



hp calculators

HP 17bII+ Cash flow analysis –
Working with lists

Cash flow analysis

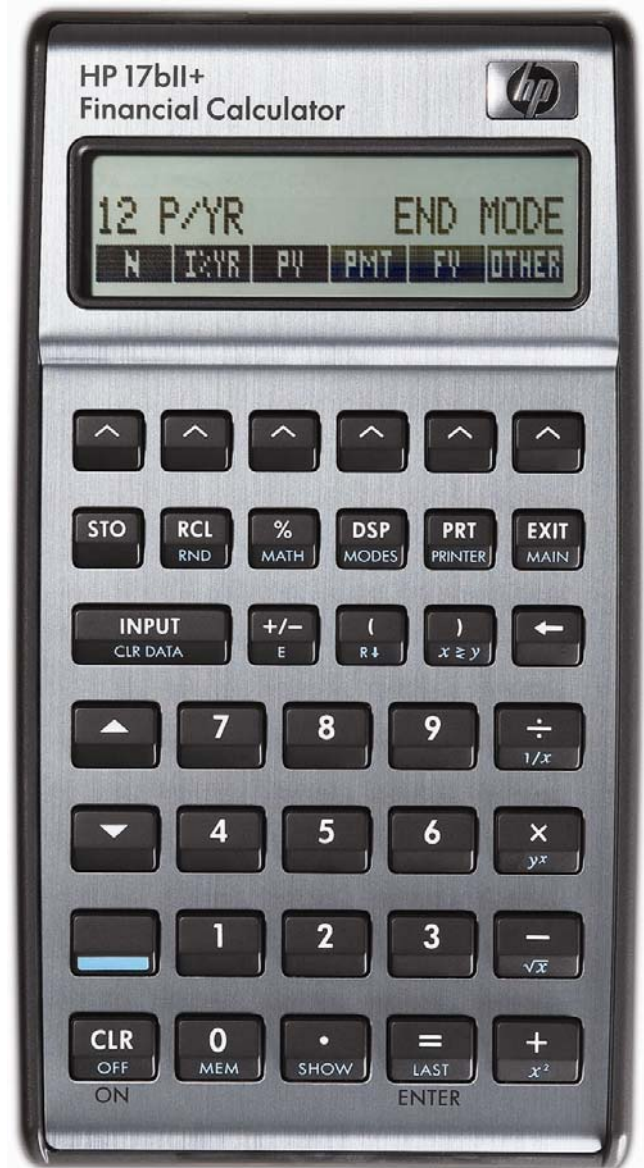
Cash flow lists

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Cash flow analysis

There are times when a financial problem has either irregular or unequal payments. Since the time value of money application is not designed for these situations, the HP 17bII+ contains functions that solve these types of problems, commonly referred to as cash flow (CFLO) analysis.

As usually presented, CFLO problems have an initial negative cash flow followed by several positive cash flows. This might occur when a company is evaluating the purchase of a new machine. There would be an initial cash outlay to pay for the machine and then (hopefully) several periods of positive cash inflow as the result of the acquisition. Cash outflows are considered negative while inflows are considered positive.

CFLO problems routinely occur within financial applications such as capital budgeting, but the functionality built into the HP 17bII+ calculator is more flexible, allowing for the more general analysis of uneven and irregular payment situations.

Cash flow lists

On the HP 17bII+, CFLO problems are solved in the CFLO environment. This is entered by pressing  then .



Figure 1











Figure 2



Figure 3

On this screen, the menu keys on the bottom of the display perform these functions:

-  – Ends the entry of cash flow data and enters the cash flow calculation environment.
-  – Creates an empty entry in the cash flow list to allow for the insertion of a cash flow.
-  – Deletes the currently displayed cash flow entry from the cash flow list.
-  – Allows the present cash flow list to be saved as a named list in calculator memory.
-  – Used to retrieve a previously named cash flow list from memory. Or, to start a new list, press  then , if you have already saved the current list.
-  – Toggles prompting for the number of times a cash flow occurs on or off. Default is ON. If turned off, the value used for the number of times a cash flow occurs is 1. The maximum value for this setting is 999. This setting is always turned on when you start a new cash flow list.

The HP 17bII+ uses a different approach to handling cash flow problems than other HP calculators. Rather than storing the cash flows in registers, the HP 17bII+ stores cash flows in lists that can be named and saved for future use. This also provides the flexibility to have multiple cash flow situations stored within the calculator at the same time. The number of cash flow analyses and individual cash flows stored in this manner are only limited by the available calculator memory.

Entering cash flows







The initial cash flow is keyed (and changed to a negative number if appropriate) and entered using the  key. If prompting for the number of times a cash flow occurs is turned on, you will need to enter the frequency for the cash flow and press  again. If the default frequency of 1 is desired, then you can press  twice in succession to proceed to the next cash flow. The remaining cash flows are entered in the same manner. When you have entered all cash flows, press  followed by  to enter the calculation environment, which appears as shown below. The functions shown below are covered in other learning modules.





Figure 4



Editing cash flows


As mentioned above, you can insert or delete entries in a cash flow list.

To delete an entry from the cash flow list, go to the position in the cash flow list where the entry to be deleted is displayed and press . This will delete the currently displayed cash flow entry from the cash flow list

To insert an entry into the cash flow list, go to the position in the cash flow list where the entry is displayed before which you wish to insert a new cash flow and press . This will create an empty entry in the cash flow list to allow for the insertion of a cash flow. For example, if you have a cash flow list with 5 entries and you wish to insert a new cash flow between the present cash flow #2 and #3, you would scroll through the cash flow list until cash flow #3 is displayed and then press . This will insert an empty cash flow entry into position 3 in the list and bump the later cash flows up one level higher in the cash flow list.

Saving and deleting cash flow lists

The HP 17bII+ makes it easy to keep multiple cash flow analysis problems in the calculator's memory at the same time. A cash flow list can be given a name and stored for later retrieval. This is done by pressing  and then entering a name using the letter keys that are displayed. Once the name is entered, pressing  will save the list as a new object in the calculator's memory.

To retrieve a previously saved cash flow list or create a new list, the  function is used. When pressed, the following screen is displayed:

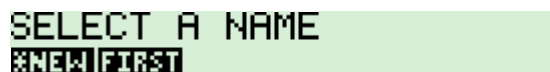



Figure 5

Pressing  will create a new cash flow list and allow you to begin entering cash flows. Pressing any of the other names that might be shown will retrieve the cash flow list for modification or analysis.

To delete a list, first retrieve it from the calculator's memory and make it the current cash flow list. Then press . The screen will show the prompt displayed in figure 6 below.

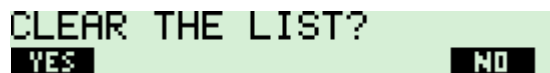


Figure 6

If you wish to keep the list, press **Y**. If you wish to clear the list, press **N**. This will clear the cash flow list entries and leave you with an empty list, but the list name is still stored in calculator memory – it is just an empty list now. If you press **N**, the screen will display the next prompt as shown in figure 7 below. This second prompt allows you to delete the list's name from the calculator. This is useful because there will be times when you want to merely clear a list's entries rather than delete the entire named list. Pressing **N** will clear the list name. Pressing **Y** will keep the list in memory but the list will now be empty.

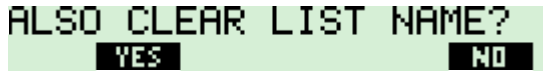
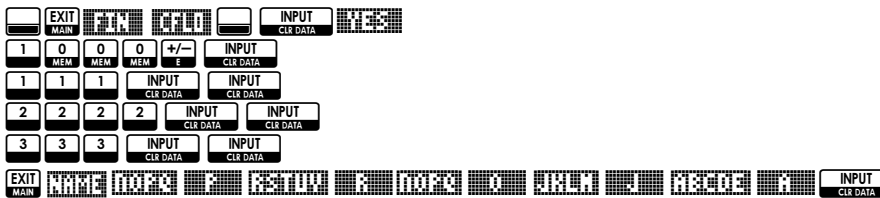


Figure 7

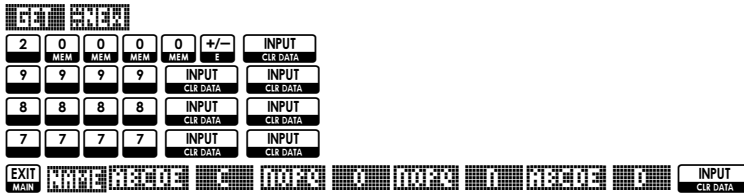
Practice modifying cash flow lists

Example 1: Create two cash flow lists for use in later examples. Name the first list "PROJA" and the second list "COND".

Solution: Create PROJA by pressing the keys shown below.



Create COND by pressing:



Answer: To verify that both lists have been saved, press **F1**. The screen should look similar to that shown in figure 8 below. To exit this screen without actually getting a list, press **EXIT MAIN**.






Figure 8

Example 2: Select the PROJA list and insert a cash flow of \$5,000 that occurs 2 times between cash flows 1 and 2 (which would be between the \$111 and \$2,222 cash flows).

Solution: **EXIT MAIN F1 F10 F11 F12 F13 F14 F15 F16 F17 F18 F19 F20 F21 F22 F23 F24 F25 F26 F27 F28 F29 F30 F31 F32 F33 F34 F35 F36 F37 F38 F39 F40 F41 F42 F43 F44 F45 F46 F47 F48 F49 F50 F51 F52 F53 F54 F55 F56 F57 F58 F59 F60 F61 F62 F63 F64 F65 F66 F67 F68 F69 F70 F71 F72 F73 F74 F75 F76 F77 F78 F79 F80 F81 F82 F83 F84 F85 F86 F87 F88 F89 F90 F91 F92 F93 F94 F95 F96 F97 F98 F99 F100** (Note: The screen shown in figure 9 below will match what you see only if you do this example immediately after Example 1).



Figure 9

Note: Use the  and/or  keys to move through the cash flow list the display looks as shown in figure 10 below. Since the display of the list began in figure 9 showing flow 4, only the  arrow key is necessary.



```
FLOW(2)=2,222.00
CALC INSR DELETNAME GET #T?
```

Figure 10



The screen should now appear as shown in figure 11.



```
FLOW(3)=2,222.00
2.00
```

Figure 11

Answer: The list is automatically updated and saved with the additional new cash flow.

Example 3: Select the project COND and add a fourth cash flow of \$500 that occurs one time.

Solution:

Note: Use the  and/or  keys to move through the cash flow list the display looks as shown in figure 12 below.

```
FLOW(4)=?
CALC INSR DELETNAME GET #T?
```

Figure 12



Answer: The list is automatically updated and saved with the additional new cash flow.

Example 4: Select the project PROJA and delete the first cash flow. Leave all other cash flows the same.

Solution:

Note: Use the  key to move through the cash flow list the display looks as shown in figure 13 below.

```
FLOW(1)=111.00
CALC INSR DELETNAME GET #T?
```

Figure 13



Answer: The cash flow list is automatically updated and the deleted cash flow is removed. Note that the \$5,000 cash flow displayed in figure 14 is the result of working through Example 2 above.

```
FLOW(1)=5,000.00
CALC INSR DELETNAME GET #T?
```

Figure 14