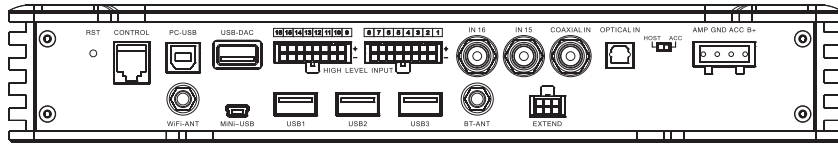


## FUNCTIONAL DESCRIPTION

### P5 DSP Ultra



#### RST

Reset the device by pressing this button with a pen or a needle in case of a malfunction or software crash.

#### CONTROL

Connect this terminal with cables for the remote controller.

#### PC - USB

This USB input is suited for connecting a PC/laptop to set up the DSP functions by managing the Goldhorn software.

#### USB - DAC

Users can play audio signal from phones with OTG function via USB connection, with sampling rates up to 192KHz/32bit.

#### IN 1 ~ IN 16

Connect the sixteen high level inputs with suitable loudspeaker cables.

#### IN 15 & IN 16

The RCA inputs capture audio signals from other aftermarket source units (e.g. CD players).  
Note: The RCA inputs IN 15 & IN 16 and the high level inputs IN 15 & IN 16 cannot be used at the same time.

#### OPTICAL & COAXIAL INPUT

The inputs accept PCM stereo signals up to a sampling rate of 192KHz/24 bit.

#### ACC / HOST (Mode for Power Selection)

##### ACC

Select this method if you have connected a turn - on signal at the ACC terminal.

##### HOST

This method only works if you use the device's high level inputs. The device is activated by connecting an amplified headunit output to the (IN 1+/IN 1-) input channel.

#### POWER

##### AMP

Connect the terminal with suitable cables to control external amplifiers.

##### GND

Connect the GND terminal with a negative battery cable or a cable connected to the vehicle's chassis.

##### ACC

Connect a turn - on signal or the turn - on remote signal of your headunit with this terminal. Hereby the device is turned on or off with your headunit.

##### B+

Connect the B+ terminal with the positive pole of the vehicle's battery.

#### Wi - Fi ANT

This port is for Wi - Fi antenna.

#### Mini - USB

This terminal is for firmware upgrade.

#### USB

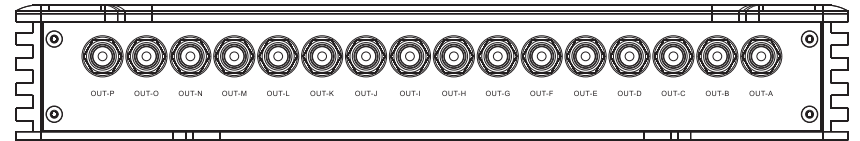
Connect the four USB 2.0 HOST terminals with external USB/portable SSD, or cables for the panel control with display.

#### BT ANT

This port is for the Bluetooth® antenna.

#### EXTEND

Connect this terminal with cables for steering wheel control (limited car make/model only).



#### OUT A ~ OUT P

The sixteen RCA outputs provide other devices with the modified output signals.

**Technical Specifications**

	<b>P5 DSP Ultra</b>	<b>DSP16 Ultra</b>
Voltage	11-16V	
Turn-On	ACC/high level inputs	
Inputs	16 x High Level Inputs 16Vrms Max	
	2 x AUX Inputs 3 Vrms Max	
	1 x Optical Input / 1 x Coaxial Input	
	Input Impedance : 6Ω	
Outputs	16 x RCA Outputs 11Vp-p(4Vrms)/47KΩ	
USB	USB2.0 HOST x 3 USB Type B x 1 MiNi USB x 1 USB-DAC x 1	USB-DAC x 1 USB Type B x 1
Control	Steering wheel controller terminal x 1	Remote Control x 1
Wi-Fi	802.11b/g/n	—
Music Formats	Hi-res : DFF/DSF/DSD (up to 256, SACD-ISO) uncompressed : WAV/FLAC/APE/AIFF compressed : MP3/AAC/OGG/WMA	—
Sampling Rate	PCM : 44.1KHz~768KHz/16~32bit DSD : DSD64/DSD128/DSD256	—
Bluetooth® Receiver	APTX/APTX HD/AAC/SBC	
Color	Black	
Dimensions (L×W×H)	303 x 231 x 50 mm	

## Technical Specifications

<b>Integrated DSP for P5 DSP Ultra/DSP16 Ultra</b>	
DSP chip	3-core Analog Devices™ 32 bit, 295 Mhz, 192KHz Sampling Rate 3.6 Billion MAC Operations per Second
Audio Input Features	Equalizer Filter Type : PE/LS/HS/Slope 1 & 2 AP 5-Band Parametrical Equalizer : ± 15 dB, 0.1 dB Steps Q : 0.5~15 0.1 Time Alignment Delay : 0~10 ms/0.005 ms Steps
Audio Output Features	Crossover Frequency : 1 Hz step @ 20 Hz-20 KHz Master Gain : 0~60 dB Channel Gain : -20~+5 dB Phase Shift : Positive phase/Inverted phase Input Mixer, Subwoofer Control Equalizer Filter Type : PE/LS/HS/Slope 1 & 2 AP 30-Band Parametrical Equalizer : ± 15 dB, 0.1 dB Steps Q : 0.5~15 0.1 Crossover Filter Type and Slope : Bessel / Butterworth @ -6 /-12/-18/-24/-30/-36/-42/-48 dB Linkwitz @ -12/-24/-36/-48 dB Time Alignment Delay : 0~20 ms/0.005 ms Steps Variable Phase Rotation from 0° to 360° (step : 1°)
Frequency Response	10Hz~80KHz (±1 dB)
Signal-to Noise	>125 dB
THD+N	<0.00018% (-115 dB)
Other Features	Error Protection System 8 Presets for Sound Setups 7 Sound Stype for Output Filter Mode

- ※ The information in this manual is subject to be changed without notice.
- ※ Technical changes and errors reserved.
- ※ All trademarks and trade names are the property of their respective owners.