## Technology.

SR-60

At Texas Instruments, it is the foundation of a double goal: Produce better products. Produce them economically.

Now, we've added three new programmable calculators... at prices you can afford.

### Choose the right programmable ...and problems that once took hours can be solved in seconds.

SR-56 Key programmable. Full programming capability at an economical price.



SR-60 Prompting, printing, card programmable. Bridges the gap between calculators and computers.

SR-52 Pocket-card programmable. Records your programs for instant use. Anytime, anywhere.



# **SR-60**

A prompting, programmable, printing calculator with an alphanumeric display that communicates with the user. \$1695.00\*



The SR-60 card-programmable, prompting, printing calculator is designed to bridge the gap between simple desktop calculators and computers. A powerful asset to business and technical operations alike. Delivering capability found only in programmable desktop calculators costing far more.<sup>‡</sup>

Its business capability ranges from solving intricate financial analyses and long-range forecasting, to simpler operations like payroll and amortization.

For technology there are 46 scientific functions on the keyboard and 480 program steps for complex programming. This capacity can be expanded to 1,920 steps and 100 data memories with its optional module. Prompting: The SR-60's unique 20-character display lets the user run alphanumeric programs which "ask" for information at successive stages of the problem. The SR-60 then waits for your response before continuing. This dialogue allows even a novice to work with complicated problems immediately. **Programming:** Is easy and straightforward yet flexible for the user with: 78 labels, 10 flags, 10 branches, 4 levels of subroutines, and 2 modes of indirect operation. Plus, complete program editing capability. And, by using the printer you can list and trace the actual program execution.

Programs are easy to write and record on magnetic cards. With alphanumeric prompting, the cards can be used by assistants or secretaries. A person merely needs a minimum amount of instruction and a general concept of what's to be solved to have answers to you in seconds.

Ten prerecorded cards are included in the SR-60's Basic Library: Power transformer and filter design. Add-on rate installment loans and compound interest. Polynomial evaluation, cubic and quadratic equations. Basic statistics. Random number generator and diagnostics. Well over 100 optional additional programs are available, including many on business. **Printing:** The SR-60's quiet printer provides a scaled replica of what appears on the alphanumeric display on 2½-inch thermal paper. You can get a hard copy of any keyboard calculation that appears on the display, a complete program list of the contents of the data registers, whether entered from the keyboard or run from a program card.

## **SR-52**

An easy-to-use card programmable. Bringing you exceptional power wherever your work happens to be. At an exceptional price. \$395.00\*



The SR-52 is a card programmable calculator offering twice the capability of the only other programmable in its class – at half the price. $\dagger$  TI's advanced technology and start-to-finish quality control is the key to this exceptional value.

With an SR-52, complex repetitive problems or lengthy calculations that once took hours can now be solved in seconds. Chances for error are dramatically reduced.

The SR-52 allows you to record up to 224 keystrokes. Programming is simple and straightforward, even if you've never programmed before. Programming cards' are available which can be integrated into your problem solving routines. Repeat your program as often as needed. Change values of known quantities. Explore "what-if" possibilities. Solve for different unknowns. Optimize designs.

Enter calculations exactly as you would state them – left-to-right. The SR-52's nine levels of parentheses, plus its 11-register stack, allow you to enter problems containing up to 10 pending operations. **Operating versatility:** You literally teach the SR-52 your own calculating methods. Key in your program directly from the keyboard. If you wish, record your program on a magnetic card to use again and again.

Used manually, the SR-52 is one of the most powerful handheld, slide-rule calculators available today. **The Basic Library** that comes with the SR-52 includes these prerecorded programs: Conversions. Solution of Quadratic Equations. Hyperbolic Functions. Prime Factor of an Integer. Complex Arithmetic. Checkbook Balancing. Compound Interest. Ordinary Annuity. Trend Line Analysis. Permutations and Combinations. Statistical Means and Moments. Random Number Generator. High and Low Pass Active Filter. Dead Reckoning. Lunar Landing Game. Diagnostics.

Optional libraries are also available: Statistics (with 25 different programs). Math (31 programs). Electrical Engineering (22 programs). And Finance (19 programs). And more are on the way.

\*Suggested retail price. +Based on suggested retail prices of models available at the time of this printing.

# **SR-56**

A key programmable that provides tremendous mathematical power and value. And at an economical price. \$179.95\*



With TI's new SR-56, you get an easy-to-use, yet powerful state-of-the-art calculator that reflects Texas Instruments state-of-the-art technologies. It's able to handle extremely difficult computational problems with 100 programming steps and nine levels of parentheses that handle up to seven pending operations. Yet it is simplicity itself to key program.

With the SR-56's internal 8-memory stack, you can store and recall data. Add, subtract, multiply or divide within a register without affecting the calculation in progress. Now you can optimize mathematical matrices. Explore multiple "what-if" options. Solve lengthy iterative and repetitive problems with speed and efficiency. And much more.

Six logical decision functions and four levels of subroutine permit branching to appropriate program segments automatically – without interrupting the program. You may also write-over errors, erase unneeded keystrokes. Reviewing a program is easy with single and backstep capability.

**Two unique features:** A special test register permits comparison with the displayed value at any point in a calculation – without interfering with the calculation in progress. This means you can make quick checks of intermediate results for possible pass along to subroutine operations.

A pause key causes the display to be visible for a half-second during program execution. You may also use it to single step through your entire program. Easy to use: Supply your input data then automatically execute the solution of your stored sequence with a single key. Get answers without the tedium of remembering and executing repetitive keystrokes.

Iterative and repetitive problems, statistical reduction, mathematical modeling, optimization, etc., are entered directly into the SR-56's program memory from the keyboard. Two looping control instructions give you single-key control. There are also four levels of subroutines. They execute instructions from the main program, or from another subroutine. On completion, control returns to the calling routine, automatically.

Operated manually, the SR-56 easily handles your day to day problems using the 27 arithmetic and transcendental functions including: Trig, logs, conversions and statistics.



#### PC-100: New optional printer turns an SR-52 or SR-56 into a quiet, high-speed printing calculator. \$295.00\*

The PC-100 operates with TI's handheld programmables – the SR-52 and SR-56. It delivers hard copy right on the spot. Perfect for printing out a businessman's long amortization schedule, or each step of a scientist's iterative problem.

Printing can be controlled by keys on the PC-100 or by keys on the calculator. Simply remove the calculator's battery pack. Then press the calculator firmly on the PC-100's connectors. Lock it in place and you're ready to print whatever appears in the SR-52 or SR-56 display register.

The PC-100 prints a "list" of your entire program step-by-step, including the program code. You may halt it whenever you wish, or begin printing from any point in the program. This makes the PC-100 invaluable for checking whether you have keyed-in the instructions correctly – match tape against your coding sequence. Edit and debug your program. Or, verify that your results are based on a correctly formulated program.

Using the PC-100's "trace" mode delivers a complete audit of every number and function you've used.

The quiet, reliable electronic printer uses thermal tape 2½-inches wide and prints out characters in a five by seven dot matrix.

#### The technological achievement beneath the keyboard is the reason TI's programmable calculators offer so much value for the price.

A programmable calculator is a state-of-the-art product reflecting state-of-the-art technologies. It's logical, then, to look first to the manufacturer known worldwide for both – Texas Instruments.

TI has long been a leader in solid-state technology and has pioneered a series of landmark developments relating directly to calculators: The original integrated circuit. Key patents in basic MOS/LSI technology. The "calculator-on-a-chip" integrated circuit which became the heart of miniature calculators. And the basic patent on the miniature calculator itself.

TI is steeped in calculator technologies from start to finish, making all critical parts and controlling quality every step of the way. And that's the key to the exceptional quality and value of TI programmable calculators.

### The programmable calculator ...it can help you make the best choices, the right decisions...day after day.

Personal programming is here.

Economical programmable calculators may well be more significant to business and industry than were slide rule calculators introduced just a short time ago.

Why? Because the programmable calculator introduces a new dimension in problem solving. It decentralizes and personalizes the decisionenhancing power of the computer – bringing to the individual what before was only available to the organization.

Now you can cope with more data, explore with more insight, far more successfully than ever before. Right at the source. On the spot, and right at the moment it is most important. Immediately.

So you make better decisions. In the conference room. In the laboratory. In the field. Wherever decisions have to be made. Better decisions chosen from more options – better decisions founded on a broader data base. Better decisions from more fully optimized trade-offs. Better decisions in a profession where better decisions are the name of the game.

Indeed a programmable calculator is a powerful personal mathematical resource. And you don't need to know programming to put it to work. There's no special language to learn. The entry system is easy to use, and so flexible that you can apply it to your own personal problem-solving techniques and style.

Chances are, you already own a calculator – perhaps a sophisticated one. Chances are, too, that you found it exceeded your expectations right from the start...that you grew into it, and it magnified your professional capability far in excess of its cost. Now personal programming is here. A step-function increase in capability over sophisticated slide-rule calculators. Capability you can put to work now to further strengthen your contribution. Capability you won't fully discover until you've owned one and explored its potential for yourself. Capability to enhance decisions of far greater importance than the cost of the model you choose. You will find your programmable is a high-leverage investment.

Most of the important functions found on computers are available to you on TI programmable calculators: Iterative and repetitive problem solving techniques. Looping. Conditional and unconditional branching. Flags. Subroutines.

Consider for a moment the advantages, in terms of increased productivity, achieved with this capability of: Developing broad what-if matrices. Optimizing mathematical models. Making trend and risk analyses. Projecting and forecasting more accurately. Performing statistical reductions. Automating timeconsuming "number crunching". The list could go on and on.

The programmable calculator's capability is in the very mainstream of today's fast-paced, competitive world. A pivotal means of responding to the pressures of making accurate, objective, cost-effective decisions. Faster.

Texas Instruments offers three choices of programmable calculators. This allows you to more precisely match your programming requirements to capability and price.

Each is compact. Easy to use. And of great value for the price. The direct result of leading edge technology developed and practiced at Texas Instruments.

#### AOS...the new choice that makes it easy.

Most handheld professional calculators use either algebraic entry or Reverse Polish Notation (RPN). Texas Instruments chose algebraic because it is the most *natural* to use with easy left-to-right entry.

The user can put the calculator to work immediately...there's no new language to learn.

Now there's a new dimension: TI's *full* Algebraic Operating System – AOS. Whether you currently own a calculator with algebraic entry, or Reverse Polish Notation – or no calculator at all – you can move into programming smoothly and naturally with TI's full AOS. No system is easier to master.

The case for algebraic is straightforward: It lets you key the problem just as you would state it. TI programmables with full AOS combine full algebraic hierachy with nine levels of parentheses.

Full algebraic hierachy means that sequence of entry is left-to-right, while the sequence of operations is in the accepted convention of the way mathematical operations are ordered: Functions are performed first, then powers and roots, then multiplication or division, then addition or subtraction. For example, the SR-52's nine levels of parentheses, plus its 11-register stack, allow you to enter problems containing up to 10 pending operations. (That's more than three times the capability of its nearest competitor.)

With TI's Algebraic Operating System, you don't have to presolve a problem or search for the most appropriate, efficient order of execution.

The case for TI's Algebraic Operating System is strong – that's why Texas Instruments chose it. If you evaluate the alternatives, we think you'll agree you'll prefer AOS. But, even if you are conditioned to Reverse Polish Notation, the added value and power of TI's programmable calculators with full AOS is well worth the easy transition.

### TI's high-capability slide rules and programmables.

Operating Characteristics	SR-50A	SR-51A	SR-56	SR-52	SR-60
Digits displayed (mantissa + exponent)	10 + 2	10 + 2	10 +2	10 + 2	10 + 2
Calculating digits	13	13	12	12	12
		_	-		•
Fixed decimal option		•	•	•	• • 3
Boundoff (selectable)		-	-		•
Memories	1 I	3	10	20	40*
Store and Recall	•	•	•	•	
Clear memory	-	•	•	•	•
Sum to memory	•	•	•	•	•
Subtract from memory		-	•	•	•
Multiply into memory		•	•	•	•
Divide into memory			•	•	•
Exchange display with memory		•	•	•	•
Indirect memory addressing		-		•	•
Exchange x with y	· ·	•			
Exchange x with t			•	-	
Parentheses levels	A - A second	_	9	9	9
Maximum number of pending operations		-	7	10	10
Constant mode		Select	-		Select
Angular mode (deg/rad)	•	•	•**	×	
*Optional add on for 100 memory **Also grads					

Calculating Characteristics	SR-50A	SR-51A	SR-56	SR-52	SR-60	Programming Capability	SR-56	SR-52	SR-60
Log, Inx, e <sup>x</sup>	•	•	•	•	•	Program steps	100	224	480*
10×	-	•	•		- 19 - 19 - 19 - 19 - 19 - 19 - 19 - 19	Merged prefixes	•	1.	- <u>_</u>
$x^2, \sqrt{x}, \sqrt[x]{y}, 1/x, \pi$	•	•	•	•	•	Program read/write on magnetic cards	-	10.	÷.
x!	•	•	•*	•	•	Data memory read/write on magnetic cards	-	-	•
%, Δ%	-	•	•*	•*	•	Alphanumeric display	-		•
Int x (integer part)	—	—	•	•*	•	Program prompting (Que)	-		•
2nd Int (fractional part)	-	-	•	•*	•	User defined keys	-	10	15
Trig functions & inverses	•	•	•	•	•	Possible labels		72	77
Hyperbolic functions & inverses	•	•	•*	•***		Absolute addressing		a strand	Sugar in Sugar
Deg/min/sec to decimal deg & inverse	-	•	•*	•	•	Subroutine levels	4	2	4
Deg to Rad conversion & inverse	•	•	•*	•	•	Program flags	-	5	10
Polar to retangular conversion & inverse		•	•	•	1. <b>1.</b> 1.	Decrement & skip on zero (loop)	•	•	
Mean, variance and standard deviation	-	•	•	•*	•	Conditional branching instructions	6	10	8
Linear regression	—	•	•*	•*	•*	Unconditional branching	3	2	2
Trend Line Analysis	-	•	•	•*	•*	Indirect branching	-	•	- 19 - 19 - 19 - 19 - 19 - 19 - 19 - 19
Slope and intercept	—	•	•*	•*	•*	Editing: Step, backstep	•	•	•
Automatic permutation	—	•	•*	•*	•*	Insert, delete	-	•	- 18 - 18 - 18 - 18 - 18 - 18 - 18 - 18
Random number generator	- A	•	•*	•*	•*	NOP	•		- 19 - 19 - 19 - 19 - 19 - 19 - 19 - 19
Metric conversion constants		13	•*	•*	•*	Single step execution	•		19 × • 1923
*Deservations						Dauco	AND	STORE STOR	CONTRACTOR OF

Programmable functions

Optional add on for 1920 steps

#### SR-50A and SR-51A offer exceptional slide rule math power and value ... at \$79.95 and \$119.95, suggested retail prices.

SR-50A: Solves complex scientific calculations as easily as simple arithmetic. Full function, on-the-go portable featuring algebraic entry with sum-of-products capability. Performs trig and hyperbolic functions, logs, e to the x power, xth root of y and much more.

SR-51A: Exceptionally powerful. Performs all functions found on the SR-50A, and more: Mean, variance and standard deviation. Permutations. Slope and intercept. Trend line analysis and linear regression. Has 20 preprogrammed conversions and inverses.

Texas Instruments Incorporated	Name
P.O. Box 5012 M/S 98 Dallas, Texas 75222	Title
Please send me full information on: ☐ SR-60 ☐ SR-52  ☐ SR-56  ☐ PC-100 ☐ SR-51A, SR-50A — — — — — — — — — — — — — — — — — — —	Company
	Address
	CityStateZip

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