Lane Micro Bond Trader

Models 2000 - 3000 Series

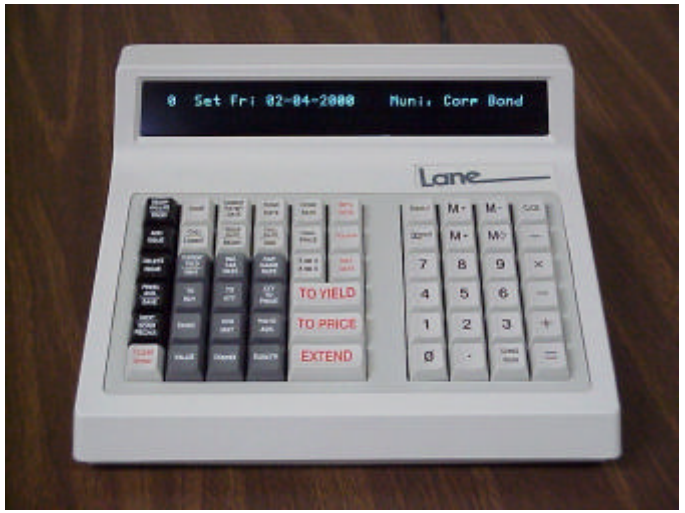
Instruction Summary

February 2, 2000
Version Y2K

87 Hibernia Ave

Rockaway, NJ 07866

800 444-LANE (5263)



The LANE Bond Traders are extraordinarily powerful and versatile instruments, created specifically to aid those whose livelyhood
depends on fast accurate calculations required in the Fixed Income Business.

To get the most out of yuour Bond Trader you should read the manual, following the examples that apply, with the Bond Trader on and running.

You will find, as with any tool, practice makes perfect and that the Bond Trader becomes more powerful and useful the longer yuou use it.

Table of Contents Page

Table of Contents Page

Table of Contents Page

Table of Contents Page

This booklet is an introduction to the Micro Bond Trader 2000-3000 SERIES.

It contains an introduction to using the machine as well as example calculations.

General information is provided on entering dates, and prices and correcting errors. Detailed instructions are also given for each function key.

CLEAR BOND

If you want to clear the machine of all information but the Security Code and Setttlement Date, use the 

Key:

the display reads

0 Setl Fri 06-03-94 Muni, Corp Bond

The first digit "0" stands for the present Security Code the Micro Bond Trader is using. In this case the Trader is calculating - Municipal Bonds, Code 0.

C/CE

This key clears the display line but does not affect memory. It is used for correcting the current entry.

MODEL 2000C - 2100 - 2200 - 3200 -3300 DATES

Dates are entered in the following format:

12.0994 (December 9, 1994)

or

7.1595 (July 15, 1995)

The Micro Bond Trader responds with a message indicating the type of date entered (Setl Date for settlement date, Call Date for call date, Issue Date for issue date Mat Date for maturity date etc.). It will also give you the day of the week and display the date in a conventional format, e.g. 12-09-93.

Dates are checked for validity. The Micro Bond Trader will accept 2.2992 (2-29-92) but it will not accept 2.2994 because 1994 is not a leap year. If you attempt to enter an invalid date an error message will be displayed.

For dates greater than or equal to January 1, 2051, Dates must be entered in MM.DDYYYY format.
See Page 108 for other then United States dating methods ie: European, Japanese

Note:
The Lane Micro Bond Trader has a built in system clock/calendar. This feature gives the Lane the unique ability to automatically calculate the correct Settlement Date upon start up. The Lane Micro Bond Trader will automatically correct for Saturdays, Sundays, and the Federal Holidays.

FEDERAL HOLIDAYS

New Years Day Martin Luther King Day Presidents Day Memorial Day

Independence Day Labor Day Columbus Day Thanksgiving

Veterans Day Christmas Day

PRICES

Prices are entered prior to using the following keys: TO PRICE CALL PRICE 32nds and DISPLY 32nds . They are entered in the form:

105.675

Depending upon which key is pressed, the Micro Bond Trader responds with a message or does a calculation.

If you make an error while keying in information, the Micro Bond Trader will usually catch it and display

an error message. If an error is detected before an entry is complete, press the key C/CE and enter the number again.

DISPLY DISPLAYING VALUES

To view the information in the Micro Bond Trader, use the DISPLY key followed by another key. For example, in order to see the call date, the key sequence is DISPLY and CALL DATE .

If an attempt is made to display a key not used for data entry, the Micro Bond Trader responds with the settlement date. When the information is displayed it is accompanied by a short message indicating what it is.

If you depress the sequence DISPLY TO PRICE or DISPLY TO YIELD after doing a calculation, the MICRO BOND TRADER will display the COUPON, the MATURITY DATE, the lowest PRICE, and or the lowest YIELD.

THE KEYBOARD

CODE

Enter a number followed by 

.

Acceptable codes are:

0 = US Municipal, Corporate Bonds

1 = US Government Bonds

2 = Notes - 30/360 Day Count

3 = Notes - Federal Actual/360 Day Count and Medium Term CD's

4 = Notes - Actual/Actual Day Count

5 = US Treasury Bills

6 = Notes - Municipal, Actual/360 Day Count

7 = Eurobonds (Annual Coupon Bonds)

8 = Eurobonds with Semiannual Equivalent Yields

9 = Odd Coupon US Government Bonds

10 = Stepped Coupon Bonds

Model 2100 and up

11 = Quarterly Coupon Bonds

12 = Monthly Coupon Bonds

13 = Preferred Stock

14 = Payment in Kind Bond

15 = Payment in Kind Stock

16 = Unit Trust

17 = Medium Term Notes Annual Yield

18 = Medium Term Notes Semiannual Yield

19 = Agency Bonds

20 = 30/360 Federal

Model 3200 and 3300

20 = GNMAs

21 = FNMAs

22 = FHLMCs

23 = GNMA II

24 = MOBILE HOME

25 = SPECIAL

26 = GPM

27 = Stripped Mortgages INT ONLY

28 = Stripped Mortgages PRINCIPLE ONLY

Successive depressions of the 

key will "scroll" through the list of security codes.

To change the CODE the Bond Trader will start-up in see page 108

Model 2200

11 = UK Gilts-Cum

12 = UK Gilts-Ex

13 = Australian Gilts

14 = French Government OAT

15 = French BTAN

16 = Floating Rate Note

17 = Medium Term Note Ann Yield

18 = Medium Term Note Semiannual Yield

19 = Japanese Government

20 = Canadian Bond

21 = Canadian Treasury Bill

22 = Danish Government

23 = Swedish Government

24 = Italian Government

25 = Finnish Repo

26 = Annual Step Coupon

SETL DATE SETTLEMENT DATE

The Lane Micro Bond Trader has a built in clock/calendar with the ability to remember today's date. It also has the ability to calculate the next settlement date depending on the CODE selected.

If you wish to change the Settlement Date, simply enter a date followed by SETL DATE. The response is:

`

0 Setl Sun 5-01-94 Muni, Corp Bond

Acceptable dates include: any valid date between January 1, 1950 and December 31, 2049 in short format method. Refer to the section on entering dates greater than December 31,2049 on page 3, for format.
Checks are made for the correct number of days in each month and for leap years.

Error message: SD error.

COUPON COUPON

Enter a coupon (or interest rate) followed by COUPON The response is:

0 SD 03-27-94 Cpn 8.625

MAT DATE MATURITY DATE

Enter a date followed by . MAT DATE The response is:

```
0 Setl 5-13-94 Cpn 8.625   MD   Tue  6-15-99
```

See Settlement date for acceptable range of dates. Error message: MD error.

TO YIELD TO YIELD

Enter a price such as 103.625 followed by . TO YIELD The Micro Bond Trader will then calculate a yield and respond with:

```
Price      103.625      Yld/mat  7.75
```

If a call price and call date are also entered the response will be:

```
Pr   103.625 Yield (c)  7.583 (m) 7.75
```

The yield to call is indicated by the letter "c" and the yield to maturity by an "m."

If is pressed prior to the key, the calculation will be done to call only.

```
0 Setl 5-13-94 Cpn 8.625   MD   Tue  6-15-99
  Price  103.625            Yld/call  10.461
```

TO PRICE TO PRICE

Enter the desired yield (in the form 9.125) followed by TO PRICE

The Micro Bond Trader calculates the price and displays:

Pr/mat 95.693 Yield 9.125

If call data are also supplied, the response will be:

Price (c) 105.238 (m) 95.693 Yld 9.125

The "c" and "m" indicate to call and to maturity.

If CALL LOWEST is pressed prior to calculating a price, the calculation will be done to call only

The response would be:

Pr/call 105.238 Yield 9.125

CALL DATE CALL DATE

Enter the call date using the standard date format followed by . The CALL DATE response is:

CD Wed 5/22/85

Refer to the settlement date for the acceptable range of dates. It is assumed that the Call date will always be between the settlement date and the maturity date.

NOTE For bonds with two call dates see example on page 58

CALL PRICE CALL PRICE

Enter the call price followed by . CALL PRICE The response is:

Call PR 103.000

Error message: CP error.

ISSUE DATE ISSUE DATE

Enter the issue date followed by . ISSUE DATE The response is:

ID Mon 12/ 1/80

See settlement date for the full range of acceptable dates.

Error message: ID error

FIRST/NEXT DATE FIRST/NEXT PAYMENT DATE

Enter the first or next date followed by FIRST/NEXT DATE . The response is:

First/Next Mon 12/ 1/80

See settlement date for the full range of acceptable dates.
Error message: F/N D error

CURRENT YIELD CURRENT YIELD/MONEY MARKET YIELD

Press CURRENT YIELD and the Micro Bond Trader responds with:

Cur yld 8.609 MM/Yld 8.382148

CONV DATE CONVERSION DATE

Used with CODE 10 (Stepped Coupon Bond), CODE 14 (Pik Bond), CODE 15 (Pik Stock).

Enter conversion date followed by , . CONV DATE The response is:

Conv Dt Mon 12/ 1/90

See settlement date for the full range of acceptable dates.

Error message: Convr Dt error

The CONV DATE key can also be used to enter the Second call date on a bond with two call options.

CONV RATE CONVERSION RATE *

Press CONV RATE and the Micro Bond Trader responds with:

Convr Rt 8.5000

*

The CONV RATE key can also be used to enter the redemption value on a bond with two call options.

CONC CONCESSION

Enter a concession and press . If the dollar price is 103.00 and the concession is .50, the response will be:

Price 102.5 Conc .50000

*NOTE Concession affects the dollar price only, it does not recalculate a new yield. If a new yield is desired simply depress the TO YIELD key. If a concession amount is not entered an error message is displayed.
Error message: Concession error.

EXTEND EXTEND

Enter the number of securities and depress . EXTEND The display will show:

Bonds	**25**	**Acc Int**	**602.08**
Prin	**27,040.67**	**Totl**	**27,642.75**

When calculating Notes, DISPLY EXTEND will display the Interest at Maturity

INC TAX RATE INCOME TAX RATE

To calculate an after tax yield, an income tax rate may be needed. To enter a rate of 28%, enter 28, and depress the INC TAX RATE. The response is:

Inc Tax Rate 28%

To change the rate enter a number and press INC TAX RATE again. If no value is entered an error message appears.

Error message: Inc tax error.

CAP TAX RATE CAPITAL GAINS RATE

The capital gains rate is entered in the same way the income tax rate is entered. The response is:

Cap Gain Rt 42%

Error message: Cap Gain error.

TO ATY

The After Tax Yield function is used in conjunction with the income and capital gains tax rates. Enter the appropriate tax rates and press 

The response is

After Tax Yield 5.611

ATY TO PRICE

The After Tax Yield to Price function calculates before tax dollar price for a given tax rate or rates and a specific after tax yield .

Enter the after tax yield and depress 

The response is

To calculate before tax yield simply depress the TO YIELD key.

Atx/Yld 8.500 Btx/Pr 99.994

32NDS

Enter a value in decimal form and press . If 

105.025 is entered, the response is:

105.078125

The third decimal position will be a "0" or "5." The "5" indicates an additional 64th. Example:

Enter 99.115 (11 - 32nds and 1 - 64th). Press 

and the response is:

99.359375

To convert decimal to 32nds, depress 

and 

the display will read:

32nds 105.16

TO CALL/LOWEST/2nd CALL

When the 

key is pressed, the Micro Bond Trader responds with either:

To Call/Semi

or

To 2nd Call/Monthly

or

To Lowest/Annual

When in the TO CALL mode, the Micro Bond Trader uses the call information to calculate Yields and Prices to Call. When in the TO 2nd CALL mode , prices and yields are calculated to to the 2nd call date.

When calculating the average life of a sinking fund, this key 

is used to select whether the issues are retired annually or semiannually or monthly.

TO RCY TO RCY

The REALIZED COMPOUND YIELD function is used in conjunction with an externally specified reinvestment rate. After using TO PRICE or TO YIELD and entering the expected rate of return on the keyboard, press TO RCY. The response is:

RC Yield 5.611

VALUE VALUE

To calculate the price difference per yield change, enter the yield difference and depress VALUE - the default value is 5 basis points.

To calculate the change in yield per 32nds, depress , DISPLY VALUE the default for DISPLAY VALUE is 8/32nds.

WGTD AVG WEIGHTED AVERAGE

This feature allows the ability to calculate the average price, average coupon, or average yield. To start, depress the WGTD AVG key. The display will read:

Start Averages

Simply enter the number of bonds, and depress the key - WGTD AVG enter the price/yield/coupon - and depress the WGTD AVG key again. The display will show the total number of bonds entered and the running average

q 125 a 17.251

AVG MAT AVERAGE MAT

Allows the ability to calculate weighted dates (as above)

If a sinking fund calculation has been started the key AVG MAT will calculate the average life of a sinking fund. For details and an example see page 40.

DISPLY DISPLAY

The DISPLY key is used with the other keys to display the current values stored in the Micro Bond Trader. To examine the Call price, press DISPLY then CALL PRICE. Using the previous example the display outputs would be:

DISPLY and

TO YIELD

```
0 SD 03/27/90 Cpn 8.5000 MD 12/15/99
Price          95.00   Yld          12.000
```

TO PRICE

```
SD 03/27/90 Cpn 8.5000 MD 12/15/99
    Pr/Mat     78.084 Yield          12.634
```

CALL DATE

```
CD Day     5/15/84
```

CALL PRICE

```
Call Pr    105.00000
```

ISSUE DATE

```
ID Fri     11/25/80
```

DUR DURATION

Calculates MacCaulays Duration and Modified DurationAfter a security calculation, simply depress . DUR The response is:

Duration 5.04 Modified 4.89

CONVEX CONVEXITY

The Convexity function represents how Duration changes when yield changes.

After a security calculation, simply depress . CONVEX

The response is:

Convexity 52.04

S->A A->S S-A A-S

The S->A A->S key converts a semiannual yield to an annual yield, simply by depressing the key when a semiannual yield has been entered from the keyboard or has been calculated and has been displayed on the screen. The combination of DISPLY and S->A A->S will convert a calculated annual yield to a semiannual equivalent yield.

MODEL 2100 and UP

BEGIN PRODUCTION

To clear production memory and to prepare for production, it is necessary to use . 

All entries in the Micro Bond Trader are cleared with the exception of the Settlement Date and the Code. which must be set to zero or seven. Using other Codes will produce erroneous answers due to the different calendars.

ADD ISSUE

To add an issue to a portfolio, enter Coupon, Mat date, and yield or price and extend the security. Assign it a number between 1 and 99. Enter this number followed by , 

or simply depress 

and the next available slot will be used to store that issue. The response is:

Bond entered in position 1

DELETE ISSUE

To delete an issue from a portfolio it is only necessary to enter its assigned number and press . 

The response is:

Bond deleted from position 1

PRODUCTION AVERAGE

Calculates production averages when depressed.

Use the 

key to display the following:

(see page 32 for example)

Bonds	150
Average Pr	104.000
Average Cp	9.125
Annual Inc	13,687.50
Coupon $	244,968.22
Curr Yld	8.774
Average Yld	8.558
Mat Yrs	17.897
Average MD	2/22/99
Ave Durat'n	3.45
Total AI	1,387.49
Prin	156,000.00
Total	15,7387.49
Prof	238,968.22

DEFINITIONS:

AVERAGE PRICE
The average price of the bonds in the portfolio, adjusted for the number of bonds in each issue.

AVERAGE COUPON
The average coupon for the portfolio, adjusted for the number of bonds in each issue.

TOTAL ANNUAL INCOME
The total annual coupon income for all bonds in the portfolio.

TOTAL COUPON INC
The total coupon income over the full life of all bonds in the portfolio.

AVG CURRENT YIELD
The average current yield for the portfolio adjusted for the number of bonds in each issue.

AVERAGE YIELD
The average yield to maturity for the portfolio, adjusted for the number of bonds in each issue.

AVG MAT DATE
The actual date of the average maturity of the portfolio.

AVERAGE DURATION
The average duration of all of the bonds in the portfolio.

TOTAL ACCR'D INT
All accrued interest due as of the settlement date currently in the Micro Bond Trader.

TOTAL PRIN
The total price of all bonds, adjusted for the number of bonds in each issue.

TOTAL AMOUNT
The total price of all bonds plus the accrued interest.

TOTAL PROFIT

EXAMPLES

MUNICIPAL, CORPORATE BONDS, CODE 0

PRICE AND YIELD

An 8.5% Municipal Bond maturing on January 5, 1999 is sold to yield 9%. Find the price.

Settlement date is March 28, 1994.

ENTER	PRESS	SEE
Depress:	CLEAR BOND	**SD Mon 03-28-94 Muni, Corp Bond**
Coupon	8.5 COUPON	**0 SD 03-28-94 Cpn 8.500**
Maturity date	1.0599 MAT DATE	**0 SD 03-28-94 Cpn 8.500 MD 01-05-99**
Yield	9 TO PRICE	**0 SD 03-28-94 Cpn 8.500 MD 01-05-99** **Pr/mat 98.071 Yield 9.000**

The same bond is bought at a price of 97.125. What is the yield?

ENTER	PRESS	SEE
Dollar Price	97.125 TO YIELD	0 SD 03-28-94 Cpn 8.500 MD 01-05-99 Price 97.125 Yld/Mat 9.253

Note: Since the settlement date, maturity date and coupon had already been keyed, they needn't be reentered.

The maturity date in the previous bond should have been January 5, 1998, not January 5, 1999. Recalculate the yield.

ENTER	PRESS	SEE
Maturity date	1.0598 MAT DATE	0 SD 03-28-94 Cpn 8.500 MD 01-05-98 Price 97.125 Yld/Mat 9.416

Notice that the bond automatically recalculates when any value in the upper display is changed.

GOVERNMENT BONDS CODE 1

Do government bonds the same way as you do municipal, corporate, and agency bonds (see page 24). The only difference is that you must set the code to 1, or code 9 instead of 0.

If you have a Model 2200, you may calculate the CD Equivalent price or yield on Code 1 if the bond is = or < two compounding periods . See page 70

NOTES CODE 2,3,4,6 *

Notes may be calculated according to three different calendars, 30/360, Actual/360, and Actual/365. The calendar used is determined by the code selected - 2 for 30/360, code 3 for Actual/360, code 4 for Actual/365, and code 6 for Actual/360 Muni.

To calculate Price or Yield, enter the Maturity Date, Issue Date, and Interest Rate. The interest rate is stored with the COUPON key. Then enter the price and press TO YIELD to calculate yield, or enter the yield and press TO PRICE to calculate price.

A Municipal Note (30/360 calendar - Code 2) is sold on March 28, 1994 to yield 6.5% . The issue date is January 8, 1994 and the interest rate is 6%. Maturity is December 12, 1994. Calculate the price.

ENTER		PRESS	SEE
Code		2 CODE	**2 Setl Mon 03-28-94 Notes 30/360**
Coupon		6 COUPON	**2 SD 03-28-94 Cpn 6.0000**
Mat Date		12.1294 MAT DATE	**2 SD 03-28-94 Cpn 6.0000 MD 12-12-94**
Price	100.5	TO YIELD	**2 SD 03-28-94 Cpn 6.000 MD 12-12-94** **Pr/Mat 100.500 Yield 5.196**

** NOTE Use Code 3 for Medium Term CD calculations, this procedure is the same as Medium Term Notes (Page 45) using Code 3.*

NOTE EXTENSIONS

Amount in 1000	450	EXTEND	**Bonds 450 AI (ID) 6,000.00** **Prin 452,250.00 Totl 458,250.00**

To calculate interest at maturity — DISPLY — EXTEND

Bonds 450 AI (ID) 6,000.00
Interest at Maturity 25,050.00

US TREASURY BILLS CODE 5

The **Micro Bond Trader** can calculate the price of Treasury Bills and other discount paper using an Actual/360 calendar. Or, if you know the price, you can calculate the discount rate. In either case, the Bond Equivalent yield is also available. In addition you can extend the price and total discount. A treasury bill (Code 5) is sold on March 28, 1994 at a 7.8% discount. It matures on October 18, 1994 . Calculate the price, bond equivalent yield, extended discount, and extended price for 250.000 dollars face value

ENTER		PRESS	SEE
		CLEAR BOND	**Previous Setlment date**
Code	5	CODE	**5 SD Mon 03-28-94 Treasury Bill**
Maturity Date	10.1894	MAT DATE	**Setl Mon 03-28-94 MD Tue 10-18-94**
Discount Rate	7.8	TO PRICE	**Setl Tue 03-27-94 MD Tue 10-18-94** **Price 95.5800000 Yield 7.800**
No. of Bills	250	EXTEND	**Bonds 250 Discount 11,050.00** **Prin 238,950.00 Totl 250,000.00**
		CURRENT YIELD	**Bond Equivalent Yield 8.237**

EUROBONDS (ANNUAL COUPONS) CODE 7 or 8

Examples

A 8.5% Eurobond maturing on January 1, 1997 is sold at a price of 97.00. Settlement date is April 1, 1994. Find the yield and the semiannual equivalent yield.

ENTER	PRESS	SEE
	CLEAR BOND	**previous setl**
Code	7 CODE	**7 Setl Fri 04-01-94 Eurobond Ann Yld**
Coupon	8.5 COUPON	**7 SD 04-01-94 Cpn 8.5000**
Maturity date	1.0197 MAT DATE	**7 SD 04-01-94 Cpn 8.5000 MD 1-01-97**
Price	97 TO YIELD	**7 SD 04-01-94 Cpn 8.5000 MD 1-01-97** **Price 97.00 Yld/Mat 9.764**
	DISPLY S->A A->S	**Ann Yield 9.764 S/A Yield 9.537**

If we had entered Code 8 before calculating this security, the answer would automatically be displayed as the Semi annual equivalent yield.

If you have a Model 2200, you may calculate the CD Equivalent price or yield on Code 7 if the bond is equal to or less than two compounding periods . See page 70

ODD COUPON GOVERNMENT BONDS CODE (9)

An odd coupon bond is a bond for which there is more (or less) than six months from the date of issue to the date of payment of the first coupon. In this case the first coupon will be more (or less) than subsequent payments. Even though there are only about a dozen odd first coupon bonds in the market at any point in time, they are important because they appear regularly in the five year, seven year and twenty year auctions.

EXAMPLES
GOVERNMENT BOND SHORT 1ST COUPON CODE (9)

NOTE: The first coupon payment date is entered on the FIRST/NEXT PAYMENT DATE key.

A 5.5% bond maturing on March 1, 1999 is sold to yield 10%; the issue date is 3/15/94 and the first coupon date is 9/01/94. Find the price. Settlement date is 4-01-94.

ENTER		PRESS	SEE
		CLEAR BOND	**previous settlement date**
Code		9 CODE	**9 Setl Tue 04-01-94 Govt Bonds Odd Cp**
Coupon	5.5	COUPON	**9 SD 04-01-94 Cpn 5.5000**
Maturity date	3.0199	MAT DATE	**9 SD 04-01-94 Cpn 5.5000 MD 03-01-99**
Issue Date	3.1594	ISSUE DATE	**9 SD 04-01-94 Cpn 5.5000 MD 03-01-99 Issu Dt Tue 03-15-94**
1st Coupon Date	9.0194	1st/NEXT PAYMT DATE	**9 SD 04-01-94 Cpn 5.500 MD 03-01-99 Nxt/Fst Thu 09-01-94**
Yield	10	TO PRICE	**9 SD 04-01-94 Cpn 5.500 MD 03-01-99 Pr/M 82.853092 Yield 10.000**

GOVERNMENT BOND LONG 1ST COUPON CODE (9)

A 8.5% bond maturing on March 1,1999 is sold to yield 6%; the issue date is 1/15/94 and the first coupon date is 9/01/94. Find the price. Settlement date is 3/28/94.

ENTER	PRESS	SEE
	CLEAR BOND	**previous setl**
Code	9 CODE	**9 Setl Mon 03-28-94 Govt Bnds Odd Cp**
Coupon	8.5 COUPON	**9 SD 03-28-94 Cpn 8.5000**
Maturity date	3.0199 MAT DATE	**9 SD 03-28-94 Cpn 8.500 MD 03-01-99**
Issue Date	1.1594 ISSUE DATE	**9 SD 03-28-94 Cpn 5.500 MD 03-01-99 Issu Dt Sat 1-15-94**
1st Coupon Date	9.0194 1st/NEXT PAYMT DATE	**9 SD 03-28-94 Cpn 8.500 MD 03-01-99 Fst/Nxt Thu 9-01-94**
Yield	6 TO PRICE	**9 SD 03-28-90 Cpn 8.500 MD 03-01-99 Pr/M 110.493831 Yield 6.000**

STEPPED COUPON BOND CODE 10

Stepped Coupon bonds are essentially one coupon bonds for a period of time after issuance, then on a "Conversion Date" they begin to pay a different coupon semi annually. Enter the security code as CODE 10 and enter the "Conversion Date" on the CONVERSION DATE key; also enter the "Conversion Coupon" on the CONVERSION RATE; key then proceed as usual. A stepped coupon bond maturing January 1, 2009 starts with a coupon of 6.00 and converts to an 8% coupon on January 1, 2000.

ENTER	PRESS	SEE
	CLEAR BOND	**previous settlement date**
Code	10 CODE	**10 Setl Mon 03-28-94 Stepped Coupon**
Coupon	6 COUPON	**10 SD 03-28-94 Cpn 6.000**
Maturity date	12.0109 MAT DATE	**10 SD 03-28-90 Cpn 6.00 MD 12-01-09**
Strike Date	12.0100 CONV DATE	**10 SD 03-28-90 Cpn 6.00 MD 12-01-09 Conv Dt Fri 12-01-00**
Strike Coupon	8 CONV RATE	**10 SD 03-28-90 Cpn 6.00 MD 12-01-09 Conv Dt Fri 12-01-00 Conver Rt 8.000**
Yield	6.75 TO PRICE	**10 SD 03-28-90 Cpn 6.00 MD 12-01-09 Pr/Mat 101.359 Yield 6.750**

QUARTERLY COUPON CODE 11 - MODELS 2100 & 3200

A quarterly coupon bond with an 8% coupon matures January 15, 2018 and sells for a dollar price of 85.00. What is the yield?

ENTER	PRESS	SEE
	CLEAR BOND	**previous setl**
Code	11 CODE	**11 Setl 03-28-94 Bnd Quarter Cpn**
Coupon	8 COUPON	**11 SD 03-28-94 Cpn 8.000**
Maturity Date	1.1518 MAT DATE	**11 SD 03-28-94 Cpn 8.000 MD 1-15-18**
Price	85 TO PRICE	**11 SD 03-28-94 Cpn 8.000 MD 1-15-18** **Price 85.000 Yld /Mat 9.609**

What is the Current yield on the above?

	CURRENT YIELD	**Cur Yld 9.411 MM/Yld 9.817637**

MONTHLY COUPON BOND CODE 12 - MODELS 2100 & 3200

A monthly coupon bond with an 8% coupon matures January 15, 2018. The price is 85.00. What is the yield ?

ENTER	PRESS	SEE
	CLEAR BOND	**previous setl date**
Code	12 CODE	**12 Setl Mon 03-28-94 Bnd Monthly Cpn**
Coupon	8 COUPON	**12 SD 03-28-94 Cpn 8.000**
Maturity Date	1.1518 MAT DATE	**12 SD 03-28-94 Cpn 8.000 MD 01-15-18**
Price	85 TO YIELD	**12 SD 03-28-94 Cpn 8.000 MD 01-15-18** **Price 85.000 Yld/Mat 9.606**

PREFERRED STOCK CODE 13 - MODELS 2100 & 3200

A preferred stock with an 8% coupon matures January 15, 2018. The X date is 1-15-94 and the price is 85.00. What is the yield, the strip amount and the stripped dollar price?

ENTER	PRESS	SEE
	CLEAR BOND	**previous settlement date**
Code	13 CODE	**13 Setl Tue 03-27-94 Preferred Stock**
Coupon	8 COUPON	**13 SD 03-27-94 Cpn 8.000**
Maturity Date	1.1518 MAT DATE	**13 SD 03-27-94 Cpn 8.000 MD 01-15-18**
X Date	1.1590 SSUE DATE	**13 SD 03-27-94 Cpn 8.000 MD 01-15-18** **Issu Dt Mon 1-15-90**
Price	85 TO PRICE	**13 SD 03-27-94 Cpn 8.000 MD 01-15-18** **Price 85.000 Yld/Mat 9.785**
	1 EXTEND	**1 Strip 1.422** **Prin 83.58 Totl 85.00**

* Note - For perpetual preffered stocks enter a 30 year anniversary of the payment date as a maturity date and proceed as normal

PAYMENT IN KIND STOCKS AND BONDS CODE 14 & 15 - MODELS 2100 & 3200

14=PIK BONDS

15=PIK PREFERRED STOCKS

PAYMENT IN KIND SECURITIES

PIK bonds are bonds that defer cash coupon payments by accumulating additional bonds at a given rate until the conversion date (also termed cash or reset date), after which they make cash payments based on the larger principle value.

The **LANE MICRO BOND TRADER** provides several methods to analyze both PIK bonds and PIK preferred stocks.

PRICE-YIELD Analysis

Yield to Cash Date (YC)

When using the TO YIELD function key, yield to conversion date is automatically computed. This yield assumes there is only one cash flow, a principle repayment on the conversion date of the total amount of bonds that have been paid in kind and reinvested at the stated rate, up to and including the conversion date.

Yield to Maturity (YM)
This yield assumes payment in kind cash flows are immediately reinvested at the stated rate, so that cash flows occurring after the conversion date are a function of the growth in principle.

Yield to Call (YC)
This yield assumes payment in kind cash flows are immediately reinvested at the stated rate, so that cash flows occurring after the conversion date are a function of the growth in principle to the conversion date.

Ex Dividend
PIKs trade both ex-dividend and cum-dividend. If a buyer purchases the securities after the ex-date, he is not entitled to securities paid in kind until after the next payment date. It is important to set up the calculator properly in order to ensure an accurate yield calculation. The yields for securities trading ex reflect both the current payment that has been given up and the smaller size of the future cash flows due to the smaller amount of initial principle.

Accrual Date (entered on Issue Date key:)
The day from which accrued interest is calculated goes on this key. For example, either the original issue date, or the last payment date can be entered here. If the bond or stock is trading ex then the next payment date should be entered, since that is the date that the buyer will begin to accrue more bonds.

Special notes for accrual dates (entered on issue date key)

ENTER:
1) the original issue date if the bond is purchased before the 1st payment date, or
2) the payment date prior to the first payment one received, (if the bond has already made payments), or
3) the next payment date (the first date for which one is entitled to the accrued interest), if the bond is currently trading ex.

Note: We recommend first time buyers and traders enter the last payment date as the payment date, while investors who owned the security prior to the most recent payment date enter the payment date prior to ownership, or the original issue date if they are the original owners.

For example, if the last payment was 2-15-89 and the investor has owned it since 10-15-87, two months after it was first issued, he would enter 8-15-87 on the ISSUE DATE key to determine what yield reflects a certain price.

EXAMPLES CODE 14
Settlement Date: March 27, 1994 Coupon: 15% Maturity Date: June 30, 2007 Accrual Date: December 30, 1993
Conversion Date: June 30, 1997 Stated Rate: 15%

ENTRIES	PRESS	SEE
	CLEAR BOND	**previous setl date**
Code	14 CODE	**14 Setl Tue 03-27-94 Pik Bond**
Coupon	15 COUPON	**14 SD 03-27-94 Cpn 15.0000**
Maturity Date	6.3007 MAT DATE	**14 SD 03-27-94 Cpn 15.0000 M* 6-30-07**
Accrual Date	12.3093 SSUE DATE	**14 SD 03-27-94 Cpn 15.0000 M* 6-30-07 Issu Dt Thu 12-30-93**
Conversion Date	6.3097 CONV DATE	**14 SD 03-27-94 Cpn 15.0000 MD 6-30-07 Conv Dt Mon 06-30-97**
Stated Rate	15 CONV RATE	**14 SD 03-27-94 Cpn 15.0000 MD 6-30-07 Conv Dt Mon 06-30-97 Conver Rt 15.000**
Price	95 TO YIELD	**14 SD 03-27-94 Cpn 15.0000 MD 6-30-07 Pr 95.000 Yld/C 17.864 Yld/M 16.071**

* Yld/C is the yield to Conversion date, Yld/m is yield to maturity.
Suppose the bond is callable Dec 30, 1998 at par .

ENTER	PRESS	SEE
Call Date	12.3098 CALL DATE	**14 SD 03-27-90 Cpn 15.0000 MD 6-30-07 Call Dt Wed 12-30-98**
Call Price	100 CALL PRICE	**14 SD 03-27-90 Cpn 15.0000 MD 6-30-07 Call Dt Wed 12-30-98 Call Pr 100.00**
Price	95 TO YIELD	**14 SD 03-27-90 Cpn 15.0000 MD 6-30-07 Conv 17.864 Yld (c) 17.001 (m) 16.071**

EXAMPLES CODE 15

Standard Information

Settlement Date: March 28, 1994 Coupon: 1.62% (Note Dividend must be adjusted for par value.This 12% issue is entered as 1.62 because of the $13.5 par value. Maturity Date: June 30, 2007Accrual Date: March 30, 1994 (See note 3, page 38. Bond is trading ex so next payment date is entered). Conversion Date: June 30, 1997 Stated Rate: 1.62% Frequency: Quarterly Par Value: $13.5.
As soon as you enter code 15, you will be prompted for additional information such as frequency and par.

ENTER	PRESS	SEE
	CLEAR BOND	**previous settlement date**
Code	15 CODE	**15 Setl Mon 03-28-94 Pik Stock** **Enter Frequency**
Frequency	4 NEXT	**15 Setl Tue 03-28-94 Pik Stock** **Frequency 4 Enter Par Value**
Enter Par Value	13.5 NEXT	**15 Setl Tue 03-28-94 Pik Stock** **Frequency 4 Par = 13.5000**
Coupon	1.62 COUPON	**15 SD 03-28-94 Cpn 1.6200**
Maturity Date	6.3007 MAT DATE	**15 SD 03-28-94 Cpn 1.6200 M*6-30-07**
Accrual Date	3.3094 SSUE DATE	**15 SD 03-28-94 Cpn 1.6200 MD 6-30-07** **Issu Dt Wed 3-30-94**
Conversion Date	6.3097 CONV DATE	**15 SD 03-28-94 Cpn 1.6200 MD6-30-07** **Conv Dt Mon 06-30-97**
Stated Rate	1.62 CONV DATE	**15 SD 03-28-94 Cpn 1.6200 MD6-30-07** **Conv Dt Mon 06-30-97 Conver Rt 1.6200**

ENTER	PRESS	SEE
Price	9.25 TO YIELD	**15 SD 03-28-90 Cpn 1.6200 MD6-30-07** **Pri 9.250 Yld/C 24.115 Yld/M 16.371**

The yield to conversion date is 24.115% and the yield to maturity is 16.371%.

UNIT TRUST CODE (12,16) - MODELS 2100 & 3200
Code 16 = Secondary Unit Trust
Code 12 = Primary Unit Trust

CODE 16 SECONDARY UNIT TRUST
A Unit Trust trading on the secondary market is summarized as follows:

Par Value per unit	950.77
Current offer	1,073.21
Weighted Avg Life to Maturity	12-06-04
Weighted Avg Life to MSRB Date	1-31-96
Annual Payout	88.79

Calculate the yield to Average Call Date and the yield to Avg Maturity.

ENTER	PRESS	SEE
	CLEAR BOND	**previous settlement date**
Code	16 CODE	**16 SD Mon 03-28-94 Unit Trust** **Enter Par Value**
Par Value	95.077 NEXT	**16 SD Tue 03-28-94 Unit Trust** **PAR = 95.077**
Annual Payout	8.879 COUPON	**16 SD 03-28-94 Cpn 8.8790**
Avg Life to Mat	12.0604 MAT DATE	**16 SD 03-28-94 Cpn 8.879 MD 12-06-04**
Avg Life MSRB	1.3096 CALL DATE	**16 SD 03-28-94 Cpn 8.879 MD 12-06-04** **CD Tue 1-30-96**
Call Price	95.077 CALL PRICE	**16 SD 03-28-94 Cpn 8.879 MD 12-06-04** **CD Tue 01-30-96 Call Price 95.077**
Current Offer	107.321 TO YIELD	**16 SD 03-28-94 Cpn 8.879 MD 12-06-04** **Pr 107.321 Yield (c) 2.187 (m) 7.577**

The yield to MSRB Date expressed with a "C" (yield to call) is 2.187. The yield to Avg Mat "M" is 7.577. The yields are compounded monthly and take into consideration the adjusted par value.

To display the corresponding Bond Equivalent Yields:

ENTER	PRESS	SEE
	DISPLY TO YIELD	**Bond Equiv Yield (c) 2.197 (m) 7.698**

Code 12 - Use Code 12 for Units with $1000.00 par value.

MEDIUM TERM NOTES (Annual Yield) CODE 17 - ALL MODELS

**NOTE: See Environmental variables, page 108, for alternate method of calculation.*

A Medium Term Note with an 8.7% coupon Matures June 15, 1996. It sells for 103.5. The Issue date is November 15, 1990 and the first coupon date is June 15, 1991. The settlement date is March 29, 1991.
What is the annual yield?

ENTER	PRESS	SEE
	CLEAR BOND	**previous settlement date**
Code	17 CODE	**17 SD Fri 3-29-91 Medium Term Ann**
Coupon	8.7 COUPON	**17 SD 03-29-91 Cpn 8.7000**
Maturity Date	6.1596 MAT DATE	**17 SD 03-29-91 Cpn 8.7000 MD 6-15-96**

ENTER	PRESS	SEE
Issue Date	11.1590 ISSUE DATE	**17 SD 03-29-91 Cpn 8.7000 MD 6-15-96 ID Thu 11-15-90**
1st Coupon Date	6.1591 1ST/NEXT PAYMNT DATE	**17 SD 03-29-91 Cpn 8.7000 MD6-15-96 Nxt-Fst Sat 6-15-91**
Price	103.5 TO YIELD	**17 SD 03-29-91 Cpn 8.7000 MD 6-15-96 Pr 103.500 Yld-Mat 7.856**

*NOTE: If this had been a secondary issue the previous payment date would be entered on the issue date key and the next payment date would be entered on the 1st/Next payment date key.

MEDIUM TERM NOTES (SEMIANNUAL YIELD) CODE 18 - ALL MODELS

To calculate the Semiannual yield of a Medium Term Note enter CODE 18 and follow the same steps as in the previous example.

If you have a Model 2200, you may calculate the CD Equivalent price or yield on Code 17 or 18 if the bond is = or < two compounding periods. See page 70

UK GILTS - CUM CODE 11 MODEL 2200 & 3300

A UK Gilt with an 8% coupon matures January 15, 2018 and sells for a Sterling price of Stg 85.00. What is the yield?

ENTER	PRESS	SEE
	CLEAR BOND	**previous settlment date**
Code	11 CODE	**11 Setl Fri 05-27-94 UK Gilts -CUM**
Coupon	8 COUPON	**11 SD 05-27-94 Cpn 8.000**
Maturity Date	1.1518 MAT DATE	**11 SD 05-27-94 Cpn 8.000 MD 01-15-18**
Price	85 TO YIELD	**11 SD 05-27-94 Cpn 8.000 MD 01-15-18** **Price 85.000 Yld /Mat 9.618**

What is the Current yield and the Money Market yield on the above?

	CURRNT YIELD	**Cur Yld 9.411 MM/Yld 9.486246**

UK GILTS - EX **CODE 12** MODEL 2200 & 33000

A UK Gilt bond with an 8% coupon matures January 15, 2018. The price is 85.00. What is the yield ?

ENTER	PRESS	SEE
	CLEAR BOND	**previous setlment date**
Code	12 CODE	**12 Setl Fri 05-27-94 UK Gilts -EX**
Coupon	8 COUPON	**12 SD 05-27-94 Cpn 8.000**
Maturity Date	1.1518 MAT DATE	**12 SD 05-27-94 Cpn 8.000 MD 01-15-18**
Price	85 TO YIELD	**12 SD 05-27-94 Cpn 8.000 MD 01-15-18** **Price 85.000000 Yld/Mat 9.617**

AUSTRALIAN GILTS **CODE 13** MODEL 2200& 3300

An Australian Gilt with an 8% coupon matures January 15, 2018. The price is 85.00. What is the yield?

ENTER	PRESS	SEE
	CLEAR BOND	**previous settlment date**
Code	13 CODE	**13 Setl Fri 05-27-94 Aussie Gilts**
Coupon	8 COUPON	**13 SD 05-27-94 Cpn 8.000**
Maturity Date	1.1518 MAT DATE	**13 SD 05-27-94 Cpn 8.000 MD 01-15-18**
Price	85 TO YIELD	**13 SD 03-27-90 Cpn 8.000 MD 01-15-18** **Price 85.000000 Yld/Mat 9.617**

FRENCH GOVERNMENT OAT CODE 14 MODEL 2200 & 3300

A French Government with a 9.8% coupon Matures January 30, 1996 sells for a price of FF 103.50 What is the annual yield? Settlement 5-31-94

ENTER	PRESS	SEE
	CLEAR BOND	previous settlment date
Code	14 CODE	**14 Setl Tue 05-31-94 Fr OAT Ann Yld**

ENTER	PRESS	SEE
Coupon	9.8 COUPON	**14 SD 05-31-94 Cpn 9.8000**
Maturity Date	1.3096 MAT DATE	**14 SD 05-31-94 Cpn 9.800 MD 01-30-96**
Price	103.5 TO YIELD	**14 SD 05-31-94 Cpn 9.8000 MD 1-30-96** **Pr 103.50000 Yld-Mat 8.992**

FRENCH GOVERNMENT BTAN CODE 15 MODEL 2200 & 3300

A French Government BTAN with a 9.0% coupon Matures January 30, 1996 sells for a price of FF 103.50 What is the annual yield? Settlement 5-31-94

ENTER	PRESS	SEE
	CLEAR BOND	**previous settlment date**
Code	15 CODE	**15 Setl Tue 05-31-94 FR BTAN Ann Yld**
Coupon	9 COUPON	**15 SD 05-31-94 Cpn 9.0000**

ENTER	PRESS	SEE
Maturity Date	1.3096 MAT DATE	**15 SD 05-31-94 Cpn 9.0000 MD 1-30-96**
Price	103.5 TO YIELD	**15 SD 05-31-94 Cpn 9.0000 MD 1-30-96** **Pr 103.50000 Yld-Mat 6.673**

FLOATING RATE NOTES CODE 16 MODEL 2200 & 3300

A Floating Rate Note with a 9% Coupon Matures 5-15-94 is sold for 99.875 calculate the DM.

ENTER	PRESS	SEE
	CLEAR BOND	**previous settlment date**
Code	16 CODE	**16 Setl Tue 06-03-94 Floating Rate Notes** **Enter Current Libor (Next)**
Current Libor	11 NEXT	**16 Setl Tue 06-03-94 Floating Rate Notes** **Enter Expected Libor (Next)**
Expected Libor	11.25 NEXT	**16 Setl Tue 06-03-94 Floating Rate Notes** **Enter Quoted Margin (Next)**

ENTER	PRESS	SEE
Quoted Margin	12.5 NEXT	**16 Setl Tue 06-03-94 Floating Rate Notes** **Enter Frequency (Next)**
Enter Frequency	4 NEXT	16 Setl Tue 06-03-94 Floating Rate Notes C LIB 11.00 Ex LIB 11.25 QM 12.5 Frq **4**
Previous Pay date	5.1594 ISSUE DATE	**16 Setl Tue 06-03-94 Floating Rate Notes** **Issu Dt Sun 05-15-94**
Next Pay Date	8.1594 1ST/NEXT PAYMNT DATE	**16 Setl Tue 06-03-94 Floating Rate Notes** **Nxt-Fst Mon 08-15-94**
Coupon	9.0 COUPON	**16 SD 06-03-94 Cpn 9.0000**
Maturity Date	5.1598 MAT DATE	**16 SD 06-03-94 Cpn 9.0000 MD 5-15-98**
Price	99.875 TO YIELD	**16 SD 06-03-94 Cpn 9.0000 MD 5-15-98** **Pr 99.875 YIeld 11.274 DM 2.41**

Note

To calculate Price given the Discounted Margin simply enter the Discounted Margin and depress.

DISPLY TO PRICE

JAPANESE GOVERNMENT CODE 19 MODEL 2200 & 3300

An 8.5% Japanese Government Bond maturing on January 5, 1999 is sold for 98.00. Find the yield. Settlement date is May 09, 1994.

ENTER	KEY	SEE
	CLEAR BOND	**previous settlement date**
Code	19 CODE	**19 Setl Mon 05-09-94 Japanese Gov’nt**
Coupon	8.5 COUPON	**19 SD 05-09-94 Cpn 8.5000**
Maturity Date	1.0599 MAT DATE	**19 SD 05-09-94 Cpn 8.5000 M* 01-05-99**
Price	9 8 TO YIELD	**19 SD 05-09-94 Cpn 8.5000 M* 01-05-99** **Pr 98.000 Yld (S) 9.111 (C) 9.031**

CANADIAN GOVERNMENT CODE 20 MODEL 2200 & 3300

An 8.5% Canadian Government Bond maturing on January 5, 1999 is sold to yield 9%. Find the price. Settlement date is May 09, 1994.

ENTER	KEY	SEE
	CLEAR BOND	**previous settlment date**
Code	20 CODE	**20 Setl Mon 05-11-94 Canadian Gov’nt**
Coupon	8.5 COUPON	**20 SD 05-11-94 Cpn 8.5000**
Maturity Date	1.0599 MAT DATE	**20 SD 05-11-94 Cpn 8.5000 M* 01-05-99**
Yield	9 TO PRICE	**20 SD 05-11-94 Cpn 8.5000 M* 01-05-99 Pr/ 98.111106 Yield 9.000**

CANADIAN TREASURY BILLS CODE 21 MODEL 2200 & 3300

A Canadian treasury bill (Code 21) is sold on May 5, 1994 at a 7.8% discount. It matures on October 18, 1994 . Calculate the price, bond equivalent yield, extended discount, and extended price for $250.000 dollars face value.

ENTER	KEY	SEE
	CLEAR BOND	**previous settlment date**

ENTER	KEY	SEE
		previous settlment date
Code	21 CODE	**21 SD Tue 05-03-94 Canadian Bill**
Maturity Date	10.1894 MAT DATE	**21 SD Tue 05-03-94 MD Tue 10-18-94**
Discount Rate	7.8 TO PRICE	**21 SD Tue 05-03-94 MD Tue 10-18-94** **Price 96.5342869 Yield 7.800**
No. of Bills	250 EXTEND	**Bonds 250 Discount 8,664.28** **Prin 241,335,72 Totl 250,000.00**

DANISH GOVERNMENT CODE 22 MODEL 2200 & 3300

An 8.5% Danish Government Bond maturing on January 5, 1999 is sold to yield 9%. Find the price. Settlement date is May 06, 1994.

ENTER	KEY	SEE
	CLEAR BOND	**previous settlement date**

ENTER	KEY	SEE
Code	22 CODE	**22 Setl Fri 05-06-94 Danish Govn't**
Coupon	8.5 COUPON	**22 SD 05-06-94 Cpn 8.5000**
Maturity Date	1.0599 MAT DATE	**22 SD 05-06-94 Cpn 8.5000 M* 01-05-99**
Yield	9 TO PRICE	**22 SD 05-06-94 Cpn 8.5000 M* 01-05-99** **Pr/M 98.079959 Yield 9.000**

SWEDISH GOVERNMENT CODE 23 MODEL 2200 & 3300

An 8.5% Swedish Government Bond maturing on January 5, 1999 is sold to yield 9%. Find the price. Settlement date is May 10, 1994.

ENTER	KEY	SEE
	CLEAR BOND	**previous settlement date**
Code	23 CODE	**23 Setl Tue 05-10-94 Swedish Govn't**
Coupon	8.5 COUPON	**23 SD 05-10-94 Cpn 8.5000**

ENTER	KEY	SEE
Maturity Date	1.0599 MAT DATE	**23 SD 05-10-94 Cpn 8.5000 M* 01-05-99**
Yield	9 TO PRICE	**23 SD 05-10-94 Cpn 8.5000 M* 01-05-99** **Pr/M 98.082 Yield 9.000**

ITALIAN GOVERNMENT CODE 23 MODEL 2200 & 3300
An 8.5% Italian Government Bond maturing on January 5, 1999 is sold for 98.00. Find the yield.
Settlement date is May 6, 1994.

ENTER	KEY	SEE
	CLEAR BOND	**previous settlement**
Code	24 CODE	**24 Setl Fri 05-06-94 Italian Govn't**
Coupon	8.5 COUPON	**24 SD 05-06-94 Cpn 8.5000**
Maturity Date	1.0599 MAT DATE	**23 SD 05-06-94 Cpn 8.5000 M* 01-05-99**
Yield	9 8 TO YIELD	**23 SD 05-06-94 Cpn 8.5000 M* 01-05-99** **Price 98.000000 Yld/Mat 9.233**

DAYS BETWEEN DATES

Calculates the number of days between Settlement date and Maturity Date.

Enter the dates required and depress DSPLY and NEXT SEE

```
# Days=  XXXX
```

PRICE AND YIELD OF CALLABLE BONDS

For bonds with call options, you must enter the call prices and the call date using the CALL DATE and the CALL PRICE keys, and when a second call is needed the CONV DATE and CONV RATE keys. When doing a price or yield "to call," the **MICRO BOND TRADER** calculates both "to call" "to maturity," and/or “to 2nd call”. All values are displayed simultaneously, the "to call" on the left, and “to maturity” on the right, or the “to maturity “ in the middle and “to 2nd call” on the right. Only the lowest of the values is retained for further calculations. If you depress the- CALL LOWEST key, the **MICRO BOND TRADER** calculates "to call" value only. If the CALL LOWEST key is depressed twice the MBT calculates to 2nd call only.

EXAMPLE

A 6% municipal bond due March 8, 2003 is sold at $95.00. It is callable on March 8, 1999 at a price of 102.25. There is a second call date of March 8, 1997 at Par.
Settlement date is May 11, 1994. Calculate yields to call and to maturity.

ENTER	PRESS	SEE
	CLEAR BOND	**0 Setl Wed 05-11-94 Muni, Agency Cor**
Code	0 CODE	**0 Setl Wed 05-11-94 Muni, Agency Cor**
Coupon	6 COUPON	**0 SD 05-11-94 Cpn 6.0000**
Maturity date	3.0803 MAT DATE	**0 SD 05-11-94 Cpn 6.0000 M* 3-8-03**
Call date	3.0899 CALL DATE	**0 SD 05-11-94 Cpn 6.0000 M* 3-8-03 Call Dt Mon 3-8-99**
Call Price	102.25 CALL PRICE	**0 SD 05-11-94 Cpn 6.0000 M* 3-8-03 Call Dt Mon 03-8-99 Call Pr 102.250**
2nd Call date	3.0897 CONV DATE	**0 SD 05-11-94 Cpn 6.0000 M* 3-8-03 Conv Dt Sat 03-8-97**
Call Price	100 CONV RATE	**0 SD 05-11-94 Cpn 6.0000 M* 3-8-03 Conv Dt Sat 03-8-97 Conv Rt 100.000**

ENTER	PRESS	SEE
Price	95 TO YIELD	**0 SD 05-11-94 Cpn 6.0000 M* 3-8-03** **Yield (c) 7.650 (m) 6.760 (c2) 8.007**

Find the yields "to call" and "to maturity" if the price is 102.25.

Price	102.25 TO YIELD	**0 SD 05-11-94 Cpn 6.0000 M* 3-8-03** **Yield (c) 5.866 (m) 5.671 (c2) 5.131**

EXTENSIONS

To calculate bond extensions: Do a price or yield calculation in the normal way. If there is a concession, enter it in dollars per hundred par value and press CONC. The price less concession is displayed.

Enter the number of bonds and press EXTEND.

ENTER	PRESS	SEE
No Bonds	25 EXTEND	**Bonds 25 Acc Int 262.50** **Prin 25,562.50 Totl 25,825.00**

DATED BONDS

To calculate extensions for bonds which have an irregular first coupon (Dated Bonds), enter the dated date then press ISSUE DATE. Then proceed in the normal manner as for regular bonds.

Find the accrued interest for 12 Municipal Bonds dated February 15, 1994 and sold May 12, 1994.
The coupon value is 8%, the maturity date is June 6, 1999, and the yield is 9.25%.

ENTER	PRESS	SEE
	CLEAR BOND	**0 Setl 03-27-94**
Code	0 CODE	**0 Setl Thu 05-12-94 Muni, Agency Cor**
Coupon	8 COUPON	**0 SD 05-12-94 Cpn 8.0000**
Maturity date	6.0699 MAT DATE	**0 SD 05-12-94 Cpn 8.0000 MD 6-06-99**
Issue date	2.1594 ISSUE DATE	**0 SD 05-12-94 Cpn 8.0000 MD 6-06-99** **Issu Dt Tue 2-15-94**
Yield	9.25 TO PRICE	**0 SD 05-12-94 Cpn 8.0000 MD 6-06-99** **Pr/mat 95.022 Yield 9.250**

ENTER	PRESS	SEE
No of Bonds	12 EXTEND	**Bonds 12 AI (ID) 232.00** **Prin 11,402.64 Totl 11,634.64**

REALIZED COMPOUND YIELD

A 8.5% Municipal bond maturing on January 5, 1997 is sold at 103.5. Find the yield. Assuming a reinvestment rate of 9%, what is the realized compound yield?

ENTER	PRESS	SEE
	CLEAR BOND	**0 Selt Thu 05-12-94 Muni, AgencyCor**
Coupon	8.5 COUPON	**0 SD 05-12-94 Cpn 8.500**
Maturity date	1.0597 MAT DATE	**0 SD 05-12-94 Cpn 8.500 MD 01- 5-97**
Price	103.5 TO YIELD	**0 SD 05-12-94 Cpn 8.500 MD 01- 5-97** **Price 103.500 Yld/Mat 7.022**
External Rate	9 TO RCY	**0 SD 03-27-90 Cpn 8.500 MD 01- 5-97** **Realized Compound Yield 7.236**

PRODUCTION - ALL MODELS

Averages and totals for groups of bonds are calculated using the **PRODUCTION** keys on the **Micro Bond Trader**. The following series of Muni Bonds has a settlement date of May 12, 1994:

No. of Bonds	Coupon	Mat Date	Price- Yield
50	6	10-15-95	5.2 less 1.5 Conc
100	6.5	10-15-96	5.1
100	5	10-15-97	98.5

ENTER	PRESS	SEE
	CLEAR BOND	**0 Setl Thu 05-12-94 Muni, Agency Cor**
	DSPLY BEGIN AVG LIFE PROD	**0 Setl 05-12-94 Production Begin**

ENTER	PRESS	SEE
Coupon	6 COUPON	**0 SD 05-12-94 Cpn 6.0000**
Maturity Date	10.1595 MAT DATE	**0 SD 05-12-94 Cpn 6.0000 MD 10-15-95**
Yield	5.2 TO PRICE	**0 SD 05-12-94 Cpn 6.0000 MD 10-15-95** **Pr/Mat 101.080 Yield 5.200**
Concession	1.5 CONC	**0 SD 05-12-94 Cpn 6.0000 MD 10-15-95** **Pr/Mat 99.580 Conc 1.500**
	TO YIELD	**0 SD 05-12-94 Cpn 6.0000 MD 10-15-9**5 Price 99.580 Yld/mat 6.308
# Bonds	50 EXTEND	**Bonds 50 Acc Int 225.00** **Prin 49,790.00 Totl 50,015.00**
	ADD ISSUE	**0 SD 05-12-94** **Bond entered in position 1**
Coupon	6.5 COUPON	**0 SD 05-12-94 Cpn 6.5000**
Maturity date	10.1596 MAT DATE	**0 SD 05-12-94 Cpn 6.0000 MD 10-15-96**

ENTER	PRESS	SEE
Yield	5.1 TO PRICE	**0 SD 05-12-94 Cpn 6.0000 MD 10-15-96** **Pr/Mat 103.150 Yield 5.100**
# Bonds	100 EXTEND	**Bonds 100 Acc Int 487.50** **Pri n 103,150.00 Totl 103,637.50**
	ADD ISSUE	**0 SD 05-12-94** **Bond entered in position 2**
Coupon	5.0 COUPON	**0 SD 05-12-94 Cpn 5.0000**
Maturity date	10.1597 MAT DATE	**0 SD 05-12-94 Cpn 5.0000 MD 10-15-97**
Price	98.5 TO YIELD	**0 SD 05-12-94 Cpn 5.0000 MD 10-15-97** **Pr/Mat 98.500 Yield 5.485**
# Bonds	100 EXTEND	**Bonds 100 Acc Int 375.00** **Pri n 98,500.00 Totl 98.875.00**
	ADD ISSUE	**0 SD 03-27-90** **Bond entered in position 3**

**NOTE As in bond #1 if a concession is to be taken after calculating price, be sure to depress the TO YIELD key in order to calculate the correct "net yield" before extending the bond.

In order to view the entered material for accuracy: Set the Bond # and Depress the BOND RECALL key.

This will call the Bond into memory. Use the DISPLY and a function key to check each item for accuracy.

To calculate the production averages, simply depress the PROD AVG key. Using the NEXT key will display the following:

SD	05-12-94
Bonds	250
Average Price	100.576
Average Coupon	5.800
Annual Income	14,500.00
Coupon $ Life	37,162.50
Current Yield	5.756
Average Yield	5.496
Maturity Years	2.625
Average MD	12-27-96
Average Durat'n	2.46
Total Acc Int	1,087.50
Principal	251,440.00
Total	252,527.50
Profit .	35,722.50

To delete any issue, simply enter the number of the issue to be deleted and depress 

.

will then calculate new averages. Or you can add more issues and then calculate new averages.

INVENTORY - ALL MODELS

The Lane Micro Bond Trader reserves enough memory for the user to store data on 180 different issues. You might think of this memory as being 184 "pigeon holes" where you can store or retrieve data. When you depress the 

key, the **Micro Bond Trader** stores that information in the next available "pigeon hole." Other keys allow you to delete, substitute, recall, or calculate with the stored data.

Use the "PRODUCTION MEMORY" area of the Micro Bond Trader to store the House Inventory so that you don't have to rekey the data each time you want to work with a particular bond.

INVENTORY EXAMPLE:

The following Bonds are available in your inventory:

RATING	DES	MAT	COUPON	BASIS	PRICE
AAA	NY HFA	11-01-98	3.6	10.00	63.660

RATING	DES	MAT	COUPON	BASIS	PRICE
AAA	NYHFA	11-01-99	3.6	10.00	62.955
Aaa	Alton	04-01-05	3.5	10.00	47.035

etc.

ENTER	PRESS	SEE
	CLEAR BOND	**0 Setl Thu 05-12-94 Muni, Corp Bond**
CODE	0 CODE	**0 Setl Tue 05-12-94 Muni, Corp Bond**
	DISPLY BEGIN PROD	**Setl Tue 05-12-94 Production Begin**
Coupon	3.6 COUPON	**0 SD 05-12-94 Cpn 3.6000**
Maturity Date	11.0198 MAT DATE	**0 SD 05-12-94 Cpn 3.600 MD 11-01-98**
Yield	10 TO PRICE	**0 SD 05-12-94 Cpn 3.6000 MD 11-01-98** **Pr/Mat 77.375 Yield 10.000**

ENTER	PRESS	SEE
	ADD ISSUE	**0 SD 05-12-94** **Bond entered in position 1**
Coupon	3.6 COUPON	**0 SD 05-12-94 Cpn 3.600**
Maturity date	11.0199 MAT DATE	**0 SD 05-12-94 Cpn 3.600 MD 11-01-99**
Yield	10 TO PRICE	**0 SD 05-12-94 Cpn 3.6000 MD 11-01-99** **Pr/Mat 73.528 Yield 10.000**
	ADD ISSUE	**0 SD 05-12-94** **Bond entered in position 2**
Coupon	3.5 COUPON	**0 SD 05-12-94 Cpn 3.5000**
Maturity date	4.0105 MAT DATE	**0 SD 05-12-94 Cpn 3.5000 MD 04-01-05**
Yield	10 TO PRICE	**0 SD 05-12-94 Cpn 3.5000 MD 04-01-05** **Pr/Mat 57.461 Yield 10.000**
	ADD ISSUE	**0 SD 05-12-94** **Bond entered in position 3**

CD EQUIVALENTS

The Lane Model 2200 will calculate either a CD equivalent yield given a price and a reinvestment rate, or a CD Price given a yield and a reinvestment rate. In either case their may be no more than 2 compounding periods in the security. You may calculate a CD equivalent in Code 1 Code 7 or Code 17.

A Eurobond Code 7 with a Settlement of 6/15/94 and a coupon of 6% Matures 12/15/96. At a price of $99.00 what is the Yield and the CD Equivalent yield given a reinvestment rate of 7%.

ENTER	PRESS	SEE
Code	7 CODE	7 Setl Wed 06-15-94 Eurobonds An Yld
Coupon	6 COUPON	7 SD 06-15-94 Cpn 6.0000
Mat Date	12.1596 MAT DATE	7 SD 06-15-94 Cpn 6.0000 M* 12-15-96
Price	99 TO YIELD	7 SD 06-15-94 Cpn 6.0000 M* 12-15-96 Price 99.000 Yld/Mat 6.425
	DISPLY TO YIELD	7 SD 06-15-94 Cpn 6.0000 M* 12-15-96 Reinvestment Rate (Next)
Reinvestment Rate	7 NEXT	7 SD 06-15-94 Cpn 6.0000 M* 12-15-96 CD/EQ Yld 6.1913

To Calculate a CD Equivalent price depress DISPLAY TO PRICE

RECALL BOND

If you now wanted to work with the second bond entered, simply depress 2 on the keyboard and depress 

The display will show

0 SD 05-12-94 Cpn 3.6000 MD 11-01-99
Pr/Mat 73.528 Yield 10.000

STORE BOND

If you want to store a bond that has been already calculated, simply depress 

The display will show

Bond entered in position #

SUBSTITUTE

To substitute one bond for another, enter the data for the new bond and depress the "pigeon hole" number of the bond to be substituted. The **Micro Bond Trader** will enter the new data in the correct "pigeon hole."

Example: Bond #2 has been sold out. You now have purchased 120, Puerto Rico G.O., 8.5 Coupon, Due 6/01/03, Priced at 10.25 Basis and you want to substitute this issue for the bond in slot 2.

ENTER	PRESS	SEE
Coupon	8.5 COUPON	**0 SD 05-12-94 Cpn 8.500**
Maturity	6.0103 MAT DATE	**0 SD 05-12-94 Cpn 8.500 MD 06-01- 03**
Yield	10.25 TO PRICE	**0 SD 05-12-94 Cpn 8.500 MD 06-01- 03** **Pr/mat 89.824 Yld/Mat 10.250**
Slot # 2	2 ADD ISSUE	**0 SD 05-12-94** **Bond entered in position 2**

PERMANENT STORAGE - ALL MODELS

The **Lane Micro Bond Trader** has the ability to store, in a special non-destructive area of memory, data on up to 180 different issues previously entered in the production area.

DISPLY PROD AVG SAVE

SAVING

The response: SAVING means that the entire portfolio is being saved in a special area of memory that will automatically be reloaded when the **Micro Bond Trader** is turned on again.

MEMORIES

The **Lane Micro Bond Trader** has ten available memories (0-9) for storing numbers or accumulating totals. To use these memory keys simply enter a number on the keyboard, depress M+ and a number (0-9) for the register to which you want to add the number.

Example: Add 123 + 456 + 789

ENTER	PRESS	SEE
1st Number	123 M+	**0 Setl Thu 05-12-94 Muni, Agency Cor** **Enter Register No.**
Register No. (0-9)	1	**0 Setl Thu 05-12-94 Muni, Agency Cor** **M1+ 123.0000**
2nd Number	456 M+	**0 Setl Thu 05-12-94 Muni, Agency Cor** **Enter Register No.**
Register No. (0-9)	1	**0 Setl Thu 05-12-94 Muni, Agency Cor** **M1+ 456.0000**
3rd Number	789 M+	**0 Setl Thu 05-12-94 Muni, Agency Cor** **Enter Register No.**
Register No. (0-9)	1	**0 Setl Thu 05-12-94 Muni, Agency Cor** **M1+ 789.0000**

ENTER	PRESS	SEE
	M*	Enter Register No.
Register No	1	**0 Setl Thu 05-12-94 Muni, Agency Cor** **M1* 1,368.0000**

M° # SUBTOTAL MEMORY copies the number in memory into the display, but does not change the memory.

M* # TOTAL MEMORY copies the number in memory into the display, and clears the memory.

If you are accustomed to a ten-key adding machine, you can use these keys to do additions and subtractions.

The five arithmetic keys on the right are + - X : and =. These keys do arithmetic algebraically - that means you press the keys in the order you want them done, and finish the calculation with =. No memory register is involved.

Try 2X3= ?	PRESS 2 X 3 =	6.0000
or 2/3 = ?	2 ÷ 3 =	.6667

The add, subtract, multiply, and divide all work this way.

* The default decimal setting for the math functions is 4. To change the decimal setting see instructions page 109.

Caution : Make sure that whenever you use the algebraic keys you finish with an = . If you don't, subsequent operations may not work correctly. So press = even if you are not interested in the result.

To clear the calculator depress C/CE twice.

AFTER-TAX CALCULATIONS

The "after-tax" keys provide the capability of calculating:

After-tax yield for a given price

After-tax yield for a given before tax yield

Before-tax price for a given after tax yield

The **Micro Bond Trader** can be used to do after-tax calculations for notes as well as bonds. After-tax calculations cannot be done for Treasury Bills.

Before you do any after-tax calculations, you must store the appropriate tax rates. Key in the income tax rate as a percentage, and press 

Key in the capital gains tax rate, again as a percentage, and press 

.

Once you have entered the tax rates you don't need to re-enter them again unless they change. When you want to see the rates previously stored, press 

, or 

.

Premium bonds and notes, in accordance with convention, are calculated using the income tax rate for both the tax on interest and the tax on the capital loss.

To calculate the after-tax yield of a security, first do a normal [TO PRICE] or [TO YIELD] calculation.

Then, if the proper tax rates are stored, press [TO ATY]. The after- tax yield is displayed.

A corporate bond with a 6% coupon is offered at a price of 92.625. It matures on January 5, 1997. What is the after-tax yield to a purchaser whose income tax rate is 28% and capital gains is 30%?
The settlement date is May 12, 1994.

ENTER	KEY	SEE
	[CLEAR BOND]	0 Setl Thu 05-12-94
Maturity Date	1.0597 [MAT DATE]	0 Setl Thu 05-12-94 MD Sun 01-05-97
Coupon	6 [COUPON]	0 SD 05-12-94 Cpn 6.000 M* 01-05-97

ENTER	PRESS	SEE
Income Tax Rate	48 INC TAX RATE	0 SD 05-12-94 Cpn 6.000 MD 1-5-97 Inc Tax Rt 48%
Capital Gains Rt	30 CAP GAINS RATE	0 SD 05-12-94 Cpn 6.000 MD 1-5-97 Inc Tax Rt 48.00% Cap GnRt 30.00%
Price	92.625 TO YIELD	0 SD 05-12-94 Cpn 6.000 MD 1-5-97 Price 92.625 Yld/mat 9.196
	TO ATY	0 SD 05-12-94 Cpn 6.000 MD 1-5-97 After tax Yld/m 5.354

Find the Municipal equivalent after-tax yield for the Corporate bond above.

ENTER	PRESS	SEE
Income Tax Rate	0 INC TAX RATE	0 SD 05-12-94 Cpn 6.000 MD 1-5-97 Inc Tax Rt 0%
	TO ATY	0 S D 05-12-94 Cpn 6.000 MD 1-5-97 After Tax Yld/Mat 8.396

ATY TO PRICE

What price would you pay for the previous bond if you required an after tax yield of 10.5%?

ENTER	PRESS	SEE
After tax yield	10.5 ATY TO PRICE	0 S D 05-12-94 Cpn 6.000 MD 1-5-92 Atx/Yld 10.500 BTx/Pr 86.791

DURATION

The weighted average term-to-maturity of the bonds cash flows.

After a security calculation, simply depress the DURAT'N key.

Example: calculate the DURATION on the following:

A 8.5% Municipal bond maturing on January 15, 1997 is sold to yield 9%. Find the price, and duration.

Settlement date is May 12, 1994.

ENTER	PRESS	SEE
	CLEAR BOND	0 Setl Thu 05-12-94
Coupon	6 COUPON	0 SD 05-12-94 Cpn 6.000 M* 01-15-97
Maturity Date	1.1597 MAT DATE	0 Setl 05-12-94 Cpn 6.000 M* 01-15-97
Price	9 TO PRICE	0 SD 05-12-94 Cpn 6.000 MD 1-15-97 Pr/Mat 92.991 Yield 9.000
	DURAT'N	0 SD 05-12-94 Cpn 6.000 MD 1-15-97 Duration 2.45 Modified 2.345

AVERAGE LIFE

Introduction:

The **LANE MICRO BOND TRADER's** average life functions allows you to calculate the average life and date of average life for sinking funds.

Average life calculations are done for **CODE 0** issues only.

Retirements may be annual or semi-annual, or a combination of both. The CALL LOWEST key is set before each group of sinkers. The number of bonds retired is always entered before depressing the NEXT key. The beginning date for the group is entered on the ISSUE DATE BEGIN key and the ending date for the group is entered on the CALL DATE END key. The number of bonds for the sinker is then entered on the NEXT key, completing the retirement for the group.

Then, depending on the position of the ANNUAL/SEMIANNUAL key, the **LANE MICRO BOND TRADER** updates the beginning and the ending date to six or twelve months after the last ending date, assuming that the next group is contiguous and contains only one sinker.

If the next group is contiguous but has more than one sinker, you must modify the ending date according to the

number of sinkers with the same number of bonds per sinker.

If the next group is not contiguos, you must enter both the beginning and the ending dates.

Example:

Settlement Date May 13, 1994

Total bond outstanding 7,500

Final Maturity April 25, 2012

GROUP	BEGIN DATE	END DATE	RET	NO.RET
1	10/25/97	10/25/02	Annual	75
2	10/25/03	10/25/03	Annual	50
3	4/25/05	10/25/08	Semi-annual	90
4	4/25/09	10/25/11	Semi-annual	100

ENTER	PRESS	SEE
Code	0 CODE	0 Setl Fri 05-13-94 Muni, Corp Bond
Total Bonds	7500 BEGIN AVG LIFE	0 Setl 05-13-94 Total Bonds 7500
Begin Date	10.2597 ISSUE DATE BEGIN	0 Setl 05-13-94 Total Bonds 7500 Begin 10-25-97
End Date	10.2502 CALL DATE END	0 Setl 05-13-94 Total Bonds 7500 Begin 10-25-97 End 10-25-02
Bonds per period	75 NEXT	0 Setl 05-13-94 Total Bonds 7050 Begin 10-25-03 End 10-25-03
Bonds per period	50 NEXT	0 Setl 05-13-94 Totl Bonds 7000 Begin 10-25-04 End 10-25-04
Switch to semi	CALL LOWEST	0 Setl 05-13-94 Totl Bonds 7000 To Call / Semi
Begin Date	4.2505 ISSUE DATE BEGIN	0 Setl 05-13-94 Totl Bonds 7000 Begin 4-25-05
End Date	10.2508 CALL DATE END	0 Setl 05-13-94 Totl Bonds 7000 Begin 04-25-05 End 10-25-08

ENTER	PRESS	SEE
Bonds per period	100 NEXT	0 Setl 05-13-94 Totl Bonds 6200 Begin 04-25-09 End 04-25-09
Final Date	4.2512 CALL DATE END	0 Setl 05-13-94 Totl Bonds 6200 Begin 04-25-09 End 4-25-12
	AVG MAT	0 Setl 05-12-94 Totl Bonds 0 Mat Yrs 16.6131 Thu 12-23-10

From this point you may calculate yield to average life by entering the appropriate data.

To Find the yield to average life if the coupon is 8.5 and the dollar price is 95.000.

ENTER	PRESS	SEE
Coupon	8.5 COUPON	0 SD 05-13-94 Cpn 8.500 MD 12-23-10
Dollar Price	95 TO YIELD	0 SD 05-13-94 Cpn 8.500 MD 12-23-10 Price 95.000 Yld/Mat 9.087

*Yield using the average life as the Mat Date.

GOVERNMENT MORTGAGE BACKED SECURITIES

DESCRIPTIONS:

GNMA

A Government National Mortgage Association Security comprised of pools of VA and FHA insured mortgages. The Assumed servicer fee
is 1/2% with a delay factor of 45 days on the 15th of the month.

FHLMC
A Federal Home Loan Mortgage Corporation security of Participation Certificates (PC's) comprised of conventional home loans, mainly from
savings and loan institutions. With this security, there is a choice of the servicer fee and a delay of 75 days.

FNMA

Federal National Mortgage Association pools that are similar to FHLMC's except that the delay is 55 days.

GINNIE MAE-GPM

A graduated payment mortgage pool will have 5 increases of 7.5% in the homeowner mortgage payment each year until the loan
is 60 months old at which time it becomes level like a regular Ginnie Mae. The program will "know" the current status from the maturity
date you enter.

MOBILE HOME
A 15 year Mobile Home pool with assumed 2.75% servicing fee (they may be as high as 3.25% but are usually less). Therefore
a 10.25% mobile home pool probably has 13% loans in it.

SPECIAL
Any mortgage backed security where you wish to set the servicing fee, and the time delay to the first payment. Both of these factors
affect the price and yield.

A zero fee and a 30 day delay would be for a whole loan i.e. payment on the first of the month.

GINNIE MAE II
A multiple servicer pool with a single unified reported monthly statement and remittance by Chemical Bank with payment on
the 20th of the month.

SMB Interest Only
Stripped Mortgage Backed Security where the Interest Only is sold.

SMB Principle Only

Stripped Mortgage Backed Security where the Principle Only is sold.

DESCRIPTION OF THE PREPAYMENT MODELS

The Lane MBT-325 offers you several methods on which to enter prepayment assumptions: (1) The Federal Housing Authority (FHA) Model; (2) the CPR Constant Prepayment Percentage Model (3) (PSA) The Public Securities Association Model and (4) a mortgage Prepayed in 1-15 years. Each of these models is explained in more detail below.

As the individual homeowners begin to pay down their mortgage loans, the outstanding pool principal is reduced. In any given pool of mortgages, however, some prepayment will occur at some point in time. These prepayments are often the result of economic, demographic, seasonal, political, or social influences. In mortgage pass-thru securities, three types of principal reductions occur:

1. Normal required amortization - which will pay off the mortgage over the life of the loan. This occurs independently of any prepayments.

2. Prepayment of the loan - which occurs if the mortgagor elects to make larger payments to reduce the debt, or if the homeowner sells the home, thereby terminating the loan by fully paying it off. This type of principal reduction is not scheduled.

3. Government or FHLC, FNMA guaranteed payments - which are forwarded to the pool if a homeowner defaults on the mortgage. This Type of principal reduction is also not scheduled.
As mentioned before, you can choose among several methods to enter prepayment assumptions when analyzing a security: FHA, CPR, or prepayed In 1-15 years

FHA

This method uses an actuarial schedule based on the last 25 years of prepayment behavior as assembled and reported by the government. This method is dependent on the age of the mortgage loan. You usually designate the FHA speed as a percentage of the historical schedule. For example, 100% is equal to the schedule, 50% is only one half. Most sophisticated investors use higher speeds for higher coupons, with very high prepayment rates (such as 2000) for premium coupons that are 2 1/2% or more above the current market yields. The lowest possible speed is zero, i.e., no prepayments at all.

The FHA schedule has steps and it both rises and falls to reflect how job changes, divorce, childbearing, etc. affect prepayment behavior.

SMM or CPR

The Single Monthly Mortality method represents a gradual monthly prepayment rate. This method is independent of the age of the mortgage loan and is used most often with Mobile Home, FHLMC/FNMA pools and for high coupon premium pools. Typical SMM speeds are .5 or 1.0, indicating 1/2% or 1% per month, respectively. These figures would translate into a 6% and 12% prepayment rate per year above the reduction in loan balance required for normal amortization. CPR is a compound translation of SMM to an annual effective prepay rate. See below for our CPR/SMM translation table

PSA

The PSA method may be thought of as either an idealized FHA curve or as the CPR curve method adjusted for fewer prepayments in the earlier years. One hundred percent PSA is defined as follows: 0% CPR in month zero, increasing by 0.2% CPR monthly rising to 6% in month 30 and remaining at 6% CPR thereafter.

CPR/SMM TRANSLATION TABLE

SMM Speed	CPR Speed
05	.5983518
10	1.1934209
15	1.7852228
20	2.3737739
25	2.9590904
30	3.5411885
35	4.1200843
40	4.6957937
45	5.2683328
50	5.8377175
55	6.4039634
60	6.9670864
65	7.5271022
70	8.0840263
75	8.6378743
80	9.1886615
85	9.7364035
90	10.281115
95	10.822813
1.00	11.361510
1.25	14.010531
1.50	16.586800
1.75	19.092138
2.00	21.528325

PREPAY TYPE

Enter a Prepay Type 1= CPR, 2=FHA, 3=PSA or depress the PREPAY TYPE key to flip flop between CPR, FHA or PSA

PREPAY RANGE

Enter a number indicating the "Speed" of the security.

example: 6 for 6 CPR 125 for 125 FHA 100 PSA. If you enter a number between .01 and .15 the Micro Bond Trader will assume a new security that is assumed to be paid in 1 to 15 years.

EXAMPLE **GNMA CODE 20**

A GNMA with a 6.5% coupon Due 6/05 is sold to yield 10% at normal FHA prepayment schedule. Find the price. Settlement date
is 8/23/90

ENTER	KEY	SEE
Depress:	CLEAR BOND	SD Thu 08/23/90
	20 CODE	20 Setl Thu 08/23/90 GNMAs
Coupon	6.5 COUPON	20 SD 08/23/90 Cpn 6.5000

ENTER	KEY	SEE
Maturity date	6.0105 MAT DATE	20 SD 08/23/90 Cpn 6.5000 MD 06/01/05
Prepay Type	2 PREPAY TYPE	20 SD 08/23/90 Cpn 6.5000 MD 06/01/05 FHA
Prepay Range	100 PREPAY RANGE	20 SD 08/23/90 Cpn 6.5000 MD 6/01/05 FHA PrePay 100
Yield	10 TO PRICE	20 SD 08/23/90 Cpn 6.5000 MD 6/01/05 Price 87.111 100 FHA Yield 10.000

find the Average Life, Half Life, and Duration of the Security

ENTER	KEY	SEE
	AVG HALF LIFE	20 SD 08/23/90 Cpn 6.5000 MD 6/01/05 Ave Life 4.95 Half Life 56 M.
	DISPLY DURAT'N	20 SD 08/23/90 Cpn 6.5000 MD 6/01/05 Duration 3.71 Modified 3.533

Find the Bond Equivalent Yield ane the Annual Effective Yield of the Security.

ENTER	KEY	SEE
	Current Yield	20 SD 08/23/90 Cpn 6.5000 MD 6/01/05 B/E Yield 10.210 AEF 10.470

What would be the price of this security if we assume a CPR Speed of 6

ENTER	KEY	SEE
CPR Speed	1 PREPAY TYPE	20 SD 08/23/90 Cpn 6.5000 MD 6/01/05 CPR
PrePay Range	6 PREPAY RANGE	20 SD 08/23/90 Cpn 6.5000 MD 6/01/05 CPR PrePay 6
Yield	10 TO PRICE	20 SD 08/23/90 Cpn 6.500 MD 06/01/05 Price 84.704 6 CPR Yield 10.000

Using the above information, what would be the yield of this security if the price was 85.00

ENTER	KEY	SEE
Dollar Price	85 TO YIELD	20 SD 08/23/90 Cpn 6.500 MD 06/01/05 Price 85.000 Yield 9.920 6 CPR

EXTENTIONS

With a current factor of .98451254, and a face value of $25,000.00, What are the extended price and accrued interest of this security?

ENTER	KEY	SEE
Factor	.98451254 FACTOR	20 SD 08/23/90 Cpn 6.500 MD 06/01/05 Factor 0.98451254
Face value/1000	25 EXTEND	Bonds 25 Acc Int 97.77 Prin 20,920.89 Totl 21,018.66

GNMA CODE 20

A GNMA with a 8% coupon Due in 30 years is sold to yield 10% assuming a 12 year prepay . Find the price. Settlement date is
8/23/90

ENTER	KEY	SEE
Depress:	CLEAR BOND	SD Thu 08/23/90
	20 CODE	20 Setl Thu 08/23/90 GNMAs

Coupon 8 COUPON 20 SD 08/23/90 Cpn 8.0000

Maturity date 8.0120 MAT DATE 20 SD 08/23/90 Cpn 8.0000 MD 08/01/20

Prepay Type 2 PREPAY TYPE 20 SD 08/23/90 Cpn 8.0000 MD 08/01/20

FHA

Prepay Range .12 PREPAY RANGE 20 SD 08/23/90 Cpn 8.0000 MD 8/01/20

FHA PrePay .12
Yield 10 TO PRICE 20 SD 08/23/90 Cpn 8.000 MD 08/01/20
Price 86.367 12 PPd Yield 10.000

FNMA CODE 21
A FNMA with a 12% coupon Due 11/15 with a service fee of .625 is sold to yield 10% at a 0 FHA prepay .
Find the price.
Settlement date is 8/23/90

ENTER KEY SEE

Depress: CLR BOND MEMORY SD Thu 08/23/90

21 CODE 21 Setl Thu 08/23/90 FNMAs

Coupon 12 COUPON 21SD 08/23/90 Cpn 12.0000

Maturity date 11.0115 MAT DATE 21 SD 08/23/90 Cpn 12.000 MD 11/01/15

Prepay Type 2 PREPAY TYPE 21 SD 08/23/90 Cpn 12000 MD 11/01/15
FHA

Prepay Range 0 PREPAY RANGE 21SD 08/23/90 Cpn 12.000 MD 11/01/15

FHA PrePay 0

Service Fee .625 SERVICE FEE 21SD 08/23/90 Cpn 12.000 MD 11/01/15

Service Fee 0.625

Yield 10 TO PRICE 21 SD 08/23/90 Cpn 12.000 MD 11/01/15
Price 115.289 0 PPD Yield 10.000

Find the Average Life, Half Life, and Duration of the Security.

ENTER KEY SEE

AVG/HALF LIFE 21SD 08/23/90 Cpn 12.000 MD 11/01/15
Ave Life 18.28 Halflife 239. Mo

DISPLAY DURATION 21 SD 08/23/90 Cpn 12.0000 MD 11/01/15
Duration 7.860
FHLMC CODE 22

A FHLMC with a 12% Coupon Due 11/15 with a Service Fee of
.625 is sold to yield 10% at 100 FHA prepayment speed. Find the price.
Settlement date is 8/23/90

ENTER KEY SEE<N>

Depress: CLR BOND MEMORY SD Thu 08/23/90
22CODE 22Setl Thu 08/23/90 FHLMCs

Coupon 12 COUPON 21SD 08/23/90 Cpn 12.0000

Maturity date 11.0115 MAT DATE 2 1 SD 08/23/90 Cpn 12.000 MD 11/01/15

Prepay Type 2 PREPAY TYPE 21 SD 08/23/90 Cpn 12000 MD 11/01/15

FHA

Prepay Range 100 PREPAY RANGE 21SD 08/23/90 Cpn 12.000 MD 11/01/15
FHA PrePay 100

Service Fee .625 SERVICE FEE 21SD 08/23/90 Cpn 12.000 MD 11/01/15
Service Fee 0.625

Yield 10 TO PRICE 21 SD 08/23/90 Cpn 12.000 MD 11/01/15
Price 109.650 100 FHA Yield 10.000

Find the Average Life, Half Life, and Duration of the Security

ENTER KEY SEE<N>

AVG/HALF LIFE 22 SD 08/23/90 Cpn 12.000 MD 11/01/15
Ave Life 10.36 Halflife 108. Mo

DISPLAY DURATION 22 SD 08/23/90 Cpn 12.0000 MD 11/01/15
Duration 5.470

GNMA II CODE 23

A GNMA II with a 11% Coupon Due 7/15 is sold to yield 10% at 12 CPR prepayment speed. Find The price.

ENTER KEY SEE

Depress: CLR BOND MEMORY SD Thu 08/23/90

23CODE 23 Setl Thu 08/23/90 GNMA II

Coupon 11 COUPON 23 SD 08/23/90 Cpn 11.0000

Maturity date 7.0115 MAT DATE 23 SD 08/23/90 Cpn 11.000 MD 7/01/15

Prepay Type 1 PREPAY TYPE 23 SD 08/23/90 Cpn 11000 MD 7/01/15

CPR

Prepay Range 12 PREPAY RANGE 23SD 08/23/90 Cpn 11.000 MD 7/01/15
CPR PrePay 12

Yield 10 TO PRICE 23 SD 08/23/90 Cpn 11.000 MD 7/01/5
Price 103.571 12 CPR Yield 10.000

MOBILE CODE 24

A Mobile Home mortgage with a 8.25% Coupon Due 5/98 is sold to yield 10% at 8 CPR prepayment speed. Find the price. Settlement date is 8/23/90

ENTER KEY SEE

Depress: CLR BOND MEMORY SD Thu 08/23/90

24CODE 24 Setl Thu 08/23/90 MOBILE

Coupon 8.25 COUPON 24 SD 08/23/90 Cpn 8.2500
Note Because of the lack of a good FHA experience table, we suggest that Mobile Home Mortgages be calculated using the CPR method

Maturity date 5.0198 MAT DATE 24 SD 08/23/90 Cpn 8.250 MD 5/01/98

Prepay Type 1 PREPAY TYPE 24 SD 08/23/90 Cpn 8.250 MD 5/01/98

CPR

Prepay Range 8 PREPAY RANGE 24 SD 08/23/90 Cpn 8.250 MD 5/01/98

CPR PrePay 8

Yield 10 TO PRICE 24 SD 08/23/90 Cpn 8.250 MD 5/01/98
Price 94.640 8 CPR Yield 10.000

SPECIAL CODE 25

A "Special" mortgage with a 8% Coupon Due 5/06 is sold to yield 9% at 6 CPR prepayment speed, The delay is 45 days and the service fee is .5. Find the price. Settlement date is 8/23/90

ENTER KEY SEE<N>

Depress: CLR BOND MEMORY SD Thu<N> 08/23/90

25 CODE 24 Setl Thu 08/23/90

ENTER DLY

Delay 45 25 Setl Thu 08/23/90 SPECIAL DLY = 45

Coupon 8. COUPON25 SD 08/23/90 Cpn 8.0000

Maturity date 5.0106 MAT DATE 25 SD 08/23/90 Cpn 8.000 MD 5/01/06

Prepay Type 1 PREPAY TYPE 25 SD 08/23/90 Cpn 8.000 MD 5/01/06
CPR

Prepay Range 6 PREPAY RANGE 25 SD 08/23/90 Cpn 8.000 MD 5/01/06
CPR PrePay 6

Service Fee .5 SERVICE FEE 25 SD 08/23/90 Cpn 8.000 MD 5/01/06
Service Fee 0.5000

Yield 9 TO PRICE 25 SD 08/23/90 Cpn 8.000 MD 5/01/06
Price 95.014 6 CPR<N> Yield 9.000

GPM CODE 26

A GNMA GPM with a 8% Coupon Due 5/16 is sold to yield 10% at 6 CPR prepayment speed. Find the price. Settlement date is 8/23/90

Depress: CLR BOND MEMORY SD Thu<N> 08/23/90

26 CODE 26 Setl Thu 08/23/90 GPM

Coupon 8. COUPON26 SD 08/23/90 Cpn 8.0000

Maturity date 5.0116 MAT DATE 26 SD 08/23/90 Cpn 8.000 MD 5/01/16

Prepay Type 1 PREPAY TYPE 26 SD 08/23/90 Cpn 8.000 MD 5/01/16

CPR

Prepay Range 6 PREPAY RANGE 26 SD 08/23/90 Cpn 8.000 MD 5/01/16
CPR PrePay 6

Yield 10 TO PRICE 26 SD 08/23/90 Cpn 8.000 MD 5/01/06
Price 88.701 6 CPR Yield 10.000

SMB INTEREST ONLY CODE 27

A Stripped Mortgage Backed Interest Only with a 10% Coupon Due 5/17 is sold at a dollar price of 50.00 at 100 PSA prepayment speed and a delay of 55 days and a servicing fee of .5%. Find the yield, half life, average life. duration, and Bond equivalent yield.
Settlement date is 8/23/90

ENTER KEY SEE<N>

Depress: CLR BOND MEMORY SD Thu<N> 08/23/90

27 CODE 24 Setl Thu 08/23/90

ENTER DLY

Delay 55 27 Setl Thu 08/23/90 STRIP IO DLY 55

Coupon 10. COUPON 27 SD 08/23/90 Cpn 10.0000

Maturity date 5.0117 MAT DATE 27 SD 08/23/90 Cpn 10.000 MD 5/01/17

Prepay Type 3 PREPAY TYPE 27 SD 08/23/90 Cpn 10.000 MD 5/01/17

PSA

Prepay Range 100 PREPAY RANGE 27 SD 08/23/90 Cpn 10.000 MD 5/01/17

PSA PrePay 100

Service Fee .5 SERVICE FEE 27 SD 08/23/90 Cpn 10.000 MD 5/01/17

Service Fee 0.5000

Price 50 TO YIELD 27 SD 08/23/90 Cpn 10.000 MD 5/01/17
Price 50.000 Yield 12.160 100 PSA

SMB PRINCIPLE ONLY CODE 28

A Stripped Mortgage Backed Principle Only with a 10% Coupon Due 5/17 is sold at a dollar price of 50.00 at 200

PSA prepayment speed and a delay of 55 days and a servicing fee of .5%. Find the yield, half life, average life. duration, and Bond equivalent yield.
Settlement date is 8/23/90

ENTER KEY SEE<N>

Depress: CLR BOND MEMORY SD Thu 08/23/90

28 CODE 27 Setl Thu 08/23/90

ENTER DLY Delay 55 28 Setl Thu 08/23/90 STRIP PO DLY 55

Coupon 10. COUPON 28 SD 08/23/90 Cpn 10.0000

Maturity date 5.0117 MAT DATE 28 SD 08/23/90 Cpn 10.000 MD 5/01/17

Prepay Type 3 PREPAY TYPE 28 SD 08/23/90 Cpn 10.000 MD 5/01/17

PSA

Prepay Range 200 PREPAY RANGE 27 SD 08/23/90 Cpn 10.000 MD 5/01/17
PSA PrePay 200

Service Fee .5 SERVICE FEE 28 SD 08/23/90 Cpn 12.000 MD 11/01/15
Service Fee 0.5000

Price 50 TO YIELD 28 SD 08/23/90 Cpn 10.000 MD 5/01/17
Price 50.000 Yield 13.600 200 PSA

FHA ACTUARIAL TABLES

The Lane Micro Bond Trader has preprogrammed the latest FHA Actuarial Tables. From time to time new actuarial tables will be issued by the FHA. In order to keep your Micro Bond Trader accurate Lane has provided the ability to change the Actuarial Tables.

DISPLAY DISPLAY

This sequence of keystrokes instructs the Micro Bond Trader to begin the program for changing the numbers

The = key is used to enter the password "200" allowing access to the current table of numbers.

+

The + key allows the operator to scroll forward thru the table.

The - key allows the operator to scroll backward thru the table.

X

The X key changes the old number to the new number entered on the keyboard

CLR BOND MEMORY

The CLR BOND MEMORY key will enter the new table of values into the Micro Bond Trader memory for future use.

DISPLAY

Returns to normal operation.

Special Instructions For Using Lane's Permanent Environment Variables

Lane's Permanent Environment Variables allow you to "customize" your Bond Trader.

These variables include; (1) the type of date system you prefer to use, (2) how many decimal places the calculator functions will display, (3) how many basis points are used to calculate VALUE, if undesignated, and (4) what security code your Bond Trader will start up in.

The values of these variables are as follows:

DATING 1 - U.S. Standard, MO/DA/YR, With Holidays 2 - U.S. Standard, MO/DA/YR, No Holidays 3 - U.K. Standard, DA/MO/YR, No Holidays 4 - Japanese, Hungarian Standard, YR/MO/DA, No Holidays

VALUE Expressed as the number of Basis Points for a value calculation.
This number is used when the number of basis points is not designated by entering it before depressing the value key. The normal range is from 1 to 10.

DECIMALS This number represents the number of decimal places that are displayed for arithmetic functions.

Decimals can have a value from 0 to 12.

CODE Instructs the Bond Trader which security code to use on start-up. Can have the value of acceptable security codes on that particular model (excluding PIKs and FRNs).

Setting Environment Configuration To set these parameters as you like, enter "DISPLAY" "X". This will show you the current values of these variables. If they are acceptable, you may save them by depressing the "=" key. If you want to change them press the "+" key. The following screen will be shown:

See Instructions For Values Cur DATING= 1 ENTER NEW DATING

Enter the value you wish and press the "=" key. Once all values have been entered they will again be displayed and can be changed again or saved. To save the new values press the "=" key at this point.

NOTES: - to change a variable you MUST enter the value for each variable (even if it will be the same) - Once you are in the Variable Set mode you MUST save the vari- ables to return to normal functions

NOTICE

Lane Business Systems of New York, Inc. reserves the right to make improvements in the product described in this manual at any time and without notice.

Lane Business Systems o f New York, Inc. does not warrant that the calculations derived from the Bond Trader Models listed in this manual, will meet your requirements or that the calculations or results derived from the Bond Trader referenced herein will be uninterrupted or error free.