

# TEXAS INSTRUMENTS **PHONE BANK**



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Datamath Calculator Museum



**QUICK  
REFERENCE  
GUIDE**

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## Introduction

The TI-2400 Phone Bank™ is a calculator and miniature data management system combined.


The calculator has two modes of operation:

- The data-bank mode stores names and numeric data, such as phone numbers or important dates. Each screen holds up to seven alphanumeric characters and four digits on the first line, and another set of eight digits on the second line.

Separate from the regular data-bank file is a secret file. You can store entries in this file the same way you do in the regular data-bank file, but they can only be accessed by using a secret code. Use the secret code to protect some or all of the entries in your data bank.

- The calculator mode provides addition, subtraction, multiplication, division, percent key, mark-up key, and a four-function memory.

### Turning the Calculator On and Off

To turn the calculator on, press **[ON/C]**. It will reactivate in the same mode as when it was turned off. In the calculator mode, 0. appears in the display. In the data-bank mode, the **NAME?** and  prompts appear in the display.

To turn the calculator off, press **[OFF]**. If you do not press any keys for several minutes, the calculator turns off automatically.

**Note:** If nothing appears in the display when you turn the calculator on, it may need to be reset. Refer to "Resetting the Calculator" on page 15.

## Using the Data-Bank Mode

To enter the data-bank mode, press **ON/C** (if necessary) and then **☎ CALC** until the **NAME?** and **☎** prompts appear in the display.

### The Data-Bank Display

The data-bank mode display consists of two lines. The top line has room for seven alphanumeric characters and four small numbers. The bottom line has room for eight numbers. Dashes or spaces are valid characters in either line.



ABCDEFG 1234  
12345678

This format gives you space to identify an individual or group, then list the area code (or perhaps an office extension or important date), and enter a telephone number.

You can use the Phone Bank to identify and store other types of numbers: checking or savings account numbers, social security numbers, birthdays, dates, meetings, etc.

## Entering Data

To enter information in the data-bank mode, follow the steps below.

1. To enter the data-bank mode, press **ON/C** (if necessary) and **☎ CALC** until the **NAME?** and **☎** prompts appear in the display.
2. Enter the information in the display that you wish to store in the data-bank.
  - To enter a letter, press the appropriate key from one to three times until the letter you want is displayed. The cursor advances automatically with each entry, unless you must use the same key to enter the next letter or number. In this case, press **▶ M+** to advance the cursor and then enter the next letter or number. Press **SPACE =** if you want to leave a space. Press **-** to enter a dash.
  - To enter a number in the alphanumeric part of the display, press the appropriate key four times.
  - To enter a number in the number-only parts of the display, press the appropriate key once.
3. When you have completed your entry, press **ENTER** to store the entry in the data bank.
4. To add another name and/or number, repeat the steps above. The Phone Bank holds up to 150 entries.

**Example:** Enter the name JACKSON and the telephone number (123) 456-7890.

1. If necessary, press **[ON/C]** and/or **[PHONE] CALC** until the **NAME?** and **[PHONE]** prompts appear in the display.
2. Press **[JKL 4]** once.
3. Press **[ABC 7]** once, then **[▶ M+]** to advance the cursor.
4. Press **[ABC 7]** three times.
5. Press **[JKL 4]** twice.
6. Press **[STU 1]** once.
7. Press **[MNO 5]** three times, then **[▶ M+]** to advance the cursor.
8. Press **[MNO 5]** twice.
9. Press 1, 2, 3, **[=]**.
10. Press 4, 5, 6, **[=]**, 7, 8, 9, 0.

The display appears as follows:



JACKSON 123-  
456-7890

11. Press **[ENTER]** to store the name and number in the data bank. The **NAME?** and **[PHONE]** prompts reappear in the display and the Phone Bank is ready for another entry.

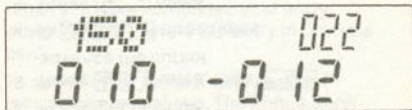
## Recalling Data

Data-bank information is automatically stored and sorted in alphanumeric order. This feature makes recalling information an easy task.

1. If necessary, press **ON/C** and/or **☎ CALC** to enter the data-bank mode.
2. To recall an entry, do one of the following:
  - Type the first character or first two or three characters of the name you want to recall and press ▼ or ▲. The display shows the first entry in your data bank with those initial characters. If necessary, press ▼ to scroll to the entry you want.
  - Type the entire name and press ▼ or ▲. That entry is immediately displayed.
  - Press ▼ or ▲ to scroll through the entries until you reach the one you want.

## Checking the Capacity

To check the capacity of your data bank, press and hold **CHECK %**. The display looks similar to the one below.



This display indicates that out of 150 possible entries, there is currently a total of 22 entries; 10 in the main portion of the data bank and 12 in the protected (secret) portion.



If you attempt to make the 151st entry into the data bank, the screen displays the word **FULL**. If you want to make new entries, you must first delete some of the existing ones.

### Revising an Entry

To update information in your data bank:

1. Display the entry you want to change (see "Recalling Data" on page 6).
2. Press **▶ M+** or **◀ M-** to position the cursor on the part of the entry you want to change. Type over the original information or use **SPACE =** to replace characters with blank spaces.
3. Check your entry.
  - To accept the revised entry, press **ENTER**.
  - To cancel the revised entry and keep the previous one, press **ON/C**.

### Deleting an Entry


To delete an entry from your data bank:

1. Display the entry you want to delete (see "Recalling Data" on page 6).
2. Press **ON/C** once. The **DEL?** prompt appears in the display.
3. Check your entry.
  - To delete the entry, press **ENTER**.
  - To cancel the deletion and keep the previous entry, press **ON/C**.









## Using a Secret Code to Protect Information

The Phone Bank has a protected or secret file which is separate from the regular data-bank file. This allows you to protect some or all of the entries in the date-bank from casual access.

Once you establish your secret code, information entered in the protected file of your data bank can only be accessed by someone who knows your code. The  prompt in the left-hand side of the display identifies secret data.

### Establishing Your Secret Code



Use the following procedure to establish your secret code. Do this when you are using the Phone Bank for the first time, or if you clear the calculator by pressing the RESET button on the back of the calculator. See "Resetting the Calculator" on page 15.

1. If necessary, press **[ON/C]** and/or **[ CALC]** until the **NAME?** and **** prompts appear in the display.
2. Press **[SECRET]**. ****, ****, and **PASS?** appear in the display.
3. Enter an easy-to-remember code of up to seven alphanumeric characters.
4. Press **[SECRET]** again. The **NAME?** and **** prompts appear, along with the **** prompt.
5. You are now in the protected (secret) portion of the data-bank mode and can make protected entries.

**Important:** If you forget your secret code, you cannot access information in the protected portion of the data bank. There is no way to retrieve your secret code. To establish a new code, press the RESET button (which clears all entries in both portions of the Phone Bank), enter your new secret code, and reenter your data.

## Accessing Your Secret Data Bank

To access your secret data bank:

1. If necessary, enter the data-bank mode.
2. Enter your secret code and press **SECRET**.
  - If you enter the code correctly, the **NAME?** prompt appears in the display, as well as  and . 2010 Joerg Woerner
  - If you enter the code incorrectly, **WRONG!** appears in the display and the calculator returns you to the unprotected file.
3. Enter the entire name (or the first letter or two of the name) you want to recall and press ▼ or ▲. To scroll through names in the protected file, just press ▼ or ▲.


To leave the protected file, see “Leaving Your Secret Data Bank” on the next page. If you want to create a new secret code, see “Changing the Code” on the next page.

## Working in Your Secret Data Bank

The procedures for entering, recalling, revising, and deleting data in the protected portion of your data bank are the same as for regular data-bank operations (pages 4 – 7).




## Leaving Your Secret Data Bank


There are several ways to leave the protected or secret portion of the data bank:

- Press  **CALC** once to get to the calculator mode, or twice to return to the unprotected portion of the data bank.
- Press **OFF** **ON/C**.
- If you are at the **NAME?** prompt, just press **SECRET** to return to the unprotected portion of the data bank.

## Changing the Code

To change your secret code **without** erasing the information in the protected data bank:

1. Make sure you are in the data-bank mode and then enter your secret code and press **SECRET**.
2. Press  or  until you see your flashing secret code.
3. Press  **M+**.
4. Enter your new secret code and press **SECRET**.

To clear the secret code **and** erase all the entries in both portions of the data-bank, turn the calculator over and use a pin or paper clip to press the tiny **RESET** button. The **RESET?** and  prompts appear in the display.

- To erase all data, press **ENTER**.
- If you change your mind, press any key other than **ENTER**. All entries remain intact.

## Using the Calculator Mode

To enter the calculator mode, press **ON/C** (if necessary) and **⏏ CALC** until **0.** appears in the display.

### The Calculator Display

The calculator display has two lines.



The image shows a two-line calculator display. The top line displays "MU+" in a large, stylized font. The bottom line displays the number "12345678" followed by "M" over "E" (M/E) in a smaller font.

The bottom line shows numeric entries and results with up to 8 digits. Negative numbers are displayed with a minus sign (–) to the right of the number. **M** appears in the display when a value other than 0 is stored in the memory. **E** appears when an error or overflow condition occurs.

**MU** appears on the top line when a mark-up calculation is in progress. Operation symbols (+, –, ×, ÷) appear when you press the corresponding key.

### Clearing the Calculator

- To clear an incorrect number entry, press **ON/C** once to clear the display. You can then enter the correct number and continue with your calculation.
- To clear the calculator without affecting the memory, press **ON/C** twice.
- To clear only the memory, press **MC**.

# Arithmetic Calculations

To display the result of a calculation, press **SPACE =**. The calculator is then ready for you to enter a new calculation.

Examples	Enter/Press	Display
<b>Addition and Subtraction</b>		
$23.79 + 0.54 - 6$	23.79 <b>+</b> .54 <b>-</b> 6 <b>SPACE =</b>	18.33
$- 12.3 + 7.9 + 1.6$	0 <b>-</b> 12.3 <b>+</b> 7.9 <b>+</b> 1.6 <b>SPACE =</b>	2.8 -
<b>Multiplication and Division</b>		
$12 \times 13$ 6	12 <b>×</b> 13 <b>+</b> 6 <b>SPACE =</b>	26.
$28 + .5 \times 76$	28 <b>+</b> .5 <b>×</b> 76 <b>SPACE =</b>	4256.
<b>Constant Calculations</b>		
$3 \times 8 = ?$	3 <b>×</b> 8 <b>SPACE =</b>	24.
$3 \times 15 = ?$	15 <b>SPACE =</b>	45.
$27 \div 3 = ?$	27 <b>÷</b> 3 <b>SPACE =</b>	9.
$15 \div 3 = ?$	15 <b>SPACE =</b>	5.
<b>Percentage Calculations</b>		
5% of \$250	250 <b>×</b> 5 <b>CHECK %</b>	12.5
\$250 plus 5% tax	250 <b>+</b> 5 <b>CHECK %</b>	262.5
\$250 @ 5% discount	250 <b>-</b> 5 <b>CHECK %</b>	237.5
<b>Memory Operations</b>		
$(4 \times 11.99) +$ $(12 \times 0.98)$	<b>MC</b> 4 <b>×</b> 11.99 <b>► M+</b> 12 <b>×</b> .98 <b>► M+</b> <b>MR</b>	59.72M
$7.9 + 8.1$ $- (5.2 + 2.8)$	<b>MC</b> 5.2 <b>+</b> 2.8 <b>◄ M-</b> 7.9 <b>+</b> 8.1 <b>+</b> <b>MR</b> <b>SPACE =</b>	2.M

## Gross Profit Margin Calculations

The **[MU]** key calculates the selling price of an item when the cost and the profit margin are known.

To calculate a margin problem:

1. Enter the cost.
2. Press **[MU]**.
3. Enter the profit margin.
4. Press **[%]**.

**Example:** An item costs you \$65.00 and you would like to earn a 35% profit. Calculate the selling price of the item.

Enter/Press	Display
65 <b>[MU]</b> 35 <b>[%]</b>	100.

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The selling price is calculated according to the following formula.

$$\text{Margin Up Selling Price} = \frac{\text{Original Cost}}{1 - (\text{Profit Margin} + 100)}$$

## Error/Overflow Conditions

An error/overflow condition is indicated by the **E** prompt in the right side of the display. Press **ON/C** once to clear the overflow condition, or twice to clear the entire calculation.

An error/overflow condition occurs when:

- You attempt to divide a number by zero.
- You attempt to calculate MU of 100%.
- The result of a calculation has more than 8 digits to the left of the decimal point. The display shows the 8 most significant digits of the correct result, with the decimal point appearing 8 places to the left of its correct position.
- The result in memory has more than 8 digits to the left of the decimal point. When you press **ON/C**, the memory retains the number stored prior to the overflow.

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## In Case of Difficulty

If you have difficulty operating the calculator, try the following procedures.


- Press **[ON/C]** to clear the calculator and **[MC]** to clear the memory. Then repeat your calculation.
- If the numbers in the display are dim, erratic, or change very slowly, replace the battery.
- Review the instructions in this manual to be sure that your calculations are entered correctly.

### Resetting the Calculator

To reset the calculator, turn the calculator over. Using a pin or paper clip, press the tiny **RESET** button. The **RESET?** and  prompts appear in the display.

- To erase all data, press **[ENTER]**.
- If you change your mind, press any key other than **[ENTER]** and all current data remains intact.

If these solutions do not correct the problem, refer to "Service Information" on page 18.

- 
4. Slide the cover back into place and hold it there. Replace the screw and tighten it by rotating it to the right (clockwise).

**Caution:** Do not incinerate the old battery or leave it within reach of small children.

To avoid losing data:

1. Install the new battery.
2. Press the RESET button on the back of the calculator.
3. When RESET? appears in the display, press any key other than **ENTER**.

The calculator is ready to use again with the previous data intact.

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## Service Information

If the suggestions made in "In Case of Difficulty" do not correct a problem you may have, or if you have questions about service or the general use of your calculator, please call Consumer Relations at:

**1-806-747-1882**

Please note that this is a toll number, and collect calls are not accepted.

You may also write to the following address:

Texas Instruments Incorporated  
Consumer Relations  
P.O. Box 53  
Lubbock, Texas 79408

Please contact Consumer Relations:

- Before returning the calculator for service.
- For general information about using the calculator.

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### Express Service

Texas Instruments offers an express service option for fast return delivery. Please call Consumer Relations for information.

### Returning Your Calculator for Service

A defective calculator will be either repaired or replaced with the same or comparable reconditioned model (at TI's option) when it is returned, postage prepaid, to a Texas Instruments Service Facility.

Texas Instruments cannot assume responsibility for loss or damage during incoming shipment. For your protection, carefully package the calculator for shipment and insure it with the carrier. Be sure to enclose the following items with your calculator:

- Your full return address
- A note describing the problem you experienced
- A copy of your sales receipt or other proof of purchase to determine warranty status

Please ship the calculator postage prepaid; COD shipments cannot be accepted.

### **In-Warranty Service**

For a calculator covered under the warranty period, no charge is made for service.

### **Out-of-Warranty Service**

A flat-rate charge by model is made for out-of-warranty service. To obtain the service charge for a particular model, call Consumer Relations **before** returning the product for service. (We cannot hold products in the Service Facility while providing charge information.)

### **Texas Instruments Service Facilities**

#### **U.S. Residents (U.S. Postal Service)**

Texas Instruments  
P.O. Box 2500  
Lubbock, TX 79408

#### **U.S. Residents (other carriers)**

Texas Instruments  
2305 N. University  
Lubbock, TX 79408

#### **Canadian Residents Only**

Texas Instruments  
41 Shelley Road  
Richmond Hill, Ontario L4C 5G4

## One-Year Limited Warranty

**Warranty Duration:** This calculator is warranted to the original consumer purchaser for a period of one (1) year from the original purchase date.

**Warranty Coverage:** This calculator is warranted against defective materials or workmanship. This warranty is void if the product has been damaged by accident, unreasonable use, neglect, improper service, or other causes not arising out of defects in material or workmanship.

**Warranty Disclaimers:** Any implied warranties arising out of this sale, including but not limited to the implied warranties of merchantability and fitness for a particular purpose, are limited in duration to the above one-year period. Texas Instruments shall not be liable for loss of use of the calculator or other incidental or consequential costs, expenses, or damages incurred by the consumer or any other user.

Some states do not allow the exclusion or limitations of implied warranties or consequential damages, so the above limitations or exclusions may not apply to you.

**Legal Remedies:** This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

**Warranty Performance:** During the above one-year warranty period, a defective TI calculator will be either repaired or replaced with a reconditioned comparable model (at TI's option) when the product is returned, postage prepaid, to a Texas Instruments Service Facility.

The repaired or replacement calculator will be in warranty for the remainder of the original warranty period or for six months, whichever is longer. Other than the postage requirement, no charge will be made for such repair or replacement.

Texas Instruments strongly recommends that you insure the product for value prior to mailing.

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