



Datapoint 2200

An integrated approach to source data handling.

The Datapoint 2200 is the latest product of an advanced solid state technology developed and refined by Computer Terminal Corporation. Now, within one desk-top terminal unit it becomes possible to incorporate work tasks that previously entailed a number of different machines and work handling processes.

Highlights of the Datapoint 2200 include:

- One-unit capability for source data conversion, verification, transmission and reception
- Highly flexible application and interface capability through local programming (the 2200 is actually a small computer with a programmable memory of up to 8192 8-byte words)

- A library of basic systems and application programs provided by Computer Terminal Corporation
- Direct entry of data to magnetic tape at high operation speeds
- Direct terminal-to-terminal data communication or terminal-to-central-system at user option
- CRT display screen capable of listing up to 960 characters in a 12-line, 80-character-per-line format
- Replaceable magnetic tape cassettes, upon which source data is inscribed
- Programmable report formatting for easy file entry, storage and withdrawal from memory or tape.
- Produces formatted reports — invoices — paychecks — complex report statements — on user site as directed through associated hard copy printer
- Elimination of need in many applications for formal hard document to record "activity" and for its hand coding by clerk
- Fail/safe error detection and correction

- Automated program call (a sizable program library may be maintained indefinitely on a program tape housed in the 2200).
- Automatic "polling" of 2200's by a central computer system or another 2200 for introduction of data into central computer unit for batch processing
- Full alphanumeric keyboard with upper and lower case
- Ten key numeric keyboard

- Operation with any data code, including ASCII, EBCDIC, BCD, etc.
- No special training required for operation
- High speed tape-to-tape data transmission between field user and central processor or other 2200
- Attractive design in keeping with modern office decor
- Self-contained unit — no auxiliary power needed
- Solid state construction throughout



Datapoint 2200 The All-Purpose Low-Cost Terminal For Conversion, Verification and Transmission of Source Data

One unit capability for source data conversion, verification, transmission and reception

The Datapoint 2200 integrates data handling procedures from recording of the "activity" to introduction of this data into the computer for processing. By preparing data for processing solely within the activities of one machine, it makes possible close traffic control, improved employee productivity, lower error rates, higher throughput efficiency and correspondingly lower costs for source data conversion and all aspects of its prehandling.

Direct data conversion to magnetic tape

The 2200 is an efficient conversion device. It provides for direct inscription of data into magnetic tape, bypassing the punched card media entirely. With its typewriter-like keyboard and supplementary ten key numeric keyboard, the operator can achieve high input speeds. The CRT screen makes it possible to give visual verification to typed data.

CRT display screen

The 12-line, 80 character per line capacity of the 2200 CRT screen makes it possible to display almost any desired format upon which an operator can enter input data and perform visual verification. Control keys allow easy error correction by character and by line. Display formats can be changed under program control as desired.

Local programming capability

The Datapoint 2200 is a programmable machine, being in fact a small computer. Programs can be entered into the 2200's main memory from a replaceable tape cassette. (Two tape cassettes are housed simultaneously in a 2200, either of which may be used for program and/or source data.) Basic systems and applications programs for the 2200 will be provided by Computer Terminal Corporation as well as systems engineering assistance to create special programs for users. A hard copy printer is associated with the Datapoint 2200 system for on-site production of formatted reports under the direction of the central computer system, or of a programmed 2200. (In many installations employing multi-2200's, one printer will serve as the output peripheral for all of them.)

Automated program call

The Datapoint 2200 is capable of unattended operation through the incorporation of an automatic "boot strap" or reload facility built into the hardware. This means that it

can function effectively for certain applications without an operator being present — for example, in providing data after normal working hours for introduction into a central processing system through a "polling" function programmed into a 2200 acting as 'front end' for the central systems or by the central system directly.

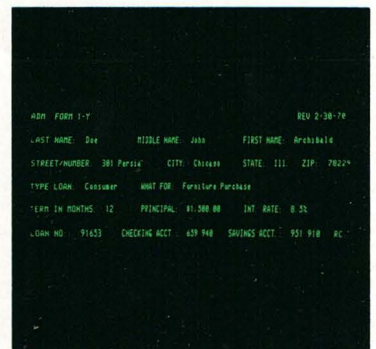
Error detection and correction

Data verification with the 2200 occurs on two levels. On a basic level the machine operator can perform visual verification of data entered into the system on the display screen, simply comparing source data with the figures on the CRT. Such a check, of course, can not be performed with standard punched cards or key-tape. A wide variety of error detection procedures may be programmed into the 2200 for particular applications. For example, display formats may be programmed to give an acoustical signal — a click — when data is inscribed into proper spaces in the display. Should wrong information be keyed — say an alpha character rather than a numeric — the click would not occur and the machine could also 'freeze.' Depending on the application, many different check sum and parity checks can be programmed into the 2200.

Direct dollar savings

The Datapoint 2200 permits substantial cost savings over standard source data conversion operations by eliminating many of the work steps and procedures normally associated with this activity. The 2200 is priced so as to allow extensive placement of units throughout a typical commercial office enabling workers to function as input operators on a part time or intermittent basis. With the 2200, the full time staff normally needed as key punchers or as key-tape operators can be by-passed. Office employees can continue to perform their normal clerical tasks and turn to their 2200 only when necessary, just as routinely and as casually as they would to their typewriters or adding machines. (For many office employees, in fact, the 2200 will replace typewriters and/or adding machines.)

A closer look at key features of the Datapoint 2200 system



The why behind the Datapoint 2200

As the complexities of paper work and reporting procedures loom larger in our business and even our personal lives, it has become generally recognized that efficient automation is the only way to avoid being bogged down in a swamp of unmanageable data. However, most solutions to the problem of source data conversion, verification, transmission and reception have suffered from taking a piece-meal rather than a total approach and have often ended up by constituting more of a problem than the prior methodology.

Computer Terminal Corporation spent many months and many hundreds of skilled man-hours determining just why source data conversion for computer processing has long been THE bottleneck in establishing efficient office automation procedures. Basically the problem with standard conversion procedures — which typically utilize keypunch or key-to-tape machines — has been:

- A. Too many different steps, people and machines involved
- B. Too much opportunity for human error
- C. As a result, too much cost and not enough efficiency

Our research indicated the need was for an integrating device, one that could

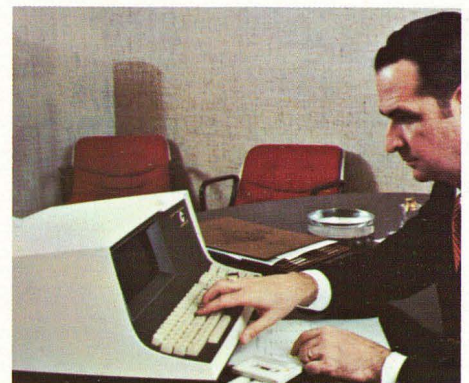
incorporate the functions not only of physical data conversion — that is, from a source document to a computer-processable media — but to accommodate verification, data transmission, reception, report production and related procedures. Such a machine is Computer Terminal Corporation's Datapoint 2200. With it, an 'activity' virtually from the time of its occurring to its entry into the computer — whether it be a sale, a performance of a service, the delivery of a part, etc. — can be accounted for through the functions of one machine.

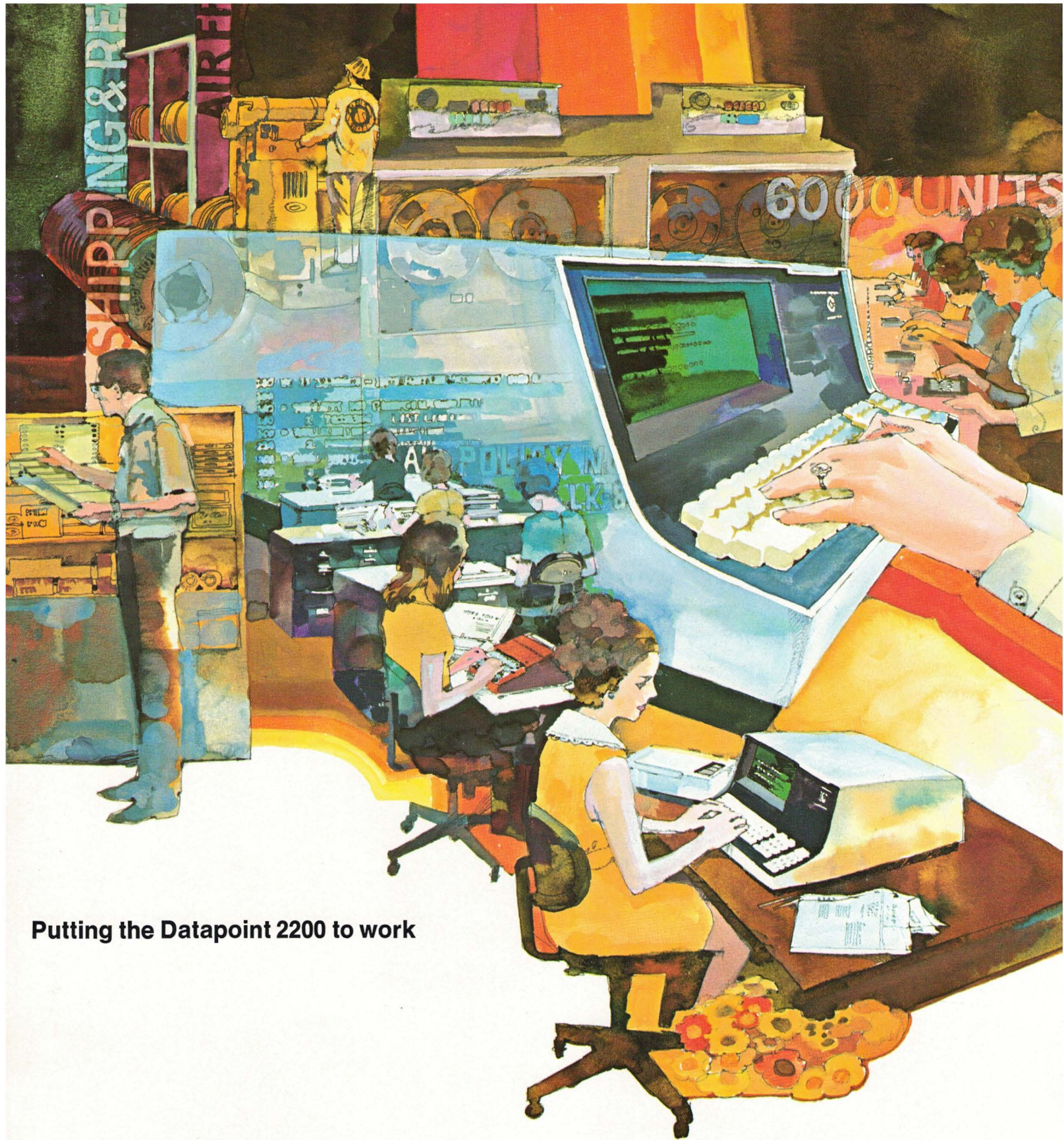
In creating the Datapoint we sought a machine that could handle all these tasks at a competitive cost and would also be compatible with standard office systems and personnel. The Datapoint 2200 is simple to operate. No special training is required. An alphanumeric keyboard, a ten key numeric keyboard and five control bars are the elements of data introduction and control.

The operator works directly from a source document inscribing data directly into tape. To assist the operator in assuring that data is being

correctly recorded, a CRT screen displays the desired report format — just as it might look on a typewriter. Indeed the Datapoint 2200 and a typewriter have a similar keyboard and in some respects a similar function. In many offices the 2200 will replace a typewriter for many employees.

Because the Datapoint 2200 is a programmable machine, it enjoys a tremendous versatility and flexibility. The user is not weighted down with high-cost, cumbersome, single-purpose peripherals, and he is not "hard-wired" into a rigid use configuration. To change CRT display formats, or code and equipment interfaces, or report outputs can be as simple as typing in a new program name on the 2200 keyboard. (A singular feature of the 2200 is its conversational mode of operation which allows swift re-programming and easy general usage.)





Putting the Datapoint 2200 to work

The Datapoint 2200 is a desk-top terminal designed for general business usage. It can meet the source data conversion needs of companies ranging from the very largest to the smallest. Commercial areas in particular where the 2200 can be of effective service include:

- Computer service companies and commercial data conversion centers
- Banks and other financial institutions
- Insurance Companies
- Federal, State and local governmental agencies
- Public Utilities
- Retail Store Chains
- Shipping and warehousing divisions of manufacturing companies
- Wholesale distributors

In general these industry areas are distinguished by a high volume of source data conversion needs. However, the Datapoint 2200 is also well adapted to use by the smaller organization whose data input requirements and report needs are relatively small scale. (Many organizations with these lesser I/O requirements will use the 2200 in conjunction with services offered by a commercial computer center — see below.)

The typical large-scale user

Many organizations will employ large numbers of Datapoint 2200's — 10, 20, 50 or even more units. At the 2200's low cost — well below that of a standard key-tape machine — it becomes practical to furnish large numbers of clerical employees with the device. Operating the 2200 does not have to be their full time occupation. They may utilize the machine on an occasional or intermittent basis, just as they might have used a typewriter or adding machine only sporadically. For example, in many offices, where a typewriter is now utilized to create a hard copy record from a field document which in turn goes to a key punch or key tape operator for conversion, this step will be bypassed and data conversion will occur directly on the 2200.

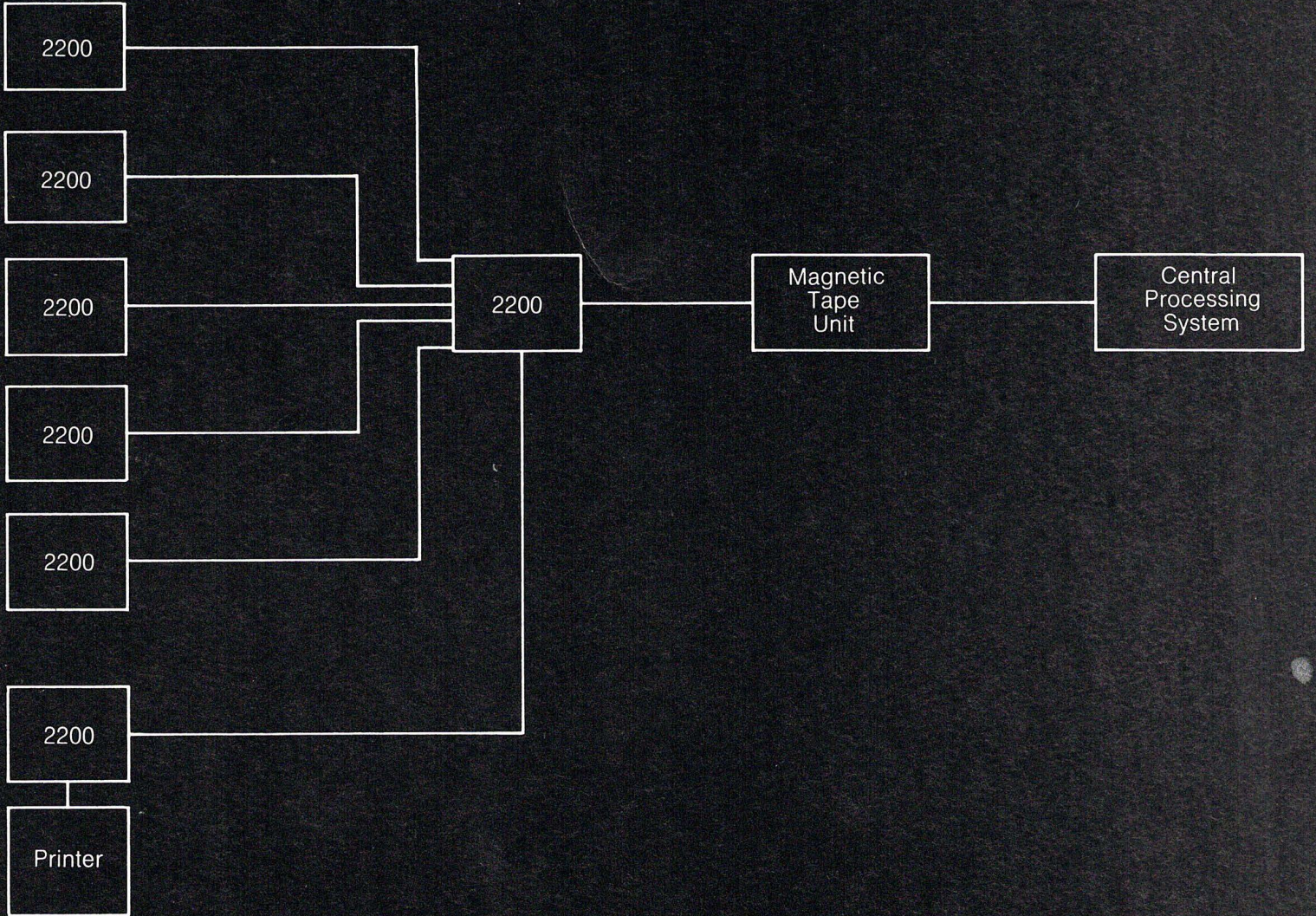
For the computer service center

A major beneficiary of the Datapoint 2200 will be commercial computer service centers who will now be able to provide an on-site data input and report preparation capability to their clients at low cost and with greater efficiencies than can be provided through courier service. The 2200 and its associated printer can be located in the offices of the service center's client(s) programmed to interface with whatever central computer is utilized by the service company and to produce for its clients whatever reports are desired on site — be they paychecks, sales statements, accounts receivable, etc. Where multi 2200's are used as input devices to a central computer system, another 2200 can serve as "front end" to channel incoming data to magnetic tape and control its input to the computer, as is indicated in the accompanying diagram.

(In some cases this function can be performed directly by the central system.) In these multi-unit installations, another 2200 may be used as the control for the on-site high speed printer, again as is shown in the diagram. These varying uses of the 2200 are possible with little difficulty and expense because it is a programmable machine. In such installations the 2200 serving as "front end" to the central computer system may be programmed to perform automatic "polling" of the field 2200's to extract the data stored on their tapes (clearing them for additional inputs) and introduce this data into the central system. This will permit in many instances unattended operation of these field 2200's, freeing the persons who would normally be their operators for other tasks.

The small user

The Datapoint 2200 does not have to be used in a data communication mode. Many companies, for example, will use only a small number of the terminals or perhaps just one on site in their facilities, and will courier the tapes produced on these machines to a local service center for processing. The low cost of the terminal and its efficient inscription of source data on magnetic tape alone will constitute an improvement over standard source conversion techniques significant enough to justify installation.



In summary . . .

- The Datapoint 2200 offers **COMPREHENSIVENESS** — the machine handles all aspects of source data conversion, verification, transmission and reception as well as preparation of end reports and other documents.
- The Datapoint 2200 offers the **FLEXIBILITY** of a programmable computer — it can be programmed on-site to display various report formats on the CRT screen, to interface with different central processors, to produce multi-reports and to handle basic editing, monitoring and error detection functions.
- The Datapoint 2200 is **SYSTEMS ORIENTED** — the machine will blend easily into the typical accounting/ data processing operation. It's been designed to be compatible with all standard data processing systems and with customary flows of data through commercial offices.
- The Datapoint 2200 combines **LOW-COST** with **HIGH EFFICIENCY**. In a typical user installation it's estimated that the 2200 approach can mean savings of up to half the normal cost associated with source data conversion, verification and transmission and related clerical procedures.

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