

TI

CARES™

UK EDUCATIONAL SUPPORT PROGRAMMES

NEW TI-86 GRAPHING CALCULATOR

Introducing the TI-86

All the power and functionality of the TI-85 with major new enhancements for mathematics, engineering, and science in further education. Our commitment to educational excellence continues. We asked teachers and students what features/functionality they wanted most in a graphing calculator. The result? The new TI-86. The natural evolution of the popular TI-85, this powerful new classroom tool offers major enhancements, including differential equations and a big 128K RAM with 96K user-available memory.

There's a new, high-contrast display, graph functions in up to 7 different styles, an equation solver, list and matrix editor improvements, powerful calculus features, and much more. The TI-86 joins our family of advanced, affordable, durable instructional classroom tools designed to take students all the way through school and into their careers. And, like all TI calculators, the TI-86 is backed by the industry's most extensive support programmes.

The TI-86 Features:

- Improved Interactive Graphing. Graph your functions in up to 7 different graph styles. Choose a line graph, a thick line graph, shade above, shade below, path with a ball, and more! Once your solution is plotted, quickly TRACE to specific values by keying them in. In addition, evaluate maths functions on the graph screen by keying in your bounds, guesses, or points of interest.

- Easily explore "what if" situations on functions, and polar, parametric and differential equations in the TI-86 function evaluation table.

- There are many new list features for the TI-86. View and edit several lists at once in the new list editor. Attach formulas to lists for automatic computation and column logic. Lists can contain up to 6,000 elements and the number of lists is limited only by available memory.

- The TI-86 contains all the matrix manipulation and computational power of the TI-85 (REF, RREF, eigenvalues, eigenvectors, complex matrices, plus more) with a new easy-to-use matrix editor. Matrices can be up to 80x80 with the number of matrices limited only by available memory.

- The TI-86 has added new functionality to the Differential Equations graphing mode.

In addition to the TABLE function the TI-86 has: Slope and direction fields and lists of initial conditions.

- An interactive initial conditions function allows you to use the free-moving cursor to select the starting point of your differential equation. Choose from two methods (RK and Euler) to solve your differential equation.

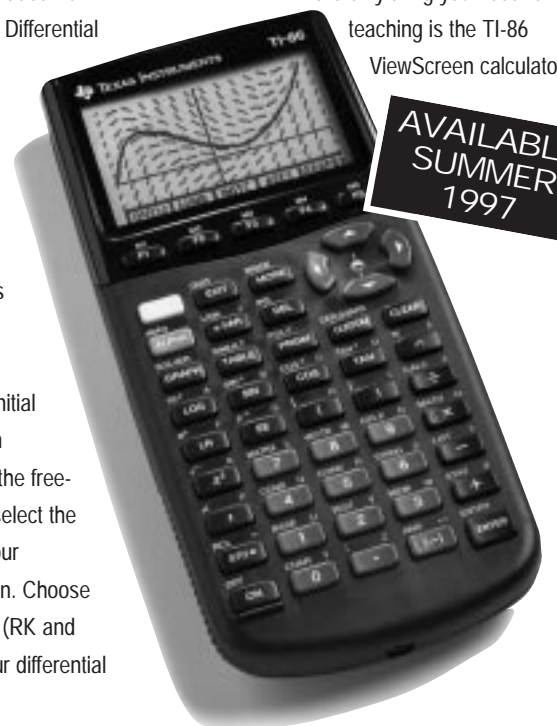
- The TI-86 comes with 128K RAM, of which 96K is available to the user. This is nearly 3.5 times the user-available RAM of the TI-85. To help put some of this RAM to use, TI is

developing a limited number of tested Machine Language (Assembly) programs that will be made available via TI's web site (www.ti.com/calc). These will be made available to the public when the TI-86 is available for sale in the summer.

The TI-86 can be linked directly with a TI-85. Using the included unit-to-unit link cable, you can transfer all data from a TI-85 to a TI-86, and you can transfer numeric data types to your TI-85 (lists, matrices, and variable names).

The TI-86 has maintained the TI-85's large 64x128 pixel LCD but uses a clearer, crisp display technology. In addition, the TI-86 uses the same large ViewScreen™ LCD panel as the TI-85, so if you have the ViewScreen panel,

the only thing you need for teaching is the TI-86 ViewScreen calculator*.



**AVAILABLE
SUMMER
1997**

For more information about the TI-86, contact our Calculator Customer Support team on 01234 213394.

*The TI-86 ViewScreen calculator can be purchased separately.

CONTENTS

New TI-86 Graphing Calculator
Page 1

General Information
Page 2

Workshop Loan Programme
Page 3

Free Newsletter
Page 3

CBL and Probes
Page 4

World Wide Web
Page 4

Discussion Groups
Page 5

TI ViewScreen Set
Page 5

Reference Lists
Page 6-8

Communication is Important to Us

GENERAL INFORMATION

CUSTOMER SUPPORT LINE

- Before returning a product for service
- Find out where to buy TI calculators
- Brochures and information

CALL:

01234 213394
9:00 am - 5:00 pm

OR WRITE TO US AT:

Texas Instruments
FREEPOST CL4272
Harlow
CM20 2YF
(No stamp is required)

E-MAIL US AT:

ticares@msn.com

CONTACT OUR WORKSHOP LOAN COORDINATORS TO

- Borrow free calculators for a workshop or in-service training
- Borrow calculators for you or your department to examine before making purchasing decisions

CALL:

01234 213394

TECHNICAL/PROGRAMMING SUPPORT

Our Programming Assistance Group is training to answer your technical and programming questions about TI Graphing Calculators and accessories.

CALL:

0171 418 0006

E-MAIL:

pppeurinfo@ti.com

RETURNING PRODUCTS

Contact our Customer Support Line for information about returning a product for repair.

CALL:

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WORKSHOP LOAN PROGRAMME

BORROW THE CALCULATORS YOU NEED FROM US

We lend classroom sets of our instructional tools for workshops, in-service programmes, and department review. The units are packed and shipped straight to you. After your workshop, you simply re-pack everything in the case, affix the provided label, and call for pickup. Complete instructions are included with each shipment. Limited supplies of the following calculators are available through this programme;

- TI-92
- TI-92 View Screen
- TI-86
- TI-86 View Screen
- TI-85
- TI-85 View Screen
- TI-83
- TI-83 View Screen
- TI-82
- TI-82 View Screen
- TI-80
- TI-80 View Screen
- CBR
- CBL
- Probes

Reservations for calculators should be made 4-6 weeks in advance to ensure availability. To request a calculator loan or for information on this programme:

Phone 01234 213394
Fax 01234 212686
e-mail SPUK@mimi@magic.itg.ti.com
Write TI Workshop Loan Programme
c/o Sprint UK
Caxton Road
Bedford MK41 0TY

When making your request, please provide the following information:

- Objective of workshop
- Date and location of the workshop
- Quantity and type of calculator needed
- Delivery address and telephone number
- Preferred delivery date

FREE NEWSLETTER

Texas Instruments supports the newsletter TI-TIME (Technology in Maths Education) which focuses on using calculator technology in the classroom. It is available to UK teachers - free.

Written by teachers in the UK, this newsletter contains ideas about using TI graphing calculators in the classroom, sample programs, and general news about teaching and graphing calculators.

If you would like a free subscription of future issues of TI-TIME, simply mail your name, address, and educational level to the address below:

Write TI-TIME
FREEPOST CL4272
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CM20 2YF
(No stamp required)
e-mail ticares@msn.com



& probes

C

THE CALCULATOR- BASED LABORATORY™ (CBL™) SYSTEM

B

Teachers wanted an easy, compact, affordable way for maths and science students to collect real-world data. Once again, Texas Instruments listened and responded.

The Calculator-Based Laboratory™ (CBL™) System lets students gather data, retrieve it directly into their TI-82, TI-83, TI-86 (available from the summer) and TI-92 and then generate graphs and analyse results anytime or anywhere.

- Handheld and battery operated.
- I/O port for linking with a TI-82, TI-83, TI-86 or TI-92 to easily transfer

data directly from the CBL unit to the calculator for further analysis.

- 3 probes for measuring temperature, light intensity, and voltage are included.
- Measure motion, sound, pH, and more with appropriate probes (available separately) when used with an optional adaptor.
- Workbook of classroom experiments for maths, physics and chemistry included.
- Additional physics and maths workbooks with lab activities available separately.

COMPATIBLE PROBES FOR THE (CBL™) SYSTEM

The CBL™ System is compatible with many probes for different types of data collection:

- CBL motion detector.

- Standard temperature probe.
- Direct-connect temperature probe
- pH meter system (requires both of the following probes):
 - pH amplifier.
 - pH electrode.
- Thermocouple.
- Light sensor.
- Magnetic field sensor.
- Pressure sensor.
- Barometer.
- Heart rate monitor.
- Student force sensor.
- Voltage measurement leads.
- Colorimeter.
- CBL DIN (for use with other sensors/probes).

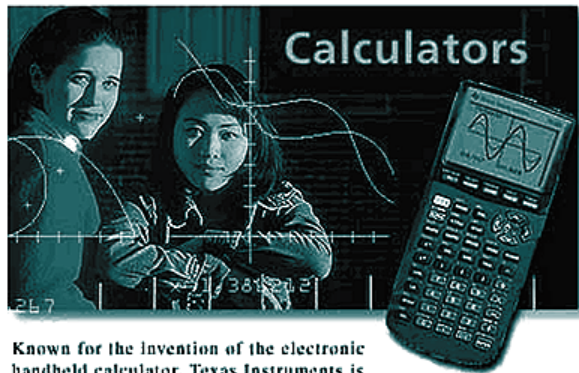
For more information, on the purchase of CBL, adaptors and probes, contact the information support line on 01234 213394.

U

location: <http://www.ti.com/calc>

TEXAS INSTRUMENTS

Calculators	Contents	TI Map/Search	Feedback	
Resources for Educators	Product Information	In The News	Customer Support and Services	Calculator Program Archive



Known for the invention of the electronic handheld calculator, Texas Instruments is preparing students around the world for the challenges of tomorrow by providing the best instructional tools available today.

Calculators	Contents	TI Map/Search	Feedback	
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TI on the World Wide Web

Texas Instruments has a home page on the World Wide Web. From our web site, users can:

- View product specifications and photographs.
- Download programs, software, and information files from our archive.
- Find world-wide educator support information.
- Receive technical support.
- View our history of innovation and past press releases.
- Sign up to borrow calculators through our Workshop Loan Programme.
- Communicate with TI via e-mail.
- Download *TI-Time* newsletter.
- Our UK specific address is <http://www.ti.com/calc/docs/uk.htm>

GRAPH-TI AND CALC-TI DISCUSSION GROUPS

Graph-TI and Calc-TI are available to anyone with access to electronic mail on the Internet. Graph-TI, an electronic mail interest group, allows users of Texas Instruments graphing calculators to share ideas and solve problems together. It is provided by Texas Instruments in support of educators.

Users of Graph-TI discuss:

- Applications of graphing calculators in Maths, Science, and Engineering.
- Sources of additional information.
- Instructional and pedagogical issues using graphing calculators.

An effective way to exchange ideas about:

- TI-80, TI-81, TI-82, TI-83, TI-85, TI-86 and TI-92.
- Calculator Based Laboratory (CBL).
- Cabri Geometry II.

To sign up for Graph-TI:

To: listserv@lists.ppp.ti.com

Subject: (ignored)

Contents: SUBSCRIBE Graph-TI Firstname Lastname

Calc-TI, is an interest group similar to Graph-TI, but intended to support the programming hobbyist with more technical information and discussions.

To sign up for Calc-TI:

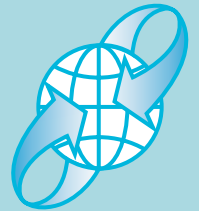
To: listserv@lists.ppp.ti.com

Subject: (ignored)

Contents: SUBSCRIBE

Calc-TI Firstname

Lastname



Understanding the pieces



TI VIEWSCREEN SET

TI ViewScreens enlarge and project the image of a calculator display so it can be viewed by an entire class.

ViewScreen components can be mixed and matched to meet specific classroom requirements.

TI ViewScreens may be used with any standard overhead projector (overhead projector not included).

ViewScreen Panels are included in the ViewScreen Set or are available separately.

- TI-80 VS Panel, TI-81 VS Panel, TI-82 VS Panel, TI-83 VS (Panels are interchangeable between these models).
- TI-85 VS Panel, TI-86 VS Panel (Panels are interchangeable between the TI-85 and TI-86).
- TI-92 VS Panel (for the TI-92 only).

To find out more contact the Customer Support Line on 01234 213394



This list represents some of what has been written relating to Texas Instruments Graphics Calculators. To add further Texas Instruments Graphing Calculator material to this list please send information to: *Texas Instruments, FREEPOST CL4272, Harlow, CM20 2YF. (No stamp is required).*

TI-92

Rich, N., Rose, J., Gilligan, L. **Mastering the TI-92, Explorations from Algebra through Calculus.**

This book is written in three parts. Part one is an overview of virtually all the important features of the TI-92. It provides the reader with a certain level of comfort with the TI-92 as well as a continuing reference for the machine's features. Part two takes the reader into the mathematics curriculum by applying the TI-92 in twelve explorations. These explorations (or projects) are in the areas of algebra, geometry, precalculus, and calculus. Part three highlights the programming features of the TI-92 and including eleven programs of varying degrees of difficulty. 1996. Available through Chartwell Bratt, 0181 467 1956.

TTML Group. **Start up with some maths on your TI-92.** Easy introduction to TI-92 Available through Chartwell-Bratt, 0181 467 1956.

Bauldry, W. Ellis Jr., W., Fiedler, J., Giordano, F., Judson, P., Lodi, E., Vitray, R., West, R. **Calculus-Mathematics and Modeling** ISBN 0-201-44240-X, 602 pages, 1997. Published by Addison-Wesley Longman, 01279 623928.

Berry J. Graham E, Watkins A.J. **Learning Mathematics through the TI-92** Published by and available through Chartwell-Bratt Ltd (1997) 380 pages 0181 467 1956.

Bruenigsen, Turley, et al. **Discovering Math on the TI-92.** Available through Texas Instruments, 0171 418 0006.

Keyton. **92 Geometric Explorations on the TI-92.** Available through Texas Instruments, 0171 418 0006.

Blasberg/Lodi. **Learning Programming with the TI-92 : Structures and Techniques.** Available through Texas Instruments, 0171 418 0006.

Lund, Andersen. **Introduction to the TI-92, 37 experiments in pre-calculus and calculus.** MathWare Available through Texas Instruments, 0171 418 0006.

Kelly, B. **Investigating Advanced Algebra with the TI-92.** Available through Texas Instruments, 0171 418 0006.

Kelly, B. **Investigating Calculus with the TI-92.** Available through Texas Instruments, 0171 418 0006.

Kelly, B. **Investigating Statistics with the TI-92.** Available through Texas Instruments, 0171 418 0006.

Von der Embse, C., Engsbretsen, A. **Geometric Investigations for the classroom on the TI-92.** Available through Texas Instruments, 0171 418 0006.

TI-83

Galpin, B., Graham, A. **Tapping into Mathematics with the TI-83 Graphics Calculator.** Addison Wesley Longman. Available through 01279 623 928 after May 1997.

This book teaches mathematical principles and how to use the graphics calculator effectively at the same time. Basic calculations, statistical analysis and plotting, graphs and functions, simple algebra and trigonometry, Modelling using the calculator's regression facilities and simple programming are all here. By the end you will be a confident calculator user, knowing when and how to apply this mathematical tool in a wide range of applications. A tap-by-tap approach to learning mathematics!

Morgan. **Statistics Handbook for the TI-83.** Available through Texas Instruments, 0171 418 0006.

TI-82

University College Chichester, **Pressing On.** For information about Pressing on materials, telephone 01243 816365 or 01243 816370.

Fitzpatrick M and Houston S.K. (editors) **Supercalculators through the Curriculum** Resource materials for use with graphics calculators from ks3/4 to A Level. Available from UNIBOOKS, University of Ulster. Fax: 01265 324928 email: A.Teskey@ulst.ac.uk

TI-80

Galpin, B., Graham, A. **Tapping into Mathematics with the TI-80 Graphics Calculator**. Addison Wesley Longman. Available 01279 623 928 after March 1997.

This book teaches mathematical principles and how to use the graphics calculator effectively, at the same time. Basic calculations, statistical analysis and plotting, graphs and functions, simple algebra and trigonometry, modelling using the calculator's regression facilities and simple programming are all here. By the end you will be a confident calculator user, knowing when and how to apply this mathematical tool in a wide range of applications. A tap-by-tap approach to learning mathematics!

University College Chichester, **Pressing On**. For information about Pressing on materials, telephone 01243 816365 or 01243 816370.

D. Barker, et al. **Key Maths Series - Training Package for Key Stage 3**. Teacher File has graphic calculator support sheets referenced to chapters in pupil books. Stanley Thornes Publishers Ltd. 01242 228586.

TI-85

Explorations with the Texas Instruments TI-85 Edited by John Harvey and John Kenelly. 349 pp. 1993. Harcourt Brace Publishers. 0181 300 3322.

Raad, P. (1992) **"Graphical and Analytical Explorations in Mechanical Engineering"**. Contact TI Customer Support 01234 213394.

Raad, P. (1992) **"Graphical and Analytical Explorations in Electrical Engineering"**. Contact TI Customer Support 01234 213394.

Sogandares, F. **First Year Physics with the TI-85**. Available from TI Customer Support 01234 213394.

CBL

Brueningsen, C., Krawiec, W. **Exploring Physics and Maths with the CBL System**. Leads teachers step by step through 48 activities. Ten different sensors are used. Some experiments use simple sensors. The CBL programs for this workbook are available for the TI-82, TI-83, TI-85, TI-92. Texas Instruments, 1994. Available through Texas Instruments, 0171 418 0006.

Brueningsen, Bower, and Antinone **Real world Math with the CBL System**. Contains 25 activities using the TI-82 and CBL with TI and Vernier probes. Provides fun and exciting ways to explore real world applications of mathematical concepts from algebra through calculus. Background, set-up diagrams and instructions are given for each activity. The CBL programs for this workbook are also available for the TI-83 and the TI-92. Texas Instruments, 1995. Available through Texas Instruments. 0171 418 0006.

Holmquist, D., Randall, J. **Chemistry with CBL**. A collection of 35 student ready labs with two discs and a text to use with TI-82, TI-83, TI-85 and TI-92 Calculators. Vernier Software. Available through Texas Instruments, 0171 418 0006.

Calculator generic

Green, D., Pope, S. **Graphing Calculators in the Mathematics Classroom**. Published by the Mathematical Association, 1995. 0116 270 3877.

NCET. **Graphing calculators in Advanced Mathematics**. Available through 01203 416 669.

Discovering Advanced Mathematics. Series published by Harper Collins. 0181 741 7070.

Nuffield Advanced Mathematics Project Team. **Nuffield Advanced Mathematics**. Series published by Addison Wesley Longman, 0800 579 579.

The IT Maths Pack contains 4 sections written by different teams of people nominated by ATM, MA and NCET. Some articles on good classroom practice have been reproduced from periodicals and other publications; some are new. Number and algebra with computers and calculators, geometry with computers, Mathematics in context and secondary mathematics with a graphics calculator.

Available from ATM 01332 346599 or MA 01162 703877

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The Association of Teachers of Mathematics

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