

REVIEWS

**Play a Portable
Computer Made
Just for Music,
Hone Home
Videos with Two
Great Programs,
Pop Up Work on
Your PC, and
Amuse Yourself
on the Amiga**



Yamaha C1 Music Computer

When the folks at Yamaha say "music computer," they aren't just giving you the old song and dance. The Yamaha C1 Music Computer is definitely *not* just another IBM PC compatible. And just to make sure you don't confuse the C1 with other personal computers, Yamaha has built in 11 MIDI ports, not to mention a pile of other features designed for the modern musician. The C1 is a powerful machine, with many ways to help you get your job done fast—whether it be producing a musical score or a budget worksheet.

Weighing in at less than 19 pounds, the C1 laptop computer uses a high-density backlit display screen. The normal display colors are blue on a white background, a combination that looks very sharp if you are directly in front of the screen. When I tested the C1 under normal working conditions in my studio, I found that the farther I moved to the side of the screen, the poorer the contrast became. I eventually reached the point at which the screen was entirely blue. This means you should set the C1 either above or behind your primary MIDI keyboard for best viewing.

The C1's manageable weight and carrying case make it easy to transport the C1 to and from jobs. When you're ready to pack it up, all you have to do is close and latch the screen, which covers and protects the keyboard, and remove any attached cables. The built-in ni-cad battery preserves the accuracy of the C1's realtime clock and system settings when the power is off.

At the heart of the C1 are one megabyte of memory and an 80286 microprocessor capable of running at a speed of 10 MHz. To give you an idea of what that means, 10 MHz is fast enough to make a DOS directory listing look like a blue smear on the screen. But the speed is very beneficial to managing all of the C1's MIDI ports.

The C1 comes in two disk drive configurations, called the C1 (\$2,995) and the C1/20 (\$3,995). The standard C1 includes two 3½-inch 720K floppy drives built into the right side of the unit, one on top of the other. The C1/20 has one 3½-inch 720K floppy drive and a 20-megabyte hard disk. The unit I reviewed was a prototype of the C1/20; the hard disk really makes the C1 a powerful machine. Without having to constantly flip floppies, I was able to jump quickly back and forth between features that include a word processor, a spreadsheet, two different sequencers, several patch librarians and MIDI utilities, and Microsoft Windows. The \$1,000 price difference might seem steep at first, but the time and frustration it can save you may make it worthwhile—especially if you have a lot of work to do.



The Yamaha C1 Music Computer orchestrates 11 MIDI ports and a megabyte of memory.

On the back of the C1, you'll find input and output ports galore. There are two MIDI Inputs, one MIDI Thru, and eight MIDI Outputs. Assuming the software developers can get them all working well together, there are enough ports to hook up a decent-sized MIDI orchestra of instruments. For synchronizing the C1 to video and audio recorders, Yamaha has also wisely included input and output jacks for SYMPTE (Society of Motion Picture Technicians and Engineers) Time Code, which is normally an extra ex-

pense. In addition, the C1 has ports for an external monitor (CGA or Hercules-compatible), a Centronics-type printer port, two RS-232C ports for attaching a serial mouse or modem, and a Toshiba-style expansion port for an optional card, such as one for extended memory. All the ports are clearly labeled, well placed, and easy to reach.

The keyboard on the C1 is in a modified AT style, with a few changes that take getting used to (like the cursor keys in front of the number keys). After typing on it for a few minutes, I found

the C1's keyboard to be firm to the touch, with a nice, responsive action. Some of the keys, in addition to having letters printed on them, have musical notes and symbols silkscreened on them. These symbols correspond to a built-in musical font in ROM, which could create a kind of de facto standard for software manufacturers developing desktop music-publishing programs on the C1, at least as far as the use of the C1's keys is concerned.

Besides keys, Yamaha has included two general-purpose sliders on the

left side of the keyboard (next to the Tab and Ctrl keys). Their functions are determined by the software in use, but generally the sliders are used for changing certain parameters faster than you can change them using the keyboard.

The software packaged with the C1 includes MS-DOS and two MIDI utility programs, called *MIDI Monitor* and *Bulk Manager*. *MIDI Monitor* is useful for troubleshooting and exploring your MIDI setup. You can monitor incoming MIDI data, transmit MIDI data from the keyboard and control sliders, and route data through the MIDI input and output ports. I found it particularly interesting to watch the stream of MIDI data displayed as I played a synthesizer connected to the C1.

Bulk Manager lets you store any type of MIDI bulk data on a C1 disk. Bulk data refers to all musical voice data, rhythm-pattern data, and so on, that you might use in a song. The program will let you easily transfer memory data from one MIDI device to another.

The C1's 73-page documentation manual is fairly easy to understand. It diagrams and explains the external features of the C1 clearly and devotes almost 20 pages to explaining the basics of MS-DOS. Trying to teach the fundamentals of MS-DOS in 20 pages is like summarizing the Old Testament in 1000 words or less. I highly recommend you get one of the many good books available on MS-DOS as a necessary supplement. The sections on *MIDI Monitor* and *Bulk Manager* would be better as well if they included more practical examples and applications.

The Yamaha C1 Music Computer is a powerful machine just waiting for the chance to go to work. As more software becomes available (a few dozen software companies are readying C1 programs), it will become apparent just how useful and popular it can be. In the meantime, I was very impressed by its speed, modularity, and design. I can definitely envision the day when I replace my rickety XT clone with a C1/20 rocket.

—Joey Latimer

The Epyx 500XJ™ is no ordinary joystick.

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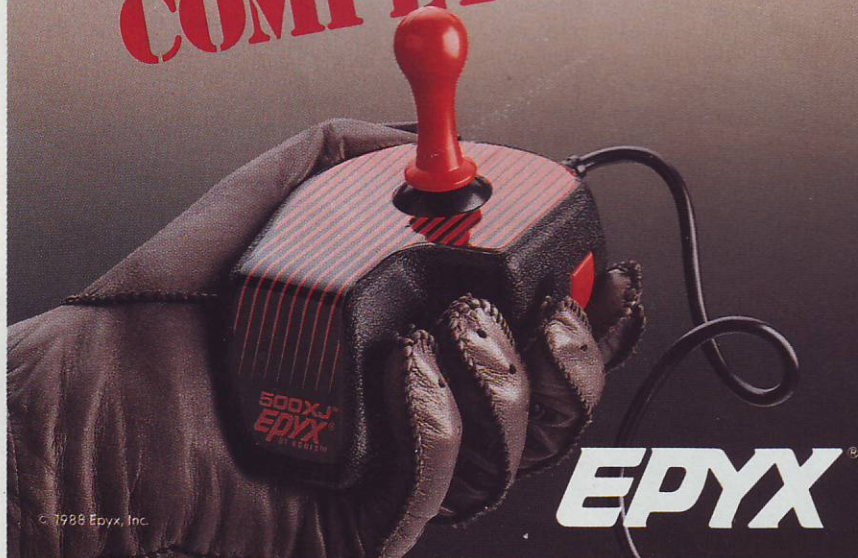
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Guaranteed to
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Yamaha C1 Music Computer

For...

Model C1—\$2,995

Model C1/20—\$3,995

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