

Product Instructions

Music Control Box

Model: KDDYM007

Revision History

Mark	Date	Version	Revision Content
	2026.7.20	V1.0	First Release

I. Product Overview

This music control box is a multifunctional integrated audio power amplification system, suitable for various audio output and haptic feedback scenarios. The module uses an efficient Class D amplifier design, supports four independent outputs, and offers high-fidelity audio output with strong driving capability. It's ideal for embedded audio systems, entertainment devices, multimedia terminals, and more.

II. Main Features

1. Supports Bluetooth V6.0 wireless audio with playback latency under 200ms
2. Built-in 2 full-range speakers, 2 shakers, 1 subwoofer, and 1 programmable RGB light
3. Can do master-slave networking and sync music
4. LED strip modes include rhythm, breathing, and fixed color
5. Shakers can do rhythm, constant vibration, and various preset patterns
6. Controlled via serial port, works with external control boxes and wireless remotes
7. Compact design, easy to fit into bed systems

III. Electrical Specifications

Item	Specification
Power Supply Voltage	DC 24V (Rated)
Bluetooth Name	KDSofa-H-xxxx
Communication Method	Serial, Baud Rate 115200, 5V Level
Bluetooth Version	V6.0
Bluetooth Communication Distance	>10 meters
Music Playback Latency	≤120ms
Full-range Speaker Power	2 × 15W @ 4Ω
Subwoofer power	50W @ 2Ω
Vibrator Power	2 x 20W @ 6Ω

IV. Channel Function Description

Channel	Function Description	Output Power (RMS)	Load Impedance
Vibrator Channel (L/R)	Drive vibration motor or tactile device	2 × 20W	6Ω
Full-range Stereo Channel (L/R)	Main audio output	2 × 15W	4Ω
Bass channel	Low-frequency output	50W	2Ω
Light Strip	Music rhythm	1 × 5W	—

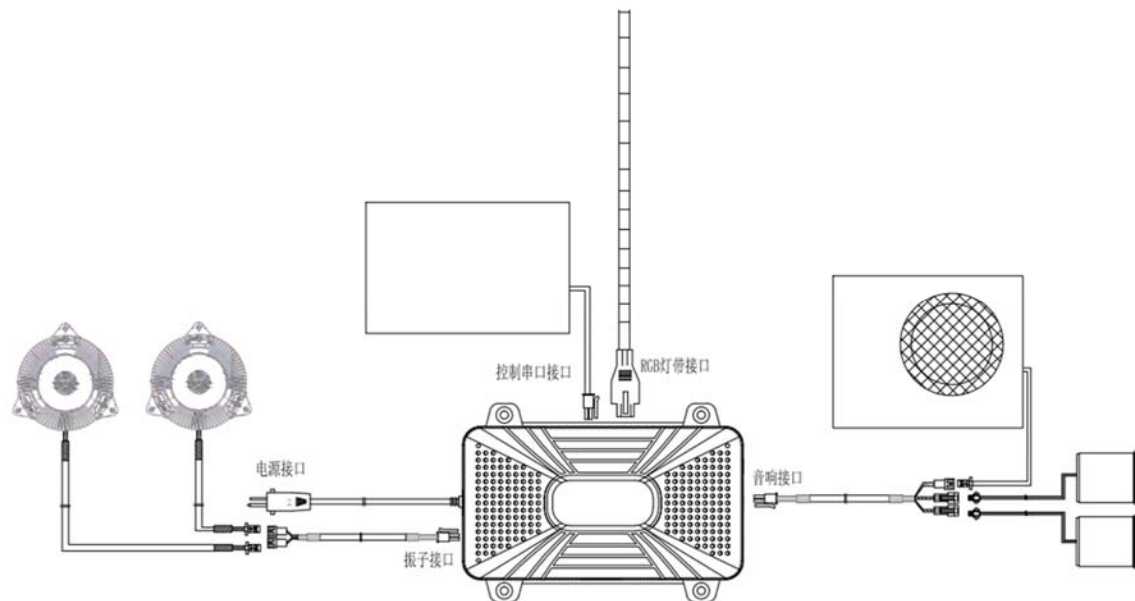
V. Protection Functions

1. Over-temperature Protection: Output is shut off when chip temperature exceeds safe value
2. Over-current Protection: Automatic current limiting when output is short-circuited or overloaded
3. Short-circuit Protection: Automatically enters protection state when output is short-circuited
4. DC Protection: Automatically shuts off output when DC offset occurs

VI. Interface Definitions

Actual Hardware Function	Top Cover Mark / Position	Interface Type / Description
Power port	Middle on the left	24V/5A power input
Control the serial port interface	Top center	Serial port control, connect the display
Audio jack	Control Serial Interface	Left and right channels and bass output
Vibration port	Middle on the right	Two-way vibrator output
RGB light strip connector	Top center	One-channel RGB light strip control output (PWM/24V)

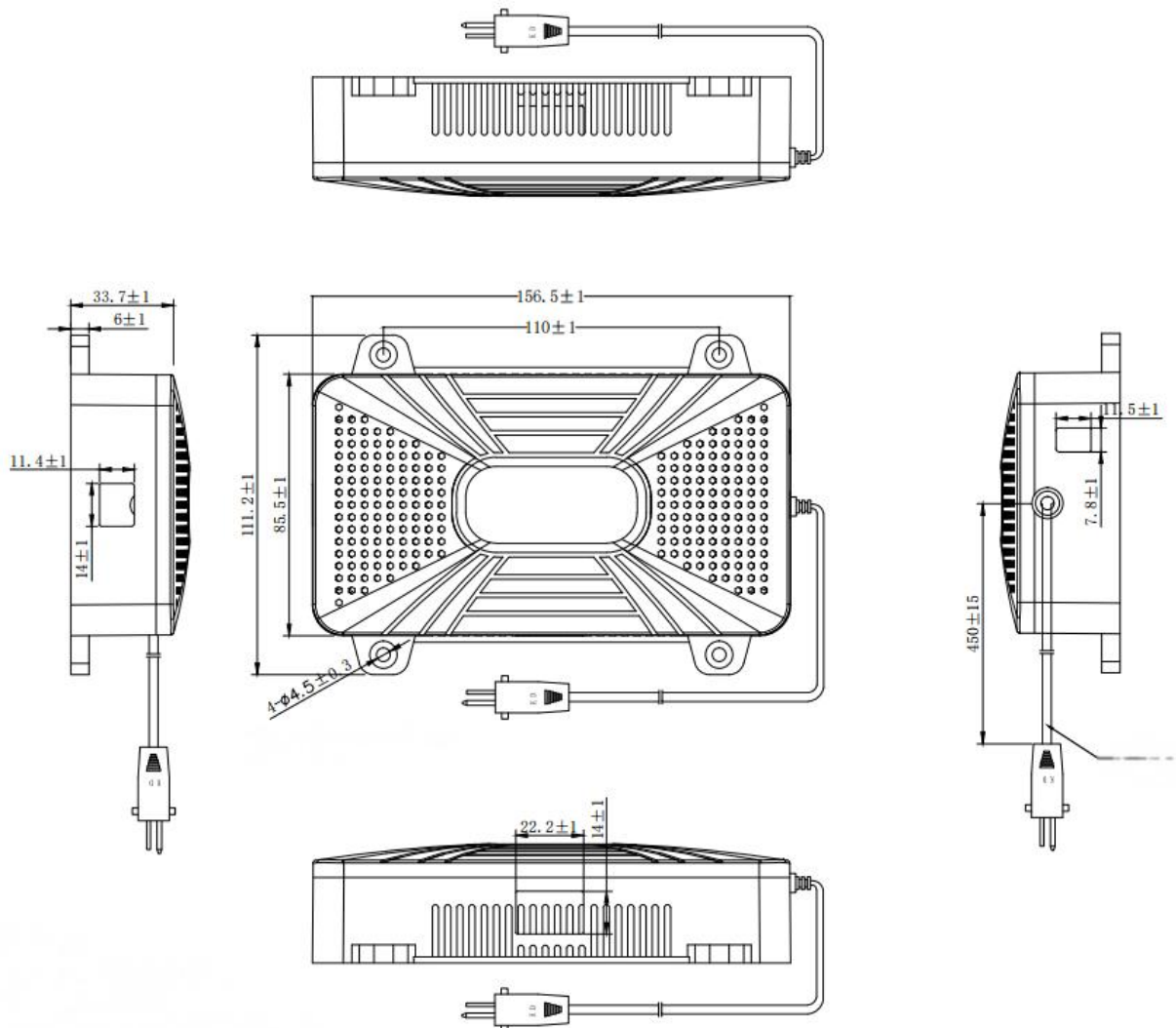
Connection diagram:



VII. Mechanical Dimensions and Environmental Requirements

Item	Specification
PCB Dimensions	See Figure
Mounting Method	Screw fixation or plug-in
Operating Temperature	-10°C ~ +45°C
Storage Temperature	-20°C ~ +50°C
Operating Humidity	10% ~ 90% RH, non-condensing
Cooling Method	Heat sink

VIII. Product Outline Drawing (Unit: mm)



Precautions:

- 1) Before use, make sure to connect the wires according to the system connection diagram, then turn on the main power;
- 2) Children, the elderly, and people with disabilities should use under supervision;
- 3) Do not plug or unplug any connection cables while the power is on, as it may cause functional issues. If this happens, you can turn off the main power and turn it back on after about 30 seconds to restore functionality;
- 4) Do not use near fire sources or in high-temperature environments;
- 5) Do not use in dusty environments;
- 6) Keep away from water or other conductive objects;
- 7) Do not place flammable items around the product;
- 8) Make sure there is ventilation space around the product, and do not cover it while it is working;
- 9) Installation should be guided by a professional;
- 10) To meet FCC certification requirements, the whole product set should comply with FCC certification instructions.

FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the device and receiver.
- Connect the device into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF warning for portable device:

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.