# Modification Kit

for the



## **H8 COMPUTER**

Model H8-9

This Modification Kit allows you one-button start-up of your H17 disk system. The kit consists of a ROM integraged circuit (#444-60) and these instructions.

#### SPECIAL NOTICE

Before you unpack your Modification Kit and begin to install it, please review the enclosed manual information and consider the following:

- This Modification Kit is provided as a service to Heathkit customers. The modification instructions have been thoroughly evaluated and tested.
- Be extremely careful when you perform the modification. An incorrect installation can cause operational difficulties.
- 3. For the first ninety (90) days after you receive it, Heath will replace, free of charge, any parts contained within this Modification Kit that are defective, either in materials or workmanship. No warranty is implied nor extended to any other parts or service associated with the modification. Replacement parts can be obtained from Heath's Parts Department (phone number (616)-982-3571) or a Heathkit Electronic Center.
- 4. This Modification Kit is authorized only for the product(s) designated in the enclosed Manual.
- You must perform the entire modification before Heath can accept the product for service. If service is required, labor and parts charges will apply (except for parts supplied with the modification kit, which will be replaced no charge if defective).

If you find that the Modification Kit is not suitable for your purposes at this time, you may return it prepaid for credit or a refund by contacting Heath Company, Parts Department (phone (616)-982-3571). But, once the kit has been unpacked and/or assembly commenced, it is no longer resalable as a kit and a credit or refund request cannot be accommodated.

#### STEP-BY-STEP MODIFICATION

( ) If your Computer is not yet assembled, insert these instructions between Pages 60 and 61 in your Assembly Manual. Then perform these steps when you get to that part of your Manual.

If your Computer is already assembled, proceed with the following steps.

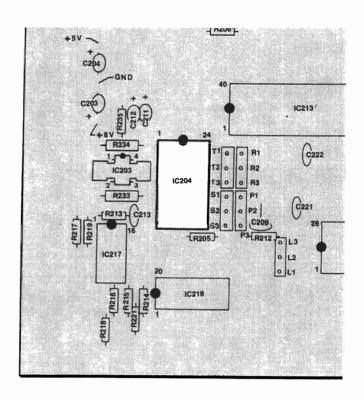
( ) If your CPU circuit board is already mounted in the Computer, follow the steps under "Circuit Board Installation" on Page 61 in reverse order and remove the circuit board. See Pictorial 4-1 (Illustration Booklet, Page 14).

Refer to Pictorial 1 for the following steps.

( ) Carefully remove IC204 from its socket on the CPU board and store the IC in conductive foam or wrap it in tin foil. (You may want to use this IC again some day.) NOTE: If your Computer is still under warranty, this action will NOT void the warranty.

NOTE: The IC that you will install in the next step is an MOS device. If necessary, refer to the right-hand column on Page 57 of your Assembly Manual for instructions on how to handle the IC and identify its pin 1 end.

- ( ) Install the new ROM IC (#444-60) in socket IC204.
- ( ) Reinstall the CPU circuit board. See Page 61 of your Assembly Manual if necessary.



#### PICTORIAL 1

- ( ) In the upper right-hand corner of the schematic (supplied with your Operation Manual), change the part number of IC204 from #444-13 to 444-60.
- Replace the corresponding pages (supplied with these instructions) in the PAM8 section of your H8 Software Reference Manual.

### **OPERATION**

After you turn on your Computer, push the GO key on your H8. Then continue with normal operation from your Terminal keyboard. (You no longer have to push REG PC ALTER 0 3 0 0 0 ALTER GO.)

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076 116 328 MVI A,UMI,1B+UMI,LB+UMI.16X 323 371 329 QUT OP.TFC SET 8 BIT, NO FARITY, 1 STOF,			326	×	CONFIG	JRE LOAD/INDMF UA	RI	
	000.126	11	328		₩. 100	A,UMI,1B+UMI,L OP,TPC	IT, NO FARITY, 1 STOF,	

I3;23;29 01-AFR-77 FAGE 9	307 ** SAVALL - SAVE ALL REGISTERS ON STACK.	309 * SAVALL IS CALLED WHEN AN INTERRUPT IS ACCEPTED, IN ORDER TO 310 * SAVE THE CONTENTS OF THE REGISTERS ON THE STACK.	* * ENTRY *	<del>.</del> * *	<b>6</b> *	SAVALL	PUSH D PUSH B	FUSH PSW	324 CXI H,10	FUSH	LXI D.CTLFLG	LEAX	CMA ANI CM-MTL+CM-SSI SAVE REGISTER ADDR IF USER	332 RZ	334 DAD	
SUBROUTI						343	325 305	365	041 012 000	345	021 011 040	032	346 060	: 6	i: 5: 5:	042.035.040 311
INTERRUPT TIME						: =	∶⊣⊣	000,135	1:		7	₩.7	7 7	. — –		000,161

PAM/8 - HB FRONT PANEL MONITOR #01.00.00 CONSTANTS AND TABLES:	NNEL MONITOR #01	.00.00.		IOROM	HEATH H8ASM 14:24:59 03	HEATH HBASM VI.4 01/20/78 14124159 03-AFR-80	PAGE 35
003.374 002 003.375 000 003.376 012	1430 1431 1432	######################################	DM.RR 0 10	DSPMOD DSPROT REGI	DĮSPLAY REGISTER	/PAMBGO 04MARBO/	
:	1434 1434 1435	RNZ	#-4000A				
		. :					

040.000					15:44:44 01-AFR-77 PAGE 36
040.000	1413				
040.000	1414	* * *	THE FOL	LOWING ARE CO	THE FOLLOWING ARE CONTROL CELLS AND FLAGS USED BY THE REYFAD "ONITOR.
040.000	1416		000	400004	0100
	1418	•	20.00	100001	NIMP GTARTING ANNERGE
O40 • 00 €	1419	) 11	22	101	IN OR OUT INSTRUCTION
040.004	1420	٠.	EQU	* •	FOLLOWING CELLS INITIALIZED FROM ROM
040,004	1421		25	1	XF.
040.005	1423	REGI	DS	-	INDEX OF REGISTER UNDER DISPLAY
040.006	1424	-	IJS IJS	<b>-1</b> -	PERIOD FLAG BYTE
700.0	1426		0	· · · · · · · · · · · · · · · · · · ·	
040.010	1427	• MFLAG	DS	-	USER FLAG OPTIONS
	1428	*			SEE *UO.XXX* BITS DESCRIBED AT FRONT
040.011	1430	:-	DS	-	FRONT FANEL CONTROL BITS
040.012	1431	- ;	I'S	1	REFRESH INDEX (0 TO 7)
000.007	1432	-	EQU	*-FRSRAM	END OF AREA INITIALIZED FROM ROM
040,013	1434	FPLEDS	EQU	*	FRUNT PANEL LED PATTERNS
040,013	1435	ALEDS	ĽS	-	ADDR O
040.014			11S	<b></b> 1 •	
0404040	1457		22	T	AUUR 2
040.016	1439		DS.		ADUR 3
040.017	1440		Si	1	
040.020	1441		Į.S	1	ADDR 5
040.021	1442	DLEDS	DS	1	
040.022	1444	:	DS.	-	
040,023	1445		DS	<b>T</b>	DATA 2
<	1446		9	c	C C
040.024	144/	HACOU	2 : C	¥ <del>-</del>	TOPE SALIS ACTOR
040.027	1449		ខ្លួ	ન (પ	CRC16 CHECKSUM
040.031	1450	:	DIS.	C)	TAPE ERROR EXIT ADDRESS
0.	1451	TICCNI	IIS		CLOCK TIC COUNTER
040.035	1452	REGPTR	DS	CA	REGISETR CONTENTS POINTER
	1454	:			
040.037	1455	UIVEC	DS	0	USER INTERRUPT VECTORS
040.037	1456		51	mı	
040.04%	1450		2.5	2.10	CONT TO STANKE STEP PROCESSOR
040.050	1450		2 2	o №	
040.053	1460		IIS.	3.0	170
040.056	1461		IIS	۲۶	2
90.	1462		DS	ю	170
040.054	1464		FNT		
ASSEMBLY COMPLETE					
STATE					
O ERRORS DETECTED					