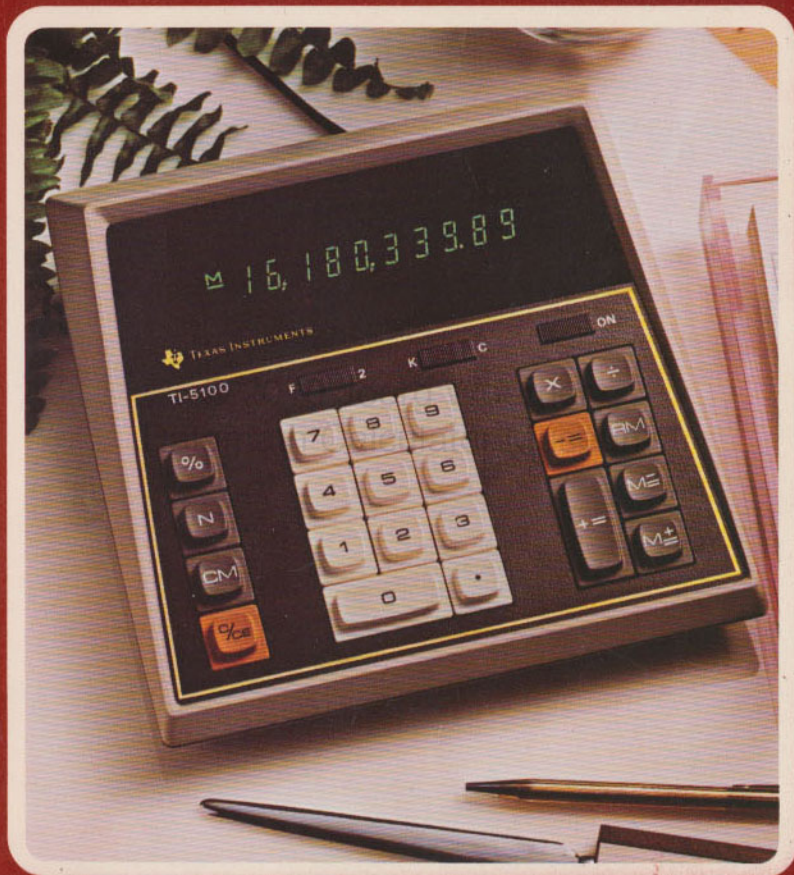


Texas Instruments electronic calculator TI-5100



OWNER'S
MANUAL



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Toll-Free Telephone Assistance

For service assistance with your calculator, call one of the following toll-free numbers:

800-858-1802 (within all contiguous United States except Texas)

800-692-1353 (within Texas)

See page 15 for further information on service.

INTRODUCTION

As the owner of a new Texas Instruments TI-5100 electronic calculator, you have the newest technology available in a calculator. The advanced styling of your TI-5100 permits easy operation from standing or sitting position while the full size keyboard has been human engineered to allow rapid touch system operation. The 5100's amazing calculating performance is obtained with a single integrated circuit pioneered by Texas Instruments. Like other products manufactured by Texas Instruments, your TI-5100 has been designed and built to provide you years of dependable service.

FEATURES

Display — The large bright display provides maximum readability.

Keyboard — Full size, professional feel keyboard uses business logic for adding machine simplicity.

Memory — Full 4-key memory provides maximum flexibility and convenience, while saving keystrokes.

Floating or Two-Place Decimal — F/2 switch selects full floating decimal or automatic two-place decimal for convenient calculation of dollars and cents figures.

Constant Calculations — Chain (C)/constant (K) switch permits normal chain calculations or multiplication and division by a constant without re-entering numbers.

Percent Key — $\%$ key permits easy calculation of percentages, along with taxes, discounts, and markups.

Item Count Key — Σ key permits rapid position location in adding a column of figures and also simplifies calculation of averages.

IMPORTANT

Record the serial number from the bottom of the calculator and purchase date in the space below. The serial number is identified by the words "SERIAL NO." on the bottom case. Always reference this information in any correspondence.

<u>TI-5100</u>		
Model No.	Serial No.	Purchase Date

OPERATING INSTRUCTIONS

SWITCHES

ON/OFF Switch— Located in the top right corner of the keyboard. Turns the calculator on and off.

F/2 Switch— Located in the top left corner of the keyboard. Selects full floating decimal or positions decimal automatically at 2 places for financial operation. See examples pages 7, 10, 14 and 17.

K/C Switch— Located in the top center of the keyboard. Selects chain mode (C) for normal mixed and chain calculations or constant mode (K) for multiplication or division by a constant. See examples pages 7 and 8.

KEY FUNCTIONS

\square — \square **Keys**— Enters numbers 0 through 9 to a limit of 10 digits.

\cdot **Key**— Enters a decimal point.

\pm **Key**— Performs addition or completes any pending \times or \div operation.

\mp **Key**— Performs subtraction or completes any pending \times or \div operation and changes the sign.

$M\pm$ **Key**— Live memory symbolized by the $M\pm$ key completes any pending \times or \div operation and adds the results to memory.

$M\mp$ **Key**— Performs identically to the $M\pm$ except subtracts the result from memory.

\times **Key**— Completes any pending \times or \div operation and instructs the calculator to multiply the displayed value by the next entered number.

\div **Key**— Completes any pending \times or \div operation and instructs the calculator to divide the displayed value by the next entered number.

$\%$ **Key**— Moves the decimal of the displayed number two places left and completes any pending \times or \div operation.

RM **Key**— Recalls the contents of the memory to the display.

CAUTION
USING OTHER THAN THE
ADAPTERS LISTED ON PAGE 5
CAN DAMAGE THE CALCULATOR.

N Key—Displays the number of $\boxed{+/-}$ and $\boxed{-}$ operations since the clear key was last pressed. The number N is automatically removed from the display by the next numeric entry or can be used in subsequent calculations. See examples page 7.

CM Key—Clears the memory (but does not affect any calculation in progress).

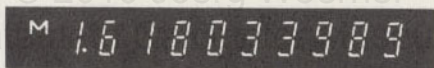
C/CE Key—Clears the last numerical entry or if the last entry was not a numerical entry $\boxed{C/CE}$ clears the calculator. Pressing $\boxed{C/CE}$ twice clears the calculator. Operation of this key does not alter the contents of the memory.

DISPLAY INDICATION

Power On—When the calculator is turned on the display will indicate 0. at the right side of the display.



Memory In Use—When the contents of the memory is non-zero the display will indicate an M at the left side of the display.



Overflow—Attempts to calculate numbers out of range of the 10-digit display will result in an overflow indication (\leftarrow) at the left side of the display. When calculation overflow is encountered the display will be automatically reset to 0.



Memory Overflow—Attempts to add or subtract a number to memory which would make the total greater than the 10 digit memory capacity will result in overflow indications but the display will not be reset to 0.



Negative Results—Negative answers are indicated by a minus sign at the left of the display.



ERROR CORRECTION

Correcting Entry Errors

If in adding the numbers $23 + 31 + 8 + 7$ the wrong key is struck accidentally as:

Enter	Press	Display
	$\frac{C}{CE}$	0.
23	$+$	23.
38	$+$	38.
Simply press the clear entry key	$\frac{C}{CE}$	0.
and reenter the numbers	$+$	54.
31	$+$	62.
8	$+$	69.
7	$+$	

Correcting Overflow Conditions

Enter	Press	Display
	$\frac{C}{CE}$	0.
9999999999 + 65 =	$+$	9,999,999,999.
9999999999	$+$	0.
65	$+$	0.

This overflow condition will clear the display and lock the keyboard (prevent new entries) until the $\frac{C}{CE}$ is pressed.

Enter	Press	Display
	$\frac{C}{CE}$	0.
Likewise:	$-$	- 9,999,999,999.
9999999999	$M\pm$	\pm 9,999,999,999.
65	$M=$	\pm 65.
	CM	65.

This memory overflow condition locks the keyboard until the CM key is pressed; pressing the CM key clears only the memory portion of the machine and does not affect the calculation in progress.

POWER SUPPLY

Your calculator is designed to operate with an remote adapter power supply specifically tailoring it to the voltage provided in your area. Should you intend to travel with your calculator, these power supplies are available for international voltage requirements as follows:

115 VAC	—	AC9171
100 VAC	—	AC9171-J
220 VAC	—	AC9900-G
240 VAC	—	AC9900-GUK

Contact your nearest Texas Instruments service center for ordering information.

Under no circumstances should the calculator be connected directly to line voltage; the correct adapter must be used, or damage to the machine will result.

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Datamath Calculator Museum

SAMPLE PROBLEMS

Performing calculations on your TI-5100 is easy – just enter numbers and functions in the same logical sequence as on most standard business machines. The following examples will guide you in operating your calculator properly. The switch settings for F (floating), 2-place, C (chain), and K (constant) are given before each example.

ADDITION AND SUBTRACTION

F/2 switch at F; K/C switch at C

Example:	Enter	Press	Display
$4.235 + 4 = 8.235$		$\boxed{C/CE}$	0.
	4.235	$\boxed{+}$	4.235
	4	$\boxed{+}$	8.235

Example:	Enter	Press	Display
$6 - 1.854 = 4.146$		$\boxed{C/CE}$	0.
	6	$\boxed{+}$	6.
	1.854	$\boxed{-}$	4.146

Example:	Enter	Press	Display
$12.32 - 7 + 1.6 = 6.92$		$\boxed{C/CE}$	0.
	12.32	$\boxed{+}$	12.32
	7	$\boxed{-}$	5.32
	1.6	$\boxed{+}$	6.92

Repeat Addition and Subtraction

F/2 switch at F; K/C switch at C

Example: $4.2 + 4.2 - 3.6 - 1.2 - 1.2 - 1.2 + 6.4$

Enter	Press	Display
	$\boxed{C/CE}$	0.
4.2	$\boxed{+} \boxed{+}$	8.4
3.6	$\boxed{-}$	4.8
1.2	$\boxed{-} \boxed{-} \boxed{-}$	1.2
6.4	$\boxed{+}$	7.6

Item Count

The total number of entries $\boxed{+=}$ or $\boxed{-=}$ since the last $\boxed{\%CE}$ is always available at the press of the \boxed{N} key. This is useful for inventory, calculation of averages, and for finding lost position in a column of figures.

Example: Find the total, number of items, and average price for the following item prices.

1.25	1.40
1.25	1.40
2.07	1.80
1.17	

F/2 switch at 2; K/C switch at C

Enter	Press	Display	Comments
	$\boxed{\%CE}$	0.	
1.25	$\boxed{+=}$ $\boxed{+=}$	2.50	
2.07	$\boxed{+=}$	4.57	
1.17	$\boxed{+=}$	5.74	

Now suppose you are interrupted and lose your place, simply press \boxed{N} , read 4 in the display and continue the problem with the 5th entry.

1.40	$\boxed{+=}$ $\boxed{+=}$	8.54	
1.80	$\boxed{+=}$	10.34	Total
	$\boxed{\div}$ \boxed{N}	7	number of items
	$\boxed{+=}$	1.48	average

MULTIPLICATION AND DIVISION

F/2 switch at F; K/C switch at C

Example: $27.2 \times 18 = 489.6$

Enter	Press	Display
	$\boxed{\%CE}$	0.
27.2	$\boxed{\times}$	27.2
18	$\boxed{+=}$	489.6

Example: $(4 \times 7.3) \div 2 = 14.6$

Enter	Press	Display
	$\boxed{\%CE}$	0.
4	$\boxed{\times}$	4.
7.3	$\boxed{\div}$	29.2
2	$\boxed{+=}$	14.6

Multiplication and Division by a Constant

The K/C switch increases the flexibility of the TI-5100 calculator by allowing the user to multiply or divide a series of numbers by a constant number. When the K/C switch is in the K position, a number entered before a \times or after a \div function key is retained as a constant multiplier or divisor.

F/2 switch at 2; K/C switch at K

Example: $4 \times 5 = 20$

$$4 \times 6 = 24$$

$$4 \times 7 = 28$$

Enter	Press	Display
	$\frac{\%}{C/E}$	0.
4	\times	4.
5	\div	20.00
6	\div	24.00
7	\div	28.00

Example: $105 \div 3 = 35$

$$-78 \div 3 = -26$$

$$29 \div 3 = 9.67$$

Enter	Press	Display
	$\frac{\%}{C/E}$	0.
105	\div	105.
3	\div	35.00
78	$-$	-26.00
29	\div	9.67

Pressing the $\frac{\%}{C/E}$ key will clear the constant.

Multiplication and Division Using the Memory

F/2 switch at 2; K/C switch at C

Example:	Enter	Press	Display	Memory Value
$4 \times \$11.99 = \47.96				
$6 \times 2.97 = 17.82$		$\frac{\%}{C/E}$ CM	0.	0
$12 \times 0.98 = 11.76$	4	\times	4.	0
Total = \$77.54	11.99	M_{\pm}	^M 47.96	47.96
	6	\times	^M 6.	47.96
	2.97	M_{\pm}	^M 17.82	65.78
	12	\times	^M 12.	65.78
	.98	M_{\pm}	^M 11.76	77.54
		RM	^M 77.54	77.54

Example:	Enter	Press	Display	Memory Value
$\frac{\$1.98}{4} + \frac{\$2.27}{2}$				
		$\frac{\%}{C/E}$ CM	0.	0
	1.98	\div	1.98	0
$+ \frac{\$4.98}{8} = \2.26	4	M_{\pm}	^M 0.495	0.495
	2.27	\div	^M 2.27	0.495
	2	M_{\pm}	^M 1.135	1.63
	4.98	\div	^M 4.98	1.63
	8	M_{\pm}	^M 0.6225	2.2525
		RM	^M 2.2525	2.2525

PERCENTAGE CALCULATIONS

F/2 switch at 2; K/C switch at C

Example: 6% of \$1,250.00	Enter	Press	Display
		C/CE	0.
	1250	\times	1,250.
	6	$\%$	75.00

Example: \$65.00 plus 15% mark-up	Enter	Press	Display
		C/CE	0.
	65	\times	65.
	15	$\%$	9.75
		$+=$	74.75

Example: \$129.95 less 10% discount	Enter	Press	Display
		C/CE	0.
	129.95	\times	129.95
	10	$\%$	13.00
		$-=$	116.96*

Example: \$197.95 less cumulative discounts of 10% and 5% plus 6% tax	Enter	Press	Display
		C/CE	0.
	197.95	\times	197.95
	10	$\%$	19.80
		$-=$ \times	178.16*
	5	$\%$	8.91
		$-=$ \times	169.25
	6	$\%$	10.16
	$+=$	179.41*	

*Try reworking these examples with the F/2 switch at F, to see how these answers are obtained by carrying the last digits internally.

CALCULATION WITH NEGATIVE NUMBERS

When performing multiplication or division, a negative sign is assigned by pressing the C/CE key directly *after* entering the number.

F/2 switch at F; K/C switch at C

Example: $7 \times (-18.5) = -129.5$

Enter	Press	Display
	$\frac{C}{CE}$	0.
7	\times	7.
18.5	$=$	-129.5

Example: $(-125) \div 5 = -25$

Enter	Press	Display
	$\frac{C}{CE}$	0.
125	$= \div$	-125.
5	$=$	-25.

MIXED CALCULATIONS

With the K/C switch in the C position, mathematical operations can be performed with combinations of addition, subtraction, multiplication, and division.

F/2 switch at 2; K/C switch at C

Example: $[(8.3 + 2) \div 4] - 6.8 = -4.22$

Enter	Press	Display
	$\frac{C}{CE}$	0.
8.3	$+$	8.30
2	$+$ \div	10.3
4	$+$	2.58
6.8	$-$	-4.22

Note: With the F/2 switch at 2, roundoff occurs at every step producing more than 2 digits after the decimal. For maximum accuracy, set the F/2 switch at F and then round off the final answer.

Division by a Sum

F/2 switch at 2; K/C switch at C

Example: $\frac{1500}{15 + 25 + 35} = 20$

Enter	Press	Display	Memory Value
	$\frac{C}{CE}$ CM	0.	0
15	$+$	15.00	0
25	$+$	40.00	0
35	$+$ $M\pm$	M 75.	75.00
1500	\div	M 1,500.	75.00
	RM $+$	M 20.00	75.00

Product of Sums

F/2 switch at F; K/C switch at C

Example:	Enter	Press	Display	Memory Value
$(2 + 3) \times (4 + 5) = 45$		$\frac{C}{CE}$ CM	0.	0
	2	$+=$	2.	0
	3	$+=$	5.	0
		$M\pm$ $\frac{C}{CE}$	M 0.	5.
	4	$+=$	M 4.	5.
	5	$+=$	M 9.	5.
		\times RM	M 5.	5.
		$+=$	M 45.	5.

Example:	Enter	Press	Display	Memory Value
$(1.7 + 2.5) \times (3.3 + 4.2) = 31.5$		$\frac{C}{CE}$ CM	0.	0
	1.7	$+=$	1.7	0
	2.5	$+=$	4.2	0
		$M\pm$ $\frac{C}{CE}$	M 0.	4.2
	3.3	$+=$	M 3.3	4.2
	4.2	$+=$	M 7.5	4.2
		\times RM	M 4.2	4.2
		$+=$	M 31.5	4.2

Sum of Products

F/2 switch at F; K/C switch at C

Example:	Enter	Press	Display	Memory Value
$(2 \times 3) + (4 \times 5) = 26$		$\frac{C}{CE}$ CM	0.	0
	2	\times	2.	0
	3	$M\pm$	M 6.	6.
	4	\times	M 4.	6.
	5	$M\pm$	M 20.	26.
		RM	M 26.	26.

Reciprocals

The reciprocal of the number displayed (that is, the quotient of the number divided into 1) can be calculated *without* reentering the number.

Just slide the K/C switch to K, press the $\boxed{\div}$ key, and then press the $\boxed{+}=\boxed{}$ key twice.

F/2 switch at F; K/C switch at C

Example: $\frac{1}{(2 \times 3) + 14} = 0.05$

Enter	Press	Display
	$\boxed{C/Ce}$	0.
2	$\boxed{\times}$	2.
3	$\boxed{+}=\boxed{}$	6.
14	$\boxed{+}=\boxed{}$	20.
K/C switch to K		
	$\boxed{\div}$ $\boxed{+}=\boxed{}$	1.
	$\boxed{+}=\boxed{}$	0.05

Note: This procedure is useful for situations such as needing to divide a number stored in the memory by a displayed calculation result. Just divide the calculation result by the number in the memory and then take the reciprocal. (See example below.)

Product/Quotient of Sums

F/2 switch at F; K/C switch at C

Example: $\frac{(7 + 5) \times (6 + 4)}{(2 + 1)} = 40$

Enter	Press	Display	Memory Value
$\boxed{\times}$	$\boxed{C/Ce}$ \boxed{CM}	0.	0
7	$\boxed{+}=\boxed{}$	7.	0
5	$\boxed{+}=\boxed{}$	12.	0
	$\boxed{M\pm}$ $\boxed{C/Ce}$	M 0.	12.
6	$\boxed{+}=\boxed{}$	M 6.	12.
4	$\boxed{+}=\boxed{}$	M 10.	12.
	$\boxed{\times}$ \boxed{RM} \boxed{CM}	12.	0
	$\boxed{M\pm}$ $\boxed{C/Ce}$	M 0.	120.
2	$\boxed{+}=\boxed{}$	M 2.	120.
1	$\boxed{+}=\boxed{}$	M 3.	120.
	$\boxed{\div}$ \boxed{RM}	M 120.	120.
	$\boxed{+}=\boxed{}$	M 0.025	120.
K/C switch to K			
	$\boxed{\div}$ $\boxed{+}=\boxed{}$ $\boxed{+}=\boxed{}$	M 40.	120.

Squares

The square of the number displayed (that is, the product of that number multiplied by itself) can be determined *without* reentering the number. Just press the \times and += keys in sequence.

F/2 switch at F (Optional); K/C switch at C

Example:	Enter	Press	Display
$26^2 = 26 \times 26 = 676$		C/CE	0.
	26	\times +=	676.

Example:	Enter	Press	Display
$(5 + 4)^2 = 81$		C/CE	0
	5	+=	5.
	4	+=	9.
		\times +=	81.

Raising Numbers to a Power

Raising numbers to a power is accomplished – when the exponent is a whole number – by using the constant calculation mode and pressing the += key the same number of times as the power, less one.

F/2 switch at F; K/C switch at K

Example:	Enter	Press	Display
$4^3 = 64$		C/CE	0.
	4	\times	4.
		+=	16.
		+=	64.

IN CASE OF DIFFICULTY

1. Be sure the calculator is plugged into the correct AC input voltage and the power switch is on. Press the $\frac{P}{CE}$ key twice. The display should read 0.

Note: The proper AC adapter must be used with your calculator; connection directly to line voltage will result in damage to the machine.

2. Review the operating instructions to be certain calculations have been performed in the manner described in this book. Improper key sequences and improper switch positioning may result in incorrect calculations.
3. Clear the calculator using $\frac{P}{CE}$, CM , and/or power switch and try the calculation again.

If none of the above procedures corrects the difficulty, return the calculator and adapter PREPAID and INSURED to the applicable SERVICE FACILITY listed on the back cover.

NOTE: The P.O. box number listed for the Lubbock Service Facility is for United States parcel post shipments only. If you desire to use another carrier, the street address is:

Texas Instruments Incorporated
2305 University Ave.
Lubbock, Texas 79415.

For your protection, the calculator must be sent insured; Texas Instruments cannot assume any responsibility for loss of or damage to uninsured shipments. Please include information on the difficulty experienced with the calculator, as well as return address information including name, address, city, state and zip code. The shipment should be carefully packaged and adequately protected against shock and rough handling.

Calculator Exchange Centers

If your calculator requires service, instead of returning the unit to a service facility for repair, you may elect to exchange the calculator for a factory-rebuilt calculator of the SAME MODEL at one of the exchange centers which have been established across the United States. A \$3.00 charge will be made by the exchange center for in-warranty exchanges. Out-of-warranty exchanges will be charged at the rates in effect at the time of the exchange. Please call the Consumer Relations Department for further details and the location of the nearest exchange center.

If You Need Service Assistance

If you have questions or need assistance with your calculator, write the Consumer Relations Department at:

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

or call Consumer Relations Department at 800-858-1802 (toll-free within all contiguous United States except Texas) or 800-692-1353 (toll-free within Texas). If outside contiguous United States call 806-747-3841. (We regret that we cannot accept collect calls at this number.)

**THE WARRANTY IS VOID IF THE SERIAL NUMBER HAS BEEN
ALTERED OR DEFACED.**

Texas Instruments reserves the right to make changes in materials and
specifications without notice.

erg Woerner
Datamath Calculator Museum

ONE-YEAR LIMITED WARRANTY

WARRANTEE

This Texas Instruments electronic calculator warranty extends to the original purchaser of the calculator.

WARRANTY DURATION

This Texas Instruments electronic calculator is warranted to the original purchaser for a period of one (1) year from the original purchase date.

WARRANTY COVERAGE

This Texas Instruments electronic calculator is warranted against defective materials or workmanship. **THIS WARRANTY IS VOID IF: (i) THE CALCULATOR HAS BEEN DAMAGED BY ACCIDENT OR UNREASONABLE USE, NEGLIGENCE, IMPROPER SERVICE OR OTHER CAUSES NOT ARISING OUT OF DEFECTS IN MATERIAL OR WORKMANSHIP, (ii) THE SERIAL NUMBER HAS BEEN ALTERED OR DEFACTED.**

WARRANTY PERFORMANCE

During the above one (1) year warranty period your calculator will either be repaired or replaced with a reconditioned model of an equivalent quality (at TI's option) when the calculator is returned, postage prepaid and insured, to a Texas Instruments Service facility listed below. In the event of replacement with a reconditioned model, the replacement unit will continue the warranty of the original calculator or 90 days, whichever is longer. Other than the postage and insurance requirement, no charge will be made for such repair, adjustment, and/or replacement.

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 (1) 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 PURCHASER.

Some states do not allow the exclusion or limitation 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.

TEXAS INSTRUMENTS CONSUMER SERVICE FACILITIES

Texas Instruments Service Facility
P.O. Box 2500
Lubbock, Texas 79408

Texas Instruments Service Facility
41 Shelley Road
Richmond Hill, Ontario, Canada

Consumers in California and Oregon may contact the following Texas Instruments offices for additional assistance or information:

Texas Instruments Consumer Service
3186 Airway Drive Bldg J
Costa Mesa, California 92626
(714) 540-7190

Texas Instruments Consumer Service
10700 Southwest Beaverton Highway
Park Plaza West, Suite 11
Beaverton, Oregon 97005
(503) 643-6758

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