

**FUNCTIONS**

$\overline{f}x$	$m\overline{x}$	$\overline{f}y$	$m\overline{y}$	$f$	$m\overline{o}$	out
1	0	1	0	1	0	0
1	1	1	1	1	1	+1
1	1	1	0	1	0	-1
0	0	1	1	0	0	x
1	1	0	0	0	0	y
0	0	1	1	0	1	!x
1	1	0	0	0	1	!y
0	0	1	1	1	1	-x
1	1	0	0	1	1	-y
0	1	1	1	1	1	x+1
1	1	0	1	1	1	y+1
0	0	1	1	1	0	x-1
1	1	0	0	1	0	y-1
0	0	0	0	1	0	x+y
0	1	0	0	1	1	x-y
0	0	0	1	1	1	y-x
0	0	0	0	0	0	x&y
0	1	0	1	0	1	x y

## MEANING of the 6 CONTROLS

if  $\overline{f}x$  then  $x=0$

if  $m\overline{x}$  then  $x \neq !x$  (inverted)

if  $\overline{f}y$  then  $y=0$

if  $m\overline{y}$  then  $y \neq !y$

if  $\overline{o}$  then  $x+y \Rightarrow out$

else  $x \& y \Rightarrow out$

if  $m\overline{o}$  then  $out = !out$

## MEANING of the 2 OUTPUTS

if  $out=0$  then  $\overline{f}r=1$   
else  $\overline{f}r=0$

if  $out < 0$  then  $m\overline{r}=1$   
else  $m\overline{r}=0$