

# Signal module for the car "Klaxon 2RL"

This manual has been translated using the online google translator tool, please ignore grammatical errors.

The 2RL module allows you to convert the standard sound signal of the car into a melodic one, to the module directly two sound signals from the car with a voltage of 12 volts are switched on. The melody is played through the same place where the signal in the car was previously triggered, while the standard beep, for example, in case of an emergency situations, can be turned on through the same button (on the steering wheel with horn icons).

With a short press, <0.3 sec. will play the selected melody, if the button on the steering wheel is pressed or held more than 300ms. (0.3 sec.) - the standard car signal will sound. The module has a memory of the selected melody, that is you don't have to look for your favorite melody again after turning off the 12V power supply.

## SPECIFICATIONS:

Work voltage: 12 or 24V \*,  
 Number of connected sound signals: 2,  
 Number of melodies: > 6 \*\*, examples on [video](#)  
 or see the website at13.ru  
 Standby current consumption: less than 5 mA,  
 Working temperature: -35 ° C + 80 ° C,  
 Relative humidity: 10 - 80%,  
 Overall dimensions: 53x35x17 mm.  
 Weight: ~40 g.

Sound signals are connected to the X1 connector: 1 and 2 contacts - the first sound signal, 2 and 3 contacts - the second signal. Low or high tone signals can be connected to depending on the sound quality of the signals, the sound may differ.

Power is connected to the X2 connector (1 and 2 contacts), the button to switch melodies, connect to contact 3, short to ground. The chain for playing a melody (4 contacts) is connected to the signal button on the steering wheel; stretch up There is no need for additional wire to the steering wheel button.

Adding new melodies is possible only by reprogramming using programmers for AVR ATMEL (for example USBASP), firmware with melodies are laid out in the technical section of the manufacturer's website. Example of work with a programmer and programming devices on microcontrollers ATMEL is available on our website: [link](#) , or see the technical section at site, the topic is "programming modules".  
 When programming, select the type of microprocessor installed on the board (Atmega8, Atmega88 or Atmega48).

*NOTE! The functionality of the module, appearance and software can be changed and improved without reflections in this manual.*

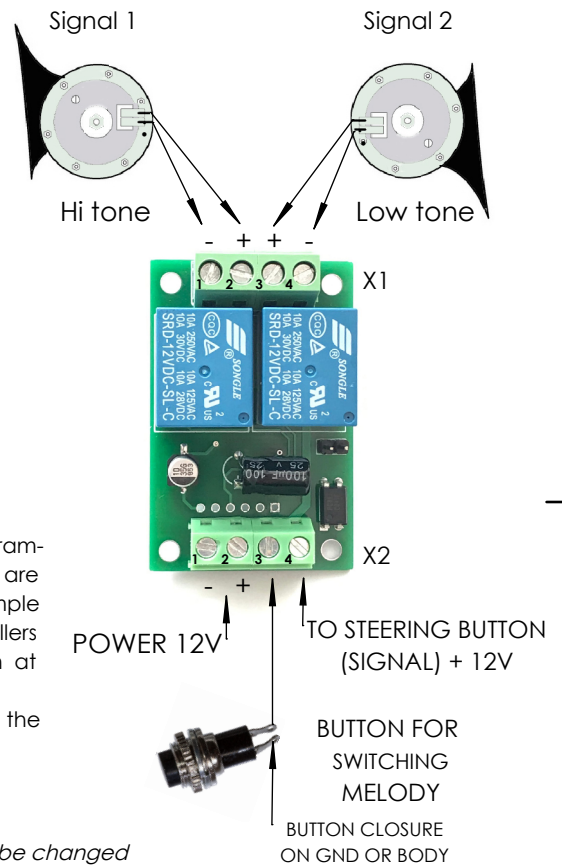
*\* The number of melodies may differ per batch.*

*\*\* For the module to operate from 24V, it is necessary to replace the relays installed on the board with similar ones with 24V operation voltage, type (model) relay 833H or T73.*

**ATTENTION!** If the signal body is metal and it is connected to a negative power supply, in this case it is allowed to change the polarity of the audio signals connection, otherwise it is necessary to isolate the attachment point.

Since the dev. is delivered without a housing, it is necessary to protect the board when installed in the engine compartment. module from moisture and dust, it is recommended to install it in a plastic case. X2 connector contacts, namely pin 3 works with respect to MINUS (body), and pin 4 works with respect to + 12V, it is not recommended to confuse their connection, otherwise the device may fail!

## PURPOSE OF CONNECTORS AND CONNECTION DIAGRAM:



	ИМЯ	ПОДПИСЬ	ДАТА		
Разраб.					
Пров.					
Утв.					
Маш.					
Т.контр.					
				2021	
				МАССА: 20 г.	

at13.ru	
НАЗВАНИЕ:	Klaxon 2RL
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МАСШТАБ:2:1	ЛИСТ 1 ИЗ 1