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ALPINE 12 Channel DSP Amplifier



Specifications

- Model: PXE-X120-10DP
- Channels: 12
- Power Supply: 12V DC
- Grounding: Negative

Product Information

Warning

It is important to follow the safety instructions provided in the manual to prevent accidents or injuries.

About Bluetooth

The amplifier is equipped with Bluetooth technology for wireless connectivity with compatible devices.

About Software

The amplifier may require software updates for optimal performance. Refer to the manufacturer's website for any available updates.

Product Usage Instructions

Connections and Functions

1. Ensure the vehicle's engine is turned off before making any connections.
2. Connect the amplifier to the power source following the provided wiring diagram.
3. Connect audio input sources to the corresponding channels on the amplifier.

Functional Parameters

1. Adjust the volume levels carefully to ensure external sounds are audible while driving.
2. Use the amplifier's DSP features to customize sound settings according to your preferences.

WARNING

Points to Observe for Safe Usage

- Please read this manual carefully before using the device and system components. This manual contains instructions on how to use this product safely and effectively. If failure to follow the instructions in this manual causes malfunctions, Alpine will not assume any responsibility.
- This manual uses various icons to explain how to use this product safely and reminds you to pay attention to the dangers that may be caused by improper connection and operation. The meaning of these icons will be explained below. A complete understanding of the meaning of these icons is very important for the correct use of this manual and this system.

WARNING

- It is very dangerous to operate this system while driving. The user should stop before operating the device.
- The software is specially designed for this device and cannot be used in combination with other hardware.

WARNING

- This symbol indicates important instructions. Failure to heed these instructions can

result in serious injury or even death.

- DO NOT USE ANY FEATURES THAT WILL DISTRACT YOU WHILE DRIVING

Any function that affects your concentration should only be used after the car has come to a complete stop. To use these functions, please park your vehicle in a safe place first. Otherwise, an accident may result.

- DO NOT DISASSEMBLE OR MODIFY

Otherwise, it may cause an accident, fire, or electric shock.

- THE VOLUME MUST BE MAINTAINED AT A LEVEL WHERE THE NOISE OUTSIDE THE CAR CAN BE HEARD WHILE DRIVING

Inaudible emergency vehicle sirens and road warning signals (train intersections, etc.) are very dangerous and may cause accidents. In addition, excessive volume may cause hearing loss.

- THIS PRODUCT IS ONLY SUITABLE FOR CARS WITH 12V NEGATIVE GROUNDING

Otherwise, it may cause a fire and other accidents.

- SMALL OBJECTS SUCH AS BOLTS OR SCREWS SHOULD BE KEPT OUT OF THE REACH OF CHILDREN

Swallowing small objects may cause serious injury. Once swallowed by mistake, please immediately seek medical attention.

- WHEN REPLACING THE FUSE, YOU MUST CHOOSE A FUSE WITH THE CORRECT AMPERE VALUE

Otherwise, it may cause a fire or electric shock.

- DO NOT BLOCK THE VENTILATION HOLES OR HEAT SINK

Otherwise, it may cause internal heat build-up and may cause a fire.

- THIS PRODUCT CAN ONLY BE USED IN 12V MOBILE APPLICATIONS

If used in non-designed applications, it may cause fire, electric shock, or other injuries.

- MAKE THE CORRECT CONNECTIONS

If it is not connected properly, it may cause fire or product damage.

- BEFORE WIRING, DISCONNECT THE CABLE FROM THE NEGATIVE TERMINAL OF THE BATTERY

Otherwise, it may cause an electric shock or injury due to an electrical short circuit.

- DO NOT LET THE CABLE BE ENTANGLED WITH SURROUNDING OBJECTS

Arrange the wires and cables in accordance with the requirements of the manual to prevent them from becoming obstructive while driving. Cables or wires that obstruct or

hang on the steering wheel, shift lever, brake pedal, etc. are extremely dangerous.

- **DO NOT SPLICE CABLES**

Do not cut the cable insulation to supply power to other equipment. Otherwise, the current carrying capacity of the wire will be exceeded, resulting in fire or electric shock.

- **DO NOT DAMAGE PIPES OR WIRING WHEN DRILLING**

When drilling holes in the chassis for installation, be careful not to touch, damage, or obstruct pipes, fuel lines, fuel tanks, or wires. If you don't pay attention, it can cause a fire.

- **DO NOT USE BOLTS OR NUTS IN BRAKES OR STEERING SYSTEMS FOR GROUNDING CONNECTIONS**

Never use bolts or nuts used in brakes or steering systems (or any other safety-related systems) or fuel tanks for installation or grounding connections. The use of such parts will cause the car controller to fail, resulting.

- **DO NOT INSTALL ON THE STEERING WHEEL OR GEAR LEVER, ETC., WHICH MAY HINDER THE OPERATION OF THE CAR**

Otherwise, it will obstruct the front line of sight or obstruct moving parts, etc., causing serious accidents.

- **DO NOT TOUCH THE PRODUCT DURING OPERATION** The temperature of the product rises during operation, so touching it can cause burns.

NOTICE

- This symbol indicates important instructions. Failure to heed these instructions may result in injury or major property damage.

- **WHEN THERE IS A PROBLEM, PLEASE STOP USING IT IMMEDIATELY**

Otherwise, it may cause personal injury or damage to the product. Please return this product to an authorized Alpine dealer or the nearest Alpine service center for repair.

- **ASK PROFESSIONALS FOR WIRING AND INSTALLATION**

The wiring and installation of this product require professional skills and experience. For safety reasons, please contact the dealer where you purchased the product for installation.

- **USE DESIGNATED ACCESSORIES AND INSTALL SECURELY**

Make sure to use only designated accessories. The use of non-designated parts may

cause internal damage to the device, or it may not be securely installed in place. This can cause parts to loosen and cause danger or product failure. The recommended torque for tightening the screws between the mounting bracket and the product is 37 ± 5 N/cm. A higher torque may cause damage to the screw hole.

- **ARRANGE THE WIRES TO AVOID CRIMPING OR BEING SQUEEZED BY SHARP METAL EDGES**

The arrangement of wires and cables should be far away from moving parts (such as seat tracks) or sharp edges or corners. This will avoid crimping and damage to the wires. If the wiring passes through a metal hole, a rubber gasket should be used to prevent the wire insulation from being cut by the edge of the metal hole.

- **DO NOT INSTALL IN HIGH HUMIDITY OR DUSTY LOCATIONS**

Avoid installing the device in a location with high humidity or dust. Moisture or dust invades the device and can cause product failure.

Precautions

- **PRODUCT CLEANING**

Please use a dry, soft cloth to clean the product regularly. If the dirt is difficult to remove, soak a soft cloth with water only. Any other solvent may dissolve the surface.

- **TEMPERATURE**

Before turning on the device, please make sure that the temperature in the car is between +60 and -20°C.

- **MAINTENANCE**

If you encounter a problem, do not repair it yourself. Please return this product to an authorized Alpine dealer or the nearest Alpine service center for repair.

- **INSTALLATION LOCATION**

This device cannot be installed in any of the following places:

- Near direct sunlight and heat sources
- Places with high humidity and near water sources
- Dusty places
- Locations subject to severe vibration

Important Information on Handling Electrical and Electronic Equipment

Thank you for purchasing an Alpine brand product. To ensure that you can dispose of

the device properly and in an environmentally friendly manner, we would like to draw your attention to the statutory provisions of the European Waste of Electrical and Electronic Equipment (WEEE) directive and its national implementations.

1. Separate disposal

The WEEE directive and related national laws stipulate that electrical equipment must not be disposed of with household waste. Instead, it must be disposed of properly. Please hand in the device at a public collection point or your local recycling center. There it will be handled properly and recycled in an environmentally friendly manner.

2. Labeling

Electrical appliances are marked with a symbol (crossed-out dustbin on wheels) indicating that the appliance must not be disposed of with household waste.

3. Data erasure

Before disposing of the electrical device, you must ensure that all personal data stored on the device has been deleted. To do this, you can reset the device to the factory settings or delete the data manually.

4. Return and collection systems

You also have the option of returning the electrical device free of charge to municipal collection points, recycling centers, or retailers. There, the device will be properly handled and recycled.

We hope that you are satisfied with your electrical product and that it will serve you well. If you have any further questions, please do not hesitate to contact us or one of our local distributors.

About Bluetooth

The BLUETOOTH® word mark and logos are owned by the BLUETOOTH SIG, Inc. and any use of such marks by ALPS ALPINE CO., LTD. is under license.

Hereby, ALPS ALPINE EUROPE GmbH declares that the radio equipment type PXE-X120-10DP complies with Directive 2014/53/EU. The full text of the EU Declaration of Conformity is available at the following internet address: <https://support.alpine-europe.com/doc/>









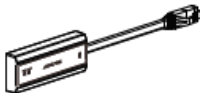
- 2.4 GHz – Bluetooth BR/EDR and BLE
- Frequency range: 2.400 to 2.484 MHz
- Maximum power: 4.51 dBm / 2.82mW (EIRP)

About Software

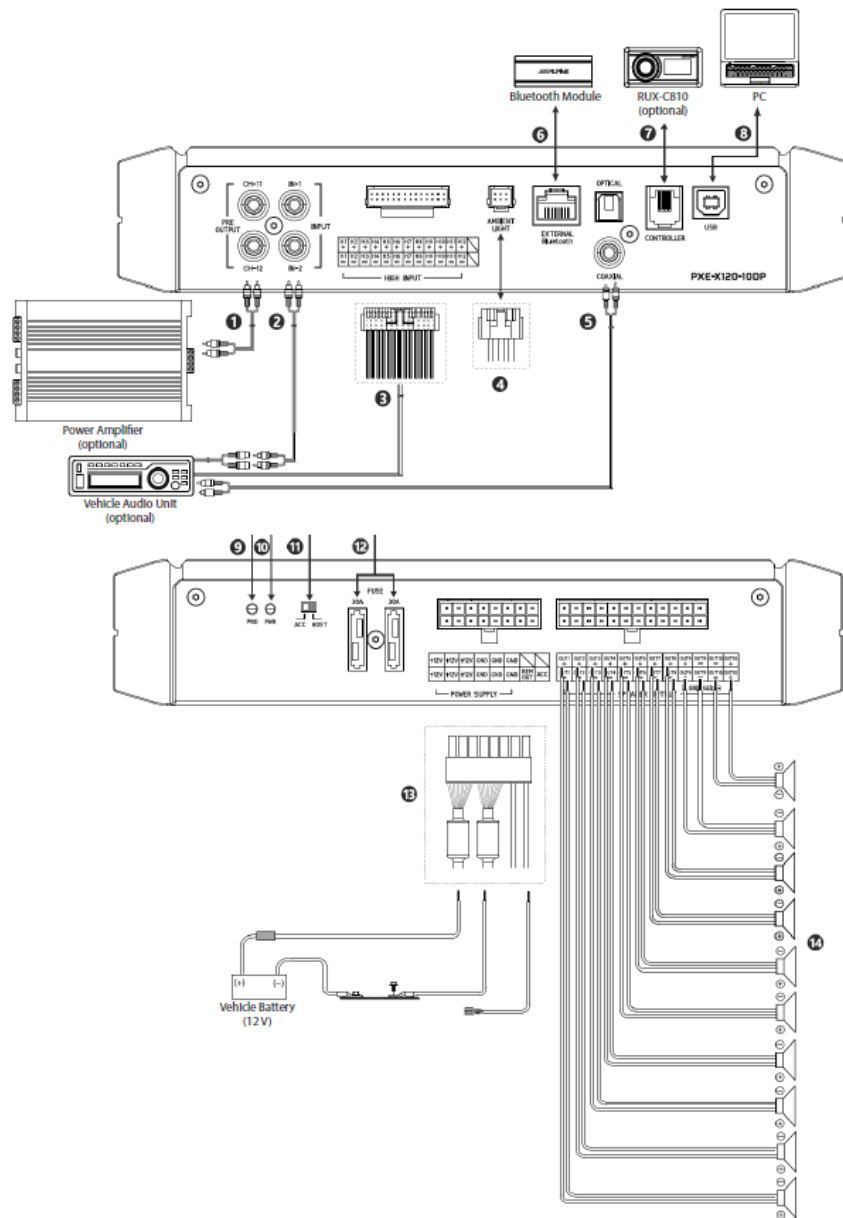
This product has a built-in DSP (Digital Sound Processor), which can be tuned through a mobile phone app or PC software.

The complete operating instructions, PC software, and vehicle-specific DSP settings can be found in the support area of your local Alpine website. <https://support.alpine-europe.com/>

Accessory List

2 x 13 Pin Input Cable	2 x 12 Pin Output Cable	2 x 8 PIN Power Cable
		
USB 2.0 Cable	Threaded Screw x 4	Self Tapping Screw x 4
		
Mounting Bracket x 2	PXE-X120-10DP	Bluetooth Dongle
		

Connections and Functions



Connections and Functions

1. Pre-Out Jacks

One group of RCA audio signal outputs can be connected to an external power amplifier.

2. RCA Audio Input Jacks

1 group of RCA audio signal input, which can be connected to the RCA audio signal output of a car audio player.

3. High-Level Input Connector

Connect to the high-level output of the car audio player.

4. Ambient Light Interface

For future use.

5. Coaxial/ Optical Input Jack

Connect the car audio coaxial/ optical cable, switch the audio source of the device to the digital signal input, and play the digital signal.

6. External Bluetooth Connector

Choose high-definition Bluetooth as the input signal. After the connection is successful, the Bluetooth is always on. Bluetooth connection is also required to use the mobile tuning app.

7. Wired Controller Connector

Connect to external controller RUX-C810.

8. USB 2.0 Interface

A computer can be connected here via a USB cable for more precise tuning and other settings.

9. Protection Indicator

Will be lit in case the protection mode is active.

10. Power Indicator

Lights up when power is on.

11. Fuse Socket

Insert two 30A fuses.

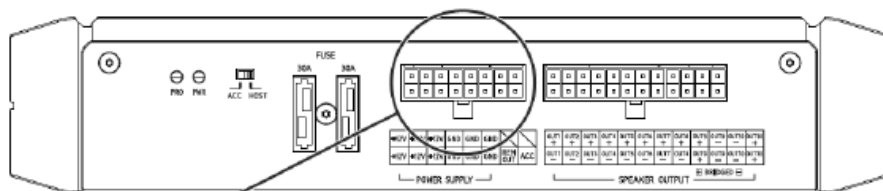
12. Power Supply Terminal

Connect to the corresponding terminals of the car battery.

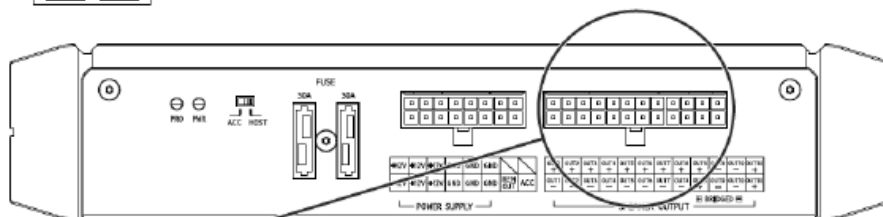
13. Speaker Output Terminals

Connect speakers to the speaker output terminals.

Connections



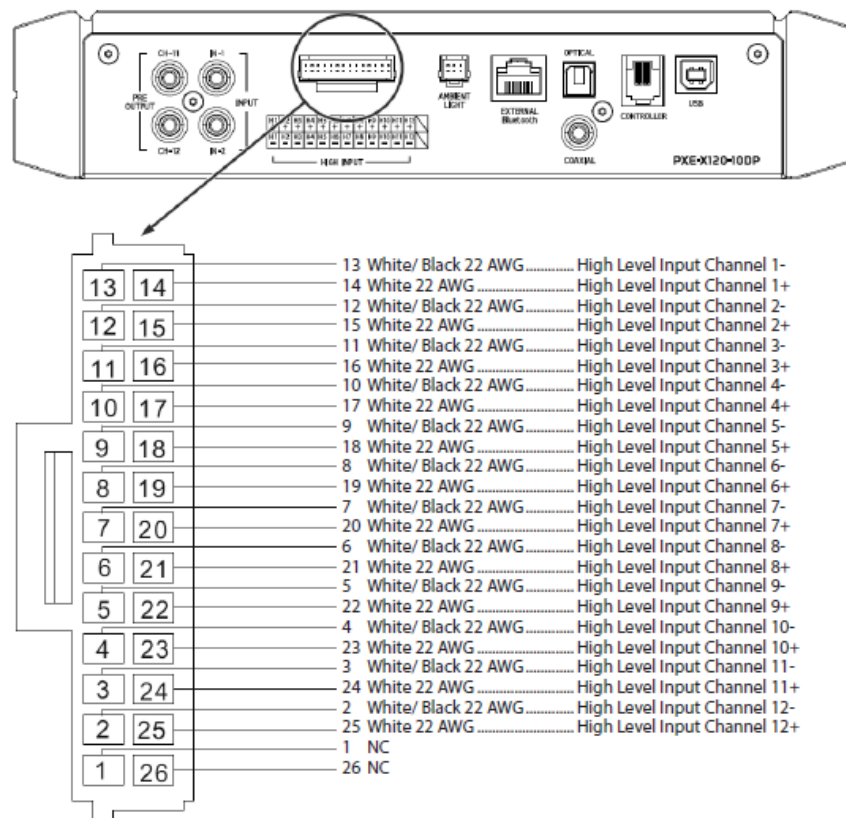
8	9	8	Yellow 16 AWG	.....+12 V
7	10	9	Yellow 16 AWG	.....+12 V
6	11	7	Yellow 16 AWG	.....+12 V
5	12	10	Yellow 16 AWG	.....+12 V
4	13	6	Yellow 16 AWG	.....+12 V
3	14	11	Yellow 16 AWG	.....+12 V
2	15	5	Black 16 AWG	.....GND
1	16	12	Black 16 AWG	.....GND
		4	Black 16 AWG	.....GND
		13	Black 16 AWG	.....GND
		3	Black 16 AWG	.....GND
		14	Black 16 AWG	.....GND
		2	Blue/ White 20 AWG	.... REM OUT
		15	NC	
		1	Red 20 AWG	.....ACC
		16	NC	



12	13	12	White/ Black 20 AWG	..... Output Channel 1-
11	14	13	White 20 AWG	..... Output Channel 1+
10	15	11	White/ Black 20 AWG	..... Output Channel 2-
9	16	14	White 20 AWG	..... Output Channel 2+
8	17	10	White/ Black 20 AWG	..... Output Channel 3-
7	18	15	White 20 AWG	..... Output Channel 3+
6	19	9	White/ Black 20 AWG	..... Output Channel 4-
5	20	16	White 20 AWG	..... Output Channel 4+
4	21	8	White/ Black 20 AWG	..... Output Channel 5-
3	22	17	White 20 AWG	..... Output Channel 5+
2	23	7	White/ Black 16 AWG	..... Output Channel 6-
1	24	18	White 16 AWG	..... Output Channel 6+
		6	White/ Black 16 AWG	..... Output Channel 7-
		19	White 16 AWG	..... Output Channel 7+
		5	White/ Black 16 AWG	..... Output Channel 8-
		20	White 16 AWG	..... Output Channel 8+
		4	White/ Black 16 AWG	..... Output Channel 9-
		21	White 16 AWG	..... Output Channel 9+
		3	White/ Black 16 AWG	..... Output Channel 9+
		22	White 16 AWG	..... Output Channel 9+
		2	White/ Black 16 AWG	..... Output Channel 10-
		23	White 16 AWG	..... Output Channel 10-
		1	White/ Black 16 AWG	..... Output Channel 10-
		24	White 16 AWG	..... Output Channel 10-

16 AWG = 1,31 mm²
 20 AWG = 0,518 mm²
 22 AWG = 0,326 mm²

Connections

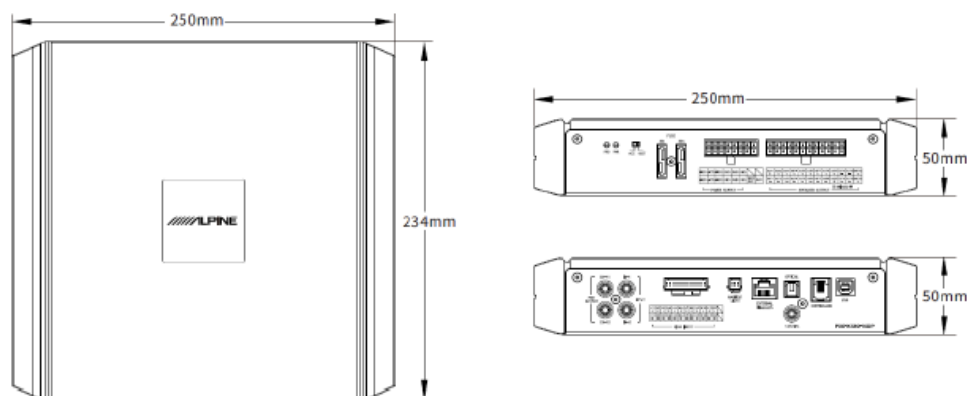


Specifications

Dynamic range	$\geq 100\text{dB}$
Signal-to-noise ratio (RCA)	$\geq 100\text{dB}$
Residual Noise	High level CH1~CH4: $58\mu\text{Vrms}$, CH5~CH8: $113\mu\text{Vrms}$, CH9~CH10: $115\mu\text{Vrms}$; RCA: $8.8\mu\text{Vrms}$
Channel Separation	$\geq 80\text{dB}$
THD	$\leq 0.01\%$
Input voltage	High level: 30Vpp ; RCA: 6.5Vpp
Output voltage	High level CH1~CH4: 28Vpp , CH5~CH8: 40Vpp , CH9~CH10: 58Vpp ; RCA: 8Vpp

Rated power	CH1~CH4: 4CH x 25W, CH5~CH8: 4CH x 50W, CH9~CH10: 2CH x 100W (4Ω, 14.4V, 1kHz, 10%THD), CH9~CH10 Bridged: 1CH x 200W (4Ω, 14.4V, 1kHz, 10%THD)
Maximum power	CH1~CH4: 4CH x 50W, CH5~CH8: 4CH x 100W, CH9~CH10: 2CH x 200W (4Ω, 14.4V, 1kHz, 10%THD), CH9~CH10 Bridged: 1CH x 400W (4Ω, 14.4V, 1kHz, 10%THD)
Input/output sensitivity (RCA)	1:1.23 (no power amplification)
Frequency response	20Hz ~ 20kHz
System sampling rate	48kHz/24bit
Input impedance	High level: 18Ω; RCA: 15kΩ
Output impedance	51Ω
Supply Voltage	9 ~ 16V
Quiescent current	≤3mA (in off state)
Standby power consumption	≤0.1W
REM startup input	High level (H1-/H1+), ACC optional
REM startup output	12V (0.2A)
Startup time	10s
Operating ambient temperature	-20 ~ 60°C

Storage temperature	-40 ~ 85°C
Net weight	3.9kg
Dimensions	250mm×234mm×50mm



Functional Parameters

Input signals	12-Channel high-level, 2-channel RCA audio, high-definition Bluetooth, optical/coaxial
Output signals	10-Channel high level, 2-channel RCA audio
Signal gain of the output channel	Range: mute, -60dB ~ +6dB
Output signal equalizer	Type: parametric EQ, graphic EQ Frequency: 20Hz ~ 20kHz, resolution: 1Hz Q value (slope or gradient): 0.404 ~ 28.852 Gain: -12.0dB ~ +12.0dB, resolution: 0.1dB ~ 0.5dB ~ 1.0dB

Output signal frequency divider	<p>Each output channel is equipped with an independent multi-order high-pass filter,</p> <p>Filter type: Linkwitz-Riley, Bessel, Butterworth</p> <p>Filter cross-over frequency: 20Hz~20kHz, resolution : 1Hz Filter slope (gradient): -6dB/Oct~-48dB/Oct</p>
Output phase	Normal phase or reverse phase (0°~360°)
Output delay	0.000 ~ 20.000 ms, 0 ~ 692 cm, 0 ~ 273 inch
Pre-set sound effects	Multiple sets of pre-set sound effects data can be saved in the device, call of online sound effects is supported

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- For contact information in your respective country, please visit:
- www.alpine-europe.com/distribution.html

EXA -24KM624 Ver. 1.3 (Feb. 2025)

FAQs

- **Q: Can this amplifier be used in vehicles with positive grounding?**

A: No, this product is only suitable for cars with 12V negative grounding to prevent potential hazards.

- **Q: What should I do if I encounter wiring issues during installation?**

A: If you face wiring difficulties, consult a professional installer or contact customer support for assistance to avoid any electrical hazards.

- **Q: How often should I check for software updates?**

A: It is recommended to check for software updates periodically on the manufacturer's website to ensure optimal performance and compatibility with your devices.

Documents / Resources

	<p>ALPINE 12 Channel DSP Amplifier [pdf] Instruction Manual</p> <p>PXE-X120-10DP 12 Channel DSP Amplifier, PXE-X120-10DP, 12 Channel DSP Amplifier, Channel DSP Amplifier, DSP Amplifier, Amplifier</p>
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References

- [User Manual](#)

■ Alpine

🔍 12 Channel DSP Amplifier, Alpine, Amplifier, Channel DSP Amplifier, DSP Amplifier, PXE-X120-10DP, PXE-X120-10DP 12 Channel DSP Amplifier

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