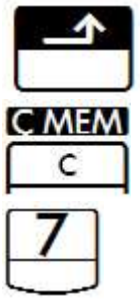
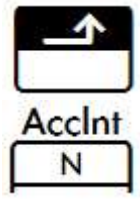
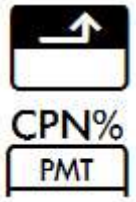
HP 10bII+ Financial Calculator - Bond Calculations

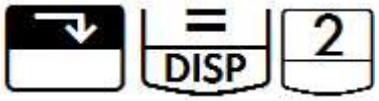
Keys and Functionality

Bond calculations are performed on the 10bII+ in the Bond menu. Data or settings are stored in the ten keys which make up the top two rows of the keyboard. The functions used in bond calculations are printed in blue above the keys. The table below lists the keys used in bond calculations and their functionality.

Keys	Description of Functionality
	**Clear**. Clears the bond registers. The **bond clr** message flashes in the display to indicate the registers have been cleared.
	**Accrued interest**. Calculates accrued interest only. When added to the computed price, pressing these keys displays the net price of the bond.
	**Yield to maturity**. Stores or calculates yield% to maturity or yield% to call date for given price.

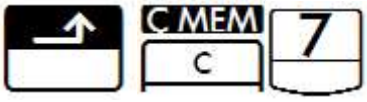
Keys	Description of Functionality
	**Price**. Stores or calculates price per $100.00 face value for a given yield.
	**Coupon rate**. Stores coupon rate as an annual %. Input the value for the coupon rate followed by the keys shown at left.
	**Call**. Stores call value. Default is set for a call price per $100.00 face value. A bond at maturity has a call value of 100% of its face value. If call value requires another value, input the value followed by the keys shown at left.
	**Date format**. Toggles the date format between day-month-year (dd.mmyyyy) and month-day-year (mm.ddyyyy). When day-month-year (D.MY) is active, the **D.MY** annunciator is displayed. When month-day-year (M.DY) is active, no annunciator is displayed.
	**Day count calendar**. Toggles between 360-day (360) and 365-day (Act) calendars. When the 360-day calendar is active, the **360** annunciator is displayed. When the actual calendar is active, no annunciator is displayed.

Keys	Description of Functionality
	**Coupon payment**. (payment). Toggles the payment schedule between semiannual (Semi) and annual (Ann). When semiannual mode is active, the **SEMI** annunciator is displayed. When annual mode is active, no annunciator is displayed.
	**Settlement date** Stores or displays the current settlement date. Input the date in the proper format followed by the keys shown at left.
	**Maturity date** (call date). Stores or displays the current maturity date. The call date must coincide with a coupon date. Stores or displays the current maturity. Input the date in the proper format followed by the keys shown at left.

The following examples illustrate the general process for using the Bond menu. Refer to the table above for descriptions of the keys used and their functionality. Before you begin, press  so your display matches the display in the examples.

Example 1

What price should be paid on August 10, 2013 for a 3¾% U.S. Treasury bond that matures on May 1, 2020 considering a yield of 2 3/8%? The coupon payments are semiannual. Use the actual day calendar format (Act). The example assumes a month-day-year (M.DY) date format.

1. Clear the bond register. Press 

. The bond clr message flashes in the display to indicate the registers have been cleared.
2. Set the date format. Verify date format is M.DY. If the D.MY annunciator is displayed, press 

.
3. Verify the coupon payment is semi-annual. Press 

. The SEMI annunciator indicates semiannual mode is active. If SEMI is not displayed, press the keys once again.
4. Store call value. This is optional, as the default is 100. If call requires another value, input the numbers using the numbered keys and press 

.
5. Verify the actual calendar is active. Press 

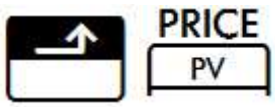
. If the 360 annunciator is displayed, press the keys once again.
6. Store the annual coupon rate. Input 3.75 using the numbered keys and press 

. 3.75 should be displayed.
7. Store the yield. Input 2.375 using the numbered keys. Press 

. 2.38 should be displayed.
8. Store the settlement date in month-day-year (mm.ddyyyy) format. Input 8.102013 using the numbered keys and press 

. 8 - 10 - 2013 6 should be displayed. The 6 at the far right of the display indicates the day of the week, a Saturday.

9. Store the maturity date. Input **5.012020** using the numbered keys. Press 

. **5 - 1 - 2020 5** should be displayed. **5** at the far right of the display indicates the day of the week, a Friday.
10. Calculate the price. Press 

. **108.50** should be displayed.
11. Calculate accrued interest. Press 

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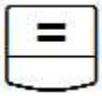
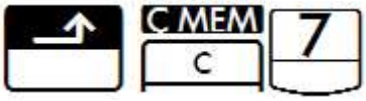
The **PEND** annunciator indicates the calculator requires another operand.
Press 

to complete the operation. **109.53** should be displayed. The net price paid for the 3¾% U.S. Treasury bond on August 10, 2013 should be $109.53 per $100.00.

Example 2

What is the yield to maturity on June 29, 2013 for a 3% corporate bond that matures on December 4, 2019 if it is selling for $101.00? The coupon payments are annual. Use the 360-day calendar format. The example assumes a M.DY date format.

1. Clear the bond registers. Press 

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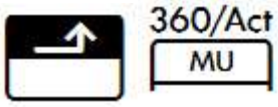
2. Verify and set the date format, the coupon payment schedule, and calendar format:
   - **Date**. Verify M.DY format is active. If the **D.MY** annunciator is displayed, press 

.
   - **Coupon payment**. Verify annual is active. If the **SEMI** annunciator is displayed, press 

- **Calendar**. Verify the 360-day calendar is active. If the **360** annunciator is not displayed, press 

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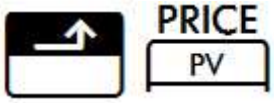
3. Store known data:
   - **Coupon %**. Input **3**. Press 

. **3.00** should be displayed.
   - **Price**. Input **101**. Press 

. **101.00** should be displayed.
   - Settlement date. Input **6.292013**. Press 

. **6 - 29- 2013 6** should be displayed.
   - Maturity date. Input **12.042019** 

. **12 - 4 - 2019 3** should be displayed.
4. Calculate the yield. Press 

. Results: **2.83** should be displayed.

The yield to maturity is 2.83%.

Example 3

Using the data you entered in Example 2, suppose the bond has a call provision at $105.00 that expires on December 4, 2015. What is the yield assuming the bond is called on the expiration (call) date?

1. Without clearing the Bond registers, change the maturity date. Input **12.04 2015**. Press 

. **12 - 4 - 2015 5** should be displayed.
2. Store the new call value. Input **105**. Press 

. **105.00** should be displayed.

3. Calculate the yield. Press 

. 4.54% should be displayed. The yield to call would be 4.54%.