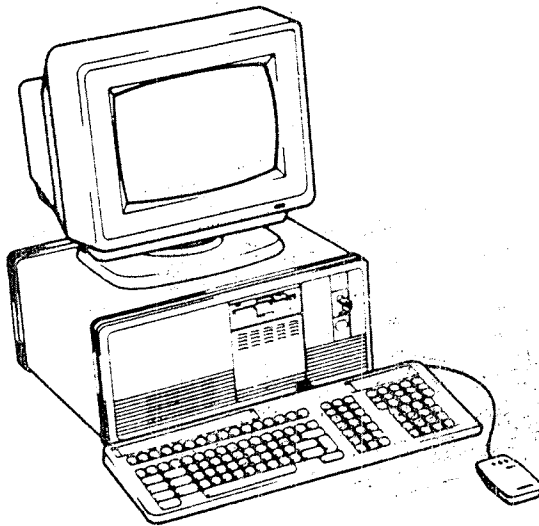


# BUTTERFLY TEAMSTATION



SUPERVISOR GUIDE

# PRINTING HISTORY

| Issue | Date | Notes   |
|-------|------|---|
| 1     | 9.86 | Butterfly Desk Supervisor Guide                           |
| 2     | 4.87 | Revised. title now Butterfly Teamstation Supervisor Guide |

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## PREFACE: THE MANUAL

This manual is one of four written for Teamstation, the top of Norsk Data's Workstation range. Teamstation is a small ND-110 computer, that can be used by up to five users. In addition, it also supports the MS-DOS operating system.

Who it's for

It is written for the person who looks after Teamstation on a day-to-day basis, the Desk Supervisor.

What you need to know

No previous knowledge is needed but some familiarity with computer terms is assumed. A knowledge of SINTRAN, User Environment and MS-DOS is an advantage. Several references are given to the manuals that cover these topics so that readers who are interested in knowing more can find this information.

What is covered

The manual starts by outlining what a Desk Supervisor is responsible for. Chapter 2 goes on to tell you how to start working with Teamstation and how to access the functions you need.

Teamstation has some special features not included in other ND computers. Those that are intended to help the Desk Supervisor are explained in detail.

Subsequent chapters (3 to 7) tell you what to do: creating and looking after users, maintaining and cleaning the equipment and taking security copies - backups. Chapter 8 to 10 give troubleshooting hints and tell you how to run the diagnostic programs.

The manual is not a replacement for other ND manuals that explain the SINTRAN operating system and the standard Norsk Data applications, but it does aim to contain enough information in the form of "recipes" to allow to look after Teamstation without constantly referring to other manuals.

It does not tell you how to connect the equipment up when you first receive it. This is covered by the Teamstation Installation Guide. Follow the instructions in the Installation Guide before starting this manual.

Equally, the Desk Supervisor Guide does not go into detail about MS-DOS or special features of the PC, documentation covering these aspects of Teamstation can be purchased from ND.



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## **Other Teamstation Manuals**

### **Teamstation Installation Guide ND-30.056**

The Teamstation Installation Guide, which is also for the Desk Supervisor, gives instructions on how to unpack, connect and install Teamstation and how to check that it is working correctly.

You will also need to refer to the Installation Guide if you move Teamstation or want to install any options.

### **Teamstation User Guide ND-60.242**

The Teamstation User Guide assumes no knowledge of ND computers. It tells you how to use the screens and menus displayed and explains what you can do with Teamstation. You must then read the manual on the specific application you want to use.

### **Teamstation Technical Reference Manual ND-06.025**

The Teamstation Technical Reference Guide is written for engineers and system programmers who service and maintain Norsk Data systems. The manual is not required for daily running or simple maintenance. Therefore it is not delivered with Teamstation but can be bought separately.

## Related Manuals

### Other ND Documentation

As the Desk Supervisor, you will need more information about ND computers than ordinary users do. Because there are several manuals that already provide this information, full details have not been given in the Teamstation manuals. You may need to refer to the following:

|                                     |           |
|-------------------------------------|-----------|
| SINTRAN III System Supervisor Guide | ND-30.003 |
| SINTRAN III Reference Manual        | ND-60.128 |
| SINTRAN III Timesharing/Batch Guide | ND-60.132 |
| SINTRAN III Utilities Manual        | ND-60.151 |
| * SINTRAN III Quick Reference Card  | ND-60.174 |
| * User Environment Reference Manual | ND-60.179 |
| * COSMOS User Card                  | ND-99.001 |
| COSMOS Operator Guide               | ND-30.025 |
| * COSMOS Operator Card              | ND-99.002 |
| BACKUP User Guide                   | ND-60.250 |
| * NOTIS-WP M User Guide             | ND-63.018 |
| * NOTIS-WP Reference Card           | ND-99.006 |
| * NOTIS-TF Reference Card           | ND-99.031 |
| * NOTIS-DS User Guide               | ND-63.017 |
| NOTIS-DS Supervisor Guide           | ND-30.059 |
| * NOTIS-ID User Guide               | ND-63.011 |
| NOTIS-ID Supervisor Guide           | ND-30.062 |
| * File Manager Introduction         | ND-60.215 |
| ND-100 Reference Manual             | ND-60.014 |

\* indicates a manual provided with Teamstation

Teamstation users will need the documentation that covers the ND applications that they are using. If your Teamstation is part of an existing ND installation, you probably have these manuals already. Otherwise you should order them. A list of all the manuals available is given in the Documentation Catalogue (ND-40.004).

### PC documentation

Although the Teamstation Desk Supervisor Guide covers the PC side of Teamstation, you may like to refer to more detailed documentation which can be bought from your local ND Service Centre. Release A supports MS-DOS version 3.1.

|                               |           |
|-------------------------------|-----------|
| MS-DOS Reference Manual       | ND-60.271 |
| PC Technical Reference Manual | ND-06.028 |

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1. The first part of the book is a general introduction to the subject of the book. It discusses the importance of the subject and the scope of the book. It also discusses the organization of the book and the notation used throughout.

2. The second part of the book is a detailed discussion of the theory of the subject. It covers the basic principles and the more advanced topics. It also includes a number of examples and exercises to illustrate the theory.

3. The third part of the book is a discussion of the applications of the theory. It shows how the theory can be used to solve practical problems. It also includes a number of examples and exercises to illustrate the applications.

4. The fourth part of the book is a discussion of the history of the subject. It shows how the subject has developed over time and how it is currently being used. It also includes a number of examples and exercises to illustrate the history.

5. The fifth part of the book is a discussion of the future of the subject. It shows how the subject is likely to develop in the future and how it can be used to solve future problems. It also includes a number of examples and exercises to illustrate the future.

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**Appendix A Reference list of MS-DOS commands**

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**Appendix B Glossary of SINTRAN UE and PC terms**

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## NOTATION USED

end: end of line  
 y: y-axis

**EXAMPLES:** In the examples, user input (what you type in) is shown in italics, as shown below.

OK to delete

For example:

@LIST-FILES,.,.

end of line

**CTRL+D** Hold down the CTRL keys whilst pressing D.

type address

**FUNC D** First press the FUNC key, then press D.

**Press, enter, and type**

Press is used to indicate use of a special key, for example, press HELP. The words, enter and type, are used to indicate use of letter keys, for example, type help means enter the letters H,E,L,P.

**Cautions and Warnings**

Read Cautions and Warnings carefully. Cautions are used when you may lose information or damage to equipment may occur.

A Warning is used when there is danger to life or health.

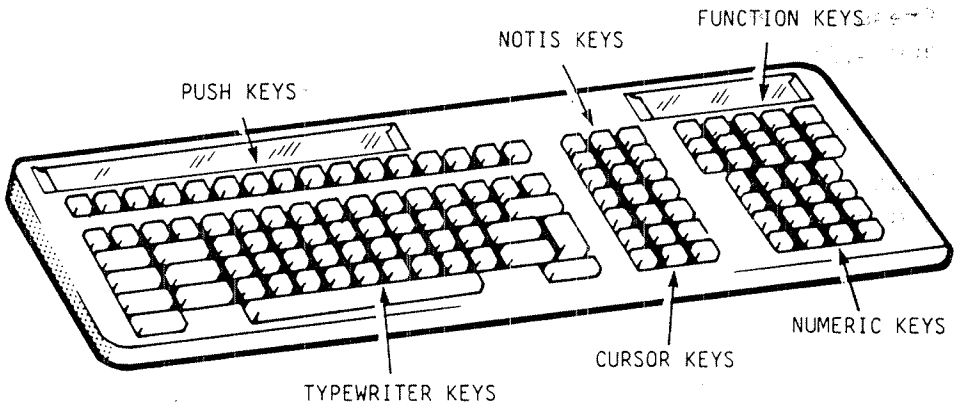
VER

## Special Keys

NOTIS INDICATOR

**A NOTIS KEYBOARD** The Teamstation keyboard is almost exactly like the standard NOTIS keyboard. If you are already familiar with ND computers you will have no problems in using it. However, it has a few extra keys which provide the functions needed on a PC.

Details of the keyboard are given in the Teamstation User Guide; this page covers the special keys that will be used most frequently. Throughout the manual, the names of special keys are written in capital letters.



↵

The carriage return/line-feed key. You may have seen it labelled as CR, ENTER or RETURN on other keyboards.

ESC

On the ND side, this key breaks into the function you are using and returns you to SINTRAN.

⌫

The character-delete key. On other keyboards it may have been labelled as ←, DEL or DELETE.

CTRL+ALT+DEL

Stops MS-DOS and resets it.

SHIFT+PRINT

prints screen display (ND and PC sides).

CTRL+PRINT

echoes to printer (PC side only).

Ch1  
Ch2  
Ch3  
Ch4  
Ch5  
Ch6

## CHAPTER 1: SUPERVISING TEAMSTATION

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RESERVED FOR THE  
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DIRECTOR OF THE  
BUREAU OF THE  
CENSUS

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1973

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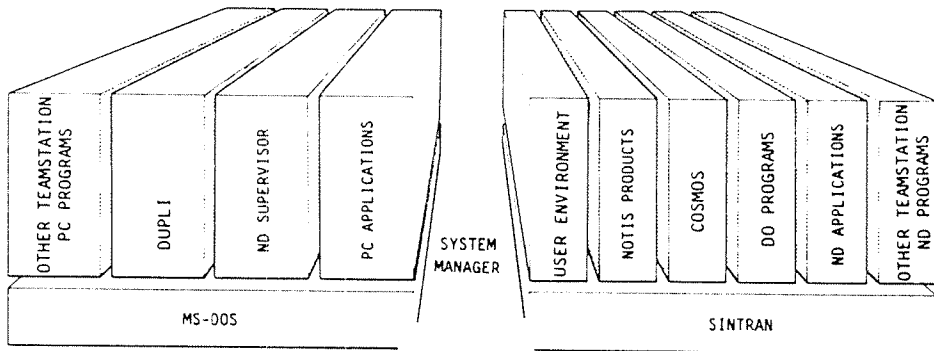
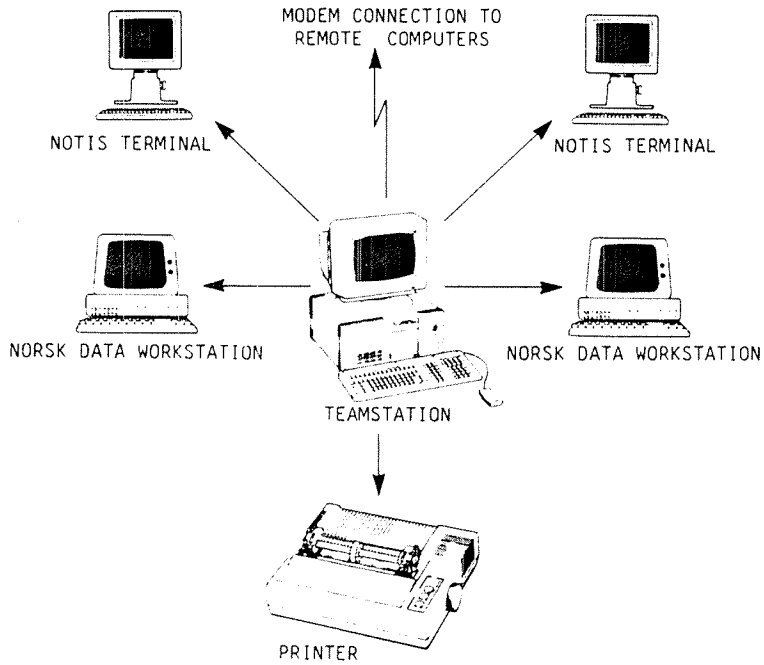
1975

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# 1 SUPERVISING TEAMSTATION

## 1.1 What is Teamstation?

- Single & multi-user systems      Teamstation is the smallest Norsk Data (ND) computer. It runs ND's multi-user operating system, SINTRAN, and a series of applications that run on the ND-100 range of computers. Up to five people can use Teamstation at the same time - one person working on Teamstation itself and four others on terminals connected to it.
- Two environments      In Teamstation, the ND-110 has a partner, a complete Personal Computer (PC) running the MS-DOS 3.1 operating system. Although most users mainly "see" the ND side of Teamstation, the Desk Supervisor should be aware of both sides; only two key strokes are needed to move between them.
- The diagram on the next page illustrates the two sides.
- User Environment      The User Environment (UE) menu system allows users to access and run ND applications without having to know about SINTRAN. In this manual it is treated as the third environment on Teamstation.





## 1.2 Being the Desk Supervisor

### The Desk Supervisor

It is your job to look after Teamstation on a day-to-day basis and to help other users get the most from it. We realise that you may not have supervised a Norsk Data (ND) computer before, so this manual is written with that in mind.

We expect that your company has other Norsk Data computers, and that there are people who already know a lot about our computers. You probably have a professional System Supervisor who can help you to sort out any problems that arise. If not, you should try to find a more experienced member of staff who can help you.

### On the PC side

There are no special users on the PC side of Teamstation. Only one person can use the PC at any time, everyone is equal and in charge of their work. You are only expected to know what facilities are available and to help users if they get an error message. (The PC side is only available if you work on Teamstation itself i.e. you cannot use MS-DOS or run an MS-DOS application on a terminal connected to Teamstation.)

### On the ND side

Unlike the PC, several people can use the ND computer at the same time, and work on the same or different applications without being aware that they are sharing the computer's resources. This type of system needs one person who knows what is available. On ND computers this user is called "user SYSTEM".

### 1.2.1 The Desk Supervisor's Responsibilities

#### Resource allocation

Knowing what is on the system and how to make the best use of it.

Knowing what documentation there is and where it is. Keeping track of program updates and new manuals available from ND.

Looking after users: creating and deleting ND user areas, deciding what users can do (chapter 3).

General cleaning (chapter 5). Stopping and starting Teamstation as necessary.

#### Adding & updating facilities

Installing new ND and PC software: both new applications and new versions of software you already have.

Installing new hardware: options and upgrades. (Keep the Teamstation Installation Guide for this.)

Reconfiguring the system when making changes.

#### Taking backups

Taking security backups regularly (chapter 4).

#### When things go wrong

Handling simple user errors and errors occurring within Teamstation itself, printing the error log (chapter 8).

Knowing what test programs there are and how to run them (chapters 9 and 10).

#### Your contact

Knowing who the System Supervisor is.

#### Our contact

ND's contact person. Equally, knowing when to call your ND Service Centre and how to start Telefix (the remote diagnostics/maintenance system) when asked to (chapters 9 and 10).

---

Work from the  
console

You should work on the Teamstation terminal, as opposed to any terminals connected to it. This is the only terminal that can be used as the console, from which some of user SYSTEM's tasks must be done. In particular, when the ND side of Teamstation has been stopped, you can only communicate with it from the console.

Courses

Norsk Data runs courses for Desk Supervisors. If you have not supervised an ND computer before, you should think about attending these courses - ask your local Service Centre for details.

In addition, there are courses for all users about ND applications and further courses that may be of interest to you, for example special courses on SINTRAN, COSMOS and UE.

### 1.2.2 User SYSTEM

User SYSTEM exists on all ND systems. You should be the only one to log in as user SYSTEM, that is, the only one to know user SYSTEM's password (also called "the SYSTEM password").

Keep the password to yourself

Some powerful commands are only available to user SYSTEM. For this reason you should keep user SYSTEM's password to yourself. If other users are allowed to log in as user SYSTEM, they should be experienced ND users with a good knowledge of the special features in Teamstation.

Files in SYSTEM's user area

User SYSTEM has an extended set of commands which are used to control and maintain the ND side of Teamstation. In addition, user SYSTEM controls the shared resources such as printers, disks and editors. User SYSTEM normally "owns" the peripheral files that go with them and the files for the SINTRAN III subsystems (that is, they are stored in user SYSTEM's area). User SYSTEM's files are automatically searched when another user refers to files not found in his or her own area. In this way facilities stored under user SYSTEM are shared between all the Teamstation users.

### 1.3 How to use this manual

Dip in as you need to

This manual is intended to help you run Teamstation on a day-to-day basis, and to help users with any problems they get. For this reason it is a reference manual, and so does not have to be read from cover to cover. However, we have tried to present material in the order that you might need it when you first start using Teamstation and we suggest that you read all of chapter 2 straight away.

A recipe with references

Generally this manual is a "recipe" for keeping Teamstation working, with some explanation of why the method works, but references are given to the standard ND manuals which cover the subjects in detail.

What is assumed

This manual assumes you know how to enter SINTRAN commands, and use User Environment menus. However, it tries to give detailed commands for tasks that are specific to Teamstation, so there is no need to be an ND expert. If you want to know more about SINTRAN, ND's filing system or the COSMOS file name syntax, please read the Teamstation User Guide.

What is not covered

This manual does not cover ND applications. ND provides separate manuals for each application you have. In addition, ND's Education Department runs courses on all ND products. Your local ND Service Centre can advise you.

Glossary of terms

Appendix B is a glossary of SINTRAN, User Environment and MS-DOS terms.

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## CHAPTER 2: GETTING STARTED - THE BASICS

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## 2 GETTING STARTED - THE BASICS

### 2.1 Switching on

Before you  
switch on

When working as the Desk Supervisor, work at the Teamstation terminal, rather than at a terminal connected to it. Some of the tasks you need to do can only be done from there.

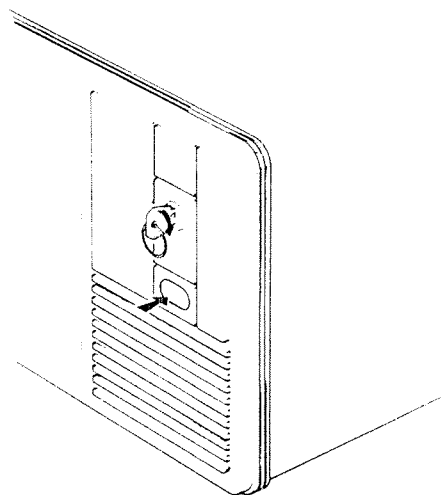
Make sure that the floppy drive(s) are empty and the drive door(s) are open.

Turning on

Check that Teamstation is plugged in.

Insert the key and turn it clockwise a quarter turn to the on (horizontal) position.

Press the on/off switch in. (The monitor may need to be switched on separately.)



### What you see

The first sign that Teamstation is working is that the lamps on the keyboard and hard disk drive light up; you also hear a long beep.

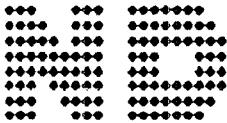
The following screen flashes up. At this stage, do nothing. This screen asks for input only if you do not want to start Teamstation in the ordinary way, as explained in chapter 10.

If you don't want to use the ND-110 at all - press key 0 within 5 seconds

If you don't want to AUTO START ND-110 - press key 1 within 5 seconds

Any other key stroke or waiting 5 seconds will cause AUTOSTART of ND-110

Then you will see the Start-up Screen.



Norsk Data



*ND - 110 Butterfly*

Please wait for the system to complete the start-up phase.

Wait while Teamstation runs through a series of diagnostic tests and loads the rest of the programs. This takes a few minutes. Messages in the top three lines of the screen show the progress.

### Login Screen

When the loading is complete, press the ESC key in reply to the prompt. The Login Screen is displayed.

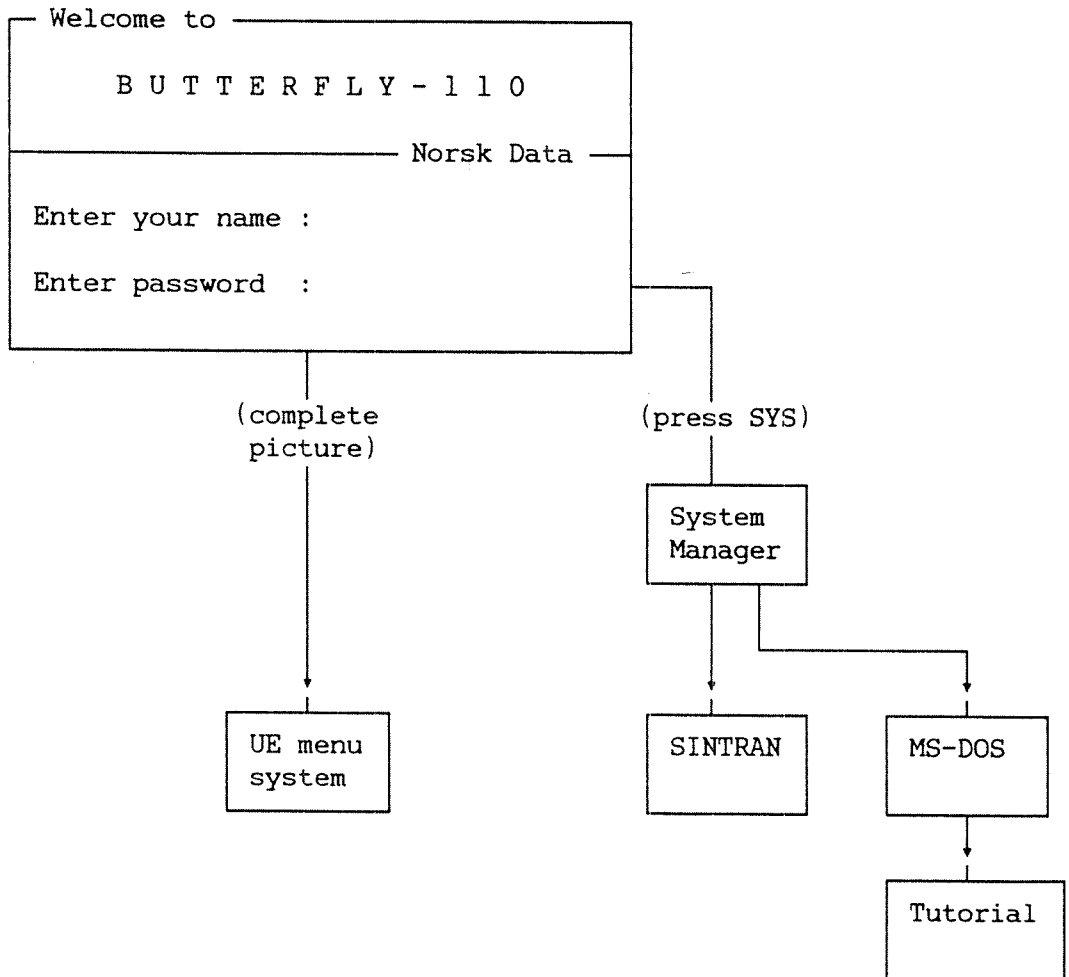


Figure 1: Where you can move to from the Login Screen

---

## **Tutorial**

At this stage new users should work through the on-line tutorial, "Butterfly Introduction". All users may find it helpful to read parts of the Teamstation User Guide.

To start the tutorial, do not log in. Press the SYS key, then press 3 to select PC MS-DOS, and type:  
C:\>INTRO ↵.

## **User Environment**

For most of your supervisory tasks you will need to work in User Environment or SINTRAN.

When Teamstation is delivered it is set up so that completing the Login Screen brings you into the User Environment (UE) menu system, as shown in Figure 1. When you log out, you will see the Login Screen again.

At any other time, you get in to UE by selecting option 1 from the System Manager, which is described in the next section. Figure 1 then becomes:

## UE Login Screen

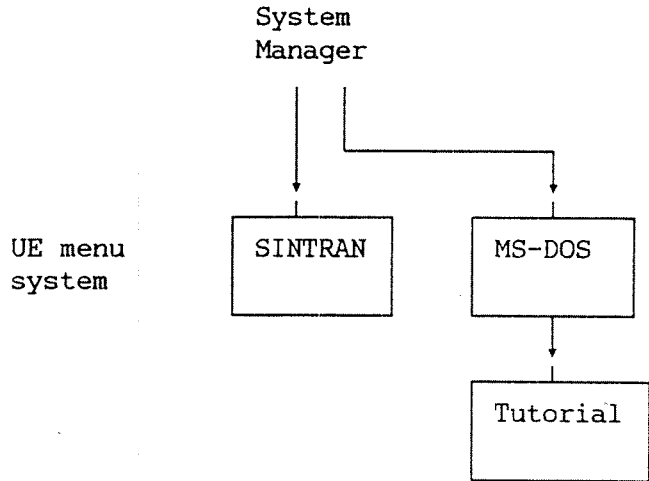


Figure 2: Two ways to get into UE

### **SINTRAN**

To use SINTRAN you must display the System Manager first. Then select option 2.

The System Manager is a special Teamstation menu that allows you to choose between working in UE, SINTRAN or MS-DOS. You can think of it as being one level above the UE Main Menu.

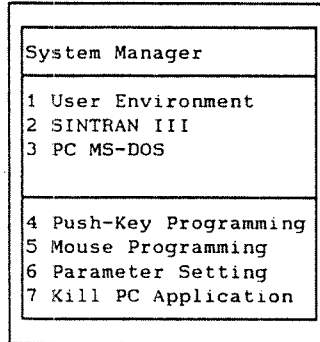
### **PC programs**

If you want to use MS-DOS or start a PC application you must display the System Manager.

### **Problems**

If Teamstation does not start, or starts but does not complete the start-up tests and displays a warning or error message, please turn to chapter 8.

### 2.1.1 System Manager options



The System Manager is a menu that is displayed as window in the bottom right-hand corner of the Teamstation screen. Options 1-3 allow you to move between three modes of use: two Norsk Data environments and the PC.

Options 4-7 are used to make Teamstation more convenient to use. They are explained in the Teamstation User Guide.



You can display the System Manager at any time by pressing the SYS key.

If you press SYS immediately after switching on, the cursor is on option 1, User Environment.

Later, if you press SYS, the cursor is positioned on the entry corresponding to the function you were using. To return to it, simply press the  $\leftarrow$  key and the information covered by the System Manager reappears. If you select another option, the screen that you were last using in that option is displayed. Teamstation remembers what you were doing.

- 
- Using the menu** To select an option from the System Manager, from other ND menus (e.g. User Environment or an application), as well as from many PC programs such as the ND Supervisor:
- (i) type the number of the option or
  - (ii) move the cursor onto the option and press  $\downarrow$ .
- To get HELP** To get HELP on a selection, move the cursor onto the option and press the HELP key. To remove the help information, press the EXIT key.
- User Environment (UE)** This is ND's menu system. It is the option that all users of ND computers (except supervisors) should select.
- However, on Teamstation, supervisors can also work through UE because user SYSTEM has its own menu system. Sometimes however, you will need to work directly from SINTRAN. Then select option 2. Section 2.2 tells you how to log in.
- SINTRAN III** This option allows you to use the SINTRAN operating system directly. You should not encourage inexperienced users to select this option because it does not provide the HELP features of UE and there is a possibility that they could lose information by trying out commands whose potential they do not know. You control which users can use SINTRAN through the User Profile (see chapter 3.)
- PC MS-DOS** Option 3 allows you to use any PC programs that run under MS-DOS (and MS-DOS itself). Information on MS-DOS is given in Appendix B and in the MS-DOS Reference Manual.
- Some special Teamstation programs run under MS-DOS. You may need to use them from time to time, and they are explained in this manual. They are: ND Supervisor, the DUPLI program and a set of ND and PC diagnostic programs. (A full list is given in section 2.6.3.)

## 2.2 Logging in as user SYSTEM

Before you can use UE or SINTRAN you must log in. Which one you choose depends on what you need to do. Some tasks are more quickly carried out from the UE menu system: others are only possible from SINTRAN. Usually, you can work from either environment.

User Environment When you switch on and complete the Login Screen you are in UE - the Desk Supervisor's Main Menu is displayed. When you log out, you will see the Login Screen again.

```

Welcome to
      B U T T E R F L Y - 1 1 0
Norsk Data

```

Enter your name :

Enter password :

[ If you don't know how to proceed, push the <HELP> key ]

At any other time, you access UE by selecting option 1 from the System Manager. If you are not logged in to UE at the time, the UE Login Screen is displayed. If you are logged in already, the screen picture you were last using in UE is redisplayed.



## SINTRAN

To log in to SINTRAN, you must display the System Manager and select option 2. The SINTRAN Login Screen is displayed. It is the same picture as the UE Login Screen and the procedure is the same as for UE from this point. Follow the instructions on the next page.

The first time you select SINTRAN, Figure 1 becomes:

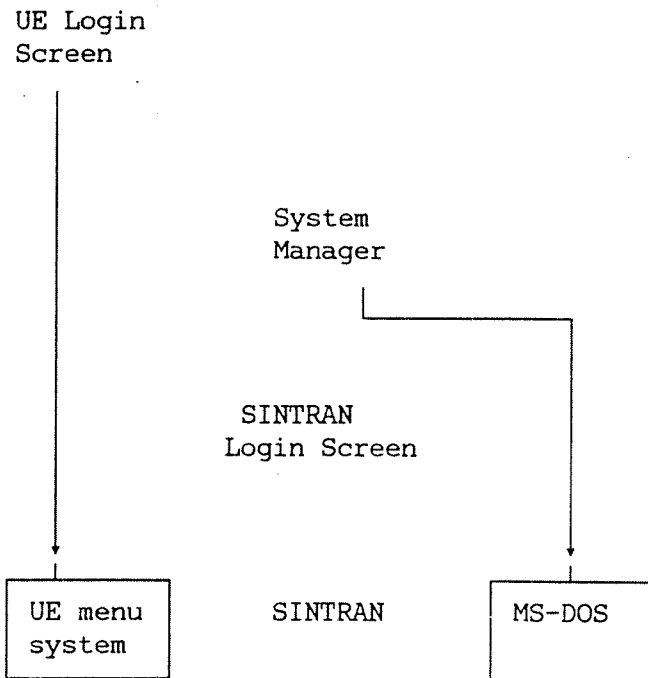


Figure 3: Logging into SINTRAN after switching on

### 2.2.1 How to fill in the Login Screen

1. Enter your user name: *SYSTEM* ↵
2. Enter user *SYSTEM*'s password.

User *SYSTEM*'S  
password

When Teamstation is delivered, the standard password for user *SYSTEM* is *SYSTEM*. If you did not change user *SYSTEM*'s password when Teamstation was installed, do this as soon as you have logged in. Follow the instructions in section 2.8. You should change this password *regularly*, and encourage other users to change theirs also.

|                           |            |
|---------------------------|------------|
| Welcome to                |            |
| B U T T E R F L Y - 1 1 0 |            |
|                           | Norsk Data |

Enter your name : *SYSTEM* ↵

Enter password : *SYSTEMS-PASSWORD* ↵

— If you don't know how to proceed, push the <HELP> key —

3. If you have set up *SINTRAN*'s Accounting system, you will be prompted for the project password. (Accounting is covered in section 6.5.)

## Supervisor Main Menu

When you complete the UE Login Screen, the Main Menu in the Desk Supervisor's menu system is displayed. (All the menus are shown in section 2.4.)

You can now use any of the options in this menu system. When you exit from an application you are returned to the menu you selected it from.

---

BUTTERFLY - 110      SUPERVISOR MAIN MENU  
1987-03-16      19:26 User:SYSTEM      User Area:SYSTEM

---

- 1 System Maintenance
- 2 User Environment Maintenance
- 3 Supervise SINTRAN Users
- 4 Supervise Users Terminals
- 5 File Manager
- 6 Document Storage
- 7 Entry to SINTRAN
- 8 Log out

Select menu number or task name

---

You have 5 messages waiting to be read

## SINTRAN

When you log in after selecting option 2 from the System Manager, the SINTRAN prompt, @, appears. This shows you that SINTRAN is ready to accept your instructions.

----> S I N T R A N - I I I      User area: SYSTEM  
---->                              Letters : 5

←--  
←--

@

**NOTIS-ID**

In both UE and SINTRAN, if NOTIS-ID (electronic mail) is running on your Teamstation, the last line tells you if there are any messages (letters) waiting to be read.

User SYSTEM is automatically a user of NOTIS-ID (and of NOTIS-DS), but other users have to be set up as users of both of these in order to be able to send and receive mail. See section 3.8.1 for information on how to set this up.

## 2.3 Logging in to both UE and SINTRAN

You have already seen that, on Teamstation, you can log in to SINTRAN separately from logging in to UE. In fact, you can log in to both environments at the same time; it does not matter which one you log in to first.

For example, switch on and then log in to SINTRAN as user GUEST (password GUEST), following the diagram below. Then, display the System Manager again and select option 1. Log in to UE as user SYSTEM.

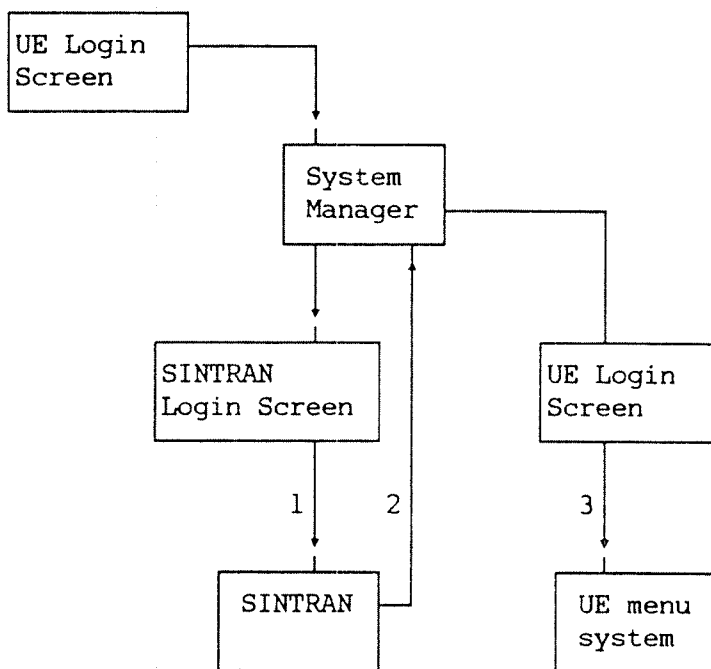


Figure 4: An example of logging in to both SINTRAN and UE

Having logged in to both environments, you can now move between them using the System Manager. Only two keystrokes are needed:

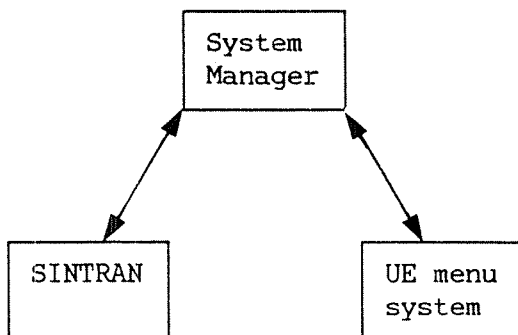


Figure 5: Moving between SINTRAN and UE via the System Manager

If, having logged in to both environments, you enter the command @WHO-IS-ON, both user SYSTEM and user GUEST are listed - under different terminal numbers.

```
38 GUEST
39 SYSTEM
48 ANNE-SMITH
623 SYSTEM
```

This shows that Teamstation acts as two normal terminals from one physical terminal. (Teamstation can also be the Console terminal, terminal 1. This is explained later.)

**Terminal numbers** You will find it helpful to remember that option 1, User Environment, is always shown as terminal 39, and option 2, SINTRAN, as terminal 38. (The other entries displayed by using @WHO-IS-ON represent terminals connected to Teamstation or internal subsystems. They are explained in later sections of this manual.)

### 2.3.1 Moving directly to SINTRAN from UE

The System Manager is not the only route for moving between UE and SINTRAN, as explained in the next three sections.

#### UE to SINTRAN

If you have used ND computers before, you will know that you can leave UE for SINTRAN so long as your User Profile allows this. You do not have to log in again, i.e. you continue working in the same user area.

On Teamstation, the Main Menu in both menu systems has an option to do this. ("Entry to SINTRAN Environment" is option 7 in the Supervisor Main Menu and option 6 in the Public Main Menu.)

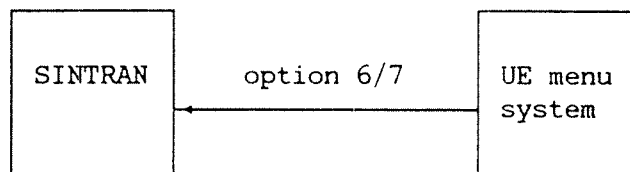


Figure 6: Moving directly to SINTRAN from UE

SINTRAN on each terminal

Section 2.3 explained that you could log in to UE and SINTRAN separately on terminals 39 and 38 respectively. If you have done this following Figure 4, and then selected option 7 to leave UE for SINTRAN (Figure 6), you now are using SINTRAN directly on both terminals. You can check this by moving between them using the System Manager.

Taking out the Login screens, Figure 4 then becomes:

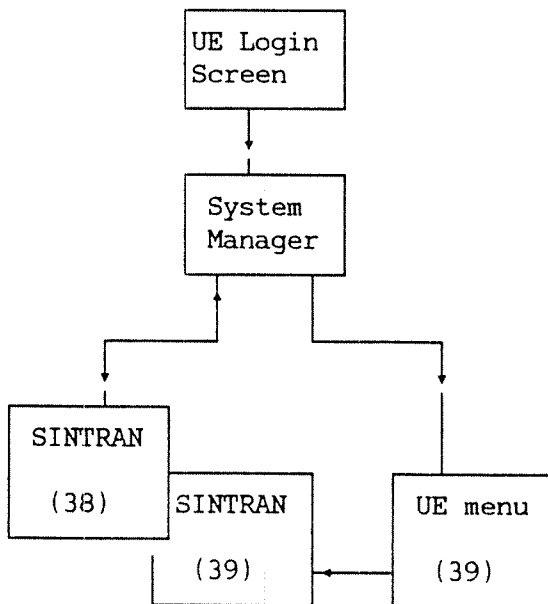


Figure 7: Using SINTRAN from both System Manager options



### 2.3.2 Moving directly to UE from SINTRAN

**SINTRAN to UE** From SINTRAN you can display the UE menu system and continue working there. Type:

@UE-MENU ↵

If you were logged in to SINTRAN as user SYSTEM, the Supervisor Main Menu is displayed. Otherwise, the Public Main Menu is displayed. This effectively performs the reverse of Figure 6:

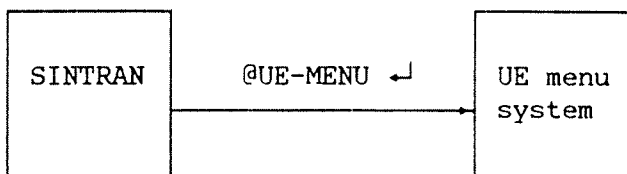


Figure 8: Moving to UE from SINTRAN

In this way you can use UE on both terminals at the same time, working in the same or different user areas.

**The full picture** In summary, on the Teamstation terminal, there are effectively two standard terminals. These are accessed by selecting options 1 and 2 from the System Manager. If you do this, you can use SINTRAN and UE at the same time. Equally, you can use SINTRAN or UE on both terminals.

The full flexibility of working on the Teamstation terminal is shown by extending Figure 7:

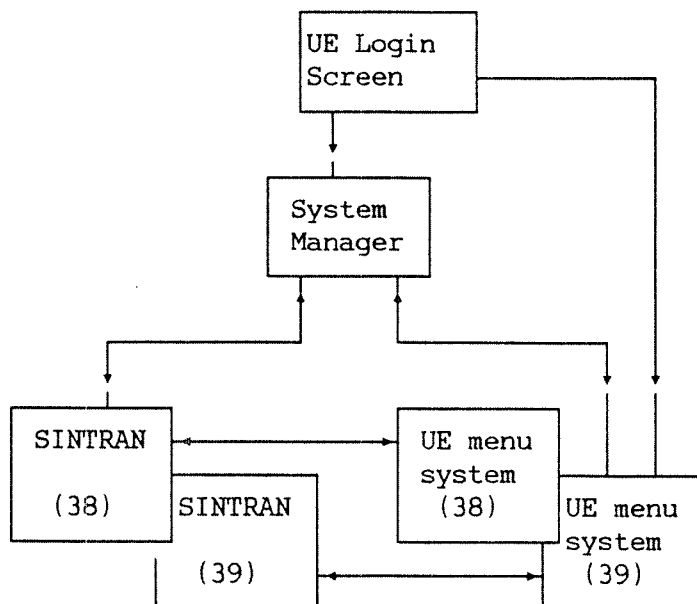


Figure 9: UE and SINTRAN from both System Manager options

### 2.3.3 Navigating on a terminal connected to Teamstation



On ND terminals connected to Teamstation, users must log in via the UE Login Screen which is displayed when they press ESC.

The System Manager is not available on these terminals, but users can move directly between UE and SINTRAN so long as their User Profile allows this (see chapter 3):

- to leave UE for SINTRAN, select "Entry to SINTRAN Environment" from the Main Menu (see Figure 6).
- to return to UE from SINTRAN use the command: @UE-MENU (see Figure 8).

Moving between UE and SINTRAN on one of these terminals does not change the number of the terminal you are working on. Therefore, users never need to log in twice. Figure 10 illustrates how you navigate:

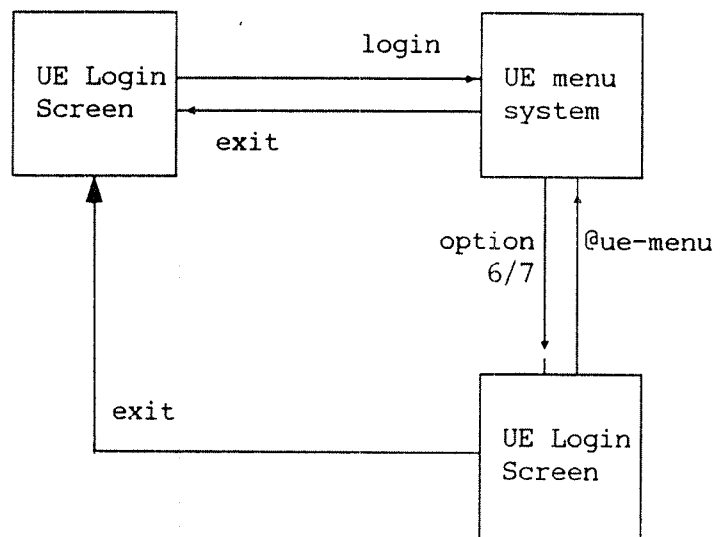


Figure10: Navigating on an ND terminal connected to Teamstation

**Terminal numbers** If ND (Notis) terminals are added to Teamstation, they have numbers 48, 49, 50, and 51. (Look for these numbers if you want to see who is using these terminals after entering @WHO-IS-ON.) Keep a note of which terminal has which number. This will be helpful if you have problems.

## 2.4 User SYSTEM's menu system

The whole menu system for the Desk Supervisor is shown on the next page. Some of the options also occur in the public menu system, but others (for example, Supervise SINTRAN users) are only Desk Supervisor tasks. The public menu system is also shown for comparison.

Some options in both menu systems are special Teamstation programs. You will soon recognise them by their layout. You can also start these programs from SINTRAN. The commands to do this start with DO and the programs are therefore called "DOs". Section 2.5 explains them further.

## Getting HELP



If you are not sure that an option is the one you want, move the cursor on to the option and press the HELP key. A HELP screen will overlay the last menu as shown below:

BUTTERFLY - 110 SUPERVISOR MAIN MENU

— 2 HELP information for USER ENVIRONMENT MAINTENANCE

This sub-menu contains the following options:

Activity Log: This option lets you start a log to record all activity on User Environment.

User/Terminal This allows you to change the user and profiles: terminal restrictions.

Terminal Status: Gives the level of activity on each terminal.

Start/Stop User Environment System / Profile Manager

EXIT returns you to the Supervisor Main Menu

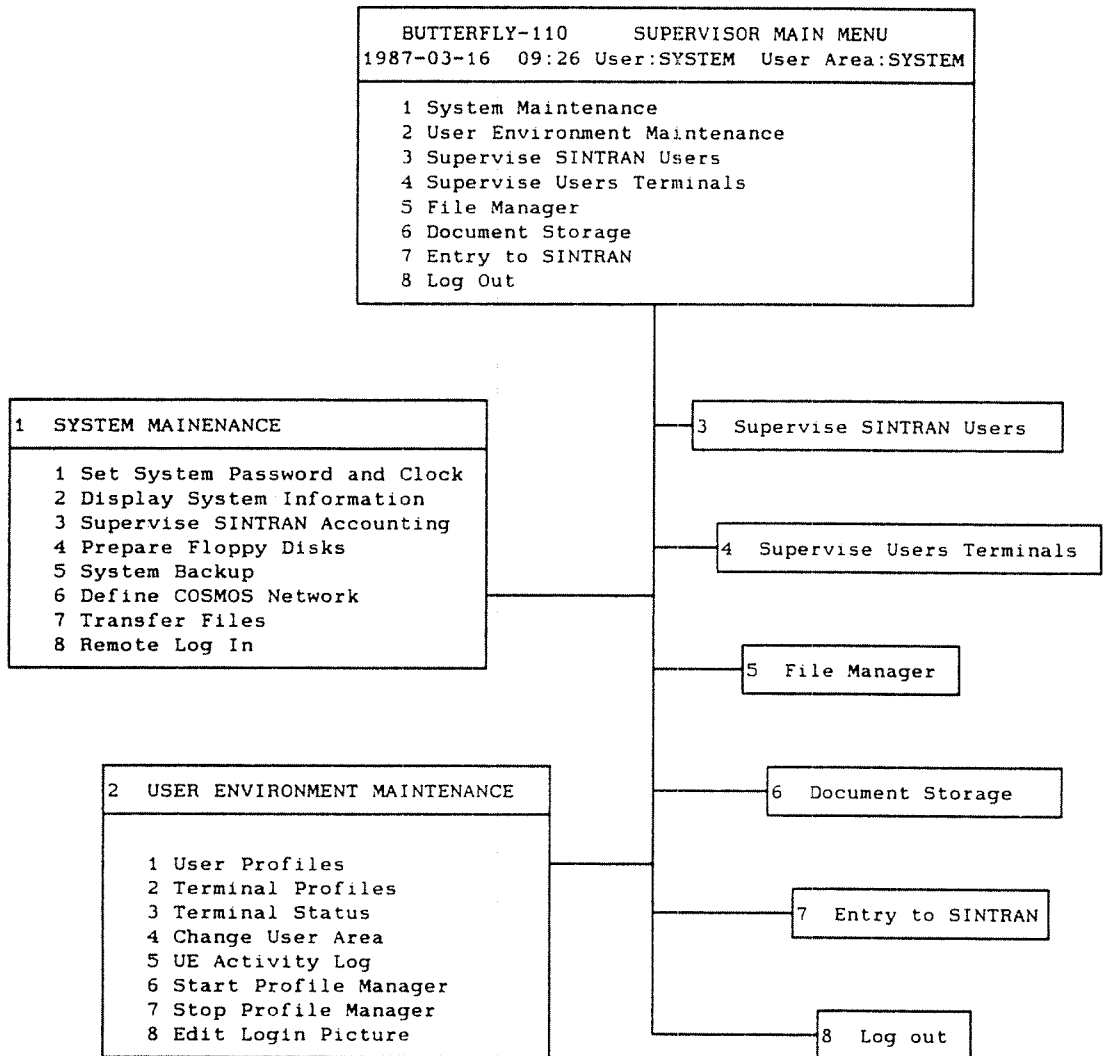


Figure 11: Desk Supervisor's UE menu system

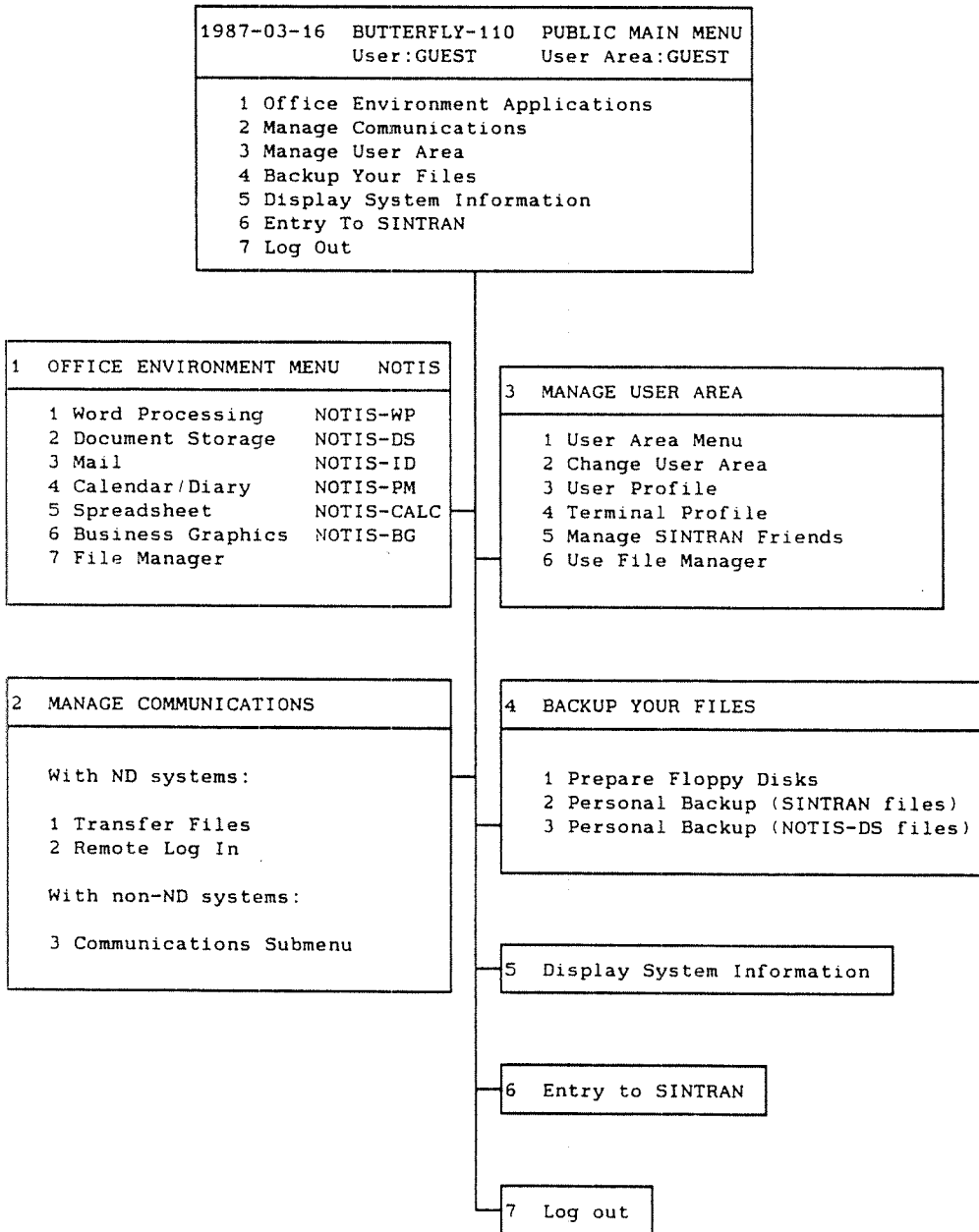


Figure 12: UE public menu system

## 2.5 DOs - a tool for the Desk Supervisor

DO programs are special Teamstation programs that can simplify up the routine Desk Supervisor tasks. They are not UE menus but they do display a menu.

From UE or  
SINTRAN

Each DO program is designed to replace one or more specific tasks, such as taking a backup. You can start these programs from either SINTRAN or UE. Whichever you choose, they work in the same way. The SINTRAN commands that call these programs all start with DO, for example @DO SUPERVISE-USERS, which you used during installation. Therefore, they are known as DOs.

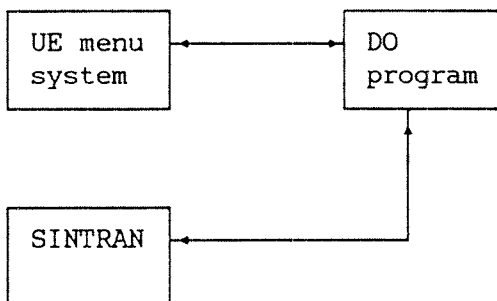


Figure 13: Where to start DO programs from

Two sets of DOs

There are two sets of DOs; one for all users, (for example DO PERSONAL-BACKUP) the other set is only available to user SYSTEM.

Similar to UE

Since DO screens are similar to UE menus, the Teamstation User Guide does not distinguish them from any other ND application - only Desk Supervisors need to know this.

Experienced  
ND supervisors

Where available, instructions in this manual use the DO programs to explain how to accomplish a task. If you already know another way of doing the same thing, you can choose which method to use.

### 2.5.1 Using DOs from UE

The simplest way to use a DO is to select it from a UE menu in the normal way. The screen for the DO you selected is displayed. All DOs have the same layout. The top two lines show the title (i.e. the SINTRAN command) and the current release of this DO program.

DO Supervise-Users  
Main→

Version:  
A00

Press <CANC> to cancel choice,  
<EXIT> to exit DO, <HELP> for help

1. Create SINTRAN User
2. Delete SINTRAN User
3. New SINTRAN User Password
4. Give User Space
5. Take User Space
6. User Statistics
7. Directory Statistics

Enter Choice:

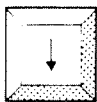
Status Info:

Error/Warnings:

**To make a choice** To make your choice, type a number e.g. 2 and press  
↵.



### Complete the parameters



You are then prompted for all the parameters needed, a line at a time. Finish each one with the ↵ key. Some parameters have default values displayed. If a default value is not what you require, use the ↓ key to remove it and then type the value you need.

### When you have made your choice

When you have entered all the information, Teamstation tries to carry out your instructions. Usually, you will see a message, for example "Creating user FRED with 300 pages". The cursor goes back to the Enter Choice field. You can select another option or press the EXIT key or E ↵ to return to the UE menu.

### Information & errors - the last two lines

Occasionally you will see an error message explaining why your option could not be done, e.g. "User already exists". If this happens, the cursor goes back to the Enter Choice field.

### After an error message

If you made a mistake you can now correct it. All the values you entered last time are still shown, so you only need to change the parameter(s) that were wrong. Press the ↵ key on the others.

Alternatively you can enter another number to carry out a different option, or press EXIT to leave the DO screen altogether.

### To cancel a choice



You can cancel a choice at any time by pressing the CANCEL key. You are returned to Enter Choice.

### To leave DOs



You can leave a DO program at any time by pressing the EXIT key. This clears the DO screen and returns you to the UE menu. (Remember to use CANCEL first if you want to cancel any input.)

## 2.5.2 Starting DOs from SINTRAN

From SINTRAN All the DO programs are available from UE menus, but you can start them from SINTRAN as well. For example, @DO SUPERVISE-USERS ↵

You will see the DO screen that you asked for - use them as you would from UE.

You always return to SINTRAN When you have finished using the DO program, press the EXIT key. You are returned to SINTRAN.

Listing the DOs When you start from SINTRAN, you have to know the name of the DO program you need. A list is given in the table on the next page, but you can display a list of the DO programs available on your Teamstation by entering @DO HELP., ↵.

Abbreviations Like other SINTRAN command, non-ambiguous abbreviations are allowed. For example:

@DO SUPERVISE-SYSTEM and @DO SUP-SYS

are both acceptable.

### 2.5.3 List of Supervisor DOs

This section lists the DOs written for the Desk Supervisor. The table below shows the UE option names and the equivalent SINTRAN commands. The third column tells you where in this manual the DO is explained.

**Reminder** You must be logged in as user SYSTEM in order to use any of these DOs. In addition you can use any of the DOs written for all users, either from user SYSTEM or from your normal user area.

| Name in UE menus              | SINTRAN NAME          | In this manual |
|-------------------------------|-----------------------|----------------|
| -                             | + DO START            | 2.9            |
| -                             | + DO STOP             | -              |
| Set System Password and Clock | + DO SUPERVISE-SYSTEM | 2.8 & 6.1      |
| Display System Information    | + DO SYSTEM-INFO      | 7.4.1          |
| Supervise SINTRAN Users       | DO SUPERVISE-USERS    | 3.2 & 3.5      |
| Prepare Floppy Disks          | * DO MANAGE-FLOPPY    | 4.4            |
| System Backup (SINTRAN files) | DO SYSTEM-BACKUP      | 4.2.3 & 4.3    |
| Supervise Users Terminals     | DO SUPERV-TERMINALS   | 3.7 & 8.5 & ?? |

- \* same as users' DO MANAGE-FLOPPY. See the Teamstation User Guide.
- + also see the Teamstation Installation Guide

## 2.5.4 List of DOs for all users

This section lists the DOs written for all users, showing the UE option from which they can be started and the equivalent SINTRAN names. You can use the DOs from SINTRAN whilst logged in as user SYSTEM, or from the UE menus when working in your normal user area.

They are described in the Teamstation User Guide.

### Reminder

We recommend that users with little or no experience of using ND computers should call these DOs from UE.

---

| Name in UE menus                | SINTRAN NAME       |
|---------------------------------|--------------------|
| Manage SINTRAN Friends          | DO MANAGE-FRIENDS  |
| Prepare floppy disks            | * DO MANAGE-FLOPPY |
| Personal backup (SINTRAN files) | DO PERSONAL-BACKUP |
| Display System Information      | + DO SYSTEM-INFO   |

---

\* same DO program as SYSTEM's DO MANAGE-FLOPPY

+ also see the Teamstation Installation Guide

---

## 2.6 Supervising the PC part of Teamstation

As the Desk Supervisor you need to know what is available on the PC side of Teamstation and a little about how to use it. However, there is less to do in the way of supervision because MS-DOS does not have any concept of individual users. In other words everyone is equal and you have no control over how other people use the MS-DOS facilities.

This section assumes you know MS-DOS, but a list of commands is given in Appendix B. If you will be using the PC side extensively, you should consider buying the MS-DOS Reference Manual which is available from your local ND Service Centre.

### 2.6.1 What you need to do

Know what is available

You should know what files are on the hard disk, particularly system files and special Teamstation programs.

You may like to keep charge of ordering and storing PC programs and documentation; you should certainly know what programs users are loading on to the PC side of the hard disk.

In addition, there are some diagnostic programs that only you should run. They are listed in section 2.6.3. Chapter 10 tells you how to use them.

Run applications from floppy

If your company has any PC applications, you should know how to run them from floppy so that you can help new users. You could also consider putting them on the hard disk if they are used frequently.

PC backup

Users should make their own backup of PC files (see section 4.1).

Security

Remember that the PC environment does not recognise users, and therefore has no way to set access rights to files. To keep information private, you must copy it to a floppy and then delete it from the hard disk.

When things go wrong

Refer to chapter 8 which describes some of the problems that you may come across, and tells you when to run the diagnostic programs that help you find out what is wrong. Normal MS-DOS error messages are not covered (see the MS-DOS Reference Manual for these).

## 2.6.2 Getting into MS-DOS

When you select the PC MS-DOS option from the System Manager after turning on, the C> prompt (or C:\>) appears on the screen; you are now in MS-DOS. You can then list directories and start any PC program loaded on the hard disk or on floppy in the normal way.

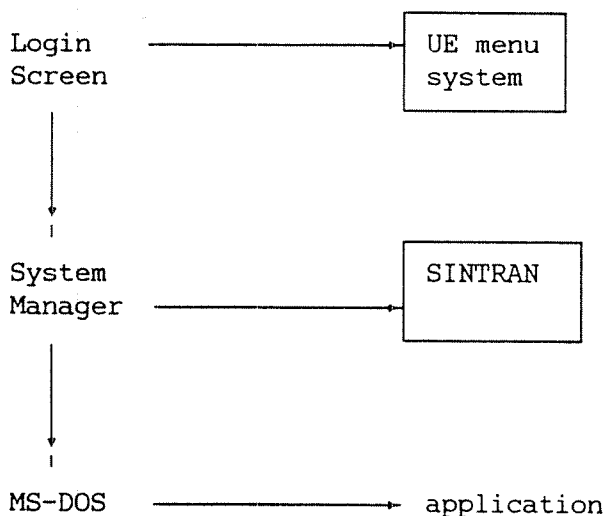


Figure 14: Getting into MS-DOS

You can display the System Manager from any PC program by pressing the SYS key. (If you have started to enter an MS-DOS command and press SYS, the System Manager is not displayed until you have finished the command and entered ↵.)

Subsequently, when you select PC MS-DOS from the System Manager, you are returned to the PC program you were last using.

### 2.6.3 Special PC programs in Teamstation

This section introduces programs that have been specially written for Teamstation and which run under MS-DOS.

**On-line tutorial**    The Butterfly Introduction is intended for users with little or no experience of ND computers. The tutorial is stored in the directory \BFLY-110\DEMO on the PC part of the hard disk. You do not need to activate or maintain the program, only to be aware of what it is and to make sure it is not deleted.

To start the tutorial, select MS-DOS from the System Manager. When you see the prompt, type:

```
C:\> INTRO ↵.
```

**ND Supervisor**    This program offers some of the more specialised facilities that a supervisor needs to use on the ND side, for example the Console, Cold and Warm Start. Only the Desk Supervisor can run the program because it prompts for user SYSTEM's SINTRAN password.

To start the ND Supervisor program, select MS-DOS from the System Manager. When you see the prompt, type:

```
C:\> SUPV ↵
```

If you select Console from the ND Supervisor Main Menu, you can press ESC and log in to SINTRAN. You are now using terminal 1: it is like being on the console terminal of any other ND computer. If you enter @WHO-IS-ON you may see:



---

|           |                    |
|-----------|--------------------|
| 1 SYSTEM  | ← console terminal |
| 39 GUEST  | ← UE terminal      |
| 38 SYSTEM | ← SINTRAN terminal |

The ND Supervisor program is stored on the hard disk. If you list the files in directory \BFLY-110\BIN you will see it as: SUPV.EXE. See chapter 9 for more details.

**PC Setup Program** This program sets parameter values that are used when you switch on. You can read and alter the default values. Start the program by selecting MS-DOS from the System Manager and typing:

```
C:\> Setup ←
```

See chapter 9 for more details.

## DUPLI

This program allows you to copy a file from the PC part of the hard disk to the ND part, or to any other ND computer connected to your Teamstation in a COSMOS network. Copying the other way is also permitted. In MS-DOS terms, DUPLI is an external command.

The Teamstation User Guide tells you how to use DUPLI. Read chapter 8 if there are problems.

## Teamstation Diagnostics

Teamstation has a comprehensive set of test programs which check the status of the ND side and that the ND and PC sides can work together.

The diagnostics suite must be run as a stand-alone program. Make sure that no-one is logged into UE or SINTRAN before you start. These tests run under MS-DOS (even those that test the ND/PC interface) and are provided on the Butterfly-110 ND Diagnostic floppy disk. Chapter 10 tells you what to do.

## Standard PC Diagnostics

The PC side is checked by the standard test programs provided with the PC. They are on the Butterfly-110 PC Diagnostic floppy disk. Chapter 10 tells you how to run them.

#### 2.6.4 Where to get more information

In summary, you may need to buy more documentation if you use the PC side heavily:

- |                   |   |
|-------------------|---|
| PC applications   | These come with documentation. You should follow the manufacturers' advice.   |
| MS-DOS            | The MS-DOS Reference Manual is available. It covers the internal, external commands and utilities that MS-DOS provides.   |
| Technical manuals | The PC Technical Reference Manual is available for people who want to know more about how the PC works. It complements the Teamstation Technical Reference manual which covers the ND side and the communications between the ND and PC sides. You should not need these two manuals for the everyday running or simple maintenance of Teamstation. |

## 2.7 Finishing a session with Teamstation

Like all ND computers, Teamstation has been designed to run continuously. If you have been used to a PC you may be accustomed to turn the machine off when you have finished work. Do not do this on Teamstation as users on the other terminals may need to carry on working.

Instead, if you are logged in to SINTRAN and/or UE, log out. Exit from any PC application you have used, especially the ND Supervisor program.

Turn the key to the off position and remove it before leaving Teamstation. This is the only way to ensure that the system is secure.

When you need to  
turn off -  
TAKE CARE

### CAUTION

Do not turn off if anyone else is using Teamstation from another terminal - they will lose their work. While still logged in, check to see if it is safe to turn off by using:

@WHO-IS-ON ↵

If the only number listed less than 100 is the terminal you are using, you can turn off but do not need to.

Log out, park the disk heads and switch off. Remember to take the key with you.

To park the heads, select PC MS-DOS from the System Manager and then type:

C:\>PARKDISK ↵

### 2.7.1 Logging out of the ND side

Logging out from Teamstation is the same as from any other ND system.

From SINTRAN:      Type: @log←

- From any UE menu:
1. Press the SHIFT + EXIT keys together to display the Main Menu.
  2. Press the EXIT key.
  3. Teamstation asks if you have finished using the ND side of Butterfly. Answer Y or N.

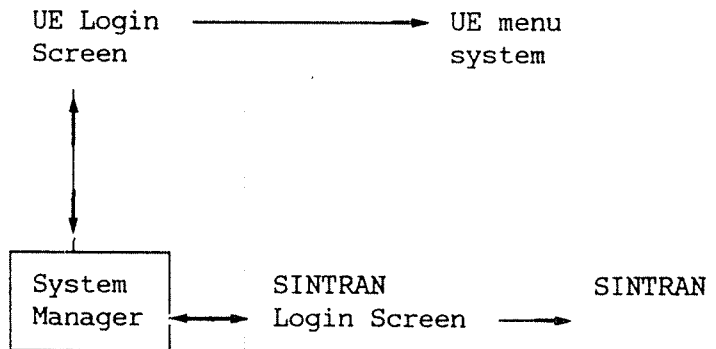


Figure 15: Logging out

---

Login Screen is  
displayed

The Login Screen is displayed. If you have finished working and no-one is logged in, you can switch off.

Remember, if you were logged in to both UE (terminal 39) and SINTRAN (terminal 38), you must log out from both of them before leaving Teamstation.

## 2.8 New SYSTEM password

You should change the system password regularly. If you have reason to believe that any unauthorized person has discovered the password, you should change it at once.

Use the SINTRAN command @DO SUPERVISE-SYSTEM (or the UE menu option, Set SYSTEM password and Clock).

Select option 1 and then enter the new password in reply to the prompts.

This updates the password in three places:

- \* in user SYSTEM's SINTRAN user area. (The command @CHANGE-PASSWORD only changes the SINTRAN password here.)
- \* in user SYSTEM's UE user area. (Editing the User Profile only changes the UE password here.)
- \* in the LOAD-MODE:MODE file. This updates both the SINTRAN and UE SYSTEM password. (In other ND computers you need to do this separately each time you change user SYSTEM's SINTRAN password. User SYSTEM's UE password is not usually in the LOAD-MODE:MODE file, but is needed on Teamstation to start the DO programs.)

DO Supervise-System      Version:      Press <CANC> to cancel choice,  
Main-New System Password      A00      <EXIT> to exit DO, <HELP> for help

1. New System Password
2. Update Clock
3. Interpret Error Code
4. Update SINTRAN System Number

Enter Choice: 1 ↵

\* New password: VENUS ↵

### 2.8.1 Updating the date and time

Teamstation keeps track of the date and time. You should only need to reset the internal clock when the battery runs flat, after two or three years.

To do this, use the command @DO SUPERVISE-SYSTEM (or the UE menu option, Set SYSTEM password and Clock). Choose option 2, then enter the correct time in reply to the prompts.

DO Supervise-System  
Main-Update Clock

Version:  
A00/B00

Press <CANC> to cancel choice,  
<EXIT> to exit DO, <HELP> for help

1. New System Password
2. Update Clock
3. Interpret Error Code
4. Update SINTRAN System Number

Enter Choice: 2 ↵

\* Minute: 37 ↵  
\* Hour : 15 ↵  
\* Day : 02 ↵  
\* Month : 10 ↵  
\* Year : 87 ↵

Current time is: 15:25 02/10-1987

#### Note

This option also sets the PC clock correctly. However, the MS-DOS commands TIME and DATE do not update the SINTRAN clock until Teamstation is reset or turn off and on again.

#### System Number

#### Note

Option 4, Update SINTRAN System Number, is a special option. After installation, only use it after you re-install SINTRAN or change the hard disk, and then only if you have called DO SUPERVISE-SYSTEM from SINTRAN.





## 2.9 If you have problems

Normally you do not need to turn off. Even if you do, just switching on starts all the necessary system programs again. But there are circumstances in which you must do more.

Start-up tests fail

If error messages are displayed when you switch on, please refer to chapter 8.

Cold Start

If the system does not start up correctly some of the system programs may have become corrupt. This is usually cured by doing a "Cold Start" - see chapter 9.

Active levels

If Teamstation starts but does not behave as you expect, you should display the System Manager and look at the bottom line. This reproduces the active levels in console displays of larger ND computers. The pattern can be used to check that Teamstation is working correctly - you will soon get to know the characteristic pattern. Chapter 8 explains the display and tells you what to do if it shows that things are not OK.

DO program not working

The DO programs are started automatically when you switch on.

However, if the message, DO NOT STARTED. CONTACT SUPERVISOR, is displayed at any time, you should try to restart the DO system manually.

From SINTRAN, use the command @DO START and enter your passwords in reply to the prompts:

@DO START ↵

Sintran user System Password: *SYSTEM* ↵  
UE user System Password : *SYSTEM* ↵

Please Wait ... (Starting Do)

Finished

@

Enter @WHO-IS-ON to check that the DO system is working.

1085 SYSTEM  
1087 SYSTEM

These "terminals" are internal devices used by the DO system. You do not need to understand what they do, only to remember that this is one way to check that the DO system has started properly.

+

## CHAPTER 3: LOOKING AFTER TEAMSTATION USERS

|       |   |      |
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---

## 3 LOOKING AFTER TEAMSTATION USERS

### 3.1 New Teamstation users

Anyone can start work on a PC - it has no concept of a "user". On the Teamstation terminal they can just select PC MS-DOS from the System Manager and start working. This is not the case for ND computers. Users must identify themselves (log in) before they can start using UE or SINTRAN. This makes it possible:

- for you to restrict the privileges of each user
- for each user to define clearly what access rights other users shall have to any given file.

As the Desk Supervisor one of your first jobs is to "create new ND users"; that is, to allocate an area of disk space to each member of staff who is to use Teamstation.

You may have already gone through this procedure during installation (following the instructions in the Teamstation Installation Guide), but since you will have to do this again and again sections 3.2 and 3.3 repeat the instructions.

What you need  
to do

For each new user you need to:

- allocate a SINTRAN user area, see section 3.2.
- set up a User Profile in UE, see section 3.3.
- set up a Terminal Profile, if the user is to have a new terminal, see section 3.6.
- allocate a user area in NOTIS-DS, see section 3.8.1.

Agree these  
with each user

Before starting, you should agree the following details with the user:

- the name he or she wants to be known by, i.e. the "user name".
- a password to go with the user name.
- which project password the user shall have - if you have set up accounting (see section 6.5 for information on project accounting).
- how much space the user can have on the hard disk to store data.

Butterfly  
Introduction

Finally, you should remind users, particularly those new to computing, to work through the Butterfly Introduction. This on-line tutorial will both help them and save you time explaining some basic concepts.

Note

The examples that follow are based on a single hard-disk system. If you have a second hard disk, we assume that you know enough about SINTRAN to be able to adapt the instructions given. If you need more information, please read the SINTRAN III Timesharing/Batch Guide.

### 3.2 Creating new SINTRAN user areas

To create new user areas in SINTRAN follow the instructions in this section.

1. Select option 3 from the Supervisor Main Menu.

```
BUTTERFLY - 110      SUPERVISOR MAIN MENU
1987-02-10  19:26  User:SYSTEM  User Area:SYSTEM
```

---

```
1 System Maintenance
2 User Environment Maintenance
3 Supervise SINTRAN Users
4 Supervise users terminals
5 File Manager
6 Document Storage
7 Entry to SINTRAN
8 Log out
```

Select menu number or task name

---

You have 5 messages waiting to be read

2. Select option 1, "Create SINTRAN user" from the Supervise-Users screen.

Complete the screen using the example overpage and the explanations following it.

DO Supervise-Users  
Main-Create User

Version:  
A00

Press <CANC> to cancel choice,  
<EXIT> to exit DO, <HELP> for help

| <ol style="list-style-type: none"> <li>1. Create SINTRAN User</li> <li>2. Delete SINTRAN User</li> <li>3. New SINTRAN User Password</li> <li>4. Give User Space</li> <li>5. Take User Space</li> <li>6. User Statistics</li> <li>7. Directory Statistics</li> </ol> <p>Enter Choice: 1↵</p> <p>*User Name: ANNE-SMITH ↵</p> <p>*Directory Name: PACK-ONE ↵</p> <p>*Number of Pages: 200 ↵</p> <p>*Password: NET ↵</p> | <table border="1"> <thead> <tr> <th>DIRECTORIES ENTERED</th> </tr> </thead> <tbody> <tr> <td>PACK-ONE</td> </tr> </tbody> </table> | DIRECTORIES ENTERED | PACK-ONE |
|---|--|---------------------|----------|
| DIRECTORIES ENTERED   |  |                     |          |
| PACK-ONE  |  |                     |          |

### Explanation of the fields

- User name** Enter the name of the new user area i.e. the name the user will log in as.
- Directory** The default directory is the one on the hard disk: PACK-ONE. Press ↵ to create the user area in this directory.
- The information area on the right of the screen shows you which directories are entered. If you want to know more about directories please read the SINTRAN III Timesharing/Batch Guide.
- Number of pages** On the ND partition, space is divided into SINTRAN pages. The default value allocated to each user is 200 pages. You can give more or less by overwriting the value. You can change the amount of space allocated at any time using options 4 and 5.



---

If you need a further explanation of how SINTRAN allocates space, please see the Teamstation User Guide and the SINTRAN III Introduction.

**Password**

You must enter a SINTRAN password for all users. For simplicity this should be the same as the UE password.

**Access Rights**

Teamstation sets the default file access rights to:

Public: None

Friend: Read, Write, Append

Own : All

The Teamstation User Guide tells you how to change these values and how to create "friends".

### 3.3 Setting up the User Profile

Since users should work from UE you must complete a User Profile for each SINTRAN user area. Follow the instructions in this section.

It is common for the SINTRAN and UE user areas to have the same name and this makes the computer easier to work with. However, different user names and passwords are possible and can be used as an extra security feature.



You can get help by pressing the HELP key.

What to do

1. If you are not in UE already, log in as user SYSTEM (see section 2.2).

```
BUTTERFLY - 110      SUPERVISOR MAIN MENU
1987-02-10   19:26  User:SYSTEM   User Area:SYSTEM
```

---

- 1 System Maintenance
- 2 User Environment Maintenance
- 3 Supervise SINTRAN Users

•

2. Type 2 to select "User Environment Maintenance".

---

2 USER ENVIRONMENT MAINTENANCE  
User area: SYSTEM

---

- 1 User Profiles
- 2 Terminal Profiles

3. Type 1 to select "User Profiles". The User Profile screen is displayed.

U S E R P R O F I L E

User: SYSTEM

---

|               |   |
|---------------|---|
| User name     | : |
| Password      | : |
| Standard task | : |
| Language      | : |
| User level    | : |



4. Press the F2 key in the right-hand section of the keyboard.

The field "User name" changes to "Create User".

5. Fill in the screen using the example below and the explanations following it.

# U S E R   P R O F I L E

User: SYSTEM

---

|               |   |              |  |
|---------------|---|--------------|--|
| Create user   | : | ANNE SMITH ↵ |  |
| Password      | : | NET ↵        |  |
| Standard task | : |              |  |
| Language      | : |              |  |
| User level    | : | Advanced ↵   |  |

---

|                     |   |              |                              |
|---------------------|---|--------------|------------------------------|
| User Groups         | : | 0            |                              |
| Authorization level | : | Public       | SINTRAN: YES      Letters: 0 |
| Main user area      | : | ANNE-SMITH ↵ |                              |
| Alternative area    | : |              |                              |
| Menu system         | : |              |                              |

## Explanation of the fields

**User name**      Type the user name, the SINTRAN user area name that you entered in section 3.2 or a new one. (Note that in UE, spaces can be used to replace the hyphen, which must be used in SINTRAN.)

**Password**      Type the user's password. This is not shown on the screen.

**Main user area**      Type the SINTRAN user area name. You are then prompted for its password, which you should enter.

This field allows you to have more than one UE User Profile for each SINTRAN user name. For example, if several users work on the same office files from UE only, then you could create a SINTRAN user area OFFICE. When you set up a new User Profile enter the user's name in "Create user" and OFFICE in the "Main user area".

---

|  |   |
|--|---|
| Standard task and Language                     | Leave these fields blank: just press ↵.   |
| User level                                     | Set this field to Advanced for all users. (It is used to limit a few of the functions available to new users in NOTIS-WP.)  |
| User Groups                                    | Leave this field blank. Also see section 3.4.   |
| Authorization level                            | For new users the Authorization Level field is set to "Public". Leave this field for other users, but for user SYSTEM (and for your ordinary user area) overwrite it with "Supervisor". (Anyone with Supervisor status can alter all the User and Terminal Profiles.)   |
| SINTRAN  | Leave this field as YES if you want this user to be able to enter SINTRAN commands from a UE menu and to be able to work with SINTRAN directly. Users should be able to access all the facilities that they need from UE and therefore should not need to use SINTRAN directly, but experienced ND users may prefer to do so. If the user is new to ND computers, enter NO. |
| Alternative area, Menu System and Hours of use | Leave these fields blank. Also see sections 3.4. and 3.4.4.   |
| More users to enter                            | If there are more new users, press the EXIT key and return to step 3. Otherwise hold down the SHIFT key and press EXIT to return to the Supervisor Main Menu.   |
| NOTIS-DS and NOTIS-ID                          | If you use NOTIS-DS, you should go on to section 3.8.1 to register users as NOTIS-DS users. Then they will have a choice of file systems (see section 3.8) and will be able to use NOTIS-ID, the electronic mail system (see chapter 7).  |

### 3.4 Other tasks using the User Profile

This section explains the other uses of the User Profile screen. These are tasks you need to do from time to time - not regularly.

#### Alternative user area

It is possible for several UE user areas to be associated with the same SINTRAN user area. Equally, one UE user area can have access to more than one SINTRAN user area. This is set up through the Alternative area field.

For example, user SYSTEM has access to a number of SINTRAN user areas, including RT, UTILITY, SCRATCH, FLOPPY-USER and NOTIS.

For each User Profile it is usual to set the main user area, the one a user automatically starts working in, as their normal SINTRAN user area name. Then, you can set up different user areas that the user can move to. This is helpful for people working on more than one project. Read more about alternative user areas in the User Environment Reference Manual.

#### Menu systems

Two standard UE menu systems are delivered. However, it is possible to have more than two - the entry in the Menu System field determines the first menu the user sees when logging in. Section 3.9 explains a little more about menu systems.

### 3.4.1 Listing UE users

1. If you are not already in UE, log in as user SYSTEM and display the User Profile screen (see section 3.3).



2. Press the PRINT key and the following instructions appear:

List users

Print all names beginning with (← gives all names)  
 . . . . .

The list should be written to (may be abbreviated):  
 - file (remember the file type)  
 - printer  
 - terminal (press ←)

. . . . .

Select list

List 1

List 2

3. For a list of all users, press ←. Otherwise, enter the letter(s) you are interested in, e.g. BU for all user area names beginning with bu.
4. Press ← if you want the list to be displayed on the screen. Otherwise enter the name of the file/printer you want the list to be stored in/sent to, e.g. Local-printer.
5. Press ← to select List 1 (a short list), or press → and ← to select List 2 (for more details of each user area). An example of each type is shown on the next page.

---

 L I S T   O F   U S E R S
 

---



---

 User name: . . . Main user area: . . . . . Date of last login:
 

---

|           |          |            |
|-----------|----------|------------|
| OPERATOR  | SYSTEM   | 1986-06-04 |
| SYSTEM    | SYSTEM   | 1986-06-06 |
| BFLY-USER | BUT-USER | 1986-06-01 |

---

Figure 16: List of user areas (type: List 1)

---

 L I S T   O F   U S E R S
 

---



---

|                                  |                             |
|----------------------------------|-----------------------------|
| User name: . . . . .             | Main user area: . . . . .   |
| Date of last login: Login count: | User menu system: . . . . . |

---

|            |     |                               |
|------------|-----|-------------------------------|
| OPERATOR   |     | SYSTEM                        |
| 1986-06-04 | 128 |                               |
| SYSTEM     |     | SYSTEM                        |
| 1986-06-06 | 121 | (USER-ENVIRONMENT)UE-SUP-EN-C |
| BFLY-USER  |     | BUT-USER                      |
| 1986-06-01 | 18  |                               |

---

Figure 17: List of user areas (type: List 2)



### 3.4.2 Deleting UE user areas

1. If you are not in UE already, log in as user SYSTEM and display the User Profile screen (see section 3.3).
2. Enter the name of the user area you want to delete. The profile will be displayed. (Passwords are not displayed.)

#### U S E R   P R O F I L E

User: SYSTEM

---

|               |   |            |
|---------------|---|------------|
| User name     | : | ANNE SMITH |
| Password      | : |            |
| Standard task | : |            |
| Language      | : | English    |
| User level    | : | Advanced   |



3. Check that this is the correct user area; then press the DELETE key. Enter Y in reply to the prompt to confirm that you want to delete this user.

### 3.4.3 Clearing passwords

The need to enter a user's area

Users can change their UE passwords as often as they like. This means that you will not know every user's password for very long. Nevertheless, you may need to enter a user's area from time to time, and you do this by changing their UE password. You must not delete the UE password, otherwise the user cannot log in. It is usual to set the password to be the same as the user name, then the user can enter a new password when he or she has logged in.

Users forget their password

Users may forget their passwords, and find they cannot log in. You should overwrite the old password in their User Profile and enter a new one for them.

**UE passwords**

1. If you are not already in UE, log in as user SYSTEM and display the User Profile screen (see section 3.3).
2. Type the name of the user area whose password you want to change.
3. All their details will be displayed. Check that it is the correct user area.
4. To change the password, type in the new password. Then press Y to confirm the entry.

Changing the UE password

## USER PROFILE

User: SYSTEM

---

overwrite this

|               |   |            |
|---------------|---|------------|
| User name     | : | Anne Smith |
| Password      | : |            |
| Standard task | : |            |
| Language      | : | English    |
| User Level    | : | Advanced   |

**SINTRAN passwords** Changing the UE password has no effect on the SINTRAN password. You can change the SINTRAN password using DO SUPERVISE-USERS or the equivalent SINTRAN commands (see section 3.5).

User SYSTEM's SINTRAN password is a special case - never delete it, but change it regularly as a security measure. Use option 1, "Set System Password" from the System Maintenance menu (see section 2.8).



The times of access are also governed by the Terminal Profile. You can select days and hours in the same way, but these are times when the terminal can be used. Therefore, an individual can only log in to UE at a particular terminal if both the Terminal Profile and his or her own User Profile allow access. (The Terminal Profile has priority - see section 3.6.)

## T E R M I N A L   P R O F I L E

Terminal number: 38

1986-10-21

---

Terminal number : 55  
Standard task : .....

---

Authorized users : All

Direct login user :  
project password :

The hours the terminal is available:

| From: 08:30 (hour:minute) |     | To: 18:30 (hour:minute) |     |     |     |     |
|---------------------------|-----|-------------------------|-----|-----|-----|-----|
| Mon                       | Tue | Wed                     | Thu | Fri | Sat | Sun |
| x                         | x   | x                       | x   | x   |     |     |

("X" means access)

Date of last login: 1986-10-20

Login count: 21

Number of successive unsuccessful attempts to log in: 0

---

EXIT - go out of profile manager    FUNC R - go to the user profile

### 3.5 Supervising SINTRAN users

There are some supervisory tasks that cannot be done from UE, or that need to be done directly on the user's SINTRAN area. This section describes some of the more common ones.

#### Passwords

You enter a SINTRAN password for new users when you set up their user area (see section 3.2).

From then on, users who are allowed to use SINTRAN directly can change their own passwords as often as they like using the SINTRAN command:

```
@CHANGE-PASSWORD old password,new password ↵
```

Occasionally, you need to change a user's SINTRAN password:

- when he or she has forgotten it
- when you want to enter the user's area.

To do this, display the DO SUPERVISE-USERS screen either by selecting the UE option "Supervise SINTRAN Users" or by entering the SINTRAN command. Then select option 3, "New SINTRAN user password" as shown overpage.

DO Supervise-Users      Version:      Press <CANC> to cancel choice,  
Main-New User Password      A00      <EXIT> to exit DO, <HELP> for help

1. Create SINTRAN User
2. Delete SINTRAN User
3. New SINTRAN User Password
4. Give User Space
5. Take User Space
6. User Statistics
7. Directory Statistics

Enter Choice: 3 ↵

\*User Name: FRED ↵

\*New Password: BOTTLE ↵

Clearing the  
password

If you want to clear the user's password rather than change it, you must use the SINTRAN command:

@CLEAR-PASSWORD user-name ↵

User's space

You give users space for their files when creating new user areas (see section 3.2). Later, they may need more space, or you may want to take some pages away if they are not using Teamstation a lot. Use options 4 and 5.

The equivalent SINTRAN commands are:

@GIVE-USER-SPACE user name, no of pages ↵

@TAKE-USER-SPACE user name, no of pages ↵

First, you may want to check how much space the user has - use option 6 or the SINTRAN command:

@USER-STATISTICS user-name, , ↵

### Space on the disk

To be able to give a user more space there must be some free pages on the disk. To check this, use option 7 "Directory statistics" or the SINTRAN command:

```
@DIRECTORY-STATISTICS pack-one,, ↵
```

### Renaming user areas

Sometimes a user may want to change the name of his SINTRAN user area. The only way to achieve this is by using the SINTRAN command:

```
@RENAME-USER old-name,new-name ↵
```

### Deleting SINTRAN user areas

Select option 2 "Delete SINTRAN user". If the user has files, the DO program will ask if you want to delete them (which you need to do before you can delete the user area). If you enter Y, the user's files and the user area are deleted. If you enter N, you are returned to the Enter Choice field. The equivalent SINTRAN commands are:

```
@DELETE-USERS-FILES,,Y, ↵
```

```
@DELETE-USER user-name ↵
```

#### Note

Do not delete any user areas you have not created: they may be special user areas for system files such as NOTIS and RT. A full list is given in section 4.5.

### More information

See the SINTRAN III System Supervisor Guide or the SINTRAN III Reference Manual which explain all these commands and their parameters.



### 3.6 Terminal Profiles in UE

In UE, terminals, as well as users, have profiles. Therefore, the Teamstation terminal and any ND terminals or workstations connected to Teamstation have Terminal Profiles that you can edit.

The Terminal Profile has useful security features. For example, you can specify which users can log in at the terminal and the hours when the terminal can be used. For further details, please see the User Environment Reference Manual.

Terminal Profile  
has priority

The Terminal Profile has a higher priority than the User Profile. For example if all User Profiles allow access on all days of the week but the Terminal Profiles allow users to log in on Mondays only, Teamstation can be used only on Mondays.

Teamstation is  
two terminals

If you log in to SINTRAN from the System Manager, then display the System Manager again and log in to UE, you are effectively using two terminals. You can see this with the command @WHO-IS-ON which will show your user name against two terminal numbers.

This feature can be useful. For example, if a user hangs his terminal while using UE, you can log in by selecting SINTRAN from the System Manager, and stop the terminal (see section 3.7.1).

#### Note

Both these terminals have a Terminal Profile, and you must restrict the hours of use on both of them if you want to make Teamstation more secure.

### 3.6.1 Displaying the Terminal Profile

1. If you are not in UE already, log in as user SYSTEM (see section 2.1.2 or 2.1.3).
2. Type 2 to select "User Environment Maintenance".
3. Type 2 to select "Terminal Profiles".

The Terminal Profile screen is displayed showing the number of the terminal you are working on.

4. Enter the number of the terminal whose profile you want to view/edit (see the next page).

The details for this terminal are displayed. An explanation of the fields follows the example below.

#### TERMINAL PROFILE

Terminal number: 39

1986-10-21

---

|                 |   |       |
|-----------------|---|-------|
| Terminal number | : | 55    |
| Standard task   | : | ..... |

---

|                  |   |     |
|------------------|---|-----|
| Authorized users | : | All |
|------------------|---|-----|

|                   |   |  |
|-------------------|---|--|
| Direct login user | : |  |
| project password  | : |  |

The hours the terminal is available:

|                           |     |                         |     |     |     |     |
|---------------------------|-----|-------------------------|-----|-----|-----|-----|
| From: 08:30 (hour:minute) |     | To: 18:30 (hour:minute) |     |     |     |     |
| Mon                       | Tue | Wed                     | Thu | Fri | Sat | Sun |
| x                         | x   | x                       | x   | x   |     |     |

("X" = access)

Date of last login: 1986-10-20

Login count: 21

Number of successive unsuccessful attempts to log in: 0

---

EXIT - go out of profile manager    FUNC R - go to the user profile

- 
- Standard task      If you complete this field, all users will go directly to this task after logging in on terminal 55. They will not see the menus. This is useful if you want a terminal to be used for one task only, for example word processing. In all other situations you should leave this field blank so that the user works from the UE menus.
- The Standard task is the only field in the Terminal Profile that users can change. To return to the menus from the Standard task enter @UE-MENU ↵.
- Terminal 38        Teamstation is delivered with SINTRAN as the Standard task on terminal 38. This is the terminal you log in to when you select SINTRAN III from the System Manager. Users are taken directly in to SINTRAN when they have logged in.
- Hours of use        All the fields are blank, so that the terminal is always available (twenty-four hours a day, seven days a week). The example on the previous page shows more limited availability.
- User Environment Reference Manual      The User Environment Reference Manual explains the other fields in the Terminal Profile.
- Terminal numbers    • the Teamstation terminal acts as three terminals:
- console - 1
  - UE        - 39
  - SINTRAN - 38
- terminals connected to Teamstation have numbers 48, 49, 50, 51. Stick a label on each one so that you can keep track of which is which.
- To find the number, log in on a terminal and enter @WHO-IS-ON. The arrow points to that terminal.

### 3.7 Releasing terminals which have "got stuck"

From time to time users will tell you that they are getting no response from their terminal; their terminal has "hung". There are four common situations in which this can occur.

Keyboard not connected or ND not working

If there is no response to any key, it is likely that the keyboard is unplugged or the connections are loose. Check that the plug is firmly in place.

If you can display the System Manager but both SINTRAN and UE leave you with a blank screen, then the ND side has stopped. You can check this by starting the ND Supervisor program, and selecting the console option (see chapter 9). You should restart the ND side, either by selecting "Warm Start" from the ND Supervisor program or by turning off and on again. All users will have lost any work entered but not saved.

When logging in

If the message "Too many attempts to enter" was displayed, the user has hung the terminal while logging in to SINTRAN or UE by typing unrecognised combinations of user name and password more times than is allowed. Follow the instructions in section 3.7.2, "Resetting the unsuccessful login count" to restart the terminal.

When using the PC side

If Teamstation hangs when a user is in MS-DOS or using a PC application, try the following release mechanisms in the order indicated:

1. Enter CTRL + C.
2. Enter CTRL + UDK.
3. Select option 7, Kill PC Application, from the System Manager.
4. Enter CTRL + ALT + DEL.
5. Enter CTRL + ALT + EXIT.

If 1, 2 or 3 work, you see the MS-DOS system prompt, C\:>, allowing Teamstation to continue as if the PC program had been stopped in the normal way.

4 and 5 above reboot Teamstation and load MS-DOS again. In most cases the ND part of Teamstation will continue. Users of SINTRAN and User Environment will see the message:

SYSTEM IS RUNNING AFTER A BREAK.  
PLEASE CONTINUE.

Users on a terminal connected to Teamstation can continue working from where they left off. However, the screen pictures on the Teamstation terminal are lost. To refresh the screen, try pressing the following keys in the order presented:

1. HOME key
2. Cursor keys
3. ↵ key
4. EXIT key
5. ESC key.

When using the  
ND side of  
Teamstation

Sometimes users hang a terminal while using UE or SINTRAN. First try entering CTRL+Q on the terminal as the user may have entered CTRL+S by accident. If this does not release the terminal, follow the instructions in section 3.7.1. The user whose terminal has hung will lose his work but other users will not be affected.

### 3.7.1 Stopping terminals that have hung (DO SUPERV-TERMINALS)

DO SUPERV-TERMINALS is a quick way to release terminals that have hung while using ND applications.

1. If you are not already in UE, log in as user SYSTEM (see section 2.2).
2. Type 4 to select "Supervise Users Terminals" from the Supervisor Main Menu.

DO Superv-Terminals  
Main→

Version:  
A00

Press <CANC> to cancel choice,  
<EXIT> to exit DO, <HELP> for help

1. Reset "Too many attempts to enter"
2. Reset Hanging Terminal
3. Set Terminal Type
4. Get Terminal Type
5. Who is logged in?

Enter Choice:

If you know the number of the terminal which has hung go on to step 4 otherwise follow step 3.

3. Type 5 to select "Who is logged in?"

The information area shows all the terminals in use and the user name under which they are logged in. Find the number of the terminal you need to restart.

4. Type 2 to select "Reset Hanging Terminal".

5. Enter the number of the terminal.

DO SUPERV-TERMINALS                      Version:                      Press <CANC> to cancel choice,  
Main-Reset Hanging Terminal A00                      <EXIT> to exit DO, <HELP> for help

1. Reset "Too many attempts to enter"
2. Reset Hanging Terminal
3. Set Terminal Type
4. Get Terminal Type
5. Who is logged in?

Enter Choice: 2 ↵

\*Terminal number: 50 ↵

#### WHO IS LOGGED IN:

This terminal: 39  
DO work area : 1087

| Terminal | User name  |
|----------|------------|
| 38       | GUEST      |
| 39       | SYSTEM     |
| 50       | ANNE-SMITH |

A message is displayed on terminal 50, followed by the Login Screen. Anne-smith can start work again.

If the terminal is still not responding, you must restart Teamstation. Ask all other users to log out, then turn off and on again. If the terminal is still hanging, there is a more serious problem. Refer to chapter 8.

Problems -  
terminal type

If a terminal hangs frequently, check that the terminal type has been set correctly: use option 4,

---

"Get Terminal Type". The terminal type depends on which terminal and/or model is used. -5067 is the most common. This is equivalent to type 53. (The number you enter using option 4 is in decimal. SINTRAN converts this into a four digit number for internal use. The table on page 8-12 shows the SINTRAN equivalents of the most usual terminal types.)

If it is an ND terminal, check that it has been configured correctly. (For NOTIS terminals, this means the Function Switches and Communications Switches from the Configuration Menu. They are set correctly when delivered, but users can change the settings. Terminals hang more easily in use if the communications switches are not set correctly.)

### 3.7.2 Resetting the "Unsuccessful login count"

Use the SINTRAN command @DO SUPERV-TERMINALS to reset a terminal that has hung after too many attempts to log in to UE or to SINTRAN. To work from UE, follow the instructions in this section:

What to do

1. If you are not already in UE, log in as user SYSTEM (see section 2.2).
2. Type 4 to select "Supervise Users Terminals" from the Supervisor Main Menu.
3. Type 1 to select "Reset 'Too many attempts to enter'".



|                                  |  |          |                                    |
|----------------------------------|--|----------|------------------------------------|
| DO Superv-Terminals              |  | Version: | Press <CANC> to cancel choice,     |
| Main-Reset "Too many attempt A00 |  |          | <EXIT> to exit DO, <HELP> for help |

|   |  |                              |   |
|---|--|------------------------------|---|
| 1. Reset "Too many attempts to enter"<br>2. Reset Hanging Terminal<br>3. Set Terminal Type<br>4. Get Terminal type<br>5. Who is logged in?<br><br>Enter Choice: 1 ↵<br><br>*Terminal number: 50 ↵   | <table border="1"> <tr> <td>"Too Many Attempts To Enter"</td> </tr> <tr> <td>           The user has tried to enter with wrong password too many times.<br/>           To reset this I will have to set up some parameters.<br/>           When this is done, a message will appear.<br/>           This tells that the user that has this message must try to log in once more.<br/>           When this is done I will need some time to tidy up.         </td> </tr> </table> | "Too Many Attempts To Enter" | The user has tried to enter with wrong password too many times.<br>To reset this I will have to set up some parameters.<br>When this is done, a message will appear.<br>This tells that the user that has this message must try to log in once more.<br>When this is done I will need some time to tidy up. |
| "Too Many Attempts To Enter"  |  |                              |   |
| The user has tried to enter with wrong password too many times.<br>To reset this I will have to set up some parameters.<br>When this is done, a message will appear.<br>This tells that the user that has this message must try to log in once more.<br>When this is done I will need some time to tidy up. |  |                              |   |

Enter the terminal number if you know it or press RETURN

- If you know the number of the terminal that is hanging, enter it in reply to the prompt, as above. (Otherwise go on to step 5.)

The terminal is stopped and restarted. A message is displayed followed by the Login Screen: the user can carry on working.

- If you do not know the terminal number, press ↵. Then ask the user to try and log in again by pressing ESC. This allows the DO program to find the number and to reset the login count.

If after 2 minutes the DO program has not been able to find the terminal number, a message is displayed and the prompt returns to Enter Choice. Try again.

---

How many times  
you can try

In ND systems the number of attempts allowed is set in both SINTRAN and UE during installation. On Teamstation this is done before delivery. The default number of tries allowed is 7.

You can change the setting in SINTRAN using the SINTRAN Service Program but you cannot change the value in UE unless you reinstall it. If you wish to do this, follow the instructions in the PD sheets. Remember to change the SINTRAN setting at the same time.

Problems

If the terminal is still not responding, you need to restart Teamstation. Ask other users to log out, then turn off and on again. This should clear the terminal. If it does not there is a more serious problem. Refer to chapter 8.

### 3.8 Giving advice on when to use NOTIS-DS and File Manager

NOTIS-DS vs  
SINTRAN

SINTRAN, the operating system, stores files by giving each user an area of disk in which to store information but it does not structure the area at all. The disk is just a series of files.

NOTIS-DS is an alternative way of storing information. It allows the user to associate one file with several others by dividing the area up. This is a hierarchical system as opposed to SINTRAN's flat structure; the levels are called drawers, folders and documents. The diagram on the next page illustrates this.

NOTIS-WP users

Users may ask you which system they should use. This depends on what they are using Teamstation for. NOTIS-DS is intended for use with other NOTIS products. We recommend that all information entered in NOTIS-WP is stored as documents using NOTIS-DS, so that it can be sent as electronic mail using NOTIS-ID and used with the graphics products such as NOTIS-BG. (You must store a file in NOTIS-DS before you can send it through the mail using NOTIS-ID.)

Only available  
when connection  
to HOST is  
open

On delivery, Teamstation only has the user interface for NOTIS-DS and NOTIS-ID. All documents stored with NOTIS-DS (including those sent and recieved using NOTIS-ID) are stored on the computer which holds the database, not on Teamstation itself. (This computer is called the HOST.)

---

This means that you can only:

- set up users
- store/fetch NOTIS-DS documents
- view, send and receive mail

when the connection to your HOST is working. See chapter 7 for more information.

To store NOTIS-DS documents on your Teamstation you must buy the product "NOTIS-DS for ND-100" which includes the servers and database. This will speed up the process of storing and fetching documents and make the electronic mail system much more convenient to use. Ask your local ND Service Centre for more details.

Note

Examples in this chapter are from specific versions of NOTIS-WP, NOTIS-DS and NOTIS-ID. If your Teamstation has other versions of these programs, the screens you see may not look exactly as shown.

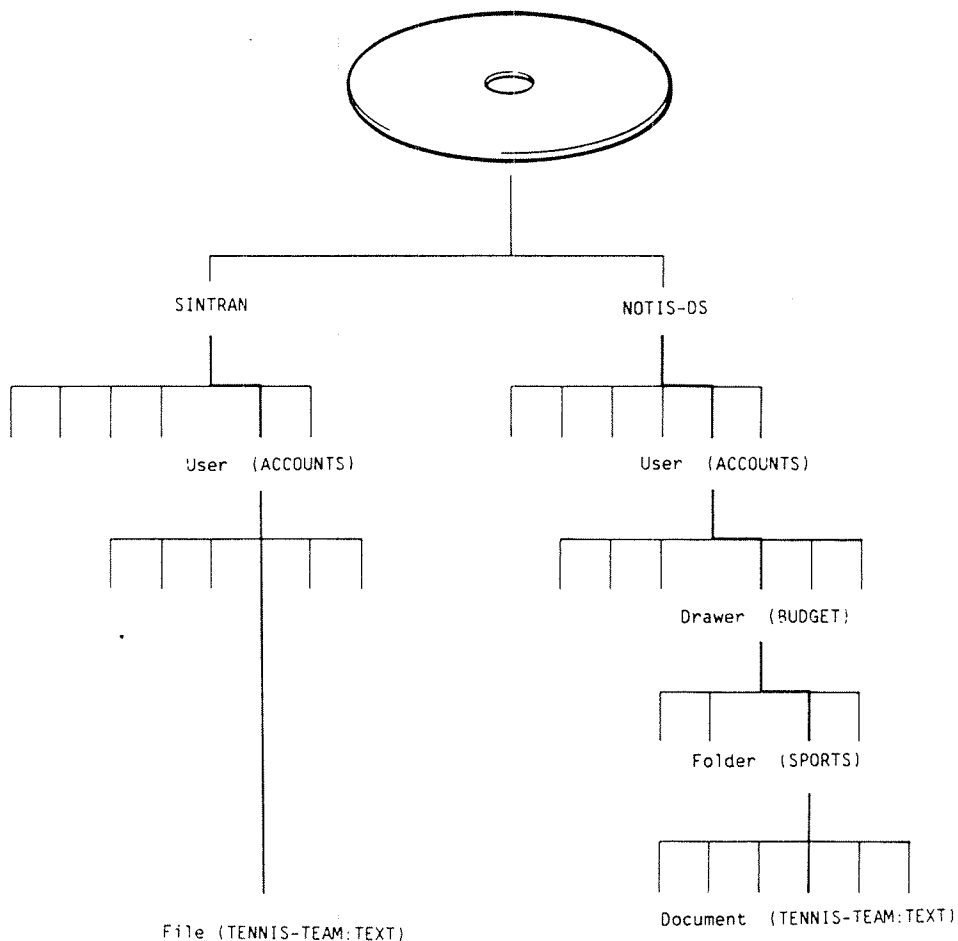


Figure 18: Comparison of SINTRAN and NOTIS-DS

Set YES in the  
WP-Environment  
menu

Users should enter Y in the WP-Environment menu in NOTIS-WP. They will then be prompted for the drawer and folder, as well as the document name, when they store (see the NOTIS-WP User Guide and the NOTIS-DS User Guide).

---

 WP-Environment menu (1)

```

Storage document name
Formatting document name :
:
:
Command menu mode (Y/N) :
Use Document Storage      : Y
  
```

### SINTRAN as the standard drawer

Experienced ND users may prefer to set up a standard drawer and folder, so that they will be prompted for the document name only when storing and fetching documents. This can be the SINTRAN drawer which every user has automatically. (Using the SINTRAN drawer is equivalent to using the SINTRAN file system directly.)

```

NOTIS-DS :      Copy      Set Standard      Admin
               Set standard user, drawer, folder and/or document
  
```

---



---

```

User   : ANNE-SMITH                      Address   : Teamstation
Date   : 1986-07-18 10:26                 Cabinet on : Teamstation
  
```

If they do this, storing with NOTIS-DS has the same number of steps as with SINTRAN, but has two advantages:

- |                     |  |
|---------------------|--|
| Listing :TEXT files | - users can see their :TEXT files with NOTIS-DS by listing the contents of the SINTRAN drawer.       |
| Sending mail        | - users can send their documents to other users on the same or on other ND computers using NOTIS-ID. |

Documents:      View      WP      Delete      Move      Other  
                 Show the first screen picture of the document

| NO     | Name              | Subject          | Modified         | No of char |
|--------|-------------------|------------------|------------------|------------|
| ---> 1 | GROUP-MAIL-LIST   |                  | 1986-05-12 11:21 | 12386      |
| 2      | GROUP MONTH-1     | Monthly report   | 1986-07-06 18:07 | 4930       |
| 3      | GROUP MONTH-2     | Monthly report   | 1986-08-05 09:56 | 600        |
| 4      | PPD PROGRESS MEET | Call for meeting | 1986-06-21 12:30 | 5508       |

User : ANNE-SMITH  
Folder : GROUP-PPD

Drawer : SINTRAN

## SINTRAN and File Manager

Users can choose to use the SINTRAN file system directly with NOTIS-WP and this may be more suitable for scientific users or programmers. The product File Manager will help them look after their files.

With File Manager you can list, create, delete, set and change access rights and file types simply by editing a screen display; you do not need to know the SINTRAN commands.

File Manager cannot be used with any documents created with NOTIS-DS, other than those in the SINTRAN drawer. Please read the File Manager Introduction for more details.

FM:

Area: ANNE-SMITH

Main Select

| File name       | Type | V | T | Public              | Friend | Own   | Written   | Read      | M | Pages | Bytes |
|-----------------|------|---|---|---------------------|--------|-------|-----------|-----------|---|-------|-------|
| (.....T....)    |      |   |   | (T.....T.....T....) |        |       | Yr.Mn.Dy. | Yr.Mn.Dy. |   |       |       |
| COPY-TO-FLOPPY  | MCRO | 1 | I |                     | RWACD  | RWACD | 86-07-11  | 86-07-11  |   |       | 854   |
| LETTER          | TEXT | 1 | I |                     | R      | RWACD | 86-05-12  | 86-06-02  |   |       | 2300  |
| LETTER          | OUT  | 1 | I |                     | R      | RWACD | 86-05-12  | 86-06-02  |   |       | 1650  |
| FILES-TO-FLOPPY | SYMB | 1 | I | R                   | R      | RWACD | 86-06-23  | 86-06-23  |   |       | 26297 |

### 3.8.1 Registering users in NOTIS-DS and NOTIS-ID

This section only explains how to "create" new user areas in NOTIS-DS. If you need more information about how to use or supervise NOTIS-DS, read the NOTIS-DS User Guide and the NOTIS-DS Supervisor Guide.

When Teamstation is delivered, the NOTIS-DS interface is already installed. User SYSTEM is created as a user during this installation procedure so you only need to follow the instructions in this section for other user areas.

UE user first

Users must be registered in UE before they can be entered in NOTIS-DS. (Follow the instructions in section 3.3.)



---

**What to do**

1. Check that the connection to the HOST is available (see the Teamstation Installation Guide or chapter 7).
2. Type 6 to select "Document Storage" from the Supervisor Main Menu, or if you are in SINTRAN, type: @NOTIS-DS ↵
3. The NOTIS-DS Main Menu is displayed. (It is very similar to the menus in NOTIS-WP.)

Type C for Create and U for User.

```
NOTIS-DS      :      Create
               1 User  2 Drawer  3 Folder  4 Document
```

4. Type the UE user name of the new user.

New User: *Anne Smith* ↵

**Also a NOTIS-ID  
user**

NOTIS-DS users are automatically users of NOTIS-ID. A drawer (MAILBOX) containing two folders (INTRAY and OUTTRAY) is automatically created for their mail: they can now use both NOTIS-DS and NOTIS-ID.

### 3.9 Changing UE menu systems

Teamstation is delivered with two menu systems: the public menu system for all users and the Desk Supervisor's menu system. These may be standard Norsk Data menus or they may have been created specially for the needs of your company. By using the UE menu editor, you can change the menus, or create completely new ones for your users, and replace or supplement the existing ones. The menu editor is not delivered with Teamstation but can be purchased through your local ND Service Centre.

Some of the reasons why you may want to do this are:

- to add a user application to the ordinary user's menu system.
- when buying new ND software that is not in a current menu.
- to improve security by using different menu systems for different user groups.
- to improve efficiency by making many smaller menu systems, so that each user has less menu levels.
- to use project passwords

It is a straightforward but lengthy job, and is therefore not described here. The User Environment Reference Manual tells you how to use the menu editor.

#### Login Screen

You can edit the Login Screen without buying the menu editor. Do this if you want to add the Project Password field, or perhaps enter the name you have given Teamstation in the title.

Use option 8, "Edit Login Picture" in the User Environment Maintenance Menu or enter the SINTRAN command @UE-FUNC 15. (See the User Environment Reference Manual for more information.)

### 3.10 Security

This section is a reminder of the many ways in which you can provide as much or as little security on the ND side of Teamstation as needed.

#### Passwords

First of all, you should keep the SYSTEM password to yourself (and perhaps to a limited number of experienced users of Norsk Data computers). You should change the password regularly. Select "Set System Password" from the System Maintenance menu. Then use option 2 "New System Password". (This is the DO SUPERVISE-SYSTEM program.)

Encourage other users to change their password frequently. (In version C of User Environment you can ensure that users change their password at regular intervals. They are reminded to do so and stopped from logging in if they do not. When Teamstation is delivered, this feature is not active. To use it, you must reinstall UE - see the User Environment Reference Manual and the PD sheets.)

#### Access to files

Secondly, you should encourage users to keep the access to their files to a minimum. Users who need to work on their files should be created as "friends", then set file and friend access rights to a minimum. The concept of friends is explained in the NOTIS-DS User Guide.

By using User Environment there are several additional methods to control the way in which Teamstation is used:

---

|                         |   |
|-------------------------|---|
| Keys                    | The operation of the Teamstation keyboard is protected by a key. Always turn the key to the locked position and remove it when you leave Teamstation. This stops any input on the Teamstation terminal but does not affect other users.   |
| Who can log in          | <p>Activate UE on all terminals to ensure that all users must log in through UE.</p> <p>In addition, only people who know a user name and password combination can log in. You control the number of times they can try to log in with the Activity Log.</p> <p>When working on the Teamstation terminal, always log out from SINTRAN and User Environment (terminals 38 and 39) when you have finished work.</p> |
| When they log in        | Use the Terminal Profile to limit the times during which a terminal can be used and the User Profile to set the times during which a person can log in.   |
| Where they can log in   | Complete the Authorized Users field in the Terminal Profile to restrict some users to particular terminals.   |
| Who can do what         | <p>In the User Profile, set the Authorization level to PUBLIC or SUPERVISOR and the SINTRAN field to YES or NO to limit the functions available to a user.</p> <p>When making your own menu systems, you may protect individual options in a menu by asking for a password. See the User Environment Reference Manual for instructions on how to prompt for a special password when an option is selected.</p>    |
| What files they can use | Use the Main User Area and the Alternative Areas fields to determine which SINTRAN user's files a person can access.  |

---

Access to the  
PC part

Never leave Teamstation when the Butterfly Supervisor program is running, and always exit from it when you have finished work. From this program it is possible to affect both the ND and PC parts of Teamstation.

In general, be careful who has access to the PC side of Teamstation, because it is possible for experienced users to corrupt the ND-110PCX from the PC.



## CHAPTER 4: LOOKING AFTER THE DATA

|       |   |      |
|-------|---|------|
| 4.1   | The PC backup .....                         | 4-3  |
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---

## 4 LOOKING AFTER THE DATA

As the Desk Supervisor, it is your job to make sure that users can store their work and that nothing is then lost. This chapter tells you what to do.

### The hard disk

The hard (internal) disk has two parts (partitions) - ND and PC, which use the disk in different ways and have no knowledge of each other. If you list files from SINTRAN you will only see files stored on the ND part of the disk.

The hard disk is known as a "fixed disk"; it is not designed to be removed. The amount of data that can be stored on it is limited. Another of your jobs is to make sure that there is enough space for users to continue working. On the ND side, you control how much space an individual user has. Section 3.5 tells you what to do if someone runs out of space.

When users run out of space, you should ask them if there are files they do not need any more. If any files contain information that is not currently being used but needs to be kept, you should copy these files to a floppy disk before deleting the originals from the hard disk.

### Taking a backup

There is another reason for copying files to a floppy disk. Files can be destroyed by software or hardware errors or by users' mistakes. Having a copy can save many hours of retyping. Making such copies is called taking a "backup", and a large part of this chapter is devoted to telling you how to do this. It will be one of your routine tasks as the Desk Supervisor.

Because the two parts of the hard disk are entirely separate, backing up the whole disk is a two-part job.

- You start the ND backup from UE or SINTRAN using the special program DO SYSTEM-BACKUP (see section 4.2).
- You start the PC backup from MS-DOS by giving the command BACKUP. Follow the instructions in section 4.1.

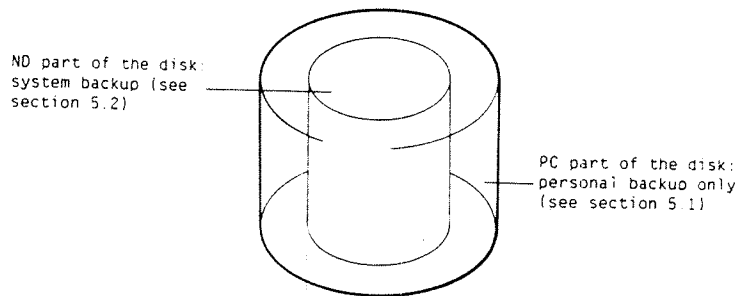


Figure 19: Backup is a two-part job

What's on the disk

Section 4.5 gives an overview of how the hard disk is divided up into the ND and PC partitions, and the users and directories on it when Teamstation is delivered. This is a reference section that does not need to be read for everyday supervision.

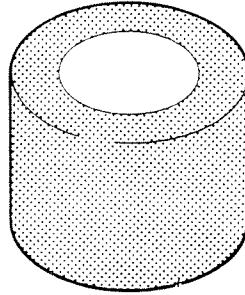
DUPLI

This is Teamstation's special program for copying information between the two parts of the hard disk (see the Teamstation User Guide).

If things go wrong

If you suspect that there are problems with the hard disk or the disk drive, you should turn to chapter 8.

## 4.1 The PC backup



Use the comand:  
C>Backup ↵

Because MS-DOS does not recognise users, all users should take care of their own files. You should only need to take a backup of the files you create. You must encourage all users to make a backup copy of any PC files they create. This backup can be from the hard disk to a floppy disk or from one floppy disk to another. It is easy to do and will save a lot of work if anything goes wrong.

### System files

You do not need to back up the files in any of the system directories listed in section 5.4 (e.g. SYS and BFLY) because you already have a complete set of copies on floppy.

### MS-DOS command - BACKUP

The MS-DOS command to use is BACKUP. An outline of the procedure is given in this section.

Please read the MS-DOS Reference Manual for full details of the many options this command gives you, and for any additional information you may need, for example how to format a floppy in MS-DOS format.

---

You will probably only want to back up modified files (use the parameter /M). Other parameters you may want to look up include:

- adding to files on the backup floppy rather than overwriting them
- backing up from one directory only
- creating a log file for the backup operation.

#### **What to do**

1. If you do not have a PC-formatted floppy that you can use for the backup, format one now using the MS-DOS FORMAT command described in section 4.4.
2. Put a PC-formatted floppy into the drive (drive A).
3. If you are not in MS-DOS already, select option 3 from the System Manager.
4. Enter the command and parameters. (Unlike SINTRAN you must enter all the details on one line.) If, for example, you wanted to back up all files on the hard disk beginning with "bu" to the floppy in drive A you would enter:

```
C:\>BACKUP C:\bu*.* A:/S ↵
```

When all the information has been entered copying starts. Each file name is displayed as it is backed up. Your screen will look something like this:

---

```
C:\>backup c:\bu*. * a: /s
```

```
Insert backup diskette 01 in drive A:  
WARNING! Diskette files will be erased.  
Strike any key when ready...
```

```
*** Backing up diskette 01 ***
```

```
\BUTTERFLY-MENU.EXE  
\BUTTERFLY-DIAG.EXE  
\BUG.LOG
```

If the floppy becomes full, Teamstation prompts for another one. When copying is complete, the MS-DOS prompt is displayed and you can carry on working.

#### Recovery

Backup files are unusable for normal work. You must first use the command RESTORE to copy the files back on to the hard disk.

#### More information

For more information on the BACKUP and RESTORE commands please refer to the MS-DOS Reference Manual which is available from your local ND Service Centre.

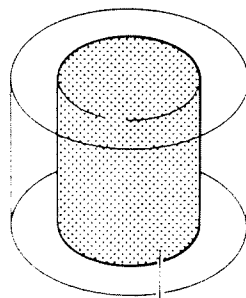
## 4.2 ND System backup

You are responsible for backing up the ND part of the hard disk. You should back up all users' files. How often you need to do so depends on how heavily Teamstation is used. Weekly backup is common but daily backup may be desirable under special circumstances. You should certainly take a backup before adding any new programs or updating existing ND applications.

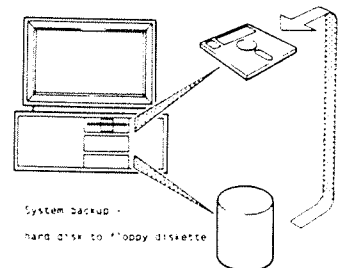
### DO SYSTEM-BACKUP

There is a special program to help you take a backup from the hard disk to a floppy disk: @DO SYSTEM-BACKUP. It has several advantages over the standard ND way of taking backups. You can broadcast a message from the DO SYSTEM-BACKUP screen, and you can back up to more than one floppy. When one floppy is full, DO SYSTEM-BACKUP prompts you for another one, sets it up and carries on backing up from where it left off. This chapter shows you how to use DO SYSTEM-BACKUP.

Scratch files, segment files, files of type :OUT, and the files SINTRAN:DATA and MACM-AREA:DATA are not copied. All other files are backed up, even those from "system" users such as Floppy-user, Utility and SYSTEM.



ND System backup -  
the Desk Supervisor's job



System backup -  
hard disk to floppy diskette

---

## Generations

A backup is known as a "generation". It is usual to keep several generations of backup floppy disks before re-using the oldest of them. It is very important that you have a procedure, and that you label the floppy disks clearly with the date of the backup. Section 4.2.1 provides a strategy that you can follow if your company does not have its own policy.

The strategy recommended (and most others) use a combination of the following options:

- incremental backup (all new or existing files changed since the last backup, from every user).

Use this option if information is changing rapidly, and take a backup often. You will detect problems with the hard disk earlier and therefore you may not need to keep floppy disks with information that is weeks old.

- backup between dates (all users' files written to between the two dates you enter, even if they have been backed up already).

Use this option occasionally if there are files that have not been changed for some time.

- single-user backup (all new files or files that have been changed since the last backup for the user you specify).

---

### 4.2.1 Backup strategy

User names, passwords and certain parts of the operating system are not copied during a normal file backup e.g. with DO SYSTEM-BACKUP. If the hard disk crashes it is therefore difficult to recover the system completely unless you have also taken a "media backup".

The standard SINTRAN BACKUP-SYSTEM includes a program called "Winchester-to-floppy", which makes a copy of the magnetic patterns on the hard disk, a "media backup". A media backup is therefore a snapshot of the complete system on the date it was taken.

We recommend that you use a combination of media backup and file backup as follows:

1. When Teamstation is delivered (week 0), set up all the SINTRAN and UE user areas and passwords, and any friends of these users that you know will be required.
2. After a week (week 1) take a media backup, using the Winchester-to-floppy program. (See the Backup User Guide for instructions.)

This will take some time and require 12 to 15 floppy disks, but will not need to be repeated for several months.

3. Take an incremental backup (option 3 in DO SYSTEM-BACKUP) once a week for the first seven weeks (week 1 to 7), as explained in this chapter. Use new floppy disks each time; one per week may be enough.
4. On week 8 take a "backup between dates" (option 4 in DO SYSTEM-BACKUP), entering the first and



---

last date in this eight week period. This backup concentrates the information accumulated during the past two months on to a smaller number of floppy disks.

At any time in this cycle you can recover the system if the hard disk crashes. By restoring the media backup you have the complete system on the day it was taken. Using the file backups, you can then add the files created and edited since that date. You therefore need a combination of media and file backups; neither one is enough alone. (To restore the media backup use the program "Floppy-to-winchester", following the instructions in the Backup User Guide.)

5. Repeat the cycle in steps 3 and 4 above for the first six months.

Note

After each 8 week cycle you can reuse the floppy disks used for incremental backup, but keep every floppy used a "backup between dates" for at least twelve months. This may seem excessive but allows you to restore a file has become corrupt even if it has not been updated in months, and others deleted by users because they did not think that they would be needed again.

6. After approximately six months take a new media backup if several users have been added or deleted. Ask your System Supervisor or local ND service engineer for advice.
7. Repeat the six monthly cycle.

**CAUTION**

After week 1 you may need more than 15 floppy disks for media backups. Do not reuse the floppy disks from the previous media backup until you have successfully completed the new one.

Keep all backup floppy disks in a different location to your Teamstation to avoid the risk of losing originals and backups in one disaster. You should also consider keeping a second copy of your backup floppy disks in case one copy is accidentally destroyed during use.

A backup strategy described then looks like this:

|        |          |               |                  |
|--------|----------|---------------|------------------|
| Week 0 | DELIVERY |               |                  |
| Week 1 | INCR 1   |               | MEDIA 1          |
| 2      | 2        |               |                  |
| 3      | 3        |               |                  |
| 4      | 4        |               |                  |
| 5      | 5        |               |                  |
| 6      | 6        |               |                  |
| 7      | 7        |               |                  |
| 8      |          | BETWEEN 1-8   |                  |
| 9      | 9        |               | Reuse INCR 1-7   |
| 10     | 10       |               |                  |
| 11     | 11       |               |                  |
| 12     | 12       |               |                  |
| 13     | 13       |               |                  |
| 14     | 14       |               |                  |
| 15     | 15       |               |                  |
| 16     |          | BETWEEN 9-16  |                  |
| 17     | 17       |               | Reuse INCR 9-15  |
| 18     | 18       |               |                  |
| 19     | 19       |               |                  |
| 20     | 20       |               |                  |
| 21     | 21       |               |                  |
| 22     | 22       |               |                  |
| 23     | 23       |               |                  |
| 24     |          | BETWEEN 17-24 | MEDIA 24         |
| 25     | 25       |               | reuse INCR 17-23 |
| 26     | 26       |               |                  |
| 27     | 27       |               |                  |
| 28     | 28       |               |                  |
| 29     | 29       |               |                  |
| 30     | 30       |               |                  |
| 31     | 31       |               |                  |
| 32     |          | BETWEEN 25-32 |                  |
| 33     | 33       |               | reuse INCR 25-31 |
| 34     | 34       |               |                  |

Personal backup  
of heavily used  
files and old  
unused ones

In addition to this "system backup", you should encourage users to take their own copies of files that they update often. If you take backups on Monday mornings and they work heavily on a file for two days, they should not wait until the next Monday to take a copy - two days work is a lot to repeat.

Users should also keep track of old but important files that are not updated regularly, and make a copy of these too.

The option, Personal Backup, in the public menu system (or the equivalent SINTRAN command @DO PERSONAL-BACKUP) should be used. It is explained in the Teamstation User Guide.

Using SINTRAN  
directly

SINTRAN commands can be used to copy files to floppy, and it is still possible to use the Backup-System program. (The Backup-System must be used to take to a volume backup of files larger than 1.2 Mbyte e.g. databases.) If you intend to do this, follow the instructions in the SINTRAN III Supervisor Guide or the Backup User Guide.

DS Backup

NOTIS-DS provides a separate program for taking copies of documents stored in the NOTIS-DS database. It is intended for personal backups that are additional to the ND system backup. Remember, that unless you purchase the product, NOTIS-DS for ND-110, NOTIS-DS documents are stored on the HOST computer not on Teamstation itself. Refer users to the NOTIS-DS User Guide.

#### 4.2.2 Before you start

##### New or reused floppy

You can use new or used floppy disks. New ones are automatically formatted, and old floppy disks are overwritten destroying all the data already on them. Teamstation checks for a PC-formatted floppy and asks if you want to reuse it. If you answer Y(es), the floppy is reformatted to ND format; all the information previously stored on it is lost.

##### 1.2MB only

Only 1.2Mb floppy disks (marked high density) are accepted. Floppy disks previously formatted by MS-DOS can be used. They are reformatted to ND's format.

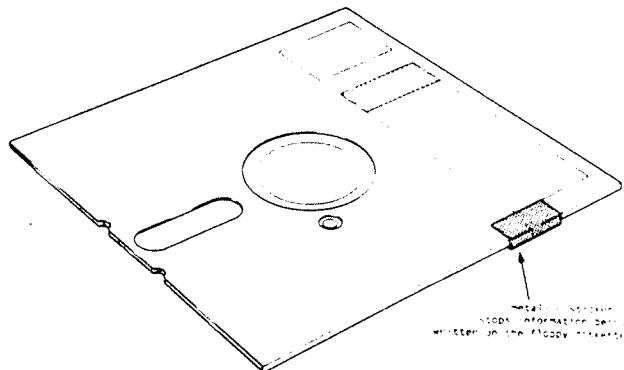
##### Remove write protection

Check that the floppy disk(s) you will use are not "write protected".

Each box of floppy disks is provided with a set of small metallic tabs. Sticking one over the square notch stops any information being written to the floppy, but you can read the information already on the floppy. Each floppy should be write protected when a backup has finished - and the metallic tab removed only when you want to reuse it for a new backup session.

##### Reminder

Floppy disks can be damaged in several ways. If you have not used them before, please read the Teamstation User Guide for guidelines on how to look after floppy disks before taking the first backup.



### 4.2.3 Taking the ND backup

What to do

1. If you are not in UE already, log in as user SYSTEM (see section 2.2).
2. Press 1 to select "System Maintenance".
3. Press 5 to select "System Backup".
4. Select option 1.

This checks whether the floppy drives are already in use and prepares the floppy. The status is shown in the right-hand part of the screen.

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| DO System-Backup  |  | Version:   | Press <CANC> to cancel choice     |
| Main→Floppy Status  |  | A00  | <EXIT> to exit DO, <HELP> or help |
| <div>1. Floppy Status (and enter-directory)<br/>2. Broadcast message about backup<br/>3. System backup (Incremental)<br/>4. System backup (Between dates)<br/>5. Single user backup (Incremental)<br/>6. Print log file<br/>7. Recover backup</div> |  | <div>FLOPPY INFO:</div> <div>Drive A = Floppy-Disc-1,0</div> |                                   |
| Enter Choice: 1 ↵   |  |  |                                   |

5. If drive A is free, put in a floppy disk as shown below.

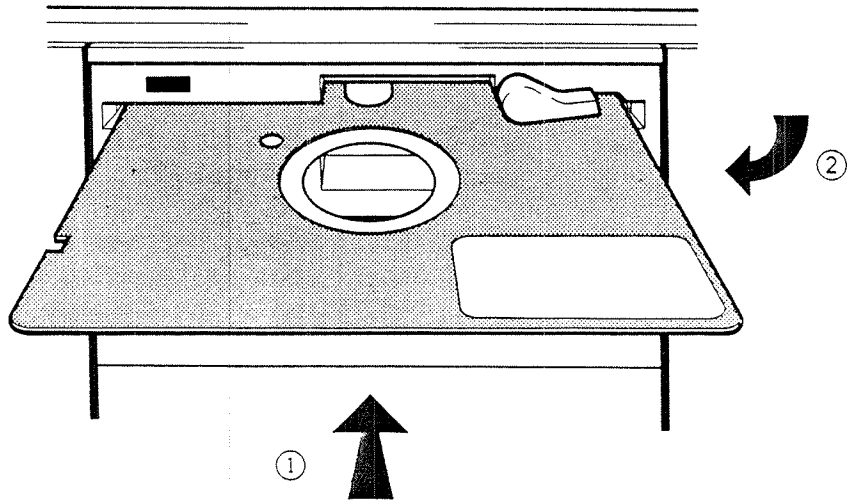


Figure 20: How to put in a floppy disk

Get users to  
log out

You can take a backup while the ND side of Teamstation is running by using DO SYSTEM-BACKUP. However, it is still advisable to get all users to log out before you start because you will not be able to back up any files that they are using.

6. Select option 2.

This displays a message on every terminal saying that you are about to take the back up and asking users to log out.

7. Select option 3, 4 or 5 depending on the type of backup you want to take, and answer the prompts. (Files backed up using option 5 are not copied the next time you use option 3, unless they are written to between the two backups.)

8. When you have completed the parameters, another message is broadcast to say the backup is starting.

Formats floppy disks

The backup starts, formatting the floppy and creating a directory and user if necessary. The directories are called BACKUPnxxxxxx.

Directory name

n = floppy number (1 = first etc)  
xxxxxx = today's date.

Another floppy

If the first floppy becomes full, you are prompted for another. This is repeated until the last file is copied. Finally the message "You can continue" is displayed.

Printing the log file

The name of each file being copied is stored on a file on the hard disk. At the end of the backup, this log file is copied on to the last floppy, so that you have a record. This file is called BACKUP-ALL:LOG and is stored in the user area SYSTEM. (The log file for personal backups is called BACKUP-USER:LOG. It is created in each user area when the first personal backup is taken.)

9. You can print the contents of this file by selecting option 6. A different page is produced for each floppy used, so that you can keep the contents list with the floppy. Remember to do this after each backup because the contents of the log file are overwritten at each backup - the printout is your only permanent record.

Note

If there is no room on the last floppy disk for the log file you will see a message. You are not asked for a new floppy just for this file but there is a copy on your user area. Print the contents of the log file and keep it with the last floppy disk so that you have a permanent record of what was done.



### 4.3 Using backups to recover old information

Copying files from a backup floppy to the hard disk is called recovery. You will need to do this if a user has overwritten or deleted a file. Use option 7 from DO SYSTEM-BACKUP.

1. Display the DO SYSTEM-BACKUP screen (see section 4.2.2).
2. Put the backup floppy in drive A.
3. Use option 1 "Floppy status" to check that it is the backup for the date you expected. (This option also enters the directory for you.)
4. Select option 7 "Recover Backup" and press ↵ if the floppy is in drive A. Otherwise, enter the drive letter.

|                      |          |                                    |
|----------------------|----------|------------------------------------|
| DO System-Backup     | Version: | Press <CANC> to cancel choice      |
| Main —Recover Backup | A00      | <EXIT> to exit DO, <HELP> for help |

- 1. Floppy Status (and enter-directory)
- 2. Broadcast message about backup
- 3. System backup (Incremental)
- 4. System backup (Between dates)
- 5. Single user backup (Incremental)
- 6. Print log file
- 7. Recover backup

Enter Choice: 7 ↵

\* Drive (A/B): A ↵

---

**CAUTION**

Use option 7 with care. It copies all the files from the floppy disk back to the hard disk. The contents of files on the hard disk with the same names as those on the floppy are overwritten.

If you do not want to copy all the files use SINTRAN's Backup System or the command @COPY-FILE. Refer to the SINTRAN III System Supervisor Guide.

---

## 4.4 Formatting floppy disks

|                          |   |
|--------------------------|---|
| When you need to format  | You should not try to format the hard disk, but you will need to format floppy disks for use with SINTRAN or MS-DOS. All users are expected to know how to format floppy disks, and this is covered in the Teamstation User Guide.  |
| During backup            | <p>If you are about to take an ND backup, you do not need to format the floppy disks you use;<br/>@DO SYSTEM-BACKUP does this for you, if necessary.</p> <p>However, the MS-DOS command BACKUP expects formatted floppy disks. You must format as many floppy disks as you will need.</p>   |
| MS-DOS command<br>FORMAT | <p>On Teamstation 360kb and 1.2Mb floppy disks can be used for work with MS-DOS and PC applications. To prepare a 1.2Mb floppy in drive A for use with MS-DOS, type the command:</p> <pre>C:\&gt; FORMAT A: ↵</pre> <p>This erases any information already on the floppy, creates a directory (which will be used later for file names and statistics) and looks for parts of the floppy that cannot be used (called bad sectors).</p> <p>When the C:\&gt; prompt is displayed, the floppy is ready for use. (Refer to the MS-DOS Reference Manual for more information on the FORMAT command.)</p> |
| 360kb PC disks           | Use the /4 parameter to format a 360kb floppy on Teamstation. Whilst you can use these floppy disks on Teamstation, they cannot be read from or written to reliably in a 360kb floppy drive (which you find on many IBM-compatible PCs).  |

## Formatting ND floppy disks

If you need to format a floppy to hold ND files, use the special program @DO MANAGE-FLOPPY. You can also start this program by selecting the options "Manage Floppy Disks" and "Prepare Floppy Disks" from the UE menus. The Teamstation User Guide explains all the options.

1. Select option 1, "System Maintenance" from the Supervisor Main Menu.
2. Select option 4 "Manage Floppy Disks" from the System Maintenance menu.

The Manage Floppy screen is displayed:

DO Manage-Floppy                      Version:                      Press <CANC> to cancel choice  
Main—Prepare New Diskette      A00                      <EXIT> to exit DO, <HELP> for help

| FLOPPY INFO:  |                           |
|---|---------------------------|
| 1. Floppy Status (and enter-directory)<br>2. Enter Floppy Directory<br>3. Release Floppy Directory<br>4. Prepare New Diskette<br>5. Rename User on Floppy<br>6. Rename Directory on Floppy<br><br>Enter Choice: 4 ↵<br><br>* Drive (A/B) : A ↵<br>* User Name : SYSTEM ↵<br>* Directory Name: <i>Accounts</i> ↵ | Drive A = Floppy-Disc-1,0 |

3. Select option 1 to find out if the floppy drive(s) are free.
4. Put a 1.2Mb floppy in to the drive. (If your Teamstation has only one drive, this is called

A, if there are two, they are A and B.)

5. Select "Prepare New Diskette", option 4.
6. If your Teamstation has one floppy drive (A), press the ↵ key as shown on the previous page. Otherwise, enter drive name, A or B.
7. Press ↵ to keep the user area name displayed, or press ↓ to remove this name and type a user area name.
8. Type a directory name for the floppy.

#### Ready for use

Formatting takes a few minutes. When it is complete, you are returned to the Enter Choice field. The floppy is ready for use, i.e. Prepare New diskette does more than the SINTRAN command @DEVICE-FUNCTION:

- the floppy has been formatted
- the directory created and entered
- the user created and "given" all the space available.

#### Releasing the floppy

If you have used option 1 and 2 but you do not want to use the floppy straight away, you must use option 3 "Release Floppy Directory" before taking the floppy disk out of the drive. Otherwise the drive cannot be used for another floppy disk.

#### Default values

If you press the ↵ key for directory and user name, default values are taken:

- if you are using option 4 repeatedly, the values entered last time are taken.
- if option 4 is the first option you have chosen, or if you just used a different option, the default user is the one you are logged in as. You must type the directory name; no default is assumed.

## 4.5 The hard disk

You already know that the hard disk is divided (partitioned) into an ND and a PC side. The ND side is the larger part (36MB in size). The MS-DOS partition is 5MB.

### The ND side

The 36MB is one directory called PACK-ONE. Of this some space is taken up by SINTRAN and the other ND applications. The rest is free space for users' files. (You can see how much space is left by using option 7 from DO SUPERVISE-USERS).

These standard files are stored under a number of special user areas (all with the password ND). You should not edit or delete the files in the following user areas without consulting your System Supervisor or a Norsk Data service engineer.

|             |                  |
|-------------|------------------|
| Floppy-user | NOTIS            |
| RT          | Scratch          |
| BPUN-files  | User-Environment |
| Utility     | PC-user          |

In addition, there are two users which you can log in as: SYSTEM and GUEST. At installation, the passwords are the same as the user name, but you can change them. You may delete user GUEST, but not user SYSTEM!

---

The PC side

The PC partition has one subdirectory, ND-110 from the root directory. In turn, this has six subdirectories for PC system files.

| Directory | Purpose of files in directory                                      |
|-----------|--|
| C:        | root directory containing configuration and autoexec files         |
| \ND-110   | first level subdirectory   |
| \DOS      | standard MS-DOS files  |
| \BFLY     | startup and for controlling the screen display and mouse           |
| \ND-OWS   | keyboard nationalities, pushkey programming and parameter settings |
| \DEMO     | on-line tutorial   |
| \MAINT    | loading of SINTRAN, internal test and maintenance programs         |
| \BIN      | keyboard control, DUPLI and ND Supervisor                          |





## CHAPTER 5: TAKING CARE OF THE EQUIPMENT

|     |  |      |
|-----|--|------|
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---

## 5 TAKING CARE OF THE EQUIPMENT

This chapter describes the few routine tasks you should do to keep your equipment in good condition.

The items of equipment involved are:

- System Unit:
  - floppy disk drive
  - tape streamer drive (if fitted)
- Display Unit
- Keyboard
- Mouse
- Floppy disks
- Streamer tape cartridges (if a tape steamer is fitted)
- Printer (if fitted)
- Modem (if fitted)
- Bar code reader (if fitted)
- all the connecting cables.

Similar equipment e.g. system units, displays, and keyboards on any terminals connected to Teamstation need similar care.

## 5.1 Points to note

### Cleanliness

Section 5.3 deals with routine cleaning of the equipment. Keeping the equipment clean makes it less prone to problems and more pleasant to use.

- Keep floppy disks and tape cartridges clean and free from dust, in a suitable box.
- Keep the display screen clean.
- Keep the keyboard keys free from dirt and sticky patches.
- Keep the casing of the equipment clean.

### Ventilation

Ensure that papers, books and other items are not left on top of the equipment. In particular, ensure that such things do not cover or obstruct the flow of air through ventilation slots. Otherwise the equipment may overheat.

Heat radiating from the casework is often an essential part of the cooling process. Blocking heat radiation by laying items on the casing can contribute significantly to overheating problems.

### Location

The Teamstation Installation Guide advises you where to place Teamstation. Remember that:

- you should avoid putting it in direct sunlight, otherwise it might overheat.
- you should position the screen so that it does not face another strong source of light (especially a window). This avoids irritating reflections from the surface of the screen, which can obscure what is being displayed.

---

## 5.2 Checking cables and connections

Faults in connecting cables are a common cause of problems. It is therefore good practice to check regularly that the cables connecting your equipment

- lie properly. They should not be subject to any mechanical stress, or twisted or tangled around other cables or furniture. Any excess cable length should be gathered in a tidy coil and held together by a cable-tie.
- are securely connected to the equipment and that any screws are tightened.
- are undamaged. Cables can be easily damaged, particularly by being pulled, or by resting or rolling furniture on them. Any signs of damage (fraying, cuts in the outer insulation, damaged strain-relief fittings at the connectors themselves) should be rectified without delay.

---

### 5.3 General cleaning

|             |  |
|-------------|--|
| The Display | Clean the display screen at frequent intervals. Use a proprietary antistatic foam cleaner (available in aerosol cans) with an absorbent cloth or tissue. Wipe the casework at the same time.   |
| Keyboard    | Use a proprietary cleaner to wipe dust and dirt off the keytops and the top surface of the keyboard.   |
| System Unit | The casework should be cleaned periodically. The floppy disk (and tape streamer if fitted) require special cleaning at routine intervals, and this is described in section 5.4.  |
| Mouse       | Clean the cover of the mouse and periodically check that the rotating ball under the mouse moves freely. If movement is stiff or restricted in any way, remove the ball retainer by rotating it free from its lugs and lifting it out. Then remove the ball and clean it, using soap and water or a proprietary cleaning agent. Dry the ball, then re-assemble it into the mouse unit. |
| Modem       | The casework should be cleaned periodically.   |
| Printer     | <p>Periodically clean the outside of the printer.</p> <p>It is inevitable that dust will accumulate inside the printer over a period of time. You can reduce this significantly by switching the printer off and covering it when not in use.</p> <p>See section 5.5 for more specific tasks involved in cleaning and doing routine maintenance on the printer.</p>                    |

## 5.4 Cleaning the floppy drive and tape streamer

The magnetic heads in a floppy disk drive or tape streamer gradually accumulate a coating of dirt as they read and write. This coating can build up to a point where it impedes secure reading and writing, and so needs to be removed periodically. The interval between cleaning depends on how often the floppy drive or tape streamer is used. Your ND Service Centre will give you advice on this.

### Floppy drives

Use a proprietary Head Cleaning Disk, which has a cleaning coating on its surface.

#### WARNING

Note that the Butterfly floppy drive is a 5.25 inch double-sided double-density unit. You should check that the cleaning disk is suitable for this unit.

To run the cleaning disk, display the SINTRAN prompt "@". Then type:

```
@CREATE-DIR ↵  
DIRECTORY NAME: ↵  
DEVICE NAME: FLOPPY-DISK ↵
```

You may see an error message but it is of no importance in this situation. The cleaning is completed when the SINTRAN "@" prompt reappears.

---

**Tape streamers**

Either use a proprietary heads-cleaning cartridge (following the instructions for the cleaning disk above), or clean the heads manually.

Use a proprietary cleaning kit comprising isopropyl alcohol and lint-free cloth. Recognised standard cleaning kits are 3M's CK-90, and Tandberg's 961536. Wrap the lint-free cloth round a wooden spatula, soak it with drops of the isopropyl alcohol, open the streamer door, and gently stroke this cleaning agent over the drive heads.



## 5.5 Taking care of the printer

The manual supplied with your printer explains how its various controls (e.g. print pressure, paper guides) should be set, and how to load paper, change print ribbons, and clean the platen and print head.

It may also recommend periodic removal of dust and paper debris from inside the printer, using a small vacuum cleaner. The supplier's manual will give guidance on how to open any covers.

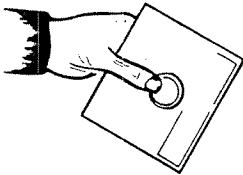
### WARNING

In all such activities, ensure that you disconnect the printer from its mains supply BEFORE removing the covers.

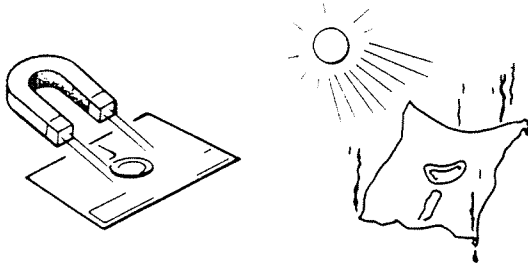
## 5.6 Taking care of floppy disks

Floppy disks give long and reliable service provided that you treat them properly. Good practice minimises the risk of losing data on your floppy disks.

For your own benefit, FOLLOW THESE GUIDELINES:



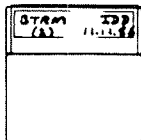
Hands off the disk surface!



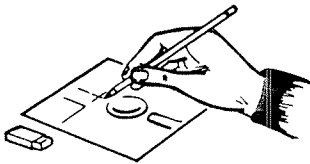
Keep the disks away from magnetic fields, and out of direct sunlight. Do not place them on top of your terminal or other equipment.



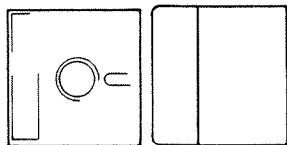
Do not bend or fold the disks.



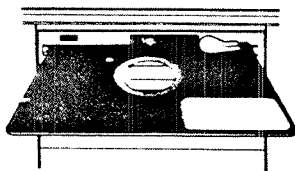
Label disks clearly with what is recorded on them. Include the name of the "owner" (if this is important), and the date it was last recorded on.



Do not write on the label using a sharp point or ballpoint pen; write with minimum pressure, using a soft (e.g. felt-tip) pen.



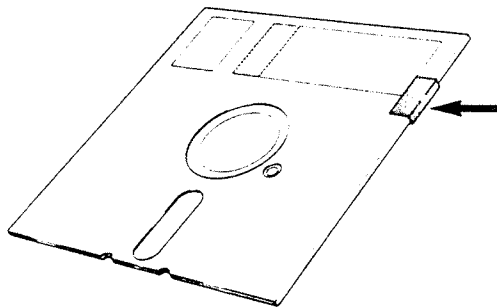
Keep the disks in their protective jackets when they are not being used. Keep them in protective boxes, in a safe place.



Do not leave disks in a drive when not in use.

When inserting a disk into a floppy drive, slide it into position, without catching or bending it against any obstruction.

### Write-Protect



You may have disks containing information that you wish to protect against being accidentally lost by overwriting.

You can protect these disks, by placing a "write-protect" sticker over the cutout in the floppy disk envelope. Standard self-adhesive tabs are provided for this purpose. If you later wish to write onto this disk, simply remove the write-protect tab.

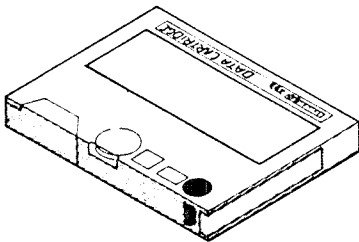
If you intend to write onto a floppy disk, then before you insert it in the drive, check that it IS NOT WRITE-PROTECTED.

## 5.7 Taking care of streamer tapes

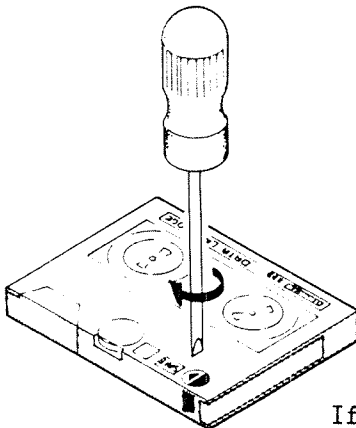
Good practice minimises the risk of losing data on your streamer tapes.

For your own benefit, **FOLLOW THESE GUIDELINES:**

- Hands off the tape surface!
- Keep the cartridges away from magnetic fields, and out of direct sunlight. Do not place them on top of your terminal or other equipment.
- Label cartridges clearly with what is recorded on them. Include the name of the "owner" and the date it was recorded.
- Keep the cartridges in their protective cases when they are not being used. Keep them in a safe place.



### Write-Protection



You can protect a streamer tape from being overwritten, by turning its "write-protect" plug so that the arrow mark points to the position marked "SAFE".

Later, if you wish to write onto the streamer tape, turn the write-protect plug so that its arrow points away from the "SAFE" mark.

If you intend to write to a streamer tape, then before you insert it in the drive, check that IT IS NOT WRITE-PROTECTED.

## 5.8 Moving the equipment

### CAUTION

It is particularly important that  
BEFORE YOU MOVE THE SYSTEM UNIT, YOU:

- ensure the hard disk heads are "parked"
- protect the recording heads on the hard disk, floppy disk and tape streamer (if fitted) from damage during a bump or jolt.

Parking the  
heads

To ensure that the hard disk heads are in a safe position i.e. parked, go into MS-DOS and enter:

```
C:\> parkdisk ↵
```

The system then either proceeds to move the heads to the parked position and then generates beeps until you switch the power off or tells you that parking is not necessary:

*Park not required for this Hard Disk*

Switching off

Do not move the equipment, even for the shortest distance (e.g. from one desk to an adjacent one) without first switching off the mains power to all units.

Remove the key, and put it away somewhere safe.

Use the floppy  
transit disk

Teamstation is delivered with a cardboard transit disk which, when inserted in the floppy drive, holds the floppy drive heads apart even if the System Unit receives a jolt. Insert this transit disk into the floppy drive before moving the System Unit.

---

**Disconnect  
cables**

Before moving the equipment, even for a short distance, disconnect one end of each cable connecting the units together. Gather each cable into a coil and tape it to the equipment.

**Moving**

When you have:

- parked the hard disk's heads
- switched off the power and removed the key
- inserted the floppy transit disk into the floppy drive
- disconnected the mains cables, and one end of each cable connecting the units together, then coiled and restrained them,

THEN you can physically move the equipment.

**Long distance?**

If you are moving the equipment further than hand-carrying distance, pack it into the original boxes, complete with its original packing material.

**CAUTION**

Do not ship any unit of the Teamstation equipment for commercial transportation unless it is properly packed in its original material.

**Re-installing**

At the new site, follow the recommendations in the Teamstation Installation Guide, regarding unpacking, locating, re-connecting, and setting-up the software.

## CHAPTER 6: ND SUBSYSTEMS AND UTILITIES

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## 6 ND SUBSYSTEMS AND UTILITIES

Sections 6.1 to 6.5 describe the following SINTRAN subsystems:

- the batch system
- printing (spooling system)
- remote job entry (RJE)
- accounting (project passwords)

The UE Activity Log is then explained. The last section lists the standard ND products available on Teamstation.

Since all these subsystems and products are automatically started each time you switch on, there is no everyday maintenance to be done. However, it is your job as the Desk Supervisor to do the small amount of administration necessary. This chapter gives an overview of what is involved and refers you to other Norsk Data manuals for more detailed information.

## 6.1 HENT-MODE and LOAD-MODE

There are two mode files under user SYSTEM that define and start everything on the ND side of Teamstation: HENT-MODE:MODE and LOAD-MODE:MODE. You should not edit these files unless requested to do so by one of Norsk Data's service engineers.

LOAD-MODE is automatically run each time you switch on, execute the command @RESTART-SYSTEM and when you select Warm Start from the ND Supervisor program. HENT-MODE is run after selecting Cold Start. The last statement asks you to restart the system with a Warm Start. The easiest way to do this at this stage is to enter the SINTRAN command @RESTART-SYSTEM.

It is not essential to understand or know what is in the HENT-MODE or LOAD-MODE files, but you can find out more about them in the SINTRAN III System Supervisor Guide.

When HENT-MODE and LOAD-MODE run, several smaller mode files are started, each containing the statements necessary to set up one of the ND subsystems or utilities delivered with Teamstation. When there is a new release of SINTRAN or Teamstation, you may receive floppies with new versions of the HENT-MODE and LOAD-MODE files. You will need to copy (but not to edit) these files following the PD (program description) sheets that come with the floppies.

---

**USER-HENT and  
USER-LOAD.**

In addition, HENT-MODE calls USER-HENT-MODE:MODE and LOAD-MODE calls USER-LOAD-MODE:MODE, which are two mode files not found on other ND computers. They are included so that you can add ND products to Teamstation without having to edit HENT-MODE and LOAD-MODE. (When Teamstation is delivered, these two files only contain comments because all the standard products are defined in the HENT-MODE and LOAD-MODE files.)

Normally, installing a new product involves adding statements to the HENT-MODE and LOAD-MODE files. On Teamstation, you must add these statements to the USER-HENT-MODE and USER-LOAD-MODE files instead. The PD sheets that accompany each product tell you the instructions to add. Do not add the statements to HENT-MODE and LOAD-MODE even if they tell you to: you will loose them the next time you install an update of the basic Teamstation system.

You can also use USER-HENT and USER-LOAD to customise your Teamstation. For example, you can change the SINTRAN prompt to include the name of your Teamstation or have a message displayed when users log in. Consult the SINTRAN III System Supervisor Guide or ask your System Supervisor for help.

**System password**

LOAD-MODE contains user SYSTEM's SINTRAN password in two places and the UE password, and can only run if these are correct. Changing the passwords using DO SUPERVISE-SYSTEM updates both the SINTRAN and UE passwords in LOAD-MODE (see section 2.8). If you change user SYSTEM's passwords in any other way, you must edit the LOAD-MODE file immediately afterwards. Do not make any other changes.

---

## 6.2 Supervising the Batch System

Teamstation has three batch processors (numbers 1, 2 and 3) which you see as terminal numbers 670, 672 and 674 when you enter @WHO-IS-ON. When you switch on, they are in the IDLE state, that is, started but with an empty queue. Users can send jobs to any of the processors.

You should not need to stop or restart the batch processors, although this is possible from SINTRAN. If you need more information please refer to the SINTRAN III Timesharing/Batch Guide. This manual also tells you how to set up and run a batch job; you should ask Teamstation users to read it if they want to do this.

The table below lists some of the SINTRAN commands that operate on batch processors.

---

| COMMAND                   | WHAT IT DOES  |
|---------------------------|---|
| @LIST-BATCH-QUEUE         | Lists the jobs in the queue.  |
| @LIST-BATCH-PROCESS       | Lists the state of each processor (PASSIVE, IDLE or ACTIVE).                                  |
| @APPEND-BATCH             | Sends a job to the queue.   |
| @ABORT-JOB                | Stops the job that is being processed. Ordinary users can only stop their own jobs.           |
| @DELETE-BATCH-QUEUE-ENTRY | Deletes a job that is waiting to be processed. Ordinary users can only delete their own jobs. |

---

### 6.3 Printing (Spooling System)

Teamstation is set up for a printer such as an Epson FX86 or LX86. As explained in the Installation Guide, you only need to connect the printer to the system unit and users can print documents locally using the printer name LOCAL-PRINTER.

Ten spooling files

The printer has a queue (the spooling queue) that can hold ten files. If the queue is empty, files will be accepted and printed straight away. Otherwise files sent to the printer are added (appended) to the end of the queue. If users try to append a file when the queue is full the message "No more spooling files available" is displayed. They must try again later.

Different printers

If you want to use a different printer, you will need to define its characteristics to both SINTRAN and MS-DOS, and enter its name in the WP-PRINTERS file.

More information

You should not need to change the spooling conditions set up for you, but there are several SINTRAN commands that operate on the spooling system.

If you want to know more about the spooling system, refer to the SINTRAN III System Supervisor Guide.

WP-PRINTERS file

This file, stored under user SYSTEM, is a "look-up" table used by the system when a user asks to print a file from NOTIS-WP and File Manager. You must add more definitions to the file if you have a different local printer or if you want to be able to use a printer on another ND computer.

### 6.3.1 Printing on another computer

If your Teamstation is connected to a remote ND computer, users can also use the printer on that machine.

**Remote printing** There are two ways to do this. The first does not involve any effort on your part. Because SINTRAN treats printers as peripheral files, printers on remote machines can be accessed using the normal COSMOS syntax:

```
Computer(user-name(password)).printer
```

You must ask the System Supervisor of the remote computer for the correct user name and password.

From NOTIS-WP, users should "write" to the printer instead of using the PRINT key. For example, use the HOME command Document/Store and then type:

```
Store document:fete(f-u(floppy)).philips ↵
```

If your Teamstation uses SINTRAN (Version K) the commands @APPEND-SPOOLING-FILE and @COPY-FILE can be used. See the COSMOS User Guide for more details.

**WP-PRINTERS file** Printers can also be defined as remote printers in the WP-PRINTERS file. Then users can enter the printer name in the normal way using the PRINT key. The COSMOS Operator Guide gives an example of how to do this.

---

**COSMOS Spooling**      The second system is called COSMOS Spooling. It is more flexible and involves some effort on your part to set up but makes Teamstation easier to use once set up.

You define a set of names to be used; these can be local or remote printers. (The names you use for remote printers do not have to be the names they are known by on their local systems.)

When a document is sent to a remote printer, it is copied to a spooling file and put in the COSMOS Spooling queue on Teamstation. When it reaches the front of the queue the spooling file is transferred to the remote computer and put in to the queue of the printer that was specified.

There are two advantages to using COSMOS spooling:

- users do not need to know the COSMOS syntax; local and remote printers are treated in the same way. From NOTIS-WP, they use the PRINT key and simply enter the printer name.
- by spooling files twice, the time between giving the PRINT command and being able to continue using the terminal is reduced.

To set up COSMOS Spooling, use the COS-SPOOL-SERVIC program. Follow the instructions in the COSMOS Operator Guide or ask your System Supervisor for help.

**Reminder**

If a printer has been set up with COSMOS spooling, you define it in the WP-PRINTERS file as a local printer; the COSMOS Spooling System takes care of the routing to the remote computer.

## 6.4 Supervising Remote Job Entry

The Remote Job Entry (RJE) subsystem allows you to send a job to be processed on a remote system. ND provides a large range of RJE emulators for use with systems made by other manufacturers. Your local Service Centre will have an up-to-date list.

If you ordered Teamstation with an RJE emulator, you will not need to install it but you can always add these packages at a later date. When you do, please follow the installation procedure described in the PD (program description) sheets that accompany the floppies. Remember not to edit the HENT-MODE:MODE and LOAD-MODE files.

For more information refer to the SINTRAN III Utilities Manual.



## 6.5 Supervising Accounting (Project Passwords)

The SINTRAN Accounting system allows you to keep track of:

- CPU time used by users (background accounting)
- CPU time used by users' own real-time programs (RT accounting)
- total time users are logged in
- transfers to and from file system
- transfers to and from peripherals
- printing

As the Desk Supervisor you should decide whether to use this facility or not. On delivery, Teamstation does not use project passwords. If you want to use accounting you must edit the Login Screen and install the Accounting program. Then, you will need to:

- set up project names and passwords.
- tell each user which project password to use when logging in.
- empty the log file when it is nearly full. You will see the message "Approaching end of Accounting File" when you log out.

Please read the User Environment Reference Manual, and the chapter on Accounting in the SINTRAN III System Supervisor Guide for instructions.

If you set up accounting, you will see the special files for this system under user SYSTEM (use @LIST-FILES). They are delivered with the correct access rights. Do not change them unless told to do so by a Norsk Data service engineer.

## 6.6 UE Activity Log

When all terminals and users work through UE you can keep track of how Teamstation is being used through the UE Activity Log. (It complements, rather than replaces the SINTRAN Accounting system.)

What is logged

The Log records one or more of the following activities:

- logins and logouts.
- number of unsuccessful attempts to log in before the terminal is blocked.
- attempts made to log in after blocking. (After blocking, even if you enter a correct name and password combination, you are not allowed to log in.)
- tasks executed by users.
- serious system errors.

### 6.6.1 Administering the log

You control what is logged and how the information is presented by completing the System Activity Log screen. This can be done at any time. Logging starts (or stops) as soon as you exit from the screen.

Display the  
Activity Log  
Screen

1. From the User Environment Maintenance Menu type 5 to select UE Activity Log.

2 USER ENVIRONMENT MAINTENANCE  
User area: SYSTEM

- 1 User Profiles
- 2 Terminal Profiles
- 3 Terminal Status
- 4 Change User Area
- 5 UE Activity Log

From SINTRAN, fetch the log by typing:

@UE-FUNC,ACTIVITY-LOG ↵

2. The System Activity Log screen is displayed showing what type of information is being logged.

S Y S T E M   A C T I V I T Y   L O G

. Select the activities you want registered (ON/OFF):

|  |     |
|--|-----|
| . all logins and logouts (log):                      | OFF |
| . unsuccessful login attempts before blocking (att): | OFF |
| . login attempts after blocking (many):              | OFF |
| . tasks being executed (task):                       | OFF |

The log is

OFF

Mark the log with the following text:

Write the log contents to a printer/file:

Delete the contents and start new registration (Yes/No):

---

|  |  |
|--|--|
| Turning on/off                         | 3. Start logging one or more activities by entering ON instead of OFF in any of the fields.<br><br>If any activity is being logged, then login attempts after blocking and serious system errors are logged automatically. |
| Stays on when Teamstation is restarted | Once the Activity Log has been turned on, it is on until you turn the log off.   |
| Where the log is stored                | The information logged can be stored in a file or printed out. To store the information, write the file name in the System Activity Log screen.  |
| Printing the log                       | You can produce a report of the Log's contents by entering the name of the printer.  |
| Clearing out                           | If the Activity Log file is getting full, a message is displayed when you log out. When this happens, you should print the contents of the file and then enter YES in the last field to start a new registration.          |
| More information                       | For a full description of the Activity Log, please read the User Environment Reference Manual.   |

---

## 6.7 Standard ND products provided on Teamstation

The following are standard on Teamstation:

Mail

Batch system (3 processors)

Backup-System

Spooling system (1 queue with ten files)

DUPLI

COSMOS Basic Module

Asynch COSMOS

Intersystem XMSG.

DO System for Butterfly-110

NOTIS-WP for ND-110

NOTIS-TF

NOTIS-DS for Butterfly-110

NOTIS-ID for Butterfly-110

User Environment for Butterfly-110

File Manager

Telefix files for User Sites

Other applications are available. Please ask your local ND Service Centre.



## CHAPTER 7: COMMUNICATIONS AND MAIL

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## 7 COMMUNICATIONS AND MAIL

This chapter covers two topics: using other ND computers from Teamstation and sending mail to other users.

Section 7.1 compares the two ND applications that you can use to send information to other users:

- the MAIL system, which is recommended for sending short messages to other Teamstation users
- NOTIS-ID the electronic mail system, which allows you to send a document of any size to Teamstation users or users on other ND computers.

You can use COSMOS, the ND data communications system, in the usual way. Section 7.2 outlines what you can do. Setting Teamstation up as part of a COSMOS network is the job of the Desk Supervisor. Sections 7.3 and 7.4 explain why those steps were needed and how to change the definitions you have set up using the special data communications program, Asynch COSMOS.

Read section 7.5 if you are using modems.

## 7.1 Comparison of MAIL and NOTIS-ID

MAIL for direct broadcasts      MAIL is only recommended for your use as the Desk Supervisor. It is an integral part of SINTRAN that allows you to send messages and broadcasts. On Teamstation, use MAIL for direct broadcasts. These are sent to all terminals and immediately displayed on every terminal being used for work in SINTRAN, UE or an ND application. If users are working in MS-DOS or in a PC application, the broadcast is stored and displayed when they next select the SINTRAN or UE options from the System Manager. Use the example shown below.

```
@MAIL ↵
*DIRECT-BROADCAST ↵
TYPE YOUR MESSAGE, TERMINATED BY CONTROL L:
Please do not use the printer for five minutes
while I change the ribbon CTRL+L ↵
*EXIT ↵
@
```

The characters \$ = ' and ↵ are all interpreted as Carriage Return/Line Feed. You must finish the message with CTRL+L.

Only user SYSTEM is allowed to send direct broadcasts. If you want to know more about broadcasts and messages please read the chapter on the MAIL system in the SINTRAN III Utilities Manual.

NOTIS-ID for ordinary users

We suggest that you use NOTIS-ID for all your other mail sent both as user SYSTEM and as an ordinary Teamstation user because this is the only system that you can be sure that other users will know (The Teamstation User Guide does not describe the MAIL system.)

---

## NOTIS-ID

NOTIS-ID is the preferred electronic mail system on ND computers. Both sender and receiver must be registered users. Since NOTIS-ID uses the NOTIS-DS storage system you must register all users in UE and NOTIS-DS to make them NOTIS-ID users. Do this for all new users following the instructions in sections 3.3 and 3.8.1. (User SYSTEM is automatically a user of UE, NOTIS-DS and NOTIS-ID.)

There are many reasons why you would normally use NOTIS-ID, for example:

- it allows you to send large documents created in NOTIS-WP M (if they were stored with NOTIS-DS.)
- you can enter standard mailing lists. Then with one command you can send a memo to everyone on the list.
- you can send mail to users on another ND machine if it is connected to your Teamstation by a COSMOS connection.
- NOTIS-ID will store messages and transfer them when a connection is next made to the HOST. (Section 7.5 tells you how to do this if you are using modems.)

## 7.2 COSMOS - normal ND functionality

### COSMOS Basic Module

When Teamstation is part of a COSMOS network you can:

- send mail using NOTIS-ID
- share information or use the resources (such as printers) of the other ND computers in your company using COSMOS Basic Module.

Everyone logged in to UE or SINTRAN can use the functions of the COSMOS Basic Module which are outlined in this section. They are:

- File Transfer
- Remote Login
- Remote file access
- Remote printing and batch jobs.

The COSMOS User Guide contains a full explanation of what you can do, with detailed examples of every command available. Sections 7.3 and 7.4 tell you how to set up the network.

### File Transfer

The File Transfer command is the most useful command for Teamstation users. It copies a file from the Teamstation hard disk to that of any other ND computer in the COSMOS network - or vice versa. (This can be any SINTRAN file: NOTIS-ID only sends documents stored with NOTIS-DS.) Select the Transfer Files option from the Communications menu in the ordinary users menu system.

---

2   MANAGE COMMUNICATIONS  
    User Area: GUEST

---

With ND systems:

- 1 Transfer files
- 2 Remote Log In

With non-ND systems:

- 3 Communications Submenu

Select an option or enter a task:

---

Press EXIT to return to the Main Menu

Logging in to  
another computer

The Remote Login facility is used to log in to another ND computer. You can then use that computer as though your terminal was directly connected to it. Select the Remote Login option from the users UE menus or the SINTRAN command @CONNECT-TO:

@CONNECT-TO PADDINGTON ↵

Remote File  
Access

From an ND application such as NOTIS-WP you can fetch a file stored on a remote computer and work on it as though it were a local file. You can then store the file on Teamstation as a local file, on the computer it originated from or on any other computer in the network. You must have the correct file access rights - see chapter 4 of the Teamstation User Guide.

Remote printing  
and batch jobs

From Teamstation you can send a file to a printer on another ND computer - it is simply a case of entering a different printer name. The file is queued and printed out in the normal way under the control of the remote computer. Similarly, you can send a batch job to a remote processor.

**Telefix is special**

Note that Telefix calls are selected by a special option (see chapter 9). Also, once Telefix has been activated, no COSMOS or NOTIS-ID applications can be used until the Telefix session is finished. This is because Telefix uses the same Teamstation port as COSMOS.

**COSMOS file name syntax**

To use the File Transfer or Remote File Access functions, users will need to know the full file name syntax, "the COSMOS file name". It is an extension of the SINTRAN file name and has two parts:

<Access information>.<SINTRAN file name>

where:

Access information =  
System(remote-user(password:project-password))

SINTRAN file name =  
(Directory:user)file-name:type

**Abbreviations**

It is usually possible to abbreviate the full syntax considerably. For example, if the file you are accessing belongs to the remote-user name used in the access information, the name need only be entered once. Also, if there is only one directory, or you are not using project passwords, you can leave that information out. Then all you need to enter is:

System(remote-user(password)).file-name:type

**Password**

This is the SINTRAN (not UE) user area password.

**System name**

While other terms can be abbreviated, the system name must be given in full.

---

### 7.3 Setting up the COSMOS network

#### Your task

It is your job to set Teamstation up as part of a COSMOS network and then to keep the links running. You do not have to be a data communications expert to do this because there are special programs to help.

You will need to:

- set up a physical link to another computer (called the HOST), either by cable or by setting up a modem connection.
- set up the programs to make the link work. This involves telling Teamstation about the HOST and any other machines in the network that you wish to communicate with. (Your Teamstation must be defined on these computers - this is the task of the System Supervisor of each computer.)

Once this has been done, communication is possible with the HOST and with any computer linked to it that you have defined. Such links can be direct or indirect (via other machines). The figure on the next page illustrates these ideas.

#### Connection to the HOST

The Installation Guide explains how to connect Teamstation to a HOST and set up the link. If you have already done this and only need to communicate with this HOST computer, you do not need to do any more.

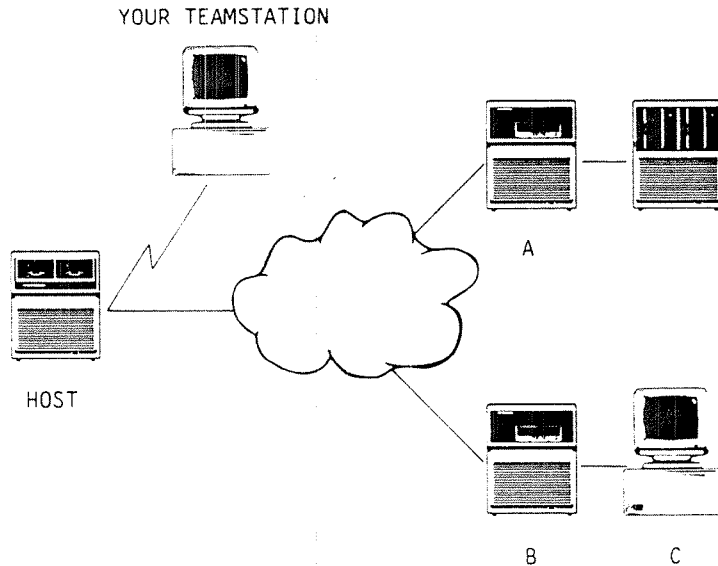


Figure 21: Example network configuration

If you are defining the link for the first time you will need to know the system (CPU) number and the COSMOS name of both your Teamstation and the HOST. If you defined the name of your Teamstation during installation, you can display it by selecting the option, Display System Information, from the System Maintenance menu or by using the SINTRAN command:

```
@DO SYSTEM-INFO ↵
```

If you have not defined the name yet, do so now by following the instructions in the Teamstation Installation Guide. Then follow the instructions in sections 7.4 and 7.4.1.



DO System-Info

Version:

Type &lt;CANC&gt; to cancel choice.

Main→

A00

&lt;EXIT&gt; to exit DO, &lt;HELP&gt; for help

SINTRAN III Version J Revision: 40130B

Generated: 5.16.39 5/3-1987

Sintran System Number : 17894

Floating point format : 48

Instruction set : ND-110/CX 4PITs

Microprogram version : 13

Print version : 3

Installation number : 17894

Disk C : 40MB

Disk D : Not defined

HDLC : No

Terminals : 4

CPU type : ND-110/PCX

IOX simulator version : 43460

Local Cosmos name : London

## PRINTERS WITH SPOOLING

LOCAL-PRINTER

Other connections However, if you want to communicate with other ND computers, or to change the HOST computer, you should follow section 7.4.2 onwards depending on what you want to do.

If you are using a modem, read section 7.5 which explains how to use a modem to dial-up any new HOST you select.

### 7.3.1 ASYNCH and HDLC - two protocols for data communications

ASYNCH or HDLC There are two ways to set up the connection to the HOST, and the physical connection you need depends on which you choose:

- the Asynch option using either ordinary RS232 terminal cabling (up to 9600 baud) or modems.
- HDLC using either special 6-pair cabling (up to 76 kbaud) or modems.

---

|                          |   |
|--------------------------|---|
| Asynch                   | The Asynch COSMOS option has been written specially for Teamstation in order to provide an inexpensive method of communication. Ordinary terminal lines are cheaper than 6-pair cabling, and even if you use modems to communicate over telephone lines, the Asynch program is cheaper than alternatives used to format data over modem links. However, applications run slowly.  |
| The alternative is HDLC  | The HDLC option allows applications to run faster but requires more cabling and a much more expensive HOST interface. This option is not provided as standard and must be purchased separately.   |
| Cable versus modem links | <p>Cable connections are only suitable for short distances. Modems enable communication over longer distances by allowing you to use a telephone line. However the line does not have to be external.</p> <p>The Teamstation serial port has an RS232 (or V24) communication standard. Using this you can connect to a computer up to 15m (about 50 feet) away.</p> <p>To communicate up to 70m (about 200 feet) you must use current loop cabling. A V24 to current loop converter cable is available from Norsk Data. The HOST computer must also use current loop, which means that you cannot communicate with another Teamstation using this protocol.</p> |

## 7.4 Setting up the Asynch program

Use @BUAS-  
CONFIG

A special program has been written for setting up the Asynch COSMOS option. You must be logged in as user SYSTEM to start it.

1. From UE select option 6, "Define COSMOS Network" from the System Maintenance menu.

or from SINTRAN type:

@BUAS-CONFIG ↵

The following message appears:

Asynchronous link route setup

Option (type M for menu) :

If you get a different message, see section 7.4.8.

To display  
the menu

2. Type: M↵ and a command menu is displayed.

### MENU

Commands available

- D - Delete existing route
- E - Exit (with option to save or discard changes made this session)
- H - Define Host system ( new users do this)
- L - List route mode file
- M - This message
- N - New route definition
- R - Reset mode files (and start all over again)
- S - System name definition

Option (type M for menu) :

How to select a command

You select an command by typing its letter and the `↵` key after the prompt.

If you select the wrong option by mistake, press `↵` again. You are returned to the option prompt.

When you have entered all the definitions, select option E. Enter Y to save the changes you have made. The changes are then stored permanently - you do not have to call the program again unless you want to change your definitions.

Warm start the Teamstation to activate your commands

The network definitions you enter do not take effect until Teamstation has been Warm Started. (Make sure no one loses any work - only Warm Start when no-one else is logged in)

At this stage the simplest way to do this is to enter the SINTRAN command @RESTART-SYSTEM.

Recovering the last network you set up

If you have made some changes but decide not to use them, use option E. Answer N and the changes you made during the current session will not be used.

#### 7.4.1 Defining your HOST for the first time

If you are setting up the network for the first time (or have deleted all the information about an existing network using option R), you must work through this section.

There are three steps:

- defining the link to the HOST computer
- defining the name and route to other computers in the network
- making the physical link and restarting Teamstation to activate the definitions.

**Defining the  
HOST**

1. Use option H, "Define Host system".  
in the Asynch COSMOS program.
2. Enter the information about your Teamstation  
using the example below.
3. Enter the COSMOS name of the HOST and its system  
number.

**Host definition**

Your system has not yet been initialised for Asynchronous communications  
with other systems. This will be done now.

If you do not have a name for your butterfly, make one up now...

What is the name of your Butterfly system? : *LONDON* ↵

And what is the number of your system? : *17894* ↵

What is the name of your host system? : *PADDINGTON* ↵

And what is the number of the host system? : *56789* ↵

If you only want to communicate with the HOST, go  
on to step 5. The connection will then be  
activated. However, if you want communicate with  
other ND computers, go on to step 4.

**Defining other  
computers**

4. Use option N, "New route definition".

This option tells Teamstation about a non-HOST  
computer. You will be prompted for its COSMOS name,  
its system number, and for the name of one  
intermediate computer. This can be the HOST, or  
another non-HOST computer that is already defined.

For example, if you want to talk to computers A and  
B in Figure 21 on page 7-8, enter the HOST as the  
intermediary. To communicate with computer C, name  
the HOST or B.

New route definition

Remote system name : *WEMBLEY* ↵

Remote system number : *16567* ↵

Name of system which lies on route to remote system : *PADDINGTON* ↵

## EXIT

When you have finished entering definitions, use option E to return to UE or SINTRAN.

5. You are asked whether you want to save the network changes you have made.

If you enter Y the changes are stored but not activated - follow steps 6 and 7.

If you enter N, none of the changes you have entered will be carried out, even during a Warm Start. The network information remains unchanged.

## Activating the new network

6. Restart the system, either by entering the SINTRAN command @RESTART-SYSTEM or by selecting Warm Start from the Butterfly Supervisor program.
7. You must dial up the new HOST using the modem (see section 7.5) or connect to it with a cable. You can then use COSMOS and NOTIS-ID.

### 7.4.2 Listing the routing information

When you use H, N, R, S or D, you are actually setting up a mode file of XMSG commands. Option L lists the XMSG commands you have set up in the temporary file (UTILITY)ASTEMP:MODE.

An example listing could be:

List routes mode file

```
@(util)xmsg-command
SET-ADVANCED
SET-PRIVILEGED
DEFINE-REMOTE-NAME,,LONDON,17894
DEFINE-REMOTE-NAME,,PADDINGTON,56789
DEFINE-REMOTE-NAME,,*IDSYSTEM,56789
DEFINE-REMOTE-NAME,,*DSSYSTEM,56789
DEFINE-REMOTE-NAME,,WEMBLEY,16567
DEFINE-SYSTEM-ROUTE,,WEMBLEY,PADDINGTON
EXIT
<end of file>
```

The "systems" \*IDSYSTEM and \*DSSYSTEM, define where the NOTIS-ID and NOTIS-DS file servers are. When you first define the HOST this is automatically set up to be that computer.

### 7.4.3 Defining a new HOST

Follow the instructions in this section if a network has been defined but you want to change the HOST computer.

Only one HOST can be defined at any time. When you are satisfied with your changes you must use option D to delete the route to the original HOST.

1. Use option H, "Define Host system".

2. Enter the COSMOS name of the new HOST and its system number. (You are not asked for information about your Teamstation, since you entered it when you first set up the network.)

Host definition

Host system name : *OLYMPIA* ↵

Host system number : *18765* ↵

3. You must redefine the routes to any other computers in the network as going via the new HOST. Use option D to delete the routes and then option N.
4. Use option D to delete the route to the old HOST (see section 7.4.4). If the computer is still in the network, but no longer the HOST, use option N to define a new route to it via the new HOST.
5. If you use NOTIS-ID and/or NOTIS-DS, see section 7.4.7, System Name Definition before going on to step 6.
6. Exit using option E and answer Y to save the new definition.
7. Restart the system, either by entering the command @RESTART-SYSTEM or by selecting Warm Start from the Butterfly Supervisor program.
8. You must dial up the new HOST using the modem or connect to it with a cable. You can then use COSMOS and NOTIS-ID.



#### 7.4.4 Adding new computers to the network

To communicate with a computer in the network that you have not previously defined, use option N, "New route definition".

If you select option N before defining the HOST, you are prompted for details of your Teamstation and the HOST. You must enter this information before you can enter the system name and number of the remote computer.

#### 7.4.5 Deleting information about a computer

Use option D to delete the network information that Teamstation holds about a specified computer. You will be prompted for the name of the computer to be 'forgotten'.

#### Changing intermediary

An intermediary is a computer which you have already defined, and which you then use as part of the routing information to another computer. If you delete information about an intermediary you must use option N to redefine the routes to those systems that relied on the intermediary. (First use option D to delete the old route for each one.) You must never delete information about your Teamstation. If you do so by accident, use option S to redefine the name.

Delete existing route  
Remote system name : WEMBLEY ↵

### 7.4.6 Deleting all the network information

Option R deletes all the information that is held about the network. Use it only if you feel that the definitions have got so muddled that you would rather start again.

#### Reset mode files

This operation clears the mode file (irreversibly)

Do you wish to do this ? (N): Y ↵

If you still have problems after the reset then  
check the file access rights on (UTILITY)ASTEMP:TEMP  
(UTILITY)ASTEMP:MODE and (UTILITY)BUAS-CONFIG:MODE

#### 7.4.7 System Name definition

Option S can be used in three ways. Usually, you will use it if you want to give a computer two or more names. Teamstation recognises all the names as being the same computer because the system (CPU) number is the same. For example, if the "official" name of your HOST is very long such as HQ-PADDINGTON-ACCOUNTS you can define and then use the shortened version, PADDINGTON used in this section.

You would also use option S when you have deleted the Teamstation definition by accident using option D. Then, instead of using option R to reset the mode file and entering all the information again, just use option S.

Name of system to be inserted : HQ-PADDINGTON-ACCOUNTS ↵

Number of system to be inserted: 56789 ↵

If you now use option L, you will see the command DEFINE-SYSTEM-ROUTE used twice for the same system number, for example:

List routes mode file

```
@(util)xmsg-command
SET-ADVANCED
SET-PRIVILEGED
DEFINE-REMOTE-NAME,,LONDON,17894
DEFINE-REMOTE-NAME,,PADDINGTON,56789
DEFINE-REMOTE-NAME,,*IDSYSTEM,56789
DEFINE-REMOTE-NAME,,*DSSYSTEM,56789
DEFINE-REMOTE-NAME,,WEMBLEY,16567
DEFINE-SYSTEM-ROUTE,,WEMBLEY,PADDINGTON
EXIT
<end of file>
```

The third way in which you use option S, is to redefine the "systems" \*IDSYSTEM and \*DSSYSTEM after you have redefined the HOST. This is not done automatically.

Use option D first, to delete the old definition for \*IDSYSTEM and \*DSSYSTEM, then use option S, entering the system number for the new HOST.

Name of system to be inserted : \*IDSYSTEM ↵

Number of system to be inserted: 18765 ↵

Option (type M for menu) : S ↵

Name of system to be inserted : \*IDSYSTEM ↵

Number of system to be inserted: 18765 ↵

#### 7.4.8 Recovery of the old temporary file

If, on starting @BUAS-CONFIG, you do not get the usual prompt, but the message below, one of three things has happened:

- You pressed the ESC key while still in the BUAS-CONFIG program. This leaves without storing, but the temporary file still exists.
- Teamstation had problems in storing your definitions from the temporary file into the permanent file, (UTILITY)BUAS-CONFIG:MODE.
- There was a fault in the ND side of Teamstation while you were last using @BUAS-CONFIG.

If you enter Y, Teamstation reads the temporary file which should still hold your last definitions. The alternative is to enter N, and reenter all the definitions you made during the last session.

In both cases, you should use option L to see which routes are defined before carrying on. Also check that user SYSTEM has friend access rights (RWACD) to the three files shown in the example below.

Asynchronous link route setup

!!! old recovery file exists

Do you wish to attempt a recovery? : Y ↵

Recovery successful

check the file access rights on (UTILITY)ASTEMP:TEMP,  
(UTILITY)ASTEMP:MODE and (UTILITY)BUAS-CONFIG:MODE

## 7.5 Modem Connections

If your data communication is over a telephone line using modems you should read this section.

Communication can only occur when the connection to the HOST is open. To do this, you dial the HOST's number (like any other telephone call), and you pay for the time the connection is open. The originator of a call pays for it: calls started by the HOST do not cost you money. Irrespective of who starts a call, when the connection is open all ND applications that access remote computers can use the connection.

Only user SYSTEM  
can start a call

You open the connection from the ND (Butterfly) Supervisor program. Since you need to enter the System password to start the program, you will be able to control when communications can occur. This makes it possible to reduce costs by taking advantage of cheap rates.

1. Select "PC MS-DOS" from the System Manager
2. Type: C:\>SUPV↵
3. Enter user SYSTEM's SINTRAN password.

## Butterfly Supervisor Program

Version A00

Main Menu

---

- 1 Console
- 2 Telefix
- 3 System Parameter Definition
- 4 Warm Start
- 5 Cold Start
- 6 Serial Port 1 and Modem Setup
- 7 Exit

---

Select option using ↑, ↓, and RETURN    EXIT to terminate program  
or by number                            HELP for help  
or by name and RETURN

4. Select option 6, "Serial Port 1 and Modem Setup".

## Butterfly Supervisor Program

Version A00

Main Menu -> Serial Port 1 & Modem Setup

---

- 1 Originate Modem Connection
- 2 Auto-answer Modem Connection
- 3 Terminate Modem Connection
- 4 Serial Port 1 baud rate:9600
- 5 Exit

---

Select option using ↑, ↓, and RETURN    EXIT to Main Menu  
or by number                            HELP for help  
or by name and RETURN

5. First select option 4 to set the maximum baud rate that the modem can handle. For direct terminal lines (without a modem), the speed should be set to 9600 baud.

The other options in this menu are explained in the following sections.

### 7.5.1 Originating a ~~modem~~ connection

How to call  
another computer

To initiate communications with another computer, use the "Originate Modem Connection" option.

You are prompted for the telephone number of the HOST. As soon as you have entered it and pressed ↵, Teamstation dials the number and tries to establish a connection.

When you see the message "Connection Established", all users can use COSMOS or NOTIS-ID in the usual way. Communication is possible with the HOST and with all other computers you have defined. These computers can also initiate a dialogue with Teamstation while the connection is open.

You can now exit from the ND Supervisor program, returning to it only when you want to terminate the connection.

Pulse dialling  
and tone dialling

Two kinds of telephone exchange exist today. One type determines the digit you are dialling from the number of clicks generated by your telephone; the other type uses the pitch of a beep made by your telephone. The first method is called pulse dialling and occurs with all dial and some push-button telephones. The second method is called tone dialling and occurs only with push-button telephones.

If you have the push-button variety and can hear different pitched beeps, your exchange needs tone dialling. If you hear clicks, use pulse dialling.

Teamstation can imitate both kinds of dialling. You must specify which one to use when you enter the telephone number: start the number with a "T" or "P" as appropriate. For example, to dial extension 2293 you would enter either T2293 or P2293.



---

It is possible that your office exchange expects tone dialling, but having obtained an outside line, you start to hear clicks because the public exchange expects pulse dialling. In this situation, just put a 'P' in at the appropriate point. For example: T#9Pl234567. The T#9 gets the outside line and Pl234567 dials the number you are calling.

**Pausing during dialling**

Some exchanges require you to 'wait for the tone' at some stage. Teamstation cannot hear a tone, but you can make it wait by putting commas in the telephone number. Each comma causes a delay of one second in dialling. For example, if your exchange takes two seconds to give you an outside line, you should enter: T#9,,Pl234567.

**Punctuating the telephone number**

You can make numbers easier to read by punctuating with brackets, hyphens and SPACE. this does not affect the number actually dialled. For example: T#9,,P (01) 123-4567.

**Only certain characters**

Finally, note that the number to be contacted can only contain digits 1 to 9 and the characters '#' and '\*', which are found on some push-button telephones.

**Error messages**

If an error message is reported, this attempt to establish the connection is terminated. Either try again or talk to the remote computer site and perhaps ask them to attempt to establish the connection (with Teamstation in Auto-answer mode - see below).

Once the connection is established, the program returns to the Serial Port 1 & Modem Setup menu, and the connection is available.

### 7.5.2 Answering calls

Letting other  
computers dial  
Teamstation

Use option 2, "Auto-answer Modem Connection" to answer incoming calls automatically and establish a connection with the calling computer.

After Auto-answer mode has been set up, the modem responds to each incoming call, by attempting to establish the line connection with the calling site. When this has been achieved, the connection is ready for use. If the attempt to establish the connection fails, the modem returns to its quiescent Auto-answer mode and awaits the next incoming call.

Free & secure

Leaving your modem in auto-answer mode costs nothing and is quite secure because Teamstation will only respond to communications if they are in a special COSMOS format.

### 7.5.3 Resetting the modem

Use option 3, "Terminate Modem Connection" to reset your modem. Any existing modem connection is terminated, even if it was initiated by the remote computer. If "auto-answer" mode was on, it is cancelled.

A progress message:

Resetting Modem ...

is displayed while the reset operation is in progress. When it is completed, the display returns to the Serial Port 1 & Modem Setup menu.

---

If the reset operation is unsuccessful, an error message is displayed. Try to reset the modem manually, either using a reset switch (if fitted) on the modem itself, or by switching its power off then on again so that it re-initialises to its start-up condition.



## CHAPTER 8: WHEN THINGS GO WRONG

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---

## 8 WHEN THINGS GO WRONG

This chapter gives guidance as to what you should do if problems arise.

### 8.1 General approach

Teamstation and OWS-110 (i.e. Butterfly-110 machines) are ND-110PCX computers built inside an Ericsson PC. The ND-110PCX runs SINTRAN while the PC runs MS-DOS, and the two sides of the machine (ND and PC) cooperate with each other to share the disk storage, printers and communications facilities. Additional terminals connected to Teamstation are controlled by SINTRAN.

#### Additions

Since it has a standard PC-AT expansion card chassis inside it, many "added-value" PC expansion cards may be plugged in to Teamstation. Likewise, a multitude of PC applications may be run on it.

If you do encounter problems, satisfy yourself that these are not incurred as a result of any hardware equipment or programs that you have added.

System Manager

The System Manager window includes a display indicating the "current active program level" of the ND-110PCX. The detailed information this contains has much technical significance to engineers. However, when all is well, this display presents one of two characteristic patterns:

| System Manager         |
|------------------------|
| 1 User Environment     |
| 2 SINTRAN III          |
| 3 PC MS-DOS            |
| 4 Push-Key Programming |
| 5 Mouse Programming    |
| 6 Parameter Setting    |
| 7 Kill PC Application  |
| !. !!. ... .. ! !!     |
| 15 12 9 6 3 0          |

i) when the computer is idle:

```
!. :!. ... .. ! !!
15 12 9 6 3 0
```

ii) when the computer is being used by terminals:

```
!. :!: ::. ... ::! !!:
15 12 9 6 3 0
```

! means on permanently  
: means ! blinks on and off

Other patterns are suspicious but you should not make any decisions based on them alone. If the pattern becomes such that both of the lowest levels 0 and 1 show "not active" status (i.e. neither has a "1" in it), then the ND-110PCX has probably entered a "hung" condition. In these circumstances, doing a Warm Start may get the system going again, but you should report the pattern to your local ND Service Centre if a service call becomes necessary.



---

**Error message**

If a problem arises, you usually see an error message indicating the cause of the problem. Make a clear note of such messages. They are valuable in problem-solving.

Error messages may be generated by either operating system (MS-DOS or SINTRAN) or from an application or utility program. It is therefore important when noting error messages to also make a note of their context - what was the user doing when the error condition or problem arose? This information will be of great value to the Service Engineer if a service call is necessary.

You can get some further information about the error code in the SINTRAN messages by using option 3 in DO SUPERVISE-SYSTEM.

DO Supervise-System  
Main-Get Error Text

Version:  
A00/B00

Press <CANC> to cancel choice,  
<EXIT> to exit DO, <HELP> for help

1. New System Password
2. Update Clock
3. Interpret Error Code
4. Update SINTRAN System Number

Enter Choice: 3 ↵

\* Error Number (Decimal): 79 ↵

Error number 79 means:  
No such user index

- 
- Power-on self-test** Whenever Teamstation is switched on, it performs a comprehensive self-test sequence to prove that the equipment is fully operational. The operating programs are only loaded after self-tests have passed successfully. If they detect a failure, you hear a beep and an error message is displayed. Note down this error message, then retry by switching off and on again. If the problem repeats, take a note of the error message again (it might be different from the first time), before asking your System Supervisor for advice.
- Diagnostics** Section 10.3, "Which diagnostics to run" gives a guide to the way that the PC and ND sides of Teamstation work together. Read this to decide which diagnostic tests to run when a problem occurs. The diagnostic tests are also described in Chapter 10.
- ND Supervisor program** Chapter 9 covers the ND Supervisor program. This includes test/diagnostic aids (Console and Telefix), and system restart facilities (Warm Start and Cold Start).
- A system restart initialises the machine into a known starting condition, checks its essential functions, then reloads programs. There are several ways to instigate a restart, and these are described in section 9.2.5 "Warm Start and Cold Start". This will help you to decide whether and how to restart the system.

## 8.2 Message log file

The message log file receives all messages output to the "ND Console" (Terminal 1, see section 9.2.2, The ND Console).

If you are running the ND Supervisor program in the Console option, these messages are output on the display.

### Message window

In all other circumstances, messages are displayed in a "message window" which temporarily overwrites the top four lines of the display. When a message is output, the system normally beeps to draw the user's attention to it.

```
* * * * *      The System is ready to use      * * * * *
* * * * *      Please push the <ESC> Key to Log In  * * * * *
```

==== Console message =====

Messages may appear at any time. If the message is longer than three lines, it is scrolled so that the user can read all of it. If the display is in 40-column state and a message line is longer than this, the message is truncated.

When a console message is displayed during normal work input to the program you were using stops. To restore the whole screen picture and resume the program press any key. However, since this keystroke is also used as input to the program, press a key such as the HOME key, which will not have any effect on the program.

---

**Date & time**

The system date is entered into the message log file each time Teamstation is started-up. Thereafter, only the time of each message is entered, unless the system date changes during a session, in which case the new date is also entered.

**Message log file**

The system uses two files for storing console messages:

- the current file: `CONSLOG.CUR`
- the previous file: `CONSLOG.PRV`.

It writes messages into the "current" file, until that file becomes full. Then it switches to writing to the other file, which becomes the new "current" file (i.e. `CONSLOG.CUR`), while the full file is renamed "previous" (i.e. `CONSLOG.PRV`). Then, when the second file also becomes full, it clears out all the messages from the "previous" file, swaps the filenames, and proceeds to use the cleared file as its new "current" file. Each file can store an average of 200 messages. To see the most recent messages, you therefore display the `CONSLOG.CUR` file:

```
C:\> MORE < \ND-110\CONSLOG.CUR ↵
```

Use `MORE` rather than `TYPE` because it displays the contents one screen at a time. Press any key to display the next screen of information.

**CAUTION**

While you have the file open, new messages cannot be written into it. They are displayed on the screen but no permanent record is stored.

### 8.3 Switching Teamstation on and off

#### Self-test and start-up

Section 10.1 gives an overview of the sequence of events which take place automatically when Teamstation is switched on. These self-tests, which are built in to Butterfly-110, perform a thorough check on the essential hardware.

For recommendations on what to do if any error messages arise, refer to chapter 10.

#### Accounting

This SINTRAN subsystem provides the facility to account for the usage of the system's resources. It is introduced in section 6.5 "Supervising accounting", and is described more fully in the SINTRAN III System Supervisor Guide.

If on logging out you see the message:

Approaching end of Accounting File

the Accounts:data file is nearly full. Please read the SINTRAN III System Supervisor Guide for instructions on how to use the Accounting Service program to make a report of what has been logged to date and then to clear out the file so that logging can continue.

#### 8.4 Problems with floppy disks

If you are having problems with reading or writing on floppy disks:

- check that the floppy disk is of the right type (marked High Density or HD).
- check that the floppy disk has not been write-protected.
- check that the floppy disk has been formatted correctly (in SINTRAN or MS-DOS format) for what you are trying to use it for.
- check that the floppy disk is inserted properly into the disk drive, and that the drive door is shut. Do not force disks into the drive.
- try another floppy disk, formatting it first if necessary.
- check that the floppy disk itself is undamaged and clean.

If you get error messages when the system is reading from or writing to the floppy disk, the drive heads may be dirty - follow the cleaning procedure described in chapter 5.

---

## 8.5 Problems with terminals

Up to four terminals may be connected to Teamstation (see the figure on page 1 - 2). The Teamstation terminal and any terminals for connection to it are already set up correctly when delivered. Later, if you have problems, read:

- section 8.5.1, if you think a terminal may not be connected correctly.
- section 8.5.2, if a terminal is not responding to input from the keyboard.
- section 8.5.3 and 8.5.4, for more information about how to set/reset the characteristics of the most common models.

### 8.5.1 No output on the screen

If the Teamstation terminal, or a terminal connected to it does not seem to be working and the screen is blank, check that:

- the power is ON.
- the brightness and contrast controls on the Display Unit are turned up high enough. (You may have these set too low to see the display).

Note that there is also a "colour" control on colour Display Units.

- all connectors - signal line into the Display Unit, and the connection between Keyboard and Display (and Mouse-Keyboard if applicable) - are properly inserted and securely attached. Chapter 1 of the Teamstation Installation Guide shows you where and how the cables should be connected.
- the fuse is intact. See chapter 1 of the Teamstation Installation Guide.

If after doing all these checks a terminal (Display Unit or Keyboard) still fails to give any response, you should call your ND Service Centre.



## 8.5.2 "Hung"/"stuck" terminal

### CTRL+Q

If a terminal does not respond to any key strokes, start by entering CTRL+Q. Then try again. It is possible that the user typed CTRL+S by accident, temporarily stopping the terminal.

Check that the keyboard cable is securely attached to the system unit.

Press the CAPS key several times to see if the lamp goes on and off. If the lamp is stuck the PC is hanging and Teamstation must be restarted. Enter the command @RESTART-SYSTEM or turn off and on again.

### "DO SUPV-TERMINAL"

If the Teamstation terminal (in ND mode) or a terminal connected to it has hung, try to release it using the @DO SUPV-TERMINAL program (see section 3.7).

### Using SINTRAN

Alternatively, you can "stop" the terminal using SINTRAN directly. If you do not know the number of the terminal, enter:

```
@WHO-IS-ON ↵
```

This tells you the user names and terminal numbers of all those who are currently logged in. The arrow shows which terminal you are working from, not which one is "hung". Then, if you need to stop terminal number 54, enter:

```
@STOP-TERMINAL 54 ↵
```

If the terminal was logged out successfully, the user of that terminal sees a message followed by the Login Screen. The user can start work again.

---

**SINTRAN J**

If this fails to reset the terminal, and you are using SINTRAN Version J, you can try to stop its background program. (To find out which version of SINTRAN you have, select the UE option, Display System Information, or enter the equivalent command @DO SYSTEM-INFO.)

Assuming the hung terminal is number 54, enter:

```
@LIST-DEVICE 54 0 ↵
```

This returns the number of the background program for terminal 54, e.g. BAK08. Then, enter:

```
@ABORT BAK08 ↵
```

to stop the background program, followed by:

```
@RT BAK08 ↵
```

to restart it.

**SINTRAN K**

If the terminal is still hanging or you are using SINTRAN K, then you may have to do a Warm Start - see section 9.2.5.

**8.5.3 Terminal type**

Different types of terminal send and react to differing control codes and control sequences. In ND systems, this is taken care of by identifying the "type" of each terminal. SINTRAN then communicates with each terminal using the coding system appropriate to that type of terminal through what is known as the VTM table for that terminal-type.

---

If a terminal is set to the incorrect terminal type, the display will react incorrectly to certain codes received from the computer, and the computer in turn will be unable to decipher some codes from the keyboard. You can use the DO SUPERV-TERMINALS menu to enter the correct terminal type (see page 3 - 25).

This menu includes:

- option 3: Set terminal type.

Enter the terminal number and its terminal type. This is a decimal number. The table on the next page shows the most common terminal types.

- option 4: Get terminal type

This tells you the terminal-type number of the terminal whose number you enter. Unless you use option 4 immediately after option 3, this is not the number you entered: the decimal number has been converted to a four-digit code used by SINTRAN. The following table also shows these numbers.

| Model                            | Terminal type<br>(Set terminal type) | SINTRAN type<br>(Get terminal type) |
|----------------------------------|--------------------------------------|-------------------------------------|
| Tandberg                         | 53                                   | -5067                               |
|                                  | 83                                   | -5037                               |
| Facit twist<br>(24/72 line mode) | 91/92                                | -5029/-5028                         |
|                                  | 93                                   | -5027                               |
|                                  | 103                                  | -5017                               |
| Console                          | 105                                  | -5015                               |

For a more comprehensive list of terminal types, see the SINTRAN III System Supervisor Guide.

#### 8.5.4 Terminal set-up

Different types of terminal (display and keyboard) equipment have differing degrees of functionality. When connected to Teamstation, they must be set up to operate in a way which is compatible with Teamstation.

The User Guide for a given terminal will describe how to set up that terminal.

---

"Convenience"  
/function settings      Many of these terminal settings relate to local features that the user may specify for his/her personal convenience, e.g. type of cursor, key-click, etc. Alternatively, they may offer added functionality - for example, push-keys.

These may be set up as desired, in accordance with the functions that are required.

Settings affecting  
Teamstation      Other settings, for example the Communications Switches on Tandberg terminals, affect the method and speed that the terminal uses to communicate with Teamstation. These must be set up to conform to Teamstations requirements. Settings in this category include:

- character format
  - 7-bit code length
  - even parity
  - 1 stop bit.
- transmission (line) speed 9600 baud.
- communication mode V24.
- communication handshake XON/XOFF.

### 8.5.5 XON/XOFF

Teamstation is delivered with XON/XOFF enabled for terminals 1, 48, 49, 50 and 51.

This is because, on ND systems, most terminals (including all NOTIS terminals) and serial printers use XON/XOFF. Asynch COSMOS does not use XON/XOFF, and the set-up procedure described in chapter 7 automatically turns the XON/XOFF protocol off if it has been enabled.

#### HENT-MODE:MODE

XON/XOFF is enabled in the HENT-MODE:MODE file. If you want to overrule this setting, you must use the SINTRAN SERVICE program to change the DFLAG setting (see the SINTRAN III System Supervisor Guide). Then do a Cold Start to bring your changes into effect (see chapter 9).

#### SINTRAN Service Program

If you only want to turn XON/XOFF off temporarily, you need to set the DFLAG for the line concerned using the SINTRAN Service Program. This is not a job for the inexperienced Supervisor, but you will find instructions in the SINTRAN III Supervisor Guide.

#### Terminals

If you seem to be loosing characters on a terminal connected to Teamstation, or you see spurious characters, such as &C, check that the terminal itself is set to use XON/XOFF. (The protocol must be set up at both ends of a line.)

For NOTIS (Tandberg) terminals, e.g. those of type 53 and 83, look in the Configuration menus. The entry "Communication handshake" in the Communications menu must be set to XON/XOFF. For instructions on how to display and set these values, read the User Guide that comes with the terminal.

---

## 8.6 Problems with communications

|                            |   |
|----------------------------|---|
| Initial checks             | <p>If you obtain no response from the modem:</p> <ul style="list-style-type: none"><li>• check if any modem indicator lights are on, so proving that the modem power supply is working.</li><li>• if the modem has a "self-test" facility, use it (referring to the relevant modem manual) to verify that the modem is operational.</li><li>• check that all cable connections are sound.</li></ul>                                 |
| Is it installed correctly? | <p>Chapter 4 of the Teamstation Installation Guide describes how to connect and set up the communications link between your Teamstation and the "HOST system" that you want to communicate with. If in doubt, check that your end of the communications link is set up correctly (see section 7.4). Then liaise with the System Supervisor of the HOST system to verify that the HOST end of the line is also set up correctly.</p> |
| Modem set-up               | <p>If your communications link uses a modem, check that you have set up the modem correctly for establishing telephone connection with the HOST system. This is described in section 7.5.</p>   |
| Error messages             | <p>If a problem arises, error messages output on the display will indicate the area of the problem.</p> <p>Error messages arising during operations with COSMOS or NOTIS-ID are explained in the manuals for those applications.</p>  |

## 8.7 Problems with using the mouse

### Cleaning

If you have problems with the mouse check that the roller ball is free to rotate and that the cable connection is secure and undamaged. Chapter 5 describes cleaning the mouse.

### Left and right handedness

You can swap the functions of the left and right pushbuttons on the mouse to cater for use by both left-handed and right-handed people. In this way the user's index and ring fingers retain the same functions. (See the Teamstation User Guide.)



## 8.8 Problems with the printer

Chapter 1 of the Teamstation Installation Guide describes how a parallel-interface printer should be connected. If a problem with the printer arises, first check that it is correctly installed.

The supplier's manual for the printer covers problem-solving for the printer itself and chapter 5 tells you how to clean it.

Problems with stopping, starting and controlling the ND's print queue are covered in the relevant SINTRAN manuals.

### Note

Teamstation is set up so that XON/XOFF is enabled on the four terminal ports and on the serial port. Most serial printers use the XON/XOFF protocol. However, most parallel printers use hardware handshaking signals.

---

## 8.9 Using File System Investigator

### 8.9.1 When to use it

File System Investigator is a stand-alone program that checks the status and consistency of the SINTRAN file system (including files stored using NOTIS-DS). It diagnoses and reports errors, but does not attempt to correct any errors.

You should run File System Investigator regularly before you take a System Backup, but you can use it at any time if you suspect that there is something wrong with the File System. Usual indications of this are that you get complaints from a Teamstation user that something is wrong with one of his files. Running File System Investigator only takes a few minutes.

All the following are reasons for running File System Investigator.

- Contents of a file are corrupt or missing.
- A file or user seems to have disappeared.
- Error messages are displayed saying that a file is stuck open or cannot be opened.

This section tells you how to start File System Investigator, and which tests to run. For more information please read the SINTRAN III System Supervisor Guide.

### 8.9.2 How to run File System Investigator

Because File System Investigator is a stand-alone program (i.e. one that can only run when SINTRAN is not running), you must work from the Teamstation terminal, using it as the console.

The quickest way to start File System Investigator depends on whether Teamstation is already on.

From start-up

If Teamstation is not on, then you do not need to wait the 3 minutes while SINTRAN is started. Enter 1 in reply to the prompt:

If you don't want to use the ND-110 at all - press key 0 within 5 seconds

If you don't want to AUTO START ND-110 - press key 1 within 5 seconds

Any other key stroke or waiting 5 seconds will cause AUTOSTART of ND-110

Both the Start-up Screen and the System Manager are displayed. Carry on from step 2 below.

If Teamstation  
is on already

1. Log in as user SYSTEM and ask all users to log out.
2. When they have logged out, start the ND Supervisor program.

To do this, select MS-DOS from the System Manager and type:

```
C:\>Supv ↵
```

When you have entered user SYSTEM's password in reply to the prompt, you see the Main Menu.

- 
3. Select option 1, "Console". (For more information on the console see section 9.2.2.

The last line shows the commands available.

ALT F1 HMCL F2 STOP F3 LOAD F4 AUTO+ F5 OPCOM F9 HELP F10 EXIT

4. Insert the floppy disk "Butterfly-110 ND Diagnostics" which has the File System Investigator program on it.
5. Press ALT + F2 to select Stop Mode (shown by a # or £ on the screen).
6. If AUTO+ is shown, press ALT + F4 to set this to AUTO- (Auto boot disabled).
6. Press ALT + F1 to perform a master clear. The # sign is displayed.

(If Auto boot had been enabled SINTRAN would be restarted at this stage, instead of staying in OPCOM.)

8. Enter 1560& to load the program from the floppy disk.
9. Start File System Investigator by entering FILSYS-INV after the \* prompt.

The system returns the name of the program, its version and date of issue, and asks for the name of the file store device you wish to check.

Run program

10. Enter the type of hard disk you have:

DEVICE NAME : : DISC-36MB-C ↵

DEVICE UNIT : 0 ↵

The system then returns the message

TOTAL NO. OF DISC PAGES IS 042104

INTERNAL INTERRUPT. IIC: 0

THE COMMAND HELP GIVES YOU A LIST OF COMMANDS

>

File System Investigator then waits for a further command.

11. Press HELP to list the program commands and type the command:

LI-SP-C

to obtain a display showing a list of special commands.

Which checks to run

Run the following three commands to check the consistency of a directory.

- DUMP-DIRECTORY-ENTRY
- LIST-USERS
- PAGE-LIST

Enter each command in turn, at the > sign. When each test has completed you see the > prompt again. Then enter the next command.

**Dump-dir-entry** This outputs the directory entry for the disk. An example is shown here:

DIRECTORY ENTRY DUMP

```
050101 041513 026517 047105 023400 000000 000000 000000 PACK-ONE
040000 021774 OBJECT FILE POINTER
040000 021776 USER FILE POINTER
040000 021503 BIT FILE POINTER
040000 005456 PAGE NOT RESERVED
```

**List-users** This lists all the user names in this directory, with their user-entry numbers. It then shows how many disk pages are reserved. This number should not be more than the total number of disk pages shown in item 10 above.

**Page-list** When this check asks which type of output you require, enter E (in CAPITALS) to instruct it to report errors only, otherwise a large amount of routine information is produced. Error reports give the error type and its location on the disk. All numbers are in octal.

**Error reports** Warning messages, user SCRATCH errors, and bit file errors, are easily handled. User SCRATCH errors are cleared automatically when the system is restarted. Bit-file errors can be reset using the SINTRAN command "TEST-DIRECTORY", and possibly "REGENERATE-DIRECTORY" (see section 8.9.4).

Any other error reports indicate that this file is corrupted. See "Errors" (section 8.9.3) for guidance on how to proceed.

- At the end**
12. To leave File System Investigator, either enter the command "STOP-SYS", or press ALT + F2 (stop mode), or press ALT + F1 (master clear). Any of these will return you to the # sign (OPCOM).
  13. If you reset the Auto boot flag in step 6, press ALT + F4 again to reset it to AUTO+.

- 
14. To restart SINTRAN, press ALT+F3. This takes some time. When the System is ready you see:

```
*****      The System is ready to use      *****  
*****      Please push the <ESC> Key to Log In      *****
```

15. Press ALT + F10 to leave the console, then select option 7, Exit, to leave the ND Supervisor program.

If errors were reported, see section 8.9.3.

---

### 8.9.3 Errors

#### Types of error

WARNING messages do not constitute an error condition.

User SCRATCH errors are cleared automatically when the system is restarted.

Bit-file errors may be corrected using SINTRAN commands - see section 8.9.4.

Other errors may be recoverable, but require detailed understanding of the SINTRAN file system, and should therefore only be tackled by qualified personnel. Such error reports include:

- page conflicts
- user(s) lost
- error count non-zero
- more than one file with the same full reference (filename:type:version)

DO NOT ignore these errors - they will not correct themselves, and may accumulate to a point where a lot of work stored in the file cannot be read.

#### What to do

If only bit-file errors are reported, clear them as described in section 8.9.4.

If errors other than bit-file errors are also reported call an experienced Supervisor, or your ND Service Centre. Ask their advice on whether you should restore the system from the backup floppy disks or attempt to correct the errors.



**CAUTION**

Do not try to correct errors unless you know SINTRAN's file system well, otherwise you may introduce further errors, so making recovery more difficult.

The SINTRAN III System Supervisor Guide gives further information on recovering from error conditions.

#### 8.9.4 Recovery from bit-file errors

**The bit file**

The SINTRAN file system is organised in pages (for example when you run the command @USER-STATISTICS you see the users area as a number of pages).

1 page = 2kbytes = 1k words

The bit-file contains one entry for each SINTRAN page, and this entry (the bit) is set to 1 if the page is in use (occupied), and 0 if it is not.

**Bit-file error**

A bit-file error is reported in the form:

BIT FILE ERROR (OR BAD PAGES, SET BY @CREATE DIRECTORY)  
PAGES MARKED AS OCCUPIED IN THE BIT FILE  
BUT THEY ARE NOT USED BY ANYONE. PAGE NOS.:

followed by a list of the SINTRAN page numbers that have been so identified.

---

**TEST-DIRECTORY**

You may clear these bit-file errors by running the SINTRAN command TEST-DIRECTORY. This rebuilds the bit file, resetting it to correspond to the number of pages actually used, freeing pages that are incorrectly tagged as occupied, and checking that file openings and sizes are correct.

To run this command:

1. Log in to SINTRAN as user SYSTEM.
2. Make sure no-one else is logged in and that no batch jobs are in progress. (For the latter, use @LIST-BATCH-PROCESS and check that none of the batch processors is "ACTIVE".)
3. Enter @TEST-DIRECTORY ↵.

**WARNING**

Do not try to stop the system part-way through this command, otherwise the file directory will be incomplete and information will be lost.

When the command is completed, the system returns the @ prompt.

**REGENERATE  
-DIRECTORY**

The command REGENERATE-DIRECTORY may be used where "conflict" errors are reported. It performs the same functions as the TEST-DIRECTORY command, but in addition it deletes all but one of the conflicting entries, so regenerating a directory which is structurally correct. As a result of deleting conflicting entries, information in the file may be made inaccessible. Nevertheless, you may prefer to run this command, to repair the file system back into a usable condition.

**WARNING**

Take a backup copy of your disk before running the REGENERATE-DIRECTORY command. Then, if it results in too much loss of information, you can revert to the backup copy.

Do not try to stop the system part-way through this command, otherwise the file directory will be incomplete and as a result, information will certainly be lost.

To run this command, follow the same procedure as for the TEST-DIRECTORY command, but substituting REGENERATE-DIRECTORY for TEST-DIRECTORY.

Then run File System Investigator again. If no errors are reported you should take a new backup before allowing users to carry on working.

If any errors are still reported, call an experienced System Supervisor or your ND Service Centre.

## 8.10 Problems with DUPLI

The Teamstation User Guide explains how to use the command DUPLI in order to copy files from the ND side of the hard disk to the PC side, and vice versa. Since the full COSMOS syntax is allowed, you can also access files stored on remote ND computers, provided that your Teamstation is part of a COSMOS network and that you have access rights to the file.

Read this section when a user has problems in with DUPLI. It explains how the command works, its limitations and the error messages that can be displayed.

### 8.10.1 How it works

DUPLI, short for DUPLIcate, is a special Teamstation command. In MS-DOS terms it is an external command.

Although DUPLI allows copying in both directions, it can only be called from MS-DOS.

The DUPLI program uses two MS-DOS programs, ICBM.COM and PCTRAP.COM. These are loaded during the start-up phase, when ND-110.BAT is run.

On the ND side, the file server PCFSERV is used. This is installed as an RT program when LOAD-MODE:MODE runs.

Error messages can result from several sources:

- DUPLI program (see section 8.10.3).

- 
- MS-DOS: for an explanation of these messages, see the MS-DOS Reference Manual.
  - MS-DOS/SINTRAN file server: ICBM (see section 8.10.4).
  - SINTRAN/MS-DOS file server: PCFSERV. These error messages are displayed in captial letters. They are explained in an appendix of the SINTRAN Reference Manual,

### 8.10.2 Reminder of the DUPLI syntax

The DUPLI syntax combines some of the features of SINTRAN and MS-DOS command syntax. If the error message displayed shows that DULPI was used incorrectly, check the following points.

- SINTRAN file names (prefixed by ND:) can be abbreviated in the usual way.
- Double quotes are not allowed. A new file is automatically created when the destination file name does not exist.
- Upper and lower case, and a mixture of the two are acceptable.
- If the file type is not specified, SINTRAN files are given the file type :DATA.
- Where a SINTRAN file name is specified without machine, pack or user information, the user RT on the ND side of Teamstation is assumed.

- 
- The SINTRAN file name syntax has been extended to cope with the different ways in which SINTRAN and MS-DOS store data: bytes within a word are ordered differently and SINTRAN 7-bit files have even parity. MS-DOS expects the file parity bit to be clear.

To specify the type of copying needed, enter a minus (-) and a number after the SINTRAN file type:

- 0 (or omitting the extension) transfers files on a byte basis, no conversion occurs
  - 7 clears the parity bit (i.e. use this for copying ASCII files from SINTRAN to MS-DOS)
  - 8 generates even parity (i.e. use this for copying ASCII files from MS-DOS to SINTRAN)
  - 9 generates odd parity
- Wildcard characters are not permitted, even in MS-DOS file names.
  - Being an MS-DOS command, only 128 characters can be entered on one line. If the file names are so long that the two forms of the command:

DUPLI filename TO filename ↵

DUPLI filename FROM filename ↵

would not fit, use the third form:

DUPLI ↵

which prompts for the source and destination file names on separate lines.

- There must be a space after the word DUPLI. Commas or spaces can separate the parameters.

### 8.10.3 DUPLI program error messages

In this section error messages are shown in bold type.

#### **File Server not resident**

The PC side of Teamstation has not been loaded completely and the File Server PCTRAP is not in memory.

This can happen if you restarted Teamstation using a bootable floppy disk. Then, when no-one else is logged in, restart Teamstation using the hard disk i.e. with no bootable disk in drive A.

If Teamstation was started from the hard disk, then the ND-110.BAT file may not have been invoked. Start it by typing:

```
C:\>\ND-110\BFLY\ND-110 ↵
```

If this does not allow you to continue using DUPLI, the ND-110.BAT file may be corrupt or missing. Check that it exists in the directory \BFLY-110\BFLY. If necessary, copy ND-110.BAT from the floppy disk, Butterfly-110 PC System S/W Disk (ND-230001).

#### **Destination device full**

There is not enough room on the hard/floppy disk you are trying to copy to. Delete some files or use a different disk.

---

**Error indicating  
user errors**

These messages indicate that the DUPLI command has been entered incorrectly or the user has made a typing error. Check what was entered against the points in section 8.10.2.

**Usage: DUPLI source TO destination or DUPLI  
destination FROM source**

**Too many parameters**

**Source and destination not specified**

**Source not specified**

**Destination not specified**

**TO/FROM directive not specified**

**Invalid directive specified**

**Cannot copy file to itself**

#### **8.10.4 ICBM error messages**

**ND server not started**

PCFSERV is not started. When no-one else is logged in, do a Warm Start (either turn off and on again, or press CTRL, ALT and DEL together). Then try again.

If you see the same message again, log in as user SYSTEM or RT, then look for the command @RT PCFSERV in the LOAD-MODE:MODE file. If it is not there, the file is corrupt. To allow DUPLI to be used straight away, enter the command from SINTRAN. Later, get a fresh copy of LOAD-MODE:MODE from the floppy disk, Butterfly-110 ND System S/W Disk (ND-211092).



---

**Icbm channel timed out**

The ND side of Teamstation is not working. Display the System Manager and check the active levels (see section 8.1). It is likely that both level 0 and 1 are inactive. In this case, do a Warm Start.

If the ND side is working, try to find out why the PCFSERV server is not available. Use the command: @LIST-RT-DESC PCFSERV to find out what PCFSERV is doing. For an interpretation of the output this command displays, see the SINTRAN Reference Manual or the SINTRAN III Supervisor Guide.

**Internal messages**      If you get one of the following messages, contact your local ND Service Centre.

**Invalid function number**

**Invalid icbm channel**

**Invalid icbm function**

**Icbm channel busy**

**Invalid buffer length**



## CHAPTER 9: PC SETUP AND ND SUPERVISOR PROGRAMS

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---

## 9 PC SETUP AND ND SUPERVISOR PROGRAMS

### 9.1 PC Setup program

This program is part of the Ericsson Information Systems "Setup program" and is available from the hard disk (by typing SETUP from the MS-DOS prompt). It is also on the Butterfly-110 PC Diagnostics floppy disk, so that even if the hard disk becomes inaccessible, you can still use the PC Setup program to configure the PC.

It presents a menu showing various PC system setup parameters. Default parameters are already set up, stored in battery-backed memory in the System Unit.

After a system repair or modification, some of these parameters may need to be re-entered or changed. The Setup program allows for this.

### 9.1.1 Loading from floppy disk

Select MS-DOS from the System Manager. Insert the Butterfly-110 PC Diagnostics disk into the floppy drive and press the CTRL, ALT and DEL keys together.

#### Password

When the program is loaded, you are asked to type in the user SYSTEM's password before being allowed to run the program.

#### Main Menu

Once the password is entered correctly, the Diagnostics program Main Menu is displayed.

Butterfly Diagnostic Program

Version A00

Main Menu

---

- 1 PC Diagnostics
- 2 PC-ND Interface Diagnostics
- 3 ND Diagnostics
- 4 PC Setup Utility
- 5 Exit

---

Select option using ↑, ↓, and RETURN  
or by number  
or by name and RETURN

EXIT to terminate program  
HELP for help

#### Correct password?

You can make as many attempts as you like to enter the correct password. After each unsuccessful attempt, the message, "Incorrect password" is displayed. To exit from the program and return to the MS-DOS prompt, press the EXIT key.

## Setup Menu

Select option 4, "PC Setup Utility". You then see the Setup menu.

## S E T U P   M E N U

Set time

Set date

Diskette drive A: 1.2 Mb

Diskette drive B: No drive

Hard disk C: Ericsson type 7

Hard disk D: No drive

Base memory size: 640 kb

Expansion memory size: 0 kb

Keyboard type: Standard

Startup numlock: OFF

Video mode: Color 80 column

Math coprocessor: Not available

Serial port address: Disabled

Enhancement switch: Off

Boot select: Standard

Sound level: Normal

Password

Store and exit

Use arrows to select option

&lt;Enter&gt; = Enable entry

&lt;ESC&gt; = Exit without changes

Select an option by highlighting it with the arrow keys. The current parameter for that option is shown. To display the other parameters you can set for this option, press the Enter key until the value you want is displayed. (On Butterfly keyboards this is the RET or ↵ key). Type any other parameters into their menu as required.

### 9.1.2 SETUP parameter settings

The default parameters already set up are shown in bold type in the following description.

#### Set Time

Specify time

Type the time in the format HH:MM:SS and press Enter. Enter the hours in the 24-hour format. Unlike other options, changes in the date and time are effective as soon as you press Enter.

#### Set Date

Specify date

Type in the date in the format MM-DD-YYYY and press Enter. Only the hyphen (-) character can be used.

#### Diskette drive A

360kB **1.2Mb**, No drive

Disk drive A is 1.2Mb (high capacity) drive.

#### Diskette drive B

360kB, 1.2Mb, **No drive**

Disk drive B is 1.2Mb (high capacity) drive.

#### Hard Disk C and D

Specify type: E7 for CDC or E9 for NEC

Butterfly-110 is supplied with type E7 (CDC) or type E9 (NEC) fixed disk drives.

#### Base Memory Size

512Kb - **640kb**

The standard PC memory is 512kb. Part of the ND-110PCX memory is taken to expand this to 640kbyte.



---

**Expansion Memory Size** Specify size - **0kb**

There are no memory expansion boards fitted. If memory is fitted, the start and stop values of the memory have to be specified. Note: The system does not conform to the LIM expanded memory specification.

**Keyboard type** **Standard**

Teamstation uses a version of the standard NOTIS keyboard, sometimes called the Butterfly keyboard. Other keyboards are not practical on Teamstation.

**Startup NumLock** On - **Off**

Keep the default setting Off. The function of the NumLock key is not needed on a Butterfly keyboard as it has a separate numeric pad.

**Video Mode** Color 40 column - **Color 80 Column** Monochrome  
- No video

Color 80 column is the standard setting for both colour and monochrome Display Units.

Color 40 column or monochrome should only be set if you are using applications software that uses the mode.

No video applies if no monitor is used.

**Math Coprocessor** Available - **Not available**

If you wish to install a math coprocessor on the system, set this parameter to available.

---

**Serial Port  
address****03F8H - 02F8H - Disabled**

If split speed was to be used with the serial port on the system board, this address parameter must be the same as the address of the port, 03F8H or 02F8H. The address is 03F8H, unless it has been changed by moving a strap on the system board. When split speed is not used, this parameter is ignored.

**Enhancement Switch** On - Off

Set this parameter to On. Teamstation will then find the base memory size automatically.

**Boot Select****Standard - Drive B enabled - Diskette disabled**

Standard: If a bootable disk is inserted in drive A, then after the power-on test has completed or the system has been reset, the operating system is booted from the disk in drive A. If no disk is in drive A, the system boots from the hard disk C.

Drive B enabled: If you have a second floppy drive, the disk in this drive can be used to boot the system, provided that there is no bootable disk in drive A.

Diskette disabled: This means that the operating system cannot be booted from floppy disk, only from hard disk. This allows a non-system disk to be permanently inserted in drive A.

**Sound Level****Off - Low - Normal - High**

This option allows you to adjust the sound level of the system units loudspeaker.

---

**Password**

This allows you to specify a "PC" password or change an existing PC password. It is totally different to the user SYSTEM password.

You may specify a PC password if you wish to restrict user access to only authorised people. It can be any string of up to 10 characters. If a password is specified, it must be entered correctly by all users each time Teamstation is switched on. Otherwise the system cannot be used.

If you set up a PC password, write it down and save it in a safe place.

**Store and Exit**

When you have finished using the Setup program, select this option and press  $\leftarrow$  to store the parameters and exit from the program.

If you want to quit the Setup program without storing the changes you have made, press the ESC key.

In both cases you are returned to the Diagnostics Main Menu.

## 9.2 ND Supervisor program

The ND Supervisor program provides facilities which enable some of the more specialised tasks on the ND side of Teamstation to be performed easily. It covers:

- Console<sup>1</sup>
  - Telefix<sup>1</sup>
  - System Parameter Definition<sup>2</sup>
  - Warm Start<sup>3</sup>
  - Cold Start<sup>3</sup>
  - Serial Port 1 and Modem Setup<sup>2</sup>
- <sup>1</sup> test/diagnostic aids  
<sup>2</sup> setup/configuration facilities  
<sup>3</sup> system restart facilities

This section describes these facilities.

The ND Supervisor program runs in the PC under MS-DOS. It is stored in the file SUPV.EXE on the hard disk, in the subdirectory \BFLY-110\BIN.

However, only the Desk Supervisor can run the program because it requires the user SYSTEM's SINTRAN password before it will run.

---

### 9.2.1 Loading the program - the Main Menu

To start the ND Supervisor program, select MS-DOS from the System Manager. After the prompt, type:

```
C:\> supv ↵
```

You will then be asked to type in user SYSTEM's SINTRAN password. Once this is entered correctly, you are presented with the Main Menu.

Butterfly Supervisor Program

Version A00

Main Menu

---

- 1 Console
- 2 Telefix
- 3 System Parameter Definition
- 4 Warm Start
- 5 Cold Start
- 6 Serial Port 1 and Modem Setup
- 7 Exit

---

Select option using ↑, ↓, and RETURN  
or by number  
or by name and RETURN

EXIT to terminate program  
HELP for help

**Correct password?** You are allowed as many attempts as you like to enter the correct password. After each unsuccessful attempt, the message "Incorrect password" is displayed. To terminate the program and return to the MS-DOS prompt, press the EXIT key.

The display highlights the currently selected option, in inverse video. The bottom area in this Main Menu explains how to move to any of the other options.

**Display colour** The display colours are fixed, except when the selected option operates as an ND terminal (e.g. Console, Telefix). The display colours are then those specified in the System Manager - Parameter Setting option. The fixed colours are:

|                |        |
|----------------|--------|
| top area       | purple |
| options        | green  |
| Help window    | yellow |
| bottom area    | yellow |
| error messages | red    |

**Errors** Error messages are displayed on the 25th line of the display, immediately under the outlined area.

**Help** A Help message is associated with each option. Press the HELP key to bring up this message in a window on the Main Menu display. It summarizes the facilities provided by the highlighted option. An example is shown overpage.

## Butterfly Supervisor Program

Version A00

## Main Menu

- 1 Console
- 2 Telefix
- 3 System Parameter Definition
- 4 Warm Start
- 5 Cold Start
- 6 Serial Port 1 and Modem Setup
- 7 Exit

---

Help

---

Console

This utility provides the SINTRAN console and the Control panel functions Master Clear, Stop, Load, Auto Boot and OPCOM. Panel functions are accessed by ALT-function key combinations. For further details refer to the SINTRAN Supervisor Manual.

---

Press any key to continue

## The EXIT option

Use the Exit option to leave a menu and return to the previous one. If you are in the Main Menu and select the Exit option, the program stops and the message:

Supervisor Program Terminated

is displayed.

Sometimes you can break in the middle of a task with the ESC. The prompt at the bottom of the screen tells you when this is possible.

### 9.2.2 The ND Console

This option provides the following functions:

- Master Clear
- Stop
- Load
- Auto-boot
- OPCOM.

These are ND Control Panel functions which are familiar to users of the Console facility in ND-100 systems. They are used as engineering diagnostic aids, to examine and if necessary modify detailed operation and status information in the ND side of the machine. They include ND's OPCOM facility, which uses a keyboard/display designated "Terminal 1" for input and output.

For completeness, a summary of the function of each facility is given here. For a detailed description of the use and meaning of each facility, refer to the Operator's Interaction chapter of the ND-100 Reference Manual (ND-06.014), and the SINTRAN III System Supervisor Guide (ND-30.003).

Those familiar with the Console facility in ND-100 systems should note that when in the Console option:

- Teamstation's keyboard and display operate as the "Terminal 1" device.
- although the functions available are the same as those in the ND-100 Control Panel, the way you access them is different.



## Select Console

When you select the Console option, a test is made to see whether the "Terminal 1" port is available. If not, the ND Supervisor program terminates with the message:

Unable to set console

When you enter the Console option, you are given a blank display except for the last (25th) line, which shows the console functions available, and how to select each one.

ALT F1 HMCL F2 STOP F3 LOAD F4 AUTO+ F5 OPCOM F9 HELP F10 EXIT

The blank 24 lines are in the current background colour specified in the System Manager - Parameter Setting option. The usual default setting is blue. The last line of console functions is in red.

In Console mode, the current status of the ND side of Teamstation is shown in the right-hand corner of the last line, using the following codes:

|   |                             |
|---|-----------------------------|
| P | ND is in Power Fail mode    |
| O | OPCOM is active             |
| R | ND is in Run mode           |
| S | ND is in Stop mode          |
| M | ND is in Master Clear mode. |

For example, "POSM" indicates that the ND is in Power Fail, in Stop mode, Master Clear is asserted and OPCOM is active.

ALT + F9: HELP

Press ALT with the F9 function key. The display then shows a summary description of console functions in its Help window.

```

      Help
    Console

This is the ND console.
The ALT-function keys below are:
A-F1 Hard Master Clear for reset
A-F2 Stops the executing programs
A-F3 Loads and starts SINTRAN
A-F4 Enable/Disable Auto Boot +/-
A-F5 Invokes OPCOM
A-F10 Exits to Main Menu
Any key to Exit Help Screen
  
```

ALT + F10: EXIT

Selecting Exit returns you to the Main Menu.

ALT + F1: HMCL

The Master Clear process resets the ND-110PCX, then runs the Self-tests which check the PC-ND interface and the ND computer (but not the PC), and finally starts up SINTRAN if the ALD register is 13 and the Auto-boot flag is +. If, the Auto-boot is -, the system goes into Stop mode.

- If SINTRAN is started up successfully, you get the prompt:

```

*****      The System is ready to use      *****
*****      Please push the <ESC> Key to Log In  *****
  
```

- In Stop mode, you get the OPCOM "#" or "f" prompt, indicating that the ND's MOPC has control. It is this Microprogrammed Operator's Console that allows direct operator control of the ND computer, through Terminal 1. See "OPCOM" below.

---

The ALD register and Auto-boot flag are control functions in the System Parameter Definition option, and are described in section 9.2.4. Note that the Console's AUTO function (ALT + F4) can also be used to change the Auto-boot flag.

Any error messages will be reported on the display. These take the form of an error number with a brief explanation of the error.

**ALT + F2: STOP**

This puts the ND computer into Stop mode. In this condition, all current programs stop and the MOPC Microprogrammed Operator's Console starts to run. The # prompt on the display indicates that the ND's MOPC has control. It is the MOPC program that allows direct operator control of the ND computer, through Terminal 1. See "OPCOM" below.

You can also put the ND into Stop Mode by selecting the HMCL function when Auto-boot is disabled.

**ALT + F3: LOAD**

This function works only if the ND-110PCX is in Stop Mode. Selecting LOAD starts the load program from the device specified in the ALD register. The loading operation then proceeds under control of the MOPC.

For a description of the ALD register, see section 9.2.4.

---

ALT + F4: AUTO This is the Auto-boot flag. It is either "enabled" (AUTO+) or "disabled" (AUTO-). (See System Parameter Definition in section 9.2.4). This flag is changed from one state to the other each time AUTO is selected. The bottom line of the display shows you the current setting.

ALT + F5: OPCOM Selecting OPCOM starts the MOPC program even if the machine is running. This allows other programs to run while MOPC is used from the console (Terminal 1).

One new feature of OPCOM in Teamstation is that input may be lowercase and uppercase. (In previous versions only uppercase was acceptable). The echoed output (on the Terminal 1 display) is in uppercase.

Error messages Whilst using the Console option, error messages may originate from:

- the Supervisor program
- SINTRAN or programs running on the ND.

Any error messages originating from the Supervisor program arise from a failure to provide OPCOM facility when requested. These are:

Unable to set OPCOM

Unable to set OPCOM for Stop

Unable to set OPCOM for Start

### 9.2.3 Telefix

The use of Telefix, to run programs on your Teamstation under remote control from a Telefix Service Centre, is described in chapter 10 (Diagnostic Tests). But you start a Telefix session from the ND Supervisor program and this is described here.

Telefix uses the same serial port as Asynch COSMOS. Therefore, during a Telefix session, this port cannot be used for COSMOS.

**Selecting Telefix** There are three ways in which the connection to the remote Telefix Service Centre may be established. HELP is available for each option in the Telefix Menu. They are explained in the rest of this section.

Butterfly Supervisor Program

Version A00

Main Menu -> Telefix Menu

---

- 1 Telefix (Originate Modem)
- 2 Telefix (Auto-answer Modem)
- 3 Telefix (No Modem)
- 4 Telefix baud rate:
- 5 Exit

---

Select option using ↑, ↓, and RETURN  
or by number  
or by name and RETURN

EXIT to Main Menu  
HELP for help

**Originate modem**

Selecting this option allows you to dial up a remote Telefix Service Centre.

You are asked for the telephone number of the remote site. Dialling the number is the same as using a modem for ordinary communications. The characters 1 to 9, # and \* are allowed. T, P, brackets (), commas and SPACES can be used to punctuate the number. See section 7.5.1.

---

Enter the telephone number of the  
Telefix Service Centre modem for  
automatic dial-up

EXIT to Telefix Menu  
HELP for help

Press ↵ to start dialling using the number you entered. If it contains any non-permitted characters, you hear a beep. Check the number, and try again.

The system then tries to establish the telephone line connection, displaying progress messages.

Finally, you see the message:

Connection Established

The display is cleared, ready for the Telefix session to proceed. See "Telefix session" on page 9-20.

**Errors**

If the system is unable to establish the telephone connection, an error message is displayed beneath the box area on the screen. An example is shown below.

---

>> T9,, P(0234) 56789

---

Dialling ... ( <Esc> to terminate dial-out )

---

Error: Unsuccessful dial-out

The attempt to establish the connection is terminated. Try again or talk to the remote Telefix Centre and perhaps ask them to attempt to establish the connection (with Teamstation in Auto-answer mode - see below).

#### **Auto-answer**

Selecting this option allows the remote Telefix Centre call Teamstation in order to start a Telefix session.

The modem is reset and then set up to auto-answer incoming calls. When the modem is successfully programmed, the following screen is displayed:

---

Awaiting call ( <Esc> to terminate wait )

and Teamstation then waits for the remote Telefix Service Centre to call.

---

When the call from the Telefix Centre arrives, the message:

Call arrived, attempting to connect ...

is displayed. When the connection is established, the display is cleared, ready for the Telefix session to proceed. See "Telefix session" on the next page.

#### Errors

If the attempt to establish a connection is unsuccessful, an error message is displayed on the bottom line of the screen. Contact the remote Telefix Centre and agree what further action to take.

#### No Modem

This option applies when an ND computer equipped with Telefix is directly connected to Teamstation. In practice, the connecting cable should not be longer than 16 metres.

With the direct cable connection in place, the display is cleared ready for the Telefix session to proceed. See "Telefix session" below.

#### Baud rate

This may be set to any of the following industry-standard values: 110, 150, 300, 600, 1200, 2400, 4800, 9600.

#### Telefix session

The SOURCE and LISTEN control states associated with this are described in section 10.7 "Using Telefix". The bottom line of the display shows how to change their current settings. If you are in LOCAL, you can press ALT+ F9 to display the Help window. It provides a brief reminder of how SOURCE and LISTEN should be used:

9



---

Help

LOCAL AND LISTEN OFF: You control console and Telefix can't listen.  
LOCAL AND LISTEN ON: You control console and Telefix can listen.  
REMOTE AND LISTEN OFF: Console is controlled by Telefix centre.  
REMOTE AND LISTEN ON: Console is controlled by Telefix and you can listen in.

Any key to Exit Help Screen

---

ALT      F1 LOCAL/REMOTE      F2 LISTEN ON/OFF      F9 HELP      F10 EXIT

If for any reason the Telefix connection is lost when in the REMOTE state, the message:

Error: Connection lost. Returning to LOCAL - Listen OFF

appears. Contact the remote Telefix Centre and agree how to continue.

### 9.2.4 System Parameter Definition

This option displays the current System Parameter settings, and allows you to change them. These System Parameters are associated with loading of SINTRAN and with ND's HDLC communications facilities.

For each parameter, you can call up a help window. On selecting a parameter, an options window displays the available settings for that parameter, and highlights the current selection. To change the setting, you move to the required option as described in the bottom area of the display and press RETURN. Alternatively, if you do not wish to change the current setting, press EXIT to return to the System Parameter Menu.

#### **Automatic Load Descriptor (ALD)**

The ALD option specifies what device SINTRAN will be loaded from and under what conditions SINTRAN is loaded into the ND side of the machine.

- The available devices are floppy disk, hard disk, or nothing (i.e. enter Stop Mode).
- The condition available with each device is resume SINTRAN if it is still intact in ND Memory, otherwise reload it (i.e. boot) from that device. This covers the case where, if the system has shut down while powered on, a copy of SINTRAN should still be resident in memory. The ND-110PCX will automatically shut down if the PC crashes. When the machine is reset, the booting program automatically sets Auto-boot to + and ALD to 13, attempting to resume SINTRAN. If this fails, SINTRAN is loaded from hard disk.

The ALD choices are presented in an options window on the display:

Butterfly Supervisor Program

Version A00

Main Menu -> System Parameter Menu

1 Automatic Load Descriptor:S/Disk  
2 Automatic Boot :Enabled  
3 HDLC Connection Standard :V24  
4 HDLC baud rate (low) :4800  
5 HDLC baud rate (high) :  
6 Exit

Options

1 Floppy Disk  
2 Hard Disk  
3 Stop  
4 SINTRAN, else Floppy Disk  
5 SINTRAN, else Hard Disk  
6 SINTRAN, else Stop

Select option using ↑, ↓, and RETURN  
or by number

EXIT from Options  
HELP for help

## Automatic Boot

This "flag" specifies whether the system proceeds automatically to load SINTRAN after a power-up, ND master clear, or Warm or Cold Start.

The alternative to loading SINTRAN is that the ND goes into Stop Mode, with its MOPC program running (see the Console's STOP option, earlier in this chapter). In Stop Mode, you can use the Console's LOAD function to load a program under control of the MOPC.

The options for the Auto-boot parameter are therefore whether or not to enable Auto-boot:

Butterfly Supervisor Program

Version A00

Main Menu -&gt; System Parameter Menu

---

```
1 Automatic Load Descriptor:Disk
2 Automatic Boot           :Enabled
3 HDLC Connection Standard :V24
4 HDLC baud rate (low)     :4800
5 HDLC baud rate (high)    :
6 Exit
```

Options

```
1 Enabled
2 Disabled
```

---

Select option using ↑, ↓, and RETURN  
or by number

EXIT from Options  
HELP for help

**HDLC Conn Std**

This parameter specifies the physical connection standard for HDLC communications. There are three choices. (HDLC is not standard and must be installed separately.)

Butterfly Supervisor Program

Version A00

Main Menu -&gt; System Parameter Menu

---

```
1 Automatic Load Descriptor:Disk
2 Automatic Boot           :Enabled
3 HDLC Connection Standard :V24
4 HDLC baud rate (low)     :4800
5 HDLC baud rate (high)    :
6 Exit
```

Options

```
1 X21
2 V24
3 Computerlink
```

---

Select option using ↑, ↓, and RETURN  
or by number

EXIT from Options  
HELP for help

To change the current setting, move to the required option in the options window, then press RETURN. If you do not wish to alter the current setting, press EXIT to return to the System Parameter Menu.

### HDLC baud rate (low & high)

This parameter specifies the HDLC line transmission speed when the Computerlink is selected as the HDLC communication standard.

The baud rate may be set to any one of thirteen values. For clarity, they are divided into two Options displays - low and high - in the System Parameter Definition menu. The current setting is displayed next to its corresponding low or high option.

- The LOW range offers six speeds from 2400 to 16000 baud.
- The HIGH range offers seven speeds from 19200 to 153600.

The following display shows the HDLC baud rate (low) options window, with 4800 baud as the current setting.

Butterfly Supervisor Program

Version A00

Main Menu -> System Parameter Menu

```

1 Automatic Load Descriptor:Disk
2 Automatic Boot           .Enabled
3 HDLC Connection Standard :V24
4 HDLC baud rate (low)     :4800
5 HDLC baud rate (high)    :
6 Exit

```

Options

```

1 2400
2 4000
3 4800
4 8000
5 9600
6 16000

```

Select option using ↑, ↓, and RETURN  
or by number

EXIT from Options  
HELP for help

---

The options window showing the available speed settings for the HDLC baud rate (high) is as follows:

| Options |        |
|---------|--------|
| 1       | 19200  |
| 2       | 32000  |
| 3       | 38400  |
| 4       | 64000  |
| 5       | 76800  |
| 6       | 128000 |
| 7       | 153600 |

For Computerlink, the 76800 setting is normal.

You may note that the "industry-standard" baud rates:

2400, 9600, 19200, 38400, 76800, 153600

are interspersed with Norsk Data's PIOC baud rates

4000, 8000, 16000, 32000, 64000, 128000.

---

### 9.2.5 Warm Start and Cold Start

#### Why restart?

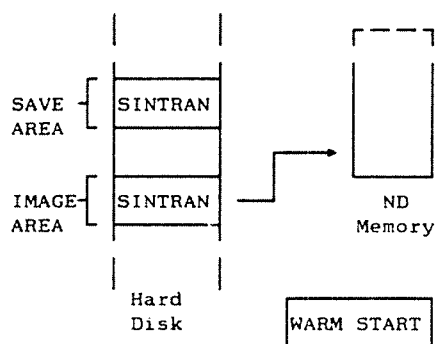
These facilities enable you to restart the ND side of Teamstation. You may need to do this after finishing work using Console (e.g. OPCOM) or Telefix, or you may feel that the ND side of Teamstation has been corrupted and needs to be re-initialised and restarted.

A Warm Start is a much quicker and less comprehensive restart than a Cold Start. It is the quickest and normal way to restart the system. If restarting is considered necessary, it is therefore usual to do a Warm Start first, and if this is not successful, only then to try a Cold Start.

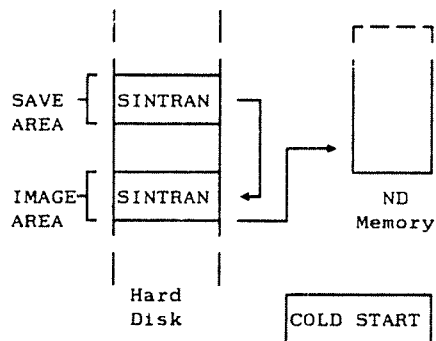
#### What happens

Both Warm Start and Cold Start initiate the equivalent of a ND master clear (HMCL in the Supervisor Console facility), which initialises all the ND hardware into its starting condition. It then runs the ND self-tests. The essential difference between Warm and Cold Starts is in the way that SINTRAN is then loaded from disk into the ND's memory.

SINTRAN is stored on the hard disk in a SAVE AREA and an IMAGE AREA. The SAVE AREA stores your base copy of SINTRAN - this is only ever used to make a copy of SINTRAN for the IMAGE AREA, although it may be patched occasionally to update it with program modifications. The IMAGE AREA is a copy of the SAVE AREA that has been initialised and set up by the ND HENT-MODE file. This is described in detail in the SINTRAN III System Supervisor Guide (ND-30.003).



In a Warm Start, the IMAGE AREA copy of SINTRAN is loaded from disk into Teamstation's ND Memory.



In a Cold Start, the SAVE AREA on disk is copied in order to restore a completely new IMAGE AREA on the disk, then this new IMAGE AREA is loaded into ND Memory. Then the HENT-MODE file is executed to restore both the ND Memory copy and IMAGE AREA copy to the correct (initialised and set up) condition.

After a Cold Start you must always do a Warm Start.



## Alternatives

A Warm Start is the equivalent of what happens in the ND side of Teamstation when you switch it on. This process is described in flowchart form in chapter 10, and covers the sequence of events from the point where the ND is master-cleared, all PC self-tests and MS-DOS loading having been completed.

If SINTRAN is already running, you may initiate a Warm or Cold Start using the SINTRAN commands, @RESTART-SYSTEM and @COLD-START.

However, if you are running the ND Supervisor program, you can select Warm Start directly from the Main Menu. Then, if the Warm Start is unsuccessful, you should select Cold Start to attempt to load SINTRAN. If this also fails, check that the PC side is fully functional (see PC equivalents, below). If it is, repeat the Warm Start, then if necessary the Cold Start. If this fails to load SINTRAN, you should run diagnostic tests to determine where the problem lies - see chapter 10.

## PC equivalents

The PC has an equivalent to ND's Warm Start, which includes starting up the ND side.

- CTRL+ALT+DEL (Warm Start for PC and ND)

If you key this, the PC holds the ND side in master clear state while it reloads MS-DOS, Then it runs the PC-ND self-tests. Finally the ND master clear is released, starting the ND self-tests followed by program load, i.e. an ND Warm Start.

- CTRL+ALT+EXIT (Power-up start)

This initiates the equivalent of a switch-on system start, but avoids switching the power off and on. It loads in the same way as CTRL+ALT+DEL but performs more self-tests.

---

## Warm Start

On selecting Warm Start, the display is cleared and messages on the bottom of the screen indicate how the Warm Start is progressing:

Warm Start: Self Testing ...

Warm Start: Loading ...

and finally

Warm Start: ND running. When ready, Press any key to return to main menu

When the Warm Start has finished, press  $\leftarrow$  twice to return to normal console operation. You can now press ESC to log in.

During the Warm Start, any errors are reported on the screen. There are three sources of these messages:

- the Warm Start utility
- the Start-up program used for self-testing
- SINTRAN.

Any error messages from Warm Start appear on the same line as the progress messages. Note down all error messages that appear, so that you can report them later to a Service Engineer.

---

## Cold Start

On selecting Cold Start, the display is cleared and messages on the bottom of the screen indicate how the Cold Start is progressing:

Cold Start: Master Clearing ...

Cold Start: Copying Save area to Image area ...

Cold Start: Self Testing ...

Cold Start: Preparing new SINTRAN Image ... ( <Esc> to terminate )

If terminated by you:

Cold Start: Terminated by user. Press any key to return to main menu

and after several minutes, if not terminated:

Cold Start: When ready. Press any key to return to main menu

The normal SINTRAN messages will also appear on the screen. Ultimately, the prompt to press ESC to log in is displayed, indicating that SINTRAN is successfully loaded. Then, press  $\downarrow$  twice to return to normal keyboard operation. Then press ESC to log in.

During the Cold Start, any errors are reported on the screen. There are three sources of these messages:

- the Cold Start utility
- the Start-up program used for self-testing
- SINTRAN.

Any error messages from Cold Start appear on the same line as the progress messages. Note down all error messages that appear, so that you can report them later to a Service Engineer.

### 9.2.6 Serial Port 1 and Modem Setup

If your Teamstation is fitted with a modem, this facility enables you to set up your modem for communication with another ND computer, using ND's Asynch COSMOS facility.

The options in this menu have already been described in section 7.5.

## CHAPTER 10: DIAGNOSTIC TESTS

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---

## 10 DIAGNOSTIC TESTS

A comprehensive set of diagnostic test programs is available. They include standard ND and Ericsson tests, some of which have been modified to run on Teamstation. Others have been written specifically to test that the ND and PC sides work together.

This chapter describes what these diagnostic test programs do, and how to use them in solving problems.

### Note

When you run a diagnostic test, you should note down all the messages and test results that are displayed. They will be valuable if you have to call your Service Centre.

### 10.1 Power-on self-test

The Ericsson PC has built into it a set of self-test program routines which run automatically each time the machine is switched on. Similarly, the ND-110PCX inside the Ericsson PC has its own set of self-test program routines.

The automatic program loading which occurs every time Teamstation is switched on includes running these self-test programs. They check that each side (PC and ND) of the machine is functioning correctly, and that the two sides of the machine are able to communicate correctly with each other.

The following page describes what happens and what you see during a start-up sequence.



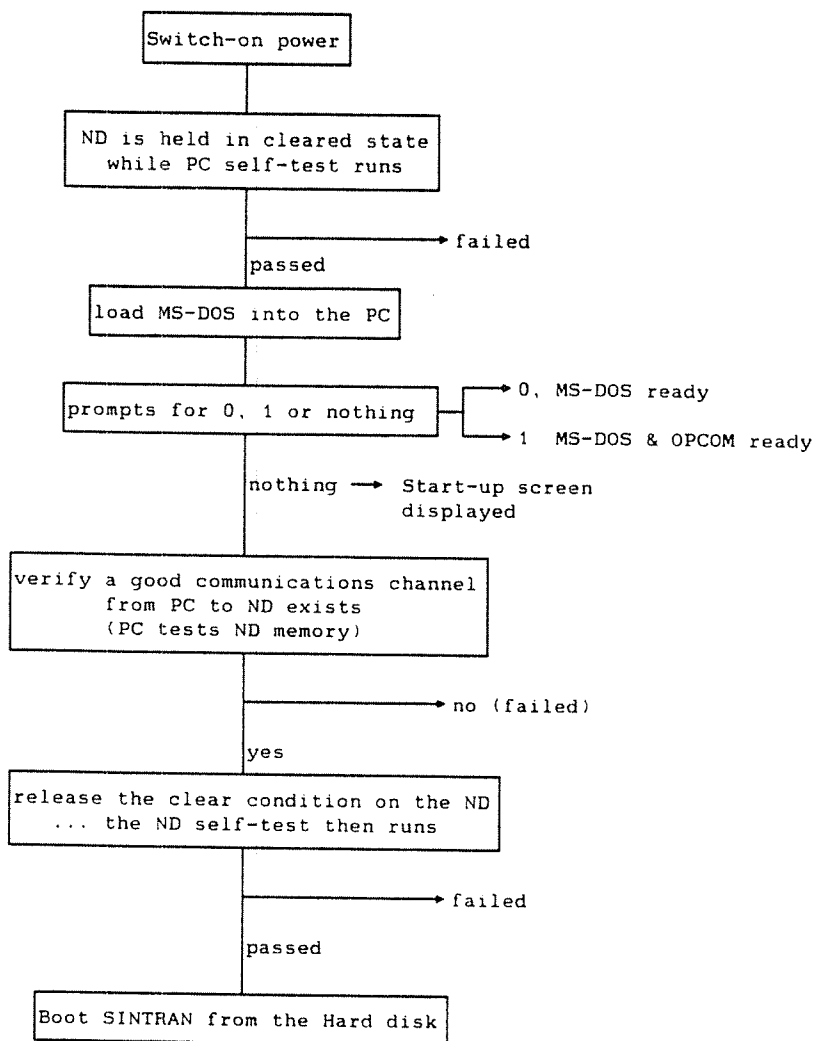


Figure 22: Start-up Sequence

### 10.1.1.1 The "five second" screen

When the PC self-test is complete you see:

```
POWER ON TEST
640 kB OK (Base Memory)
```

You also hear a beep. Then the control file AUTOEXEC.BAT is run. This calls the ND-110.BAT file which then:

- prompts asking how much of the automatic start-up procedure you want to be executed:

If you don't want to use the ND-110 at all - press key 0 within 5 seconds  
If you don't want to AUTO-START ND-110 - press key 1 within 5 seconds

Any other key stroke or waiting 5 seconds will cause AUTOSTART of ND-110

#### MS-DOS only

Enter 0 if you only want to use the PC. The prompt C:\> is displayed, you can only use MS-DOS. Use this mode if you only want to run a PC application that requires more memory than is normally available. (An extra 266kbytes is available.)

To initialise the ND-110, enter:

```
C:\> cd \bfly-110\bfly\nd-110 ↵
```

---

**Prepare ND**

Enter 1 if you want to prepare the ND side but not use it straight away. The Start-up Screen and the System Manager are displayed. This is useful if you want to use the Console or run stand-alone programs such as File System Investigator. Later, you can start SINTRAN by selecting Warm Start from the Supervisor program or by entering ALT + F3 (LOAD) from the console.

**Automatic starting**

If you press any other key, or wait 5 seconds the full automatic start-up procedure is executed, which:

- calls up the STARTUP program to perform the PC-to-ND Interface tests after MS-DOS is loaded.
- loads into PC memory those programs that enable the PC to operate with the ND-110PCX.
- initializes all the ND software by running the LOAD-MODE:MODE file.

This takes about 5 minutes, after which all the ND facilities are ready for use. Press ESC to log in.

If the start-up process stops at any point in the sequence, a message indicates whether the problem lies with the PC or the ND side of the machine.

## 10.2 Loading "Diagnostics" program

First, make sure there is no one logged in. To load the program, insert the Butterfly-110 PC Diagnostics disk into the floppy drive and press the CTRL, ALT and DEL keys together. Teamstation restarts using the disk in drive A.

You must enter user SYSTEM's SINTRAN password before being allowed to run the program. The Diagnostics program Main Menu is then displayed.

Butterfly Diagnostic Program

Version A00

Main Menu

---

- 1 PC Diagnostics
- 2 PC-ND Interface Diagnostics
- 3 ND Diagnostics
- 4 PC Setup Utility
- 5 Exit

---

Select option using ↑, ↓, and RETURN  
or by number  
or by name and RETURN

EXIT to terminate program  
HELP for help

Correct password? You are allowed as many attempts as you like to enter the correct password. After each unsuccessful attempt, the message:

Incorrect password

is displayed. To terminate the program and return to the MS-DOS prompt, press the EXIT key.

---

Select option

The display highlights the currently selected option. The lower part of this Main Menu explains how to move to the other options.

## Help

A Help message is associated with each option. Press the HELP key to display this message in a window on the Main Menu display. Press any key to remove the help window and continue.

As an example, the help window for the PC Diagnostics option is shown below.

Butterfly Diagnostic Program

Version A00

---

Main Menu

- 
- 1 PC Diagnostics
  - 2 PC-ND Interface Diagnostics
  - 3 ND Diagnostics
  - 4 PC Setup Utility
  - 5 Exit

Help  
PC Diagnostics

The PC diagnostic package provides tests for all the functional areas of the PC, i.e. Monitor, Keyboard, Memory, Hard Disk, Floppy Disk, Serial Port and Printer.

---

Press any key to continue

---

Separate  
ND diagnostics

Provision has been made in this menu to enable ND Diagnostic programs to be called directly from the hard disk - using option 3. However, in the current software release, the ND Diagnostic programs are supplied on a separate floppy disk, the Butterfly-110 ND Diagnostics Disk, (see section 10.6).

PC Setup

This utility enables you to set up certain system configuration parameters in the PC side of the machine. It is described in chapter 9.

The EXIT option

Use the Exit option to leave a menu and return to the previous one. If you are in the Main Menu and select the Exit option, the program stops and the message:

Butterfly Diagnostic Program Terminated

is displayed.

Sometimes you can break in the middle of a task with the ESC. The prompt at the bottom of the screen tells you when this is possible.

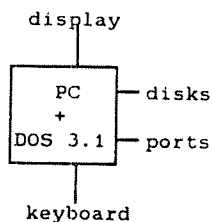
### 10.3 Which diagnostics to run

"110" structure

When deciding which diagnostic program to run, it is useful to be aware of operating structure of the Butterfly-110 machine.

The WS-286

It is made up from the Ericsson PC (WS-286), which runs programs under the Ericsson DOS 3.1 operating system. This is the Ericsson version of Microsoft's MS-DOS 3.1.



All operations:

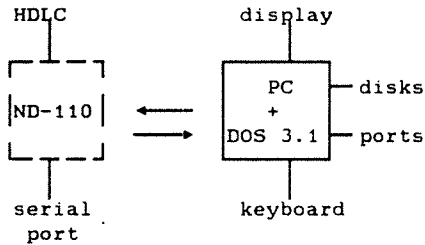
- to load SINTRAN (or any other program) into the ND-110PCX,
- to work with the keyboard, display, hard and floppy disks, printer and serial ports,
- to work with any additional PC expansion-bus boards,

rely on the PC and its DOS operating system software being fully functional.

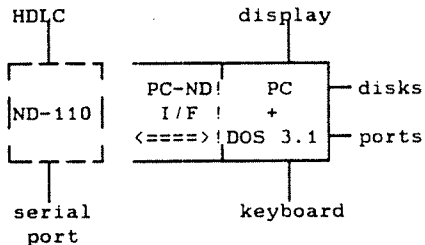
The PC Diagnostics check that the PC hardware works correctly. They include tests on the disks, keyboard, and any printer that is installed.

## PC-ND Interface

The ND-110PCX computer and PC's WS-286 microcomputer run alongside each other, and cooperate to perform the required tasks.



- In order to get the ND's SINTRAN operating system into the ND-110PCX, it must be taken from disk by the WS-286 and passed across to the ND-110PCX. Until this is achieved, the ND can do nothing useful.

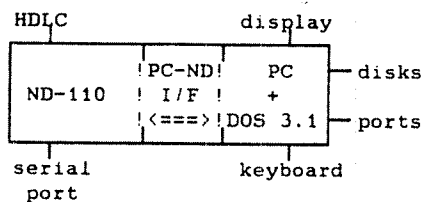


- In order for the ND-110PCX and WS-286 to operate together, they must be able to share data and pass specific tasks to each other.

This communication is done over the PC-ND Interface. It is clear that no operation can be achieved by the ND-110PCX unless this interface is fully functional. The PC-ND Interface diagnostics test this.



The ND-110PCX



When you have a working PC and have checked that the PC-ND Interface operates correctly, you can check the operation of the ND-110PCX itself, using the ND Diagnostics. These tests include checks for the ND's HDLC, memory, instruction set and configuration.

You can see that whenever the ND-110PCX

- takes input from the keyboard,
- outputs to the display,
- performs an operation with hard or floppy disk,
- uses any other port on the PC,

it relies on the PC and the PC-ND Interface being functional.

## Diagnostics test suite

The following diagram lists all the tests you can select, and shows how to move through the menu structure to get to the test(s) you want. note that the third line in the display menus for PC-ND Interface tests and ND Diagnostics tests shows where you are in the menu structure.

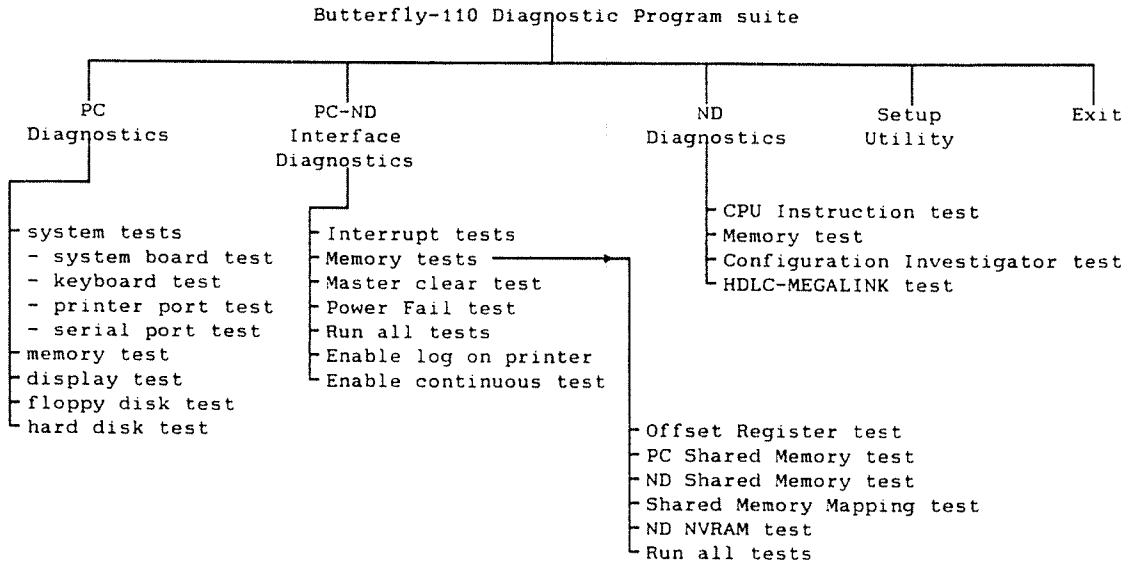


Figure 23: Chart of Diagnostic Tests

The Help message window for each option gives a useful guide as to what features are tested by that option.

## 10.4 Running PC diagnostic tests

The PC side of the machine is tested using the standard suite of programs provided by Ericsson Information Systems for their PC, known as the Maintenance Program. The suite provides tests for all the functional areas of the PC, i.e. Monitor, Keyboard, Memory, Hard Disk, Floppy Disk, Serial Port and Printer. Parts of it are modified to comply with the operational characteristics of the Butterfly keyboard and display.

On selecting PC Diagnostics from the Diagnostic Program Main Menu, you see:

### MAIN MAINTENANCE MENU

---

|                          |                            |
|--------------------------|----------------------------|
| System configuration     | Error log menu             |
| System test menu         | Setup menu                 |
| keyboard test menu       | Program configuration mode |
| Color graphic video menu | External command           |
| Diskette drive menu      |                            |
| Hard disk menu           |                            |
| Exit                     |                            |

---

|                               |                           |
|-------------------------------|---------------------------|
| Use arrows to select option   | <Enter> = Execute         |
| <H> = Help                    | <digit> = Number of tests |
| <Esc> = Back to previous menu | <C> = Continuous testing  |

**Selecting options**      Select an option by highlighting it with the arrow keys, then press the ↵ key. (This is the equivalent of the Enter key.) Each option in the Main Menu has its own menu.

---

**Note**

Some of these diagnostic tests are intended for service engineers' use - do not use them without supervision. See the Teamstation Technical Reference Manual for further details.

**HELP**

To find out more about what an option does, move the cursor to that option and then type H. Information on that option and any other options on the screen, is displayed in a "help" window. Help is also available in the submenus.

**Tests already defined**

A sequence of tests appropriate to Teamstation has already been defined and stored in the file TESTCONF.SYS.

To run this sequence, select "Program configuration Mode " from the Main Menu. Then select "Run configuration" and press ↵. (Other sequences that you set up can be run by entering the appropriate file name.)

---

**System test**

This tests:

- the main System Board in the PC.
- the keyboard.

This checks the operation of the keyboard and the functions of the keys. It displays a picture of each key position, and invites you to press each key in turn to check that it inputs correctly to the system.

- the printer port.

This test checks the parallel port on the system board, and if a printer is connected, it outputs a sample printout. The pattern of characters produced in this test printout is included here, to enable you to compare it with your test sample.

If a test printout appears to be faulty, the fault may be in the printer, in its connecting cable, or on the system board. If your printer has a self-test switch, run the self-test to check whether the printer is functioning correctly. Refer to the printer manual for details of its self-test facility.

- the serial port.

This test checks the asynchronous communications line. To run this test, you must first fit a Test Terminator plug to the serial port. This plug loops the serial output back into the serial input, so enabling the PC to send characters and check that it then receives back the same characters. The test plug is part of a Butterfly service engineer's kit.



## P R I N T E R   T E S T

This line is written using the normal character set and size.

If this line is not printed with compressed characters, there is something wrong with your printer.

The text now alternates between superscript and subscript.

All characters written on this line should be underlined.

These lines contains double-width characters ( elongated mode ).

Here is a sample of bold printing using normal character size.

=====

Finally, all standard ASCII characters are printed below  
using BOLD and ELONGATED mode.

! " \* % & ' ( ) \* + , - . / 0 1 2 3 4 5 6 7 8 9 : ; < = > ?

@ A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_

` a b c d e f g h i j k l m n o p q r s t u v w x y z { | } ~

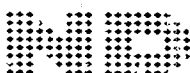


Figure 24: PC Diagnostics - printer test sample printout

**Memory test**

This test checks the PC memory, including the extra 128kbytes located on the ND-110PCX board. The display indicates the memory area that is tested, in 64kbyte segments,

i.e. segments 0 - 7 cover addresses 0 - 512k  
segments 8 - 9 cover addresses 512 - 640k.

**Display test**

This "video" test checks both the Display Unit and the EGA Board.

It displays a test pattern on the screen. The test pattern shown depends on the display mode. Three examples are given here, for the Colour 80x25 mode, the 40x25 mode, and the Graphic 320x200 pixels mode. These examples illustrate the kind of screen display you need to check.

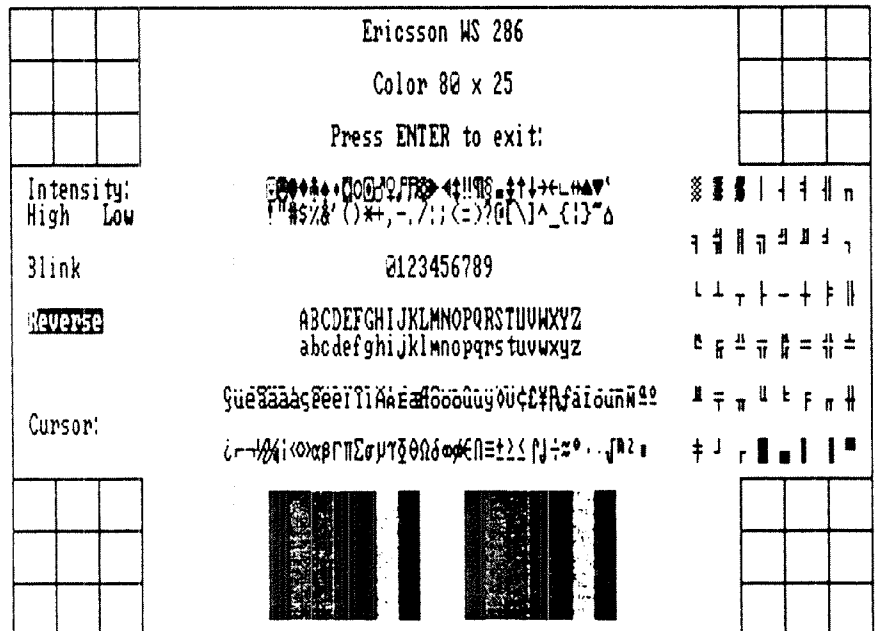


Figure 25:  
Display test -  
80-characters  
x 25-columns

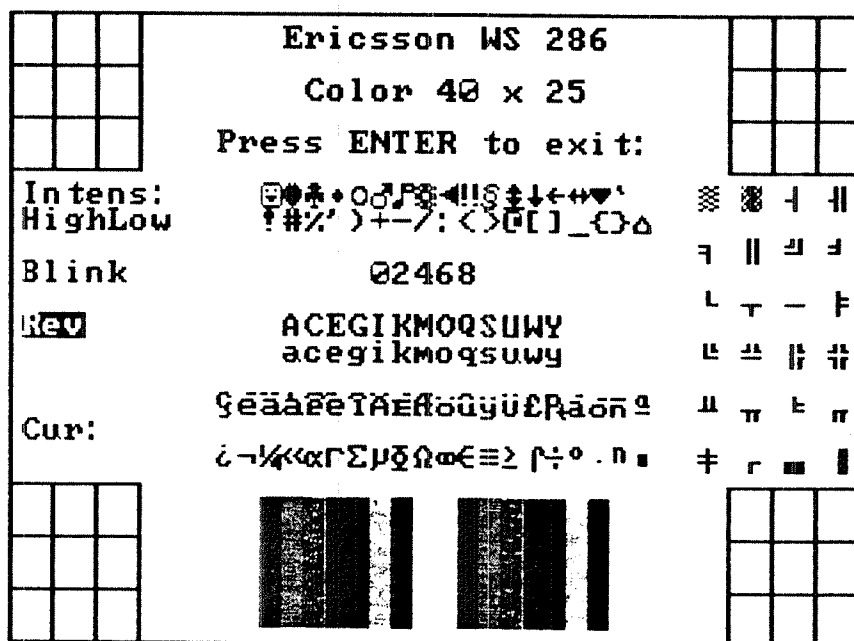


Figure 26:  
Display test -  
40-characters  
x 25-columns

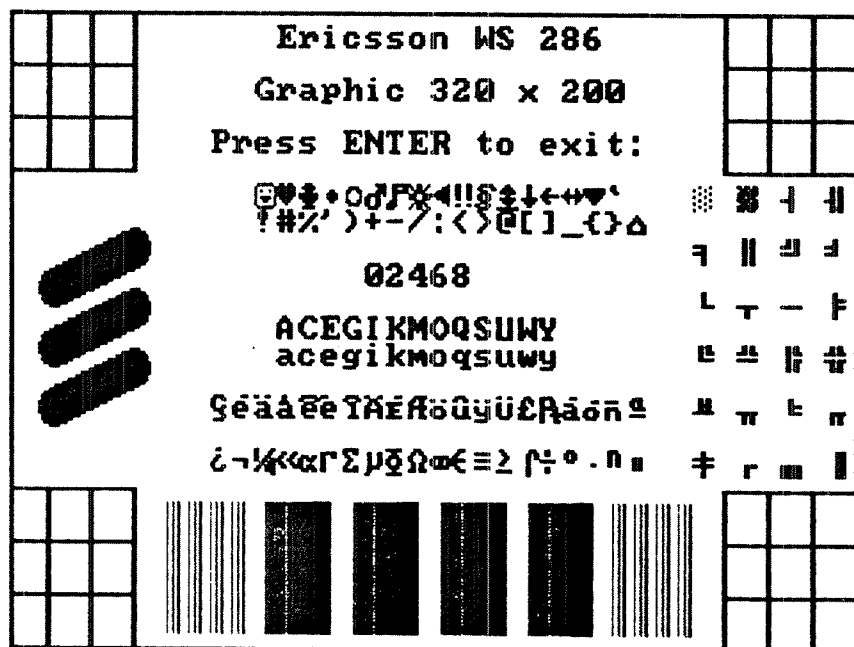


Figure 27:  
Display test -  
Graphic  
320 x 200 pixels



---

## Floppy drive test

### CAUTION

Tests involving write operations to a floppy disk will destroy existing data.

This test checks the control and read/write logic of the Floppy Disk Controller, and the operation of the Disk Drive. Three types of test may be selected:

- sequential read, or read/write
- random read, or read/write
- measurement (for service engineer's use only).

Having made a selection, a second menu is displayed, asking you to confirm or change the test parameters. Note in particular that "Run test" specifies the number of test cycles to be done - this may be between 1 and 999, or C for continuous.

You need floppy disks formatted with MS-DOS format to run the read or read/write tests. Floppy disks used in read/write tests must be reformatted before being reused for normal data storage.

---

## Hard disk test

### CAUTION

Tests involving write operations to disk may destroy existing data.

To retain the integrity of your system, only run this write tests under the direction of a qualified service engineer.

Max cylinder read/write tests and all the read and verify tests can be run freely.

The write tests ask you to confirm your choice of test. The ESC key may be used, if the selection was a mistake.

This test checks the hard disk parts of the Disk Controller, and the operation of the Winchester Disk Drive.

Four types of test may be selected:

- sequential read, or read/write
- random read, or read/write
- verify
- max cylinder read/write.

Having made a selection, a second menu is displayed, asking you to confirm or change the test parameters. Note in particular that "Run test" specifies the number of test cycles to be done - this may be between 1 and 999, or C for continuous.

---

|                                   |  |
|-----------------------------------|--|
| <b>Program configuration mode</b> | This option is used to run the default sequence of tests or to make your own by combining tests from any of the PC Diagnostics menus. It includes a facility to set up test parameters. It is intended for use by service engineers. |
| <b>Error log</b>                  | The Error Log records error messages for each error condition that is detected. You can view, print, clear, or send the Error Log file to disk: the options available are presented in the Error Log menu.                           |
| <b>Setup menu</b>                 | This option affects the way some tests work. See the Help screen.  |
| <b>External command</b>           | Use this option to enter an MS-DOS command without leaving the PC diagnostics program.   |

---

## 10.5 Checking the PC-ND interface

### HELP

Help  
PC-ND Interface Diagnostics

This diagnostics package provides tests for the PC-ND interface. The tests include the interrupts, memory, control registers and status registers associated with the interface.

PC-ND I/F Diag.      On selecting this option, the PC-ND Interface  
options menu          Diagnostics menu is displayed.

Butterfly Diagnostic Program

Main Menu -> PC-ND Interface Diagnostics

---

- 1 Interrupts Test
- 2 Memory Tests
- 3 Master Clear Test
- 4 Power Fail Test
- 5 Run All Tests
- 6 Enable log on printer
- 7 Enable Continuous Testing
- 8 Exit

---

Select option using ↑, ↓, and RETURN  
or by number  
or by name and RETURN

EXIT to terminate program  
HELP for help

---

Run all tests

There are four tests. In addition, you can select option 5, Run all tests. This runs each test in the menu sequentially, and displays a "Test Passed" or "Test Failed" summary of results at the end.

## Printing

Also, you can select to print output of the test result(s). If you enable printing, the menu changes to:

Disable log on printer.

In all cases, the test results, and any error messages, are displayed on your screen.

## Memory tests

If you select the Memory tests, you are given a further menu.

```
Offset Register test
PC Shared Memory test
ND Shared Memory test
Shared Memory Mapping test
ND NVRAM test
Run all tests
Exit
```

Each of these has its own help window. Any error messages are displayed on the screen (and printed, if the "enable log on printer" option was selected in the previous menu).

## 10.6 Running ND diagnostic tests

### Separate disk

A later issue of the Butterfly Diagnostics Program will include a suite of appropriate ND-110 diagnostic tests under this option. However, in this release of the program, a message advises you that these are not yet available from this program. Instead, they must be loaded and run from the Butterfly-110 ND Diagnostics floppy disk.

The quickest way to start the tests depends on whether Teamstation is already on.

### From start-up

If Teamstation is not on, then you do not need to wait the 5 minutes while SINTRAN is started. Enter 1 in reply to the prompt:

If you don't want to use the ND-110 at all - press key 0 within 5 seconds

If you don't want to AUTO START ND-110 - press key 1 within 5 seconds

Any other key stroke or waiting 5 seconds will cause AUTOSTART of ND-110

Both the Start-up Screen and the System Manager are displayed. Carry on from step 2 below.

### If Teamstation is on already

1. Log in as user SYSTEM and send a broadcasts asking all users to log out (see section 7.1).
2. When they have logged out, start the ND Supervisor program.

To do this, select MS-DOS from the System Manager and type:

```
C:\> Supv ↵
```

---

When you have entered user SYSTEM's password in reply to the prompt, you see the Main Menu.

3. Select option 1, "Console". (For more information on the console see section 9.2.2.)

The last line shows the commands available.

---

ALT F1 HMCL F2 STOP F3 LOAD F4 AUTO+ F5 OPCOM F9 HELP F10 EXIT

4. Insert the floppy disk "Butterfly-110 ND Diagnostics" which has the File System Investigator program on it.

5. If AUTO+ is shown, enter ALT + F4 to set this to AUTO- (Auto boot disabled).

6. Enter ALT + F1 to perform a master clear. The # sign is displayed.

(If Auto boot had been enabled SINTRAN would be restarted at this stage, instead of staying in OPCOM.)

7. Enter 1560& to load the TPE monitor program from the floppy disk.

#### Information

Type HELP to call up a list of the available monitor commands. Then, give the "list-files" command to display the available test files.

## Test options

The following tests are offered:

- configuration investigator
- CPU instruction
- memory
- HDLC-MEGALINK.

The functions and operation of these ND-Diagnostic test programs are described in more detail in the program description for the ND-100 (ND-30.005).

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## 10.7 Using Telefix

What Telefix does ND's Telefix is a facility which allows you to connect to an ND Telefix Service Centre, so that the Service Centre can run programs on your machine by remote control.

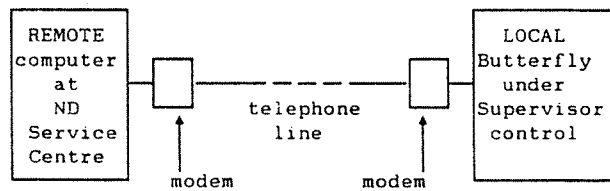


Figure 28: Telefix system using modems

Telefix option To use Telefix, your machine must be connected to the standard telephone network through a suitable modem (unless you have a direct connection). This modem should be connected to the serial port on the PC. For more information, refer to the Teamstation Installation Guide.

Telefix enables an ND Service Centre to:

- enter into direct contact with your machine
- transfer files to and from your machine while SINTRAN is running
- load test programs down a telephone line into your machine, and then run them, under remote control.

Supervisor control    Telefix is a Supervisor's facility, and as such is part of the ND Supervisor program. Refer to chapter 9 for instructions on how to establish the telephone connection for a Telefix session, and how to run the session itself.

A feature of Telefix is that you can exercise overriding control of the operations in a Telefix session. This is provided through the SOURCE and LISTEN parameters:

- SOURCE    i.e. where input and output to/from the machine originates. This may be set to LOCAL or REMOTE:

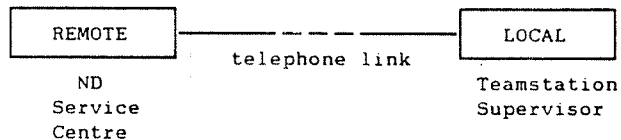


Figure 29: Example of SOURCE and LOCAL modes

- LISTEN    This may be set to:

ON            (the one that is NOT the Source gets a copy of what the machine outputs).

or

OFF           (the one that is NOT the Source is not allowed to see what the machine outputs).

These two parameters can only be set up from the Teamstation terminal, i.e. they cannot be set up remotely. So the Desk Supervisor, with Teamstation as SOURCE, can prevent the REMOTE location from seeing machine output.

---

After establishing a Telefix line connection, these two parameters automatically come up as REMOTE and ON,

i.e. the ND Service Centre has control of the Telefix session.

At any point during the session, you may change them. Of course, this should not be done while the REMOTE location is transferring data or a program down the line to your machine, otherwise the transfer will be incomplete.

HPA

I

HPA

C

HPA

## APPENDIX A: SUMMARY OF MS-DOS COMMANDS

This appendix is a reference table of all internal and external MS-DOS commands. Only a short explanation is given for each command; the intention is to give enough information for you to know which command to use (or to look up in the MS-DOS Reference Manual). Entries are listed in alphabetical order.

ni dbr alon: 1.7  
8.1.7.1

280000 01 00000

1.000000

1.000000

1.000000

1.000000

1.000000

61040000 01 00000

---

## SUMMARY OF MS-DOS COMMANDS

The following list presents all DOS internal and external commands in alphabetical order. For more information, please refer to MS-DOS Reference Manual.

|                        |   |
|------------------------|---|
| ASSIGN (External)      | Routes requests for a disk drive to another drive.              |
| BACKUP (External)      | Backs up files from hard disk to diskette.                      |
| BREAK (External)       | Specifies conditions for Ctrl-Break checking.                   |
| CHDIR or CD (Internal) | Changes the current directory.                                  |
| CHKDSK (External)      | Checks a disk or a file and reports status.                     |
| CLS (External)         | Clears the screen.  |
| COMP (External)        | Compares files.   |
| COPY (Internal)        | Copies the file(s) you specify.                                 |
| CTTY (Internal)        | Switches control between the standard and an auxiliary console. |
| DATE (Internal)        | Enters or displays the date.                                    |
| DEL (Internal)         | Deletes files from a disk. An alternative command is ERASE.     |
| DIR (Internal)         | Lists file names in a directory.                                |
| DISKCOMP (External)    | Compares diskettes.   |
| DISKCOPY (External)    | Copies all the files from one floppy diskette to another.       |

---

|                        |   |
|------------------------|---|
| DOSGEN (External)      | Formats a diskette and copies IO.SYS, MSDOS.SYS, COMMAND.COM, PRESTART.COM, PRESTART.SYS and CONFIG.SYS files, plus all files called by PRESTART.SYS and CONFIG.SYS, to the diskette. |
| DOSXFER (External)     | Copies IO.SYS, MSDOS.SYS, COMMAND.COM, PRESTART.COM, PRESTART.SYS and CONFIG.SYS, to a diskette.  |
| ERASE (Internal)       | Deletes files from a disk. An alternative command is DEL.   |
| EXIT (Internal)        | Exits from the current command interpreter.   |
| FIND (External)        | Searches files for a string of text.  |
| FONT (External)        | Selects the text character set.   |
| FORMAT (External)      | Prepares a disk for use ("formats it").   |
| GRAFTABL (External)    | Loads an additional character generator for graphic modes.  |
| GRAPHICS (External)    | Loads support program for graphics printout.  |
| KEYB-- (External)      | Loads national character generator. The characters (--) are replaced by two letters indicating the national version.  |
| MKDIR or MD (Internal) | Creates a sub-directory.  |
| MODE (External)        | Sets the operational mode of the printer, display or asynchronous communications adapter, or redirects output for a parallel printer to an asynchronous communications adapter.       |
| MORE (External)        | Enables the display of one screen of data at a time.  |



---

|                        |  |
|------------------------|--|
| PATH (Internal)        | Specifies directory search paths.                                    |
| PRINT (External)       | Controls the print queue, or displays the print queue contents.      |
| PROMPT (External)      | Defines a new prompt or restores the system prompt.                  |
| RECOVER (External)     | Recovers a file or files from a disk that has defective sectors.     |
| RENAME (Internal)      | Changes the name of a file.  |
| RESTORE (External)     | Restores backup diskette files to hard disk.                         |
| RMDIR or RD (Internal) | Removes a sub-directory.   |
| SET (Internal)         | Inserts or displays environment strings.                             |
| SORT (External)        | Sorts ASCII data.  |
| SYS (External)         | Copies DOS system files IO.SYS and MSDOS.SYS.                        |
| TIME (Internal)        | Enters or displays the time.   |
| TREE (External)        | Displays the directory structure.                                    |
| TYPE (Internal)        | Displays file contents (you can edit them).                          |
| VER (Internal)         | Displays the current MS-DOS version number.                          |
| VERIFY (Internal)      | Verifies that data written to a disk has been correctly recorded.    |
| VOL (Internal)         | Displays the volume identification label of a disk.                  |
| XLATE (External)       | Translates character codes to or from an attached peripheral device. |

MI BEAR WITH ME  
 1960 1961 1962 1963  
 YES WITH ME  
 1964 1965 1966 1967  
 1968 1969 1970 1971  
 1972 1973 1974 1975  
 1976 1977 1978 1979  
 1980 1981 1982 1983  
 1984 1985 1986 1987  
 1988 1989 1990 1991  
 1992 1993 1994 1995  
 1996 1997 1998 1999  
 2000 2001 2002 2003  
 2004 2005 2006 2007  
 2008 2009 2010 2011  
 2012 2013 2014 2015  
 2016 2017 2018 2019  
 2020 2021 2022 2023  
 2024 2025 2026 2027  
 2028 2029 2030 2031  
 2032 2033 2034 2035  
 2036 2037 2038 2039  
 2040 2041 2042 2043  
 2044 2045 2046 2047  
 2048 2049 2050 2051  
 2052 2053 2054 2055  
 2056 2057 2058 2059  
 2060 2061 2062 2063  
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## APPENDIX B: GLOSSARY OF TERMS

This section gives a brief definition of the terms used in this manual which have a special meaning in SINTRAN, User Environment and MS-DOS, or which are used in a special way by Norsk Data. Abbreviations and acronyms are also explained, but an understanding of general computer terms is assumed. Entries are listed in alphabetical order.

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and the maximum number of  
of each type of work.

any of the following: (1) the type  
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of work, (2) the number of  
of each type of work.



**Buffer** • an area of memory used to store information temporarily. If you turn Teamstation off, any information in the buffer that has not been stored permanently is lost.

**Butterfly-110** • The hardware that is common to an OWS-110 workstation and a Teamstation.

**Clicking** • one push of a mouse button.

**Console terminal** • The terminal from which the operation of the computer can be monitored and controlled. On Teamstation, you can use the Teamstation terminal itself as the console. You log in on the console by selecting option 1 from the ND Supervisor program.

**COSMOS** • ND's networking system. See the manual, COSMOS User Guide. Teamstation uses a special version, called Asynch COSMOS.

**COSMOS Basic Module** • provides the following functions:

- remote file access
- file transfer
- remote batch processing
- remote terminal access
- remote spooling

**CPU** • Central Processing Unit; the heart of the computer. The unit that fetches, interprets and executes instructions in a program.

**Cursor** • the flashing line or block that shows where the next character you type will be placed.

- Default** state of the value automatically used by the program or system when no specific choice is given by the user. To use the default value, answer the prompt with a carriage return.
- Directory** a logical structure of users' files. The name for the area of disk in which files are stored. On the ND partition there is one directory, PACK-ONE. On the PC part of the hard disk, several directories already exist and you can create more for your own files.
- Disk** • Hard or fixed disk. See Fixed disk.
- Disk drive** • the machinery for writing information to, or reading from, hard disks or floppy disks.
- Diskette** • see Floppy disk.
- Document** • a report, letter, memo etc produced with NOTIS products.
- DOS** • Disk Operating System; for example, MS-DOS. Also see, Operating System.
- File** • a logical area on disk containing a group of related information e.g. a letter.
- File type** • an attribute indicating the way in which the file is used. For example, :TEXT and :PROG are file types used by SINTRAN. Examples of MS-DOS file types are .TXT and .EXE.

- File name** • the full syntax that uniquely defines the file. The syntax depends on the operating system. SINTRAN file names may contain network address information.
- Fixed disk** • a high capacity hard magnetic disk used for storage of data. On Teamstation there is one 40MB fixed disk inside the system unit; others can be added externally, if required. The fixed disk is also known as the hard disk.
- Floppy disk** • a pliable disk with a magnetic coating, used for permanent data storage but which can be removed from the computer. The floppy disk must be inserted into the floppy drive so that information can be read from or written to the floppy disk. Teamstation uses 5 1/4 inch double-sided double-density floppy disks. (SINTRAN treats floppy disks as peripheral files.)
- Folder** • A place for storing and organizing data which are of the same type or used for the same purpose. A folder is a NOTIS-DS term, which is equivalent to a subdirectory in MS-DOS.
- Formatting a floppy** • preparing a new ND or PC floppy disk to receive data.
- Hard disk** • see Fixed disk.
- Highlight** • a cursor showing the selection from a list by displaying it in inverse video (reverse colours, or dark letters on a light background).



- HOST** • the ND computer which your Teamstation is connected to (directly or by modem) in a COSMOS network.
- Local system** • the system on which your terminal is connected.
- Logical device number** • each peripheral (e.g. terminal or printer) has a logical device number which SINTRAN uses to communicate with it.
- Mouse** • a hand-held pointer that controls where you point to on the screen. On the ND side of Teamstation, moving the mouse is equivalent to moving the cursor.
- Mouse button** • a push button on the mouse used to select the menu option or function that the mouse is pointing to. On Teamstation mouse buttons can be programmed (see the Teamstation User Guide).
- MS-DOS** • Microsoft's Disk Operating System for PCs.
- Operating system** • the program which controls the computer and which shares the computer's resources. The operating system for all ND computers is called SINTRAN. Teamstation also uses MS-DOS.
- Page** • see SINTRAN page.
- Parameter** • an attribute describing how a command should be executed.
- Partition** • an area of disk logically divided from the rest. On Teamstation, there are two partitions, one used by SINTRAN, the other by MS-DOS.

**Password** • a string of characters that, with the user name, identifies authorised users. Passwords entered are not shown on the screen.

**Path** • MS-DOS term for the full syntax needed to define a file name. The command PATH defines the search order that MS-DOS follows when looking for a file.

**PC** • Personal Computer. Teamstation uses the Ericsson PC-AT.

**Peripheral** • an input/output device that is external to, but controlled by the computer e.g. terminals and printers.

**Personal backup** • copying your own files to floppy disk for security, as opposed to a system backup, which copies all files.

**Recovery** • the process of restoring normal operation after an error, e.g. restoring information in a file by using a backup copy.

**Remote computer** • a computer that your terminal is not directly connected to but which you can communicate with because it is in the same network.

**Scratch file** • a special temporary file on the ND side of Teamstation used to store the files you are working on.

**SINTRAN page** • in SINTRAN, memory is divided into pages, each one is 1kword (1024 words or 2084 bytes) in length.

**Spooling** the technique in which files to be printed are first copied to temporary files and queued. The contents of these "spooling files" are printed when they reach the front of the queue.

**Storage code** the code format in which a file is stored.

**UE** • see User Environment.

**User area** • an area in SINTRAN with room for the files of a specific user.

**User Environment** • ND's menu and security system.

**User name** • the personal name you log in as. See User Area.

**User password** • each user name has a password associated with it (even if it is only carriage return).

**Write protection** • a mechanism that prevents data on a floppy being overwritten accidentally. On Teamstation this is accomplished by sticking a special metal tab over the notch in the floppy disk casing.

**XON/XOFF** • A protocol for flow control over a duplex line. The sending device assumes that the receiver is able to accept characters and transmits on that basis. When the receiver is unable to accept more characters because the buffer is full, it sends an "XOFF" character, which causes the sender to stop transmitting. When the buffer is emptied, the receiver sends an "XON" character, so that transmission can resume. Both sender and receiver must be set up to use the XON/XOFF protocol.

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Manual name: BUTTERFLY Teamstation  
Supervisor Guide

Manual number: ND-30.057.2 EN

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\_\_\_\_\_  
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