ND-110 SATELLITE
Operator Guide

ND-30.041.2 EN

ND Norsk Data

ND-110 SATELLITE
Operator Guide
ND-30.041.2 EN

The product The ND-110 Satellite is a compact computer
intended for use in office
environment. It is small, quiet and easy to
operate. It has a built-in floppy
drive, as well as an internal storage device (a
fixed disk). It will also
normally be equipped with a cartridge tape drive
(streamer).

Telefix, a system which permits analysis of
errors in the computer directly from
Norsk Data's Service Center, is available.

In addition to the ND-110 Satellite, your
computer system consists of a console
terminal, one or more user terminals, and a
printer.

The manual This manual explains

- How to start and stop the computer

- How to log in

- How to handle floppy diskettes

- How to take personal backup on floppy
  diskettes

- How to handle the streamer drive and tape
  carriage

- How to handle simple error situations

The reader This manual is written for those who are
responsible for the operation of the
ND-110 Satellite Computer. No previous knowledge
of computer systems is required
to understand the manual.

| Related manuals	SINTRAN III System Supervisor	ND-30.003.6
	SINTRAN III Introduction	ND-60.125.4
	SINTRAN III Reference Manual	ND-60.128.4
	ND Backup User Guide	ND-60.250.1
	USER ENVIRONMENT Ref. Manual	ND-60.179.2
	ND-110 SATELLITE, Hardware Manual	ND-60.024.2

NOTE

The technical expressions used in this
manual are explained on page 45

ND-110
SATELLITE

Floppy
drive

Cartridge
tape drive
(streamer)
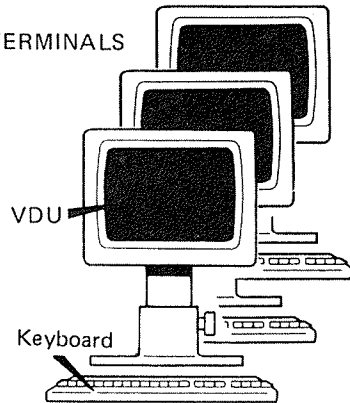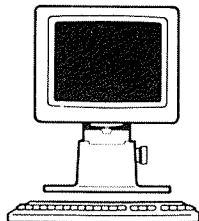
Fixed
disk
(storage)
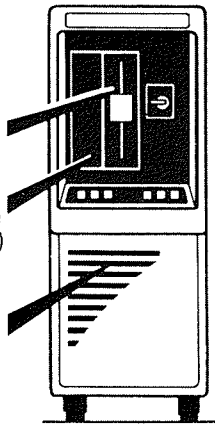
TERMINALS

VDU

Keyboard

CONSOLE
TERMINAL

PRINTER
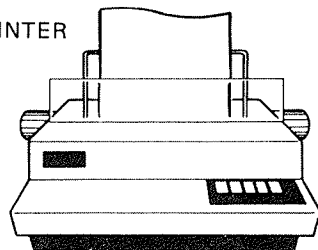
Table of contents

CHAPTER 1   INSTALLING YOUR ND-110 SATELLITE

> **NOTE**
>
> The ventilation grills on the top of the
> cabinet must not be blocked. Never place
> papers or any other objects on top of the
> cabinet.

Power requirements

To reduce the risk of unwanted power breaks,
which might lead to loss of data, the ND-110
Satellite should be given a separate power
circuit which bypasses the switch for the office
power.
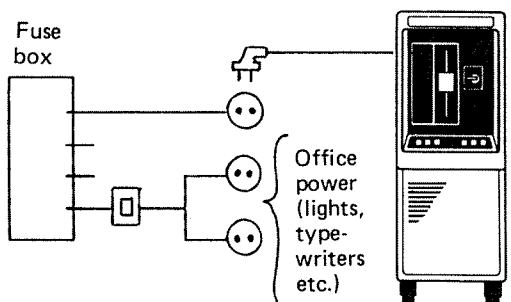
How to connect terminals and printers

There are two types of connecting cables.
CURRENT LOOP is the most common in this system,
but some printers may require a V24 cable.

If your system includes a printer, find out you
which type of cable fits the socket mounted on

the printer. You will then know if it is a V24
or current loop printer.

The equipment is connected to the ND-110
Satellite by the following procedure:

● Select each socket to be either current loop
  or V24 by setting the selector switches on
  the terminal interface card.

● Connect the console terminal to the socket
  marked CONSOLE, using a current loop cable.

● In addition to the console terminal, a total
  of sixteen units (terminals and printers)
  can be connected.

USER TERMINAL

Keyboard

Power

CURRENT LOOP cable

V24 cable

CURRENT LOOP cable

V24 PRINTER

This cable will have power only when the computer is switched on. Can be used to feed power to terminals and other equipment.

To power wall socket.

CONSOLE TERMINAL

Keyboard

Power

The large contacts must be fastened with a screwdriver as shown.
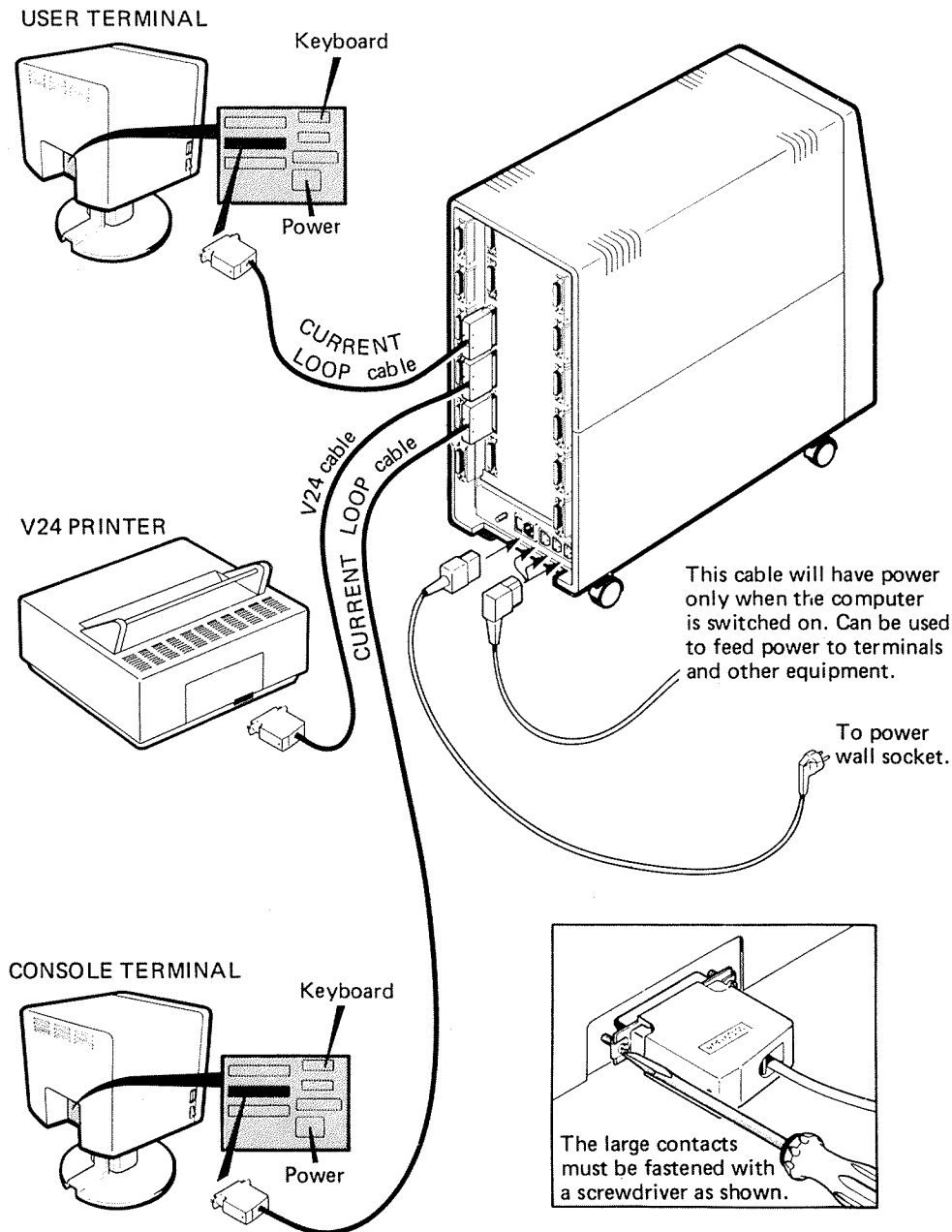
CHAPTER 2   STARTING THE SYSTEM

Switching on

1. Locate the mains switch at the back of the computer and switch it on.
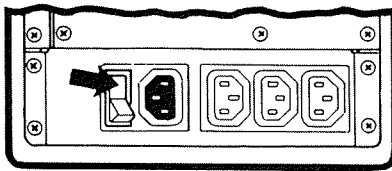
2. Go to the front of the computer and turn the key switch to position ON.
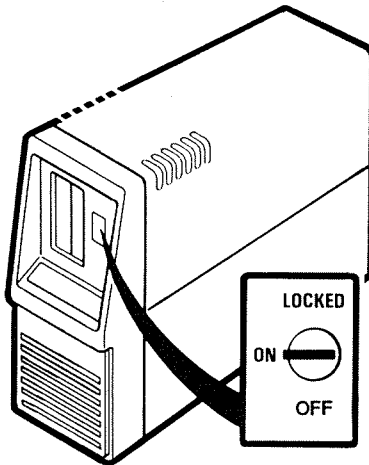
```
┌─ CAUTION ────────────────────────────────┐
│                                          │
│  Do not move the computer after the key  │
│  switch has been turned ON, as this may  │
│  damage the disk.                        │
│                                          │
└──────────────────────────────────────────┘
```

3. Press the START button to start the
   computer.

4. Wait until the word 'running' appears on the
   operator panel. Then turn the key switch to
   the LOCKED position. This blocks the
   operator panel, so that nobody can use it
   while the computer is running.
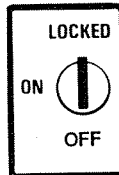
CAUTION

The computer has a standby battery which
will keep the system alive for
appriximately 12 minutes in case of power
failure. To prevent undesirable discharge
of this battery, observe the following:

While the key switch is in ON or LOCKED
position, never switch off the main switch
at the back or in any other way disconnect
the computer's power. This would discharge
the standby battery within 12 minutes

Always set the key switch to position
OFF before switching the mains switch
off, or otherwise cutting off the power to
the computer.

Logging in

NOTE

In this manual, everything that YOU are
expected to type in from your terminal is
shown underlined. In user names and pass-
words, hyphens (-) must be used instead of
spaces between the words.

To get in touch with the computer's operating
system, you must LOG IN.

To log in, you need a USER NAME. The user name
is the name by which the computer knows you.
Your user name as a system supervisor is SYSTEM.

1. You may have to wait about one minute after
   switching on the computer before the console
   terminal is ready.

2. Press the ESC key in the upper left corner
   of the keyboard.

3. The word ENTER appears on the screen. Type
   SYSTEM and then press ↵ (carriage return).

4. The word PASSWORD appears. If you do not
   have a password yet, simply press ↵. If you
   know that a password has been programmed in,
   type it, and then press ↵

5. OK is displayed on your screen. On the next
   line, the sign '@' appears. The '@' is
   called the SINTRAN sign. It means that you
   are in contact with SINTRAN, which is the
   computer's operating system. You can think
   of SINTRAN as a 'traffic control' system in
   the computer (remember that several people
   may be using the computer at the same time,
   so some sort of traffic control is needed).

How to use SINTRAN

You communicate with the computer by using
SINTRAN commands. There are three important
things to remember about these commands:

- They can only be typed in when the SINTRAN
  sign '@' or the words 'SINTRAN command' are
  displayed. This indicates that the computer
  is ready to receive a command.

- As in a user name, hyphens must be used
  instead of spaces between words.

- The command is not carried out until the ↵
  key is pressed.

Here is a useful SINTRAN command which you can
try straight away. Type WHO-IS-ON followed by
↵ . This tells you who is using the computer,
and their terminal numbers. At present, you are
the only user.

Creating users

As a system supervisor, one of your tasks is to
CREATE USERS. This simply means to 'introduce' a
person to the ND-110 Satellite, so that the
computer will 'recognize' this person when he or
she tries to log in.

When creating a user, you must also reserve some
space for him/her on the computer's storage
device (the fixed disk). Depending on its size,
the fixed disk in the ND-110 Satellite contains
45 or 74Mb which must be shared between the
different users.

In this example, we assume that you create a
user with the user name ANNE, who needs 250
pages. Type in the instructions as shown:

```
@CREATE-USER
USER NAME: ANNE←
@GIVE-USER-SPACE←
USER NAME: ANNE←
NUMBER OF PAGES: 250←
```

Deleting a user

You can delete a user with the SINTRAN command
DELETE-USER.

```
┌─ NOTE ──────────────────────────────┐
│                                     │
│ A user cannot be deleted as long as he or │
│ she still has files on the disk. All files │
│ must first be erased.               │
│                                     │
└─────────────────────────────────────┘
```

Increasing or reducing the number of pages

You can increase the number of pages allotted to
a user by means of the SINTRAN command GIVE-
USER-SPACE.

If there are no more pages available, you can
take unused pages from another user with the
SINTRAN command TAKE-USER-SPACE.

Starting the user environment program

USER ENVIRONMENT is a program which makes it
very easy for inexperienced users to start using
the ND-110 Satellite. When logging in, you will
get a menu which looks something like this:

```
────────────────────────── M A I N   M E N U ──────────────────────
┌──────────────────────────────────────────────────────────────────┐
│ Date:1985-2-16                                   Time:12:18:35     │
│ User:YOUR NAME                        Current user area:YOUR-USER-NAME │
└──────────────────────────────────────────────────────────────────┘

  1 Office Automation

  2 Program Development

  3 Remote Systems

  4 User Area Maintenance

  5 System Maintenance

              Task name:.................................
```

You choose one item on the menu by typing the
number of the item or moving the "inverse video
cursor" to the desired item, with the uparrow
and down-arrow keys (↑and ↓) and pressing the
carriage return key (↵). A submenu appears on
the screen, from which further choices can be
made.

┌─ NOTE ────────────────────────────────────┐
│   │
│ Further on-screen information about the   │
│ menu and how to use it can be obtained by │
│ pressing the HELP key. Press EXIT to get   │
│ the menu back.   │
│   │
└──┘

'Moving' the users into the user environment program

Although USER ENVIRONMENT is now operating, it
is still 'empty', i.e. it does not have any
users except yourself. What you must do now is
to 'move' the users you created earlier into the
USER ENVIRONMENT program, so that they can use
it.

  1. Log out by giving the SINTRAN command LOG.
     Then press the ESC key. You get the screen
     picture shown below.

2. Type your name, which is SYSTEM, followed by
   ↵ (carriage return) Then type the system
   password, which cn be SYSTEM, followed by
   ↵. The password is NOT DISPLAYED on the
   screen.

```
                                    ND-10518B
  ┌──────────────────────────────────────────────────┐
  │                                                    │
  │   U  S  E  R     E  N  V  I  R  O  N  M  E  N  T   │
  │                                                    │
  └──────────────────────────────────────────────────┘


      Enter your name    :   SYSTEM↵...................


      Enter password     :   SYSTEM↵...................
```

3. Go into the USER PROFILE. You will then get
   the following submenu:

```
              U  S  E  R     P  R  O  F  I  L  E        ND-10518B
  User:SYSTEM
  ──────────────────────────────────────────────────────────────
      User name         :                          Letter:
      Password          :
      Standard task     :
      Language          :
      User level        :
  ──────────────────────────────────────────────────────────────
      User groups       :
      Authorization     :                      SINTRAN:
      Main user area    :
      Alternative areas :
      Menu system       :
```

4. Press the F2 key in the right-hand section
   of the keyboard. The words 'User name' now
   change to 'Create user'.

```
                U   S   E   R      P   R   O   F   I   L   E        ND-10518B
    User:SYSTEM

        Create user         :
```

5. Type the user's real name (first and last
   name) followed by ↵. Then type the password
   you have chosen for this user, followed by
   ↵. (The password is not displayed. Write
   the password down, and give it to the user
   later on.) Then type the user's USER NAME
   (which you assigned when you created the
   user), followed by ↵. The user ANNE, whose
   real name is ANNE SMITH, has now been
   defined in the USER ENVIRONMENT program, and
   can use it.

6. Press the EXIT key to get back to the main
   menu, and repeat the procedure for another
   user, if there are any.

You can change the USER PROFILE to meet the
requirements of each individual user. This is
explained in the USER ENVIRONMENT Reference
Manual, ND-60.179.2.

Switching off

It is normally unnecessary to stop the computer.
However, if you must stop it, e.g. in order to
move it, proceed as follows:

1. Before stopping the computer, you must make
   sure that the system is not being used by
   anyone. To do this, you use the SINTRAN
   command WHO-IS-ON.

2. Turn the key switch to position ON.

┌─ CAUTION ─────────────────────────────┐
│   │
│ Before continuing, doublecheck that all │
│ users have logged out. If someone is using │
│ the system when you press the STOP button, │
│ data on the fixed disk may be lost.   │
│   │
└──┘

3. Press the STOP button on the operator panel.

4. Turn the key switch to position OFF.
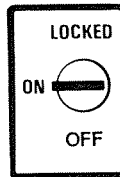
┌─ CAUTION ─────────────────────────────┐
│   │
│ Do not move the computer until 30 seconds │
│ after the key switch has been turned to the │
│ OFF position, as this may damage the disk. │
│   │
└──┘

CHAPTER 3   LOGGING IN AND GETTING STARTED

Logging in

When using the computer, the first thing you
must do is to get in touch with it, i.e., you
must LOG IN.

To log in, you need a user name and a PASSWORD.
The password is necessary so that no one but you
can log into the computer using your name. Ask
your system supervisor what your user name and
password are.

Having found out what your password is, you can
start logging in as follows:

1. Check that the green lamps ON and LINE at
   the top of the keyboard are lit.

2. Press the orange key marked ESC in the upper
   left corner of the keyboard. The following
   picture appears on your screen:

```
                                              ND-10518B
    ┌──────────────────────────────────────────────────┐
    │                                                    │
    │   U  S  E  R      E  N  V  I  R  O  N  M  E  N  T   │
    │                                                    │
    └──────────────────────────────────────────────────┘



       Enter your name    :  ...............................

       Enter password     :  ............................
```

┌─ NOTE ─────────────────────────────────┐
│   │
│ In this manual, everything that YOU type is│
│ shown underlined   │
│   │
└───┘

3. Type your user name followed by ↵. (The
   name ANNE SMITH is used as an example) The
   ↵ key is the large orange key to the right
   of the light grey keys. It is called
   carriage return.

```
   Enter your name    :   ANNE SMITH↵.............
```

   If you make a typing error, you can erase
   the letters with the orange key marked above
   the ↵ key. If you do not discover the error
   until you have moved to the next line, you
   can move back by using the brown key marked
   ↑.

4. Type your password followed by ↵. The
   password is not displayed on the screen.

```
   Enter password     :   PASSWORD↵...................
```

5. If you have done everything correctly, the
   MAIN MENU appears on the screen.

┌─ NOTE ─────────────────────────────────────┐
│   │
│ Whenever you have a menu on the screen,   │
│ you can press the HELP key to get further │
│ information on the menu and how to use it. │
│ Press the EXIT key to get the menu back.   │
│   │
└──┘

```
┌──────────────────── M A I N   M E N U ────────────────────┐
│ Date:1985-2-16                              Time:12:18:35  │
│ User:YOUR NAME              Current user area:YOUR-USER-NAME│
└────────────────────────────────────────────────────────────┘

  1 Office Automation

  2 Program Development

  3 Remote Systems

  4 User Area Maintenance

  5 System Maintenance

          Task name:................................
```

6. You can choose any item on the main menu by
   typing one of the numbers preceding the task
   names. Or you can use the arrowkeys to move
   the cursor. You can also give orders
   directly to the computer by typing the
   SINTRAN sign @. You will then move to the
   line 'Task name:....', and you can type your
   SINTRAN command there.

7. To get back to a previous menu, press the
   EXIT key in the upper right corner of the
   keyboard.

For further information about User Environment,
see the manual USER ENVIRONMENT, Reference
Manual, ND-60.179.

Logging out

When you have finished your work, you must break contact with the computer.

To do this, first return to the main menu by pressing the EXIT key the required number of times (depending on which menu level you are on). Then press the EXIT key once more.
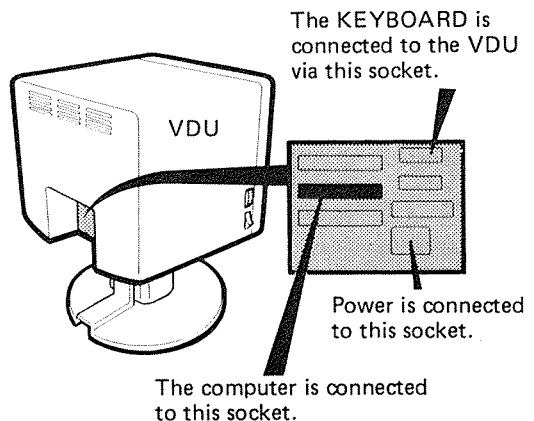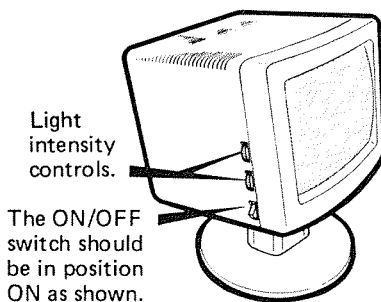
The computer will now ask:

Do you want to finish your work at the terminal (Yes/No)?

Type Y (for yes) followed by ↵.

The computer responds by giving the time of your logging out, followed by the word EXIT.

Make it a HABIT to log out when leaving the terminal.

If something goes wrong

Light intensity controls.

The ON/OFF switch should be in position ON as shown.

VDU

The KEYBOARD is connected to the VDU via this socket.

Power is connected to this socket.

The computer is connected to this socket.

FAULT	WHAT TO CHECK OR WHAT TO DO
ON lamp on terminal not lit.	On/off switch on? VDU connected to mains voltage?
LINE lamp on terminal not lit.	Keyboard connected to VDU? VDU connected to data socket? Press the brown LOCAL key in the top row of the keyboard a couple of times.
Other lamps on terminal lit.	EXP LAMP LIT: Press the orange INS/EXP key on the left-side of your keyboard. APP LAMP LIT: Hold the SHIFT key down while pressing the orange INS/EXP key. The SHIFT key is the unmarked light grey key in the lower left (and right) corner of the main keyboard. BUSY, MSG., CAR, WAIT, or ERROR LAMP LIT: Call your system supervisor.
You get nothing on your screen	Are the 'light intensity' controls on the left side of the VDU turned up? If this was not the problem, call your system supervisor.
The computer writes: "User name must be given" (or) "Password must be given"	You have forgotten to type your user name or password when logging in. Go back by pressing the brown ↑ key and type the correct name or password. If you do not know your user name or password, contact your system supervisor.
The computer writes: "User name/password not recognized"	The computer has rejected your user name or password. Go back by pressing the brown ↑ key and try again, taking great care to avoid

spelling mistakes. Remember:
hyphens(-) between the words.

```
┌── NOTE ──────────────────────────────────┐
│                                          │
│  Do not repeat an unsuccessful log-in    │
│  procedure more than ten times (see below)│
│                                          │
└──────────────────────────────────────────┘
```

The computer writes:
"Too many attempts
to enter"

If you repeat an unsuccessful
log-in procedure more than a
predefined number of times
(normally ten), the computer will
suspect that you are an
unauthorized user trying to log in
without knowing the user name (or
password). The computer displays
the words TOO MANY ATTEMPTS TO
ENTER and further log-in attempts
from your keyboard are blocked. In
this case you will need your system
supervisor to 'bail you out'.

To the system supervisor:

You can reseve the user from this
situation with the SINTRAN command
STOP-TERMINAL. You must also know
the terminal number, which can be
found by using the WHO-IS-ON command.

If you have forgotten
your password

Call your system supervisor.

To the system supervisor:

You can change the password by
choosing USER AREA MAINTENANCE
on the main menu, and then USER
AND TERMINAL PROFILES on the
submenu. You then type the new
password, followed by ⏎.

You get an unfamiliar text
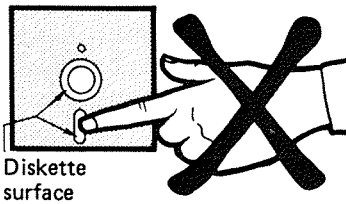(perhaps an error message)
on your screen.

Call your system supervisor.

To the system supervisor:

An explanation of some error
messages is found at the end of
this manual. Otherwise, refer to
the manual SINTRAN III System
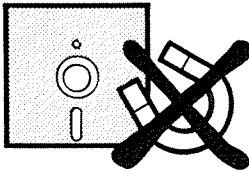Supervisor, ND-30.003.

How to take care of your diskettes

Good diskette habits will minimize the risk of losing data. For your own benefit, always follow these rules:

Diskette
surface

● Do not touch the diskette surface!

● Keep the diskettes away from magnetic fields. Do not place them on top of your terminal or other equipment.
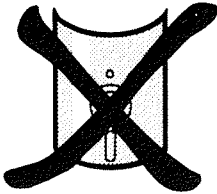
● Do not bend or fold the diskettes.

● Keep the diskettes in their envelope when they are not in use.

● Be careful when inserting the diskette in the floppy drive. NEVER leave it halfway inserted in the open door.

● Do not drop the diskette on the
  carpet, and if you do, pick it
  up again immediately, as the
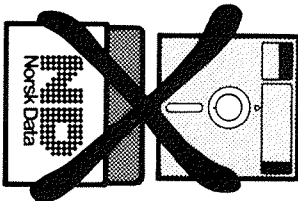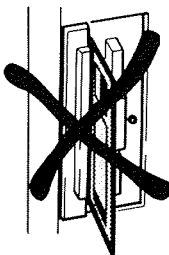 static electricity may damage
  the data.

Write protection

You can protect your diskettes against unwanted
erasure by placing a small metal foil (enclosed
in the diskette pack) over the indentation at
the side of the diskette, as shown. It will now
be impossible to record anything on this
diskette.
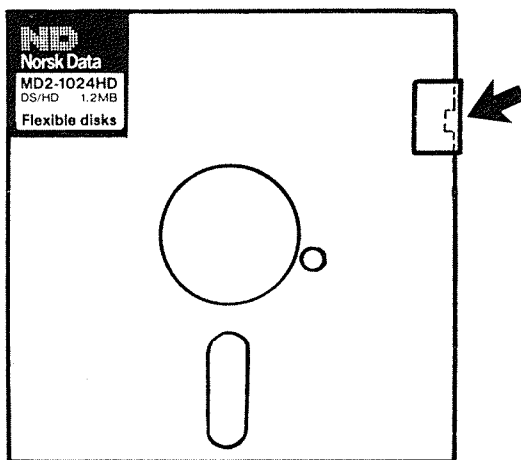

```
┌─ NOTE ──────────────────────────────┐
│                                     │
│ When using a diskette, always check that │
│ it has not been protrected against  │
│ recording.                          │
│                                     │
└─────────────────────────────────────┘
```

Labelling the diskette

It is very important to mark the diskettes, to know what has been stored on them. Labels for this purpose are included in the diskette cartons.

> ┌─ CAUTION ──────────────────────────────
> │
> │ Write on the label BEFORE placing it on
> │ the diskette, otherwise the diskette might
> │ be damaged.
> └──
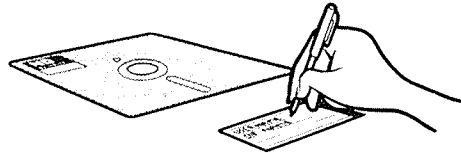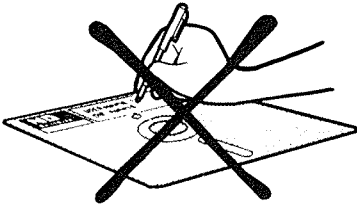
Inserting a diskette in the floppy drive

You insert the diskette as shown:

1.
Make sure that the door is unlocked (red means locked).

↕ UNLOCKED
LOCKED
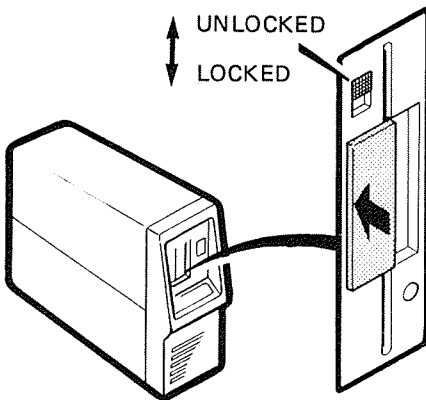
2.
Press the left side of the door. The door opens.
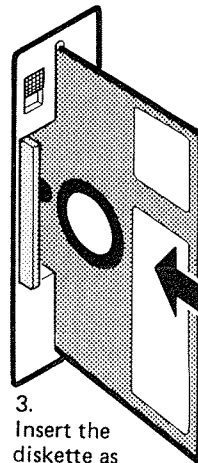
3.
Insert the diskette as shown.
Push it in as far as it will go.
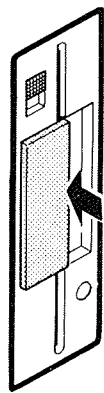
4.
Close the door.

5.
Lock the door if you want.

How to format your diskettes

If your diskettes are supplied by Norsk Data,
you can skip this section.

If your diskettes are from another supplier, you
must format them before use. To format a
diskette means to prepare it for data storage.
In the formatting process, the diskette is
divided into numbered sectors.

```
┌─ CAUTION ──────────────────────────────────┐
│                                             │
│ If the diskette contains data, this data    │
│ will be lost in the formatting process.     │
│                                             │
└─────────────────────────────────────────────┘
```

Formatting is done as follows:

1. Insert the diskette.

2. Log in on a terminal.

3. When you get the MAIN MENU, type @. You will
   then move to the line 'Task name:....'.

4. Type the instructions as shown:

```
@DEVICE FUNCTION←┘
FILE NAME: FLOPPY←┘
FUNCTION: SET-FORMAT←┘
FORMAT: 17←┘

@DEVICE-FUNCTION←┘
FILE NAME: FLOPPY←┘
FUNCTION: FORMAT-FLOPPY←┘
```

5. The formatting is completed when the @ sign
   reappears (a couple of minutes).

6. Press the EXIT key to get your menu back.

You also use this procedure if you want to

'erase' the old contents of a diskette and store
new data on it.

```
┌─ Note ─────────────────────────────────────┐
│                                            │
│ The examples given in this chapter are only│
│ valid as written if you use the floppy     │
│ diskette unit named FLOPPY-DISC-1, UNIT 0. │
│                                            │
└────────────────────────────────────────────┘
```

Checking that the floppy diskette unit is free to use

Normally the door should be open if the floppy
diskette unit is not in use. If the little lamp
is on, or blinks, it means that someone is using
the unit. Note that the unit may be occupied
despite the fact that the lamp does not blink.

```
┌─ CAUTION ──────────────────────────────────────┐
│                                                │
│ Do not open the door of the floppy diskette unit you are│
│ sure that no one is using the floppy diskette unit. If you│
│ open the door without checking, you might spoil the data on│
│ the floppy diskette of the person using the unit.│
│                                                │
└────────────────────────────────────────────────┘
```

Personal backup on the new norsk data floppy diskette

You should know the contents of the previous
pages in this chapter before you try out the
various examples below.

The examples in this section are only valid if
you have bought your floppy diskette from Norsk
Data in the autumn of 1987 or later. These
floppy diskettes are clearly labelled:

```
┌─────────────────┐                    ┌─────────────────┐
│  Norsk Data     │         or         │  Norsk Data     │
│  0.3 Mb         │                    │  1.2 Mb         │
└─────────────────┘                    └─────────────────┘
```

How you take backup on older Norsk Data floppy diskettes or floppy diskettes from other vendors is explained on page 32.

Abbreviate

Remember that all SINTRAN and Backup System commands may be abbreviated as long as they do not become ambiguous, for instance:

- The command COPY-USERS-FILES may be abbreviated to just C-U.

- FLOPPY-DISC-1 may be abbreviated to F-D-1.

Also note that you can use any terminal connected to the computer when you type the required information. Furthermore, it has no significance whether you type uppercase or lowercase letters.

The example below will only work if you use the floppy diskette unit named FLOPPY-DISC-1, UNIT 0 (see next page). What you type is underlined in the screen picture examples.

1. Insert the floppy diskette in the floppy diskette unit.

2. Log in under your own user name. In the example below we have used ANNE as the user name. If you want to try out the example, just replace ANNE with your own user name in the screen picture examples.

3. If you are not already in SINTRAN - you may for instance be in a User Environment menu - choose SINTRAN.

4. Give the SINTRAN command ENTER-DIRECTORY. This is to tell the computer that you want to use the floppy diskette unit where you have placed the floppy diskette:

```
@ENTER-DIRECTORY↵
DIRECTORY NAME: ND↵
DEVICE NAME: FLOPPY-DISC-1↵
DEVICE UNIT: 0↵
@
```

If you receive an error message, check that you have inserted the floppy diskette correctly and make sure you have not made a typing error. Another reason for an error message here may be that you are using the wrong type of floppy diskette.

5. All floppy diskettes are given the common name ND:FLOPPY-USER prior to delivery. The next step is to rename the floppy diskette by giving the SINTRAN command RENAME-USER. This is necessary to obtain the right access to the files you want to back up.

```
@RENAME-USER↵
USER NAME: ND:FLOPPY-USER↵
NEW USER NAME: ANNE↵
@
```

You must type ND and FLOPPY-USER when you are prompted for user name. Remember the colon (:). When you are prompted for new user name, type the user name you are logged in under instead of ANNE if you try out this example.

6. Then start the program Backup System

```
@BACKUP-SYSTEM↵
```

and follow the steps described on the next page:

```
    Ba-sy: COPY-USERS-FILES◄┘

       Destination type: DIRECTORY◄┘
          Destination directory name '' : ND◄┘
          Destination user name 'ANNE' : ◄┘

       Source type: DIRECTORY◄┘      ┌─────────────────────────┐
          Source directory name '' : ◄┘ │ If you have logged in    │
          Source user name 'ANNE';◄┘    │ under your own user      │
          Source file name '' : ◄┘      │ name, you will see your  │
                                        │ user name instead of     │
    Manual selection: YES◄┘             │ 'ANNE'.                  │
                                        └─────────────────────────┘
    FILE 1:(PACK-TWO: ANNE)LETTER-1:TEXT;1
    INDEXED FILE  22 PAGES  MODIFIED 87.06.03 (YES/NO) YES◄┘
    -OK
    FILE 2:(PACK-TWO: ANNE)REPORT-MAN:TEXT;1
    INDEXED FILE 112 PAGES  MODIFIED 87.03.14 (YES/NO) YES◄┘
    -OK
    FILE 3:(PACK-TWO: ANNE)LETTER-2:TEXT;1
    INDEXED FILE   9 PAGES  MODIFIED 87.04.06 (YES/NO) NO◄┘

    Number of files done: 2

    Ba-sy: EXIT◄┘

    @
```

If you get an error message when your files are being copied to the floppy diskette, the reason may be that the files take too much space on the floppy diskette.

Selecting files

When your files are listed on the screen, answer YES to the files you want to copy and NO for those you do not want to copy. If the file is long the copying may take some time.

When the prompt Ba-sy: appears on the screen again, your files are stored on the floppy diskette. Note that all your files are still on the disk; you have only made a backup of some of your files on the floppy diskette.

Key

If you want to stop the Backup System from asking you which files you want to copy, press the ESC key once to get the Ba-Sy: prompt back on your screen.

To select only one file, type the name of the file in reply to the prompt Source file name.

7. After you have typed EXIT to leave the Backup System, you may now check that the files have actually been copied to the floppy diskette:

```
@LIST-FILES↵
FILE NAME: (ND:ANNE)↵
OUTPUT FILE: ↵
```

Remember to enclose ND and ANNE in parentheses, and to type a colon between them. Replace ANNE with the user name you are logged in under if you try out this example.

Output file   Pressing ↵ for the prompt output file gives you this information on the terminal. You may also specify a printer or a file as the output file. It is a good idea to take a printout and insert it in the jacket where you keep your floppy diskette so that you know which files are stored on your floppy diskette.

8. Before you remove the floppy diskette from the floppy diskette unit, you must make the floppy diskette unit available for the next user:

```
@RELEASE-DIRECTORY↵
DIRECTORY NAME: ND↵
@
```

Now you may remove your floppy diskette.

> **Note**
>
> It is important that you always give the RELEASE-DIRECTORY command before you remove your floppy diskette. If you forget it, the next user who tries to use the floppy diskette unit will have difficulties.

9. Label your floppy diskette (see page **).
   This is important so that you know which
   files are stored on the floppy diskette.

The next time you want to take a backup of your
files, you can use the same floppy diskette
provided you have not used all the available
space on it. You just give the SINTRAN command
ENTER-DIRECTORY (see page 28) before you start
the Backup System and use the COPY-USERS-FILES
command.

Personal backup on other floppy diskettes

If you do not use the latest type of floppy
diskette supported by Norsk Data (refer to page
27), the procedure for taking personal backup is
a little more elaborate.

Formatting   Floppy diskettes must always be **formatted** - that
is, prepared in a special way - before they can
be used. To be able to follow the example below,
you must use a formatted floppy diskette.

Floppy diskettes delivered from other vendors
must always be formatted before you use them the
first time.

1. Make sure you are using a formatted floppy
   diskette and follow the instructions under
   steps 1 to 3 on page 28 and page 28.

2. Give the SINTRAN command CREATE-DIRECTORY.

CAUTION

The CREATE-DIRECTORY command will destroy all files stored
on the floppy diskette. Therefore, ensure you are using a
floppy diskette which contains no files.

```
@CREATE-DIRECTORY↵
DIRECTORY NAME: ND↵
DEVICE NAME: FLOPPY-DISC-1↵
DEVICE UNIT: 0↵
BIT FILE ADDRESS: ↵
@
```

Bad page

While creating the directory you may receive
the message PAGE XXX IS BAD. This signifies
that the floppy diskette is defective. Try
again with another diskette.

The CREATE-DIRECTORY command is used to
identify the floppy diskette to the
computer. When you are prompted for the
directory name you may choose any name you
want, up to 16 characters. In this example
we have chosen ND.

```
@ENTER-DIRECTORY↵
DIRECTORY NAME: ND↵
DEVICE NAME: FLOPPY-DISC-1↵
DEVICE UNIT: 0↵
@
```

Note that what you fill in as answers to the
prompts directory name, device name and
device unit is the same as under the command
CREATE-DIRECTORY.

3. The next step is to create a user on the
   floppy diskette. When you are asked for user
   name, note the following:

   1 Type the directory name you used
     above.

   2 Type a colon.

   3 Type the user name you are logged
     in under.

```
@CREATE-USER←
USER NAME: ND:ANNE←
@
```

4. Then this user must be allocated space on
   the floppy diskette:

```
@GIVE-USER-SPACE←
USER NAME: ND:ANNE←
NUMBER OF PAGES: 610←
@
```

You must always indicate the directory name
of the floppy diskette in front of the user
name.

In the example above, the floppy diskette is
of the 1.2 Mb type. If you are using a 0.3
Mb floppy diskette, type 148.

5. Now you can start the Backup System (see
   page 29) and follow the instructions in the
   rest of that section. If you have created a
   directory name other than ND, remember to
   replace ND with your own directory name in
   the examples.

Do not forget the RELEASE-DIRECTORY command when
you have finished your backup.

Restoring a personal backup from a floppy diskette

In the example below we show how user ANNE, who
previously in this chapter took a backup of some
of her files copies these files back from her
floppy diskette to the computer's disk.

```
┌─ Note ──────────────────────────────────┐
│                                          │
│  It is very important that you log in under │
│  the same user name as you did when you  │
│  copied your files onto the floppy diskette. │
│  If not, you will probably not have the  │
│  correct access rights to the files on the │
│  floppy diskette.                        │
│                                          │
└──────────────────────────────────────────┘
```

1. Insert the floppy diskette in the floppy
   diskette unit.

2. Log in under the same user name as the user
   on the floppy diskette. You will find the
   user name on the floppy diskette label if
   you have remembered to label your floppy
   diskette.

3. Give the ENTER-DIRECTORY command:

```
@ENTER-DIRECTORY↵
DIRECTORY NAME: ND↵
DEVICE NAME: FLOPPY-DISC-1↵
DEVICE UNIT: 0↵
@
```

The directory name you type must be the same
as the one you used when you copied the
files to the floppy diskette. The directory
name is usually written on the floppy
diskette label. Note that you are still
working on a computer with one floppy
diskette unit, so therefore you type 0 when
you are prompted for device unit.

4. Start the Backup System and copy the files
   back to the disk:

```
Ba-sy: COPY-USERS-FILES←                    The destination
                                            user name will be
    Destination type: DIRECTORY←            the user name you
        Destination directory name '' : ←   are logged in under.
        Destination user name 'ANNE' : ←

    Source type: DIRECTORY←
        Source directory name '' : ND←      You will see the user
        Source user name 'ANNE': ←          name on the floppy
        Source file name '' :←              diskette instead of
                                            'ANNE' if ANNE is not
Manual selection: YES←                      the user on the floppy.

FILE 1:(PACK-TWO: ANNE)LETTER-1:TEXT;1
INDEXED FILE  22 PAGES  MODIFIED 87.06.03 (YES/NO) YES←
-OK
FILE 2:(PACK-TWO: ANNE)REPORT-MAN:TEXT;1
INDEXED FILE 112 PAGES  MODIFIED 87.03.14 (YES/NO) YES←
-OK
Number of files done: 2

Ba-sy: EXIT←

@
```

Remember to type the directory name! If you are using a floppy diskette with a directory name other than ND, you must type this name when you are prompted for Source directory name.

5. Release the directory (see page 31) before you remove the floppy diskette from the floppy diskette unit.

Cleaning the floppy drive

The floppy drive should be cleaned at least once a month. Use the PERFECT DATA Head Cleaning Kit, and follow the instructions given on the envelope of the cleaning diskette.

```
┌─ NOTE ──────────────────────────────────┐
│                                          │
│  The floppy drive is dual sided; the perfo- │
│  rated tab on the cleaning diskette must    │
│  therefore be removed.                      │
│                                          │
└──────────────────────────────────────────┘
```

How to start the floppy drive while cleaning the head:

1. Log in on a terminal.

2. When you get the MAIN MENU, type @. You will then move to the line 'Task name:....'.

3. Type the instructions as shown:

4. You may get an ERROR message on the screen, but this is of no importance.

5. The cleaning is completed when the @ sign reappears. Press the EXIT key to get your menu back.

CHAPTER 5   TAKING DEVICE BACKUP

In the previous chapter we explained how to take
personal backup, i.e. how to make a copy of your
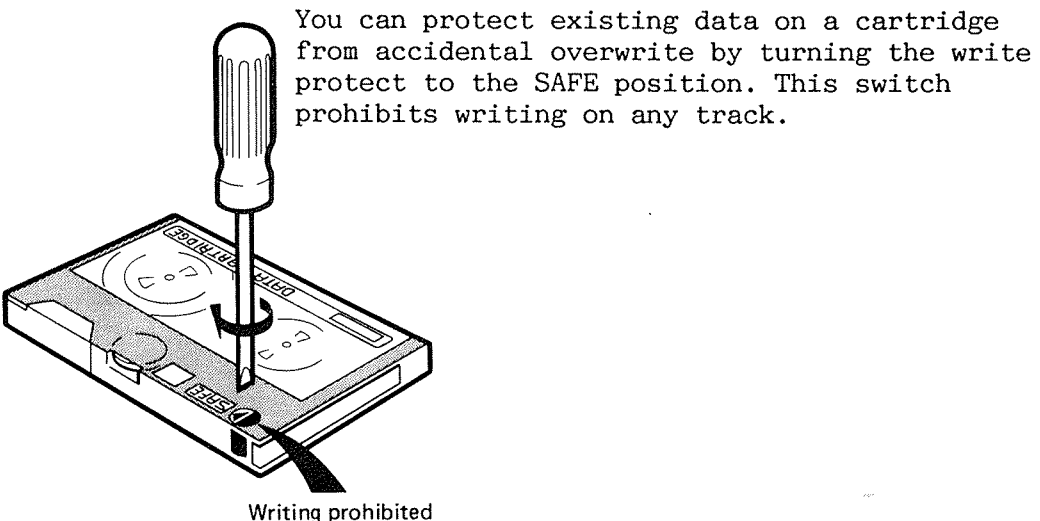own personal files on the disk pack onto a
floppy diskette.

You can also take backup of the entire contents
of the computer's disk pack. This is called
taking *device backup*.

This backup is taken onto a streamer tape
cartridge which you insert in the streamer
drive.

The following pages tells you how to handle the
streamer tape cartridge, and the streamer drive.
The different procedures for taking device
backup is described in the manual

BACKUP User Guide ND-60.250 EN

Protecting the tape cartridge from accidential erasure

You can protect existing data on a cartridge
from accidental overwrite by turning the write
protect to the SAFE position. This switch
prohibits writing on any track.

Writing prohibited

Labelling the tape cartridge

It is very important to label the cartridge to
know what has been stored on it. Always write
the date and the name of the disk unit from
which the backup was taken.

NOTE

DO NOT fasten the label to the metal plate
on the back of the cartridge. The thickness
of the label will be sufficient to bring
the cartridge out of its correct position,
so that the tape will be positioned in-
correctly with respect to the read/write
heads.

Inserting the tape cartridge

1.
Open the
door by
pushing
the knob.

2.
Slide the
cartridge
in as shown
until it
stops.

3.
Close
the door.
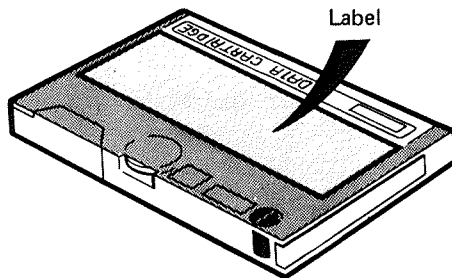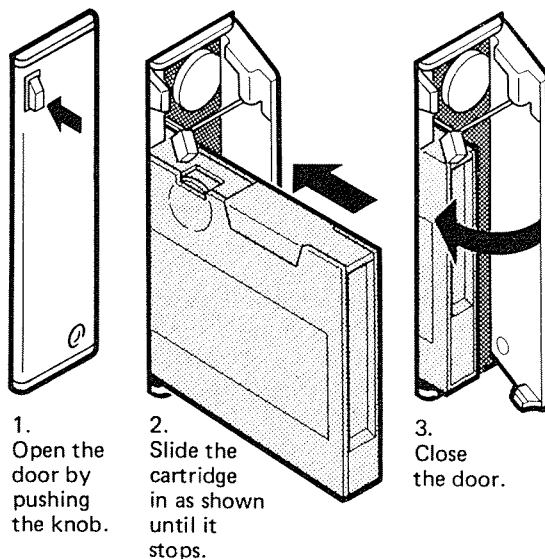
Cleaning the streamer drive

WHEN TO CLEAN   If backup is taken daily, you must clean the
read/write heads once a week. If backup is taken
weekly, you must clean the heads once a month.

If there are any rewrites, rereads, overruns or
underruns during copying, a message will appear
on the screen afterwards, giving you the number
of such occurrences. If the number of rewrites
increases dramatically from copy to copy, the
read/write head may need cleaning.

WHAT TO USE   To clean the heads, you can use Tandberg Data's
7566 Kit TDC Cleaning Cartridge. Follow the
instructions that is implemented in the kit.

If you run into trouble

- Have you remembered to create directory?

- Have you checked that your diskette is not write protected?

- If you get stuck, you can always 'get out' by pressing the ESC key the required number of times.
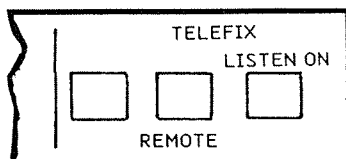
Every 5th to 10th time you take backup, you should take a COMPLETE backup, to avoid producing long chains of selected backups. You do this by leaving out the selection MODIFIED-SINCE-LAST-BACKUP from the example above. The first time you take a regular backup again, after taking a complete backup, you must erase the log file by answering NO to the question 'Append access'.

CHAPTER 6   ERROR SITUATIONS

How to use telefix

Telefix is a system which permits analysis of
error situations in your computer directly from
Norsk Data's Service Center.

To activate Telefix, set the key switch to ON
and press the two rightmost keys on the operator
panel (to the left for the key switch), so that
the panel looks like the illustration (REMOTE
and LISTEN ON).


```
 ┌─────────────────────────────────┐
 │            TELEFIX              │
 │                  LISTEN ON     │
 │   ┌──┐     ┌──┐     ┌──┐        │
 │   └──┘     └──┘     └──┘        │
 │         REMOTE                 │
 └─────────────────────────────────┘
```

┌─ NOTE ──────────────────────────────────┐
│   │
│ To be able to use the TELEFIX, you must: │
│   │
│ Set the thumbwheel switch for "Speed   │
│ Setting for Console Terminal" to position│
│ 15.   │
│   │
│ Set the switch "SW" (ST1) on the Panel   │
│ Control PCB (ND-1834) to the REMOTE   │
│ position.   │
│   │
└──┘

Now you can communicate with the ND Service
Center from your console terminal.

44

Backup

A copy of one or more data files on a floppy diskette or streamer tape, which is stored in case the original gets lost.

Bit

The smallest available unit of information. A bit can have only one of two values: 0 or 1.

Buffer

Temporary storage used to balance different operating speeds of devices.

Byte

A group of bits. In ND computers a byte is always eight bits.

Command

An order you give to the computer.

Console terminal

Terminal 1, connected directly to the CPU in the computer. Communication and fault-finding are usually carried out on the console terminal.

CPU

Central Processing Unit. It stores programs and data, and controls the computer's interpretation and execution of instructions.

CRT

Cathode Ray Tube (same as VDU).

Default

The parameter chosen by the computer if you yourself do not specify one, i.e. if you press the return key instead of typing a parameter. See PARAMETER.

Directory

A set of files.

Disk

See Fixed disk.

Diskette

See Floppy diskette.

File	Files are what you use for storing data. They are like labeled drawers in a cabinet. You put your data in one of them, give it a FILE NAME, and later you can get it out again when you want to see it or make some changes to it. Files can exist on floppy diskettes, and on the fixed disk. A group of files is called a DIRECTORY, and is given a DIRECTORY NAME.
Fixed disk	A hard magnetic plate used for data storage. The disk forms a part of the computer's memory.
Floppy drive	The part of the computer where you insert the floppy diskette to record data from (or transfer data to) the computer's disk.
Floppy diskette	A round magnetic plate used for storing data.
Formatting	Preparing a floppy diskette for storing data. The data which was previously on the floppy diskette is destroyed.
Interface	A shared boundary between two units. It is often used as an adaption device which makes it possible to link two different units together.
Load into	Transferring something (e.g. a program) into the computer's memory.
Log in	The procedure you follow in order to start a dialog with the computer.
MB (Mbyte)	Megabyte = 1048576 bytes (1 million bytes).

Operating system   A program controlling the execution
                            of other programs or commands in
                            the computer. It enables several
                            users to communicate with the
                            computer at the same time. In ND
                            computers, the operating system is
                            called SINTRAN III.

Operator   A person who operates the computer
                            and other units in the computer
                            system.

Overrun   During copying from the streamer
                            tape, the interface is not able to
                            accept data at the rate at which it
                            is transmitted from the streamer.
                            This results in a full buffer, and
                            the streamer may be stopped and
                            then started again.

Page   Files are divided into pages,
                            usually consisting of 1024 words
                            each.

Parameter   Additional information that you put
                            into a command given to the com-
                            puter. EXAMPLE: If you tell the
                            computer to copy from disk to
                            streamer, you must specify which
                            disk to copy from. The disk name
                            will then be the parameter. See
                            DEFAULT.

Password   A set of characters used for iden-
                            tification when communicating with
                            the computer. It prevents other
                            users from logging in under your
                            user name.

Personal backup   Copying your own data files onto a
                            floppy diskette (as opposed to
                            SYSTEM backup, which means copying
                            ALL files).

Release   To 'get out' of a computer program
                            or system, to make it available for
                            somebody else.

Reread

This happens if the system was unable to recover a block of data from the streamer tape. The tape motion is stopped, and the tape is rewound before the block of data is read once more.

Rewrite

Occurs if the streamer was unable to write a block of data successfully. The write attempt is then repeated.

SINTRAN

See Operating system.

Streamer

A tape recorder built into the computer and used for storing data.

Streamer tape

The tape cartridge used in the streamer.

System supervisor

The person who is responsible for the daily operation of the system.

Telefix

Permits analysis of error situations in the customer computers directly from Norsk Data's Service Center.

Terminal

What you use to communicate with the computer.

Terminal 1

See Console terminal.

Underrun

Whilst writing to the streamer tape, the interface is unable to transmit data at a rate that is fast enough for the streamer. The streamer may be stopped and started again when there is more data available.

User

Yourself, and anybody else who uses a computer terminal.

User area   A registered area on the fixed disk
                                 where the computer stores your
                                 files. This area is reserved for
                                 you.

User name   A registered name by which the com-
                                 puter identifies you.

SYSTEM backup   Copying all data files onto a
                                 streamer tape or floppy diskettes.
                                 (as opposed to PERSONAL backup,
                                 which means copying YOUR OWN files
                                 only).

VDU   Visual Display Unit. Part of the
                                 terminal.

Index

.