

# Apache 1800 All-In-One Insert Assembly Guide

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## Overview

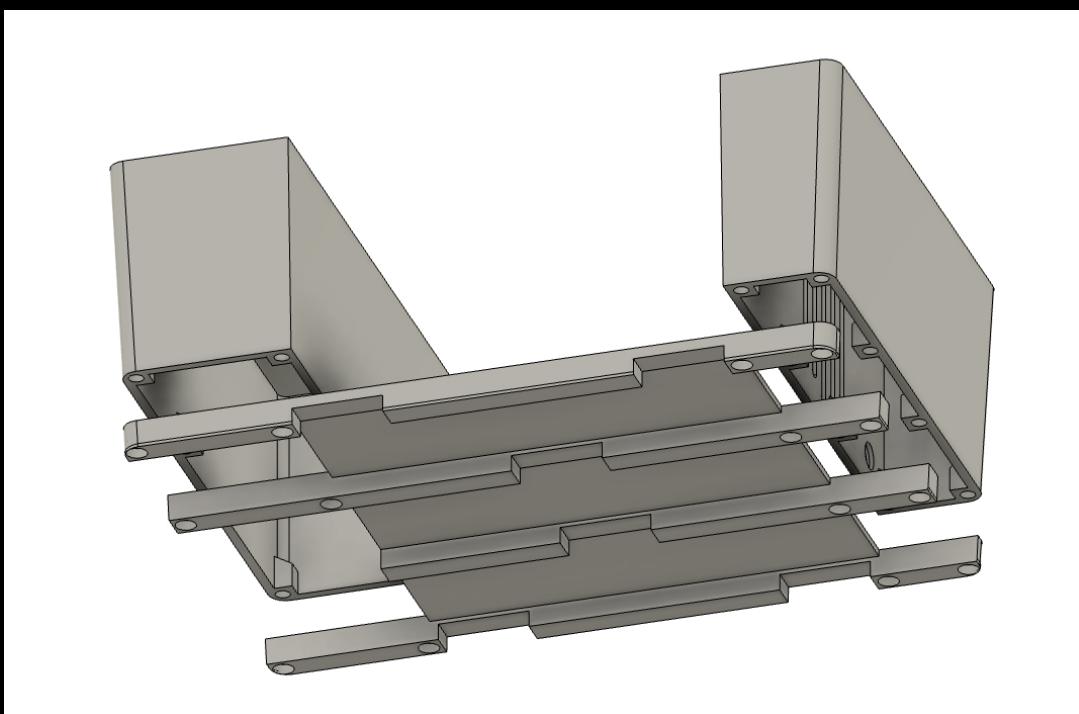
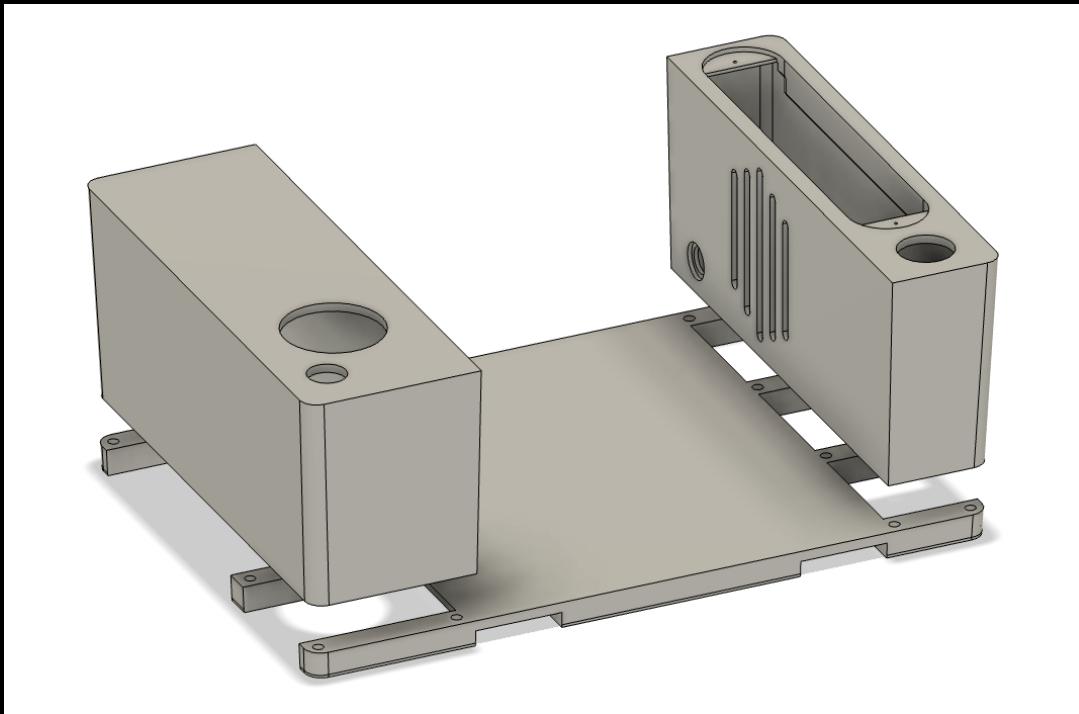
The 1800 All-In-One Insert is a 3-piece modular system designed to fit the Apache 1800 hard case and provides organized mounting for all boombox electronics. The genius of this design is its simplicity: assemble everything on your workbench, wire it up, test it, and then simply drop the complete unit into your case using dual-lock fasteners. No wrestling with components inside a cramped case!

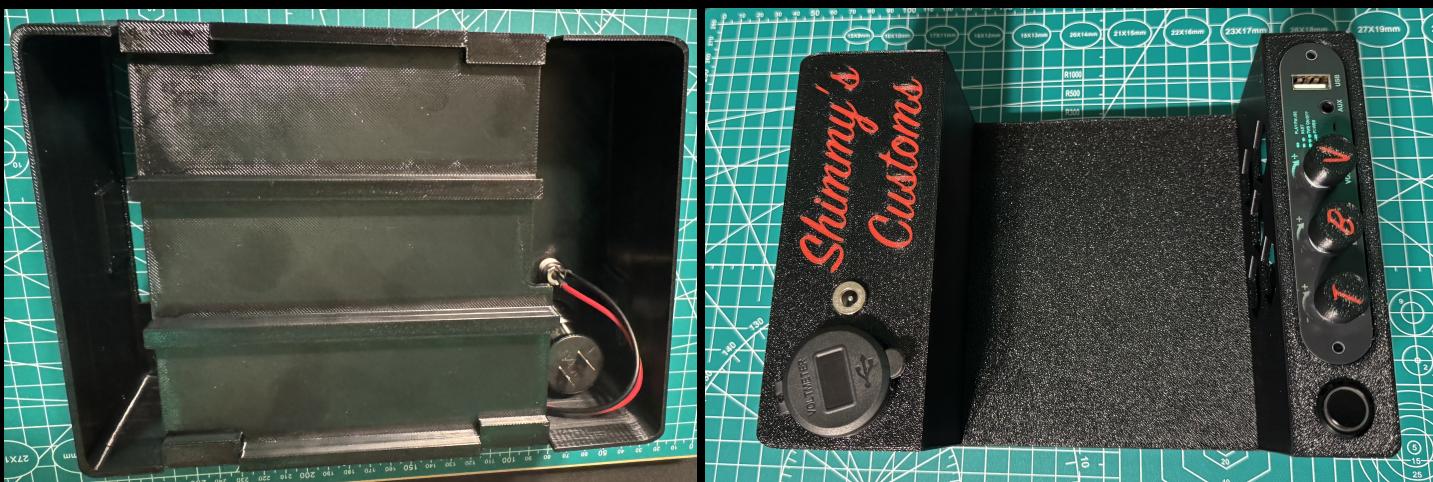


## What's Included in the STL Files

- **Left Side** (battery compartment side)
- **Right Side** (amplifier side)
- **Floor** (bottom base piece)

*Note: All three pieces fasten together to create the complete 1800 All-In-One Insert.*





## Hardware Required for Assembly

### Fasteners (for assembling the 3 pieces)

- **Screws** - x14 M3 x 10mm Socket Head Screws
- **Heat-Set Inserts** - x14 M3 Heat-Set Threaded Inserts

### Installation Hardware (for mounting to case)

- **Dual Lock 3M Dual Lock Fasteners**
  - Quantity varies based on preference
  - The insert includes built-in tabs specifically designed for dual-lock attachment

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## Compatible Components

This insert is designed to accommodate the following components:

Component	Product Link
<b>Hard Case</b>	<a href="#">Apache 1800</a>
<b>Battery</b>	<a href="#">Seasider 24V 5Ah</a>
<b>Amplifier</b>	<a href="#">ZK-1001U</a>
<b>USB Charge Port</b>	<a href="#">USB charge port/voltmeter combo</a>
<b>DC Power Jack</b>	<a href="#">5.5mm x 2.1mm threaded female connector</a>
<b>Power Switch</b>	<a href="#">16mm push button latching switch</a>
<b>Speaker Connector (plug)</b>	<a href="#">5.5mm x 2.1mm 90° right angle DC barrel plug (male)</a>
<b>Speaker Connector (socket)</b>	<a href="#">5.5mm x 2.1mm 2-pin DC power panel mount socket (female)</a>

## Assembly Instructions

### Step 1: Install Heat-Set Inserts

1. Heat your soldering iron to the appropriate temperature for heat-set inserts (typically 200-250°C depending on filament type)
2. Locate the 7 insert holes across the three printed pieces
3. Carefully press each M4 heat-set insert into its designated hole using the soldering iron
4. Allow inserts to cool completely before proceeding

**Tip:** Insert slowly and keep the soldering iron perpendicular to avoid angled inserts

### Step 2: Install Components into Left and Right Sides

**Before assembling the three pieces together, install your components!**

1. Install the battery into the Left Side compartments
2. Install the amplifier, switches, ports, and connectors into the Right Side
3. Complete the initial wiring connections between components on each side
4. Leave any wiring that needs to route under the Floor piece for after assembly

*Note: Component wiring is outside the scope of this guide. Ensure all connections are properly insulated and secured.*

**Pro Tip:** Installing components before final assembly gives you maximum access and makes the initial wiring much easier!

### Step 3: Assemble the Three Pieces

Now bring the three pieces together:

1. Align the Left Side, Right Side, and Floor pieces in their correct orientation
2. Insert all 7 M4 x 10mm socket head screws through the holes
3. Thread screws into the heat-set inserts
4. Tighten screws evenly in a cross-pattern to ensure proper alignment
5. Do a final tightening pass, being careful not to over-torque

**Your 1800 All-In-One Insert structure is now assembled!**

### Step 4: Complete Final Wiring and Test

Finish up the electrical connections:

1. Route and connect any wiring that runs under the Floor piece
2. Secure all wire routing through the provided channels
3. **Test everything!** Verify all connections work properly
4. Check for any loose wiring or components
5. Ensure nothing rattles or shifts when handling the assembly

**Pro Tip:** Taking time to test on the bench means no troubleshooting inside a cramped case later.

## Step 5: Drop It In - Installation to Apache 1800 Case

Now for the easiest part - installing your completed, tested assembly:

1. Clean the interior bottom surface of the Apache 1800 case with isopropyl alcohol
2. Cut dual-lock fastener strips to fit the tabs built into the Floor piece
3. Apply dual-lock to the tabs on the underside of the insert
4. Apply the mating dual-lock pieces to the corresponding locations inside the case
5. **Simply drop the complete assembly into the case** and press firmly to secure the dual-lock connection

**That's it!** Your fully-wired, tested boombox is now installed. No cramped fingers, no difficult wiring positions - just drop and done.

**Tip:** Test fit the insert before applying dual-lock to ensure proper placement and clearance when the case closes





## **Additional Notes**

- The dual-lock tabs on the Floor piece are specifically positioned to provide stable mounting while allowing for removal if needed
  - **The bench assembly approach means you can test everything before installation** - no troubleshooting inside a cramped case!
  - Ensure all wiring has adequate slack to prevent strain when opening/closing the case
  - Verify that no components interfere with the case lid before final assembly
  - The modular design makes future repairs or upgrades simple - just lift out the entire assembly
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