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Product Information Announcement

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Title

System 80 OS/3-PC Connectivity Operating Guide

This announces the release of a revision to this document. It was previously released as UP-14208.

OS/3-PC connectivity allows Personal Computer (PC) users to access System 80 data bases and software applications for daily business use.

This guide discusses the four utilities Unisys provides to facilitate the task of connecting PCs to System 80:

- PC File Transfer
- PC On-line Transfer
- PC On-line Disk
- PC On-line Extract

All changes in this revision are corrections, deletions, or expanded descriptions applicable to the Release 14 software.

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System 80 OS/3-PC Connectivity

Operating Guide

April 1991

Printed in U S America
7005 3442-000

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System 80 OS/3-PC Connectivity

Operating Guide

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Part/Section	Page Number	Update Level

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About This Guide

Purpose

This guide describes how you can use your personal computer (PC) with the Unisys Operating System/3 (OS/3) to process data interactively.

Scope

This guide describes the following interconnect program products for OS/3 and PC users:

- PC File Transfer (PCTRAN)
- PC On-line Transfer (OLTRAN)
- PC On-line Disk (OLDISK)
- PC On-line Extract

Audience

This guide is intended for site administrators and workstation or terminal users.

Prerequisites

Anyone using this guide should understand the basic concepts of both OS/3 and PC MS-DOS® software.

How to Use This Guide

Read the entire guide to familiarize yourself with the basic concepts it presents; then use it for reference as needed.

MS-DOS is a registered trademark of Microsoft Corporation.

Organization

This document contains the following sections:

Section 1. Introduction

This section explains what OS/3-PC connectivity is.

Section 2. The PC File Transfer Utility (PCTRAN)

This section describes the File Transfer utility (PCTRAN) and lists the hardware and software you need to use it.

Section 3. The PC On-line Transfer Utility (OLTRAN)

This section describes the On-line Transfer utility (OLTRAN) and lists the hardware and software you need to use it.

Section 4. The PC On-line Disk Utility

This section describes the On-line Disk utility and lists the hardware and software you need to use it.

Section 5. The PC On-line Extract Utility

This section describes the On-line Extract utility and lists the hardware and software you need to use it.

Results

After reading this document, site administration personnel and workstation or terminal users should understand the basic concepts of the four connectivity program products.

Related Product Information

The following Unisys documents may be useful in understanding and implementing OS/3-PC connectivity.

Note: *Use the version that applies to the software level at your site.*

***Models 8-20 OS/3 Integrated Communications Access Method (ICAM) Operations Guide*, 7004 4557**

This guide describes how to define an ICAM network on models 8-20, submit the network definition to the system generation procedure, and load and operate the resulting ICAM symbiont. Sample network definitions are provided to make it easier to define your ICAM network.

***Model 7E OS/3 Integrated Communications Access Method (ICAM) Operations Guide,* 7002 3908**

This guide describes how to define an ICAM network on the model 7E, submit the network definition to the system generation procedure, and load and operate the resulting ICAM symbiont. Sample network definitions are provided to make it easier to define your ICAM network.

***Model 50 OS/3 Integrated Communications Access Method (ICAM) Operations Guide,* 7004 1967**

This guide describes how to define an ICAM network on the model 50, submit the network definition to the system generation procedure, and load and operate the resulting ICAM symbiont. Sample network definitions are provided to make it easier to define your ICAM network.

***PC On-line Software Guide to On-line Disk for the OS/3 User,* UP-12406**

This guide gives an overview of the On-line Disk utility.

***PC On-line Disk System Enhancement, 10.0 SE,* UP-11902.8**

This system enhancement describes the PC On-line Disk utility, the commands you need to use it, how to install it, and guidelines and restrictions.

***PC On-line Software Guide to On-line Extract for the OS/3 User,* UP-12031**

This guide describes how to use OS/3 passthrough mode to extract data from MAPPER® 5 system reports.

***PC On-line Software Guide to On-line Transfer for the OS/3 User,* UP-11954**

This guide gives an overview of the On-line Transfer utility.

***System Service Programs (SSP) Operating Guide,* UP-8841**

This guide describes system service programs, including PCTRAN.

***Unisys Synchronous Terminal Emulation Package (STEP) Operating and Programming Guide,* UP-11886**

This manual describes the UNISCOPE® STEP emulation program.

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Section 1
Introduction

The Personal Computer (PC) Environment

Data processing has been dramatically affected by the introduction of PCs into the marketplace. Computer decisions can be made by end users, freeing programmers, analysts, and computer resources for more complex work (see Figure 1-1).

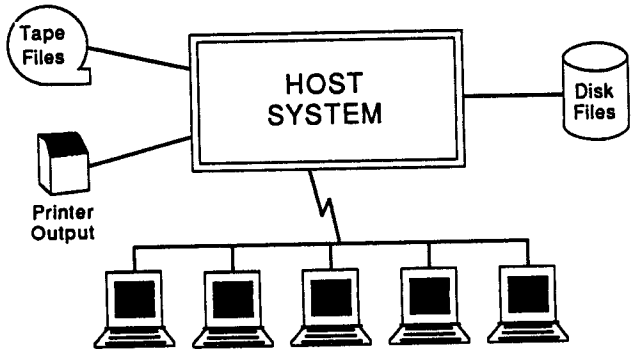

Figure 1-1. Data Processing Using PCs

Under a strategy of integrated PC/host usage, productivity within an organization can increase significantly. With PCs capable of sending and receiving files to and from the host, processing is possible at both the PC and the host.

In the Operating System/3 (OS/3) environment, you can define a PC as either:

- A terminal
- A remote workstation

Depending on the version of the Synchronous Terminal Emulation Package (STEP) UNISCOPE emulator installed on your system, you can configure one physical PC as being from one to eight devices. A PC can be connected to lines operating at speeds ranging from 2400 baud to 19200 baud.

What Is OS/3-PC Connectivity?

The Unisys Personal Computer (PC) user has an increasing need to access System 80 data bases and software applications for daily business use. Unisys provides these utilities to facilitate the task of connecting PCs to OS/3:

- PC File Transfer (PCTRAN) (T7685-xx or S8007-PCT)
- PC On-line Transfer (OLTRAN) (T8787-xx or S8007-OLX)
- PC On-line Disk (OLDISK) (T8788-xx or S8007-OLD)
- PC On-line Extract

PC File Transfer (PCTRAN)

The PCTRAN utility lets you transfer data files, library modules, and source program files between a disk, diskette, tape or cartridge tape on a PC, and a disk, diskette, or tape on OS/3.

PCTRAN supports character and PC hex mode data transmission, which you select. In hex mode, the PC terminal emulation software and PCTRAN translate the data during file transfer. This option lets PC object code and binary data be transferred to and from the OS/3 host system.

When transferring OS/3 object or load modules to the PC, the data is translated by PCTRAN and maintained on the PC as character data. When the module is transmitted back to the host system, it is translated by PCTRAN to OS/3 object code format.

PC On-line Transfer (OLTRAN)

The OLTRAN utility is an OS/3 program product that lets you transfer files between a PC and an OS/3 mainframe easily. You can transfer OS/3 MIRAM files and SAT file elements to and from ASCII data files.

OLTRAN is configurable. It has many options for handling tabs, maximum line length, line overflow, and the end-of-file character in a PC file.

A complete error-checking protocol is provided to ensure error-free data transfer.

PC On-line Disk (OLDISK)

The OLDISK utility lets you allocate and format OS/3 files as Unisys PC diskettes or hard disks, and permits them to be used as though they were local to the PC. Since multiple PCs can use the same disk files, users can:

- Share data
- Keep backup copies of data diskettes on an OS/3 host
- Assign an area of random access memory (RAM) for use as a diskette

OLDISK supports most MS-DOS PC operating commands and MS-DOS compatible software.

OLDISK also has a set of utilities for the maintenance of the OS/3 files.

PC On-line Extract

The On-line Extract utility bridges MAPPER software on the host system and applications on the PC. On-line Extract lets you specify the extraction of data from Series 1100, System 11, MAPPER 10, or MAPPER 5 system reports using a simple MAPPER system report-style or spreadsheet-style interface. A PC configured as an OS/3 workstation can extract data from MAPPER 5 system reports in OS/3 passthrough mode. You can transfer extracted data to a PC for use in PC spreadsheets, data management, word processing, or other applications.

Documentation Summary

Table 1-1 shows the documents Unisys provides to help you set up and use each of the four program products.

Table 1-1. Documentation for Each Program Product

Program Product	Document Number
PCTRAN	UP-11886 UP-8841
OLTRAN	UP-11954
OLDISK	UP-12406 UP-11902.8
PC On-line Extract	UP-12031

Hardware and Software Summary

Table 1-2 summarizes the hardware and software requirements for each program product.

Table 1-2. Summary of Hardware and Software Requirements

Program Product	Hardware	Software
PCTRAN (T7685-xx or S8007-PCT)	Any Unisys PC model UNISCOPE Communications Board (F4213-02), Key Ring Adapter (F5091-00) and appropriate cable (F8487-00 or F8487-01), or USERNET™ UNISCOPE Protocol Communications Server (F3147-xx)	MS-DOS Operating System (Release 2.1 or higher) Synchronous Terminal Emulation Package (STEP) (F8721-00), with upgrade kit (F6166-00), or USERNET UNISCOPE Protocol Communications Server (F8743-xx) OS/3 Integrated Communications Access Method (ICAM) Software OS/3 Interactive Services software OS/3 PCTRAN program product
OLTRAN (T8787-xx or S8007-OLX)	Any Unisys PC model UNISCOPE Communications Board (F4213-02), Key Ring Adapter (F5091-00) and appropriate cable (F8487-00 or F8487-01), or USERNET UNISCOPE Protocol Communications Server (F3147-xx)	MS-DOS Operating System (Release 2.1 or higher) Synchronous Terminal Emulation Package (STEP) (F8721-00), with upgrade kit (F6166-00), or USERNET UNISCOPE Protocol Communications Server (F8743-xx) OS/3 Integrated Communications Access Method (ICAM) Software On-line Transfer/PC (F7682-03) OS/3 On-line Transfer program product OS/3 Interactive Services software

continued

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Table 1-2. Summary of Hardware and Software Requirements (cont.)

Program Product	Hardware	Software
OLDISK (T8788-xx or S8007-OLD)	Any Unisys PC model UNISCOPE Communications Board (F4213-02), Key Ring Adapter (F5091-00) and appropriate cable (F8487-00 or F8487-01), or USERNET UNISCOPE Protocol Communications Server (F3147-xx)	MS-DOS Operating System (Release 2.1 or higher) Synchronous Terminal Emulation Package (STEP) (F8721-00), with upgrade kit (F6166-00), or USERNET UNISCOPE Protocol Communications Server (F8743-xx) OS/3 Integrated Communications Access Method (ICAM) Software On-line Disk/PC (F7684-03) OS/3 On-line Disk program product OS/3 Interactive Services software
PC On-line Extract	Any Unisys PC model UNISCOPE Communications Board (F4213-02), Key Ring Adapter (F5091-00) and appropriate cable (F8487-00 or F8487-01), or USERNET UNISCOPE Protocol Communications Server (F3147-xx)	MS-DOS Operating System (Release 2.1 or higher) Synchronous Terminal Emulation Package (STEP) (F8721-00), with upgrade kit (F6166-00), or USERNET UNISCOPE Protocol Communications Server (F8743-xx) On-line Extract/PC (F7680-03) A host MAPPER system with the MAPPER software LINE ZERO command privilege in your user registration report, the MAPPER LIST MERGE command, and ICAM software configured to allow "pass through" access to a MAPPER 5 or MAPPER 10 system

Section 2
The PC File Transfer Utility (PCTRAN)

Introduction

Using PCTRAN on your Unisys PC lets you transfer the following files and modules between disk, diskette, tape, or cartridge tape:

- Data files
- Library modules
- Source program files

Using PCTRAN on a Unisys System 80 host lets you transfer the files and modules listed above between disks, diskettes, and tapes.

You use user-friendly screens to specify:

- The file transfer activity you want to perform
- The host file specifications
- The media location and file name on both the host computer and the PC

PCTRAN can also operate in batch mode for unattended multiple file transfer activity.

Use the *Unisys Synchronous Terminal Emulator Package (STEP) Operating and Programming Guide*, UP-11886, to:

1. Load the Unisys terminal emulation program into the PC
2. Generate the proper UNISCOPE (UTS 20) configuration for the PC

You can configure your PC as either a terminal or as a remote workstation. A remote workstation can use system mode; a terminal cannot.

PCTRAN supports character and PC hex mode data transmission, which you select. In hex mode, the PC terminal emulation software and PCTRAN translate the data during file transfer. This option lets PC object code and binary data be transferred to and from the OS/3 host system.

PCTRAN offers a batch facility permitting one or more files to be transferred in one execution without operator intervention.

To use PCTRAN, refer to the *System Service Programs (SSP) Operating Guide* (UP-8841).

Hardware Requirements

To operate PCTRAN, you must have the following hardware components:

- Any Unisys PC
- UNISCOPE communications board (F4213-02), key ring adapter (F5091-00) and appropriate cable (F8487-00 or F8487-01), or USERNET UNISCOPE protocol communications server (F3147-xx)

Software Requirements

To operate PCTRAN, you must have the following software components:

- MS-DOS Operating System, Release 2.1 or higher
- Synchronous Terminal Emulation Package (STEP) (F8721-00), with upgrade kit (F6166-00), or USERNET UNISCOPE Protocol Communications Server (F8743-xx)
- OS/3 Integrated Communications Access Method (ICAM) software
- OS/3 Interactive Services software (a part of the system control software)
- OS/3 PCTRAN program product

Section 3
The PC On-line Transfer Utility (OLTRAN)

Introduction

The OLTRAN utility allows you to:

- Back up or archive PC files on the System 80
- Transfer OS/3 files to be used by PC applications (ASCII files can be translated to EBCDIC code if you want)
- Transfer PC files to be used by OS/3 applications

OLTRAN has a full "handshaking protocol" between the OS/3 and PC components to ensure error-free data transfers. It has a configuration feature that lets you specify transfer parameters such as whether a binary mode or ASCII/EBCDIC conversion mode should be used, how LINE overflows should be handled, and the TAB and EOF parameters.

OLTRAN consists of two elements:

- One operates on the System 80, giving access to MIRAM files and SAT library elements.
- One operates on the PC, interfacing with the user and giving access to MS-DOS files. (The interface is easy to use, and all messages OLTRAN displays can be tailored to meet local language requirements.)

OLTRAN optionally performs special handling of data translation for various PC and OS/3 data formats.

OLTRAN also offers a batch facility that lets you specify a list of files to be transferred in one execution without operator intervention.

The sophisticated communications error recovery includes a complete error-checking protocol to ensure error-free data transfer.

To use OLTRAN, see *PC On-line Software Guide to On-line Transfer for the OS/3 User* (UP-11954).

Hardware Requirements

To operate OLTRAN, you must have the following hardware components:

- A Unisys Personal Computer (PC)
- UNISCOPE communications board (F4213-02), key ring adapter (F5091-00) and appropriate cable (F8487-00 or F8487-01), or USERNET UNISCOPE Protocol Communications Server (F3147-xx)

Software Requirements

To operate OLTRAN, you must have the following software components:

- MS-DOS Operating System, Release 2.1 or higher
- Synchronous Terminal Emulation Package (STEP) (F8721-00), with upgrade kit (F6166-00), or USERNET UNISCOPE Protocol Communications Server (F8743-xx)
- On-line Transfer/PC (F7682-03)
- OS/3 Integrated Communications Access Method (ICAM) software
- OS/3 Interactive Services software (a part of the system control software)
- OS/3 On-line Transfer program product

Section 4
The PC On-line Disk Utility (OLDISK)

Introduction

The OLDISK utility lets you use file space on the System 80 as if it were a hard disk or diskette connected locally to the PC. This permits PC applications to use OS/3 mass storage to store PC files inexpensively. In addition, OS/3 utility programs let OS/3 users access these on-line disk files. Only records accessed or created by the PC applications programs are transferred between the PC and the System 80.

The OLDISK facility provides:

- Transparency - the PC application is logically unaware that the file on the referenced disk drive is actually an OS/3 MIRAM file.
- File maintenance - the on-line files are created and deleted from OS/3 or PCs.
- Mainframe access - OS/3 users can manipulate the on-line PC files, including transfer to OS/3 native files; mainframe files can be added to and removed from on-line disk files.
- Compatibility - the operation and capabilities of OLDISK are compatible with On-line Disk/1100, F7683-00.

To use OLDISK, refer to *PC On-line Software Guide to On-line Disk for the OS/3 User* (UP-12406), and *OS/3 PC On-line Disk System Enhancement, 10.0 SE* (UP-11902.8).

The OLDISK utility supports most MS-DOS PC operating commands and MS-DOS compatible software. For example, the MS-DOS COPY command can be used to copy a file to (or from) the OS/3 file from (or to) a local disk or diskette. PC programs can also be executed from the OS/3 file.

OLDISK also has a set of utilities for maintenance of the OS/3 files, which permit, for example, moving native OS/3 MIRAM disk files or library elements between PC OLDISK and native OS/3 disk space.

Hardware Requirements

To operate OLDISK, you must have the following hardware components:

- A Unisys Personal Computer (PC)
- UNISCOPE communications board (F4213-02), key ring adapter (F5091-00) and appropriate cable (F8487-00 or F8487-01), or USERNET UNISCOPE Protocol Communications Server (F3147-xx)

Software Requirements

To operate OLDISK, you must have the following software components:

- MS-DOS Operating System, Release 2.1 or higher
- Synchronous Terminal Emulation Package (STEP) (F8721-00), with upgrade kit (F6166-00), or USERNET UNISCOPE Protocol Communications Server (F8743-xx)
- On-line Disk/PC (F7684-03)
- OS/3 Integrated Communications Access Method (ICAM) software
- OS/3 Interactive Services software (a part of the system control software)
- OS/3 On-line Disk program product

Section 5
The PC On-line Extract Utility

Introduction

The PC On-line Extract utility provides a bridge between MAPPER software on the host system and applications on the PC so you can manipulate data using PC software.

Using a simple MAPPER system report-style or spreadsheet-style interface, you can extract data from Unisys Series 1100, System 11, MAPPER 5 or MAPPER 10 system reports, and transfer this data to a PC to be used in spreadsheets, data management, word processing, or other applications. (The ICAM MAPRDH remote device handler must be installed.)

The extracted data can be displayed on a PC in MAPPER system report format. The transferred data can be stored in local PC files in a variety of PC formats, including the following:

- ASCII text file
- Data Interchange Format (DIF)
- Comma Separated Variable (CSV) format
- Lotus 1-2-3™ (WKS) format

The variety of selectable formats allows almost any PC software product to access and manipulate the extracted data. For example, you might merge the extracted MAPPER system data with a Lotus 1-2-3 spreadsheet, then use standard Lotus 1-2-3 commands to perform spreadsheet analyses, create graphics, and produce reports.

You can transfer from the Synchronous Terminal Emulation Package (STEP) UTS 20 emulation mode to PC On-line Extract at the touch of two keys (Alt/Esc). This lets you manipulate a MAPPER system report using a PC in emulation mode with MAPPER software, then switch to PC On-line Extract to transfer to the PC all or part (using simple selection criteria) of the resulting report. You can then include the transferred data in a PC spreadsheet and display, manipulate, and report the extracted data. Similarly, the extracted data can be easily included in PC data management systems such as dBASE II™ and dBASE III™, or be used by PC word processors.

Lotus 1-2-3 is a trademark of Lotus Development Corporation.
dBASEII and dBASEIII are trademarks of Ashton-Tate.

You select data subsets using spreadsheet-style commands in two ways:

- By specifying which rows and columns to extract
- Extracting rows by the value in specified fields

With the PC in terminal emulation mode, you can also use the full range of standard MAPPER system commands to specify subset selection.

A feature allows an ASCII or data interchange format (DIF) file to be uploaded to a host MAPPER system report. MAPPER software can then distribute the file or manipulate the data.

The PC On-line Extract utility supports many local languages. It reads all comments, screen text, etc., from message files that you can update easily. It uses the program-callable User Program Interface (UPI) in the Synchronous Terminal Emulation Package. Full-screen transfers result in very efficient product performance.

You can do the following:

- Display MAPPER reports on your host system
- Change scrolling increments
- View or copy part of a report (create a subset of a report)
- Display MS-DOS files on your PC
- Call a batch transfer file. It contains a list of commands that tell PC On-line Extract which MAPPER reports and PC files to copy, and where.

PC On-line Extract has help screens and error messages to assist you.

To use PC On-line Extract, refer to *PC On-line Software Guide to On-line Extract for the OS/3 User* (UP-12031).

Hardware Requirements

To operate PC On-line Extract, you must have the following hardware components:

- A Unisys Personal Computer (PC)
- UNISCOPE communications board (F4213-02), key ring adapter (F5091-00) and appropriate cable (F8487-00 or F8487-01), or USERNET UNISCOPE Protocol Communications Server (F3147-xx)

Software Requirements

To operate PC On-line Extract, you must have the following software components:

- MS-DOS Operating System, Release 2.1 or higher
- Synchronous Terminal Emulation Package (STEP) (F8721-00), with upgrade kit (F6166-00), or USERNET UNISCOPE Protocol Communications Server (F8743-xx)
- On-line Extract/PC (F7680-03)
- A host MAPPER 5 or MAPPER 10 system with:
  - The MAPPER software LINE ZERO command privilege in your user registration report
  - The MAPPER LIST MERGE command (not available on MAPPER 5 systems) to create column subsets with the On-line Extract subset command
  - OS/3 Integrated Communications Access Method (ICAM) software configured to allow "pass through" access to a MAPPER 5 or MAPPER 10 system.

NOTES

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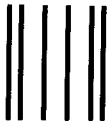

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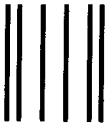

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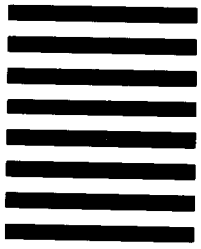

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