

## Audio-interface MOST-TosLink 2.0 (Adapter for digital output)



Fig.1. Adapter Most-TosLink 2.0 and Power cable



Fig.2. Connectors "Power" and "MOST"

The adapter allows you to integrate digital sound processor in the car's audio system instead of the original amplifier. This gives you the opportunity to build a high quality audio system using amplifiers and subwoofers by any manufacturer.

It is compatible with vehicles equipped with audio system with optical interface MOST:

- Audi A4, A5, A6, A8, Q5, Q7 (MMI 2G/3G/3G+, up to 2014)
- BMW (E60, E65, E70, E90, F10, F30...)
- Land Rover (Freelander 2, Discovery 3, 4), Range Rover
- Mercedes Benz
- Porsche
- Volvo (S40, S60, S80, XC70, XC90)
- VW Touareg NF (3G+)

### Package contents

- Adapter Most-TosLink 2.0 (Fig.1)
- Power cable (connector with red, black and blue wires) (Fig.1)
- Jumpers - 3 pcs.
- Quick guide.

**Depending on the vehicle, possibly additionally required (sold separately):**

- **Optical cable (0,8m) with connector**
  - ✓ for Volvo (during the procedure «serial number assignment»),
  - ✓ for BMW or MB (if original amplifier is missing).
  - ✓ for system MMI 3G+ (Audi or VW Touareg NF).
- **Only optical connector**
  - ✓ for BMW or MB (if the original amplifier is present).

### Description

Audio-interface MOST-TosLink 2.0:

- 1) emulates a original audio amplifier.
- 2) select the main stereo signal from the optical stream, as well as additional audio signals from the phone, navigation system, parking sensors and other messages.
- 3) performs mixing of additional signals to the main signal in the respective proportions for each audio channel using digital mixers.
- 4) generates at its output 24-bit digital signal TosLink. The digital output signals are formed by the left and right channels, which are mixed in signaling intended for the front and for the rear speakers.
- 5) stores in the system basic settings (high, low, balance).
- 6) uses throughout the audio path only digital (24 bit) format for the signals.
- 7) play audio from the DVD source is only possible in Stereo mode. The device does not have built-in multichannel decoder 5.1 audio, so when you try to play any 5.1 audio signal will not be broadcast.

Setting of jumpers		Connection	
00	Serial Number	07	Freelander2 HSE
06	Audi 2G	08	RR Evoque RR Sport 2013+
11	Audi 3G+ VW Touareg NF	09	Freelander2 S80/XC70-2011
13	Lamborghini Audi 3G+	0E	Discovery 3,4 RR Sport-2012
02	BMW E/F series	14	Porsche 2009+
0A	BMW E/F series spec.mode (park)	0B	Porsche -2008
15	BMW E65/E66 HU audio - OFF	05	Volvo S60
17	BMW E65/E66 HU audio - ON	0D	XC70 2012+
01	Mercedes 2008+	0F	XC90,S40
03	Mercedes -2009	16	XC60 Premium
1D	Mercedes NTG1 w211,w220	1E	Reserve
Setting of jumpers Установка перемычек		02.18	

Fig.3.

**Notes for BMW and Mercedes Benz** (If the optical amplifier is not in the original vehicle specification):

- It is necessary to register in the configuration of the vehicle using the diagnostic equipment,
- To connect the adapter, you will also need an optical cable with connector (not supplied).

**Notes for BMW:**

If you want to change the volume levels of parking sensors and signals of system messages, there is an additional mode of the adapter (in the fig.3 labeled as "BMW Park Volume"). More about this mode later.

**Notes for Mercedes Benz (only for Comand NTG2.5):**

- It is necessary to activate function "Rearseat entertainment".

**Notes for Volvo** (if you have activated component protection):

- before connecting the adapter must be assigned to the adapter serial number (a marker of activity of the protection components is the cessation of broadcast audio adapter in 20-40 seconds after turning on the system).

- to connect the adapter, you will also need an optical cable with connector (not included).

For the assignment you need to set the jumpers to position «Read Serial Number», then, not disconnect the original amplifier, connect the adapter to the optical interface MOST and turn on audiosystem. After you enable the adapter «read» the serial number of original amplifier and store

it in its non-volatile memory. This procedure usually takes less than 20 seconds, a sign of the end of the procedure «Read Serial Number» is the formation of pulses with an interval of 1 second on the line Remout (blue wire). After that you should disable original amplifier, set the jumpers to a position corresponding to the car and use the audio interface in the system instead of the original amplifier.

### The operation of the adapter

When you turn on the original head unit audio interface "MOST-TosLink" is initialized in the interface MOST like a original amplifier and emulates his work, takes information from the head unit about the regulations and forms necessary messages to the head unit. After all the sound interface circuit enters the working state and the broadcast audio signal to a TosLink output, a control voltage is generated at the output of the Remout.

When you turn off the system first retracts the control voltage from the output of the REMOUT, then the audio circuit are transferred to the standby mode, thus avoiding indirect clicks when switching on and off.

Module of frequency correction in the adapter is automatically disabled when the middle position of regulators of tones of the system.

Adapter "MOST-TosLink" is in "sleep" mode when the interface is "MOST" inactive as other components of the system MOST, while consuming approximately 0.5 mA.

### Special mode (only for BMW)

If you want to change the volume levels of parking sensors and system messages, you should use an additional mode of the adapter MOST-TosLink (in the figure 3 labeled as "BMW Park Volume")

To set the desired volume of the parking sensors and signals:

- 1) set the jumpers to position BMW (one jumper).
- 2) turn on the system.
- 3) not turning off the system, add a jumper (in accordance with figure 3 the position of "BMW Park Volume").
- 4) adjust the level of the lower border signals by adjusting low frequency timbres. Below this situation, the signal level will not drop ever.
- 5) install attenuation additional signals relative to the level of the main channel by adjusting the timbres of the upper frequency (weakening of the signal levels of the parking sensors and of the system with respect to the main music signal).
- 6) Turn off the system. Wait until the car "fall asleep".
- 7) Operation with the set parameters is possible if the position of jumpers "BMW Park Volume". To return to the default settings again, set the jumpers to the normal position "BMW" (fig.3)

### General specifications

Dimensions adapter:	90 x 60 x 25 mm
Power supply voltage:	8 ... 16 volts
Current consumption in sleep mode:	less than 0.5 mA
Digital output:	SPDIF / TosLink
The number of bands equalizer:	5 bands
EQ adjustments Depth:	+/- 15db
Depth adjustment of bass and treble:	+/- 12db

### Features sound processor (STA309A)

Bit Sound Processor:	24 bit
Dynamic range:	no less than 100 db
Number of active channels concurrently:	5 channels (1-stereo and 4-mono)

### Audio-interface Most-TosLink (version 2.1 and 2.2)

Adapters Most-TosLink ver.2.1 and ver.2.2 is a special versions of the adapter Most-TosLink for audiophiles and music lovers who want to get the most from your audio system.

**The Most-TosLink 2.1 adapter** differs from the standard version (Most-TosLink 2.0):

The stereo music stream is not processed by the STA309A digital processor, which avoids both additional oversampling of the signal and completely eliminates the algorithm errors in frequency correction. To adjust the level and mix of the service signals in the audio channel, use a special digital volume control on the CPLD Altera MAXII with the algorithm of integer mathematics and 24 bit output, which allows you to save the dynamic range of the original signal and output it as accurately as possible. Frequency adjustments (timbre and equalizer) by this device are not supported.

**The Most-TosLink 2.2 adapter** differs from v2.1 with support for frequency adjustments (timbre and equalizer). In this neutral adapter, in neutral positions of the timbre and equalizer, the sound signal is not processed by the sound processor, ensuring maximum accuracy of the output signal (similar to v2.1), and at the position of frequency adjustments other than neutral, the sound signal is processed according to the classical algorithm (similar to v2.0) providing the required frequency correction of the signal.

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