

# Investit Decisions

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## **Instruction Manual** **Finance Folder** **Creating Mortgages & Loans** **Canadian Edition 1.0**

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Investit Software Inc.  
Toll free 877-878-1828  
130 Pemberton Ave, Apt. 202  
North Vancouver BC  
Canada V7P 2R5  
[investit@investit.ca](mailto:investit@investit.ca)  
[www.investitdecisions.com](http://www.investitdecisions.com)

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## FINANCING FOLDER

### Preface

The Finance Folder allows you to enter the financing for capital investments in equipment, real estate etc., if appropriate.

In capital budgeting, financial and engineering economic analysis it is common to ignore financing as this is an organizational decision. The organization rarely borrows money to fund an individual investment in equipment and other assets. Instead, money is raised through retained earnings, the issuance of shares, bonds, debentures and bank loans etc. If this is the case the Finance Folder is not used.

The organization may decide to lease rather than buy the equipment. The Investit Decision's templates "Lease" and "Buy" can be used to decide whether to lease or buy the equipment.

Only use the Finance Folder if there is loan being borrowed against the specific investment or the investment involves the acquisition of real estate funded by a mortgage.

### Canadian Mortgages versus Loans

Canadian mortgages are compounded semi-annually. However, equipment and other loans are generally compounded monthly.

If you are setting up an equipment loan, change the Compounding Frequency from Semi-annually to monthly as follows;

**Mortgage**

**Mortgage Details**

Analysis Period: Year 1 Jan to Year 5 Dec

Commencing Year 1 Month January

Type Standard Mortgage

Amount \$ 0 Interest Rate Fixed

Description

**Mortgage Settings**

Payment Frequency Monthly

Additional Payments/Borrowing

Payment Rounded Up to Nearest Cent

Compounding Frequency Semi-annually

**Terms and Amortization Details**

No of (Balloon) Terms 1

Term No	Time Period		Amortization		Nominal Interest Rate
	Years	Months	Years	Months	
1	0	0	0	0	0.000%

For real estate mortgages select "Semi-annually" compounding

For equipment and othe loans select "Monthly" compounding

Buttons: OK, Calculate, Enter Down, Cancel, Help, Comments

## Features

The Financing Folder is used to create mortgages and loans and offers the following features which allows you to enter any kind of mortgage or loan and to explore creative financing options;

1. The number of mortgages or loans are unlimited
2. The mortgage can start and finish in any year and month. E.g., Year 2, March 1.
3. Eight mortgage payment options. They are:
  - Standard (Blended Principal and Interest Payment)
  - Interest Only
  - Fixed Payment
  - Variable Payment
  - Fixed Principal Payment plus Interest
  - Variable Principal Payment plus Interest
  - Construction Loan. Interest Only (Also called a "Draw" mortgage"
  - No Payment of Principal or Interest
  - Your own Principal and Interest schedule
4. Additional payments or borrowing can be made in any period
5. Multiple Terms, interest rates and amortization periods
6. Payment Frequencies. Annually, Semi-annually, Quarterly Semi-monthly and Monthly

## Mortgage Payment Types

**Note:** The term "Periodic" refers to the payment period or frequency. As an example, monthly, yearly etc.

There are eight different mortgage types:

### 1. Standard Mortgage

A Standard Mortgage consists of a constant blended mortgage payment of principal and interest, as well as full amortization. This means that the borrower pays back the full Principal amount over the life of the mortgage i.e. the outstanding balance of the mortgage at the end of the amortization period is zero.

### 2. Interest Only Mortgage

With an Interest Only Mortgage, the interest is paid periodically, and the periodic payment consists solely of the interest due for the period. The Principal Remaining, which is equal to the amount owed, is paid off at the end of the Term or Amortization Period.

### 3. Fixed Payment Mortgage

The periodic payment is fixed for the Term. The payment is first applied to the interest owing, and any remaining amount is applied to reducing the Principal Remaining.

Note: If the periodic payment is less than the Interest Due, the unpaid interest is added to the Principal Remaining.

### 4. Variable Payment Mortgage

The Variable Payment Mortgage allows you to vary the mortgage payment period by period. The payment is first applied to the interest owing, and any remaining amount is applied to reducing the Principal Remaining.

### 5. Fixed Principal plus Interest Mortgage

The Periodic Payment consists of:

1. The interest due for the period.
2. A fixed principal payment, which reduces the Principal Remaining. The principal payment is fixed for the entire term.

### 6. Variable Principal Payment plus Interest Mortgage

The Periodic Payment consists of:

1. The interest due for the period.
2. A variable principal payment which can be varied period by period. The variable principal payment reduces the Principal Remaining.

### 7. Construction Loan. Interest Only

Allows you to set up a draw mortgage and draw the mortgage down in stages and repay in stages

## 8. No Payment of Principal or Interest Mortgage

Also called an Interest Accruing Loan.

There are no payments of principal or interest during the life of the mortgage. The unpaid interest is added to the Principal Remaining, which is paid off at the end of the Term.

## 9. Your own Principal and Interest Schedule

This option allows you to enter the principal and interest schedule period by period, and is used for unique circumstances where the mortgage contract cannot be calculated using the options available in Investit Decisions.

As an example, the seller and purchaser agree on the following mortgage payments:

Mortgage Amount: \$ 900,000

Mortgage Schedule:

<u>Period</u>	<u>Principal Payment</u>	<u>Interest Payment</u>
1	\$60,000	\$4,000
2	100,000	25,000
3	0	70,000
4	40,000	87,000
5	700,000	60,000

Clearly, there is no mathematical relationship to the payment structure, and the Mortgage Schedule must be entered period by period.

This option allows you to enter unconventional mortgage arrangements between the borrower and lender.

## Entering a Mortgage. Example

The following are the basic steps for entering a mortgage. The steps may vary slightly from those outlined below, depending on the Mortgage Type selected.

In the Financing Folder, Click on the "Add Mortgage" button to create a new mortgage or the "Edit Mortgage" button to make changes to an existing mortgage.

The screenshot shows a software interface with a top navigation bar containing tabs: Project Info., Investor, Investment, Working Capital, Expenses, Financing (selected), and Salvage Value. Below the tabs is a section titled "Mortgage (Borrowing)" which contains a table with the following columns: Description, Type, Amount, and Start Date. Below the table, there are four buttons: "Add Mortgage", "Edit Mortgage", "Delete Mortgage", and "Move". Two arrows point from text instructions to the "Add Mortgage" and "Edit Mortgage" buttons. The text instructions are: "Click on the 'Add Mortgage button' to create a new mortgage" and "Click on the 'Edit Mortgage Button' to change an existing mortgage".

### Example

Following are the entries for a standard loan.

**Note:** The Compounding Frequency has been changed from compounding "Semi-annually" to compounding "Monthly"

#### Mortgage Details

Start Date: 2010 March

Type: Standard Mortgage (Fully amortized loan with constant monthly principle and interest payment)

Amount: \$3,000,000

Description: Financing

#### Mortgage Settings

Payment Frequency: Monthly

Additional Payments/Borrowing: None

Payments: Rounded to Nearest Cent

Compounding Frequency: Monthly

#### Term and Amortization Details

No. of Terms: 1

Time Period: 3 years (Mortgage is paid off with a balloon payment at the end of 3 years)

Amortization Period: 7

Interest Rate: 7.000%

After making the entries click on the "Compute" button and then the "Ok" button to complete the mortgage

The screenshot shows a software window titled "Mortgage" with two main sections: "Mortgage Details" and "Terms and Amortization Details".

**Mortgage Details:**

- Analysis Period: 2010 Mar to 2020 Feb
- Commencing: 2010, Month: March
- Type: Standard Mortgage
- Amount: \$ 3,000,000, Interest Rate: Fixed
- Description: Financing

**Mortgage Settings:**

- Payment Frequency: Monthly
- Additional Payments/Borrowing:
- Payment Rounded: Up to Nearest Cent
- Compounding Frequency: Monthly

**Terms and Amortization Details:**

No of (Balloon) Terms: 1

Term No	Time Period		Amortization		Nominal Interest Rate
	Years	Months	Years	Months	
1	3	0	7	0	7.000%

**Annotations:**

- "Select type of mortgage" points to the "Standard Mortgage" dropdown menu.
- "Select Fixed or Variable Interest Rate" points to the "Fixed" dropdown menu.
- "Allows additional borrowing or payments" points to the "Additional Payments/Borrowing" checkbox.
- "Set to 'Monthly' compounding" points to the "Monthly" dropdown menu.
- "After completing the entries, click on the 'Compute' button" points to the "Compute" button.

**Buttons:** OK, Compute, Fill Down, Cancel, Help, Comments

## Terms and Amortization Details

Allows you to set multiple "Terms" with each term having its own "Time Period", "Interest Rate" and "Amortization Period"

Example using a single term

No. of Terms: 1

Time period: 5 years. This means the outstanding principle at the end of 5 years will be paid off in full

Amortization Period: 25 years

Interest Rate: 7.00%

The entries are:

Terms and Amortization Details						
No of (Balloon) Terms <input type="text" value="1"/> ← One Term						
Time Period			Amortization			
Term No	Years	Months	Years	Months	Nominal Interest Rate	
1	→ 5	0	→ 25	0	→ 7.000%	

Example using Multiple Terms

No. of Terms: 3

Term 1. Time Period: 3 years. Amortization 25 years Interest Rate: 7.00%

Term 2. Time Period: 3 years. Amortization 22 years Interest Rate: 7.50%

Term 3. Time Period: 3 years. Amortization 19 years Interest Rate: 7.75%

Note: The outstanding principle will be paid off with a balloon payment at the end of 9 years.

The entries are;

Terms and Amortization Details						
No of (Balloon) Terms <input type="text" value="3"/> ← Three Terms						
Time Period			Amortization			
Term No	Years	Months	Years	Months	Nominal Interest Rate	
1	→ 3	0	→ 25	0	→ 7.000%	
2	→ 3	0	→ 22	0	→ 7.500%	
3	→ 3	0	→ 19	0	→ 7.750%	



## Additional Payments and Borrowings. Example

Entering Additional Payments or Borrowing:

### Steps:

1. Make sure that you have entered all of the mortgage information by completing the:
  - i) Mortgage Details
  - ii) Mortgage Settings
  - iii) Term and Amortization Details
2. Click on the Additional Payments/Borrowing button in the Mortgage Settings Box
3. Click on the "Display Variable Entry Grid" Button.
4. Enter the Additional Payments or Borrowing in the Grid in the appropriate Time Period.

E.g., Additional payment of \$ 20,000 in period Year 1 Jun.

**Note:** Enter an "Additional Payment" as a positive number. Enter "Additional Borrowing" as a negative number.

**Mortgage**

**Mortgage Details**  
 Analysis Period: Year 1 Jan to Year 20 Dec  
 Commencing Year 1 Month January  
 Type Standard Mortgage  
 Amount \$ 3,000,000 Interest Rate Fixed  
 Description Financing

**Mortgage Settings**  
 Payment Frequency Monthly  
 Additional Payments/Borrowing   
 Payment Rounded Up to Nearest Cent  
 Compounding Frequency Monthly

**Terms and Amortization Details**  
 No of (Balloon) Terms 1

Term No	Time Period		Amortization		Nominal Interest Rate
	Years	Months	Years	Months	
1	7	0	7	0	7.000%

After completing 'Mortgage Details' and 'Terms and Amortization Details', click on this button to enter values for:  
 - Additional Payments or Borrowings  
**Check "Additional Payments/Borrowing" then click on**

**Display Variable Entry Grid**

Term	Time Period	Additional Borrowing (-) Payments (+)
1	Year 1 Jan	\$ 0
1	Year 1 Feb	\$ 0
1	Year 1 Mar	\$ 0
1	Year 1 Apr	\$ 0
1	Year 1 May	\$ 0
1	Year 1 Jun	\$ 20,000

**Enter "Additional Payment"**

Buttons: OK, Compute, Fill Down

## Using Fill Down for Repeating Entries

The "Fill Down" button can be used to quickly enter repeating entries for;

1. Variable Interest Rates
2. Variable Principal Payments
3. Additional Payment/Borrowing

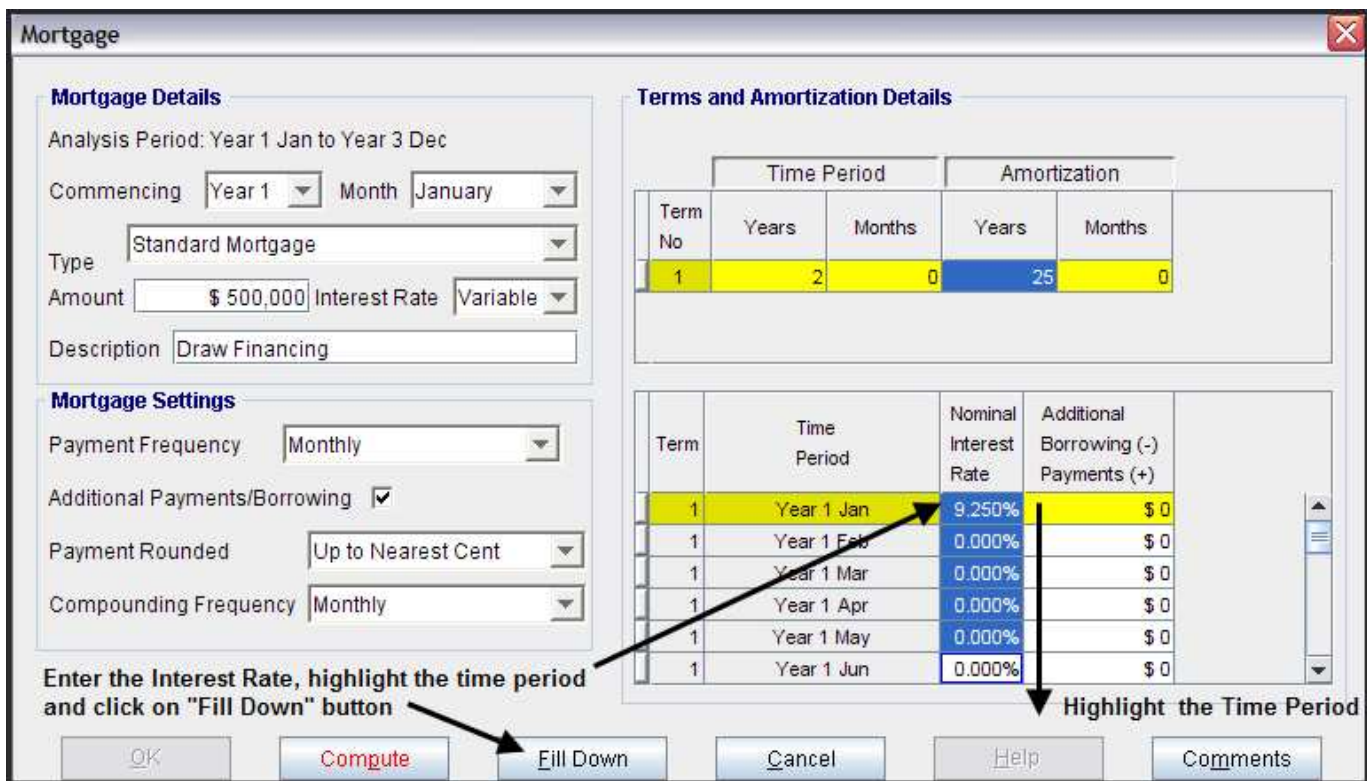
As an example, Nominal Annual Interest Rate for Periods: Year 1 Jan to Dec: 9.25%  
 Year 2 Jan to Dec: 8.00%  
 Year 3 Jan to Dec: 7.25%

can be entered quickly using the  Button as follows;

### Steps

1. Make the first entry. Example 9.250% in Year 1 Jan
2. Highlight the time Period. Year 1 Jan to Dec
3. Click on the "Fill Down" button

Repeat the process to enter;  
 Year 2 Jan to Dec: 8.00%  
 Year 3 Jan to Dec: 7.25%



The screenshot shows the 'Mortgage' software window with the following details:

**Mortgage Details**  
 Analysis Period: Year 1 Jan to Year 3 Dec  
 Commencing: Year 1, Month: January  
 Type: Standard Mortgage  
 Amount: \$ 500,000, Interest Rate: Variable  
 Description: Draw Financing

**Mortgage Settings**  
 Payment Frequency: Monthly  
 Additional Payments/Borrowing:   
 Payment Rounded: Up to Nearest Cent  
 Compounding Frequency: Monthly

**Terms and Amortization Details**

Term No	Time Period		Amortization	
	Years	Months	Years	Months
1	2	0	25	0

Term	Time Period	Nominal Interest Rate	Additional Borrowing (-) Payments (+)
1	Year 1 Jan	9.250%	\$ 0
1	Year 1 Feb	0.000%	\$ 0
1	Year 1 Mar	0.000%	\$ 0
1	Year 1 Apr	0.000%	\$ 0
1	Year 1 May	0.000%	\$ 0
1	Year 1 Jun	0.000%	\$ 0

Annotations in the screenshot:  
 - An arrow points from the text "Enter the Interest Rate, highlight the time period and click on 'Fill Down' button" to the 'Fill Down' button.  
 - An arrow points from the text "Highlight the Time Period" to the 'Year 1 Jan' cell in the second table.

Term	Time Period	Nominal Interest Rate
1	Year 1 Jan	9.250%
1	Year 1 Feb	9.250%
1	Year 1 Mar	9.250%
1	Year 1 Apr	9.250%
1	Year 1 May	9.250%
1	Year 1 Jun	9.250%

Entered by highlighting and using "Fill Down"

## FINANCING EXAMPLES

The Financing Folder flexible allows you to develop mortgage schedules for a wide variety of mortgage payment types and to explore creative financing options.

This section contains the steps for developing the following mortgages:

1. Variable Payment Mortgage with Variable Interest Rates
2. Draw Mortgages

### **Variable Payment Mortgage with Variable Interest Rates. Example**

The following example illustrates how to enter a mortgage with

- a) Variable Payments
- b) Variable Interest Rates

#### Mortgage Details

Type: Variable Payment

Amount: \$3,000,000

Interest Rate: Variable

Description: Financing

#### Term and Amortization Details:

Number of Terms: 1

Time Period: 3 years (The mortgage will be paid off with a balloon payment at the end of three years)

#### Mortgage Settings:

Payment Frequency: Monthly

Additional Payments/Borrowing: None

Rounding Option: Up to nearest cent

Compounding Frequency: Monthly

The variable payments and interest rates are;

Year 1: \$15,000 per month. Interest Rate: 7.00%

Year 2: \$25,000 per month. Interest Rate: 7.50%

Year 3: \$35,000 per month. Interest Rate: 8.00%

The "Variable Payment" and "Variable Interest Rate" mortgage is entered as follows;

**Mortgage**

**Mortgage Details**

Analysis Period: Year 1 Jan to Year 7 Dec

Commencing Year 1 Month January

Type Variable Payment

Amount \$ 3,000,000 Interest Rate Variable

Description Financing

**Mortgage Settings**

Payment Frequency Monthly

Additional Payments/Borrowing

Payment Rounded Up to Nearest Cent

Compounding Frequency Monthly

**Terms and Amortization Details**

Time Period		
Term No	Years	Months
1	3	0

After completing 'Mortgage Details' and Terms and Amortization Details', click on this button to enter values for:

- Periodic Payments
- Variable Interest Rate

Select "Variable Interest Rate" and "Variable Payment" and click on Display Variable Entry Grid

Term	Time Period	Nominal Interest Rate	Payment
1	Year 1 Mar	7.000%	\$ 15,000.00
1	Year 1 Apr	7.000%	\$ 15,000.00
1	Year 1 May	7.000%	\$ 15,000.00
1	Year 1 Jun	7.000%	\$ 15,000.00
1	Year 1 Jul	7.000%	\$ 15,000.00
1	Year 1 Aug	7.000%	\$ 15,000.00

Enter the Variable Interest Rate and Payment for each 12 month period

**TIP: Highlight 12 months and use 'Fill Down' to repeat the monthly entries for the year**

## Draw Mortgage Example

A manufacturer has arranged a draw mortgage for \$1,000,000 at a Nominal Interest Rate of 8.75%, compounding monthly, and anticipates drawing down and then repaying the mortgage from sales revenue, as follows

### Mortgage Draws and Payment Schedule

<b>Mortgage Draws</b>	<b>Draw</b>
Year 1 Jan	\$200,000
Feb	\$400,000
Mar	\$300,000
Apr	\$100,000
Total	\$1,000,000
<b>Mortgage Repayments</b>	<b>Payment</b>
Year 1 June	\$300,000
July	\$400,000
Aug	\$300,000
Total	\$1,000,000

The entries in the Mortgage screen are;

**Mortgage Details**

Analysis Period: Year 1 Jan to Year 7 Dec

Commencing Year 1 Month January

Type **Construction Loan. Interest Only Payment**

Interest Rate Fixed

Description Draw Financing

**Mortgage Settings**

Payment Rounded Up to Nearest Cent

Compounding Frequency Monthly

**Terms and Amortization Details**

No of (Balloon) Terms 1

Time Period			
Term No	Years	Months	Nominal Interest Rate
1	3	0	8.750%

After completing 'Mortgage Details' and 'Terms and Amortization Details', click on this button to enter values for:

- Additional Payments or Borrowings

Select "Construction Loan. Interest Only Payment" and click on

**Display Variable Entry Grid**

Reset Variable Mortgage Entries to zero

Term	Time Period	Borrow (Draw)	Payment
1	Year 1 Jan	\$ 200,000	\$ 0
1	Year 1 Feb	\$ 400,000	\$ 0
1	Year 1 Mar	\$ 300,000	\$ 0
1	Year 1 Apr	\$ 100,000	\$ 0
1	Year 1 May	\$ 0	\$ 0
1	Year 1 Jun	\$ 0	\$ 300,000

Enter the "Draws"      Enter the "Payments"

Once the entries are complete click on "Compute" and then the "OK" button

**Compute**

OK

Fill Down

Cancel

Help

Comments