

PAC LPHFD31

PAC L.O.C. Pro Advanced Audio Integration T-Harness LPHFD31 Instruction Manual

Brand: PAC

Model: LPHFD31

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1. INTRODUCTION

The PAC L.O.C. Pro Advanced Audio Integration T-Harness (Model LPHFD31) is designed to simplify the installation of aftermarket audio equipment in select Ford vehicles. This vehicle-specific T-harness provides all necessary high-level inputs and speaker outputs, allowing you to add amplifiers and other audio components while retaining your factory radio. It is specifically engineered for OEM non-amplified systems.



Figure 1: The PAC L.O.C. Pro Advanced Audio Integration T-Harness (Model LPHFD31) showing its various connectors and wiring.

2. VEHICLE COMPATIBILITY

This T-Harness is compatible with the following non-amplified Ford vehicles:

- Ford Bronco and Bronco Sport: 2021-2023 (all trim levels)
- Ford Eco Sport: 2018-2022
- Ford Econoline Van: 2021-2023
- Ford Escape: 2020-2023
- Ford Expedition: 2022-2023
- Ford Explorer: 2020-2023
- Ford F-150: 2021-2023
- Ford F-250/350/450/550: 2020-2023
- Ford Lightning: 2022-2023

- Ford Maverick: 2022-2023
- Ford Mustang Mach E: 2021-2023
- Ford Ranger: 2020-2023
- Ford Transit Connect: 2019-2023

Important: This product is NOT for use in vehicles with a factory amplifier.

3. WHAT'S IN THE BOX

Your PAC L.O.C. Pro Advanced Audio Integration T-Harness package includes:

- PAC L.O.C. Pro Advanced Audio Integration T-Harness (LPHFD31)
- Instruction Manual

4. SETUP & INSTALLATION

The LPHFD31 T-Harness simplifies the process of integrating aftermarket audio components into your vehicle's existing non-amplified factory stereo system. It provides clearly labeled pigtail harnesses for front and rear speaker leads, allowing for easy connection to a Line Output Converter (LOC) or directly to an aftermarket amplifier with high-level inputs.

4.1 General Installation Steps

1. **Disconnect Battery:** Before beginning any electrical work, disconnect the vehicle's negative battery terminal to prevent electrical shorts or damage.
2. **Access Factory Radio:** Carefully remove the vehicle's factory radio to gain access to the wiring harness. Refer to your vehicle's service manual for specific instructions on radio removal.
3. **Connect T-Harness:** Disconnect the factory wiring harness from the back of the radio. Connect the PAC LPHFD31 T-Harness in-line with the factory radio and the vehicle's wiring. The T-Harness will have connectors that match the factory plugs.
4. **Identify Speaker Leads:** The LPHFD31 T-Harness features clearly labeled pigtail harnesses for front and rear speaker leads. These wires will provide the high-level audio signal from your factory radio.
5. **Connect to Aftermarket Equipment:**
 - **For Line Output Converter (LOC):** If using an LOC (e.g., AudioControl LC2i), connect the appropriate speaker leads from the T-Harness to the high-level inputs of the LOC. The LOC will convert these signals to low-level RCA outputs for your aftermarket amplifier.
 - **For Aftermarket Amplifier with High-Level Inputs:** If your aftermarket amplifier accepts high-level inputs, connect the speaker leads directly from the T-Harness to the amplifier's high-level input terminals.
6. **Power and Ground Connections:** Ensure your aftermarket amplifier and/or LOC receive proper power (+12V), ground, and remote turn-on connections. The T-Harness may provide a remote turn-on output (GTO signal sensing input on some LOCs) or you may need to tap into an accessory wire.
7. **Route Wiring:** Carefully route all new wiring to avoid interference, pinching, or damage. Secure wiring with zip ties or electrical tape.
8. **Reassemble:** Once all connections are secure and verified, reassemble the vehicle's dashboard and reconnect the battery.

4.2 Visual Installation Aids

Video: AudioControl LC2i Active Line Output Converter Overview

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Video Description: This video provides an overview of the AudioControl LC2i, an active line output converter. It demonstrates how an LOC like the LC2i can be used to convert high-level speaker signals from a factory radio into low-level RCA outputs, which are essential for connecting to aftermarket amplifiers. The video highlights features such as AccuBASS™ for bass restoration and GTO™ signal sensing for automatic turn-on, which are relevant when integrating with the PAC T-Harness.

Video: Subwoofer Amplifier Wire Harness Installation (Example)

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Video Description: This video demonstrates the installation of a subwoofer amplifier wire harness compatible with Ford vehicles. While not specific to the PAC LPHFD31, it illustrates the general process of connecting a harness to a factory radio and routing wires for aftermarket audio components, providing a visual aid for similar installation steps.

Video: Factory Radio Add Amplifier Subwoofer Interface Adapter (Example)

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Video Description: This video showcases a factory radio add amplifier subwoofer interface adapter for Ford vehicles. It provides a visual guide to the components and basic connection process, which can be helpful for understanding how the PAC LPHFD31 T-Harness integrates with a factory system to add a subwoofer amplifier.

Video: XINXUSONG Factory Radio Add A Subwoofer Amplifier Plug & Play Harness (Example)

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Video Description: This video demonstrates a plug-and-play harness for adding a subwoofer amplifier to a factory radio in Ford F150, F250, and F350 models. It offers a quick visual of the harness components and how they connect, providing context for the simplicity of installation offered by the PAC LPHFD31 T-Harness.

5. OPERATING PRINCIPLES

The PAC LPHFD31 T-Harness is a passive component that facilitates the integration of aftermarket audio equipment. It does not actively process audio signals or control vehicle functions. Its primary role is to provide a clean, accessible point to tap into the factory speaker wiring without cutting or modifying the original harness.

- **Signal Transfer:** The harness transfers the high-level audio signals from your factory radio to the connected aftermarket devices (e.g., LOC, amplifier).
- **Factory Radio Retention:** Your factory radio will continue to operate as normal, controlling volume, source selection, and other features. The T-Harness simply provides an output for additional audio components.
- **Aftermarket Component Control:** The operation and sound quality of your aftermarket audio system will be controlled by the connected LOC, amplifier, and other components. Adjustments to bass, gain, and crossover frequencies will be made on these devices.

6. MAINTENANCE

The PAC LPHFD31 T-Harness requires minimal maintenance. Once installed correctly, it is designed for long-term,

reliable operation.

- **Regular Inspection:** Periodically check all connections to ensure they remain secure and free from corrosion.
- **Cleanliness:** Keep the area around the harness and connected components clean and free of dust or debris.
- **Avoid Moisture:** Ensure the harness and connections are protected from moisture and extreme temperatures.
- **Professional Check:** If you experience any audio issues after installation, consult a professional car audio technician.

7. TROUBLESHOOTING

If you encounter issues after installing the PAC LPHFD31 T-Harness, consider the following common troubleshooting steps:

Problem	Possible Cause	Solution
No audio from aftermarket amplifier/subwoofer.	<ul style="list-style-type: none">◦ Incorrect T-Harness connection.◦ LOC/amplifier not powered or turned on.◦ Incorrect input/output connections on LOC/amplifier.◦ Factory radio volume too low.	<ul style="list-style-type: none">◦ Verify all T-Harness connections are secure and correctly seated.◦ Check power, ground, and remote turn-on connections to LOC/amplifier. Ensure remote turn-on is receiving +12V.◦ Confirm speaker leads from T-Harness are connected to the correct inputs on the LOC/amplifier.◦ Increase factory radio volume.
Distorted or poor sound quality.	<ul style="list-style-type: none">◦ Gain settings on LOC/amplifier too high.◦ Improper AccuBASS™ settings on LOC (if applicable).◦ Vehicle has a factory amplified system (incompatible).	<ul style="list-style-type: none">◦ Adjust gain settings on your LOC/amplifier according to manufacturer recommendations.◦ Review and adjust AccuBASS™ settings on your LOC to properly restore bass.◦ Confirm your vehicle does not have a factory amplified system. This harness is not designed for such systems.
Aftermarket equipment does not turn off with vehicle.	<ul style="list-style-type: none">◦ Incorrect remote turn-on connection.◦ LOC/amplifier GTO™ signal sensing not configured correctly.	<ul style="list-style-type: none">◦ Ensure the remote turn-on wire is connected to a switched +12V source or the remote output of your LOC.◦ If using an LOC with GTO™ signal sensing, verify it is enabled and functioning correctly.

8. SPECIFICATIONS

- **Brand:** PAC
- **Model:** LPHFD31
- **Material:** Copper, Polyvinyl Chloride (PVC)
- **Item Dimensions (L x W x H):** 8 x 5 x 2 inches

- **Connector Type:** 32-pin Connector
- **Item Weight:** 5.8 ounces
- **Recommended Uses:** Automotive: Non-amplified Ford Vehicles (2018-2023)
- **UPC:** 609098900478

9. WARRANTY & SUPPORT

For specific warranty information and technical support, please refer to the official PAC Audio website or contact their customer service directly. Keep your proof of purchase for any warranty claims.

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