



Satellite mobile objects monitoring system

Voyager

Chapter 28

RTV Module

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Chapter 28. RTV Module

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28.1. RTV Module Application

Radio module RTV is designed for receipt of alarm messages from radio trinkets with their following transmission to Voyager-2, which in turn transmits received messages to monitoring server.

28.2. RTV module connection to mobile objects satellite monitoring system Voyager

RTV module external view with built-in and external antenna and trinket is shown in Fig. 28.1 a, b, c.

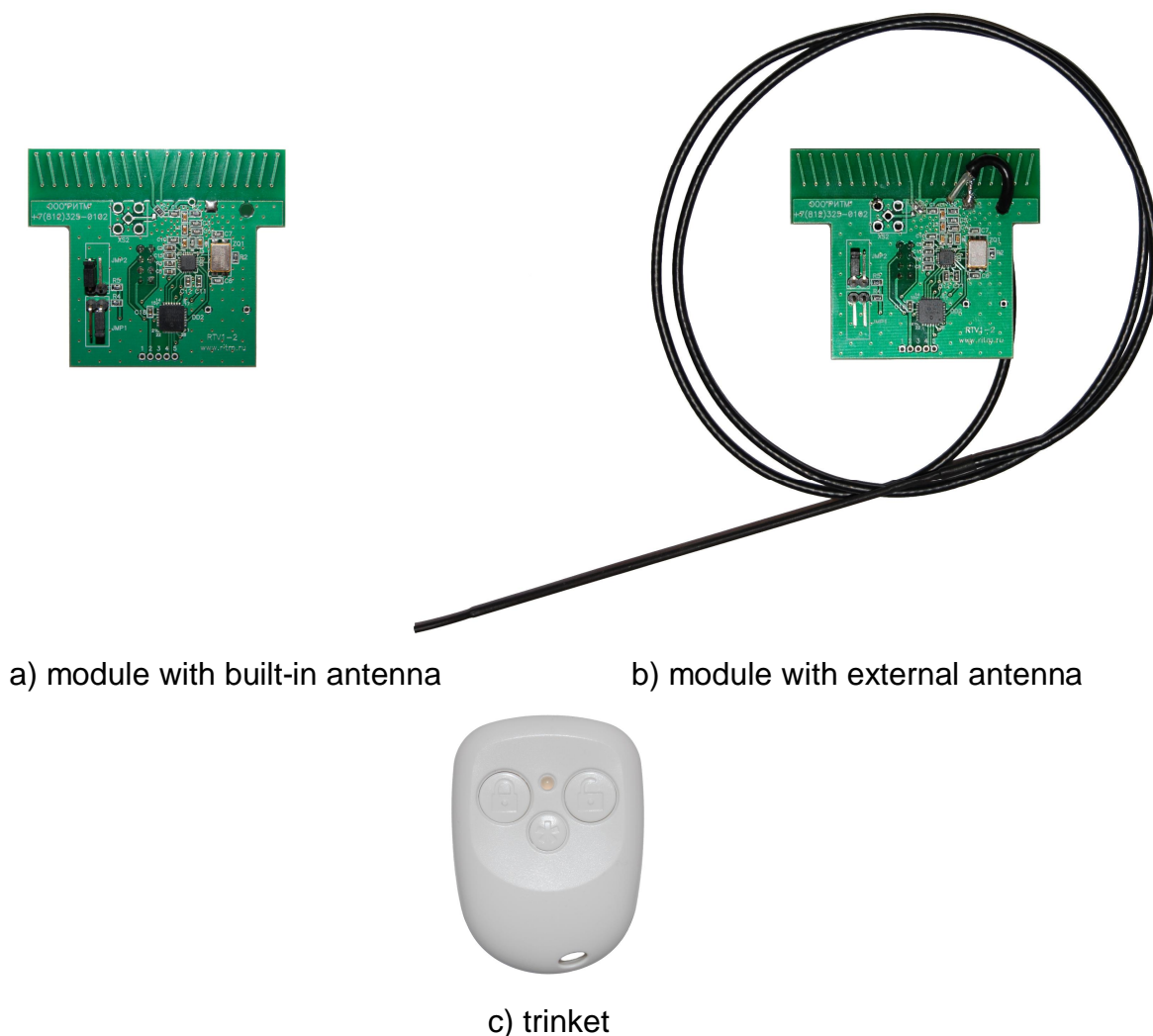


Figure 28.1 RTV module external view

Maximum operating distances from the trinket to RTV module depending on antenna type and its installation are given in Table 28.1.

Table 28.1 – Maximum operating distance from the trinket to RTV module

Antenna type	Maximum operating distance, m	
	Under vehicle trimming	In line of sight
Built-in	30	100
External	120	200



External antenna should not contact with metal parts of the vehicle!

RTV module scheme of connection to Voyager is shown in Fig.28.2.

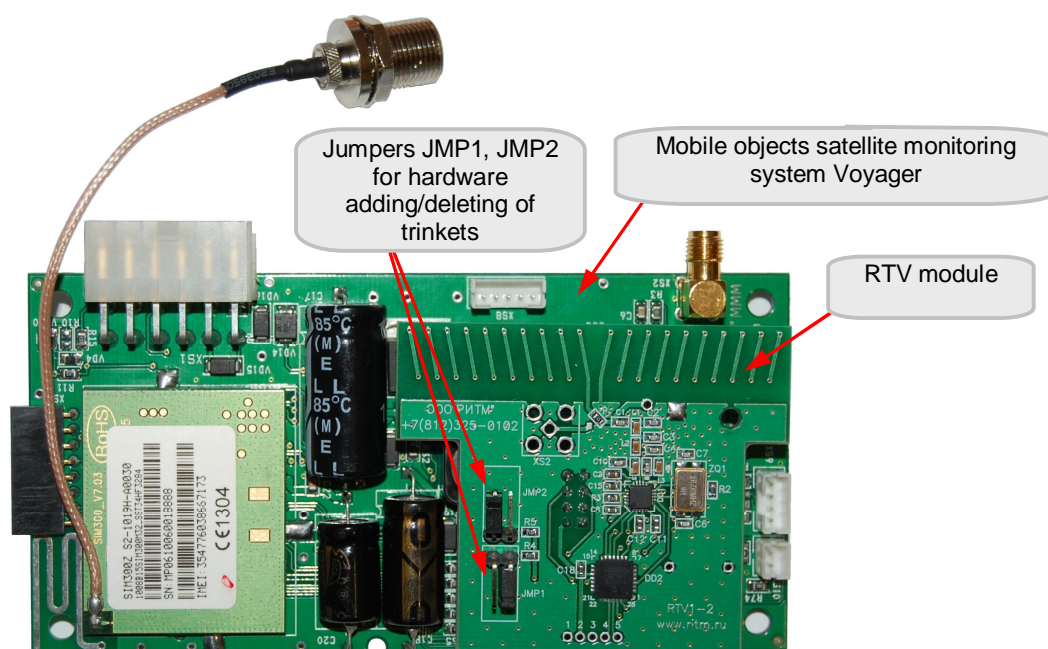


Figure 28.2 RTV module scheme of connection to Voyager

RTV module is mounted on Voyager at manufacturer of hardware versions 2-5, 2-6 with external GPS antenna to XS3 socket according to Fig 28.2. RTV is not supplied separately.

28.3. RTV module setup

Configuring RTV module is carried out from setup program V2Config.exe¹, at the page Events and Outputs Setup (Figure 28.3).

RTV module supports up to 64 wireless trinkets, appointed to any available input of Voyager.

For operation of RTV module it is required to assign a particular input to it and add at least one trinket.

Assigning inputs to RTV module using program V2Config.exe:

1. Connect Voyager to PC via communication cable USB 1 or USB 2 or via GSM modem.
2. Connect to Voyager (item 1 in Figure 28.3).
3. Choose tab Events and Outputs Setup (item 2 in Figure 28.3).
4. Click Read button in settings program toolbar to read settings of the current page from the memory of Voyager (item 2 in Figure 28.3).
5. Select the input on which the alarm will be generated in case of pressing trinket button (item 4 in Figure 28.3).

Available inputs depending on the mode of Voyager are listed in Table 28.2. When you change operation mode of Voyager, you must re-select on which the alarm will be generated from the trinket.



When assigning frequency fuel sensor FFS to analog input 1 or 2 (connected to 6th input), the input on which the alarm is generated shall be different from 6.

6. Click Save button to save settings of the current page in memory of Voyager (item 7 in Figure 28.3).
7. Click Disconnect button to disconnect from Voyager (item 8 in Figure 28.3).

To add a trinket using program V2Config.exe:

1. Connect Voyager to PC via communication cable USB 1 or USB 22 or via GSM modem.
 2. Connect to Voyager (item 1 in Figure 28.3).
 3. Choose Event Settings tab (item 2 in Figure 28.3).
 4. Click Read button in settings program toolbar to read settings of the current page from the memory of Voyager (item 2 in Figure 28.3).
 5. Click Add Trinkets button (item 5 in Figure 28.3). In this case screen displays a message box "Add all trinkets and click OK". RTV module is switched to trinket addition mode.
 6. To add a trinket to RTV module system:
 - a) Click and hold any button on the trinket (Figure 1.28 c). The indicator on the trinket should first briefly flash red for 5 seconds (only when you first add a trinket to the system), then double flash and turn off in red and then turn on in green.
 - b) Release the button on the trinket. The trinket is added to RTV module system module.
 - c) Go to addition of another trinket.
- If after pressing trinket button the indicator is red, it means that there is no communication with RTV module. You need to check Voyager power supply.
- When the battery in trinket is discharged, it is necessary to replace it (battery type CR2032). When installing the battery, the indicator lights up momentarily in orange.
7. After adding all the trinkets, click OK in setup program.
 8. Click Disconnect to disconnect from Voyager (item 8 in Figure 28.3).

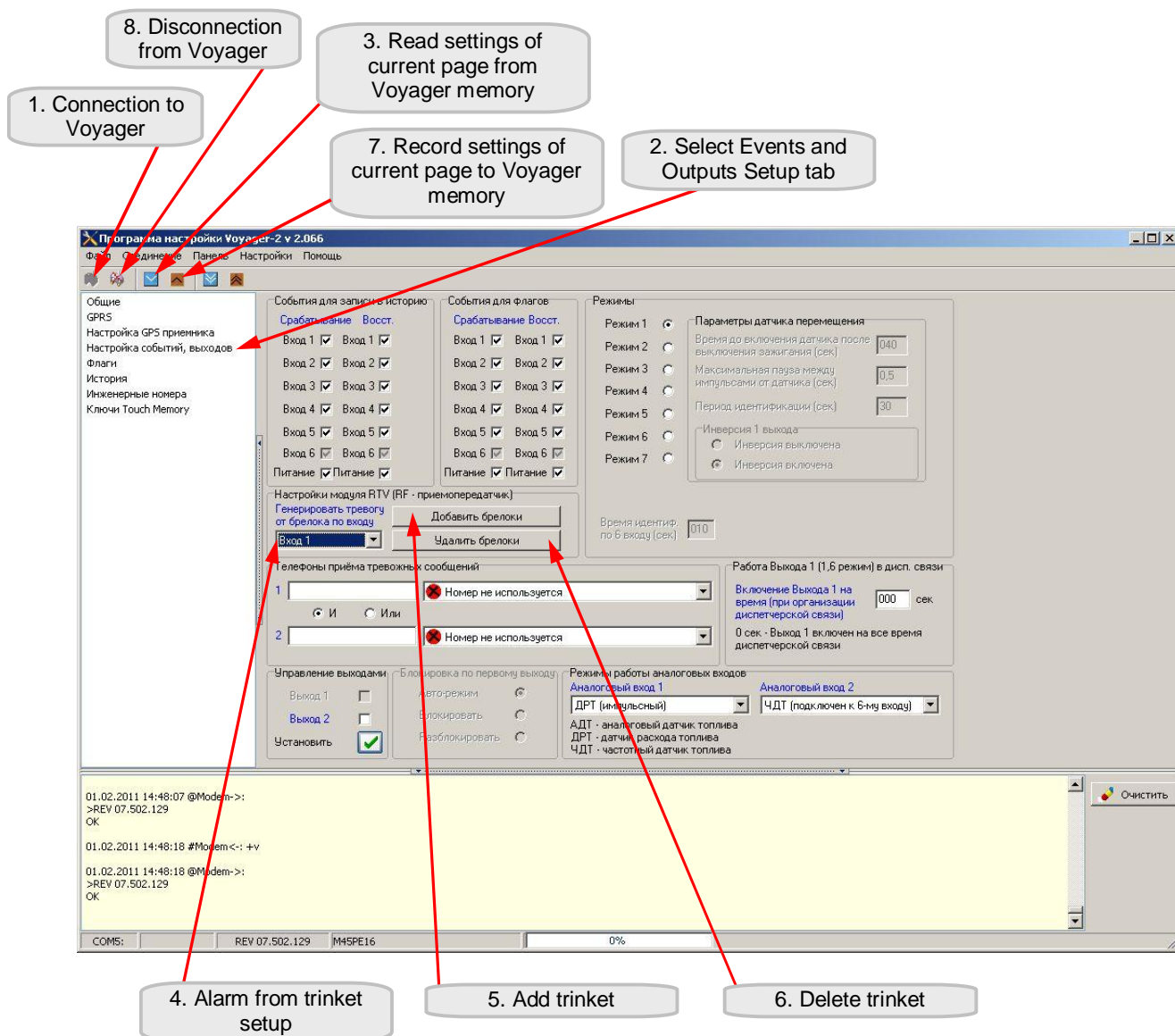


Figure 28.3 RTV module setup in V2Config.exe program

Подробнее по программе – в главе 5 «Описание программы настройки».

To delete trinkets from RTV radio module using V2Config.exe program:

1. Connect Voyager to PC using communication cable USB 1 or USB 2² or using GSM modem.
2. Connect to Voyager (item 1 in Figure 28.3).
3. Select Events and Outputs Setup (item 2 in Figure 28.3).

4. Click Read button in setup program toolbar to read settings of current page from Voyager memory (item 2 in Figure 28.3).



All trinkets will be deleted when deleting trinkets from memory.

5. Click Delete Trinkets (item 6 in Figure 28.3). In this case, the screen displays a window with a warning message “Are you sure you want to delete trinkets?”

6. Click OK. In this case, the screen displays a second window with a warning message “Are you sure? All trinkets will be deleted”.

7. Click OK.

8. Click Disconnect to disconnect from Voyager (item 8 in Figure 28.3).

To add trinkets without a computer (using jumpers on RTV module):

1. Close the jumper on pin JMP1 or JMP2 (Figure 28.2). Only one jumper shall be installed.



By closing both jumpers simultaneously you will delete all trinkets from memory.

2. Press and hold any button on the trinket (Figure 1.28 c). After that red indicator should twice turn on and off then green is turned on. Release the button on the trinket (green indicator shall go out) – trinket was successfully added to the input that is configured earlier in setup program V2Config.exe (item 4 in Figure 28.3).

When you add several trinkets, it is necessary to repeat this item for each trinket.

3. After adding all the trinkets it is necessary to remove previously installed jumper (JMP1 or JMP2).

To delete trinkets without PC (using jumpers on RTV module) it is necessary:



All trinkets will be deleted when deleting trinkets from memory.

Close pins JMP1 and JMP2 with jumpers (Figure 28.2).

Both jumpers should be installed.

Remove jumpers from JMP1 and JMP2 pins.

Table 28.2 – Possible options to assign RTV module on voyager input depending on its operation mode.

Inputs	Mode1	Mode2	Mode3	Mode4	Mode5	Mode6	Mode7
1							
2							
3							
4							
5							
6							



- available options

- using RTV module as immobilizer

RTV module can be used as immobilizer in 3rd mode (input 2).

28.4. RTV module operation

To generate alarm signal (on input previously specified in setup program of Voyager (item 4 in Figure 28.3)), press and hold any button on the trinket (Figure 1.28 c). At the same time green indicator should turn on in the trinket – alarm signal is generated and transmitted to RTV module.

In case there is no connection of the trinket with RTV module, red indicator will turn on after pressing the button.