Gustard N18 PRO

Gustard N18 PRO HiFi Network Audio Switch User Manual

Model: N18 PRO | Brand: Gustard

1. Introduction

The Gustard N18 PRO is a high-performance network audio switch designed to enhance the quality of your audio streaming experience. It features advanced technologies such as photoelectric isolation, a dedicated audio power supply, and support for an external 10MHz clock to provide a clean and stable network signal for sensitive audio equipment.

2. Safety Information

- Ensure the device is connected to a power source with the correct voltage (115 Volts AC).
- Do not expose the device to moisture or extreme temperatures.
- Do not open the device casing. Refer all servicing to qualified personnel.
- Keep the device away from strong magnetic fields.
- Use only the provided power cable or a suitable replacement.

3. Product Overview

The Gustard N18 PRO is engineered with a focus on audio signal integrity. Key features include:

- **Connectivity:** 5x RJ45 Ethernet ports (10/100/1000Base-T) and 1x SFP fiber connector (1000base-X, supports GPON/EPON protocols).
- **External Clock Support:** BNC connector for an external 10MHz clock, improving sound clarity.
- **Audio-Grade Design:** Features photoelectric separation, a built-in linear power supply with multi-stage filtering, and Nichicon filter capacitors for lower ripple and cleaner power.
- **Internal Architecture:** Dual-machine design with internal series connection, multi-way power supply, and multi-stage voltage regulators to minimize interference.

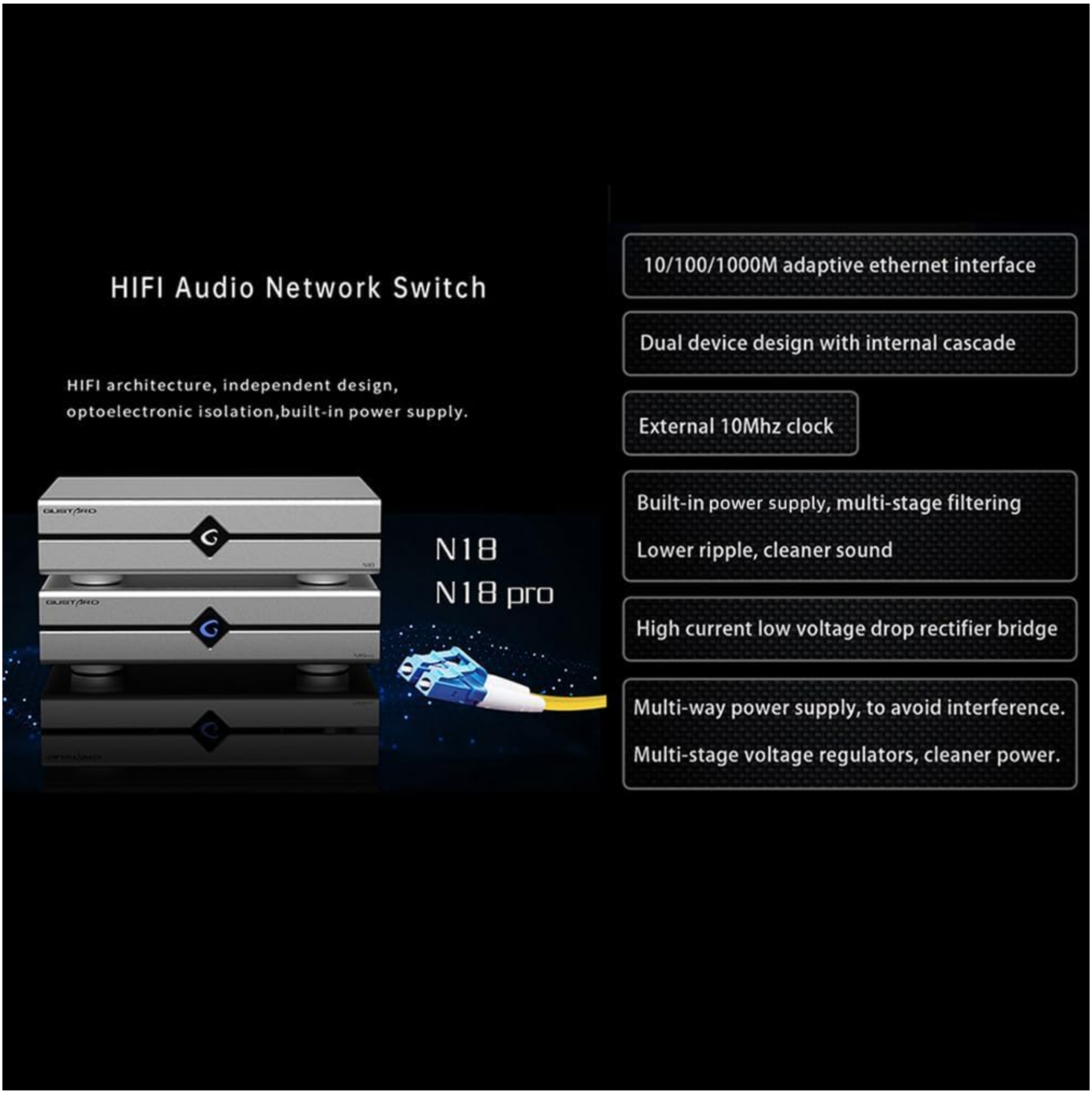

Figure 3.1: Gustard N18 and N18 PRO units with a list of core features including adaptive ethernet, dual device design, external 10MHz clock, built-in power supply, and multi-way power supply.

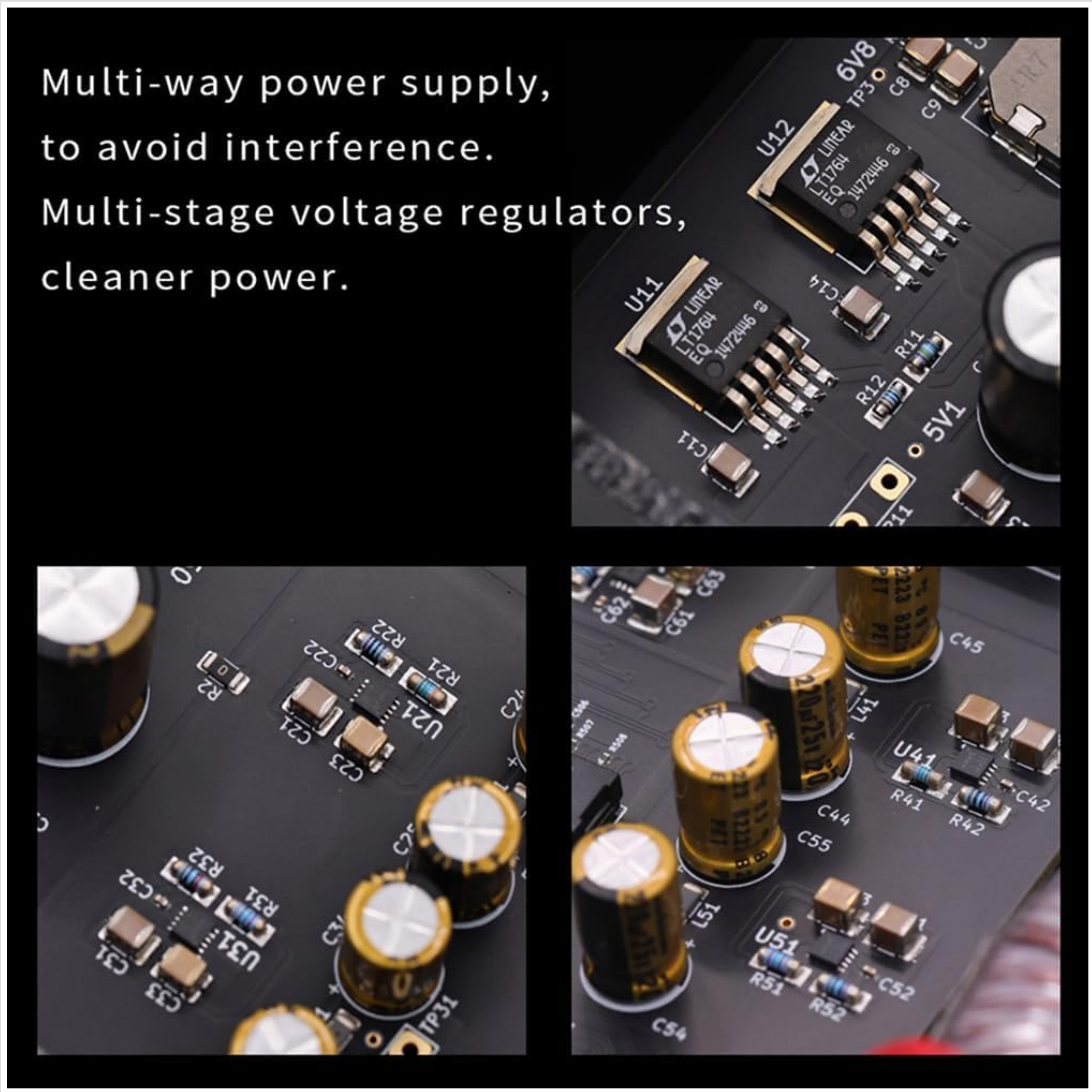

Figure 3.2: Detailed view of the internal components, illustrating the multi-way power supply, multi-stage voltage regulators, and filter capacitors designed for clean power delivery.

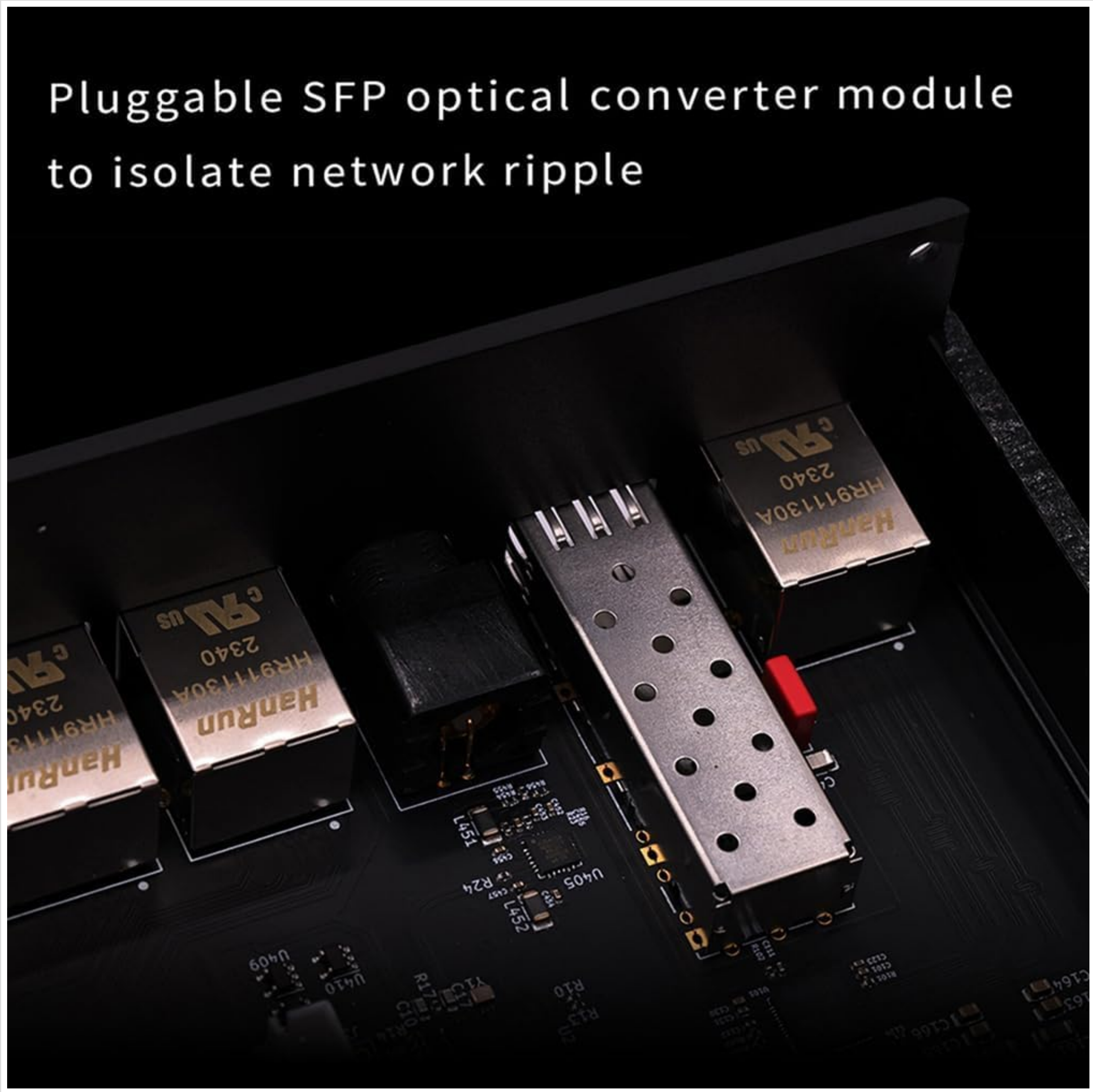

Figure 3.3: The pluggable SFP optical converter module, which provides photoelectric isolation to reduce network ripple.

Figure 3.4: The BNC connector for the external 10MHz clock input, which contributes to a cleaner and more analog sound.

4. SETUP

4.1 Rear Panel Connections

Familiarize yourself with the rear panel connections before setting up the device.

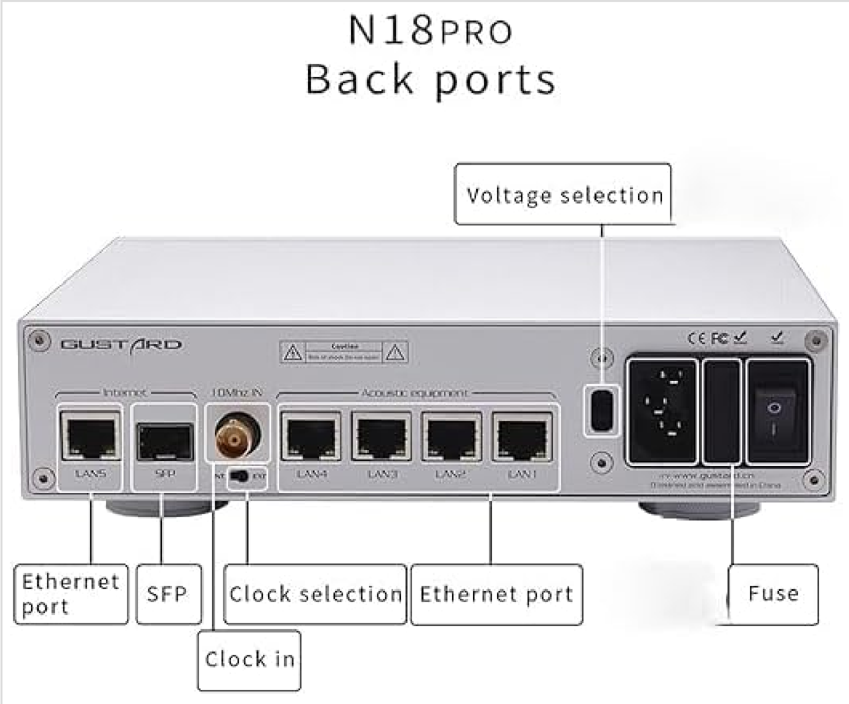

Figure 4.1: Rear panel of the N18 PRO, showing the Ethernet ports (LAN1-LAN5), SFP port, 10MHz clock input (Clock In), Clock selection switch, Voltage selection switch, AC power input, and Fuse.

4.2 Power Connection

1. Ensure the **Voltage selection** switch on the rear panel is set to the correct voltage for your region (e.g., 115V AC).
2. Connect the provided power cable to the **AC power** input on the rear panel and then to a suitable wall outlet.
3. Press the **Power switch** to turn on the device.

4.3 Network Connections

The N18 PRO offers various network connectivity options:

- **RJ45 Ethernet Ports:** Connect your network devices (e.g., router, NAS, PC, audio streamers) to the **Ethernet ports** (LAN1-LAN5) using standard Ethernet cables.
- **SFP Fiber Connector:** For optical fiber connections, insert a compatible SFP module into the **SFP port**. This provides enhanced isolation from network noise.

4.4 External 10MHz Clock Connection

For optimal audio performance, an external 10MHz clock can be connected:

1. Connect your external 10MHz clock source to the **Clock in** BNC connector on the rear panel.
2. Use the **Clock selection** switch to select between internal (INT) and external (EXT) clock sources. For an external clock, set the switch to EXT.

4.5 Connectivity Options

The N18 PRO can be integrated into various network audio setups. Below are examples of common configurations:

	N18	N18pro	Suit N18pro+N18
SFP	✓	✓	✓
optoelectronic isolation	X	X	✓
LAN	2	4+1	6+1
10/100/1000M adaptive ethernet interface	✓	✓	✓
External 10Mhz clock	X	✓	✓

Figure 4.2: Connectivity Option 1 (Recommended) - Utilizing both N18 and N18 PRO units for enhanced network isolation and port expansion. The router connects to the N18, which then connects to the N18 PRO, distributing signals to various audio devices.

Figure 4.3: Connectivity Option 5 - Using only the N18 PRO. The router connects directly to the N18 PRO, which then connects to your audio devices, NAS, and PC.

5. Operating Instructions

5.1 Basic Operation

1. After connecting all necessary cables and power, turn on the N18 PRO using the power switch on the rear panel.
2. The device will automatically establish network connections. No further configuration is typically required for basic network switching.

5.2 Network Signal Flow

The N18 PRO acts as an intelligent network switch, optimizing the data flow for connected audio devices. Its internal design minimizes noise and interference, providing a cleaner digital signal to your streamers, DACs, and other network-enabled audio components.

5.3 External Clock Usage

If an external 10MHz clock is connected and selected via the rear panel switch, the N18 PRO will synchronize its internal timing with the external clock. This can lead to improved precision in data transmission and a more refined audio output from connected devices.

6. Maintenance

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the device. Do not use liquid cleaners or aerosols.
- **Ventilation:** Ensure adequate ventilation around the device. Do not block any ventilation openings.
- **Environment:** Operate the device in a clean, dry environment, away from direct sunlight and heat sources.
- **Cable Management:** Periodically check all cable connections to ensure they are secure and free from damage.

7. Troubleshooting

7.1 No Power

- Check if the power cable is securely connected to both the device and the wall outlet.
- Verify that the power switch on the rear panel is in the 'ON' position.
- Inspect the fuse on the rear panel. If blown, replace it with a fuse of the same type and rating.
- Ensure the voltage selection switch matches your local power supply.

7.2 No Network Connection

- Check all Ethernet or SFP cable connections between the N18 PRO and your network devices/router.
- Ensure your router and connected devices are powered on and functioning correctly.
- If using the SFP port, verify that the SFP module is correctly inserted and compatible.
- Try restarting the N18 PRO and your connected network devices.

7.3 Poor Audio Quality

- Ensure all audio components connected to the network are properly configured.
- If using an external clock, verify it is connected correctly and the**Clock selection** switch is set to EXT.
- Check for any external interference sources near the N18 PRO or audio cables.

8. Specifications

The following table details the technical specifications of the Gustard N18 PRO HiFi Network Audio Switch:

Feature	Specification
Model Number	N18 PRO
Ethernet Ports	5x RJ45 (10/100/1000Base-T adaptive)
SFP Port	1x SFP (1000Base-X, supports GPON/EPON protocols)
External Clock Input	10MHz BNC connector (input impedance 50 Ohm, 0dBm-20dBm)
AC Power	115V/230V 50/60Hz (selectable)
Power Consumption	<10W

Feature	Specification
Dimensions (W x D x H)	220mm x 170mm x 50mm (excluding protruding parts)
Weight (with package)	2.5KG
Certifications	CE, FCC
Mounting Type	Freestanding

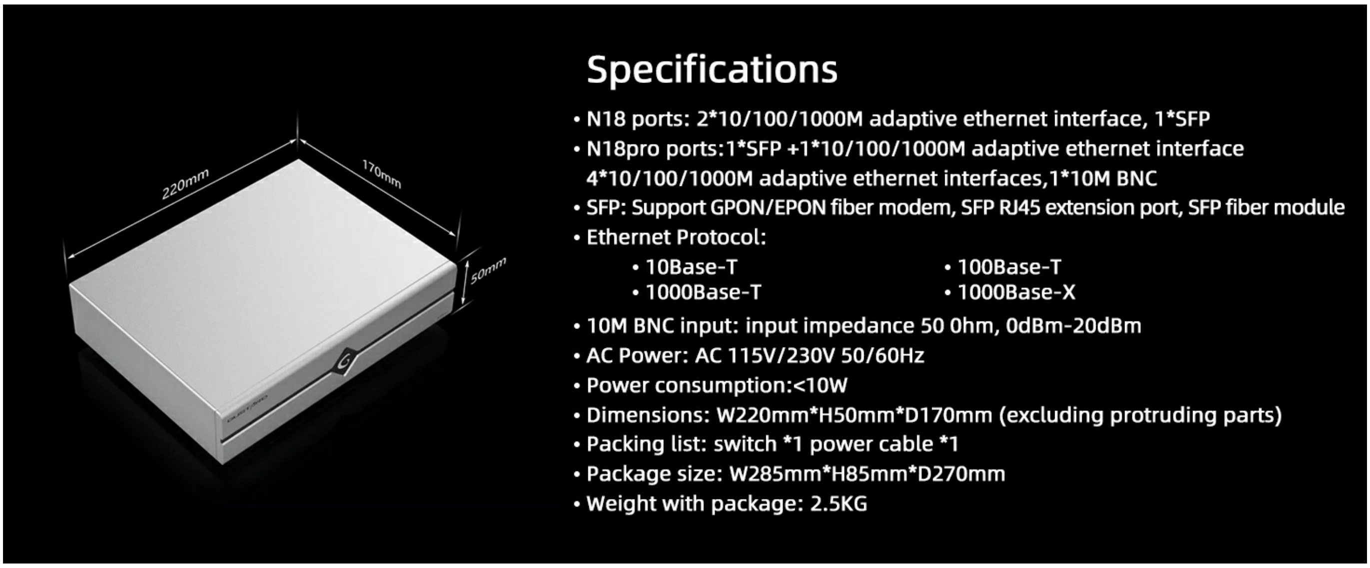

Figure 8.1: Dimensions of the Gustard N18 PRO unit (220mm width, 170mm depth, 50mm height).

9. Warranty and Support

Gustard products are designed for reliability and performance. During the coverage period and under normal use, quality issues will be addressed with replacement or repair services, covering related costs. For technical assistance or service inquiries, please contact your retailer or the manufacturer directly. The seller, Auinshifiman (FINE MUSIC), also provides support for inquiries regarding audio equipment.