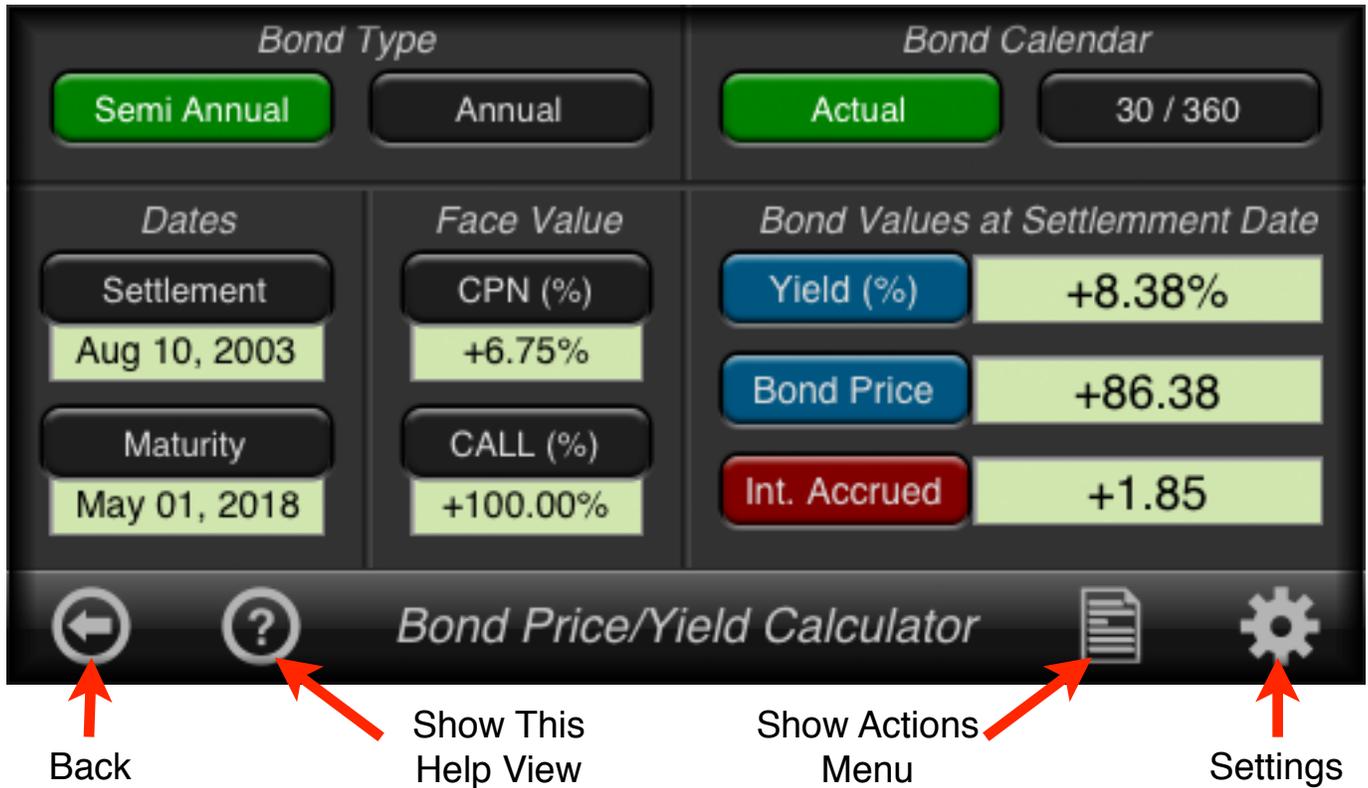# Bond Calculation Tool

This tool is an expansion of the Bond calculation included in the original HP-12C calculator. It allows to calculate Annual or Semi-Annual bonds with 30/360 (30 days months and 360 days year) or an Actual calendar.

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Bond Calculations Buttons	
Semi Annual / **Annual**	Select the bond type to Semi-Annual or Annual coupon payments.
Actual / **30 / 360**	Select the calendar basis to: Actual calendar month and year, or a 30-day month and 360-day year.
Settlement	Stores the settlement (purchase) date according to the current date format (M.DY or D.MY).
Maturity	Stores the maturity date or call date according to the current date format (coincide with a coupon date).
CPN (%)	Stores the annual coupon rate as a percentage.

Bond Calculations Buttons	
CALL (%)	Stores the call price per $100 face value. For a yield to maturity, make sure CALL equals 100. (A bond at maturity has a "call" value that is 100% of its face value.)
Yield (%)	Stores or calculates the yield (as an annual percentage) to maturity or yield to call date.
Bond Price	Stores or calculates the price per $100 face value.
Int. Accrued	Calculates the interest accrued from the last coupon payment date to the settlement date.

Toolbar Buttons Actions	
	Close the view and get back to the Options Selection Menu.
	Shows the Help View with the Bond Calculation topic selected.
	Pop up the Action Menu for the Bond Calculation View (see "Toolbar Actions Menu" below).
	Shows the "General Settings" view to customize the RLM-12 Finance Center application.

Toolbar Actions Menu	
Load Bond	Show the file dialog to load a previously saved bond file.
Save Bond	Show the file dialog to save the current bond in a file.
Email Bond	Opens an Email compose view to send bond complete data to an Email address.
Reset Data	Clears de Bond data setting the "Bond Price" to the current content of the "PV" financial register, the Yield(%) to the "i" financial register, the "CPN%" to 100, the "Settlement" and "Maturity" dates to the iPad's current date, the "Accr.Int(%)" to 0, the calendar to "Actual" and the bond type to "Annual".
Cancel	Close the actions menu.

Example: Price & Yield of a Bond

What price should you pay on August 10, 2003 for a 6¾% U.S. Treasury bond that matures on May 1, 2018 if you wish a yield of 8⅜%? The calendar basis is actual/actual and the coupon payments are semi-annual.

Solution: (assuming M.DY date format, and RPN mode).

First expand the RLM-12 Finance Center to show the "Options Selection Menu" and select the "Bond Calculation" option. Then follow the next sequence:

Keystrokes	Description
Touch 📄	Display the Actions Menu.
Touch "**Reset Data**"	Clear all the Bond data.
Actual / **Semi Annual**	Set the calendar to Actual. Set the bond type to Semi-Annual.
Type "**8.102003**" & **Settlement**	Type the settlement date and press "Settlement". (if D.MY is set, type 10.082003).
Type "**5.012018**" & **Maturity**	Type the maturity date and press "Maturity". (if D.MY is set, type 1.052018).
Type "**6.75**" & **CPN (%)**	Type the annual coupon rate and touch "CPN%".
Type "**8.375**" & **Yield (%)**	Type the desire yield and press "Yield(%)".
Bond Price	Calculates the Bond Price resulting in **86.38**
Int. Accrued	Calculates the interest accrued since last coupon to the settlement date, resulting in **1.85**.
+	Add the Bond price and the accrued interest to calculate the net price. Result = **88.23**

Suppose that the market quote for the bond is 88¼. What yield does it represent?

Keystrokes	Description
Type "**88.25**" & Bond Price	Type the market quote and press "Bond Price" to enter it.
Yield (%)	Calculates the Bond Yield to Maturity resulting in **8.13**

Example: A Bond with a Call feature

What is the price of a 6% corporate bond maturing on March 3, 2022 and purchased on May 2, 2003 to yield 5.7%? It is callable on March 3, 2006 (a coupon date), at a value of 102.75. What is the yield to the call date? Use a 30/360 calendar with semi-annual coupon payments.

Solution: (The example assumes M.DY date format).

Keystrokes	Description
Touch 📄	Display the Actions Menu.
Touch "**Reset Data**"	Confirm to clear all the data.
30 / 360 Semi Annual	Set the bond calendar to 30/360. Set the bond type to Semi-Annual.
Type "**5.022003**" & Settlement	Type the settlement date and press "Settlement" to enter it (if D.MY is set, type 2.052003).
Type "**3.032022**" & Maturity	Type the maturity date and press "Maturity" to enter it (if D.MY is set, type 3.032022).
Type "**6**" & CPN (%)	Type the annual coupon rate and touch "CPN%" to enter it.
Type "**5.7**" & Yield (%)	Type the desire yield and press "Yield(%)" to enter it.
Bond Price	Calculates the Bond Price resulting in **103.43**
Type "**3.032006**" & Maturity	Change the maturity date to Call date and press "Maturity" to enter it (if D.MY is set, type 3.032022).

Keystrokes	Description
Type "**102.75**" & CALL (%)	Type the Call value and press "CALL%".
Yield (%)	Calculates yield to call. Result = **5.58**

Example: A Zero-Coupon Bond

Calculate the price of a zero-coupon, semi-annual bond using a 30/360 calendar basis. The bond was purchased on May 19, 2003 and will mature on June 30, 2017, and has a yield to maturity of 10%.

Solution: (The example assumes M.DY date format).

Keystrokes	Description
Touch 📄	Display the Actions Menu.
Touch "**Reset Data**"	Confirm to clear all the data.
30 / 360 Semi Annual	Set the bond calendar to 30/360. Set the bond type to Semi-Annual.
Type "**5.192003**" & Settlement	Type the settlement date and press "Settlement". (if D.MY is set, type 19.052003).
Type "**6.302017**" & Maturity	Type the maturity date and press "Maturity". (if D.MY is set, type 30.062017).
Type "**0**" & CPN (%)	Type zero coupon rate and touch "CPN%".
Type "**10**" & Yield (%)	Type the desire yield and press "Yield(%)".
Bond Price	Calculates the Bond Price resulting in **25.23**