AttoBasic Command Set
for Atmle ATmega163 and AT90S8515
version 021115C

-Control-

CONTROL-C	The Control-C keyboard combination halts program execution.	
CONTROL-S	The Control-S keyboard combination suspends program execution until another key is pressed	
NEW	NEW PROGRAM	EX: NEW
LIST	LIST PROGRAM	EX: LIST
PRINT	PRINT value to the terminal	EX: PRINT A
PRX	PRINT HEX	EX: PRX 100 results in the output: 64
PRB	PRINT BINARY	EX: PIB INB prints PINB in binary
$	Convert following two characters to hexadecimal	EX: A:= $31 =$ must be preceded by a space.
KEY	Get key from terminal.	EX: A := KEY ; or KEY (return) to pause.
EMIT	EMIT value as ASCII to terminal	EX: EMIT $20 (sends a space)
RUN	RUN program	EX: RUN
IF-THEN	Control structure	EX: IF A=31 THEN GOTO 100
FOR-TO-NEXT	Looping structure	EX: see documentation
GOSUB-RETURN	Program flow control	EX: see documentation
GOTO	Program redirection	EX; GOTO 100
SIZE	Print free bytes of program RAM to terminal.	EX: SIZE
DUMP	DUMP of program ram in hex format.	EX: DUMP
END	END of program	EX: END (this command is not required at end of program)
<backspace>	Destructive backspace during line editing.	
SAVE	SAVE program to EEPROM	EX: SAVE
LOAD	LOAD program from EEPROM	EX: LOAD

-Logical, Evaluation-

:=	set equal to, LET instruction not needed)
=	used for evaluation as in IF a = b THEN...)
<>	not equal to
>	is greater than
<	is less than
-	subtraction, 8 bit unsigned
+	addition, 8 bit
AND	logical AND between two 8 bit values
OR	logical OR between two 8 bit values
XOR	logical Exclusive OR between two 8 bit values
LSL	logical shift left
LSR	logical shift right

-I/O-

PEEK	Get value at memory location	EX: PRX PEEK A,B
POKE	write value to memory location	EX: POKE A,$31; POKE VALUE,destination
OPX	Output byte to port X**	EX: OPA $1A
SBX	Set bit in port X**	EX: SBA 3
CBX	Clear bit in port X**	EX: CBA 3
SDX	Set bit in data direction register X**	EX: SDA 3
CDX	Clear bit in data direction register X**	EX: CDA 3
ODX	Output byte to data direction register X**	EX: ODA $FF
INX	Input from pin on portX** EX: J:= INA	
IBX	Input bit from pin on port X**	EX: IF IBA 2 THEN GOTO 100
PWM8	PULSE WIDTH MODULATION 8 bit pwm on OC1A pin EX: PWM 17	
PWE	PWM EXTENDED 10 bit pwm on OC1A pin EX: PWE 2,00 (outputs value of 512 decimal)	
PWO	PWM on OC1A pin OFF (does not affect any data direction register). EX: PWO	
ACO	ANALOG COMPARATOR OUTPUT	EX: IF ACO THEN PRINT A. Prints a if output high
ADC *	8 bit ADC conversion	EX: PRX ADC ; PRX ADC 9
DSDATA	Send byte over DS Interface as data	EX: DSDATA $02
DSCOMMAND	Send byte over DS Interface as a command	EX: DSCOMMAND $2F
DSREAD	Read a byte from DS Interface	Ex: PRINT DSREAD

Unassigned low memory on ATmega163: $60 - $9A; on AT90S8515:$60 - $6F
* A-to-D converter not supported on AT90S8515
** X refers to port A,B,C, or D

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