

Command List

The following syntax is used:

Command

<Data>

Response

Description

The communication via the RS232 link is 19200 baud, 8 bit, no parity(N), 1 stop bit. Each command starts with a command character followed by the data if any and must be delimited by a carriage return (0ch). The response is specific to the command and ends with a carriage return too.

A

<40h, 41h, 42h, 43h, 44h, 45h, 46h, 47h, c8h, 2ah>

<A00, A01>

The command A selects an I²C device by its slave address. This can be any PIO device {40h, ..., 47h}, a PLL system {c8h} or the EEPROM {a2h}. This command is useful to detect if such a device is connected to the system. If the selected device part of the system the response is A01, otherwise it is A00.

S

<specific subaddress>

<*S subaddress byte*>

The command S selects a specific subaddress of the previous selected I²C device and prompts the contents of the desired register. The response is a 5 character long sequence of the command, the subaddress and the data.

D

<byte>

<*D byte*>

The command D writes a databyte to the previous selected I²C device and the selected subaddress of the desired register. The response is a 3 character long sequence of the command and the data.

B

<00h, ..., 07h, 08h, ..., 0fh, 10h, 20h>

<*B byte*>

The command B starts the data transfer of data from EEPROM cells to the VCO devices. A number between 00h and 07h initiates the data transfer of the standard frequency, a number between 08h and 0fh the transfer of the alternative frequency to VCO device (number -8). The data 10h and 20h starts a data transfer of the complete set of frequency tables for standard frequency, and the alternative frequencies respectively. The response is a 3 character long sequence of the command and the data.

C

<analog channel>

<C analog channel byte>

The command C delivers the value from one of the two analog inputs. The multiplex code or channel number for the first and second channel is 06h and 07h respectively. The response of this command is a 5 character long sequence with the reply of the command and the channel byte and the converted.

T

<07h>

<T07 XXX.X>

The command T is a customized command and works with a special temperature sensor connected to the second analog input only. The response of this command is the command itself and an ASCII string of the measured temperature in degree Celsius. The temperature range is restricted to 0.0°C to 100.0°C.

E

<VCO address register1 data register2 data register3 data>

<E VCO address register1 data register2 data register3 data >

The command E transfers the 3 bytes containing the frequency code of the VCO devices to the desired device and copies these data into the EEPROM. The VCO address is equivalent to the data 00h, ..., 07h and 08h, ... 0fh transferred by means of the command B. The response of this command is exact its echo.

Program example 1:

register 1 data:	MSB	S_6	S_5	S_4	S_3	S_2	S_1	S_0	LSB
register 2 data:		S_{14}	S_{13}	S_{12}	S_{11}	S_{10}	S_9	S_8	S_7
register 3 data:		1	0	1	0	0	0	S_{16}	S_{15}

$$\text{operation frequency } f = (S_{16} \cdot 2^{16} + S_{15} \cdot 2^{15} + \dots + S_1 \cdot 2^1 + S_0 \cdot 2^0) \cdot 25 \text{ kHz}$$

Let $f = 100 \text{ MHz}$

$$\frac{100\text{MHz}}{25\text{kHz}} = 4000$$

$$(4000)_d = (00000111110100000)_b$$

now enter

register 1 data = (41)h, register 2 data = (1f)h, register 3 data = (A0)h

Program example 2:

$f = 150 \text{ MHz} \rightarrow$ register 1 data = (E1)h, register 2 data = (2E)h, register 3 data = (A0)h

F

<VCO address register1 data register2 data register3 data>

<F VCO address register1 data register2 data register3 data >

The command F and its response is identical to the command E except it does not store the frequency data in the EEPROM.

O

<TTL output number state>

<O TTL output number state>

One of the two digital output ports (0h or 1h) is set to the state 0h (ground signal) or 1h (log. high signal). The channels are selected by the TTL output number. The response of this command is the command itself.

V

<no data>

<V version number of the software and date of release>

The command V prompts the version number and the date of the software release. This is a variable ASCII string.

M

<no data>

<command list table>

The response of the command M is the following table:

```
----- Valid Commands -----  
Aaa      = Selected Slave  
Sss      = Read SubAddress  
Ddd      = Write Data to SubAddress  
Bxx      = SoftBlank  
Cxx      = AD-Conversion  
Txx      = Temperature in °C  
Exxaabbcc = Fill EEPROM and PLL-Reg.  
Fxxaabbcc = Fill Pll-Register  
Oxy      = Output  
V        = Version  
M        = This Menu
```