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EQUIPMENT CATALOG



Computer Terminal  
Corporation

# Datapoint:

*the name that makes a difference*

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In a relatively short period of time the Datapoint name has established itself as the distinctive identifying mark for a broad line of communications-oriented computer and computer peripheral systems. Today, thousands of Datapoint systems are at work throughout the world, providing both stand alone computer power and making it possible to utilize the capability of a central computer for a multitude of business, scientific, and engineering applications. These Datapoint systems, further augmented by their own peripherals, have in fact added important new dimensions to the world of computing.

Datapoint in particular has taken the lead in extending into commercial and general business activities the advantages and economies of remote computing service through well-designed on-site systems. Operations never before considered suitable for computer processing are being

handled by Datapoint systems with outstanding results. These new applications have been developed in the retail trades, in insurance, in banking, in hospital administration, in transportation and in the government field. In all these areas, the Datapoint name has come to mean quality performance at significantly lower costs than with prior methods.

This Datapoint Equipment Catalog covers the full range of Datapoint systems and peripherals and support services. However, the extensive Datapoint software capability, which includes the high-level Databus programming language available in seven versions, a basic assembly program, complete operating systems and numerous application programs, is described in a separate catalog. A survey of the Catalog will confirm the status of the Datapoint line as the broadest in the industry. Further information on any or all of these units, on their price and availability may be had by calling the Computer Terminal office nearest you. A full listing of these offices, domestic and foreign, is carried on the back cover of this catalog.



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## **Datapoint 2200** the business mini computer

### **Versions I and II**

The Datapoint 2200, Version I is an integrated data system which offers alphanumeric keyboard for data entry, a cathode ray screen for data display and two digital cassette recorders for bulk data storage. The system also integrates a general purpose digital computer for both system control and data processing tasks along with the capability for extensive communications interfacing and for interfacing with external devices or peripherals. Version I of the Datapoint 2200 contains a maximum of 8,196 words of recirculating MOS memory. This integrated system, computer, memory, and peripherals, has gained wide acceptance in a variety of data processing and communication applications.

Version II of the Datapoint 2200 maintains the original concept but incorporates numerous improvements and additions to augment its processing power. It appears physically identical to Version I and retains all the advantages of the earlier Datapoint. In fact, in keeping with the concept of upward compatibility, programs generated for the Version I Datapoint will run substantially faster on Version II Datapoint. Memory size of Version II is a maximum of 16,384 words of 8 bit memory.

Version II provides the programmer the added advantage of interrupt capability. This hardware interrupt feature enables the programmer to service peripherals requiring attention without the necessity of periodic addressing and status checking in his main program. Other improvements include: an additional set of 7 registers and 4 control flip-flops (alpha and beta modes), program access to the stack through the new Push and Pop instructions. These changes have all been incorporated into the 2200 Version II without the need to modify or convert user software written for the Version I 2200, except for delay loops.

The availability of two terminals allows the user to match the power of the internal processor and memory to the application. Tasks requiring substantial logical operations and computing will lend themselves to a Version II machine while operations involving light computing duty or non-critical speed requirements will find the Version I provides a powerful, yet economical alternative.

Both versions are physically identical in appearance and the operator need not be retrained for operation on both types.

Version I machines may be converted to Version II if the need arises.

### **GENERAL SPECIFICATIONS**

The Datapoint 2200 has the following general characteristics:

- a. 115 v.a.c., 60 cycle, 180 watts, power input (50 cycle optional);
- b. 47 pounds weight;
- c. 9 $\frac{5}{8}$ " high, 18 $\frac{1}{2}$ " wide, by 19 $\frac{5}{8}$ " deep outside dimensions;
- d. 0° to 50°C (32° to 122°F), 10 to 90 percent relative humidity operation environment.

### **CRT DISPLAY**

The Datapoint 2200 CRT Display provides the following features:

- a. 7" x 3 $\frac{1}{2}$ " viewing area;
- b. 960 characters;
- c. 80 character by 12 line format;
- d. 4/32" x 3/32" character size;
- e. Entire 94 character ASCII set;
- f. 60 frames per second refresh rate (50 frames per second when using 50 cycle power);
- g. 5 x 7 matrix character generation;
- h. 5 x 7 solid, blinking cursor, alternates with character, nondestructive;
- i. P31 green phosphor;
- j. Single control line erasure, frame erasure, and page roll-up; and
- k. Direct control of all CRT functions by the 2200 processor, providing tab, editing, form control, etc.

### **KEYBOARD**

The integral keyboard provides a basic 41 key alphanumeric key group, an 11 key numeric group and five system control keys. The keyboard provides a unique multi-key (n-key) roll-over characteristic providing maximum ease of typing. Transfer of characters from the keyboard is under control of the 2200 processor. An audible click providing an acoustical feedback to the typist is available under processor control. A programmable audio "beep" is also provided when it is desired to gain a typist's attention.

### **PROCESSOR**

The integral processor provides all control functions and includes:

- a. 50 different instruction types;
- b. 14 addressable registers;
- c. 16 deep pushdown stack;
- d. 8 bit memory word length;
- e. Up to 16384 word memory;
- f. Complete parallel I/O system;
- g. Automatic power-up restart.

### **CASSETTE TAPE DECKS**

Two read-write tape decks are provided for program and data storage. The deck accepts Norelco (Phillips)-type cassettes and provides:

- a. 47 characters per inch density;
- b. Forward-reverse operation;
- c. Processor controlled data transfer, direction control, and high-speed rewind.





## MEMORY

The basic Version II Datapoint 2200 is supplied with 4096 eight-bit words of memory. Additional modules of 4096 words each may be incorporated with the maximum memory capacity of the processor being 16384 words.

The Datapoint 2200 Version II memory is a random access MOS memory with an access time of 3.2 microseconds. Each memory cycle takes 1.6 microseconds and each instruction takes 2, 3 or 4 cycles to complete. Due to the random access nature of the memory, the time required to read or write to the memory is the same regardless of the address.

The Version I memory also has 8-bit words (byte) but is somewhat slower than the Version II. Instruction execution times run from 8 to 16 microseconds. Sequential memory accesses take only 8 microseconds.

Version I also uses MOS-type memory although the technique is different. The use of this serial/parallel memory allows some savings to the user in cost.

## PUSHDOWN STACK

A unique feature of the Datapoint 2200 is the incorporation into the processor's structure of a "pushdown stack." This is useful for subroutine calling, as it saves the last used address while doing a memory reference to a different address, calculating an address and then jumping to it without having to overstore a JUMP instruction, making an abortive exit from a subroutine (returning control to a location other than the one after the CALL instruction), and saving the state of the machine if there is at least one free stack location.

## INTERRUPTS

Included in the Datapoint 2200 processor is a hardware interrupt feature. The interrupt signal occurs at a one millisecond rate. This one millisecond rate is accurate to within  $\pm .005\%$ .



## Datapoint 2200/Communications Adaptors

### ASYNCHRONOUS

Internal data transfers in the Datapoint 2200 are in parallel form. Communications and many peripheral devices used in today's data processing operations require a serial start-stop data structure. The Asynchronous Communications adaptor provides this asynchronous serial data format and opens the Datapoint to many versatile applications.

The adaptors connect directly to the Datapoint 2200 and are completely under program control. No manual adjustments are present. Both data rate and character length can be program specified. Start and stop pulses are automatically added and subtracted from the transmitted or received data.

With the 2200-400 unit (no internal modem installed), a Bell Dataphone can be connected through a standard EIA cable which is supplied. The adaptors can also be connected to a wide variety of other devices which operate on asynchronous, start-stop data such as teleprinters, modems, and serial input printers.

For complete telephone communications capability, two other versions are available with CTC manufactured, Bell-compatible, 103 and 202 type modems. These

digitally synthesized modems are located in the same box with the adaptor and allow the user to dial and answer on the standard telephone network without a handset present. All these operate under program control providing complete unattended calling and answering operations. Multidrop and polling operations can also be configured using this standard hardware.

If your system involves telegraph-line operations, a model is available to handle neutral or polar high-level telegraph keying.

### SYNCHRONOUS

A Synchronous communications format provides the Datapoint 2200 user with a highly efficient means of information transmission.

Start or stop bits are not used in synchronous transmission, therefore creating a higher data throughput than the asynchronous format. In effect, all of the data transmitted is useful information except for the control characters, which serve to direct the data flow between devices.

The synchronous adaptor connects directly to the Datapoint 2200 with no other hardware required. The output attaches through a supplied cable to a Bell 201 Dataphone or other modem capable of handling synchronous data.

#### General Specifications ASYNCHRONOUS ADAPTORS

**Data Rate**  
37.5 to 9600 baud, programmable

**Data Length**  
7-11 bit code, including start and stop programmable pulses

**Interface**  
Connects directly to Datapoint 2200 I/O bus

**Codes**  
Any asynchronous

**Data Format**  
Serial asynchronous, start-stop

#### Physical Specifications (all communications adaptors)

**Power**  
The Datapoint 2200 will supply power for up to two adaptors. More require auxiliary power supply.

**Mounting**  
Wall, console, or stand-alone.

**Dimensions**  
10.5 W x 15.5 H x 2.7 D (inches)

#### MODEL CODE 2200-400 Serial Data Adaptor

**Signal**  
RS232C level signal, full or half duplex

**Rate**  
37.5 to 9600 baud, programmable

**Connection**  
Teleprinters, Bell Dataphone®, other serial devices

#### MODEL CODE 2200-401 300 Baud Modem

**Signal**  
Equivalent to Bell 103 Dataphone®

**Rate**  
300 Baud (450-Baud max), full duplex

**Operations**  
Auto-dial, autoanswer, direct connection

**Connection**  
Bell 1001 B Direct Access Arrangement or private wire

#### MODEL CODE 2200-402 1200 Baud Modem

**Signal**  
Equivalent to Bell 202 Dataphone®

**Rate**  
1200 Baud (1800 Baud max.), half duplex (full duplex using reverse channel for data)

**Operations**  
Auto-dial, auto answer, connect

**Connection**  
Bell 1001 B Direct Access Arrangement or private wire

#### MODEL CODE 2200-403 High Level Keyer

**Signal**  
Neutral or polar, high level keyer

**Operation**  
Telegraph current loop keying

**Connection**  
Direct to telegraph line



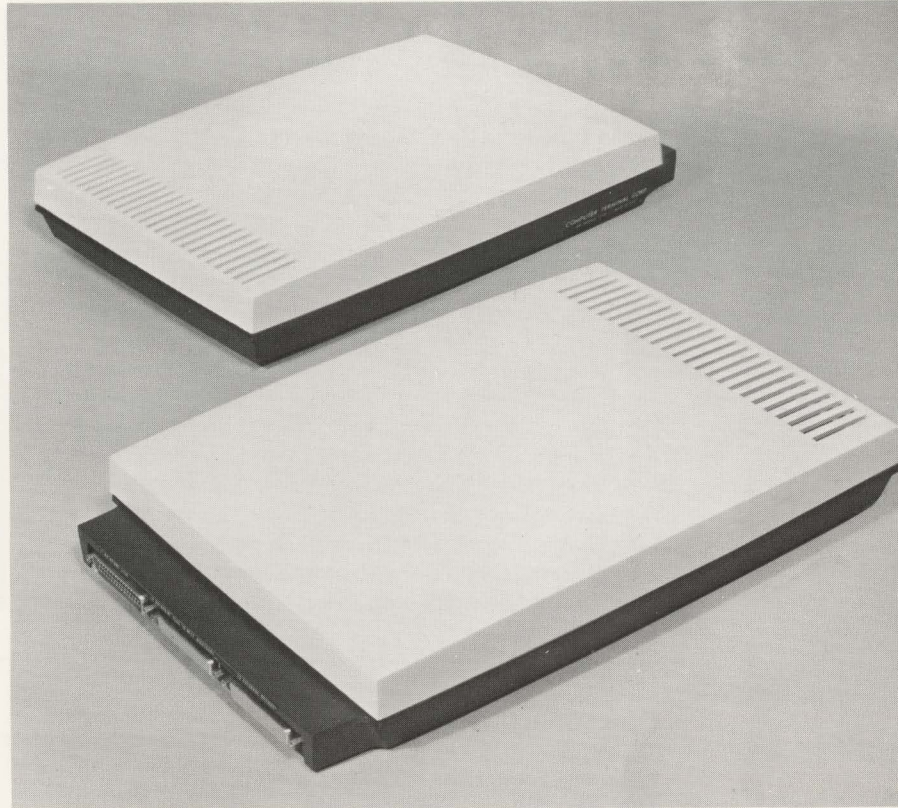
The adaptor contains powerful hardware error-checking capabilities. Several formats are used with the ASCII and EBCDIC codes and the adaptor handles these within its own hardware. Polynomial, vertical redundancy (VRC), and longitudinal redundancy checking (LRCC) can all be accomplished by hardware.

For users with IBM Binary-synchronous hardware, the adaptor will also handle this discipline.

## PARALLEL INTERFACE

Many useful data communication devices and associated peripheral equipment maintain communication linkage through parallel data transmission. Parallel transmission techniques enable these devices to transmit one word (byte) of information at a time as opposed to serial transmission techniques. In parallel communication, transmitted information is presented on a group of parallel communication wires, each wire corresponding to a single bit of the transmitted word.

The Datapoint 2200/Parallel Interface is designed to provide the most efficient and flexible parallel communication capability to the Datapoint 2200. Users with applications involving interface to various types of peripheral equipment or electronic instrumentation will find the Parallel Interface useful for this purpose.



### MODEL CODE 2200- 404 Synchronous Data Adaptor

**Data Format**  
Synchronous

**Data Rate**  
Rate determined by modem used.

**Codes**  
ASCII or EBCDIC (must be specified)

**Interface**  
Connects directly to Datapoint 2200 via I/O BUS

**Connection**  
Bell 201 series Dataphone® or other modem.

**Operations**  
Polynomial error check, VRC, LRCC

### MODEL CODE 2200- 420 Parallel Interface

**Data Input**  
8-wire Parallel Data  
8-wire Parallel Status

**Data Output**  
8-wire Parallel Data  
8-wire Parallel Command Word  
System Reset Strobe  
Status Input Strobe  
Data Input Strobe  
External Command Strobe 1  
External Command Strobe 2  
External Command Strobe 3  
External Command Strobe 4  
Device Addressed Level

**Data Output Levels**  
All data levels can be either 0 and +5 volts or 0 and +12 volts by internal jumper.

**Special Features**  
Status input circuitry can be altered to permit latching of individual status bits. Pulse status conditions can be easily detected in this mode. The latching status mode is enabled by inserting a jumper on the parallel interface circuit card for each desired latching bit. When the latching mode is used, the execution of INPUT, following the execution of EX STATUS, will clear the status latches if the interface is addressed.

### Physical Description

The 2200-420 consists of one printed-circuit card mounted in the standard communications adaptor housing. The 2200-420 circuitry consists mainly of TTL MSI logic.

The three connectors on the housing have the following functions:

- J1 Datapoint 2200 I/O BUS interface, containing parallel inputs and outputs, command strobes and power to the 2200-420 (male connector).
- J2 A duplicate of J1 (female connector).
- J3 Parallel interface containing all signal lines for operation with external devices.

A Datapoint 2200 will provide power for up to two 2200-420 parallel interfaces. If additional interfaces are required, auxiliary power must be supplied.

### Mounting

Wall, console, or stand-alone



## Datapoint 2200/Tape Drives

### 7- and 9-Channel

The Datapoint 2200 tape systems offer the 2200 user a complete line to suit his tape storage requirements. Two models are available—9 channel, 800 bpi, and 7 channel, 800 or 556 bpi. Either of these fully industry-compatible tapes can be console mounted with the 2200 or free-standing in a separate cabinet. In either case, the units connect directly to the Datapoint 2200 with no interfacing or other adaptors required.

The tape control unit is included in the cabinet and automatically generates vertical parity (VP), a cyclic redundancy check character (CRCC), and a longitudinal redundancy check character (LRCC). Upon reading the tape, the VP, CRCC, and LRCC are automatically regenerated and checked. A 1057 byte buffer provides intermediate storage of characters, permitting asynchronous data transfer to and from the deck. Records can be written up to a length of 1057 words.



### Functional Characteristics

#### Recording Format (Industry-Compatible)

2200-300, -301	2200-302, -303
9-track, NRZI	7-track, NRZI
800 BPI	556/800 BPI

#### Tape Speed

12.5 inches per second

#### Reel Capacity

8-1/2, 7 inch or mini reels of  
1/2 inch tape

#### Maximum Record Length

1057 bytes

#### Error Control

Industry compatible  
Fully automatic VP, LRCC, CRCC  
Read-after-write

### Interconnection

Direct connection to Datapoint 2200  
I/O bus

### Physical Characteristics

#### Dimensions

	2200-300, -302	2200-301, -303
Width:	52.5 Inches	29.4 Inches
Height:	36.5 Inches	36.5 Inches
Depth:	22.7 Inches	22.7 Inches
Weight:	290 lbs.	280 lbs.

### Power Requirements

115 v.a.c., 60 Hz, 275 watts  
(not including 2200)

### Model Codes

2200-300 9-track, Desk Console  
2200-301 9-track, Free-standing Console  
2200-302 7-track, Desk Console  
2200-303 7-track, Free-standing Console  
2200-304 Tape cleaning kit  
2200-305 220 v.a.c., 50 Hz  
(factory installed only)



## Datapoint 2200/Disc System

A Datapoint 2200/Disc provides the user with a random-access, non-volatile, mass memory system. The disc is a removable cartridge-type with each cartridge containing over 2.4 million bytes (8 bits) of data.

The disc cartridges are fully enclosed and easily inserted and removed from the drive. By use of the replaceable disc, an almost unlimited number of programs and data files may be kept on hand and ready for immediate use. The operator need only to press the load button and the disc is automatically brought on-line.

The Datapoint 2200-350 Disc System can be expanded. Up to three 2200-354 disc drive extension units can be added making a total of four discs. The 2200-354 extender discs are identical in appearance to the 2200-350 controller and disc.

System programmers will find the disc controller offers many powerful features. The controller contains 1024 character memory which is divided into four 256 character areas. This buffer or memory can be addressed randomly by the 2200 facilitating the updating or sorting of data within a sector. All error detection and appropriate control characters are done automatically by the controller.



The 2200/Disc connects directly to the Datapoint 2200 via a standard I/O cable. No other interface is required.

### Functional Characteristics

#### Capacity

Surfaces	2
Tracks/Surface	203
Sectors/Track	24
Bytes/Sector	256
Bytes/Disk (8 bits)	2,494,464

#### Bit Density

2200 BPI

#### Track Density

100 TP I

#### Bit Transfer Rate

1562 KHz

### Disc Timing

Rotation Speed 1500 rpm  
Average Latency 70 MS  
Track-to-Track 15 MS Max.

### Operator Controls

Load/Run  
Protect

### Indicator Lamps

Load  
Ready  
Protect  
Check

### Physical Characteristics

#### Dimensions

	2200-350	2200-351
Width:	53.0 inches	36.0 inches
Height:	28.0 inches	28.0 inches
Depth:	24.0 inches	24.0 inches
Weight:	200 lbs.	175 lbs.

### Power Requirements

115 v.a.c., 60 Hz, 1050 watts, (220 v.a.c., 50 Hz optional)

### Model Codes

- 2200-350 Console mounted controller with one drive unit
- 2200-351 Freestanding controller with one drive unit
- 2200-352 Console controller with two drive units (one console mounted and one free-standing)
- 2200-353 Controller with two disc drive units (both discs in free-standing cabinets)
- 2200-354 Single disc drive extension unit, (free-standing)



## Datapoint 2200/Serial Printer

The Computer Terminal Corporation Serial Printer is a 132-column asynchronous impact printer with a full 63-character set (plus space) with a print rate of 30 characters per second. The printer connects directly to the Datapoint 2200 and requires no other adaptor or supporting equipment. The printer can be ordered in an attractive desk-size console which can accommodate a Datapoint 2200 and one or two communications adaptors. It is also available in a freestanding console similar to the illustration but without space for the Datapoint 2200.

The printing system consists of a rotating helical wheel, an ink-impregnated roller, and a single print hammer-actuator. The mechanical simplicity results in a rugged and dependable unit. Engineered to provide crisp, clean, hard copy, the printer can efficiently handle six-part forms (or three-part carbon-interleaved forms) up to 14-7/8 inches in overall width. The sprocket form-feed mechanism can be easily adjusted by unskilled personnel to adapt to a wide variety of printing tasks.



### Functional Characteristics

#### Printing Speed

30 CPS (asynchronous)

#### Carriage Return Time

Less than 385 ms from column 132

#### Paper Skipping Rate

25 LPS

#### Print Positions Per Line

132 (adjustable)

#### Printable Characters 63

27 alphabetic  
10 numerals  
26 special symbols

#### Character Spacing

10 character per inch (horizontal)  
6 lines per inch (vertical)

### Printing Method

Helical wheel

### Forms

Capable of handling six-part continuously-sprocketed forms (or three-part, carbon-interleaved forms) up to 14-7/8 inches wide

### Interconnection

Direct connection to Datapoint 2200 I/O bus

### Operator Controls

Top of form  
Line feed  
Power

### Physical Characteristics

#### Dimensions

2200-200	2200-201
Width: 55.5 inches	33.0 inches
Height: 36.5 inches	36.5 inches
Depth: 22.7 inches	22.7 inches
Weight: 260 lbs.	250 lbs.

### Power Requirements

115 v.a.c., 60 Hz, 520 watts

### Model Codes

2200-200 Printer/Desk Console  
2200-201 Printer/Free-standing Console  
2200-202 Ink Roller  
2200-203 230 v.a.c., 50 Hz option  
(factory installed only)  
2200-803 Shelf attachment  
(shown installed)



## Datapoint 2200/Line Printer

For medium speed printing application, the 2200 Line Printer provides 135 line per minute printing capability with a 64 character ASCII set. The 2200 Line Printer utilizes a dot matrix printing technique with a simple print mechanism consisting of a rotating helical print drum and 12 solenoid actuated hammers. This method of printing produces clear, crisp characters on single or multi-part forms. The freestanding cabinet contains the printer and control.

The Line Printer attaches directly to the Datapoint 2200 without requiring additional hardware. The printer control contains a 132 character buffer allowing the programmer to load characters asynchronously. The sprocket feed mechanism can be adjusted to handle forms as wide as 14-7/8 inches or as small as 4 inches.

Operations personnel will find the Line Printer an easy-to-use and efficient device. Paper can be easily changed simply by sliding out the front of the printer and loading the paper or forms on the tractor feed. Forms, regular paper stock, or even sprocket-fed labels may be used by moving the tractor feed devices to the proper



width. Compensation for varying forms thickness can be made by a single knob control. Lamps provide the operator with a visual indication of the printer's status.

### Functional Characteristics

#### Printing Speed

135 lines per minute

#### Paper Skipping Rate

1/4 i.p.s. printing  
8-1/2 i.p.s. slewing  
2-1/2 i.p.s. between lines

#### Print Positions Per Line

132 (adjustable)

#### Printable Characters

27 alphabetic  
10 numeric  
26 special

#### Character Spacing

10 characters per inch (horizontal)  
6 lines per inch (vertical)

#### Printing Method

5 x 7 dot matrix, impact

#### Forms

Sprocket feed  
Up to 3-part carbon-interleaved, 7-pound  
Up to 6-part carbon-backed  
Up to 14-7/8 inches wide

#### Operator Controls

Top-of-form  
Linefeed  
On-line  
Standby  
Vertical Adjustment  
Thickness  
Ribbon Slew

#### Interconnection

Direct connection to Datapoint 2200  
I/O bus

### Physical Characteristics

#### Dimensions

Width: 31 inches  
Height: 39 inches  
Depth: 33 inches  
Weight: 280 lbs.

#### Power Requirements

115 v.a.c., 60 Hz, 900 watts

#### Model Codes

2200-220 Line Printer  
2200-222 Ribbon  
2200-225 Vertical Format Control  
2200-226 230 v.a.c., 50 Hz option  
(factory-installed only)



## Datapoint 2200/Card Reader

A medium speed optical card reader, the Datapoint 2200-500 is designed for continuous duty in a wide variety of applications. Standard 80-column cards may be read at demand rates of up to a nominal 600 cards per minute.

The 2200/Card Reader attaches directly to the I/O Bus of the Datapoint 2200 through an interface adapter. Data is transmitted in two 8-bit bytes along with status information. The Card Reader can only be used with a Version II Datapoint 2200 because of the high character transfer rate.

The Card Reader is easily operated by inexperienced personnel and cards may be loaded and unloaded while the reader is operating. The optical reading mechanism is self-cleaning thus keeping maintenance to a minimum.

Operator controls along with status indicators are readily accessible from the front panel. The construction of the Card Reader not only offers a simplicity of operation but an unusual high tolerance of bent or damaged cards that would ordinarily jam other types of readers.



### Specifications

#### Card Rate

Up to 600 cards per minute, nominal

#### Card Type

80 column cards conforming to ASA X3.11-1966, USAS X3.21-167 and EIA Standard 292. Black, blue and brown cards are excluded.

#### Capacity

Input hopper: 600 cards, output stacker 1000. Cards may be added or removed during operation.

#### Reading Mechanism

Fiber optics with solid state sensor.

### Program Commands

Motor on  
Motor off  
Card Motion

### Device Status

Hopper Empty  
Device Ready  
Read Ready  
Card Motion

### Operator Controls

Power switch  
Start/Stop

### Indicator Lamps

Hopper empty (or Feed Failure)  
Stacker Full  
Data error

### Interconnection

Direct connection to 2200 I/O Bus through 2200-420 Adaptor supplied with Card reader. All necessary cables included.

### Physical Characteristics

#### Dimensions

	2200-500 Card Reader	2200-420 Interface Adaptor
Width:	14.25 inches	10.5 inches
Height:	19.0 inches	15.5 inches
Depth:	18.0 inches	2.7 inches
Weight:	52 lbs.	2 lbs.

### Power Requirements

115 v.a.c., 60 Hz, 300VA

### Model Codes

2200-500 Card Reader  
2200-501 230V, 50 Hz model



## Datapoint 2200/Selectric Interface

For applications requiring a low-speed, typewriter quality printer, the Datapoint 2200-240 Selectric Interface provides a means to connect a Model 735 IBM Selectric typewriter to the Datapoint 2200. The typewriter is available from IBM Corporation.

This interface allows the printer to operate at its full rated speed of 14.8 characters. The interface does not allow the Selectric to be used as a keyboard data entry device. However, the Selectric may be used as a standard office typewriter when not under control of the Datapoint 2200.

No extra power supplies are required. The 2200-240 interface plugs directly into the I/O connector of the Datapoint 2200 and the Selectric connects to the interface via a furnished cable.



### Functional Characteristics

#### Code

Correspondence Code

#### Connection

Through Interface Adaptor via supplied cables.

#### Selectric Typewriter Specifications

IBM Model 735 (130 char. line) or 731 (80 char. line)  
Correspondence code wired  
24 VDC coils  
Reversed diode polarity  
Courier type style (suggested)  
Sandstone beige color (suggested)  
115 v.a.c., 60 Hz motor (or as required)

### Physical Characteristics

#### Dimensions

Height: 15.5 inches  
Width: 10.5 inches  
Depth: 2.7 inches

#### Mounting

Wall, Console, or Free-Standing of Interface Adaptor

### Power Required

Power supplied by Datapoint 2200

#### Model Codes

2200-240 Selectric Interface Adaptor



## Datapoint 3300/Interactive Terminal

The Datapoint 3300 is an interactive data terminal designed primarily for the computer time sharing user. Standard features of the 3300 include complete interchangeability with standard teletypewriter equipment, high-speed data transmission capabilities, a high capacity and flexible CRT display, easy to read characters, solid state construction throughout, modern styling, totally self contained and a 64-character set keyboard. Optional features include magnetic tape memory, hard copy printer and a ten-key numerical keyboard.

The 3300 is intended primarily for use by the remote computer user who utilizes "dialogue" with a computer to arrive at a solution to a problem. Typically, this "interactive" user is an engineer, scientist or similar professional whose work requires substantial and immediate assistance from a computer. The 3300 will permit this user to tap the power of the remote computer more effectively.

The Datapoint 3300 screen can accommodate 25 full lines with 72 characters in each line—a total of 1800 characters in a single display. The characters displayed on the CRT are easy to read because of the 60-CPS "refresh" rate and line synchronization, which keep characters totally stable and distinct. The interactive user, through the keyboard, can add, correct, revise or delete any line or character. The large screen makes it



possible for him to comprehend in full many problems in a single glance and where necessary to make modifications and revisions. Program debugging is greatly simplified. With the 3300, the remote computer becomes a much more flexible aid to human thought processes. Data transmission rates of up to 2400 bits per second are available on the Datapoint 3300.

Optionally available with the 3300 is a magnetic tape memory unit designed as a companion unit to the Datapoint 3300. This memory, which utilizes replaceable tape cassettes, offers the remote user the flexibility of both forward and reverse line-incremental playback of data up to a capacity of 200 full "frames" (25 lines of 72 characters each). This stored data is available to the 3300 operator upon demand.

### Specifications

#### Screen size

Standard 12 inch rectangular tube

#### Character size

0.16 inches x 0.11 inches

#### Number of characters

1800

#### Characters per line

72

#### Number of lines

25

#### Refresh rate

60 CPS, line synchronized

#### Type of memory

MOS semiconductor

#### Power

115 v.a.c., 60 Hz, 180 watts

#### Keyboard

Electronic, with Model 33 Teletype layout including additional controls and optional 10 key numerical entry n-key remover

#### Controls

Cursor: up, down, left, right, home  
up, home down  
Erase: to end of line, to end of frame  
Frame roll: up, down  
Power: on, off  
Mode: remote-local select  
Transmission: full duplex-half duplex select

#### Cursor

Flashing, remote or local control

#### Input/Output Data rate

110, 150, 220, 300, 440, 600, 880, 1200, 1760, 2400 BPS

#### Communication interface

RS 232B or current loop TTY (using 3300-110) ASCII 8-level start-stop code

#### Dimensions

Width: 18 inches  
Height: 14 inches  
Depth: 19 inches  
Weight: 48 lbs.

#### Model Codes

3300-101 Interactive CRT Terminal  
3300-102 Answerback option  
(factory-installed only)  
3300-110 Telegraph Loop Keyer  
3300-111 230 v.a.c., 50 Hz option  
(factory-installed only)  
3300-112 Auto carriage-return/line-feed deletion kit  
3300-113 Coded Cursor Key Kit  
3300-114 Backspace Coding Kit  
3300-115 Escape Key Coding Kit  
3300-116 Space Over-write Latch Kit



## Datapoint 3300/Tape Unit

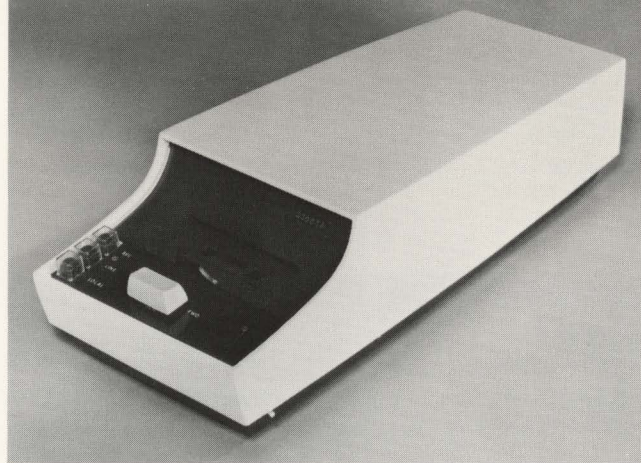
The Datapoint 3300 Magnetic Tape Unit is used in conjunction with the Datapoint 3300 CRT Terminal to provide a permanent record of all transactions. The Tape Unit consists of a cartridge magnetic tape transport with storage buffer and controls to provide:

- On-line data storage
- Off-line message preparation
- High speed off-line message retrieval, forward and reverse
- On-line transmission
- Editing capability

The CRT and Tape Unit operate as a system in the following modes:

**Record Mode**— The Tape Unit storage buffer accepts data from the CRT Terminal keyboard and communications interface system. The data is accumulated in blocks and transferred to magnetic tape. The data blocks are formed coincident with displayed data lines on the CRT Terminal and may be fully edited before they are committed to tape.

**Reproduce-Local Mode**— The Tape Unit provides high speed—60 characters per second—recall of the stored data to the CRT display. The data is reproduced as a scroll and may be accessed in the forward or reverse directions. This mode does not interfere with the on-line status of the Terminal and allows the operator to review previous transactions that have progressed off the screen of the CRT.



**Reproduce-Remote Mode**— The Tape Unit is placed under the control of the communications interface system of the CRT Terminal. Data is reproduced in start-stop format at the speed setting of the interface. The "X-on", X-off" controls may be applied to provide automatic computer access of a message prepared off-line. The data is also displayed on the CRT during transmission.

### Specifications

**Model Code**  
3300-300

**Tape cassette**  
Phillips type

**Storage capacity**  
450,000 characters per cassette

**Input-Output data rate**  
Up to 2400 BPS (240 characters per second)

**Interface**  
Operates in conjunction with Datapoint 3300 CRT Terminal

### Controls

Record  
Reproduce—Local (controlled by Datapoint 3300 ROLL control keys)  
Reproduce—Remote

### Power

25 watts (obtained from Datapoint 3300 CRT Terminal)

### Size

7.5 inches wide, 18 inches long, 5 inches high (styled as companion unit to the Datapoint 3300 CRT Terminal)

**Weight**  
12 pounds

## Datapoint 3300/Data Coupler

To provide the Datapoint user with a simple, low-cost Bell System compatible method of accessing the telephone network, Computer Terminal Corporation offers the Datapoint 3300/Data Coupler. The Coupler is compatible with the Bell System 103-type Dataphones® and operates in the originate mode.

The Data Coupler provides acoustical coupling to the telephone network through the handset of a Bell System 500-series telephone set, eliminating the need of any direct electrical connection. It operates at any data rate up to 300 bits per second in full or half duplex mode. A fully industry-compatible (Electronic Industries Association RS-232B) electrical interface for inter-connection to Datapoint terminals is provided. An additional output is also provided for use with auxiliary teleprinters or other devices.

### Functional Characteristics

**Data Rate**  
Up to 300 bits per second

**Modulation**  
Bell System 103 compatible, originate mode

**Line Conditioning**  
Bell System DDD network lines  
No special lines required

**Transmission Mode**  
Full or half duplex

**Line Interface**  
Acoustic coupling

**Terminal Interface**  
EIA RS-232B

**Auxiliary Interface**  
EIA RS-232B (Transmit only)

**Operator Controls**  
Full/half duplex  
Power on/off

**Indicator**  
Carrier detection



### Physical Characteristics

**Dimensions**  
Width: 11.75 inches  
Height: 4.5 inches  
Depth: 11.2 inches  
Weight: 4 pounds

**Power Requirements**  
115 v.a.c. 60 Hz, 12 watts

**Model Code**  
3300-400

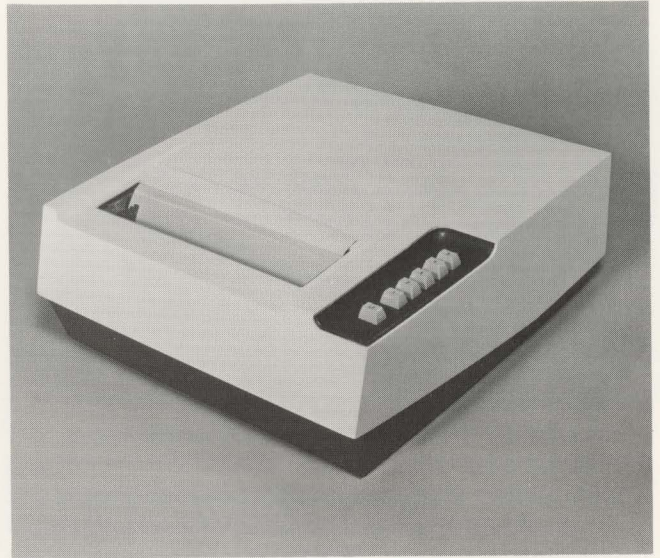


## Datapoint 3300/Thermal Printer

The Datapoint Thermal Printer unit is a lightweight, compact, economical device designed to be used with the Datapoint 3300 or Datapoint 2200 (through a communications adaptor). The printer unit provides a hard copy record capability and can produce alpha-numeric characters at speeds up to 30 characters per second. It can accept incoming data at 110,150,220 or 300 bps.

The Thermal Printer can serve as a satellite printer for 5 Datapoint 3300's, permitting substantial economy. The printer unit is fully compatible with the Datapoint 3300/Tape Cassette Unit and the Datapoint 3000 CRT terminal. The unit is cable connected to the Datapoint 3300 and utilizes standard serial data logical interfaces. Power is provided from any standard wall outlet.

Using a standard 8-1/2" paper roll, the Thermal Printer can produce a wide variety of formatted reports, averaging less than a penny per sheet. Printing is accomplished through a thermal process utilizing a CRT-compatible 5x7 dot matrix which does not entail any mechanical impact. Because no inked ribbon is used, the operation is remarkably clean. Operation is



quiet because less than 25 moving parts are used. Lubrication requirements are minimal. The Datapoint 3300/Thermal Printer and its companion units are handsomely styled with solid state construction throughout.

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### Specifications

**Model Number**  
3300-200

**Size**  
12" x 15" x 5 1/2"

**Weight**  
24.7 pounds

**Plug-in**  
Standard wall outlet

**Power requirement**  
57.5 watts

**Print speeds**  
Up to 30 characters per second

**Speed selection**  
Available at 110, 150, 220 and 300 BPS  
through automatic selection

**Datapoint 3300 & 2200 Interface**  
Standard RS232B

**Character Set**  
96 character ASCII, upper and lower case

**Print Process**  
Thermal, heat sensitive paper

**Print head**  
CRT compatible 5x7 dot matrix

**Ribbon**  
None required

**Moving Parts**  
Less than 25

**Lubrication requirements**  
Minimal

**Construction**  
Solid State  
Less than 25 moving parts

**Character Size**  
.110" high x .082" wide

**Character Spacing**  
10 per inch horizontal  
6 per inch vertical

**Model Codes**  
3300-200 Thermal Printer  
3300-201 Coded Print Control  
3300-202 Thermal Roll Paper



## Datapoint 3000/Interactive Terminal

Based on concepts proven in the Datapoint 3300, the Datapoint 3000 was developed to provide the time sharing user with an inexpensive, interactive display terminal with full-screen teletypewriter compatibility. The terminal is attractively styled and quiet enough to fit the most critical office environment.

The Datapoint 3000 operates at data rates of 110, 150, 220, and 300 bits/second (10, 15, 20, and 30 characters per second), and can be used with a Datapoint 3300 Thermal Printer for hard copy. A separate eleven-key number pad and ten function keys provide a functional keyboard arrangement.



### Functional Characteristics

#### Screen Size

12 inch rectangular tube

#### Character Size

0.16" x 0.11"

#### Number of Characters

1800

#### Characters Per Line

72

#### Number of Lines

25

#### Refresh Rate

60 frames per second

#### Character Set (ASCII)

27 alphabetic

10 numeric

26 special

### Controls

Cursor: up, down, right, left, home up, home down

Erase: to end of line, to end of frame

Frame roll: up, down

Power: on, off

Mode: remote/local

Transmission: full duplex/half duplex

Rate: 110, 150, 220, 300 bits/second

### Physical Characteristics

#### Dimensions

Width: 18 inches

Height: 14 inches

Depth: 19 inches

Weight: 48 lbs.

### Power Requirements

115 v a.c., 60 Hz, 140 watts

### Model Codes

3000-100 Interactive CRT Terminal

3300-102 Answerback option

(factory-installed only)

3300-110 Telegraph Loop Keyer

3300-111 230 v.a.c., 50 Hz option

(factory-installed only)

3300-112 Auto carriage-return/line-feed deletion kit

3300-113 Coded Cursor Key Kit

3300-114 Backspace Coding Kit

3300-115 Escape Key Coding Kit

3300-116 Space Over-write Latch Kit

3300-200 80 Column Printer

3300-201 Print Control option for 3300-200

3300-400 Data Coupler

## Datapoint 3360/Display Unit

The Datapoint 3360-100 video terminal is a systems oriented terminal, capable of 480 character-per-second operation. Screen capacity is 2000 characters, formatted as 80 characters per line, by 25 lines. In addition to the 80 characters per line, two additional characters can be printed at the left margin separated by a space from the main text and used for line numbering or indexing of the first 24 lines.

This terminal transmits serial data in an interactive or full duplex mode. In addition to the interactive mode, this terminal also has a block transmit mode capable of transmitting one complete line of data as a block. The block transmitted data is selected by positioning the cursor to the information desired on the screen, and block transmit is initiated by a control "B" received by the terminal.

The serial data is transmitted in ASCII format at one of four selected baud rates. The baud rate select switch is physically located on the back panel near the lower left corner of the terminal.

The terminal may be used where system requirements call for a computer-controlled buffered terminal. All operations with the 3360-100 must be on-line. No off-line operations are possible, as the terminal must operate in a full-duplex manner.



Many options are available for this terminal, one of which is Auto-Tab. This option extends the flexibility of the 3360 Terminal by providing direct cursor positioning to any location directed by program control. This option will also allow the terminal to search out and locate for program control the exact location of three separate and distinct symbols and multiple locations of these symbols.

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### Specifications

#### Terminal

##### Screen Size

Standard 12" rectangular tube

##### Character Size

0.16" x 0.11"

##### Refresh Rate

60 cps, Line Synchronized

##### Buffer Memory

2000 Characters

##### Characters per Line

80

##### Number of Lines 3360A

24 (plus optional command line)

#### Keyboard

Full uppercase ASCII Keyboard plus control keys featuring "n"-key rollover and 10 key numerics pad

#### Cursor

Solid or Flashing, on/off under program control  
Remotely positionable

#### Code Type

Serial ASCII Start-Stop

#### Data Rate

300, 1200, 2400, or 4800 baud selectable

#### Electrical Interface

E.I.A.-RS 232B (Data Set compatible in both socket and signal)

#### Power

180 Watts, 115 v.a.c., 60 Hz

#### Physical Dimensions

18" wide, 18" long, 14" high, 48 lbs.

#### Cursor Controls

Up Cursor  
Down Cursor  
Left Cursor  
Right Cursor  
Home Up  
Back Space  
Line Feed  
Carriage Return  
Turn off Cursor and Printer  
Turn On Cursor  
Direct Cursor position

#### Other Control Functions

Bell Ring  
Start Printer  
Block Transmit Line Cursor is on  
Erase screen to end of line  
Erase screen to end of frame



## Datapoint Training

The Datapoint Training Center offers a series of comprehensive courses designed to acquaint the programmer with the Datapoint product line.

### Datapoint 2200/Assembly Language Programming Course (5 days)

**COURSE TOPICS:** This course allows a programmer to gain a detailed insight into the architecture and assembly level language of the Datapoint 2200. The course will provide not only the knowledge of the Datapoint's central processor operation, but familiarity with tape, keyboard, and CRT programming. This approach yields an overall ability with the 2200 so that the programmer or analyst can apply it to his application with a minimum of time. The course assumes some prior knowledge of machine and assembly level language, but many compiler level language programmers have found the assembly language straightforward and have had no difficulty in implementing a program.

### Datapoint 2200/Databus Programming Course (2 days)

**COURSE TOPICS:** DATABUS is a high level interpretive language for use on the Datapoint 2200. The statement and command features are specifically tailored to allow the programmer to implement a task quickly on the Datapoint. Tape handlers, CRT routines and keyboard entry methods are all powerfully implemented to allow the DATABUS program to be written with a minimum of code. Programmers with business applications will find this course helpful in constructing software systems in a short time.

### Datapoint 2200/Communications Programming Course (2 days)

**COURSE TOPICS:** Special programming techniques are used to construct a system with data communications by direct-line or modem. Communications programs involve procedures directing hardware to follow a specific sequence of events. Whether CTC-manufactured modems or Bell Dataphones are used, each type of device has a particular "handshaking" sequence. The theory and implementation of this sequence are covered along with the basic concepts of data communications. It is recommended that the student should attend the Assembly Language course prior to the Programming course because coding examples are offered. However, students without assembly language knowledge have attended the course.

### Datapoint 2200/Peripheral Programming (1 day)

**COURSE TOPICS:** For systems having additional devices such as printers, tapes, card reader and discs, this course will provide the programmer with a thorough knowledge of each device. Both software and hardware aspects are covered.

### Datapoint 2200/Maintenance Training

**COURSE TOPICS:** Datapoint 2200 maintenance training is available on an as needed basis to all system purchasers, including OEM's. Training includes operation of software diagnostics plus detailed instruction on Datapoint equipment.

## Datapoint Documentation

Computer Terminal Corporation makes available a complete roster of documentation and support literature for each of the Datapoint products. These are designed to give the user full information on the capability of these systems and how they can be put to work most effectively. All of these materials are available through Computer Terminal field sales offices or from Corporate headquarters.

## Datapoint Supplies

To ensure that your Datapoint equipment maintains top efficiency, Computer Terminal Corporation constantly evaluates the support materials that a smooth running data processing organization depends upon.

### Cassette Tapes

Magnetic tapes for the Datapoint 2200 and 3300 units are expected to have a long operating life under heavy business usage. To meet this goal, the cassette tape supplied by Computer Terminal Corporation is not only digitally verified for consistency, but also individually checked for a smooth, non-wearing oxide coating. Only Datapoint cassette tapes will insure an error free and long life for your tape system.

Model Code: 2200-150 Cassette Tape, 300 feet  
2200-161 Blank Tape Labels

### Printer Supplies

A complete line of printing materials is available for your Datapoint.

Model Codes: 2200-202 Ink roller for 2200/Printer  
2200-222 Ribbon for 2200/Line Printer  
2200-224 Three part paper for 2200/  
Printer and 2200/Line Printer  
2200-223 Single part #20 paper for 2200/  
Printer and 2200/Line Printer  
3300-202 Paper for 3300/Thermal Printer

### Coding Pads

2200-151 Pad of coding forms, 25/Pad. Pad is suitable for use with Assembly Language or DATABUS, a high level language.



*For further information on Datapoint products, please write or call the Computer Terminal Corporation office nearest you.*

## Computer Terminal Corporation



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Los Angeles (213) 645-5400  
Minneapolis (612) 854-4054  
New York (212) 759-4656  
Orlando (305) 671-4500  
Phoenix (602) 265-3909  
Portland (503) 289-9655  
San Francisco (408) 732-9953

### **Sales Representatives:**

Data Associates, Inc./Arlington, Texas/(817) 265-7745  
Data Engineering Co./Norristown, Pa./(215) 272-1444  
Ron Davies & Associates/Beltsville, Maryland/(301) 937-2215  
Marketechs, Inc./Wellesley, Mass./(617) 891-9220 or (617) 237-4343  
Marketechs, Inc./Darien, Conn./(203) 655-4800  
MGA Computer Corp./Beverly Hills, Calif./(213) 553-0811  
PLS Associates/Denver, Colorado/(303) 771-0140

### **International Sales Representatives:**

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SCANIPS/Oslo, Norway/Telex: 856-18549  
Sigma Data Corp./Johannesburg, South Africa/Telex: 960-430924  
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TRW Communications/Lyss/Berne, Switzerland/Telex: 845-34446  
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