

Nordyne 624644

Nordyne 624644 OEM Replacement Furnace Control Board Instruction Manual

Model: 624644

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of your Nordyne 624644 OEM Replacement Furnace Control Board. This control board is designed to replace original equipment manufacturer (OEM) parts in compatible Nordyne furnace systems. Please read this manual thoroughly before proceeding with any installation or service to ensure safe and efficient operation.

2. SAFETY INFORMATION

WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause property damage, personal injury, or loss of life. Installation and service must be performed by a qualified installer, service agency, or the gas supplier.

- Always disconnect electrical power to the furnace before installing or servicing the control board. Failure to do so can result in electrical shock or death.
- Ensure all wiring connections are secure and comply with local and national electrical codes.
- Do not bypass any safety devices.
- Verify that the replacement board is compatible with your specific furnace model before installation.
- Wear appropriate personal protective equipment (PPE) during installation and service.

3. PRODUCT OVERVIEW

The Nordyne 624644 control board is a critical component responsible for managing the operational sequences of your furnace, including ignition, fan control, and safety monitoring. It integrates various sensors and actuators to ensure the furnace operates safely and efficiently.



Image 1: Nordyne 624644 OEM Replacement Furnace Control Board. This image displays the circuit board with various electronic components, including resistors, capacitors, integrated circuits, and relays. Terminal blocks for wiring connections are visible on the right side, labeled for common furnace connections such as R, W, Y, G, C, and O. The board is rectangular and features a light brown substrate.

Key components typically found on the board include:

- **Relays:** Control power to various furnace components like the blower motor and igniter.
- **Microcontroller:** Processes signals and executes operational logic.
- **Terminal Blocks:** Provide connection points for thermostat wires, limit switches, and other furnace components.
- **LED Indicators:** Often used for diagnostic purposes, displaying error codes or operational status.

4. SPECIFICATIONS

Feature	Detail
Model Number	624644
Brand	Nordyne
Product Dimensions	6 x 6 x 6 inches
Item Weight	11 ounces
Type	OEM Replacement Furnace Control Board

5. INSTALLATION AND SETUP

IMPORTANT: Installation of this furnace control board should only be performed by a qualified HVAC technician. Incorrect installation can lead to system malfunction, property damage, or serious injury.

1. **Power Disconnection:** Turn off all electrical power to the furnace at the main service panel. Verify power is off using a voltage meter.
2. **Access Control Board:** Locate and open the furnace access panel to expose the existing control board.
3. **Document Wiring:** Before disconnecting any wires, take clear photographs or make a detailed diagram of all existing wiring connections to the old control board. Pay close attention to terminal labels (e.g., R, W, Y, G, C, O, W2, E, DFRB-AB1004, T1, T2, ICH).
4. **Disconnect Old Board:** Carefully disconnect all wires and mounting screws from the old control board.
5. **Install New Board:** Mount the new Nordyne 624644 control board in the same location as the old board, securing it with appropriate fasteners.
6. **Connect Wiring:** Reconnect all wires to the new board exactly as documented in step 3. Double-check each connection for accuracy and tightness.
7. **Close Access Panel:** Securely close the furnace access panel.
8. **Restore Power:** Restore electrical power to the furnace at the main service panel.
9. **Test Operation:** Initiate a heating cycle and observe the furnace's operation to ensure all functions (e.g., igniter, blower fan, heat output) are working correctly. Check for any diagnostic error codes.

6. OPERATING INSTRUCTIONS

The Nordyne 624644 control board operates automatically in conjunction with your thermostat and furnace components. Once properly installed, its function is to manage the sequence of operations for heating and cooling cycles.

- **Heating Cycle:** When the thermostat calls for heat, the control board initiates the igniter, opens the gas valve, monitors the flame, and then activates the blower fan to distribute warm air.
- **Cooling Cycle (if applicable):** When the thermostat calls for cooling, the control board activates the outdoor condenser unit and the indoor blower fan.
- **Fan Operation:** The board controls the blower fan for both heating/cooling cycles and continuous fan operation if selected on the thermostat.
- **Safety Monitoring:** The board continuously monitors safety devices such as limit switches and flame sensors. If a fault is detected, it will shut down the furnace and display a diagnostic code.

Refer to your furnace's specific user manual for detailed operating instructions related to your complete heating and cooling system.

7. MAINTENANCE

The Nordyne 624644 control board itself typically requires no routine maintenance. However, regular maintenance of the overall furnace system is crucial for its longevity and efficient operation.

- **Annual Professional Inspection:** Schedule annual inspections and maintenance by a qualified HVAC technician. They can check all electrical connections, test safety devices, and ensure optimal system performance.
- **Air Filter Replacement:** Regularly replace or clean your furnace's air filter as recommended by the furnace manufacturer. A dirty filter can restrict airflow, causing the furnace to overheat and potentially stress the control board.
- **Clear Vents:** Ensure all supply and return air vents are unobstructed.

8. TROUBLESHOOTING

Many furnace issues can be diagnosed by observing the diagnostic LED lights on the control board. Refer to your furnace's specific service manual for a complete list of diagnostic codes and their meanings. Below are general troubleshooting steps:

- **No Power:**

- Check the circuit breaker for the furnace.
- Ensure the furnace power switch is in the "ON" position.
- Verify all wiring connections to the control board are secure.

- **Furnace Not Heating:**

- Check thermostat settings.
- Inspect the air filter for blockage.
- Look for diagnostic codes on the control board's LED.
- Ensure gas supply is open.

- **Blower Fan Not Operating:**

- Check thermostat fan settings (AUTO/ON).
- Listen for any unusual noises from the blower motor.
- Consult diagnostic codes.

- **Repeated Cycling (Short Cycling):**

- Could indicate an airflow issue (dirty filter, blocked vents) or a safety limit switch tripping.
- Check for diagnostic codes.

If you are unable to resolve an issue after following these steps, contact a qualified HVAC technician for further diagnosis and repair.

9. WARRANTY INFORMATION

Specific warranty terms for the Nordyne 624644 OEM Replacement Furnace Control Board are typically provided by the seller or manufacturer at the time of purchase. Please retain your proof of purchase for warranty claims.

Generally, OEM replacement parts carry a limited warranty against defects in materials and workmanship. This warranty usually does not cover damage resulting from improper installation, misuse, neglect, or unauthorized repairs. For detailed warranty information, refer to the documentation provided with your purchase or contact the vendor directly.

10. SUPPORT

For technical assistance, troubleshooting beyond the scope of this manual, or warranty inquiries, please contact the vendor from whom you purchased this Nordyne 624644 control board. When contacting support, please have the following information ready:

- Product Model Number: **624644**
- Date of Purchase
- Description of the issue
- Any diagnostic codes displayed by your furnace

Always ensure that any service or repair work is performed by a qualified and certified HVAC technician.

