KIM-1

Et komplet 8 bit system med tastatur, display og interface for tilkobling af kassettebandoptager, teletype og dataskærm. Automatisk hastighedsindstilling 50–10.000 baud. Med 1K byte RAM, 2K byte ROM, 15 in- og outputkanaler, interrupt-timer, adresseringsliste og hukommelse udbygbar til 64K.

Specifikationer:
Processor: MCS6502 1MHz clock
RAM: 1024 bytes i 8 MCS6102
128 bytes i 2 MCS6530
ROM: 2048 bytes indeholdende system monitor
2 programmerbare timere (1 til 262143 µsek)
15 user input output kanaler
Stromforsyning: 5V 1,2A, 12V 0,1A
Mal: 27,4 x 19,6 cm

Microcomputer for:
- Prototypeudvikling
- Uddannelse i computerteknik
- Instrumentering og testsystemer
- Selvstudium
- Professionelle der onsker at orientere sig om fordelene ved MOS-Technology 6500 microprocessor-familien

KIM-2

4K byte RAM
expansionshukommelse for KIM-1

KIM-3

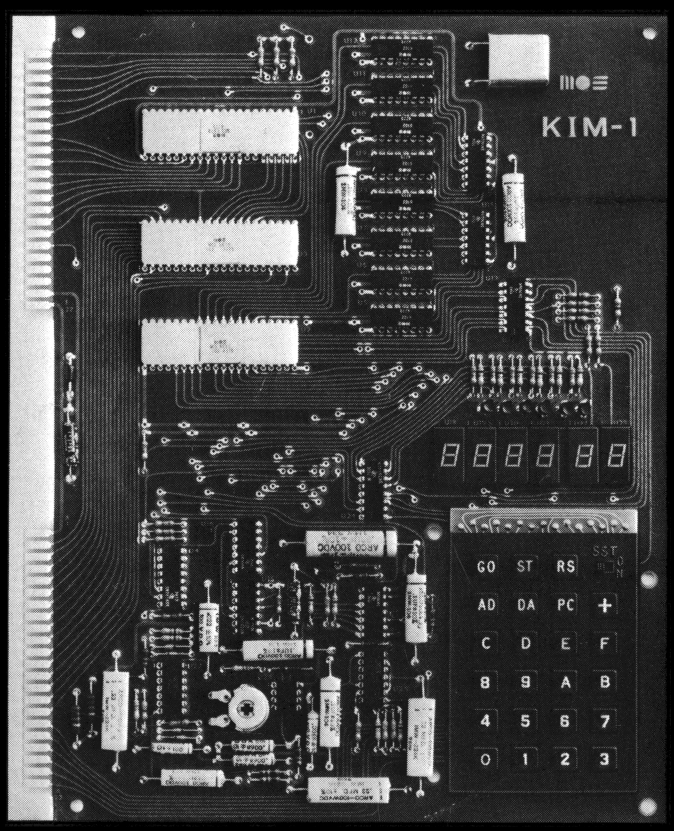
8K byte RAM
expansionshukommelse for KIM-1

- High-speed, low power static RAMs, 450 µsek.
- Indbygget spændingsregulator
- Spænding 8–10 volt 1,5A KIM-2, 3A KIM-3
- Indbygget omkobler tillader valgfri adresse for hukommelsen

KIM-4

5 volt spændingsregulator for KIM-1
6 stikforbindelser til expansionsmoduler
2 stikforbindelser til KIM-1 interface
1 stikforbindelse for ydre tilslutning

MOS TECHNOLOGY, INC.



KIM-1 microcomputer

INSTRUTEK

Fordele ved MCS familien:

Single-5 Volt-Supply
N-Channel-Silicon-Gate-Depletion-Load-Technology
8-bit-Parallel-Processing
56 Instructions
Decimal and Binary Arithmeti
13 Adressing modes
True indexing capability
Programmable Stack-Pointer
Variable length stack
Interrupt capability
Non-maskable interrupt
Use with any type- or speed memory
Bi-directional Data Bus
Busskompatibel med 6800
Instruction decoding and control
Adressable memory range
of up to 65 k Bytes
»Ready«-Input
Direct-memory access capability
Bus-compatible with MC 6800
Choice of external or on-board clocks
1 MHz-and 2 MHz-Operation
On-the-chip clock options
External single-clock input
RC-time-base input
Crystal-time-base input
40- and 28-pin package versions
Piperline architecture

Typer i MCS familien:

MCS6504
Microprocessor Unit (28-pin package)
One interrupt
8 K Adressable bytes of memory
On-the-chip clock

MCS6405
Microprocessor Unit (28-pin package)
One interrupt
4 K Adressable bytes of memory
On-the-chip clock
RDY Signal

MCS6506
Microprocessor Unit (28-pin package)
One Interrupt
4 K Adressable bytes of memory
On-the-chip Clock
Two phases off

MCS6512
Microprocessor Unit
with Two Phase Input
(40-pin package)
Two phase clock inputs
65 K Adressable bytes of memory

MCS6513
Microprocessor Unit (28-pin package)
Two interrupts
4 K Adressable bytes of memory
Two phase clock input

MCS6502
Microprocessor Unit
with On-The-Chip Clock
(40-pin package)
External single phase input
RC Time base input
Crystal time base input
65 K Adressable bytes of memory

MCS6503
Microprocessor Unit (28-pin package)
Two interrupt
4 K Adressable bytes of memory
On-thechip clock

MCS 6514
Microprocessor Unit (28-pin package)
One interrupt
8 K Adressable bytes of memory
Two phase clock input

MCS6515
Microprocessor Unit (28-pin package)
One interrupt
4 K Adressable bytes of memory
RDY Signal
Two phase clock input

Hukommelse og I/O enheder:

MCS6530
»Combo« Chip No. 1
RAM 64 x 8
ROM 1024 x 8
I O 16 Bidirectional pins
Interval timer

MCS6532
»Combo« Chip No. 2
RAM-128 x 8
I/O-16 Bidirectional pins
Interval timer

MCS6522
Versatile Interface Adapter
Features om MCS6520
Register of serial operations
Dual programmable timers
Latchnig on peripheral data ports

MCS6520
Peripheral Interface Adapter

MCS6540
2048 x 8 ROM
Fast access time
Microprocessor compatible

MCS6102
RAM (2102 type), 1024 x 1
No hold time
Faster access time
Microprocessor compatible

MCS6111
RAM (2111 type), 256 x 4
No hold time
Faster access time
Microprocessor compatible

Microprocessor 6500

MOS TECHNOLOGY, INC.

MCS 6500 13 adressemuligheder

Accumulator; Immediate; Zero Page, Zero Page, X, Zero Page, Y Absolute; Absolute, X, Absolute, Y Implied, Relative, (Indirect, X), (Indirect, Y), Absolute Indirect.

Priser Hardware

KIM–1 komplet, med user manual, system-diagram og programmeringsreferencekort	kr.	1.985,00
KIM–2 4K RAM	kr.	1.695,00
KIM–3 8K RAM	kr.	2.785,00
KIM–4 moderprint	kr.	1.095,00
Stromforsyningsmodul 5V/2A, 12V/0,5A	kr.	395,00

Priser excl. moms

Yderligere kan leveres:
Recident assembler, tekst editor og floating point rutiner i ROM.
Pris på forespørgsel.
MDT-microcomputer-Development-Terminal leverbar i 1978.

Dokumentation:

User manual leveres kun med KIM 1

Programming manual	kr	45,00
Hardware manual	kr	45,00
KIM 2 3 4 user manual	kr	20,00
KIMath subroutines programming manual	kr	30,00
KIM tekst editor manual	kr	20,00
KIM assembler manual	kr.	25,00

MCS 6500 instruktionsliste

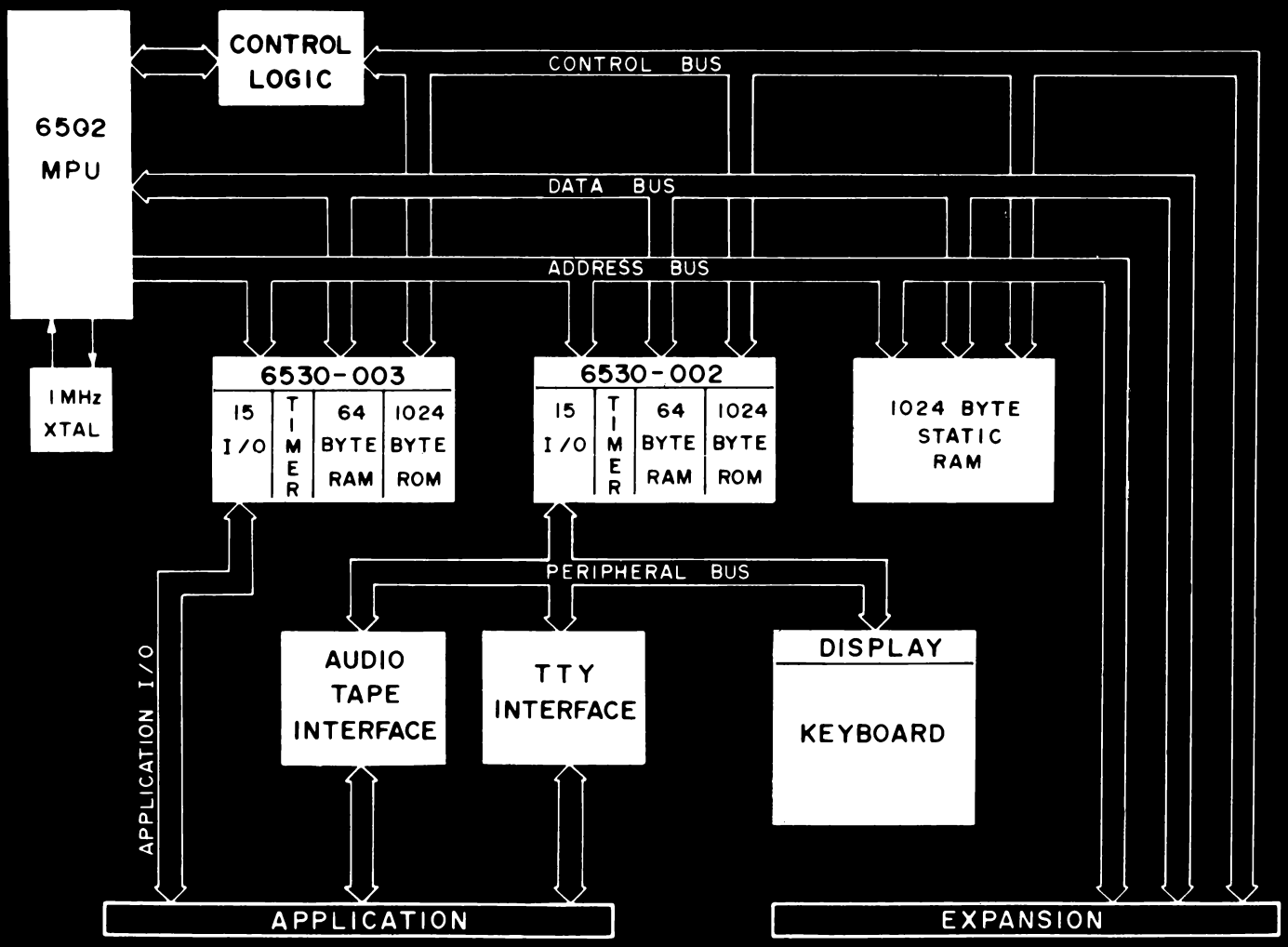
ADC	Add Memory to Accumulator with Carry
AND	»AND« Memory with Accumulator
ASL	Shift Lift One Bit (Memory or Accumulator)
BCC	Branch on Carry Clear
BCS	Branch on Carry Set
BEQ	Branch on Result Zero
BIT	Test Bits in Memory with Accumulator
BMI	Branch on Results Minus
BNE	Branch on Results not Zer
BPL	Branch on Results Plus
BRK	Force Break
BVC	Branch on Overflow Clear
BVS	Branch on Overflow Set
CLC	Clear Carry Flag
CLD	Clear Decimal Mode
CLI	Clear Interrupt Disable Bit
CLV	Clear Overflow Flag
CMP	Compare Memory and Accumulator
CPX	Compare Memory and Index X
CPY	Compare Memory and Index Y
DEC	Decrement Memory by One
DEX	Decrement Index X by One
DEY	Decrement Index Y by One
EOR	»Exclusive-or« Memory with Accumulator
INC	Increment Memory by One
INX	Increment X by One
INY	Increment Y by One
JMP	Jump to New Location
JSR	Jump to New Location Saving Return Adress
LDA	Load Accumulator with Memory
LDX	Load Index X with Memory
LDY	Load Index Y with Memory
LSR	Shift One Bit Right (Memory or Accumulator)
NOP	No operation
ORA	»OR« Memory with Accumulator
PHA	Push Accumulator on Stack
PHP	Push Processor Status on Stack
PLA	Pull Accumulator from Stack
PLP	Pull Processor Status from Stack
ROL	Rotate One Bit Left (Memory or Accumulator)
ROR	Rotate One Bit Right (Memory or Accumulator)
RTI	Return From Interrupt
RTS	Return From Subhoutine
SBC	Subtract Memory from Accumulator with Borrow
SEC	Set Carry Flag
SED	Set Decimal Mode
SEI	Set Interrupt Disable Status
STA	Store Accumulator in Memory
STX	Store index X in Memory
STY	Store Index Y in Memory
TAX	Transfer Accumulator to Index X
TAY	Transfer Accumulator to Index Y
TSX	Transfer Stack Pointer to Index X
TXA	Transfer Index X to Accumulator
TXS	Transfer Index X to Stack Pointer
TYA	Transfer Index Y to Accumulator

INSTRUTEK

KIM–1 microcomputer
Den mest udbredte »hvermandscomputer«.
Kim 1 giver mulighed for single step tracing, og er forberedt for tilslutning af ydre keyboard og display. Programmer opbevares på standard kassettebånd, og takket være et systemprogram, der er indlagt i 2K ROM, 34 main programmer 35 subrutiner, som brugeren kan udnytte, er man straks »koreklar«.
Ved alene at anskaffe KIM 1 kan man gore brug af et utal af programmer, som computerteknikere og hobbyfolk allerede har udviklet. Disse er bl. a. tilgængelige i tidsskrifterne »Kilo Baud« og »Byte Magazine«.
KIM–1 programmer kan endvidere bestilles på følgende adresser:
KIM–1 User Note, c/o Eric C. Rehnke,
7656 Broadview Rd. 207, Paraa, Ohio 44134, U.S.A.«.
The Computerist, P O. Box 3, S Chelmsford,
Massechusetts 01824, U.S.A.
Herudover eksisterer KIM–1 user group med mere end 800 medlemmer.

BASIC-computer
På grundlag af KIM 1 modulet, har firma Commodor udviklet en såkaldt PET-computer med indbygget kassettebåndoptager og 1000 karakter monitorskærm med BASIC sprog lagret i en 12K ROM, 4K user RAM, 32K som option, med IEEE-488 instrument interface.

PET computeren er spået at revolutionere markedet indenfor sit område (pris ca. kr. 8.000, -), et af beviserne på fremtiden i MOS-Technology 6500 familien.



KIM-1 microcomputer

INSTRUTEK

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