

How to  
tell an  
Epson HX-20  
from an  
ordinary  
computer.



**EPSON**

# Actual size.

Optional Microcassette

The size, of course, is a dead giveaway. But don't let the size fool you. The HX-20 is not a toy. Or a glorified calculator.

It's a computer. A real computer, with 16K RAM (optionally expandable to 32K), and 32K ROM (optionally expandable to 64K), RS-232C and serial interfaces, a full-size ASCII keyboard, a built-in printer, an LCD virtual screen, and music generation. It uses a full, extended version of Microsoft BASIC, and has time, date and alarm string functions. A microcassette and ROM cartridge are available as options.

Viva la difference!  
In fact, the only differences between the Epson HX-20 and a run-of-the-mill desktop computer are:

- 1) The HX-20 is small enough to fit inside your briefcase.
- 2) It'll run on its own power supply for 50-plus hours, and fully recharge in less than eight!
- 3) It gives you ten separate program functions at the punch of a button.
- 4) It lets you interface with peripherals like a barcode reader for inventory control, an audio cassette for loading and saving programs, and MX Series printers for correspondence quality output.
- 5) It lets you shut the whole unit off while preserving everything you've got in RAM; and, last, but far from least,
- 6) It costs roughly half as much as a standard desktop.

That ought to be enough to fire your imagination. But there's more. The perfect traveling companion. With the Epson HX-20 and the optional RAM expansion, you'll be able to compute — not just crunch numbers, but actually write and manipulate programs with a 6301 microprocessor — just about anywhere. Because four nickel-cadmium batteries and a low-power, all-CMOS memory keep the HX-20 running for over 50 hours. And when you get back to the office, you can dump everything you've done onto a cartridge, or into your main system. You don't even have to worry about shutting the HX-20 off, because a low-voltage system maintains everything you have in the RAM.



**Little screen, big picture.**  
The HX-20's unique virtual screen is the ultimate answer to the question, "How do you get a big screen in a small space?" You just show part of it at a time.

So with the HX-20, you can do programming, word processing and data entry just like you've got a big screen, up to 255 characters wide, with any 20 columns by four line part of it visible by user command. Not only will the screen give you easy-to-read upper and lower case letters, numbers, punctuation and graphics, the viewing angle can be changed to make it easy to see, almost no matter what angle you're viewing from.

**Built in hardcopies.**  
Need a hardcopy of your calculations for a prospective customer? Or a program listing? Or a printout of your inventory?

The HX-20's built-in 24-column dot matrix impact microprinter hands it to you at 42 LPM, in a crisp, precise 5x7 matrix. It even has bit addressable graphics to hand you a pint-sized sales chart, a cartridge ribbon and a full ASCII character set with descenders. And enough international symbols to print most Western languages.

Epson makes more and better printers than anyone else in the world. Need we say more?

The best is yet to come. When you hold an HX-20 in your hand, you're not only holding a lot of capacity, you're holding a lot of expansion.

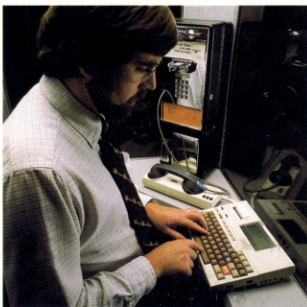
There's a standard cassette interface, a cartridge interface, the RS-232C and serial interfaces, and a system bus that lets you expand RAM and ROM capacities. There's even a floppy disc drive for max capacity in a mini package.

**The Epson edge.**  
Surprised that a computer like the HX-20 should come from Epson? You shouldn't be. Because we've been building computers in Japan since 1978. And we've been practicing ultra-high-quality precision manufacturing for a lot longer than that.

So you can expect an Epson computer to be just as reliable and perform just as well as an Epson printer. Or better.

We didn't jump right into the American microcomputer market. We could afford to bide our time; to wait for the product that was going to stand America on its ear.

This is it.  
The Epson HX-20.



## SPECIFICATIONS

<b>CPU and Memory</b>		<b>Power Supply</b>	Four NiCd batteries, internal; Sub C type, 1200 mA/H capacity; 50-hour capacity running BASIC (less depending on use of RS-232 port, printer or optional microcassette)
Main CPU	CMOS 8 bit microprocessor 6301, 614 KHz clockrate	<b>Recharge</b>	Full charge within 8 hours
Slave CPU	CMOS 8 bit microprocessor 6301, 614 KHz clockrate	<b>Keyboard and Character Set</b>	
RAM	16K (standard) expandable to 32K with expansion unit	Type	ASCII
ROM	32K (standard) expandable to 40K internally; to 64K with expansion unit	Function	Interruptable
<b>Built-in Peripherals</b>		Total number of keys	68
Display	Liquid crystal screen; 120 x 32 dot matrix; 20 x 4 character display; 5 x 7 font; virtual width to 255 characters by BASIC "width" command	Function keys	5
Printer	24-column dot matrix impact microprinter; graphic print rate: 42 lines per minute; bit addressable graphics; full ASCII upper and lower case character set; cartridge ribbon	Special keys	13
Clock	Time and calendar, alarm, interval timer, built in CMOS battery backup	Ten key pad	Function locked in by (NUM) key
Tone generator	Programmable pulse drive, four octaves with half-tones	Graphic shift	32 special graphic characters
<b>Communications</b>		International character set	Selectable by DIP switch
RS-232C	Full/half duplex, 110 to 4800 baud rate, 8-pin DIN connector	<b>Environmental</b>	
Serial	Full/half duplex, 150, 600, 4800, 38.4K baud rate, RS-232C level, 5-pin DIN connector	Temperatures	
<b>Peripheral Interfaces</b>		Operating	5-35°C (41-95°F)
Barcode Reader	HP barcode reader with special connector	Charge	5-35°C (41-95°F)
Cassette	Standard audio cassette interface	Data integrity	-5-40°C (22-104°F)
System Bus	16-bit address bus; 8-bit data bus and control lines, 40 pin connector.	Data storage	-20-60°C (-5-140°F)
ROM Cartridge/ Microcassette Interface	I/O port with 3 input, 6 output lines	Humidity	
<b>Switches, internal</b>		Operating/Non-operating	10-80% non-condensing
4 bit DIP	3 bits for international character set selection; 1 bit programmable	<b>Physical Characteristics</b>	
<b>Switches, external</b>		Size	28.9 x 21.6 x 4.44 cm (11.375" x 8.5" x 1.75")
Main power		Weight	1.73 kg (3 lbs. 13 oz.)
Printer on/off		<b>Options</b>	
Reset		Expansion unit	8K RAM plus 24K ROM or 16K RAM plus 16K ROM. Total expansion is 32K
		Microcassette	Uses standard microcassette tapes
		ROM Cartridge	Uses 8, 16 or 32K ROM to load program into RAM
		<b>CX-20 Acoustic Coupler</b>	
		Communications	Full/half duplex, selectable
		Operation mode	ORIG/ANS mode, selectable
		Signaling speed	Up to 300 BPS
		Interface	Standard RS-232C
		Power Supply	4 NiCd batteries; AC adaptor (115V ± 10%, 60 Hz); Floating charge with AC adaptor

Specifications subject to change without notice.

**EPSON**  
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