATALOG=PRD2.CONFIG
*
// OPTION &OPTION
// EXEC DITTO,PARM='XPCCID=&PARM'
/&
* $$ EOJ

```

Figure 10. IBM-Supplied Default Startup Job Skeleton

The substitution variables (prefixed by a &) in the job skeleton are resolved with the defaults and the options specified in the DITTO/ESA invocation. You can modify the skeleton and the defaults to meet your installation's needs.

The IBM-supplied default values for the substitution variables are as follows:

variable	usage	default value
&JOBNAME	job name	DITEuserid or user ID
&USERID	user ID	CICS/VSE user ID/terminal ID
&PWD	password	none
&JOBCLAS	job class	'Y'
&LSTCLAS	list class	'A'
&LSTDISP	list output disposition	'L'
&TOUSER	list output TO user ID	' '
&PUNCLAS	punch class	' '
&PUNDISP	punch output disposition	'L'
&ACCOUNT	account information	'DITTO/FS'
&OPTION	option card parameters	'NODUMP,NOSYSDUMP'

Figure 11. IBM-Supplied Substitution Value Defaults

To modify the exit change the source of DITJOBFS and assemble and link-edit it. See member DITJOBFS.A for more details.

To assemble and link-edit DITJOBFS, DITTO/ESA provides two sample jobs DITJOBF.A and DITJOBF2.A. Use DITJOBF2 if you have added EXEC CICS statements to the DITJOBFS source.

You may need to update the library search chain (LIBDEF statement) in your CICS/VSE startup job.

Next you should activate the changed DITJOBFS module using the CICS/VSE Master Terminal Transaction. Enter the following:

```
CEMT SET PROGRAM(DITJOBFS) NEWCOPY
```

If you are customizing the full-screen environment and you are changing the CLASS in which the DITTO/ESA job dynamically runs, ensure that the new dynamic partition has sufficient storage to run DITTO/ESA (see "Storage Requirements" on page 71). If there is insufficient storage, message DIT0340I may be generated.

Customizing DITTO/ESA if it is Installed after VSE

In some cases, you may install VSE without DITTO/ESA and later decide to install DITTO/ESA. (If you receive DITTO/ESA as part of VSE, this section does not apply.)

Full-screen DITTO/ESA is started as a CICS transaction. Before users can invoke full-screen DITTO/ESA, you must define the DITTO/ESA transaction to CICS in either of the following ways:

- Use resource definition online (CEDA) to add the definitions as follows:

1. Define the programs:

```
CEDA DEF PROG(DITDITO) G(DITTO) LAN(ASSEMBLER)
CEDA DEF PROG(DITJOBFS) G(DITTO) LAN(ASSEMBLER)
```

2. Define the profile:

```
CEDA DEF PROF(DITPROF) G(DITTO) SCR(ALTERNATE)
```

3. Define the transaction:

```
CEDA DEF TR(DITT) G(DITTO) PROG(DITDITO) PROF(DITPROF)
```

4. Install the DITTO/ESA group:

```
CEDA I G(DITTO)
```

5. Activate the DITTO/ESA group whenever CICS is started:

```
CEDA ADD GROUP(DITTO) LIST(VSELIST)
```

Note: If a value other than VSELIST was specified for the GRPLIST parameter during system initialization, specify this value for the LIST parameter in the previous command.

- Add the definitions to your CICS generation deck as follows:

1. Add the programs:

```
DFHPPT TYPE=ENTRY,PROGRAM=DITDITO,PGMLANG=ASSEMBLER
DFHPPT TYPE=ENTRY,PROGRAM=DITJOBFS,PGMLANG=ASSEMBLER
```

2. Add the transaction:

```
DFHPCT TYPE=ENTRY,PROGRAM=DITDITO,TRANSID=DITT,SCRNSZE=ALTERNATE
```

3. Re-generate CICS tables

- Full-screen DITTO/ESA is started as a CICS/VSE transaction. Before users can invoke full-screen DITTO/ESA, you must perform the following customization steps:

1. Make sure your DITTO/ESA Base Function installation library is defined in the library search chain of the CICS/VSE startup job.

Note: The Japanese Feature install library is not required in the CICS/VSE library search chain.

2. In a standard VSE installation, you will find the DITTO/ESA transaction and programs already defined to CICS/VSE

Changing the Default SET Parameters

If you want to change the default settings for the SET parameters, you can change the profile supplied with DITTO/ESA.

You can change the SET profile as follows:

1. Change the default options in the DITPROFL.A source member in PRD1.BASE.
2. Use the job DITJOBST.A in PRD1.BASE to assemble and link-edit the modified SET parameters.

Figure 12 shows DITPROFL.A, as it is supplied by IBM.

```

DITPROFL CSECT
DITPROFL AMODE 31
DITPROFL RMODE ANY
      DC AL2(PROFLEN)          length must be specified !
PROFSTRT DC C'SET'
      DC C',ASCII=NO'         or YES, IN, OUT or BOTH
*                                     if ASCII translation needed
      DC C',DATAHDR=YES'     or NO for left aligned data
      DC C',DUMP=UPDOWN'     or ACROSS for horizontal DUMP
      DC C',HEADERPG=YES'   or NO if none desired
      DC C',LANGUAGE=ENGLISH' or installation provided lang.
      DC C',PAGESKIP=NO'    or YES for new page each time
      DC C',PRINTLEN=132'   or 80 for example on terminals
      DC C',PRTRANS=ON'     or OFF, but slower printing,
*                                     or KN if using Katakana printer
      DC C',DBCSPT=OFF'     or 3200 or SOSI (2-byte chars)
      DC C',PAD=OFF'        or ON or char or hex value
      DC C',RECLIMIT=(1,*)' or limit it, e.g. (1,80)
      DC C',TERMTYPE=3270'  or 3270KN if using Katakana
      DC C',TAPELBL=SL'    or AL for ASCII labels
* system dependent parameters
AIF ('&DITENV' NE 'MVS').ENV11 ----- MVS -----
      DC C',CYLHD=ABSOLUTE' or RELATIVE if desired
      DC C',PRINTOUT=SYSPRINT' or TERMINAL or SYSOUT=c
      DC C',PAGESIZE=60'    or any value between 1 and 999
      DC C',CMDSYNTAX=ISPF' or CMS or DITTO
      DC C',DITPLIB=DIT.H0GB310.SDITPLIB' panel library name
      DC C',DITPROF=&&USER..DITPROF' profile dataset
**** DC C',DITPROF=&&USER..ISPF.ISPPROF'
**** DC C',OAMDBASE=CBROAM' OAM data base name
****                                     (if omitted, CBROAM is used)
      AGO .ENV1E
      .ENV11 ANOP , ----- VSE -----
      DC C',PRINTOUT=PRINTER' or TERMINAL if desired
      DC C',PAGESIZE=STDOPT' or any value between 1 and 999
      DC C',TAPEASGN=TEMP'   or PERM for permanent assignment
      DC C',CMDSYNTAX=DITTO' or CMS or ISPF
      .ENV1E ANOP ,
PROFLEND DC C' ' FINAL STOPPING BLANK. DO NOT REMOVE !!
PROFLEN EQU *-PROFSTRT
      END

```

Figure 12. DITPROFL Profile Listing (VSE)

Installation-Defined Parameters

The following parameter is included in the profile, but is not available within the SET function:

TERMTYPE=3270|3270KN

Specify 3270 for standard 3270 terminals.

Specify 3270KN to support terminals that use Japanese Katakana characters. (Alternatively, individual users can enter the KEYS command and set the terminal type to 3270KN.)

If 3270KN is specified, DITTO/ESA translates message text to uppercase if LANGUAGE=ENGLISH is specified, and translates panel text to uppercase regardless of the language.

For details of other SET processing options, see the *DITTO/ESA User's Guide and Reference*, SH19-8221.

Changing the Print and Display Translation Tables

By default, DITTO/ESA translates all unprintable characters to blanks (PRTTRANS=ON). The printer therefore does not need to search the whole print train for characters that it does not have. This improves the speed of printing.

Sometimes you may want to display special characters on a terminal during a DITTO/ESA session, or print DITTO/ESA output in lowercase alphanumeric characters. To do this:

1. Check that the terminal on which you want to display DITTO/ESA panels supports the display of special characters, or that the universal character buffer (UCB) of your printer has the characters you want to use.
2. Set the PRTTRANS parameter of the SET function to ON.
3. Modify the DITTO/ESA translation table as follows:
 - a. Change the translation table definition statements in the source member. The file is called DITTRTBS.A in PRD1.BASE.
 - b. Use the job DITJOBTR.A in PRD1.BASE to assemble and link-edit the modified translation tables.

Translating the Message Text

All DITTO/ESA messages are stored in the DITMSG00 file. This CSECT is part of the root module so that an English version of the messages is always available.

DITMSG00.A in PRD1.BASE contains the assembler source for these messages. You can use this to provide your own set of translated messages. The message set in effect for a DITTO/ESA session or job is then controlled by the LANGUAGE parameter of the SET function.

To provide translated versions of the messages:

1. Make a copy of the DITMSG00.A member with the name DITMSyyy.A, where yyy is one of the following:

FRA	French
------------	--------

DEU	German
ITA	Italian
JPN	Japanese
PTG	Portuguese
ESP	Spanish
XXX	Other

2. Change the message text.
3. Define a library with the name DITNLS.DITyyy where yyy is one of the language codes specified previously.
4. Use the job DITJOBMS.A in PRD1.BASE to assemble and catalog the translated messages. (In the DITTO/ESA job, a LIBDEF statement for this library is not required.)
5. Create an NLS version of the translation table as follows:
 - a. Make a copy of the file DITTRTBS.A with the name DITTRyyy.A, where yyy is the desired language code.
 - b. Use the job DITJOBTX.A in PRD1.BASE to assemble and link-edit the NLS version of the translation tables.

If a DITTO/ESA user specifies one of the above languages with the SET parameter LANGUAGE, the corresponding messages and translation table are used.

Translating the Panel Text

All DITTO/ESA panels are provided in English. You can translate some or all of these panels into another language. (If no translated version of a particular panel is available, DITTO/ESA uses the English version.)

Each panel is stored as a member called *name.A* in the execution library. You translate a panel as follows:

1. Punch the member out using the PUNCH command of the LIBR program
2. Translate the panel text within the member
3. Catalog the member in the library DITNLS.DITyyy where yyy is the language code. (If the panel member contains any .INCLUDE or .HELP statements, make sure that the referenced members are also cataloged in DITNLS.DITyyy.)

If a DITTO/ESA user specifies one of the above languages with the SET parameter LANGUAGE, the translated panels are used.

Changing the ASCII Translation Tables

You can use DITTO/ESA to translate tape data from:

- Translate tape input from ASCII format to EBCDIC format.
- Translate tape output from EBCDIC format to ASCII format.
- Translate tape input from ASCII format to EBCDIC format, and translate tape output from EBCDIC format to ASCII format.

If you want to use an ASCII or EBCDIC character set other than the character sets supplied by IBM, you can change the translation table definition statements.

To change the ASCII translation tables:

1. Change the translation table definition statements in the source member. The member is called DITASCII.A in PRD1.BASE.
2. Use the job DITJOBAC.A in PRD1.BASE to assemble and link-edit the modified ASCII translation tables.

Defining DITTO/ESA to the Interactive Interface

You can optionally define DITTO/ESA to the Interactive Interface.

To do this, you can either:

- Use the system-provided profile IESDITTO,
- or
- Define your own customized profile using IESDITTO as a model.

If you decide to use the IESDITTO profile as provided by the system, you only need to add IESDITTO to a selection panel (see “Adding the Profile to a Selection Panel” on page 78).

If you want to define your own profile, you need to select IESDITTO as a model, customize it to your requirements, and then add your customized profile to a selection panel. The next two sections describe these steps.

Defining Your Own Profile

1. Use the Maintain Application Profiles dialog to select IESDITTO as a model.

Enter 1 in the OPT field against IESDITTO to display the panel to add or change an application profile as shown in Figure 13.

IESADMAP		ADD OR CHANGE APPLICATION PROFILE	
NAME.....		Unique application name, 1-8 characters.	
CODE.....	4	1=START trans ID, 2=LINK to program, 3=ATTACH NON-CONVERSATIONAL trans ID with data, 4=ATTACH CONVERSATIONAL trans ID with data.	
ACTIVATE.....	DITT	Name to activate, a 1-8 character program name or a 1-4 character transaction ID.	
CASE.....	2	Terminal input passed to application in upper case only(CASE=1) or upper/lower case(CASE=2).	
DATA.....			<==
		Optional input data to pass to application.	
SHOW.....		Show input data(SHOW=1) or do not show it(SHOW=2).	
PF1=HELP		3=END	4=RETURN 5=UPDATE

Figure 13. Add or Change Application Profile

2. Customize the profile:

- NAME** Enter a unique name (1–8 characters) for your customized DITTO/ESA profile; for example, myditto. This is the name that will subsequently appear on the selection panel.
- CODE** Leave as the default value (4).
- ACTIVATE** Enter the transaction name you want to use to activate DITTO/ESA (or use the default name displayed).
- CASE** Set to 2.
- DATA** Enter any of the DITTO/ESA invocation options; for example, "(JOBCLASS=Y LSTCLASS=A".

Note: For a list of options you can specify when starting DITTO/ESA in full-screen mode, see the *DITTO/ESA User's Guide and Reference*, SH19-8221.
- SHOW** Set to 2.

You now need to add your customized profile to a selection panel as described in the following section.

Adding the Profile to a Selection Panel

1. Use the Maintain Selection Panels dialog to display the panel for adding or changing a selection panel as shown in Figure 14.

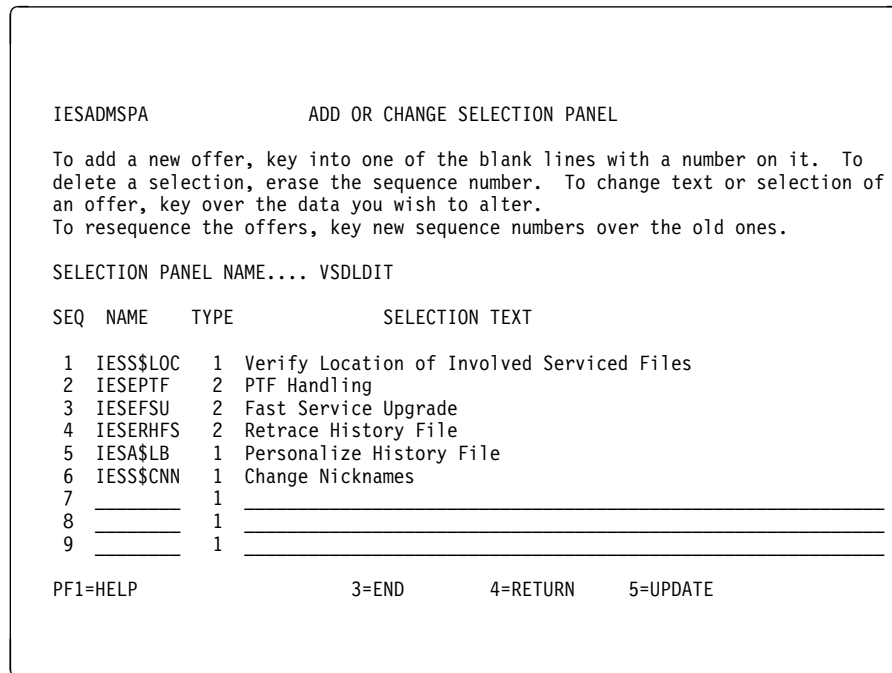


Figure 14. Add or Change Selection Panel

2. Add DITTO/ESA to the selection menu by keying into one of the blank lines with a sequence number:

- NAME** Enter the profile name for DITTO/ESA. If you have chosen to use the system-provided profile IESDITTO, enter iesditto. Otherwise, enter the application name you specified for your own customized profile; for example, myditto.

TYPE Enter 1.

SELECTION LIST Enter an appropriate description; for example, ditto utility.

For more information about Interactive Interface tailoring, see *VSE/ESA Administration*, SC33-6605 and *VSE/ESA Planning*, SC33-6603.

Setting Up CMS/VSE Mode

DITTO/ESA for VSE Release 3 supports the invocation of a full-screen VSE/DITTO session from CMS. For a description of starting DITTO/ESA in full-screen mode under CMS, see the *DITTO/ESA User's Guide and Reference*, SH19-8221.

DITTO/ESA for VM Release 3 and DITTO/ESA for VSE Release 3 are required.

To enable CMS/VSE mode, do the following:

1. Customize the DITTOVSE EXEC shipped with DITTO/ESA for VM Release 3. Details can be found in the prolog of the EXEC.
2. For each VM user executing DITTO/ESA in this mode, add the following entries to the VM directory:

```
OPTION MAXCONN 2 (or higher)
IUCV ALLOW
IUCV *IDENT RESANY GLOBAL
or
IUCV *IDENT server-name GLOBAL
```

Note: An individual *server-name* must be used for each user. The *server-name* must match the server name set up in the DITTOVSE EXEC. The default *server-name* is the user ID prefixed with the letter S and truncated to eight characters.

3. For the target VSE machine, add the following VM directory entries:

```
OPTION MAXCONN 20 (or higher; 2 for one active user)
IUCV ALLOW
IUCV *IDENT RESANY GLOBAL
```

4. If you want to run the DITTO/ESA session on a remote VSE/VM system (on a different TSAF) you must define two gateways.

The communication between the Display Server in the CMS machine and DITTO/ESA in the VSE partition is established by an APPC/VM session. VTAM® and AVS (APPC/VM VTAM Support) must be set up to allow this type of communication. For information on setting up the gateways, see *VM/ESA Connectivity Planning, Administration, and Operation*, SC24-5448.

- a. Set up the AVS to AVS connection (gateways).
- b. To the target VSE IPL procedure, add the following statement for each user:

```
SET APPCVM TARGET(server-name,lu-local,lu-remote,modetab)
```

The *server-name* is the name used by the DITTOVSE EXEC. The *lu-local* is the name of the gateway on the VM machine running the VSE system. The *lu-remote* is the name of the gateway at the CMS user's VM system

(DITTO/ESA user). For *modetab*, specify a VTAM Mode Table suitable for interactive communication.

Security

You should also customize the security environment. For more information about customizing the security environment, see Appendix A, “Customizing the Security Environment” on page 91.

If you decide to modify the default security exit, perform the following steps:

1. Modify the DITSECUR.A file in PRD1.BASE.
2. Adapt member DITJOBSC.A in PRD1.BASE to meet your specific installation requirements.
3. Execute DITJOBSC.A.
4. If you have previously loaded the DITSECUR phase into the SVA, reload DITSECUR into the SVA.

For security reasons, you should load DITSECUR.PHASE into the SVA during system startup (SVA load list). See “Optionally Load DITTO/ESA for VSE in the Shared Virtual Area (SVA)” on page 81.

Activating DITTO/ESA Japanese Feature

You can exploit the Japanese Feature in full-screen DITTO/ESA sessions on a user terminal, in batch DITTO/ESA jobs, and in interactive DITTO/ESA sessions on a console.

Make the Japanese Feature Available for DITTO/ESA Jobs

If you have installed the Japanese Feature in the default library and sublibrary PRD2.DITJPN, no further action is required.

If you have installed the Japanese Feature in sublibrary DITNLS.DITJPN, a DLBL statement for library DITNLS must be made available for all DITTO/ESA jobs. You may prefer to add the DLBL DITNLS statement to the system standard labels rather than modifying all DITTO/ESA jobs that use the Japanese language.

Note: Specifying the Japanese Feature install library in a LIBDEF JCL statement is not required.

Make Japanese the Default Language

Defining the default language for your installation is part of the DITTO/ESA for VSE Base Function customization.

For more information about customizing the default language for the Japanese Feature, see “Changing the Default SET Parameters” on page 74.

Customize the Japanese Feature Translation Tables

DITTO/ESA Japanese Feature provides translation tables for display and print that are used by DITTO/ESA when the Japanese language is selected.

You may customize the Japanese translation tables to meet your needs:

1. Change the translation table definition in the Assembler source file **DITRJPN.A** in **PRD2.DITJPN**.
2. Customize and run job **DITJOBTJ.A** in **PRD2.DITJPN** to assemble and link-edit the modified translation tables.

Optionally Load DITTO/ESA for VSE in the Shared Virtual Area (SVA)

All the phases in Figure 15 on page 82 can be in the SVA.

To include them:

1. Modify the SVA statement of the VSE IPL ASI (Automated System Initialization) procedure to allow space for the phases:
 - Increase the SDL parameter by the number of new phases being added to the SVA.
 - Increase the PSIZE parameter by the amount of storage required to contain the new phases being added to the 24-bit and 31-bit SVA.
2. Modify the VSE background (BG) ASI procedure to automatically load the required phases into the SVA:
 - Modify the ALLOC statements for the partitions to ensure that the remaining storage is large enough to contain the phases.
 - Modify the LIBDEF PHASE SEARCH job control statement preceding the SET SDL statement to include the name of the sublibrary containing the DITTO/ESA phases.
 - After the SET SDL statement, add the statement:
LIST=\$SVADIT
The load list contains the following phases.

```
SET SDL
DITMOD,SVA
DITMODAC,SVA
DITMODC,SVA
DITMODCA,SVA
DITMODD,SVA
DITMODFS,SVA
DITMODL,SVA
DITMODPB,SVA
DITMODQ,SVA
DITSETUP,SVA
DITSECUR,SVA
DITMODT,SVA
DITMODTR,SVA
DITMODV,SVA
DITMODX,SVA
DITMOD16,SVA
DITMOD24,SVA
```

Figure 15. List of Phases to Go into the SVA

The supplied SVA loadlist member \$SVADIT contains all the required DITTO/ESA phases that can reside in the SVA.

To also load the Japanese Feature phases to the SVA, add the following statements to the SVA load list:

```
DITMSJPN,SVA
DITTRJPN,SVA
/*
```

The supplied SVA loadlist member \$SVADITJ contains all the required DITTO/ESA phases that can reside in the SVA.

For more information on loading phases into the SVA, see *VSE/ESA System Control Statements*, SC33-6613.

3. Shut down and re-IPL your VSE system.

Chapter 14. Maintaining DITTO/ESA for VSE

This chapter describes how to re-install or remove DITTO/ESA and how to apply service updates to DITTO/ESA. To effectively use the maintenance procedures, you must have already installed DITTO/ESA and any required products.

In addition, this chapter describes how to remove DITTO/ESA.

Re-installing DITTO/ESA

You do not need to perform all the planning and installation procedures to re-install DITTO/ESA. For example, you might not need to reconsider your storage needs if DITTO/ESA replaces the existing DITTO/ESA sublibraries.

You do not need to remove DITTO/ESA from your system before re-installing DITTO/ESA, unless you intend to re-install the product in a different sublibrary from the previous installation. In this case, you must remove DITTO/ESA from the system history file before you can re-install it. Figure 20 on page 87 shows a job to remove DITTO/ESA from the system history file.

To re-install DITTO/ESA, you follow the same steps as for installing DITTO/ESA. See Chapter 11, "Installing DITTO/ESA Base Function for VSE" on page 55.

Note: To re-install DITTO/ESA Japanese Feature, see Chapter 12, "Installing DITTO/ESA Japanese Feature for VSE" on page 63.

Applying Service Updates

You might need to apply maintenance or service updates to DITTO/ESA periodically. This section details these procedures.

What You Receive

If you report a problem with DITTO/ESA to your IBM Support Center, you will receive a tape containing one or more APARs or PTFs to solve your problem.

You might also receive a list of prerequisite APARs or PTFs, which should have been applied to your system before applying the current service. These prerequisite APARs or PTFs might relate to DITTO/ESA or any other licensed product you have installed, including VSE/ESA.

You apply service to DITTO/ESA using either the VSE/ESA Interactive Interface or a batch job.

The following checklist provides a summary of steps you should use to apply service to DITTO/ESA.

Checklist for Applying Service

Table 23 lists the steps to install corrective service on DITTO/ESA. You can use Table 23 as a checklist.

Table 23. Summary of Steps for Installing Service on DITTO/ESA

Step	Description	MSHP Command or Jobname	Page
__ 1	Ensure prerequisite APARs or PTFs are applied.	RETRACE	84
__ 2	Backup existing system	___	84
__ 3	Apply service	INSTALL	85
__ 4	Verify the service update	___	85

Step 1. Check Prerequisite APARs or PTFs

Prerequisite APARs or PTFs need to be applied to your system before you can apply the current maintenance. These APARs or PTFs might apply to DITTO/ESA or any licensed program you have installed at your installation.

Your IBM Support Center has given you a list of any relevant prerequisite APARs or PTFs. Probably most have been applied to your system. You can verify this by retracing the APARs and PTFs in your system history file. The job shown in Figure 16 shows how to retrace APARs and PTFs in the system history file. This job is supplied as DITRETR.A.

Use this listing to check that you have already applied any prerequisite APARs or PTFs. If you have not, arrange for your IBM Support Center to send them to you and apply them before applying other service.

```
// JOB DITRETR Retrace APARs and PTFs
// EXEC MSHP,SIZE=700K
RETRACE APARS
RETRACE PTFS
/*
/ &
```

Figure 16. Job to Retrace APARs and PTFs

Step 2. Backup Existing System

Make a backup copy of your current DITTO/ESA library and the system history file. For information about backing up libraries and the system history file, see *VSE/ESA System Control Statements*, SC33-6613.

Step 3. Apply Service

You can apply service to DITTO/ESA from the provided service tape using either the Interactive Interface or a batch job.

Method 1: Apply Service Using the Interactive Interface

To apply service to DITTO/ESA using the Interactive Interface, log on to the VSE/ESA Interactive Interface as the system administrator. For more information about the functions of the Interactive Interface, see *VSE/ESA Administration*, SC33-6605.

Method 2: Apply Service Using a Batch Job

The batch job to apply service to DITTO/ESA uses the MSHP system history file where DITTO/ESA was installed.

A sample job to apply service using MSHP is shown in Figure 17. For more information on MSHP see *VSE/ESA System Control Statements*, SC33-6613.

```
// JOB DITAPP Apply Service
// ASSGN SYS006,cuu           1
// EXEC MSHP,SIZE=700K
INSTALL SERVICE FROMTAPE    2
/*
/ &
```

Figure 17. Job to Retrace APARs and PTFs

In area **1**, change *cuu* to the address of the tape drive where you have mounted the service tape.

Area **2** shows the MSHP statement to install service from a tape. The information in the system history file directs MSHP to apply the service to the sublibrary in which DITTO/ESA is installed. You do not need to supply this information. This job is supplied as member DITAPP.A.

Step 4. Verify the Service Update

After you have applied all the files on the service tape, verify the installation of the service update to ensure that DITTO/ESA functions properly:

- For the Base Function, see “Step 4: Verify the Installation of DITTO/ESA Base Function” on page 61.
- For the Japanese Feature, see “Step 4: Verify the Installation of DITTO/ESA Japanese Feature” on page 69.

Removing DITTO/ESA

You do not have to remove DITTO/ESA from your system before installing a new version or release.

If you do have to remove DITTO/ESA for any reason, you must delete all the DITTO/ESA entries from your sublibrary and remove DITTO/ESA from the system history file. Figure 20 on page 87 shows the JCL needed to remove DITTO/ESA from the system history file.

To delete all DITTO/ESA entries from your sublibrary, use the DELETE command of the LIBR program. The job shown in Figure 18 on page 86 (or Figure 19 for the Japanese Feature) shows the JCL needed to delete DITTO/ESA from the default sublibrary PRD1.BASE.

```
// JOB DITDELV
* Label for the DITTO/ESA library 1
// EXEC LIBR,SIZE=200K
ACCESS S=PRD1.BASE 2
DELETE DIT*.*
DELETE HD099360.Z
DELETE $SVADIT.OBJ
DELETE $SVADIT.PHASE
/*
/ &
```

Figure 18. Job to Delete DITTO/ESA Base Function from a Sublibrary

```
// JOB DITDELVJ
* Label for the DITTO/ESA library 1
// EXEC LIBR,SIZE=200K
ACCESS S=PRD2.DITJPN 2
DELETE DIT*.*
DELETE HD099370.Z
DELETE $SVADITJ.OBJ
DELETE $SVADITJ.PHASE
/*
/ &
```

Figure 19. Job to Delete DITTO/ESA Japanese Feature from a Sublibrary

If you have installed DITTO/ESA into a sublibrary other than the default, insert the required DLBL, EXTENT and ASSGN information for the DITTO/ESA library in area **1**. Also change the access statement in **2**.

Base Function Only: If DITTO/ESA Base Function has been installed in a sublibrary other than the default, change the statement in area **2** to indicate the library and sublibrary where DITTO/ESA Base Function resides. This job is supplied as member DITDELV.A.

Japanese Feature Only: Change the statement in area **2** to indicate the library and sublibrary where DITTO/ESA Japanese Feature resides (either PRD2.DITJPN or DITNLS.DITJPN). This job is supplied as member DITDELVJ.A.

To remove DITTO/ESA from the system history file, use the REMOVE command of the Maintain System History Program (MSHP). The sample job shown in Figure 20 on page 87 (or Figure 21 for the Japanese Feature) shows the JCL needed to remove DITTO/ESA from the system history file.

```
// JOB DITDELH Remove Product
// EXEC MSHP,SIZE=700K
REMOVE 5648-099-01-360
/*
/ &
```

1

Figure 20. Job to Remove DITTO/ESA Base Function from the System History File

```
// JOB DITDELJ Remove Product
// EXEC MSHP,SIZE=700K
REMOVE 5648-099-02-370
/*
/ &
```

1

Figure 21. Job to Remove DITTO/ESA Japanese Feature from the System History File

Area **1** shows the component for DITTO/ESA. This job is supplied as member DITDELH.A (or DITDELHJ.A for the Japanese Feature).

To Report a Problem with DITTO/ESA

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

The component ID (COMP ID) for DITTO/ESA is shown in Table 24 (or Table 25 for the Japanese Feature).

Table 24. Component IDs (Base Function)

COMP ID	Component Name	REL
564809901	DITTO/ESA VSE	36O

Table 25. Component IDs (Japanese Feature)

COMP ID	Component Name	REL
564809902	DITTO/ESA VSE JAPANESE	37O

Obtaining Service Information

Preventive Service Planning (PSP) information is continually updated as fixes are made available for problems. Check with your IBM Support Center or use either Information/Access or SoftwareXcel Extended to see whether there is additional PSP information that you need.

To obtain this information, specify the UPGRADE and SUBSET values as shown in Table 26 (or Table 27 for the Japanese Feature).

Table 26. UPGRADE and SUBSET Values (Base Function)

UPGRADE	SUBSET
DITTOESA	VSE/130

Table 27. UPGRADE and SUBSET Values (Japanese Feature)

UPGRADE	SUBSET
DITTOESA	VSE/130J

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Appendix A. Customizing the Security Environment

DITTO/ESA provides secure control of function authorization, either through RACF (or an equivalent security product) or through the DITSECUR exit.

DITSECUR is a customizable exit. It provides a DITS macro, which lets you define a table of user names or job names, DITTO-protectable resources (called profiles), and access levels.

If OS/390 Security Server, RACF 1.9 or later, or an equivalent security product, is active, the System Authorization Facility (SAF) with the DITTO/ESA enhanced security facility is used for access control and authorization verification. Authorization is controlled by DITTO-specific profiles in the FACILITY class. If SAF with RACF 1.9 is not active at DITTO/ESA initialization time, all DITTO/ESA special security checks during that DITTO/ESA session are passed to the DITSECUR user exit (if any) instead of to SAF. If the DITSECUR module cannot be found, no security checks are done. See “Setting up the Security Environment using DITSECUR” on page 100.

Controlling Access to DITTO/ESA Functions with SAF

SAF controls access to DITTO/ESA functions as follows:

- If access to the profile FACILITY(DITTO.FUNCTION.*fc*) in the FACILITY class is defined (where *fc* is the function code), this controls access to the function.
- Otherwise, the profile name shown in Table 29 on page 106 (in the form DITTO.*group.name*) is used.

ALTER, UPDATE, or READ access means that the user can use the function. Access NONE means that the user cannot use the function.

This is illustrated in Figure 22 on page 92.

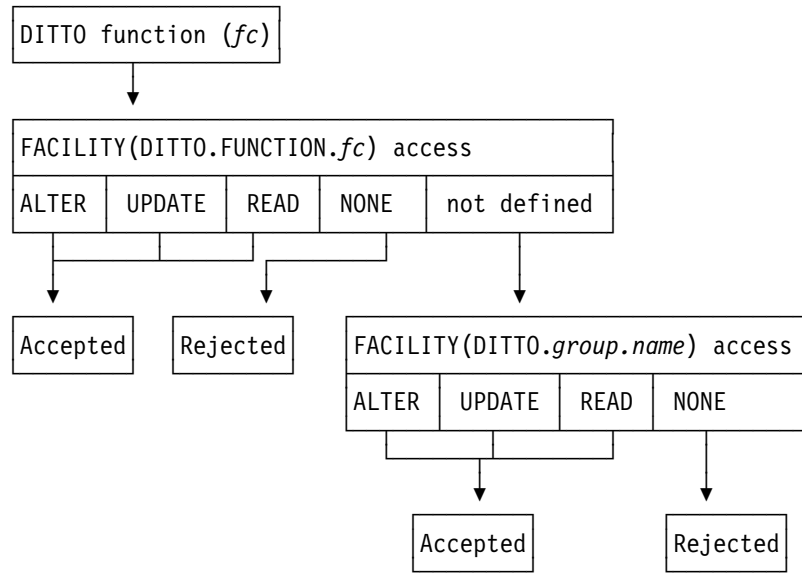


Figure 22. Access to DITTO/ESA Functions

For example, the TP function is part of the DITTO.TAPE.INPUT group. You can control access to the TP function in any of the following ways:

- To give a user access to the TP function, regardless of the user's access to DITTO.TAPE.INPUT, give the user ALTER, UPDATE, or READ access to FACILITY(DITTO.FUNCTION.TP).
- To prevent a user from using the TP function, regardless of the user's access to DITTO.TAPE.INPUT, give the user NONE access to FACILITY(DITTO.FUNCTION.TP).
- To give a user access to any tape input function, unless overridden by a DITTO.FUNCTION.fc entry, give the user ALTER, UPDATE, or READ access to FACILITY(DITTO.TAPE.INPUT).
- To prevent a user from using any tape input function, unless overridden by a DITTO.FUNCTION.fc entry, give the user NONE access to FACILITY(DITTO.TAPE.INPUT).

Note: If you are using DITSECUR instead of SAF, access control works differently. You can set up DITSECUR so that you get the same results as SAF, as described in “Setting up the Security Environment using DITSECUR” on page 100.

Running DITTO/ESA with APF Authorization (MVS Only)

Under MVS, DITTO/ESA can run APF-authorized or non APF-authorized.

If DITTO/ESA is running APF-authorized:

- Users can be permitted to mount tapes within DITTO/ESA, even if they are not authorized to mount tapes in TSO. For more information, see “Controlling Tape Mounts in TSO (MVS Only)” on page 94.

- Users can be permitted to use bypass label processing (BLP), even if the system does not support BLP. For more information, see “Controlling Tape BLP Processing (MVS Only)” on page 94.
- Users can be permitted to use disk fullpack processing. For more information, see “Controlling Disk Fullpack Access (MVS Only)” on page 96.
- Users cannot use the ISPF SPLIT and SWAP functions within DITTO/ESA.
- Users can enter only authorized TSO commands within DITTO/ESA.
- Users can use compaction (IDRC) for 3480 or 3490 cartridge tapes for tape mode 08 (buffered write mode) and tape mode 28 (immediate write mode).
- Users can perform catalog actions that require APF authorization, as described in *DFSMS/MVS® Access Method Services for Integrated Catalog Facility*, SC26-4906.

Determining Why DITTO/ESA is Running Non APF-Authorized

If DITTO/ESA is running non APF-authorized and you are not sure of the reason, perform one or more of the following:

- Submit a DITTO/ESA batch job with the control card `$$ditto ver`

If the VER command indicates that DITTO/ESA is not APF-authorized, it means that the DITTO/ESA load library is not APF-authorized. Check that IEAAPFxx is set up correctly and selected in IEASYSxx. You need to re-IPL to activate IEAAPFxx. Alternatively, you can use PROGxx (if it is available on your system).

If a JOBLIB or STEPLIB statement is used to specify the DITTO/ESA load library, ensure that the DITTO/ESA load library is not concatenated with a non ADF-authorized library.

- Enter `ditto ver` or `dittoa ver` at the TSO READY prompt.

If the VER command indicates non APF-authorization, it means that the command DITTO (or DITTOA) is not APF-authorized. Ensure that the DITTO/ESA load library is APF-authorized (see above). If this is the case, then:

- Check that DITTO (or DITTOA) has been added to IKJTSOxx as an authorized command. Once you have updated the active IKJTSOxx member, you will need to re-IPL to activate IKJTSOxx, or use the PARMLIB update command.
- If you start DITTO/ESA from an ISPF selection panel and it shows that DITTO/ESA is not APF-authorized:
 - Perform the above checks.

If no problem is found, ensure that the name specified in IKJTSOxx (DITTO or DITTOA) matches the name specified when DITTO/ESA is invoked on the ISPF selection panel (CMD(DITTO) or CMD(DITTOA)).

Controlling Tape Mounts in TSO (MVS Only)

The MOUNT attribute in TSO lets users mount either tape volumes or disk volumes within a TSO session. To let a user mount tapes within DITTO/ESA, but not mount tapes or disks outside DITTO/ESA, disable the TSO MOUNT attribute and give the user READ access to the profile DITTO.TAPE.MOUNT in the FACILITY class. DITTO/ESA must be running in authorized mode.

Note: If a user with the TSO MOUNT attribute tries to use a tape in ISPF/PDF but misspells the volser, the operator is told to mount the nonexistent volume, and the user cannot perform any action until the operator responds. If you use DITTO.TAPE.MOUNT instead of the TSO MOUNT attribute, this problem is avoided because only DITTO/ESA is allowed to mount tapes during this TSO session.

Table 28 shows when a user can and cannot mount tapes.

Table 28. Can You Mount Tapes?

Environment	APF-Authorized	Not APF-Authorized
DITTO/ESA is not running under TSO.	Only by JCL	Only by JCL
The user has TSO MOUNT authorization.	Yes	Yes
The user does not have TSO MOUNT authorization, but is permitted to the DITTO.TAPE.MOUNT profile.	Only by DITTO/ESA	No
The user does not have TSO MOUNT authorization, and is not permitted to the DITTO.TAPE.MOUNT profile.	No	No

Controlling Tape BLP Processing (MVS Only)

Under MVS, if either:

- LABEL=(,BLP) is coded on the JCL control statement but BLP is not allowed by the JES installation parameters (that is, BLP is converted to NL),

or

- LABEL=(,NL) is coded on the JCL control statement,

then a user can specify LABEL=BLP on the first DITTO/ESA function that uses a tape. This means that the user wants to use bypass label processing (BLP) for the tape.

If your installation allows BLP usage (as specified in JES parameters), normal MVS open processing checks if the user has access to ICHBLP. Any user with READ access or greater can use BLP. If ICHBLP is not defined, all users can use BLP.

If your installation does not allow BLP usage, DITTO/ESA users can still use BLP subject to the following conditions:

- DITTO/ESA must be running APF-authorized.
- For any function other than TLB, the user must have access to DITTO.TAPE.BLP.
- If ICHBLP is defined, the user must have access to it.

This is illustrated in Figure 23 on page 95.

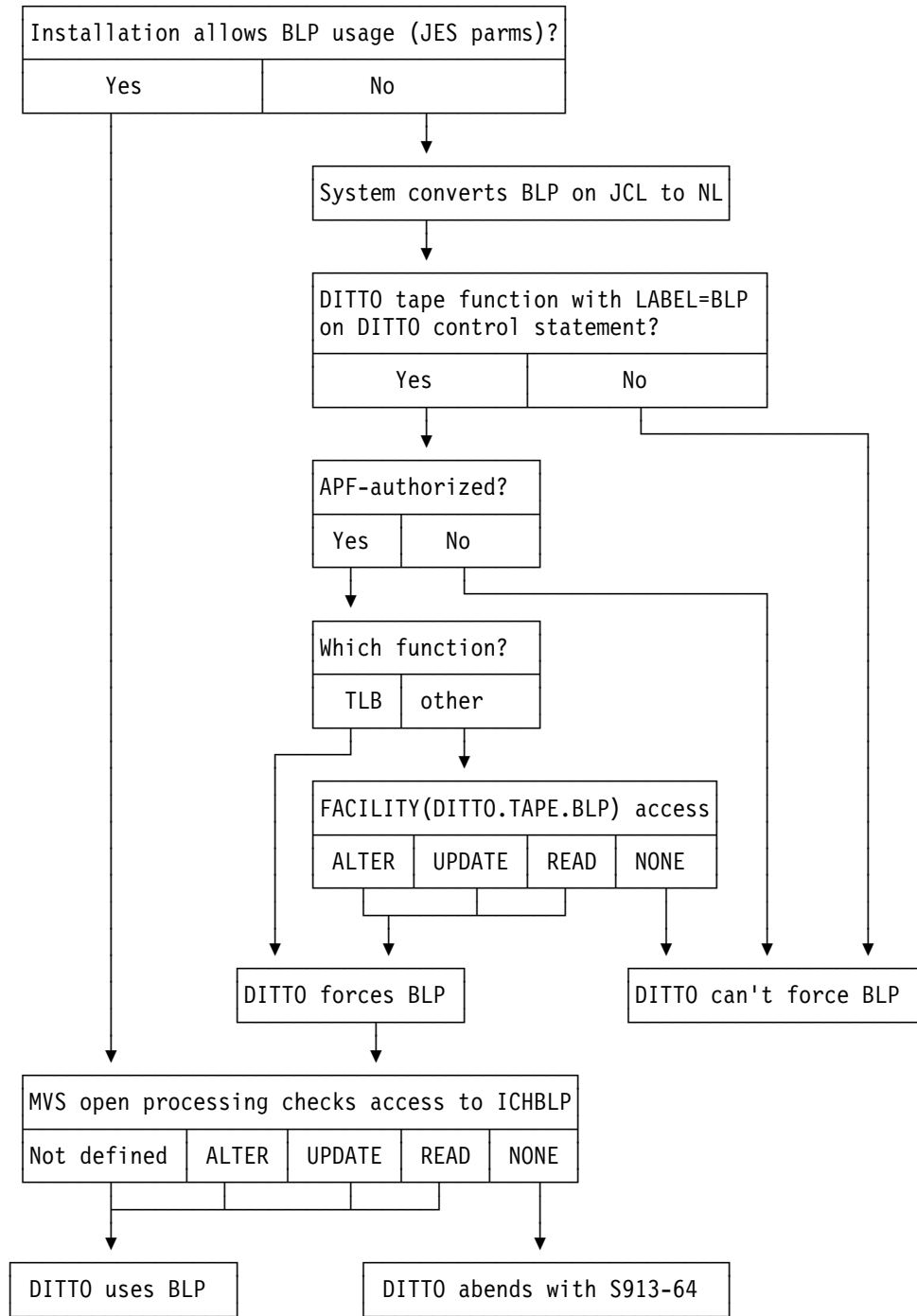


Figure 23. BLP Processing

Controlling Disk Fullpack Access (MVS Only)

Under MVS, users can enter DITTO/ESA disk functions without specifying a data set name. This means that the user wants to work with the entire disk volume (disk fullpack). Some functions (such as Disk Print) only read the disk; others (such as Disk Update) update the disk.

Access to disk fullpack processing is controlled as follows:

- If DITTO/ESA is not running APF-authorized, disk fullpack processing is unavailable.
- If DITTO/ESA is running APF-authorized, the user's access to the profile DITTO.DISK.FULLPACK in the FACILITY class is checked. The following access levels are possible:

ALTER	Read and update access to all volumes
UPDATE	Read access to all volumes, update access to specific volumes
READ	Read and update access to specific volumes
NONE	No fullpack access.

Access to specific volumes is controlled with the DASDVOL class. The user needs READ access for disk read functions and ALTER access for disk update functions.

Figure 24 and Figure 25 on page 97 show how this works for disk read and disk update functions.

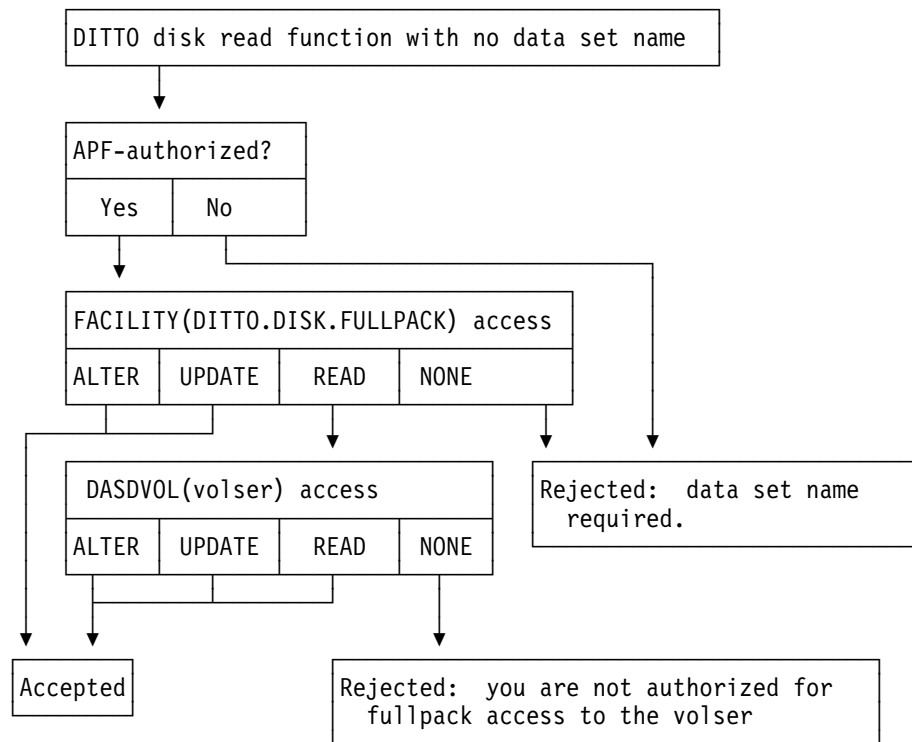


Figure 24. Fullpack Processing for Disk Read Functions

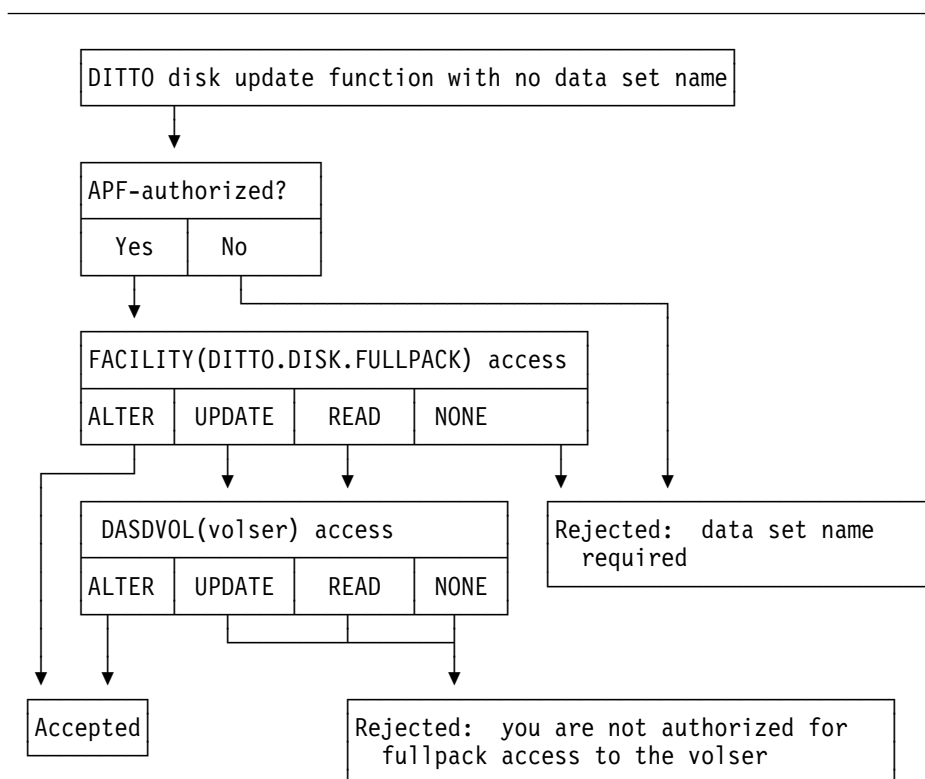


Figure 25. Fullpack Processing for Disk Update Functions

Controlling Access to Files in the POWER Spool (VSE Only)

A user always has access to his or her own spool files. A user with access to DITTO.SPOOL.DISPLAY can list and browse spool files that were created by other users. A user with access to DITTO.SPOOL.CONTROL can alter and delete spool files that were created by other users.

By default (with the supplied DITSECUR exit), access to spool files created by other users is denied.

Setting up the Security Environment using RACF or Equivalent Security Product

Perform the following steps to define profiles for RACF or equivalent security product. These steps assume that your security administrator has already controlled access to DASD volumes (DASDVOL) and facilities (FACILITY) under MVS, VSE, or minidisks under CMS.

Notes:

1. For more information about RACF resource profiles, see *OS/390 Security Server (RACF) Command Language Reference*, SC28-1919.
2. The following section contains examples of setting up facility classes for DITTO/ESA using RACF. If you are using an equivalent security product, you will need to refer to the appropriate product documentation that describes the definition and usage of facility classes.

You can give or deny some users (or all users) access to any of the following groups of DITTO/ESA functions:

DITTO.DISK.INPUT	Disk input functions
DITTO.DISK.UPDATE	Disk update functions
DITTO.TAPE.INPUT	Tape input functions
DITTO.TAPE.OUTPUT	Tape output functions
DITTO.TAPE.DUPLICATE	Tape copy functions
DITTO.TAPE.UPDATE	Tape update functions
DITTO.VSAM.UPDATE	VSAM update functions
DITTO.OAM.OUTPUT	MVS: OAM output functions
DITTO.OAM.UPDATE	MVS: OAM update functions
DITTO.OTHER.ALL	All other functions
DITTO.TAPE.MOUNT	See "Controlling Tape Mounts in TSO (MVS Only)" on page 94
DITTO.TAPE.BLP	See "Controlling Tape BLP Processing (MVS Only)" on page 94
DITTO.DISK.FULLPACK	See "Controlling Disk Fullpack Access (MVS Only)" on page 96
DITTO.SPOOL.DISPLAY	See "Controlling Access to Files in the POWER Spool (VSE Only)" on page 97
DITTO.SPOOL.CONTROL	See "Controlling Access to Files in the POWER Spool (VSE Only)" on page 97

For more information about these groups, see Table 29 on page 106.

You can also give or deny some users (or all users) access to an individual DITTO/ESA function.

- To give universal access of NONE to a group of functions (for example disk input functions), enter a RACF command similar to this:

```
RDEFINE FACILITY DITTO.DISK.INPUT UACC(NONE)
```

This means that no users can use any functions in the group unless otherwise specified.

- To give all users access to a group of functions (for example tape input functions), enter a RACF command similar to this:

```
RDEFINE FACILITY DITTO.TAPE.INPUT UACC(READ)
```

- To give a user access to a group of functions (for example tape output functions), enter a RACF command similar to this:

```
PERMIT DITTO.TAPE.OUTPUT CLASS(FACILITY) ID(id) ACCESS(READ)
```

where *id* is the name of a user.

Similarly, to deny a user access to tape output functions, you would enter a RACF command similar to this:

```
PERMIT DITTO.TAPE.OUTPUT CLASS(FACILITY) ID(id) ACCESS(NONE)
```

The PERMIT statement for DITTO.TAPE.OUTPUT overrides the universal access that you specified for DITTO.TAPE.OUTPUT.

- To give a user access to a specific function (for example the VSAM to Tape function), enter a RACF command similar to this:

```
PERMIT DITTO.FUNCTION.VT CLASS(FACILITY) ID(id) ACCESS(READ)
```

where *id* is the name of a user.

Similarly, to deny a user access to the VT function, you would enter a RACF command similar to this:

```
PERMIT DITTO.FUNCTION.VT CLASS(FACILITY) ID(id) ACCESS(NONE)
```

The PERMIT statement for DITTO.FUNCTION.VT overrides any access that you specified for DITTO.TAPE.OUTPUT.

- If the FACILITY class is not already active on your system, enter the following RACF commands:

```
SETROPTS CLASSACT(FACILITY)
SETROPTS GENERIC(FACILITY)
SETROPTS GENCMD(FACILITY)
```

CA-Top Secret Users

CA-Top Secret limits the definition of a facility ID to a maximum of 8 characters. As a result, the function-level and group-level security checking within DITTO/ESA are mutually exclusive.

To permit access to a facility class with CA-Top Secret, you must first define a facility prefix of 1–8 characters as follows:

```
TSS ADD(access-ID) IBMFAC(facility-prefix)
```

where *facility-prefix* uniquely identifies the DITTO/ESA facility. For example, if you choose function-level security checking, you could use a facility prefix such as DITTO, DITTO.F, or DITTO.FU.

Note that the facility prefixes for all DITTO/ESA functions are the same. Therefore, after you have defined the function facility prefix, all functions are protected.

As shown in Figure 22 on page 92, defining function-level security checking will disable all group checking.

The following examples show how to implement function-level or group-level security checking with CA-Top Secret.

Example 1. Implementing Function-Level Security Using CA-Top Secret

Define the facility ID “DITTO”, protecting all functions:

```
TSS ADD(access-ID) IBMFAC(DITTO)
```

To provide universal access to one or more functions, use the access ID “ALL” as follows:

```
TSS PERM(ALL) IBMFAC(DITTO.FUNCTION.xxx) ACCESS(READ)
```

where *xxx* is the function ID (for example, BT, DVT, TP).

To give an individual user access to a specific function:

```
TSS PERM(access-ID) IBMFAC(DITTO.FUNCTION.xxx) ACCESS(READ)
```

where *xxx* is the function ID (for example, BT, DVT, TP).

Example 2. Implementing Group-Level Security Using CA-Top Secret

Define the following facilities to protect all the groups of DITTO/ESA functions:

```
TSS ADD(access-ID) IBMFAC(DITTO.DI)      Disk group
TSS ADD(access-ID) IBMFAC(DITTO.TA)      Tape group
TSS ADD(access-ID) IBMFAC(DITTO.VS)      VSAM Group
TSS ADD(access-ID) IBMFAC(DITTO.OA)      OAM group
TSS ADD(access-ID) IBMFAC(DITTO.OT)      Other functions
TSS ADD(access-ID) IBMFAC(DITTO.SP)      Spool Functions
```

To provide universal access to a group (for example, to provide universal access of READ for disk input functions), use the access ID "ALL" and define the following:

```
TSS PERM(ALL) IBMFAC(DITTO.DISK.INPUT) ACCESS(READ)
```

To give an individual user access to a group of functions (for example, to disk output functions), define the following:

```
TSS PERM(access-ID) IBMFAC(DITTO.DISK.OUTPUT) ACCESS(READ)
```

Setting up the Security Environment using DITSECUR

A DITSECUR exit is shipped for security control from within DITTO/ESA. You can use it to protect selected DITTO/ESA functions from unauthorized users.

The DITSECUR file is called:

```
MVS      DITSECUR in DIT.H0GB310.SDITSAM1
VSE      DITSECUR.A in PRD1.BASE (or other library and sublibrary where
           DITTO/ESA is installed)
CMS      DITSECUR ASSEMBLE
```

If you will use DITSECUR for security, tailor it as follows:

1. Edit the DITSECUR file.

By default, no functions are protected (except access to spool files in the POWER queue). This means that any user can use any DITTO/ESA function unless otherwise specified. You can override this as follows:

- You can give or deny some users (or all users) access to one of the following groups of DITTO/ESA functions:

```
DITTO.DISK.INPUT      Disk input functions
DITTO.DISK.UPDATE     Disk update functions
DITTO.TAPE.INPUT      Tape input functions
DITTO.TAPE.OUTPUT     Tape output functions
DITTO.TAPE.DUPLICATE  Tape copy functions
DITTO.TAPE.UPDATE     Tape update functions
DITTO.VSAM.UPDATE     VSAM update functions
DITTO.OAM.OUTPUT      MVS: OAM output functions
DITTO.OAM.UPDATE     MVS: OAM update functions
```


DITTO.OTHER.ALL	All other functions
DITTO.TAPE.MOUNT	See “Controlling Tape Mounts in TSO (MVS Only)” on page 94
DITTO.TAPE.BLP	See “Controlling Tape BLP Processing (MVS Only)” on page 94
DITTO.DISK.FULLPACK	See “Controlling Disk Fullpack Access (MVS Only)” on page 96
DITTO.SPOOL.DISPLAY	See “Controlling Access to Files in the POWER Spool (VSE Only)” on page 97
DITTO.SPOOL.CONTROL	See “Controlling Access to Files in the POWER Spool (VSE Only)” on page 97.

For more information about these groups, see Table 29 on page 106.

- You can give or deny some users (or all users) access to an individual DITTO/ESA function.
2. To give a user access to a group of functions (for example tape output functions), add lines similar to this to the DITSECUR file:

```
DITS CLASS=FACILITY,
      ENTITY=DITTO.TAPE.INPUT,
      ACCESS=READ,
      USERID=id
```

where *id* is the name of a user.

Similarly, to deny a user access to tape output functions, you would add lines similar to this:

```
DITS CLASS=FACILITY,
      ENTITY=DITTO.TAPE.INPUT,
      ACCESS=NONE,
      USERID=id
```

3. To give a user access to a specific function (for example the VSAM to Tape function), add lines similar to this:

```
DITS CLASS=FACILITY,
      ENTITY=DITTO.FUNCTION.VT,
      ACCESS=READ,
      USERID=id
```

where *id* is the name of a user.

Similarly, to deny a user access to the VT function, you would add lines similar to this:

```
DITS CLASS=FACILITY,
      ENTITY=DITTO.FUNCTION.VT,
      ACCESS=NONE,
      USERID=id
```

When a user tries to use a DITTO/ESA function, DITSECUR is called (once) with both the profile name shown in Table 29 on page 106 (in the form *DITTO.group.name*) and the function code. It goes through the list of DITS macros until it finds a match for the user name or job name and either the profile name or the function code. The first match that it finds is used.

This means that each DITS macro effectively overrides any DITS macro that appears after it in the file. If you want DITSECUR to have the same behavior as

SAF (where function code specifications override profile name specifications), put all of your function code specifications before your profile name specifications.

Protecting DASD Volumes from Fullpack Access (MVS Only)

When you use DITSECUR to control access to individual functions or groups of functions, you can specify access type READ or NONE. For DITTO.DISK.FULLPACK only, you can also specify ALTER or UPDATE. The access type for DITTO.DISK.FULLPACK has the following meaning:

ALTER	Read and update access to all volumes
UPDATE	Read access to all volumes, update access to specific volumes
READ	Read and update access to specific volumes
NONE	No fullpack access.

If you give some users UPDATE or READ access to DITTO.DISK.FULLPACK, you can also specify which disk volumes the user has access to as follows:

- To let a user access a disk volume with fullpack read and fullpack update functions, add lines similar to this to the DITSECUR file:

```
DITS CLASS=DASDVOL,  
      ENTITY=volser,  
      ACCESS=ALTER,  
      USERID=id
```

where *volser* is the volser of the disk volume, and *id* is the name of a user.

- To let a user access a disk volume with fullpack read functions but not fullpack update functions, add to the DITSECUR file lines similar to this:

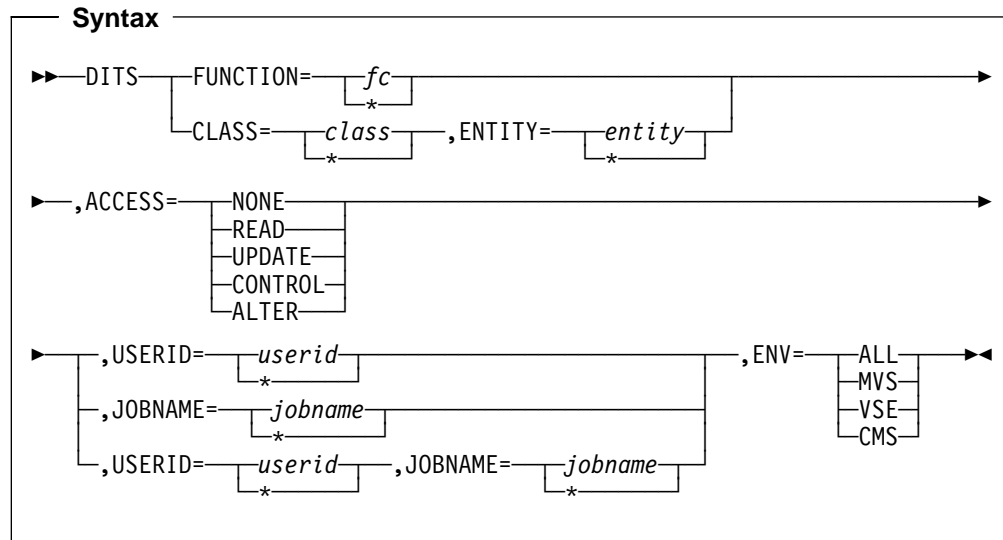
```
DITS CLASS=DASDVOL,  
      ENTITY=volser,  
      ACCESS=READ,  
      USERID=id
```

You could also use ACCESS=UPDATE, which has the same effect as ACCESS=READ in this case.

- To prevent a user from accessing a disk volume with fullpack read or fullpack update functions, add to the DITSECUR file lines similar to this:

```
DITS CLASS=DASDVOL,  
      ENTITY=volser,  
      ACCESS=NONE,  
      USERID=id
```

Syntax of the DITS Macro



The parameters of DITS are described in more detail below:

- FUNCTION** If you are protecting a function, specify `FUNCTION=fc` (where *fc* is the function code). This is equivalent to specifying `CLASS=FACILITY, ENTITY=DITTO.FUNCTION.fc`.
- CLASS** If you are protecting a group of functions, specify `CLASS=FACILITY`. Under MVS, if you are protecting a DASD volume from fullpack access, specify `CLASS=DASDVOL`.
- ENTITY** If you are protecting a group of functions, specify `ENTITY=DITTO.group.name` (using the value from Table 29 on page 106). Under MVS, if you are protecting a DASD volume from fullpack access, specify `ENTITY=volser`.
- ACCESS** For all profiles except MVS fullpack, specify `ACCESS=NONE` to deny access, or any other value (READ, UPDATE, CONTROL, or ALTER) to give access. Under MVS, if you are protecting fullpack access to DASD volumes, you can also use UPDATE and ALTER to grant read or update access to specific volumes. For more information, see “Protecting DASD Volumes from Fullpack Access (MVS Only)” on page 102.
- USERID** You can specify either a user ID or an asterisk (*) to indicate all users who have not previously been specified for this entity.
- In VSE batch or console mode, a user ID is available only if VSE security is active (SEC=YES) and a user ID was specified in the POWER SEC parameter, the ID control statement, or security information that was propagated (for example, submitting a job from II).
- JOBNAME** You can specify either a DITTO/ESA job name or an asterisk (*) to indicate all jobs that have not previously been specified for this entity. If you specify JOBNAME, do not specify USERID.
- You can control access based on user ID, job name, or both. In batch mode, the job name is passed to DITSECUR and the user ID is also passed to DITSECUR if it is available.

DITSECUR goes through the list of DITS macros until it finds a match for the user name or job name and either the profile name or the function code. The first match that it finds is used.

ENV

Either ALL (the default), or the name of an operating environment (MVS, VSE, or CMS). You use this parameter if you want to maintain the same security table for DITTO/ESA in all environments.

Exit Routine Environment (MVS Only)

The following restrictions apply to this exit under MVS:

- It must be named DITSECUR.
- It must reside in LPA (that is, within MLPA, FLPA, PLPA, EPLPA, EFLPA or EMLPA), and must therefore be reentrant.
- If it is located below 16M, it is called in AMODE 24; otherwise, it is called in AMODE 31.
- It will be APF-authorized only if DITTO/ESA is running APF-authorized.

Exit Routine Environment (VSE Only)

If DITSECUR is located below 16M, it is called in AMODE 24; otherwise, it is called in AMODE 31.

For security reasons, you should load DITSECUR into the SVA during system startup (SVA load list).

Registers at Entry

The contents of the registers on entry to the user exit routine are:

Register	Contents
0	(unpredictable)
1	Address of the parameter list passed to the exit routine
2–12	(unpredictable)
13	Register save area
14	Return address
15	Entry point address of the user exit routine

Parameter List Contents

Register 1 points to a parameter list, which contains the following fields:

1. Pointer to an 8-character security-class string that has one of the following values:

DASDVOL	Checks a user's authority to access a DASD volume with disk fullpack processing
FACILITY	Checks a user's authority to use a DITTO/ESA function, or a FULLPACK, MOUNT, or BLP operation
TERMINAT	Requests cleanup processing by the exit routine

2. Pointer to a 44-character entity string.

If parameter 1 is DASDVOL, parameter 2 is the volser.

If parameter 1 is FACILITY, parameter 2 is the profile name shown in Table 29 on page 106.

3. Reserved.
4. Pointer to an 8-character access string. Under VSE or CMS, the string always has the value READ. Under MVS, the string has the value READ, UPDATE, CONTROL, or ALTER, as described in *OS/390 Security Server (RACF) Command Language Reference*, SC28-1919.
5. Pointer to an 8-character function code (the name of a DITTO/ESA function).
6. Pointer to a 2-byte flags field, consisting of the following 16 bits:

0	Batch mode
1	Full-screen mode
2	Line mode
3	Command mode
4	Running under CICS
5	XA environment
6	ESA environment
7	VM/XA environment
8	VM/ESA environment
9–15	(reserved)
7. Pointer to an 8-character user ID.

In VSE batch or console mode, a user ID is available only if VSE security is active (SEC=YES) and a user ID was specified in the POWER SEC parameter, the ID control statement, or security information that was propagated (for example, submitting a job from II).
8. Pointer to an 8-character job name.
9. Reserved.
10. Pointer to a 1-fullword user field.

This fullword is not used by DITTO/ESA. The exit can use this fullword to remember information (such as an address) from one call to another.

DITTO/ESA initializes this fullword to binary zero at first invocation of the exit routine.

Registers at Exit

Upon return from the user exit routine, the register contents must be:

Register	Contents
1–14	Restored to their contents at entry
15	A return code: 0 if the user is authorized for the resource; any nonzero value if the user is not authorized

DITTO/ESA Function to Profile Name Cross-Reference

The following table shows the profile name that is used in the FACILITY class to check the authorization for a specific DITTO/ESA function. For functions that are not listed in this table, the DITTO.OTHER.ALL profile is used.

Note: The LVL, MB, PB, SET, and VER functions are never checked.

Table 29 (Page 1 of 2). DITTO/ESA Function to Profile Name Cross-Reference

Function	Description	Profile
(none)	MVS: using BLP for tape processing	DITTO.TAPE.BLP
(none)	MVS: handling full disk packs	DITTO.DISK.FULLPACK
(none)	MVS: mounting tapes in TSO	DITTO.TAPE.MOUNT
BT	Create Tape File	DITTO.TAPE.OUTPUT
CT	Card to Tape	DITTO.TAPE.OUTPUT
DB	Disk Browse	DITTO.DISK.INPUT
DCN	Disk to Console	DITTO.DISK.INPUT
DID	Alter Disk VOLID	DITTO.DISK.UPDATE
DP	Disk Print	DITTO.DISK.INPUT
DRL	Disk Record Load	DITTO.DISK.UPDATE
DRS	Disk Record Scan	DITTO.DISK.INPUT
DSE	Data Set Extents	DITTO.DISK.INPUT
DTE	Disk Track Edit	DITTO.DISK.UPDATE
DU	Disk Update	DITTO.DISK.UPDATE
DVT	Display VTOC	DITTO.DISK.INPUT
EOF	Write EOF Record	DITTO.DISK.UPDATE
ERT	Erase Tape	DITTO.TAPE.UPDATE
FT	CMS File to Tape	DITTO.TAPE.OUTPUT
INT	Initialize Tape	DITTO.TAPE.UPDATE
LT	Library to Tape	DITTO.TAPE.OUTPUT
PVT	Process VTOC	DITTO.DISK.UPDATE
OE	Object Erase	DITTO.OAM.UPDATE
OO	Object to Object	DITTO.OAM.OUTPUT
OS, OQ	Object to Sequential Data	DITTO.TAPE.OUTPUT
OU	Object Update	DITTO.OAM.UPDATE
SO, QO	Sequential Data to Object	DITTO.OAM.OUTPUT
SPB	Spool Browse (VSE: for another user's output)	DITTO.SPOOL.DISPLAY
SPL	Spool List (VSE: to alter or delete another user's output)	DITTO.SPOOL.CONTROL
ST, QT	Sequential Data to Tape	DITTO.TAPE.OUTPUT
TB	Tape Browse	DITTO.TAPE.INPUT
TC	Tape to Card	DITTO.TAPE.INPUT

Table 29 (Page 2 of 2). DITTO/ESA Function to Profile Name Cross-Reference

Function	Description	Profile
TCN	Tape to Console	DITTO.TAPE.INPUT
TF	Tape to CMS File	DITTO.TAPE.INPUT
TFA	Print SYSLST Tape Type A	DITTO.TAPE.INPUT
TFD	Print SYSLST Tape Type D	DITTO.TAPE.INPUT
TFT	Tape File to Tape File	DITTO.TAPE.DUPLICATE
TL	Tape to Library	DITTO.TAPE.INPUT
TLB	Tape Label Display	DITTO.TAPE.INPUT
TLT	Tape to Labeled Tape	DITTO.TAPE.DUPLICATE
TMP	Tape Map	DITTO.TAPE.INPUT
TP	Tape Print	DITTO.TAPE.INPUT
TRL	Tape Record Load	DITTO.TAPE.UPDATE
TRS	Tape Record Scan	DITTO.TAPE.INPUT
TS, TQ	Tape to Sequential Data	DITTO.TAPE.INPUT
TT	Tape to Tape Copy	DITTO.TAPE.DUPLICATE
TTC	Tape to Tape Compare	DITTO.TAPE.INPUT
TTR	Tape to Tape Reblocked	DITTO.TAPE.DUPLICATE
TU	Tape Update	DITTO.TAPE.UPDATE
TV	Tape to VSAM	DITTO.TAPE.INPUT
TX	Tape to REXX Variable	DITTO.TAPE.INPUT
VE	VSAM Edit	DITTO.VSAM.UPDATE
VO	VSAM to Object	DITTO.OAM.OUTPUT
VRU	VSAM Record Update	DITTO.VSAM.UPDATE
VT	VSAM to Tape	DITTO.TAPE.OUTPUT
VU	VSAM Update	DITTO.VSAM.UPDATE
WTM	Write Tape Mark	DITTO.TAPE.UPDATE
XT	REXX Variable to Tape	DITTO.TAPE.OUTPUT
Others	all functions not listed above	DITTO.OTHER.ALL

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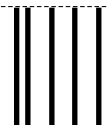
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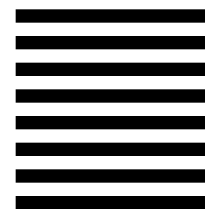
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