If no SETTIME has been executed, TIME$ returns the time since XYBASIC was entered.

The DELAY command takes the form

DELAY formula1, formula2, formula3

where formula1 specifies the number of minutes, formula2 the number of seconds, and formula3 the number of tenths of seconds to DELAY. The second and third parameters are optional, and are defaulted to zero if not present. For example, the command

```
DELAY 2, 15, 1
```

DELAYs for 2 minutes and 15.1 seconds before executing the next command.

In the hardware realtime SBC 80/20 version of XYBASIC, interval timer zero of the onboard 8253 chip is programmed to interrupt the CPU every 50 milliseconds (mode 2). XYBASIC counts the number of interrupts since the last SETTIME command to compute the current time of day. The accuracy of XYBASIC's time functions is determined by the accuracy of the CPU clock crystal.

XYBASIC's initialization code sets the 8259 interrupt controller for standard 8080 interrupts, locations 0 thru 38H. RST 0 is reserved for entry to XYBASIC and RST 2 is reserved for the realtime clock interrupt. All other RSTs are available for user interrupts.

The SBC 80/20 is shipped from the factory with interval timer zero strapped to generate interrupt request 2 when the timer expires. This wire (from option pin 26 to 35, near the 8259 interrupt controller chip) must be present for the realtime functions to work correctly. It is normally present because the interval timer implements the single step function of the Intel monitor. It is available for use by XYBASIC because the monitor is never resident at the same time as XYBASIC.

Section 5: AMD 9511 Floating Point Version

Since the 8080 series of microprocessors does not support hardware floating point operations, XYBASIC normally performs floating point manipulation by software. However, XYBASIC is also available by special order in versions which perform floating point operations with the AMD 9511 Arithmetic Processing Unit.

The 9511 version of XYBASIC resides in less memory space than the software floating point version. Floating point arithmetic operations are somewhat faster than in the software floating point version, and trigonometric functions (SIN, COS, TAN, ATN) are much faster.

The 9511 represents a floating point value in four bytes. A floating point 0 is represented by four 0 bytes. For any other value, byte 1 contains the mantissa sign in bit 7 and the two's complement binary exponent in bits 6-0. Bytes 2-4 contain the normalized binary mantissa, with an assumed binary point to the left of byte 2. Because of the representation used by the 9511, the range of floating point values is roughly -9 * 10^18 to 9 * 10^18, as opposed to roughly -1.7 * 10^38 to 1.7 * 10^38 for the software