POCKET DIGEST

NCR

Products and Systems

POCKET DIGEST

It is the policy of NCR Corporation to improve products as new technology, software, components, and firmware become available. NCR Corporation, therefore, reserves the right to change specifications without prior notice. In some instances, photographs are of equipment prototypes.

All features, functions, and operations described herein may not be marketed by NCR in all parts of the world. Consult your NCR representative or NCR office for the latest information.

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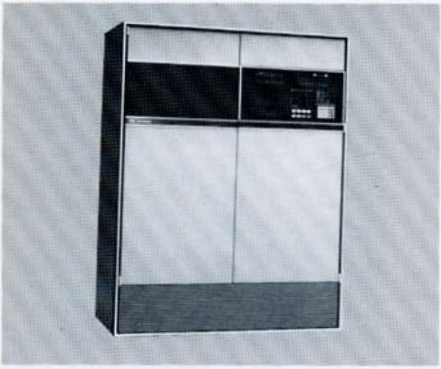
GENERAL PURPOSE COMPUTER SYSTEMS/PROCESSORS
NCR COMTEN 721-II

The NCR Comten 721-II is a versatile, software controlled communications processor that handles sophisticated telecommunications requirements.

The NCR Comten 721-II can be configured as either a local or remote processor. As a local processor, the 721-II relieves the host processor of message routing, terminal handling, line handling, and network control. It can connect up to 2 NCR Century 8000 Series, or 9000 Series hosts, using 2 common trunks or 2 bit serial links to a single host or 1 common trunk and 1 bit serial link to each host. In remote configurations, the NCR Comten 721-II concentrates data from attached devices for transmission to another 721-II. Links can also be established with non-NCR hosts using binary synchronous protocols.

Modular hardware and software allow the NCR Comten 721-II to be tailored to meet specific data communication requirements.

NCR COMTEN 3690



The NCR Comten 3690 Communications Processor is designed for mid-size networks supporting 32 to 80 communication lines.

The NCR Comten 3690 can support up to 4 IBM, IBM-compatible, or NCR mainframes running concurrently, and it provides up to 4 megabytes of main storage.

The base configuration for the NCR Comten 3690 consists of the following:

- Communications processor
- 1 megabyte of storage
- Two Data Link Control-Modem Interface Modules (DLC-MIMs)

The NCR Comten 3690 is also field upgradeable.

NCR COMTEN 3695

The NCR Comten 3695 Communications Processor optimizes the use of limited computer room space by connecting up to 128 communication lines in only 11.4 square feet, providing high connectivity per square foot.

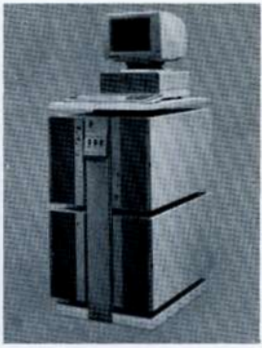
The NCR Comten 3695 supports most existing NCR Comten software and hardware products and is compatible with IBM, IBM-compatible and NCR mainframes.

It supports up to 512 full-duplex communication lines; 8 IBM, IBM-compatible, or NCR mainframes; 2 or 4 megabytes of memory; and can be configured as either a front-end or remote processor.

The use of high density memory chips and a compact packaging design allow the NCR Comten 3695 to offer a higher degree of connectivity per square foot. The NCR Comten 3695 design also simplifies maintenance of the processor and contributes to high system availability.

NCR COMTEN 5620

Remote



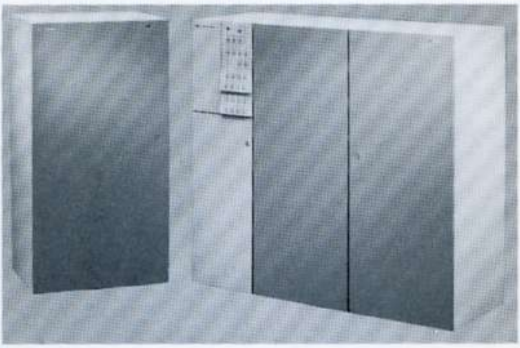
Front-end

The NCR Comten 5620 Communications Processor provides the price/performance solution for small sites by offering all the networking capabilities of NCR Comten's larger communication processors at a substantially lower price.

The NCR Comten 5620 handles application switching, routing, polling, automated dialing, error recovery, and multiplexing for up to 64 lines. And because of its remote load capabilities, the NCR Comten 5620 functions virtually unattended at remote sites.

This full function communications processor features an innovative modular architecture and incorporates VLSI technology for high reliability, low power consumption, and a small footprint. Because the NCR Comten 5620 tolerates a broad range of temperatures and humidity levels, it is equally at home in office or computer center environments.

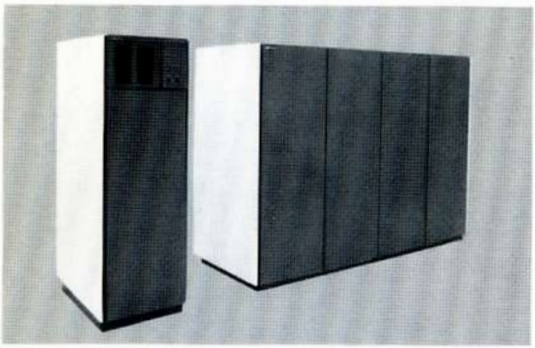
NCR COMTEN 5660



The NCR Comten 5660 Communications Processor facilitates and controls the communication of information between one or more mainframe computers and other devices in a geographically dispersed communications network. The NCR Comten 5660 concurrently supports up to eight IBM or IBM-compatible mainframes and up to 1,024 communication lines.

The NCR Comten 5660 executes, depending on configuration and data traffic conditions, an average of 3.5 million instructions per second (MIPS). This processing power allows it to support high-speed lines, such as T1, and other tasks. NCR Comten 5660 provides performance modeling and analysis support to evaluate migration possibilities.

NCR V-8800



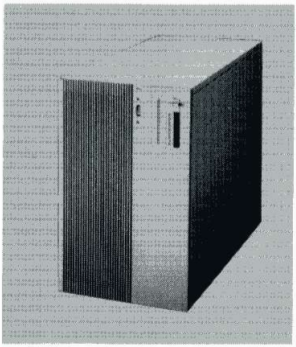
The NCR V-8800 extends innovative 8000 Series design to the very large system environment. Performance enhancements include higher speed memories, more comprehensive firmware instruction sets, more storage capacity, and inclusion of a high-speed main memory cache.

These enhancements are transparent to applications. V-8800 Systems adhere to the NCR migration path engineering philosophy so that applications from the smallest NCR 8000 Series systems can be transported to the V-8800 family, virtually unchanged.

NCR V-8800 SPECIFICATIONS

Characteristics	V-8835	V-8845
MEMORY		
Minimum (Bytes)	4 MB	4 MB
Maximum (Bytes)	8 MB	16 MB
Increments (Bytes)	4 MB	4 MB
Interleaving	4-way	4-way
I/O SUBSYSTEMS		
Base I/O Channel Control Processor (CCP)	2	2
Base Channels	16	16
Channel Options (CCP's)	24 - 32 2 - 4	24 - 32 2 - 4
TRUNK CHANNEL CONTROL PROCESSOR		
Trunk Options	1 L.S. 2 L.S. 1 L.S. & 1 VHS or MCCP	1 L.S. 2 L.S. 1 L.S. & 1 VHS or MCCP
CONFIGURATIONS		
Processors	1	2
Cache Memory	32 K	128 K
ISU	96 K	192 K
CONSOLES		
Standard	2	2
Optional	Hard Copy Output	Hard Copy Output

NCR 9300IP/9400IP



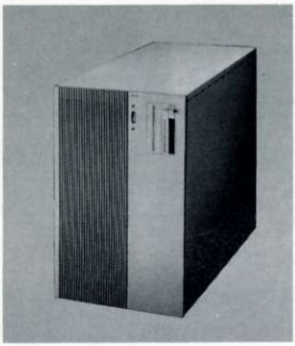
The NCR low-cost, high performance 9300IP and 9400IP are designed for an office environment. The 9300IP combines the power of the proven NCR 9300 32-bit processor with one to eight megabytes of memory and the industry-standard Multibus 1™ interface. Integrated fixed disks provide low-cost file storage and an integrated 1/4-inch streaming tape cartridge provides removable magnetic media for software distribution and file backup.

For increased processing power, the NCR 9400IP is available. The NCR 9400IP offers up to one and a half times the processing power of the 9300IP. The NCR 9300IP can be field upgraded to a 9400IP on-site.

Some basic features:

- Integrated design — smaller system footprint
- VLSI technology — lower power requirements for office environment
- Integrated 1/4-inch cartridge tape drive for software distribution and disk archiving
- Integrated and add-on disk susbsytems — cost-effective industry-standard peripherals
- Multibus I interface — industry-standard peripheral connectivity
- Integrated communications subsystem — offers expandibility

NCR 9500



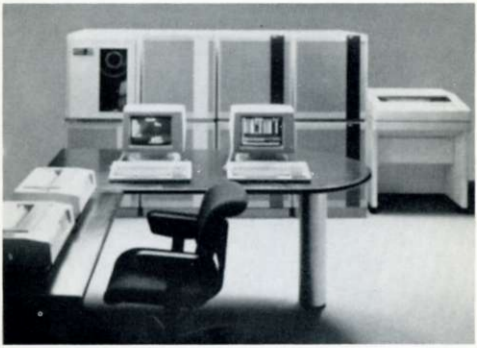
The NCR 9500 is designed to provide reliable, high performance, low-cost features for the large interactive user. With dual-ported memory to provide added performance and compatibility, the NCR 9500 supports industry standard Multibus 1 interface, SCSI peripheral interface, and the NCR proprietary IOSS peripheral interface coupled with a state-of-the-art communications subsystem.

A basic 9500 system contains two megabytes of memory with expansion for up to 16 megabytes of system memory. The enhanced communications system can be designed for current needs and the modular design permits growth in the future.

Some basic features:

- Dyadic processor architecture — transparent sharing of system tasks
- Multibus I interface for SCSI peripherals and NCR IOSS peripherals — industry standard and peripheral migration connectivity
- Communication subsystem — offers expandability
- System expandability of memory to 16MB— expanded workload capabilities
- System expandability of peripherals — allows for connectivity of SCSI peripherals and migration of NCR IOSS peripherals

NCR 9800 SERIES



The NCR 9800 series of mainframe computers has been specifically designed to meet reliability and performance demands of On-Line Transaction Processing (OLTP) environments as well as provide general purpose computer functionality.

Based on state-of-the-art 32-bit VLSI technology, the NCR 9800 architecture incorporates multiple function-specific processors communicating through common system buses to offer high aggregate computing capacity.

The NCR 9800 appears to the programmer and computer operator to have the simplicity of a single CPU environment with the added benefit of fault tolerance. The seven models initially released have from 2 to 12 Application Processors (APs) and Data Storage Processors (DSPs) providing a significant cost/performance breakthrough in mainframe computing.

Some basic features:

Incremental/Open-Ended Architecture

- Modular to fit a wide range of power requirements
- Expandable in economical "slices of power" to meet users' processing requirements
- Designed to take advantage of future technology
- Unique expandability protects users' initial investments

Fault Tolerant

- Service is not disrupted following a single point hardware or software failure
- All duplicate components fully contribute to processing
- Continued system availability even during service/expansion
- Data base integrity and consistency following system failure and recovery

Advanced Technology — 32-bit VLSI

- Superior price/performance
- Small footprint
- Low power/environmental requirements
- High reliability

Comprehensive Software Set

- DBSR/SQL: relational data base and industry-standard SQL query language
- MULTI-TRAN: high performance transaction processing monitor
- MANTIS: high productivity application development/prototyping tool

Communications

- Industry-standard interfaces
  - — X.25
  - — SNA
- Comten front-end processors

VRX User Base Migration

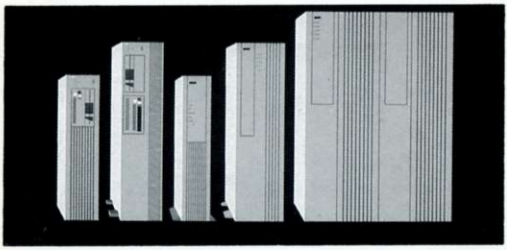
- Most V-8000 peripherals and VRX application software will migrate to the 9800

continued

9800 MODELS

9800 Base Models	9811	9821	9822	9832	9842	9863	9884
Application Processors							
Number of APs	1	2	2	3	4	6	8
Memory Capacity (Min/Max)	2MB/16MB	4MB/32MB	4MB/32MB	12MB/48MB	16MB/64MB	24MB/96MB	32MB/128MB
Memory Increments	2MB	2MB	2MB	2MB	2MB	2MB	2MB
High-speed Channels (Min/Max)	4/8	8/16	8/16	12/24	16/32	24/48	32/64
Low-speed Channels (Min/Max)	3/6	6/12	6/12	9/18	12/24	18/36	24/48
Data Storage Processors							
Number of DSPs	1	1	2	2	2	3	4
Console CRTs	1	1	2	2	2	2	2
Memory Capacity (Min/Max)	2MB/16MB	2MB/16MB	4MB/32MB	8MB/32MB	8MB/32MB	12MB/48MB	16MB/64MB
Memory Increments	2MB	2MB	2MB	2MB	2MB	2MB	2MB
High-speed Channels	4	4	8	8	8	12	16

NCR TOWER FAMILY



The NCR TOWER™ Family employs industry-standard hardware, software and interfaces to meet specific requirements and to take advantage of hundreds of existing applications.

The key to TOWER performance is an architecture derived from NCR's many years of experience with bus-oriented systems. Based upon a philosophy of decentralization and delegation of functions, TOWER design allows multiple operations to proceed concurrently, independently and without contention. TOWER processors operate equally well as departmental systems or distributed processing systems.

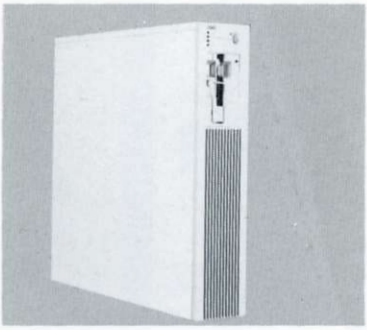
The Tower utilizes either a UNIX™-based or RM/COS™ operating system, depending upon user requirements.

TOWER FAMILY SYSTEMS SUMMARY

	MiniTOWER	TOWER XP	TOWER 32/400	TOWER 32/600	TOWER 32/800
Packaging	5"x24"x25"	7"x29"x27"	5"x24"x25"	7"x29"x27"	20"x32"x29"
CPU-MOTOROLA	68010 (10 MHz)	68010 10 MHz)	68020 (16.7 MHz)	68020 (16.7 MHz)	68020 (max. 4) (16/7 MHz)
Word Length, Bits	16.32	16.32	32/32	32/32	32/32
Cache Memory		2 KB	8 KB - optional	8 KB*	10 KB Application Processor
Input/Output Bus	Multibus (3 slots)	Multibus (7 slots)	Multibus (3 slots)	Multibus (7 slots)	Multibus II (20 slots)
Word Length, Bits	16	16	16	16	32
Transfer Rate/sec	5 MB	5 MB	5 MB	5 MB	40 MB
Memory Bus					
Minimum/Maximum	1 MB-2 MB	1 MB-8 MB**	1 MB-8 MB	1 MB - 16 MB	4-64 MB (Per Ap)
Maximum Program Size	1.2 MB	1.2 MB	14 MB	14 MB	4 GB
Error Correction	standard	standard	standard	standard	standard
Power Fail Recovery ***	standard	standard	standard	standard	recommended
Mass Storage (formatted capacities)					
Flex Disk Min/Max	1 MB-2 MB	1 MB-2 MB	1 MB	1 MB	1 MB
Fixed Disk Min/Max	21 MB-120 MB (1 Only)	21 MB-4.7 GB	39 MB-4.7 GB	39 MB-4.7 GB	6 GB
Tape Cartridge	45 MB	45 MB	45 MB	45 MB	45 MB (max 2)
Mag Tape, Reel		Up to (3) 75 MB	Up to (3) 75 MB	Up to (3) 75 MB	Up to (3) 75 MB
Peripheral Connectivity					
No. Serial I/O Ports	Up to 8	Up to 16	Up to 16	Up to 48	Up to 128
Serial Transmission Speed	Up to 19.2 KB/sec	Up to 19.2 KB/sec	Up to 19.2 KB/sec	Up to 19.2 KB/sec	Up to 19.2 KB/sec
No. Parallel Printer Ports	Up to 1	Up to 2	Up to 2	Up to 6	1 Per Terminal Processor
Parallel Transmission Speed	Up to 38.4 KB/sec	Up to 38.4 KB/sec	Up to 38.4 KB/sec	Up to 38.4 KB/sec	Up to 38.4 KB/sec
Direct Memory Access	yes	yes	yes	yes	yes
Operating Software	UNIX System V RM/COS	UNIX System V RM/COS	UNIX System V	UNIX System V RM/COS	UNIX V 2

* RM/COS based TOWER 32 supports 2 KB data cache
**RM/COS supports 2 MB maximum memory on TOWER XP
***Available on TOWERS with RM/COS Release 2.7 or greater

NCR MINITOWER



NCR's MiniTOWER is the entry-level member of the NCR TOWER family of UNIX-based business computers. The MiniTOWER provides for system growth since any application developed for the MiniTOWER is also supported on larger TOWER family members. The MiniTOWER exhibits the same attractive, slimline appearance as its larger family counterparts. The Mini-TOWER software and hardware are fully configurable for cost effectively meeting the requirements of small business/ small department environments.

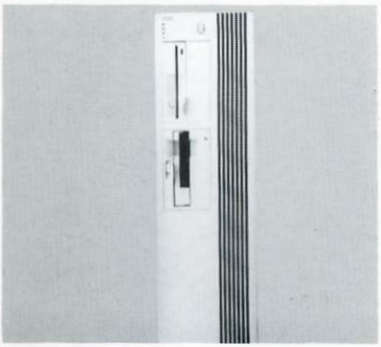
Some basic features:

- Compact size 5" x 24" x 25.5"
- Optimized for UNIX System V operating software
- Connects up to 8 users
- 16-bit Motorola 68010 CPU (10 MHz)
- Supports up to 2 MB error correcting memory
- Object code compatibility with larger TOWER family members
- Power fail recovery

Some optional features:

- Communications/networking hardware and software
- Variety of languages and software productivity tools

NCR TOWER XP



The NCR TOWER XP provides increased performance and expansion capabilities not available with the NCR MiniTOWER. Within a slimline cabinet, the system boasts full minicomputer power and expansion capability at the size and cost of a microcomputer. The TOWER XP offers built-in expansion to allow growth when additional peripherals, memory, and mass storage are required. The TOWER XP is ideal for cost-effective computing requirements where future expansion capabilities must be addressed.

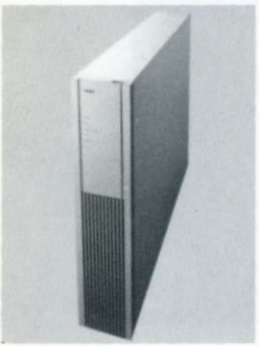
Some basic features:

- Desk high size 7" X 29" X 27"
- Optimized for UNIX System V operating software
- Connects up to 16 users
- 16-bit Motorola 68010 CPU (10 MHz)
- 2 KB cache memory for high CPU performance
- Supports up to 8 MB error correcting memory
- Object code compatibility with other TOWER family members
- Power fail recovery

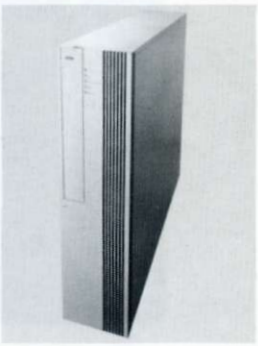
Some optional features:

- Communications/networking hardware and software
- SCSI disk/tape subsystem attachment
- Variety of languages and software productivity tools

NCR TOWER 32/400
NCR TOWER 32/600



NCR Tower 32/400



NCR Tower 32/600

The NCR TOWER 32/400 and TOWER 32/600 are high-performance members of NCR's TOWER family of UNIX-based business computers. Both bring 32-bit super-microcomputer performance to the office. Depending on the application, both can provide from two to three times the performance of the TOWER XP.

Some TOWER 32/400 basic features:

- Compact size 5-inch x 24-inch x 25.5-inch
- Optimized for UNIX System V Operating Software
- Connects up to 16 users
- Motorola 68020 CPU (16.7 MHz)
- Supports up to 8 MB error correcting memory
- Power fail recovery

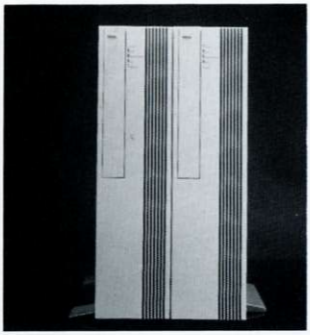
Some TOWER 32/600 basic features:

- Desk high size 7-inch x 29-inch x 27-inch
- Optimized for UNIX System V
- Connects up to 48 users
- Motorola 68020 CPU
- 8 KB cache memory
- Supports up to 16 MB error correcting memory
- Object code compatibility with other TOWERs
- Power fail recovery

Some optional features (both systems):

- Motorola 68881 math coprocessor
- SCSI disk/tape subsystem attachment
- 8 KB cache memory

NCR TOWER 32/800

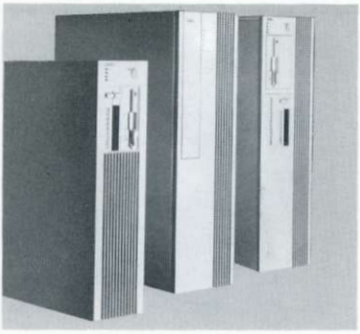


The NCR TOWER 32/800, the high-end member of the TOWER family of UNIX-based business computers, significantly extends the performance and connectivity of the TOWER family. The TOWER 32/800 is designed around a full 32-bit, incremental, multiprocessor-based architecture. It provides a cost-effective and high-performance solution for the needs of users with departmental and remote site processing.

Some basic features:

- Incremental architecture for maximum processing power, cost-effectiveness, and investment protection.
- Software compatibility with the TOWER family
- Connects up to 128 users
- Power fail recovery
- External disk/tape subsystems for maximum I/O performance
- Expanded communications and networking support required in the emerging marketplace for departmental systems

NCR I-TOWER FAMILY



Powerful, cost-effective family of computer systems, with RM/COS operating system, specifically designed for business.

The NCR I-TOWER Family includes the I-MiniTOWER, I-TOWER XP, and I-TOWER 32/400, 32/600, 32/800.

Some basic features:

- Slim-line cabinetry
- Industry-standard Motorola 68000 family of microprocessors.
- Industry-standard software
- Industry-standard IEEE 796 multibus architecture. Separate processor/memory and I/O dual bus design for speed and reliability.
- Controller, peripheral, and software compatibility across the entire TOWER family.
- Small Computer Systems Interface — SCSI*:
  - An intelligent storage subsystem with dedicated I/O bus and controllers for tapes and disks.
  - Can connect NCR 6098 disk subsystem and NCR 6099 disk/tape subsystem.
  - Total mass storage capabilities of up to 4.77 gigabytes (formatted).
  - RM/COS (Ryan-McFarland Commercial Operating System) — designed to execute RM/COBOL™ applications more efficiently and faster than other operating systems.

* For I-TOWER XP and I-TOWER 32 only

INDUSTRY-SPECIFIC WORKSTATIONS/PROCESSORS

Retail Systems

NCR 1255

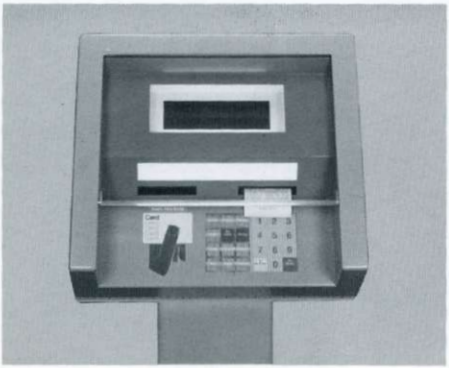
The NCR 1255 Interactive Retail Checkout system offers a practical, cost-effective, and tailored system to satisfy the retail check-out industry's point-of-sale and data processing needs.

Hardware and software are designed so that a retailer can easily upgrade the system from a basic key-entry, point-of-sale terminal configuration to a highly sophisticated system with scanning, data collection, high-order communications, electronic funds transfer capability, and other application features and functions.

Some basic features:

- Software flexibility
- Multiple security levels
- Management reports at store and central
- Floating checker control with accountability
- Check authorization capability
- Checker training mode
- Discount and service charge calculations
- Layaway and charge posting capability
- High and low amount lockout protection
- Terminal monitoring capability
- Multiple tax tables
- Number and price lookup
- Peripheral: Scales (4000) UPC Scanners (7820), UPC Scanner/Scale combination (7824), Magnetic (Mag) Stripe Reader and PIN Pad (4430).

NCR 1830



The NCR 1830 Self-Service Fuel Terminal is designed to increase thru-put at Service Stations. The 1830's flexibility allows use with an NCR 2157 Retail Terminal for convenience stores or with an NCR PC for unattended operation. It is customer programmable and comes with a pedestal or wall mount. Its all weather cabinet and built-in lighting make it ideal for maximum convenience at any fueling location.

Some basic features:

- 40-column receipt printer
- Programmable keyboard (24 Keys)
- Programmable display (2 x 20 Alphanumeric characters)
- Microcomputer based
- 24 KB ROM and 8 KB RAM
- In-house DLC communications
- Weather resistant
- Vandal resistant

NCR 2061 - 5400 TERMINAL

The NCR 2061 - 5400 terminal system can be installed in such diverse food service areas as restaurants for fine dining or quick service, bars and cocktail lounges, cafeterias and snack shops.

In a multi-terminal environment, the system provides communication between the master and satellites, and systems components, such as guest check printers and remote order preparation printers.

Some basic features:

- Simplified cash bar operation
- Automatic guest check number assignment
- Cash declaration control
- Micromotion keyboards
- Alphanumeric cashier/server display
- Cafeteria tray total/transaction control
- Eat-in and carry-out programmable tax rates
- Up to 60 departments
- More than 400 positive and negative price lookup menu items
- 3 levels of preset menus or size categories
- Training mode
- Consolidated reporting for up to 24 point of service terminals
- Up to 8 kitchen preparation printers

NCR 2109 ECR

The NCR 2109 General Purpose model and the 2109 General Purpose Validation model fulfill the market requirements for an Electronic Cash Register with an optional single line validation printer that is highly featured, yet economically priced. The 2109's fixed 36- or 40-key keyboard makes it possible to incorporate a vast array of standard features and functions.

Some basic features:

- Four open or preset departments
- 64 number look-ups (NLUs)
- Split-package pricing
- Four operator totals for clerks
- Daily and period-to-date reports
- Two tax tables and manual tax
- Item discount/regular discount by percentage

Some optional features:

- Post-type "holding" customer display
- Wetproof keyboard overlay
- Upgradeable to 8 departments
- One-line validation (2109-1011 Validation model only)

NCR 2114/PC MANAGEMENT SYSTEM

The NCR 2114/PC Retail Management System combines the 2114-1103 Electronic Cash Register (ECR) and a communications network with the power of an NCR or compatible personal computer to meet the multi-register requirements of specialty, convenience, and small general retail stores, as well as small restaurant and fast food establishments. The system provides traditional ECR functionality at the point-of-service, centralized control of the entire ECR network, consolidation of Point-of Sale (POS) generated information, and the input required for optionally available inventory management and various accounting applications.

Some basic features:

- Up to 32 ECRs can connect to office PC
- Periodic "flash reports" and end-of-day consolidation of sales
- All system ECRs may be programmed from PC
- Number-Look-Up (NLU) files - 50 to 10,000 - may be developed from the PC and sent to specified or all ECRs

NCR 2114 ECR

The NCR 2114 Electronic Cash Register (ECR) offers the retailer a point-of-sale system that provides economy, dependable performance, and a host of operating features. This low-cost register meets basic system requirements of retailers who need transaction control, automatic features and functions, and management information on request.

Some basic features:

- Electronic add/subtract
- Easy-to-read electronic display
- Change computation
- Quantify/price extension
- Automatic tax calculation, 2 tables
- Department keys and credit keys
- Period-to-date totals
- Number lookups
- Clerk totals
- Hourly reports

Some optional features:

- Swivel customer display
- Keyboard overlay
- Battery operation

NCR 2119 TERMINAL

The NCR 2119 Extended Payment Terminal is an economically priced product, offering Electronic Funds Transfer (EFT). The system provides both debit and credit transaction processing at point-of-sale and can be operated as a standalone unit or in a clustered environment.

Some basic features:

- Track 2 magnetic stripe
- Personal Identification Numeric (PIN) pad
- NBS — DES encryption
- Nine card types
- Full range of balancing reports
- ISO/Asynchronous communications
- Debit, credit, check and store credit authorization
- Pre-authorization

Some optional features:

- Slip printer
- Communication concentrator (clustering)

NCR 2121 ECR

The NCR 2121 is a general purpose Electronic Cash Register (ECR) offering small retailers a wide variety of programming options along with a sophisticated feature set. For restaurant and charge posting applications, the 2121 provides previous balance and credit balance capabilities. The 2121 contains several standard features unavailable on most competitive units.

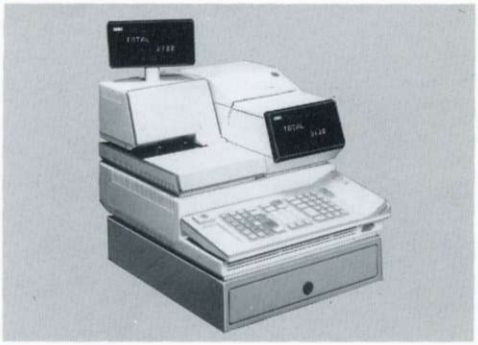
Some basic features:

- 20-column alphanumeric dot matrix journal and receipt printer
- 54-key keyboard
- Maximum of 40 programmable departments
- Up to 297 standard number lookups (NLUs)/sub-departments
- 6 character alpha print for departments, NLUs and sub-departments
- 16 clerk or 2 cashier totals
- 9 tender keys
- 4 discount/surcharge keys
- One-line slip validation

Some optional features:

- Up to 904 NLUs/sub-departments
- 40-column slip printer
- 410 coin dispenser interface
- Customer post display
- ECR battery backup

NCR 2122 ECR



Designed to offer the retailer fast customer service, complete transaction control, and up-to-date management information, the NCR 2122 Electronic Cash Register is a freestanding, versatile sales register with programming flexibility, register control functions, and system peripherals.

Some basic features:

- Programmable keyboard
- Change computation
- Automatic tax calculation
- Original print on receipt, voucher and journal
- Automatic discount calculation
- Number lookups
- Sales department handler
- Dot matrix printer
- Period-to-date totals
- 9 tenders
- Currency exchange

Some optional features:

- Customer display
- Change dispenser
- Choice of 1 or 2 cash drawers
- Number lookups to 900
- Slip printer
- Electronic Funds Transfer (EFT)

NCR 2126 - 1300 TERMINAL

Operating both in fast moving checkout lanes and stand-alone specialty store environments, the NCR 2126 Terminal is designed for reliability and flexibility.

One master terminal is capable of controlling up to 31 satellite terminals. Data collection and data backup can be stored on either a tape cassette or diskette.

The NCR 2126 is a user-friendly, select function terminal.

Some basic features:

- 44,400 PLUs
- Negative check and credit files
- Electronic funds transfer (EFT)
- Slot or hand scanning
- In-store processor connection
- PC connection
- Magnetic stripe reader
- PIN pad
- Common carrier communication
- Fully modular system

Optional feature:

- Slip printer

NCR 2126-1400 SYSTEM

The NCR 2126-1400 provides convenience stores and service stations with complete transaction control. The system is designed as a starter with basic transaction control, and it may be upgraded to include fuel pump control, UPC scanning, Electronic Funds Transfter (EFT), data capture, and high order communications.

Some basic features:

- Programmable 128 key micromotion keyboard
- Up to 100 preset totals
- 7 tender totals, cash, check, oil card, etc.
- Money order functions
- Shift or clerk reporting
- Financial, department, hourly, and numerous other reports

Some optional features:

- Fuel pump interface
- Pump control (24 pumps or 48 hoses)
- UPC scanning
- EFT
- PC connection
- High order communications
- Multiple unit cluster
- Slot or hand held scanner
- Magnetic stripe reader

NCR 2126 - 5000 SYSTEM

The NCR 2126 - 5000 Bar/Restaurant System improves efficiency and guest service by monitoring employee productivity, cash and charge transactions, and food and beverage inventory for purposes of management and sales analysis. The system can be installed as either a freestanding terminal or a cluster, consisting of a master terminal and up to 5 satellite terminals. One of the satellite terminals can serve as a second master terminal to provide maximum systems availability.

Some basic features:

- 5 menu solutions
- Spill-resistant programmable micromotion keyboard
- Multiple preset price keys
- Over 1,000 departments (30 major)
- Menu item inventory and condiment control
- Hotel charge post interface
- Employee timekeeping
- Print and price modifier control
- Kitchen and bar order preparation VDT displays
- Cassette data collect capability
- Guest check printer
- Void search
- Special promotion transaction control
- In-house and high order data communications

NCR 2126 - 6000 SYSTEM

Fast customer service, complete transaction control, and comprehensive management reports are some of the many benefits provided by the 2126 - 6000 Quick Service System. The 2126 - 6000 ensures maximum efficiency at front counter and drive-thru stations.

The system can be installed as either a free-standing terminal or a cluster, consisting of a master terminal and up to 5 satellite terminals. One of the satellites can serve as a second terminal to provide maximum system availability.

Some basic features:

- 3 menu selections
- Spill-resistant, programmable micromotion keyboard
- Multiple preset price keys
- Personal computer interface
- Cassette data collect capability
- Menu item inventory control
- Gift certificate control
- Void search
- Special promotion transaction control
- Store recall feature
- Item consolidation
- Print and price modifier control
- Drive-thru and kitchen video displays
- Remote kitchen order preparation printers

NCR 2154 TERMINAL

The NCR 2154 is a programmable, microprocessor-based terminal for retail applications. It is designed to be used as a secondary Point-Of-Sale (POS) terminal in a cluster configuration with a primary terminal.

The standard NCR 2154 integrated terminal includes a 50-key keyboard, a receipt/journal printer, a cash drawer, and a 256 KB Memory fluorescent tube operator display.

Some basic features:

- RAM expansion to 512 KB in 256 KB increments
- RAM backup battery (10-15 hours)
- 200 hour CMOS battery support
- NCR receipt/journal printer with paper sensor, form validation and keylock
- Integrated cash drawer with slip slot
- 4-position keylock mode switch

Some optional features:

- RAM expansion
- Operator display with two lines of 20 alpha characters
- 42-column journal and receipt printer
- 42-column slip printer
- Customer display
- Optical interface adapter for scanners and magnetic stripe readers
- 80-column and 136-column line printers

NCR 2155 TERMINAL

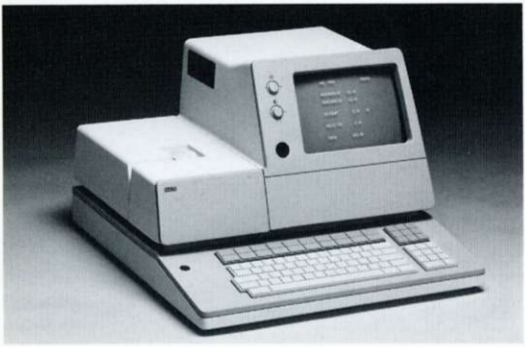
The NCR 2155 is a programmable, microprocessor-based terminal for distributed transaction processing applications. It is designed to be used either as a stand-alone Point-Of-Sale (POS) terminal, or as the primary terminal of a cluster configuration controlling and sharing resources with secondary terminals.

The standard NCR 2155 integrated terminal has a 50-key keyboard, 512 KB Memory, a receipt/journal printer, a cash drawer, a fluorescent tube operator display and an integrated 5.25" flexible disk drive unit.

Some optional features:

- RAM expansion to 1 MB in 256 KB increments
- Second integrated 5.25" flexible, 10 MB fixed disk, or 20 MB fixed disk
- Operator display with two lines of 20 alpha characters
- 42-column journal and receipt printer
- 42-column slip printer
- Auto backup
- PC interface
- 80- or 136-column line printer
- Customer display
- Optical character interface adapter for scanner (7820) or magnetic stripe reader attachment
- Asynchronous, bisynchronous, DLC, and modem options

NCR 2156 TERMINAL



The NCR 2156 is a programmable microprocessor-based terminal for retail applications which require alpha input or display. The 2156 is designed for use as a secondary Point-of-Sale (POS) terminal in a cluster configuration.

The standard NCR 2156 integrated terminal includes a 50-key keyboard, 256 KB memory, a receipt/journal printer, a cash drawer, and a 9-inch CRT.

Some basic features:

- RAM backup battery (5-8 hours)
- 200 hour CMOS battery support
- NCR receipt/journal printer with paper sensor, 15-line form validation, and keylock
- Integrated cash drawer with slip slot

Some optional features:

- RAM expansion to 768 KB in 256 KB increments
- Customer display with 2 lines of 20 alpha characters
- 42-column slip printer
- Double-wide CRT character set
- Optical interface adapter for scanners and magnetic stripe reader
- 80-column and 136-column line printers

NCR 2157 TERMINAL

The versatile microprocessor-based NCR 2157 Retail terminal with a 9-inch CRT is designed for retail markets that need a responsive terminal to meet new customer service opportunities. The 2157 is particularly important in environments that require alpha input or display.

It is designed to be used as a program development terminal, as a stand-alone Point-Of-Sale (POS) terminal, or as the primary terminal of a cluster configuration controlling and sharing resources with secondary POS terminals.

Some optional features:

- RAM expansion to 1 MB in 256 KB increments
- Second integrated 5.25" flexible, 10 MB fixed disk, or 20 MB fixed disk
- 42-column journal and receipt printer
- 42-column slip printer
- Battery backup (4-6 hours)
- PC interface
- 80- or 136-column line printer
- Customer display
- Optical character interface adapter for scanners (7820) and magnetic stripe readers
- High order communications
- 111-key alphanumeric keyboard or 50-key POS keyboard
- 1830 island card reader interface and 4430 magnetic stripe reader interface for debit/credit transactions

NCR 2157 - 5000 QUICK SERVICE SYSTEM

The powerful NCR 2157 - 5000 Quick Service System features an in-store processing capability. The Point-of-Sale (POS) system enables management to implement a variety of hardware and software application modules to monitor restaurant sales activity, personnel performance, and food cost control. In addition to management reports, the system also provides maximum flexibility by integrating an industry-standard personal computer as a manager workstation on-line to the POS terminals.

Some basic features:

- Integrated or modular intelligent POS terminals
- 12-inch kitchen and drive-thru VDT
- Remote food/beverage order printer
- 9-inch operator VDT and single-line customer display
- Up to 18-character menu item description
- Promotional menu pricing
- Coupon search and void search capability
- Employee timekeeping
- On-line HELP functions
- Computer-based training and terminal training mode
- Data redundancy

An array of optional features

NCR 2160 TERMINAL

The NCR 2160 Food Service System consists of multiple electronic Point-Of-Sale (POS) terminals linked to a compact, powerful in-store microprocessor. Modularity permits remote locations for kitchen order, receipt, sales journal, slip validation printer, customer display, cash drawer, and automatic change dispenser.

The NCR 2160 Bar/Restaurant System provides printed information in a series of detailed management reports. These reports relate to sales and inventory, guest check control, employee productivity, and food and labor costs.

Some basic features:

- Automatic price lookup
- Financial accountability
- Full reporting capability
- Waterproof micromotion keyboard

NCR 4000 SCALE

The NCR 4000 Electronic Checkout Scale is a compact and reliable scale for front-end utilization. The NCR 4000 can be interfaced to a wide range of NCR electronic cash registers and point-of-sale terminals in a checkout environment.

The scale has a capacity of up to 30 pounds and utilizes the latest load cell technology to ensure accurate weight measurement at all times.

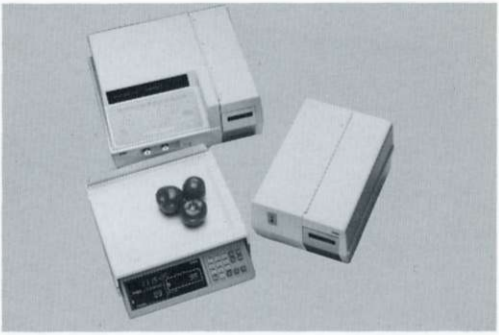
Some basic features:

- Zero status indicator light weight
- Illuminated display — shows large illuminated numerics
- Specifications
  - — Scale dimensions:
    4.65 inches (1.16 mm) high
    14 inches (3.50 mm) wide
    13 inches (3.25 mm) long

Some optional features:

- Customer display — can be placed either on the side or at the rear of the scale
- Post display — can be attached to the checkout counter for customer visibility

NCR 4510 SYSTEM



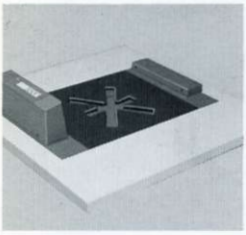
The NCR 4510 Weighing and Labeling System is an integrated system that links electronic scales and label printers to a common controller. Designed for the service scale market where UPC labeling is required, the system will print UPC labels for over 2,000 PLU commodities. Its compact components will fit easily into countertops.

The 4510's modular system allows retailers to expand configurations readily and inexpensively.

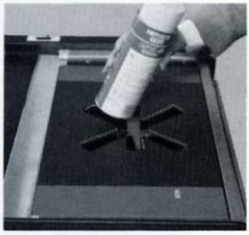
Some basic features:

- 40-character alphanumeric display leads the operator through each step
- Security control key ensures that only authorized personnel access all system functions
- Prints multiple labels during a single run

NCR 7820 SCANNER



Enhanced



Flat Deck

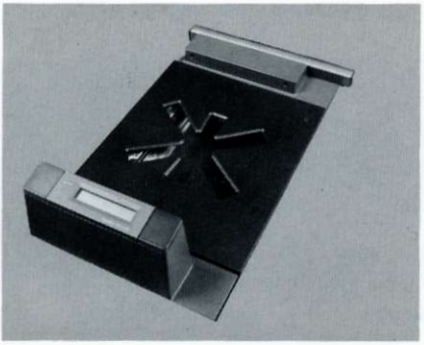
The NCR 7820 UPC/EAN Scanner operates as a data entry peripheral to an NCR terminal. Located at checkout counters, it can read either UPC (Universal Product Code) or EAN (European Article Number) codes printed on the manufacturers' product packaging, or affixed to products at the store level.

The 7820 flat-deck model has a flat scanning surface which provides the following advantages:

- Large and bulky items can be scanned
- Scanning is permitted from any direction — right-to-left, left-to-right, or even back-to-front
- Eases rescan
- Increased usable depth of field — items can be scanned further away from the scanner
- Potential increase in checker productivity

The enhanced 7820 model provides housing with large red and green status indicators for good and bad scan reads. This 7820 model also contains item gates which require scanned merchandise to enter and exit the scan area in a continuous single pass. This provides greater discipline in checker operations.

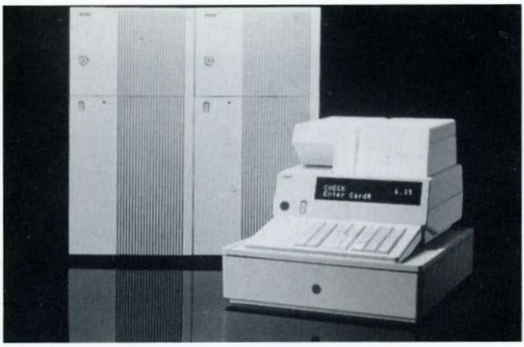
NCR 7824 SCANNER/SCALE



The 7824 Scanner/Scale is a single Point-of-Sale (POS) peripheral unit which incorporates a UPC scanner, a front-end scale with a capacity of 30 pounds, and a digital price/weight numeric display. Designed for installation in a checkout environment, the 7824 Scanner/Scale operates as a peripheral for the NCR 1255 and 2126 Retail Terminals.

The 7824 Scanner/Scale has the same dimensional packaging as previous NCR scanners. The top plate or working surface of the scanner serves as the front-end scale. The scale includes a loadplate, four load cells, and a scale electronics board. A flush mount slotted faceplate covers the loadplate, allowing item scanning or weighing.

7000CP SYSTEM



The NCR 7000CP (Continuous Processing) System offers retailers high performance and high systems availability for transaction processing. The 7000CP System serves as the platform for specific vertical applications to the 7000/Advanced Checkout System (7000/ACS), the 7000/Mass Merchandise Retail System (7000/MMRS) and the 7000/Department Store System (7000/DSS).

Some basic features:

- Advanced architecture based on the Motorola 680X0 family of microprocessors
- MIRLAN/STARLAN local area networking of system processors and terminals
- Continuous processing for high systems availability with item level backup
- On-line help facility to minimize training costs
- Comprehensive price lookup subsystem

Some optional features:

- 3780 (SFX) bisynchronous communications
- 3271 bisynchronous communications
- 3790 SNA communications
- 3650 SNA communications
- Electronic journal and documentation
- Delayed balance
- Consumer panelist

NCR 7052/STORES SYSTEM

7052 **7003** **T9150**

The NCR 7052/Stores System is a fully integrated Point-of-Sale (POS) system developed specifically for high-volume, multiple transaction department store environments.

Some basic features:

- POS functionality that addresses traditional POS needs as well as specialized service areas and functions
- PC-based technology with industry-standard hardware and software interfaces that fit into current and future systems
- Feature-rich applications software, terminals, processors and related peripherals

The **NCR 7052** programmable terminal is the first of a new family of intelligent retail terminals for the retail industry. This powerful, high-capacity terminal has industry-standard hardware and peripheral interfaces built around a PC-based architecture.

Some basic features:

- Terminal functions operate on-line /off-line
- 9-inch CRT provides multiple customer service functions/improved operator lead-through
- Optional 2-line x 20-character operator display includes 16 descriptor lights for lead-through
- 200 LPM printing capabilities in a single, 2-station, 3-function printer increases POS transaction thruput

- Memory protector
- Application Editor and programming tools provide user-independence and enable generation of NCR PC-8 and industry-compatible programs

Some optional features:

- Customer displays
- Integrated magnetic stripe reader
- Configurations of hand-held and slot scanners, report printers, and displays to meet unique POS location requirements

The PC-based **NCR 7003** Terminal Concentrator is designed for high efficiency, provides desirable thru-put and downstream terminal program load capacities.

Some basic features:

- Supports up to 40 NCR 2152 and/or NCR 7052 terminals
- Utilizes industry-standard, multi-tasking operating system software
- Employs standard programming language for software applications
- Communicates with processor via Primary Synchronous Communication link at speeds up to 9,600 baud.

The **NCR T9150** is the latest in a series of processors used in STORES system networks.

Some basic features:

- Remote operation
- COBOL programmability
- Priority processing for credit authorization and interactive inquiries
- Support of SNA/SDLC communications in addition to bisynchronous
- High reliability and use of industry standard components
- A complete field-proven set of retail application software, which can be tailored to meet unique requirements

FINANCIAL SYSTEMS
NCR 2262 TERMINAL

The NCR 2262 Financial Teller Terminal is a stand-alone, integrated, intelligent terminal which can operate as a freestanding unit or, as an on-line terminal to a host system. The terminal can be programmed in NCR BASIC+ to satisfy Financial marketplace requirements.

Some basic features:

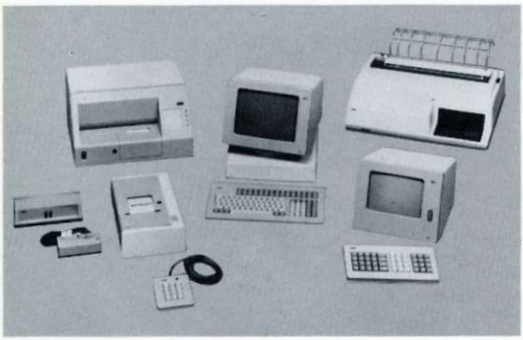
- 5-inch CRT
- 44-key programmable keyboard
- 40-column journal/validation printer
- 128 KB of Dynamic Random Access Memory (DRAM) expandable to 192 KB
- Programmable in NCR BASIC+
- Application program security

Some optional features:

- An integrated router module (this serves as a low-order NCR DLC controller and a high-order communications concentrator)
- Separate router modules to support the following protocols:

  NCR ISO/Asynchronous, NCR DLC Common Carrier, NCR DLC In-House, IBM 3270 Bisynchronous, Burroughs ISO/Asynchronous, Burroughs Synchronous
- Cash drawer interface
- NBS/DES encryptor
- RS-232 interface

NCR 5000 SYSTEM



The NCR 5000 Branch Automation System is a totally integrated modular hardware, software, and communication system that satisfies the branch automation needs of financial institutions. System software offers flexibility and expandability while hardware provides for operator comfort and configurability to satisfy varying branch requirements.

Products available under a cohesive system architecture can be configured into teller work stations and administrative/platform work stations connected to a single programmable branch processor.

Some basic features:

- Modular components
- User-installable modules
- User-programmability
- High resolution displays
- All types of financial transactions are accommodated
- Shared operation
- Various levels of security

NCR FINANCIAL TOWER SYSTEM

The Financial TOWER System combines NCR's successful TOWER family of super-microprocessors with the PC-based financial workstations to provide a complete branch automation system for financial institutions. The system brings together teller and platform automation with an open system architecture — integrating industry standard operating software, hardware and interconnections into a truly advanced product.

Some basic features:

- Network of intelligent devices
- High-speed local area network
- Financial-specific software
- Distributed processing architecture
- Network management services

NCR 5068 PC

Based on the industry-standard PC architecture, the NCR 5068 Financial PC brings the power and flexibility of a personal computer to workstations within the financial branch. The modular design of the Financial PC helps to ease installation and makes multiple configurations possible.

Some basic features:

- Compatibility with third-party software and hardware products
- Up to 640 KB of Random Access Memory (RAM)
- Multiple disk combinations
- Adapter for connection of financial peripherals
- Specially designed monochrome monitor for financial environment

Some optional features:

- 4430 magnetic stripe reader with PIN pad.
- Specially designed color monitor for financial environment
- Local Branch Network (LBN) adapter for connection to the TOWER branch processor
- Integrated communications to various hosts

NCR 5070 ATM

The NCR 5070 interior ATM enables financial institutions to increase employee productivity, improve customer service, and control costs. The 5070 design flexibility allows placement in financial institutions or in off-premise locations such as office complexes, hospitals, retail stores and shopping centers.

Some basic features:

- Semi-secure or UL-291 safe secure
- Front or rear access
- 9-inch CRT/graphics/8 function keys
- Card Reader — Track 2
- 2-denomination currency dispenser
- Receipt printer
- Customer keyboard
- Flex disk
- Enhanced diagnostics

Some optional features:

- Card Reader — Tracks 1, 2, 3
- 4-denomination currency dispenser
- Journal printer
- Depository — serial or programmable printing
- Night depository interface
- Voice Responder ™
- Validation printer
- Tamper indicating canisters
- Network compatible application software

NCR 5070 SST

The 5070 Single Solution Terminal (SST) is an entry-level version of the highly successful 5070 ATM and is designed to more economically accommodate ATM installations with low to moderate transaction volume. Modular design allows the unit to be upgraded to full functions.

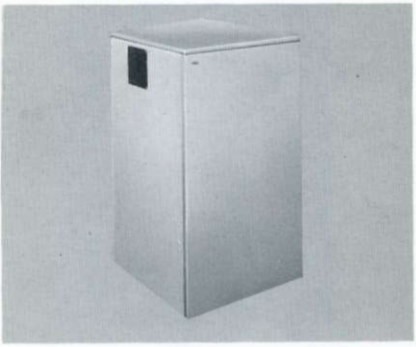
Some basic features:

- Semi-secure or UL-291 safe secure
- Front or rear access
- 9-inch CRT with graphics and 8 function keys
- Dip Card reader
- 1-denomination currency dispenser
- Receipt printer
- Stainless steel customer keyboard
- Flex disk
- Enhanced diagnostics

Some optional features:

- 2 or 4 denomination currency dispenser
- Journal printer
- Electronic journal
- Depository-serial or programmable printing
- Night depository interface
- Voice Responder™
- Tamper indicating canisters
- Network compatible applications software

NCR 5075 DISPENSER



The NCR 5075 Teller Assist Currency Dispenser (TACD) automates the cash counting portion of any transaction. The transaction most likely to be automated is a financial institution's cashout transaction. Non-financial institutions, however, are also candidates for automation. Payroll facilities, traveler's checks, dispensing locations in retail stores, and financial departments are possible TACD candidates.

Some basic features:

- Dispenses up to five different denominations
- 2-teller operation with separate delivery areas
- Each currency cassette has 300 mm of storage
- Dispenses new and/or used currency
- Single bill divert to purge bin
- On casters for mobility
- Customer Installable
- Easy service access
  - Replenishment via front
  - Jam clears via top or rear
- Cassettes interchangeable with 5000 Series ATM
- Interface to NCR 410 coin dispenser
- RS-232 interface

NCR 5081 ATM

NCR's 5081 through the wall, full-function ATM combines low unit cost and high reliability with low maintenance to make it attractive to financial institutions and retailers. Designed to coexist with other through-the-wall products, the compact sized 5081 can be a replacement for older generation ATMs.

Some basic features:

- 9-inch CRT with graphics and 8 function keys
- Card Reader — Track 2
- 2-denomination currency dispenser
- Receipt printer
- Customer keyboard
- Flex disk
- Enhanced diagnostics
- UL-291/TL-15 security enclosure

Some optional features:

- Card Reader — Tracks 1, 2, 3
- Journal printer
- Night depository interface
- Depository — serial or programmable printing
- Voice Responder
- Tamper-indicating canisters
- Network compatible applications software

NCR 5084 TERMINAL

Quick convenient cash access without frequent replenishment or service is offered by the high-volume, low-maintenance design of the NCR 5084 through-the-wall cash dispense terminal.

Some basic features:

- 9-inch CRT/graphics/8 function keys
- Card Reader — Track 2
- 2-denomination currency dispenser
- Receipt printer
- Customer keyboard
- Flex disk
- Enhanced diagnostics
- UL-291/TL-15 security enclosure

Some optional features:

- Card Reader — Tracks 1, 2, 3
- 4-denomination currency dispenser
- Journal printer
- Night depository interface
- Voice Responder
- Tamper indicating canisters
- Network compatible application software

NCR 5085 ATM

The most versatile of NCR's Self-Service Family, the NCR 5085 through-the-wall extra function ATM, performs a variety of transactions and offers a wide menu of options.

Some basic features:

- 9-inch CRT/graphics/8 function keys
- Card Reader — Track 2
- 2-denomination currency dispenser
- Receipt printer
- Customer keyboard
- Flex disk
- Enhanced diagnostics
- UL-291 rated security chest

Some optional features:

- Card Reader — Tracks 1, 2, 3
- 4-denomination currency dispenser
- Journal printer
- Depository — serial or programmable printing
- Night depository interface
- Voice Responder
- Tamper indicating canisters
- Network compatible application software
- Document/statement printer

NCR 5088 ATM

The NCR 5088 Slimline ATM has been specifically designed for the drive-up customer. Superslim construction and side access allow the NCR 5088 Slimline ATM to retrofit existing pneumatic tube systems, fitting comfortably on a 36-inch or larger drive-in island.

Some basic features:

- 9-inch CRT/graphics/8 function keys
- Card Reader — Track 2
- 2-denomination currency dispenser
- Receipt printer
- Customer keyboard
- Flex disk
- Enhanced diagnostics
- UL-291 rated security chest

Some optional features:

- Card Reader — Tracks 1, 2, 3
- 3-denomination currency dispenser
- Journal printer
- Depository — serial or programmable printing
- Night depository interface
- Voice Responder
- Tamper indicating canisters
- Network compatible application software

NCR 5285 DEPOSITORY

The NCR 5285 Commercial Depository provides a means of attracting and serving commercial business accounts through a self-service network. The NCR 5285, used in combination with an NCR ATM such as the 5085 shown above, provides customers with convenient and efficient deposit transactions.

Some basic features:

- UL-687 and UL-771 rated security chest
- Dial/key lock
- Deposit conveyor
- Either key or card activated

Some optional features:

- Silent sentinel alarm
- Seismic detector
- Vibration sensor
- Second combination lock

NCR 5571 TERMINAL

The NCR 5571 Self-Service Information/Statement Terminal is a freestanding lobby device that allows customers to obtain their own account statements without the assistance of branch personnel. The 5571 can also be programmed as an information terminal to provide banking service inquiries on various topics such as loans, money markets, etc.

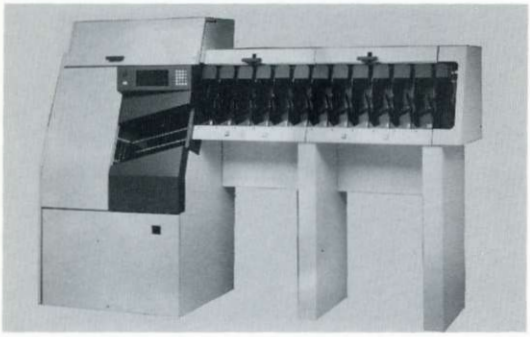
Some basic features:

- 9-inch CRT/graphics/8 function keys
- Card Reader — Track 2
- 80-column statement printer
- Customer keyboard
- Flex disk
- Enhanced diagnostics

Some optional features:

- Card Reader — Tracks 1, 2, 3
- Journal printer
- Remote status monitor

NCR 6760 TOWER-CHECK



NCR 6760 TOWER-CHECK combines a UNIX-based TOWER processor, an intelligent 6760 reader/sorter and software to perform capture reconciling and on-us sorts. A generator program to create sort patterns and supporting report programs are also included. TOWER-CHECK's 6760 reader/sorter, processing at the rate of 1000 documents per minute, can expand from its basic 6-pocket configuration to a maximum of 36 pockets. The reader/sorter can be enhanced by one or more optional hardware features for additional handling and control of processed documents.

Some optional features:

- Microfilmer unit integrated in-line to the reader/sorter
- Ink Jet printer that prints from one to three alphanumeric lines of user-defined information on both the front and back of documents
- Positional roll-on endorser
- Auxiliary plasma display panel on last pocket module

NCR 7760-1200 ENCODER

The NCR 7760-1200 is a single-pocket, parameterized, self-hosting proof encoder that provides proof-of-deposit processing and MICR/OCR encoding capability. Each freestanding unit is engineered to satisfy all field encoding, endorsing, and audit control requirements.

Advanced techniques in human factors engineering were employed to develop the NCR 7760-1200 for operator comfort, ease, and simplicity of operation.

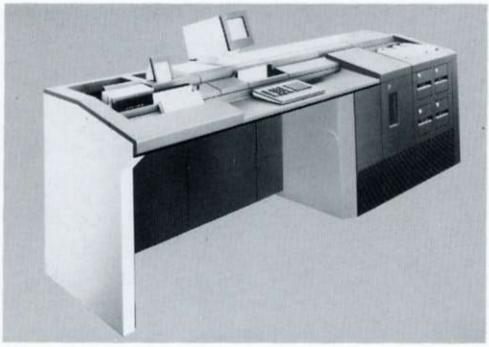
Some basic features:

- MICR encoder with 4 encode lines
- 7-field encoding
- Self-hosting
- 28 totals
- 40 cumulative totals
- 4 automatic field entries
- Programmable keyboard
- Endorser
- Batch balancing control of single item deposits
- Operator selection of default distribution

Some optional features:

- Endorser with bank stamp
- Program load by cassette

NCR 7770-3101 SYSTEM



The 7770-3101 reader-based, multi-pocket proof system is an intelligent, freestanding station that offers item processing capabilities in financial institutions.

A typical configuration consists of one 7770-3101 workstation, 12 pockets, communications interface, and code line display.

Appropriate software packages are the base, proof, sort, and communications (BISYNC or SRJE/SNA) for each station, as well as consolidation and reformat for the consolidation processor.

Some basic features:

- Stand-alone station intelligence
- Concurrent communications
- Fast thru-put
- Character-level correction with optional code line display
- Industry-standard flex disk with IBM compatibility
- Industry-standard "C" programming language
- Improved ergonomics
- Reduced maintenance

DATA PATHING SYSTEMS
NCR 2806 TERMINAL

The NCR 2806 Attendance Terminal permits recording of employee entry and exit in industrial environments and non-manufacturing locations such as offices and warehouses.

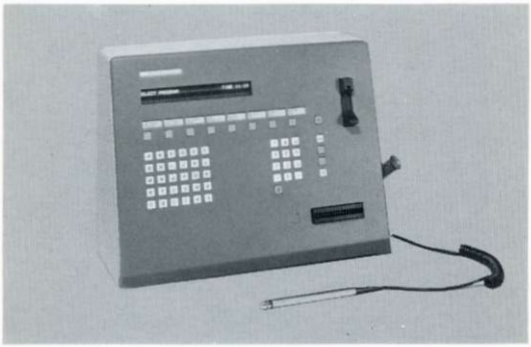
Some basic features:

- Up to 10 numeric digits per badge
  - — Hollerith code
  - — 2-of-5 code
- Operator status indicators
- Wall or table mounted
- Photo-optic reading
- Time-of-day display
- Shared communications
- Automatic error detection
- Software-controlled data verification

Some optional features:

- Transaction buttons
- Audible tone
- Contact closure circuit
- Table-mount bracket
- Wall-mount bracket

NCR 2825 TERMINAL



The NCR 2825 Source Data Terminal is an interactive, multi-function unit incorporating proven data management with modularity for industrial applications.

Some basic features:

- 80-character vacuum fluorescent display
- Widely spaced keys
- Bar code capability
- Adjustable audible tone
- Off-line data storage

Some optional features:

- One of four badge readers
- Bar code wand or slot reader
- Punched card reader
  - — Hollerith code
- Digital I/O

NCR 2830 CRT STATION

The NCR 2830 Industrial CRT Display Station is a multi-input conversational terminal available for configuration in a factory environment. Human engineering is emphasized allowing efficient use by non-clerical or clerical personnel.

Some basic features:

- Green phosphor, 15-inch, bonded, non-glare CRT monitor
- Screen size formats:
  - — 240 large characters (40 x 6)
  - — 480 large characters (40 x 12)
  - — 960 normal or mixed characters (80 x 12)
  - — 1,920 normal or mixed characters (80 x 24)

Some optional features:

- Badge readers (10 numeric digits)
  - — 2-of-5 code
  - — Hollerith code
- Card scanner
  - – 22- and 80-column Hollerith code
- Bar code reader adapter
- Magnetic reader adapter

NCR 2841 TERMINAL

The NCR 2841 Time and Attendance Terminal eliminates manual collection of time and attendance data by performing timekeeping functions on-line to a host computer or controller.

All employee clock-in and clock-out transactions can be recorded simply and accurately.

Some basic features:

- 5 dual-mode user programmable function keys
- Full numeric keyboard
- Rugged die-cast metal cabinet
- Small footprint
- Magnetic or bar code badge reader
- Battery supported memory

NCR 2842 TERMINAL

NCR's 2842 Data Entry Terminal is a compact, rugged and cost-effective data collection device. The NCR 2842 is applicable in many environments... from the manufacturing shop floor for job reporting, to the hospital for item tracking.

Data is entered via keyboard, magnetic badge reader or bar code reading devices. The optional bar code devices read Code 3 or 9, interleaved 2 of 5, while the optional badge reader reads low or high-coercivity magnetic badges. Operator guidance is provided with a 16-character alphanumeric display.

Data collection can be easy and economical with the 2842... the data collector from NCR.

NCR 2845 TERMINAL

The NCR 2845 Time and Attendance Terminal is designed to automate the collection of employee "clocking" transactions while operating off-line from the host computer system. Transactions collected by this compact and rugged device can be transmitted to the host system at any time deemed appropriate.

An employee badge swipe reader and keyboard entry accommodate the execution of time-related transactions. The employee is prompted through transactions via the 16-character display. Additional user feedback is provided by audible tones and Accept and Reject indicator lights.

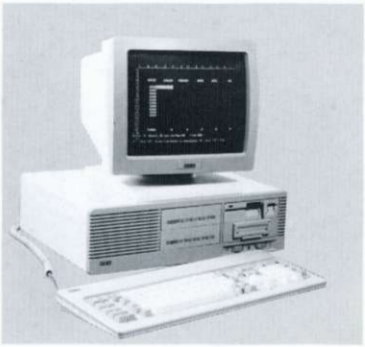
Some basic features:

- 16 character LCD display
- 20-element numeric keypad
- Accept and Reject indicators
- 16 KB RAM
- RS-232-C and RS-422 communications
- Battery backup for memory protection
- Multi-drop terminal network capability

Some optional features:

- Magnetic or barcode badge reader
- 1-hour uninterruptible power supply
- Barcode wand attachment

NCR 3285 SUBSYSTEM

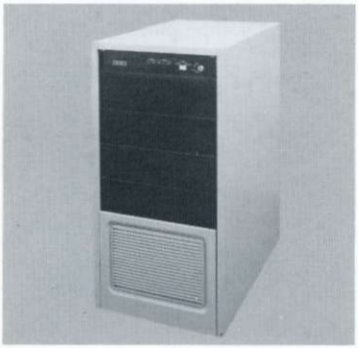


From source data collection on the manufacturing shop floor to time and attendance reporting in the retail environment, the NCR 3285 subsystem provides a state-of-the-art, cost-effective means of collecting and processing data close to the source. The primary purpose of the NCR 3285 is to control a network of 2841 Time and Attendance and/or 2842 Data Collection terminals. In addition, the NCR 3285 can serve as a supervisory workstation for departmental processing, such as data base inquiry/maintenance and report generation. The 3285 also serves as a communications link to the host system for transfer of data as it is collected from the terminal network.

With a host of options and accessories, the 3285 Subsystem Controller can be configured to address a wide range of applications such as:

- Time and attendance
- Labor reporting
- Work in process
- Tool control
- Material tracking
- Inventory control
- Machine maintenance

NCR 3743 CONTROLLER



The NCR 3743 is an intelligent cluster controller that interfaces multi-function CRT display and printer terminals through a medium speed communications link to a transaction processor. Each controller consists of a processing system and modules for control of communications, terminal devices, and transmit/receive functions.

NCR 3743 has 128 KB memory and controls up to 15 display and 15 printer terminals.

Some basic features:

- Relieves transaction processors of many processing operations through dynamic allocation of screen formats and data memory pool
- Performs polling, message buffering, and screen storage
- Transmits at rates of 2,400, 4,800, or 9,600 bps

NCR 3750 PROCESSOR

The NCR 3750 Disk Processor relieves the front-end system of time-consuming disk access tasks. Operating with a flexible disk file management subsystem, it allows high performance transaction handling by providing multi-task processing and parallel servicing of disk drives.

Up to four central processors may share data access to a disk processor. A maximum of 240 MB of information may be stored in four independent drives. Modular in nature, the processor may be upgraded on-site to satisfy user requirements for increased storage capacities, memory or processor access.

Some basic features:

- 32 KB main memory
- High-speed memory-to-memory adapter
- Removable disk packs

Some optional features:

- Basic Data Management (BDM) subsystem
- Relational Data Management (RDM) subsystem
- Up to three additional 32 KB memory modules
- Up to three additional memory-to-memory adapters for multiple access configuration
- Console typewriter for BDM or RDM subsystem
- Magnetic tape unit for BDM or RDM subsystem

NCR 3752 PROCESSOR

NCR 3752 Control Processor is the control center for a Source Data Management System. It offers an economical solution to problems of gathering accurate information at its source and disseminating it on a timely basis to appropriate areas for analysis and action.

Some basic features:

- Modular memory capacities to meet the expanding application requirements of business and industrial users
- Interactive software to control terminals and processor operations and communications
- Master clock synchronization to assure all terminals and plant clocks are synchronized
- External alarm circuit to alert the computer operator of line, terminal, or power failure, as well as other specified occurrences
- System compatibility to accommodate interfaces to most mainframe computers
- Data base management for inquiry and maintenance of application files

NCR 3760 CONTROLLER

The NCR 3760, a microprocessor-based controller that supports as many as 64 RS-422 terminals, functions as the nucleus of an unusually versatile and reliable data collection network. In addition to its RS-422 interface, the controller provides an industry-standard RS-232 port allowing a wide selection of network host devices.

Since it relieves the host of many "housekeeping" duties, such as input processing and terminal communications, the 3760 delivers a significant improvement in thru-put speed. The controller's application program is written in BASIC and is downloaded from the host. Application revisions and updates can be easily and quickly implemented via the same process.

NCR 4450 TERMINAL

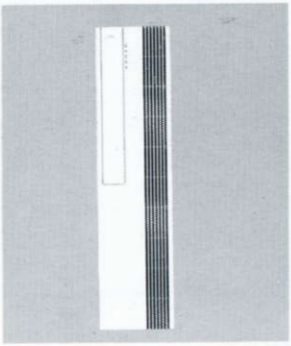
The NCR 4450 Time and Attendance Terminal is a compact and stylish unit designed for collection of employee "clocking" transactions. The 4450 can operate either in an on-line mode under direct control of the host system application or in a store and forward mode with transactions collected independent of the host system.

The combination of the integrated magnetic badge reader and keyboard entry accommodates the execution of time-related transactions. The employee is prompted through transactions via the 32-character display. Additional user feedback is provided by audible tones to insure user-friendly operation.

Some basic features:

- 32-character backlit LCD display
- 15-element numeric keypad
- Magnetic badge swipe reader
- Up to 8 KB of RAM
- RS-232-C or RS-422 communication options
- Battery backup for memory protection
- Multi-drop terminal network capability

NCR DPS 25 SOURCE DATA COLLECTION SYSTEM



The NCR DPS 25 Source Data Collection System represents state-of-the-art technology for Source Data Management. The heart of the system is the NCR TOWER processor and UNIX V-operating environment. The feature-rich nature of the TOWER processing system allows the DPS 25 to be configured as a stand-alone or distributed processing system.

A variety of controllers and data collection terminals may be attached to the DPS 25 system to address a wide range of application functions. These include, but are not limited to:

- Time and attendance
- Labor reporting
- Work in process
- Tool control
- Material tracking
- Inventory control
- Machine maintenance

Each controller and terminal subsystem is configured to address the specific requirements of the customer's application needs.

NCR GENERAL PURPOSE WORKSTATIONS

NCR 3390 COMMUNICATION WORKSTATION

The NCR 3390 is a new generation workstation, which meets the requirements of organizations where low cost, sophisticated communications and high performance local processing are mandatory.

The 3390 is designed to fit a wide variety of communication environments, and it operates in local area networks or connects to departmental processors or central hosts. This is a truly advanced workstation in both physical and technological design.

Some basic features:

- Compatible with the IBM-PC AT™
- Dual speed operation using 80286-10 main processor (6 or 10 MHz)

Some optional features:

- Configurations:
  - — Diskless
  - — 3.5-inch Flex Disk
  - — 3.5-inch Fixed Disk
- Keyboard options:
  - — Standard
  - — Advanced
- Graphics adapters:
  - — CGA
  - — EGA
  - — NGA
- Math co-processor

NCR 3392 COMMUNICATION WORKSTATION

The NCR 3392 Workstation provides PC functionality in a unit designed for use in communication environments. NCR's Incremental Workstation Architecture allows the 3392 to be configured with storage and expansion capabilities to precisely match a user's requirements. It can be expanded by the addition of a module containing extra expansion slots or file storage.

Some basic features:

- Models with integrated 720 KB and 1.44 MB/3.5-inch flex disk drives, 1.2 MB/5.25-inch flex drives and 20 MB fixed disk drives
- Integrated CGMA or EGA graphics
- 16-bit PC AT-compatible microprocessor (Intel 80286) — 6 or 10 MHz
- PC-compatible NCR-DOS operating system
- 640 KB of memory on the processor board
- Serial/parallel interfaces integrated
- Upgradeable to Intel 80386 technology

Some optional features:

- Keylock option for system security
- Up to 2 full size and 2 half size PC AT-compatible expansion slots
- PC-compatible Xenix™ operating system
- Monochrome and color video displays
- 3 keyboard options
- Integrated multi-mode tape drive

NCR 4920 VDT

The NCR 4920 Video Display Terminal (VDT) has an ergonomically designed enclosure and incorporates the latest in logic design and manufacturing technology. The standard features are designed to replace the 7930 and to improve both host system and operator productivity. From the non-glare display screen, tilt and swivel cabinet, to the low profile keyboard, the NCR 4920 has the features that compete in today's market.

Some basic features:

- 14-inch flat face display screen
- Choice of green, amber, or white screen phosphor
- Improved character resolution
- 24 rows (plus 2 status lines)
- 80/132 column display
- 70 Hz fresh rate
- Multiple video highlighting (non-embedded)
- Scroll — jump or smooth (4 speeds for smooth)
- Programmable non-volatile function keys —12 shift 24
- Buffered RS-232 bi-directional auxiliary port (serial and parallel)

NCR 4940 VDT

The NCR 4940 Video Display Terminal (VDT) has been designed with the user in mind. The latest in logic design and contemporary enclosure allows this terminal to improve operator productivity and host system efficiency. From the non-glare display screen, tilt and swivel cabinet, to the low profile keyboard, the NCR 4940 has the features and emulations to be competitive in today's markets.

Some basic features:

- Emulations: ADDS™ Viewpoint A1 & A2, Regent 40, Wyse WY 50, Televideo 910, 920, 925, and Hazeltine 1500.
- 14-inch flat face display screen
- Choice of green, amber, or white screen phosphor
- Improved character resolution
- 24 rows (plus 2 status lines)
- 80/132 column display
- 70 Hz refresh rate
- Multiple video highlighting (non-embedded)
- Scroll — jump or smooth (four speeds for smooth)
- Programmable non-volatile function keys — 16 shift 32
- Reprogrammable editing keys 28 shift 56
- Buffered RS-232 bi-directional auxiliary port (serial and parallel)

NCR 4970 VDT

The NCR 4970 Video Display Terminal (VDT) has been specifically designed to be DEC™ VT-220 compatible and is an ASCII/ANSI conversational terminal. The DEC emulations within the 4970 are selectable by the user during setup. As with other members of the 4900 family of VDTs, the unit incorporates all the latest in logic design and manufacturing technology.

Some basic features:

- Emulations: DEC VT 52, 100, 101, 102, 200, and 220.
- 14-inch flat face display screen
- Choice of green, amber, or white screen phosphor
- Improved character resolution
- 24 rows
- 80/132 column display
- 70 Hz refresh rate
- Multiple video highlighting (non-embedded)
- Scroll — jump or smooth (four speeds for smooth)
- 22 programmable, non-volatile function keys
- Two private user function keys
- Four pre-programmed function keys
- Buffered RS-232 bi-directional auxiliary port

NCR 7902 VDT

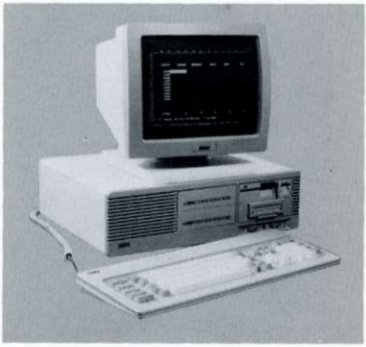
The NCR 7902 color Video Display Terminal (VDT) is a high contrast addition to NCR's family of terminals. Designed to meet the needs and requirements of the Public Safety System's Computer Aided Dispatch applications operating on a host of operating systems, the state-of-the-art microprocessor-based terminal comes with standard features designed to improve both system and operator productivity.

Some basic features:

- 13-inch high contrast non-glare color display
- 25 lines by 80 columns plus status line
- Conversational and page (VP-60) modes
- 8 user/host selectable colors
- Pre-programmed function keys (8 shift 16)*
- User set-up through keyboard
- Graphic symbol capability (11 fine line symbols)

* There are 8 function keys; 8 additional function keys are created by using the shift key for a total of 16.

NCR PC6



The NCR PC6 is an industry-compatible personal computer designed to offer more performance than most competitive products. The PC6 has been specifically designed for the office desktop market. It provides extraordinary expansion capability in the form of multiple drives, maximum memory expansion on the main processor board using state-of-the-art very large scale integration (VLSI), dual speed operation by its advanced 8088-2 central processor and special, unique designed software for the efficient man-machine interaction.

Some basic features:

- Compatible with IBM-PC/XT™ and NCR PC4i
- Enhanced keyboard
- Interchangeable RAM chips (64 KB x 1 or 256 KB x 1)
- Four half-high drive positions
- 20 MB Winchester disk
- Dual speed operation using 8088-2 main processor
- Integrated serial and parallel Centronics™ ports
- High density main processor board using VLSI technology
- 10 MB multi-mode tape drive

NCR PC8

The NCR PC8 has been specifically designed for the business professional needing higher processing and thru-put speed and high density mass storage devices. The PC8 was designed to offer performance advantages over most competitive products.

NCR's PC8 offers a modular design consisting of the processing system expansion unit and an enhanced keyboard. A display unit is an optional offering. Additional system memory, mass storage disks, and serial and parallel interfaces are also available.

Some basic features:

- 20 MB Winchester disk with 40 milli-seconds average access time
- High speed Intel 80286 microprocessor, running at 6/8 MHz
- RAM disk
- Keylock
- Real-time clock with battery
- Serial/parallel interface

Some optional features:

- Vertical mount
- Integrated multi-mode tape drive
- 30 MB and 64 MB Winchester disks
- Serial/serial interface
- Wide selection of displays

NCR PC710

One of the advantages of the PC710 is its ability to support internal flex drives in both the standard 5.25-inch and the increasingly popular 3.5-inch formats. The AT-compatible 710 features NCR's Incremental Workstation Architecture, which allows the system to be upgraded by the addition of a "layer" of modules containing either expansion slots or additional media devices such as fixed drives or a streaming tape drive.

Some basic features:

- Models with integrated 720 KB or 1.44 MB/3.5-inch flex disk drives and 20 MB fixed disk drive
- Integrated CGMA or EGA graphics capability
- 16-bit PC AT-compatible microprocessor (Intel 80286); upgradeable to 80386 technology
- 6 or 10 MHz processing speeds
- PC-compatible NCR-DOS operating system
- 640 KB of memory on the processor board
- System clock/calendar with battery
- Serial/parallel interfaces integrated

Some optional features:

- Keylock option for system security
- PC AT-compatible expansion slots
- PC-compatible Xenix operating system
- 12" monochrome and 14" color video displays
- 3 keyboard options
- Integrated multi-mode tape drive

NCR PC810

The general purpose NCR PC810 features NCR's Incremental Workstation Architecture and offers the power, speed compatibility and expandability that business and professional computer users need. The general purpose PC810 is AT-compatible and runs at 6 or 10 MHz. It incorporates NCR's "split-card" architecture, isolating the processor and main memory on a single, expansion card-sized board.

Some basic features:

- Keylock for system security
- Up to 6 PC AT-compatible expansion slots
- Models with integrated 360 KB/5.25", 1.2 MB/5.25", 720 KB/3.5", or 1.44 MB/3.5" flex disk drives and 20 MB, 30 MB, 44 MB and 70 MB fixed disk drives
- Integrated CGMA or EGA graphics capability
- 16-bit PC AT-compatible microprocessor (Intel 80286); upgradeable to 80386
- 6 or 10 MHz processing speeds
- PC-compatible NCR-DOS operating system
- 640 KB of memory on the processor board
- System clock/calendar with battery
- Serial/parallel interfaces integrated

Some optional features:

- PC-compatible Xenix operating system
- 12" monochrome and 14" color video displays
- 3 keyboard options
- Integrated multi-mode tape drive

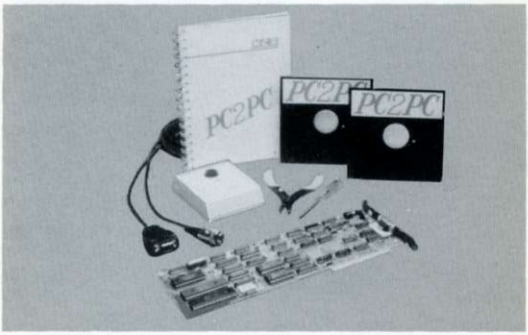
NCR PC916

The powerful NCR PC916 brings the advanced performance of the Intel 80386 microprocessor to NCR's Incremental Workstation Architecture. It provides up to 268 MB of physical memory and 4 gigabytes of virtual memory. The PC916 can retrieve information from memory faster than comparable units because of NCR enhancements, including an "interleaved" memory scheme and a 32-bit bus, which allows for high performance without sacrificing AT-bus compatibility. The system is ideal for such uses as a department level server, high performance workstation or communications gateway processor.

Some basic features:

- Keylock for system security
- Up to 5 available PC AT-compatible expansion slots
- Models with integrated 1.2 MB 5.25" and 1.44 MB 3.5" flex disk options and 30 MB, 44 MB, 70 MB and 115 MB fixed disk options
- 32-bit PC AT-software compatible microprocessor (Intel 80386-16)
- 32-bit high performance "interleaved" memory
- 4.77 MHz, 6 MHz, 8 MHz, and 16 MHz user-selectable processing speeds
- PC-compatible NCR-DOS operating system
- System clock/calendar with battery
- Serial/parallel interfaces integrated
- Integrated EGA display adapter
- Floor standing or desktop operation

NCR PC2PC NETWORK



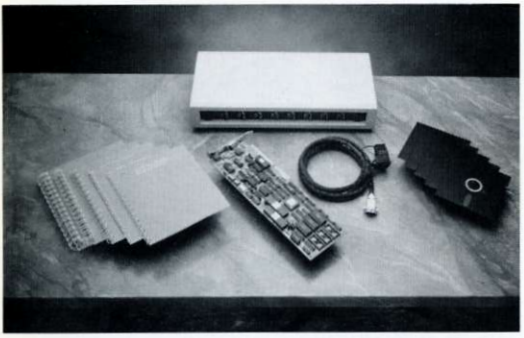
The NCR PC2PC local area network allows multi-vendor personal computers to be connected in a network. The primary function of PC2PC is the ability to share resources allocated to a server PC (RAM disk, floppy disk, Winchester disk, and printers). Up to 64 personal computers can be connected in this network. Additional capabilities include electronic mail, message broadcast, and file transfer (Peer-to-Peer).

A significant feature of PC2PC is flexibility. Information stored on the networked facilities is available to all requester personal computers. In addition, most of the currently available single-user software is capable of operating with NCR PC2PC. A list of tested software is included with the documentation.

Some basic features:

- One megabit per second transmission rate
- Twisted pair cable transmission link
- CSMA/CA network access technique

NCR PC TOKEN-RING SYSTEM

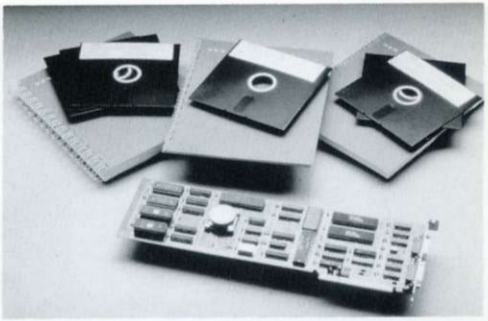


The NCR PC Token-Ring System expands the functionality and value of local area networking for PC users. In addition to offering a high level of interoperability with the IBM Token-Ring Network, NCR's system provides high performance, software that's easy to use, and the flexibility that makes it the obvious choice for office networking. The system even provides support for diskless models, and its modular design allows for easy installation, modification and growth.

Some basic features:

- Interoperability with IBM PC Token-Ring Network using NCR PC LAN software
- Diskless personal computer boot ROM supported
- Operates in either 8- or 16-bit bus
- Supports 2 to 260 PCs on one LAN ring
- Connects up to 8 nodes per MAU
- Multiple MAUs per ring
- Star wired ring topology
- 4 million bits per second transfer rate
- Token passing protocol
- User diagnostics
- Finished MAU cabinet

NCR MULTI-PROTOCOL COMMUNICATIONS ADAPTER (MPCA)



The NCR Multi-Protocol Adapter is a multi-port communications adapter board designed to provide maximum communications flexibility for NCR personal computers. Using the NCR Multi-Protocol Adapter products and any combination of the three NCR-DOS/SNA Communications Software products, users can determine their own initial configurations and growth patterns. This customization of communications systems amplifies network opportunities and simplifies implementation.

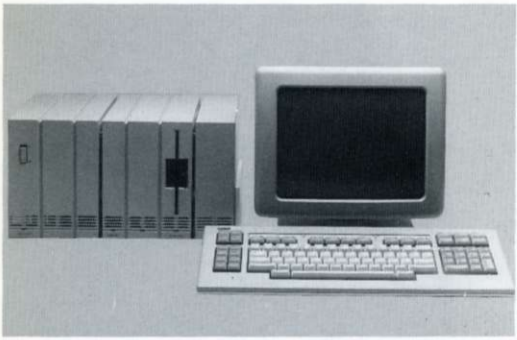
Some basic features:

- Supports all NCR PCs and PC compatibles
- Operates in either 8- or 16-bit bus
- Multiple communication lines supported
- Supports varying protocols on different lines — Asynchronous, BSC, SDLC
- Programmable line speeds for separate lines
- Programmable input/output line speeds for given lines supported
- Transfers blocks rather than single characters
- MPCA/RS-232 Interface Controller software interface
- Incorporates custom integral microprocessor featuring time slicing, multi-tasking, and full input/output buffering

Some optional features:

- Communications software
- NCR MPCA/RS-232 Programmer's Technical Reference

NCR WORKSAVER 300



The NCR WorkSaver 300 Series is a family of modular multi-function intelligent workstations offering a wide range of powerful office automation capabilities. WorkSaver 300 software is similarly modular, permitting workstations to be used as word processors, personal computers, program development devices, host communications terminals, or as multi-function office automation workstations.

Some basic features:

- Menu interface and soft function keys
- Wide range of office applications
- CTOS multitasking operating system with support for MS-DOS™ and CP/M-86 as guest operating systems
- Extensive communication facilities
- Hardware and software modularity
- Data recovery facilities
- Windowing capabilities
- Context-sensitive help facilities
- Sophisticated text editing capabilities
- Program development tools

Some optional features:

- Hard disk expansion modules
- Letter quality, dot matrix, and laser printers
- Graphics plotters

NCR PERIPHERALS
NCR 4430 READER

The NCR Magnetic Stripe Reader with optional Personal Identification Number Pad (MSR/PIN Pad) adds system features such as direct debit, check verification, electronic checking, and credit authorization to transaction processing terminals.

Advanced electronic technology makes the 4430 MSR extremely reliable. The integrity of the encryption is monitored through a system of encryption key management.

Some basic features:

- Manual swipe card reader
  - — Reads ISO Track II or Tracks I and II
- Display alternatives
  - — LED lead through indicators
  - — LCD display with two rows of 16 alpha-numeric characters
- Memory storage for a minimum of 10 days
- Encryption integrity security
- Mounting location up to 263 ft (8M) from associated terminal or processor

NCR 3493/6098/3699 DISK SUBSYSTEMS

3493 (Tower 32/400)

6098 (Tower 32/600)

3699 (Tower 32/800)

The SCSI family of disks is available across most of NCR's TOWER data processing systems. Offering from 139.1 MB of fixed storage up to a total of 1.2 billion bytes of formatted capacity in one cabinet, the three cabinets pictured above are used not only for the specific disk but also have the necessary SCSI controller.

The mix of disk peripherals within a cabinet and their usability on specific processors is determined by the associated operating systems.

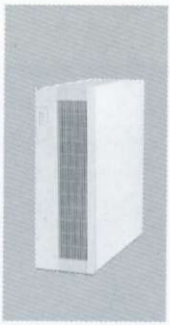
The 3493/3699 supports only the NCR 6545 Disk Model. The 6098 supports either the 6528 or 6545 Disk Models.

Disk Performance

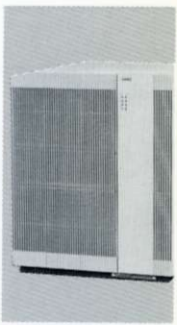
Characteristics	NCR 6528	NCR 6545
Bit Transfer Rate	9.67 MBs	14.52 MBs
Rotational Speed	3600 RPM	3600 RPM
Tracks per Surface	823	1213
Formatted Data Capacity	139.1 MB	311.5 MB
User Data Capacity	133.6 MB	304.3 MB
Number of Surfaces	10	10
Heads Per Surface	1	1
Sectors Per Track	32	49
Max. # of Usable Sectors (After initialization)	261,088	594,370
Data Bytes Per Sector	512	512
Average Seek Time	30 MS	18 MS
Maximum Seek Time	55 MS	35 MS
Avg. Latency Time	8.3 MS	8.3 MS
Max. Latency Time	16.7 MS	16.7 MS
Avg. Access Time	38.3 MS	26.3 MS
Max. Access Time	71.7 MS	51.7 MS

NCR 6092/6098/6099 DISK SUBSYSTEMS

6092



6098



6099

The SCSI family of disks is available across most of NCR's TTX and VRX data processing systems. Offering from 41 MB of fixed/removable storage up to a total of 1.7 billion bytes of formatted capacity in one cabinet, the two cabinets pictured above are used not only for the specific disk but also have the necessary SCSI controller.

The mix of disk peripherals within a cabinet and their usability on specific processors is determined by the associated operating systems.

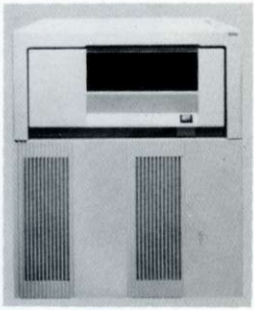
The 6092 Disk Subsystem supports only a 139.1 MB Disk Model. The 6098 disk subsystem will support either a 6528 or 6545 disk. The 6099 disk subsystem supports a mix of 6515, 6528, 6542 or 6543 models.

Disk Performance

Characteristics	NCR 6515	NCR 6528	NCR 6542	NCR 6545	NCR 6543
Bit Transfer Rate	9.67 MBs	9.67 MBs	9.67 MBs	14.52 MBs	14.52 MBs
Rotational Speed	3522.9 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM
Tracks per Surface	644	823	1422	1213	1422
Formatted Data Capacity	40.8 MB	139.1 MB	279.5 MB	311.5 MB	428.1 MB
User Data Capacity	40.2 MB	133.6 MB	276.8 MB	304.3 MB	415.2 MB
Number of Surfaces	4	10	12	10	12
Heads Per Surface	1	1	2	1	2
Sectors Per Track	32	32	32	49	48
Max. # of Usable Sectors (After initialization)	39,432	261,088	540,608	594,370	810,938
Data Bytes Per Sector	512	512	512	512	512
Average Seek Time	35 MS	30 MS	20 MS	18 MS	20 MS
Maximum Seek Time	60 MS	55 MS	45 MS	35 MS	45 MS
Avg. Latency Time	8.5 MS	8.3 MS	8.3 MS	8.3 MS	8.3 MS
Max. Latency Time	17.0 MS	16.7 MS	16.7 MS	16.7 MS	16.8 MS
Avg. Access Time	43.5 MS	38.3 MS	28.3 MS	26.3 MS	28.3 MS
Max. Access Time	77.0 MS	71.7 MS	61.7 MS	51.7 MS	61.8 MS

NCR 6320 TAPE DRIVES

Table Top



Floor Cabinet

The NCR 6320 Tape Drives provide a convenient and reliable ½-inch reel-to-reel tape media. The NCR 6320 Streaming Tape Drive provides convenient features such as automatic loading, multiple speeds and industry compatibility.

Some basic features:

- Multi-speed Operation: 25 and 100 inches per second speed at a recording density of 1600 bits per inch or 50 inches per second at 3,200 bits per inch. The drive will automatically slow to 25 inches per second if the data rate from the host processor is not sufficient to keep the drive running at 100 IPS.
- Automatic Loading: Once the reel is inserted, this drive's unique automatic loading feature threads the tape for you
- ANSI and IBM Compatibility — This drive can read or write ANSI compatible tapes recorded at 1,600 BPI or IBM compatible tapes recorded at 3,200 BPI.
- The Floor Cabinet Model (shown above right) can contain disk subsystems in its base. The Table Top Model (shown above left) can not contain disks.

Specifications	Floor Cabinet Model (6099-0100)	Table Top Model
Height:	29 inches	10.5 inches
Width:	22 inches	20 inches
Depth:	35 inches	27 inches
Weight:	240 lbs.	45 lbs.

NCR 6323 TAPE DRIVE

The NCR 6323 Magnetic Tape Drive is a Small Computer System Interface (SCSI) ½-inch tape drive that can be used in performance-oriented applications. The 6323 runs at 75 inches per second during streaming operation and 25 inches per second during stop/start operation. The 6323 can record data in either Group Coded Recording Mode at 6,250 bits per inch or Phase Encoding Mode at 1,600 bits per inch.

The 6323 tape drive contains a 64 KB buffer to improving streaming operation and an Adaptive Velocity Control feature to control the speed of the drive.

Specifications:

Recording Mode	**Phase Encoded**	**Group Coded Recording**
Recording Density	1,600 BPI	6,250 BPI
Unformatted Capacity	46.1 MB	180 MB
Tape Speed	25 or 74 IPS	25 or 75 IPS
Data transfer rate	120 KB/s at 74 IPS 40 KB/s at 35 IPS	469 KB/s at 75 IPS 156 KB/s at 25 IPS

Dimensions:

Height 56 inches
Width 22 inches
Depth 35 inches
Weight 340 lbs.

NCR 6343 TAPE DRIVE

The 6343 is a reliable, low-cost, medium performance ¼-inch cartridge mass storage device. It provides a tape speed of 90 IPS, 45 MB of formatted user data storage, and a recording density of 8,000 bits per inch (BPI). The 6343 is a ¼-inch streaming tape drive housed in 6097 cabinet with a tape controller. It interfaces to 9100/9150, 9300/9400, 9300IP/9400IP, and 9500 systems through SCSI.

The microprocessor and LSI circuits in the tape drive perform critical tape drive control functions, such as maintaining proper tape speed, monitoring tape position, and transferring user data.

Features of the 6343 include:

- 45 MB capacity formatted
- Front loading cartridge which allows tape to be inserted directly into the tape drive
- Low-cost medium for data interchange between systems
- Integrated controller/formatter

The 6343 can copy 45 MB of data from any SCSI disk in 11 minutes.

Physical Specifications

Hardware Dimensions:

Height:	6 in.
Width:	14 in.
Depth:	16 in.
Weight:	30 lbs.

NCR 6373 TAPE DRIVE

The NCR 6373 Magnetic Tape Drive is a ½-inch tape drive, utilizing an IOSS system interface, that can be used in performance-oriented applications. The 6373 runs at 75 inches per second during streaming operation and 25 inches per second during stop/start operation. The 6373 can record data in either Group Coded Recording Mode at 6,250 bits per inch (BPI) or Phase Encoding Mode at 1,600 BPI.

The 6373 tape drive contains a 128 KB buffer to improve streaming operation and an Adaptive Velocity Control (AVC) feature to control the speed of the drive. The AVC automatically lowers the tape speed to 25 IPS if the data transfer rate from the host processor is not sufficient to maintain 75 IPS.

Specifications

Recording Mode	**Phase Encoded**	**Group Coded Recording**
Recording Density	1,600 BPI	6,250 BPI
Unformatted Capacity	46.1 MB	180 MB
Tape Speed	25 or 75 IPS	25 or 75 IPS
Data transfer rate	120 KB/s at 75 IPS	469 KB/s at 75 IPS
	40 KB/s at 25 IPS	156 KB/s at 25 IPS

Dimensions:

Height 56 inches
Width 22 inches
Depth 35 inches
Weight 340 lbs.

NCR 6376 SUBSYSTEM

The NCR 6376 Magnetic Tape Subsystem has been designed to save time, space, and money for NCR users. A high performance subsystem, the NCR 6376 provides exceptional reliability, operator and tape resource efficiency, and saves computer room resources.

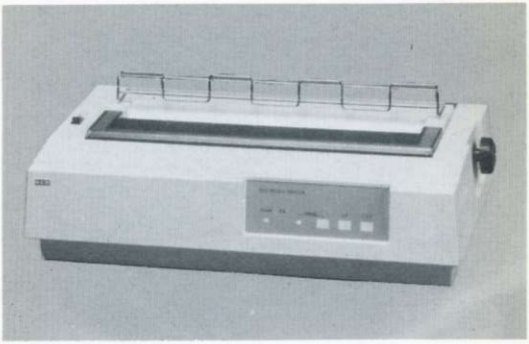
Some basic features:

- 200 inches per second stop/start tape speed
- Dual recording modes
  - — 1,600 bits per inch (BPI) phase encoded (PE)
  - — 6,250 BPI group coded recording (GCR)
- Up to 173 MB storage capacity, formatted
- Automatic tape threading and easy-load cartridge
- 2 digit status display for faults, conditions and actions
- Tape quality monitor marks tapes with excessive retries
- A dual controller option provides extra flexibility and availability
- Primary unit's controller can support up to 8 tape drives

Specifications

	PE MODE	GCR MODE
Recording Density	1,600 BPI	6,250 BPI
Tape Speed	200 IPS	200 IPS
Transfer Rate	320 KB/sec	1.25 MB/sec
Rewind Time	66 Sec/2,400 ft	66 Sec/2,400 ft
Loading Time	12 Seconds	12 Seconds

NCR 6411 MATRIX PRINTER



The NCR 6411 TRI-MODE Matrix Printers are multi-purpose, professional quality printers designed to work with a variety of NCR systems.

NCR's TRI-MODE printers, engineered to provide above average thru-put rates, can outperform competitive printers rated as high as 250 CPS.

There are 6 models of the new TRI-MODE matrix printer providing the user with a choice of either 9-inch or 15-inch carriage and either parallel, serial or PC parallel interface.

Model	Columns	Interface
6411-1560	136	Parallel
6411-1561	136	Serial
6411-1562	132	PC Parallel
6411-8520	80	Parallel
6411-8521	80	Serial
6411-8522	80	PC Parallel

Some basic features:

- 2 KB communications buffer — enhances data flow and eliminates the need for a separate buffer option. Additional buffering allows the downloading of up to 64 special characters.
- Prints one original and up to 2 copies
- Produces high-resolution characters in standard, compressed and double-width sizes.
- Bi-directional forms control, 144 x 160 density bit-mapped graphics, tabulation and margin control and a 7 channel vertical forms control.

NCR 6416 LASER PRINTER

The NCR 6416 Laser Printer is a desktop printer that uses electrophotographic and laser technology to produce very high quality hard copy output on ordinary cut sheet media at up to 8 pages per minute. Its extremely low noise level allows its use in almost any office environment.

Some basic features:

- 8 PPM (multi-copy) print speed
- 300 x 300 dots per inch print density
- Print similar to typeset pages
- Almost silent operation
- Either serial RS-232 or Centronics parallel interface
- Diablo 630 compatibility
- Canon LBP-8AI compatibility
- Uses standard copier media
- Produces overhead acetates or vellum
- Serves applications up to 5,000 pages per month

NCR 6430 BAND PRINTER

The NCR 6430 printers provide high speed, reliable printing at either 360 lines per minute (LPM) or 720 lines per minute (with a 48 character set). The 6430-0101 (360 LPM) can be used as a remote printer or file device to any NCR system using an RS-232-C interface. In addition to the RS-232-C interface, the 6430-0201 (720 LPM) can be used as a systems printer on V-8000 and 9800 systems.

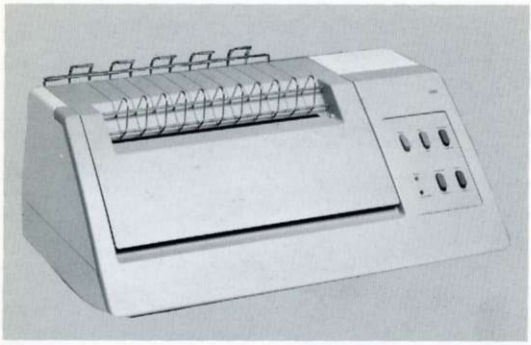
Some basic features:

- Operator changeable print band
  - — 48 characters
  - — 64 characters
  - — 64 characters 15 CPI (model 0101 only)
  - — 96 characters
- 4-digit alphanumeric display panel
- Operator information card file
- Convenient cassette ribbon system —"Clean-hands"
- Small footprint
- Manual form length selection
- Early end-of-print detection
- Audible alarm for ribbon or paper faults

Specifications:

	6430-0101	6430-0201
Print Rate (LPM):		
48 character set	360	720
64 character set	300	600
96 character set	220	440

NCR 6442 MATRIX PRINTER



The NCR 6442 Matrix Printer is a general purpose printer with an 18 wire print head, capable of high-speed or high-resolution printing on continuous forms.

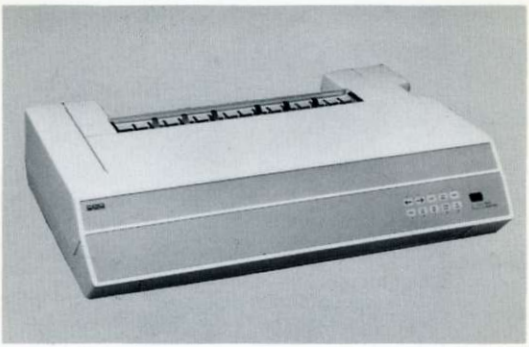
The NCR 6442 is a:

- Text printer with near letter quality (NLQ) print
- EDP printer
- Block graphics printer
- Barcode printer for industrial and retail applications
- Shelf label and pricing label printer for retail stores
- OCR A/B printer for financial applications
- Shipping label printer for industrial applications

Some basic features:

- Easy loading of continuous forms with automatic insertion
- Easy ribbon cartridge replacement
- Clear functional external control panel
- Paper basket and printer stand (1001-A005) available
- Speed:
  - — Draft print:
    325 CPS at 8 V x 10 H matrix
    232 CPS at 9 V x 14 H matrix
  - — Near letter quality:
    80 CPS at 17 V x 20 H matrix

NCR 6444 MATRIX PRINTER

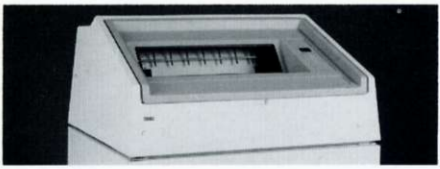


The NCR 6444 is a 132 column, 18 wire, dot matrix impact printer designed for a variety of NCR computer systems. A tabletop printer, the 6444 provides draft, data processing, word processing, and graphics modes of operation. In the draft mode the 6444 prints at over 400 characters per second.

Some basic features:

- 18 wire print head
- 400 CPS draft print speed
- 120 CPS NLQ print speed
- 15-inches/second paper slew
- Pin-addressable (bit-mapped) graphics
- Quietized cabinetry (55 DBA)
- Superior paper handling
- Up to 6-part forms
- No duty cycle restrictions

NCR 6450 MATRIX PRINTER



The NCR 6450 Line Matrix Printers offer medium speed, high quality, and reliable printing at up to 400 or 800 lines per minute (LPM) depending upon the model and print mode used. These printers operate in 4 print modes — high-speed draft, data processing, near letter quality and enhanced.

Some basic features:

- Graphics
- Electronic font changes
- Character set flexibility
- Horizontal and vertical character expansion
- 5 character pitches — 10, 12, 13.3, 15, and 16.7 characters per inch
- Superscript/Subscript, auto-underline, bold
- Quiet operation — 55 DBA
- Forward and reverse paper movement
- ANSI and Printronix emulation
- Optional barcodes
- Optional OCR A/B fonts
- Optional download font capability

Printer speed Mode	6450-0101	6450-0201
High-Speed Draft	400 LPM	800 LPM
Data Processing		
Upper case only	300 LPM	600 LPM
Upper/lower case	240 LPM	400 LPM
Near Letter Quality		
Upper case only	82 LPM	165 LPM
Upper/lower case	65 LPM	130 LPM
Enhanced (16.7 CPI)		
Upper case only	165 LPM	297 LPM
Upper/lower case	130 LPM	210 LPM
Graphics		
60 - 70 DPI	2400 DLM	4800 DLM
120 - 130 DPI	1200 DLM	2400 DLM
180 - 210 DPI	800 DLM	1600 DLM

DPI = dots per inch
DLM = dots per line
LPM = lines per minute

NCR 6470 BAND PRINTER

The NCR 6470 Band Printer is a high-speed impact printer that provides excellent print quality and very high reliability. The 6470 prints up to 1500 lines per minute (LPM). The 6470 is designed for high-volume continuous or peak period printing.

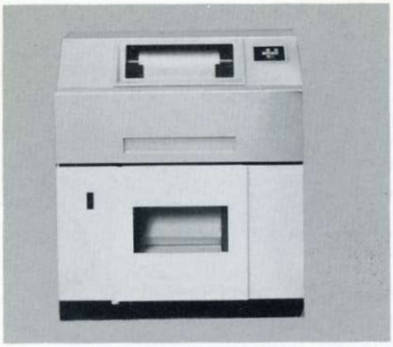
Some basic features:

- Power stacker for reliable stacking
- Attention light on top to alert operator
- Full time vacuum cleaning system to remove dust and lint
- Operator changeable print bands — 48, 64, or 96 character
- Operator selectable forms length
- Quiet cabinet — 55 DBA
- Optional OCR A/B bands
- Optional hour meter

Print Speed:

48 character band	1500 LPM
64 character band	1250 LPM
96 character band	925 LPM

NCR 6471 BAND PRINTER



The NCR 6471-0201 Band Printer is a high-speed impact printer that provides excellent print quality and reliability. Designed for continuous or high-volume printing during peak periods, the NCR 6471 is rugged and dependable. Microprocessor control enhances precise operation at 2,000 lines per minute (LPM) with a 48 character band.

Some basic features:

- Rear control panel — for operator convenience
- Front control panel — provides diagnostic information
- Power stacker — high-speed positive paper stacking
- Vacuum system — continuously cleans the print band, removing dust and lint
- Operator changeable print bands — 48, 64, or 96 character bands changeable by the operator.
- Switch panel — controls forms length, paper advance rate and line counter, and line density

Forms: Up to 6 parts

Print Speed:

48 character set	2,000 LPM
64 character set	1,630 LPM
96 character set	1,170 LPM

NCR 6480 LASER PRINTER

The NCR 6480 Laser Printer is a non-impact printer using state-of-the-art laser and electrophotography technology and is designed to offer flexibility, high quality print, and exceedingly fast speed.

Some basic features:

- Cold fusion process — the print image is permanently fixed into the paper preserving the paper's original characteristics. Special print media considerations are not required when using gummed labels, glossy paper or windowed envelopes
- High speed printing — 14.58 inches per second on single-part, continuous form papers (103 pages/minute of 8-1/2-inch length paper)
- Optical forms overlay facility — prints an image at the same time as the variable data enabling production of forms at the same time it prints data
- Print resolution — 57,600 dots per square inch
- Dynamically accessible character sets (4 to 64 sets)
- 5 character densities — 6, 10, 12, 15, 20 characters per inch
- 5 line densities — 6, 8, 10, 12, 24 lines per inch
- Intermix of character sets, character densities and line densities within a line
- Copy modification — insert, delete, and replace text on selected copies of a page
- Underscore, wide print and inverse print features

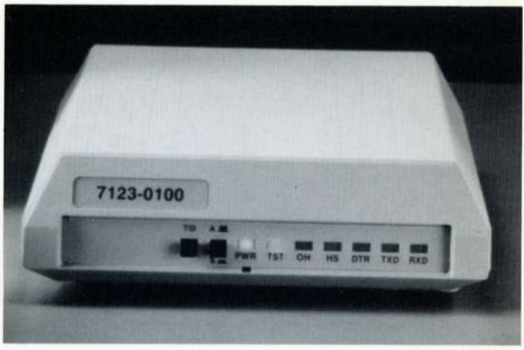
NCR 7122 MODEM

The NCR 7122 is designed as a stand-alone, desktop modem for personal computers with the serial RS-232-C interface. The 7122 runs at speeds from 300 to 1200 BPS.

Some basic features:

- Asynchronous communication from 300 to 1200 BPS
- Auto dial with auto select of tone or pulse dialing modes
- Automatic answer — when receiving a call, this modem does not require manual intervention
- "AT" Command Set compatible
- Bell 103 compatible at 300 BPS
- Bell 212A compatible at 1200 BPS

NCR 7123 MODEM



The NCR 7123 is a 2400 BPS asynchronous/ synchronous modem for use with standard dial-up phone lines. The 7123 is compatible with the popular "AT" command set. The 7123-0100 is also capable of error detection and correction. The 7123-0200 features data compression, as well as error detection and correction.

Some basic features:

- Asynchronous/synchronous operation
- Auto dial, auto answer, and auto redial
- CCITT V.22 bisynchronous at 2400 BPS
- Bell 103 compatible at 300 BPS
- Bell 212A compatible at 1200 BPS

NCR 7133 MODEM

The NCR 7133-0100 is a direct-connect dial modem designed for 2400 BPS synchronous communications. The modem is commonly used in environments where a dedicated phone line cannot be cost justified. The 7133-0100 is used to transmit batch data to another site where another 7133-0100 modem or a Bell 201C compatible modem is used.

Some basic features:

- Synchronous, half-duplex communications capability at 2,400 BPS over dial-up, 2-wire phone lines
- Automatic answer — when receiving a call, this modem does not require manual intervention.
- Compact enclosure — 6.95" x 9.55" x 2.25"
- Bell 201C compatible — this modem is compatible with the Bell 201C model of modem, as well as the discontinued NCR 7121-0102. It can be used on telephone circuits where these devices are installed

The full duplex NCR 7133-0200 Modem offers NCR users a low-cost method of transmitting on-line transaction data over leased telephone lines. Compatible with the industry-standard Bell 201B modem, it can be used to transmit data to a central site where Bell 201B or other compatible modems are installed. NCR 7133-0200 replaces the discontinued 7121-0101 modem.

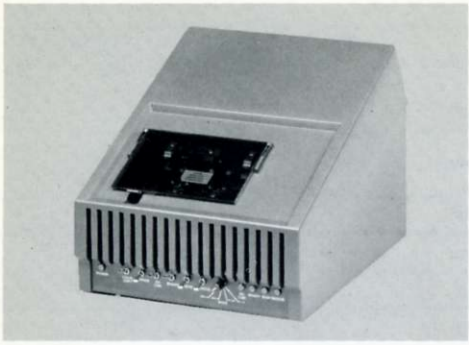
NCR 7134 MODEM

The NCR 7134 is a 4800 BPS synchronous modem for use with either dial (PSTN) or leased lines. This modem has an anti-streaming feature that prevents a terminal from monopolizing a network.

Some basic features:

- 4800 BPS synchronous communication
- Anti-streaming
- Bell 208A/B compatible

NCR 7628 SUBSYSTEM



The NCR 7628 Cassette Subsystem is a self-contained, table-top unit providing for the input/output of NCR cassette data with most NCR systems.

This highly versatile unit has the capacity and flexibility to complete the input/output job, and to do it at a reasonable cost.

Some basic features:

Controller:

• Logic	Microprocessor
• Data Buffer	Dual 512-byte RAM
• Data Interface	RS-232-C full-duplex asynchronous even parity
• Transfer Rate	110, 1,200, 4,800, and 9,600 baud

Cassette:

• Medium	ANSI standard digital cassette
• Number of Heads	2-channel read/write
• Number of Tracks	2 — A-side and B-side
• Recording Method	Bit-serial phase-encoded Bit-phase (Manchester)
• Transfer Rate	9,600 bits per second
• Recording Density	800 bits per inch
• Tape Capacity	Up to 230,000 bytes

NCR SYSTEMS PERIPHERAL SUPPORT MATRIX

	MINI		TOWER XP		TOWER 32/600	
PRODUCT	**UNIX**	**RM/COS**	**UNIX**	**RM/COS**	**UNIX**	**RM/COS**
Disk 6092/6098/ 6099 Packages						
6092						
6515						
6528			E, F	E, F	E, F	E, F
6542			F	F	F	F
6543						
3493/6098/ 3699 Packages						
6545					E	
Cassette						
7628		X				X
Magnetic Tape						
6320			F	F	F, G	F, G
6323					F	
6343						
6373						
6376						
Printer						
6411	X	X	X	X	X	X
6416	X	X	X	X	X	X
6442	X	X	X	X	X	X
6444	X	X	X	X	X	X
6450	X	X	X	X	X	X
6470						
6471						
6480						

Legend

A — 3493
B — 3699
C — 6092
D — 6097

TOWER 32/400	TOWER 32/800	9200	9300 9400	9300IP 9400IP	9500	8800	9800
		C		C	C		
			F	F	F		
			E, F	E, F	E, F		
			E, F	E, F	E, F		
				F	F	F	F
A	B			E	E		
		X	X	X	X		
F, G	G	G	F, G	F, G	F, G		
F	B			F	F		
			D	D	D		
						F	F
			F		F	F	F
X	X	X	X	X	X	X	X
X	X		X	X			
X	X	X	X	X	X	X	X
X	X	X	X	X	X		
X	X		X	X	X		
						X	X
			X	X	X	X	X
						X	

E — 6098
F — 6099

G — Table Top

NOTES

NOTES

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