

RS232 interface for TVLINK systems

Product code:
TVTRX232

TVTRX232 works with the following devices:

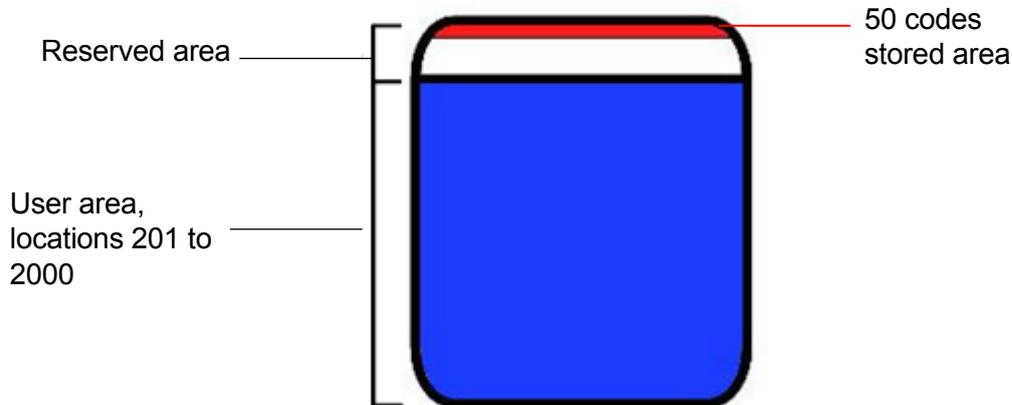
- receivers
- transceivers
- transmitters
- temperature, water and sun sensors.

RS232 SERIAL COMMUNICATION SETTINGS:

Baud rate	19200
Data bits	8
Parity	none
Stop bits	1
Flow control	none

MEMORY MAP:

The device has 50 transmitter codes stored in location 1 to 50 of its memory.



These codes allow TVTRX232 work as 50 different transmitters. Every transmitter can send up to 7 channels. These codes are fixed and not modifiable. In user memory area(201-2000) it's possible to store codes belonging to physical transmitters. To memorize a physical transmitter's channel can be use command 2 which allow to store a transmitter code via radio in a defined memory location.

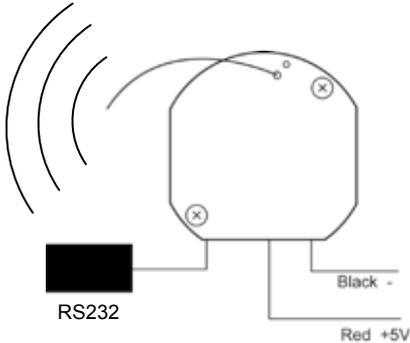
Code Number:	Series		Model number	
TVTRX232	TVLink		T517.01_EN	26/02/2013

1 - RS232 commands

Checksum: the checksum value of the commands equals the carryless sum of the transmitted bytes. For example, if the hexadecimal values data to send are 54 5B F1 00 07, their sum is $54+5B+F1+00+07 = 1A7$ so the checksum is A7.

1.1- Command 1: Transmit (the device transmits for 300 ms.)

Transmit via radio using one of the 50 codes stored in memory and a specific channel.



Command string	1 byte	'T' (hexadecimal 54)
ID	2 bytes	Hex 1 to Hex 50
Channel	2 bytes	1-0xFFFF
Checksum	1 byte	Value

Answer(hexadecimal): 54 06 checksum

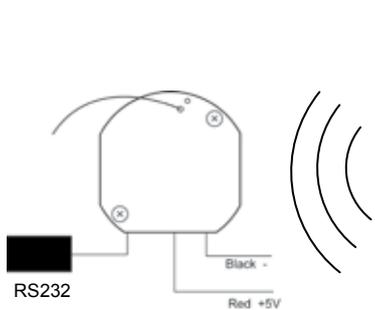
Example 1: Transmitting channel 7 for code stored in location ID=42.

Data to send(hexadecimal): 54 00 2A 00 07 85

↑ ↑ ↑ ↑
 'T' 42 channel checksum

Answer received: 54 06 5A

1.2- Command 2: Memorize a physical transmitter



Command string	1 byte	'A' (hexadecimal 41)
ID	2 bytes	Hex 201 to Hex 2000
Checksum	1 byte	Value

Wait answer(hexadecimal): 57 06 checksum

Answer after a successful memorization (hexadecimal): 57 06 checksum

NOTE 1: any command shuts down the 'waiting for a code' operation.

NOTE 2: to memorize more than one channel belonging to the same transmitter, you have to use the same ID number.

Example 2: memorizing a transmitter on location ID = 500

Data to send(hexadecimal): 41 01 F4 36

↑ ↑ ↑
 'A' 500 checksum

Wait answer received: 54 06 5D

Transmission of a channel of the physical transmitter(for example channel 3)

Answer: 54 06 59

(To memorize another channel of the same transmitter must be used the same data to send: 41 01 F4 36)

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Receiving a transmitter memorized

When TVTRX232 receives and recognizes a radio transmission, it sends on RS232 these **data**:

Command string	1 byte	'R' (hexadecimal 52)
ID	2 bytes	Hex 201 to Hex 2000
Channel	2 bytes	1-0xFFFF
Checksum	1 byte	Value

Example 3: receiving the channel 3 of a transmitter(see example 2).

Data received on RS232 (hexadecimal): 52 01 F4 00 03 4A

↑ ↑ ↑ ↑
'R' ID=500 channel checksum

1.3- Command 3: Delete memory location/s

Delete a serial number stored in the range location 201 – 2000

Command string	1 byte	'C' (hexadecimal 43
Starting ID	2 bytes	Hex 201 to Hex 2000
Number of locations to delete	1 bytes	1-0xFF
Checksum	1 byte	Value

Successful deletion answer(hexadecimal): 43 06 checksum

Example 4: deleting one location with ID = 350

Data to send (hexadecimal): 43 01 5E 01 A3

↑ ↑ ↑ ↑
'C' 350 number of locations checksum

Answer received: 43 06 49

1.4- Command 4: Delete all the memory

Delete all the memory from ID = 201 to 2000

Command string	10 bytes	'DELETE ALL' (hexadecimal 44 45 4C 45 54 45 20 41 4C 4C)
Checksum	1 byte	Value

Successful deletion answer(hexadecimal): 43 06 checksum

Example 5: deleting all the memory

Data to send (hexadecimal): 44 45 4C 45 54 45 20 41 4C 4C A

↑ ↑ ↑ ↑
"DELETE ALL" checksum

Answer received: 43 06 49

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2. Error codes:

Error string	1 byte	'E'
Error specific	1 byte	X (from 0 to 9 see table II)
Checksum	1 byte	Value

Error types:	Hex Value
Framming error	0
Checksum error	1
Wrong command error	2
ID = 0 error	3
ID > 2000 error	4
Number of code to read/delete = 0 error	5
Number of code to read > 16 or >128 error	6
Number of code to read/delete > 2000 (out of range) error	7
Serial code already stored error	8
ID < 201 error	9
Empty location transmission attempt error	10
Value out of valid codes range memorization attempt error	11

Example 6: Error answer received

Data sent (hexadecimal): 41 01 F4 39 (see example 2):
 ↑ ↑ ↑
 'T' 500 wrong checksum

Answer received: 45 01 46
 ↑ ↑ ↑
 'E' checksum error checksum

TECHNICAL SPECIFICATIONS

- Power supply 5Vdc
- Carrier frequency 868.3 MHz
- Working temperature - 10° +55°C

In the view of a constant development of their products, the manufacturer reserves the right for changing technical data and features without prior notice.

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