15 October 1981

Memo to all H8* Computer owners:

We would like to announce at this time that we are offering a repair service for the Heathkit H8 computer. This service will cost $50.00, plus parts and return shipping, and will be limited to the H8 CPU box. The CPU box should contain all of the Heath pc boards, as well as any of our boards purchased. Our new T-H90 motherboard must be installed in the H8 CPU box or ordered with the repair service.

The primary purpose of this repair service is to encourage H8 owners to use our products. The Heath Company and many local Heathkit Electronic Centers will not service H8 computers with products obtained from outside manufacturers. Many H8 owners depend upon the availability of this service and are reluctant to purchase non-Heath products for their H8 computers for this reason.

We will repair both Heath and Trionyx boards in the H8 CPU box. H8 owners may now purchase any of our products for the H8 computer and make use of our full H8 computer CPU box repair service.

Yours very truly,

Bill Perry

Bill Perry
President

BP/ms

Trionyx Electronics, Inc.

H8* COMPUTER REPAIR SERVICE

Trionyx Electronics, Inc. is now offering a repair service for
the H8* computer CPU box. This includes the H8 chassis, power
supply, and all of the following Heath printed circuit boards:
Front Panel, CPU (8080A or Z80), Memory Boards, H17 controller,
H8-4 serial interface card and Org Zero card.

The H8 computer CPU box must have a Trionyx T-H90 motherboard
installed to qualify for our repair service. We will install
a motherboard if requested. Assembled T-H90 motherboards are
priced as follows:

T-H90	Completely Assembled	$250.00
T-H90	Heath Equivalent Assembled	175.00

Our price to service an H8 CPU box is $50.00. The cost of
replacement parts is additional. Return shipping is also
additional and is $20.00 within the United States and Canada.
We must receive payment of $70.00 to start work on any H8 CPU
box sent to us for service. Any Trionyx kits or bare boards
included with the H8 CPU box (Memory, Z80 board, etc.), if found
defective, will be billed separately for service. No additional
charge will be made for motherboard installation, if one is
ordered with the repair service.

H8 CPU boxes sent to us for service will be returned fully
functional and reliable operation will be guaranteed. The
motherboard will be implemented to the highest level required
for this purpose, on an individual basis. Parts will also be
replaced on all boards, as required, to guarantee reliable
operation. We can quote the total price for service in each case
before changing any parts, but will require a minimum payment
of $70.00 to evaluate and return the unit, in any case.

As the H8 computer becomes more complex, system problems may arise
which are very difficult for an individual user to solve. System
problems exist when particular pc boards work individually, but
will not work together. Most system problems are related to the
computer bus. A systems approach must be taken to solve some
of the more difficult problems involving computer reliability.
We have a number of H8 computers and are in a position to freely
interchange pc boards in order to identify particular types of
problems.

Three to four weeks will normally be required to service and
return an H8 CPU box sent to us for repair. All units to be
repaired should be sent to Trionyx Electronics, Inc., 2287 S.
Grand Ave., Santa Ana, CA 92705. All shipments should be fully
insured. Our H8 computer repair service is limited to the CPU
box, itself. We do not service the computer peripherals.

* H8 is a registered trademark of the Heath Company.

Effective January 1st, our prices have been finalized as follows:

Z-H8	Assembled	$ 300.00
	KIt	250.00
	Bare Board	125.00

The above prices include complete documentation, the Z80 programmer's manual, 2MHZ/4MHZ software utilities on a 5-1/4 in. disk, and our exclusive FW-Z80 front panel monitor ROM.

The Z-H8 uses 51 integrated circuits. The assembled board is fully socketed. All connectors and IC sockets are gold plated.

The Z-H8 CPU board provides dynamic switching of the clock rate between 2 MHZ and 4 MHZ, as a primary feature. The clock rate is under software control and may be changed at any time between 2 MHZ and 4 MHZ, as often as desired. The clock rate may be changed by the operator using system level commands, or automatically, at the program level, using port IN or OUT commands. The program, itself, can change the clock rate.
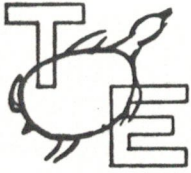
Many user interactive programs (such as games) have been written using timing loops based on a 2 MHZ clock. These must be run at 2 MHZ. Other programs (such as assembling a lengthy text file) take undesirably long periods of time to run. 4 MHZ operation would be desired in these cases.

No modification whatever is made to the H8 computer. The Z-H8 CPU board simply plugs into the bus in place of the existing CPU board.

The wait state circuits on the Z-H8 allow system optimization at 4 MHz with many different types of memory boards. Any one of the following wait states may be selected: No wait states, 1/2 wait state, 1 wait state or 2 wait states. A 1/2 wait state is a wait state on the M1 cycle, only. We originally had 1-1/2 wait states instead of 2 wait states, but decided that a geometric series in this case was more desirable than an arithmetic series.

The Heath static boards for the H8 typically require wait states at 4 MHz. An 8K memory board may require a 1/2 wait state, while a 16K board will need 1 wait state. If faster RAMS are used, the Heath static memory boards can run without wait states. The new Heath 64K dynamic memory board may require 2 wait states to operate at 4 MHz.

The wait states are selected on a switch on the Z-H8 which may be read on a special processor status port by the software. This is necessary to provide the proper disk constants when operating at 4 MHz. The wait state circuit uses a proprietary PROM (Trionyx part number 100201) which is available separately for $10.00 to Z-H8 bare board buyers.

T∈E Specialty
Electronic
Products

TRIONYX
ELECTRONICS

P.O. Box 5131, Santa Ana, California   92704

NEW   REPAIR   POLICY

Effective March 30, 1981, we are instituting a new repair policy for our computer products.

1) Assembled boards:

Boards purchased assembled are guaranteed for a period of one year following the date of purchase. We will repair assembled boards without charge during this time. These boards will be returned prepaid.

2) Kits:

A service fee of $25.00 will be charged to repair and return all boards assembled from kits. We will replace all kit-supplied defective parts free of charge during the first year following purchase.
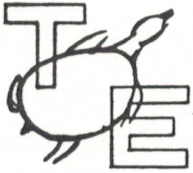

3) Bare Boards:

A service fee of $100.00 will be charged to repair and return all boards assembled from bare boards. we will also charge to replace any defective or functionally incorrect parts. The parts prices are published in our parts lists.

Boards must be fully assembled to be eligible for repair. It is very important to use high-quality IC sockets for bare boards. We produce high-quality products of sophisticated design. Bare boards should be built using parts and workmanship which complement the quality of our boards.

Our warranty is intended to cover defects in parts and workmanship and is void in all cases where the boards have been subject to obvious abuse, whether electrical, mechanical or otherwise.

Please allow 30 days for all repairs. Payment must be received before repaired boards can be returned.

15 October 1981

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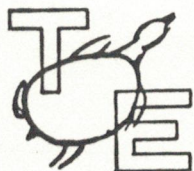|		
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A QUICK REFERENCE SUMMARY GUIDE

for

HDOS 2.0*

and

CP/M 2.2**

Written By
Robert D. Sutton

Published By

TRIONYX ELECTRONICS, INC.
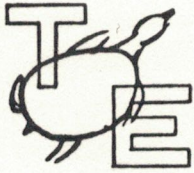P.O. Box 5131
Santa Ana, CA 92704

HDOS 2.0 Summary Guide   (42 double-sided pages) $15.00 each, postpaid.

CP/M 2.2 Summary Guide   (32 double-sided pages) $15.00 each, postpaid.

Both Manuals Above (Set of 2) $25.00 each, postpaid.

Trionyx Electronics, Inc. is pleased to offer the above summary
guides for HDOS 2.0 and CP/M 2.2. These are very well written
and comprehensive guides for the two most popular operating
systems for the Heathkit H8* computer. These guides are intended
to be used by those already familiar with the system software
who need to occasionally refresh their memories with regard to
certain points of system operation. They also provide a review
of system operation and an overview of the entire system
software.

These guides cover a considerable amount of software in addition
to the actual operating systems. M Basic, Fortran-80, the Music
Board, Autoscribe, the PI Editor, are only a few of these. These
reference guides will not be set aside after they are received.
They will be out all the time and used constantly with the
computer. They will be the number 1 reference manual used with
the computer. Each manual is attractively bound in a soft cover
for easy handling.

* H8 and HDOS are registered trademarks of the Heath Co.
** CP/M is a registered trademark of Digital Research Co.

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