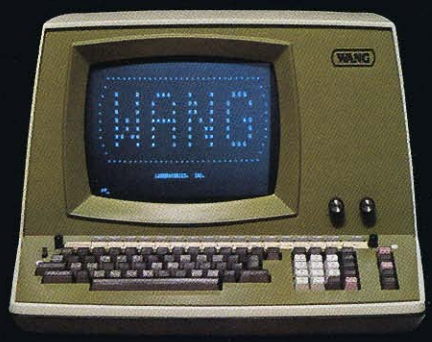
Now you don't need a computer to figure out how to buy a computer.



Wang: how to buy a computer.

The Wang 2200 Line of Small Computer Systems.

No two computer users' needs are the same. So Wang has developed a complete system of BASIC language, central processors, peripherals and software that adapts to any and all needs, situations and problems of a small computer user in business or science.

The Wang 2200 Line offers a complete selection of central processors, input and display stations and peripherals to handle automated input, output and data storage.

Its unique price/performance ratio is obtained by tailoring both hardware and software to the user's needs.

The Wang 2200 Line is the only small computer line that has successfully solved the small computer user's dilemma of too much hardware, too little flexibility, no provision for expansion and too steep an entry level price.

From our experience, three Wang 2200 Line system configurations solve the vast majority of small computer users' needs.

Each of these systems can be expanded and adapted as needs evolve and expand. You may add user memory to a maximum of 32K bytes, for example. Or add the advanced BASIC language features you need, as well as the input, output and storage media that will do your job.

The WCS/10.

The WCS/10 is designed for the business, the laboratory, school or research group with limited funds.

It's extremely compact and provides an executive display, keyboard, magnetic tape drive, BASIC instruction set and 8K bytes of user memory.

The WCS/20.

The WCS/20 gives you executive display, keyboard, 8K bytes of user memory, an increased set of BASIC instructions and a diskette unit.

Its unique feature is the diskette unit which puts 262K bytes of online random-access memory at your disposal. At your option, a second and third diskette drive may be fitted into the same desk. This configuration allows simple and inexpensive file-updating on diskettes—the most economical storage medium available today.

The WCS/30.

The WCS/30, the most powerful configuration of the three systems, includes executive display, keyboard, 16K bytes of user memory, an increased set of BASIC instructions, a high-speed printer and a diskette and disk unit.

The power of this system is based on the combination of two efficient storage media, diskette and disk.

Each diskette stores 262K bytes of information. The disk unit contains two disk platters—one fixed, one removable. The total storage capacity, 5 million or 10 million bytes, is equally divided between the two platters. Your files are stored on the removable platter for virtually unlimited offline storage.

Up to four systems can share one disk. The participating systems may be regarded as work stations, sharing a common data base, or as independent systems, each with a specified portion reserved for its own use.

The Wang 2200 Line also offers all system components separately, so a system may be custom-built according to your precise needs.

Efficient language is BASIC.

Wang Computer Systems operate in BASIC, the computer language most similar to English. It's more convenient, easier and faster to use than any other.

BASIC may be applied with equal ease to scientific and business problems. Its flexibility makes operation simple and straightforward and provides the user with the tools he needs to process any problem.

Most BASIC statements occupy only one byte in memory, making extremely efficient use of available memory.

And even the BASIC instruction set, whose rich vocabulary is yet to be equalled by systems this size, can be configured around your needs—commercial or scientific.

At your option, it may include read and write instructions for more complex tape and disk operations, additional input/output statements, sort routines, instructions for disk file management, matrix statements, Boolean operators and plotting.

Operating system and BASIC language are built in. We have done away with lengthy daily start-up procedures, special wiring and specialized air-conditioning. A Wang Computer System plugs in, turns on and goes to work where you do.

The Wang Screen.

The system's screen is large, silent and responds at the touch of a key. It displays 16 lines of 64 characters of any information you call. With it, you effortlessly and instantly verify input, interrogate files, debug your programs, display graphs or list a program.

Through question-answer type instructions, the screen guides an operator through invoicing, inventory updating, running a statistical analysis.

The Wang Keyboard.

The system's keyboard could very well have been just another standard typewriter-like keyboard with a numeric key cluster added. And, actually, it is.

But flick a switch and you can use it as a programming keyboard, inputting most BASIC statements with a single keystroke.

The keyboard even includes 16 special-function keys which can be used for 32 special-purpose instructions or instruction sequences you can create to simplify operation, interrogate files, access programs or subroutines from the keyboard or enter recurring program text.

Special-function keys may be used and labelled in any manner to suit the type of job or program you need to run.

Ease of programming.

You program the system through the touch of a key and a glance at the silent screen.

Simply enter numbered, single or multi-statement program lines, instruction by instruction, with one single keystroke each for most BASIC verbs and mathematical and trigonometric functions.

Each line is automatically checked by the system for syntax errors and then saved, listed or executed.

For quick results to calculator-type problems, you may use the "IMMEDIATE MODE" by simply entering unnumbered multi-statement lines and touching EXECUTE at the end of the instruction sequence.

Now you don't need a computer to figure out how to expand your computer.

Wang Computer Systems have all the peripherals for input, output and data storage you'll ever need. So you can get information in and out conveniently, in a manner suited to your operation.

Manual data input with Wang.

For manual data input, use the typewriter-like Model 2222 Keyboard with numeric key cluster.

The dual-purpose Model 2223 Keyboard inputs most BASIC verbs with a single keystroke each or, at the flick of a switch, acts like a typewriter.

For the most effective display of data, choose our Executive Display with 16 lines of 64 characters in upper case, Model 2216, or in upper and lower case, Model 2216A.

The display, cassette tape drive and keyboard can be combined in various configurations to suit your purpose.

The Model 2216/2217 (or Model 2216A/2217) includes the Executive Display and one Cassette Tape Drive.

The Model 2226 combines Executive Display and Keyboard in a single unit.

The Model 2220 offers Executive Display, Cassette Tape Drive and Keyboard in one complete workstation.

How to suit your data capture method.

To suit your data capture method for data input from both Wang peripherals and your own instrumentation or measuring devices, we offer a wide range of possibilities.

The Model 2203 Optical Paper Tape Reader inputs data from both standard and non-standard paper tape at 300 char/sec.

The Model 2262 Digitizer inputs graphic data directly into your Wang Computer System.

The Model 2234A Card Reader reads 80-column punched cards.

The Model 2244A Card Reader reads both punched and marked cards.

The reading speed for both units is 300 cards/min.

Single marked cards are read by the Model 2214 Card Reader.

Wang interfaces to suit your instrumentation equipment:

RS-232-C, Model 2207A, with speeds ranging from 110 to 1200 baud.

Parallel, Model 2250, for input and output to the system.

BCD (Binary Coded Decimal), Model 2252A, inputs 10 digits, sign and decimal point, interfacing most standard digital devices.

IEEE Standard 488-1975, Model 2254, conforms to recently adopted IEEE standards for instrument interfacing.

Flexible data storage capability.

Your data is stored on whatever medium corresponds to your needs and budget. On low-priced magnetic tape cassettes; on industry-compatible 9-track tape; or on diskettes or disks for online random access to ¼ to 10 million bytes of information.

Magnetic tape cassettes are read by the single or dual Magnetic Tape Drives Model 2217 and 2218.

The 9-track Tape Drive Model 2209, an inexpensive, large-capacity storage device, stores 20 million bytes of information on industry-compatible ½-inch 2400 ft. tape reels.

Single, dual and triple Diskette Units, Model 2270-1, 2270-2 and 2270-3, provide online random access to 262K, 524K and 786K bytes of information. Small and inexpensive, diskettes store easily.

You may use our fixed/removable Disk Drives, Model 2230 and 2260, for fast,online random access to 1 million, 2 million, 5 million or 10 million bytes of information.

In each disk configuration, half the capacity is on the removable disk, providing inexpensive offline storage. Because the removable disk is easily unloaded, stored and replaced, total offline storage is virtually limitless.

The Model 2230MXA/B Disk Multiplexers allow two to four Wang Computer Systems of any size and type to share a common disk or diskette unit. The inexpensive multiplexer makes custom configurations of multiprocessor systems available to suit your requirements.

Output is printed or plotted as needed.

For low-priced, high-quality output, choose Output Writer Model 2201, a modified IBM Selectric II®. You may use it as a conventional typewriter as well.

For fast, high-quality output, choose one of our line of high-speed printers.

The Model 2231 with 80-character line length prints 60 to 150 lines/min at 100 char/sec.

The Model 2221W with 132-character line length prints 65 to 300 lines/min at 200 char/sec.

The Model 2261 with 132-character line length prints an average of 120 lines/min at 330 char/sec.

Dot matrix printheads insure precise legibility. For highlighted printing you

may expand the characters. Depending on the model, four or five carbon copies can be produced.

The Typewriter Plotter, Model 2202, plots (at 400 steps/sec) and labels multiple curves on the same set of axes (the Y-axis being unlimited) using different symbols for each curve.

The Analog Flatbed Plotter, Model 2212, gives you continuous-line or point plotting anywhere on a maximum area of 10″ x 15″. Finished plots may be titled, scaled and labelled as required.

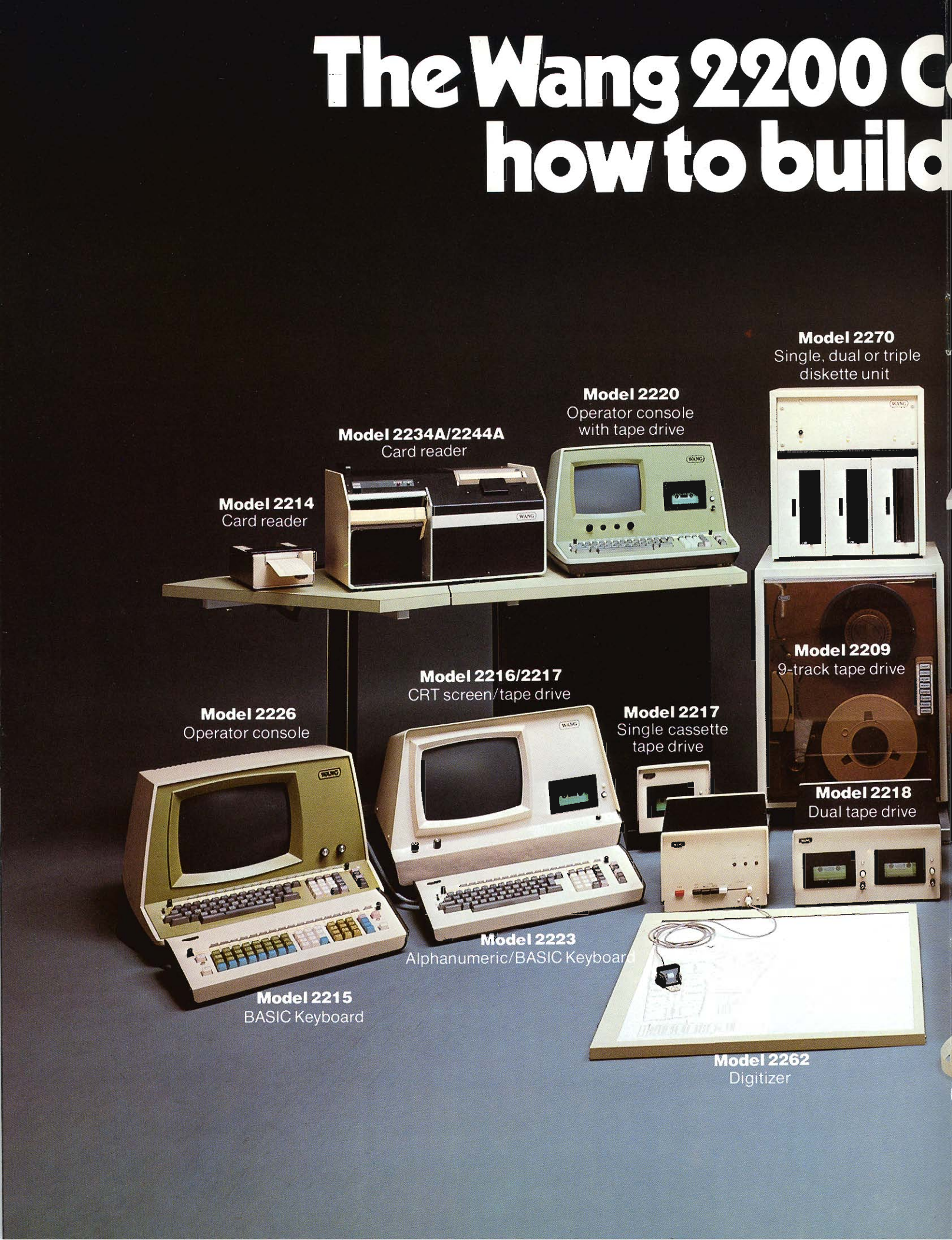
The Digital Flatbed Plotter, Model 2232A, provides a plotting surface of 31″ x 48″. Finished plots can be titled, scaled and labelled as required.

Distributed data processing with Wang Computer Systems.

For interactive applications, Model 2227 Telecommunications Controller connects a Wang Computer System to other computers which support teletype-like terminals. Transmission speeds range from 110 to 1200 bps (asynchronous transmission).

For batch processing applications in a distributed computer network, our Model 2228 Communications Controller emulates the IBM 2780 protocol for bisynchronous data transmission at speeds of 2000, 2400 or 4800 bps.

The Wang 2200 C
how to build



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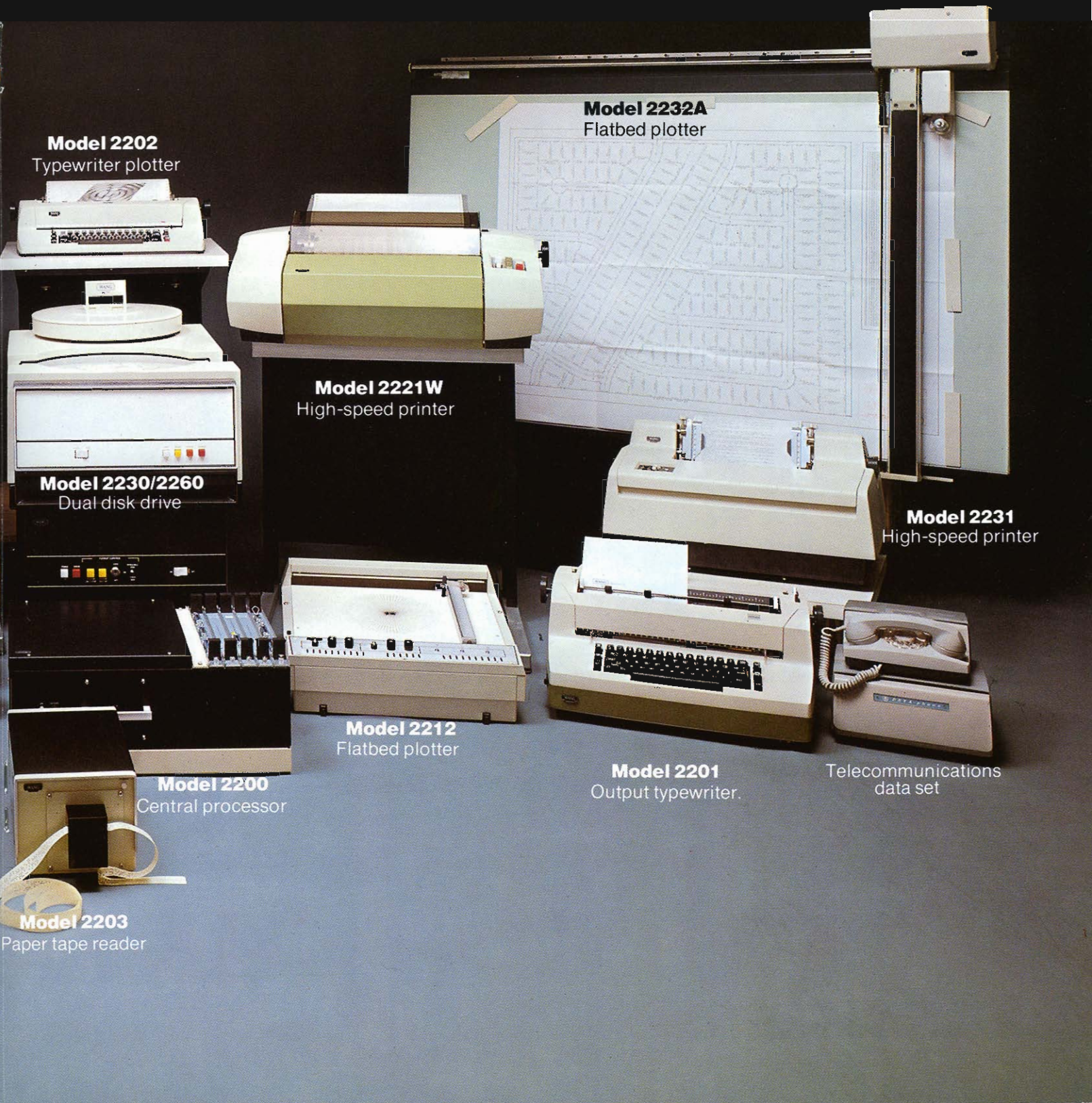
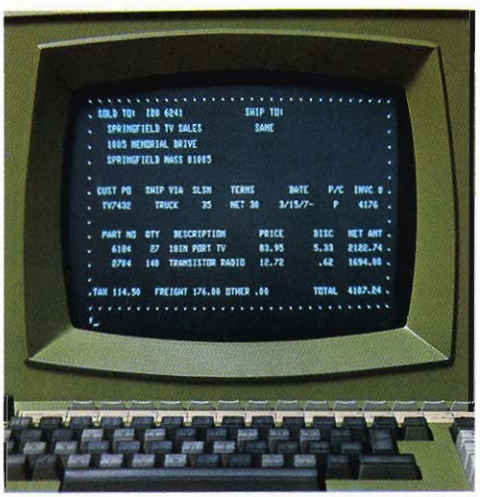
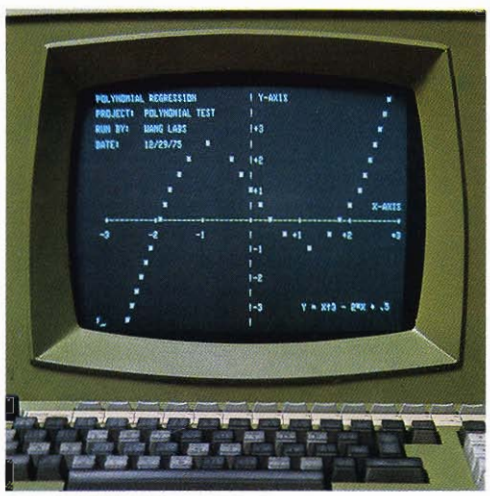
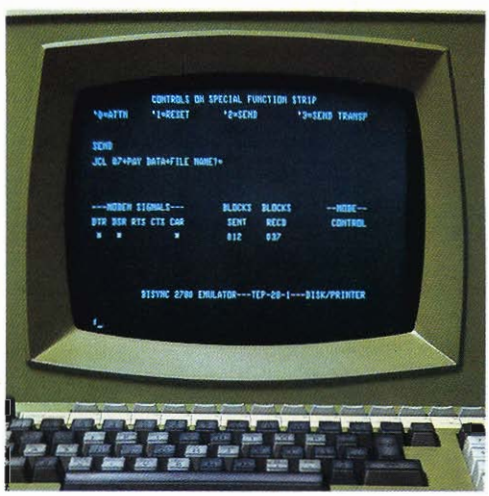



SOLD TO: 100 6241
SPRINGFIELD TV SALES
1005 MEMORIAL DRIVE
SPRINGFIELD MASS 01005
SHIP TO:
SAME
CUST PO SHIP VIA SLSM TERMS DATE P/C INVC #
TV7432 TRUCK 35 NET 30 3/15/7- P 4176
PART NO QTY DESCRIPTION PRICE DISC NET AMT
6104 27 19IN PORT TV 83.95 5.33 2122.74
2704 140 TRANSISTOR RADIO 12.72 .42 1694.80
TAX 114.50 FREIGHT 176.80 OTHER .00 TOTAL 4107.84


POLYNOMIAL REGRESSION
PROJECT: POLYNOMIAL TEST
RUN BY: WANG LABS
DATE: 12/29/75
Y-AXIS
X-AXIS
Y = XY3 - 2XX + .5


CONTROLS ON SPECIAL FUNCTION STRIP
*0=ATTN *1=RESET *2=SEND *3=SEND TRANSP
SEND
JCL 07*PAY DATA*FILE NAME1*
---MODEM SIGNALS--- BLOCKS BLOCKS --MODE--
DTR DSR RTS CTS CAR SENT RECD CONTROL
812 837
BISYNC 2780 EMULATOR---TEP-20-1---DISK/PRINTER

No matter how you figure it, you can use a Wang computer.

In business.

Every day of the year, thousands of cost-efficient Wang Computer Systems, acting as stand-alone small computers or as part of a computer network, provide daily profit and loss data to manufacturing, wholesaling, retailing, service, distribution and engineering firms, as well as corporate headquarters and branch office operations.

Wang Computer Systems are so popular that 150 major software companies, staffed with over 1000 highly qualified computer specialists, are now working with us to meet your needs.

Wang Computer Systems provide turnkey solutions, processing all accounting functions from receivables and payables to general ledger, billing, inventory management, order entry and processing, payroll, personnel and pensions. They produce all the information needed as the basis for sound management decisions.

For example, more automobile dealers use a Wang Computer System than any other as a "point of sale" tool in finance and insurance calculations. They use it for automatic printout of all documents associated with a sale and for all back-office functions including complete management information.

Wang Computer Systems handle project management for the construction industry. They have the capability to cost out projects and schedule project activities in terms of time, money and resource optimization.

Wang Computer Systems have become a major factor in financial management, supplying data daily to brokerage operations, mutual fund management, portfolio, profit-sharing and pension fund management.

In banking, Wang Systems process account reconciliation, bond analysis, commercial loans, installment and mortgage loans, including RESPA requirements, trust accounting and pension fund management.

Wang Computer Systems also process professional billing, CPA client accounting, and medical billing.

In science.

An ideal tool in the processing of scientific, technical and engineering problems, Wang Computer Systems enable the user to interact directly with the system through its screen and user-oriented keyboard.

Wang Computer Systems free you from the restrictions of slow terminals, oversubscribed computer centers and operating procedures unresponsive to your needs.

They allow you to reprocess, restate, reevaluate and make decisions as you analyze. At no extra cost.

For the mechanical, electrical and design engineer, the Wang Computer Systems' mathematical problem-solving power provides an effective tool in their work.

Wang's scientific software library contains many program packages that are specially tailored to individual fields such as structural analysis, surveying and design, the evaluation and interpretation of geophysical data, water and sewage network systems.

In education, our Huntington I Package includes programs applicable to high school and college biology, earth science, chemistry, mathematics, physics, social studies and teacher assistance.

And literally hundreds of sophisticated programs are available to the Wang user through our user software society, SWAP.

One field deserves special mention. It's Wang's extensive library of statistical and mathematical programs. They're specially designed to provide the most complete set of in-depth statistical analyses available, of Analysis of Variance, Regression Analysis, Sequential Analysis and Nonparametric Statistics.

Wang telecommunications.

Until recently, the larger company with geographically diverse operations has had little choice but to centralize its data processing and use large, expensive hardware.

Wang Computer Systems are powerful, complete, independent systems which can also operate as batch or interactive terminals using Binary Synchronous or Asynchronous Communications disciplines respectively.

In a dual-service environment, the Wang Computer System processes a wide variety of jobs stand-alone, and submits a second class of jobs, acting as a high-speed Remote Job Entry terminal, for execution on a larger remote processor. A standard line protocol is used to insure perfect compatibility with remote host processors and software.

Data collection through an intelligent entry device is an important time and money saving application. It eliminates cumbersome conventional key-punching and allows you to perform data editing, validation, formatting, and preprocessing. The "clean" data may then be transmitted to a larger computer for processing. Results are returned for local printing.

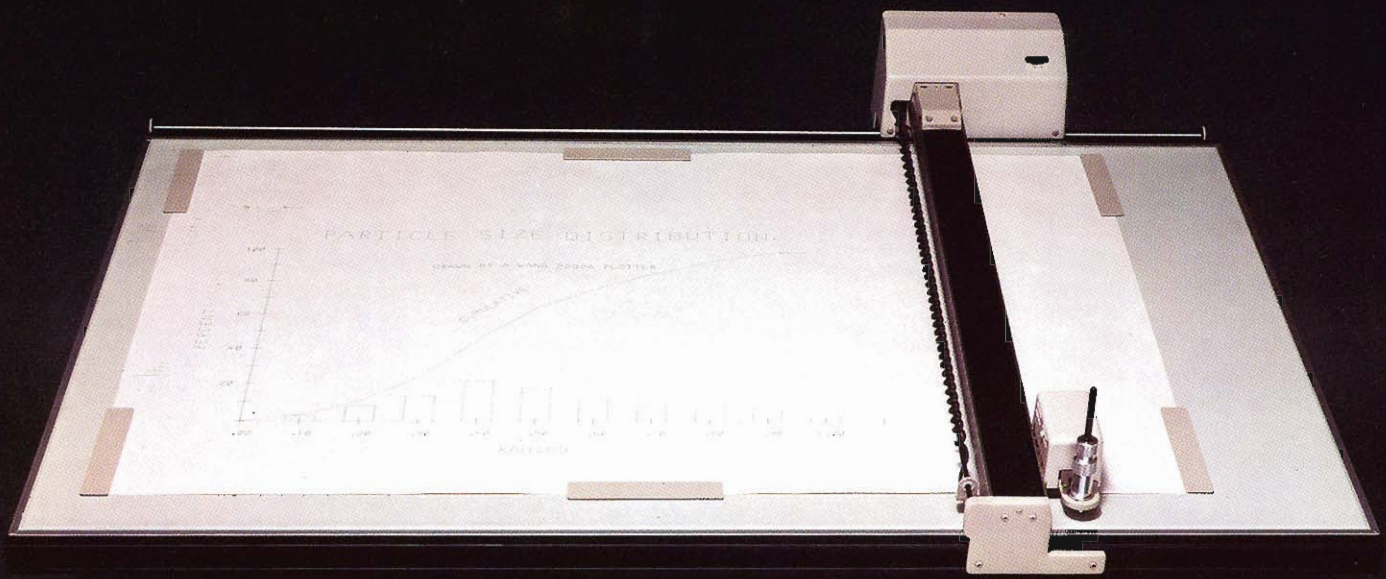
In a time-share environment, a Wang Computer System may be used as an interactive CRT display terminal emulating common asynchronous ASCII terminals.

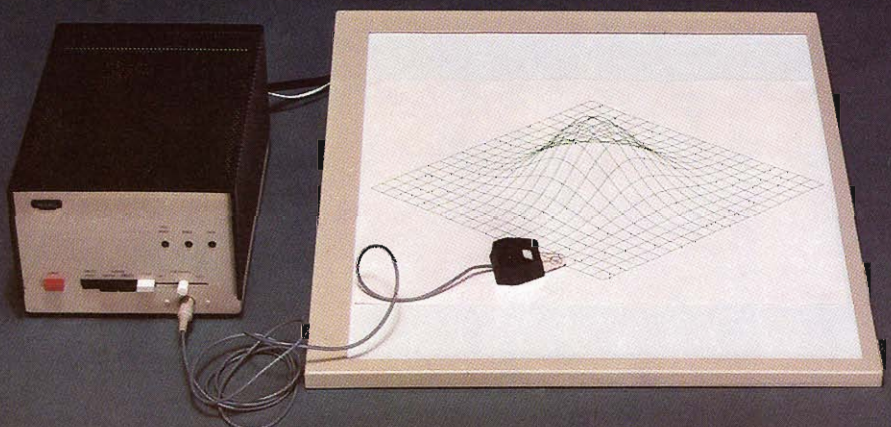
Both Wang Communication Controllers can be used for high-speed telecommunications between similarly equipped Wang Computer Systems themselves, in addition to communication with a larger remote host computer.

Wang works in the laboratory.

By connecting standard laboratory instruments, you have the capacity for online reduction and analysis of data via our IEEE standard 488-1975, ASCII/RS-232-C teletype, BCD and 8-bit parallel interfaces.

The Wang Computer System's capability to function fully in a telecommunications environment, combined with its processing power and ability to adapt standard laboratory instrumentation, provides an overall capability which can't be equalled by terminals or programmable calculators.


PARTICLE SIZE DISTRIBUTION



Wang's system of support software.

Wang's system support software integrates all system components and peripherals through a common access procedure and provides easy transfer routes to other software.

It puts all the elements of a system at the operator's fingertips and thus significantly enhances overall system responsiveness.

Designed to simplify the operator's task, the disk and diskette support system contains all frequently-used routines including Wang's KFAM ("Key File Access Method") utilities.

KFAM is a software system that organizes a disk-based data file so individual records in the file are rapidly accessible and can be added and deleted without disturbing the file's organization.

Extensive utilities are available for Wang's plotters, tape units and card readers. The digitizer utilities provide stand-alone routines which support a number of typical digitizer applications including plotting.

The Report Program Language (RPL) utility helps generate programs that extract data from a given file, optionally sort them and produce printed reports. Combined with BASIC subroutines RPL programs can perform complex operations such as accessing multiple files or calculating a standard deviation.

Generation of custom reports and analyses in RPL is many times faster and easier than in BASIC and thus helps to save time and manpower.

Quite a few people have already figured it out.

Here are some comments we've received from present Wang Computer Systems users:

"Saves in headaches. Definitely saves time and manpower."

"It's the best on the market. I couldn't choose any one feature. The whole thing is great. Giving it up would put me out of business."

"Costing has helped our control of production goals: what styles are low profit, what dealers we make the profit on. Give it up? I would be losing an arm because of all the information I would miss."

"Would take at least three people to replace the system, and they couldn't do it as well. We'd have to go out of business... like switching back to horse and buggy."

"The paperwork in medical billing and reporting is just too much to handle. It is now done by four CPU's. Wouldn't switch back."

"On the one occasion we had trouble the service was prompt. We intend to extend the system's capacity which will save us $550 a month in outside services for accounting, etc."

"Our Wang System handles cost and time measurement combined with staffing budget and performance control. Without a doubt the most for the least in the industry."

"...handles specialized actuarial programs for us. It gives us better turn-around and lower cost than similar applications on larger equipment."

"Very fast implementation. Ease of use by clerical staff directly."

"Wang has it from what I have seen. We were using a different system before and had nothing but trouble."

"We could not operate our business now without. It has helped us grow."

We'll show you how to make the most of your investment by training your employees to take full advantage of your Wang system's capabilities.

And our customer training seminars are designed to give key management people an understanding of how computers work. For your operators and programming staff, we provide courses in elementary or advanced BASIC programming techniques.

Our Product Sales and Service Divisions are among the largest and most highly trained of their kind. Our worldwide field organization of over 200 offices is staffed with 1200 highly skilled sales and systems specialists, service engineers and support personnel. Located in 105 cities in the United States and Canada and 53 countries overseas, Wang Sales and Service Representatives are as near as the telephone.

WANG

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Yugoslavia

History.

We like to think that our Company is a unique example of modern marketing dynamics. The axiom is, "Find a need and fill it."

Wang produced the scientist's first personal computer in 1964.

Today, the company offers a complete line of small computers and more peripherals than anyone in the industry.

Dr. An Wang earned his Ph.D. in Applied Physics at Harvard University. His early work in magnetic core memory development contributed to one of the giant steps that made computers a part of modern business life. Reliable large-capacity memory was one of the biggest needs that had to be filled before the computer could become commercially viable.

Started in 1951, Wang has grown to an international multimillion dollar corporation, dedicated to developing the industry's most innovative small computer and word processing systems, and is listed among the top growth businesses in the United States. Our main manufacturing and corporate facility of 230,000 square feet is located in Tewksbury, Mass.

Our worldwide field organization of over 200 offices is staffed with 1200 highly trained sales and systems specialists, service engineers and support people.

Wang-staffed service centers are located in more than 100 cities in the United States and Canada.

We have come a long way in the process of "finding needs and filling them." Filling them in ways that are saving our customers time and money.

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