IT
MINDS
YOUR
OWN

BUSINESS

The Atron 501 Datamanager

THE BUSINESS-MINDED SMALL COMPUTER

Which is one way of saying "Business, here is a small computer for you. Not for science, but for business."

That's because our Datamanager moves data in strings as well as single characters. Meaning volumes of data moved more efficiently.

The Atron 501 Datamanager speaks your language. That is, it works with codes and instructions that are very similar to the way you might give instructions to someone across the desk from you. It has 56 macro instructions and a unique data structure that help reduce programming dramatically. Format and function changes that would take many instructions on a conventional mini, require only a few simple steps on the Datamanager.

It all means that programming is much simpler on the Atron 501 Datamanager and the actual program takes up much less memory space than the minis you know today.

Take a look at our macro instructions and you'll see why our Datamanager is *the* business-minded small computer.

Each instruction is like a macro-subroutine. It tells *what* to do, not *how* to do it. Which means that every single instruction does more than one thing. Which, in turn, means your program coding is condensed.

For example:

Move Item Left and Eliminate Leading Zeros

Extract Characters Until End of Line Code

Perform Code Translation

Decimal Arithmetic

These are examples of single machine language instructions in the Atron 501 Datamanager. To accomplish each of these same common business tasks, the non-business minis require numerous instructions. The result is that the Atron 501 Datamanager performs such tasks faster, uses less memory space, and requires less software development and documentation.

The Instruction Power of the Datamanager

Macro Instructions

MNEMONIC CODE	INSTRUCTION
Basic Moves	
M	Move, Left, No Fill
MR	Move, Right, No Fill
MF	Move, Left, Fill
MRF	Move, Right, Fill
MJ	Move, Left Justified
MRJ	Move, Right Justified
TRL	Translate Code
ML	Move Literal
Sequential Editing	
CP	Compress Left Aligned, Fill
CPR	Compress Right Aligned, Fill
APR	Append, Right Eliminate
APA	Append, Advance
APE	Append, Left Eliminate
EXV	Extract Variable, Fill
EXP	Extract Previous Item
EX	Extract Item
EXA	Extract Item, Advance

MNEMONIC CODE	INSTRUCTION
Tests	
TBS	Test Binary Sign
TDS	Test Decimal Sign
TI	Test Item
TL	Test Literal
TM	Test Mask
Goto's	
GGT	GOTO Greater Than
GLT	GOTO Less Than
GNE	GOTO Not Equal
GE	GOTO Equal
G	GOTO Unconditionally
GD	GOTO On Designators
GS	GOTO On Switches

The Datamanager's repertoire includes 56 *multiple operand instructions,* which operate on *variable length data.* We've grouped these instructions in the following seven basic functions:

Data Moves

Datamanager transfers a complete string of characters directly from one memory area to another, with or without editing.

Sequential Editing

This enables the Datamanager to edit, format and test large volumes of non-structured data as they are being transferred with a single instruction.

Arithmetic

The Datamanager adds and subtracts variable length numbers in either *decimal* or binary.

Comparisons

The Datamanager compares strings of data, rather than comparing characters to other characters. This can be used for decisions.

Tests

The Datamanager tests for signs and identities. This can also be used for decisions.
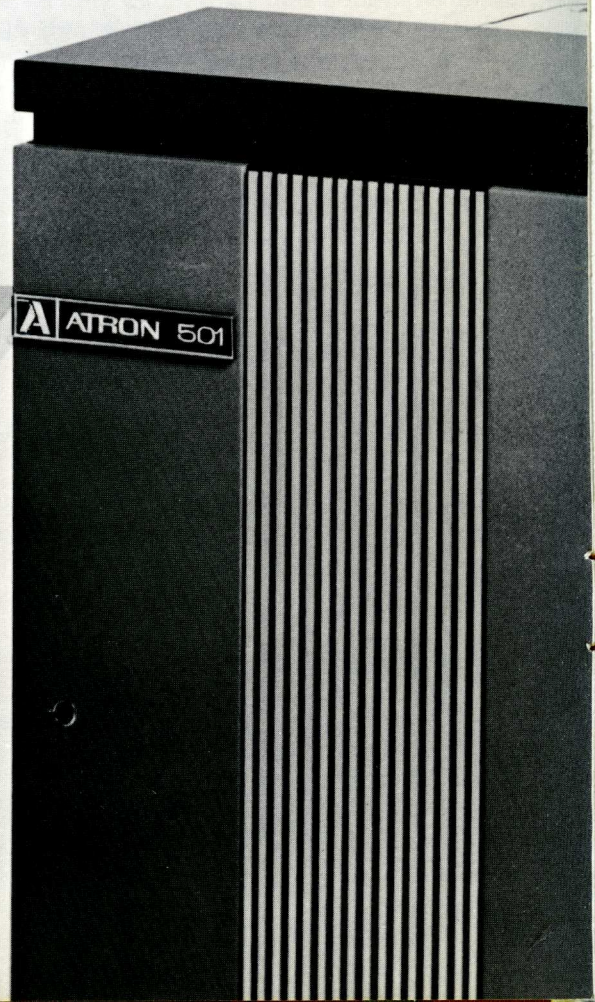
Program Sequence

This initiates conditional and unconditional branching from the program sequence.

Input/Output

These instructions provide the control necessary to input data from and output data to peripheral devices. They provide the means to control the peripheral devices, initiate input and output buffers and to determine if the buffers have terminated.

MNEMONIC CODE	INSTRUCTION
Decimal Arithmetic	
A	Add Decimal
S	Subtract Decimal
AL	Add Literal Decimal
SL	Subtract Literal Decimal
Binary Arithmetic	
AB	Add Binary
SB	Subtract Binary
ALB	Add Literal Binary
SLB	Subtract Literal Binary
Compares	
CB	Compare Binary
CD	Compare Decimal
CAN	Compare Alphanumerics
CL	Compare Literal

MNEMONIC CODE	INSTRUCTION
Input/Output	
INS	Special In
EF	External Function
OTS	Special Out
GA	GOTO on Channel Active
STC	Store Channel Control
IN	Initiate Input
OUT	Initiate Output
General Purpose	
LR1	Load Active Register 1
LR2	Load Active Register 2
LR3	Load Active Register 3
SDI	Set Display Indicators
CDI	Clear Display Indicators
H	Halt
RN	Rename
LSP	Load Storage Descriptor Pointer

Our unique approach to software helps your people make the most effective use of the Atron 501 Datamanager's power.

■ Datamanager provides a macro-powerful set of 56 easy-to-use program instructions, which are multiple operand and operate on variable length strings of data.

■ Data, its description and instructions for your application are separated by the machine design. As a further step, data is described in terms of records, items in these records, and buffer or working areas.

Application Program Development

As a user you have the advantage of being able to identify the particular element of information, its contents and layout and its relation to the rest of the data in memory. You're using a high level language and data organization to process your data.

To make it even easier, Atron makes available an assembler . . . which operates on a standard IBM System 360/25 configuration or on a specific Atron Datamanager system (using about one-half the memory space required on the 360 system). The assembler, treating the Datamanager's high level macro set, places the programmer at the compiler language level of treating his problems. Because of Datamanager's macro instructions and data sensitive hardware design, the assembler is truly a powerful data processing language.

Changes

Many changes that commonly require hours of programming can now be only a few simple steps, because the application program operates through the data descriptors. For example, major changes in a print format can be accomplished by only altering the data descriptors affected . . . like four bytes . . . *no change* to the application program . . . *no change* to the source data . . . and no change to *any* other control instructions.

ATRON 501
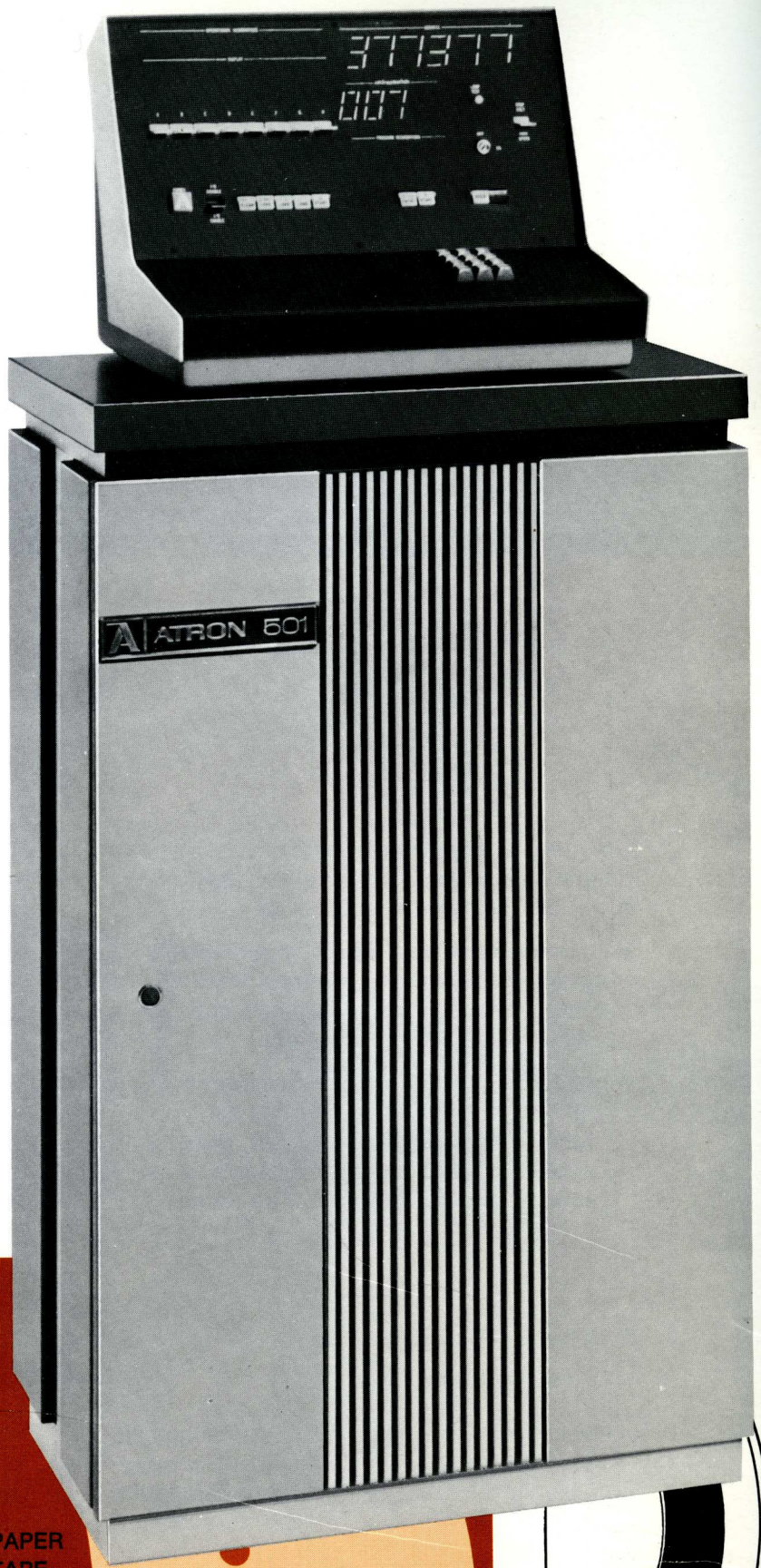
Typical Datamanager Applications
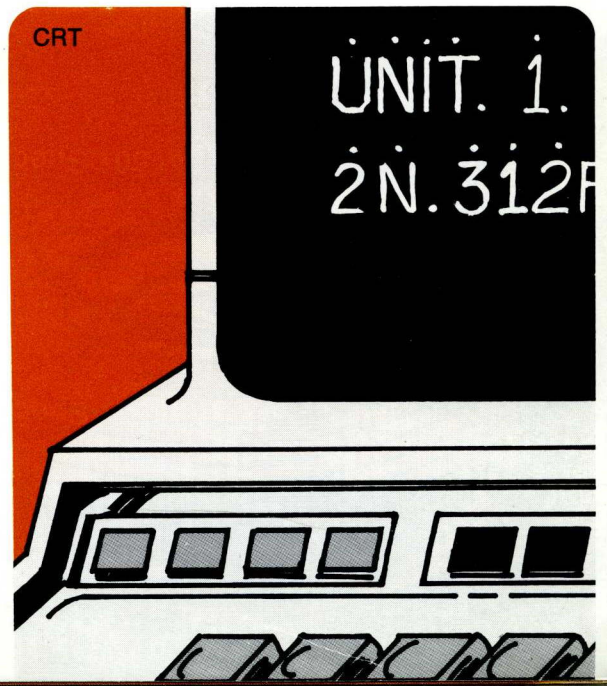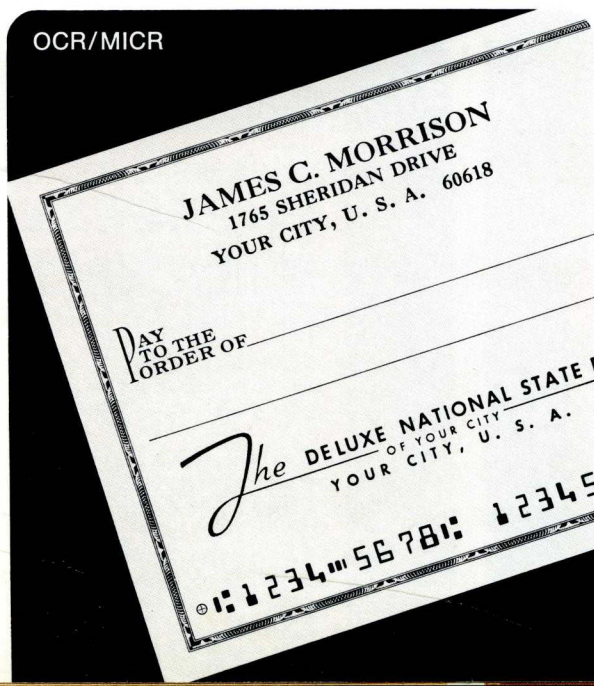
MANUAL ENTRY
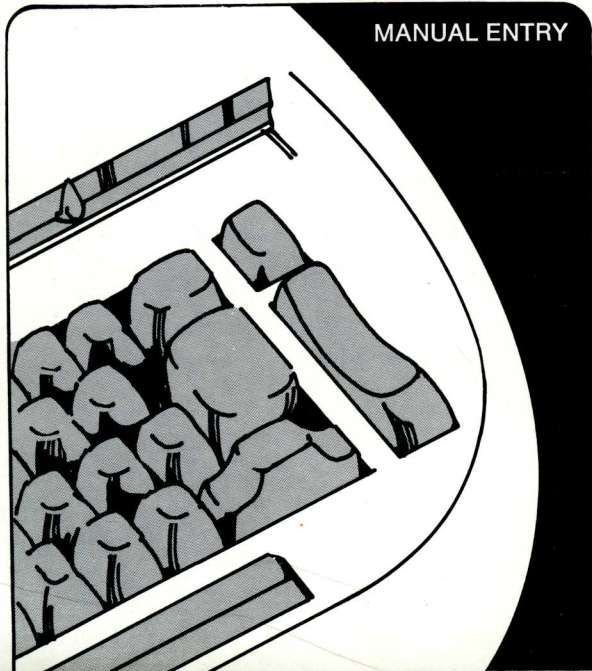
PAPER
TAPE

TAPE

How your data is managed

The needs of business data processing are clear. A small computer must be able to handle input and output efficiently, while processing volumes of data. Operations include formatting, translating, comparing, testing, and business arithmetic.

These are several significant features of the Atron 501 Datamanager, which make it the ideal business computer. Four fully buffered I/O selector channels provide full I/O and processing concurrency. For special interfaces, the Datamanager comes equipped with two direct memory access ports. It can provide a total I/O throughput of 500K bytes per second. And for long distance I/O, the Datamanager is available with full duplex or dial-up communication capability (and, an industry compatible software package to make it work).

MAGNETIC TAPE

OCR/MICR

JAMES C. MORRISON
1765 SHERIDAN DRIVE
YOUR CITY, U. S. A. 60618

PAY TO THE
ORDER OF

The DELUXE NATIONAL STATE
OF YOUR CITY
YOUR CITY, U. S. A.

⑆1234⑈567⑈8⑆ ⑈23456

CRT

UNIT. 1.
2N.312F

Off-line Pre and Post Processor

Datamanager's ability to handle data in strings and ease of peripheral interface makes it a key element in off-line pre and post processing operations. In these applications Datamanager relieves the major computer centers of many mundane, time-consuming tasks.

Small Business System and Remote Business Terminal

The business data processing requirements of many small business or branch office operations are handled nicely by a Datamanager-based system. Daily transactions, inventory management, accounts receivable and payable are among the more obvious; customer history and call scheduling, mailing, market response analysis and budget planning are other valuable applications. With communications added, a very powerful Business Terminal is at the user's disposal. The software permits adapting to different major centers; that is, your major computer facility may use IBM 360, GE, Univac, Burroughs, CDC or others. You have a choice of centers even though there may be an IBM System 360 in one center and a GE 600 Series or UNIVAC 1100 Series in another. Further, the Datamanager permits you to pre-process your data for such things as trial balance before sending the data over the lines. This ability will save considerable money by avoiding payment for line time and central site CPU time . . . only to learn that there is an error in the source data . . . with the error still to correct, transmission and cen-

DISCS
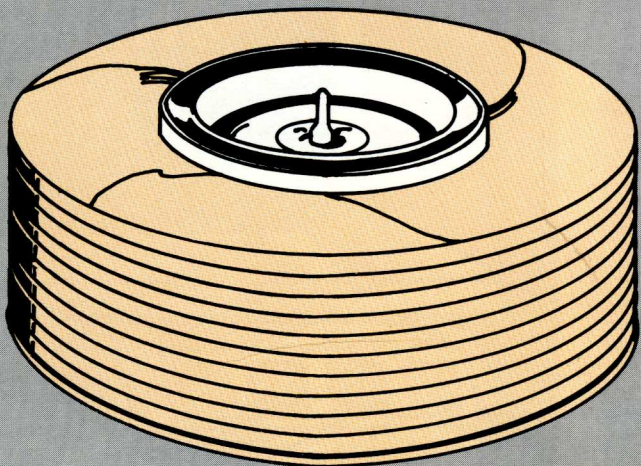
PRINTER

EMP NO	EMPLOYEE NAME	NO OF DEP	SOCIAL SECURITY NUMBER	YTD GROSS PAY	YT FIC
00001	JOHNSON, HANLEY L.	3	447356562	5353.52	45.
00002	ANDERSEN, CONNELLY	2	462530541	5241.52	62.
00003	LITTLE, RICHARD L.	2	452035241	5035.45	47.
00004	GREY, JACK T.	1	470545224	5324.45	47.
00005	FRIER, DONALD J.	3	462540245	6024.63	54.
00006	DOWNING, ROGER K.	5	473512475	4996.36	51.
00007	SHIVELY, CAROL A.	1	472523335	3524.65	32.
00008	GARBER, ANNE S.	1	452632541	4003.93	44.
00009	LARSON, SUSAN K.	1	437524126	3999.99	41.
00010	JONES, JOHN L.	5	457251478	5036.63	49.
00011	THOMAS, JAN H.	1	470256352	4325.25	46.
00012	BOND, JAMES T.	1	455263652	6052.25	40.
00013	NIEGH, LOUIS G.	3	452124568	5235.63	48.
00014	HOWARD, BARBARA S.	1	472356523	4352.63	46.
00015	KREER, NEIL J.	2	456352568	6052.45	70.
00016	ROGERS, KEN J.	3	427251452	4654.85	45.
00017	REINER, LARRY M.	2	457259853	4725.50	50.
00018	REINHART, LARRY K.	1	425635263	4750.25	49.
00019	SHORE, CHARLES L.	2	425857458	4335.65	45.
00020	TRAEMAINE, JAMES K.	2	452836985	4385.65	47.
00021	JAMES, MICHEL K.	3	465234565	5236.65	49.
00022	SPOCK, JULES T.	2	475254658	4110.65	40.
00023	GRIEG, DAVE S.	4	465325268	4055.50	35.
00023	GRIEG, DAVE S.	4	465325268	4055.50	35.
00023	GRIEG, DAVE S.	4	465325268	4055.50	35.
00023	GRIEG, DAVE S.	4	465325268	4055.50	35.
00024	STEVENS, DOUGLAS L.	4	425125368	4250.65	46.
00025	MCNEIL, JOHN K.	2	425725896	4325.02	45.
00024	STEVENS, DOUGLAS L.	4	425125368	4250.65	46.
00018	REINHART, LARRY K.	1	425635263	4750.25	49.
00025	MCNEIL, JOHN K.	2	425725896	4325.02	45.
00016	ROGERS, KEN J.	3	427251452	4654.85	45.

tral processing still to be done — not to mention the time lost.

Specialized Dedicated Systems

The Datamanager's low cost and flexibility is an asset where you need an expandable small system. Use it as the base for text editing, information retrieval systems, and catalog filing systems. Datamanager's cost saving design will make it the most economical system of its kind.

On Line Peripheral Controller

The Datamanager offers workload relief for a large scale processor by assuming the time consuming tasks of formatting input records, printer outputs and updating files. The use of the Datamanager in this role opens other potentials for the center operations such as file inspection without ever bringing the file into the large scale processor.

Pick Your Hardware

We also supply peripherals best suited for Datamanager's business talents. High and medium speed card readers and printers are available now, along with magnetic tape, fixed-head disc, TTY and communications subsystems.

Whether packaged in a stand alone cabinet, rack-mounted or packaged to your specifications, Datamanager manages the system you need.

CARD EQUIPMENT

COMMUNICATIONS

Support for your business mind.

End User:

We can provide a turnkey installation, and train your people to operate it. Our systems and programming people will undertake as much of your programming as you wish. Should you desire to do your own programming, our short, simple training courses prepare even the novice programmer for efficient work with the Datamanager. You'll also get monthly maintenance, or time and material maintenance from the Atron people.

OEM:

For our OEM customers, Atron's engineering staff is available to develop your desired interfaces or consult with your engineers to make their design task easier. Using the available specifications, the expansion modules and matching general purpose circuit boards, the engineering time and cost are minimized. In addition, we provide maintenance training for your customer service people.

Datamanager Model 501 Specifications

Type

Small programmable digital computer designed for business processing and data handling functions. Features core memory, three-address decimal and binary arithmetic and variable word length.

Memory

Magnetic core, 2 microsecond full cycle, 8 bit bytes, with parity. Expandable from 4,096 to 32,768 bytes. All I/O is direct access to memory.

Arithmetic

Binary — fixed point, serial by characters, 2's complement, variable length.

Decimal — variable number of characters, sign in low order digit, EBCDIC.

Processing Power

56 Macro Instructions

Addressing of variable length items via descriptor tables.

Relocatable program, data and data descriptors.

Indexing

Automatic index. For structured data up to 256 bytes by item and record descriptors. For non-structured data, index through variable length data blocks using sequential editing instructions.

Input/Output

Four fully buffered selector channels. I/O and processing concurrency on cycle steal basis. Standard channel transfer rate 250K bytes per second. Program check for buffer termination. Two direct memory access ports for special interfaces, providing access to both address and data lines. Total I/O throughput of 500K bytes per second.

Interrupt Processing

Provision for interrupt service. Requirements can be tailored to system need for single level or nested interrupts.

Logic Levels

TTL integrated circuits. Differentially driven and TTL compatible transmission busses.

Physical

Mounting: Desk Top, Relay Rack or Standup

Size: (1) Desk Top, 10¼" H x 19" W x 32" D
(2) Relay Rack, 12¼" H x 19½" W x 25¾" D
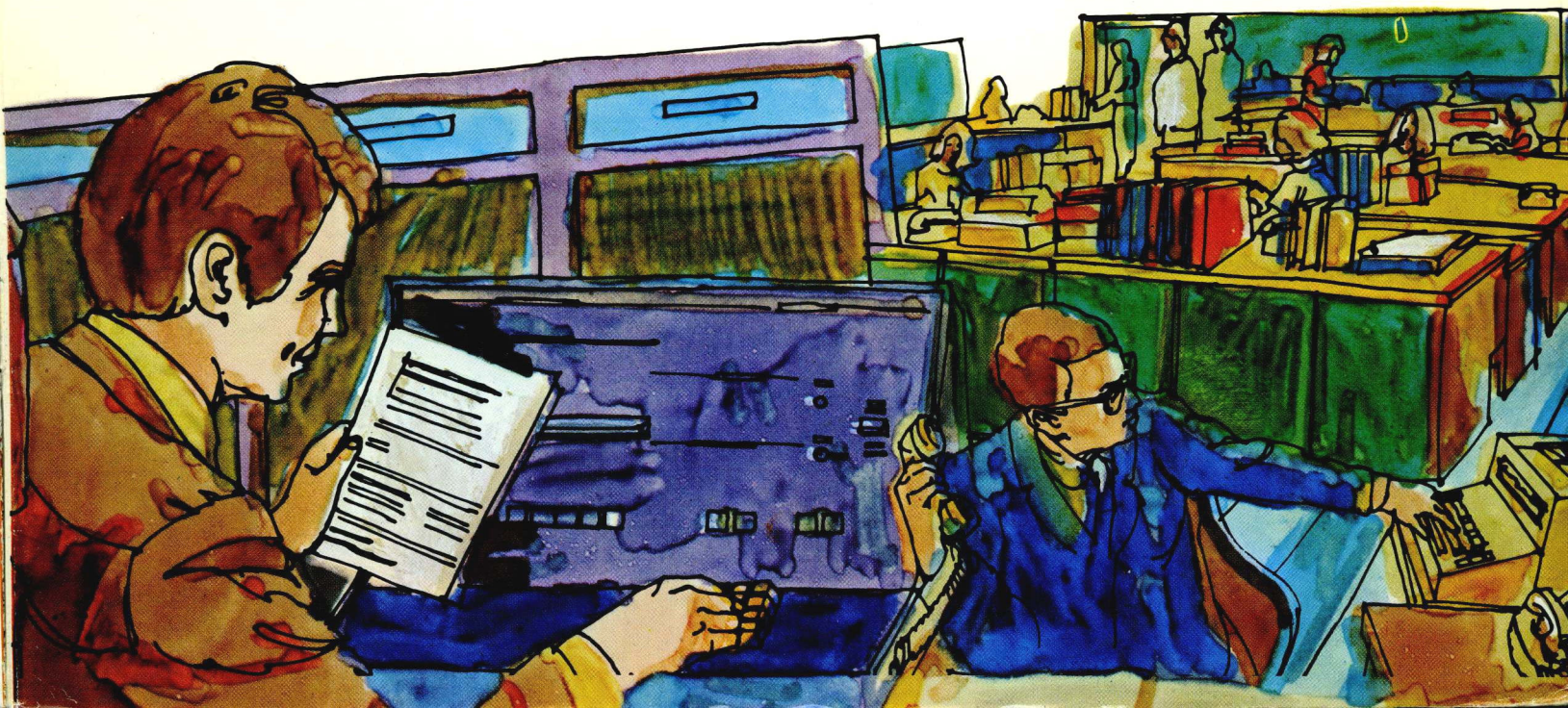(3) Standup, 40" H x 24" W x 14" D

Weight: 105-115 lbs.

Power: 115 or 230 VAC, 50 or 60 Hz, 400 watts

Temperature: 0° to 50° C

Relative Humidity: 10 to 95%

Software

Assembler, utility, confidence tests, maintenance aids, and R.P.G.

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