

NAV-TV

INTERFACING THE FUTURE

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AUDI / VW / Porsche / Bentley M.O.S.T. 150 to 12-channel Analog & Digital sound processor

NTV-KIT860



WARNING: Do not connect any RCA cables to the ZEN-V interface or additional processors prior to properly grounding aftermarket amplifier(s)!

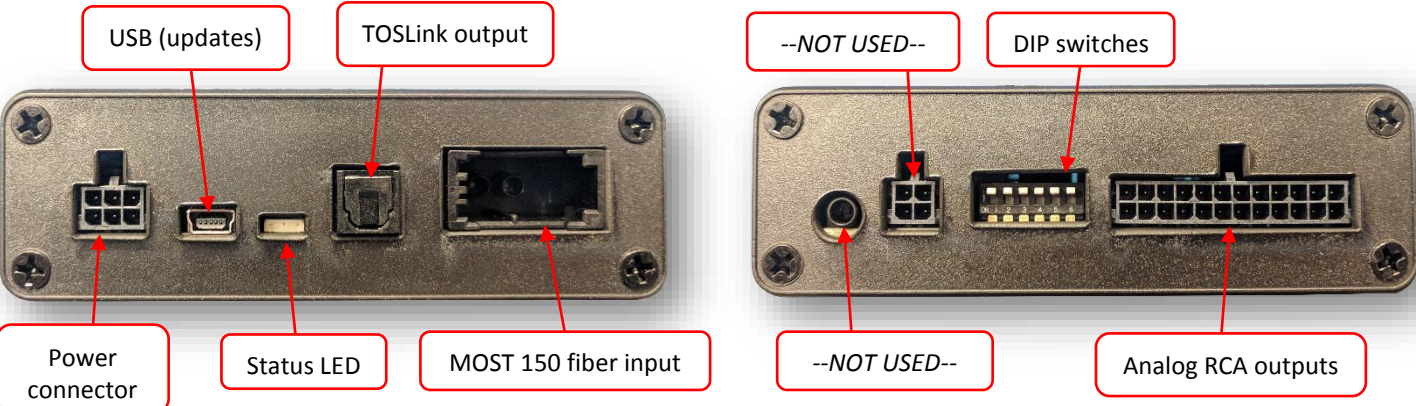
Overview

The NAV-TV ZEN-V processor seamlessly converts late model AUDI, VW, Porsche & Bentley factory MOST-150 audio bus to 12-channel analog RCA and TOSLink output. Adding aftermarket amplifiers to the OE MIB, MIB2 or PCM4 / 4.1 system has never been so simple and seamless. This kit integrates with the OEM M.O.S.T.® bus to retain volume control, full fade and balance (analog only), treble, mid-range, bass control & Bluetooth voice calls with no external speaker (true OEM integration). *NOTE: OEM radio systems not equipped with an amplifier or fiber must be flashed with the VAG-COMM or NAV-TV's ZEN-V-PRG (NTV-KIT861, sold separately) prior to installation. Vehicles equipped with an OEM amplifier do not need to be flashed.*

Kit Content



ZEN-V overview

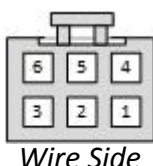


	Year(s)	Make	Model
ZEN-V Compatibility <i>(MIB, MIB2 or PCM4/4.1 radio only)</i>	2015+	AUDI	Any model with <i>confirmed</i> MIB, MIB HS or MIB2 radio (A3, TT, etc.)
	2017+	AUDI	A3, A4, A5, A6, A7, A8, Q5, Q7, S3, S4, S5, S6, S7, S8, SQ5, TT
	2017+	Porsche	911, Boxster, Cayenne, Cayman, Macan, Panamera
	2017+	Bentley	Bentayga
	2016+	VW	ANY model with MIB, MIB HS or MIB2

ZEN-V Installation

- If this vehicle has a factory amplifier, it must be removed and the ZEN-V can be installed into its place. If this vehicle is not amplified from factory, install the ZEN-V behind the radio.

- Connect the following wires from the provided **power harness**:



ZEN-V pin	Color	To vehicle:
1	Yellow	12v (+) <i>Constant</i>
3	Violet	--Reserved, NOT USED--
4	Black	Ground (-)
6	Blue	12v (+) remote output*

*This remote wire must be used for aftermarket amplifier remote for proper functionality. **If installing more than one amplifier/DSP, a relay must be used for reliable turn-on (500mA max).**

- Before connecting power to the ZEN-V**, adjust dip-switch settings for the desired options:

	Time Alignment	Attenuation	TOSLink DownMix	Loudness	Vehicle Settings	
Position	DIP 1	DIP 2	DIP 3	DIP 4*	DIP 5	DIP 6
UP (off)	<i>Front Row</i>	Full Scale output (0 dB)	<i>DownMix ON</i>	Loudness OFF	See Below	
DOWN (on)	<i>Driver Focused</i>	-12 dB output	<i>DownMix OFF</i>	Loudness ON		

DIP 5	DIP 6
X	X

AUDI

DIP 5	DIP 6
	X
X	

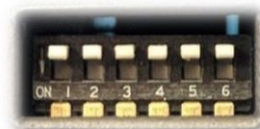
Porsche

DIP 5	DIP 6
X	
	X

**Bentley
Bentayga**

DIP 5	DIP 6
X	X

VW



- If using analog RCAs for signal to the amplifier, connect according to the reference chart below.
WARNING: Do not connect RCA cables to this interface until all amplifiers/external processors are properly grounded. Failure to do this may cause damage to the interface and VOID the warranty!

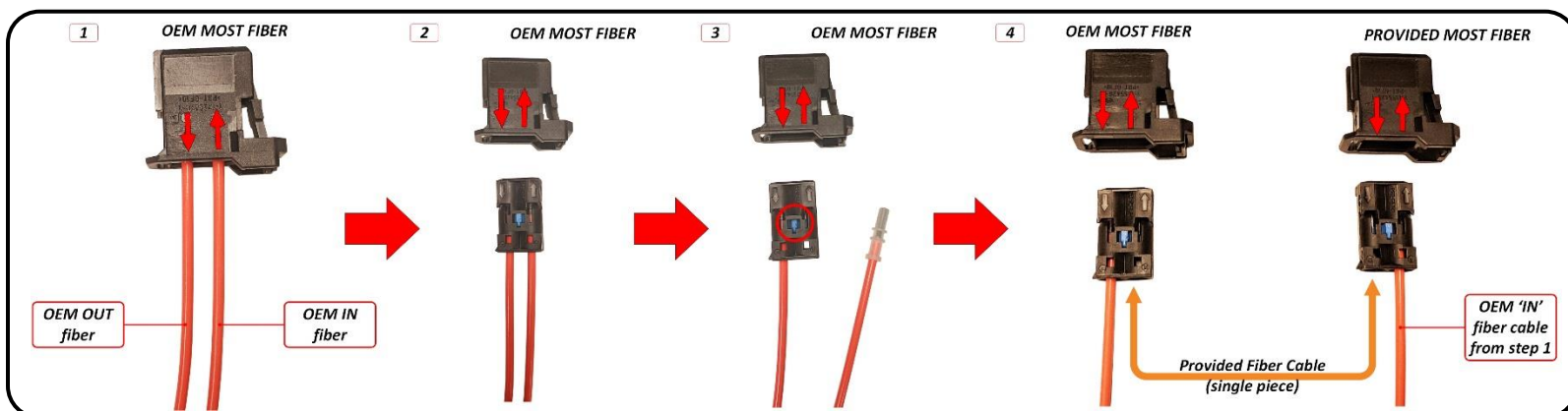
1	2	3	4	5	6	7	8	9	10	11	12
Left Front	Right Front	Left Front	Right Front	Left Front	Right Front	Left Rear Door	Right Rear Door	Left Rear Center	Right Rear Center	Center	Sub

- If using TOSLink for signal to the amplifier, connect the cable to the TOSLink port shown on page 2.
NOTE: both Analog and Digital output sound simultaneously, regardless of which type is used.
- Connect the provided **MOST Fiber Cable** from the (previously removed) amplifier, or from the radio's fiber port to the MOST port on the ZEN-V.

ZEN-V General Installation Notes

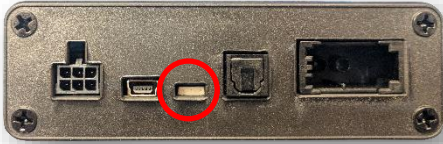
- This interface can be installed in vehicles with or without an amplifier & with or without MOST fiber optic presently installed.
 - Vehicles with fiber amplifier: the amplifier must be removed. Connect the OEM fiber previously connected to the amp, directly into the ZEN-V.
 - Vehicles without OEM amplifier or MOST fiber: Use the supplied fiber optic extension and connect from the fiber port behind the radio to the MOST fiber port on the ZEN-V. **NOTE: If the vehicle does not possess an OEM amplifier, you must program the system for external amplifier for the ZEN-V to operate properly. Use a VAG-COM or NAV-TV's ZEN-V-PRG programmer (NTV-KIT861 sold separately).**
 - Vehicles without amplifier but still equipped with fiber: Disconnect the fiber from the radio, disassemble the fiber coupler and route the provided MOST extension into the factory MOST loop like shown below (to continue proper MOST data flow):

***NOTE: in this scenario, the vehicle still must be programmed for external amp (see red note above).**



- Tuning tips:**
 - Before beginning tuning process (especially with external EQ/Processors), set Bass & Treble on the head unit for each source to flat (0).
 - Begin with amplifier/EQ gains all the way **down**.
 - With dynamic music playing, adjust the radio volume to maximum.
 - Adjust the amplifier/EQ gains to desired maximum level.
- From the factory, some vehicles' audio will *attenuate* when in reverse. Simply set the 'reverse volume' to desired level while in reverse to adjust this. The ZEN-V will retain this method. The same is true for NAV guidance audio and BT voice calls.

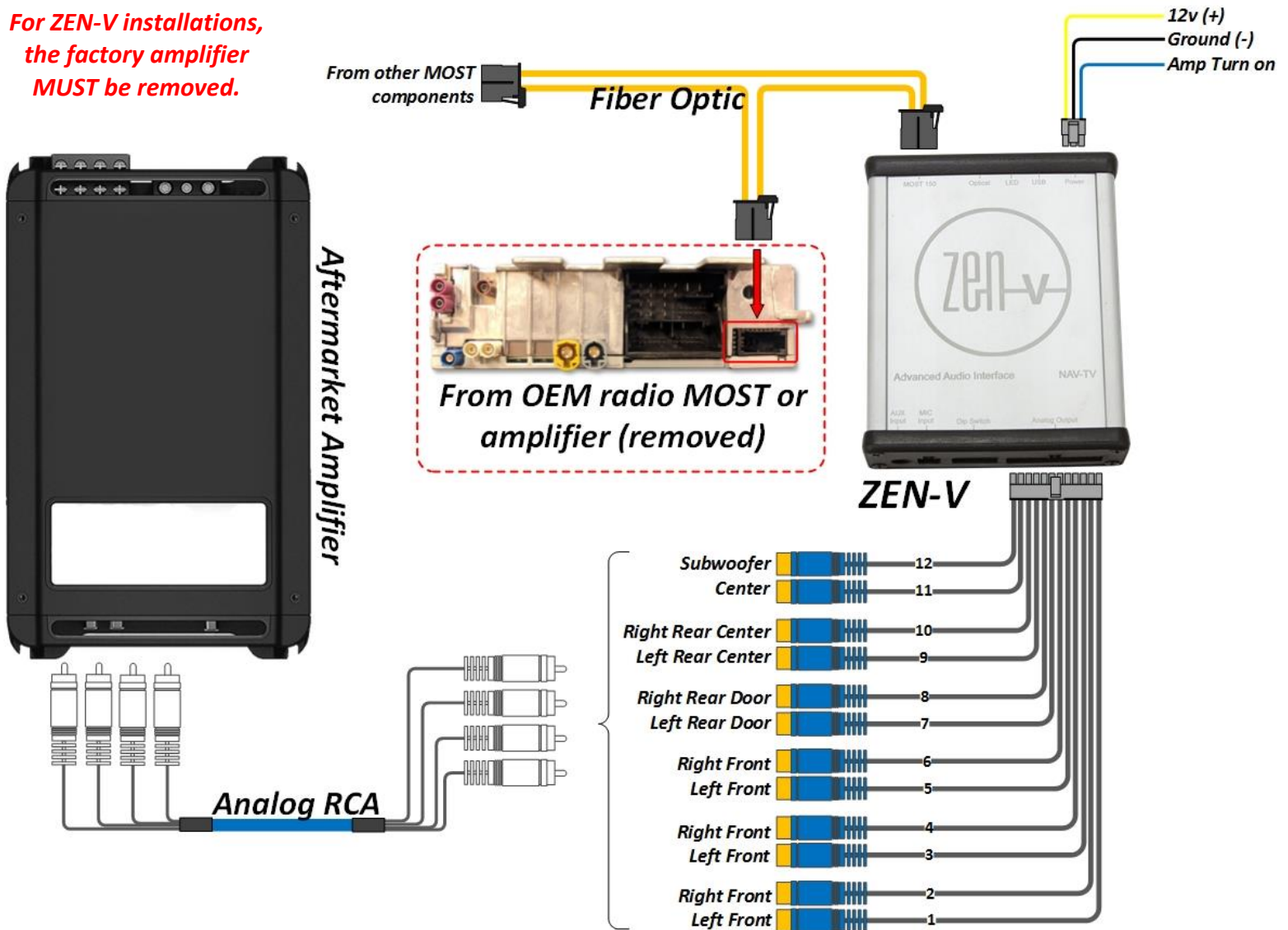
Multi-Color LED Status Indication



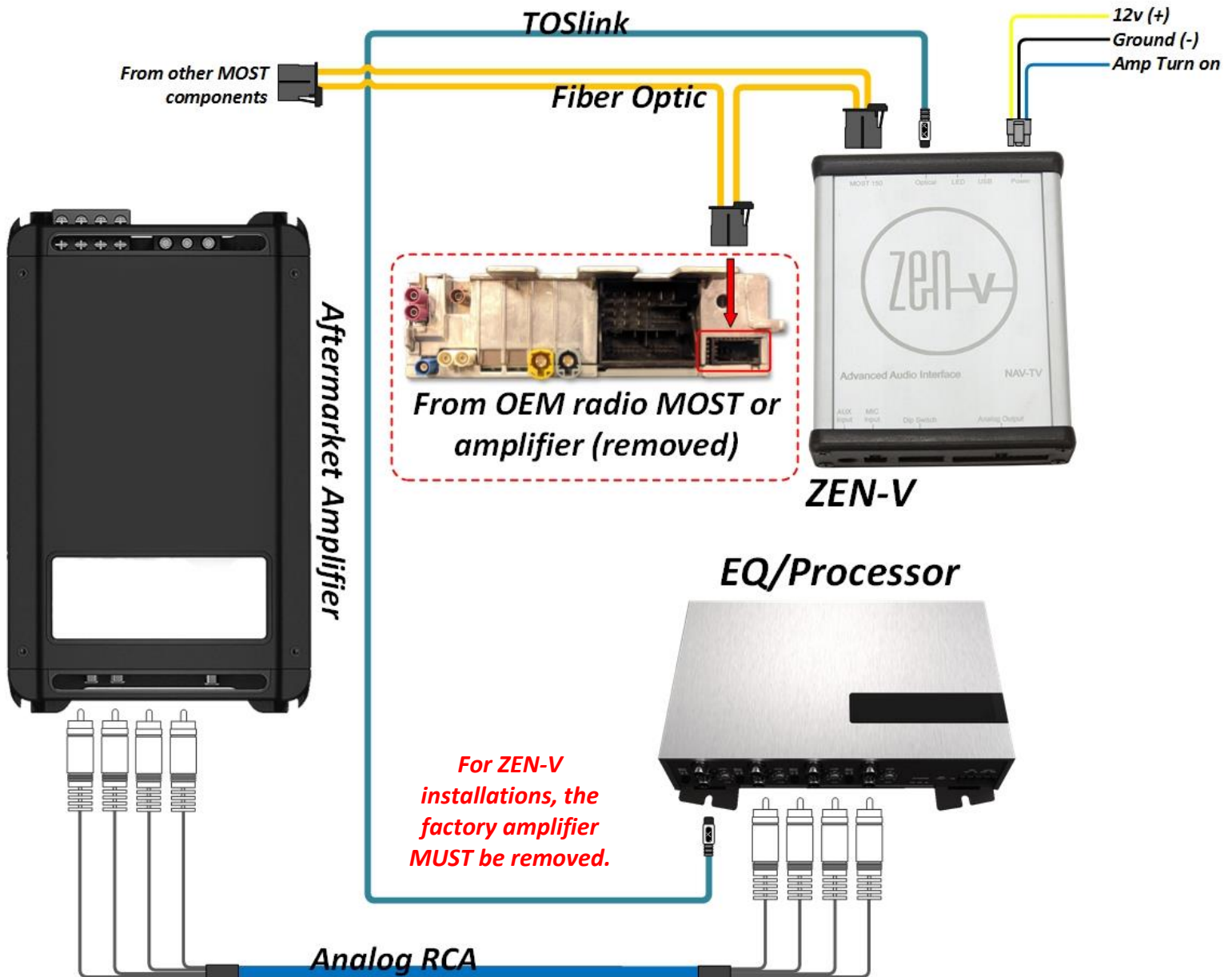
LED Status	Indication
<i>Solid Red</i>	MOST Active
<i>Violet</i>	MOST traffic commands
<i>Blinking Red</i>	<i>Peaking</i> (maximum digital signal level achieved)
<i>Blinking Blue</i>	PC Link with app (future use)

ZEN-V System Layout (analog)

For ZEN-V installations, the factory amplifier MUST be removed.



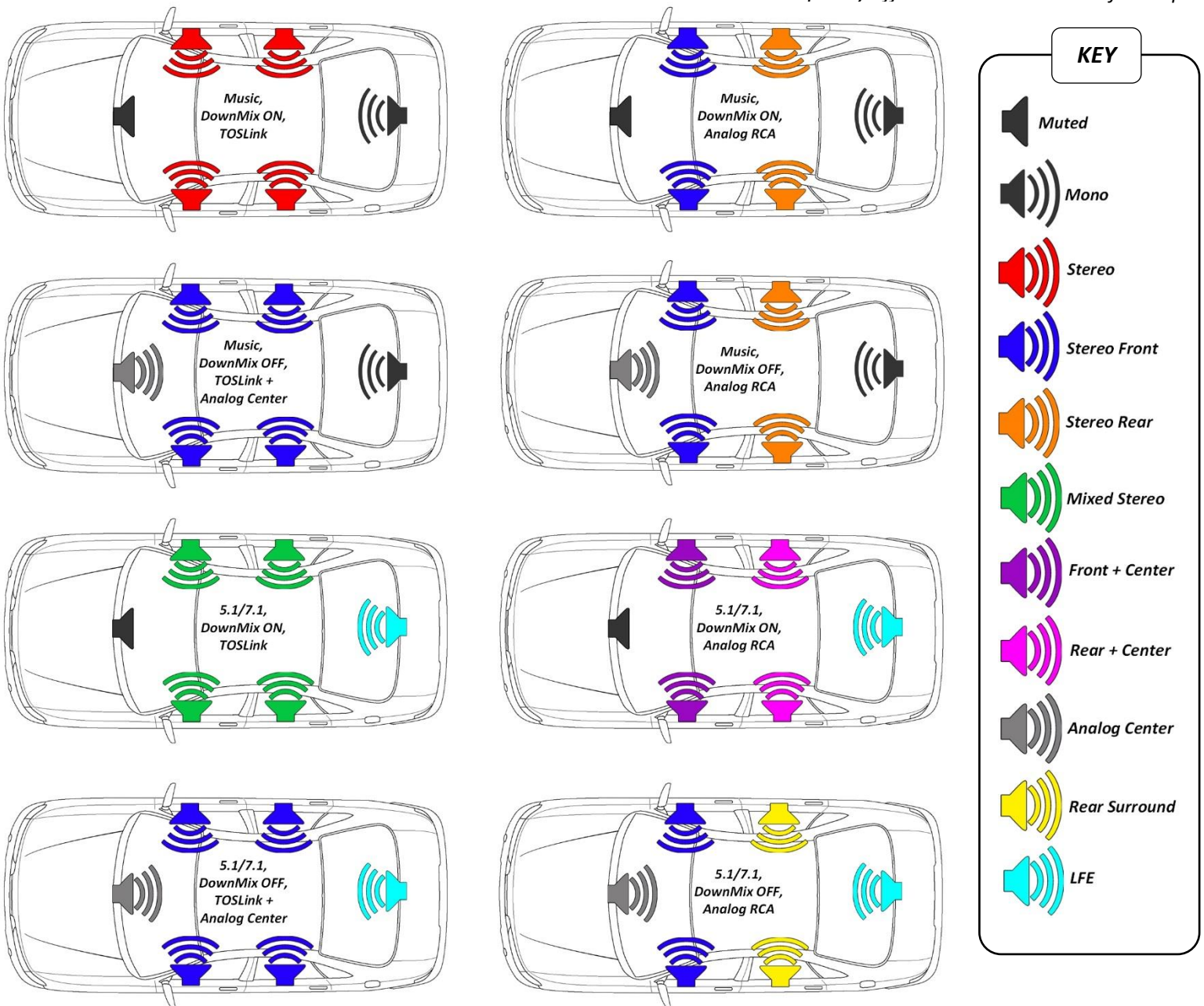
ZEN-V System Layout (digital TOSLink)



ZEN-M DownMix Scenario Examples

Source Signal	DownMix	TOSLink Output	Analog FRONT OUT	Analog REAR OUT	Center Channel OUT	Subwoofer OUT
Music	ON	Stereo	Stereo Front	Stereo Rear	Muted	Mono (L+R)
Music	OFF	Stereo Front	Stereo Front	Stereo Rear	Center	Mono (L+R)
5.1/7.1 Surround	ON	Mixed Stereo*	Front + Center	Rear + Center	Muted	LFE**
5.1/5.7 Surround	OFF	Stereo Front	Stereo Front	Rear Surround	Center	LFE**

*Mixed Stereo: (Left = LeftFront + Center + LeftSurround + LFE), (Right = RightFront + Center + RightSurround + LFE)
**LFE: Low Frequency Effects: Surround subwoofer output.



When flashing the vehicle for fiber (if not factory fiber or amp-equipped), you will gain extra audio controls not available previously. See below for each vehicle radio type for what gets added.

Added controls & options (AUDI A3: MIB)

- For AUDI A3, *Surround* is added, and is used for *direct Subwoofer control* from the ZEN-V (RCA #12)



Added controls & options (AUDI: MIB-HS)

- For AUDI vehicles with MIB HS or MIB 2 (new high-res GUI), Subwoofer, Bass, Mid-range and Treble are now individually controllable from the radio screen, direct to the ZEN-V.



Added controls & options (VW vehicles: MIB 2 STD)

- For VW vehicles, an extra sound control menu is added. Subwoofer, Bass and Treble are now individually controllable from the radio screen, direct to the ZEN-V.



ZEN-V Technical Specifications

<i>Hardware & Software</i>	
Current HW version:	--1r0--
Current SW version:	ZEN-V-1.5.3-4-12-18
Compatible SW (update) OS:	Windows 7 (64 bit), 8, 10
<i>INPUT</i>	
Digital Input	MOST 150 Fiber Optic
<i>OUTPUT</i>	
Digital Outputs:	TOSLink
Digital Outputs supported:	24bit/48kHz
Frequency Response (digital):	18Hz – 24kHz
Analog Outputs:	12 channels (RCA)
Output Voltage <i>Peak</i> :	6v
Output Voltage <i>RMS</i> :	2.1v
Analog Output Type:	Single-Ended
S/N Ratio (analog):	123dB
Frequency Response (analog):	18Hz – 24kHz
THD+N @ -1dBFS	-94dB
DAC	48kHz 32bit
DSP	128bit Floating Point
Delay (Time Alignment)	Selectable
<i>Power Supply</i>	
Current Consumption Stand-by	<1 mA
Current Consumption Operational	350 mA MAX
Operational Voltage	7V – 20V DC
Amp Turn-On Output	Automatic
Amp Turn-On Voltage	V-batt
Amp Turn-On Current Limitation	500mA
<i>Other</i>	
Dimensions:	4"x5"x1 3/8"
Weight:	10 oz
Country of Origin:	USA

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