



## hp calculators

### HP 10BII Frequently Asked Questions

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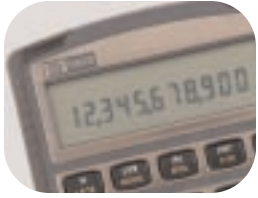
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## HP 10BII Frequently Asked Questions

### Clearing, Resetting or Testing the Calculator

“Do I need to clear the display or the machine (or certain registers) before beginning a new calculation? If so, how do I do this?”

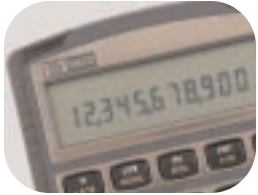
As you use the HP 10BII, your results from previous calculations will remain in their respective registers until you clear them or change them. But the arithmetic work area is designed so that generally, you do not need to clear the display to begin a fresh arithmetic calculation. (There is more information about this available on [Basic Arithmetic](#).) If you wish to clear the display, press the  $\boxed{\leftarrow}$  key.

However, for other sorts of calculations, you will occasionally wish to clear the registers in order to do financial (TVM) or statistical calculations. You can do this by pressing  $\boxed{\text{C ALL}}$ . For more about such circumstances, read the information available on [Registers, Storage and Memory](#), and also on [Clearing, Editing and Correcting](#).

“What about clearing the whole machine—erasing everything? How do I do that?”

The HP 10BII has Continuous Memory, which preserves your data and programs even when the display is turned off. (In fact, Continuous Memory is preserved—for a short time—even in the absence of any power source. This allows you to change the batteries when necessary.) This means that whatever was in the display—and every other register—when you turned off the calculator will still be there when you turn it back on.

Once in awhile, you may wish to erase the Continuous Memory entirely (i.e. erase all your data and restore all machine settings to their default or “factory” states). If so, do this: With the power on, press and hold down the  $\boxed{\text{ON}}$  key, then press and hold down the  $\boxed{\text{N}}$  key (upper left), then press and release the  $\boxed{\text{FV}}$  key, then release the  $\boxed{\text{N}}$  key, then the  $\boxed{\text{ON}}$  key. You should see **ALL CLEAR**, indicating that the HP 10BII is back to factory conditions. (Again, for more details, read the information on [Registers, Storage and Memory](#) and on [Clearing, Editing and Correcting](#).)



## HP 10BII Frequently Asked Questions

“My HP 10BII doesn’t respond to my keystrokes—it seems to be locked up. How do I reset it to operate normally?”

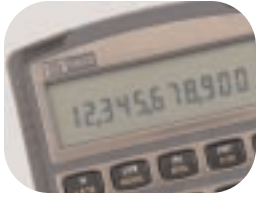
First make sure that the batteries aren’t low or discharged (and replace them if they are). Then, if that doesn’t fix the problem, take these steps, in order, one at a time, stopping when you get normal operation again. (If none of these solves the problem, the machine needs repair.)

1. Reset the machine: Turn the calculator over and remove the battery cover. Then insert the end of a paper clip into the small round hold located between the batteries. Insert the clip as far as it will go, and hold it there for one second. Then remove the clip. Press **ON**.
2. If Step 1 doesn’t work, erase the memory completely: With the power on, press and hold down the **ON** key, then press and hold down the **N** key (upper left), then press and release the **FV** key, then release the **N** key, then the **ON** key. You should see **ALL CLEAR**, indicating that the HP 10BII is back to factory conditions.
3. If Step 2 doesn’t work the first time, try steps 1 and 2 (in order) a second time.
4. If you still don’t see the **ALL CLEAR** message, and nothing will restore operation, the machine may need repair.

“My HP 10BII responds to keystrokes, but I don’t think it’s working correctly. How can I test it?”

There’s no machine self-test for normal operation. Double-check any possible errors you may be making in your calculations. (Read through this whole section on [Frequently Asked Questions](#).)

*For more details on all of the above, you should consult your Owner’s Handbook, as well. Look in the Appendix for Battery, Warranty and Service.*







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## HP 10BII Frequently Asked Questions

### Getting Numbers to Display Correctly

“How do I set the number of decimal places?”

Press , then the desired number of places. For example, to set 4 decimal places, you'd press  4. To see 9 decimal places, press  9. To see 0 decimal places,  0. Bear in mind that this display setting is rounding only your *view* of the number—not the value itself. The HP 10BII carries 12 digits internally on all values, *regardless what portion it is showing to you*. (There is more information available about [Display and Operating Modes](#).)

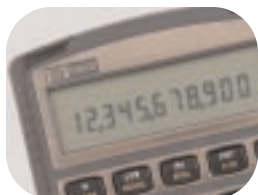
“My numerical display has an E among the digits. What is this?”

This is scientific notation—another way to represent numbers, particularly very large or small values. You can key in such values via the  key. For example, to enter the large value  $6.023 \times 10^{23}$ , press 6.023  23.

“My decimal point has been replaced by a comma! Why? How can I fix this?”

This is “European notation.” In the U.S., the decimal places are separated from the integer portion of a number by a period; and the thousands, millions, billions, etc (every three places to the left) are marked off by commas. It's the reverse in Europe and much of the rest of the world.


To switch back, press  (the gold-shifted version of the  key). Presto.




## HP 10BII Frequently Asked Questions

### Annunciators and Other Items in the Display



“What’s that **SHIFT** sign now appearing in the display?”

It signals that the gold shift key () has just been pressed, so that the next key you press will perform its “shifted” (**gold-printed**) function. (For more discussion of this, see the information on [Keyboard, Menus and Navigation](#) and also on [Display and Operating Modes](#)).




“What’s that **STATS** sign now appearing in the display?”

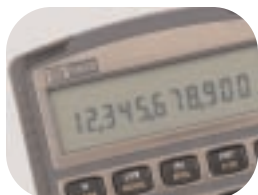
It signals that the purple statistics key () has just been pressed, so that the next key you press will perform its statistics (**purple-printed**) function. (See also [Keyboard, Menus and Navigation](#) and [Display and Operating Modes](#)). Note that the *result* of a statistical calculation is denoted by a **STAT** annunciator at the upper right. (If there’s an **ERROR**, that sign shows, too.)

“What’s that **PEND** sign now appearing in the display?”

It signals that there is an operation *pending*. In other words, you need to key in another value to complete the calculation. For example, if you’re adding  $5+3$ , you would begin with the keystroke , then . At that point, the machine knows that it still needs another number to complete the addition computation, so it tells you that the operation is pending.

“What’s that **INPUT** sign now appearing in the display?”

It signals that you have pressed the  key to separate entered two values—and the machine is now expecting the second value. For example, if you’re accumulating data points for two-variable statistics, you key in the x-value, then press , then key in the y-value, then press .



## HP 10BII Frequently Asked Questions

### Changing the Sign of a Number (+/-)

“How do I make a positive number negative (or a negative number positive)?”

Press the  $\boxed{+/-}$  key. You can do this anytime during the digit entry process. (To change the sign of the exponent when entering a value in scientific notation, you must press the  $\boxed{\text{E}}$  key first.)

### Calculating Roots and Powers

“I see the key for square root ( $\boxed{\sqrt{x}}$ ), but what if I want to take a cube (3<sup>rd</sup>) root or the 4<sup>th</sup> root? For that matter, how do I take the 3<sup>rd</sup> or 4<sup>th</sup> power of a number?”

Suppose you want to calculate  $5^4$ . Of course, that's  $5 \cdot 5 \cdot 5 \cdot 5$ , and you could certainly do it with simple multiplication ( $5 \times 5 \times 5 \times 5 \boxed{=}$ ) and get the right answer: **625.00** (There's more information available on [Basic Arithmetic](#).) But you can also do it with  $\boxed{y^x}$ :  $5 \boxed{y^x} 4 \boxed{=}$ .

Likewise, to find  $16^3$ , you could either press  $16 \times 16 \times 16 \boxed{=}$  or  $16 \boxed{y^x} 3 \boxed{=}$ .

(Answer: **4,096.00**)

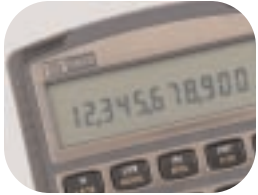
How about roots? How do you take the 4th root of 625? As it turns out, the  $n$ th root of a number is simply that number raised to the  $1/n$  power. That is, the 4th root of 625 is  $625^{1/4}$  (or  $625^{.25}$ ).

So you can use  $\boxed{y^x}$  for finding roots, too:  $625 \boxed{y^x} 4 \boxed{1/x} \boxed{=}$   
or:  $625 \boxed{y^x} .25 \boxed{=}$

(Answer: **5.00**)

Likewise, to get the cube (3rd) root of 4,096, press  $4096 \boxed{y^x} 3 \boxed{1/x} \boxed{=}$ .

(Answer: **16.00**)



## HP 10BII Frequently Asked Questions

### Wrong Answers with the TVM keys

#### “Why am I getting wrong results (or error messages) for my TVM calculations?”

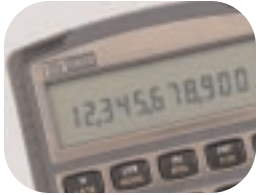
Above all, you should read the information under [Time Value of Money \(TVM\) Basics](#)—and probably [Mortgage/Loan Basics](#), too. But first, while you’re here, some TVM errors are pretty common (we all make them occasionally), so check this list:

- Have you set the proper payment mode (BEGIN vs. END)? This will affect the results in any TVM calculation where the PMT is not zero.
- Have you forgotten to clear (i.e. reset to zero) one or more of the TVM registers? The calculator uses four variables to solve for the fifth, but it’s easy to overlook a variable if its value in the situation is zero. For example, what about the **FV** register for a fully amortized loan? If the loan is to be completely paid off, the Future Value must be zero, but if there was another value in there from your previous calculation, it will remain there until you clear it. (How to clear the **FV** register? You can either key in a zero and press **(FV)** or you can clear all registers, via **(C ALL)**. See [Clearing, Editing and Correcting](#) for more about that.)

On the other hand, sometimes you may overuse **(C ALL)**—erase the results of a previous calculation that you needed to use. If you’ve just solved for an interest rate of, say, 8.375%, and you want to use this in a subsequent calculation, it may already be sitting right where you want it—in the **I/YR** register; using **(C ALL)** would erase it and force you to key it in again.

- Have you correctly matched the time periods, the interest rate and the PMT’s? *They must agree!* The HP 10BII knows nothing about time in the clock or calendar sense. It only knows a TVM formula that deals with periods. It is up to you to be sure that you have correctly keyed in the P/YR value (via the **(P/YR)** key—that’s the shifted version of the PMT key), so that the machine knows how to convert I/YR to the actual periodic rate.

But don’t confuse the **(P/YR)** key with the **(xP/YR)** key! Use **(P/YR)** to **set the number of payments per year**. Use the **(xP/YR)** key as a shortcut to *store the N register value* after entering the number of years. If you mistake these two keys, you’ll get incorrect results!



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## HP 10BII Frequently Asked Questions

### Wrong Answers with DCF Calculations (NPV and IRR/YR)

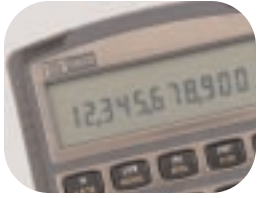
“Why am I getting wrong results for my NPV or IRR/YR calculation?”

Above all, you should read the information under [Discounted Cash Flow \(DCF\) Analysis Basics](#), [Net Present Value \(NPV\)](#), and [Internal Rate of Return \(IRR\)](#).

The most likely cause of the problem is that you’ve forgotten to put the correct value into the **P/YR** register.

When calculating the NPV, the machine will use a periodic discount rate, which it computes by dividing the I/YR by the value it finds in the **P/YR** register. If you fail to use the correct P/YR, your NPV may be much too large or small. For example, if your cash flows are yearly, but you forget to change the P/YR value to 1 (from, say, 12), you’ll get an NPV that’s too large.

Likewise for IRR, the calculator will always first compute the periodic IRR, then multiply this by the value it finds in the **P/YR** register to produce the annualized result it displays. (That’s why the name of the key is **IRR/YR**—it’s always trying to annualize the result, based upon the value of P/YR.) So, for example, if your cash flows are yearly, but you forget to change the P/YR value to 1 (from, say, 12), you’ll get a large—and wrong—result for your IRR/YR.



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## HP 10BII Frequently Asked Questions

### Errors and Other Messages

#### “Why am I getting an **ALL CLEAR** message?”

(It was probably preceded by the HP copyright message, too: COPr HP 2000.) This means that the calculator's memory has been erased. (For more on this, read the frequently asked questions on [Clearing, Re-Setting and Testing](#), above. See also [Clearing, Editing/Correcting Errors](#).)

#### “Why am I getting an **Interrupted** message?”

You pressed a key while the calculator was doing a lengthy computation (i.e. while it had its running message lit). Usually these are interest rate (IRR/YR or I/YR) or amortization computations.

#### “Why am I getting an **ERROR FUNC** message?”

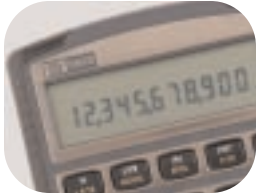
Some math error occurred. For example, maybe you tried to divide by zero or take the square root of a negative number.

#### “Why am I getting an **OFLO** or **UFLO** message?”

This is an Overflow or Underflow message, meaning that a calculation result is too large or small for the calculator to represent.

#### “Why am I getting an **ERROR FULL** message?”

You tried to enter more than 15 cash flow groups, or use more than 5 sets of parentheses at once.



## HP 10BII Frequently Asked Questions

### “Why am I getting an **ERROR STAT** message?”

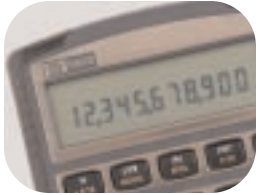
You have bad data you're trying to use in a statistical calculation—maybe too few points.

### “Why am I getting a **No Solution** message?”

The TVM or IRR/YR calculation you have attempted has no solution—probably because the cash flows are either all positive or all negative. (After all, you have to have at least one cash-flow in each direction to have a valid investment/return situation to analyze, right?) Check your cash flows! If you're doing an IRR calculation, read through the information on [Discounted Cash-Flow Basics](#) and [Internal Rate of Return \(IRR\)](#), to be sure that you have correctly keyed in the data for the situation and are correctly using IRR.

If you're doing a TVM problem, that's an *investment* situation, so keep in mind that at least one of three values, PV, PMT and FV, must be of opposite sign to the other two (and 0 doesn't count as opposite). Be sure to read [Time Value of Money \(TVM\) Basics](#) and [Mortgage/Loan Basics](#)! If that isn't the problem, check for these common errors (and these may have error messages), too:

- You can't solve for P/YR, so don't try.
- You can't solve for PMT if  $n = 0$ . (If there are no periods, there are no PMT's.)
- You can't solve for  $n$  if the interest rate is such that the given PMT amount can never amortize the PV value to the FV value. This is a common mistake in the case of *negative amortization*: For example, suppose you ask how long it will take to pay off a 200,000 mortgage at 7%, if you make monthly payments of \$1,000? The answer is: “Forever”—because the balance is growing, not shrinking (hence the term, negative amortization). The monthly interest on the starting balance is \$1,166.67 (that's  $200,000 \times .07/12$ ). So the payment you've specified *doesn't even cover the interest*, let alone pay down any principal.





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## HP 10BII Frequently Asked Questions

### “Why am I getting a **not Found** message?”


You are probably trying to calculate an Internal Rate of Return (IRR/YR) for a cash-flow situation so complex that it has multiple solutions for IRR—or a solution may not exist. First, be sure to read through the information on [Discounted Cash-Flow Basics](#) and [Internal Rate of Return \(IRR\)](#), to be sure that you have correctly keyed in the data for the situation and are correctly using IRR.

If you're confident that the situation is correctly set up, it may indeed be complex enough to produce multiple solutions for IRR. This can happen, for example, when the cash flow groups have lots of sign changes (i.e. first some negative cash flows, then some positives, then some more negatives, etc.). In such cases, you can actually guide the HP 10BII toward a solution by giving it a starting point—an initial **guess** from which it can begin its search. To do so, make a guess for the (annualized) rate and key this value in. Press  . (Your guess must be an annualized rate—which the machine will then convert to periodic, using the value it finds in the **P/YR** register.)

Often your guess will be close enough to help the calculator find an IRR solution. But that doesn't mean it's the only possible solution; you may need to keep looking. Here's the rule of thumb: *If there is any positive solution, it's the only positive solution, but there may be one or more negative solutions, too.* The machine may find a negative solution as the only solution, in which case it will simply display that value. Or, it may find a negative solution but detect that a positive solution also exists (see next question below).

Should you care about the negative solutions? If there is more than one solution to IRR, which one is “correct,” anyway? Which rate describes what's really happening to your money in the investment situation? That's an entirely different issue. Be sure to read about [Internal Rate of Return \(IRR\)](#) and [Net Present Value \(NPV\)](#).

### “Why am I getting a **Pos Irr** message?”

The calculator has found a negative solution for IRR/YR but it knows that a positive solution exists too. (Press  to clear the message and see the negative solution.) But you'll need to assist the search for the positive solution by entering a **guess**—see above. (There may be *multiple* negative solutions, so during the search for a positive solution, you may also find another negative value.)