



Garland, Texas

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WHERE HAVE ALL THE COMPUTER KITS GONE?

by Harold Mauch

I like to visit computer stores and listen to the questions of customers.

Some ask about a common fruit; others ask about the health of a deceased gentleman from Fort Worth.

A few ask for a computer they can build themselves.

"I'm sorry," they're told, "but we don't carry kits any more. Too much hassle."

"If you like to experiment, we have a gee-whiz dandy Chroma Dazzler that can speak 16 languages, maintain 32,768 recipes, schedule 65,536 appointments and balance your checkbook.

And you don't even have to know how to program. We're offering this little gem today for just \$1,999.99, and that includes disk storage."

Just \$1,999.99?

Many a computerist bought a SWTP or other SS-50

computer because of the processor. Or because they enjoy building kits. But I suspect more than a few bought kits because it was the one way they could afford to own a computer. No doubt there's a substantial market for computer kits. So why aren't there more computer kit manufacturers?

I think I know the answer.

The fine efforts of SWTP notwithstanding, much System-50 hardware and software came out of the spare bedrooms, garages and basements of fledgling, but determined entrepreneurs.

Let's suppose you want to become just such an entrepreneur, and in the process maybe we'll find the answer to the question about the scarcity of kit vendors.

You decide to get into the computer kit business. Why kits? Well, you can't afford to start up an assembly operation. Besides, you honestly want to give prospective customers the lowest price possible. A

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GENERAL INTEREST

Double-Density Adapter for System-50

Many people have asked if our double-density adapter, which we developed for the TRS-80☆ computer, could be used with the SS-50 bus disk controller. Unfortunately, it is not a simple plug-in-and-run situation for either the Percom or SWTP controller. However, the Doubler, as the Percom TRS-80☆ double-density adapter is called, can be easily connected to the older Smoke Signal controller. Dale French, one of our System-50 technical specialists, is working out the details for connecting the DOUBLERtm modifications along with the OS-9 driver in the next issue of the Peripheral.

price 15% above cost seems reasonable.

Design through hardware prototyping is easy. After all, you are a senior designer -- at TI no less. You do a little fine-tuning of the design and get prototypes made. Now the fun begins.

A small ad in Byte and a small stock of kit parts wipes out most of the family savings. You confidently reassure your wife, however, and together you wait for the orders to roll in.

Meanwhile, you hawk a few kits to members of the local computer club. And spend the next several weeks solving their individual problems -- cold solder joints, wrong capacitor polarities and owner design "improvements" that don't work.

Finally your ad appears in Byte. You soar like an eagle. (Hon, we're gonna be rich!)

You resist the urge to buy up all the new Byte magazines at the local computer store, limiting yourself to a mere 10 copies. Of course mother back in Toledo gets one. (Look Ma, I've got my own business!)

The Byte ad makes you an instant expert, so naturally you're invited to give a demo at the next computer club meeting. Is this the beginning of fame?

By now the ad has been out a week. You've had a few callers (keep that damn dog quiet while I'm on the phone!), and a few people have written for more information. (More information? Good grief, the ad copy took two days to write and gives everything but the length of the heat sink bolts.)

Never mind. You take the Byte ad, and with the help of your wife's thesaurus, grind out a data sheet. You include specifications for the heat sink fastener.

Before long the postman is delivering your bills in a basket: an invoice for the data sheet printing, a Byte invoice for the next ad insertion, a phone bill that infuriates your wife (Hon, call the phone company, I know I didn't make *that* many long-distance phone calls.), and so on.

Your boss at TI is beginning to make snide remarks about the lagging status of your work project. But these are trifles compared to the next bomb?: a design flaw in the kit! (Oh, my God! How can I face the computer club again.)

You design out the flaw but can't ship because the new IC for the fix isn't available. The complaints begin. "Wherein hell's my kit -- you promised it four weeks ago."

One irate customer wants his money back. Another demands to know why the users manual doesn't explain how to use the product with his home brew 4004 machine. Both promise scathing letters to Byte, the Better Business Bureau and their congressmen. (God, my gut aches.)

The new ICs finally arrive. Your wife calls you at work to tell you the UPS driver won't take a personal check. (Cashier's check or money order, please.)

You tell the boss that son #2 seems to be having an attack of appendicitis, and must be rushed to the hospital. Then you rush to the bank, withdraw \$475 from the wife's Christmas Club account and race to the house. Wife suspects, but you jump back in the car before the questions start. Back at work you tell the boss it was a false alarm, "The little nipper just ate too many fresh cherries, heh, heh."

More than a few long-distance callers, saying they weren't about to buy a pig-in-a-poke, want to know the whereabouts of dealers in their area. So you decide to line up dealers.

The first dealer doesn't have the courtesy to say goodbye when you suggest a dealer cost of 5% off retail. Neither does the second dealer, the third, etc. You soon learn that retailers expect--indeed need-- a 35% mark up. Or thereabouts.

You call an old college friend, one who switched from engineering to a business major, and plead your case. After he stops laughing (why did I tell him we price at 15% above costs), and after discussing cash flow and return on investment, he offers to help -- for a piece of the action. (Maybe these business majors are really the smart ones after all?)

At any rate you raise the price and start calling dealers again. Now the price is OK, but the dealers won't carry kits: too much hassle. (No fools, these dealers.) So willy-nilly, you get into the business of assembling electronic modules. You start slow. Boy, do you start slow -- one employee, an ex-TI assembler needing part time work, a soldering iron and flux, a solder sucker and a few hand tools. The lady assembler is competent: her only question concerns getting paid. Nothing serious.

In the unlikely event (as you tell yourself) that you can't "meet payroll," you decide to seek a bank loan. Bankers make unsecured loans about as often as smog-free days occur in Los Angeles, so you pledge your car, the house, a quart of blood and a pound of flesh-- but get the loan.

You meet the payroll, i.e., you pay the lady assembler. She smiles, looks at the check, frowns, shrugs and disappears forever. You're out of the assembly business.

It's time, you decide, to sit down and take a real hard look at the business. You call a buddy, a fellow industrialist of kindred interests, and together do a (sound of bugles, roll of drums) COST ANALYSIS. All things considered -- parts bagging errors, solder bridges, troubleshooting over the telephone and letters, letters, letters -- you conclude that...

Kits cost more!

And that, weary reader, is the bottom line. It costs more to produce, market and support kits (with the

emphasis on support) than it costs to produce and sell assembled and tested units.

It is enlightening, in this respect, to compare the price of a Heathkit color TV kit to the price of a comparable RCA, Magnavox or Quasar set. There's little difference. Yet, the customer will always insist that kits be priced substantially lower.

Unfortunately -- for those of us who would rather build a kit -- few kit suppliers become very successful. And it appears that we will be getting those few kits that are available from a UPS delivery man, after placing a long-distance call that's answered from a phone in a bedroom or garage.

OF INTEREST -- Harold Mauch, president of Percom Data Company, recently announced that Percom and Access Unlimited, a computer retailer, have agreed to join in a cooperative venture which will make Access Unlimited a retailer of Percom System-50 (SS-50) products.

Access Unlimited is a Richardson, Texas-based mail-order and direct sales retailer of computer equipment, software and parts.

Manufacturers and software vendors other than Percom also will be contacted.

The program calls for Access to become one of the largest, if not the largest, integrated, full-line source of 680X products for the sophisticated System-50 market place.

Interested suppliers can reach Access Unlimited at:
401 N. Central Expressway #600
Richardson, Texas 75080
(214) 690-0206

NEW PRODUCTS

Although this section usually features new System-50 hardware and software products, in this issue we would like to mention two computing "Accessory" items that we have carried for only a short time but which are proving to be very popular.



System Desk, Printer Stand --Custom-designed to Percom specifications, this system of low-cost computer

furniture organizes your computer station into a compact, convenient arrangement of accessories and peripherals.

☆ Furniture quality styling and finish.

☆ Modular design lets you customize to particular needs.

☆ Units knock down for shipment -- delivery is right to your door.

☆ Snap-locking fasteners -- no tools required for reassembly.

System Desk

The under-desk module accommodates either one or two drawers, and can be located either to the right or to the left. The drawers, which are on ball-bearing rollers, have a full-width opening in the rear for equipment cabling.

The riser shelf can be used to support a display unit, hold reference manuals, etc. The riser also can be positioned either to the left or to the right.

Printer Stand

The under-desk module plays a dual role, serving either as the desk bay or, with an optional top added, as a printer stand. With the top in place, the printer stand and desk are the same height.

Specifications --The desk is 48" wide, 24" deep and 26-1/2" high (typing height). The riser is 23" wide and 11" deep. The riser shelf can be at 7-1/2" or 11" above the desk top. The desk bay inside dimensions are 16" wide by 16" deep by 10 1/2" clearance height. The printer stand (under-desk module with top in place) is 24" wide by 24" deep by 26-1/2" high. Finish is wood and durable plastic laminate.

To order or for additional literature, call toll-free 1-800-527-1222.



Microline 80 Printer

No other serial dot-matrix printer has so many features for the price:

- ☆ Prints upper and lower case characters in standard-condensed- and double-width faces.
- ☆ Prints block graphic characters.
- ☆ Alphanumeric characters are in easy-to-read 9x6-dot matrix format; graphic characters are 6x12 dot.
- ☆ Font selection and line spacing are programmable.
- ☆ Prints 80 cps with no duty cycle limitation.
- ☆ Print head is warranted for 200,000,000 impressions the equivalent of over nine years of microcomputing
- ☆ Handles cut sheets, roll paper and fan-fold pin-feed stock. Optional snap-on tractors are available for other forms.
- ☆ Standard interface is parallel, Centronics compatible. Optional serial interface available.

☆ The Microline 80 is rugged (cast aluminum base), lightweight, quiet and dependable. And **inexpensive**.

To order or for additional literature, call toll-free 1-800-527-1222.

Editors Note-

A supplement to the Peripheral is available from Percom Data Company. The supplement includes more specific information - - for example, additional notes on product improvement and maintenance. This supplement may be obtained from Percom by calling our toll-free order number, 1-800-527-1222. From within Texas, call (214) 340-7081.

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PERCOM is a trademark of Percom Data Company, Inc.

TRS-80 is a trademark of Tandy Radio Shack Corporation which has no relationship to Percom Data Company.

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SS-50 COMPUTING
WHEN CONTACTING
ADVERTISERS**

SS-50 Bookstore

6809 Assembly Language Programming

This book presents a thorough introduction to assembly language programming and a complete discussion of the 6809 instruction set. It starts at a very basic level and builds into actual programming techniques, I/O structures, and hardware interfaces. By Lance Leventhal. 530 pages. Order No. 357



\$16.99

6809 Microcomputer Programming and Interfacing/Experiments

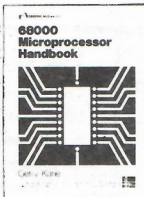
This book is written to give sound information on how to program and interface the 6809-the high performance 8-bit microprocessor. It contains seven chapters and four appendices and is valuable as a "cookbook" aid when working with the 6809. By Andrew Staugaard, Jr. - 304 pages - Order No. 21798



\$13.95

68000 Microprocessor Handbook

This handbook gives a complete comprehensive picture of the 16 bit 68000 microprocessor, its timing, and special features. Also, several practical application problems and discussed and it is compared to other 16 bit devices. By Adam Osborne - 220 pages. Order No. 411



\$6.99



MC6809 Cookbook

This cookbook explains the basic operation of the 6809 and the 6809E microprocessors. Everything from the timing and clock information to the instruction set are covered. By Carl D. Warren - Order No. 1209

\$6.95

Orders should include title and order no., along with check, m.o., or VISA -Master Card info. - Mail to: SS-50 Computing Bookstore, P.O. Box 398, Garland, UT 84312. Include \$1.50 per book for shipping and handling. Please allow for personal checks to clear. Sorry, no COD's. Foreign orders should include \$7.00 per book shipping.