Calculators & Informators © 1990 \$1.00 #49 () HEWLITT $\frac{1}{\sqrt{12 \cdot \pi}} \cdot \sum_{n=0}^{100} \frac{SIN(n \cdot w \cdot t)}{n}$ See COLOT ENPH ISOL QUAN SHOW THYLL CCCCCC MTH PRG CST VAR AXT STO EVAL O, TE SIN COS TAN OF YX 1/x ENTER +/- EEX DEL α 7 8 9 ÷ G 4 5 6 X D 1 2 3 5 ON O SPC + HP Solve Equation Library Application Card for the HP $488\mathrm{X}$ HP $82211\mathrm{A}$ HEWLETT PACKARD 32-Kbyte Battery-backed RAM Card for the HP 48SX HP 82214A HEWLETT PACKARD Serial Interface Kit HP 48SX to Apple Macintosh Computers HP 82209A HEWLETT PACKARD Serial Interface Kit HP 48SX to IBM and IBM-compatible PCs HP 82208A HEWLETT PACKARD 128-Kbyte Battery-backed RAM Card for the HP $_{\rm 48SX}$ HP $_{\rm 82215A}$ HEWLETT PACKARD Gasino 48 Card for Hewlett Packard 485% Calculator HEWLETT

HP 82240B Infrared Printer

HEWLETT PACKARD

Here's who you'll talk to at EduCALC:



Jim

Nadine





Christy

Deanna





Trina

Richard





Mike

Aurora





Marta

Kaycee, EduCALC's official greeter

Prices Effective August 25, 1990

EduCALC 27953 Cabot Road, Laguna Niguel, CA 92677

Summer, 1990

Dear Reader,

I told you so! Now, after only a couple of months, the HP 48SX is a run-away best seller. It surprised even HP: they've been struggling to catch up with the flood of orders and so have we.

One way you can tell the hardware that leads is by the software that follows. A glance at pages 34 - 39 in this catalog will show—so far—4 programs for Surveying, 2 each for Chem, EE, ME, 2 Games and 1 Utilities (plus 1 Science/Engineering and 1 HP 41 Emulator, both from HP). You'll also see new books and peripheral hardware there for the 48.

And there's lots more coming soon. I know of another four dozen such products being readied for market right now. There are more for the fields mentioned above, and for nearly every branch of engineering (like aerospace, petroleum, automotive, and environmental), programs to make things (structural analysis, metal fabrication, steam, and valve and pipe sizing), plus navigation and aviation.

There are medical programs (drug dosage monitoring, and patient data collection); business and finance (insurance, investment management and a phone list manager); programming and math (3D graphics and animation, and finite-element analysis). There are disc drives and other gear coming, and more books, too.

The 48 is just a couple of months old.

I'm impressed—how about you?

Sincerely,

Ym Carter

Manager

P. S. I've hidden a coupon somewhere in this issue—find it now and enter my contest for a FREE calculator



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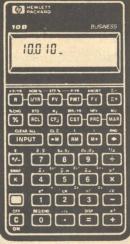
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HP 10B & HP 14B Business Calculators

Algebraic entry for Business Professionals and Students

Now — Traditional HP reliability is affordable





The HP 10B is the ONLY calculator under \$50 that gives you ALL 3—

HP dependability—molded keys, so the letters will never rub off and you'll never have to worry about sticking keys or double entries.

► Label descriptors—make it easy to understand and enter cash flows, and to see which values in a schedule are interest, principal and remaining balance.

► Easy access to your solutions — large 12—character display. Simple movement between functions, so you don't lose your data (no cumbersome 'compute' keys or mode switching, either). Auto—increment feature generates amortization schedules quickly.

☐ Essential business and finance functions — time value of money, amortization schedules, cash flow analysis with IRR and NPV, interest rate conversions, percent and percent change, margin and mark—up.

☐ Statistics and math functions — 1- and 2-variable statistics with mean, weighted mean, sample and population standard deviations, forecasting and linear regression, basic math functions.

15-memory registers (more memory than similar models, and it's more usable), automatic constant saves keystrokes on repetitive calculations. Special 3-key 'M' memory for simple, fast use.

Batteries, Manual, wallet included, 1 yr warranty.

Stock #HP10B [Business Calculator] List \$50.....\$41.95

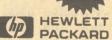
HP 14B Algebraic Calculator Smart Business at a Smart Price

Business Students

▶ Professionals

► Small-business Owners







110 business functions pre-programmed for you—interactive and easy-to-use with prompts, labels and messages all in English.

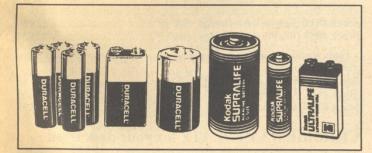
Time-Value-of-Money, percents and margins, interest rate conversions. List-based cash flow with quick entry and editing. Built-in Return-On-Investment, break-even analysis, inventory-turnover rate.

Complete 2-variable statistics, Forecasting with 4 curve fits—linear, exponential, power and log—and the Best Fit can be calculated automatically. Batteries, soft case included; 1 yr warranty.

Manual included, though you probably won't need it.

Stock #HP14B [Algebraic Business Calculator] List \$80......\$61.95 Stock #2106, Business Student Appl......\$9.95

Calculator Stands,



Batteries

► Kodak dependability

► Longer life expectancy

Kodak



Protect your instrument from leakage and corrosion with Kodak's superior design and triple testing—it's guaranteed.

Cases & Batteries

The most used calculator battery size is A76, an alkaline button which is also called LR-44, PX76A, 1166A or V13GA. The A76 may also be replaced with our super long life (50% more) silver-oxide battery, S76 (also called SR44, EPX76, MS76, RS76, G13, V76PX or 1107SOP).

Stock #A76 (Alkaline battery)......\$0.89 Stock #S76 (Silver oxide battery).....\$1.95

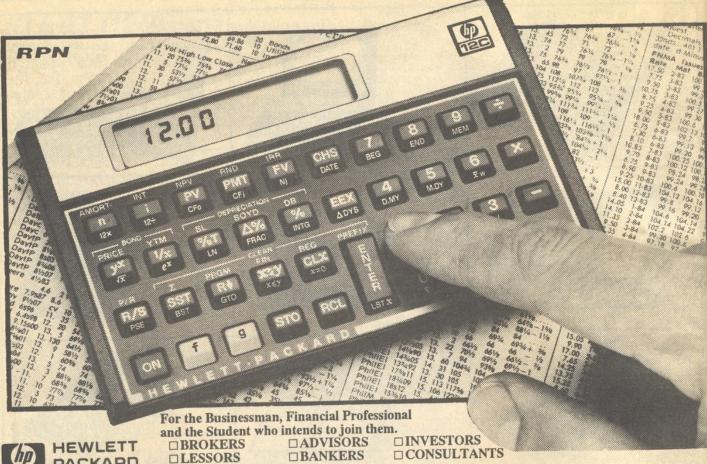
The following alkaline batteries are usually the original equipment specification. We also offer nickel-cadmium (NiCd) rechargeables in most of these sizes (and rechargers)—please see the HP 41 section of this catalog for them.

sizes (and rechargers)—please see the FIP 41 section of this catalog for the	m.	
Stock #AA (Alkaline battery)	\$.89	
Stock #AAA (Alkaline battery)	\$.89	
Stock #C (Alkaline battery)	\$1.39	
	\$1.39	
	.\$.98	
C. I was die a	\$2.80	

The lithium button-cells listed below last twice as long as alkalines.

Stock #CR1616 (Lithium battery)	\$1.75
Stock #CR2016 (Lithium battery)	
Stock #CR2025 (Lithium battery)	
Stock #CR2032 (Lithium battery)	

HP 12C Business Calculator



PACKARD

□ BANKERS

□ CONSULTANTS

Imagine Yourself . . . Calculating what-if answers with ease-right on the spot!!! Answering your client's questions instantly without tables. Being first with IRR and NPV figures, to the penny! Freeing yourself from arithmetic, so you can do the real thinking.

YOU CAN-get yourself an HP 12C calculator and buy the book or tape 'SELF SEMINAR' listed below that fits your needs. Then invest a couple of hours study time. You'll be delighted with your quick new power and ease.

FINANCE/BUSINESS: Solves for Number of Periods (n), Compound Interest Rate (i), Present Value (PV), Payment (PMT), and Future Value (FV); Amortization with Accumulated Interest and Remaining Balance; Net Present Value (NPV); Internal Rate of Return (IRR); Bond Yield and Price; Depreciation by Straight-Line, Declining-Balance, Sum-of-Digits (SOD); Odd-day's Interest;

FREE—do you want a currency conversion program for your HP 12C? Just add this line to your order:

Stock #TN25, HP12C Currency Conversions Free

An Easy Course in using the HP 12C

by Coffin/Wadman

Written just for you, to work at your own pace. You can relax, sit back and let these experts show you the way with lots of illustrations, example stories and quick reviews. This is a sometimes playful treatment, from the beginning, with many common applications in lending and investment analysis. It may also be used with other HP calculators, such as the 37, 38, 67/97 with pac software, and 41 with module software. HP #92234

Stock #260, Easy Course 12C, 255p wirebound\$21.95



Simple Interest; Percent, Percent Change and Percent of Total; Calendar Functions; Beginning- or End-of-Period selection; 5 Financial Registers. STATISTICS: Summations; 2-Variable Statistics with Means, Standard Deviations, Linear Regression, and Correlation Coefficient; Factorial. PROGRAMMING: Up to 99 Steps; Program Review; Unconditional Branching

2 Conditional Tests; Pause.

Yet it's FRIENDLY—a first-time calculator user can expect to solve amortization and cash-flow problems with the 5 top-row keys in a matter of minutes! Stock #HP12C, List \$95 (Battery & case included) \$74.95

FREE BONUS BOOKS - EduCALC will include with your new HP 12C copies of TWO booklets, Programming Hints for your HP 12C and Effective Monthly Payment Program. These programming aids are both from Chary Software Products — they'll be automatically included with your order while supplies last (probably through Oct 31, 1990).



Quick Reference Guide for the HP 12C

by Evan Gost

This booklet is no bargain by the ounce—that's because it's been boiled dow so it fits in your shirt pocket (even with cigarettes there), or in the 12C case. It is a training guide and ready reference which supplements your Owners Handbook. The author also gives seminars on the use of the 12C, so he know what you need.

Believe it or not, this little book contains methods and examples covering every function of the calculator-plus more examples to steer you through problems complex enough to require two-stage solutions. It's concise, complete an

Stock #243, 12C Quick Reference Guide, 36p softbound\$4.5

HP 48SX Scientific Expandable

Here is exactly how the brand new HP 48SX will upgrade your professional life 7 ways—

1. You'll stand out. It has a distinctive size (3.2 × 7.1 in.), more keys (49) than any keyboard before and a wonderful, big LCD—so you'll be recognized the minute you walk in with it.

Then you'll fire it up and use HP Equation Writer to enter a function in the same form as it appears in a book—sigma notation, integral signs, radicals, fractions, . . .

For an encore, you'll plot several functions, then interact graphically—zoom in, find roots, intersections, slopes, local extremes, derivatives, areas, . . . If that isn't enough for them, you can draw boxes and circles on the graph to emphasize your work, or do a polar or a parametric plot.

This is the first calculator that enters equations in textbook style, and it's the first that does all these graphics. Will that get their attention?

2. You'll have assurance. Solid power, right in your hand. You'll have the standard keys (SIN, LOG, √x, . . .) on this traditional keyboard, for quick hand calculations.

But, underneath, you'll have a giant 256K ROM of power, with 2,100 functions that you'll access with 59 user-friendly menus. It's customizable, too—you'll have 32K of RAM to store your own personalized menus in.

The X in SX means Expandable—it has two internal card slots. You'll be able to customize your HP 48SX with optional plug—in ROM cards, from HP and from others, for more math power, or statistics, or surveying, or . . . Also, you can increase your memory capacity with optional plug—in cards that add 32K or even a gigantic 128K of RAM.

When you have all that, and know it will go on working with legendary Hewlett-Packard reliability, won't you have assurance?

3. You'll communicate. You'll have 2-way InfraRed, so you can share programs and data with another HP 48SX. You can also squirt programs, data and graphics via InfraRed to an optional portable printer.

Kermit is built right into the HP 48SX so you can also wire-up to your PC or Macintosh with an optional Serial Interface Kit—then you can generate high-quality printouts and use your computer's disc drive to store data and programs. You can use the computer's keyboard to program your calculator, too, and you can operate all the HP 48SX routines like an excellent number-crunching software package on your computer (you save the software cost).

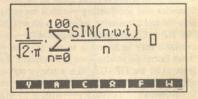
You'll have the world's best interactive calculator graphics. You'll have a beautifully-planned keyboard with well-engineered tactile feedback. Isn't all this the kind of I/O power you've needed?

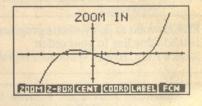
4. You'll be fast and timely. This baby is fast—fast computations and fast writing to screen. Its heart beats at 2 MHz, so its throughput is 50% greater than for that old speed king, the HP 28S.

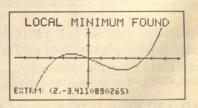
You'll have a Review mode, plus the ability to edit the stack, matrices, etc, so you'll have rapid, correct data and program entry.

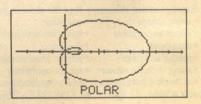
There's a calendar and a clock, and you can have them on your screen if you wish (there's date-arithmetic, too). You'll have two types of alarms: appointment and control. OK?











Here's where you find ...

HP 41 Peripherals 41 42 Batteries/Rechargers 42 Accessories 42 Memory Modules 43 Application Pacs 45 Combined Modules 45 **EPROM Modules** Soft/Bookware 46 Synthetic Programming 48

HP 41CV HP 41CX



EARLY WARNING

Hewlett-Packard has discontinued the sale of the HP 41CV/CX (they are no longer cost-effective to manufacture). They will continue to offer Application Pacs, Supplies and Support for the HP 41 during the next 5 years.

EduCALC now has stock of the HP 41 CV and CX and you can expect us to have one for you as long as anyone does. Nevertheless, we encourage you to assess your future requirements now and to place your orders accordingly.



ABSOLUTELY the WORLD'S BEST, the HP 41-standard for the leaders in each scientific profession, coveted by the smartest students.

Faster than a mainframe for your everyday problems, with keyboard simplicity, the easy logic of RPN, and the precision of 10 quick digits-the HP 41 actually guides you to your solution.

▶ Big Main Memory: 319 data registers or 2233 bytes of program and data memory.

Additional Memory: 124 registers or 868 bytes of 'expanded' memory built-in (optional for the CV with Extended Function/Memory Module).

Even that is Expandable: plug in 1 or 2 Extended Memory Modules—each will increase your memory by 238 registers or 1666 bytes—the possible grand total (for all models) is 919 registers or 6433 bytes!

▶24K Operating System: 200 built-in functions at your fingertips (12K system with 128 functions in model CV, expandable to 24K with Extended

Functions/Memory Module).

▶It is a Clock, Calendar, Alarm, Timer, and Stopwatch: your HP 41 can become the heart of a time-based system controller (optional with Time Module for model CV).

Continuous Memory: programs and data are remembered while your unit is

OFF-no need to reprogram it.

- Lots of Software for Your Profession: there are many Application Pacs right now-for math, science, engineering, business and finance, surveying, navigation, etc. See below in this catalog. Plus magnetic cards, cassettes and bar codes to load many other programs, including over 6000 in the Users'
- ▶ 4 Quick and Easy I/O Ports: just plug in ROM software modules, memory modules, interfacing and more.
- Take it with you, Anywhere: it's only 205 g (7.2 oz.). With its LCD display you'll get about 6 months use from a set of alkaline batteries which are included (rechargeable batteries optional).

▶ RPN Logic: you see intermediate results of calculations, recover from errors

- ALPHANUMERIC, User-Definable Keyboard: assign your own programs to any key-use ordinary words for prompts and labels.
- Full Documentation to HP Standards of Excellence: complete, readable manuals and handy quick-reference guides included.
- You Get the Whole Kit: tough carrying case, 4 alkaline batteries, keyboard overlay, Users' Library subscription card, Owner's Handbook included.

Stock #HP41CV, List \$175\$134.95 Stock #HP41CX, List \$249\$184.95

EduCALC Technical Notes

By Richard Nelson

Have a technical question? We may have the answer all ready for you — send us a 25 cent stamp for each stock number you request:

Stock #TN1, HP 41CV or HP 41CX? Stock #TN2, HP 28C or HP 41CX?

Stock #TN3, HP 41 Printers. What are the choices?

Stock #TN4, Adding More Memory to My HP 71.

Stock #TN5, Adding More Memory to My HP 41.

Stock #TN6, Combining HP 41 Modules to Save Ports. Stock #TN7, HP 41 Speed Ups. Worth the cost?

Stock #TN8, Advanced User Products. Stock #TN9, HP 41 Power Sources.

Stock #TN10, HP 41 EPROMs
Stock #TN11, Video Monitors and Handheld Calculators
Stock #TN12, Connect PCs & HP Handhelds via HP ILs.

Stock #TN13, Programming 'Languages' on the HP 41.

Stock #TN14, Static Electricity and my Calculator.
Stock #TN17, HP 41 MCODE Programming.
Stock #TN18, Off-Line Storage for my HP 41.
Stock #TN19, Footsign Issuer of Terms.

Stock #TN20, Factoring Large Numbers on the HP 16. Stock #TN22, What is HP IL? Stock #TN23, Calculating with Fractions Stock #TN24, Synthetic Programming on the HP 42S

Stock #TN25, Currency Conversions on HP 12C

Stock #TN26, Swap Disc Service Description and Details

Stock #TN27, Personal Data Base Applications

Calculator batteries, stands & casessee pp 13-15

HP 41 Peripherals

InfraRed Printer for your HP 17, 18, 19, 27, 28, 42, 48, 41 with IR Module



New version B has easier-to-read printouts, automatic shut-off, and LED power-on indicator

Get hard copies of all your graphics, data, programs or calculations. This silent thermal printer operates on four AA alkaline batteries (included) for go-anywhere portability — a set of batteries prints about 6000 lines, or there is an optional AC Adapter.

Printer connection cords have been replaced by an invisible infrared beam from the HP 48SX. It's the only link required for your printing needs.

You have plenty of leeway — up to a foot and a half — to put the printer where it's most convenient for you. Just point your calculator at it and push [PRINT]. No cords to tangle with.

Print speed with fully-charged batteries is just a shade over a half second per 24-character line. You can print out a complete record of the numbers you've used in your calculations, as well as your results. Or print selectively and provide clients with copies of quotes, amortization tables or itemized lists.

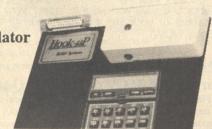
Stock #82240B [Portable InfraRed Printer] List \$135	\$115.95
Stock #82241A [AC Adapter for IR Printer]	\$14.95
Stock #82175A [21/4" Printer Paper, black, 6 rolls]	\$9.95
Stock #82175B [21/4" Printer Paper, black, 2 rolls]	\$3.95
Stock #AA [Batteries, Printer uses 4]	ea \$.89
Stock #92169G [Cover, black]	\$22.95
Stock #92169H [Cover, brown]	\$22.95
Stock #92169J [Cover, burgundy]	

Hook-uP

Interface your InfraRed HP calculator

to your PC!

Rush Systems



Now you can display your calculator's programs, data or graphics on your computer's monitor, so you can review it all at once or show it to others (at a meeting or in class).

You can also file the calculator output on floppy or hard disc for permanent storage or mailing. Use your calculator to gather and analyze data, then use the computer to store it or manipulate it in a database or spreadsheet.

Accepts IR output from the HP 17B, 18C, 19B, 27S, 28C, 28S, HP 42S or HP 41 with IR Module. DB25 female plug attaches to your PC's serial port (COM1 or COM2). Requires DOS 2.0 or later, any printer to print text; Epson or IBM graphics printer or graphics display optional for graphics output of 19B, 28C or 28S. Manual and software included. Graphics output requires CGA or compatible card.

Stock #896 [Hook-uP, 51/4"] List \$95\$84.95
Stock #896A [Hook-uP, 31/2"] List \$95\$84.95

Blan	kN	lag	Cards

(A) P

HEWLETT

 Stock #13141 [40 Magnetic Cards]
 \$21.95

 Stock #13143 [80 Magnetic Cards]
 \$42.95

Check out anything you want without risking a penny.

At EduCALC you get a two week return privilege.

HP 41 Calculators



Print via infrared from your 41—this module just plugs into your instrument. It protrudes about ¼ inch so it can flash printer commands to the 82240 printer. No cables—you merely point and push a button.

The 82240 printer can also be driven by the HP 17, 18, 19, 27, 28 and 42. It is super-portable—small and battery powered, it will fit in a briefcase. This printer is inexpensive—yet it even does graphics, so now you'll be able to draw graphs with your 41 (see our printer description on this page).

Stock #82242A [41 IR Printer Module] List \$65......\$54.95

HP IL Module

The HP IL Interface Module plugs into any one of the four ports in the HP 41, connecting your handheld computer family of HP IL peripherals and instruments. The module gives your HP 41 control of up to 30 devices on the loop. There are three function sets sup plied by the HP II Module.



plied by the HP IL Module: printer, mass storage, and general input/output (I/O). It includes such functions as Accumulate column into print buffer, List program lines, Print y-axis, Plot function interactively, Print stack, Remove stored file, Store program onto medium, Copy all storage registers into data file, Set interface to auto mode, Input status information from selected device, Set all devices to low power state, Trigger all devices set to respond and 43 more. Owner's Handbook included.

Stock #82160A (HP IL Module) List \$125 37.73 \$99.95

Mag CardHolder

Star Fleet

This unique soft plastic magnetic card holder with 40 individual slots will add organization to a cluttered world. If your collection of HP 41 mag cards is more than 10, this could be your best \$2.50 investment.

Stock #524 [Magnetic Card Holder].....\$2.50

Mag Card Holder

(D) HEV

HP 41 Mag Card Holder

Imtec

Fights chaos! Transparent plastic loose-leaf 8½"×11"sheet with 66 welded pockets for cards. Printed forms inside show which cards are out-of-file and where they go.

Stock #568 [HP 41 Card Sheet]......\$3.95

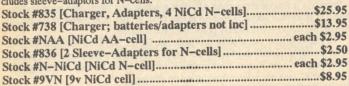
Batteries/Rechargers

NiCd Multi-Charger for N, AA, AAA and 9-volt size batteries

Leford Micro

Just think, in the thousands of hours of service from a NiCd (with 1000 recharges) you'll save hundreds of dollars over throw-aways. 5 year/ 1000 recharge warranty.

Protected against polarity reversal. #41835 includes sleeve-adaptors for N-cells.



Read Our Mail From California-

"I'm proud to know about EduCALC and I'm proud to do business with you. This morning I sent in my order for an HP 42S Calculator. I've bought my first two HP's from the College Bookstore here in Davis but this year I couldn't afford retail. I've bought many small things from you guys before, and I'll continue to, but it's great to pay less than retail for your fine HP Calculators. Thanks again.

P.S. I'm an amateur math aficion do and a bit of a calculator snob, because even though I'm poor, I can afford the best calculators in the U.S.A.—once about every 5 years." Jeffrey K. Woodhead, Davis

Rechargeable Battery Pack and Recharger

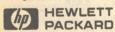
PACKARD

The battery pack of 4 half size N Cells fits into your HP 41 and remains in your machine during recharging periods. The external recharger plugs into the pack through the tunnel cover on the side of the HP 41 and provides hundreds of recharges. The recharger fits other HP equipment.

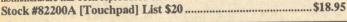
Stock #82120A	[Rechargeable Battery Pack]\$32.95	
Stock #82059D	[Recharger]\$18.95	

HP 41 Accessories

Touchpad Keyboard Overlay



It will keep your HP 41 safe from coffee or other problem liquids or particles. This plastic membrane snaps into place over the keyboard. All of the button nomenclature has been reproduced on it.

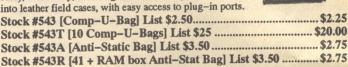


Thank you for your Order!

Protector for HP 41 Calculators

COMP-U-BAG

Zip out dirt and moisture—you can use your calculator right in the oil field (or the pillow fight) if it's in one of these flexible, transparent bags (not sealed against presure); used daily, each bag will last a couple months. Fits into leather field cases, with easy access to plug—in ports.



Memory Modules





More Memory For Your HP 41

Do you ever run out of memory—and have to discard programs and data you want to save? Why not exploit the fantastic potential of your HP 41—get yourself the freedom of enough space, NOW!

Extended Functions for the HP 41CV or HP 41C Quad

Plug in the Extended Functions/Memory Module (EFM) to get 868 more bytes of memory—plus many new functions you can call on, such as: Clear all key assignments, Delete named program and all following it, Restore flag status, Create data file, Directory of extended memory files, Replace last program in main memory, Purge file, Copy text file to mass storage—38 in all. Owner's Manual included.

Extended Memory for the HP 41CX or HP 41CV/EFM or HP 41C/EFM

Plug in 1 or 2 Extended Memory Modules—each module adds 238 registers or 1666 bytes to your machine. With both added you'll have a grand total memory space of 6433 bytes, including 4200 bytes of extended memory.

Stock #82181A [Extended Memory Module] List \$75......\$63.75

Double Extended Memory Module for the HP 41 CX or HP 41CV/EFM or HP 41C

S.O.S.

Application Pacs with HP 41 Modules

Transform your HP 41 into a special-purpose machine, auto-matically programmed for your own needs. These Pacs contain tremendous new power. Simply plug the module in a port and in some cases install a keyboard overlay and you have hundreds of hours of proven programming at your finger-tips. It's all pre-programmed with every feature the experts could think of. Here are all the available Application Pacs, arranged by the subject areas they cover. Each comes complete with owner's manual.

Here's where you find . . .

General Interest	43
Math/Science	43
Engineering	43
Navigation/Surveying	44
Business/Finance	44
Utilities/Subroutines	45

General Interest

Games

HEWLETT PACKARD

Super Bagels ■ Biorythms ■ Craps ■ Hangman ■ Submarine Hunt ■ Random Number Generator Pinball Space War

Stock #15022 (Games Module).....\$42.95

Standard Applications

PACKARD

RPN Primer ■ Arithmetic Teacher ■ Word Guessing Games ■ Hexadecimal-Decimal Converter ■ Financial Calculations ■ Root Finder ■ Curve Fitting ■ Vector Operations ■ Blackjack ■ Calendar Functions Stock #15001 (Standard Applications Module).....\$42.95

Home Management

Home Budgeting ■ Travel Expense Record ■ Stock Portfolio Evaluation ■ Your Financial Calculator ■ Remaining Balance and Accumulated Interest ■ Tax Free Individual Retirement Account (IRA) or Keogh Planning The True Cost of an Insurance Policy Checking Account Reconciliation Home Owner's Equity Analysis The Rent or Buy Decision Stock #15023 (Home Management Module).....\$42.95

Horserace Handicapping Program

MANAGEMENT SYSTEMS,

Put yourself at a real advantage over other bettors. Speed Machine II tells you when and how to bet to maximize your return on every dollar - combines fractional and final race times to select the top 4 horses in each race and tells you under what circumstances and at what odds to make your bet.

Contains statistics on every thoroughbred and harness track in North America, and it can store data on 120 horses at once. Includes stop-watch (CX only) and Money-management functions.

Requires HP 41CV or CX (or HP 41C with quad memory module). Plug-in module comes with keyboard overlay and manual. Stock #533 (Speed Machine II Module) List \$300

Time

HEWLETT PACKARD

The Time Module expands your HP 41 computing system with time information and time-controlled operations. Using the quartz-crystal controlled Time Module, your HP 41 can become the heart of a time-based system controller, an alarm clock, an appointment reminder, a calendar, a timer, even an advanced stopwatch. Already built into 41-CX. Owner's Manual included.

Stock #82182A (Time Module) List \$75......\$63.75 Stock #90395, Time Module Solution Book.....\$14.50

HP 41 Calculators

Math/Science

Advantage

PACKARD

Real and Complex Matrix Operations Simultaneous Equations on Real and Complex Numbers Solve (roots of f(x)=0) and Integrate (similar to HP 15C) 3-dimensional Vector Operations ■ Complex Number Operations ■ Number Base Conversions and Boolean Logic (similar to HP 16C) ■ Curve Fitting ■ Roots and Evaluation of Polynomial Equations ■ Differential Equations ■ Coordinate Transformations ■ Time Value of Money (similar to HP 12C) ■ User-Accessible Subroutines

Math/Statistics (Combined Pac)

HEWLETT PACKARD

Matrix Operations ■ Solutions to f(x)=0 on an Interval ■ Polynomial Solutions/Evaluation ■ Numerical Integration ■ Differential Equations ■ Fourier Series ■ Complex Operations ■ Hyperbolics ■ Triangle Solutions ■ Coordinate Transformations ■ Basic Statistics for Two Variables ■ Moments, Skewness and Kurtosis ■ Analysis of Variance (One Way) ■ Analysis of Variance (Two Way) ■ Analysis of Covariance (One Way) ■ Curve Fitting (Linear, Exponential, Logarithmic, and Power Curve) Multiple Linear Regression Polynomial Regression ■ t Statistics ■ Chi-Square Evaluation ■ Contingency Table ■ Spearman's Rank Correlation Coefficient ■ Normal and Inverse Normal Distribution ■ Chi-Square Distribution

Stock #15049 (Math/Statistics Module)......\$42.95

Engineering

Structural Analysis for Civil Engineers

HEWLETT PACKARD

Section Properties ■ Beams ■ Simply Supported Continuous Beams ■ Continuous Frame Analysis ■ Setting of Continuous Beams ■ Steel Column Formula ■ RPN Vector Calculator ■ Reinforced Concrete Beams ■ Reinforced Concrete Columns Effective Moment of Inertia for Concrete Sections Stock #15021 (Structural Analysis Module).....\$44.95

Stress Analysis for Mechanical Engineers

Section Properties ■ Beams ■ Simply Supported Continuous Beams ■ Columns ■ Mohr Circle Analysis ■ Soderberg's Equation for Fatigue ■ Strain Gage Data Reduction ■ RPN Vector Calculator Stock #15027 (Stress Analysis Module)\$42.95

Petroleum Fluids

PACKARD

Z-Factor ■ Gas Isothermal Compressibility ■ Gas Formation Volume Factor ■ Gas Viscosity ■ Pseudocritical Temperature and Pressure from Gas Gravity ■ Gas Properties from Composition ■ Oil Isothermal Compressibility ■ Oil Formation Volume Factor ■ Oil Viscosity ■ Gas-Oil Ratio ■ Bubble Point Pressure ■ Two-Phase Formation Volume Factor ■ Water Isothermal Compressibility ■ Water Formation Volume Factor ■ Water Viscosity ■ Gas-Water Ratio ■ Rock Compressibility Total Isothermal Compressibility. Includes unit management systems subroutine.

Stock #15039 (Petroleum Fluids Module)\$73.95

Circuit Analysis

HEWLETT PACKARD

General Network Analysis ■ Ladder Network Analysis Stock #15006 (Circuit Analysis Module)\$42.95

Machine Design

Circular Cams ■ Generation of a Four Bar Linkage ■ Progression of a Four Bar System ■ Forces ■ Standard External Involute Spur Gears ■ Helical Sprin Design Forced Oscillator with Arbitrary Function Coordinate Transformation ■ Points on a Circle ■ Circle by Three Points ■ Unit Conversions

Application Pacs continued Engineering continued

Thermal and **Transport Science**

PACKARD

Equations of State Polytropic Processes for an Ideal Gas Isentropic Flow for Ideal Gases ■ Conduit Flow ■ Energy Equation for Steady Flow ■ Heat Exchanges ■ Black Body Thermal Radiation ■ Includes unit management system subroutines

Stock #15019 (Thermal and Transp Science Module)\$42.95

Cv-PAK VALVE Sizing/Noise Module

Impress your clients with immediate answers to lengthy valve sizing and noise calculations evaluate alternatives by touching a button! Portable. Inexpensive.



Cv-PAK is menu-driven with prompts in plain English using standard industry terminology. Solves for Cv, flow, pressure drop; gas/vapor/steam sizingvol or weight flow; noise; outlet mach number; liquid sizing with flashing and cavitation warnings; MUCH MORE. Programs may be used as subroutines, too.

User's Manual with instructions, sample problems and reference tables; Quick

Stock #735 (Cv-PAK Module) List \$275.....\$199.95

Navigation/Surveying

KEYS **Surveying Module**

Fred Mc Michael, P.L.S.

Access routines with one or two keystrokes-no spelling out! Choice of output in bearings and/or N. or S. azimuths.

Routines included are traverse, inverse, B-B, B-D, D-D intersects, radial stakeout, rotation, trig levels, sideshots, sideshots with trig levels, offsets from a line or curve with stationing, offset intersections, slide line and swing line area cutoffs, three points on a circle, horizontal curve stakeout, curve solutions, point to point area and traverse or inverse area including curved sides, renumber, coordinate list, directions definable by point numbers, numerous automatic entries, coordinate prompting for unused points, contours, stake set, slope reduction, double angles and feet to meters conversion with optional output during sideshots, hour angle sunshot using ephemeris, compass and advance compass traverse adjustment. All file handling routines.

Requires HP-41CX (or HP-41CV with Extended Functions Module). Stores 62 points, or add an Extended Memory Module to store 181 points, or add two to store 300 points (or put 5000 points on disc or cassette).

Stock #901 (KEYS Surveying Module) List \$200\$189.95

Navcom

AP Systems

Eliminates the drudgery—automatically applies sextant corrections, automatically records sights with built-in quartz clock time, automatically updates position for fixes. Built-in perpetual almanac. All prompts and answers displayed in plain English.



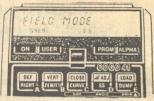
Requires HP 41CX. Pop-in module includes all functions of HP Nav Module

Stock #813 (Navcom Module) List \$189.	\$169.95
Stock #813M, Navcom Manual only	\$10
Stock #813R (Navcom, Module only)	\$159.95

COGO 41-Module 1.3

10°Ziem

Surveyors!



- Touchpad dustproofs keyboard, makes this module easy to learn, easy to use
- 16K ROM gives menu selection for programs and solutions routines
- Common unit-conversions are right on the keyboard
- 3 quick-change modes for Field, Office and Field Layout
- Input direct from instrument via interface and IL

Field mode allows multiple input of angles and distances during a traverse. The angular error/turn is displayed with the closing routine and may be autoadjusted. Store by point number with 2- or 3-dimensional coordinates.

Office mode assumes angle and distance inputs have been meaned. Full coordinate geometry for intersections using brg-brg, brg-dist, dist-dist and offset to a line, plus intersections of spiral and circular curves with other curves and lines. Predetermined areas, coordinate transformation, all from stored coordi-

Field layout mode includes Remote Slope Staking, Topographic Pickup and Alignment Layout by station and offset. Lay out the curbs along Street Intersections, Cul-de-Sacs, etc., with a few keystrokes. Requires extended functions

Stock #913 (COGO 41 Module)\$229.95

Surveying

HEWLETT PACKARD

Traverse, Inverse and Sideshots ■ Compass Rule Adjustment ■ Transit Rule Adjustment ■ Intersections ■ Curve Solutions ■ Horizontal Curve Layout ■ Vertical Curves and Grades ■ Resection ■ Predetermined Area ■ Volume by Average End Area ■ Volume by Borrow Pit ■ Coordinate Transformation

Business/Finance

HP-41CV Module for Scoring and Editing Film and Videotape

RHODES Systems

- **■**Producers
- **■**Engineers
- ■Editors
- **■**Composers
- Arrangers

Fantastie Remainder Sale!

This module makes your HP-41CV (or CX) into an all-in-one, automated system that converts the various measurements of time used in film, videotape and music to describe a point-in-time, elapsed time and tempo.

With it you can combine the elements of time, tempo, and beat to properly execute a score that matches a motion picture—it solves all your practical math problems! Designed by a musician, it really works-invaluable!

Module comes with comprehensive Manual and Keyboard Overlay. Originally \$ 99.95 \$199.00 sold at \$935 worldwide.

Stock #2241 [41 Score/Edit Module] sale price.

Financial Decisions

PACKARD

Compound Interest Solutions ■ Internal Rate of Return ■ Modified Internal Rate of Return ■ Net Present Value ■ Loan Amortization Schedules ■ Depreciation Schedules ■ Bond Price and Yield ■ Days Between Dates

Check out anything you want without risking a penny. At EduCALC you get a two week return privilege.

Application Pacs continued Business/Finance continued

Securities

PACKARD

Bond/Note Price and Yield ■ Routines for Option Writers Using the Black-Scholes Evaluation Method ■ Warrant and Option Hedging ■ Butterfly Options ■ Yield on Call Options Sales ■ Bull Spread Option Strategy ■ Convertible Security Analysis ■ Stock Portfolio Valuation ■ Bond Speculation Using Margin ■ Convertible Bond Investment Analysis

Stock #15026 (Securities Module)\$42.95

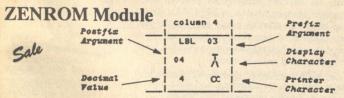
Real Estate

M HEWLETT

Compound Interest and Loan Amortization ■ Internal Rate of Return ■ Modified Internal Rate of Return ■ Net Present Value ■ Depreciation Schedules ■ Income Property Analysis ■ The Rent or Buy Decision ■ Price and Yield of a Mortgage Traded at Discount/Premium ■ APR of a Loan with Fees ■ Present Value of an Increasing/Decreasing Annuity

Stock #15016 (Real Estate Module)\$44.95

Utilities/Subroutines



A Synthetiker's delight—it's like doubling the memory of your HP 41. Just plug in this 4K machine-language ROM and ALL SYNTHETIC FUNCTIONS become automatic and commonplace, without key assignments or memory used. Keyboard overlay included to show all the options for synthetic text functions. RAM Editor function works anyplace in RAM. Machine Code Editor function accesses any place in ROM (edits any plugged-in MLDL or Protocoder II).

ZEPROMs are programmable/erasable/reprogrammable plug-in modules that fit the HP 41. Made by Zengrange Ltd, they can accommodate User Code,M Code or both. They can be erased and reprogrammed without dismantling the module case.

Best of all, ZEPROMs have been fully tested to British and NATO military Stock #550M, Manual only\$19.95 Stock #550R (ZENROM, Module only).....\$109.95 Stock #864 (ZEPROM blank modules).....\$125.95 Stock #894 (Voltage Converter)\$69.95 Stock #864HP [ZEPROM 16K module blank].....\$89.95 The HP version consumes 21/2 times as much power during run time.

Extended I/O

PACKARD

Char.	Code	Char.	Code	Char.	Code
	0	3	51	N	78
¥	1	4	52	0	79
X	4	5	53	P	80
Y	5	6	54	Q	81
7	6	7	55	R	82
μ	12	8	56	S	83
4	13	9	57	T	84

The module provides 59 functions which extend the I/O capabilities of the HP 41 beyond those provided by the HP IL Module (82160). HP IL Module is required for use with most functions of the extended I/O Module. With the Extended I/O Module, the HP 41 can be used to control HP IL devices or non HP IL instruments through HP IL interfaces. Extended I/O functions can be divided into 4 main categories:

1. Mass storage functions

2. Character manipulation functions

3. HP IL control functions

4. Advanced control functions

Stock #82183A (Extended I/O Module) List \$75.....\$63.75

HP 41 Calculators

Combined Modules

Not Enough HP 41 Ports?

S.O.S. Combine two or three HP 41 modules into one!

Dual Modules-Combine a Quad Memory, Extended Memory or Time Module with each other or any normal Application Pac.

Triple Modules-Combine one Extended Functions and two Extended Memory

Modules (this is the most common), or any one normal Application Pac with two Extended Memory Modules (HP 41CX).

HP IL Conversion-Your HP IL can be combined with either the HP IL Development, Extended I/O or Plotter Module. All conversions are warranted by S.O.S. (not HP) for 1 year after conversion. Please allow 2 to 3 weeks, list any modules that you are enclosing for conversion on the order form and indicate that they are supplied by you. Price of service does not include modules.

Stock #531D [Double Module Conversion]\$30.00 Stock #531T [Triple Module Conversion]\$55.00 Stock #531L [HP IL Conversion].....\$45.00

EPROM Modules

EPROM Services

Your program or data can now be burned into an EPROM. All you need to supply is your worksheet and your program data on a cassette, disk or magnetic cards (2 sets of mag cards required). What you get is an EPROM containing your program data. Send for your free programming worksheet (Stock #617V). Allow 2 weeks for the programming. Completed worksheet required.

Stock #677 (programming EPROM 16K)

Original Duplicates \$105 \$15 each

Custom EPROM Modules No Longer Available for the HP 41

You can have your own programs burned into a custom EPROM module in SMALL QUANTITIES! These are the same size as HP modules and merely plug into any port.

That means you can test market just a few, or supply only a few of your salesmen with proprietary programs. Send your programs and worksheet on cassette tape, disc, or cards. Allow 2 wks.

In addition to the blank module (priced below), burn-in costs range from \$45 to \$105 per unit and \$10 to \$15 for duplicates (see EPROM Services, below). Worksheet required. Limited quantities.

Stock #841 [CMT 10-4K] List \$95\$89.95 Stock #595 [CMT 10-8K] List \$110\$99.95 Stock #617V, Worksheet Free

Swap Discs

Public domain software for the HP 41, HP 71 and HP 75 is available for the cost of a blank 3 1/2" disc (\$1.98 each). This is a service and not a product, as most of the programs are not documented and none are supported in any way. See Technical Note Listing 26 (page 39 of this catalog) for details.

Stock #DSK1 (CHHU01) 45/111/105 Stock #DSK2 (CHHU02) 82/79/133 Stock #DSK3 (CHHU03) 242/51/99 Stock #DSK4 (CHHU04) 9/148/9 Stock #DSK5 (CHHU05) 1/216/0

45/111/105 means 45 HP 41 files, 111 HP 71 files, and 105 HP 75 files on the disc. Most HP user groups have details on the disc

We guarantee everything we sell. You may return it to us in new condition within two weeks for a full refund, no questions asked.

EPROM Modules continued

One at a Time Zeprom Programmer (Voltage Converter)

Zengrange

Burn your own custom programs with this low volume, low cost EPROM burner. Easy to use—merely plugs into an HP 41 port and a Zeprom is plugged into it. Building a useable ROM image

does require some skill, but if you're familiar with the use of the Zenrom, for instance, you'll find it simple to command.

Stock #864S (Pgmr + blank EPROM #864HP)\$149.95

Soft/Bookware

Advanced Programming Tips for the HP 41 by McCornack/Jarett

For serious programmers—explains modular programming (and how to save bytes and running time), synthetic programming (with several unpublished techniques and line-byline analyses of many programs), M-code (so you can decide if this area of programming is for you), and application routines (with discussions of several for the ZENROM and CCD modules). Bar code included for the programs.

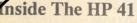
Stock #491, 41 Adv Programming Tips, 340p sftbnd\$20.95



While supplies last

Beginners, look no further. Here is your book—straightforward and clear, brief and free of technobabble. This treatment is itself programmed, so if you have some experience, you are led quickly to the topic you need. Authors Ted Wadman and Chris Coffin are former the employees, and they know their stuff—they also know how to make it easy and make it fun.

Stock #193, Easy Programmg HP 41, 255p spiralbnd\$21.9



by Jean-Daniel Dodin

(translated from the French by Mary-Denise Dodin and I. Vandenabbeele; revised and edited by Wilson W. Holes)

Discover the secrets of your HP 41! Here is your intermediate-level tour through its inner workings. Learn about memory structure, the status registers, the byte grabber, synthetic programming, and microcode — the language of

the HP 41's microprocessor. See examples of the intricate internal programming of the HP 41, the microcode that makes the HP 41 what it is.

Stock #355, Inside the HP 41, 256p softbound\$12.95



An Easy Course

In Programming The

Programming the HP 41C/CV/CX 2nd Edn

by Thomas Adams

Give this step-by-step course a half-hour every day and you'll soon be a programming pro. The author has himself written many (medical) programs for the HP User's Library—now he shows you how with lots of examples, charts, diagrams and illustrations.

Despite its intermediate level, this introductory book has no prerequisites, and you can follow it with any model of the HP 41.

HP 41 Extended Functions Made Easy by Keith Jarett

If you own an HP 41CX or an Extended Functions Module, you need this book. If HP's manuals have left you wondering whether you can really do anything useful with your Extended Functions/Memory Module or HP 41CXs, it's not your fault. The manuals barely begin to describe their capabilities. This book explains each function fully at an intermediate—to—advanced level, giving examples and typical uses.

Application programs include: a mailing list manager, a text editor, a root finder, differentiator, integrator, and much more. Chapter 10 has several powerful synthetic utility programs (with barcode) for advanced users or wand owners. Put your Extended Functions and Extended Memory to work!

Extend Your HP 41

by Wlodek Mier-Jedrzejowicz

This is the definitive work on the HP 41!

The ULTIMATE REFERENCE BOOK for your HP 41 system—plus many hours of FASCINATING READING. The first 200 pages show a beginner how to make full and efficient use of his instrument; even experts will appreciate some of the clever programming hints in this advanced—level book.

Next come explanations of Time and Extended Functions, and Extended Memory, with a full discussion of peripherals and modules (including the Advantage). The last 200 pages introduces synthetic programming and illustrates several new SP tricks,

covering PRP and PAC functions plus synthetic key assignments that use no synthetic instructions! Appendices include bar code and a list of system bugs.

This is the largest and most complete collection of useful facts for the HP 41 system—no 41 owner should be without it.

Stock #621, Extend your HP 41, 670p softbound. 26.95 \$29.95

Statics for Students Using your HP 41 Advantage

by Wadman/Coffin

Breeze through the hundreds of homework, test, and exam problems you encounter in a statics class—just use this book's program and your HP 41CV or CX and Advantage ROM.

Merely draw the picture for your calculator, inputting coordinates of pertinent points and known loads on the structure. Then you choose either to sum the known moments and forces about the origin, or to input the orientation of 3 unknown reactions and solve for their magnitudes—it's that easy!

You can solve the internal forces of a structure by the 'method of sections' with a few keystrokes—that's power! Yet you can quickly calculate simple unings, too, like the supporting reactions of a cantilever beam.

Comes with program listings, bar code, and easy-to-take instructions. There's even a review of statics principles and the math.

Stock #634, Statics Advantage, 80p softbound......\$11.95



HP-41 EXTENDED FUNCT MADE EASY

46

(800) 677-7001 for Technical Support, 8-5, M-F OR

D'Zign Surveyor's Software

Soft/Bookware continued

Point Storage Conversions Booklets

Combined, these booklets turn your existing HP Surveying Pac into a complete Point-Storage System. Use them separately or together. Requires HP 41, Survey Pac and a few minutes time for editing. Each booklet contains program listing, user instructions and keystroke examples; also available with all programs on magnetic cards.

Traverse, Inverse and Sideshots

Works just like the Survey Pac you're used to, but it stores the co-ordinates as it calculates them. A short driver program also does really fast radial inversing between the stored points for radial stakeout.



A built-in compass adjustment routine not only adjusts the coordinates, it also inverses between them as it makes the adjustment. No need to re-input the adjusted coordinates to get the new bearings and distances.

	Trav/Inv/Sideshots,		
Stock #536	M (Trav/Inv/Sideshot	ts, Mag Cards	incl)\$12.95

Coordinate Transformation

Rotate or re-scale the coordinates you stored as you calculated the traverse, or input the coordinates manually. Eliminates the need for inversing with the traverse routine after rotation or scaling of coordinates, because the inversing is done automatically as the coordinates are changed. Takes half the time of the Survey Pac program.

Stock #886, Coordinate Transform, 20p combbound\$6.95
Stock #886M (Coord Transform, Mag Cards incl)\$12.95

Intersection Solutions

Predetermined Areas

Stock #889, Predetermined Areas, 20p combbound	\$6.95
Stock #889M (Predetermined Areas, Mag Cards incl)	\$12.95
These Point Storage Conversions have been programmed for you	r PC (with

These Point Storage Conversions have been programmed for your PC (with 512K and DOS 3) by Tacit Logic, Inc. Requires CALC-41, stock # S-747C, installed. You can either key in your present data to your PC or use ELI-IL or SX-232 software to transfer field information from your HP 41. Illustrated manual included.

Stock #2086 (PC Point Storage Conversions, 51/4	\$49.95
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Solutions Booklets

D'Zign

Quick solutions to a surveyor's everyday problems—programs for use in HP 41 with Survey Pac.

Spiral Curve Solutions

The only complete spiral curve program for a handheld! Contains the standard Deflection-Chord and Tangent-Off-set solutions, and will also calculate the coordinates of any station or offset to a station anywhere within the system.

DC program	roquires CAT	C 41 -11- # C 7470		
re program	requires CAL	C-41, stock # S-747C,	installed.	
C41- #2007	mag . I	0 01 010		
Stock #208/	(PC Spiral	Curve Solns, 51/4")		\$29.95
				427.70

Vertical Alignment Solutions

Calculate continuous vertical alignment without changing back and forth between grade and curve routines. Output is in a form that makes sense and prevents mistakes.

Asymmetrical curves are handled as easily as symmetrical. Includes a routine for calculating compounded or reverse vertical curves.

5	Stock #885, Vertical Alignment Sols, 16p combbound
5	Stock #885M (Vertical Alignment, Mag Cards incl)\$12.95

Triangle Solutions

Three sides known: Side-Angle-Side, Side-Angle, Angle, Side-Side-Angle, Angle-Side-Angle. Area known: Area-Side-Angle, Area-Angle-Angle or Area-Side-Side. If there are 2 possible solutions to a problem, both are output. Stock #890, Triangle Solutions, 14p combbound \$6.95 Stock #890M (Triangle Solutions, Mag Cards incl) \$12.95 PC program requires CALC-41, stock # S-747C, installed. Stock #2088 (PC Triangle Solutions, 5½") \$29.95

EDM Slope Staking

Set slope stakes with your EDM. Program reduces each shot to the information needed to make out the stake. Subroutine gives the angle and distance for setting the reference stake, then produces the information to put on it.

HP 41CV/CX Surveying Field Solutions

Available September

These programs work! They're being used right now on the BART, Los Angeles and Seattle rapid transit projects. This is due in part to the automatic stakeout routines for the alignment programs—there are no other programs available which will automatically calculate and inverse to offsets to a spiral curve.

The Topo and As-built programs work without a data collector or interface to theodolite. With a printer, the field data is broken down to ready-to-plot form in the field, as shots are taken (and with few keystrokes).

Field Layout programs are Radial Inverse, Alignment & Offsets, Auto-Inverse. Spiral Curves programs are Deflection & Chord, Alignment & Offset, Auto-Inverse, Tangent Offset, Radial Inverse. Field Location programs are Topo, As-builts, Remote Slope Staking, Tunnel Tights. Triangle Solutions.

All in all, this contains over 2000 lines of program listings—programs are also available separately on magnetic cards.

Stock #417, Su	rvey Field Sol,	116p combbound	\$21.50
		Surv Field Sol)	

Geometrics Solutions

Do you design or lay out subdivisions?

All you need to know are the street widths and the radii—you'll have solutions in minutes, with your HP 41 CV/CX.

Street intersections, cul-de-sacs, bulbs and knuckles are solved, with or without coordinate output. Or, you can calculate complete radial layout of a cul-de-sac or street intersection quickly, starting from scratch! No more switching back and forth between traverse, intersection and curve programs!

Book includes complete instructions with program listings. Programs also available already keyed in, on mag cards.

Stock #449, Geometrics Solutions, 94p combound\$19.95 Stock #449C (Programmed Mag Cards only)\$19.95

User's Library Software Catalog for your HP 71/HP 41

The list of topics is enormous—from crop science to computer science, from payroll to marketing, plus every engineering speciality and every field of numerical math and statistics, and physics and chemistry, and social sciences. Many of these will work for you.

Stock #202B, User's Library Software Catalog\$12.95

Soft/Bookware continued **SOLUTION BOOKS For The HP 41** Only \$14.50 Each!

The solution books provide step-by-step keystroke listings for specific problems in specific disciplines. Although they are not as convenient as the Application Modules, they cover more programming details in many of the same areas. They are perfect for the person who is involved in specific programming solutions, program modifications, or as a reference program library. Available titles are:

Stock #90093, Antennas	\$14.50
Stock #90094, Business Statistics/Marketing/Sales	
Stock #90094, Business Statistics/Wat Ketting/Sales	\$14.50
Stock #90145, Calendars	\$14.50
Stock #90100, Chemical Engineering	¢14.50
Stock #90102, Chemistry	014.50
Stock #90089, Civil Engineering	
Stock #90092. Control Systems	\$14.50
Stock #90088 Electrical Engineering	\$14.50
Stock #90139. Fluid Dynamics & Hydraulics	\$14.50
Stock #00000 Cames	\$14.50
Stock #90443 Games II	\$14.50
Stock #90084, Geometry	\$14.50
Stock #90140, Heating, Ventilating & Air Conditing	\$14.50
Stock #90083, High-Level Math	\$14.50
Stock #90096, Home Construction Estimating	\$14.50
Stock #90086, Lending, Savings, & Leasing	\$14.50
Stock #90090, Mechanical Engineering	\$14.50
Stock #90090, Mechanical Engineering Stock #90144, Optometry II (Contact Lens)	\$14.50
Stock #90144, Optometry II (Contact Lens)	\$14.50
Stock #90142, Physics	\$14.50
Stock #90136, Real Estate	\$14.50
Stock #90137, Small Business	
Stock #90138, Solar Engineering	\$14.50
Stock #90441, Structural Design (cassette based)	\$35.00
Stock #90141 Surveying	\$14.50
Stock #90082. Test Statistics	\$14.50
Stock #90395, Time Module Solutions I	\$14.50

HP Manuals in Spanish

III Manigar	
Stock #90514, HP 41	CX Supp to CV Owner's Man (Sp)\$6.95
Detect # Poor To TYP 4:	CV Owner's Manual (Sn) \$19.95
Stock #90530, HP 4.	C V Owner S Manual (Sp)
Stock #90540, HP 4	CV Quick Reference Guide (Sp)\$4.95
Denete uson to and	

Need Extra OWNER'S MANUALS?

Stock #90526, HP 41CV Owner's Man-Basic Oper	\$10.00
Stock #90474, HP 41CX Owner's Handbook, Vol I	\$10.00
Stock #90492, HP 41CX Owner's Handbook, Vol II	\$15.00
Stock #90492, HP 41CA Owner's Handbook, voi it	\$5.00
Stock #701, Card Readers Owner's Handbook	\$6.00
Stock #703, HP 82143A Printer/Plotter Owner's Hndbk	
Stock #705, Optical Wand Owner's Handbook	\$5.00
Stock #707. "Creating Your Own Bar Code" Man	\$15.00
Stock #714, Ext Funct/Mem Mod Owner's Hndbk	\$10.00
Stock #715, Time Mod Owner's Handbook	\$15.00
Stock #90531, Operation in Detail (CV)	\$14.95
Stock #90551, Operation in Detail (CV)	\$9.95
Stock #876, Ext I/O Module Owner's Hndbk	\$26.95
Stock #877, Plotter Module Owner's Hndbk	\$9.95
Stock #2103, Infrared Printer Owner's Hndbk	39.93

Computer Science on your HP 41 using the Advantage ROM

by Ed Keefe

Turn your 41 into an HP 16C! Here's a powerful program in book form, with bar code as well as complete program listing-all done in Grapevine's easy-tounderstand style.

Stock #485, Cmptr Sci on your HP 41, 183p wirebnd\$14.95

Nonparametric Statistics on the HP 41

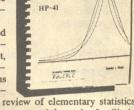
by Don Vargo

ATTENTION behavioral, biological and physical scientists: if you're using these popular new methods with a stat pac on a big computer, you're in for a pleasant surprise! On your HP 41 these same tests become straight-forward and forgiving, and errors are easy to correct.

13 tests in all, for One Sample and Matched Observations, Two Samples' Location and Dispersion, Analysis of Variance, Goodness of Fit, and Independence. These programs have a common treatment here, with complete discussions

and examples. The manual begins with an introduction to nonparametric methods and a brief review of elementary statistics. Requires an HP 41CV or HP 41C with quad memory module, and a familiarity with inferential statistics.

Stock #307, Nonparametric Stat, 166p softbound \$ 9.95



NONPARAMETRIC

STATISTICS

Synthetic Programming EduCALC does support Synthetic Programming

Synthetic Programming on the HP 41C

by William Wickes



The first and still the most complete and detailed book on the subject. Some of the techniques covered are: Addition of 21 'new' display characters; transformation of the alpha register into 4 additional registers, to use as a scratch pad which does not disturb data stored by other programs; enhanced user control over the 56 user and system flags, such as clearing all 56 simultaneously; SIZE finding automatically in less than 2 seconds; rapid alphabetizing of alpha data; alpha character string processing; 6 new TONE frequencies plus variation of TONE duration; improved key assignment control, like SF 14 or GTO IND X on a single key. A Card Reader or Wand would be very helpful. Stock #92, Synthetic Prog, 96p softbound\$10.95

Synthetic Programming Made Easy

by Keith Jarett

The best introduction to SP for the uninitiated. Highly readable, it uses all the latest simplified techniques, including 'byte grabbing' and 'byte loading', to make the learning fun and easier than ever before. Contains up-to-date programs, including Extended Functions and Time Module applications. Includes a plastic Quick Reference Card (41-92C) for Synthetic Programming. All the basics are here, with a full cross-reference to other sources. By Chapter 3 you will be able to key up synthetic programs from the HP User's Library or any other source. No peripherals or modules required, but a Card Reader, XFUNCTION Module, or Wand will be helpful. Bar code for all programs is included. \$ 9.95 \$16.95

HP Programs on Your PC!

Write or Run any HP 41 program on your PC. You can even download programs to your HP 41. See CALC-41 (page 58)

HP 41 Coding Sheets

EduCALC

Use this professional tool to get professional results that look professional. With these two-sided, 11×17 inch forms you can jot it all down: There's systematic space for Keyboard Labeling, System Configuration, Card Labels, Function Assignments, 224 Program Steps with Comments. Plenty of room, and it's so easy with this form to organize everything and remind yourself of details.

Now you'll be able to compose programs faster, with fewer bugs. Your associates will be able to read and follow your programs, and they'll be impressed by

Stock #572 [HP 41 Coding Sheets, 25 sheets]......\$6.95

HP-IL Interface Loop

Disc/Cassette Drives continued HP IL RAM Disc

■ 128K, 256K, or 512K

truly rugged

portable, hand-held

RS-232 interface (opt.)

No Longer Available

Southern Software

At last — super-big, superfast memory for your HP 41C, HP 71B, HP 75D, HP 110 or

Portable Plus (or IBM-PC with Link Card). Uses same command set as 82161 Cassette Drive and same extended commands as 9114 Disc Drive System.

About the size of the 41C, the RAM Disc is powered by a standard 9 v alkaline battery, and is engineered for low drain. There is an on-board lithium battery that keeps data intact for over five months (should the main source run down). Allow two weeks for delivery.

With RS-232 19 pin option, RAM Disc is same physical size but has functionality of 82164 HP IL/RS-232 Interface. Two week delivery.

Stock #820A [128K RAM] List \$345	\$325.95
Stock #820B [128K RAM/RS-232] List \$445	\$415.95
Stock #820C [256K RAM] List \$495	\$449.95
Stock #820D [256K RAM/RS-232] List \$595	\$539.95
Stock #820E [512K RAM] List \$795	\$705.95
Stock #820F [512K RAM/RS-232] List \$895	
Stock #9VN [NiCd Battery Pack]	\$8.95
Stock #820H [AC Adapter/Recharger]	\$7.00
Stock #820R [RS-232 only]	\$259.95
7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	3437.73

Interfaces

LINK Plus

■ Would you like a Big Monitor for your HP 41, 71 or 75?

■ Want a Page Printer? ■ How about a DISC DRIVE for storage?

A Big Keyboard? A Mouse? You can have it all—for less than the cost of one single peripheral! This program links your HP 41, 71 or 75 via HP IL to an IBM PC/Compatible or Vectra, or an HP 150. (The IBM and HP 150 versions require the 82973 Port—

able/Desktop Link card which has the HP IL capabilities.) With Link you will never

With Link you will never have to buy another gizmo for your handheld. It has four modes of operation which you choose from a menu on the PC (or set mode from the handheld). Three of the modes

are the emulators for disc drive, printer and video display. They do what you expect.

Mode 4 is not an emulator. In it the PC appears as an interface device on the loop. The handheld can output data ('write') to any DOS file or device and it can also input data ('read') from it. It gives you access to any DOS file on your PC. You can read/write text files, binary or hexadecimal data, etc. LINK enables you to move the file pointer around so that you can add on to the end of an existing file, overwrite previous data, etc.

Manual gives detailed examples for each handheld for each mode plus a complete listing of responses to HP IL messages. Choice of disc size

Stock #785 (Link, 5¼") List \$85	\$79.95
Stock #785A (Link, 3½" IBM) List \$85	\$79.95
Stock #786 (Link, 3½" HP Format) List \$85	\$79.95
Stock #786L, Literature	Free

Disc/Cassette Drives

Your HP 41, HP 71 or HP 75 can plug into any of the following peripherals if it is equipped with the HP IL (Interface Loop).

Digital Cassette Drive

Programmers' Aids

Here's where you find...

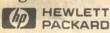
Disc/Cassette Drives

Interfaces Accessories

Bookware

Surplus Gear

Printers





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51

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53

The Digital Cassette Drive uses a digital-quality mini-cassette capable of storing up to 128K bytes of information. Files can be located by name easily on this cassette drive. Rewind time is under 30 seconds and read/write operations are executed at 9 inches per second. Search speed is 30 inches per second.

All tape movement is under microprocessor control. Buffer space is provided in the Drive for temporary storage of directory information to help minimize access time and tape motion. The HP82161 can locate files when under program control. It also features STANDBY mode, enabling an HP IL controller to turn the Drive on or off remotely. This unique feature helps extend system battery life and allows for system operation in remote applications.

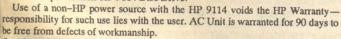
The Drive uses a two-motor system to move the tape past a two-track magnetic head specially designed to resist data alteration due to externally generated magnetic fields. Owner's Handbook included.

O	
Stock #82161A [Digital Cassette Drive] List \$250	\$189.95
Stock #82176A [Data Mini-Cassette]	\$9.50
Stock #82176-10 [10 Data Mini-Cassettes]	\$88.95
Stock #82177A [Cassette Labels, blank]	\$14 95
Stock #82167A [HP IL Cable, ½ meter]	\$5.95
Stock #82167B [HP IL Cable, 1 meter]	\$7.95
Stock #82167D [HP IL Cable, 5 meters]	\$9.95
Stock #82033A [Rechargeable Battery Pack]	\$24.95
Stock #82059D [Recharger]	\$18.95
6-1	Ф10.73

AC Power Supply

S.O.S.

Outputs a non-regulated 6-9 volts at up to 3 amps, connected to a standard Cinch-Jones receptacle. Several of our customers have reported complete success using this AC Unit to power their HP 9114 Disc Drive.



Stock #480 [AC Power Supply Unit].....\$69.95

We guarantee everything we sell. You may return it to us in new condition within two weeks for a full refund, no questions asked.



HP-IL Interface Loop

Interfaces continued PC/HPIL Interface Card

interloop

Half-size card has IL ports, 4 auxiliary optically-isolated ports (2 in, 2 out), and 1 TTL-compatible digital output. TTL port can control non-IL functions like relays, motors, solenoids, reading switches and status bits. Outputs can trigger power-up of HP IL devices. Auxiliary ports provide fused +5V, +12V and -12V outputs at an edge-mounted D-15 connector.

Comes with DOS-resident driver software and programming examples in T-

Pascal, T-Basic and GW-Basic.

Stock #IL150 [150PC/HPIL Intrfc Card] List \$290.....\$249.95

Interface Adapter: Toshiba T1000 to HPIL

interloop

Special Order Only

■ Machine Control ■ Office Equipment Card installs internally in T1000 laptop computer to make the T1000 nto an HPIL controller or device-up up to 23 devices per loop, with transformer isolation

and common mode noise immunity. DOS-resident device driver included on diskette which uses INT 54 calls for interfacing with user software. Programming examples provided in Quick Basic 4.5 and Turbo Pascal.

Stock #IL160 [T1000/HPIL Interface] List \$250\$229.95

Specialized Digital Products from Interloop Stock #IL201 [Step Motor Driver] List \$830......\$799.95 Stock #IL210 [I/O Interface] List \$575.....\$529.95 Stock #IL211 [I/O Interface, Digital only] List \$435\$399.95 Stock #IL230 [I/O Driver] List \$410.....\$374.95 Stock #IL231 [I/O Driver, Protected (LM395)] List \$450 \$414.95 Stock #IL235 [Temperature I/O] List \$270\$249.95 Stock #IL236 [I/O Driver 8/8] List \$185\$169.95

HP IL to Video Interface (82163)

You can show sixteen 32 character lines on a VHF TV set or TV monitoruse it to develop your programs—make group presentations — all from your HP 41, 71 or 75.

Display white characters on black, or inverse. Memory holds 31 lines, so you can scroll them quickly. AC adapter included.

Stock #82163A [Video Interface] List \$225\$67.50

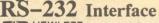
HP IL Interface Card for PC/Compatibles

M HEWLETT

Transfer spreadsheets or data between your PC and the HP 110 or use your PC as controller on the IL loop. This card goes in a slot inside your PC and enables the PC to be a peripheral device on a loop controlled by the 110; the PC may also be a loop controller using IL-peripheral devices (but not both at once).

Comes with Interface Software Disc' containing Owner's Manual, 1 m HP IL Cable and Service Card.

Stock #82973A [HP IL/IBM PC, Card] List \$173.....\$144.95 Stock #82167D [5 m HP IL Cable]\$9.95



HEWLETT PACKARD

The Most Popular Communications Interface is Now Available for Your HP 41, HP 71 or HP 75.

The HP IL/RS-232C interface is fully asynchronous and bit-serial which lets your handheld talk to and work with other computers, terminals, peripherals, and modems. It features an input and output buffer, in-

terface control logic, function keys and local or remote operating states. Ex-

tended I/O module required for most HP 41 applications. Stock #82164A [RS-232 Interface] List \$295.....\$249.95

HP IL/HP IB Interface



Ground

5 volts

Ground

Handshaking out

Handsnaking in.

Received data +

Received data -

Transmitted data -

Transmitted data +

You can connect the HP 41, HP 71 or HP 75 to some of the most sophisticated computer equipment anywhere. This interface expands your handheld's control and communications capabilities by linking low-cost HP IL systems with high-performance HP IB (IEEE488) computers and lab equipment. It gives you the option of using over 120 HP IB compatible devices, not to mention many more offered by other manufacturers.

Stock #82169A [HP IL/HP IB Interface] List \$395\$334.95 Stock #82169L, HP IL/HP IB Interface Literature Free

See page 41 for HP IL Module

Read our mail from Texas—

"Please tell all of your employees to keep up the good work. They will keep and expand their jobs by solving the customers' problems immediately, as they are doing and not by trying to pass the problem along to someone else. I am amazed that so few people really understand that their primary job is to take care of, and take over, customer prob-1ems." Robert L. McIntyre, Brownsville

Accessories

Battle Cases Carry your HP IL System or a Peripheral safely

EduCALC

Guarantee

■ High tech — a double-wall shell of tough, solid, blow molded polyethylene

■ Low cost—we've had it made to fit your gear, and we pass along the savings (no middleman)

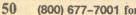
■ Hard-sided—so strong you can stand on it, resists abuse, dust and common chemicals

Handsome, a double-wall construction with trapped air layer insulates contents from shocks, vibration, temperature changes (it also provides flotation for your gear when the canoe turns over). Cannot be opened upside down by mistake, Lockable,

File folder installed inside lid for your papers and programs. Cubed foam interiors—3 layers of partially pre-cut 1-inch cubes that you pluck out by hand to fit your gear. Plus foam liner layer.

Systems Case is 171/4×12×3 inches inside—it will fit your HP 41, 71 or 75 system. Wires may be run under foam for in-case operation.

IT'S EASY TO ORDER—use the order form at the rear of this catalog (it folds up to be its own envelope with printed address)



Save 70%

HP-IL Interface Loop

Printers

ThinkJet 80 Column ThinkJet Printer

■ HP IL Driven: Use it with your HP 41, HP 71, HP 75, or HP 110!

■ Portable: Weighs 5½ lb, and it's battery powered!

Super Quiet: Revolutionary print-head operates well below 50db noise level.

Cost Effective: Under \$400, with HP reliability.

■ Fast: 150 Characters per second.

■ High-Quality Print: With an 11 by 12 dot matrix, bidirectional, logic-seeking, 1KB buffer, and it does underlining or boldface in one pass!

We were skeptical when we first heard from HP about this new printer. A glance at those specs above makes it seem like having your cake and eating it too. The explanation is simple but startling: 'THINKJET' stands for THermal INK JET, which is a highly innovative technology that scales down all the virtues of big, fast ink-jet printers to a portable size. It cost HP five and a half years of research and development, with a big-bucks budget—and, naturally, it is very popular (which means that you should let us know right away that you want yours).

InkJet means that tiny drops of ink are squirted onto the paper, so the printhead never actually touches the paper. That's why it's so quiet. That's also why it needs no ribbon; instead, you simply replace the printhead for just \$10.95. The ink cartridge is right in the head—enough for more than 500 pages of text. Incidentally, 'Thermal' means that the head boils the ink to paint it onto the paper.

More Facts: Size 3.5"H×11.5"W×8.1"D—6 2/3" print line on 8½" paper—graphics resolution 96×96 or 192×96 dots per inch—text resolution 11×12 dots per character—print pitches: normal, expanded, compressed, expanded-compressed—print modes: boldface, underline—6 or 8 lines per vertical inch—rich ROMAN8 character set, for Danish, Dutch, English, Finnish, French, German, Italian, Norwegian, Portuguese, Spanish, and Swedish—pin feed for fanfold paper and friction feed for single sheets—8.5"×11" paper or size A4 (21.0×29.7cm)—product life 3,500,000 lines or 100,000 pages—20 watts max, operates from 50° to 104° F.

ThinkJet COLOR Printing! Stock #51605B [Blue Ink Cartridge for 2225] List \$13\$10.95 Stock #51605G [Green Ink Cart for 2225] List \$13\$10.95 Stock #51605R [Red Ink Cartridge for 2225] List \$13\$10.95

Plain Paper Printhead Cartridge for all ThinkJets and QuietJets

Stock #51604A [Plain Paper Cartridge] List \$11.....\$9.95

Disc Drives

3½" HP compatible Disc Stock #1351 [Spectrum/BASF 3½" Disc].....\$1.95 Replacement Battery

Used in the rechargeable battery pack (88014A). The T9 Torx Tool is required to remove the cover; spade terminals connect to the battery.

\$18.25

Thank you for your Order!



Stock #2225B [ThinkJet Printer, IL version] List \$495 \$:	399.95
CL I HARAFT FEET LIV. TO THE TOTAL CO.	399.95
C. I HARAFIA FFFF . I V. VIII	399.95
C. 1 #444 F.C	399.95
CL I HARAFT DITE LIV. TO ARREST LIVE	399.95
	\$43.95
Cu 1 HOAACA L FR L II I C	\$10.95
CI I HOAACAC FYYD I II W I	\$45.95
Stock #2097 [EduCALC Printer Stand]	17 95
Stock #82167A [½ Meter Cable]	\$5.95
	\$7.95
	\$9.95
	17.95
Stock #35178C [Case, cordura] List \$59	
Stock #51630A [Ink-Jet paper, 500 sheets, fan fold*]	13 50
Stock #92261N [Ink-Jet paper, 2500 sheets, fan fold*]	64 95
*Add \$15 (500 sheets) or \$40 (2500 sheets) for Foreign Surface Shipment	6.
Domestic Federal Express not available.	,

Portable 3½" Disc Drive for HP IL

PACKARD

At last, here's quick-access mass memory for series 40 or 70 machines (and for HP 110). Two sided, with 630K capacity, yet easily portable—it weighs 6 lbs. and is bat-

tery powered. Three inches high, with a footprint the size of typewriter paper. The 3½" flexible discs are safer and more reliable than larger ones, due to the hard case and automatic shutter—and the drive automatically monitors wear and checks for defects at each insertion. Average data access time is ½ second and transfer rate is 6K/sec.

Complete with rechargeable battery, recharger, disc, one meter HP IL cable, and manual.

This 9114B version has increased battery life, faster access times, a new battery charge indicator, and a new battery pack.

Stock #9114B [HP Disk Drive] List \$795	. \$599.95
Stock #92192A [3½" Disc] List \$5	\$2.95
Stock #92192X [3½" Discs, Box of 10] List \$49	\$24.95
Stock #92191M [Disc Carrying Case, holds 5]	\$3.25
Stock #88014B [Rechargeable Battery] List \$65	\$58.95
Stock #35178C [Case, cordura] List \$59	\$49.95