

NORTH STAR ADVANTAGE

Featuring 8/16 option and NorthNet



The Dual Purpose Computer for the Business That's Planning to Grow.

The North Star ADVANTAGE the easy-to-use desk top computer, doubles as a Word Processor and/or Data Processor in your office:

Word Processor Advantages

- Selectric® style keyboard with quality feel has 87 sculpted keys including 15 Function Keys for fast entry.
- Choose from three North Star software options:
 - Enhanced Wordstar™ for CP/M® users
 - NorthWord™ for simplified editing that's easy to learn
 - NorthWord™ II, the most efficient word processor for microcomputers
- Large disk capacity stores hundreds of documents.
- Can be connected to other computers by NorthNet,™ North Star's local area network.

Data Processor Advantages

- Standard 8-bit plus fast 16-bit processors allow migration path as data bases or applications grow.
- 12-inch bit-mapped display offers high resolution graphics (640 x 240 pixels).
- Fully integrated, interactive financial software packages fulfill complete small business data requirements.
- State-of-the-art hardware offers optional 8MHz 16-bit 8088-2 processor with Z80A® co-processor, up to 256Kb

of memory, and up to 15Mb of hard disk storage.

- Choice of Operating Systems includes Graphics CP/M, and Graphics MS™-DOS.
- Several North Star ADVANTAGEs on NorthNet can share large data bases with protected file access.

Growth Advantages

Your first North Star ADVANTAGE with two floppy disks—plus a dot matrix or letter quality printer and software—gives you all you need for high quality word processing and financial planning.

As your requirements grow, add hardware, software and more North Star ADVANTAGEs, and connect them with NorthNet into a fully integrated office of the future. You can increase computing power four ways:

- Plug in additional boards:
 - 16-bit 8088-2 processor
 - up to 256Kb of additional memory
 - NorthNet Workstation and Server Boards
 - serial or parallel I/O boards
- Upgrade mass storage to 5Mb or 15Mb Hard Disk.
- Add applications programs, languages, even more operating systems.
- Interconnect up to 64 North Star ADVANTAGEs on NorthNet.

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North Star Graphics CP/M

Graphics CP/M is a powerful superset of CP/M that supports the extensive graphics capabilities of the North Star ADVANTAGE. It lets you make full use of the large body of CP/M-compatible software.

Languages on CP/M include North Star BASIC, COBOL, FORTRAN and Pascal.

North Star has enhanced several CP/M programs for use on the North Star ADVANTAGE, including:

Enhanced WordStar™ 3.0—the most popular word processing program in use today.

SpellStar™—the one-step “proofreader” for WordStar that catches misspellings and typos—and MailMerge™—the form-letter generator that lets you produce personalized letters.

Enhanced MicroPlan™—the sophisticated spread sheet with advanced math and statistical functions for the serious financial planner.

dBASE™ II—the powerful and flexible relational data base manager that contains its own interactive command languages.

North Star Total Business Solutions Family

The Total Business Solutions Family is a high performance operating system for North Star proprietary word processing, financial and general business applications. The software is totally integrated so that every application can interact with every other one.

ACCPAC™ is a completely automated accounting system for small business with a comprehensive audit trail and detailed user menus. It includes:

- Accounts Payable
- Accounts Receivable
- General Ledger
- Order Entry
- Inventory Control
- Payroll

PROPAC™ is a time management and billing system for professional offices (medical, legal, financial) that includes:

- a client profile module (data base)
- a client time and billing module
- a client receivables module for balance forward billing and general ledger posting.

InfoManager™ II is a menu-driven data base management system that can store and manipulate lists of information. It includes both numeric and mailing list capability.

NorthWord is easy to learn and easy to use for report writing and editing. NorthWord II is a page-oriented, efficient word processor for professional users. NorthSpell™ II is a spelling verifier for NorthWord II-generated documents.

NorthPlan™ is a financial spread sheet that is fully integrated with InfoManager II and NorthWord II. It can be used in either an interactive or a preprogrammed mode.

Graphics MS-DOS

MS-DOS is the most popular 16-bit operating system in the microcomputer field, and Graphics MS-DOS is the superset that supports all North Star ADVANTAGE 8/16 graphics features. Graphics MS-DOS also allows the North Star ADVANTAGE to read IBM PC diskettes.

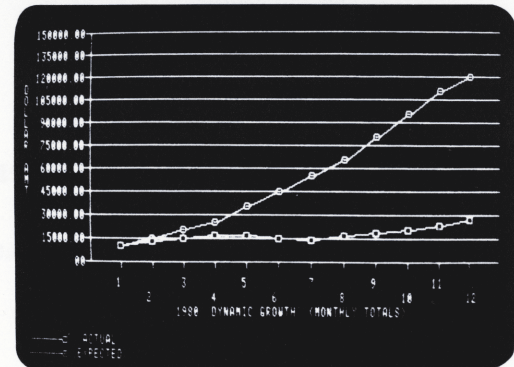
Together with the 8088-2 16-bit processor, Graphics MS-DOS represents a significant increase in computing speed and power. Available on it are:

- dBASE II—the 16-bit version of the relational data base manager is faster and can handle much larger data bases than the CP/M version.
- WordStar—plus SpellStar and MailMerge.
- BASIC 16
- BASIC 16 COMPILER
- FORTRAN-16
- COBOL-16
- Pascal-16

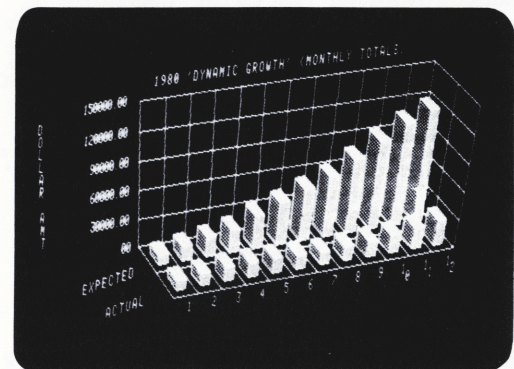
North Star Graphics DOS

Graphics DOS is North Star's proprietary operating system that supports the bit-mapped graphics features of the North Star ADVANTAGE.

TYPICAL SYSTEMS GRAPHICS:



LINE CHART



3-DIMENSIONAL CHART

North Star ADVANTAGE Specifications

Cabinet

Dimensions:
48 cm x 51 cm x 31.5 cm
(18¾ inch x 20 inch x 12½ inch)
Shipping Weight: Approximately 22.5 kg
(50 lb.)
Net Weight: 19.5 kg (43 lb.)
Composition: High impact structural foam

Power Requirements

Domestic: 115v (95 to 135v), 50/60 Hz
International: 230v (190 to 265v), 50/60 Hz
Power Consumption: 2 amps @ 115v,
1 amp @ 230v

Temperatures

Operating: 10°C to 40°C
(50°F to 104°F)
Non-operating: -40°C to 60°C
(-40°F to 140°F)
Shipping: -40°C to 52°C
(-40°F to 125°F)

Humidity:

Operating: 20% to 80% non-condensing
Non-operating and shipping: 5% to 95%
non-condensing

Processor/Memory

	North Star ADVANTAGE	North Star ADVANTAGE 8/16
CPU	Z80A Micro-processor	Z80A & 8088-2 Co-processors
Operating Speed:	4MHZ	8MHZ
Auxiliary processor:	Intel 8035	Intel 8035
Memory:	64Kb Main RAM 20Kb Display RAM 2Kb Boot PROM	64Kb-256Kb Main RAM for 8088-2 + 64Kb for Z80A 20Kb Display RAM 2Kb Boot PROM

Video

Screen: 28 cm (12 inch) diagonal P31 phosphor (green)
Non-glare face plate
Standard Character Format: 1920-character display, 24 lines by 80 characters. 5 x 7 character in 8 x 10 dot matrix with descenders
Graphics Resolution: 640 pixels wide x 240 pixels high
Refresh Rate: 60Hz

Keyboard

11° Keyboard angle (Selectric compatible)
Keys: 87, with sculptured keytops
Key Groups: 49 Standard Typewriter Keys
14-key Numeric pad with ENTER Key
15 Function Keys with up to 45 user-programmable functions
9 Additional Symbol/Control Keys
Other Features: N-Key Roll-Over
Full Cursor Control
Special Shift-Lock Keys
Five Shift Modes
Auto Repeat

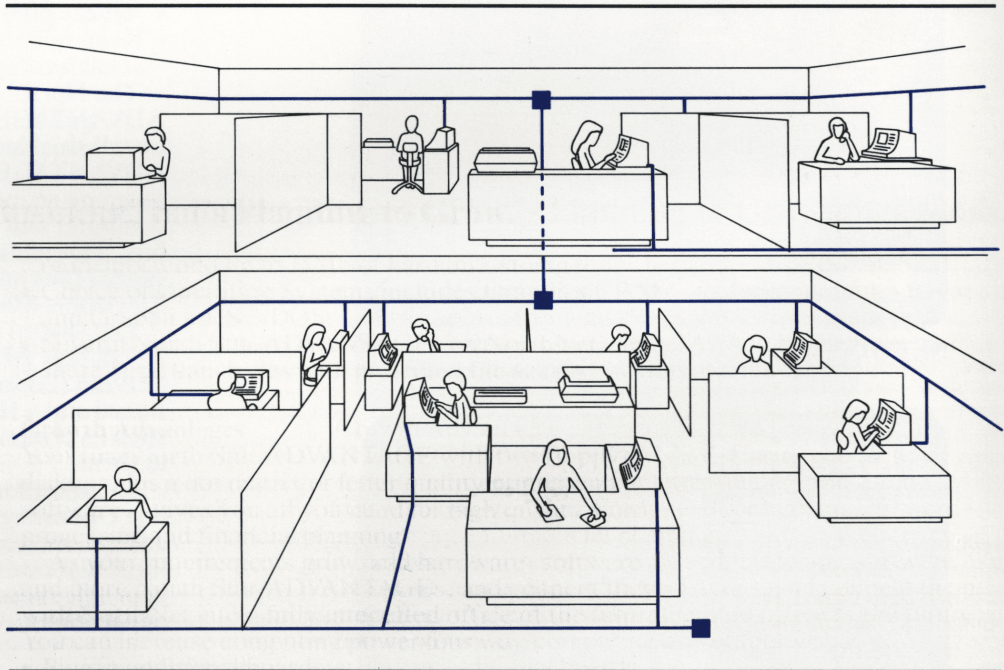
Disk

Number of drives housed in cabinet:
Two floppy disk drives, or one hard disk and one floppy disk drive
Floppy disk characteristics:
Standard 5-¼ inch floppy diskettes
512 bytes/sector, 10 (hard) sectors/track
35 tracks/side, 2 sides/diskette
360Kb storage/diskette (formatted)
Hard Disk characteristics:
Non-removable 5-¼ inch hard disk media,
512 bytes/sector, 16 (soft) sectors/track
5.0Mb or 15.0Mb formatted capacity/drive

	Quad Floppy Disk	5Mb Hard Disk	15Mb Hard Disk
Transfer rate:	250Kb/s	625Kb/s	625Kb/s
Latency (average):	100ms	8.33ms	8.33ms
Access Time (track-to-track):	5ms	3ms	3ms
Settling Time:	20ms	20ms	20ms
Number of Tracks:	70	612	1836
Disk Speed:	300rpm	3600rpm	3600rpm

Input/Output

Slots for up to six plug-in boards:
Serial I/O: RS-232C serial port
Current loop option
Asynchronous: 45 baud to 19.2 kilobaud
Synchronous: 2400 baud to 51 kilobaud
(One provided with each system)
Parallel I/O: 8-bit data in and out with three handshake lines for each port.
Maximum speed limited by the processor.
Workstation Board: Turns North Star ADVANTAGE into NorthNet Workstation. Includes separate Z80A processor.
Server Board: Together with Workstation Board turns North Star ADVANTAGE into NorthNet Server. Includes 64K of RAM and real time clock.
ADV-16 Board: Includes 8088-2 16-bit micro-processor and 64K of RAM. Up to three additional 64K RAM Expansion Boards can be plugged into the ADV-16 Board to bring 8088-2 memory to 256K.
Hard Disk Controller Board: for either 5 Mb or 15Mb Hard Disk



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