Casio Financial Consultant

A Supplementary Reader - Part 1

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CASIO Financial Consultant: A Supplementary Reader - Part 1

CONTENTS

INTRODUCTION

Welcome to the world of CASIO Financial Consultant calculator.

The intention of this 4-part reader is to supplement the User's Guide of FC-100V/FC-200V. We adopt the work-example approach as we believe this makes the reader both effective and efficient for use. Some examples are slightly methodical, but you should find them useful nonetheless. The goals of the 4 parts are:

- Part 1 – Help users get started and explore the interface and setting.
- Part 2 – Using CMPD and AMRT for loan and annuity related calculations.
- Part 3 – Help users get familiar with CASH and CNVR modes.
- Part 4 – Using FC-200V Bond and Depreciation calculations

The FC-200V is an extended version of the FC-100V, and for your convenience we include a comparison chart of both models in the reader. Key-strokes for all financial modes for both models are cleverly remained the same by **CASIO**, with the exception to Bond, Depreciation and Break-Even Value, which are functions only available on the FC-200V. User will also find that operations of some scientific calculations are different too. We refer ONLY to FC-200V in all examples but owner of FC-100V will find that the examples provided also work on their machine.

We have referred to these resources for inspiration: (i) Schaum's Outlines on Mathematics of Finance and (ii) Casio's Financial Activity for TVM. Screenshots in the pages are screen dumps from the Casio AFX-2.0+. For this we would like to thank Marco Corporation (M) Sdn. Bhd. for their technical support.

We did our best to reduce number of mistakes within this reader. But if you do see any, you are most welcome to report them via info@qed-edu.com. Please also send us your feedbacks.

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This publication makes reference to the Casio FC-200V and FC-100V Financial Consultants. These model descriptions are the registered trademark of Casio Computer Inc.

Getting Started

Initializing the Calculator
The calculator can be initialized to its default setting by performing the following.

❖ Enter memory setting mode.

SHIFT 9

❖ Scroll down to select [All : EXE].

▽ ▽

❖ To initialize tap the following.

EXE EXE AC

Let's get started using the FC-200V. Some of the examples will demonstrate a few differences, operation-wise, between the FC-200V and the FC-100V.

Example 1 ►>> Evaluate $7^4 - 5$.

Operation
[For FC-200V]
❖ Make sure the calculator is in COMP mode.

COMP

❖ Now evaluate the expression.

7 SHIFT 6 (^) 4) − 5 EXE

Output: 2396

[For FC-100V]
❖ Make sure 100V is in COMP mode then evaluate.

COMP 7 ^ 4) − 5 EXE

You should get the same result as above. ■

Example 2 ►>> The original selling price of an item is RM 362.70. The shop owner says that after a 37% discount, you only need to pay RM 228.50. Cross check whether his mathematics is correct.

Operation

One approach is through the direct use of the formula, New = Old – Old*Discount.

❖ Ensure that the calculator is in COMP mode and key in the following.

COMP 3 6 2 • 7 — 3

6 2 • 7 X 3 7 SHIFT

((%) EXE

Output: 228.501

Another nice approach is by using the percentage difference function.

❖ Ensure that the calculator is in COMP mode and key in the following.

COMP 2 2 8 • 5 — 3

6 2 • 7 SHIFT • (Δ%)

Output: -37.00027571

While his mathematics is not exact, the shop owner is a scrupulous merchant. ■

Another feature in modern calculators is the ability to do expression editing.

Example 3 ►>> Evaluate the following: (i) $7.4^{3.8}$, (ii) $7.4^{3.85}$ and (iii) $7.9^{3.85}$

Operation

[For FC-200V]

❖ While the calculator is in COMP mode, key in the following.

COMP 7 • 4 SHIFT 6 (Λ) 3

• 8 EXE

Output: 2009.465411

❖ Immediately after the above, tap ◄ once. As cursor is at position after 8, tap

5 EXE

Output: 2220.967078

to evaluate $7.4^{3.85}$.

[Continue next page]

❖ And to evaluate $7.9^{3.85}$, use ◁ ▷ to move cursor to position after 4 and tap

DEL 9 EXE

Output: 2856.697807

[For FC-100V]

❖ Using FC-00V to evaluate $7.4^{3.8}$ is slightly different. While in COMP mode, key in

COMP 7 • 4 ∧ 3 •

8 EXE

Output: 2009.465411

The rest of the editing operations are similar to that of FC-200V. ■

The interface of FC-100V/FC-200V is quite user-friendly. The next two **Days Calculation** examples should clearly demonstrate this attribute.

Example 4 ►>> Use exact calculation to find number of days between 10th of Dec 2004 and 26th of Jan 2005.

Operation

❖ Enter DAYS mode by tapping DAYS. Is the screen displaying [Set :365]? If yes, leave it as it is. Otherwise, tap

EXE 2

to set the Date Mode showing [Set :365].

❖ Now scroll down to [d1] with ▽, then key-in the first date of 12/10/2004. (M/D/Y)

1 2 1 0 2 0 0 4 EXE

❖ Next scroll down to [d2] and key-in the second date of 01/26/2005. (M/D/Y)

0 1 2 6 2 0 0 5 EXE

❖ Now scroll down to select [Dys] and tap SOLVE to find the in-between number of days.

Output: Dys = 47

The number of days should be 47. ■

Example 5 ►>> Now use exact calculation to find the date which falls 65 days prior to 10th of Jan 2005.

Operation

❖ Enter DAYS mode by tapping [DAYS], make sure Date Mode is set to [Set :365] and refer to Example 4 on how to do so if it is not.

❖ Since we are calculating a prior date, scroll down to [d2] and key-in the date of 01/10/2005. Leave [d1] alone for the time being.

[0] [1] [1] [0] [2] [0] [0] [5] [EXE]

❖ Now with [Dys] selected, input 65.

[6] [5] [EXE]

❖ Now scroll up and select [d1]. Tap [SOLVE] once.

Output: d1 =11062004

The output means 65 days prior to 10th of Jan 2005 is 6th of November 2004. ■

The friendly interface allows greater interactivity and also makes the V-series easy to master. The Cost-Sell-Margin Calculation examples should explain why.

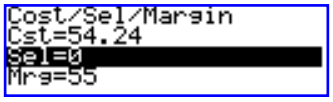
Example 6 ►>> With the cost of each box of shampoo at RM54.24, the brand manager priced each box with a 55% margin. Find the selling price.

Operation

❖ Enter Cost/Sell/Margin mode by tapping on [COST]. With [CST] selected, tap

[5] [4] [•] [2] [4] [EXE]

to input [CST = 54.24].



Screenshot from Casio TVM

❖ Now scroll down to select [MRG] and key-in the value of 55.

[▽] [5] [5] [EXE]

❖ Scroll up and select [SEL], then press [SOLVE].

Output: SEL = 120.5333333

The manager should be selling the shampoo at RM 120.54 per box.

The Set-Up Mode

Another feature of modern calculators is the Set-Up mode. You can manage many aspect of the calculator from here. Initially this may feel a bit unusual, but once you get use to this idea you should be alright.

Here are some of the things you can manage in Set-Up:

(i) Setting Date Mode

In both 100V and 200V, the default for day calculation is the 365-day year. If you are likely to use the 360-day year frequently, you might want to set this as the default.

❖ As you turn on the calculator, tap on [SET UP].

❖ Scroll down to select [Date Mode :365], then press [EXE] [1].

The '360' indicator will appear on top of screen, and the 360-day year will be the default setting even after you turn off the calculator.

(ii) Setting Date Input Format

In Example 4, we were required to key in dates into 100V/200V. To some people, inputting date in the Month/Day/Year format is a bit awkward. If you prefer the Day/Month/Year format, you can set this as your default input format.

❖ Tap on [SET UP], scroll down to select [Date Input :MDY], then press [EXE] [2].

The 'DMY' indicator will appear on top of screen, and this input format will be your calculator default input format.

(iii) Setting Interest Calculation for Partial Month

If your interest calculation involves a period with partial month such as 6 months and **12 days**, you can decide on the type of interest calculation for the partial month.

The default setting calculates the interest in a compound manner. If you prefer the calculation to use simple interest

❖ Tap on [SET UP], scroll down to select [dn], then press [EXE] [2].

The 'SI' indicator will appear on top of screen. Calculation done with simple interest will of course be different to when using compound interest. We will discuss this in an example in Part 2.

Simple Interest with SMPL Mode

Calculating simple interest is straight forward and the simple interest amount, or SI, and the simple future value, or SFV, can be obtained easily. Day calculation can be set to *exact* or *approximated*, and in this reader we shall use only *exact* time.

Example 1 ►>> Find the exact simple interest, on a 60-day loan of RM1500.00 at $14\frac{1}{2}$%.

In this example, Dys(Day) = 60, I%(Interest Rate) = 14.5 and PV(Present Value/Principal) = 1500.

Operation

❖ Enter SMPL mode by tapping on [SMPL]. If the day calculation is 'Set :365', let it be. Otherwise, press

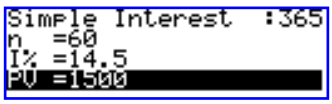
[EXE] [2]

❖ Scroll down, select [Dys] and input the value 60. Similarly, select [I%] and [PV] and key in their respective values of 14.5 and 1500.

[▽] [6] [0] [EXE]

[1] [4] [•] [5] [EXE]

[1] [5] [0] [0] [EXE]



Screenshot from Casio TVM

❖ With [SI :Solve] selected, tap [EXE] or [SOLVE] .

Output: SI = -35.75342466

The output says that the interest is RM 35.75, and the minus sign in front means this is a payable. ■

When my wife purchased her Honda City, we used the FC-200V to help her planned the loan repayment. Apart from SMPL mode, we also used the Answer Memory feature, or [Ans] .

Example 2 ►>> My wife takes out a 5-year car loan of RM 30,000 at the rate of 3.3%. She wants to know what her monthly repayment would be.

In this example, Dys = 5 X 365, I% = 3.3 and PV = 30,000.

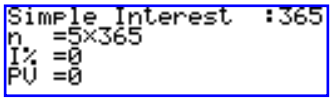
[Continue next page]

Operation

❖ Enter SMPL mode by tapping on [SMPL]. Check that the day calculation is set to 'Set :365'. If not, refer to Example 1 on how to do it.

❖ To input 5 X 365 to [Dys], scroll down to select [Dys] then key in the following.

[▽] [5] [X] [3] [6] [5] [EXE]



Screenshot from Casio TVM

❖ Now input 3.3 and 30,000 to [I%] and [PV] respectively.

[3] [•] [3] [EXE]

[3] [0] [0] [0] [0] [EXE]

❖ Scroll to select [SFV :Solve], then solve it. .

[▽] [EXE]

Output: SFV = -34950

The Answer Memory [Ans] is updated when I pressed [EXE], and now [Ans] is storing the value of SFV.

❖ To calculate my wife's monthly repayment for the next 5 years, go to COMP mode.

[COMP] [Ans] [÷] [(] [5] [X] [1]

[2] [EXE]

Output: - 582.50

Obviously she will be RM 582.50 poorer every month for the next 5 years. ■

Though this last step seems trivial but it is very useful when SFV is much too big and long to memorize by heart.

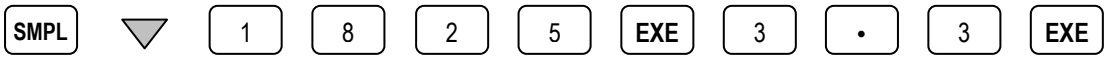
Using Short-Cut Keys

If there are procedures and setting which you used frequently, the two **SHORTCUT** keys can help you reduce calculation time.

In the previous example, we calculated the monthly repayment of my wife's car loan. Suppose the financier always use this same set of values in calculating interest except for the Principal (PV), i.e. Dys = 5 X 365 = 1825 days;I% = 3.3%

We can configure these values to **SHORTCUT 1**. We can also configure **SHORTCUT 2** to calculate the monthly repayment using 'Ans÷60' (60 being 5 X 12 months.)

❖ Enter SMPL mode and input 1825 and 3.3 to [Dys] and [I%] respectively.



❖ With [PV] selected, key in the following.

SHORTCUT 1 is configured and whenever you tap on it, the calculator will enter SMPL mode with the above settings. Now assign the expression 'Ans÷60' to **SHORTCUT 2**.

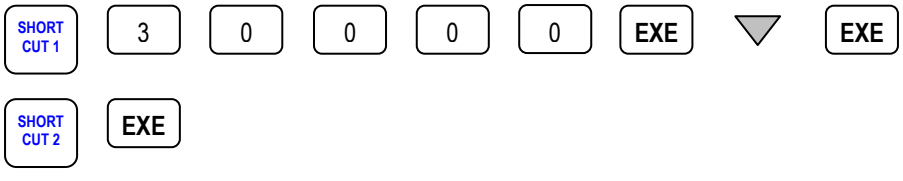
❖ Enter COMP mode and key in the following.

SHORTCUT 2 is assigned with 'Ans÷60', and calculation steps for this example become very much shorter.

Example 1 ►>> My wife takes out a 5-year car loan of RM 30,000 at the rate of 3.3%. She wants to know what her monthly repayment is.

Operation

❖ Using **SHORTCUT 1**, **SHORTCUT 2** for the calculation



The output would be the same as Example 2 in *Simple Interest with SMPL Mode*. ■

FC-200V/FC-100V Comparison Chart

Calculator Functions	FC-200V	FC-100V
Scientific Calculation	Yes	Yes
1- & 2- Variable Statistics	Yes	Yes
Statistical Regression	Yes	Yes
Simple Interest	Yes	Yes
Compound Interest	Yes	Yes
Cash Flow (IRR, NPV, PBP, NFV)	Yes	Yes
Amortization	Yes	Yes
Interest Rate Conversion	Yes	Yes
Cost & Margin Calculation	Yes	Yes
Days and Date Calculation	Yes	Yes
Depreciation	Yes	-
Bonds	Yes	-
Breakeven Point	Yes	-

Key Applications		
Business and Finance Studies	•	•
Banking and Banking Studies	•	•
Insurance and Financial Planning	•	•
Investment Appraisal	•	•
Stock Market and Bonds	•	
Business and Financial Investment	•	

Product Features		
Expression Entry Method	Algebraic	
Screen Display	4 Lines x 16 Characters	
Memory (plus Ans Memory)	8	
Programmable?	No	
Settings and Functions Short Cut Keys	Yes, 2	
Function Catalog	Yes	
Batteries	Solar Cell & LR44	1 x AAA-Size
Dimension (mm)	12.2 x 80 x 161	13.7 x 80 x 161
Weight	105g	110g