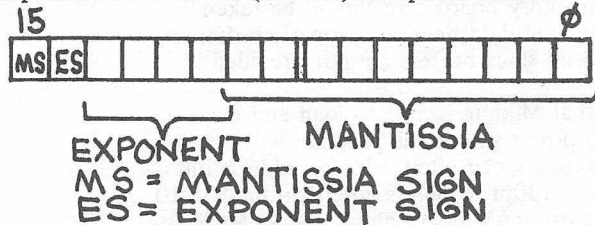


## A 16-BIT FLOATING POINT PROPOSAL

In past weeks, I have talked to several members of the CACHE about "tiny languages." I keep hearing, "I'd use it if it only had floating point." Having written three languages myself, I can understand this. Nobody seems to realize that 32 bits are a lot more than twice as hard to work with as 16.

As a compromise I propose 16 bit floating point. The format I have worked out gives 3 significant digits with an exponent of -15 to +15 (decimal). Proposed format:



I don't have the time or ambition to write this now, but I would be happy to swap ideas with anyone interested.

Bob Van Valzah (312) 852-0472 (Home)  
1140 Hickory Trl. (312) 971-2010 Ext. 231  
Downers Grove, IL 60519 (Work)

## 6800 MOTOROLA FOR SIMULTANEOUS NUMBER CRUNCHING AND ANTENNA POINTING

Dear Sir, 17 Nov. 1976

Two of us here in the Northern Virginia area are interested in using a micro for some number crunching (with a peripheral calculator chip) and antenna pointing for satellite work (simultaneously). The 6800 Motorola line of chips looks like it will fill the bill due to the superior I/O configuration possible. The 8080 kinda misses the boat. So I am interested in all kinds of homebrew hardware for 6800 line compatible with SWTP line.

Sincerely,  
Ellis Marshall, W4JK

Rt. 1, Box 158  
Front Royal, VA 22630

## FREDDIE'S FOLLY

by Jim Day

Frugal Freddie bought a video board kit from a local computer store a couple of months ago. He saved a few bucks by not busying sockets for the ICs. "Who needs 'em?" he said. "I'll just solder everything." The board worked fine for a few weeks, then developed a hardware glitch that Freddie hasn't been able to track down. He took it back to the computer store and asked them what it would cost to fix.

"Well now," said the repairman, "If this thing had sockets, I'd probably find the trouble in a few minutes by random substitution. But with everything soldered down to the board, there's no telling how long it might take. Why, it could end up costing you more than the price of the kit!"

One can avoid duplicating Freddie's folly by socketing everything.

Socket it to 'em, Freddy!

## HAMATIC NOTE IN BYTE

According to a letter in the (*excellent*) November issue of *Byte*, hams who are also interested in computer phraequery should tune to 3.865 MHz (LSB) on Thursdays at 2300 GMT "for a good time."

## ERRATA FOR RANKIN'S 6502 FLOATING POINT ROUTINES

Dear Jim,

Sept. 22, 1976

Subsequent to the publication of "Floating Point Routines for the 6502" (Vol. 1, No. 7) an error which I made in the LOG routine came to light which causes improper results if the argument is less than 1. The following changes will correct the error.

1. *After:* CONT JSR SWAP (1D07)  
*Add:* A2 00 LDX=0 LOAD X FOR HIGH BYTE OF EXPONENT
2. *After:* STA M1+1 (1D12)  
*Delete:* LDA = 0  
STA M1  
*Add:* 10 01 BPL \*+3 IS EXPONENT NEGATIVE  
CA DEX YES, SET X TO \$FF  
86 09 STX M1 SET UPPER BYTE OF EXPONENT

3. Changes 1 and 2 shift the code by 3 bytes so add 3 to the addresses of the constants LN10 through MHLF wherever they are referenced. For example the address of LN10 changes from 1DCD to 1DD0. Note also that the entry point for LOG10 becomes 1DBF. The routine stays within the page and hence the following routines (EXP etc.) are not affected.

Yours truly,

Roy Rankin

Dept. of Mech. Eng.  
Stanford University

## COMPLETE 8080A FLOATING POINT PKG FOR \$7.50 AND NEW CASSETTE DATA FORMAT STANDARD TO BE PROPOSED

Dear Editor: Sept. 21, 1976

In response to Paul Holbrook's letter in the September issue, regarding the need for a cassette data format standard, I would like to inform you that a standard with software has been developed; the Mohler standard will be published in an upcoming issue of *Interface*.

The standard allows for various types of data formats and is expandable, so new ones can be added. It is also universal enough for the format to be independent of cassette interface hardware and processor type. We hope to make the Mohler cassette format a standard in the computer hobbyist industry.

I would also like to inform readers that I have developed a single-precision floating point software package for the 8080A (6-7 digits of precision). The package includes add, subtract, multiply, divide, and utility programs to convert from ASCII BCD to binary and binary to packed BCD. It takes up about 1200 bytes and is relatively fast, e.g., 2.5 msec worst case time for multiply.

Also nearing completion is a scientific function package which includes square root, sine, cosine, exponential, natural logarithm, log base ten, arc tangent, hyperbolic sine, and hyperbolic cosine. This package is to be used with the floating point package and takes up less than 1K bytes. It also has six digits of accuracy.

The floating point package is now available for \$7.50. Included are manual, paper tape, and complete annotated source listing. The scientific package will also be \$7.50. Both packages may be ordered for a reduced price of \$10.00. To obtain one or both, send your name, address, and the appropriate amount to:

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