



hp calculators

HP 10BII Registers, Storage and Memory

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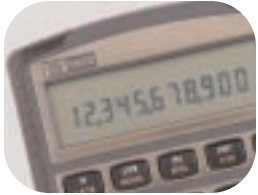
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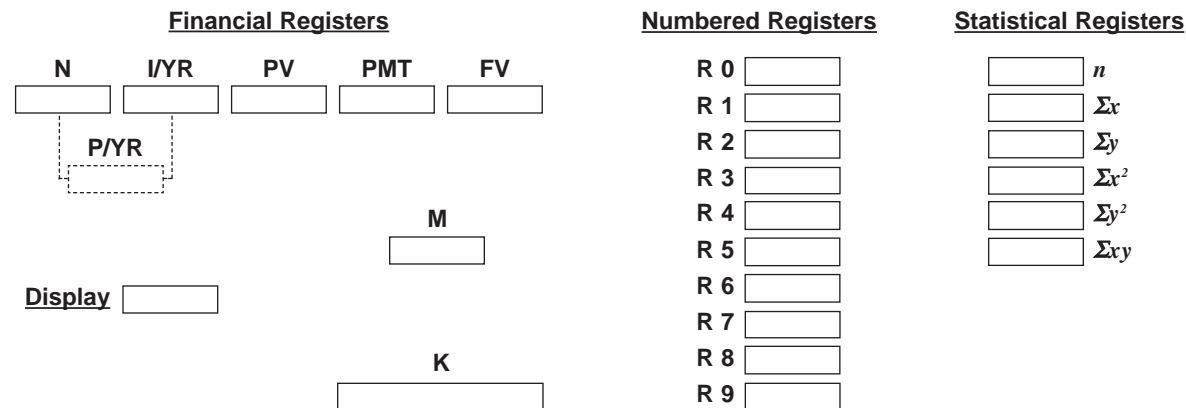


HP 10BII Registers, Storage and Memory

The Whole Picture

Like any computing device, the HP 10BII is simply a workspace where information is stored and calculated. So in order to understand how to operate it, it helps to be able to visualize it. *What's going on inside?*

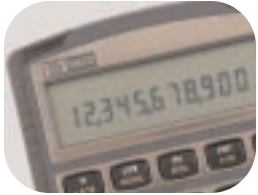
Here is a conceptual “picture” of the insides of your calculator:



Each of the boxes here represents a **storage register** in the calculator. A storage register is simply a place in the calculator’s memory where it can store one number.

These registers are permanent memory areas inside the machine. You can’t destroy them or erase them, so don’t worry. In fact, you can’t even *empty* them: No matter what you do, no matter what buttons you press, power on or power off, rain or shine, there is *always* a number in each register. Of course, when you clear the registers (and there’s more to read about [Clearing](#)), the numbers change to 0’s, but they’re still numbers! Furthermore, whatever numbers are in the registers, they don’t change until you change them. You could do a calculation today, then come back next week and the results of that calculation would still be sitting in one or more registers in the HP 10BII.

Notice that each register has a name—and that they’re gathered together in various groups. That’s because each group has a different use. Take a brief look now at each group.

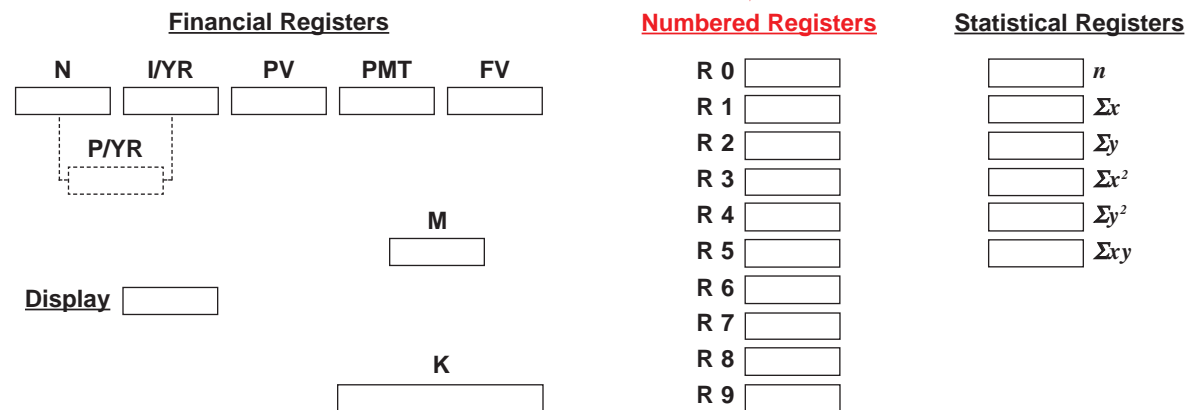


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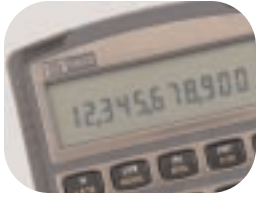
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The Numbered Storage Registers

Look first at this group of ten storage registers here.



Each of these registers is “named” with a number, from 0 to 9. When you use these registers for storage, you’ll usually refer to them by these “number names” as you store and recall values—more about that in a minute.

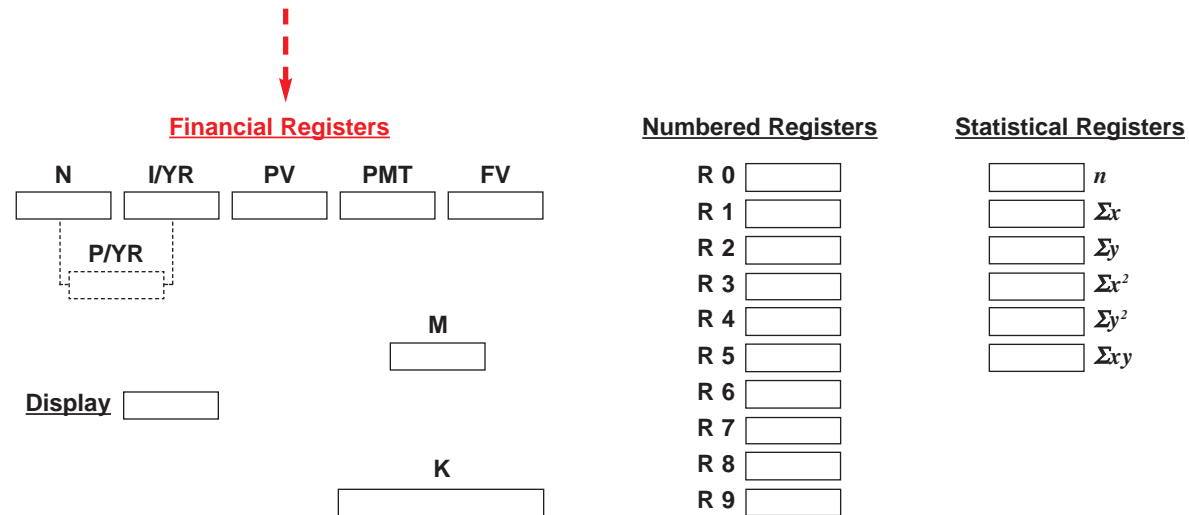


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The Financial Registers

Next, notice the five financial registers:

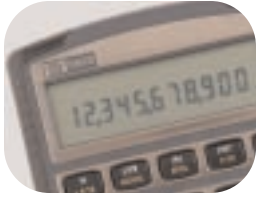


Just like any other storage register, each of these holds one number at a time, but the numbers stored in these registers mean something particular to the calculator:

- N is the “**N**umber of periods” register.
- I/YR is the “**I**nterest rate per **Y**ear**R**” register.
- PV is the “**P**resent **V**alue” register.
- PMT is the “**P**ay**M**en**T**” register.
- FV is the “**F**uture **V**alue” register.

These are the registers where the HP 10BII does its [Time Value of Money \(TVM\)](#) calculations—and you’ll be using these a lot. You’ll be storing numbers in *any four* out of these five registers, then asking the calculator to calculate the fifth value.

The **P/YR** register is used to translate your entries from. (You can’t solve for this value; the **P/YR** register is for storing only, not calculating.)

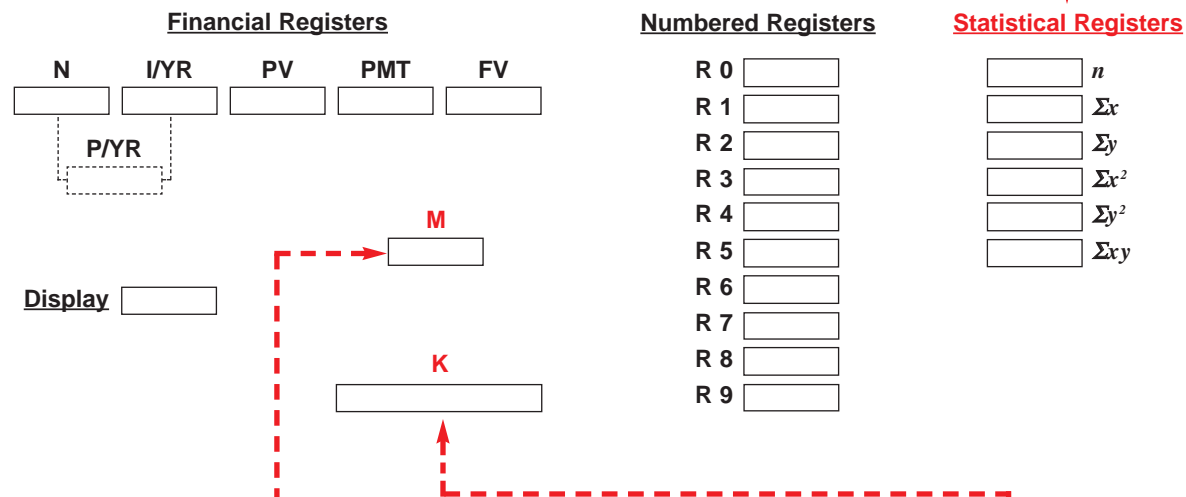


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The Statistical Registers

Now look at the statistical registers. Again, each of these six registers holds one number at a time. But these registers are specially reserved to accumulate statistical data (either one- or two-variable) for various calculations: mean, standard deviation, etc.

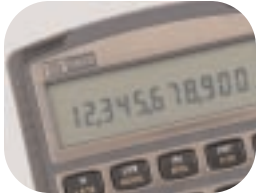


The M Register

Next, look at the **M** register. This, too, is a storage register, which always contains some value—even if it's zero. But this register is probably the one you'll use most often for temporary storage, because there are access keys provided right on the keyboard for it. You'll see how convenient this is for [Arithmetic](#) and other common computations.

The K Register

Finally, focus for a moment on the **K** register. This, too, is a storage register, but it's not like the others. The **K** register can store an entire keystroke sequence (an operation) so that it's handy for repeated use. You'll see how useful this is for [Arithmetic](#) and other computations.




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Storing and Recalling Numbers

So, with all these various storage registers—numbered, financial, statistical—how do you put numbers there (and get them out again)? It's quite simple—try an example.



Do this: Put the number 10 into Register 2 (that's one of the numbered storage registers).




Solution: 100  2 That's it—you're done. (Notice how at the end of any operation, the display will always show you the number of decimal places you have requested—even if you didn't key in the extra zeroes. Right now, for example, you're probably seeing **100.00**, if your display is set for two decimal places, which is the usual setting. There is more to read about the [Display and Operating Modes](#).)

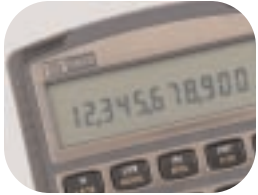
What actually happened was this: When you pressed the digit keys () , the number you typed went into the display. Then, when you pressed  2, the calculator copied that value into Register 2. There's a 100 now in register 2, but there's the original 100 still sitting in the display.

Question: How can you be sure that you successfully stored the number 100 into Register 2?

Answer: You can prove it—by recalling it.... First, you should clear the display, to be sure that you won't just be looking at the **100.00** that's still there now.

Press . (There's a lot more discussion available about [Clearing](#), but for now, just know that  clears the display—puts a zero there in place of what was there before.)

Now recall the contents of Register 2: Press  2. That's it—you're done—and sure enough, there's the 100 you had previously stored in Register 2. The calculator has copied the 100 now to the display, but there's still a 100 in Register 2, as well (as you could prove by repeating this exercise:   2).



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Try another STO - RCL exercise, this time with some of the financial registers.

Do this: Put the number 25 into the **PV** register. Then clear the display, and, without keying in any more numbers, put the number 25 into the **FV** register, too.

Solution: Press 25  , then , then    .




All you see is **25.00**. What just happened?

This: First, you keyed in the number 25 and stored it (a copy, right?) into the **PV** register. At that point, you were still looking at **25.00** in the display, too.

Next, you cleared the display—pressed —which replaced that 25 with zero.

Then you recalled (copied) the value in the **PV** register back to the display. So now, once again, you had the number 25 in both the **PV** register and display.

Finally, you stored (a copy of) that 25 from the display to the **FV** register. So at the end, you had the number 25 in three locations: The **PV** register, the **FV** register and the display).

Play around with  and  some more, as you wish. Get comfortable with the idea. Bear in mind that  is the harmless way to examine what's in any storage register: You just recall a copy to the display so that you can look at it. Since it's a copy (that you can clear away from the display when you're finished), this doesn't affect the contents of the register in question. It's like taking a picture and looking only at the picture, not at the original item.