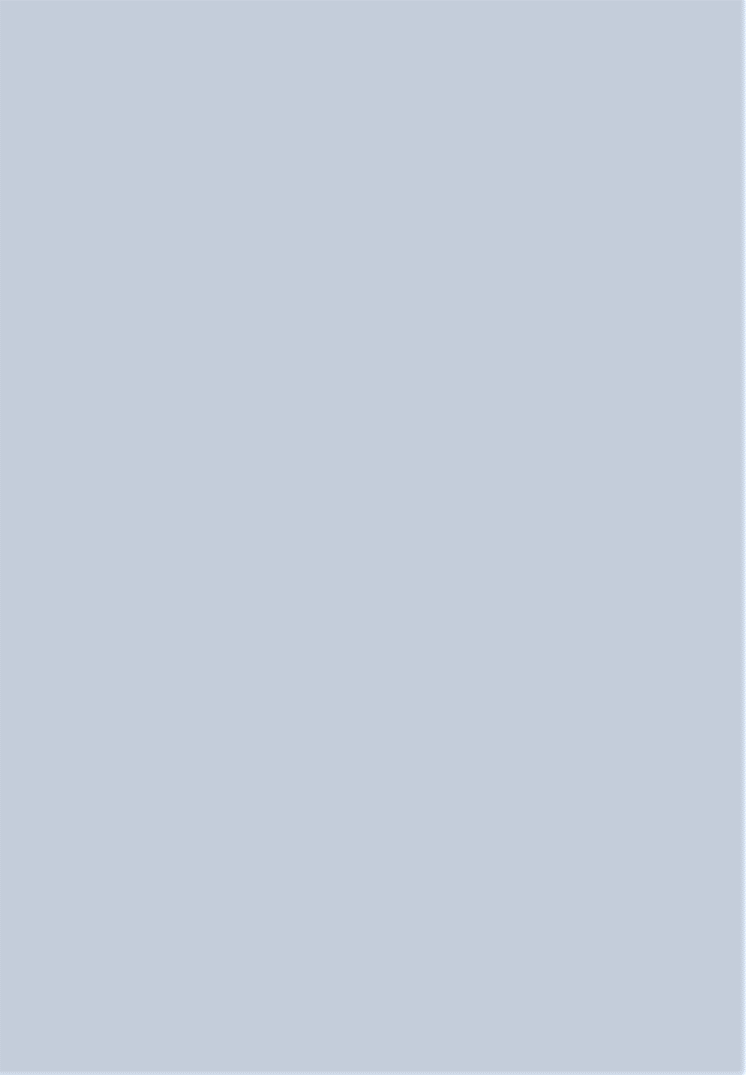
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3950 NW 120th Ave, Coral Springs, FL 33065 TEL 561-955-9770 FAX 561-955-9760

**Ferrari Portofino M.O.S.T. 150 to 12-channel Analog & Digital sound processor**

***NTV-KIT987***

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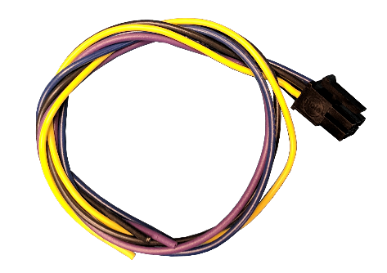
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WARNING: Do not connect any RCA cables to the ZEN-F interface or additional processors prior to properly grounding aftermarket amplifier(s)!

|  |
| --- |
| Overview |

The NAV-TV ZEN-F processor seamlessly converts Ferrari Portofino factory MOST-150 audio bus to 12-channel analog RCA and TOSLink output. Adding aftermarket amplifiers to the OE Ferrari system has never been so simple. This kit integrates with the OEM M.O.S.T.® bus to retain volume control, full fade (and balance: analog only), treble, mid-range & Bluetooth voice calls with no external speaker (true OEM integration). *NOTE: OEM radio systems not equipped with a fiber optic amplifier are not compatible.*



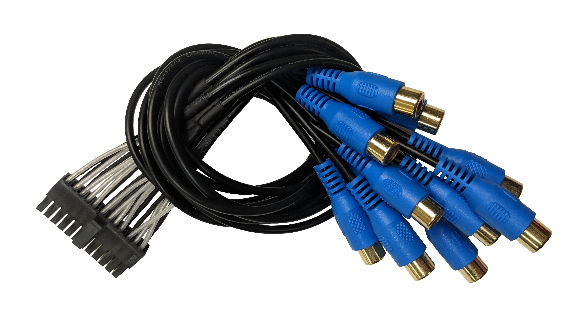
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| Kit Content |



ZEN Power Harness

*NTV-HAR316*





ZEN RCA Harness

*NTV-HAR315*

ZEN MOST Fiber

*NTV-CAB134*

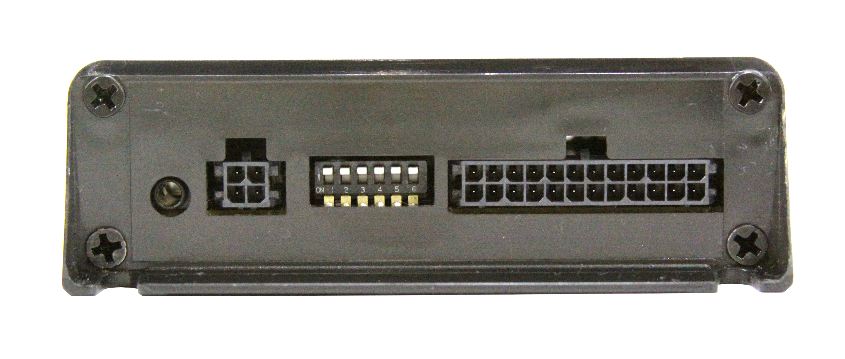
USB Cable (updates)

*NTV-CAB009*

ZEN-F Interface

*NTV-ASY319*

|  |
| --- |
| ZEN-F overview |



*--FUTURE USE--*

DIP switches

USB (updates)

TOSLink output



***NTV-HAR247 Pin Side***

***Wire Side***

Analog RCA outputs

*--FUTURE USE--*

Power

connector

MOST 150 fiber input

Status LED

|  |  |  |
| --- | --- | --- |
| Year(s) | Make | Model |
| 2017+ | Ferrari | Portofino with MOST 150 fiber optic amplified audio system |

***ZEN-F Compatibility***

***Ferrari Portofino with MOST 150 fiber optic amplifier***

|  |
| --- |
| ZEN-F Installation |

1. If this vehicle has a factory amplifier, it must be removed and the ZEN-F can be installed into its place. If this vehicle is not amplified from factory, it is not compatible with the ZEN-F.

***See Below***

|  |  |  |
| --- | --- | --- |
| ZEN-F pin | Color | To vehicle: |
| 1 | Yellow | 12v (+) *Constant* |
| 3 | Violet | *--Reserved, NOT USED--* |
| 4 | Black | Ground (-) |
| 6 | Blue | 12v (+) remote output\* |

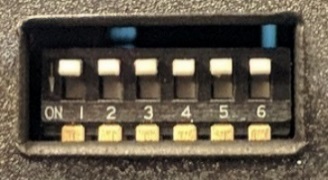
1. Connect the following wires from the provided ***power harness***:

*Wire Side*

*\*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).***

1. ***Before connecting power to the ZEN-F,*** 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) | *Front Row* | Full Scale output (0 dB) | *Not used* | ***Keep in factory default***  Loudness OFF |  | |
| ***DOWN*** (on) | *Driver Focused* | -12 dB output | *Not used* | Loudness ON |



1. 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 |

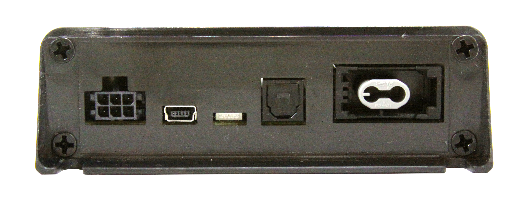
1. If using TOSLink for signal to the amplifier, connect the cable to the TOSLink port shown on page 2. *NOTE: both Analog and Digital output sound simultaneously, regardless of which type is used.*
2. Connect the provided ***MOST Fiber Cable*** from the (previously removed) amplifier, or from the radio’s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

|  |
| --- |
| ZEN-F General Installation Notes |

* This interface can only be installed in vehicles with a factory MOST fiber optic amplifier.
  1. *The factory amplifier must be removed. Connect the OEM fiber previously connected to the amp, directly into the ZEN-F.*
* ***Tuning tips:*** 
  1. Before beginning tuning process (especially with external EQ/Processors), set Bass & Treble on the head unit for each source to flat (0).
  2. *Begin with amplifier/EQ gains all the way* ***down.***
  3. *With dynamic music playing, adjust the radio volume to maximum.*
  4. *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-F will retain this method. The same is true for NAV guidance audio and BT voice calls.

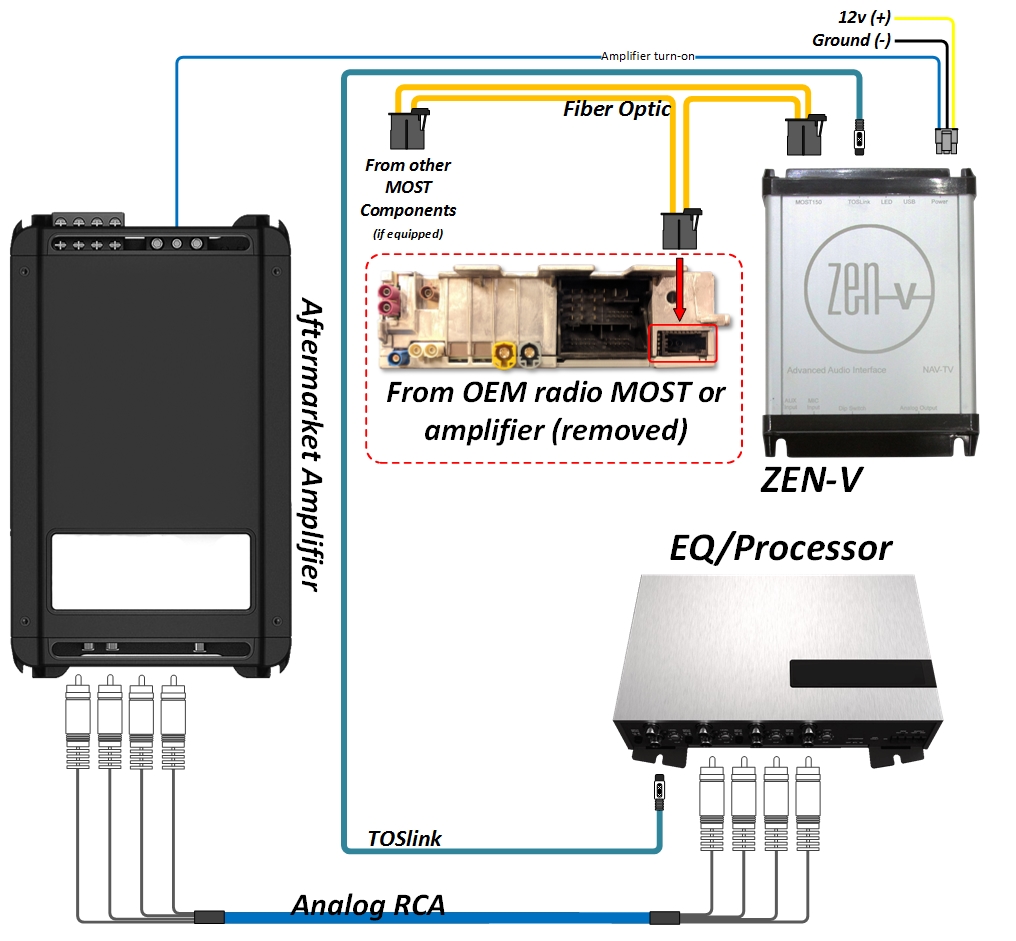
|  |
| --- |
| Multi-Color LED Status Indication |

|  |  |
| --- | --- |
| LED Status | Indication |
| *Solid Red* | MOST Active |
| *Violet* | MOST traffic commands |
| *Blinking Red* | *Peaking* (maximum digital signal level achieved) |
| *Blinking Blue* | PC Link with app (future use) |



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| --- |
| ZEN-F System Layout (analog)  ***For ZEN-F installations, the factory amplifier MUST be removed.*** |

|  |
| --- |
| ZEN-F System Layout (digital TOSLink) |



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

|  |
| --- |
| ZEN-F Technical Specifications |

|  |  |
| --- | --- |
| *Hardware & Software* | |
| Current HW version: | --1r0-- |
| Current SW version: | ZEN-F-1.6.26-3-19-19 |
| Compatible SW (update) OS: | Windows 7 (64 bit), 8, 10 |
| *INPUT* | |
| Digital Input | MOST 150 Fiber Optic |
| *OUTPUT* | |
| Digital Outputs: | TOSLink |
| Digital Outputs supported: | 24bit/48kHz |
| Frequency Response (digital): | 18Hz – 24kHz |
| Analog Outputs: | 12 channels (RCA) |
| Output Voltage *Peak:* | 6v |
| Output Voltage *RMS:* | 2.1v |
| Analog Output Type: | Single-Ended |
| S/N Ratio (analog): | 114dB |
| Frequency Response (analog): | 18Hz – 24kHz |
| THD+N @ -1dBFS | -94dB |
| DAC | 48kHz 32bit |
| DSP | 32bit Floating Point |
| Delay (Time Alignment) | Selectable |
| *Power Supply* | |
| 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 |
| *Other* | |
| Dimensions: | 4”x5”x1 3/8” |
| Weight: | 10 oz |
| Country of Origin: | USA |

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| FAQ |

* For installations with this ZEN processor, make certain that any added amplifier’s *ground* resistance (reference vehicle battery ground) ***does not exceed 1 ohm.***
* If you’ve installed a third-party DSP (receiving signal from the ZEN, before the amplifier) and you’re having issues with *audio bleeding from one channel to another, echoing Bluetooth phone calls or any other signal processing issues,* ***rule out the ZEN first by temporarily bypassing the third-party DSP and running signal directly from the ZEN to the amplifier(s) and verify the problem still exists before calling technical support.***

