

PROTOCOL USED FOR VS-606 COMMUNICATION (RS-232)

Communication with the VS-606 is done using three bytes of information as defined below. The rate of data is 9600 baud, with no parity, 8 data bits and one stop bit.

First Byte:

					Address		
0	D	0	0	0	A2	A1	A0
7	6	5	4	3	2	1	0

Second Byte:

Command							
1							
7	6	5	4	3	2	1	0

Third Byte:

Data							
1							
7	6	5	4	3	2	1	0

DETAILED DESCRIPTION

First byte

First byte - bits 0..2 - ADDRESS.

These bits describe the Machine number that is influenced by COMMAND.

The number of the machine can be 1 (master) to 8.

Machine number	A2	A1	A0	
1	0	0	0	Master
2	0	0	1	Slave
3	0	1	0	Slave
4	0	1	1	Slave
5	1	0	0	Slave
6	1	0	1	Slave
7	1	1	0	Slave
8	1	1	1	Slave

1st byte - bit 6 - destination bit (D).

When sending a message from the PC (ie. to machine), this bit must be 0.

When the machine sends a message to the PC, this bit is 1.

1st byte - bits 3,4,5,7 - must be 0.

Second byte

Second byte - bits 0..6 - COMMAND.

These bits describe the "CODE" corresponding to each "COMMAND", as shown in the table below.

last bit - bit 7 must be 1.

Third byte

Third byte - bits 0..6 - DATA.

These bits describe the DATA that is influenced by COMMAND.

For example to connect input 7 to output 3, the DATA should be 7 (hex).

last bit - bit 7 must be 1.

List of Commands

Code (Hex)	Command	Address	Data	Reply
01	Set Output 1	Machine number -1 (0-7)	Input number (0-6)	Three bytes as was sent, except for D which will be 1.
02	Set Output 2	Machine number -1 (0-7)	Input number (0-6)	Three bytes as was sent, except for D which will be 1.
03	Set Output 3	Machine number -1 (0-7)	Input number (0-6)	Three bytes as was sent, except for D which will be 1.
04	Set Output 4	Machine number -1 (0-7)	Input number (0-6)	Three bytes as was sent, except for D which will be 1.
05	Set Output 5	Machine number -1 (0-7)	Input number (0-6)	Three bytes as was sent, except for D which will be 1.
06	Set Output 6	Machine number -1 (0-7)	Input number (0-6)	Three bytes as was sent, except for D which will be 1.
07	Set Output 7	Machine number -1 (0-7)	Input number (0-6)	Three bytes as was sent, except for D which will be 1.
08	Set Output 8	Machine number -1 (0-7)	Input number (0-6)	Three bytes as was sent, except for D which will be 1.
09	Set all outputs	Machine number -1 (0-7)	Input number (0-6)	Three bytes as was sent, except for D which will be 1.
0A	Get the status of output	Machine number -1 (0-7)	Input number (0-6)	Address - as sent Command - output number Data - input number
0B	Get the machine type	Machine number -1 (0-7)		Address - as sent Command - 0. Data - 88

Examples how to use the protocol:

1) To connect input 6 in machine 2 to output 5, set the byte as below:

First byte - 00(hex) + ADDRESS(hex) = 00 + 02 = 02(hex).

Second byte - 80(hex) + COMMAND = 80 + 05 = 85(hex).

Third byte - 80(hex) + DATA(hex) = 80 + 06 = 86(hex).

DIP SWITCH SETTINGS

Machine Number	Switch Number							
	8	7	6	5	4	3	2	1
1 (Master)	ON	ON	ON	ON	ON	ON	ON	ON
2	Off	Off	ON	ON	ON	ON	ON	Off
3	Off	Off	ON	ON	ON	ON	Off	ON
4	Off	Off	ON	ON	ON	ON	Off	Off
5	Off	Off	ON	ON	ON	Off	ON	ON
6	Off	Off	ON	ON	ON	Off	ON	Off
7	Off	Off	ON	ON	ON	Off	Off	ON
8	Off	Off	ON	ON	ON	Off	Off	Off

Switch Matrix Coding for the VS-606

	Output # 1	Output # 2	Output # 3	Output # 4	Output # 5	Output # 6	All Outputs
Input # 1	00H 81H 81H	00H 82H 81H	00H 83H 81H	00H 84H 81H	00H 85H 81H	00H 86H 81H	00H 89H 81H
Input # 2	00H 81H 82H	00H 82H 82H	00H 83H 82H	00H 84H 82H	00H 85H 82H	00H 86H 82H	00H 89H 82H
Input # 3	00H 81H 83H	00H 82H 83H	00H 83H 83H	00H 84H 83H	00H 85H 83H	00H 86H 83H	00H 89H 83H
Input # 4	00H 81H 84H	00H 82H 84H	00H 83H 84H	00H 84H 84H	00H 85H 84H	00H 86H 84H	00H 89H 84H
Input # 5	00H 81H 85H	00H 82H 85H	00H 83H 85H	00H 84H 85H	00H 85H 85H	00H 86H 85H	00H 89H 85H
Input # 6	00H 81H 86H	00H 82H 86H	00H 83H 86H	00H 84H 86H	00H 85H 86H	00H 86H 86H	00H 89H 86H
Off	00H 81H 80H	00H 82H 80H	00H 83H 80H	00H 84H 80H	00H 85H 80H	00H 86H 80H	00H 89H 80H