PXE-0850S Advanced Digital Wireless Sound Processor Installation Manual











* The specified vehicles have been tested and have met compatibility specs at the time of testing. Compatibility is not guaranteed if the manufacturer has made production changes to the listed vehicles above.

A Warning: Before you begin wiring, remove the ground wire from the negative terminal of the battery. Failing to do so can lead to electric shock, injury or damage to equipment.

Introduction

Congratulations on purchasing the PXE-0850S. This installation manual is designed to take you through the installation of PXE-0850S. Please familiarize yourself with the owners manual and if you still have additional questions please call 1-800-TECH-101.

Note

Design and specifications are subject to change without notice for improvement.

To Ensure Safe Use, Always Follow These Precautions

- The installation of this product requires specialized skills and experience. We recommend that you have the product installed by an Alpine authorized dealer.
- Before you use this product, be sure to carefully read this installation manual and the separate user's manual so that you can use the product correctly. Alpine Electronics bears no responsibility for problems that arise as a result of failure to follow the instructions in the manuals.
- This manual includes a number of symbols that are intended to help you use the product safely, to prevent harm to you and others, and to protect against damage to property. These symbols and their meanings are listed below. Make sure you fully understand these symbols before you begin reading the main text.

Explanations of Injury and Damage That May Result from Incorrect Use

A Warning	Ignoring the content marked by this indication and using the product incorrectly is expected to lead to death or serious injury.		
A Caution	Ignoring the content marked by this indication and using the product incorrectly is only expected to lead to injury or property damage.		

Table Of Contents

Types Of Precautions3
To allo Do guive d
Ioois Required
Tools Possibly Required4
Accessory List
List of Accessories
Download the App
Downloading the App5
Pairing the Device
Pairing the Device5
Component Locations
Component Locations6
Wire Harness Pinouts
Wire Harness Pinouts7
Installation Examples
-
6-Channel In/6-Channel Out (With Aftermarket
6-Channel In/6-Channel Out (With Aftermarket Head Unit)8
6-Channel In/6-Channel Out (With Aftermarket Head Unit)

Mobile Phone App Instructions

Home Screen	18
EQ	19
Mixer	20
Delay	21
Output	22

PC App Overview

PC App Overview	23
PC App Overview Continued	24

Controller Interface

Controller Interface25

Specifications

Specifications	26
Specifications Continued	27

Troubleshooting

Troubleshooting2	27
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Sound Processor **PXE-0850S** • 3/27 **Types of Precautions** When making a hole in the vehicle body, be careful to avoid damaging pipes, the fuel tank, electrical wiring, and the like. This Indicates actions that are kind of damage could lead to an accident forbidden (must not be performed) or fire. When installing and grounding the product, Indicates that disassembly is do not use any of the bolts or nuts of the forbidden. steering wheel, brakes, fuel tank, or the Forbidden like. Doing so could make the brakes stop working or lead to fire. Indicates actions that are mandatory (must be performed) Do not install the product near the passenger-side airbag. Doing so could Marks content that should receive interfere with the operation of the airbag vour full attention. Forhidden and lead to an accident or injury. 🗥 Warning Bundle cords so that they don't interfere with driving. Wrapping cords around the Do not disassemble or modify the product. steering wheel, gearshift, brake pedal, Doing so could lead to an accident, fire, or or the like, could lead to an accident or electric shock. damage equipment. Forbidden Store screws and other small objects Caution where small children cannot reach them. If one of these small objects is swal-**Connect the product properly according to** lowed, consult with a doctor immediately. the instructions. Failing to do so could lead to fire or an accident. When replacing fuses, be sure to Forbidden use fuses with the specified current rating. Failing to do so could lead to Forbidden Mandatory Do not sandwich cords between the seat railing or allow them to touch protrusions. an accident or fire. **Resulting breaks or shorts could lead to** electric shock or fire. Only connect the product to a 12 VDC negative ground car. Failing to do so could ĕ Do not block vents or heat sinks. Doing so lead to an accident or fire. Mandatory could lead to fire or damage equipment. Before you begin wiring, remove the Use the accessories according to the ground wire from the negative terminal of instructions, and attach them securely. the battery. Failing to do so could lead to Failing to do so could lead to an accident electric shock or iniury. Forbidde or damage equipment. Do not cut the insulation on a cord and take Do not install the product where it may be power from another device. Doing so could exposed to water or in a place with high lead to fire or electric shock. Forbidden levels of humidity or dust. Doing so could Forbidder

Do not install the product in a location where it will obstruct the driver's forward view: interfere with the operation of the steering wheel, gearshift, or the like; or pose a threat to passengers. Doing so could lead to an accident or injury.

Forbidden

Forbidden

Mandatory



The installation and wiring of this product requires specialized skills and experience. Have the product installed by an Alpine authorized dealer.

lead to fire or damage equipment.



Tools Possibly Required (This Will Vary Depending On The Vehicle)

Panel Removing Tool	Sockets	Torx Screwdriver	Power Drill
Wire Cutters	Extension	Phillips Screwdriver	Ratchet
204	@)		
Crimpers	Pliers	RTA	Oscilloscope
		0000	

Accessory List

Installation Kit Parts

Wired Controller	Bluetooth Adapter	USB 3.0 Cable
	Turning South	
Speaker Harness x 2	Stand Mount x 4	High Level Input Connector
	00 0 00	
Processor	Screws x 10	Screws x 4

Download The App

- 1 For Android users the PXE-0850S app is available on the Google Play store. The name of the app is PXE-DSP-APP.
- 2 For iphone users the PXE-0850S app is available through iTunes. The name of the app is PXE-DSP-APP.
- 3 The PC App is located on the Alpine web site in the Knowlege Center. Go to www.alpine-usa.com. Click on Support, then Knowledge Center, and type PXE-0850S in the search bar. Download the zip file, unzip, and double click on the app. The full link is here: <u>https://kb.alpine-usa.com/article/pxe-0850s-pc-application-software-for-windows.html</u>

Pairing The Device

- 1 Open the settings menu of the smart device.
- 2 Go to the Bluetooth settings and make sure it is turned on.
- 3 Scan for devices.
- 4 The tablet or phone will find DSP-HD-AXXXXX. Click to connect to it.

Note: The light on the Bluetooth adapter will flash until a device has been paired. Once a device is paired it will remain steady.

III AT&T 🗢	2:19 PM	100% 📖		📲 AT&T 🗢	2:19 PM
	Settings			< <u>Settings</u>	Bluetooth
BI	luetooth	Off >		Alpine CD Rece	iver
(i) C	ellular	>		iLX-F309	
				INE-W960HDM	II
C N	lotifications	>		ALPINE NAVI	
C	control Center	>		CDE-153Series	
CD	o Not Disturb	>		i209	
G G	eneral	>	4→	DSP HD-A007C	26
	isplay & Brightness	>			
🛞 W	Vallpaper	>			
So So	ounds & Haptics	>			
Si	iri & Search	>			
Т	ouch ID & Passcode	>		To pair an Apple Wa	atch with your iPhone, go to the Wate
sos Er	mergency SOS	>		app.	ion man your in hone, go to the wat

	Sound Processor
PXE-0850S	• 6/27

Component Locations



	Component Name	Component Definition
1	USB Input	The USB 3.0 cable is used to connect to a Windows PC to tune with software. The cable also has the connection for the wired controller.
2	External Bluetooth Input	The Bluetooth interface is used for streaming lossless music and for tuning with the phone app. After a phone is paired the indicator light turns on.
3	Optical Input	Optical Input.
4	Coaxial Input	Optical Coaxial Input.
5	RCA Inputs	6 channels of low-level inputs.
6	Remote Input Switch	If ACC is selected then ACC will power on the processor. If HOST is selected the processor will turn on by signal sensing with the high level input.
7	Power Indicator Light	Power Indicator Light.
8	High Level Input Harness	Used to input speaker level signals up to 10W or 30V.
9 & 10	High Level Output	Each channel is rated at 18W RMS.
11	RCA Outputs	6 RCA low level outputs to go to aftermarket amplifiers.

	Sound Processor
850S	• 7/27

PXE-0

Wire Harness Pin Outs



	Sound Processor
PXE-0850S	• 8/27



Before 66



After 66

Channel 4

Mixer

/////ILPINE.

AUX1 - 0 +

AUX2 - 0 +

AUX3 - 0 +

AUX4 - 100 + -

AUX5 - 0 +

AUX6 - 0 +





Channel 6

0



	Sound Processor
PXE-0850S	• 10/27

Installation Example- 4-Channel In/6-Channel Out (With OEM Head Unit)



Mixer Setup- 4-Channel In/6-Channel Out (With OEM Head Unit)



Channel 1





Channel 3



Channel 4

Mixer

CH2 CH3 CH4 CH5 CH6

Ξ

0

/////ILPINE

Hi.Level1 - 0 +

Hi.Level2 - 0 +

Hi.Level3 - 0 +

Hi.Level4 - 100 + -

Hi.Level5 - 0 +

Hi.Level6 — 0 +





Channel 6

 Image: Arrow of the second state o

	Sound Processor
PXE-0850S	• 12/27

Installation Example- Digital In/6-Channel Out Using Aftermarket Amplifiers (With Aftermarket Head Unit)



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Mixer Setup- Digital In/6-Channel Out Using Aftermarket Amplifiers (With Aftermarket Head Unit)









Channel 4

Mixer

CH2 CH3 CH4 CH5 CH6

AUX5 - 0 +

AUX6 - 0 +

SPDIF-L - 0 +

spdif-r - 100 + -

^{etooth-} – 0 +

- 0 + 🔵

Ξ

0

/////ILPINE





Channel 6



Installation Example- 4-Channel In/6-Channel Out Using High Level Out (With OEM Head Unit)



Mixer Setup- 4-Channel In/6-Channel Out Using High Level Out (With OEM Head Unit)









Channel 3



Channel 4

Mixer

CH2 CH3 CH4 CH5 CH6

Ξ

0

/////ILPINE

Hi.Level1 - 0 +

Hi.Level2 - 0 +

Hi.Level3 - 0 +

Hi.Level4 - 100 + -

Hi.Level5 - 0 +

Hi.Level6 — 0 +





Channel 6



	Sound Processor
PXE-0850S	• 16/27



*2 Ξ

Hi.Level3 — 33 + —

.evel4 – 33 + –

Hi.Level5 — 33 🕂 —

Hi.Level6 — 0 +

Mixer Setup- 5-Channel In/10-Channel Out Using High Level Out (With OEM Head Unit)



Hi.Level3 — 0 🕂 🔵

Level4 - 33 + -

Hi.Level5 - 33 + -

Hi.Level6 - 0 +

Hi.Level4 — 0 +

Hi.Level5 - 33 + -

Hi.Level6 - 0 +

Hi.Level3 — 33 + —

li.Level4 — 33 🕂 —

Hi.Level5 — 33 + —

Hi.Level6 — 0 🕂 🔵

1	Lock Button	Create a 6 digit password to encrypt Delay, Output, EQ, and Mixer functions.
2	Connections Indicator	If the Bluetooth icon is red then there is no phone paired. If the icon is green that indicates a phone is currently paired. If a phone has previously been paired then just start the app and the icon will turn green. Pressing on the icon will allow selection of streaming audio and data operation.
3	Files Tab	User is able to Save, Share, and Load presets; along with viewing the software version.
4	Source Button	Select input source (Hi-level, Aux, Bluetooth, and S/PDIF).
5	Preset Buttons	Store and recall up to 6 preset sound settings.
6	Mute Button	Mutes the audio.
7	Master Volume	Adjusts the system volume up and down.
8	Tuning Interface	Switches between the app tuning screens.

Mobile Phone App Instructions- EQ

1	Output Channel	The 12 output channels can be selected by sliding left or right.
2	EQ Curve	Displays the current curve of the EQ adjustments.
3	Frequency, Q Value, Gain	Adjust the Frequency, Q-Factor, and Level. Note: Q and Frequency can only be adjusted when using the Parametric EQ. Only level can be adjusted in Graphic EQ mode.
4	Gain	Slide up or down to increase or decrease the gain between -12dB and +12dB.
5	Enable/Disable EQ	Press to turn the EQ settings on or off.
6	Band On/Off	Turns the EQ band on or off.
7	P. EQ/ G. EQ Mode	Selects either the Parametric EQ mode or the Graphic EQ mode. Switching the mode will result in a loss of all settings.
8	Reset EQ	Reset the EQ settings.

	Sound Processor
PXE-0850S	• 20/27

Mobile Phone App Instructions- Mixer

1	Mixer Channel	The 12 channels for mixing can be selected by sliding left or right. Matrix mixing allows routing any of the 6 High or Low Level inputs to any of the 12 Low Level or 8 High Level (25w) outputs.
2	Input Level	Adjust the slider left to right to move from 0 to 100% of the signal to mix in from that specific channel.

Note: It is highly recommended that the total for one channel equal 100 to prevent clipping.

	Sound Processor
PXE-0850S	• 21/27

Mobile Phone App Instructions- Delay

1	Speaker Select	Tap the speaker icon of each channel to select the channel to delay. A slider will pop up to enter the value of the delay.
2	Delay Units	Select between Milliseconds, Centimeters, and Inches as the incriment to adjust the delay.

Mobile Phone App Instructions- Output

1	Channel Selection	The 12 output channels can be selected by swiping left or right.
2	Filter Type	Select between 3 filter types: Linkwitz-Riley, Bessel, and Butterworth.
3	Crossover Frequency	Select the crossover frequency (between 20Hz & 20kHz).
4	Slope Range	Select the crossover slope (12dB, 18dB, 24dB, 30dB, 36dB, 42dB, or 48dB).
5	Channel Output	Adjust Channel Output levels between 0-60.
6	Channel Type	Select the type of speaker being used. This will bring up a popup menu that gives every speaker type.
7	Link Tuning	Press to select to combine the data for the left and right channels. Select method to copy from left to right or from the right to left.
8	Reset	Select "All" to clear out all settings. Select "Default" to restore to factory default values.
8	Channel Mute	Press to mute the selected channel.
10	Channel Phase	Sets the phase from 0 to 180.

	Sound Processor
PXE-0850S	• 23/27

1	File, Option, Connect Tabs	File- load or save presets Options- Not used Connect- Plug in USB to PC and press "Connect" to connect to the PXE-0850S. This will show "Discon- nected" when the USB is not plugged in.	
2	Output Channels	The 12 output channels can be selected and configured.	
3	Link	Press to select to combine the data for the left and right channels. Select method to copy from left to right or from the right to left.	
4	Mixer	Select to show the mixer panel. The following page shows this in detail.	
5	Reset	Select "All" to clear out all settings. Select "Default" to restore to factory default values.	
6	Lock	Create a 6 digit password to encrypt Delay, Output, EQ, and Mixer functions.	
7	Preset	Select the type of speaker being used.	
8	Source	Select input source (Hi-level, Aux, Bluetooth, and S/PDIF).	
9	Output Channels	Press the speaker to select on of the output channels from 1.	
10	Volume Slider	Adjusts the system volume up and down.	
11	Mute	Mutes the audio.	
12	Filter Type	Select between 3 filter types: Linkwitz-Riley, Bessel, and Butterworth	
13	Crossover Frequency	Select the crossover frequency (between 20Hz & 20kHz).	
14	Slope Range	Select the crossover slope (12dB, 18dB, 24dB, 30dB, 36dB, 42dB, or 48dB).	
15	Bass Phase/Phase EQ	Not Used.	

PC App Overview Continued

16	Channel Phase	Sets the phase from 0 to 180.	
17	Channel Mute	Press to mute the selected channel.	
18	Channel Output	Adjust Channel Output levels between 0-60.	
19	Delay Units	Select between Milliseconds, Centimeters, and Inches as the incriment to adjust the delay.	
20	Delay Time	Enter the value of the channel delay.	
21	Enable/Disable EQ	Press to turn the EQ settings on or off.	
22	Reset EQ	Reset the EQ settings.	
23	P. EQ/ G. EQ Mode	Selects either the Parametric EQ mode or the Graphic EQ mode. Switching the mode will result in a loss of all settings.	
24	Gain	Slide up or down to increase or decrease the gain between -12dB and +12dB.	
25	Frequency, Q Value, Gain	Adjust the Frequency, Q-Factor, and Level. Note: Q and Frequency can only be adjusted when using the Parametric EQ. Only level can be adjusted in Graphic EQ mode.	
26	EQ Curve	Displays the current curve of the EQ adjustments.	

Mixer Adjustment

	PXE-DSP APP							- ×
	File (E) Option (O) Disconnect	Mix & mixing setting	1				
	CH1 FL-Woofer 🔻	CH2 FR-Woofer 🔻			=	0	•	
	CH3	CH4			=	0	•	2
	CH5	CH6			e		•	
1 —	FL-Tweeter	FR-Tweeter *			= o		•	
	RL-Woofer 🔻	RR-Woofer 🔻			e		±	
	CH9 RL-Tweeter 🔻	CH10 RR-Tweeter 🔻					•	
	CH11	CH12						
	(5 Reset							
	E Lock	► EQ						
	Preset	Source						
	0/1-							
	0	i ĝ						
	, je	B						
	Master Volume 60							

1	Channel Selection	Select a channel to modify
2	Mix & Mixer Setting	Matrix mixing allows routing any of the 6 High or Low Level inputs to any of the 12 Low Level or 8 High Level outputs.

	Sound Processor
PXE-0850S	• 25/27

Controller Interface

1	Rotary Encoder	Short press (less than 1 second) to scroll through the menus. Turn to scroll through different selections within each menu. Long press (press and hold for 2 seconds) to exit the selected menu.
2	Mute	 The first short press of the Rotary Encoder selects the Mute menu and it will flash to give visual confirmation that it is selected. Turn the Rotary Encoder left or right to select either Mute On or Mute Off. If Mute On is selected the Volume will display 0. If Mute Off is selected the Volume will go back to the original setting. Once the desired setting is made a short press will move to the Input menu or a Long press will store the selection and exit the menu. The menu will automatically time out if nothing is pressed for 20 seconds.
3	Input	 The second short press of the Rotary Encoder selects the Input menu and it will flash to give visual confirmation. Turn the Rotary Encoder left or right to scroll through the Input selections. : S/PDIF (digital), Hi.Level (high-level), Phone (Bluetooth), AUX (low-level). Once the desired setting is made a short press will move to the Preset menu or a Long press will store the selection and exit the menu. The menu will automatically time out if nothing is pressed for 20 seconds.
4	Preset	 The third short press of the Rotary Encoder selects the Preset menu and it will flash to give visual confirmation. Turn the Rotary Encoder left or right to scroll through Presets 1-6. A short press will select the Preset and then bring up a loading screen. Once the Preset has loaded the menu will be exited. The menu will automatically time out if nothing is pressed for 20 seconds.
5	Volume	Adjust the master Volume by turning the rotary encoder clockwise or counterclockwise. Clockwise will increase the Volume and counterclockwise will decrease the Volume. The interface will display the volume numerically 0-66 and it will also display it incrementally (in tenths until the final 6) with the bars.

Note: If a laptop is connected or the phone app is launched and connected the Controller will be inoperable. It will display the Alpine logo and can't be used.

PXE-0850S

Specifications

Dynamic Range	≥110dB		
Signal-To-Noise Ratio	≥100dB		
Total Harmonic Distortion	≤0.05%		
Frequency Response	20Hz~20KHz		
Input Impodence	Low-level input: 20KΩ		
	High-level input: 330Ω		
Low-Level Output Impedance	51Ω		
Scope Of Signal Input And Output	RCA input: 7.5Vpp; High-level: 24Vpp; RCA output: 7.5Vpp		
Ambient Temperature	-20 - 60°C		
Storage Temperature	-40 - 85°C		
Power Source	9V - 15V DC		
Active REM Input	Options of high-level activation (H1+/H1-) and ACC activation for selection		
Active REM Output	+12V activation voltage output (0.1A)		
Stand-by Power Consumption	≤0.1W		
	1.7kg		
Gross weight	3 pounds 12 ounces		
Dimensions	210mm (length) x 190mm (width) x 45mm (height)		
Dimensions	8-17/64" (length) x 7-31/64" (width) x 1-49/64" (height)		

Specifications

Type Of Input Signals	6-channel high-level, 6-channel Aux, S/PDIF, Coaxial, Bluetooth	
Output Type	12-Channel RCA output, 8-Channel high-level	
Output Signal Gain	Range of gain: mute, -59.9dB - 0dB	
Native Sample Rate	32k - 96k	
	1. Range of frequency: 20Hz - 20KHz, resolution 1Hz	
Output Signal EQ	2. Q-factor: 0.404 - 28.85, resolution 0.01	
	3. Gain: -12.0dB - +12.0dB, resolution 0.1dB	
	1. Types of filters: Butterworth, Linkwitz-Riley, and Bessel	
Output Crossover	2. Filter crossover points: 20Hz - 20KHz. Resolution 1Hz	
	3. Filter slope (Slope) setting: 12dB/Oct - 48dB/Oct	
	Phase: 0°/180°	
Output Fhase Fosition And Delay	Delay: 0.000-20 milliseconds, 0.00 - 692 cm, 0.00 - 273 inches	
Number Of Preset Sound Settings 6		

Troubleshooting

	Symptom	Possible Cause	Remedy
1			The USB cable needs to be plugged into the PXE-0850S with the side that has the connection for the controller going away from the PXE-0850S.
	Controller only displays Alpine logo and doesn't allow controls.	The USB cable is not plugged in the right direction, a laptop is plugged in, or the phone app is connected.	A PC can't be plugged into the PXE-0850S and have use of the Controller at the same time. Disconnect the device.
			The phone app can't be connected via Bluetooth to the PXE-0850S and have use of the Controller at the same time. Disconnect the app.
2			Outputs should be tested with an oscilloscope and RTA to see what frequencies they are outputting.
	Not getting full range of sound.	OEM head unit has crossed over outputs.	If the outputs are crossed over they will need to be mixed with others to get a full range signal. Test the output of the PXE with an RTA to see what channels need to be mixed in more.
3	Top light on PXE-0850S is flashing.	Device is connected and the app is being used.	When the app is connected the lights on the unit will flash. Once the app is disconnected they will go back to steady.
4	Light stays on after shutting vehicle off.	The PXE-0850S stays on for 2 minutes after the system shuts off.	This is normal operation.
5	Bluetooth module is flashing.	No devices are paired to the unit.	If a device is paired to the PXE-0850S the Bluetooth extension light will stop flashing and will go light steady.