

Casio CZ-101 Music Synthesizer, The Music Shop For MIDI, And MIDI 4/Plus For Commodore 64

Philip I. Nelson, Assistant Editor

Requirements: Commodore 64 with a disk drive, plus an external amplification system (or headphones).

The Casio CZ-101 is a sophisticated MIDI-standard digital synthesizer. MIDI (Musical Instrument Digital Interface) is an international set of standards for electronic music devices: MIDI-standard instruments can communicate and work together, even if they're made by different manufacturers. We tested the Casio synthesizer on a Commodore 64 with a Passport Designs MIDI interface. We also tried two examples of Passport software: *The Music Shop for MIDI*, a screen-oriented music program licensed from Bröderbund, and *MIDI 4/Plus*, which Passport refers to as a "digital recording studio on disk."

On its own, the Casio CZ-101 is a powerful, programmable performance instrument capable of producing an enormous variety of sounds. Though programming your own tones takes some practice, the Casio has 32 built-in tones ranging from conventional sounds like *trumpet* and *electric piano* to the unusual *fairy tale* and *fantastic sound* #2. To help you learn sound programming, Casio includes a book of "patches" or program information for over 40 additional tones, including everything from *blues harmonica* and *human voice* to *calimba*.

Sixteen of the synthesizer's tones are programmable, and it stores these custom sounds in memory even when turned off. You program the sounds with the aid of calculator-like keys and a small liquid crystal display on the face of the synthesizer. You can store additional custom tones in an optional plug-in memory cartridge. Like other synthesizers, the Casio works either in monophonic (one-voice) or polyphonic

(multivoice) modes. Four of the internal tones are eight-voice polyphonic—meaning you can play up to eight notes simultaneously—while the rest are four-voice polyphonic.

Though MIDI lets you interface the synthesizer with other devices such as computers, you can have lots of fun playing the synthesizer as a stand-alone instrument. The Casio's output jacks and adapter cable (included) make it easy to plug into an external amplifier, stereo system, studio mixer board, or an ordinary set of headphones.

One accessory you'll need right away, however, is a nine-volt power supply (the one I used cost less than \$5 at an electronics surplus store). Although the Casio comes with six D batteries, they last only a few hours and are really intended for backing up internal memory.

Better Than SID

The Casio comes with three manuals: An operations manual which relates chiefly to hardware functions, a sound synthesis handbook which explains Casio's Phase Distortion method of digital sound generation, and a sound data book of preprogrammed patches.

With a MIDI interface and some software, you can plug the Casio (or any MIDI synthesizer) into a home computer and operate it under computer control rather than manually. *The Music Shop for MIDI* is a MIDI version of Don Williams' excellent 64 music program. Like the original *Music Shop*, this program features on-screen editing with conventional notation, pull-down window menus, and a choice of joystick control or keyboard commands. Of course, the MIDI version of *The Music Shop* generates sound through the synthesizer rather than the 64's built-in sound chip. If you're familiar with 64 music, the difference is immediately apparent. Bass notes are round and full—

heavy enough to move furniture around the room—and there's a delicious absence of crackle or background noise. Best of all, you can input notes from the synthesizer keyboard as well as a joystick or the computer keyboard.

When evaluating any MIDI software, you should be aware that the standard itself imposes certain constraints. MIDI specifies a *minimum* standard, which individual manufacturers are free to exceed, and many MIDI instruments (including the Casio) give you extra features. Since MIDI software is necessarily designed around the standard, it may not let you use your synthesizer's extra features.

For instance, *The Music Shop for MIDI* provides access to only 16 of the Casio's built-in tones; the extra tones (including custom tones) can't be used within the program. And while multi-part music is available, every note plays in the same tone: You can't play a three-part harmony with three different tones. This is ordinarily done by connecting additional MIDI devices to the system, using MIDI synthesizer #1 to play voice one, MIDI synthesizer #2 for voice two, and so on.

Multitrack Digital Recording

MIDI/4 Plus is an enhanced version of Passport's popular four-channel software sequencer for MIDI devices. This is a realtime digital recorder with some quite elaborate editing functions. While *The Music Shop for MIDI* rates high in visual appeal, *MIDI/4 Plus* is functional and totally lacking in frills. When you run the program and enter Record mode, you can play on the synthesizer and digitally record one track of music. Though the screen shows nothing but a furiously ticking clock, every aspect of your performance is recorded in system memory. When the first track is complete, you can record a second while listening to the first, then repeat the process until as many as four tracks of music are complete.

Though Passport calls this a four-channel recording system, that term is a bit modest. MIDI calls for a minimum of four separate control channels, but *MIDI/4 Plus* lets you overdub (mix) any track with another. Since digital record-

ings are free from background noise, even after many generations of rerecording, there's no practical limit to the number of times you can overdub a new track onto existing material. It's like having an unlimited number of recording tracks: No matter how many times you mix a new track onto existing material, each note sounds as clear as when you first played it. In practice, of course, the total number of notes you can record is limited by the computer's memory. Passport claims a 5,000-note capacity for this system.

MIDI/4 Plus offers a wide array of other editing tools as well. You may edit, loop, or link individual tracks, autocorrect any track to fine-tune slightly off-kilter rhythms, synchronize your music with an external MIDI sequencer or drum machine (MIDI or non-MIDI), implement velocity-sensitive or aftertouch-sensitive keyboard information, and even synchronize your music with previously recorded tracks on multitrack tape decks (using MIDI synchronizing devices such as the KORG KMS-30).

Which is the best package for you? The answer depends on your tastes and abilities. *The Music Shop for MIDI* lets you write and edit music visually, using the electronic equivalent of a sheet of music paper. This makes it ideal for the casual musician or someone who's not a keyboard virtuoso. Even if you can't play like Liszt or Herbie Hancock, you can write or transcribe music at your leisure and let the system take care of the actual performance. (Don't mistake this program for a realtime recorder, however; although you can input the pitch of each note from the synthesizer keyboard, you must still go to the computer to change other aspects of the music, such as note duration.)

If your keyboard skills are adequate for realtime recording, *MIDI/4 Plus* may be a more attractive choice, particularly if you want to create very complex music or interface with other MIDI devices.

Casio CZ-101 Synthesizer
Casio Computer Co., Ltd.
15 Gardner Road
Fairfield, NJ 07006
\$499

MIDI Interface for Commodore 64 \$129.95
The Music Shop for MIDI \$99.95
MIDI/4 Plus \$99.95
Passport Designs, Inc.
625 Miramontes Street
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Half Moon Bay, CA 94109

The Newsroom

Kathy Yakal, Assistant Features Editor

Requirements: Apple II-series computer with at least 64K RAM and a disk drive; IBM PC/PCjr with at least 64K and a disk drive; or a Commodore 64. All versions also require a printer. Joystick and Koala-Pad optional.

The debate over how microcomputers can best be integrated into schools continues. Some software developers stress that the computer is best suited to achieving abstract goals such as encouraging critical thinking, while others promote software that is more testable and quantifiable. But there are needs that computers can serve quite well in the schools, needs that don't directly relate to curriculum. Students can use word processing programs to write papers. Teachers can use databases to keep track of grades. Administrators can use spreadsheets and other business software for record keeping.

The Newsroom, from Springboard Software, is a highly specialized program, designed to help you write, design, and print a newsletter or newspaper. Though it's being used in many schools, it has many other applications besides school newspaper production. It can be used to create newsletters for small businesses, computer user groups, or other community organizations.

The Newsroom is icon-driven; you move from one section of the program to another and issue commands by selecting the appropriate icon on the screen. The opening screen is divided into six areas, each containing an icon representing a different stage in newspaper production. You move the cursor to the area you want to work in and press the appropriate key. Then you're given a menu of icons to guide you through that part of the process.

If you want to design a logo to run across the top of the paper, you may want to start in the Banner section. You can choose from a variety of typefaces for your title, then move to the Clip Art area and select from hundreds of pre-designed illustrations, pictures of animals, people, maps, trees, sports, and many other drawings. The program also provides graphics tools that allow you to modify the clip art (or design your own) and add decorative touches like borders.

The Copy Desk is where you write stories for the paper, using the program's text-editing functions. If you have people in various locations writing articles, you can go to the Wire Service section and exchange files and

photos via modem with anyone else using a copy of *The Newsroom*, even if the other computer is different from yours. For example, using *The Newsroom*, an Apple II computer can exchange files with a Commodore 64 or IBM computer.

When you've written all the copy and chosen artwork, select the Layout icon and design the format for each page, then roll the Press. Printer compatibility shouldn't be a problem; the program lets you choose from a list of all major printers and interfaces. *The Newsroom* accommodates pages of either letter-size paper (8½ × 11 inches) or legal-size (8½ × 14 inches). Letter-size can contain six "panels" and a banner, or eight panels without a banner per page; legal size allows eight panels and a banner, or ten panels without a banner per page.

As the program's documentation takes you step by step through all the editorial and production stages, it also provides a brief journalism tutorial. A disk containing hundreds of additional pieces of clip art is available at extra cost.

The Newsroom
Springboard Software
7807 Creekridge Circle
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\$59.95

Dr. T's Sequencer For 64 And Apple

Richard Mansfield, Senior Editor

Commodore 64 or Apple II+ /IIe computer with a disk drive. An IBM version is scheduled for release in January 1986. The Commodore version was reviewed.

A sequencer is much like a highly versatile, multitrack tape recorder: You play something on a keyboard and the sequencer memorizes the notes, duration, attack, and even such things as aftertouch and pitch bend (detuning notes for special effects or added expressiveness). There are several sequencers available which transform the Commodore 64 or Apple into an effective music controller, but few approach the versatility and ease of use of Dr. T's Sequencer. It's astoundingly powerful. It gives you virtually total control over the elements of musical composition and performance.

Dr. T's includes all the features of an efficient sequencer—save/load to disk; midi control; merge, append, copy, and delete sequences; play and