

# ***Hewlett-Packard announces the 3000 Series II***

## **A computer advance that could price/performance standard**

**It is a terminal-oriented, general purpose computer system with powerful data base management.**

**It can perform independently or as a satellite to a large central computer.**

**It can put you in control of your data processing future right now.**

**It is job-performance rated.** Novel benchmark data help you select the configuration you need for your present applications. As your needs grow, the HP 3000 Series II can be upgraded—to 63 terminals and 512,000 bytes of memory.

**Its data base is continually updated and remotely accessible** through HP's powerful and uniquely economical data base management and query package. You get "right now" answers to "right now" questions, and you select the format in which the data is presented.

**It offers decentralized input/output.** Terminals make reports available when and where they're needed. Data can also be entered, corrected, and processed at its source by non-specialists—with a significant reduction in data input errors and time.

**It can increase the productivity of your central EDP.** Through interconnection, local data entry and processing, tasks that overburden and create delays within central EDP, can be delegated to the responsible location, improving data management.

# set a new data processing for you.

**It brings new choice and economy to your data processing needs.**

**It cuts the cost of program development and throughput** by means of its powerful operating system. Multiterminal programming in COBOL, FORTRAN, RPG, and BASIC, and comprehensive utility packages, further its flexibility and speed.

**Its comprehensive range of support services** enables you to select what you need, at a clearly defined price.

**It is warranted and backed** by a billion dollar company with 40 percent of its business in computer products.

**It costs \$2350 to \$7500 per month** on a five-year payout lease, or \$110,000 to \$350,000 by direct purchase (domestic U.S. prices only, maintenance not included).

**If you plan to install a computer or upgrade your present system, you owe it to yourself to get all the facts. Write now.**



Sales and service from 172 offices in 65 countries

1502 Page Mill Road, Palo Alto, California 94304

Mail to: Hewlett-Packard, 1502 Page Mill Road, Palo Alto, CA 94304.

In Europe, mail to: Hewlett-Packard S.A., 7, rue du Bois-du-Lan, P.O. Box, CH-1217, Meyrin 2, Geneva, Switzerland.

Please send me further information on the new HP 3000 Series II computer system.

Name \_\_\_\_\_

Title \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

You can tell a lot about an individual by what he pours into his glass.



**Bushmills.**

The world's oldest whiskey.  
Individuals have poured this  
smooth mellow whiskey since 1608.

The "Novelist" glass created for the Bushmills Collection by Henry Halem  
A blend of 100% Irish Whiskies, 86 Proof, Bottled in Ireland, The J.W. Gambeau Co., New York, N.Y. © 1975

Darien to determine a route for a canal. Ferdinand de Lesseps (projector and builder of the Suez Canal) reports that the committee of the French Academy on commercial geography has accepted and approved the idea of beginning a topographical, botanical, zoological and ethnological exploration of the Isthmus."

"In an educational exhibit at the Centennial Exposition the Massachusetts Institute of Technology provides complete catalogues of all the articles exhibited, with documents explaining the organization of the school and various other details of interest. The general plan of the institution is quite extended, embracing 10 courses, each occupying four years as follows: civil and topographical engineering, mechanical engineering, geology and mining engineering, building and architecture, chemistry, metallurgy, natural history, physics, science and literature, philosophy. The visitor who examines this display will see that the students are encouraged to make experiments and original investigations, and that a prominent place is given in most courses to the subject of drawing. This institution opens its doors to members of the gentler sex, and it is pleasing to find an account of some thorough analytical work by one of the female graduates. The school year is about 36 weeks, and the necessary expenses, including board and tuition, vary from \$500 to \$600 per school year."

"On a recent occasion, when all the Atlantic cables were interrupted except for the Direct, the entire business for two days was done on this one wire, and the average speed maintained for 48 successive hours was 10½ words per minute. The highest speed attained was 18 words per minute. The length of the cable is 2,500 nautical miles. This is the fastest ocean telegraphy ever executed on a cable of equal length."

"The problem of providing healthy and comfortable homes for the working classes is one with which students of social science have largely dealt in Europe, and one which, ere very long, must in this country demand earnest and thoughtful consideration. It is an undeniable fact that, so long as working men are compelled to live in tenements where every sanitary precaution is neglected, their condition, both moral and physical, must suffer; and the legitimate result is the injury and depreciation of the class in whose well-being the prosperity of the community in great measure depends. Relief from the overcrowded tenement is, perhaps, nowhere more needed than in New York. Rapid transit, when gained, will do much towards improving matters by opening cheap homes in the suburbs, but even then an immense number of people will still be obliged to live in the heart of the city. For them improved homes are urgently needed; and until the same are provided, the epidemics that yearly afflict the denizens of tenements are only to be expected."

# Pioneer's new 9191...the best cassette deck under \$450<sup>†</sup> that money can buy.

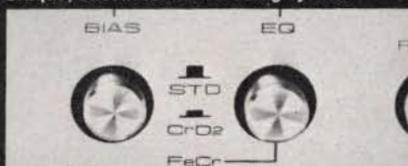
Here is a magnificent cassette deck with specifications that are beyond what our industry had been aware were possible; specs that surpass anything that a deck of this price, performance and quality has ever been able to come up to before. Unbelievably low wow and flutter; solenoid controls that operate at a touch with almost magical precision, and a unique, truly-visible horizontal front loading system by which the cassette is effortlessly set into place with two fingers, are only a few highlights.

Pioneer's new 9191 incorporates a cascade of features and innovations: automatic CrO<sub>2</sub> tape detector and indicator light; an illuminated panel scale that lets you see at a glance the amount of tape remaining on a cassette; and an advanced memory rewind circuit that permits quick and easy location of (and automatic re-start from) any point on a cassette tape. It also has two independent drive motors, including an electronically-controlled DC unit for recording and playback.

Our engineers took into consideration the many types of tapes available and included superior bias and equalization circuitry and switching (in addition to the automatic CrO<sub>2</sub> detection system) so that the 9191's recording capability is



Unique, effortless front-loading system.



Selectable equalization and bias switches.

optimized for any kind of cassettes you want to use. And, of course, there's built-in Dolby B\* to bring the 9191's S/N ratio up to 62 dB, even with standard tapes. We've also included separate mic/line mixing, and an extra pair of input and output jacks.

By now you realize that here is a cassette deck rivalling the performance of decks costing hundreds of dollars more; a deck whose controls make it respond faster than many reel-to-reel machines, and which offers greatly-extended frequency response and dynamic range. And it's the only front-loading, front-

control, stackable deck to have all the features we've mentioned.

But of all the ingredients that make up the 9191: performance, reliability, style and features, the most important of all is its value. We set out to build a cassette deck that was better, but less costly, than any deck built previously. We know we have succeeded. We know that you'll agree when you see and handle the Pioneer CT-F9191 at your Pioneer dealer.

#### CT-F9191 Specifications:

**Frequency Response:** Standard, LH tape: 25-16,000 Hz (35-13,000 Hz  $\pm$ 3dB); CrO<sub>2</sub> tape: 20-17,000 Hz (30-14,000 Hz  $\pm$ 3dB)

**Signal-to-Noise Ratio:** Dolby OFF: More than 52 dB; Dolby ON: More than 62 dB (Over 5,000 Hz, Standard and LH tapes) More than 66.5 dB over 5,000 Hz with CrO<sub>2</sub> tape

**Harmonic Distortion:** No more than 1.7% (OdB)

**Wow and Flutter:** No more than 0.07% (WRMS)

U.S. Pioneer Electronics Corp.,  
75 Oxford Drive, Moonachie,  
New Jersey 07074.

West: 13300 S. Estrella, Los Angeles  
90248 / Midwest: 1500 Greenleaf, Elk  
Grove Village, Ill. 60007 / Canada:  
S.H. Parker Co.

**PIONEER**<sup>®</sup>  
when you want something better



\*Dolby is a trademark of Dolby Laboratories, Inc. †The value shown is for informational purposes only and includes a cabinet with walnut grained vinyl top and side panels. The actual resale price will be set by the individual Pioneer dealer at his option.