

Section 2: Traditional BASIC Commands

A command is a word which instructs XYBASIC to perform a specific action. This section describes commands which are common to all BASICs. Before you learn about commands, though, you will be introduced to the differences between the Integer and Extended versions of XYBASIC, and to two fundamental concepts: numbers and variables.

Integer and Extended Versions

XYBASIC is available in two fundamentally different versions, and this manual describes both. In Integer XYBASIC the numbers you may use must be integers in the range -32768 to 32767. Integer XYBASIC is ideal for users with memory size constraints, as well as for those who require fast arithmetic operations and control features but do not need floating point arithmetic.

Extended XYBASIC retains the speed of Integer XYBASIC's fast integer arithmetic and its powerful control features. In addition, it lets you use floating point numbers in the approximate range 1.7×10^{-38} to $1.7 \times 10^{+38}$, with a precision of more than six decimal places. Extended XYBASIC also gives you full floating point functions and extensive string manipulation facilities.

Most of the examples in this manual will work in either the Integer or Extended version of XYBASIC. Examples which apply to only one version are always noted clearly. Sections of the manual which apply only to Extended XYBASIC are marked similarly.

Numbers

In either version of XYBASIC, you can specify integer numbers between -32768 and 32767 in the decimal representation you normally use. You can also specify integers in hexadecimal and binary representations. & indicates binary numbers, so &0101 is a binary number (equal to 3 decimal). # indicates hexadecimal numbers, so #1FE is a hex number (equal to 510 decimal).

In Extended XYBASIC you may specify numbers in several additional ways. You can give a series of decimal digits, with or without a decimal point; for example, 3.14159 and 1000000 are legal numbers. You can precede the number by an optional + or - sign; for example, -123.456 and +2.71828 are also legal numbers. You can also follow the number with a decimal exponent. The exponent consists of the letter E, an optional + or - sign, and decimal digits, and it specifies the power of 10 by which the number is multiplied to obtain its value. For example, 3E-4 is a number with the value .0003, and 1.5E6 is a number with the value 1500000.

Variables

XYBASIC lets you perform simple computations which only use constants. For more complicated tasks, though, you will need to use variables. You can think of a variable as a box which can contain any arbitrary value; if you have used a calculator with memory, think of it as a memory register. You