

Nixdorf 8850 Series

MANAGEMENT SUMMARY

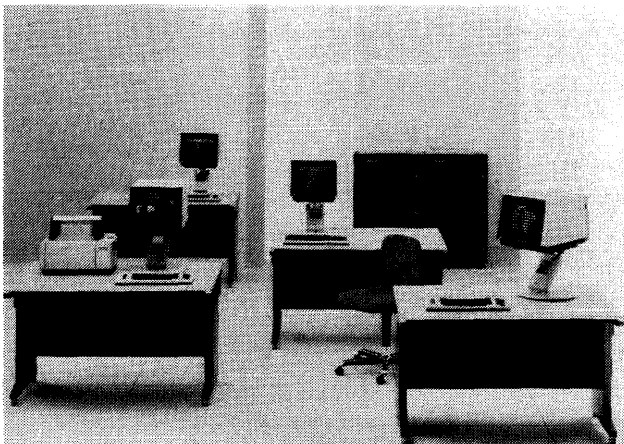
UPDATE: Within the last 12 months, Nixdorf has upgraded its 8850 Series by introducing a 264MB fixed disk drive and adding support for its new PC. Disk storage has been increased from the previous maximum of 528MB to a possible 924MB. The 8810/65 SPC micro can be connected with the 8850 to operate as an intelligent workstation.

Nixdorf Computer AG designs and manufactures mainframes, minicomputers, fault-tolerant systems, microcomputers, office systems, banking terminals, and data communications equipment. In 1984, Nixdorf's total revenue increased by 21 percent to DM 3.27 billion, of which West Germany provided 49 percent and international markets accounted for 51 percent. Nixdorf employs over 20,000 people in Germany and 41 subsidiary countries. The subsidiaries operate independently. Each has its own marketing strategy and provides customer support and training.

The Nixdorf 8850 Series of distributed data processing systems consists of five models: the 8850 Micro 5, 8850/50, 8850/55, 8850/65, and 8850/75. The series is designed to offer both communications facilities and operating features needed for business-oriented data processing in a decentralized environment.

The original 8850 Series, launched in 1978, was based on the earlier Nixdorf 620 Series of data entry systems but used an enhanced operating system. The 620 models were upward compatible with the 8850 Series. The current five 8850 models were introduced during 1983/4.

Each system in the 8850 Series can perform data entry, local file processing, local database inquiry and updating, and batch and interactive communications. An 8850 system can also communicate with a local or remote Nixdorf 8840 word processing system. ➤



The 8850/50 configuration shown is based on one of five 8850 models available, and can support up to 32 workstations, one 33MB fixed disk, and three diskettes.

The Nixdorf 8850 Series is a distributed data processing system that offers both communications using IBM or Siemens protocols and local data processing capabilities. There are currently five models in the series, all of which are hardware and software compatible.

MODELS: 8850 Micro 5, 8850/50, 8850/55, 8850/65, and 8850/75.

CONFIGURATION: The 8850 Series can support up to 32 workstations and printers, one system printer, four diskette units, 924MB of fixed disk storage, and four magnetic tape units.

COMPETITION: IBM 5280, IBM System/36, Datapoint 8600, and GEN V, ICL DRS 20, Harris 1600, MDS Series 21, and Microdata Series 8000.

PRICING: The purchase price of a typical low-end configuration based on the 8850 Micro 5 is DM 19.500, while prices for the larger 8850/50 Systems start at DM 32.900.

CHARACTERISTICS

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➤ Each 8850 model has 128KB of main memory and can support a full range of peripheral devices. The Micro 5 desktop system differs from the other models in the series in being able to support only four workstations; the others can support a maximum of thirty-two, although a typical system will include between eight and ten workstations. The major variations between Models /50, /55, /65, and /75 concern primary and backup storage. The /50 and /55 models each have one or two 8-inch fixed disks for primary storage, the /65 uses one or two 14-inch fixed disks, and the Model/75 includes two or four 14-inch fixed disks, giving up to 924M bytes of storage, and optionally providing redundancy. The Model /50 contains one diskette in the basic configuration and can, optionally, support a further two diskettes. Three diskettes are optionally available with the /55, /65, and /75. Further backup storage is supplied by a streaming tape cassette on Model /50, and by magnetic tape units on Models /55, /65, and /75.

The display terminal used with all models in the 8850 Series can function as a local or remote workstation. It features a 1,920-character display and a keypunch, typewriter, banking, or 3270-style keyboard. An optional workstation with a 480-character screen is available. A wide choice of printers can be connected to the 8850, including daisywheel, matrix, band, and ink-jet models. Speeds range from 17 characters per second to 600 lines per minute. Each workstation can support one printer, and all models with the exception of the Micro 5 can additionally support a system printer.

A Nixdorf 8810/65 SPC (System Professional Computer) can also be incorporated into an 8850 configuration as an intelligent workstation.

The 8850 runs under the multitasking DIDOS 2 operating system which can support 32 concurrent users. Nixdorf provides optional software packages which cover accounting and administrative applications. There is full software compatibility among the 8850 models.

COMPETITIVE POSITION

Nixdorf has positioned the 8850 at the low end of its distributed processor offerings. The company's 8860, its other distributed system, also supports a maximum of 32 workstations, but has a main memory capacity of up to 1024KB.

Within its range, the 8850 has many competitors and the choice of a system will depend on the specific configuration required by the user. Current competition includes the IBM 5280 and System/36, Datapoint 8600 and GEN V, Harris 1600, and ICL DRS 20. Nixdorf also considers that the native German market contains a number of competitive minicomputers including the Siemens 6000, Kienzle 9000, and Bull System 6.

User selection will depend for the most part on the number of workstations supported and main memory capacity. The 8850 offers more workstations than the ICL DRS 20, which permits a maximum of 15, but the IBM 5280, with its 5288 ➤

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DISTRIBUTORS: Nixdorf is represented by agencies in the following countries: Argentina, Brazil, Egypt, Israel, Korea, New Zealand, Peru, Portugal, Sri Lanka, Thailand, Turkey, Venezuela, Yugoslavia, and Zimbabwe.

MODELS: 8850 Micro 5, 8850/50, 8850/55, 8850/65, 8850/75.

DATE ANNOUNCED: Micro 5: April 1984; /50, /55, /65, /75: April 1983.

DATE OF FIRST DELIVERY: Micro 5: 4th quarter 1984 (scheduled); /50, /55, /65, /75: 2nd quarter 1984.

NUMBER INSTALLED TO DATE: Over 13,000.

SERVICED BY: Nixdorf.

CONFIGURATION

The Nixdorf 8850 Series comprises five models: the Micro 5, 8850/50, 8850/55, 8850/65, and 8850/75. All models use a central system unit, which includes a 16-bit microprocessor with 128KB of main memory, and fixed disk, diskette, or tape cassette storage. Workstations and printers can be connected to all models in the series with the exception of the system printers, which cannot be supported by the Micro 5.

The basic 8850 Micro 5 comprises one 5MB fixed disk, one diskette, and one workstation. The fixed disk can be replaced by one with 10MB capacity, and a total of four workstations can be connected to the system. Each workstation can support one printer. The central unit of the Micro 5 measures 14 by 45 by 44 cm (height by width by depth) and weighs 23 kg.

The 8850/50 in its basic configuration contains one fixed disk with a capacity of 10MB or 16MB which can be replaced by one with 33MB capacity, one diskette which can be used in either 8850 or IBM 3740 format, and one workstation. A streaming tape cassette and two more diskettes can be added to the system. Up to 32 workstations can be connected to the Model /50, and each workstation can support a printer. One system printer can additionally be attached. The central unit of the /50 measures 72 by 60 by 50 cm and weighs 100 kg.

The 8850/55 differs from the Model /50 in mass storage capacity. The basic Model /55 has one 10MB fixed disk, but this can be replaced by two with a capacity of up to 132MB each. The /55 can also support from one to four magnetic tape units, one of which is necessary in all configurations. Streaming tape cassette and diskette storage, and workstation and printer connection, are as for the /50. The /55 central unit measures 106 by 60 by 90 cm and weighs 210 kg.

The basic 8850/65 includes one 33MB fixed disk, one magnetic tape unit, and one workstation. Expansion possibilities include increasing disk capacity to 264MB on two fixed disks; the addition of a further three magnetic tape units; the addition of two IBM 3740-format diskettes and two 8850-format diskettes, increasing the number of work- ➤

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- ▷ control unit, offers a wider choice of main memory capacities ranging from 64KB to 288KB.

ADVANTAGES AND RESTRICTIONS

Two particular advantages that Nixdorf currently emphasizes are facilities for linking the 8850 to the new 8810/65 SPC microcomputer and to the 8840 word processing system. Adding the 8810/65 micro as an intelligent workstation complements the 8850 with personal computing facilities. The 8810/65 microcomputer has an Intel 80186 processor and up to 1MB of main memory.

The 8840 word processing system can be linked to the 8850 by way of Nixdorf's TECOM information exchange facility. TECOM is designed to provide interactive word and data processing. It permits the creation of simplified output programs through a step-by-step program generator. Once written, the program allows the word processing operator to request files from the main system and merge them with word processing documents. The combination of 8810/65 SPC workstations and 8840 word processors with the 8850 distributed processing system provides a very flexible set of options to the system buyer.

On the restrictions side, the system's absolute limits of 32 workstations and 924MB of disk storage may still prove confining to the user who needs a larger system. Nixdorf intends to launch a new, larger system, the 8855, sometime next year to address these users' needs. The new system will combine a 32-bit processor, several 16-bit co-processors, and up to 64 workstations in complete distributed processing system. □

- ▷ stations to 32; and the addition of a system printer. Each workstation can support one printer. The Model /65 is contained in a central unit which measures 160 by 120 by 90 cm³ and weighs 380 kg. The 8850/65 can be field-upgraded to a Model /75.

The 8850/75 in its basic configuration comprises two 132MB fixed disks (one for primary storage and the other for backup), one magnetic tape unit, and one workstation. Mass storage can be increased to 924MB on two additional disks. Further expansion possibilities include a further three magnetic tape units, and four diskettes, two in each format. Workstation and printer connection is as for the Model /50. The /75 is housed in two cabinets, each measuring 106 by 60 by 90 cm. Total weight is 460 kg.

COMPONENTS

CENTRAL PROCESSING UNIT: The CPU is based on a Fairchild 16-bit microprocessor, and contains 128KB of CMOS memory with a 375-nanosecond cycle time. A standard emergency power supply provides eight hours of backup power for Models 8850/50 and /55, and 24 hours for Models /65 and /75.

DISPLAY TERMINALS: The standard terminal consists of a 1,920-character display with 24 lines of 80 characters, each generated in a 7-by-9 dot matrix. The 12-inch screen has scrolling capability and displays amber characters on a brown background; black characters on a white background and the inverse are optional. A tilt/swivel screen is available. A terminal can be locally connected up to 1500 meters from the central unit, or at any distance if connected remotely.

An optional display terminal with 480 characters is available. The screen displays 12 lines of 40 characters and also has scrolling capability.

Also, an 8810/65 SPC microcomputer can be connected as an intelligent workstation to combine personal computing functions with the 8850 application by emulating the 8850 terminal. Multitasking and windowing are features of the Concurrent DOS operating system. The 8810/65 SPC is based on the 16-bit Intel 80186 microprocessor and includes a diskette unit with two drives or one diskette and one 10MB fixed disk. The display contains 25 lines of 80 characters. The 8810/65 SPC also allows connection into Teletex networks.

KEYBOARDS: There are four types of keyboards, any of which can be attached to the display terminal.

Typewriter: with 49 alphanumeric keys, 20 function keys, and a numeric keypad.

Banking: similar to typewriter keyboard, but additionally contains decimal zero keys.

3270: similar to typewriter keyboard, but additionally contains 24 programmable function keys and 6 designated function keys.

Keypunch: with 38 alphanumeric keys and 19 function keys.

WORKSTATION PRINTERS: Nine models of workstation printer are available, each of which can be sited up to 30 meters from the workstation.

Models TD03 and TD04 are daisywheel printers with 132 print positions, and printing at 17 or 36 characters per second, respectively. A single-sheet feeder is optionally available.

The Model MD02 is an ink-jet printer with a speed of 210 characters per second, and 132 print positions.

Models ND03 and ND04 are compact matrix printers with maximum print speed of 100 characters per second, and an 80- or 132-character line, respectively.

The Model ND11 is a 9-by-9 dot matrix printer which prints up to 132 positions at a speed of 150 characters per second, and has a 128-character set.

The Model ND13 mini-compact matrix printer has a maximum print speed of 80 characters per second, and prints 80 characters per line.

The Model ND10 journal/document printer has a speed of 100 characters per second. It has two print heads, the journal head providing 63 or 80 print positions, and the document head 80 print positions.

The Model ND14 forms/document printer is similar to the ND10 journal/document printer, but additionally includes a continuous forms feeder.

OTHER WORKSTATION PERIPHERALS: The following peripheral units can also be connected to a workstation: bar code reader for EAN code; ID card unit; OCR-A/B wand reader; swipe card reader; general interface unit.

DISK DRIVES: Fixed disk drives with seven different capacities are provided, and included according to 8850 model as described under Configuration above. The disk capacities are 5M, 10M, 16M, 33M, 66M, 132MB, and 264MB. ▶

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► The 5MB drive provides storage on one 5¼-inch disk. Average access time is 93 ms and the data transfer rate is 542KB per second.

The 10MB and 16MB drives each provide storage on one 8-inch disk. For both drives, average access time is 65 ms and the data transfer rate is 543KB per second.

The 33MB and 66MB drives each use one 14-inch disk. Average access time is 38 ms and the data transfer rate is 1.02MB per second.

The 132MB 8-inch drive has an average access time of 38.3 ms. The data transfer rate is 1MB per second.

The 132MB and 264MB drives each use one 14-inch disk. Average access time is 37 ms and the data transfer rate is 1.1MB per second.

DISKETTE DRIVES: These are available in 8-inch and 5¼-inch versions.

The 8-inch drive uses a single- or double-sided, single-density diskette with a capacity of 308/600KB. Average access time is 470 ms and the data transfer rate is 310KB per second. This drive is available in either the 8850 or IBM 3740 format.

The 5¼-inch drive uses a double-sided, double-density diskette with a capacity of 512KB. Average access time is 174 ms and the data transfer rate is 310KB per second. This drive is available in either the 8850 or IBM 3740 format.

MAGNETIC TAPE UNITS: These are used for backup storage. Three models are available and can be mixed in the same system. One has 800 bpi density with a transfer rate of 20KB per second, and the other two use 1600 bpi with a transfer rate of 40KB or 160KB per second, respectively.

STREAMING TAPE CASSETTE: This is also used for backup storage. The recording speed is 90KB per second and the capacity is 20MB.

SYSTEM PRINTERS: These models of system printer are available.

The Model ND11 workstation printer described above can also be used as a system printer.

The Model ZD07 band printer uses 64 uppercase characters, and prints 132 characters per line at a speed of 300 or 600 lines per minute.

COMMUNICATIONS

Two communications processors in the central unit manage communications control. All 8850 models have two lines which can be used for dedicated or dial-up communications. Protocols supported include IBM BSC 3271, 3275, SDLC 3274, 3277, 3278, 3279, 3284. Batch facilities include IBM RJE, 2780, 3780, BSC, 3770 SNA, and Siemens MSV 2.

The 8850 can connect into circuit and packet switched networks including Datex-L and Datex-P of the German PTT, X.25, and Teletex. The 8850 Series can communicate either locally or remotely with a Nixdorf 8840 Word Processing System using TECOM (Text Communication). Communication between the two systems is concurrent with other system functions.

SOFTWARE

The 8850 Series runs under NIXOS-DIDOS 2 (Distributed Data Processing Operating System). DIDOS 2 is a re-entrant, interactive, menu-driven system. Its file management facilities are database-oriented and enable the nontechnical user to program the system. Fault-testing routines and an automatic restart mechanism are contained within DIDOS.

Nixdorf provides software packages covering stock control, accounting, and administrative applications. The financial package includes accounting, payroll, and cost planning. Nixdorf also writes software packages to suit individual company requirements.

SERVICE/SUPPORT

The basic maintenance contract offers software support in normal office hours (i.e., 8 a.m. to 5 p.m.), and 24-hour hardware support. After installation, Nixdorf will provide support and advice concerning new applications, optimization of solutions, and upgrading possibilities.

PRICING

	Purchase Price (DM)
8850 Micro 5 with 128KB main memory, 5MB fixed disk, one diskette, one communications controller, and one workstation with keyboard.	19.500
8850/55 with 128KB main memory, 132MB fixed disk, one streaming tape cassette, and one workstation with keyboard. ■	132.440