XACT N1 ETHERNET SWITCH
USER'S MANUAL

I. Introduction

The XACT N1 is a high-end Ethernet switch specifically designed for audio applications. It is optimized to enhance the sound quality of audio systems that stream music or are controlled over an Ethernet network.

Please make sure to read this user manual carefully before connecting or operating the product.

While the XACT N1 delivers outstanding performance right out of the box, its full sonic potential typically emerges after a break-in period of 100 to 150 hours of operation.

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II. Specification

Ports	4	1G/100M RJ45 Auto negotiate
	1	SFP 1G
	1	1G RJ 45 (100M limited compatibility) Isolated
Max Power Consumption		15 W
Standard Operating Temperature		0 to +40 °C
Storage Temperature		-40 to +85 °C
Mains Voltage		115, 230 ± 5% V
Mains Frequency		48 to 63 Hz
Fuse		2A slow blow
Dimensions		332x308x86 mm
Weight		5 kg
Ingres Protection		IP20
Class of the unit		I

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III. Package Contents

- N1 Ethernet switch
- User manual

IV. WARNING! IMPORTANT SAFETY INFORMATION

- **Prior to use set correct mains voltage (230 or 115V) with voltage selector switch located on back panel of device. Incorrect setting may damage your switch. NEVER operate voltage selector switch when AC power is connected.**
- NEVER, under any circumstances open the switch. Dangerous voltage inside. WARRANTY IS VOID once the cover is removed.
- DO NOT insert any objects into the ventilation holes of the switch.
- DO NOT place any objects in the ventilation holes of the switch as it will restrict airflow.
- Keep switch in a dry environment away from humidity.
- The switch is not intended for outdoor usage.

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V. Compatibility

The XACT N1 was designed with absolute sound quality as the top priority. As a result, certain compatibility limitations may apply.
Modern network devices generally work without issues. However, some standard features — such as energy-saving protocols — have been disabled to optimize audio performance, which may affect compatibility with older devices.

The four main LAN ports support auto-negotiation and are compatible with most 100 Mbps devices.
Please note that the isolated port's connection speed negotiation is managed by the switch's main processor, which powers off 15 seconds after startup to reduce noise.
If a 100 Mbps device fails to establish a connection within this window, it may not work properly, as the port defaults to 1 Gbps speed.

If you encounter connection issues:

- Power up your device first, then power cycle the N1.
- Alternatively, use one of the main LAN ports, which have fewer restrictions than the isolated port.

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VI. Use case considerations

The SFP port is part of the main LAN circuitry and shares a common ground with the standard LAN ports. A typical use case for the N1's SFP port is connecting it to an SFP-capable router via a fiber optic cable. In most routers, SFP ports are directly linked to the router's processor, allowing you to bypass the often low-quality and noisy Ethernet switch section. This can significantly improve your system's sound quality.

The standard LAN RJ45 ports are the main network ports of the N1, also sharing a common ground. They are intended for connecting devices such as your router, NAS, Wi-Fi access point, or other network components.

The isolated RJ45 port, as the name suggests, is galvanically isolated from the rest of the switch circuitry. It has a separate power supply and an independent ground connection. This port is specifically designed for connecting your audio renderer or DAC, preventing network noise from leaking into your audio system.

The GND connector provides an external connection point for the main switch ground.

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VII. Switch Installation

1. **Placement**: Ensure the switch is in a well-ventilated area. Do not block the ventilation holes.

2. **Voltage Check**: Set the voltage selector (on the back of the power supply) to match your local mains voltage **before** connecting to AC power.

3. **Network Connections**: Connect an RJ45 cable from a LAN or isolated port to your network device. Ensure connectors are firmly locked. Avoid using excessive force.

4. **SFP Installation**: Disconnect AC power before installing an SFP transceiver or DAC cable. After installation, reconnect power to initialize the SFP module.

5. **Powering On:** Plug the AC power cord into a grounded socket (PE). The switch powers on automatically; the orange front LED will light up. To turn off, disconnect the AC power cord (no physical power switch).

6. **LED Behavior**: Ethernet port LEDs are **disabled by design** and will not light up.

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VIII. Operation

After completing all network connections, connect the switch to an AC power source. The XACT N1 will power up automatically and complete its initial configuration within a few seconds. Once configured, the switch will operate normally.

Please note:

- The N1's main processor powers off **15 seconds** after startup to minimize electrical noise.
- After the processor shuts down, all configuration functions — including isolated port speed negotiation — are disabled.
- The switch will remain in its initial configuration state until the next power cycle.

The XACT N1 features a high-precision OCXO master clock.

- Initial clock warm-up takes just a few minutes.
- However, for full clock stability and optimal noise performance, **up to 2 hours** of continuous operation is recommended.

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IX. Troubleshooting

If the switch does not function properly, please follow this checklist:

1. Ensure the AC power cord is securely connected to both the AC outlet and the switch.
2. Verify that the AC power source is turned on.
3. Check all network cables and ensure they are securely connected to the switch and to your devices.
4. Perform a power cycle by disconnecting and reconnecting the switch from the AC power to reinitialize its configuration.
5. If the issue persists, please visit www.xact.audio for further support or contact us directly at **contact@xact.audio**.

X. Warranty

The XACT N1 is covered by a **24-month warranty** from the date of purchase.

During the warranty period, XACT will repair or replace any defective components with parts of

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equal or superior performance, provided that the following conditions are met:

- The product is returned to XACT, with shipping costs covered by the customer.
- The product has been used properly and according to its intended purpose.
- The product was not damaged by acts of nature such as lightning, flooding, or fire.
- The product's cover has not been removed and the warranty seal remains intact.

For additional details, please visit www.xact.audio.

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