

Financial Calculator Basics for Real Estate Investors

An Investors most VALUABLE tool!



By: Bill and Kim Cook

The Financial Calculator

Which Financial Calculator Should You Use?

We use the HP 10bII (*pronounced 10-B-2*) because it's easy to use and gives us the answers we need to know.

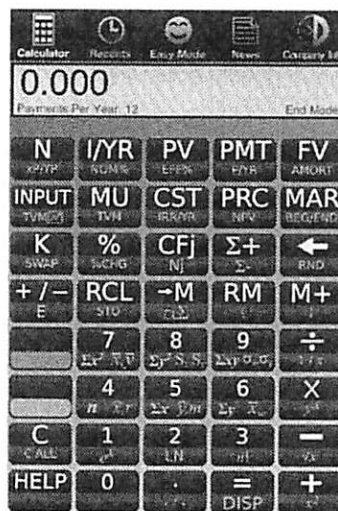
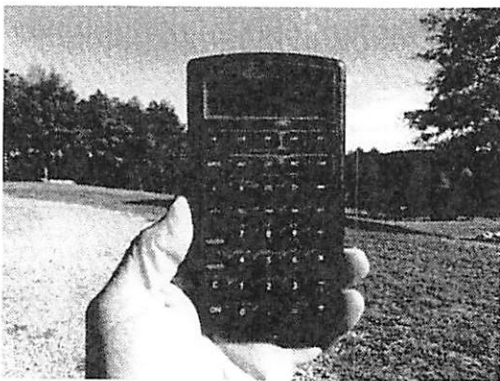
There are two versions of the 10bII:

1. The application for your smart phone and/or tablet from *In A Day Development*
2. The handheld unit made by HP

By far, we like the application from *In A Day Development* better than the handheld unit. The information is easier to see, plus we're able to get more information from the app than we can with the handheld - like a Cash Flow Diagram.

We love the app because wherever we go, it's right there on our phone or tablet. No searching for a calculator in the glove box, my briefcase or in Kim's purse (aka the bottomless pit.)

These days, we no longer use the handheld calculator.

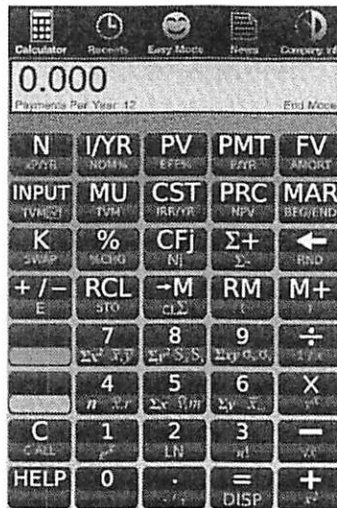


The handheld is on the left and the application from *In A Day Development* is on the right.

The Keys

The keys on the app and the keys on the handheld are *NOT* noticeably different - in fact, they're *almost* identical.

For the purpose of this workbook, as we discuss which keys perform which functions, I'll only use *In A Day Development's* app.



- To get the calculator running, turn on the app and press the “calculator” icon in the top lefthand corner of the screen. This brings up your calculator. (See picture above)
- The main keys you'll be using are N, I/YR, PV, PMT and FV.
- You'll also use the INPUT, %, +/-, and the left pointing arrow key a lot.
- Let's not forget the ORANGE shift key. It's very important.

Favorite Short Cuts

To clear a number, press the C key.

To clear all the numbers:

- a. Press the ORANGE shift key
- b. Press the C key

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When figuring N, often it's in months. If the problem says it's a 13 year loan, the easiest way to convert 13 years to the right number of months is to:

- a. Enter 13
- b. Press the ORANGE shift key
- c. Press the xP/YR (*aka N*) key
- d. N should now read 156 months

To determine the number of decimal places you work with:

- a. Press the ORANGE shift key
- b. Press the DISP (*aka =*) key
- c. Press a number equalling the decimal places you want to use. I normally use three decimal places.

To determine the percentage change between two numbers:

- a. Enter the first number
- b. Press the INPUT key
- c. Enter the second number
- d. Press the ORANGE shift key
- e. Press the %CHG (*aka %*) key

To subtract a percentage from a number, for example, a rental property that has gross monthly rent of \$800 and expenses that average 30% per month. What is the net monthly rent after expenses?

- a. Enter 800
- b. Press the - key
- c. Enter 30
- d. Press the % key
- e. Press the = key

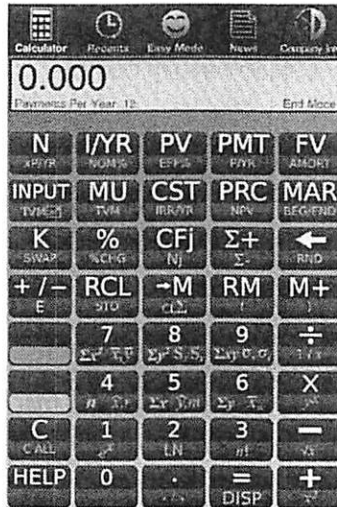
To change the number of periods in a year (monthly vs quarterly vs semiannual vs yearly payments):

- a. Enter the number of periods in a year. (Let's say 12)
- b. Press the ORANGE shift key
- c. Press the P/YR (*aka PMT*) key
- d. On the screen, you will now read "Payments Per Year: 12"

To do the calculations in this course, your calculator should be set to "End Mode". To tell whether you are in "Begin Mode" or "End Mode", look at the top right section of the calculator. You will either see "End Mode" or "Begin Mode". Here's how you get to "End Mode":

- a. Press the three horizontal lines in top right corner of screen
- b. Press "Settings"
- c. Next to "Begin/End Mode", select "End"
- d. (Important: This is also the way you select the number of payments per year.)

The Main Keys



N represents the number of periods

I/YR represents “interest rate,” “yield,” or “return”

PV represents present value

PMT represents the amount of the payment

FV represents the future value

The **left arrow** key allows you to delete a number from right to left

The **+/-** key tells the calculator whether the number is positive or negative

When you have a Question?

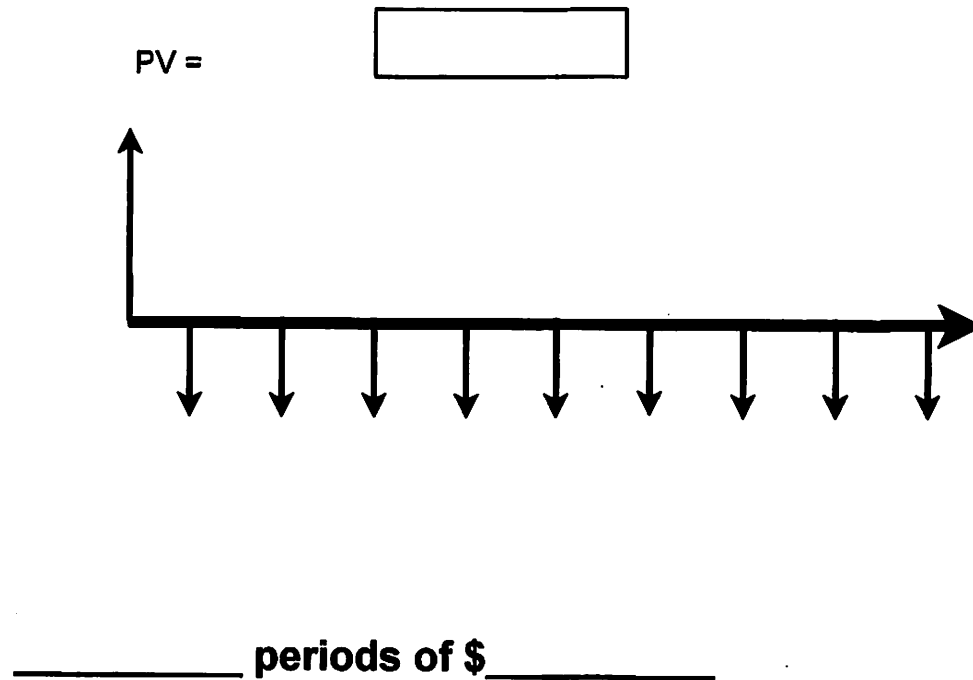
Specifically, you will have questions about using the financial calculator as you go through this course. Generally, you will also have questions about creative deal structuring and funding. When you do, feel free to give me a call at [770-815-8727](tel:770-815-8727)

Bill Cook

Cash Flow Diagrams

I learned from Gary Johnston (GaryJohnston.com) the importance of Cash Flow Diagrams.

To make sure you're working a financial calculator problem from the right end of the stick, it's best to **ALWAYS** do a Cash Flow Diagram before entering numbers into your financial calculator. It might seem like a waste of time but believe me, it isn't! The Cash Flow Diagram lets you see the problem as a picture - which prevents many, many dumb mistakes!



Important things to remember:

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1. Money coming to you is *positive* (a loan you hold, note payments you're receiving, etc.)
2. Money going away from you is *negative* (loan payments you're making, money you are investing, etc.)
3. Use the +/- key to make a number positive or negative
4. In A Day Development's 10bll application builds a Cash Flow Diagram as you enter information. This is just one of the reasons why we love their application over the handheld unit.

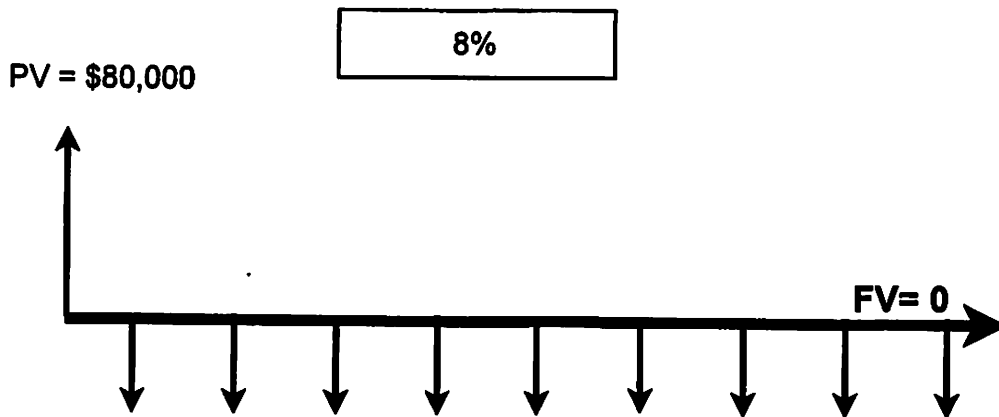
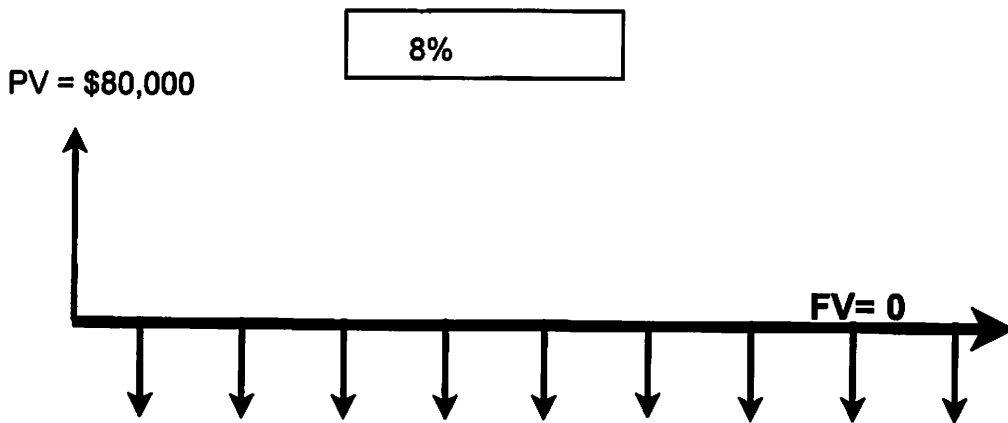


Diagram the Following Problems

Problem 1:

You buy a house for \$80,000. You get a 30-year, 5% interest, fixed-rate mortgage with no down payment. Monthly payments are \$429.46.



Problem 2:

You buy a house for \$90,000. You get a 20-year, 7% interest, fixed-rate mortgage with a \$10,000 down payment and monthly payments of \$620.24.



Solving for I/YR

The I/YR key is my *favorite* key. It finds the answer to three important questions:

1. What's the loan interest rate?
2. What's the *expected* yield from the investment?
3. What's the *actual* return from the investment?

First, let's tackle the question: "What's the difference between **YIELD** and **RETURN**?"

Oh, and by the way, don't feel bad if you don't know the difference between the two. Want to have some fun? Go up to one of those *you'll-be-a-millionaire-in-30-days-if-you'll-just-buy-my-system* guru guys and ask him/her to explain the difference between yields and returns. You'll be amazed by all their stammering and jabbering. And don't even think about putting a financial calculator in their hand - *in most cases, they won't even know how to turn it on!*

YIELD: This is the return you *EXPECT* to make from your investment. It's a *looking-forward* thing. In other words, it's your *projected* return, *not your actual return!* You won't know your actual return until *after* the investment terminates.

RETURN: This is what your investment *ACTUALLY* made. It's a *looking-backward* thing.

How to Use the AMORT key

As real estate investors, we regularly need to look at amortization schedules for loans. The thing is, very few investors know the first thing about amortization schedules.

One of the reasons we love *In A Day Development's* 10bII app so much is because their amortization schedule is easy to use, easy to read, *and* you can email it to whomever you wish! Their amortization schedule is head and shoulders better than the handheld version of the 10bII.

Let's look at a mortgage in order to better understand how to work with an amortization schedule.

Mortgage Details: 30-year loan, 5% interest, \$70,000 initial balance, monthly payments of \$375.78, future value is 0.

Here's how to get to the amortization table:

1. Enter the loan information (see above)
2. Press the ORANGE shift key
3. Press the AMORT (aka FV) key
4. The amortization schedule pops up on your screen

Let's see what we have to work with:

- Across the top of the screen, you will see your loan information
- Below that, you will see the following:
 - ➔ **Total Interest** - This is the total interest you will pay on the loan if you make minimum monthly payments for the life of the mortgage.
 - ➔ **Total Principal** - This is your total principal repayment. Usually it's very close to the amount you originally borrowed.
 - ➔ **Total Paid** - This is the total amount you will pay on the loan. It is your total principle + total interest.
- Next, you will see "*Show Payment #*" followed by two white-range-field boxes.
 - ➔ You will L-O-V-E this function!
 - ➔ If you want to know where you stand as of the 12th payment:
 1. Enter "12" in the first box
 2. Enter "12" in the second box
 3. Click "Update"
 4. You will see that as of your 12th \$375.78 payment, \$287.73 went toward interest, \$88.05 went toward principal and your mortgage balance is

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\$68,967.19 (Look in the "Balance column right below the "Show Payment #" line)

➔If you want to know where you stand after your first 12 payments:

5. Enter "1" in the first box

6. Enter "12" in the second box

7. Click "Update"

8. You will see that after your first year of payments, the total interest you paid thus far is \$3,476.55, you've paid a total of \$1,032.81 toward principal, and you've paid a total of \$4,509.36 on your loan. You will also see that your loan balance on your \$70,000 loan is \$68,967.19.

- And remember, you can email your amortization schedule to yourself. This allows you to track your loan - not just rely on the lender...after all, we know lenders could *never* make a mistake, right?

How do you email the amortization schedule?

- With the amortization schedule showing, click "Share" top left hand corner. Next, click the "Share" button a second time, then select how you want to send the amortization schedule (i.e. Text, email, etc.)

How do you change the date when the loan started?

- If you want to change the date when the loan began, here's what you do: 1) With the amortization schedule showing, click "Share" top left hand corner. Then on the bottom of the screen, click on the blue Loan Date. Finally, enter the date when the loan began, and click "Done".