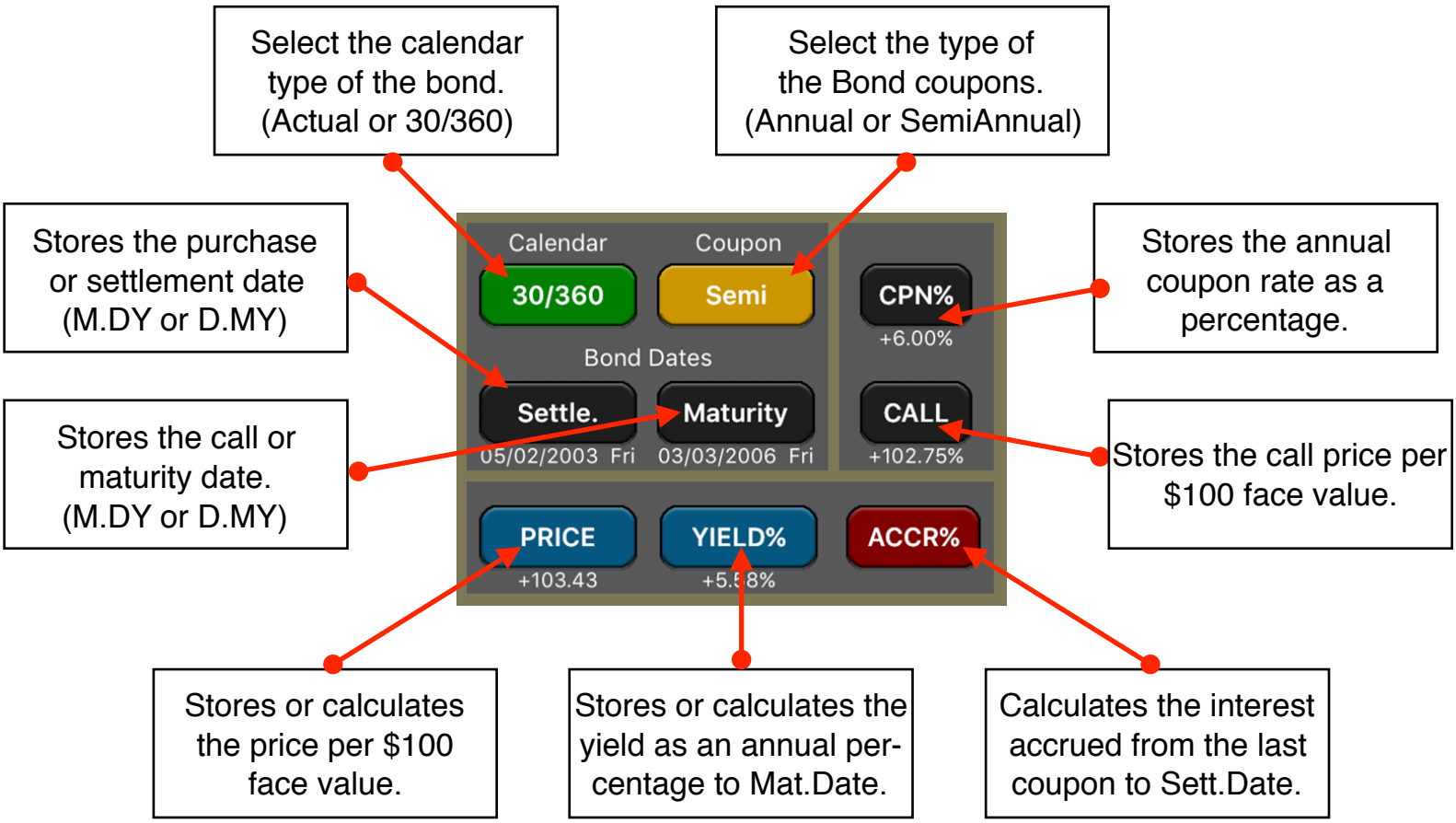
Bond Price & Yield "Pro" Tool

This tool is an expansion of the bond calculation capability included in the original HP-12C calculator. It allows you to calculate annual or semi-annual bonds with 30 day months and 360 day years or by using actual calendar days. To show it, press the **OPT** key, touch the "Finance" menu button, and select the "Bonds Price & Yield" tool.



The variables used in the tool are completely independent of the calculators financial registers.

The **[PRICE]** or **[YIELD]** buttons calculates the value if the immediate previous key pressed was one of the keys in this tool. See the examples below to have a better understanding about this.

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 and the coupon payments are made semi-annually.

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

Keystrokes	Description
[Actual] **[Semi]**	Sets the calendar to **actual**. Sets the bond payment period to **semi-annual**.
"8.102003" **[Settle.]**	Type the settlement date and press **settlement**. (if D.MY is set, type 10.082003).
"5.012018" **[Maturity]**	Type the maturity date and press **maturity**. (if D.MY is set, type 1.052018).
"6.75" **[CPN%]**	Type the annual coupon rate and touch **CPN%**.
"8.375" **[YIELD%]**	Type the desired yield and press **Yield(%)**.
[PRICE]	Calculates the bond price. **Result = 86.38**
[ACCR]	Calculates the interest accrued since last coupon to the settlement date. **Result = 1.85**.
[+]	Adds 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
"88.25" **[PRICE]**	Type the market quote and enter it in **PRICE**.
[YIELD%]	Calculates the bond yield to maturity. **Result = 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
[Actual] **[Semi]**	Sets the bond calendar to **Actual**. Sets the bond type to **semi-annual**.
"5.022003" **[Settle.]**	Type the settlement date and press **settlement** to enter it (if D.MY is set, type 2.052003).
"3.032022" **[Maturity]**	Type the maturity date and press **maturity** to enter it (if D.MY is set, type 3.032022).
"6" **[CPN%]**	Type the annual coupon rate and touch **CPN%** to enter it.
"5.7" **[YIELD%]**	Type the desired yield and press **Yield(%)** to enter it.
[PRICE]	Calculates the bond price. **Result = 103.43**
"3.032006" **[Maturity]**	Change the maturity date to **call date** and press **maturity** to enter it (if D.MY is set, type 3.032022).
"102.75" **[CALL]**	Type the **call value** and press **CALL%**.
[YIELD%]	Calculates yield to call date. **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
[30/360] **[Semi]**	Sets the bond calendar to **30/360**. Sets the bond type to **semi-annual**.
“5.192003” **[Settle.]**	Type the settlement date and press **settlement**. (if D.MY is set, type 19.052003).
“6.302017” **[Maturity]**	Type the maturity date and press **maturity**. (if D.MY is set, type 30.062017).
“100” **[CALL]**	-reset the CALL value to 100%
“0” **[CPN%]**	Type zero coupon rate and touch **CPN%**.
“10” **[YIELD%]**	Type the desired yield and press **Yield(%)**.
[PRICE]	Calculates the **bond price Result = 25.23**