



Audio-interface

**MOST-TosLink 3.0 (2.1, 2.2)
(Adapter for digital output)**

Service manual

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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	

Chapter 1. Description

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.

Audio-interface MOST-TosLink 3.0:

- 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.

Compatibility

Cars with interface Most-25:

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

Package contents

- Adapter Most-TosLink 3.0
- Power cable
- Jumpers – 3pcs
- Quick guide

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

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

Chapter 2. Connection

Attention: Color of wires of the power cable does not match the color of the regular car wiring. Incorrect connection of the supply leads to the device failure.

- 1) set the jumpers according to the picture.
- 2) to connect the adapter to the car system has:
 - connector “MOST”. Before connecting remove the cover.
 - connector “Power” and Power cable:
 - ✓ Red wire (+12V Battery).
 - ✓ Black wire (Ground, GND).
 - ✓ Blue wire (REM.OUT for control, remote output).

- 3) to connect to digital sound processor - connector TosLink

Notes for BMW and Mercedes Benz (If the optical amplifier Logic-7 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: an additional mode of the adapter (BMW spec.mode (park)). This mode should be used if you want to change the volume of the signal (parking sensors and system messages). Read more about this mode in the Applications.

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

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

Notes for Volvo and Land Rover (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).

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.

Chapter 3. How the adapter works

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.

Applications

1. Special mode 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

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 (position "BMW spec.mode (park)").
- 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 spec.mode (park)". To return to the default settings again, set the jumpers to the normal position "BMW"

2. 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

3. Characteristics of the 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)

4. Images



*Fig.1. Adapter MOST-TosLink
(jumpers and connector "TosLink")*



*Fig.2. Adapter MOST-TosLink
(connectors "Power" and "MOST")*

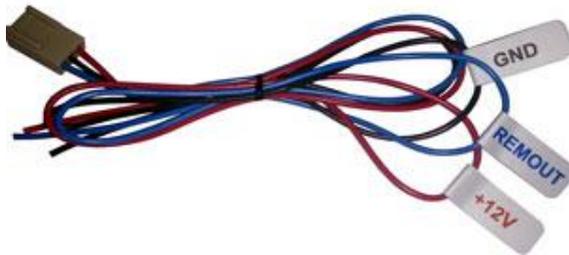


Fig.3. Power cable

5. Audio-interface Most-TosLink (version 2.1 and 2.2)

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

Adapter Most-TosLink_2.1 differs from the standard version (Most-TosLink 3.0):

Music stereo stream is not processed by digital processor STA309A that allows you to avoid the additional resampling of the signal and completely eliminate the errors of the algorithm for frequency correction. To adjust the level and mix of service signals in the sound channel is used with a digital volume control on the Altera MAXII CPLD algorithm with integer math and output 24 bits, which allows to preserve the dynamic range of the original signal as accurately as possible to give it out. The variant of the adapter with an additional coaxial digital input with auto switch when a signal appears on this input. Frequency adjustment (tone and EQ) this device is not supported.

Adapter "Most-TosLink 2.2" is different from version 2.1 support frequency adjustment (tone and EQ). In this adapter in a neutral positions using the equalizer the sound signal is not processed by the sound processor, ensuring maximum accuracy of the output signal (similar to ver.2.1), and the position of the frequency adjustments that are different from neutral audio signal is processed according to the classic algorithm (similar to ver.3.0), providing the required frequency correction for the signal.