

# Micro-Minutes

NEWSLETTER OF THE HEWLETT-PACKARD MICRO-COMPUTER INTEREST GROUP

July 1980

## FUTURE MEETINGS

### Design Considerations for a Commercial Digital Sound Synthesizer

by Jerrold Kaplan, Stanford Research Associate

July 23, 12 noon, in the 5M Conference Room

Advances in computer technology have recently made it feasible to produce a completely digital electronic sound synthesizer at a reasonable cost. Digital synthesizers represent a substantial improvement in both flexibility and precision over their analog counterparts, such as "Moog" synthesizers. These new instruments are expected to have a significant impact on the music industry over the next few years, as they are capable of accurately producing a tremendous variety of timbres and providing unique performance capabilities under software control.

Along with these advantages, however, have come some novel engineering problems at both the hardware and software level. This talk will describe a recent entry into the commercial digital synthesizer market by a major musical instrument company, and discuss some of the difficulties encountered in designing the instrument.

A prototype will be presented, and several of its unusual features (such as a built in 8-track event recorder) will be demonstrated. The instrument will be available for experimentation after the talk.

## PAST MEETINGS

### System Hardware Update, June 10

On June 10, Steve Hessel and Mike Beaver discussed the current status of the club microcomputer system. The CPU and front panel boards are very close to being manufactured with just a few small details to be cleared up. Other boards are in various earlier stages of development. The I/O, memory, EPROM, and video boards are progressing - see hardware status table for details. Power supplies will be re-ordered sometime in the next month or two for delivery in approximately three months time. For those who already have their power supply, diagrams and procedure for wiring will be sent out shortly. See article on transformer relocation for details on increasing the clearance between the front subpanel and the transformer. And lastly, dress panels won't be ordered until the club's cash flow improves.

## RELOCATION OF TRANSFORMER CAPACITOR ASSEMBLY

If the transformer in your microcomputer kit is larger than the one used for the layout design, Bill Goodman suggests the following modifications to provide more clearance between the transformer and the front subpanel:

- (1) Mount the fan brackets of the forward fan to the inside of the fan frame rather than the outside as originally designed. This requires removing a 45 degree piece approximately .25" x .25" from the fan mount bracket to provide clearance.
- (2) The additional clearance allows the transformer to be pushed back so that a slight clearance exists to the front subpanel.
- (3) The transformer mount brackets may have to be bent slightly backwards to provide a better fit.

## WANT ADS

The date we actually see the finished product depends on you! A small dedicated group have spent countless hours working on everything from design and debug to balancing the club's books. Right now there are many varied tasks standing between us and the completed system. Please take some time and offer us your expertise to lighten the load.

A 5x7, 5x8, or 6x8 character set in a 2708 EPROM for use in our system. Contact Dave Ude, building 25, or Steve Hessel, building 29.

For the following jobs please contact Mike Beaver in building 25 in writing:

Pc Layout - for I/O and memory boards, must be experienced.

Project Manager/team - see front panel through to completion: have boards made, assembled and tested.

Debugging - access to an S-100 system necessary in some cases.

## HP Microcomputer Interest Group

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MICROCOMPUTER INTEREST GROUP PROJECT PROGRESS (1 of 2)

ASSEMBLY NAME	DESIGN	WIRED PROTO	PC LAYOUT	PC PROTO	DEBUG	PROD. PROTO	ORDER PRICE	PRODUCT- ICN
Keyboard							\$55	purch.
Power Supply	Dick Ollins	Dick Ollins			Dick Ollins		\$80	Fon Mc Bride
Cabinet	Bill Goodman Mike Beaver				Bill Goodman	Lloyd Stafford	\$80	Lloyd * Stafford
Mother Board	Mike Beaver		Mike Beaver	Mike Beaver	Steve Hessel	Not Needed	\$115	Sig Okamoto
Front Panel	Doug Pocius		Mike Beaver	Mike Beaver	John Youden Doug Pocius			
CPU	Steve Hessel		Jack Bamberg Mike Beaver	Harley Wilson	John Youden Steve Hessel Steve Joiner			
22-Pin RAM	Steve Hessel	Kieth Hickox	Ray Wong* Rick Pinger		John Youden*			
16-Pin RAM	Steve Hessel	Kieth Hickox*						
PRCM	Steve Hessel		Mike Beaver	Bob Schu- chard Mike Beaver	Bob Schu- chard*			
Basic I/O	Steve Hessel	Bob Schu- chard			John Youden			

