

Communication protocol of the BSCB PIC controller

I²C Slave Address of the device is 0x10 (0x08 if Philips 7 bit format)

Unit_0...3 (I²C Subaddress 0...3) are in service with **PIC16C505**.

Subaddress	Name	Function	Direction
0x00	UNIT_0	Device Identifier	read only
0x01	UNIT_1	Keypad 4x4	read only
0x02	UNIT_2	Virtual Port	read/write
0x03	UNIT_3	Virtual TRIS	read/write

Device Identifier format:

```

6           ; Size of the Identifier
DTYPE      ; Device Type
DVERS     ; Device Version
YEAR      ; Date of the Code development
MONTH     ;
DAY       ;
0         ; End marks
0         ;
    
```

Additional Units (I²C Subaddress 4...1F) are in service with **PIC16F818**.

Subaddress	Name	Function	Direction
0x04	UNIT_4	A/D Port Control	read/write
0x05	UNIT_5	2 bytes AN0 Value	read only
0x06	UNIT_6	2 bytes AN1 Value	read only
0x07	UNIT_7	2 bytes AN2 Value	read only
0x08	UNIT_8	2 bytes AN3 Value	read only
0x09	UNIT_9	2 bytes AN4 Value	read only
0x0A	UNIT_A	Keypad 3x5	read only
0x0B	UNIT_B	DM bank_0/1 Address	read/write
0x0C	UNIT_C	DM bank_0/1 Data	read/write
0x0D	UNIT_D	EEPROM Data	read only
0x0E	UNIT_E	EEPROM Address	read/write
0x0F	UNIT_F	64 byte DM Buffer	read/write
0x10	UNIT_10	2 bytes PWM	read/write
0x11	UNIT_11	PORTA	read/write
0x12	UNIT_12	TRISA	read/write

A/D Port Control format:

```

Bit_3:0    = ADCON1,PCFG3:0 ; A/D Port Configuration Control bits
Bit_5:4    = ADCON0,ADCS1:0 ; A/D Conversion Clock Select bits
Bit_6      = ADCON1,ADCS2   ; A/D Clock Divide by 2 Select bit
Bit_7      = ADCON1,ADFM    ; A/D Result Format Select bit
    
```

ANx Value: The first is a high byte

Note. 0x13..0x1F units are reserved for future features.

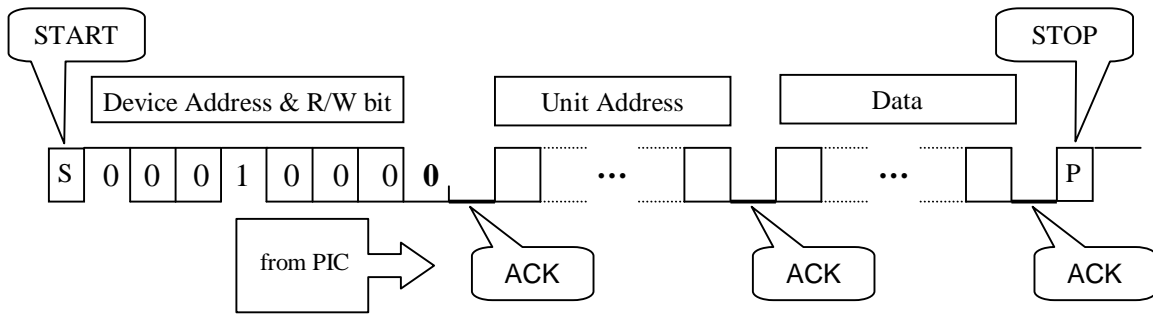


Fig.1. Write to I²C Device

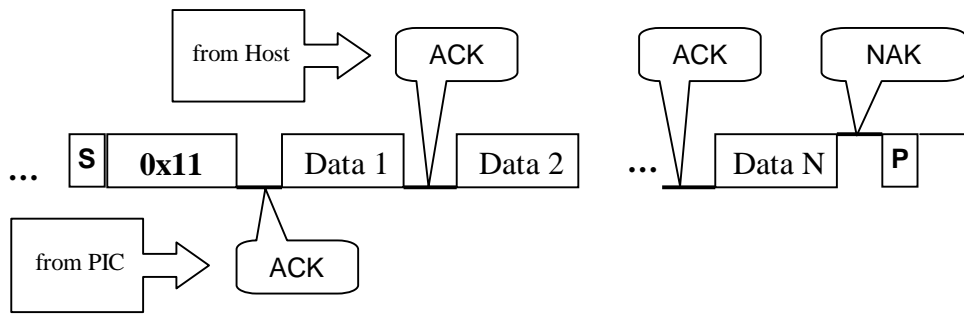


Fig.2. Burst reading from I²C Device