

HP-71B ROM 2DECC notes

The ROM 2DECC is a custom ROM version made by me (J-F Garnier) on Dec. 2025.

It provides the following enhancements:

1) More legible constant values

Constant numeric values in a program are now displayed in scientific notation in these situations:

- the constant is smaller than $1e-3$,
- the constant is larger than or equal to $1e6$ and was introduced in scientific notation.

Examples:

entered line:	10 A=0.00005	10 A=1E-9	10 A=1E9
displayed line:			
previous versions	10 A=.00005	10 A=.000000001	10 A=1000000000
version 2DECC	10 A=5.E-5	10 A=1.E-9	10 A=1.E+9

2) y^x operation improvement

The y^x operation is more accurate when the result is very large or very small (typically larger than $1e200$, or less than $1e-200$)

Examples:

expression:	2.9^506	3^1006	1e44^10.5
results:			
previous versions	9.40560934898e233	9.63789627384e479	9.99999999991e461
version 2DECC	9.40560934903e233	9.63789627401e479	1.00000000000e462
reference	9.40560934903e233	9.63789627402e479	1.00000000000e462

3) x^2 computed as $x*x$

The square operation is now computed using a multiplication rather than the general y^x exponentiation.

The operation is faster and always provides the correctly rounded result.

Example:

expression:	(1/2.3)^2
results:	
previous versions	.189035916825
version 2DECC	.189035916824