

Medical Office System

Chapter 18: Calculator

This chapter discusses

- the calculator program incorporated into the MOS system.
- the business and general math functions.
- the arithmetic functions.
- amortization functions for scheduling payments.
- the memory tape and storage functions.

The CALCULATOR program is an electronic business calculator that can be used from the MOS system. This Calculator includes useful functions for amortization, arithmetic, and common business calculations.

Accessing the Calculator

To get to the calculator, use the arrow keys to move the highlight bar to the menu item "Calculator", then press either **ENTER** ; or **C** . The calculator is also available in Daily Input from the Patient Sliding Menu, and from the charge field on invoice detail.

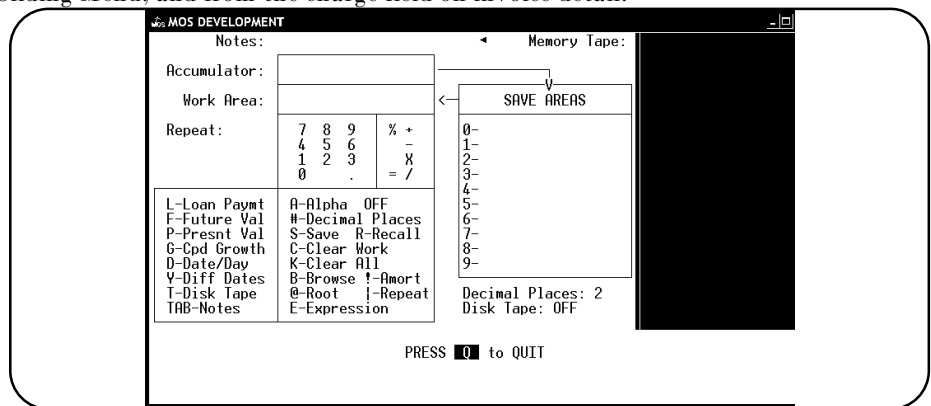


Figure 18-1: Calculator Screen

The Calculator Screen

The Calculator screen has many functions and features. To explain how they work, each of them has been grouped into the following topics:

1. Business and General Math Functions
2. Numeric Keypad and Arithmetic Functions
3. Memory Tape and Save Area to Store Values
4. Disk Tapes for Recording and Saving Sessions
5. Leaving the Calculator

Business and General Math Functions

The Business and General Math Functions are found in the two boxes at the bottom left corner of the calculator screen. Two types of functions are described in this section. The functions used as part of input into the calculator, and the special functions.

INPUT FUNCTIONS

These functions help calculate values to be used as input into the calculator. For example, if it is necessary include a loan payment into your current calculation, but do not know the value, use the loan payment option to calculate the new payment. The results of the calculations will be placed into the accumulator, to be used as input into further calculations, or saved within a save area to be used later.

SPECIAL FUNCTIONS

Special Functions are functions that display only values that can provide useful information. Each of these options when selected, will display the results at the bottom of the screen.

Input Functions

Loan Payments

To calculate a loan payment, press **[L]**. When selected, a prompt is displayed at the bottom of the screen requesting the loan amount. Enter the amount (50000 would be entered for a \$50,000 loan) and press **[ENTER]**.

The interest rate is required next. Enter the interest rate (enter 9.25 for 9 1/4%) and press **[ENTER]**.

The number of payments per year is required next. Enter the number and press **[ENTER]**.

Lastly enter the number of years the loan will span and again press **[ENTER]**.

After entering the data, the values will be calculated and the result will be placed into the accumulator, and save area "0". To remove the amount in the accumulator, press **[ENTER]**.

Future Values

This option will calculate the future value of a payment. To calculate the future value, press **[F]**.

When selected, a prompt at the bottom of the screen will request the payment amount. Enter the payment amount (1000 would be entered for a payment of \$1000.00) and press **[ENTER]**.

The interest rate is required next. Enter the rate (10.5 would be entered for 10 1/2%) then press **[ENTER]**.

The number of payments per year is required next. Enter the number of payments then press **[ENTER]**.

The number of years the payment will span is required next. Enter the number of years then press **[ENTER]**.

The value will be calculated and the result placed into the accumulator, and "save" area 0. To remove the amount in the accumulator, press **[ENTER]**.

Present Values

This option will calculate the present value of a payment that would be made in the future. To calculate the present value, press **[P]**.

When selected, a prompt at the bottom of the screen will request the payment amount. Enter the amount (10000 would be entered for \$10,000) and press **[ENTER]**.

The interest rate is required next. Enter the rate (enter 9.875 for 9 7/8%) and press **ENTER**.

The number of payments per year should be entered next followed by **ENTER**.

Lastly enter the number of years the payment will span and press **ENTER**.

All values are required. After entering the data, the values will be calculated and the result will be placed into the accumulator, and save area 0. To remove the result from the accumulator, press **ENTER**.

Compound Growth

(CPD GROWTH) This option will calculate the compound growth of capital. To calculate the compound growth, press **G**.

The system will prompt for a present value. Enter the value then press **ENTER**.

A future value is required next. Enter the value then press **ENTER**.

Next enter the total number of payments to be made, then press **ENTER**.

The result will be calculated and placed into the accumulator, and "save area" 0.

Note: *The value returned will be in decimal format. For example, if the calculated amount is 15.25%, the value placed into the accumulator will be .1525.*

Root

This option will calculate the root of the value currently in the work area. To calculate a root value, press "@".

To calculate the square root of 9, enter 9 into the work area. Next press the @ key and enter the root number.

To obtain the square root, enter **2** then press **ENTER**. The value will be calculated, (i.e., $3 \times 3 = 9$), and will be displayed in the work area. As another example, to calculate the cubed root of 8, enter **8** into the work area, press "@" and enter **3**. The value displayed in the work area will be 2 ($2 \times 2 \times 2 = 8$).

Repeat

The repeat function will repeat the last operation a specified number of times. To initiate Repeat, press | (this is the pipe symbol). Once the equal sign has been entered, the operation is complete and cannot be repeated.

To repeat a function, press **R**, then type the number of times the last operation should be repeated ("Enter Count") and press **ENTER**. The calculations will automatically be done and the result will be displayed in the accumulator.

Expression

This option accept an expression and to calculate the result and place it into the work area. Expressions can include addition +, subtraction -, division / and multiplication * operators. In addition, () can also be included into expressions.

Below are several examples.

10 / 100
133.22 - .33
6.33 * .10
(8.43 + (3.44 * 22))/2

Special Functions

Special Functions are functions that display only the values that can provide useful information. Each of these options when selected, will display the results at the bottom of the screen.

Hex This function will display the hexadecimal value for the value CURRENTLY IN THE WORK AREA.

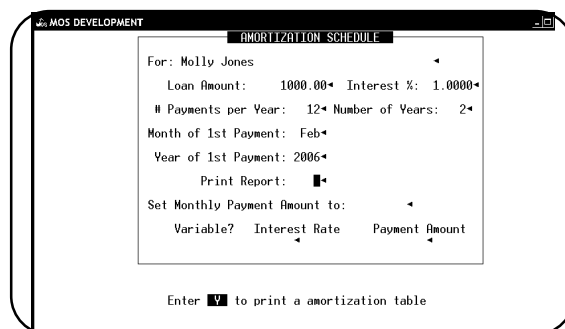
By pressing **[H]**, the hexadecimal value will be display at the bottom of the screen. To remove the value, press **[ENTER]**.

Date/Day To figure out the name of a day for a specific date, press **[D]** and enter the date. The date can be either in the format "mm/dd/yy" or "mm-dd-yy". For example, if you wish to find out the day on which February 29, 1992 fell, press **[D]** and enter 02/29/92 when prompted for the date. The calculator will display "Saturday" when you press **[ENTER]**.

Diff Dates To determine the number of days, between two given dates, use this option by pressing **[Y]**.

The calculator will prompt first for a start date. Enter the start date using either the "mm/dd/yy" or "mm-dd-yy" format, then press **[ENTER]**. Then the calculator will prompt an end date. Enter the end date in the same format, then press **[ENTER]**. After entering the two dates, the calculator will display the number of days between the date range at the bottom of the screen. To remove this number, press **[ENTER]**.

Amortization An amortization schedule can be created by pressing **[I]**. An Amortization screen will appear requiring information which will be used to calculate the amortization.



Amortization Prompts

For Enter the name of the loan and press **[ENTER]**. The cursor is moved to the next field.

Loan Amount Enter the loan amount and press **[ENTER]**.

Interest % Enter the interest rate and press **[ENTER]**. The following conversion table may help determine the percentage used:

9%	9.0	9 1/2%	9.5
9 1/8%	9.125	9 5/8%	9.625
9 1/4%	9.25	9 3/4%	9.75
9 3/8%	9.375	9 7/8%	9.875

Payments per Year Enter the number of payments per year and press **[ENTER]**.

Number of Years Enter the number of years and press **[ENTER]**.

Month of 1st Payment Enter the month of the first payment (the choices will appear at the bottom of the screen). Enter your choice as listed and press **[ENTER]**.

Year of 1st Payment Enter the year of the first payment and press **[ENTER]**. The current year is provided as the default value.

Figure 18-2 : Amortization Input

Print Report

Enter "Y" to obtain a printed report, otherwise enter "N" and press **ENTER**. A sample of the report is shown at the end of this chapter.

Set monthly amount to

Fix the payment amount to a predetermined value, enter the amount here and press **ENTER**. If left blank the program will calculate the payment amount.

Variable?

Interest Rate

If the interest rate is a variable amount, choose one of the following:

- 1 One year ARM (rate changes once per year)
- 6 Six month ARM (rate changes every 6 months)
- 2 Two year ARM (Rate changes every 2 years)

Once all the information is complete, press **ESC**. The schedule will be calculated and the result will be displayed.

If a variable amount is selected, at the interval chosen, the interest percent can be changed.

Date	Int Rate	Interest	Principal	Balance	Payment
Feb 2006	1.0000	.83	41.27	958.73	42.10
Mar 2006	1.0000	.80	41.30	917.43	42.10
Apr 2006	1.0000	.76	41.34	876.09	42.10
May 2006	1.0000	.73	41.37	834.72	42.10
Jun 2006	1.0000	.70	41.40	793.32	42.10
Jul 2006	1.0000	.66	41.44	751.88	42.10
Aug 2006	1.0000	.63	41.47	710.41	42.10
Sep 2006	1.0000	.59	41.51	668.90	42.10
Oct 2006	1.0000	.56	41.54	627.36	42.10
Nov 2006	1.0000	.52	41.58	585.78	42.10
Dec 2006	1.0000	.49	41.61	544.17	42.10
Totals					
For Year 2006:		7.27	455.83		463.10

Press **←** for Next Page, **↵** for Continuous, or **ESC** to Exit >

Figure 18-3 : Amortization Results

Numeric Keypad and Arithmetic Functions

The numeric keypad, located on the left side of the calculator screen, is used to enter numbers and decimal points into the work area. (The numbers are entered from the numeric keypad on your keyboard). Each number entered can then be acted upon by selecting an arithmetic function found below the numeric keypad.

Each operation will cause the value in the work area to do the operation on the value in the accumulator.

The operations are:

- +** for addition,
- for subtraction,
- /** for division,
- X** for multiplication.

For example, to enter the calculation 2.33 X 2, first type **2** **.** **3** **3** into the work area and press **X**. By pressing **X**, the calculator will move the value into the accumulator, clear the work area and now would be ready to accept the next value. By typing **2** and now pressing the **=**, the multiplication will be done, using the values in the accumulator and the work area. The new result will be displayed in the accumulator.

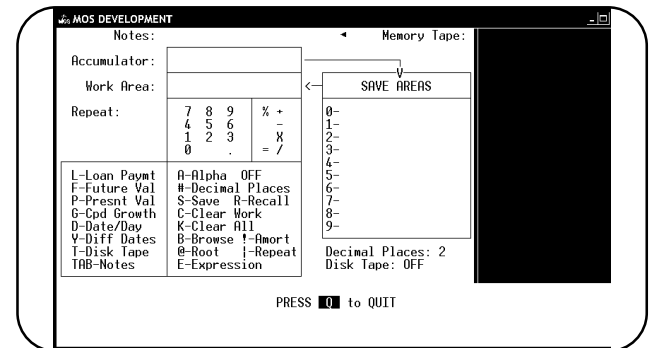


Figure 18-4 : Calculator Screen

There are several options within the box just below the numeric keypad that change the way the calculator works.

Decimal Places

This option is used to specify the number of decimal points that should be used when a number appears on the Memory Tape.

When the **#** key is pressed, the calculator will ask for the number of numbers (decimal places) to be displayed to the right of the decimal point. The value currently in effect is displayed directly underneath the "SAVE AREAS".

Note: *When you change the number of decimal places, only the numbers entered onto the memory tape after the change, will be effected.*

Clear

By pressing **C**, this option will clear the current value in the work area.

Clear All

By pressing **K**, this option will clear the values in the work area accumulator and save area 0.

Memory tape and Save Areas to Store Values

The Memory Tape

The memory tape on the right side of the screen is similar to the paper tape on the desktop calculator. It displays the numbers and the totals of your calculations. Once a value scrolls off the bottom of the tape, it is no longer viewable unless the disk tape option is active.

The Store Areas

The "Store Areas", in the middle of the calculator screen, are a set of locations where used to save values, for later use.

To save values into locations 1-9, select the "S-Save" option. By pressing **S**, the calculator will ask for a save area number. The value in the accumulator will be placed into the selected save area. The location "0" is reserved for the current value in the accumulator.

To retrieve a save area into the work area, press **R** for Recall. The system will ask for a save area location number. Select 1-9. The value inside that location will then be copied into the work area.

Disk Tapes for Recording & Saving Sessions

The Disk Tapes function allows a user to create an electronic paper tape to record all or part of a session when using the calculator. It records every value and operation entered until the Disk Tape option is toggled off. Comments can be created for each line added to the work area to document the session for later review.

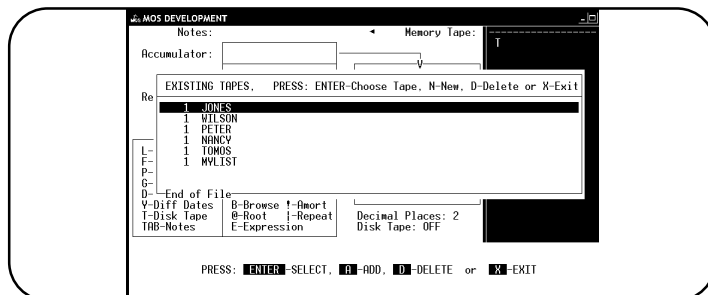


Figure 18-5 Disk Tapes

Creating a New Disk Tape

To create a new "Disk Tape", select the disk tape option by pressing **T** from the calculator screen. Next, press **N** for new or **A** to add a new tape. The system will now prompt with:

Enter New Tape Name >

At this prompt, enter the name assigned to this disk tape and then press **ENTER**. On the calculator screen, the line just below the "SAVE AREAS" labeled "Disk Tape", should now display ON. The name of the new tape will also be listed at the bottom of the screen. Now move the cursor to the "Notes" line at the top of the calculator by pressing the **F5** key. This note will allow a comment to document this tape with a description. Press **ENTER** once the note is entered.

Saving a Disk Tape

To save a tape, either exit the calculator while the Disk Tape option is on, or press **T** for the Disk Tape option. Once the tape menu appears, press **X** for exit. The exit option will turn the current disk tape off. Either way, the current content in the disk tape will be saved.

Re-starting an Existing Tape

Any disk tape saved can be recalled. To get a list of the saved tapes, select the "T- Disk Tape" option from the calculator screen. A pop-up menu will appear with a list of all the current disk tapes. Using the arrow keys, highlight the disk tape and press **ENTER** to select the tape. This tape is now active.

Note: "Disk Tape" on the calculator screen will be changed to "On", and the name of the tape will appear underneath.

Viewing and/or Modifying an Existing Tape

Browsing

The disk tape feature also allows the disk tapes to be viewed and/or modified. To activate this option, press **B** for browse.

A form similar to the one at the right will be displayed listing the last 10 entries into the currently active disk tape. Use the arrow keys to move the highlight bar up and down the display.

There are several options available to you in browse mode. They are recall, change, print and exit.

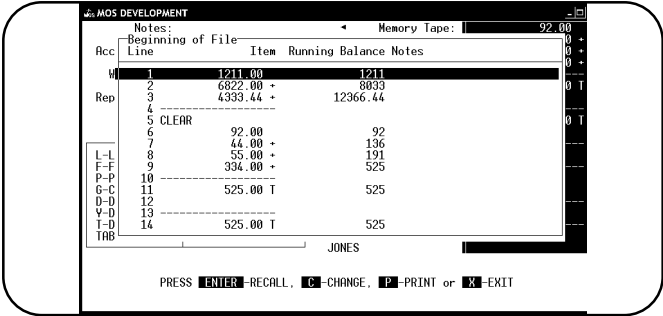


Figure 18-6 : Disk Tape

Highlight the tape and press **C** to change the contents of the tape.

Recall

To place the value you have selected (the highlighted entry) from the tape into the work area of the calculator, press **ENTER**. You will be returned back to the calculator with the selected value placed into the work area.

Print

To send a copy of the disk tape to the system printer, press **P**.

Exit

To return to the calculator without modifying the content of the work area, press **X** for exit.

Deleting an Existing Tape

To delete an existing tape, first press **T** to display the disk tape pop-up menu. This screen will list all currently saved disk tapes. Move the highlighted bar to the tape that should be deleted (by pressing the arrow keys) and press **D**. The system will verify the deletion request. Answer "Yes"

by typing "Y" or "No" by typing "N" then press **ENTER**. The tape will now be removed from the system if the response was "Y".

Documenting the Contents of The Tape

The calculator will allow comments to be added to each line of data you add to the disk tape. The comment can then be viewed when the disk tape is displayed in the browse mode.

To add a comment to an entry on the current active tape, press **A** for the Alpha option. The alpha indicator found to the right of the option, will display "OFF" if the documenting feature is off, and "ON" if it has been turned on. The option **A** can be used to toggle between the two values.

Once the Alpha option has been turned on, enter the description, then press **ENTER**. Now type the entry for the description just entered. Each subsequent entry can be documented, or documentation can be stopped by turning Alpha off by pressing **A**.

Now when the disk tape is displayed via browse, the descriptions will appear along with the values entered.

Leaving the Calculator

To leave the calculator, press **Q** as indicated at the bottom of the screen. This will return control to the Medical Office Systems Main Menu or Daily Input.