Computer Architecture
FlaxCom Computer

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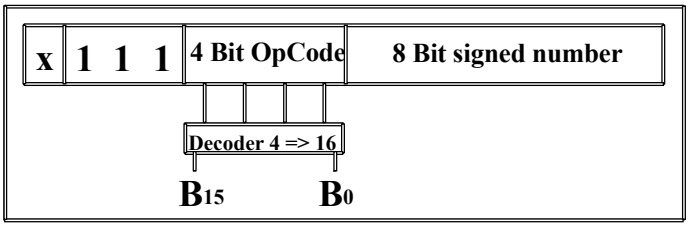
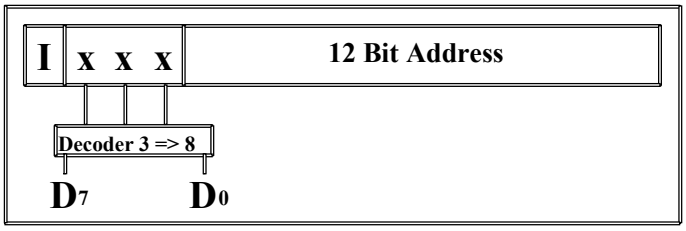
New FlaxCom Computer

Non-MRI Code Structure



New FlaxCom Computer

MRI Code Structure



RRI OpCode (I=0)

Code	B_i	Symbol	Description
0000	0	MAS	Mov *SP* to *AC*
0001	1	MSA	Mov *AC* to *SP*
0010	2	XAB	Exchange *BP* with *AC*
0011	3	PSH	Push *AC* to Stack
0100	4	POP	POP *AC* from Stack
0101	5	INC	Increment *AC*
0110	6	CIL	Circulate left *AC & E*
0111	7	CIR	Circulate right *AC & E*
1000	8	CME	Complement *E*
1001	9	CMA	Complement *AC*
1010	10	CLE	Clear *E*
1011	11	LLI	Load *AC*(L) Immediate
1100	12	LHI	Load *AC*(H) Immediate
1101	13	SAB	Store *AC* by Base Mode
1110	14	LAB	Load *AC* by Base Mode
1111	15	RET	Ret from Subroutine

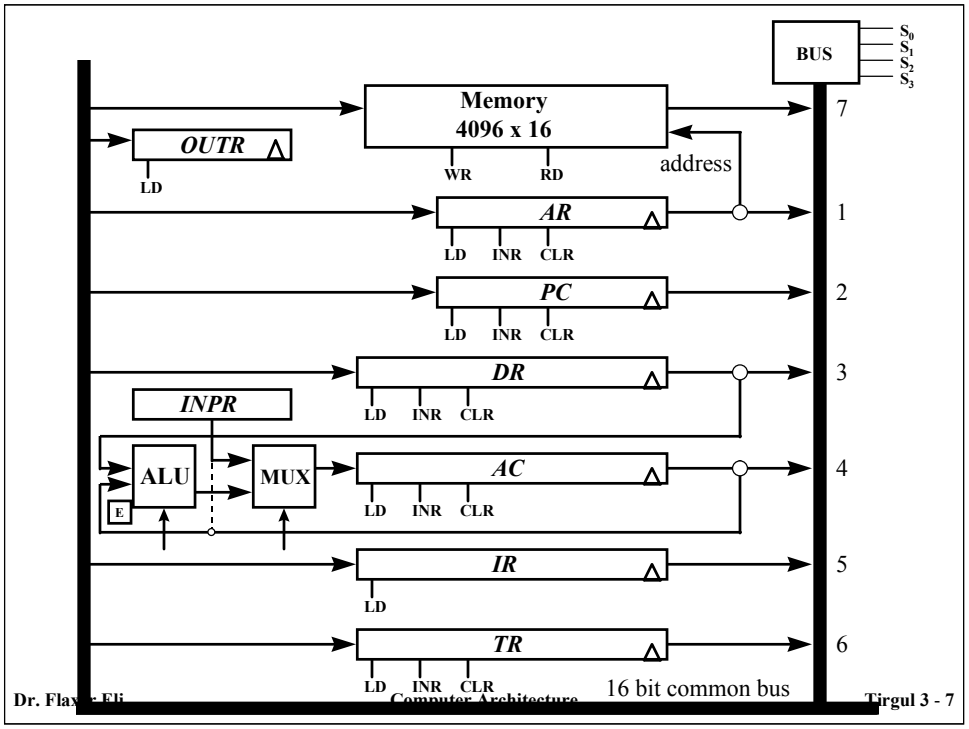
I/O OpCode (I=1)

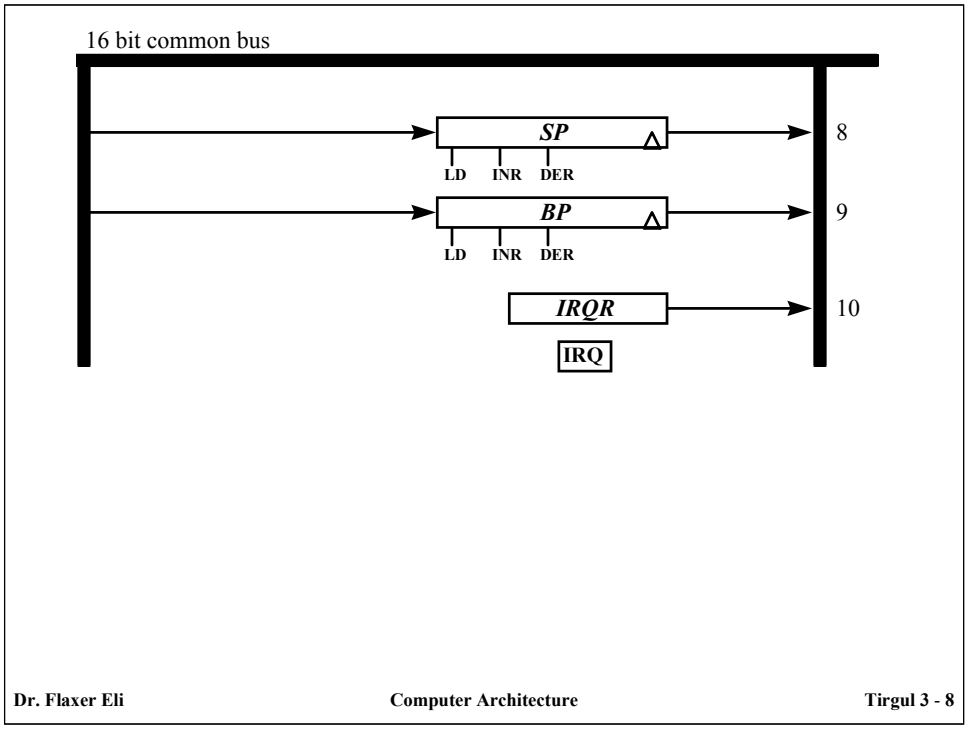
Code	D_i	Symbol	Description
0000	0	HLT	Halt computer
0001	1	SPA	Skip next inst' if *AC* pos
0010	2	SNA	Skip next inst' if *AC* neg
0011	3	SZA	Skip next inst' if *AC* zero
0100	4	SZE	Skip next inst' if *E*=0
0101	5	INT	Software Interrupt
0110	6	IOF	Interrupt off
0111	7	ION	Interrupt on
1000	8	SKO	Skip on output flag
1001	9	SKI	Skip on input flag
1010	10	OUT	Output char from *AC*
1011	11	INP	Input char to *AC*
1100	12		
1101	13		Reserve
1110	14		
1111	15		

MRI OpCode (I=X)

Compatible to Mano Computer (PDP-8)

Symbol	I=0	I=1	Description
AND	0xxx	8xxx	AND Memory to *AC*
ADD	1xxx	9xxx	ADD Memory to *AC*
LDA	2xxx	Axxx	LOAD Memory to *AC*
STA	3xxx	Bxxx	STORE AC in Memory
BUN	4xxx	Cxxx	Branch unconditionally
CAL	5xxx	Dxxx	Call to Subroutine
ISZ	6xxx	Exxx	Increment and skip if zero


BUS
S_0
S_1
S_2
S_3
Memory
4096 x 16
WR
RD
address
OUTR
LD
AR
LD INR CLR
PC
LD INR CLR
DR
LD INR CLR
INPR
ALU
MUX
E
AC
LD INR CLR
IR
LD
TR
LD INR CLR
7
1
2
3
4
5
6
16 bit common bus


16 bit common bus
SP
LD INR DER
BP
LD INR DER
IRQR
IRQ
8
9
10