

ND-110 SATELLITE SERIES



ND-110 Satellite SERIES

ND 9881 ND-110 Satellite model S5
ND 9882 ND-110 Satellite model S9
ND 9883 ND-110 Satellite model T9
ND 9884 ND-110 Satellite model T17

Introduction

The ND-110 Satellite is a family of 16-bit minicomputers that are ideal for use in the office environment. Compact and unobtrusive, they are capable of running the established and sophisticated software developed for the ND-100 family of computers. At the same time, they combine the friendliness and response of a personal computer. Our communication system, ND-COSMOS, allows the ND-110 Satellite to be connected to other computer systems; both ND systems and other vendors' systems.

The ND-110 Satellite range consists of four models, model S5, S9, T9 and T17. The models support from 5 to 17 terminals/printers, provide 2 MB of main memory and from 60 to 125 MB of disk storage capacity. Full upgrading is possible from one model to another within the range. Main memory can be expanded to 24 MB.

Features

- 16-bit microprogrammed CPU.
- Up to 17 terminals/printers.
- Local and wide area network possibilities.
- Up to 125 MB disk capacity.
- Up to 24 MB of physical memory, using 8 MB memory modules.
- 7 position card rack implemented with standard ND-100 bus system. 4 (5 in model T17) of these positions are used in a standard basic system, and there are three (two) free positions for memory, terminal/printer interface and communications I/O controller.
- The system automatically restarts after a short power failure. This is made possible by a battery system included in the configuration.
- Each user is provided with 128 KB of logical address-space for programs and another 128 KB for data.
- Both 48-bit and 32-bit floating format are available on the system. 32-bit format is standard.
- There are 16 priority interrupt-levels in the hardware. The time needed to change a level is 5 microseconds.
- Mass-storage devices, such as disk and floppy disk, access the memory via the DMA (Direct Memory Access) bus. This off-loads the CPU significantly.



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Central Processor Description

The ND-110 Satellite series uses an advanced 16-bit microprogrammed CPU, available in standard and fast versions, known as ND-110 and ND-110/CX CPU respectively.

The ND-110 and ND-110/CX are single-board 16-bit CPU and memory management system, which are a follow-up to the ND-100 and ND-100/CX CPUs. The design of these CPUs is based on the new, advanced gate array technology which provides a compact, high-performance system.

Both the ND-110 and the ND-110/CX CPUs include features such as hardware support for binary coded decimal arithmetic, array and string handling. This means that typical applications in COBOL are more compact and efficient than on comparable systems.

The ND-110 and ND-110/CX processors differ only in speed and it is possible to upgrade from the ND-110 to the ND-110/CX CPU, yielding an increase in processing power of from 75% to 110%.

Product Description

Basic configuration

The table below gives a survey of the models offered in the new ND-110 Satellite series:

	MODEL S5	MODEL S9	MODEL T9	MODEL T17
Memory size (MB)	2	2	2	2
Disk size (MB)	60	60	125	125
Streamer tape	Yes	Yes	Yes	Yes
Interfaces for terminal / printer	5	9	9	17

ND-110 Satellite model S5/S9 (ND 9881/9882)

Hardware:

- ND-110 CPU
- 2 MB Memory
- 60 MB Fixed Winchester disk drive with controller
- One 125 MB cartridge streaming tape drive for backup
- 1.2 MB 5 1/4" Floppy disk drive with controller
- 5/9 terminal/printer interfaces
- Three positions are reserved for optional memory, terminal/printer interface, and communications interface

ND-110 Satellite model T9/T17 (ND 9883/9884)

Hardware:

- ND-110 CPU
- 2 MB Memory
- 125 MB Fixed Winchester disk drive with controller
- One 125 MB cartridge streaming tape drive for backup
- 1.2 MB 5 1/4" Floppy disk drive with controller
- 9/17 terminal/printer interfaces
- Three / two positions are reserved for optional memory, terminal/printer interface, and communications interface

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Software:

- SINTRAN III Operating System
- SINTRAN III Backup System
- SINTRAN III Utility Programs
- XMSG for SINTRAN III
- Accounting System
- ND Spooling System
- Subsystem Package
- Job Execution Control
- Memory to Floppy Dump Program
- Operator Environment
- User Environment
- BRF linker
- Monitor Call Package
- Telefix Software

Upgrading

All models can be upgraded from their basic configurations.

The ND-110 CPU in these models can be upgraded to ND-110/CX CPU which will provide from 75% to 110% more performance.

Options

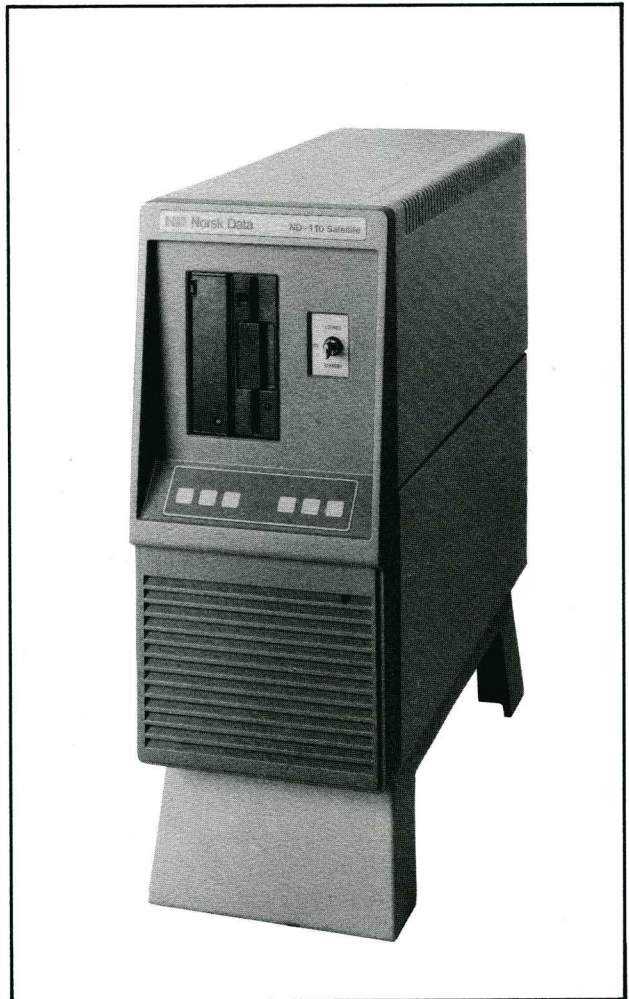
Hardware:

- Extra memory
- Communications interface:
 - Ethernet Controller (COSMOS or TCP/IP)
 - PIOC (SNA or X.25)
 - HDLC or Megalink

Software:

Communications:

- ND-COSMOS, for communication between ND systems
- Local Area Network - COSMOS Ethernet, TCP/IP
- Ethernet - FTP/Telenet/Program Access
- OSI/ISO transport class 0-4
- X.25 Network Option for PSS, TRANSPAC, DATAPAC, DATEX-P and other public networks
- X.29 PAD for terminal control through the X.25 Network
- X.29 SERVER for serving incoming PADs
- X.21 for accessing circuit switched networks, e.g. the Nordic Public Data Network
- SNA for 3270 terminal emulator and program access, RJE and remote terminal access (HCF), Data Base Access
- DISOSS Bridge - Library services
- APPC LU 6.2
- Coloured Books
- Videotex



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Remote Job Entry Terminal Emulators and Terminal Concentrators:

- IBM HASP-II
- IBM 2780/3780
- HONEYWELL GRTS-II
- HONEYWELL 7750 VIP-II
- CDC 200 User Terminal-Multidrop, RJE
- UNIVAC DCT-2000
- UNIVAC NTR
- UNIVAC UTS-400
- ICL CO3
- SIEMENS MSV2

Compilers and Programming Languages:

- C
- PASCAL
- SIMULA
- COBOL
- FORTRAN ANSI 77
- BASIC
- APL
- PLANC

Data Bases:

- SIBAS Data Base System
- ISAM Indexed Sequential File Access System

Operating System, Development Tools and Editors:

- AUTOMAKE, software administration tool
- PED, full screen Program Editor
- File Compare

Information and Administrative Data Processing Tools:

- NOTIS-WP Word Processing Software
- NOTIS-IR Information Storage and Retrieval System
- NOTIS-RG Report Generator
- NOTIS-CALC Spreadsheet System
- NOTIS-BG Business Graphics System
- NOTIS-DRAW Illustration Tool
- NOTIS-ID Electronic Mail
- NOTIS-PM Personal manager
- NOTIS-DE Data Entry system
- Telex and Teletex
- ACCESS Data Base Query and Update System
- FOCUS Screen Handling System
- UNIQUE High-level Application Specification Tool
- ABM Applications Building and Maintenance for COBOL/FORTRAN
- TRUE, Transaction Processing Monitor

Technical Specifications

Cabinet height:	64 cm
Cabinet depth:	77 cm
Cabinet width:	23 cm
Cabinet weight:	ca. 35 kg
Power consumption:	ca. 400 Watt
Noise level:	max. 39 dB(A)
Operating temperature:	max. + 30 °C

Documentation

ND-110 Satellite Operator Guide	ND-30.041EN
ND-110 Instruction Set	ND-06.029EN
ND-110 Instant Codes Card	ND-99-005EN
ND-110 Functional Description	ND-06.026EN

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