mycobit instruction set

Command	Get/Set Memory 'low' nibble	Disp.Row = Value	Wait	Relative Jump backwards	A = Value	Register = A	A = Register	A = Expression	Select Page	Jump to byte in page	Dec C and Jump if not zero	Dec D and Jump if not zero	Skip if condition true	Call subroutine at byte	Return from subroutine	Get/Set Memory 'high' nibble
Inst. / Data	0 0000	1 0001	2 0010	3 0011	4 0100	5 0101	6 0110	7 0111	8 1000	9 1001	A 1010	B 1011	C 1100	D 1101	E 1110	F 1111
0 0000	A = C (Page) + B (Byte) 'low' nibble	0	1 ms	0	0	Row = A	A = Row		0	0	0	0	A==0	0		A = C (Page) + B (Byte) 'high' nibble
1 0001	C (Page) + B (Byte) 'low' nibble = A	1	2 ms	1	1	B = A	A = B	A = A + 1	1	1	1	1	A > B	1		C (Page) + B (Byte) 'high' nibble = A
2 0010		2	5 ms	2	2	C = A	A = C	A = A – 1	2	2	2	2	A < B	2		
3 0011		3	10 ms	3	3	D = A	A = D	A = A + B	3	3	3	3	A == B	3		
4 0100		4	20 ms	4	4	Disp.Row = A	A = Din	A = A - B	4	4	4	4	Din.0 == 1	4		
5 0101		5	50 ms	5	5	Disp.Row.0 = A.0	A = Din.0	A = A * B	5	5	5	5	Din.1 == 1	5		
6 0110		6	100 ms	6	6	Disp.Row.1 = A.0	A = Din.1	A = A / B	6	6	6	6	Din.2 == 1	6		
7 0111		7	200 ms	7	7	Disp.Row.2 = A.0	A = Din.2	A = A and B	7	7	7	7	Din.3 == 1	7		
8 1000		8	500 ms	8	8	Disp.Row.3 = A.0	A = Din.3	A = A or B	8	8	8	8	Din.0 == 0	8		
9 1001		9	1 s	9	9	PWM = A	A = AD1	A = A xor B	9	9	9	9	Din.1 == 0	9		
A 1010		A	2 s	A	A	Dout = A	A = AD2	A = not A	A	A	A	A	Din.2 == 0	A		
B 1011		B	5 s	B	B	Dout.0 = A.0			B	B	B	B	Din.3 == 0	B		
C 1100		C	10 s	C	C	Dout.1 = A.0			C	C	C	C	S1 == 0	C		
D 1101		D	20 s	D	D	Dout.2 = A.0			D	D	D	D	S2 == 0	D		
E 1110		E	30 s	E	E	Dout.3 = A.0			E	E	E	E	S1 == 1	E		
F 1111		F	60 s	F	F		Save to file		F	F	F	F	S2 == 1	F		

mycobit I/O mapping to micro:bit display, buttons and edge connector pins

micro:bit LED matrix				
Disp – 4 x 4 mycobit display – Row.Bit (y.x)				
Addr.0	0.3	0.2	0.1	0.0
Addr.1	1.3	1.2	1.1	1.0
Addr.2	2.3	2.2	2.1	2.0
Addr.3	3.3	3.2	3.1	3.0
-	Page.3	Page.2	Page.1	Page.0

Addr and Page are only shown on the display when editing the program

Analogue Output
PWM
Pin 0

Dout - Digital Outputs			
Dout.3	Dout.2	Dout.1	Dout.0
Pin 1*	Pin 2*	Pin 8	Pin 12

Analogue Inputs	
AD1	AD2
Pin 1*	Pin 2*

*Pin 1 or Pin 2 can only be used as an input or an output, not both

Din - digital inputs (with internal pull ups)			
Din.3	Din.2	Din.1	Din.0
Pin 13	Pin 14	Pin 15	Pin 16

micro:bit Buttons			
S1	S2		Reset
Button A	Button B		Reset

Differences to MyCo/TSP highlighted in red