

...IN THIS CORNER

tures enable you to insert, delete, move blocks of copy, etc.

Finform is the Aquarius version of a spreadsheet program. It has a capacity of 63 columns and 255 rows, and can perform the usual "what if?" operations. Just change a value in one of its cells and the program recalculates all values instantly.

Mattel Electronics has provided an ingenious multi-step system for expanding the Aquarius. First you can plug memory modules of either 4K or 16K capacity directly into the cartridge slot on the computer. Though increasing memory capacity, it does not let you run software cartridges because the cartridge slot is filled. To get around this problem, Mattel has provided the Mini Expander Module. This peripheral has two slots, one for either a 4K or 16K memory module and the other for a software cartridge. In addition, the Mini Expander has two detachable game controllers with six pushbuttons and a 16-position control disk such as that used on the Mattel Intellivision. The Mini Expander also provides three full sound channels for audio effects.

The third level of Aquarius expansion is the Master Expansion Module. This has provisions for 16K memory boards and a disk controller that operates two floppy disk drives. When the Aquarius is fully expanded, it can use CP/M; and the conversion from a starter system to a powerful personal computer is complete.

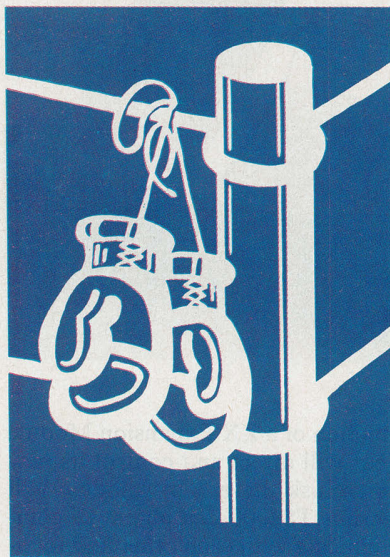
Mattel Electronics has also provided a cassette Data Recorder unit and a dot matrix printer that will print anything that appears on the screen, including graphics. This is a non-impact printer and requires thermal paper. It prints up to 40 columns and includes upper/lower-case characters and all the Aquarius graphics characters.

Unfortunately, game cartridges for Mattel's Intellivision are not compatible with Aquarius, although a selection of video games is available for the computer.

There are two manuals that come with Aquarius. One is a standard

manual that describes the system and how to use it. The other is meant to get a person into programming immediately. Each page is like a flash card, with simple instructions to perform a specific action. A particular card may give a short program to display various colors on the screen. The goal here is to make a novice's transition into computing as painless as possible.

Our Opinion. Each of the two new entrants to the microcomputer lightweight division (between \$100 and \$200) has a unique style. The Timex Sinclair 2000 offers raw power, and indeed looks like a monster



entry to us. If the computer had a professional keyboard, there would be no doubt that it would sweep the division with ease. Even so, we predict that this computer shows enough to send it skyrocketing to the top of the division within a year. In this case, it's likely that the Commodore VIC 20 and the TI 99/4A will go into the sweatbox and lower their prices enough to qualify for the under \$100 featherweight division. After all, the big bucks are in the peripherals and software.

The Aquarius offers simplicity rather than power although the system can be expanded and good software is available. But overall we think that the Aquarius strategy of strength through simplicity will not be enough to make it the dominant micro in this division, though such a good contender will likely gather a significant following.

Up and Coming. What's on the horizon in the featherweight and lightweight divisions? There are two novices that have been training well and are expected to take a shot at the big time this year. One is the PHC 20 Personal Computer, a \$99.95 model from Sanyo that was introduced at a recent industry show. But the backers of this Japanese performer have been somewhat secretive since the show, so we'll have to wait and see what develops.

Another interesting candidate is the Humdinger color computer (Venture Micro, Inc., 10090 N. Blaney Ave. Suite #6, Cupertino, CA 95014). With a suggested retail of \$129.95 and impressive stats, too, this exciting youngster was the hit of the 1983 West Coast Computer Faire. The Humdinger, although talent laden, will need to find a well-heeled backer to handle promotions before it can be considered a serious threat in the pro ranks.

There are other computers around that fit into the price classes suggested here, but for one reason or another have not been considered. First, there are the pocket computers from Sharp Electronics and Radio Shack. The new Sharp 1250, nicknamed the "Student Computer," and the Radio Shack PC-4 have suggested retail prices of \$110 and \$69.95, respectively. These models offer increased portability at the cost of decreased expandability and are not really in the same class as the models that were described here.

A second set of opponents at the low end of the personal computer spectrum are the "tag team" models. These are the micros that consist of a keyboard connected to a video game such as the Atari 2600 or Mattel Intellivision. Although the expansion unit falls into the price range of the micros discussed here, the total cost of the package is usually above \$200.

This wraps up our report on the micros battling for supremacy in the low end of the personal computer market. It's obvious that the divisions we've covered here are very competitive and will provide much excitement as each entrant follows Rocky's advice to "go for it" in coming months. ◇