


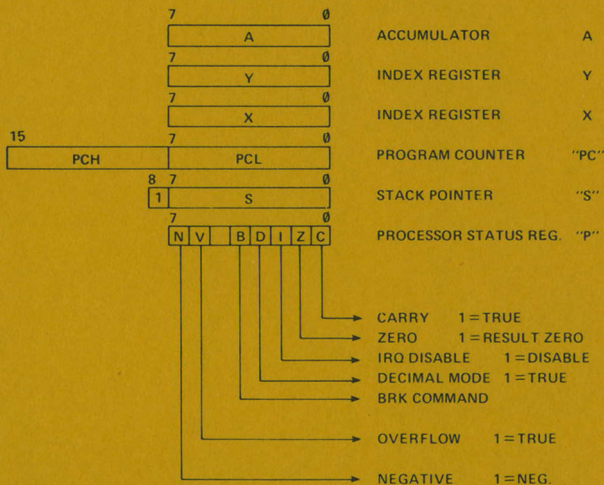


ATARI, INC.
 1265 BORREGAS AVENUE
 SUNNYVALE, CA 94086

A Warner Communications Company 

SY6500 INSTRUCTION SET SUMMARY

PROCESSOR PROGRAMMING MODEL



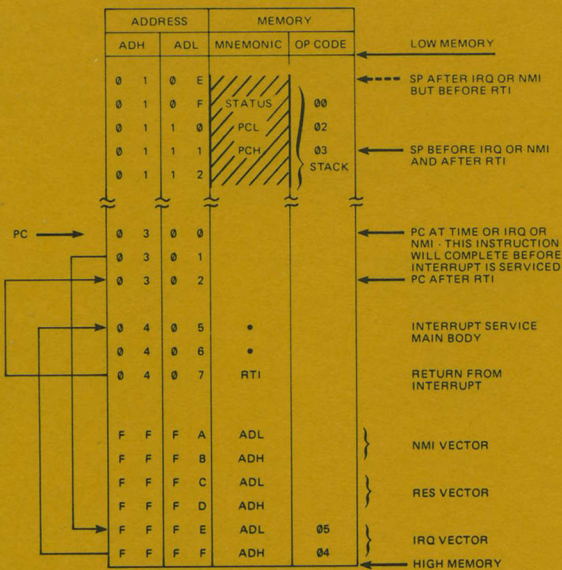


FIG. 1 IRQ, NMI, RTI, BRK OPERATION

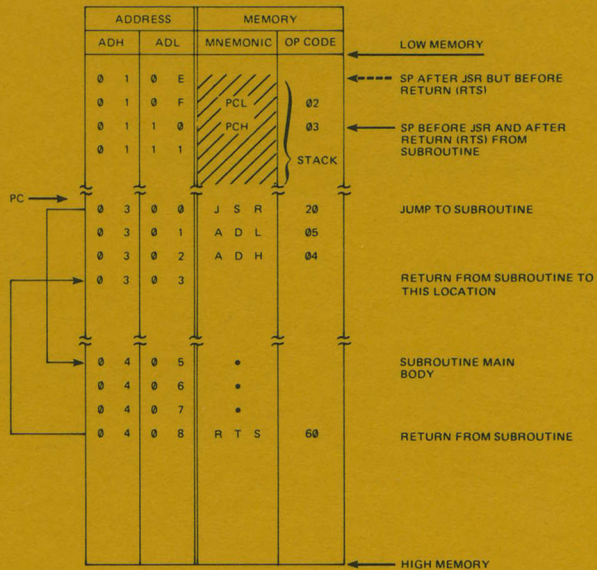


FIG. 2 JSR, RTS, OPERATION

ASSEMBLER DIRECTIVES

- **OPT** - SPECIFIES OPTIONS FOR ASSEMBLY
 OPTIONS ARE: (OPTIONS LISTED FIRST ARE THE DEFAULT VALUES).
 NOC (COU OR CNT) - DO NOT LIST ALL INSTRUCTIONS AND THEIR USAGE.
 NOG (GEN) - DO NOT GENERATE MORE THAN ONE LINE OF CODE FOR ASCII STRINGS.
 XRE (NOX) - PRODUCE A CROSS-REFERENCE LIST IN THE SYMBOL TABLE.
 ERR (NOE) - CREATE AN ERROR FILE.
 MEM (NOM) - CREATE AN ASSEMBLER OBJECT OUTPUT FILE.
 LIS (NOL) - PRODUCE A FULL ASSEMBLY LISTING.
- **BYTE** - PRODUCES A SINGLE BYTE IN MEMORY EQUAL TO EACH OPERAND SPECIFIED.
- **WORD** - PRODUCES AN ADDRESS (2 BYTES) IN MEMORY EQUAL TO EACH OPERAND SPECIFIED.
- **D BYTE** - PRODUCES TWO BYTES IN MEMORY EQUAL TO EACH OPERAND SPECIFIED.
- **SKIP** - GENERATE THE NUMBER OF BLANK LINES SPECIFIED BY THE OPERAND.
- **PAGE** - ADVANCE THE LISTING TO THE TOP OF A NEW PAGE AND CHANGE TITLE.
- **END** - DEFINES THE END OF A SOURCE PROGRAM.
- ***** - DEFINES THE BEGINNING OF A NEW PROGRAM COUNTER SEQUENCE.

LABELS

LABELS ARE THE FIRST FIELD AND MUST BE FOLLOWED BY AT LEAST ONE SPACE.
 LABELS CAN BE UP TO 6 ALPHANUMERIC CHARACTERS LONG AND MUST BEGIN WITH AN ALPHA CHARACTER.
 A,X,Y,S,P AND THE 56 OPCODES ARE RESERVED AND CANNOT BE USED AS LABELS.
 LABEL = EXPRESSION CAN BE USED TO EQUATE LABELS TO VALUES.
 LABEL ** +N CAN BE USED TO RESERVE AREAS IN MEMORY.

CHARACTERS USED AS SPECIAL PREFIXES:

- INDICATES AN ASSEMBLER DIRECTIVE
- = SPECIFIES THE IMMEDIATE MODE OF ADDRESSING
- \$ SPECIFIES A HEXADECIMAL NUMBER
- @ SPECIFIES AN OCTAL NUMBER
- % SPECIFIES A BINARY NUMBER
- ' SPECIFIES AN ASCII LITERAL CHARACTER
- () INDICATES INDIRECT ADDRESSING
- : INDICATES FOLLOWING TEXT ARE COMMENTS
- < SPECIFIES LOWER HALF OF A 16 BIT VALUE
- > SPECIFIES UPPER HALF OF A 16 BIT VALUE

ASCII CHARACTER SET (7-BIT CODE)

MSD \ LSD	0	1	2	3	4	5	6	7
	000	001	010	011	100	101	110	111
0	0000 NUL	DLE	SP	0	@	P	a	p
1	0001 SOH	DC1	!	1	A	Q	q	q
2	0010 STX	DC2	"	2	B	R	b	r
3	0011 ETX	DC3	#	3	C	S	c	s
4	0100 EOT	DC4	\$	4	D	T	d	t
5	0101 ENG	NAK	%	5	E	U	e	u
6	0110 ACK	SYN	&	6	F	V	f	v
7	0111 BEL	ETB	'	7	G	W	g	w
8	1000 BS	CAN	(	8	H	X	h	x
9	1001 HT	EM	)	9	I	Y	i	y
A	1010 LF	SUB	*	:	J	Z	j	z
B	1011 VT	ESC	+	;	K	[	k	
C	1100 FF	FS	<	<	L	\	l	l
D	1101 CR	GS	=	=	M	]	m	
E	1110 SO	RS	•	>	N	^	n	~
F	1111 SI	VS	/	?	O	_	o	DEL



