

User's Guide
651F LoanMaker®
Mortgage Calculator

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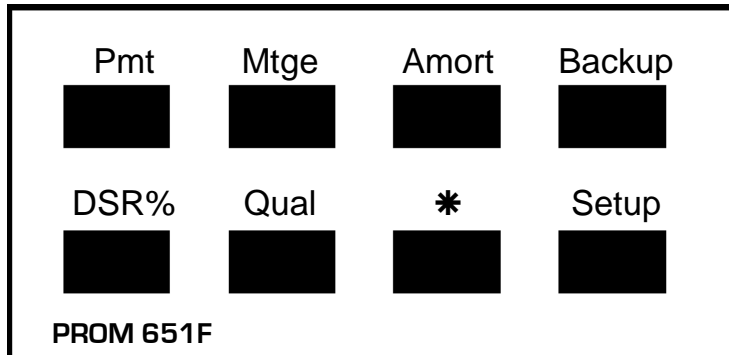
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Key Template Layout

The eight function keys on the face of the calculator are used to run various programs that are identified by the template to be placed on the calculator.

English



Be careful when installing the template over the calculator's keys. If the template is not aligned correctly, it may keep one or more of the keys depressed. If this happens, the calculator will fail to operate at all. Remove the template and install it again correctly.

Qualify Routine - [Qual] Function Key

Prompt

User Response

GDS ##%?_

If the gross debt service percentage displayed is correct, push [ENTER]; otherwise enter the desired GDS percentage.

TDSR ##%?_

Enter the total debt service percentage.

INC/YR xxxxx?_

Enter the annual income of the borrower.

LOAN/MTH xxxx?_

Enter the amount of other loan payments/month.

TAX/YR xxxx?_

Enter the annual property taxes.

HEAT/YR xxxx?_

Enter the annual heating costs.

CONDO/MTH xxxx?_

Enter the monthly condo fees.

If the resulting debt service monthly payment is greater than \$1.00, the program will automatically enter the Mortgage Amount Routine.

Debt Service Routine – [DSR%] Function Key

This routine is used to compute the debt service ratios for a specific loan and/or mortgage. It is automatically executed at the end of a payment or amortization routine for the mortgage routine. It can also be used independently.

The total debt service (TDSR) percentage is the ratio of all debt service payments plus taxes, heat, and one-half the condominium fees to total income.

The gross debt service (GDSR) percentage is the ratio of the mortgage payment plus taxes, heat, and one-half the condominium fees to total income. In both calculations, the net principal-&-interest payment, exclusive of any credit insurance costs, is used.

<u>Prompt</u>	<u>User Response</u>
INC/YR xxxxx?_	Enter the annual income of the borrower.
MTGE/RENT xxxx?_	Enter the mortgage or rent payment/month.
LOAN/MTH xxxx?_	Enter the loan payments/month.
TAX/YR xxxx?_	Enter the annual property taxes.
HEAT/YR xxxx?_	Enter the annual heating costs.
CONDO/MTH xxxx?_	Enter the monthly condo fees.

GDSR	xx.xx%	Gross Debt Service Ratio
TDSR	xx.xx%	Total Debt Service Ratio

Mortgage Routines - [Pmt], [Mtge] & [Amort] Function Keys

These routines compute mortgages with true monthly, semi-monthly, biweekly, or weekly payments and either monthly or semi-annual compounding of interest. Accelerated and "Option" semi-monthly, biweekly, and weekly payments can also be computed. The equivalent semi-annual rate of interest is also disclosed.

<u>Prompt</u>	<u>User Response</u>
AMT xxxxxx?_	(Does not appear in the Find Mtge routine.) Enter the amount to be borrowed.
PMT xxxx.xx?_	(Does not appear in the Find Payment routine.) Enter the desired payment amount. (If the GDS routine has passed a payment, just push [ENTER] to use it.)
AMORT (MTH) xxx?_	(Does not appear in the Find Amortization routine.) Enter the amortization period in months.
RATE xx.xx%?_	Enter the interest rate (as a percentage).
PMT FREQ 12?_	(Appears only in the payment routine.) Enter the desired payment frequency. ¹
ACCEL (0/1/2) x?_	(Appears only in the payment routine and only if the payment frequency is 24, 26 or 52.) Enter "1" to compute an "option" mortgage, a "2" for an accelerated mortgage, or a "0" for a conventional mortgage.
COMP FREQ 2?_	If the compounding frequency shown is correct, push [ENTER]; otherwise enter the correct frequency. (Default is 2. Frequencies allowed are 2 and 12.)

Find Payment Routine

PMT-xx	xxxxxx.xx	Payment frequency and amount
AMORT (MTH)	xxx	Recalculated amortization. ²

¹ Allowed frequencies are 12, 24, 26, & 52, corresponding to monthly, semi-monthly, biweekly, and weekly payments.

TERM (MTH) xx?_ Enter the interest term in months.

DAYS TO IAD xx?_ Enter the interest adjustment period in days.

MTGE	xxxxxxx.xx	Mortgage amount.
2x xx.xx%	xx.xx%	Semi-annual rate, interest rate.
PMT-PI	xxxx.xx	Payment (principal & interest).
PR BAL	xxxxxxx.xx	Remaining principal balance.
INT CG	xxxxxxx.xx	Interest charge.

This routine continues in the Debt Service routine.

Find Amount Disclosure

MTGE	xxxxxxx.xx	Mortgage amount available.
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Find Amortization Disclosure

PPMT/YR 0?_ Enter the additional annual principal payment, if any. The start of the annual principal payments can be delayed and the number of them can be limited. Entry is AMT+START+NUMBER. Default is to start annual principal payments at the end of the first year and continue throughout the mortgage. See Annual Principal Payments below.³

² If the mortgage is an accelerated or option type, the amortization term in months is recalculated using the mortgage payment. The recalculated amortization will always be less.

³ Annual Principal Prepayments

If no entry is made at the prompt, the amortization period is computed using the entered parameters. If an entry is made, the program considers the amount entered to be an additional principal payment made at the end of each year. This payment is in addition to the regular payment that falls at the end of the year.

To delay the start of the annual principal payments, enter the desired annual payment, a "+" sign, and the year to start. For example, to compute the amortization period of a mortgage with \$10000.00 annual payments starting at the end of the third year, enter 10000+3. To limit the number of years, enter a second "+" sign followed by the number of years that the annual principal payment will be made.

PMT INC % 0?_

Enter the annual percentage increase in the periodic payment, if any. The start of the annual payment increases can be delayed and the number of years that the payment increases can be limited. Entry is PERCENT+START+NUMBER. Default is to start the payment increases at the start of the second year and continue throughout the mortgage.

The percentage must be between 0 and 100%. Entries of 1 or 0 for the start year are treated as a 2. See Increasing Periodic Payments below.⁴

AMORT-MTH	xxx
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Calculated amortization period in months.

Continuing our example, to start the annual payments in the third year and continue them for 5 years, the entry would be 10000+3+5. (To limit the number of payments without any delay in their start, you can enter a "+0", a "+1", or simply a "+". To make five annual payments starting the first year, the entry can be "10000+0+5", "10000+1+5", or "10000++5".

If the amortization period is an exact multiple of 12 months, indicating the loan will amortize in some whole number of years, the final principal payment will vary from \$0.00 to the entered amount. The interest charge that is computed reflects this partial payment.

It is possible to compute the final principal payment in the following manner: Add the interest charge to the mortgage amount. From this subtract the sum of the regular payments (# of payments times payment amount) and one less than the whole number of years times the annual principal payment (# of years - 1 times annual principal payment). The balance is the final annual principal payment.

⁴ Increasing Periodic Payments

If no entry is made at the prompt, the amortization period is computed using the entered payment. If an entry is made, the program increases the periodic payment at the end of each year by the percentage entered. For example, if the entered payment is \$600.00 and a 10 percent increase is entered, the payment will increase to \$660.00 for the second year, to \$726.00 for the third, to \$798.60 for the fourth, and so forth, until the mortgage amortizes.

To delay the start of the payment increases, enter the desired annual increase (as a percentage), a "+" sign, and the year to start. For example, to compute the amortization period of a mortgage with a 5% annual increase in the payment starting the fourth year, enter 5+4. The payment will remain the same for the first four years and then increase 5% each year. (An entry of 1 or 0 is treated as if a 2 were entered, i.e., the payment will increase starting in the second year.)

To limit the number of years that increases are to occur, follow the entry with a second "+" and the number of years to apply the increase. To apply a 10% increase starting the 6th year for the next 3 years, enter "10+6+3". (To limit the number of years and start the increases immediately, enter "10+1+3", "10+0+3", or "10++3".)

CMHC Routine - Subprogram #1

This routine computes the minimum required downpayment⁵ for conventional and CMHC insured mortgages. If the CMHC option is chosen, the CMHC fees are computed.

The mortgage amount is computed from the entered price and downpayment and is passed to the Mortgage Find Payment Routine - [Mtge] function key.

<u>Prompt</u>	<u>User Response</u>
	Push the [Setup] function key and enter a "1" to run this program.
PRICE 0?_	Enter the price of the property.
CMHC (Y/N)?_	Push [YES] to compute the minimum downpayment with CMHC insurance, or [NO] to compute it without.
DN PMT xxxxx?_	The minimum downpayment is computed and displayed. To use it, just push [ENTER]; otherwise, enter the desired downpayment amount. If a downpayment less than the computed amount is entered, an error will be reported.
CMHC \$ xxxxx.xx	The amount of the CMHC fee is displayed. ⁶ If no CMHC insurance was selected, this line will be 0.
AMT xxxxxx?_	The adjusted mortgage amount ⁷ will be displayed; to

⁵ For conventional mortgages, the minimum downpayment is computed as 25% of the price. For CMHC mortgages, the minimum downpayment is 5% of the price. The minimum downpayment is adjusted upwards to the next whole dollar.

⁶ Rates effective as of July 14, 2003. The CMHC Fee computation is based on the LTV% (loan-to-value ratio). The LTV% is found by dividing the mortgage amount by the price of the property and rounding the result to the nearest hundredth of a percent. The CMHC Fee is a percentage (see table below) of the mortgage amount based on the LTV%. The CMHC Fee is rounded to the nearest whole dollar.

<u>LTV%</u>	<u>Fee</u>
90.01 - 95.00%	3.25%
85.01 - 90.00%	2.00%
80.01 - 85.00%	1.75%
75.01 - 80.00%	1.00%
65.01 - 75.00%	0.65%
00.00 - 65.00%	0.50%

use it, push [ENTER]; otherwise enter the desired mortgage amount. The routine will continue through the standard mortgage routine to find the payment -- see Find Payment Routine on page 5.

Blend Routine – Subprogram #2

This routine computes a blended interest rate to be used when an older mortgage is rolled over into a new, larger mortgage at a different interest rate.

<u>Prompt</u>	<u>User Response</u>
	Push the [Setup] key and enter a "2" to run this program.
CUR MTGE?_	Enter the existing mortgage amount.
RATE % xx.xx?_	Enter the existing interest rate.
NEW MTGE xxxxx?_	Enter the new mortgage amount.
NEW RATE % xx.xx?_	Enter the new interest rate.
AMORT-MTH X?_	Enter the amortization period in months.
RATE % X.XXX?_	If the blended interest rate shown is correct, push [ENTER], otherwise enter the correct rate.

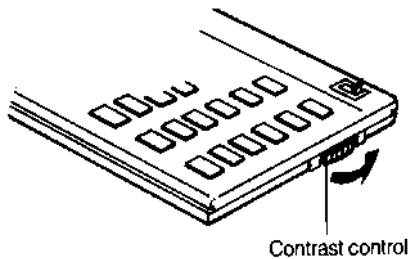
This routine continues in the Find Payment routine.

⁷ The adjusted mortgage amount is the sum of the price and the CMHC fee less the downpayment.

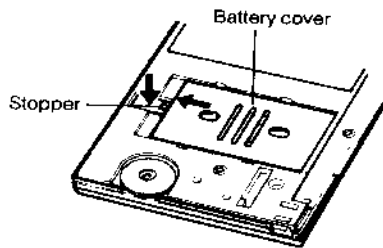
Battery Replacement & Maintenance

Replacing the Batteries

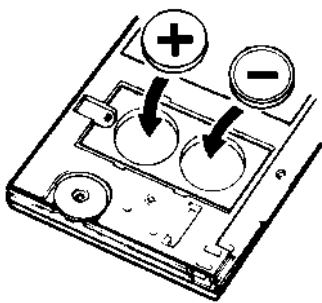
The calculator is equipped with a control to adjust the contrast of the LCD (liquid crystal display). As the batteries age, the contrast will need to be adjusted from time to time. Adjust the display contrast with the knob on the right-hand end of the computer (under the On/Off switch). While looking at the display from a position about 70 degrees above the keyboard, first increase the contrast until black squares are clearly visible behind the characters and then decrease the contrast slowly until the squares just disappear.



If the display contrast becomes too dim, the batteries should be replaced. The batteries are located inside the back cover--you will need 2 lithium CR-2032 batteries and a small screwdriver to replace the batteries.



To replace the batteries, turn the calculator off, remove the Software Cartridge, remove the calculator back cover, and the battery cover.

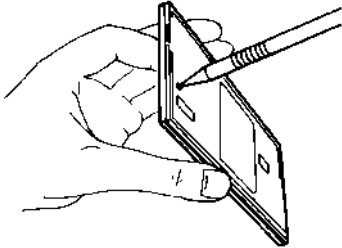


Install the new batteries (be careful to observe the polarity (+ and -) of the batteries when installing the new batteries), and reinstall the battery cover and back cover.

Reinstall the Software Cartridge. You may need to initialize the cartridge before you can use the calculator. See Initializing the Software Cartridge on page 11.

Initializing the Software Cartridge

After replacing the batteries or if you remove the Software Cartridge from the calculator, you may need to initialize the Software Cartridge with the following steps. Software Cartridges have a label on the back side (the side that faces the calculator) which has instructions similar to the following.)



1) Install the Software Cartridge in the calculator. With a pencil or straightened paper clip and the calculator ON, push the "ALL RESET" button on the left side of the back of the calculator. You should see 4 stars in the display (2 on the left, 2 on the right). (On some calculators, there may be a white label over the "ALL RESET" button. If so, gently lift up the lower left corner to reveal it)

2) Push [ENTER]. You should now see a single star at the right edge of the display.

3) Turn the calculator off, wait a few seconds, and then turn it back on. You should see "0." in the display. The calculator is now ready to be set up.

4) Push the [Setup]/[Code] key. You should see "CONFIGURING..." appear (earlier versions may show "CONFIGURING...") for a moment and then, after several seconds, the "CODE?" prompt will appear.

Error Messages

From time-to-time, the program may report an error. The information here provides a more detailed explanation of the error and the corrective action to be taken. Errors take two general forms:

The first type is produced by one of the programs installed in the calculator and usually is the result of a data entry error or an unreasonable result (such as a loan with negative payments). If possible, you will be returned to the prompt that needs to be changed.

AMORT TOO LONG	Although the payment entered will amortize the loan or mortgage being computed (See "PMT TOO SMALL" below), it will take more than 480 months. Increase the payment and/or reduce the proceeds and recompute the loan.
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This error can also occur when entering the amortization period in the Rebate and Interest Differential Routines because the entered value exceeds the maximum amortization period.

DOWN PMT < MIN	In the CMHC routine, the entered downpayment is less than the minimum requirement.
INVALID AGE	The borrower's age is required -- it is used to determine the insurance plans available.
INVALID CMP FREQ	The compounding frequency entered is not valid. For loans and residual loans, the compounding frequency may be 1, 2, 4, 12, 24, 26, or 52, corresponding to annual, semi-annual, quarterly, monthly, semi-monthly, biweekly, and weekly compounding. For mortgages, it can be either 2 or 12, corresponding to semi-annual and monthly compounding.
INVALID ENTRY	The entry just made is not allowed. The program will return to the prompt. This can occur in the following situations: 1) at the start of a Loan or Mortgage Routine, a task other than 1, 2 or 3 is entered, 2) in the Portable Mortgage Routine, the "NEW MTGE" amount is less than the "EXIST MTGE" amount entered, 3) in the Qualify Routine, a task other than 1 (for Loans) or 2 (for Mortgages) is entered, and 4) also in the Qualify Routine, the entered debt service percentage exceeds the maximum allowed.
INVALID INS CODE	The insurance code entered is not valid.
INVALID INT TERM	The interest term entered is not valid. This can occur if the interest term 1) is equal to zero, 2) is greater than the amortization period of the loan or mortgage, or 3) does not correspond with a whole number of payments. This last condition can occur when the payment frequency is weekly or biweekly.
INVALID PMT FREQ	The payment frequency entered is not valid. For loans and residual loans, the payment frequency may be 1, 2, 4, 12, 24, 26, or 52, corresponding to annual, semi-annual, quarterly, monthly, semi-monthly, biweekly, and weekly payments. For mortgages, it can be 12, 26 or

52, corresponding to monthly, biweekly, and weekly payments.

PMT > DIS CAP! The monthly payment exceeds the maximum allowed payment for a loan with disability insurance and is therefore not eligible for disability insurance. The loan is calculated without disability insurance.

PMT TOO SMALL The payment entered will not amortize the loan or mortgage because the periodic interest due exceeds the payment amount. The payment must be increased or the proceeds reduced. (See also "AMORT TOO LONG!" above.)

The second type appears as "ERROR # (IN ###)" and is a system error whose significance can be determined from the following table. If one of these errors occurs, push the [CA] key to clear the error before starting a routine.

ERROR 1 (IN ###) The batteries may be weak. Try replacing them with new ones. If this error persists, the calculator needs to be returned for maintenance.

ERROR 2 (IN ###) A calculation error occurred because of a divide-by-0 or overflow problem.

ERROR 3 (IN ###) The calculator needs to be initialized.

ERROR 4 (IN ###) Try initializing the Software Cartridge (see below). If this is not successful, return the calculator for maintenance.

ERROR 7 A computed or entered number is too large to be displayed. Generally, dollar amounts are limited to \$999,999.99. (For transactions over \$999,999.99, the amounts can be divided by 10 before being entered into the calculator and the computed results multiplied by 10 to obtain the correct results.)

ERROR # Other errors should be reported with the circumstances under which they occurred.

It is possible to attempt to compute illogical loans with the calculator (for example entering a proceeds amount of 0). Although the program will usually abort with an "ERROR 2 IN ###" message indicating an underflow or overflow condition, in a

few cases the calculator may "hang" (the display will stay blank and the keys become inoperative). If this occurs, push the [CA] key or turn the calculator off and back on.

Year 2000 Compliant

The routines in this calculator are not date aware. Therefore the routines will run properly in the Year 2000 and thereafter.

Setup Routine - [Setup] Function Key

Prompt

CODE?_
1, 2

User Response

Run Subprograms #1 and #2
Enter 1 or 2 to run Subprograms.