

*Documentation
Catalogue*

ND-40.004.7 EN



Documentation
Catalogue
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Preface:

THE PURPOSE

This manual describes user documentation available for Norsk Data computer systems.

User documentation is documentation relating to the use of both hardware and software. It includes all information necessary to load, start and use these systems. It also includes information on maintaining, modifying and adding to these systems if this can be done by the user.

THE READER

This manual is written for all users of Norsk Data computer systems.

THE MANUAL

Chapter 1 gives a brief introduction and describes the various categories of user documentation. Norsk Data's documentation numbering and color coding system is also explained. Chapter 2 presents overview diagrams of all manuals and reference cards showing: the products they describe, the type of readers they are written for and the relationship between the manuals. This section can also be used to obtain an overview of hardware and software products produced by Norsk Data. Chapter 3 briefly describes each manual and reference card in numerical order. Finally, chapter 4 gives an alphabetical listing of manuals and reference cards which includes version numbers, prices and product numbers.

RELATED MANUALS

The Education Department has a variety of courses in the use of Norsk Data systems. These courses are described in the

Course Catalogue

An overview of software for Norsk Data computers developed and supported by users and software houses can be found in the

Software Catalogue

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CHAPTER 1

INTRODUCTION

.....

- DOCUMENTATION CATEGORIES
- SUBJECT MATTER
- NORSK DATA'S DOCUMENTATION NUMBERING SYSTEM
- COLOR CODES
- REVISIONS AND VERSIONS
- LANGUAGE VERSION SUFFIX
- READER AUDIENCE
- DOCUMENT TYPE
- THE MANUAL PREFACE
- ORDERING MANUALS

1 INTRODUCTION

This catalogue describes the documentation available to users of Norsk Data computer systems. All manuals in this catalogue can be ordered from the ND Publications Office. A list of available documentation, their version number and price, is published every month in the Customer Support Information (CSI) document. This catalogue is published twice every year.

1.1 DOCUMENTATION CATEGORIES

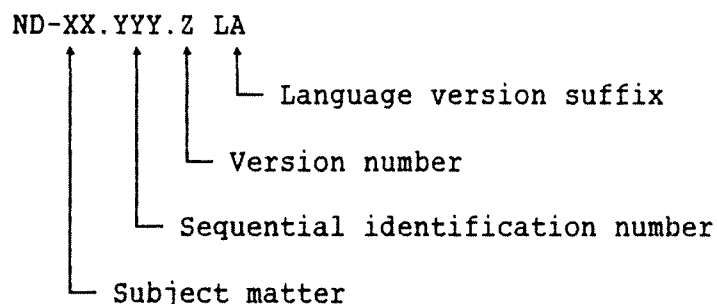
The various types of documentation have been placed in categories and the relationships between them indicated. The most common categories relate to the subject covered (subject matter), the type of reader the documentation is intended for (reader audience) and the way the subject matter is presented (document type). Document type and reader audience categories are often closely related.

1.1.1 SUBJECT MATTER

Documentation is usually divided according to the subject being covered. The main division is into hardware and software, with hardware being further subdivided into different types of hardware. A third division exists for documentation covering a combination of hardware and software or other subjects. A fourth division is used for the numbering of reference cards. The Norsk Data documentation numbering system reflects this division to some extent. This numbering system is described in section 1.1.1.1.

1.1.1.1 NORSK DATA'S DOCUMENTATION NUMBERING SYSTEM

The numbering system for Norsk Data documentation consists of three numbers, as follows:



The subject matter is coded like this:

Hardware

- 02 = PIOC hardware
- 05 = NORD-50, ND-500 CPUs
- 06 = NORD-10, NORD-10/S, ND-100 CPUs
- 11 = Data storage equipment
- 12 = I/O interfaces
- 13 = Miscellaneous hardware

Mixed hardware/software/other

- 30 = Operating, diagnostic, maintenance
- 40 = Miscellaneous

Software

- 60 = General software
- 61 = NORTEXT software
- 63 = NOTIS software
- 64 = SINTRAN IV
- 65 = Technovision

Quick reference

- 99 = Reference cards, posters, etc.

In addition, there may be revisions to the documentation as described in section 1.1.1.3. These are identified by letters, for example, REV.A, REV.B.

1.1.1.2 COLOR CODES

The manual covers have a color code which also reflects the subject matter. These codes are described below:

- | | |
|--------|-----------------------------------|
| Red | Hardware |
| Yellow | Operator/supervisor documentation |
| Blue | General software |
| Green | NOTIS office automation software |

**1.1.1.3 REVISIONS AND
VERSIONS**

Documentation is updated by means of revisions and new versions.

Revisions consist of one or more single pages which the reader inserts into the old document. Each revised page is listed on the new printing record which accompanies the revision. The old printing record should be replaced by the new one. Revisions are used to correct small errors in the documentation or to document small changes in the product. Revisions are indicated by letters, such as REV.A.

New versions consist of a complete, new, replacement document. They incorporate all revisions since the previous version. The printing record shows all old versions and revisions, and the new version number. They are issued when changes to a document involve more than a few minor revisions. Versions are indicated by a number, such as version 7 for this document.

**1.1.1.4 LANGUAGE
VERSION SUFFIX**

The language suffix consists of a two-letter abbreviation in uppercase, and will always be the last part of the document number.

The language version suffix will be coded like this:

EN - English
NO - Norwegian
SW - Swedish
GE - German
FR - French
DA - Danish

Documentation that presently exists in an English and a Norwegian version under two different numbers will not receive new numbers. Chapter 3 of this manual gives a complete a description of all user documentation available for Norsk Data computer systems. The various language versions available will be given in the document's description.

1.1.2 READER AUDIENCE

Most readers belong to one or more of the following groups:

Managers Managers are usually interested in gaining an overview of a product to decide if it is of interest and, if so, how the company can best profit from it. Detailed technical descriptions are usually of less interest.

End Users These are users of computer-based systems, who are not computer professionals. They do not write programs themselves but need instructions on how to use them. End users should also be given an overview in order to understand the general design of the system.

Application Programmers These programmers have a general knowledge of computer systems and how to program them, but may have little knowledge of the particular programming system in use. They require detailed instructions on how to program using this system.

System Programmers System programmers are able to make changes to the system itself. They must be given detailed information on how to program the system and how to implement changes to it.

System Supervisors A system supervisor has a fairly deep knowledge of a system and is able to do such things as configure the system, make necessary changes to it and correct more difficult error situations. System supervisors usually have the main responsibility for a system and must be given detailed information about it.

Operators Operators are responsible for the daily operation of a computer system. They need to know how to start and stop the system, how to keep the system running correctly and how to correct simple errors.

Service Service personnel must be able to locate and repair errors. This requires an understanding of error messages and symptoms, diagnostic tools, error removal procedures, etc. Service is generally carried out by Norsk Data employees, but some service documentation is also available to customers.

1.1.3 DOCUMENT TYPE

	The kind of information being presented determines the type of document and how it is structured. This often depends on the intended audience.
Introductory Information	This type of information contains a general functional description of a system, highlighting the main features. Brief technical details may be presented and hardware and software requirements mentioned. It is written for all types of users. It may be the only type of documentation necessary for managers whereas other users may read it before going on to more detailed documentation.
Reference Documentation	Reference documentation presents a concentrated and formal explanation of a product. This includes all information needed to fully understand the use of a system, and detailed descriptions of all the features and facilities available to the user. Reference documentation lists and explains all commands, parameters, limitations and restrictions, errors, traps, etc. It contains information needed to use all options and should be structured so that it is easy to find information quickly. Such documentation is mainly intended for experienced users who require detailed knowledge of a system, who need to know the precise syntax of a command and its parameters, the precise meaning of an error message, and so forth.
Reference Cards	Reference cards are designed for experienced users who want quick reference to technical details and do not need any accompanying explanation. The cards contain condensed lists of commands, statements, calls, and instructions. Parameters should also be included plus any other pertinent information.
Tutorial Documentation	The purpose of tutorial documentation is to teach the reader about a new system. It should tell the reader what the system can be used for, how to start or call the system, and how to use it step-by-step. It should contain meaningful examples of commands and facilities and hints on likely mistakes the user may make. It should describe error messages, probable causes for them, and methods for correcting the errors.

It may also contain suggestions on how to make best use of the system. This documentation is written mainly for new users of a system.

"How to Use"
Documentation

This type of documentation is to instruct, not inform the reader about using the system. It should contain "cookbook" type procedures telling how to start or call the system, and how to use it, explained step-by-step. It should describe error messages, causes and corrections. It may also contain suggestions on how make the best use of the system, but this should be brief. This documentation should be as concentrated as possible and not contain any superfluous information. However, examples of the use of the procedures should be included. "How to Use" documentation is written for users who need to know how to use a system, but who don't need to understand much of the logic of it.

Operating
Documentation

This documentation is written specifically for operators and supervisors, i.e. those responsible for the installation, operation and maintenance of a system. It contains the information necessary to carry out these system tasks: how to load and start, how to protect and restart, how to run jobs, etc. Error situations and messages should be described in detail. It may also contain information for supervisors, such as defining the user's configuration, ordering and installing the system, making limited changes to it, handling serious error situations and correcting errors in the system on the basis of information received from program maintenance.

Maintenance
Documentation

This documentation is written specifically for service personnel. It contains the information necessary to identify and repair errors in the field, either by correcting the error or by replacing the unsatisfactory component.

Internal Logic
Documentation

This shows the internal construction of a hardware or software product. It provides a detailed description of implementation, giving the reader comprehensive understanding and possibly the ability to modify the product. Internal logic documentation is written for supervisors and system programmers who need a general knowledge of a system.

1.2 THE MANUAL PREFACE The preface helps the reader decide if this manual is relevant to his/her current needs. It contains the following information:

1. Identification of the product(s) documented in the manual, their ND or PD number and version number.
2. Definition of the reader audience.
3. What the reader should know before reading the manual, in order to understand it fully, and in which other manuals such information may be found.
4. A brief description of the manual's contents and structure and suggestions on how to use it.
5. A list of related manuals, how they are related and a recommended reading order where applicable.
6. Changes from the previous version, if the manual is an update.

1.3 ORDERING MANUALS Customers receiving new hardware or software products, or new versions of them, will automatically receive the relevant documentation, so it is unnecessary to order this separately.

However, users wanting additional manuals, or documentation for other products, can order these directly from Norsk Data. If a manual is updated with a revision or a new version, this will not be automatically sent out to those with the old manual, but must be ordered separately. New revisions and versions are announced in the Customer Service Information (CSI) document which is published monthly.

All manuals can be ordered from the local Norsk Data office or (in Norway) from:

Publications Office
Norsk Data A.S.
P.O. Box 25, Bogerud
N-0621 Oslo 6
NORWAY

CHAPTER 2

SURVEY OF MANUALS

.....

- **HARDWARE DOCUMENTATION**
- **DATA STORAGE AND INTERFACES**
- **MIXED HARDWARE/SOFTWARE DOCUMENTATION**
- **SOFTWARE DOCUMENTATION**
- **OPERATING SYSTEMS**
- **COMPILERS, MONITORS AND LOADERS**
- **UTILITY PROGRAMS**
- **DATA COMMUNICATION**
- **ADMINISTRATIVE DATA PROCESSING AND DATABASES**
- **NORTEXT**
- **TECHNOVISION**

2 SURVEY OF MANUALS

The numbering system described in Chapter 1 shows a general division of Norsk Data documentation into three main categories, based on the subject matter:

- Hardware
- Mixed hardware/software/other
- Software

Figure 1 shows how these categories are further subdivided.

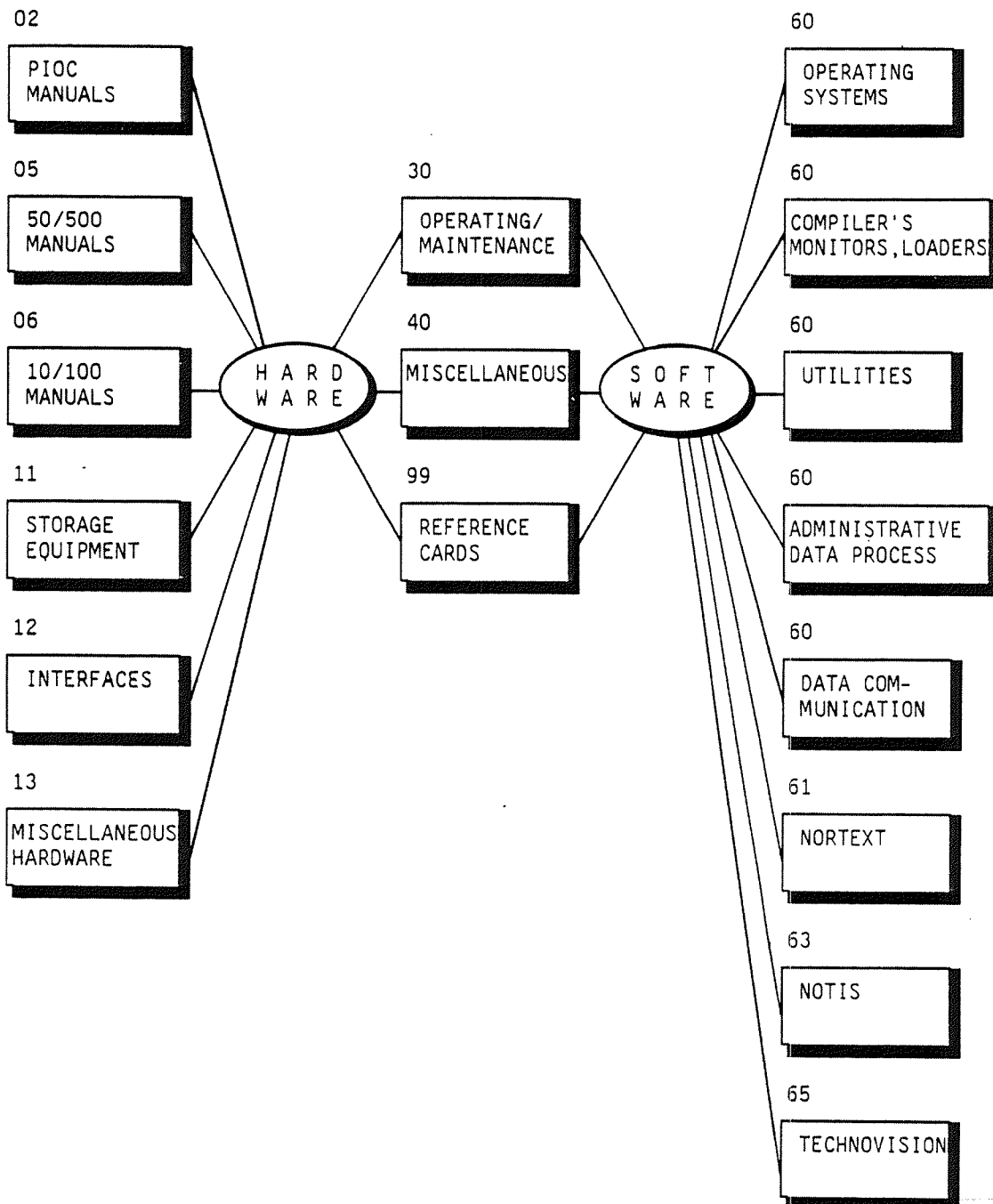


Figure 1. Manual Categories

2.1 HARDWARE DOCUMENTATION

Figure 2a shows the hardware documentation available for the following CPUs produced by Norsk Data:

NORD-10
NORD-10/S
NORD-50
ND-100
ND-500
PIOC

This documentation is arranged by CPU type and by documentation type. These types are, from left to right:

Introductory information
Reference documentation
Internal logic documentation

The corresponding operating, maintenance and diagnostic (test program) documentation for these CPUs is shown in figure 2b.

2.1.1 DATA STORAGE AND INTERFACES

Figure 3 shows documentation covering storage equipment and interfaces. It also shows some miscellaneous hardware documentation.

2.2 MIXED HARDWARE/SOFTWARE DOCUMENTATION

Most of the documentation in this category belongs to the following types:

- Operating and supervising
- Diagnostic and maintenance

Figure 2b shows how this documentation is related to the hardware documentation for the same CPUs.

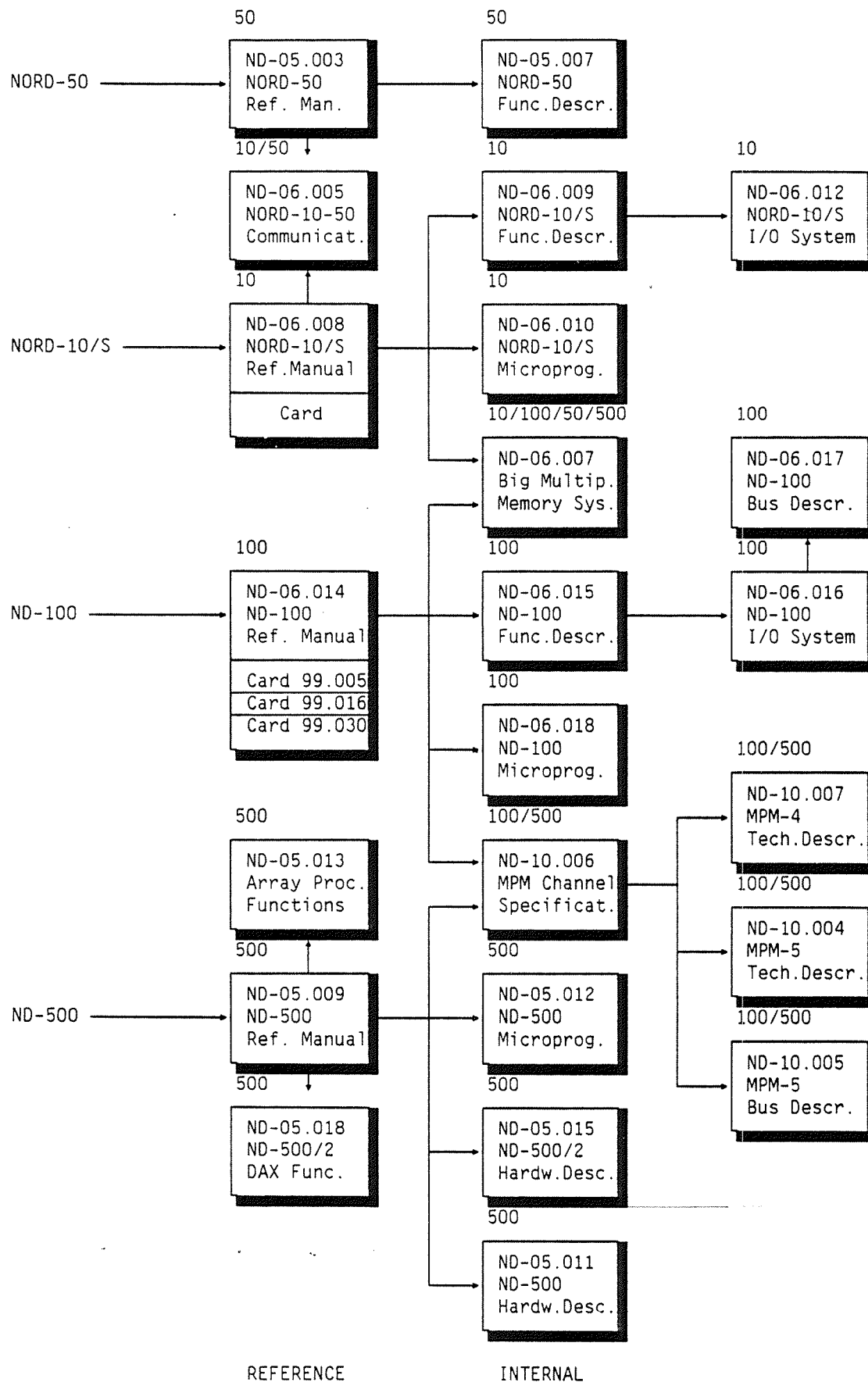


Figure 2a. CPU Hardware Manuals

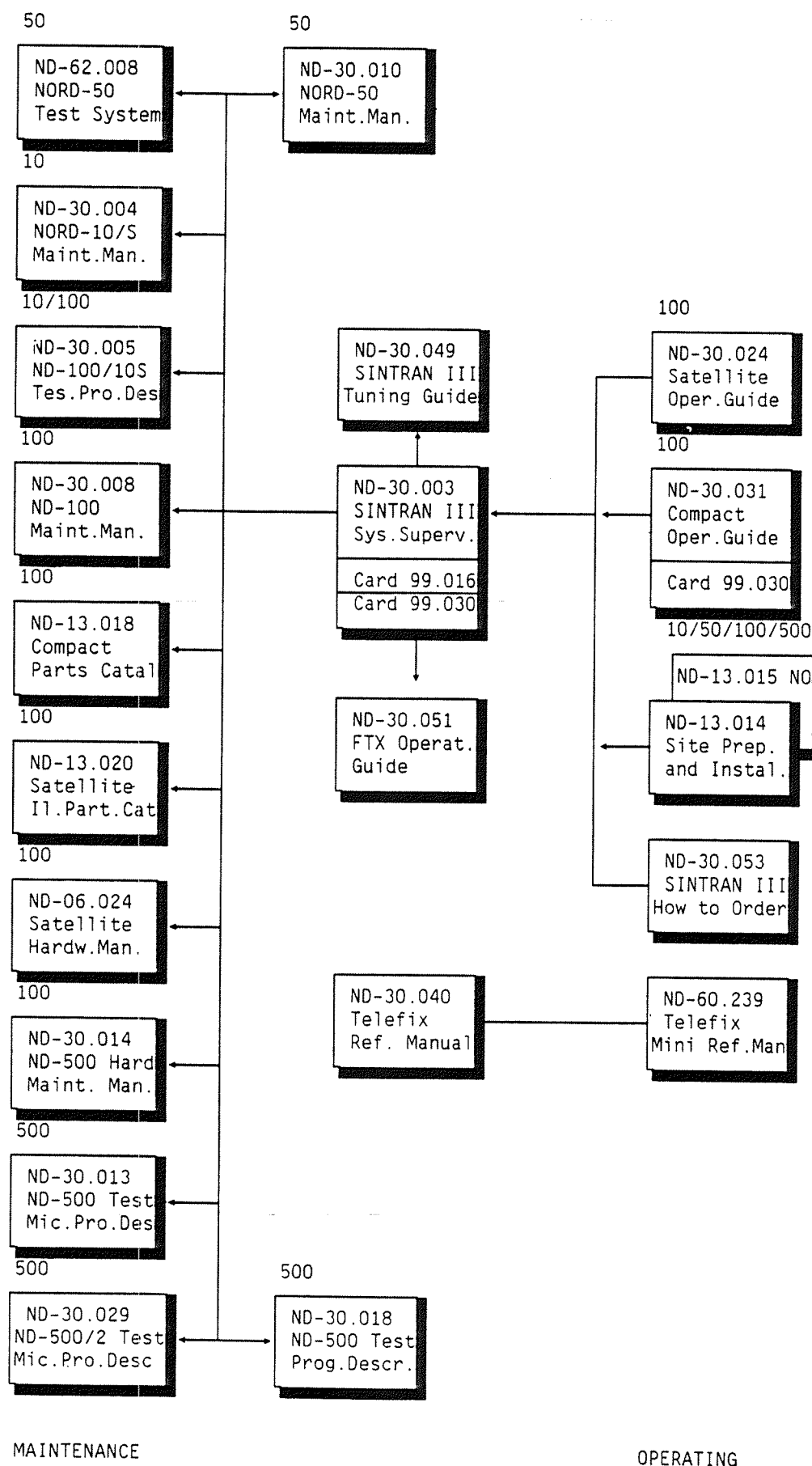


Figure 2b. Operating and Maintenance Manuals

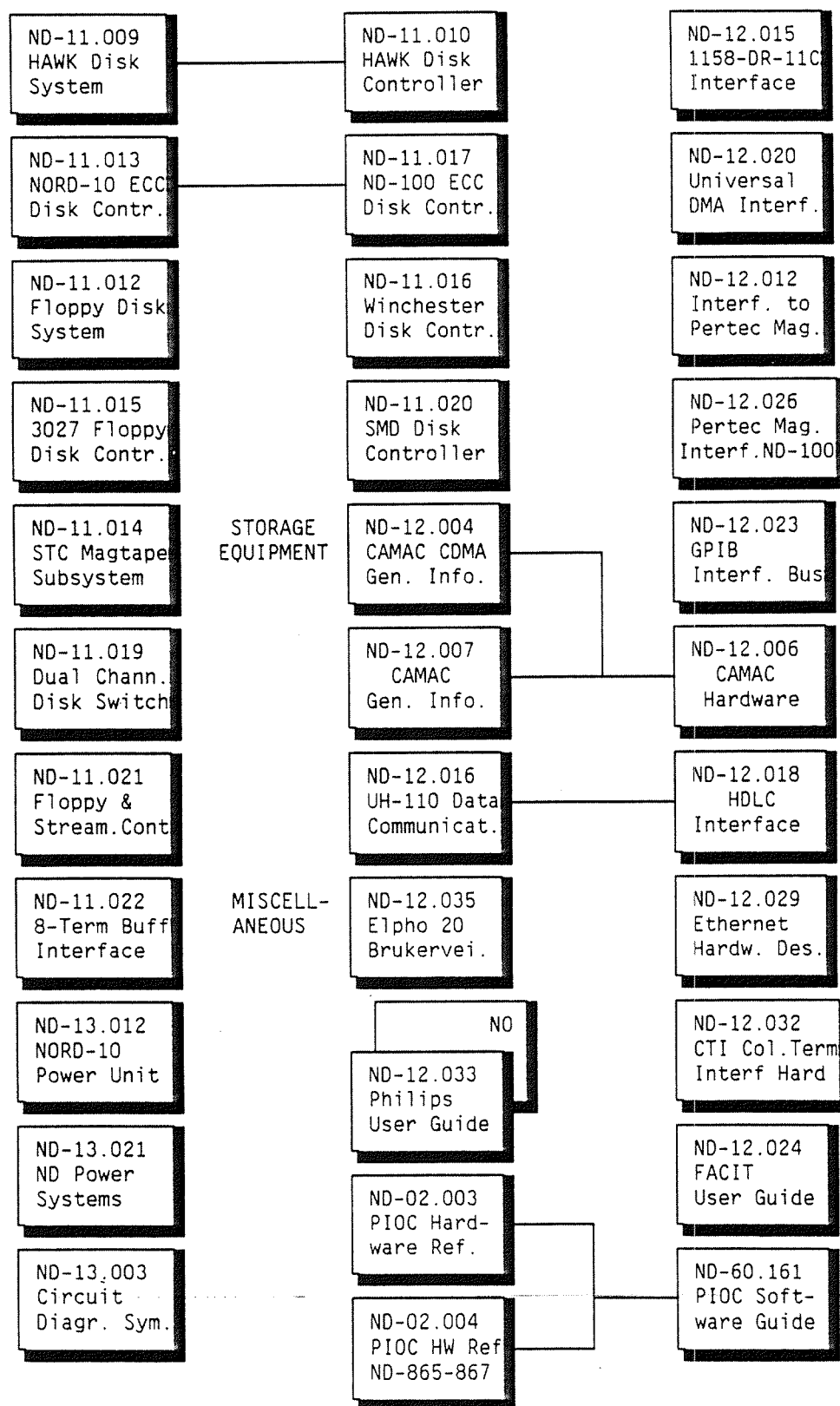


Figure 3. Storage Equipment and Miscellaneous Hardware

2.3 SOFTWARE DOCUMENTATION

All software documentation has a number in the 60 series. It is divided into the following groups:

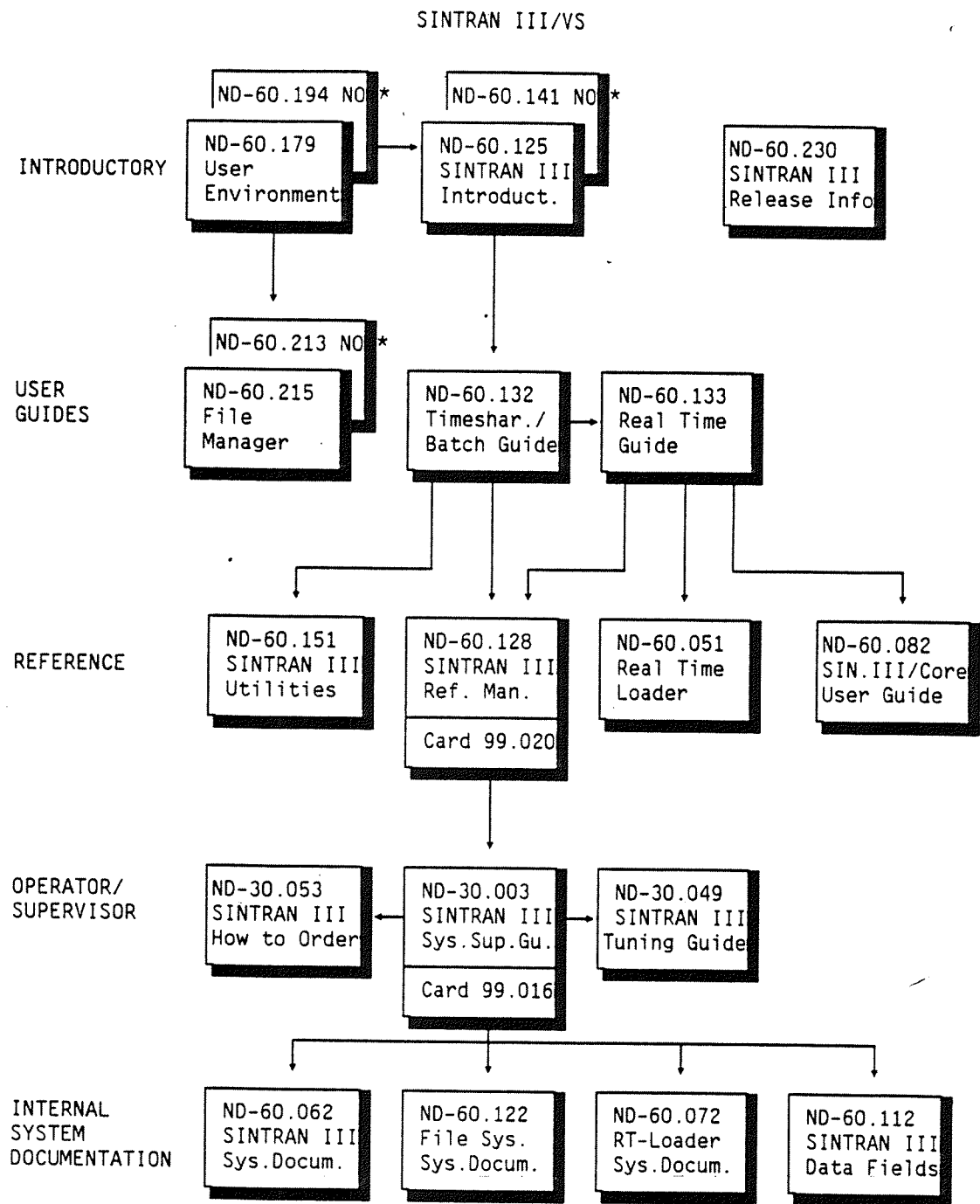
- Operating systems
- Compilers
- Monitors, loaders
- Utilities
- Data communication
- Administrative data processing, databases
- Office automation
- NORTEXT
- Technovision

2.3.1 OPERATING SYSTEMS

The operating system in most common use at present is SINTRAN III/VS, the disk version of SINTRAN III. The types of documentation required to provide a comprehensive description are divided as follows:

- Introductory information
- Reference documentation/cards
- Tutorial documentation
- Operating documentation
- Internal logic documentation

The version that does not use a disk, SINTRAN III/RT, is much simpler and is described in the SINTRAN III/Core User's Guide.



* These manuals have different numbers from the English manuals

Figure 4. Operating Systems

2.3.2 COMPILERS, MONITORS AND LOADERS

Figures 5 and 6 show the compiler, monitor and loader documentation available for the different CPUs. The NORD-10 and ND-100 are completely software compatible, whereas the NORD-50 and ND-500 need special compilers and loaders. The NORD-50 and ND-500 also use special monitors under SINTRAN III; these are not necessary for the NORD-10 and ND-100.

Some of the compiler documentaion can be used for both ND-100/10 and ND-500 compilers, as shown in figure 6.

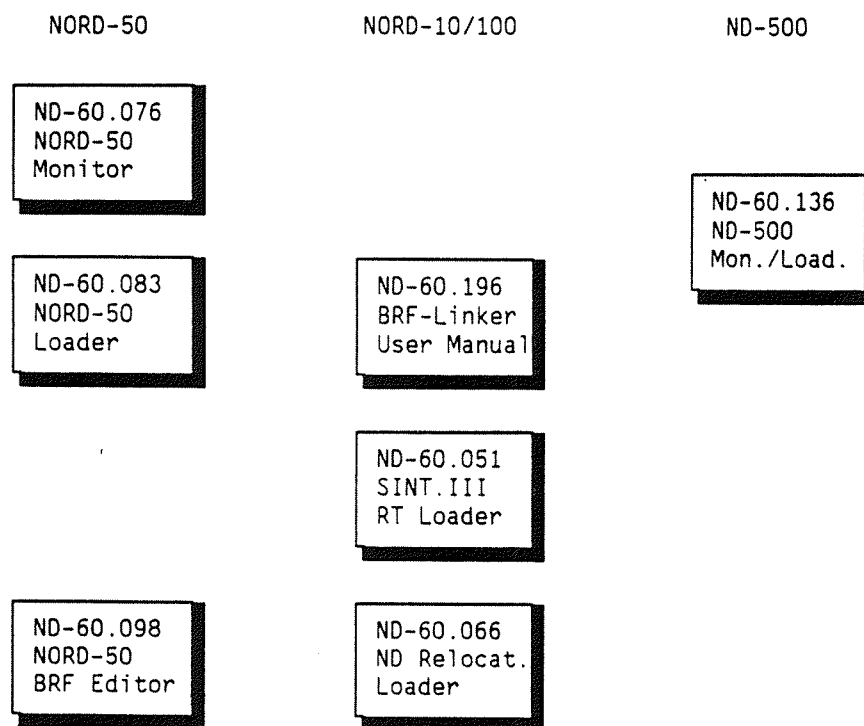


Figure 5. Monitors and Loaders

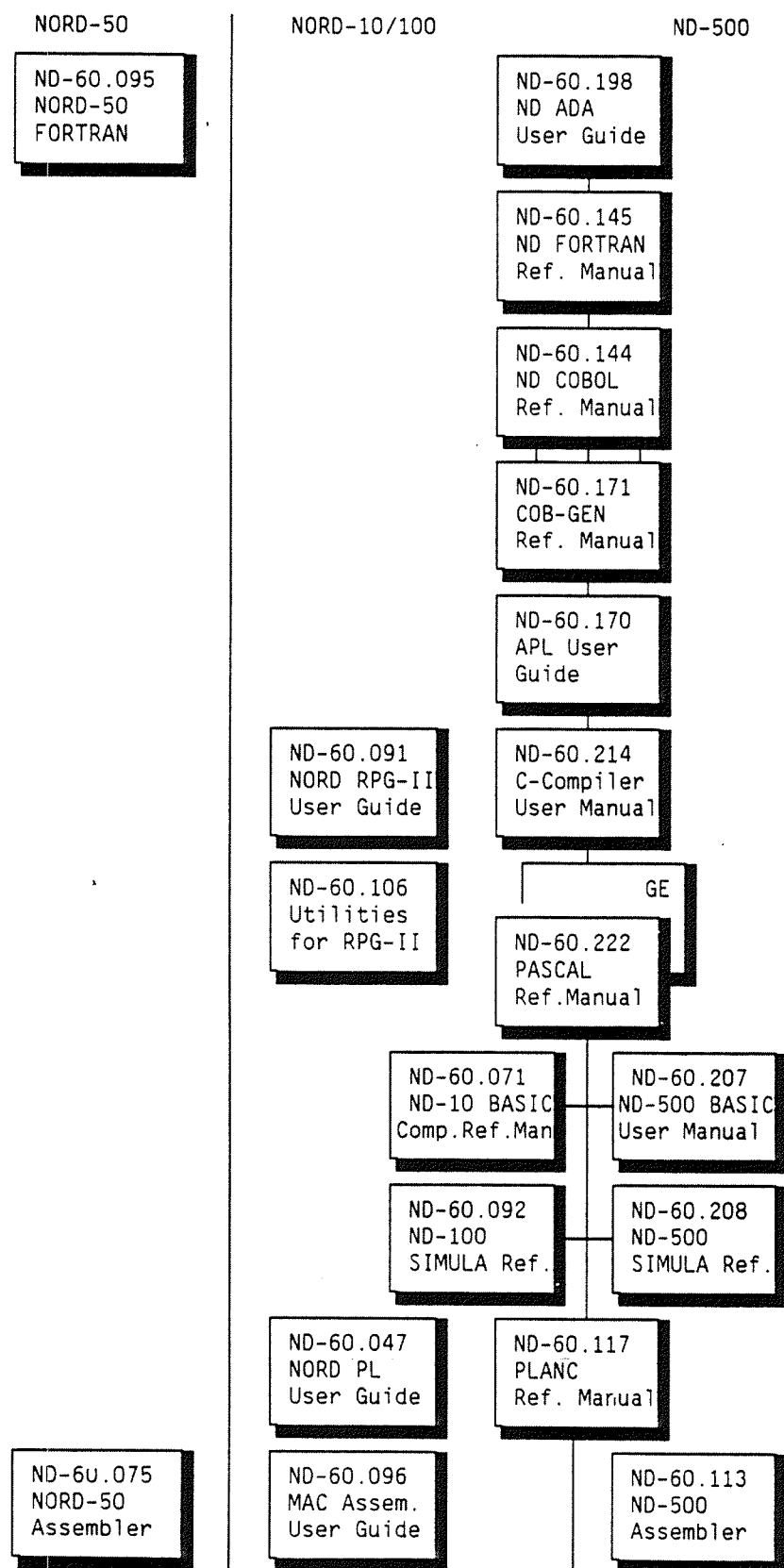


Figure 6. Compilers

2.3.3 UTILITY PROGRAMS A variety of utility programs are available:

- ND-Bench tools
- File utilities
- Editors
- Special input/output routines
- Scientific subroutines
- Debugger

These are shown in figure 7.

FILE UTILITIES

ND-60.175
File Handler
User Manual

ND-60.108
ISAM
User Guide

ND-60.236
Sort/Merge
User Guide

ND-60.107
DATACON
User Guide

ND-60.126
Magtape
Lister Gu.

EDITORS

ND-60.148 NO
ND-60.121
PED User
Guide

ND-60.031
QED User
Manual

MISCELLANEOUS

ND-60.158
Debugger
User Guide

ND-60.234
XCOM Extend.
Command Proc

ND-60.037
Scientific
Subroutines

INPUT/OUTPUT

ND-60.058
PLOT
Package

ND-60.099
FLOCON
User Guide

ND-60.094
NORDCOM
User Guide

ND-60.223
CTI Col.Term
Interf.Us.Gu

ND-60.093
NORD Pro-
cess I/O

ND-60.079
MEAS II
Prog. Sys.

ND-BENCH TOOLS

ND-60.183
Source
Compare

ND-60.184
File
Compare

ND-60.185
Foreign
Media

ND-60.186
FORTRAN
Converter

Figure 7. Utilities

2.3.4 DATA COMMUNICATION

The documentation available for data communication consists mainly of manuals for the COSMOS network and the various emulator packages as shown in figure 8a and figure 8c. In addition, there are some separate manuals for PIOC and ND-LINK, as shown in figure 8b.

COSMOS Network Systems
ND/PC LINK
PIOC
Emulator Packages

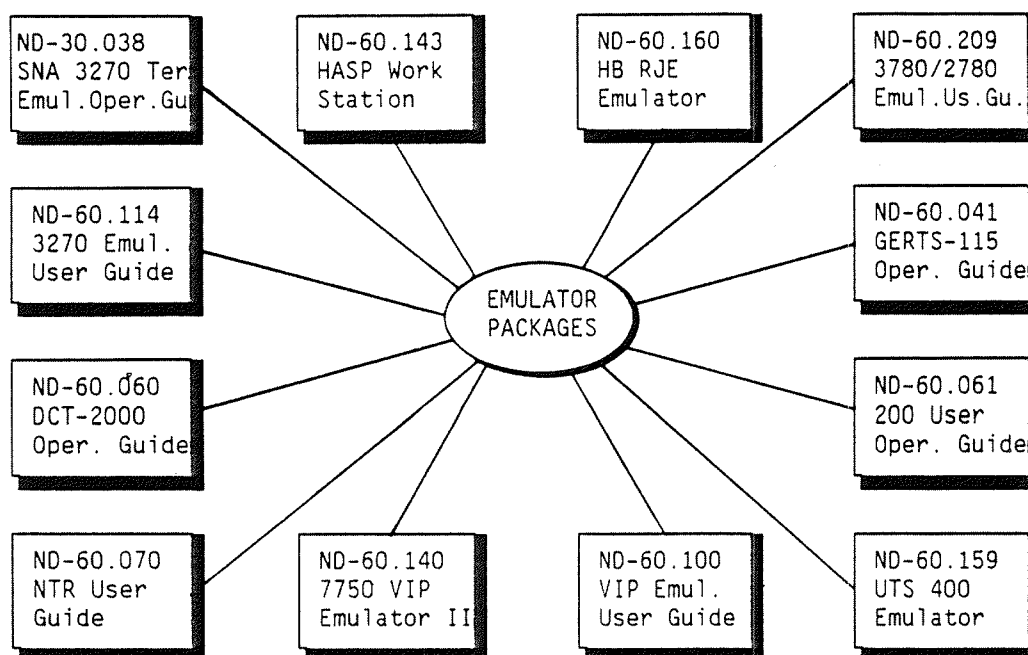


Figure 8a. Data Communications - Emulator Packages

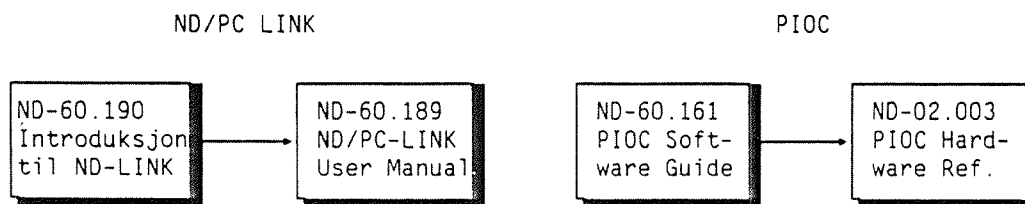


Figure 8b. Data Communications - PC Link and PIOC

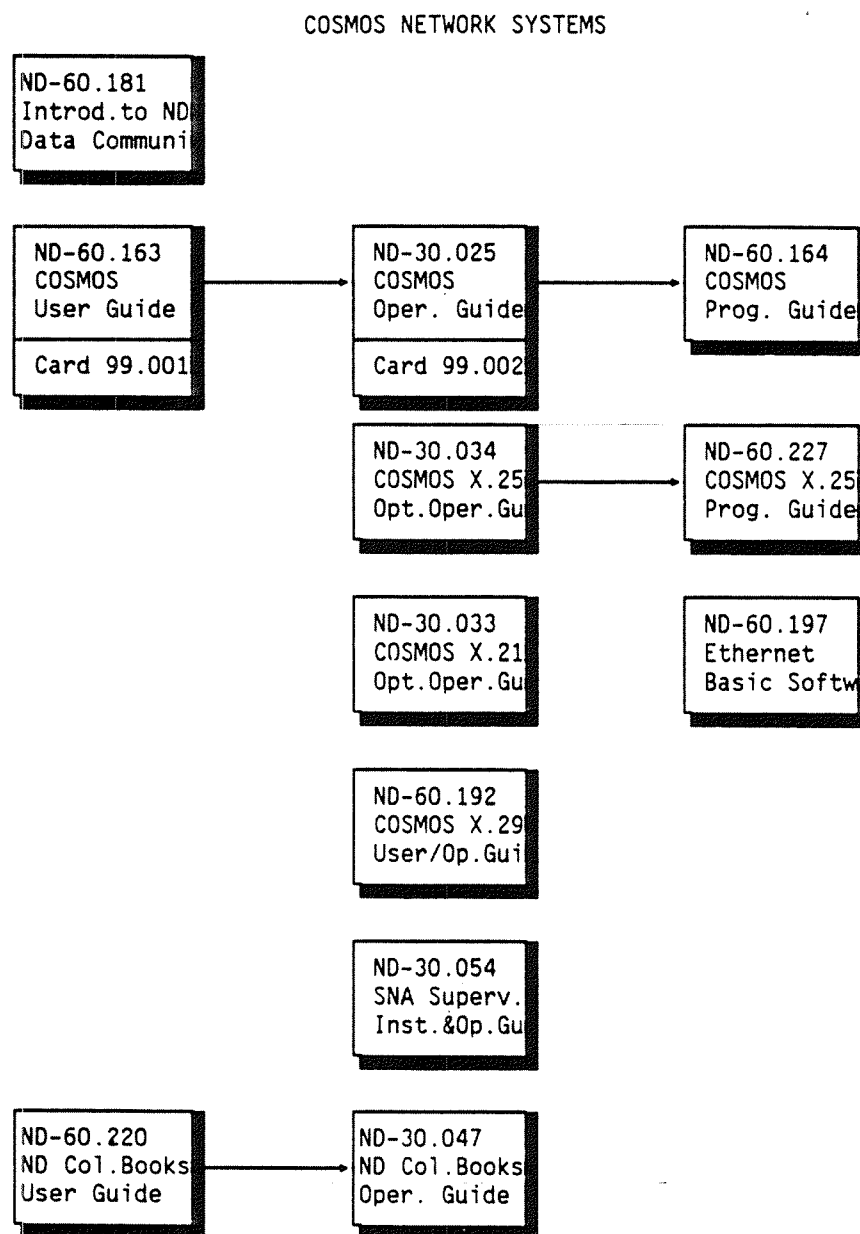


Figure 8c. Data Communications - COSMOS Network Systems

**2.3.5 ADMINISTRATIVE
DATA PROCESSING
AND DATABASES**

The documentation relating to administrative data processing, shown in figure 9, can be subdivided as follows:

PROGRAMMING SYSTEMS

- Database management
- Screen handling
- Transaction processing
- Data dictionary

END USER SYSTEMS

- User environment
- ACCESS
- UNIQUE
- MERCUR
- Data entry
- ND/PC LINK

OFFICE AUTOMATION

- Word processing
- Report generation
- Information retrieval
- Spreadsheet
- Business graphics
- Telex
- Information distribution (mail)
- Document storage

The manuals in figure 9a require a higher degree of technical knowledge than those in figure 9b, whereas the manuals in figure 9c require less technical background.

PROGRAMMING SYSTEMS

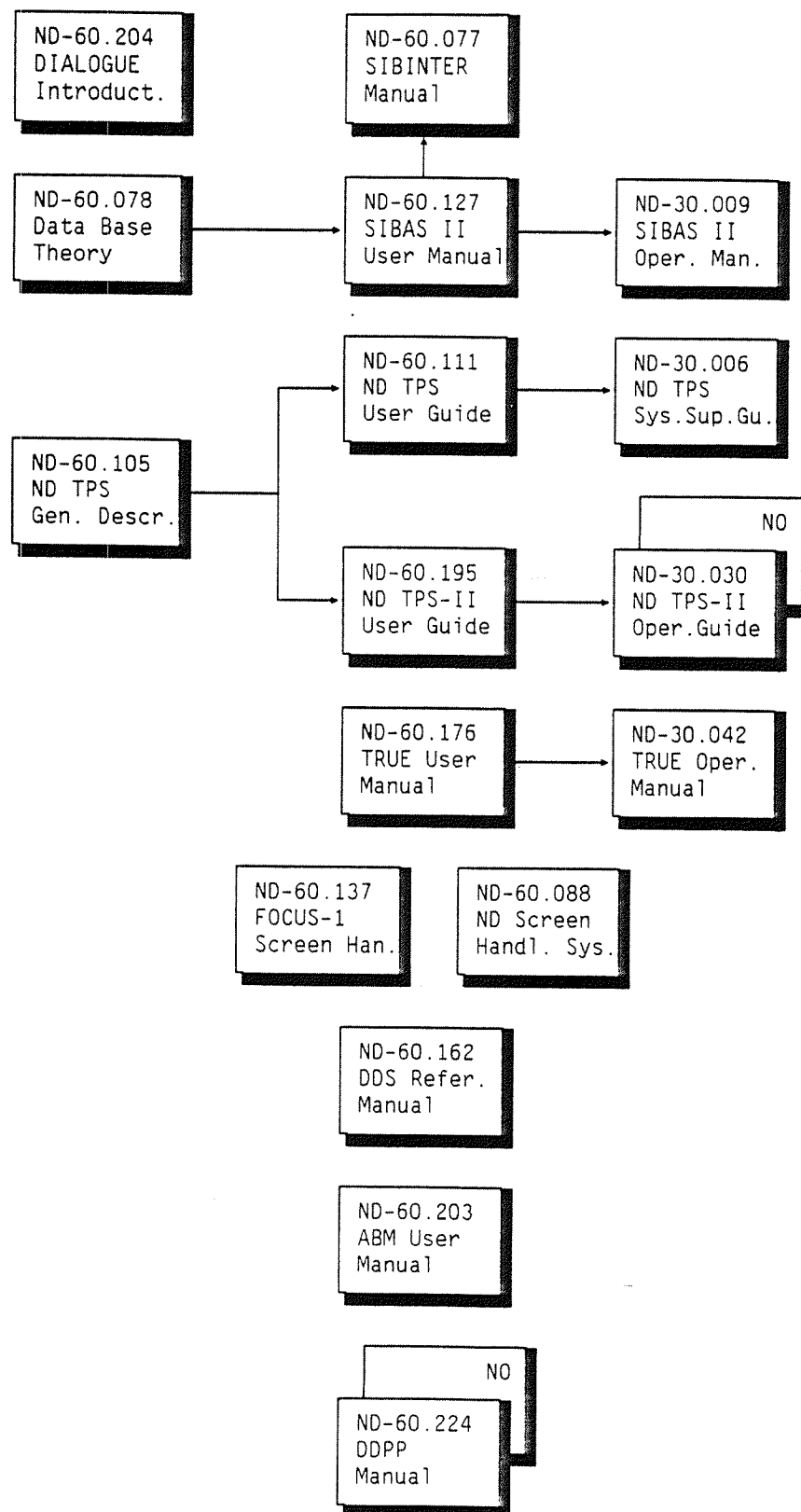
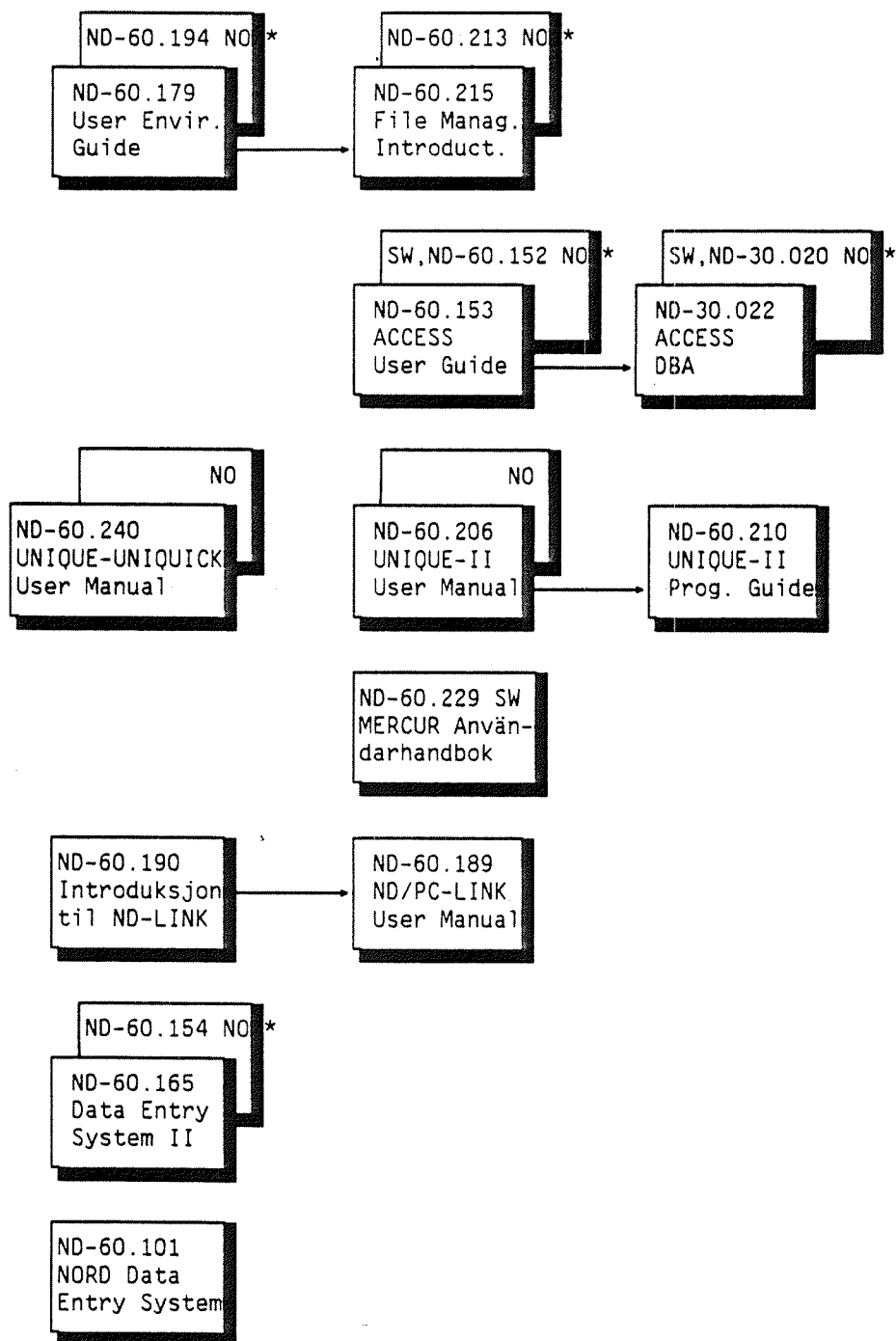


Figure 9a. Administrative Data Processing

END USER SYSTEMS



* These manuals have different numbers from the English manuals

Figure 9b. Administrative Data Processing

NOTIS SYSTEMS - WP/TF

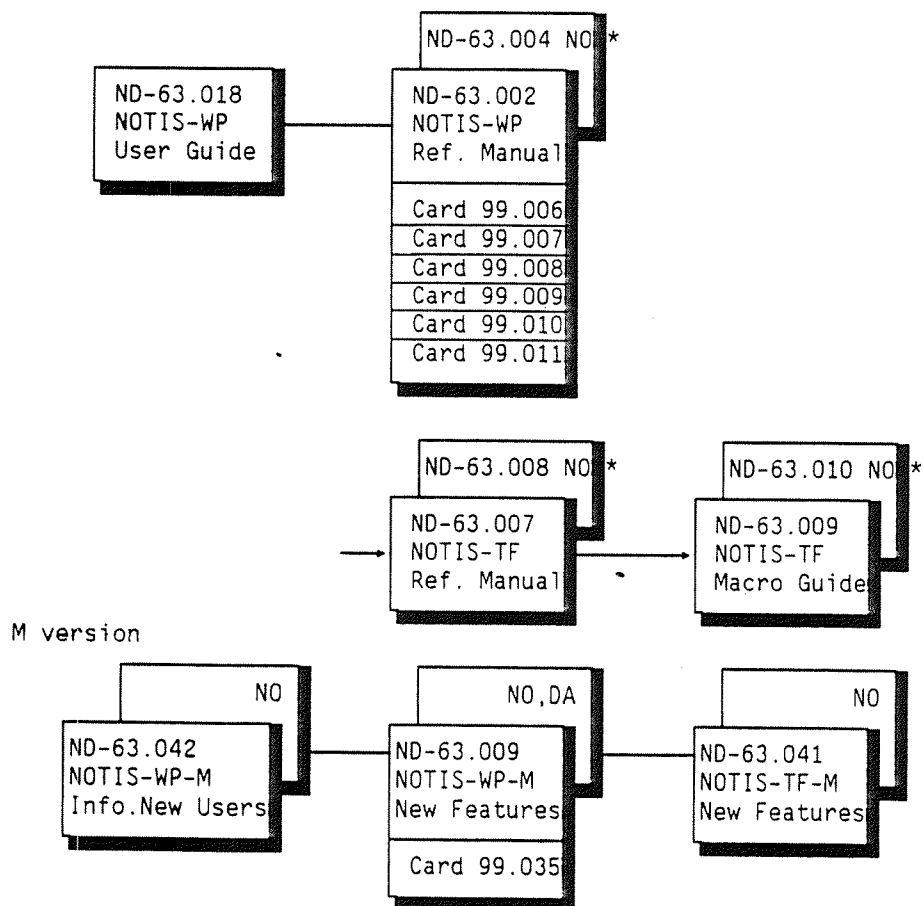


Figure 9c. Administrative Data Processing - NOTIS WP/TF

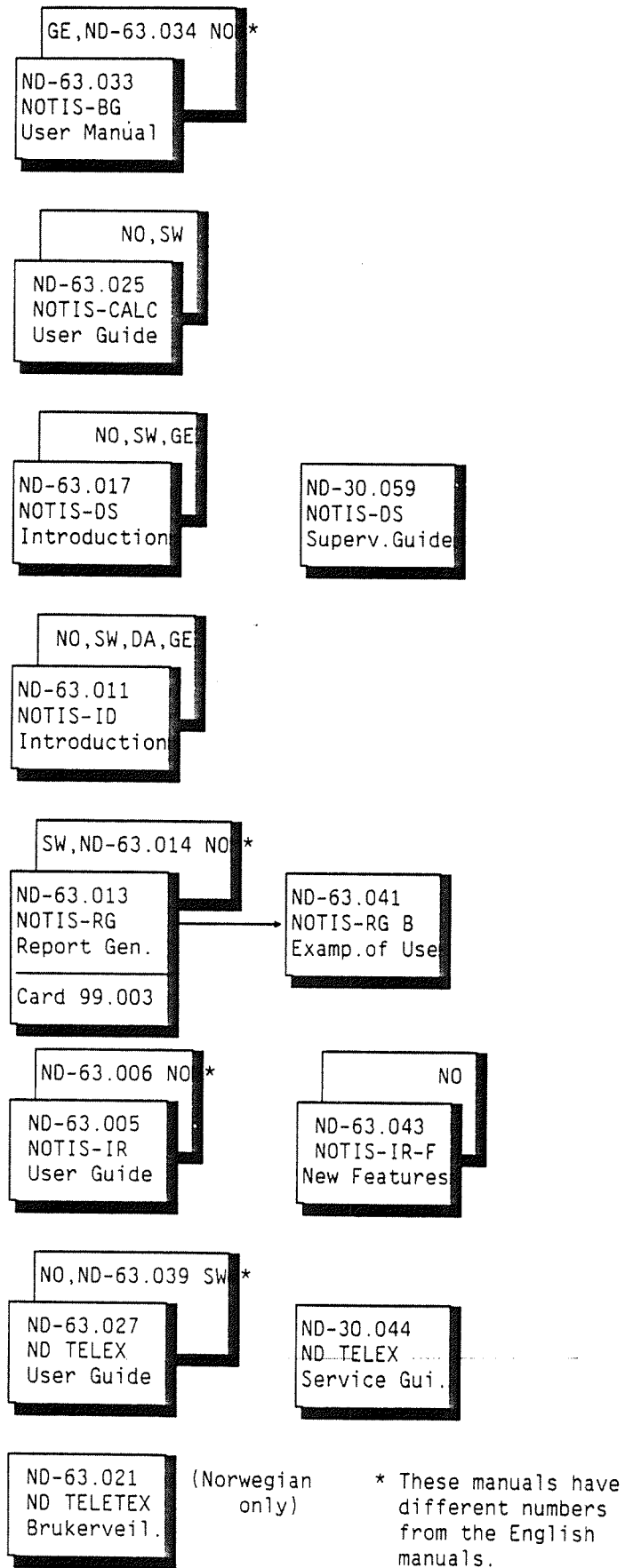
NOTIS
SYSTEMS

Figure 9d. Administrative Data Processing - NOTIS

2.3.6 NORTEXT

NORTEXT is the name given to the family of products manufactured by ND-COMTEC. The documentation relating to the NORTEXT family as shown in figure 10, can be subdivided as follows:

TEXT PROCESSING SYSTEMS

- Editorial
- Newspaper Production
- Publishing Offices
- Printer Offices

ADMINISTRATIVE DATA PROCESSING

- Advertisement Announcements (AD System)
- Subscription, Retail Sales and Distribution (ALDIS System)
- Only Subscription and Distribution (ADIS System)
- Production Planning in Graphic Arts (PROPLAN System)

TEXT PROCESSING REFERENCE MANUALS	ADMINISTRATIVE DATA PROCESSING MANUALS	ADMINISTRATIVE DATA PROCESSING MANUALS
	AD SYSTEM	ADIS SYSTEM
ND-61.029 NORTEXT-100 Function Codes	ND-61.009 NORTEXT-100 AD Syst. Operator Manual	ND-61.040 NORTEXT ADIS Bruker- Manual
ND-61.030 NORTEXT-100 Typog.Main.&Util.Prog	ND-61.011 NORTEXT-100 AD Syst. System Supervisor	ND-61.011 NORTEXT ADIS System drifts-ansvarlig
ND-61.031 NORTEXT-100 Sys.Maint.&Util.Prog	ALDIS SYSTEM	PROPLAN SYSTEM
ND-61.034 NORTEXT-100 String to String Trans.Sys.	ND-61.021 NORTEXT ALDIS Brukermanual	ND-61.042 NORTEXT-100 PROPLAN Reference Manual
ND-61.035 NORTEXT-100 Commands	ND-61.022 NORTEXT ALDIS System drifts-ansvarlig	
ND-61.043 NORTEXT-100 Reporter Terminals		

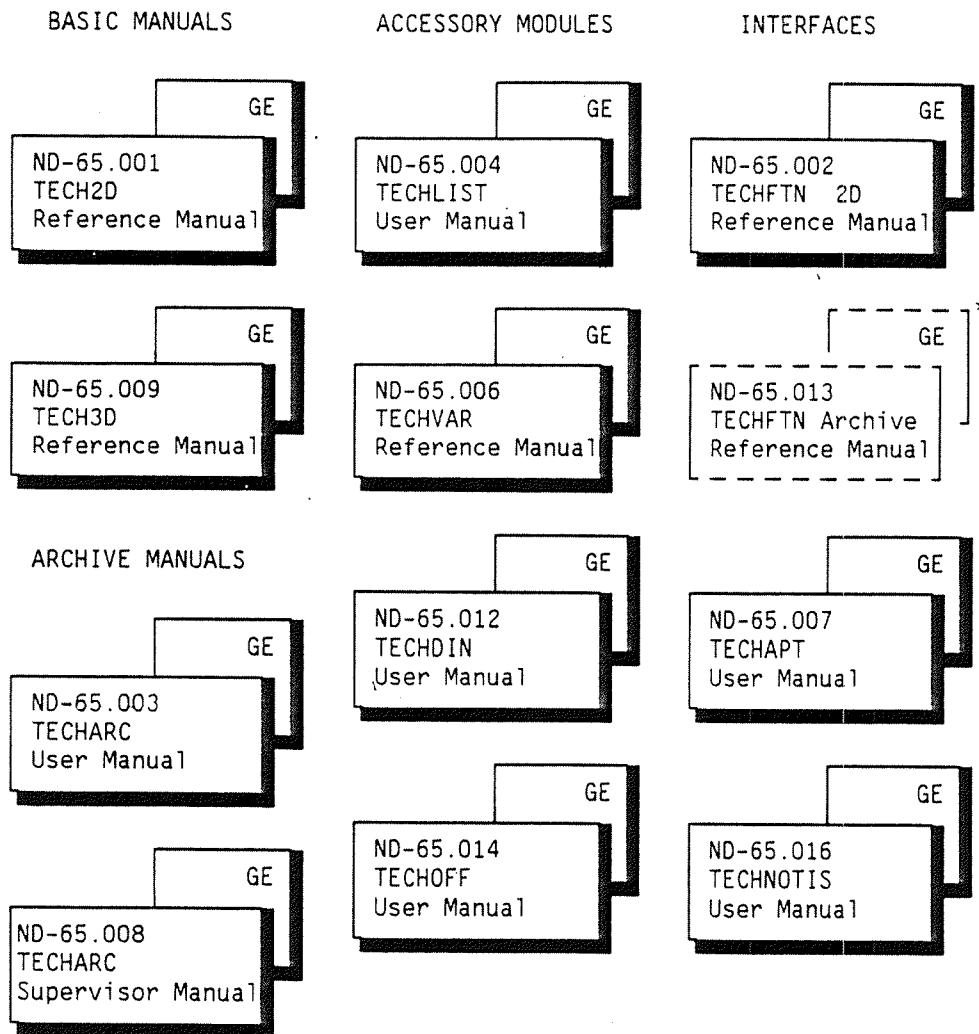
Figure 10. NORTEXT Systems

2.3.7 TECHNOVISION

TECHNOVISION is the name of the CAD/CAM system produced by Norsk Data. The system is based on a modular design and this is reflected in the documentation, which can be divided into the following broad categories: basic manuals, archive manuals, accessory modules and interfaces as shown in figure 11. The complete list of manuals is as follows:

BASIC MANUALS	● TECH2D	2D Reference Manual
	● TECH3D	3D Reference Manual
ARCHIVE MANUALS	● TECHARC	Archive User Manual
	● TECHARC	Archive Supervisor's Manual
ACCESSORY MODULES	● TECHLIST	Parts List Module User Manual
	● TECHVAR	Variant Module Reference Man.
	● TECHDIN	DIN Parts User Manual
	● TECHOFF	Offline Module User Manual
INTERFACES	● TECHFTN	2D FORTRAN Interface Ref. Man.
	● TECHFTN	Archive FORTRAN Interf.Us.Man.
	● TECHAPT	APT-NC Interface User Manual
	● TECHNOTIS	NOTIS-WP Interface User Man.

TECHNOVISION's documentation is named after the respective product name.



* Not yet available

Figure 11. Technovision Documentation

CHAPTER 3

MANUAL AND REFERENCE CARD DESCRIPTIONS



- NORSK DATA'S MANUALS DESCRIBED IN NUMERICAL ORDER
- NORSK DATA'S REFERENCE CARDS DESCRIBED IN NUMERICAL ORDER

3 MANUAL AND REFERENCE CARD DESCRIPTIONS This chapter contains a short description of each manual and reference card.

MANUAL DESCRIPTIONS The descriptions are in numerical order and contain the following information:

- Manual number
- Manual name
- Subject matter
- Reader audience
- Manual type
- Prerequisite knowledge

For information about versions, revisions and prices, see chapter 4.

ND-02.003 EN

**PIOC HARDWARE
REFERENCE MANUAL
ND-857**

PIOC, the Programmable Input Output Controller is an ND-100 interface card capable of handling 4 full duplex serial communication lines. The hardware is built around an MÇ 68000 microprocessor and 128 kbytes of Random Access Memory (RAM) with error correction logic.

The new PIOC print (number 3108C) is called PIOC EXP., which means PIOC EXPANDED. The added function is X.21 Clear Detection in hardware for line 0 and 1

The print is produced in two versions called PIOC 64 and PIOC 256 depending on local memory size in kwords. If the PIOC print is equipped with 64 kbit memory chips, the memory size is 128 kbytes. When 256 kbit chips are used, the memory size is 512 kbytes.

The manual is intended for hardware engineers and other personnel performing maintenance on ND products. Basic knowledge of the ND-100 computer system is recommended.

The manual contains 6 chapters and 4 appendixes. Chapter 1 contains an introduction and gives some specifications. Chapter 2 explains the PIOC ND-100 communication and chapter 3 the Local Interrupt. Chapter 4 describes the memory and chapter 5 the Local I/O. Chapter 6 contains the logic diagrams. Appendix A describes the interrupt controller, appendix B the DMA controllers, appendix C the timing controller, appendix D the serial controllers and appendix E external cables and test plugs. 90 pages.

ND-02.004 EN

**PIOC HARDWARE
REFERENCE MANUAL
ND-865-867**

This is the same manual as the PIOC Hardware Reference Manual, ND-02.003, except that it contains a local memory with the size of 256K words. 60 pages.

ND-05.003 EN

**NORD-50
REFERENCE MANUAL**

This manual gives a detailed description of the NORD-50 registers and instruction set. It is written for programmers and operators. The part concerning registers should be of interest to technical and maintenance personnel. Readers should be familiar with the NORD-50 CPU at the level described in the NORD-50 Functional Description. 44 pages.

ND-05.007 EN

**NORD-50
FUNCTIONAL
DESCRIPTION**

This manual describes the main building blocks of the NORD-50 and their functions, from a hardware point of view. It is written for technical and maintenance personnel requiring detailed information about the NORD-50 and should also be of interest to software personnel. Some knowledge of digital techniques and computer systems in general is recommended. Knowledge of the NORD-50 instruction set as found in the NORD-50 Reference Manual is necessary. 163 pages.

ND-05.009 EN

**NORD-500
REFERENCE MANUAL**

This manual describes the general design, instruction set and addressing modes of the ND-500. It is organized as a reference manual. It is written for ND-500 assembler programmers, system programmers needing to know the exact format of the generated code and anybody needing a description of the ND-500 architecture. The manual is required by programmers wanting to fully utilize the trap handling system and memory management system in any programming language. No previous knowledge of the ND-500 is required. General knowledge of computer architecture is desirable and assembly language experience is required for those using the manual to program in the ND-500 assembler language. 300 pages.

ND-05.011 EN

**ND-500
HARDWARE DESCRIPTION
FOR 520/549/560**

The manual is written for all service and maintenance personnel. It should also be used when attending ND-500 hardware courses. The manual consists of 12 chapters and 1 appendix. The chapters contain information on the following:

- architecture
- data flow
- instructions and their formats
- prefetch processor
- ND-100/ND-500 communication
- description of CACHE
- description of the memory management system
- the control logic
- the trap system
- the floating arithmetic

The appendix includes module descriptions.

The reader should be familiar with the ND-100 computer systems. 200 pages.

ND-05.012 EN**ND-500
MICROPROGRAMMING
GUIDE**

This manual gives a short introduction to ND-500 microprogramming and will state rules for the use of some of the commands available in the ND-500 mnemonic symbols. The document is addressed to people writing microprogram routines for the ND-500 and to people working with ND-500 hardware. Some knowledge about the ND-500 architecture and detailed knowledge about the ND-500 hardware is required to use the manual. 60 pages.

ND-05.013 EN**ND-500
SINGLE PRECISION
ARRAY PROCESSING
FUNCTIONS**

This manual is written for people creating and running programs using array processing functions. It describes the mathematical functions in the ND-500 APF library. The APF library routines, which are designed to speed up the execution of operations on single precision real arrays, may be called from FORTRAN.

The APF library utilizes a special microprogram for the ND-500 CPU. This microprogram is an extension of the standard microprogram. This manual provides a functional description of the APF library, and thereby the special array processing functions. A listing of each routine is used to describe the routines. Listing and parameter description is mainly in FORTRAN. Two of the routines are described in ND-500 assembler, although they are callable from FORTRAN. 90 pages.

ND-05.015 EN**ND-500/2
HARDWARE DESCRIPTION**

The manual gives an overview of the computer systems using the ND-500/2. It describes the units found in these systems, lists the registers, and provides the data formats and instruction formats. With the help of block diagrams and tables, the reader is guided through each of the circuit card assemblies of the ND-500/2. A list of the main differences between the ND-500/1 and the ND-500/2 is also provided. This manual is written for technical and maintenance personnel needing a general introduction to the ND-500/2 hardware architecture. Familiarity with the ND-100 architecture is recommended. 178 pages.

ND-05.018 EN

**ND-500/2
DOUBLE PRECISION
ARRAY PROCESSING
FUNCTIONS**

This manual describes the mathematical functions in the ND-500-2-APD library. It provides a functional description for the APD library which utilizes a special microprogram in the ND-500/2 CPU and thereby the ND-500/2 DAX functions. These are special double precision functions within this microprogram. Listing and parameter description is done in FORTRAN. The manual is written for people creating and running programs using array processing functions. The reader should be familiar with FORTRAN and have general knowledge of ND-500/2 computers. 60 pages.

ND-06.005 EN

**NORD-10/NORD-50
COMMUNICATION
SYSTEM**

This manual describes the operation of the communication hardware in the NORD-10/ NORD-50 system. It gives a general description of memory communication, describes communication instructions and simulated memory programming. It is written for technical and maintenance personnel and communication system programmers. Familiarity with the NORD-10 and NORD-50 at the level described in the NORD-10/S and NORD-50 Functional Descriptions is required, also knowledge of NORD-10/S and NORD-50 instruction sets, which can be found in the NORD-10/S and NORD-50 Reference Manuals. 19 pages.

ND-06.007 EN

**BIG MULTIPOINT
MEMORY SYSTEM**

This manual gives a general and detailed description of the Big Multipoint Memory System architecture, including memory, service and control channel specifications, and installation. It is written for technical and maintenance personnel needing a good understanding of this system, and installation personnel. Familiarity with the NORD-10, ND-100 and NORD-50 at the level described in their Functional Descriptions is required. 113 pages.

ND-06.008 EN

**NORD-10/S
REFERENCE MANUAL**

This manual gives a detailed explanation of NORD-10/S architecture and principles from a hardware point of view, and a detailed description of the NORD-10/S instruction set. It is written for technical and maintenance personnel needing detailed information about the NORD-10/S and should also be of interest to programmers and operators. General computer knowledge is recommended. 169 pages.

ND-06.009 EN**NORD-10/S
FUNCTIONAL
DESCRIPTION**

This manual describes the main building blocks of the NORD-10/S and their functions, from a hardware point of view. It is written for technical and maintenance personnel requiring detailed information about the NORD-10/S and should also be of interest to software personnel. Some knowledge of digital techniques and computer systems in general is recommended. Knowledge of the NORD-10/S instruction set as found in the NORD-10/S Reference Manual is necessary. 235 pages.

ND-06.010 EN**NORD-10/S
MICROPROGRAM**

This manual describes the exact format of the NORD-10/S microinstructions and the microformat of the NORD-10/S macroinstructions. It is written for microprogram writers and those wanting more detailed understanding of the NORD-10/S CPU. Detailed knowledge of the NORD-10/S system and a thorough understanding of the NORD-10/S CPU are necessary. This information is given in the NORD-10/S Functional Description. Some experience with digital techniques is recommended. 80 pages.

ND-06.012 EN**NORD-10/S
INPUT/OUTPUT SYSTEM**

This manual describes the NORD-10/S Input/Output system architecture and principles from a hardware point of view, those parts of the I/O system common to all device controllers, the DMA data flow and the I/O interrupt system. It is written for technical and maintenance personnel requiring a good understanding of the connection of I/O interfaces to the NORD-10/S computer system and software personnel who program I/O interfaces. Familiarity with the NORD-10/S CPU at the level described in the NORD-10/S Functional Description is required, along with some knowledge of the NORD-10/S instruction set and assembly programming, which can be found in the NORD-10/S Reference Manual. 144 pages.

ND-06.014 EN**ND-100
REFERENCE MANUAL**

This manual describes the main building blocks of the ND-100 and their functions. It describes the ND-100 instruction set in detail. It is written for technical and maintenance personnel requiring detailed information about the ND-100 and should also be of interest to programmers and operators. General computer knowledge is recommended. 250 pages.

ND-06.015 EN

**ND-100
FUNCTIONAL
DESCRIPTION**

This manual describes the main building blocks of the ND-100 and their functions, from a hardware point of view. It is written for technical and maintenance personnel needing detailed information about the ND-100 and should also be of interest to software personnel. Some knowledge of digital techniques and computer systems in general is necessary, along with knowledge of the ND-100 instruction set and assembly programming, which can be found in the ND-100 Reference Manual and MAC Assembler User's Guide. 410 pages.

ND-06.016 EN

**ND-100
INPUT/OUTPUT SYSTEM**

This manual describes the ND-100 Input/ Output system architecture and principles from a hardware point of view, and those parts of the I/O system common to all device controllers. It gives the background necessary to understand fundamental design concepts of the ND-100 I/O system. It is written for technical and maintenance personnel requiring a good understanding of the connection of I/O interfaces to the ND-100 computer system and software personnel who program I/O interfaces. Familiarity with the ND-100 CPU at the level described in the ND-100 Functional Description is required, along with some knowledge of the ND-100 instruction set and assembly programming, which can be found in the ND-100 Reference Manual and MAC Assembler User's Guide. 222 pages.

ND-06.017 EN

**ND-100
BUS DESCRIPTION**

The manual replaces the manual ND-100 Backplane, ND-06.017. It provides a brief description of the backplane adopted by ND for use in bus organized systems using a triple Euroboard standard. The bus backplane is primarily oriented towards input/output but accommodates processing elements and memory modules as well. The manual is written for service personnel, hardware designers and others who require detailed technical information on the ND-100 bus. The reader should be familiar with the ND-100 computer systems. 35 pages.

ND-06.018 EN**ND-100
MICROPROGRAMMING
DESCRIPTION**

This manual describes how to microprogram the ND-100 to take full advantage of the writable control store. It is written for technical personnel writing their own microprogram and will be useful for those requiring more detailed understanding of the microprogrammed structure of the ND-100 CPU. Detailed knowledge of the ND-100 system and thorough understanding of the ND-100 CPU are recommended. This information is given in the ND-100 Functional Description. Some experience with digital techniques is recommended. 73 pages.

ND-06.024 EN**ND-100 SATELLITE
HARDWARE MANUAL**

This manual describes the hardware of the ND-100 Satellite. Special care is taken where the hardware of the Satellite differs from the ND-100 Computer. It also contains maintenance information and brief descriptions of the most used test programs. 94 pages.

ND-10.004 EN**MULTIPOINT MEMORY 5
TECHNICAL DESCRIPTION**

This manual is a hardware description of the following products in the MPM-5 system:

RAM 1Mb Memory Module	ND-103820
Twin 16-bit Port Module	ND-103830
Line Driver Module	ND-103840
RAM 4Mb Memory Module	ND-103870

In addition, the manual also contains a programming guide, start-up and initialization instructions and information on error messages and fault-finding. The manual is primarily intended for service personnel, system and hardware designers and others who require a detailed explanation of the MPM-5 modules and their functions. 90 pages.

ND-10.005 EN**MULTIPOINT MEMORY 5
BUS DESCRIPTION**

This manual describes the controller module and the bus structure in the MPM-5 systems. The specific products described are the ND-103810 MPM-5 controller module, the ND-103860 MPM-5 1-bank card rack and the ND-103800 MPM-5 2-bank card rack. The manual contains information on signals, timing, bus arbitration, cabling, the maintenance processor, indicators and switches. The manual is written for people who require a detailed hardware explanation of the MPM-5 controller module and the internal MPM-5 bus. Knowledge of the principles of the MPM-4 systems is an advantage. 72 pages.

ND-10.006 EN

**MULTIPOINT MEMORY
CHANNEL SPECIFICATIONS**

This manual gives an introduction to the Multipoint Memory concept in general, and describes the Multipoint section as seen from the outside. Multipoint Memory is a shared memory system which expands memory capacity and allows for multiprocessor operation. The system is very flexible with regard to memory capacity and number of access sources.

Norsk Data A.S. supports three models of Multipoint Memory: Big Multipoint Memory, Multipoint Memory 4 and Multipoint Memory 5. The manual contains an introduction to the multipoint memory, and interface specifications for all three models. It is primarily intended for service personnel, system designers and others who might work with the Multipoint Memory section. It may also be read by anyone who requires an introduction to Multipoint Memory. The reader of this manual should be familiar with the ND-100 Functional Description (ND-06.015) and the ND-500 Hardware Description (ND-05.011). 70 pages.

ND-10.007 EN

**MULTIPOINT MEMORY 4
TECHNICAL DESCRIPTION**

This manual replaces the manual Technical Introduction to Multipoint 4, ND-10.003. The manual describes the multipoint system used in ND-100 and ND-100/ND-500 multiprocessor configurations. It shows some MPM-4 features and the new MPM-4 modules, and gives some examples of MPM-4 backplane configurations. It also contains information on signals, timing, bus arbitration, cabling, indicators and switches. The reader should be familiar with the ND-100 architecture and physical implementation. Knowledge of the principles of the big multipoint memory system is an advantage. 100 pages.

ND-11.009 EN

HAWK - DISK SYSTEM

This manual is a reference manual and user's guide for the HAWK-disk system. It describes the major components and basic principles of read/write, including the read/write assembly, interface signals, power distribution system, seek operations, sectoring, read/write/erase operations and fault handling and detection. Knowledge of the hardware associated with the HAWK-Disk system is required. 133 pages.

ND-11.010 EN NORD-10/HAWK DISK CONTROLLER	This manual is a reference manual and user's guide for the NORD-10/HAWK - Disk Controller. It describes NORD-10/HAWK programming specifications, the interface signals, disk addressing, the write and read operation, interrupt generation and handling, status generation, and the control word. Knowledge of the HAWK-Disk System is required. 76 pages.
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ND-11.012 EN FLOPPY DISK SYSTEM	This manual is a reference manual and user's guide for the Floppy Disk System. It describes the system itself, the interface and the formatter. General knowledge of the purpose and functioning of floppy systems is required. 183 pages.
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ND-11.013 EN NORD-10/S ERROR CORRECTION CONTROL (ECC) DISK CONTROLLER	This manual describes the ECC disk controller. It contains information and a general description. The programming specifications are given and the interface is described in detail. Some troubleshooting advice is also included along with logic diagrams. 100 pages.
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ND-11.014 EN STC MAGTAPE SUBSYSTEM	This is a reference manual for the STC magtape subsystem. It describes how STC magnetic tapes are connected to a ND-100 computer and what the 3020 STC magtape controller looks like. It is written for field service engineers and technical personnel directly involved with the operation or maintenance of magnetic tapes. It is especially useful during testing and installation. The manual contains a short description of the subsystem functions, how they are organized in a ND-100 system and a detailed description of the 3020 module. Programming specifications for the controller itself and for its driver routine are included along with a user's guide for test programs. Knowledge of the functioning and operation of magnetic tape systems is required. 96 pages.
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ND-11.015 EN FLOPPY DISK CONTROLLER - 3027	This manual gives a general description of the Floppy Disk Controller-3027. It contains general information on the hardware and the self test feature plus explains the read write operations and their associated commands. 50 pages.
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ND-11.016 EN

**8 INCH WINCHESTER
DISK CONTROLLER
ST506 & FINCH**

The eight inch Winchester Disk Controller consists of one 3038 card controlling one or two Winchester disk drives. The 5 1/4 inch, ST506, Winchester Disk Controller consists of the 3041 card.

This manual gives an introduction and a description of the disk drive, the controller and the handling of bad tracks. The manual gives the programming specifications and contains a detailed description of the hardware. Test procedure, block diagrams and logic diagrams are included. There is a short description of the Fairchild circuit 9401 and layout of components and the cable signal definition is also shown.

Basic knowledge of the ND-100 and or NORD-10 computer systems is recommended. The manual is intended for hardware engineers and others performing maintenance on ND equipment. 50 pages.

ND-11.019 EN

**DUAL CHANNEL
DISK SWITCH**

Disk drives is connected to and can be selected from either of two controllers. However, the drive is capable of responding to only one controller at a time and the controllers must compete for use of the drive. For this reason a dual channel disk switch is connected between the controllers and the disk drives to take care of this selection.

This manual contains maintenance information about the dual channel disk switch. It describes the drives for which the switch can be used, the programming specifications, the functions controlling dual channel selection, the switch settings and circuit functions and the installation. 25 pages.

ND-11.020 EN

**15MHZ SMD DISK
CONTROLLER**

This manual describes the new and faster 15MHz SMD disk controller. It is written for maintenance, workshop and other personnel who need a description of the SMD (Storage Module Drive) disk controller. It describes the programming specifications, the interface signals, the error correction code, the DMA transfer, the interrupt, the test programs, the switches and indicators. It also includes descriptive block diagrams and the logic diagrams. Basic knowledge of the ND-100 computer and the ECC (Error Correction Control) disk controller is recommended. 124 pages.

ND-11.021 EN FLOPPY AND STREAMER CONTROLLER 3106/3112	This manual gives a detailed description of the Floppy and Streamer Controller. It describes the 8" F & S Controller - card no. 3106, and the 8" and the 5 1/4" F & S Controller - card no. 3112. This manual is written for maintenance, workshop and other personnel needing a description of the Floppy and Streamer Controller. 130 pages.
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ND-11.022 EN 8-TERMINAL BUFFER INTERFACE WITH FIFO ND-273 AND ND-274	This manual describes the 8-terminal buffer interface based on the existing four/eight controller. Up to 128 terminals may be addressed, and the maximum baud rate on four of the terminals is 19.6 kbps. The terminals are divided into groups of four. The manual is written for maintenance, workshop and other personnel needing a description of this buffer terminal interface. Basic knowledge of the ND-100 computer and the old four/eight controller is recommended. 90 pages.
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ND-12.004 EN CAMAC CCMA NORD-10	This manual gives a detailed description of the principles of operation. It contains a summary of the programming specifications and includes diagrams of the timing and the logic. It is written for those who want to use CAMAC, or to know how it works. No previous knowledge is required. 24 pages.
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ND-12.006 EN CAMAC CC-NORD-10 HARDWARE	This manual is written for CAMAC users. It describes the programming specifications and contains logic diagrams, parts list and signal definition list. 50 pages.
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ND-12.007 EN CAMAC CC-NORD-10 INTERFACE	This manual gives general information on the operation of the CC-NORD-10 crate controller which interfaces CAMAC crates directly to the input/output bus of the NORD-10 computer. It contains information on the physical and electrical specifications, interrupt handling, LAM handling and Link Bus characteristics. It gives information about addressing and data formats and the programmable operations on CC-NORD-10. It should be of interest to all those who want to understand how CAMAC works. 17 pages.
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| ND-12.012 EN

INTERFACE TO PERTEC
MAGNETIC TAPE | This manual deals mainly with the signals between 1123 and 1124. It contains programming specifications and a description of the formatter. It also gives hardware information and contains logic diagrams. 60 pages. |
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| ND-12.013 EN

NORDCOM COLOUR
TERMINAL | This manual contains information on the ND676 NORDCOM colour terminal. It includes a product description and gives programming and interface specifications. Block diagrams and logic diagrams have been included along with test procedures. It is written as a maintenance manual and requires no special knowledge of ND systems. It should be of special interest to service personnel. 160 pages. |
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| ND-12.015 EN

1158 DR-11-C
INTERFACE | The manual gives an introduction to the 1158 DR-11-C interface. It contains hardware descriptions and programming specifications. Various test possibilities are given along with block diagrams and logic diagrams. 20 pages. |
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| ND-12.016 EN

DATA COMMUNICATION
UH-110 | This manual contains general information on data communication. It describes different networks, explains multiplexing and describes modems in general. Various communication procedures and data terminal equipment are discussed. It is written for those who want an introduction to data communication hardware. No previous knowledge is required. 150 pages. |
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| ND-12.018 EN

HDLC INTERFACE | This manual gives a functional description of the High Level Data Link Control interface. It contains various standards and procedures and gives programming specifications. It has logic diagrams for the HDLC and a detailed description of the Multiprotocol Communication Controller is given. 100 pages. |
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| ND-12.020 EN

UNIVERSAL DMA
INTERFACE ND852 | This manual is a user's guide to interfacing and programming the ND852 Universal DMA Interface. It describes the hardware and defines electrical, mechanical and programming specifications. It includes circuit schematics and plug lists. Basic knowledge of the ND-100 computer systems is recommended. 40 pages. |
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ND-12.023 EN GENERAL PURPOSE INTERFACE BUS (GPIB) USER GUIDE	The ND system controller for the GPIB is used to connect and control programmable instrumentation and non-programmable instrumentation like plotters and printers. These peripheral devices must be compatible with the GPIB-standard. The official standards describing the GPIB are called IEEE-488 and IEC-625, and the ND system controller is compatible with both of these. The end-user oriented software in the product consists of a GPIB MONITOR and a GPIB LIBRARY. The GPIB MONITOR consists of commands for direct control of GPIB devices. The GPIB LIBRARY consists of subroutines, callable from FORTRAN, for control of GPIB devices. The manual is intended for both new and experienced users of a GPIB system. The user should have some basic knowledge of ND's operating system - SINTRAN III. Programmers must know how to create and run FORTRAN programs on an ND computer. 120 pages.
ND-12.024 EN FACIT 4420/ND USERS GUIDE	The manual describes the FACIT 4420/ND Video Terminal, a low-cost word-processing work-station. The introductory chapters, Part 1, do not require any computer knowledge. They are written to guide the terminal <u>users</u> in how to get the best out of their terminal. Part 2 is intended for <u>programmers</u> , and supplements the manual FACIT 4420 Technical description, Edition 2, published by FACIT Data Products. 65 pages.
ND-12.029 EN ETHERNET INTERFACE HARDWARE DESCRIPTION	This manual gives a hardware description of the Ethernet Interface which consists of two ND-100 boards. Print Number 3102 contains the Ethernet Master (Protocol Processor) and Print Number 3037 contains the Ethernet Controller. The appendixes give logic block diagrams of the modules and contain the installation procedure. Basic knowledge of PIOC and familiarity of the Ethernet 2.0 Specifications is recommended. The manual is intended for hardware engineers and others performing maintenance on Norsk Data equipment. 100 pages.
ND-12.031 EN TDV 2200/9S USER GUIDE	This manual describes how the TDV 2200/9S terminal is used for communicating with a host computer. It describes the features of the terminal and how these features are best put to use. The manual is written for operators and others using the TDV 2200/9S terminal and requires no previous knowledge. This manual must be ordered from Tandberg Data. 60 pages.

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| ND-12.032 EN

CTI COLOUR
TERMINAL INTERFACE
HARDWARE MANUAL | This manual describes the hardware product, ND 106850 CTI Colour Terminal Interface, which is a semigraphic display system for colour presentation of alphanumeric text and graphic symbols. The CTI is designed as a standard ND-100 interface card which occupies one slot in the ND-100 backwiring. It is written for service personnel, hardware designers and system designers who are familiar with ND-100 hardware. 50 pages. |
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| ND-12.033 EN

PHILIPS GP 300L
PRINTER USER GUIDE
(ND445,ND447,ND448) | This guide explains how to use the Philips printer which has been selected as the NOTIS printer. It also includes preventive maintenance measures. The manual is written for all personnel using a Philips printer. 25 pages. |
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| ND-12.033 NO

PHILIPS GP 300L
SKRIVER BRUKSANVISNING
(ND445,ND447,ND448) | This is the Norwegian version of the Philips GP 300L Printer User Guide (ND 445,ND 447,ND 448), ND-12.033 and it contains exactly the same information. 25 pages. |
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| ND-12.035 NO

ELPHO 20
BRUKERVEILEDNING | This manual describes the electrophotographic printer ELPHO 20. It is a Norwegian version of the ELPHO 20 Operator's Manual, published by Philips Kommunikations Industrie AG, the manufacturers of the printer. The manual describes how to operate the printer under normal working conditions. It describes all operator controls and indicators, practical tasks such as how to load the paper cassettes, change paper format, clear paper jams, replace the toner cartridge, etc. The manual does not describe printer fonts or how to use the printer in connection with ND software products. 38 pages. |
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| ND-13.003 EN

CIRCUIT DIAGRAM
SYMBOLS | This is a reference manual containing the symbols used on Norsk Data circuit diagrams. It describes the rules used in obtaining logic expressions. It contains definitions of logic signals and the symbols used to represent logic elements in Norsk Data circuit diagrams. General knowledge of circuit diagrams is essential. 62 pages. |
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ND-13.012 EN**NORD-10 POWER UNIT**

This is a reference/maintenance manual for the NORD Power Unit 10. It is written for field service engineers and technical personnel directly involved with maintaining CPUs using this power unit. It contains a description of the power unit, maintenance instructions for the replacement of batteries and the control panel, and adjustment procedures for the setting of the battery comparators. General knowledge of the power unit is required. 26 pages.

ND-13.014 EN**SITE PREPARATION AND
INSTALLATION MANUAL**

The manual is a reference guide for customers and technical personnel actively involved in site preparation and installation of data equipment from Norsk Data A.S. It applies to all models and equipment configurations, from the NORD-10/S via the NORD-50 and the ND-100 to the ND-500 computer series plus the Compact model IV. ND's service and system integration departments will be at your service with advice and recommendations. 70 pages.

ND-13.015 NO**PLANLEGGING OG
INSTALLASJONSMANUAL**

This manual is a Norwegian language version of manual ND-13.014, Site Preparation and Installation Manual and contains exactly the same information. 46 pages.

ND-13.018 EN**ND-100 COMPACT
ILLUSTRATED PARTS
CATALOGUE**

This catalogue is intended for all ND personnel involved in requisitioning parts for maintenance purposes on the ND-100 Compact series. The catalogue covers all versions of the ND-100 Compact.

It is divided into two sections: Illustrated Parts List and Cross Reference List. The Illustrated Parts List contains the following information for all parts: A drawing identifying the part, part name/description, ND article no., quantity and service status. The Cross Reference List is sorted by article no. in ascending order, and provides a cross reference between the article no. and the drawing identifying the part. In addition to distribution through the usual channels, this manual may also be ordered from the Service Department. Article No. for the Manual is 780600. 12 pages.

ND-13.019 EN ELECTROSTATICS	The purpose of these guidelines is to describe and make requirements for work on protection of equipment sensitive to static electricity. By limiting the extent of damage which is due to static electricity, the quality of Norsk Data's products can be improved and production costs reduced. These guidelines apply to all handling and transporting of electrostatic sensitive equipment in areas applicable to Norsk Data. 30 pages.
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ND-13.019 NO ELEKTROSTATIKK	This manual is a Norwegian language version of manual ND-13.019, Electrostatics, and contains exactly the same information. 30 pages.
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ND-13.020 EN ND-100 SATELLITE ILLUSTRATED PARTS CATALOGUE	This manual gives a complete part list with article numbers for the Satellite. All parts are referred to in illustrations. 6 pages.
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ND-13.021 EN ND POWER SYSTEMS	This manual is an introduction to the power supplies in Norsk Data's computers. It is written for ND's field service personnel. A description and the location of the different power supplies in the ND-100, ND-500, ND-Compact, and the ND-Satellite. The manual also explains how to change and adjust a power supply. A separate chapter describes the standby batteries. 84 pages.
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ND-30.001 EN NORD-10/NORD-50 OPERATOR'S GUIDE	This manual is an introduction to the operation and maintenance of the NORD-10/S and the NORD/50. It is written mainly for operators who need basic information about how to run the NORD-10/S and NORD-50 and how to handle simple error situations. No previous knowledge of ND computers is necessary but the reader should be familiar with the general principles of computer operation and preferably have some experience in this field. 134 pages.

ND-30.003 EN**SINTRAN III
SYSTEM SUPERVISOR**

This manual is a guide for system supervisors administering data centers implemented under SINTRAN III. It is written for operators controlling the daily operation of the system and for system supervisors who program and operate the system. No previous knowledge is required for operators. System supervisors should have a general knowledge of SINTRAN III from a user's point of view. This manual should be used together with the following manuals:

SINTRAN III Time Sharing/Batch Guide (ND-60.132)
SINTRAN III Reference Manual (ND-60.128)

300 pages.

ND-30.004 EN**NORD-10/S HARDWARE
MAINTENANCE MANUAL**

This manual has been prepared for the ND Service department. It is written for field service engineers and technical personnel maintaining NORD-10/S CPUs. It contains a technical description and physical layout of the CPU input/output system and memory, hardware maintenance services, module substitution precautions, error symptoms and troubleshooting procedures, and maintenance information on the CPU, character oriented devices, DMA controllers, the memory and the power system. A basic knowledge of NORD-10/S hardware is required. 200 pages.

ND-30.005 EN**TEST PROGRAM
DESCRIPTIONS**

This manual describes the test programs used on the computers ND-100, NORD-10/S, NORD-10 and NORD 12. The manual is divided into three sections. The first chapter in section 1 gives a detailed description of the FLOPPY MONITOR and the TEST PROGRAM MONITOR. The following 15 chapters describe the 15 tests contained on test floppy 1, ND-210324E. These are the tests most frequently used.

Section 2 contains information on the 27 tests on test floppy 2, ND-210325B, and section 3 describes the tests on test floppy 3, ND-210326B. These tests are not so frequently used.

The manual is intended for those connected with maintaining the ND-100 and/or the NORD-10 series computers. The reader should have basic knowledge of the hardware in these computer systems. 250 pages.

ND-30.006 EN

**ND TPS SYSTEM
SUPERVISOR'S GUIDE**

This manual is a guide for operators and system supervisors of the ND Transaction Processing System, a general transaction processing system that initiates and controls transactions between various input/output devices and application programs. TPS provides facilities for handling terminals, data communications, databases, etc. The manual is written for operators with responsibility for the daily operation of TPS and system supervisors with responsibility for planning, installing and modifying TPS. Operators require a basic understanding of the SINTRAN III operating system and the SIBAS database system. System supervisors should be thoroughly familiar with TPS, SINTRAN III, SIBAS, FOCUS, NSHS and XMSG communication. 240 pages.

ND-30.008 EN

**ND-100 HARDWARE
MAINTENANCE MANUAL**

The manual covers the ND-100 computer and associated peripherals. The manual is intended as an aid to people involved with maintaining and troubleshooting the ND-100 computer system. The manual describes typical configurations, preventive maintenance duties and fault isolation procedures. A brief description of the various ND-100 hardware units and procedures for running test programs against these units is also provided. The appendixes contain cross reference lists for ND-100 cards, a list of the latest issued test programs, known but not corrected errors, and the ND-100 bus backplane signals. General knowledge of ND-100 hardware and familiarity with the SINTRAN III operating system are required. 200 pages.

ND-30.009 EN

**SIBAS II
OPERATOR'S MANUAL**

This manual is intended as a practical guide for people who operate the the SIBAS II Database Management System. It gives the recommended or standardized ways of carrying out the various procedures for which the operator is responsible, which include:

- The responsibilities of the operator to ensure smooth running and availability of the database system.
 - Instructions on taking BACKUP, LOGGING and Recovery
 - Controlling the Data Base Control System (DBCS).
 - Starting and stopping the database.
 - Error diagnosis and correction.
 - Maintaining, checking and changing the size of files and realms.
 - Mode files for facilitating the operator's tasks.
- 88 pages.

ND-30.010 EN NORD-50 HARDWARE MAINTENANCE MANUAL	<p>This manual has been prepared for the Norsk Data service department. It is written for field service engineers and technical personnel maintaining NORD-50 CPUs. It describes the racks and operators panel, the NORD-50 monitor, NORD-50 error messages, test program information, the NORD-50 memory system, NORD-50 memory expansion and the power system. General knowledge of NORD-10/S hardware, including the input/output and memory systems and familiarity with the SINTRAN III operating system are required. 200 pages.</p>
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ND-30.013 EN TEST MICRO PROGRAM DESCRIPTIONS FOR ND-500	<p>This manual describes the test programs used with the ND-500 CPU. It is written for field service engineers and technical personnel testing or maintaining ND-500 CPUs. It contains details of the contents and structure of each test program and the procedure for their implementation. The manual is the central reference document on these test programs. An in-depth knowledge of ND-500 is required for proper utilization of the manual. 116 pages.</p>
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ND-30.014 EN ND-500 HARDWARE MAINTENANCE MANUAL	<p>This manual covers the ND-500/1 and ND-500/2 computer systems. It has been prepared for the ND field service engineers and technical personnel directly involved in maintaining the ND-500 computer systems. General knowledge of ND-500 hardware and familiarity with SINTRAN III is required. 167 pages.</p>
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ND-30.018 EN TEST PROGRAM DESCRIPTION - ND-500	<p>This manual describes the ND-500 DESMODUR verification system. Part 1 of the manual describes the various tests to check and verify the ND-500 instructions (microcode) and the hardware. Part 2 gives a more detailed description and is written to make it easier to extend with new test programs. The manual is mainly written for the ND-500 system integration and service staff. 108 pages.</p>
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ND-30.020 NO ACCESS DBA HANDBOK	<p>This is a Norwegian version of the ACCESS DBA Manual, ND-30.022, and it contains exactly the same information. 90 pages.</p>

ND-30.020 SW ACCESS DBA ANVANDARHANDBOK	This is the Swedish version of the ACCESS DBA Manual, ND-30.022, and it contains exactly the same information. 90 pages.
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ND-30.022 EN ACCESS DBA MANUAL	This is a reference manual for the Data Base Administrator or supervisor responsible for an ACCESS system. ACCESS is a tool for retrieving information in a usable form from data registers. Some knowledge of data processing is required. It requires a good knowledge of SINTRAN and ACCESS itself. 90 pages.
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ND-30.024 EN SATELLITE INSTALLATION AND OPERATION GUIDE	The manual replaces the manual ND SATELLITE SYSTEM, ND-30.024. It provides a guide to all the stages, from unpacking the system, to actually using it. The manual describes installation, how to connect terminals and printers, the start-up procedure and the loading of the operating system. It also shows how to maintain the system, backup, personal backup, and hints for the system supervisor. The manual is mainly written for the Satellite system supervisor at the users site. S/he need no prerequisite knowledge to read it, but the manual also contains references to other manuals, frequently used by system supervisors on Norsk Data computers. 70 pages.
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ND-30.025 EN COSMOS OPERATOR GUIDE	This manual replaces the manual COSMOS System Supervisor, ND-30.025. It has been completely rewritten and reorganized. The manual documents the installment and operation procedures of the network facilities in the:
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COSMOS Basic Module	ND 210374
and IS XMSG	ND 210373

as implemented under SINTRAN III version I or later. Only the facilities of IS XMSG that are required to operate and run COSMOS Basic Module are described in this manual.

The manual is written for the system supervisor or network supervisor, who needs a guide for the communication facilities of COSMOS, as implemented under SINTRAN III. The reader should have a broad knowledge of the SINTRAN III operating system. In

addition, familiarity with the different facilities offered by the COSMOS Basic Module at both the programmer's level and the end user's level is recommended. A general understanding of data communication is also helpful.

The functions are ordered by functional category as opposed to the SINTRAN III Reference Manual where most of the functions are documented in alphabetical order. 210 pages.

ND-30.029 EN**TEST MICROPROGRAM
DESCRIPTIONS
FOR ND-500/2**

This manual gives a short introduction to ND-500/2 microprogramming and also includes the usage of the available test microprograms. Descriptions on how to load and start the ND-500/2 test microprograms are included in this manual. It is written for the ND-500/2 production and service staff and for people who intend to write their own microprogram testing routines. The test programs may be run by persons without detailed knowledge of the ND-500/2, however some knowledge of the ND-500 and the ND-500/2 hardware and architecture is required when writing your own microprograms. 110 pages.

ND-30.030 EN**ND TPS-II
OPERATOR GUIDE**

This manual describes the TPS-II system (Transaction Processing System), which is based on NORDRIFT. NORDRIFT was originally developed for the Norwegian National Insurance Institution. The system makes it possible to install and run a computer system that covers a wide and advanced range of problems in a local environment.

This manual contains all information necessary to run a computer system based on TPS-II. The person responsible of a TPS-II installation must have thorough knowledge of the administrative problems that can be solved by the system, but no special data processing knowledge is necessary.

The Norwegian version of this manual, NORDRIFT Håndbok for driftsoperatør, ND-30.026, was released first. 120 pages.

ND-30.030 NO**ND TPS-II
OPERATØRHÅNBOK**

This manual replaces the manual NORDRIFT Håndbok for driftsoperatør ND-30.026. It is the Norwegian version of the ND TPS-II Operator Guide, ND-30.030 and it contains exactly the same information. 120 pages.

ND-30.031 EN

**ND-100 COMPACT
OPERATOR GUIDE**

The ND-100 Compact Computer System is a physical compact computer based on the technology of the ND-100 and is intended for use in office premises. It is small, quiet and easy to operate. It has both a floppy disk station and usually also a cartridge tape (streamer). Telefix, which was created to permit analysis of error situations in customers' computers directly from Norsk Data's Service Center, is available.

This manual is intended as a practical guide for people who operate the ND-100 Compact computer. It contains a description of the operator's panel, how to go on when the computer is started, how to format and handle floppy diskettes, writing and reading backup from the floppy diskette and the streamer cartridge, how to handle some simple errors, preventive maintenance of the streamer and messages you may get when using the streamer. 54 pages.

ND-30.033 EN

**COSMOS X.21 OPTION
OPERATOR GUIDE**

This manual describes the product COSMOS X.21 Option, ND-210403. This manual is intended for system operators (supervisors) in charge of installing, loading, testing and maintaining the product COSMOS X.21 Option.

Detailed knowledge of the operating procedures of SINTRAN III (version H or later) and the COSMOS Basic Module with Inter System XMeSsage (IS XMSG) is necessary. Familiarity with the basic requirements in the CCITT X.21 recommendation is helpful, but not required. 60 pages.

ND-30.034 EN

**COSMOS X.25 OPTION
OPERATOR GUIDE**

This manual describes the product COSMOS X.25 Option, ND-210573. The manual is intended as a guide for system operators/supervisors. It is divided into two parts. The first gives a sequential introduction to the necessary procedures of loading and operating/maintaining the COSMOS X.25 network system.

The second part, the appendixes, provides reference documentation for the same functions covered in the first part. These appendixes also include additional advanced functions which are not necessary for the day to day operation. 110 pages.

ND-30.038 EN**SNA 3270 TERMINAL
EMULATOR OPERATOR
GUIDE**

The manual describes the ND SNA 3270 Terminal Emulator program which allows the ND-100, with attached display stations and printers, to appear as an IBM 3270 Control Unit. The product numbers are:

ND 210741 - SNA Gateway Single Line
ND 210742 - SNA Terminal Emulator

The first chapter of this manual is an introduction to the ND SNA 3270 Terminal Emulator. Chapter two describes how the program is implemented and started. In chapter three the operation of the system is explained. Chapter four explains the functions of the ND 246 NOTIS keyboard as opposed to the IBM 3278 keyboard.

The manual is intended for operators and others using the ND 246 NOTIS terminal. No previous knowledge is required, however familiarity with the ND-100 computer systems and the operating system of the host computer is recommended. 50 pages.

ND-30.040 EN**TELEFIX
REFERENCE MANUAL**

This manual describes Telefix, an internal ND tool for remote diagnosis and maintenance of ND hardware and software. The products may also be used by product developers and testers. The manual describes the hardware and software installation needed to run Telefix, the various modes in which the Telefix programs may be run, and all of the Telefix commands. The reader should be someone from Norsk Data involved in support, maintenance, development or testing of ND hardware and software. Familiarity with SINTRAN III and also the hardware and software to be tested is recommended. 139 pages.

ND-30.041 EN**ND-100 SATELLITE
OPERATOR GUIDE**

This manual is intended as a practical guide for people who operate or supervise the ND-100 Satellite. It contains a description of the operator's panel, how to go on when the computer is started, how to format and handle floppy diskettes, writing and reading backup from the floppy diskette and the streamer cartridge, how to handle some simple errors, preventive maintenance of the streamer and messages you may get when using the streamer. 43 pages.

ND-30.042 EN

**TRUE
OPERATOR GUIDE**

This manual describes procedures necessary to operate a TRUE (Transaction User Environment) system. TRUE is a general transaction processing system which initiates and controls transactions between various input/output devices and application programs. TRUE provides facilities for handling terminals, data communications and databases. This manual is written for the operator and the supervisor of a TRUE installation. In addition to describing the basic features of TRUE, it also describes an optional feature, the TRUEMAN, which can be used to maintain menus, functions, terminals, users and application programs in the TRUE system. 78 pages.

ND-30.047 EN

**ND COLOURED BOOKS
OPERATOR GUIDE**

This manual tells you how to install, test and operate the ND Coloured Books data communication products:

ND Coloured Books Job and File Transfer ND-210771
ND Coloured Books File Transfer ND-210866

It gives an overview of the files in the system, showing those files that need editing during initial installation. However, it is not a replacement for the PD sheets. This guide is written for a system supervisor or the operator who is in charge of installing, loading, configuring and operating the ND Coloured Books products. A thorough understanding of the operating procedures of SINTRAN III, the ND operating system, and of COSMOS, the ND networking system, is essential. Familiarity with the functional principles of the JNT network protocols is an advantage, but not essential. 90 pages.

ND-30.049 EN

**SINTRAN III
TUNING GUIDE**

This manual describes the various tuning and performance aspects of ND systems. It is intended as a guide for system supervisors, system programmers and ND users with a general interest in the area of performance and tuning. No specific prerequisite knowledge is required, however a general acquaintance with ND systems would be helpful. 65 pages.

ND-30.051 EN**FTX OPERATOR MANUAL**

This manual documents ND's fault tolerant system, FTX, which includes the following products:

ND Disk Mirror and Error Logger ND 210855
ND I/O Line Switch ND 210873

This manual is written for a system supervisor or the operator who is in charge of installing, loading, testing and maintaining any part of the FTX system. Detailed knowledge of the operating procedures of SINTRAN III (version J or later) and a thorough understanding of the application system(s) using FTX is assumed. 110 pages.

ND-30.053 EN**SINTRAN III
HOW TO ORDER IT**

This manual gives the reader some hints on how to fill in the SINTRAN III ORDER FORM. It does not give all details, but covers the most important information necessary to generate a SINTRAN III that will satisfy the users. This manual is dedicated to the J-version, however it may serve as a guide for other versions as well. Basic knowledge of SINTRAN III, software and hardware is recommended. 35 pages.

ND-30.059 EN**NOTIS-DS
SUPERVISOR GUIDE**

This manual describes the installation, maintenance, and operation procedures for NOTIS-DS. The manual is written for experienced users with system supervisor responsibilities. 34 pages.

ND-40.005 EN***NORSK DATA GLOSSARY**

This glossary is intended to help in understanding ND manuals and should be of interest to everybody using ND equipment. Special ND terms and common computer terms with a slightly different meaning in the ND manuals, constitute the main portion of the glossary. ND abbreviations are also listed. Some general computer terms, words and acronyms used in the documentation are explained, mainly to help readers with limited data processing background in understanding the introductory manuals. Terms and abbreviations used only in the same chapter, or close to their definitions, are omitted. The main purpose of this glossary however, is not to define, but to explain in everyday language. Many explanations in this glossary require little or no knowledge of computers or data processing. However, some knowledge of computers is essential to the understanding of the more complicated explanations.

* Not yet available

ND-60.031 EN

QED USER MANUAL

This manual is a users guide and reference manual for the QED text editing program. The program is designed to maintain source program files such as FORTRAN, COBOL, BASIC, MAC or NPL but is also suitable for all kinds of text editing. The manual is written for programmers using the editor as a standalone program or as a subsystem under an operating system, the TSS timesharing system, or the SINTRAN III real time, timesharing and multibatch operating system. For general text editing purposes, familiarity with computers or programming is not necessary. 40 pages.

ND-60.037 EN

**SCIENTIFIC SUBROUTINE
PACKAGE**

This manual describes the individual subroutines in the Scientific Subroutine Package which contains FORTRAN routines for performing statistical and mathematical functions, including matrix manipulation, integration, root finding and special functions like Bessel and Gamma functions. It is written for programmers who need a comprehensive description of the available routines. Familiarity with FORTRAN is required. 288 pages.

ND-60.041 EN

**NORD IDT GERTS-115
OPERATOR'S GUIDE**

This manual describes the basic and optional functions of the ND IDT GERTS-115. It is intended as an operator's guide and should be of interest to those who want to run the terminal as efficiently as possible. The manual contains information on starting and running the system and discusses the console commands and messages. It includes load procedures for various systems and systems running under SINTRAN III. 30 pages.

ND-60.046 EN

TRACE ROUTINE

This manual describes the commands available in the TR tracing system for assembler level debugging, the error messages that may be generated, installation instruction and a flowchart of the TR routine. It is useful for assembler (MAC) programmers who need to debug programs at the machine level. It is of particular interest when debugging programs using privileged instructions, as the TR routine can simulate these instructions. 22 pages.

ND-60.047 EN**NORD PL
USER'S GUIDE**

This manual describes the NORD PL language in textbook style. It contains the definition of the language, compiler operating procedures and error message explanations, and a set of exercises for use in a teaching environment. It is written for programmers who will use NORD PL for writing programs, system analysts reading the ND-100/10 system programs and operators who make patches and modifications to system software. NORD PL users should have experience using the MAC assembly language and be familiar with the architecture of the ND-100/10 computers. 102 pages.

ND-60.051 EN**SINTRAN III
REAL TIME LOADER**

This is a reference manual for the RT Loader. It is used to load real time programs under SINTRAN III. All commands are listed alphabetically and described in full detail. It allows segments to be named. Segments that overlap addresses in RT COMMON can be defined. Commands to simplify use of the FORTRAN-100 compiler instead of the old FTN compiler are added. Familiarity with the SINTRAN III Real Time Guide (ND-60.133) is required. 80 pages.

ND-60.057 EN**THE DATA BASE SYSTEM
SIBAS I USER'S MANUAL**

This manual was written for the original SIBAS system, now replaced by SIBAS II (see ND-60.127). It describes the implementation of a database, explaining all necessary parameters, the calls to be used in programs, error reports etc. In SIBAS II the practicality of establishing the database is completely different, but most of the contents are still valid. The manual is written for programmers and supervisors on systems where SIBAS is implemented. Basic knowledge of SINTRAN and data processing is required and some programming experience is valuable. 370 pages.

ND-60.058 EN**NORD PLOT PACKAGE**

This is the documentation of the library routines in the plot package used to drive drum type incremental plotters. Calls may be made from FORTRAN, BASIC or MAC programs. It is written for programmers. 46 pages.

ND-60.060 EN NORD IDT DCT-2000 OPERATOR'S GUIDE	This manual is an operator's guide to the ND IDT DCT-2000. It gives an introduction to the terminal and describes local commands and messages. It also describes the loading and start-up procedures of the ND IDT DCT-2000 program. It contains information on error recovery, general commands for ND IDT terminals and load procedures for various systems. 25 pages.
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ND-60.061 EN NORD IDT 200-USER OPERATOR'S GUIDE	This manual contains information on the ND IDT 200-USER, a remote batch terminal operating with CDC Cyber/6000 series computers. It is an operator's guide and describes the commands and responses, start-up procedures and batch processing. Some attention is given to special functions and interactive processing. The appendixes contain information on error recovery, general commands and various load procedures. 30 pages.
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ND-60.062 EN SINTRAN III SYSTEM DOCUMENTATION	This is the main documentation for the implementation of SINTRAN III. It is written for those responsible for maintenance of SINTRAN III software. Familiarity with the external functions as documented in the reference and installation management manuals is required. 240 pages.
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ND-60.066 EN ND RELOCATING LOADER	This manual is a user's guide containing a general introduction to loading and descriptions of the NRL commands, the overlay mechanism and the Binary Relocatable Format (BRF). Error messages generated by NRL are described. The manual is required by ND-10/100 programmers and anybody who needs a description of the BRF format for maintaining BRF libraries or generating code to be loaded by NRL. No previous experience with loaders is required; however a minimum of knowledge of SINTRAN III is necessary. 59 pages.
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ND-60.067 EN NORD IDT 3780 OPERATOR'S GUIDE	The ND IDT 3780 is a remote batch terminal operating with IBM 360/370 systems. The manual describes the start-up procedures and the batch processing. It is written as a user's guide and describes the local and general commands and gives information on the load procedures for NORD-20, NORD-10/20/100 stand alone systems and for systems running under SINTRAN III. 25 pages.
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ND-60.070 EN	The ND IDT NTR is a program system in a
NORD IDT NTR	NORD-10/12/100 computer for remote batch
USER'S GUIDE	communication with a Univac 1100-series computer.
	The manual is a user's guide describing system
	features, initiating and running the system,
	commands, responses and load procedures. 40 pages.

ND-60.071 EN	This manual is written for programmers using BASIC.
NORD-10 BASIC COMPILER	It is suitable as a self-study guide to programming
REFERENCE MANUAL	in general, using BASIC as a tool. It explains BASIC
	features and its interactive use, and contains a
	complete description of available commands,
	statements and functions. No previous experience of
	programming languages or hardware is required.
	236 pages.

ND-60.072 EN	The manual describes the implementation of the real
SINTRAN III	time loader. It is written for system programmers
REAL TIME LOADER	working in support and development. Familiarity with
SYSTEM DOCUMENTATION	the SINTRAN III Real Time Loader manual is required.
	40 pages.

ND-60.075 EN	This manual describes the NORD-50 assembler
NORD-50 ASSEMBLER	operating procedure, the assembler directives, macro
	usage and external program representation. The
	appendixes contain tables of instructions, BRF
	directives generated by the assembler and numeric
	opcodes. It is written for users of the NORD-50
	assembler. Familiarity with assembler programming
	and sufficient SINTRAN III experience to run the
	assembler is required. Details of the instruction
	set are given in the NORD-50 Reference Manual,
	ND-05.003. 52 pages.

ND-60.076 EN	The first three chapters of this manual describe how
NORD-50 MONITOR	to run NORD-50 programs. All available commands are
USER'S GUIDE AND	explained, including those reserved for the system
SYSTEM DOCUMENTATION	supervisor. File access and the use of monitor calls
	from the NORD-50 are described. Chapters four to six
	contain the monitor system architecture and describe
	how to implement monitor and system documentation.
	This manual should be read by NORD-50 users. The
	first three chapters are intended for users who
	execute programs on the NORD-50. A working knowledge
	of SINTRAN III and familiarity with NORD-50 FORTRAN

are required. These can be obtained from the SINTRAN III Timesharing/Batch Guide ND-60.132 and NORD-50 FORTRAN Reference Manual ND-60.095. Chapters four to six are not required reading in order to use the monitor, but should be read by system programmers and analysts and by system supervisors installing the monitor. Thorough knowledge of the internal operation of SINTRAN III and/or the underlying hardware is required. Less detailed information is required by users reading these chapters as a general description of the monitor. 92 pages.

ND-60.077 EN

SIBINTER

This manual describes the software product SIBINTER (ND Interactive Information Processing and Report Generating System), the tool for processing records interactively (from terminals) in the database. All access methods used in programs are also available from SIBINTER. Knowledge of the structure of SIBAS databases and programming experience are recommended, along with study of the SIBAS II User's Manual. 54 pages.

ND-60.078 EN

**DATA BASE THEORY
AND DESIGN**

This manual covers the main concepts of databases, not their implementation on ND computers. The two principle methods of record access, by index or random, are discussed and illustrated by examples. The manual is a suitable introduction for anybody setting up a database. No previous knowledge of databases or programming is required, but some elementary experience of data processing is useful. 104 pages.

ND-60.079 EN

**MEAS II - AN ANALOG
PROGRAM SYSTEM FOR
PROCESS CONTROL
USER'S MANUAL**

MEAS II is an analog program system for real time process control. This manual describes how to run the MEAS program system under SINTRAN III. It is written for application programmers, but the program calls themselves are documented in MEAS II - An Analog Input Program System for Process Control, Application Manual, SINTEF Report STF48 A73023. 66 pages.

ND-60.082 EN

**SINTRAN III-CORE
USER'S GUIDE**

This manual documents the external functions of a special version of SINTRAN III. The SINTRAN III/RT operating system is a simplification of SINTRAN III/VS. It does not include memory management and the file system. It is primarily written for end-users and programmers. Knowledge of the SINTRAN III/VS system as found in the SINTRAN III Introduction is required. 134 pages.

ND-60.083 EN**NORD-50 LOADER
USER'S GUIDE**

This manual gives a brief introduction to the loading process. It describes how to use the NORD-50 loader, how to load an overlaid program, how to define the communication between NORD-50 and NORD-10, the relocatable code (BRF5) format and the error messages produced by the loader. It is written for all programmers using the NORD-50. It is also recommended for system supervisors who maintain a library of relocatable modules for the NORD-50 with the NORD-50 BRF Editor. No previous knowledge of loaders is required. Familiarity with the NORD-10/NORD-50 system is of great advantage for understanding more advanced use of the loader. 25 pages.

ND-60.088 EN**ND SCREEN
HANDLING SYSTEM**

The Screen Handling System NSHS is a system for handling video display terminals. It uses two main features, pictures and programs. The first part of the manual describes how to create pictures which are used by the application programs. The second part contains the calls/parameters available for the programming. The third part is the user's guide and contains practical examples for the user, starting with defining pictures, writing and executing programs. There is additional information about points which have previously proved difficult. The manual is written for programmers and supervisors. Experience of interactive data processing and programming, preferably FORTRAN, is required. 186 pages.

ND-60.091 EN**NORD RPG II
USER'S GUIDE**

This is a user's guide for the ND RPG II system, describing compiler operating procedure, external representation and file access from RPG programs. It describes compiler and run time error messages and differences from other RPG systems. It is written for ND RPG II programmers who know the RPG language. Basic knowledge of SINTRAN III and the file system is required. 52 pages.

ND-60.092 EN**ND-100 SINTRAN III
SIMULA REFERENCE
MANUAL**

This is a reference manual describing extensions to and differences between the ND-100 SINTRAN III SIMULA and the SIMULA Common Base Language. It also describes the use of the compiler and the external program representation. It is intended as a reference text for the ND-100 implementation, not as a tutorial text on SIMULA. It is written for programmers writing SIMULA programs for the ND-100. Thorough knowledge of the language itself and familiarity with SINTRAN III are required. 58 pages.

ND-60.093 EN
NORD PROCESS I/O
SOFTWARE GUIDE

The manual describes calls to library routines for:
ND-108200 AD converter
Noratom-Norcontrol process equipment
the digital I/O monitor calls DIW and DOLW
ND-108100 digital input
ND-108110 digital output
CAMAC
direct digital control (DDC)
FORTRAN or MAC can be used. The manual is written for application programmers who should be familiar with the input/output system in SINTRAN III. 56 pages.

ND-60.094 EN
NCT - NORD COLOUR
TERMINAL USER'S GUIDE

The manual covers the main design specification and the external functions of the NCT service program. 42 pages.

ND-60.095 EN
NORD-50 FORTRAN
REFERENCE MANUAL

This is a reference manual describing the NORD-50 implementation of FORTRAN. It also describes external program representation, compiler operating procedure and file access under the SINTRAN III operating system. Appendixes include error message explanations, summaries of loader and monitor commands and a short description of internal data representation and procedure call conventions for interfacing to other languages. The manual is written for FORTRAN programmers of the NORD-50. Familiarity with elementary FORTRAN and SINTRAN III usage are recommended but the manual contains all the information required to write, compile, load and execute a FORTRAN program on the NORD-50. 182 pages.

ND-60.096 EN
MAC INTERACTIVE
ASSEMBLY AND DEBUGGING
SYSTEM USER'S GUIDE

This manual describes the MAC assembler for ND-100/10 computers. It contains the assembler commands, specifications for the external representation of assembly programs, assembler operating procedures and a description of the hardware environment. Standard and optional extensions to MAC and the special versions of MAC (MACF, MACM) are presented. The appendix has a list of machine instructions but the NORD-10 or ND-100 CPU Reference Manual is required to describe instruction formats and addressing modes. Basic knowledge of assemblers and the architecture of ND-100/10 is required, but detailed knowledge of the computer hardware or previous MAC experience is unnecessary. 134 pages.

ND-60.097 EN DATABASE ADMINISTRATOR MODULE	This manual describes supervision of databases under the old SIBAS system. It is not valid for SIBAS II, where it is replaced by chapter 6 of the SIBAS II User's Manual ND-60.127. 120 pages.
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ND-60.098 EN NORD-50 BRF EDITOR	This manual describes the commands available in the NORD-50 BRF editor to maintain and modify NORD-50 BRF files and to disassemble the BRF directives and machine instructions. It is written for those maintaining libraries of relocatable NORD-50 modules, including system supervisors, advanced programmers and system programmers. Some knowledge of the internal BRF format (BRF5) is required. This can be found in the NORD-50 Loader User's Guide ND-60.083, which also gives the required background information about loading NORD-50 segments. 6 pages.
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ND-60.099 EN FLOCON USER'S GUIDE	The manual describes the functions of the floppy disk converting system which converts data to SINTRAN III compatible files. It is written for programmers and end users. Familiarity with floppy disk formatting and running programs under SINTRAN III is required. 44 pages.
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ND-60.100 EN 7750 VIP EMULATOR USER'S GUIDE	This manual is a user's guide that describes how to generate and run the 7750 VIP emulator under the SINTRAN III operating system. The 7750 VIP emulator communicates with a Honeywell Bull host computer. 18 pages.
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ND-60.101 EN NORD DATA ENTRY SYSTEM REFERENCE MANUAL	The Data Entry System consists of the Data Entry Compiler and the Data Entry Editor. Data Entry uses parts of the Screen Handling System (invisible to the user). The editor is used for calling pictures, entering data to the fields and transporting records between screen and disk files. It can also be used for control reading of records (verifying), search on a key, etc. The compiler is a special language used for writing 'applications' used for designing record output, checking data and grouping pictures to be called from the same application. The manual is a typical reference manual for those already familiar with the system but is not recommended as a textbook. It contains no practical examples. 52 pages.
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ND-60.105 EN

**ND TPS
GENERAL DESCRIPTION**

This manual is an introduction to the ND Transaction Processing System, a general transaction processing system that initiates and controls transactions between various input/output devices and application programs. It provides facilities for handling terminals, data communications, databases, etc. The manual contains introductory information and should be of interest to data processing managers, systems analysts, programmers and operators. The system is described as it appears to a user, programmer or operator. No previous knowledge of ND TPS or transaction processing is required, but some knowledge of the SINTRAN III operating system, the SIBAS database system and the ND Screen Handling System is recommended. 50 pages.

ND-60.106 EN

**REFERENCE TO UTILITY
PROGRAMS FOR THE
RPG II USER**

This manual contains the information required to convert RPG II files and systems from other RPG II installations to ND RPG II. It is useful to RPG II programmers and operators making such conversions and should be regarded as a supplement to ND RPG II User's Guide, ND-60.091. 10 pages.

ND-60.107 EN

DATACON USERS GUIDE

This manual describes DATACON, a data conversion utility system capable of converting data files from one data representation to another using user defined alphabet tables and record descriptions. The system includes a simple report generation feature, an inspection tool for use on files being converted. The manual is required by programmers and system supervisors when data are exchanged between ND computers and other computer systems and for data file conversion. General knowledge of SINTRAN III is required. 18 pages.

ND-60.108 EN

**ND INDEXED SEQUENTIAL
ACCESS METHOD
REFERENCE MANUAL**

This manual describes ND ISAM, a file structure which uses a separate index file when searching in a large sequential file. It is a reference guide to the subroutines available to handle such files, but contains sufficient introductory information to serve as a guide for the first time user of ND ISAM. The manual is written for programmers experienced in a high level language, who want to reduce average access time to large files of sequentially ordered

data. The application program must be written in a language allowing calls to external FORTRAN routines. Familiarity with the file system is required and previous knowledge of ISAM structured files is helpful. The new version also covers the latest release of the ISAM software, including an example of using ISAM from a Pascal program. 65 pages.

ND-60.109 EN

This manual has been included in the SINTRAN III Utilities Manual, ND-60.151. 33 pages.

**GPM - GENERAL PURPOSE
MACRO GENERATOR**

ND-60.110 EN**SINTRAN III
POSTMORTEM
INVESTIGATOR
USER'S GUIDE**

The SINTRAN III postmortem investigator program system is developed to aid those debugging SINTRAN. It is part of the installation management documentation and familiarity with manuals documenting SINTRAN III implementation is required, particularly the SINTRAN III System Documentation, ND-60.062. 30 pages.

ND-60.111 EN**ND TPS USER'S GUIDE**

This manual is a combined programmer's guide and reference manual for the ND Transaction Processing System, a general transaction processing system that initiates and controls transactions between various input/output devices and application programs. TPS provides facilities for handling terminals, data communications, databases, etc. The manual is written for programmers writing application programs to be run under ND TPS. These programs can be written in FORTRAN, COBOL, NPL, MAC and SIBAS. It will also interest system designers who design applications to be run under TPS. Previous knowledge of ND TPS or transaction processing is not required, but some knowledge of the SINTRAN III operating system, the SIBAS database system and the ND Screen Handling System is necessary. 200 pages.

ND-60.112 EN**SINTRAN III SYSTEM
DOCUMENTATION
APPENDIX A-DATA FIELDS**

This manual documents the layout of data fields in SINTRAN III used for controlling devices. It is written for system programmers working in support and development and for supervisors who control system configuration. Familiarity with the SINTRAN III System Documentation manual, ND-60.062 is required. 100 pages.

ND-60.113 EN

**NORD-500 ASSEMBLER
REFERENCE MANUAL**

This manual briefly describes the ND-500 Assembler operating environment, and describes commands and directives to the assembler and assembler operating procedure. It is a user's guide, but will also serve as a reference manual for the ND-500 assembler. The appendix gives a list of machine instructions, but the ND-500 CPU Reference Manual, ND-05.009, is required to describe instruction formats and addressing modes. The manual is written for programmers using the ND-500 Assembler. Familiarity with assemblers in general is required, but no previous experience with the ND-500 is expected. 100 pages.

ND-60.114 EN

**NORD IDT 3270 EMULATOR
USER'S GUIDE**

This manual contains the details required to implement a ND 3270 terminal system and to operate a ND 3270 terminal unit. It is written for system users and programmers responsible for system implementation. No previous knowledge is required, but some knowledge of the SINTRAN III operating system is recommended. Familiarity with the program system residing in the central site (host) computer is required and a basic knowledge of 3270 terminal systems is recommended for system programmers. The manual contains a general description, brief functional and operational description and describes special features and load procedures, diagnostic features, message formats and control characters. System error messages etc. are explained in the appendixes. 100 pages.

ND-60.115 EN

**NORD COMPUTERS IN
ADMINISTRATIVE
DATA PROCESSING
APPLICATIONS**

This manual surveys the most important software tools available to users of ND computers, not only those especially related to administrative processing. It includes an introduction and coverage of SINTRAN III, QED text editor, NORD-10 COBOL, NORD-10 FORTRAN, the ND relocating loader, SIBAS, NSHS, Data Entry System, TPS, Sort Systems and ISAM. It is written for programmers and end users with experience of data processing. 112 pages.

ND-60.117 EN**PLANC REFERENCE MANUAL**

This manual is primarily for reference, but chapter 1 gives a survey of the whole language for less experienced programmers, or users who only require a reading knowledge of PLANC programs. PLANC (Programming Language ND Computers) is designed as a high-level systems programming language. It is a member of the ALGOL/PASCAL family of block structured languages. PLANC is used mainly for writing systems software such as operating systems and compilers. It has been defined in a machine-independent manner and machine-dependent features (eg. data allocation strategies, interfaces to programs in other languages) for particular machines are specified in this manual. 305 pages.

ND-60.121 EN**PED USER'S GUIDE**

This manual is a combined user's guide and reference manual which describes the ND Program-Editor, a VDU page mode editor for asynchronous terminals connected to ND computers running the SINTRAN III operating system. The Program-Editor is used to create a program or data file which can then be copied to an output device. A program file may be compiled by the program COMPILE. The appendixes are devoted to error messages, the editor menus, the help structure and an ASCII conversion table. This manual is written for anyone needing a program editor to edit programs or data files. General knowledge of the timesharing facilities of NDs operating system, SINTRAN III is recommended. 130 pages.

ND-60.122 EN**NORD FILE SYSTEM -
SYSTEM DOCUMENTATION**

This manual documents the implementation of the file system in SINTRAN III. It is written for system programmers working in support and development. Familiarity with the external functions of the file system, as documented in the reference and installation management manuals, is required. 100 pages.

ND-60.123 EN**MSD SORT SYSTEM**

The MSD-Sort System is a program package enabling the user to sort mass storage file (magnetic tapes included) containing fixed length records (but not variable length). The package is available in the following two forms:

- SINTRAN III interactive subsystem
- Subroutine callable from a user program

25 pages.

ND-60.124 EN

**ND-PASCAL
USER'S GUIDE**

This manual describes the Pascal compilers for the ND-100 and the ND-500. The ND-100 Pascal compiler is delivered in both a 32-bit and a 48-bit floating point hardware version. As the three compilers differ only in machine-dependent respects, they are described in the same manual. The manual describes mainly the extensions compared to and differences between ND-Pascal and Standard Pascal as described in Jensen and Wirth: Pascal User Manual and Report. Thus, it is intended for the user who has some knowledge of Pascal and of how to load and execute a compiled program under the SINTRAN III operating system. 80 pages.

ND-60.125 EN

**SINTRAN III
INTRODUCTION**

This is an introduction to the ND operating system SINTRAN III. It is written for users with no or little experience with ND computers, and who will use SINTRAN III as an aid in their daily work with text processing, information retrieval and other ADB jobs. It contains tutorial style information arranged sequentially. In addition to explaining the basics of a computer system, it also includes many examples of useful commands and recipes for performing specific jobs. These include file handling, taking backups on floppy disks, programming of push-keys on the NOTIS terminal, etc. 85 pages.

ND-60.126 EN

**MAGTAPE-LISTER PROGRAM
USER'S GUIDE**

This manual describes the commands available in the MAGTAPE-LISTER subsystem, which is used to generate an octal dump or line printer/disk file listing of IBM, KV, Univac or Honeywell Bull formatted magnetic tapes. It describes the commands available and the error messages that may be generated by the program. The manual is required by programmers and operators who transfer data on magnetic tape between ND and other computers. Familiarity with the formats used on the tapes to be converted is required, but no other special knowledge. 11 pages.

ND-60.127 EN

**THE DATABASE SYSTEM
SIBAS II USER'S MANUAL**

This manual covers all aspects of the SIBAS database system, replacing the old SIBAS manual, ND-60.057. The Database administrator may choose the relevant chapters as indicated below. Chapters 1 and 2 are a general introduction to database principles and give the background for the remaining chapters. No knowledge of data processing is required and these

chapters are recommended as an introduction. Chapters 3 and 4 describe the definition/redefinition of databases and calls/parameters to be used in application programs. Chapter 5 on how to administer and operate the database is of special importance to supervisors. Chapter 6 describes the utility programs, the Database Maintenance Module, and the SIBAS Service Program which replace the old Database Administrator Module. Chapter 7 explains Error and Exception Conditions. Appendixes A-H give summaries of calls and statements; plus storage and display calls. 363 pages.

ND-60.128 EN

**SINTRAN III
REFERENCE MANUAL**

This manual details the commands and monitor calls of SINTRAN III in alphabetical order. Each function is described in a standard format. It is for experienced users who want to look up the precise details of commands and monitor calls. Familiarity with the SINTRAN III Introduction and the SINTRAN III user's guides is recommended. 500 pages.

ND-60.132 EN

**SINTRAN III
TIMESHARING/BATCH
GUIDE**

This manual documents the H version of SINTRAN III VS, VSE and VSE-500. The manual gives a description of the functions available. The commands available to the timesharing and batch users are grouped and explained according to their function. This manual is intended for the user who requires an explanation of the timesharing and batch facilities in SINTRAN III. 140 pages.

ND-60.133 EN

**SINTRAN III
REAL TIME GUIDE**

This manual describes commands and monitor calls available for real time programming of SINTRAN III. The material is ordered according to functional category, not alphabetically as in the SINTRAN III Reference Manual. It is written as a user guide and has sufficient detail of the interrupt and memory management hardware to be self contained for RT programmers. A reading knowledge of FORTRAN is required and familiarity with the ND-100 instruction set is helpful. It is written for the user who needs an explanation of the real time facilities in SINTRAN III. 360 pages.

ND-60.136 EN

ND-500 LOADER/MONITOR

This manual describes the available commands in NLL (ND Linkage Loader) and the ND-500 Monitor. NLL is used to build segments to be executed by the ND-500 and the monitor controls their execution. The manual is organized as a user's guide, but serves as a reference manual to commands and error messages. There is a short description of the internal structure. This manual is written for programmers and operators who want to load and run programs on the ND-500. Previous knowledge of the ND-500, the ND-100 and the SINTRAN III operating system is required. The ND-500 CPU Reference Manual ND-05.009 provides a sufficiently detailed description of the ND-500 architecture for advanced users. The Loader/Monitor manual alone is sufficient for most ND-500 users. 102 pages.

ND-60.137 EN

**FOCUS SCREEN
HANDLING SYSTEM
REFERENCE MANUAL**

This manual describes the FOCUS Screen Handling System which is a high level system accessed through easy-to-use subroutines. It is primarily intended for application programmers who wish to use FOCUS as a programming tool. FOCUS consists of two parts:

1. FOCUS-DEF, in which forms (screen pictures) are defined interactively. The forms can be used at runtime to enter and display data which are used by the application program.
2. The FOCUS runtime library, consisting of calls from COBOL, FORTRAN and PLANC.

Enclosed with the manual is the "NOTIS reference card for non-NOTIS terminal" (ND-99.010) which gives non-NOTIS equivalents for the NOTIS keys. 145 pages.

ND-60.140 EN

**7750 VIP EMULATOR II
USER'S GUIDE**

This manual describes how to generate, load and run the 7750 VIP EMULATOR on an ND computer running under SINTRAN III. The ND 7750 VIP emulates the Honeywell Bull 7750 VIP terminal. It is a remote interactive terminal which communicates with a Honeywell Bull host computer. The manual is written for operators and application programmers. Some knowledge of SINTRAN III is necessary. 40 pages.

ND-60.141 NO**SINTRAN III
INTRODUKSJON**

This is the Norwegian version of the SINTRAN III Introduction, ND-60.125, and it contains exactly the same information. 85 pages.

ND-60.143 EN**HASP-II WORK
STATION USER'S GUIDE**

The NORD IDT HASP-II WORK STATION is used to send jobs from an ND computer to a remote IBM computer and to receive output from these jobs. The NORD IDT HASP-II CONNECT PROGRAM connects the user to the HASP-II WORK STATION. This manual is intended mainly as a reference manual for operators of the HASP-II WS, but it should also be of interest to data processing managers and system analysts. It describes all the commands of the NORD HASP-II WORK STATION in detail. It contains introductory information and instructions for loading and starting the emulator. Previous knowledge of SINTRAN III is recommended and also familiarity with the basic components used in data communications. 140 pages.

ND-60.144 EN**ND COBOL
REFERENCE MANUAL**

This manual describes COBOL (Common Business Oriented Language) which is a programming language, based on English and developed for use in commercial data processing. ND COBOL is COBOL for both ND-100 and the ND-500. The manual is intended for programmers using ND COBOL who require a detailed and formal explanation of the product as well as an account of the features and facilities available to the user. It contains relevant information about the compilers, such as descriptions of the screen-handling facilities. It also includes an extensive index. The manual is intended for reference purposes and is organized as follows: Part I describes ND COBOL in general terms and gives specific rules for the writing of COBOL source programs. There is a chapter for each COBOL division. Part II contains an account of each 'other feature' or special topic requiring a section of its own. Supplemental information is given in the appendixes at the end. 450 pages.

ND-60.145 EN

**ND FORTRAN
REFERENCE MANUAL**

This manual describes the ND implementation of the FORTRAN language for the ND-100 and ND-500 computers. Language extensions and implementation dependent features, compiler operating procedures and the use of subroutines in other languages are described. The manual is intended for reference purposes and is not a FORTRAN textbook. It is written for programmers using FORTRAN for programming ND computers. The manual applies to the new ND-100 FORTRAN compiler as well as the ND-500 compiler. The Exception Handling System is available for both the ND-100 and ND-500. 300 pages.

ND-60.146 EN

ND-SORT/MERGE SYSTEM

This manual describes the use of the ND-Sort/Merge system, a general system for sorting data contained on mass storage. The system is available as an interactive SINTRAN III subsystem and as a subroutine package; both are described. There is a short survey of the method used. The manual is written for interactive subsystem users and programmers wanting to call the subroutines from their own programs. No previous experience with SINTRAN III or programming is necessary, but understanding of the record layout in the file to be sorted is required. The subroutine package uses the standard FORTRAN call conventions, and the programmer is expected to write his application program in FORTRAN or a language supporting subroutines written in FORTRAN, and must know how to declare and load external FORTRAN subroutines. 40 pages.

ND-60.148 NO

PED BRUKERVEILEDNING

This is the Norwegian version of the PED User's Guide, ND-60.121. 35 pages.

ND-60.149 EN

GRAFS USER GUIDE

This manual was written for the GRAFS (General Registration Archiving and File Retrieval System), and it has been replaced by the NOTIS-IR User Guide, ND-63.005. 75 pages.

ND-60.150 NO

GRAFS BRUKERHÅNDBOK

This is the Norwegian version of the GRAFS User Guide, ND-60.149, and it contains exactly the same information. It has been replaced by the NOTIS-IR Brukerveiledning, ND-63.006. 75 pages.

ND-60.151 EN
SINTRAN III
UTILITIES MANUAL

This manual contains information previously published in several different manuals. There are sections covering the BACKUP-SYSTEM, the PERFORM subsystem, the General Purpose Macro Generator, the JEC system, the MAIL subsystem and the LOOK-FILE and FILE-EXTRACT subsystems. MAIL is a system to send messages to other users. PERFORM is a simple macro processing system to create mode files. JEC is a system to control the execution of mode and batch jobs. The BACKUP-SYSTEM is used to copy files between mass storage devices. LOOK-FILE is used to inspect and modify the bytes in a file. FILE-EXTRACT is a system to handle records in a file. GPM is a general purpose macrogenerator. VTM-COMPOUND is used to compound new terminal type descriptions into one terminal type table used by the Virtual Terminal Manager (VTM). It is a reference text for more advanced users of SINTRAN III and familiarity with the operating system is required. 155 pages.

ND-60.152 NO
ACCESS
BRUKERVEILEDNING

This is a Norwegian version of the ACCESS User Guide, ND-60.153, and it contains exactly the same information. 135 pages.

ND-60.153 SW
ACCESS
ANVÄNDARHANDBOK

This is a Swedish version of the ACCESS User Guide ND-60.153, and it contains exactly the same information. 135 pages.

ND-60.153 EN
ACCESS USER GUIDE

This manual describes the ND query language ACCESS, an end user system tool for retrieving information in a usable form from data registers. The database can be both queried and updated through the use of simple tables. It describes the functions of ACCESS as seen by an end user and also contains information on creating and maintaining the database through the data dictionary. This guide is intended for the ordinary user of the system, and requires no special previous knowledge. The database administrator must be familiar with the principles of databases and know the particular database system being used i.e., SIBAS. 140 pages.

ND-60.154 NO DATA ENTRY SYSTEM II NORSK VERSJON	This is a Norwegian version of the Data Entry System II ND-60.165 EN and contains exactly the same information. (NSHS appendix is written in English.) 75 pages.
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ND-60.158 EN SYMBOLIC DEBUGGER USER'S GUIDE	This manual describes how to use the Symbolic Debugger, an interactive tool for testing programs written in higher level languages, FORTRAN, COBOL and PLANC, available on the ND-100 and ND-500. The debugger has facilities for setting breakpoints, where the program will stop under certain conditions. Then the user can interactively examine or change information, eg. values of program variables or the path and frequency of subprogram calls, before continuing program execution. This may enable the user to find several bugs during one execution of the program. Testing may be adequately completed for some parts of a program despite bugs present in other parts. 95 pages.
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ND-60.159 EN UTS-400 EMULATOR USER GUIDE	This manual describes the NORD UTS-400 emulator system. It gives an introduction and general description of the emulator. The required programs and files are listed and the installation procedure is given. This manual also contains a description of the usage. 35 pages.
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ND-60.160 EN HONEYWELL BULL REMOTE JOB ENTRY EMULATOR USER'S GUIDE	This manual describes the ND GRTS RJE-terminal on an ND computer running under SINTRAN III. It contains a survey of the system, command syntax rules, instructions for unskilled operators and system supervisors, details of all commands available and system program documentation. It is written for all RJE-terminal users, particularly system supervisors. Operators require no previous knowledge but programmers should be familiar with SINTRAN III and the operating system of the Honeywell Bull H6000. 65 pages.
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ND-60.161 EN**PIOC SOFTWARE GUIDE**

PIOC (Programmable Input/Output Controller) is a ND-100/-500 interface card built around a MC68000 microprocessor, capable of handling fast I/O through four full duplex serial communication lines. The manual describes the software supplied with the basic PIOC. It is written for programmers who have a good understanding and experience in use of the following topics:

Real Time programming in SINTRAN III
The SINTRAN III Real Time Loader
The PLANC High-Level Programming Language
The ND-500 Loader/Monitor

The manual discusses the available calls to the PIOC operating system (PIOCOS), process communication/synchronization, input/output to the communication lines. It also describes the PIOC monitor for debugging and supervising purposes and the possibility for an installation to tailor the PIOCOS operating system to suit different types of line protocols. It contains psedu-examples, complete examples and also reference material, such as symbol name tables, error messages and exception vector assignments. It describes the XMSG system allowing PIOC tasks to communicate with ND-100 tasks. The manual is intended for system programmers having good knowledge of the ND-100/500 computers, SINTRAN III real-time programming, the PLANC programming language, and the Motorola MC 68000 microprocessor. The manual has a word-list and an index with 275 references. 150 pages.

ND-60.162 EN**DATA DICTIONARY SYSTEM
REFERENCE MANUAL**

The Data Dictionary System is a tool for developing and maintaining application programs in connection with SIBAS databases and the Screen Handling system (NSHS). DDS should not be mixed up with the Data Dictionary (DDI), used in connection with the software product ACCESS. The manual is an introduction to and also a detailed description of the product, and should be of interest to everybody involved in databases and screen handling; data processing managers, system analysts and programmers. The first three chapters contain a general description and do not require any specific ADB knowledge. However, the reader of the detailed description should be familiar with either FORTRAN or COBOL and know something about SIBAS and NSHS. 150 pages.

ND-60.163 EN

COSMOS USER GUIDE

This manual is an end user's guide to the remote log in and file transfer facilities of the new ND communication concept, COSMOS. The manual may be used as a training manual. The functions are ordered by functional category as opposed to the SINTRAN III Reference Manual, for example, where most of the functions are documented in alphabetical order. It contains chapters that describe how to connect to remote computer systems, transfer files to and from remote systems, and how to access files on remote systems in various ways. Spooling in COSMOS is also explained. Examples of all the most common commands are given. The appendixes explain the most common error messages, how to generate ASCII 0 on most terminals, and provide a list of all SINTRAN commands that may access remote files. The manual contains a small glossary of computer terms and a comprehensive index. 82 pages.

ND-60.164 EN

**COSMOS
PROGRAMMER GUIDE**

This manual documents the COSMOS programmer library which includes:

- Use of RR-LIB from PLANC
- Use of XMSG from PLANC
- Use of XMSG from FORTRAN

The manual is based on the J version of XMSG. It is written for the programmer who needs to write data communication software based on XMSG or RR-LIB.

The reader should have a general understanding of data communication, knowledge of the SINTRAN III operating system, and programming experience in PLANC or FORTRAN. 275 pages.

ND-60.165 EN

DATA ENTRY SYSTEM II

This is a user's guide for the Data Entry System II (DES). The first three chapters describe the main subprograms of DES, handling data input, preparation and administration of data and file handling. Chapter four is intended especially for supervisors and describes the various tasks involved in running the (standard) database. Programming or data processing experience is useful but not essential. 100 pages.

ND-60.167 NO

UNIQUE BRUKERHÅNDBOK

This is a Norwegian version of the UNIQUE User Manual, ND-60.169. 50 pages.

ND-60.169 EN**UNIQUE USER MANUAL**

UNIQUE is a 4th generation programming tool which simplifies the development of applications for processing administrative data. The manual is written for systems analysts and programmers who are working with database applications in administrative data processing. The manual contains an introduction to the UNIQUE application structure, start and stop and maintenance. Chapter 2 is written for end users who will be running UNIQUE applications. The Norwegian version of this chapter is also included in this manual. In addition the manual gives a complete example which illustrates the theoretical explanation of the possibilities in UNIQUE. The manual is printed in A5 format and comes with its own matching ring binder and dividers. 100 pages.

ND-60.170 EN**APL USER GUIDE**

This manual describes the ND-100 implementation of the APL language. The manual assumes a working knowledge of APL and is primarily to show users how use the APL interactive environment on the ND-100 and the necessary related SINTRAN facilities. For users requiring an introduction to APL, reference is made to some relevant books which should be used in conjunction with this manual. 60 pages.

ND-60.171 EN**COB-GEN
REFERENCE MANUAL**

This manual describes the facilities of the COB-GEN utility which is an aid, for COBOL programmers, to setting up screen input/output and reports. COB-GEN is used interactively to specify screen and report layouts, and then generates COBOL source code which is to be included in the relevant COBOL programs. The manual describes all the commands available in COB-GEN and has a complete example showing the use of COB-GEN, the generated source code, the COBOL program with the included COB-GEN generated source code and finally the executing program. The reader should have a working knowledge of COBOL programming. 115 pages.

ND-60.173 EN**VIRTUAL DISK DRIVE
(VDD) SYSTEM
DOCUMENTATION**

The Virtual Disk Driver is an option that may run on the following systems: SINTRAN III VSE or VSX; SINTRAN III VSE 500 or VSX 500. The VDD is software by means of which two (or more) CPUs can share a disk. One of the CPUs has normal access to the disk and is defined to 'own' the disk. This CPU (which runs the virtual disk processor) executes all of the

physical disk transfers requested by the diskless CPUs. This manual describes the purpose of the VDD and its use by SINTRAN III (for swapping) and the file system. The implementation of the VDD within SINTRAN III and its functions are described. The manual is intended for system programmers who need a thorough description of the Virtual Disk Drive facilities in SINTRAN III. System supervisors and anyone generating, loading or maintaining systems with the VDD option should also be familiar with this manual. The reader should be familiar with SINTRAN III architecture and the file system. 20 pages.

ND-60.175 EN

**FILE-HANDLER
USER MANUAL**

The manual documents the FILE-HANDLER, which is replacing the older FILE-EXTRACT. This program can be used to retrieve and reformat data records from large data files, to generate test files, to inspect files containing numeric data, to produce reports or smaller files that can be used in further data processing. Chapters 1, 2, and 3 in the manual are intended for ordinary ADP users, and cover selection, sorting and report generation. Chapter 4 contains advanced material intended for programmers. 50 pages.

ND-60.176 EN

TRUE USER MANUAL

This manual describes the transaction processing system, Transaction User Environment (TRUE). TRUE is a general transaction processing system that initiates and controls transactions between various input/output devices and application programs. TRUE provides facilities for transaction backout, database recovery, broadcast, program access control and real-time functions for batch processes. Standard versions of some useful application programs are delivered with TRUE. The TRUE program requires the FOCUS Screen Handling System. The customer is, however, free to implement his own versions of the application programs. This manual is intended as a guide for programmers who write application programs to be run under TRUE. These programs may be written in FORTRAN, COBOL, Pascal, BASIC or any other language which can call FORTRAN subroutines. 123 pages.

ND-60.179 EN**USER ENVIRONMENT
REFERENCE MANUAL**

This manual documents various aspects of the new menu driven user interface to the SINTRAN operating system. The first three chapters are written for the end user and require no special knowledge of computers. These chapters have a sequential structure, therefore you should start reading at the beginning. The remaining chapters are for the System Supervisor who should be familiar with the operating system SINTRAN III and User Environment. 175 pages.

ND-60.181 EN**INTRODUCTION TO
DATA COMMUNICATION**

This introduction to data communication is written for those who need to know some of the important concepts. The manual is general and does not describe a specific product. The reader should have some basic knowledge about computers and data processing.

The manual starts with physical transmission concepts like synchronous/asynchronous, simplex/duplex, modulation techniques, etc. The next chapters deal with networks, protocols, and system architecture. For example, Binary Synchronous and HDLC protocols are described, as well as network topologies, emulators, OSI, SNA, Local and Wide Area Networks. The most common standards like V.24, RS232, X.21, X.25, X.3, X.28, X.29, IEEE 802, Ethernet, etc. are explained. The last chapter is a short introduction to some important standards which can be read independently of the rest of the manual. 120 pages.

ND-60.183 EN**SOURCE COMPARE**

This manual describes SOURCE COMPARE which is an ND-500 tool for software developers. This utility compares two FORTRAN source programs and describes their differences. Given two versions of a FORTRAN source program as input, SOURCE COMPARE will analyze them and describe the differences between them. The program discovers where lines of source have been changed, inserted, or deleted, and it can be instructed to report this in different ways. 18 pages.

ND-60.184 EN**FILE COMPARE**

This manual describes FILE COMPARE which is a tool for software developers. This utility compares two sets of data on mass storage and describes the differences between them regardless of the data format and record organization. This manual is intended for all users of ND-500 computers who need

to compare two files to find discrepancies between them. It includes a section which describes how to start and use only the simplest aspects of FILE-COMPARE. The reader should have a basic knowledge of general data-processing techniques and of the use of SINTRAN file systems. 37 pages.

ND-60.185 EN
FOREIGN MEDIA

This manual describes FOREIGN MEDIA which is part of a group of products which provide various tools for software developers. provides facilities for reading non-ND magnetic tapes and contains useful file and file handling information; like how to copy different file types, and how to handle large volumes. This manual is for systems analysts and experienced application and system programmers. The reader should have some knowledge of magnetic tape formats, and in particular, the format of file names used in the tape producing environment, is desirable. 30 pages.

ND-60.186 EN
FORTRAN CONVERTER

This manual describes the ND FORTRAN CONVERTER, a tool which translates programs written in non-ND FORTRAN to ND FORTRAN 77: The system recognizes and identifies non-ND FORTRAN constructs. Some constructs may be translated into equivalent ND FORTRAN syntax. Others are diagnosed, and messages are given in the listing, indicating the problem. 45 pages.

ND-60.187 SW
MERCUR
FULLSKÄRMSHANTERING
ANVÄNDARHANDBOK

This is the Swedish version of the MERCUR Full Screen Handling User Guide, ND-60.188, and it contains exactly the same information. 30 pages.

ND-60.188 EN
MERCUR FULL SCREEN
HANDLING USER GUIDE

This manual describes the Full Screen Option in the MERCUR system for financial planning and budgeting. By means of special application programs written by the user, forms can be called to the screen. The forms may contain data which can be changed, giving accordingly new values for defined resulting figures. 30 pages.

ND-60.189 EN**ND/PC-LINK
USER MANUAL**

This manual is a guide for the ND-LINK.EXE and the PC-LINK:PROG programs which establish communication between the ND-PC and an ND host computer. The manual contains two sections. The first is an end user guide to the ND-LINK which enables the ND-PC to emulate a NOTIS terminal and facilitates file transfers between the PC and the host computer. The second section is a reference guide to the ND-LINK and PC-LINK programs and contains technical information necessary for installation and maintenance. Appendixes contain ND-PC/NOTIS key equivalents, error information and cabling instructions. 70 pages.

ND-60.190 NO**INTRODUKSJON
TIL ND-LINK**

This is the Norwegian version of the first part of the ND/PC-LINK User Manual, ND-60.189. This manual is an end user guide to the ND-LINK which enables the ND-PC to emulate a NOTIS terminal and facilitates file transfers between the PC and the host computer. 40 pages.

ND-60.192 EN**COSMOS X.29 PAD
USER GUIDE**

This manual describes the product COSMOS X.29 PAD, ND-210405. This manual is written especially system operators (supervisors) in charge of installing, loading, testing and maintaining the product COSMOS X.29 PAD. A general knowledge of the operating procedures of SINTRAN III is assumed. Familiarity with the basic requirements in the CCITT X.29 and X.25 recommendations is helpful, but not required. 125 pages.

ND-60.194 NO**BRUKERMILJØ HÅNDBOK**

This is the Norwegian version of the User Environment Reference Manual, ND-60.179, and contains exactly the same information. 175 pages.

ND-60.195 EN**ND TPS-II
USER'S GUIDE**

This manual describes the ND Transaction Processing System TPS-II which is an extended version of the general ND Transaction Processing System ND-TPS. TPS is a general transaction processing system that initiates and controls transactions between various input/output devices and application programs. TPS provides facilities for handling terminals, data communication, databases, etc. TPS-II also provides facilities for application system configuration, user access control, report production, control and printout, disk-to-disk backup, database recovery, etc. 95 pages.*

ND-60.196 EN

**BRF-LINKER
USER MANUAL**

This manual describes the BRF-Linker which is a new loader to be used on the ND-100. It replaces both of the products ND Relocating Loader (NRL) and BRF-Editor. The manual is intended to be used both at a reference manual and a user guide. It is written for programmers who require the usage of a loader when loading their programs, however, experience is not a requirement. 70 pages.

ND-60.197 EN

**ETHERNET
BASIC SOFTWARE
PROGRAMMER GUIDE**

This manual describes Ethernet, which is the trademark of the Xerox Corporation. The Ethernet network has a bus topology, an important difference from the point-to-point networks based on HDLC, Megalink and PIOC. This guide is written for system programmers. It should also be of use to system operators (supervisors) in charge of installing, loading, testing and maintaining the Ethernet. The reader should be familiar with the SINTRAN III operating system and the local area networking systems, DIX 2.0 and IEEE 802.3. It is necessary for the reader to know the PLANC or FORTRAN programming language. 100 pages.

ND-60.198 EN

ND-ADA USER GUIDE

The primary objective of this manual is to describe the product, ND-Ada, and how to use it on the ND-500. It defines only those parts of the language definition which ND's implementation is free to define. It should be used in conjunction with the definition of Ada, which is the Reference Manual for Ada Programming Language by Jean D. Ichbiah et al. 100 pages.

ND-60.203 EN

ABM USER MANUAL

This manual describes ABM which is a 4th generation Application Building and Maintenance system. ABM is built around the data dictionary concept. It is a tool for system analysts and system programmers.

ABM can be used for the fast, secure and online building and maintenance of applications for the SIBAS database. ABM is used interactively with simple menu-driven directives. ABM simplifies the definition and maintenance of the SIBAS database, and the definition and maintenance of forms for your application programs. This manual will be useful for system analysts, database managers and system programmers who work with the SIBAS database. 147 pages.

ND-60.204 EN
DIALOGUE INTRODUCTION

This manual gives an overview of the product family DIALOGUE, and describes how to use the online example system for DIALOGUE. The manual is primarily intended as a guide when using DIALOGUE Example. It contains a general description of DIALOGUE itself and of DIALOGUE Example, and shows how to navigate the most important parts of DIALOGUE Example. The manual is written for programmers who have experience with databases. To understand it, you must know what a database is, what a data entry is, and what a query is. 100 pages.

ND-60.206 EN
UNIQUE-II
USER MANUAL

UNIQUE-II is a 4th generation software development tool. This manual describes the usage of UNIQUE-II as seen by the terminal user. It describes the dialogue between UNIQUE-II based systems (called UNIQUE-II) and the user. The manual is non-technical and does not describe how to make UNIQUE-II systems. Typical readers are terminal users who are using UNIQUE-II based systems to access databases. Little previous computer-related experience is required. This guide is printed in A5 format in two colors, and comes with its own matching ring binder and dividers. 60 pages.

ND-60.207 EN
ND-500 BASIC
USER MANUAL

ND-500 BASIC is a programming language that accepts nearly all programs written in ND-100 BASIC (ND-210024 and ND-210034). It also incorporates most of the features of the 1984 ANSI Standard Proposal for BASIC. ND-500 BASIC lets the user write his/her programs in a PED-like editor and run them directly. The manual has chapters devoted to numbers, strings, arrays, control structures, program division, input/output, and files. It also contains lists of all deviations from ND-100 BASIC and the ANSI Proposal, as well as a list of all BASIC key words and functions with one-line explanations for easy reference. The manual contains more than 70 complete programs illustrating the features available in ND-500 BASIC. A file which includes these programs is delivered with the product. 139 pages.

ND-60.208 EN
ND-500 SIMULA
REFERENCE MANUAL

This manual describes SIMULA 67 which is an object-oriented high-level language for programming digital computers. It is especially suited for solving large and complex problems. The manual provides a complete formal description of the features and facilities of

the ND-500 SIMULA. It is intended for reference purposes and is organized in a progressive fashion, i.e., the simpler structural components are explained first. It is not, however, explicitly designed for tutorial use. The reader must have a basic knowledge of data processing techniques and have some experience in programming with high level languages. Some prior familiarity with SIMULA programming is also recommended. 210 pages.

ND-60.209 EN

**IBM 3780/2780-II
EMULATOR USER GUIDE**

This manual describes the products, IBM 3780/2780-II Emulator (ND-210777) and Source (ND-210778). These products allow for file transfer between ND computers and computers from any other manufacturer. Both computers must be able to handle at least one of the IBM binary synchronous communication (BSC) protocols 3780, 2780 or 2770. The manual is written for operators and others using the IBM 3780/2780 Emulator. No previous knowledge is required, however familiarity with the ND-100 computer systems and the operating system of the host computer is recommended. 70 pages.

ND-60.210 EN

**UNIQUE-II
PROGRAMMER GUIDE**

UNIQUE-II is a 4th generation software development tool. It is an interactive data manipulator, and an experimental tool for system development. UNIQUE-II runs on the ND-100 series using SINTRAN III VSE or VSX, and on the ND-500 series using SINTRAN III VSE/500 or VSX/500. UNIQUE-II is a system designed to work with complex database structures which will drastically reduce development time when designing database applications. This guide gives detailed descriptions on how to make UNIQUE-II applications which will work with both SIBAS and ISAM. Typical users of this manual are system analysts and programmers with some knowledge of SIBAS databases or ND ISAM (Indexed Sequential Access Method). This guide is printed in A5 format in two colors, and comes with its own matching ring binder and dividers. 130 pages.

ND-60.213 NO

**FILOVERSIKT
INTRODUKSJON**

This manual is the Norwegian version of File Manager Introduction ND-60.215 EN and contains exactly the same information. 50 pages.

ND-60.214 EN**CC-100 AND CC-500
C-COMPILER ND-100/500
USER MANUAL**

This manual describes the programming language C - or more known as the "UNIX" language - as described in the book "The C Programming Language" by Brian W. Kernighan and Dennis M. Ritchie, Bell Telephone Laboratories, Inc. This implementation is made by the University of Luleå, and IAR Systems AB, Sweden, in cooperation with Norsk Data. The compiler and its accompanying libraries are available for the ND-100 and the ND-500 computers, running under the operating system SINTRAN III VSX and 500/VSX. This manual is written for experienced programmers, having either good knowledge of the C programming language or having experience with ND-computers and system software. 115 pages.

ND-60.215 EN**FILE MANAGER
INTRODUCTION**

This manual describes the product File Manager which is a program which will help you administer your files. The manual is intended as an introduction to new users of File Manager and does therefore not include complete information on the system's most advanced functions. The following features are available:

- selecting a specified user area you want to see
- selecting specified files in a user area you want in the display
- sorting specified files in a desired sequence
- changing file attributes (for instance name, type and access rights)
- deleting files
- creating new files
- checking the contents of a file on the screen
- entering word processing with a file
- sending a print-out on a printer

The Swedish version of this manual, FILOVERSIKT Introduksjon ND-60.213 NO was released first. 50 pages.

ND-60.220 EN**ND COLOURED BOOKS
USER GUIDE**

ND Coloured Books is the name for Norsk Data products following the data communication standards issued by the Joint Network Team (JNT) in the UK. The User Guide documents the Red and Blue Books. It tells you how to use the products:

ND Coloured Books Job and File Transfer ND-210770
ND Coloured Books File Transfer ND-210866

The manual lists the information that you need to know about the sites and systems that you want to

Norsk Data ND-40.004.7 EN

communicate with. It then gives several examples of file transfer and remote job submission, showing the default parameter values that you can use in different circumstances. The reference appendixes describe the parameters of the two end-user commands. 115 pages.

ND-60.223 EN

**CTI COLOUR TERMINAL
INTERFACE USER GUIDE**

This manual describes the product, ND 685 CTI Colour Terminal Interface, which is a semigraphic display system for colour presentation of alphanumeric text and graphic symbols. The CTI is designed as a standard ND-100 interface card which occupies one slot in the ND-100 backwiring. The manual contains an overview of the CTI, a description of the CTI service program and programming specifications. This manual is written for users and programmers of the CTI system. The reader should have a general knowledge of the SINTRAN III operating system. 30 pages.

ND-60.224 EN

DDPP MANUAL

This manual describes the statistical program package, "Discrete Data Program Package" (DDPP) which the EDB-sentret at the University of Oslo developed. The DDPP package may be run on almost any computer, but special adjustments in both programs and as selection of programs have been made in order to adapt the system for an ND-100. Some of the statistical programs are not fully described in this manual. These programs will be included in the next version. The manual is written for users who need to present data in a surveyable form with statistical analysis of the whole, or parts of the material. The user should have a basic knowledge of SINTRAN and should know how to use an editor, such as PED or NOTIS-WP. 140 pages.

ND-60.224 NO

DDPP HÅNDBOK

This manual is the Norwegian version of the DDPP Manual, ND-60.224 EN and it contains exactly the same information. 140 pages.

ND-60.227 EN

**COSMOS X.25
PROGRAMMER GUIDE**

This manual documents the COSMOS X.25 programmer library. It is written for the programmer who needs to write data communication software based on X.25 directly. The programs must be written in PLANC. The first part of the manual gives an introduction to the concepts that you need to know before you can do any programming which include: Connection End Point (CEP), 3-step and 4-step connection procedures, NSDU,

NIDU, events etc. How these concepts are applied to the COSMOS X.25 library is explained. The second part of the manual is an X.25/PLANC reference guide, with a detailed description of each call. 55 pages.

ND-60.230 EN**SINTRAN III J-VERSION
RELEASE INFORMATION**

This manual describes the differences in the J-version of SINTRAN III compared to the I-version. The manual describes modifications made to commands and monitor calls as well as internal changes in SINTRAN III. It is intended to be part of the release material for the J-version of SINTRAN III. 72 pages.

ND-60.234 EN**XCOM EXTENDED
COMMAND PROCESSOR**

This manual describes the command procedure program originally used by ND-Comtec to facilitate the customizing of NORTEXT systems, and to make certain command procedures more adapted to the end user. Applications of XCOM include: installing of ND software, compiling and loading programs, making and editing text files, organizing files, executing SINTRAN commands, executing mode files, and interpreting output files. The manual is written for ND personnel who are going to write software installation procedures and system supervisors. No previous knowledge of XCOM programming is required, however, some knowledge of the SINTRAN III operating system is recommended. 80 pages.

ND-60.236 EN**ND-100/500 SORT-MERGE
USER GUIDE**

This manual describes the use of the SORT-MERGE package which is a general purpose tool for rearranging data on mass storage files: disks, magnetic tapes, and floppy diskettes. The package can be used as a SINTRAN III subsystem, or called as a subroutine in application programs. The readers of this manual fall into two categories. The so-called "end user", that is any person using ND-computers, and needing to create data on files and organize them in different ways. The other category is programmers, or people with a knowledge of writing computer programs, with the need to include a sorting process as part of the program. Both categories of users are expected to have knowledge of running subsystems, and to create files using PED or NOTIS-WP text-editors. To write a program using the SORT or MERGE subroutines, the reader should also be familiar with compiling and loading programs. 85 pages.

ND-60.239 EN

**TELEFIX-MINI
REFERENCE MANUAL**

This manual describes TELEFIX-MINI, a tool for remote diagnosis and maintenance of ND hardware and software. TELEFIX-MINI is a stripped-down version of the ND Telefix system. It can be used for entering into direct contact with a remote system, transferring files to and from a remote system while SINTRAN is running, and placing stand-alone binary programs in a remote computer's memory while it is in stop mode. The manual describes the hardware and software installation needed to run TELEFIX-MINI, how to use the system and all of the TELEFIX-MINI commands. The reader should be someone involved in support or maintenance of ND hardware and software. Familiarity with SINTRAN III and also the hardware and software to be maintained is recommended. 29 pages.

ND-60.240 EN

**UNIQUE UNIQUICK
USER MANUAL**

This manual describes the Unique UNIQUICK product, the Unique ON-LINE-II application generator, which is a fourth generation development tool. It is used to build systems without traditional time-consuming programming. Unique UNIQUICK is an online tool to help you generate applications which may be run by Unique ON-LINE-II. 40 pages.

ND-60.240 NO

**UNIQUE UNIQUICK
BRUKERHÅNDBOK**

This manual is the Norwegian version of the UNIQUE UNIQUICK User Manual, ND-60.240 EN and it contains exactly the same information. 40 pages.

ND-60.241 EN

**APPENDIX TO SIFT
USER GUIDE**

This manual is an appendix to the SIFT User Guide published by Statens Rasjonaliseringsdirektorat. The appendix describes the Norsk Data implementation of SIFT (ND 210898A) and it includes:

- Corrections to the SIFT User Guide (Chapter 1)
- Corrected command syntax for the English version (Chapter 2)
- The terminal interface used when running SIFT on NOTIS terminals (Chapter 3)
- Creating, updating and maintaining SIFT databases on Norsk Data computer systems (Chapter 4)

26 pages.

ND-60.241 NO VEDLEGG TIL SIFT USER GUIDE	This manual is the Norwegian version of the Appendix to SIFT User Guide, ND-60.241 EN and it contains exactly the same information. 27 pages.
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ND-61.009 EN NORTEXT-100 AD SYSTEM OPERATOR'S MANUAL	This manual describes the order entry/retrieval and the catalogue function of the NORTEXT-100 AD-system. In addition, the log-in procedure is described. The order entry/retrieval part performs three different functions: Entering advertisement order with text, entering credit note, and retrieval of customers/ad orders from a given search criteria. Finally, catalogues can be made over the different advertisements and customers. 62 pages.
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ND-61.011 EN NORTEXT-100 AD SYSTEM SYSTEM SUPERVISOR	This manual describes the functions available for supervising a NORTEXT-100 AD System. It includes initializing the database, maintaining registers by means of online screen pictures, transfer of ad orders and customer information, producing ad text on the phototypesetter, producing invoices, producing statistics, and miscellaneous utility functions. 140 pages.
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ND-61.021 NO NORTEXT ALDIS BRUKERMANUAL	This is the operator's guide for ALDIS (Subscription, Retail Sales, and Distribution of Newspapers and Periodicals). It is written in Norwegian only. The manual starts with an introduction of ALDIS. Then follows with a description of the various screen pictures for the system. Finally, some rules for processing are outlined. 106 pages.
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ND-61.022 NO NORTEXT ALDIS SYSTEM- DRIFTS-ANSVARLIG	This is a supervisor's guide for ALDIS (Subscription, Retail Sales, and Distribution of Newspapers and Periodicals). It is written in Norwegian only. The manual starts with a general outline of how to supervise an ALDIS system. Then follows with a description of the daily programs to be run, periodical programs, and, finally, utility programs. 96 pages.
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ND-61.028 EN

**NORTEXT-100 EDITING
TERMINAL (NET)
REFERENCE MANUAL**

This manual describes the hardware and the software specifications of the editing terminals used by NORTEXT-100 ("NET"). The hardware specifications include the keyboard layout with national variants, compared with the NOTIS keyboard and the setting of the soft switches in the local menu. The software specifications include terminal types, setting of the datafield of the terminals and various conversions of characters. In addition, there are descriptions of the graphic option, the different character sets and printable characters outside the ASCII range. The manual is intended for the support staff and programmers of ND-COMTEC and for system supervisors of NORTEXT-100 systems. 50 pages.

ND-61.029 EN

**NORTEXT-100
FUNCTION CODES
REFERENCE MANUAL**

This manual describes the function codes used in NORTEXT-100 typographical word processing and production system. The manual specifies how the function codes work. The manual is intended for the support staff, programmers and other ND employees working with the NORTEXT-100 system. 70 pages.

ND-61.030 EN

**NORTEXT-100 TYPO-
GRAPHIC MAINTENANCE
AND UTILITY PROGRAMS
REFERENCE MANUAL**

This manual describes the procedures for using the maintenance and utility programs designed to be used for maintaining the typographical part of a NORTEXT-100 typographic word processing and production system. The description covers the following maintenance and utility programs: CONTROL-BLOCK, FONT-INFORMATION, CONVERSION-TABLE, PHOTSETTER-INFO KERNING-TABLE, PI-CHARACTER, TABFIL-SERVICE, FORMAT-LIST, FORMAT-INIT, HYPHEN-TEST, and TOFOTO. The manual is intended for the support staff and programmers of ND-COMTEC and for system supervisors of NORTEXT-100 systems. 80 pages.

ND-61.031 EN

**NORTEXT-100
SYSTEM MAINTENANCE
AND UTILITY PROGRAMS
REFERENCE MANUAL**

This manual describes the procedures for using the maintenance and utility programs designed to be used to maintain the system part of a NORTEXT-100 typographic word processing and production system. The description covers the following maintenance and utility programs: LINE-SYSTEM, PRODUCT-NTX, ROUTING-NTX, SEQUENTIAL BACKUP, LOGAJOUR, HELP-CONVERT, GEN-FILENAVN, INIT-NTX, REGEN-NTX, ADMIN-NTX, FLOPPY-BACKUP and SUPERSHIFT-NTX. The manual is intended for the support staff and programmers of ND-COMTEC and for system supervisors of NORTEXT-100 systems. 95 pages.

ND-61.032 EN**NORTEXT-100
TYPESETTER MODULES
REFERENCE MANUAL**

This manual describes the special functions for using the output modules in NORTEXT-100 to the different typesetters. It also includes a short description of the hardware connections to the following types of photosetter: APS, MCS 8400, Lasercomp, CG8600, Linotron 202 - German and Scandinavian versions, Agfa P400, Digiset T20 and Metroset. The manual is intended for the support staff and programmers of ND-COMTEC and for system supervisors of NORTEXT-100 systems. 70 pages.

ND-61.034 EN**NORTEXT-100
STRING-TO-STRING
TRANSLATION
REFERENCE MANUAL**

This manual describes how to handle the problems of moving texts between a NORTEXT-100 system and foreign systems. The main problems are the substitution of typographical codes. The substitution here is limited to the NORTEXT-100 character codes. The manual describes how to use the existing technique of conversion tables in NORTEXT-100 today and how to solve the problems when there is not a one-to-one relation between the typographical codes in the two systems. The manual is intended for the support staff and programmers of ND-COMTEC and for system supervisors of NORTEXT-100 systems. 60 pages.

ND-61.035 EN**NORTEXT-100 COMMANDS
REFERENCE MANUAL**

This manual describes the commands in the NORTEXT-100 Editor (the "Y-commands") and the discrepancies between NOTIS-WP and this editor. The manual has included a description of how to use FOCUS forms and the standard NORTEXT-100 FOCUS fields, in order to make the support staff and interested system supervisors capable to adjust the interface between NORTEXT-100 and the operator. The manual is intended for the support staff and programmers of ND-COMTEC and for system supervisors of NORTEXT-100 systems. 80 pages.

ND-61.036 EN**NORTEXT-100 COMMANDS
HYPHENATION
REFERENCE MANUAL**

This manual describes how the hyphenation subsystem of NORTEXT-100 works and how the hyphenation tables are tested and updated. Hyphenation tables are available for English, Norwegian, Swedish, Danish, German, Icelandic and Finnish. The manual is intended for the support staff and programmers of ND-COMTEC and for system supervisors of NORTEXT-100 systems. 40 pages.

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| ND-61.040 NO
NORTEXT ADIS
BRUKERMANUAL | This is the operator's guide for ADIS (Subscription and Distribution of Newspapers and Periodicals). It is written in Norwegian only. The manual corresponds to the NORTEXT ALDIS Brukermanual ND-61.021 NO, but does not include Retail Sales. 74 pages. |
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| ND-61.041 NO
NORTEXT ADIS SYSTEM-
DRIFTS-ANSVARLIG | This is the supervisor's guide for ADIS (Subscription and Distribution of Newspapers and Periodicals). It is written in Norwegian only. The manual corresponds to the NORTEXT ALDIS System-drifts-ansvarlig, ND-61.022 NO, but does not include Retail Sales. 76 pages. |
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| ND-61.042 EN
NORTEXT-100 PROPLAN
REFERENCE MANUAL | This manual describes the NORTEXT Production Planning System (PROPLAN). It is written for the end user of the product. The manual is the only one written for PROPLAN. It is meant to be read from beginning to end, since most chapters assume knowledge of the previous ones. After a brief introduction, the production environment is described. The remainder of the manual contains mainly descriptions of how to use the screen pictures. 298 pages. |
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| ND-61.043 EN
NORTEXT-100
REPORTER TERMINALS
REFERENCE MANUAL
AND USER GUIDE | This manual describes how to install and use the product "Reporter Terminal" in the NORTEXT-100 system. The product is intended for reporters who want to transfer text from a microcomputer ("a reporter terminal") into a NORTEXT-100 computer. The manual includes an appendix for the usage of each of the microcomputers tested as a reporter terminal in the product. There will be added new appendixes as the list of tested microcomputers grows. The manual is intended for system supervisors of NORTEXT-100 computers and reporters using a microcomputer as a reporter terminal. 60 pages. |
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| ND-62.008 EN
NORD-50 TEST SYSTEM | This manual describes the test programs used with the NORD-50 CPU. It is written for field service engineers and technical personnel testing or maintaining NORD-50 CPUs. It contains details of the contents and structure of each test program and the procedure for their implementation. The manual is the central reference document on these test programs. In-depth knowledge of the function of the NORD-50 CPU is required. 43 pages. |
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ND-63.001 EN**INTRODUCTION TO
NOTIS-WP**

This is a completely new version of the NOTIS-WP Training Manual. It is intended to be used as a textbook for courses in ND's Education department. It can also be used as an introductory, self study guide to the word processing system for inexperienced people. It does not document all the functions, but is meant to be an introduction to the J version of NOTIS-WP (SUT 10079 J) and should be used with the NOTIS-WP Reference Manual-Editor, (ND-63.002). It is intended for use with the ND 246 (TDV 2200/9) terminal, but has an appendix which is a guide for users of other terminals. 125 pages.

ND-63.002 EN**NOTIS-WP REFERENCE
MANUAL - EDITOR**

The manual is a complete reference manual which describes the editor part of the ND text processing system NOTIS-WP. The NOTIS-WP is a VDU page mode text editor for asynchronous terminals connected to ND computers running the SINTRAN operating system. NOTIS-WP is a self-contained word processor incorporating extensive editing and formatting functions. Its user friendliness is optimal on the NOTIS terminal TDV-2200/9, which has special function keys for most of the current text editing operations. The system can be used alone, or in conjunction with the NOTIS-TF Text Formatting system. The manual contains detailed information on the system, including all editor commands and print directives. The manual is written for experienced users of the the NOTIS-WP text processing system. It is helpful to have some knowledge of the principles of electronic text processing. The NOTIS-WP editor can be used alone, and has all the facilities needed for the the editing and instant formatting of documents in current use. It can also be used in conjunction with the NOTIS-TF Text Formatter described in manual no. ND-63.007, to obtain very sophisticated formatting of complex documents. This manual has been written mainly for users of PHILIPS GP300 printers. 245 pages.

ND-63.003 NO**INTRODUKSJON TIL
NOTIS-WP**

The manual is the Norwegian version of Introduction to NOTIS-WP ND-63.001 EN, and it contains exactly the same information. 125 pages.

ND-63.004 NO NOTIS-WP HÅNDBOK - EDITOR	This is a Norwegian version of the NOTIS-WP Reference Manual - Editor, ND-63.002 EN, and it contains exactly the same information. 245 pages.
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ND-63.005 EN NOTIS-IR USER GUIDE	The manual describes the NOTIS-IR system, which is a computerized document storage and retrieval system. NOTIS-IR has been developed jointly by Norsk Data and the Government Institution of Organization and Management within the framework of the <u>SISU</u> - project (a joint Government-Industry project for system development), and is available on ND-10 and ND-100 under the SINTRAN III operating system. It is primarily intended for system users or operators, but can also be used in connection with installation, running and maintenance. The reader should be familiar with SINTRAN III and it would be helpful to be acquainted with the text processing system, NOTIS-WP. There are 12 chapters and three appendixes. Beginning with chapter one, there is a step by step introduction to the functions and commands in NOTIS-IR. Chapters 9 through 12 are of interest only to those who carry out qualified system operations. The appendixes contain a complete list of expressions used in the manual, a list and a brief explanation of the commands and a list and description of the control commands. 150 pages.
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ND-63.006 NO NOTIS-IR BRUKERVEILEDNING	This is a Norwegian version of the NOTIS-IR User Guide, ND-63.005 EN, and contains exactly the same information. 130 pages.
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ND-63.007 EN NOTIS-TF REFERENCE MANUAL - TEXT FORMATTER	The manual is a combined user's guide and reference manual, describing the ND Text Formatter NOTIS-TF. NOTIS-TF is a mode in the ND word processing system NOTIS-WP and a subsystem under SINTRAN III. It takes one or more unformatted files as input, and produces as output a formatted file which can be inspected in the screen in Inspect mode. The input file contains both the text and the formatting directives, and may have been created with one of the ND editors, or with any other program. The manual describes the directives and macro library in NOTIS-TF, as well as Inspect mode in NOTIS-WP. 110 pages.
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ND-63.008 NO NOTIS-TF HÅNDBOK - TEKSTFORMATERER	This is a Norwegian version of the NOTIS-TF Reference Manual, ND-63.007 EN, and contains exactly the same information. 110 pages.
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ND-63.009 EN NOTIS-TF MACRO GUIDE	This is the English version of the NOTIS-TF Makro-Veiledning, ND-63.010, and it contains exactly the same information. 110 pages.
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ND-63.010 NO NOTIS-TF MAKRO-VEILEDNING	This manual covers the use of user defined macros in the NOTIS-TF text formatting system. A macro is a collection of commands/directives, defined with a unique name, which is used to simplify time-consuming and trivial tasks. Macros are particularly useful for describing a standard format which is used throughout a document or in several documents. The manual describes how and when macros can be used, how they are defined and called, and the different types of macros that exist are explained in detail. A lot of examples have been included, and one chapter explains in detail a number of the macros in the standard NOTIS-TF macro library. This manual is written in Norwegian. The English version will be available next month. 110 pages.
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ND-63.011 EN NOTIS-ID INTRODUCTION	This manual describes how to use the NOTIS-ID, which is basically a tool for typing, sending and receiving letters, documents and messages. NOTIS-ID is integrated with NOTIS-WP version M and NOTIS-DS. This manual is printed in B5 format in two colors. 40 pages.
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ND-63.011 NO NOTIS-ID INTRODUKSJON	This is the Norwegian version of the NOTIS-ID Introduction and it contains exactly the same information. 40 pages.
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ND-63.011 SW NOTIS-ID INTRODUKTION	This is the Swedish version of the NOTIS-ID Introduction and it contains exactly the same information. 40 pages.
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ND-63.011 DA NOTIS-ID INTRODUKTION	This is the Danish version of the NOTIS-ID Introduction and it contains exactly the same information. 40 pages.
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ND-63.013 EN NOTIS-RG REFERENCE MANUAL	NOTIS-RG is a high-level Report Generator system. Its interactive user interface and advanced reporting features make NOTIS-RG a powerful tool in the hands of both the end user and the application programmer. NOTIS-RG's application areas include advanced list processing, mail merge operations, financial reporting, invoicing and accountancy. The manual describes: NOTIS-RG REPORT GENERATOR MODULE ND-210193. The manual is both a reference manual and user guide. The first part (describing NOTIS-RP) requires some knowledge of NOTIS-WP. The remainder of the manual presupposes that you have a basic familiarity with computer programming concepts and electronic data processing. It contains the reference material on commands, functions and parameters in NOTIS-RG. There are four appendixes. Appendix A includes the error messages from the production system and explanations for how to correct the errors. Appendix B describes different type if FLAT input files. Appendix C is a description of the installation of NOTIS-RG. Appendix D is a step by step tutorial on how to produce a report using NOTIS-RG. At the end of the manual, there is an index. Knowledge of SINTRAN III, NOTIS-WP and SIBAS databases/ISAM files is an advantage. NOTIS-RG is also a part of the DIALOGUE family, and some of the information is intended for application programmers using more advanced features of SIBAS and COBOL. 170 pages.
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ND-63.013 SW NOTIS-RG ANDVÄNDARHANDBOK	This is the Swedish version of the NOTIS-RG Reference Manual, ND-63.013 EN, and it contains exactly the same information. In addition there is a fifth appendix: NOTIS-RG in other languages. 172 pages.
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ND-63.014 NO NOTIS-RG HÅNDBOK	This is the Norwegian version of the NOTIS-RG Reference Manual, ND-63.013 EN, and it contains exactly the same information. In addition there is a fifth appendix: NOTIS-RG in other languages. 172 pages.
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ND-63.017 EN**NOTIS-DS
INTRODUCTION**

This manual describes how to use NOTIS-DS which makes it easier for you to file, to retrieve and to find your way through large numbers of documents. With NOTIS-DS, you have access to a cabinet where you may create 'drawers' (as many as needed). Inside each drawer you put 'folders' in which to file your documents. NOTIS-DS is integrated with NOTIS-WP version M and NOTIS-ID. This manual is printed in B5 format in two colors. 42 pages.

ND-63.017 NO**NOTIS-DS
INTRODUKSJON**

This is the Norwegian version of the NOTIS-DS Introduction and it contains exactly the same information. 42 pages.

ND-63.017 SW**NOTIS-DS
INTRODUKTION**

This is the Swedish version of the NOTIS-DS Introduction and it contains exactly the same information. 42 pages.

ND-63.018 EN**NOTIS-WP USER GUIDE**

This handbook gives an introduction to word processing with NOTIS-WP. It is written for users with little or no previous experience with computers or word processing. It leads new users through all the basic word processing operations step-by-step, with exercises suitable for self-teaching. Examples and illustrations are used extensively. The handbook is printed in A5 format in two colors, and comes with its own ring binder and dividers. 100 pages.

ND-63.021 NO**ND-TELETEX
BRUKERVEILEDNING**

This manual is the manual for ND's implementation of the CCITT standardized Teletex document interchange system. The manual covers both the needs of the ordinary user and of the system supervisor. ND-TELETEX makes it possible to send and receive formatted documents from other Teletex subscribers, both ND-TELETEX and others. You may also send and receive Telex messages. ND-TELETEX uses NOTIS-WP for editing, viewing and printing of documents. When you send documents to other users of ND-TELETEX, you may send additional addressing information with the document. This makes it possible to send documents directly to a specific user on the remote computer. ND-TELETEX is integrated with User Environment. It can also be used directly from SINTRAN. This manual does not exist in English. 70 pages.

ND-63.021 SW	This is the Swedish version of the ND-TELETEX Brukerveiledning and it contains exactly the same information. 70 pages.
ND-TELETEX ANDVÄNDARHANDBOK	

ND-63.025 EN	This is the English version of the NOTIS-CALC Brukerhåndbok and it contains exactly the same information. 190 pages.
NOTIS-CALC USER GUIDE	

ND-63.025 SW	This is the Swedish version of the NOTIS-CALC Brukerhåndbok and it contains exactly the same information. 190 pages.
NOTIS-CALC ANDVÄNDARHANDBOK	

ND-63.025 NO	This manual describes the spreadsheet program, NOTIS-CALC, which uses extensively both the attributes and keyboard of the NOTIS terminal, ND 246. It will therefore work most efficiently with this terminal, but it can also be run from other terminals that use ND VTM. This is an end-user manual and no special computer knowledge is required. The user should be familiar with NOTIS-WP, since features shared with NOTIS-WP are not as thoroughly explained as those which are unique to NOTIS-CALC. Some knowledge of financial mathematics might be helpful when using the financial functions. 190 pages.
NOTIS-CALC BRUKERHÅNDBOK	

ND-63.027 EN	This manual describes how to use ND TELEX which allows you to send and receive telexes using a VDU terminal. Documents written in NOTIS-WP are easily sent as telexes. ND-TELEX also maintains listings of all telexes waiting to be transmitted, all telexes successfully transmitted, all aborted telexes, and all received telexes. Some of the features of ND-TELEX are:
ND TELEX USER GUIDE	<ul style="list-style-type: none">• It is fully integrated with NOTIS-WP.• Commands are given via easy-to-use menus.• Help information is available at all times.• Telexes are sent through a queue system.• All outgoing and incoming telexes are printed.• There is a daily telex journal (log).• Several users can use it at the same time.• Sending time and priority specification.• It can be used via COSMOS with a new remote background program.

Appendixes contain error information: what they are and how to correct them. The user should be familiar with NOTIS-WP and telex number formats. No extensive knowledge of computers is necessary. Some experience with NOTIS-WP and/or SINTRAN may be helpful. This guide is printed in B5 format in two colors. 140 pages.

ND-63.027 NO
ND TELEX
BRUKERVEILEDNING

This is the Norwegian version of ND-TELEX User Guide and it contains exactly the same information. 140 pages.

ND-63.033 EN
NOTIS-BG USER MANUAL

NOTIS Business Graphics (NOTIS-BG) is a new product that allows NORD users to produce line graphs, bar charts and pie charts on a terminal screen, printer or plotter. NOTIS-BG uses diagram files containing instructions and data to generate plots. The user may determine exactly how the plot will appear, or rely on defaults. There are many possible variations. Diagram files may be created with PED or WP. This manual explains how to use NOTIS-BG, and contains numerous examples of diagram files and the corresponding plots. The manual and the product are oriented towards non-programmers, but it is an advantage to have some experience of WP or PED. 110 pages.

ND-63.033 GE
NOTIS-BG
BENUTZERHANDBUCH

This is the German version of NOTIS-BG User Manual ND-63.033, and it contains the same information. 110 pages.

ND-63.034 NO
NOTIS-BG
BRUKERVEILEDNING

This is the Norwegian version of NOTIS-BG User Manual, ND-63.033, and it contains the same information. 110 pages.

ND-63.036 EN
NEW FEATURES
IN NOTIS-WP-M
REFERENCE INFORMATION
AND TUTORIALS

This handbook explains the differences between NOTIS-WP version K or L, and the new NOTIS-WP version M. It is written for people who are already familiar with NOTIS-WP, and is not an introduction to word processing. The handbook contains a 60 page reference chapter covering all of the new functions, including command menus, new HELP system, new formatting aids, page control and page navigation, hyphenation assistance, user definable keys and

standard texts, and new print directives. The two tutorial chapters deal with formatting and the user definable keys on an in depth, self-teaching basis. 145 pages.

ND-63.036 NO

NOTIS-WP-M
NYE FUNKSJONER
REFERANSEINFORMASJON
OG OPPLÆRING

This is the Norwegian version of New Features in NOTIS-WP-M and it contains exactly the same information. 145 pages.

ND-63.036 DA

NOTIS-WP-M
NYE FUNKTIONER

This is the Danish version of New Features in NOTIS-WP-M and it contains exactly the same information. 150 pages.

ND-63.039 SW

ND TELEX
ANDVANDARHANDBOK

This is the Norwegian version of ND-TELEX User Guide, ND-63.027 EN, and it contains exactly the same information. 65 pages.

ND-63.041 EN

NEW FEATURES IN
NOTIS-TF-M

This manual describes the new features in the M-version of NOTIS-TF. It is not a complete manual for the text formatter. The main body of the manual is divided into two parts: Chapter two covers ordinary use, while chapter three is a complete table of all directives, system value directives and macros available in NOTIS-TF. 65 pages.

ND-63.041 NO

NOTIS-TF-M
NYE FUNKSJONER

This is the Norwegian version of New Features in NOTIS-TF-M. It contains the same information and is structured in the same way. 65 pages.

ND-63.042 EN

NOTIS-WP M
RELEASE INFORMATION
FOR NEW USERS

This manual is a temporary introduction to NOTIS-WP M-version. It gives you the basic knowledge you need to begin using NOTIS-WP. It is not meant to be a complete guide to all the features of the system, and it has now been replaced by the NOTIS-WP User Guide, ND-63.018 EN.

There are two tutorials to help you understand and use the Rulers, Standard Texts and User Definable Keys. There are three appendixes and an index.

Appendix A explains how to log in if you do not have User Environment on your system. Appendix B is a quick reference guide to the special function and navigation keys. Appendix C is a simplified guide to the FACIT-4410-ND-NOTIS terminal and non-NOTIS terminals. 220 Pages.

ND-63.042 NO**NOTIS-WP M INNFØRING
FOR NYE BRUKERE**

This is the Norwegian version of NOTIS-WP M Release Information for New Users and it contains exactly the same information. 220 pages.

ND-63.043 EN**NOTIS-IR-F
NEW FEATURES**

This manual describes the improvements and new features offered in NOTIS-IR version F. NOTIS-IR is a computerized document storage and retrieval system. The manual is a supplement to the user guide for version D of NOTIS-IR, for use until a completely new NOTIS-IR manual is available. Like the user guide, it is mainly intended for system users or operators. It can also be used in installing, running and maintaining NOTIS-IR. The new features include faster search and update, new search capabilities, improvements to the editor, special character sets (graphic, mathematic, Greek, and SUPERSHIFT) and synonym search. 140 pages.

ND-63.043 NO**NOTIS-IR-M
NYE FUNKTIONER**

This is the Norwegian version of the NOTIS-IR-F New Features Manual, ND-63.043, and it contains exactly the same information. 140 pages.

ND-65.001 EN**TECH2D 2D MODULE
REFERENCE MANUAL**

This manual is a guide to and a source of information about the 2D Module. This module is the central building block of the Technovision CAD system. 201 pages.

ND-65.001 GE**TECH2D 2D-MODUL
BENUTZERHANDBUCH**

This is the German version of the TECH2D 2D Module Reference Manual, and it contains exactly the same information. 201 pages.

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| ND-65.002 EN

TECHFTN 2D FORTRAN
INTERFACE REFERENCE
MANUAL | <p>This manual describes the FORTRAN interface and the procedures for incorporating new FORTRAN programs written by the user into the Technovision CAD system. It also provides a detailed and extensive reference section describing the subroutines of the 2D Module. The manual is written for readers with programming experience who have a good background in the operation of the Technovision 2D Module. 295 pages.</p> |
| ADDENDUM | <p>The addendum to the TECHFTN 2D FORTRAN Interface Reference Manual is intended as an aid to English speaking users of the FORTRAN interface. It provides an alphabetical list in English and German of the FORTRAN routines available in the 2D Module. 24 pages.</p> |
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| ND-65.002 GE

TECHFTN 2D FORTRAN
SCHNITTSTELLE
BENUTZERHANDBUCH | <p>This is the German version of the TECHFTN 2D FORTRAN Interface Reference Manual, and it contains exactly the same information. 295 pages.</p> |
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| ND-65.003 EN

TECHARC ARCHIVE
USER MANUAL | <p>This manual describes the basic organization of the archive and how to use the various archive functions. It includes a section on data bank coupling. 54 pages.</p> |
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| ND-65.003 GE

TECHARC ARCHIV
BENUTZERANLEITUNG | <p>This is the German version of the TECHARCH Archive User Manual, and it contains exactly the same information. 54 pages.</p> |
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| ND-65.004 EN

TECHLIST PARTS LIST
MODULE USER MANUAL | <p>This manual describes the procedures for constructing a parts list in a drawing (system function 05) and the related facilities provided by the PARTS LIST EDITOR for the structuring of data. The structured data can be processed further using other software tools. 31 pages.</p> |
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| ND-65.004 GE

TECHLIST STUCKLISTEN-
MODUL BENUTZERANLEITUNG | <p>This is the German version of the TECHLIST Parts List Module User Manual, and it contains exactly the same information. 31 pages.</p> |
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| ND-65.005 GE

TECHNOVISION CAD/CAM
SYSTEM RASTER
ARBEITSPLATZ | This manual, which describes the graphic workstation used in conjunction with the 2D and 3D module of the Technovision CAD/CAM system, has been incorporated into the TECH2D Reference Manual, ND-65.001, and the TECH3D Reference Manual, ND-65.009. This manual is available in German only. 15 pages. |
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| ND-65.006 EN

TECHVAR VARIANT MODULE
REFERENCE MANUAL | This manual describes the procedures for using the functions of the variant module, which supplement those of the basic Technovision system. The functions are for generating macro functions and converting them into ACSII files using the macro function editor, for handling registers used in conjunction with macros, and for identifying elements referred to in a macro. The manual is intended both as a user and reference manual for those familiar with the 2D Module who have some experience of macro functions. 45 pages. |
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| ND-65.006 GE

TECHVAR VARIANTEN-
MODUL BENUTZERHANDBUCH | This is the German version of the TECHVAR Variant Module Reference Manual, and it contains exactly the same information. 45 pages. |
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| ND-65.007 EN

TECHAPT APT-NC
INTERFACE USER MANUAL | This manual describes the procedures for using the APT interface whereby data relating to parts designed on the Technovision CAD/CAM system can be processed according to DIN standards to produce an APT file. Programs written from the APT file can then be inputted into a numerical control system. 15 pages. |
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| ND-65.007 GE

TECHAPT APT-NC
SCHNITTSTELLE
BENUTZERANLEITUNG | This is the German version of the TECHAPT APT-NC Interface User Manual, and it contains exactly the same information. 15 pages. |
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| ND-65.008 EN

TECHARC ARCHIVE
SUPERVISOR'S MANUAL | This manual provides the system supervisor with a full operational description of the archive master program. It includes a description of the organization of the archive, the operation of the master program functions, data bank coupling, and running the archive. 68 pages. |
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ND-65.008 GE TECHARC ARCHIV SUPERVISOR HANDBUCH	This is the German version of the TECHARCH Archive Supervisor's Manual, and it contains exactly the same information. 68 pages.
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ND-65.009 EN TECH3D 3D MODULE REFERENCE MANUAL	This manual provides a detailed description the 3D Module offers for the drawing of 3-dimensional solids. The reader should be familiar with the operation of the 2D Module. 219 pages.
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ND-65.009 GE TECH3D 3D-MODUL BENUTZERHANDBUCH	This is the German version of the TECH3D Module Reference Manual, and it contains exactly the same information. 219 pages.
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ND-65.012 EN TECHDIN DIN PARTS USER MANUAL	This manual describes how DIN parts can be generated using system function 03 and 04. It is a user guide for those familiar with the basic operation of the Technovision CAD system and includes a description of several related accessory functions. 30 pages.
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ND-65.012 GE TECHDIN DIN-TEILE BENUTZERANLEITUNG	This is the German version of the TECHDIN DIN Parts User Manual, and it contains exactly the same information. 30 pages.
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ND-65.014 EN TECHOFF OFFLINE MODULE USER MANUAL	This manual describes the procedures for using the offline programs, COMPRESS DRAWING and GENERATE PLOT FILE, and the IGES conventions. A brief description is given of how these programs can be run as batch jobs. The reader is expected to be familiar with the operation of the 2D and/or 3D Module of the Technovision CAD system. 15 pages.
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ND-65.014 GE TECHOFF OFFLINE-MODUL BENUTZERANLEITUNG	This is the German version of the TECHOFF Offline Module User Manual, and it contains exactly the same information. 15 pages.
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ND-65.016 EN	This manual provides a brief description of TECH-NOTIS and how to use it. It is directed at readers who have a working knowledge of the Technovision CAD system and NOTIS-WP. 10 pages.
TECHNOTIS NOTIS-WP	
INTERFACE USER MANUAL	

ND-65.016 GE	This is the German version of the TECH-NOTIS NOTIS-WP Interface User Manual, and it contains exactly the same information. 10 pages.
TECHNOTIS NOTIS-WP	
SCHNITTSTELLE	
BENUTZERANLEITUNG	

**REFERENCE CARD
DESCRIPTIONS**

The descriptions are in numerical order and contain the following information:

- Card number, new and old numbering system
- Card name
- Card usage

For information regarding versions and revisions, see chapter 4.

ND-99.001 EN
(old ND-60.177)
COSMOS USER CARD

This reference card covers the end user commands used to access remote files, transfer files, connect to other computer systems and the commands to use COSMOS Spooling.

ND-99.003 EN
NOTIS-RG-B
REFERENCE CARD

This reference card covers the most commonly used commands and special keys in NOTIS-RG-B. In addition the following information is also included:

- The questionnaires
- Infile description
- Report layout
- System data
- Functions

ND-99.003 NO
NOTIS-RG-B
OPPSLAGSKORT

This is the Norwegian version of the NOTIS-RG-B Reference Card, and it contains exactly the same information.

ND-99.004 EN
NOTIS-ENCRYPT
DESCRIPTION CARD

NOTIS-ENCRYPT is a program for ensuring the privacy and security of your documents. It will encrypt, or encode, a SINTRAN file or a NOTIS-DS document. This card describes how to enter the program and how to select the encryption keys.

ND-99.005
(old ND-06.021)
ND-100
INSTANT INSTRUCTION
CODES

This is a reference card giving the mnemonic, meaning and octal values of the ND-100 assembly language. This includes Memory Reference Instructions, Execute Instructions, Bit Instructions, Shift Instructions, System Control Instructions, Transfer Instructions, Register Operations, Floating Conversion, Memory Examine/Deposit Instructions, Sequencing Instructions, Privileged Instructions, Input/Output Control, Register Block Instructions, Argument Instructions, Physical Memory Read/Write Instructions and Instructions in the CX-Option. You will also find ASCII codes in octal and decimal form, and the ND-100 mnemonics and their octal values in alphabetical and numerical order.

ND-99.006 (old ND-63.015) NOTIS-WP REFERENCE CARD FOR TDV-2200/9- ND-NOTIS TERMINALS	This reference card covers the most commonly used commands and special keys in NOTIS-WP, and the alternative character sets (graphics, Greek, mathematical characters and letters with accents).
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ND-99.007 (old ND-63.016) NOTIS-WP OPPSLAGSKORT FOR TDV-2200/9- ND-NOTIS TERMINALER	This is the Norwegian version of the NOTIS-WP Reference Card, ND-99.006, and contains exactly the same information.
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ND-99.008 (old ND-63.019) NOTIS-WP REFERENCE CARD FOR FACIT-4420- ND-NOTIS TERMINALS	This reference card covers the most commonly used commands and special keys in NOTIS-WP, and the alternative character sets (graphics, Greek, mathematical characters and letters with accents).
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ND-99.009 (old ND-63.020) NOTIS-WP OPPSLAGSKORT FOR FACIT-4420-	This is the Norwegian version of the NOTIS-WP Reference Card, ND-99.008, and contains exactly the same information.
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ND-99.010 (old ND-63.031) NOTIS REFERENCE CARD FOR NON-NOTIS TERMINALS	This card's purpose is to facilitate the use of all NOTIS products on non-NOTIS terminals, especially TDV-2115. It lists all special keys on the NOTIS terminals, and the equivalent key sequences for non-NOTIS terminals.
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ND-99.011 (old ND-63.032) NOTIS OPPSLAGSKORT FOR IKKE-NOTIS TERMINALER	This is the Norwegian version of the NOTIS Reference Card for Non-NOTIS Terminals, ND-99.010, and contains exactly the same information.
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ND-99.016 (old ND-06.022) ND-100 OPERATOR'S COMMUNICATION INSTRUCTION SURVEY	This is a reference card giving the Control Functions, Display Functions and Monitor Functions. You will also find the ND-100 Memory Reference Instructions, Execute Internal Registers and their Bit Assignment.
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ND-99.020
(old ND-60.174)
SINTRAN III
QUICK REFERENCE CARD

This folded reference card covers the most frequently used SINTRAN commands and monitor calls. The following information is listed:

- System supervisor commands
- All user categories of the file system and basic commands
- Parameters of the command @DEVICE-FUNCTION
- COSMOS file name syntax
- SINTRAN-SERVICE-PROGRAM commands
- Monitor calls
- Real-Time commands
- Backup System commands

ND-99.030 EN
HOW TO USE OPERATOR
PANEL ND-323163
REFERENCE CARD

This reference card describes the use of the folio type operator panel. It also describes switch settings on the related PCBs, such as Panel Control and Telefix Adapter, and gives some information about reading the display.

ND-99.035 EN
NOTIS-WP-M
IN 5 MINUTES
REFERENCE CARD

This reference card is for people who already know how to use an earlier version of the NOTIS word processing program and want to switch to the M-version. The card presents the most important information in a concentrated, graphic form. Topics include: Command menus, understanding the new rulers, converting old documents, marking and moving text.

ND-99.035 NO
OPPSLAGSKORT FOR
NOTIS-WP-M
PÅ 5 MINUTTER

This is the Norwegian version of the reference card, NOTIS-WP-M in 5 Minutes, ND-99.035, and it contains the same information.

CHAPTER 4

PRICE LIST



- ALPHABETICAL LIST OF MANUALS AND REFERENCE CARDS WHICH INCLUDES VERSION NUMBERS, PRICES AND PRODUCT NUMBERS

DOCUMENTATION CATALOGUE
Price List

4 PRICE LIST

The following pages give a list of the available manuals and reference cards, their version numbers and prices. An up-to-date version of this list is published every month in the Customer Support Information (CSI) document. Since new manuals, new versions and revisions are constantly being printed, the reader is referred to the latest issue of the CSI document for the most recent list of information on available manuals and prices.

Title	Publ.No., Ver., Lang.	Last Release	Price NOK	Reference to Product No.:
8-Terminal Buffer Interface with FIFO ND-273 and ND-274	11.022.1 EN	Apr.85	125	102730, 102740
ABM User Manual	60.203.1 EN	Dec.84	150	210713A, 210718A
ACCESS Användarhandbok	60.153.3 SW	Sep.85	100	210185D, 210529D
ACCESS Brukerveiledning	60.152.3 NO	Sep.84	100	210185D, 210529D
ACCESS DBA Användarhandbok	30.020.3 SW	Jul.85	75	210185D, 210529D
ACCESS DBA Håndbok	30.020.3 NO	Sep.84	75	210185D, 210529D
ACCESS-DBA Manual	30.022.3 EN	Aug.84	75	210185D, 210529D
ACCESS User Guide	60.153.3 EN	Sep.84	100	210185D, 210529D
Ada User Guide	60.198.1 EN	Aug.85	100	210745A
ADIS, ALDIS	see NORTEXT ADIS, ALDIS			
APL - ND APL User Guide	60.170.3 EN	Nov.85	100	210196C, 210538C
BASIC Compiler Reference Man. Revision A Revision B Revision C Revision D	60.071.1 EN	Aug.76 Sep.77 Mar.79 Jan.80 May 81	125	210034D 210024D
BASIC User Manual, ND-500	60.207.1 EN	Aug.85	150	210755A
BRF-LINKER User Manual	60.196.1 EN	Aug.84	75	210721A
Brukermiljø Håndbok	60.194.2 NO	Feb.85	125	210518B
CAD/CAM	see TECH2D, TECH3D, etc.			
CAMAC-CC-NORD-10 Gen.Inform.	12.007.1 EN	Sep.74	100	108000
CAMAC - CC-NORD-10 Hardware	12.006.1 EN	Jun.74	100	108000
CC-100 and CC-500 C-Compilers ND-100/ND-500 User Manual	60.214.1 EN	Jan.85	125	210760A, 210761A
CDMA-NORD-10 General Inform.	12.004.1 EN	Jun.74	100	
Circuit Symbols&Logic Diagrams	13.003.2 EN	May 82	275	
COB-GEN Reference Manual	60.171.2 EN	Apr.85	75	210536C
COBOL Reference Manual	60.144.3 EN	Jun.85	175	210176H, 210177H 210189H

Title	Publ.No., Ver., Lang.	Last Release	Price NOK	Reference to Product No.:
Coloured Books Operator Guide	30.047.1 EN	Jul.85	100	210771A, 210866A
Coloured Books User Guide	60.220.1 EN	Jun.85	100	210771A
COMPACT	see ND-100 COMPACT			
COSMOS Operator Card	99.002.1 EN	Jan.85	0	210374C
COSMOS Operator Guide	30.025.2 EN	Jul.84	125	210374C
COSMOS Programmer Guide	60.164.2 EN	Oct.85	150	210609B
COSMOS User Card	60.177.1 EN	May 84	0	210374C
COSMOS User Guide	60.163.3 EN	Feb.84	125	210374C
COSMOS X.21 Option Operator Guide	30.033.1 EN see also X.21 Dialing Driver	Jun.84	125	210403C
COSMOS X.25 Option Oper.Gui.	30.034.1 EN	Jan.84	125	210573A
COSMOS X.25 Programmer Guide	60.227.1 EN	Jun.85	125	
COSMOS X.29 PAD User Guide	60.192.1 EN	Sep.84	125	210405A
CTI Col.Term.Interf.Hardw.Man.	12.032.1 EN	Oct.85	75	106850
CTI Colour Term.Interf.Us.Gui.	60.223.1 EN	Apr.85	50	106850
Data Communication, UH-110	12.016.1 EN	Mar.78	225	
Data Communication, Introduct.	60.181.2 EN	Aug.85	250	
Data Dictionary System (DDS) Reference Manual	60.162.2 EN	Apr.83	100	210371B
Data Entry System	60.101.3 EN	Jan.79	75	210053G
Data Entry System II	60.154.3 NO	Jun.83	100	210195C
Data Entry System II	60.165.3 EN	Jun.83	100	210195C
Database Administrator Module	60.097.1 EN	Oct.77	75	
Database Theory & Design	60.078.1 EN	Dec.76	50	
DATACON User's Guide	60.107.1 EN	Sep.78	50	210072B
DCT-2000	see IDT			
DDPP Håndbok	60.224.1 NO	Jun.85	125	210142B

Title	Publ.No., Ver.,Lang.	Last Release	Price NOK	Reference to Product No.:
DDPP Manual	60.224.1 EN	Mar.85	125	210142B
Debugger	see Symbolic Debugger			
DIALOGUE Introduction	60.204.1 EN	Jun.85	100	210869B,210870B
DMA	see Universal DMA			
Documentation Catalogue	40.004.7 EN	Jan.86	0	
Dual Channel Disk Switch	11.019.1 EN	Feb.84	125	
1158 DR-11-C Interface	12.015.1 EN	Apr.78	50	814,815
ECC-(Error Correction Control) Disk Controller, NORD-10/S	11.013.2 EN	Sep.82	175	105580
ECC Disk Controller, ND-100	11.017.1 EN	Jun.85	175	106330
Electrostatics	13.019.1 EN	May 85	75	
Elektrostatikk	13.019.1 NO	May 85	75	
Ethernet Basic Softw.Prog.Gui.	60.197.1 EN	Feb.85	100	210582A
Ethernet Interf.Hardware Descr.	12.029.1 EN	Sep.85	150	108630
FACIT 4420/ND User's Guide	12.024.1 EN	Mar.83	100	
FILE Compare	60.184.3 EN	Oct.85	50	210603B
File Handler User Manual	60.175.2 EN	Mar.85	50	210516C
File Manager Introduction	60.215.1 EN	Dec.84	75	210518A
File System - System Document.	60.122.2 EN	Jan.80	125	
Filoversikt Introduksjon	60.213.1 NO	Oct.84	75	210518A
FLOCON User's Guide	60.099.2 EN	Mar.82	100	210021F,210014F
Floppy&Stream.Contr.3106/3112	11.021.1 EN	Aug.84	125	106300,103170
Floppy Disk Controller 3027	11.015.1 EN	May 82	75	
Floppy Disk System	11.012.1 EN	Oct.76	175	103550
FOCUS Screen Handling System Reference Manual	60.137.5 EN	Nov.85	125	210188G,210341G
Foreign Media	60.185.3 EN	Aug.85	50	210604B
FORTTRAN Converter	60.186.2 EN	Mar.84	50	210605A

Title	Publ.No., Ver.,Lang.	Last Release	Price NOK	Reference to Product No.:
FORTTRAN- ND FORTRAN Reference Manual	60.145.6 EN	Mar.84	150	210186E,210190I 210191E,210510I 210511C
FTX-Fault Tolerant Sys.Op.Gui.	30.051.1 EN	Jun.85	75	210855A
General Purpose Interface Bus (GPIB) User Guide	12.023.3 EN	Jan.85	75	
GERTS-115	see IDT			
HASP	see IDT			
HDLC-High Level Data Link Control Interface	12.018.1 EN	Nov.78	150	107200,107210 107220,107230
Honeywell	see IDT			
IBM 3270	see IDT			
IBM 3780/2780	see IDT			
IDT (Intelligent Data Terminals)				
3270 Emulator User's Gui.	60.114.1 EN	Sep.79	75	210016C
200 User Operator's Gui.	60.061.1 EN	Oct.75	75	210069B,210026A
DCT-2000 Operator's Gui.	60.060.1 EN	Oct.75	75	210057A,210031A
GERTS-115 Operator's Gui.	60.041.3 EN	Feb.77	75	210027B
HASP Work Station	60.069.2 EN	Jun.78	75	210063A,210028B
HASP-II Work Stat.Us.Gui.	60.143.2 EN	Sep.82	100	210183C,210184C
Honeywell Bull Remote Job Entry Emulator User's Gui.	60.160.1 EN	Apr.82	100	210339A
IBM 3780/2780-II Emulator User Guide	60.209.2 EN	Apr.85	100	210777B 210030B
NTR User's Guide Revision A	60.070.2 EN	Dec.76 Nov.77	75	210056B 210029B
SNA RJE Operator Guide	30.058.1 EN	Dec.85	50	
SNA Supervisor Manual	30.054.1 EN	Aug.85	100	
SNA 3270 Term.Emul.Op.Gu.	30.038.1 EN	Aug.84	100	210742A
UTS-400 Emulator Us.Gui.	60.159.1 EN	Sep.81	75	210061B
7750 VIP Emulator Us.Gui.	60.100.1 EN	Dec.77	75	210059A
7750 VIP Emul.-II Us.Gu.	60.140.1 EN	Mar.81	75	210312B

Title	Publ.No., Ver.,Lang.	Last Release	Price NOK	Reference to Product No.:
Interface to Pertec Magnetic Tape with Formatter	12.012.1 EN	Feb.77	75	105560
ISAM-ND Indexed Sequential Access Method Refer. Manual	60.108.5 EN	Dec.83	75	210073H 210343H
MAC User's Guide	60.096.1 EN	Mar.78	100	210400B
Magtape-Lister Program Us.Gui.	60.126.1 EN	Mar.79	25	
MERCUR Full Screen Hand.Us.Gui.	60.188.1 EN	Jan.84	75	210611B
MERCUR Fullskärmsshantering Andvänderhandbok	60.187.1 SW	Jan.84	75	210145B
MPM 5 Technical Description	10.004.1 EN	Jun.84	75	
Multiport Mem. Channel Specif.	10.006.1 EN	Mar.84	125	
Multiport Mem. 5 Bus Descript.	10.005.1 EN	Oct.84	125	
Multiport 4, Technical Descr.	10.007.1 EN	Oct.85	125	103900A, 103910A 103950A
Multiport 4, Technical Introd.	10.003.1 EN	Replaced by:		
Multiport 4, Technical Descr	10.007.1 EN	Oct.85	125	103900A, 103910A 103950A
NCT-NORD Colour Term.Us.Gui.	60.094.2 EN	Feb.78	75	210046C
NORDCOM Colour Term.Hard.Man. Revision A	12.013.2 EN	Oct.79 Dec.79	225	106800
ND/PC-Link User Manual	60.189.2 EN	Nov.85	75	210561A, 210563A
ND Link, Introduksjon til	60.190.1 NO	Apr.84	50	210561A
ND PASCAL	see PASCAL			
ND Satellite Ill.Parts Catal.	13.020.1 EN	Nov.85	50	
ND-SIFT	see SIFT			
NORD Computers in Administra- tive Data Processing Applicat. Revision A Revision B	60.115.1 EN	Aug.79 Dec.79 Aug.80	100	
NORD PL User's Guide Revision A	60.047.3 EN	Oct.76 Jul.77	75	210400B
NORD Process I/O Software Gui. Revision A	60.093.1 EN	Sep.77 Oct.78	75	

Title	Publ.No., Ver., Lang.	Last Release	Price NOK	Reference to Product No.:
ND Screen Handling System	60.088.3 EN	Nov.82	100	210135K, 210053G 210013K, 210500K
NORD-10/100 FORTRAN System Reference Manual (old ANSI 66)	60.074.3 EN	Jun.80	125	210033K 210023K
NORD-10 BASIC Compiler	see BASIC			
NORD-10/S Input/Output System	06.012.1 EN	May 78	200	
NORD-10/S Functional Descript. Revision A	06.009.1 EN	Aug.77 Oct.78	175	
NORD-10/S General Description and Module Description	06.013.1 EN	Oct.78	75	
NORD-10/S Hard. Maint. Manual	30.004.2 EN	Sep.81	250	
NORD-10/S Instruction Codes Card		Oct.78	0	
NORD-10/S Microprogram	06.010.1 EN	Feb.78	150	
NORD-10/S Reference Manual Revision A	06.008.1 EN	Apr.77 Jun.77	100	
NORD-10/S, NORD-10, NORD-12 and ND-100 Test Program Description	30.005.2 EN	Apr.83	100	210522B, 210523D
NORD-10/NORD-50 Comm.System	06.005.1 EN	Aug.75	50	210004Q
NORD-10/NORD-50 Operator's Gui. Revision A	30.001.1 EN	Aug.79 May 82	75	10200, 10500
NORD-12 Reference Manual	07.001.1 EN	May 75	75	
NORD-50 Assembler Revision A	60.075.1 EN	Jul.76 Jan.79	75	210004Q
NORD-50 BRF Editor	60.098.1 EN	Dec.77	25	210004Q
NORD-50 General Description and Module Description	05.008.1 EN	Jan.79	75	
NORD-50 FORTRAN Reference Man.	60.095.2 EN	May 78	125	210004Q
NORD-50 Functional Description	05.007.1 EN	Nov.77	175	
NORD-50 Hardware Maint.Manual	30.010.2 EN	Jan.82	250	
NORD-50 Loader User's Guide	60.083.2 EN	Aug.78	50	210004Q
NORD-50 Monitor User's Guide and System Documentation	60.076.2 EN	Nov.78	125	210004Q

Title	Publ.No., Ver., Lang.	Last Release	Price NOK	Reference to Product No.:
NORD-50 Reference Manual	05.003.1 EN	Feb.76	75	210004Q
NORD-50 Test System , Revision A	62.008.1 EN	Sep.75 May 77	25	10500
ND-100 Bus Description	06.017.2 EN	Feb.85	50	
ND-100 COMPACT Illustrated Parts Catalogue	13.018.1 EN	Nov.84	50	210628B
ND-100 COMPACT Operator Guide	30.031.2 EN	May 84	75	210628B
ND-100 Functional Description	06.015.2 EN	Apr.85	200	
ND-100 Input/Output System	06.016.1 EN	Dec.80	200	
ND-100 Instant Instruction Codes Card	99.005.2 EN	Dec.84	0	
ND-100 Microprogram.Descrip.	06.018.1 EN	Jan.80	100	
ND-100 Operator's Communicat. Instruction Survey	99.016.2 EN	Dec.84	0	
ND-100 Reference Manual Revision A	06.014.2 EN	Jan.82 Jan.83	175	101000
ND-100 Satellite Operator Gui.	30.041.1 EN	Dec.84	75	
ND-500 Assembler Refer. Man.	60.113.2 EN	May 80	100	210311B
ND-500 Hardware Description for ND-520, -540, -560/CXA	05.011.1 EN	May 84	200	
ND-500 Hardware Maintenance	30.014.1 EN	Jun.85	250	
ND-500 Loader/Monitor Revision A	60.136.4 EN	Sep.82 May 83	125	210319F 210333F, 210457G
ND-500 Micro Programming Gui.	05.012.1 EN	Jan.83	125	210411E
ND-500 Reference Manual Revision A Revision B	05.009.2 EN	Jul.82 Oct.82 Apr.84	150	
ND-500 Single Precision Array Processing Functions	05.013.3 EN	Dec.84	100	210412E
ND-500 Test Microprog.Desc.	30.013.2 EN	Sep.81	75	210321D
ND-500 Test Program Descript.	30.018.1 EN	Apr.82	75	
ND-500/2 Double Precision Array Processing Functions	05.018.1 EN	Dec.84	75	210786

Title	Publ.No., Ver.,Lang.	Last Release	Price NOK	Reference to Product No.:
ND-500/2 Hardware Description	05.015.1 EN	Jun.85	250	
ND-500/2 Test Microprog.Desc.	30.029.1 EN	Jul.84	75	
NORDCOM Colour Term.Hardw.Man.	see NCT			
NORDRIFT Håndb. for driftsoper.	30.026.1 NO	Replaced by:		
TPS-II Operatør Håndbok	30.030.2 NO	Aug.85	150	210542B
NORTEXT ADIS Brukermanual	61.040.1 NO	Feb.85	100	210259B
NORTEXT ADIS Sys.-drifts-ansv.	61.041.1 NO	Feb.85	100	210259B
NORTEXT ALDIS Brukermanual	61.021.2 NO	May 85	100	210595B
NORTEXT ALDIS Sys.-drifts-ansv.	61.022.2 NO	Jun.85	75	210595B
NORTEXT Produksjons-system III, del I (System-Terminal-Editor)	61.003.3 NO	Jan.83	100	
NORTEXT Produksjons-system III, del II (Kommando-Beskrivelse)	61.003.3 NO	Jan.83	100	
NORTEXT Produksjons-system III, del III (Funksjons-koder)	61.003.3 NO	Jan.83	100	210200A
NORTEXT Supervisor	61.006.2 EN	Nov.82	100	210200A, 210217A 210218A, 210219A 210223A, 210226A 210227A, 210228A 210236A, 210252A 210253A, 210256A 210263A, 210643A
NORTEXT System-ansvarlig Revision A	61.005.1 NO	Dec.81 Nov.82	100	210200A, 210217A 210218A, 210219A 210223A, 210226A 210227A, 210228A 210236A, 210252A 210253A, 210256A 210263A, 210643A
NORTEXT-100 AD System Operator Manual	61.009.2 EN	Feb.85	100	210736B, 210735B 210636B, 210734B 210733B, 210637B 210638B
NORTEXT-100 AD System System Supervisor	61.011.2 EN	Feb.85	100	210736B, 210735B 210636B, 210734B 210733B, 210637B 210638B
NORTEXT-100 Håndbok for Tekstoperatør Del I & Del II	61.025.1 NO	Oct.85	100	

<i>Title</i>	<i>Publ.No., Ver., Lang.</i>	<i>Last Release</i>	<i>Price NOK</i>	<i>Reference to Product No.:</i>
NORTEXT-100 Rep.Term.Ref.Man.	61.043.1 EN	Oct.85	75	210881K,210884K
NORTEXT-100 String-to-String	61.034.1 EN	Nov.85	75	210806J01
NORTEXT-100 Sys.Main.&Uti.Prog.	61.031.1 EN	Aug.85	75	210808J01,210833J01 210828J01,210829J01 210830J01,210831J01 210832J01
NORTEXT-100 Typographic Maint.	61.030.1 EN	Aug.85	75	210801J01
NOTIS-BG Benutzerhandbuch	63.033.1 GE	Sep.85	125	210724B,210758B
NOTIS-BG Brukerveiledning	63.034.1 NO	Oct.84	125	210724B,210758B
NOTIS-BG User Manual	63.033.1 EN	Oct.84	125	210724B,210758B
NOTIS-CALC Användarhandbok	63.025.3 SW	Sep.85	150	210530D,210716D
NOTIS-CALC Brukerhåndbok	63.025.3 NO	Sep.85	150	210530D,210716D
NOTIS-CALC User Guide	63.025.3 EN	Jun.85	150	210530D,210716D
NOTIS-DS Introduction	63.017.1 EN	Jul.85	100	210691A
NOTIS-DS Introduksjon	63.017.1 NO	May 85	100	210691A
NOTIS-DS Introduktion	63.017.1 SW	Oct.85	100	210691A
NOTIS-DS Supervisor Guide	30.059.1 EN	Dec.85	50	210691A
NOTIS-ENCRYPT Description Card	99.004.1 EN	Dec.85	0	211004A
NOTIS-ID Introduction	63.011.1 EN	Jul.85	100	210192A
NOTIS-ID Introduksjon	63.011.1 NO	May 85	100	210192A
NOTIS-ID Introduktion	63.011.1 SW	Oct.85	100	210192A
NOTIS-ID Introduktion	63.011.1 DA	Oct.85	100	210192A
NOTIS-IR Brukerhåndbok	63.006.2 NO	Jun.83	125	210152E,210527E
NOTIS-IR User Guide	63.005.2 EN	Jun.83	125	210152E,210527E
NOTIS-IR-F, New Features	63.043.1 EN	Dec.85	50	210527F
NOTIS-IR-F, Nye Funktioner	63.043.1 NO	Dec.85	50	210527F
NOTIS-RG Användarhandbok	63.013.4 SW	Oct.85	100	210193B,210528B
NOTIS-RG Håndbok	63.014.4 NO	May 85	100	210193B,210528B
NOTIS-RG Oppslagskort	99.003.1 NO	Jun.85	0	210193B,210528B

Title	Publ.No., Ver., Lang.	Last Release	Price NOK	Reference to Product No.:
NOTIS-RG Oppslagskort	99.003.1 NO	Jun.85	0	210193B,210528B
NOTIS-RG Reference Card	99.003.1 EN	Jun.85	0	210193B,210528B
NOTIS-RG Reference Manual	63.013.4 EN	May 85	100	210193B,210528B
NOTIS-RG B Examples of Use	63.040.1 EN	Jul.85	100	210906B,210528B 210193B
NOTIS TELEX	see TELEX			
NOTIS-TF Håndbok	63.008.1 NO	Jun.83	75	210079L,210526L
NOTIS-TF Makro Veiledning	63.010.1 NO	Aug.83	75	210079L,210526L
NOTIS-TF Macro Guide	63.009.1 EN	Dec.83	75	210079L,210526L
NOTIS-TF M ver., New Features	63.041.1 EN	Jul.85	50	210079M,210526M
NOTIS-TF M Nye funksjoner	63.041.1 NO	Oct.85	50	210079M,210526M
NOTIS-TF Reference Manual	63.007.2 EN	Jul.83	50	210079L,210526L
NOTIS-WP Håndbok - Editor	63.004.2 NO	Jun.83	125	210079L,210526L
NOTIS-WP, Introduction to	63.001.2 EN	Jun.83	75	210079L,210526L
NOTIS-WP Introduksjon	63.003.2 NO	Jul.83	75	210079L,210526L
NOTIS-WP M in 5 Min.Ref.Card	99.035.1 EN	Dec.85	0	210079M,210526M
NOTIS-WP M på 5 Min.Oppslagsk.	99.035.1 NO	Dec.85	0	210079M,210526M
NOTIS-WP M Innføring for Nye Brukere	63.042.1 NO	Nov.85	125	210079M,210526M
NOTIS-WP M ver., New Features	63.036.1 EN	Jun.85	50	210079M,210526M
NOTIS-WP M, Nye funksjoner, Referanseinfo. og opplæring	63.036.1 NO	Jul.85	50	210079M,210526M
NOTIS-WP-M, Nye funktioner,	63.036.1 DA	Nov.85	50	210079M,210526M
NOTIS-WP M Release Information for New Users	63.042.1 EN	Jul.85	125	210079M,210526M
NOTIS-WP Oppslagskort for FACIT-4420	63.020.1 NO	Oct.83	0	210079L,210526L
NOTIS-WP Oppslagskort for ikke-NOTIS terminaler	63.032.1 NO	Jan.84	0	210079L,210526L
NOTIS-WP Oppslagskort for TDV-2200/9	63.016.2 NO	Dec.83	0	210079L,210526L

<i>Title</i>	<i>Publ.No., Ver., Lang.</i>	<i>Last Release</i>	<i>Price NOK</i>	<i>Reference to Product No.:</i>
NOTIS-WP Reference Card for FAÇIT-4420	63.019.1 EN	Oct.83	0	210079L,210526L
NOTIS-WP Reference Card for non-NOTIS terminals	63.031.1 EN	Jan.84	0	210079L,210526L
NOTIS-WP Reference Card for TDV-2200/9	63.015.1 EN	Oct.83	0	210079L,210526L
NOTIS-WP Reference Manual-Ed.	63.002.2 EN	Jun.83	125	210079L,210526L
NOTIS-WP User Guide	63.018.1 EN	Aug.84	150	210079L,210526L 210079K,210526K
NRL - ND Relocating Loader	60.066.4 EN	Feb.83	75	210044S,210005U
NSHS	see ND Screen Handling System			
NTR	see IDT			
Operator Panel ND-323163, How to Use	99.030.1 EN	Jun.85	0	
PASCAL Benutzeranleitung	60.222.1 GE	Nov.85	150	210076K
PASCAL Reference Manual	60.222.1 EN	Nov.85	150	210076K
PASCAL User's Guide	60.124.5 EN	Jan.84	100	210076J,210133J 210187J
PC-Link User Manual	See ND/PC-Link			
PED User's Guide	60.121.4 EN	Jun.83	100	210080J,210532K
Pertec Magtape	see Interface to Pertec Magtape			
Philips ELPHO 20 Brukerveil.	12.035.1 NO	Nov.85	50	
Philips GP 300L Printer Us.Gui.	12.033.1 EN	Mar.85	75	104450,104470 104480
Philips GP 300L Skriv.Bruksanv.	12.033.1 NO	Jun.85	75	104450,104470 104480
PIOC Hardware Ref. Man. ND-857	02.003.1 EN	Dec.82	150	108570A
PIOC Hard.Ref.Man.ND-865&ND-867	02.004.1 EN	Jul.84	150	108650A,108670A
PIOC Software Guide	60.161.3 EN	Jun.85	125	210493C
PLANC Reference Manual Revision A	60.117.4 EN	Jun.83 Dec.83	125	210309E 210310D,210491C

Title	Publ.No., Ver.,Lang.	Last Release	Price NOK	Reference to Product No.:
Planleggings-og installasj.man.	13.015.3 NO	Nov.84	100	
PLOT Package	60.058.4 EN	Jul.75	75	210010A
Power Unit 10	13.012.1 EN	Dec.78	50	10200
QED User's Manual Revision A Revision B Revision C	60.031.4 EN	Mar.79 Aug.79 Sep.79 Aug.80	50	210400A
RPG-II User's Guide	60.091.1 EN	Sep.77	75	210018J
RPG-II Utility Programs	60.106.1 EN	Aug.78	25	210018J
Satellite Instal.&Oper.Gui.	30.024.2 EN	Dec.82	75	
Satellite	see also ND Satellite, ND-100 Satellite			
SCANNET User's Guide	60.087.1 EN	May 77	75	
Scientific Subroutine Package	60.037.1 EN	Sep.72	100	210007B,210009A 210070A
Screen Handling System	see FOCUS and ND Screen Handling System			
SIBAS II Operator Manual	30.009.2 EN	Dec.84	100	210166E,210340E
SIBAS II User Manual	60.127.5 EN	Jan.86	175	210166E,210340E
SIFT Appendix to SIFT Us.Gui.	60.241.1 EN	Sep.85	50	210898A
SIFT User Guide (Distributed by the Directorate of Organization and Management, Norway - Statens rasjonaliseringsdirektorat)				
SIFT Vedlegg til SIFT Us.Gui.	60.241.1 NO	Sep.85	50	210898A
SIMULA Reference Manual ND-100	60.092.3 EN	Dec.80	75	210058P
SIMULA Reference Manual ND-500	60.208.1 EN	Jun.85	75	210354A
SINTRAN III Communication Gui.	60.134.2 EN	Nov.81	125	210373H,210048H 210130H,210174H 210175H
SINTRAN III Data Fields	60.112.1 EN	Jun.79	75	210048B
SINTRAN III How to Order It	30.053.1 EN	Jul.85	50	210174J,210575J 210576J
SINTRAN III Introduksjon	60.141.4 NO	Dec.83	75	210174I,210575I 210576I

Title	Publ.No., Ver., Lang.	Last Release	Price NOK	Reference to Product No.:
SINTRAN III Introduction	60.125.4 EN	Dec.83	75	210174I, 210575I 210576I
SINTRAN III Reference Card	60.174.1 EN	Oct.83	0	210174J, 210175J 210576J
SINTRAN III Real Time Guide Revision A	60.133.2 EN	Dec.82 Feb.84	175	210048H 210174H, 210175H
SINTRAN III Real Time Loader	60.051.8 EN	Oct.84	100	210174J, 210575J 210576J
SINTRAN III Real Time Loader - System Documentation	60.072.2 EN	Aug.77	125	
SINTRAN III Reference Manual Revision A	60.128.4 EN	Feb.84 Jul.85	225	210048H, 210174I 210575I, 210576I 210048H, 210174J 210575J, 210576J
SINTRAN III Release Information, J-Version	60.230.1 EN	Jan.85	50	210174J, 210575J 210576J
SINTRAN III System Documentat. Revision A Revision B Revision C Revision D	60.062.1 EN	Dec.75 Sep.76 Feb.78 May 79 Jun.80	225	
SINTRAN III System Supervisor	30.003.5 EN	Mar.83	125	210048H
SINTRAN III System Supervisor	30.003.6 EN	Jul.84	125	210634A, 210174I 210575I, 210576I 210022U, 210315E 210628B, 210337F
SINTRAN III Timesharing/ Batch Guide	60.132.3 EN	Oct.82	125	210048H, 210174H 210575H
SINTRAN III Tuning Guide	30.049.1 EN	May 85	50	
SINTRAN III Utilities Manual Revision A	60.151.2 EN	Jun.84 Feb.85	125	210337F 210005U, 210044S 210534B, 210455E 210795A
Site Preparation and Installation Manual	13.014.4 EN see also Planlegging (Norw. version)	May 85	100	
SMD Disk Controller	11.020.1 EN	Dec.84	150	106320
SNA	see IDT			

Title	Publ.No., Ver., Lang.	Last Release	Price NOK	Reference to Product No.:
Sort/Merge System	60.146.3 EN	Jan.83	75	210179D
Revision A		Aug.83		210344B
Revision B		Jan.84		
Sort/Merge User Guide	60.236.1 EN	May 85	75	210179E, 210344C
Source Compare	60.183.2 EN	Mar.84	50	210602A
STC Magtape Subsystem	11.014.1 EN	Jul.80	150	
Symbolic Debugger User's Gui.	60.158.3 EN	Mar.85	100	210335D, 210336D
TECHAPT APT-NC Interf.Us.Man.	65.007.1 EN	Sep.85	50	210707E
TECHAPT APT-NC Schnittstelle	65.007.1 GE	Jun.85	50	210707E
TECH2D Benutzeranleitung(Ver.E)	65.001.2 GE	Jul.85	125	210702E, 210703E
TECHDIN User Manual	65.012.2 EN	Oct.85	50	210703E
TECHDIN Teile	65.012.2 GE	Oct.85	50	210703E
TECH2D Reference Manual	65.001.2 EN	Aug.85	125	210702E, 210703E
TECHVAR Variantenmodul	65.006.1 GE	Jun.85	50	210852E
TECHVAR VARIAMOD Manual	65.006.1 EN	Dec.85	50	210852E
Technical Intro.to Multiport 4	see Multiport 4			
Technovision	see TECH2D, TECH3D, etc.			
Technovision CAD/CAM System Raster Arbeitsplatz	65.005.1 GE	Jun.85	50	
TELEFIX Reference Manual	30.040.2 EN	Oct.85	125	210772C, 210773C 210775C, 210375C
TELEFIX-MINI Reference Manual	60.239.1 EN	Jun.85	50	210773B
TELETEX Användarhandbok	63.021.1 SW	Jun.85	100	210587A
TELETEX Brukerveiledning	63.021.1 NO	Feb.85	100	210587A
TELEX Användarhandbok	63.039.1 SW	Feb.85	75	210732A
TELEX Brukerveiledning	63.028.1 NO	Dec.84	75	210732A
TELEX User Guide	63.027.2 EN	Oct.85	150	210732A
Test Program & Microprogram Descriptions	see NORD-10/S, ND-100, ND-500			
TPS - NORD TPS General Descr.	60.105.3 EN	Dec.82	100	210054D, 210342A

Title	Publ.No., Ver., Lang.	Last Release	Price NOK	Reference to Product No.:
TPS User's Guide	60.111.4 EN	Jan.84	150	210054E, 210342A 210542A
TPS System Supervisor's Guide Revision A	30.006.3 EN	Dec.82 Sep.83	150	210054E 210342A, 210542A
TPS-II Operator Guide Revision A	30.030.2 EN	Dec.84 Sep.85	150	210542B 210542C, 210543C
TPS-II Operatør Håndbok	30.030.2 NO	Aug.85	150	210542B
TPS-II User Guide	60.195.1 EN	Feb.84	150	210542A
TRACE Routine	60.046.2 EN	Nov.74	25	
TRUE Operator Guide	30.042.1 EN	Aug.85	75	210557B
TRUE User Manual	60.176.2 EN	Jul.85	75	210557B
UNIQUE Brukerhåndbok	60.167.2 NO	Apr.83	125	210379E, 210594C 210531D
UNIQUE User Manual (Including Chap.2 in Norwegian)	60.169.3 EN	May 84	125	210379E, 210594C 210531D
UNIQUE II User Manual	60.206.1 EN	Sep.83	150+)	210729A, 210730A
UNIQUE II Programmer Manual	60.210.1 EN	Sep.83		
Universal DMA Interface	12.020.2 EN	Sep.83	125	
User Environment Refer.Manual	60.179.2 EN	Mar.85	125	210518B, 210715A see also Brukermiljø (Norw. version)
UTS	see IDT			
VIP	see IDT			
Winchester Disk Control., 8-In.	11.016.2 EN	Jan.84	100	
X.21 Dialing Driver User's Gui.	60.166.1 EN	Jun.82	50	210409A
X.21, X.25, X.29	see COSMOS			
XCOM eXtended COMand processor	60.234.1 EN	Feb.85	75	

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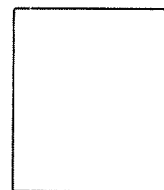
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