Compucolor II Model 4
Personal Computer System

Has full graphics
and built-in floppy-
diskette drive

A MONG THE few small computing systems that provide color graphics is the Compucolor II from Compucolor Corp. (Address: 5965 Peachtree Corners East, Norcross, GA 30071; Tel: 404-449-5861). Several versions of this computer are available, offering a variety of optional RAM, keyboards, single and multiple disk drives, etc. These are basically two-package systems consisting of a 13" (33 cm) diagonal color monitor and disk drive in one and a keyboard/computer system in the other package. The two are interconnected via a single 30" (76.2 cm) long multiconductor flat ribbon cable.

We evaluated the Model 4 version of the Compucolor II, configured with 16K of user-available RAM and a single 5¼" floppy-disk drive. The optional 101-key Model 101 Extended Keyboard was substituted for the Standard 72-key keyboard. In addition to the standard 72 keys, the Extended Keyboard has a separate four-function calculator-type cluster, and a cluster of editing keys. (There is also an optional Deluxe keyboard with

117 keys and offering extended plotting capabilities available at extra cost).

The keyboard/computer package measures 19" (48.3 cm) wide by 7" (178 mm) deep and slopes from 4" (102 mm) high at the rear to 2" (51 mm) at the front. The monitor/disk drive package measures 18" wide by 15" deep by 13" high (457 x 381 x 330 mm). Price of the Model 4 with a Standard Keyboard is $1695, plus $135 when substituting the Model 101 Extended Keyboard.

Technical Details. The computer is based on an 8080A operated with a 2-μs cycle time. It can support up to 65K of memory, and has on-board space for 32K. There is 16K of ROM in which are the operating system and BASIC, and sockets are provided for additional 8K of ROM. The system is designed to use up to 480 I/O ports, 30 of which are implemented in the standard computer. This number includes an RS-232C serial port for printer or modem, with a broad selection of baud rates.

The graphics display features an 8-

color selection on a 10" by 7" (254 x 178 mm) usable screen area. The 128 x 128 graphics is refreshed at power-line frequency. Alphanumerics consist of 32 lines of 64 characters/line for small-size capital letters or 16 lines of 64 characters/line with large-size caps. Lowercase letters are not included, but 64 special graphic symbols are.

Conventional 40-track diskettes are used with an average access time of 40 ms for 40 tracks, while average latency is 200 ms. Data transfer rate is 76.8K bits per second, with a diskette storage capacity of 51.2K bits per side (both sides usable).

The basic keyboard is standard ASCII four-level with 192 codes. It uses gold crossbar keyswitches of commercial quality. CPU reset and automatic diskette loading keys are included.

In software, a complete disk operating system as well as disk BASIC are in ROM. The BASIC is similar to most other disk BASICs and has 32 statements and commands, 19 mathematical functions, nine string-manipulation functions, and 12 disk-file commands. Calculations are to five decimal places.

The operating system has 31 CONTROL-plus-key commands, 31 ES-Cape-plus-key codes, and 12 graphic-plot commands. There is also a full complement of CRT Terminal commands as well as full-function foreground/background color selection along with 15 plot commands. This wide variety of commands gives the user control over every possible function of the computer.

Most of the keys are assigned two functions. Switching from one function to the other is via the CAPS LOCK key. Some keys are used in conjunction with the CONTROL and ESC keys. Those keys that permit color changes are color coded with their respective colors.

A 50-pin bus connector (located on the rear) provides all addresses, data, clocks, etc., to allow the Compucolor to be extended with any upcoming peripherals. Also located on the rear apron is a connecter for RS-232C signals. This latter port can also be used for a printer or modem. Each connector is fully described in the manual.

A large loose-leaf-type "Programming and Reference Manual" is supplied with the system. This manual contains 10

For more information on advertised products, equipment tested, etc., circle appropriate number on postpaid Free Information Card.
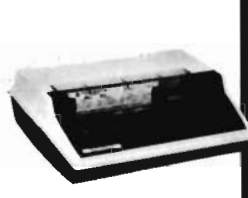
sections that cover full details for using the BASIC language (and covers programming examples), print formatting, and machine-level interfaces for the disk BASIC. The disk-manipulation system is spelled out in detail, as are all color and graphics techniques and the file control system (FCS).

The Manual concludes with seven appendixes that contain in-depth discussions of the disk BASIC, file control system, CRT commands, internal features of the computer, an ASCII value table, and the Compucolor alphanumeric and graphic character set, along with other documentation.

User Report. The Compucolor is a complete computer. Simply unpack the two sections, interconnect them via the flat ribbon cable, plug the line cord into an ac outlet and turn on the power. That's all there is to getting the system up and ready to go in either the operating system or BASIC.

To use a diskette, simply insert the diskette in the drive, close the drive door, and press the AUTO key on the keyboard. In just a couple of seconds, the disk "menu" pops up on the screen.

The graphics display was clean and sharp with bright colors. The overall quality of the graphics was excellent due to good convergence and the fact that the monitor bandwidth is better than that of a conventional color-TV receiver. One of the major advantages of the color monitor is that opitically disturbing moire patterns (from nearby TV transmitters on adjacent channels or local or mobile hams and CBers) are not seen on-screen. Also, this approach provides an apparent increase in bandwidth since the monitor is not bandwidth-limited by r-f or sound circuits. The Compucolor "Sampler" program on diskette demonstrates the system's graphics capability.

The keyboard was a dream to operate. It has a positive professional "feel" and operated flawlessly.

Having had experience with other BASICs, we found Compucolor's version easy to use. It is a fast BASIC and is broad enough to easily adapt to programs written in other BASICs, except where unique symbols are used.

After working some of the programming examples given in the Manual, we typed in several game programs incorporating color graphics. This is quite easy to do, as a single keystroke can be used to change colors, flash symbols, invert and do other formerly difficult graphics "tricks." These keystrokes can

be written into the program.

We also adapted a couple of simple business programs to the color format, making them much easier to read and interpret. Credits and debits for example, are much easier to follow when they are color-coded.

The bottom line here is that the addition of color to a video display does make working and playing with a computer much more pleasant and exciting.

Compucolor is supporting its system with lots of software (diskettes), includ-ing a large variety of color games, text editor, assembler, and several money-management programs.

In our opinion, the Compucolor II is an excellent choice for a computer system to start and stay with for home use. It is very flexible, thanks to its built-in disk drive, and has sufficient on-board memory to handle just about any length programs. This is a lot of computer for the money. —*Leslie Solomon, Technical Director*