## Intel BX80684I79700

# Intel Core i7-9700 Desktop Processor User Manual

Model: BX80684I79700

**Introduction**  **Features**  **Setup & Installation**  **Operating Guidelines**  **Maintenance**

**Troubleshooting**  **Specifications**  **Warranty & Support**  **Legal Disclaimer**

## 1. INTRODUCTION

This manual provides essential information for the installation, operation, and maintenance of your Intel Core i7-9700 Desktop Processor. This 9th Gen Intel Core i7-9700 desktop processor features Intel Turbo Boost Technology 2.0 and Intel vPro Technology, designed to deliver high performance for demanding applications, gaming, and overall productivity. A thermal solution is included in the box. This processor is compatible only with 300 Series chipset based motherboards.

Figure 1: Retail packaging of the Intel Core i7-9700 Desktop Processor.

## 2. KEY FEATURES

The Intel Core i7-9700 processor offers advanced capabilities for enhanced computing experiences:

- **8 Cores** / **8 Threads:** Provides robust multi-tasking and processing power.

- **Up to 4.7 GHz Frequency:** Delivers high clock speeds for demanding applications.
- **Compatible with Intel 300 Series Chipset Motherboards:** Ensures broad compatibility with modern systems.
- **Intel Optane Memory Support:** Enhances system responsiveness and accelerates data access.
- **Integrated Intel UHD Graphics 630:** Capable of handling everyday visual tasks and light gaming without a dedicated graphics card.
- **65W Thermal Design Power (TDP):** Efficient power consumption for a high-performance processor.

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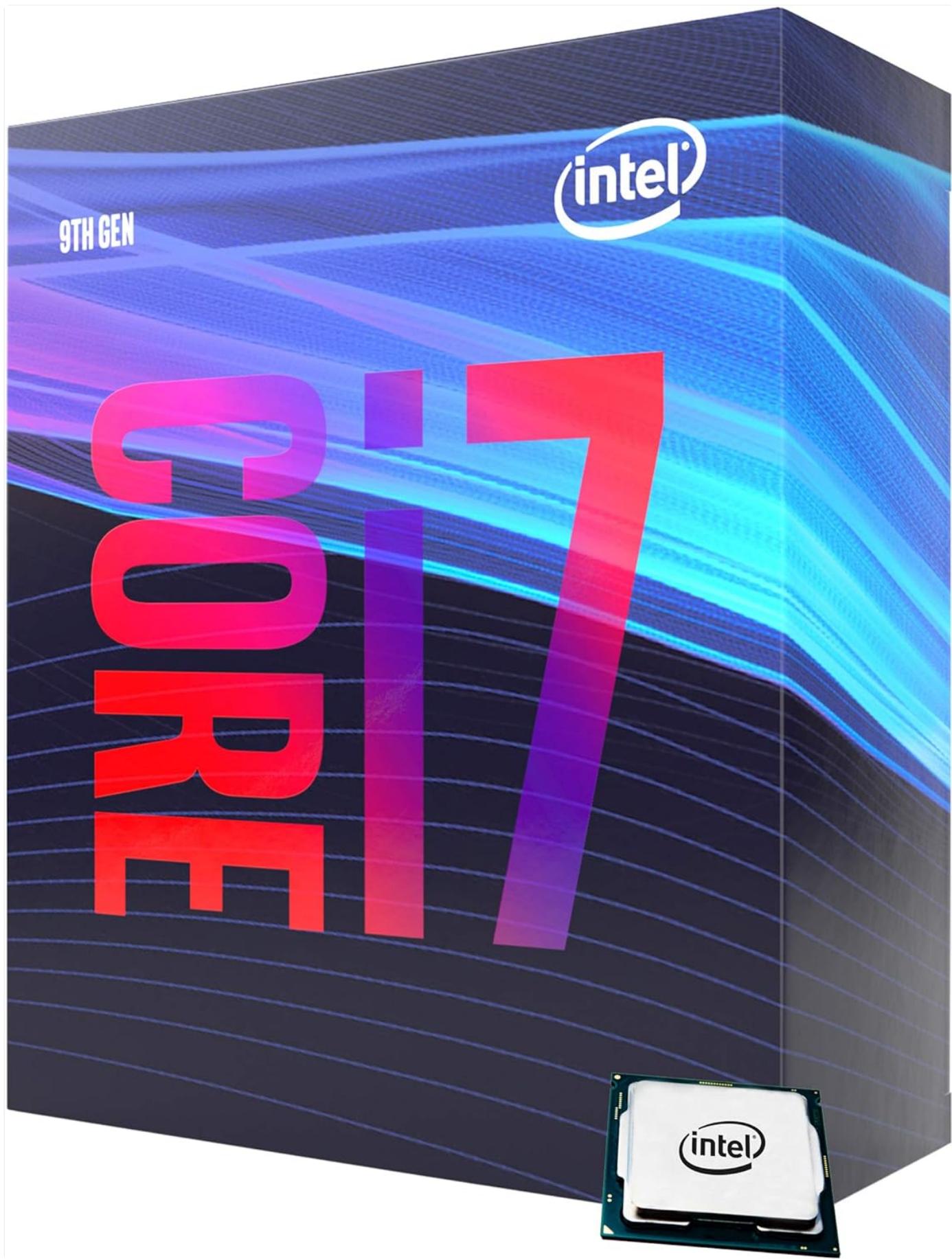
Figure 2: The Intel Core i7-9700 processor shown alongside its retail packaging.

## 3. SETUP & INSTALLATION

Proper installation is crucial for optimal performance and longevity of your processor. Please follow these steps carefully.

It is recommended to consult your motherboard's manual for specific instructions regarding CPU installation and BIOS updates.

## 3.1 Pre-Installation Checklist

- Ensure your motherboard is compatible with LGA1151 socket and 300 Series chipset.
- Verify your motherboard's BIOS is updated to support 9th Gen Intel Core processors. A BIOS update may be required.
- Gather necessary tools: Phillips head screwdriver, thermal paste (if not pre-applied on cooler), anti-static wrist strap.
- Work in a clean, static-free environment.

## 3.2 Processor Installation Steps

1. **Prepare Motherboard:** Open the CPU socket retention lever on your motherboard. Lift the load plate.
2. **Handle Processor:** Carefully remove the processor from its packaging. Hold it by the edges, avoiding contact with the gold contacts or the top surface.
3. **Align Processor:** Align the two notches on the sides of the processor with the corresponding keys on the CPU socket. Ensure the gold triangle on the processor aligns with the triangle on the socket.
4. **Insert Processor:** Gently lower the processor straight down into the socket. Do not force it. It should sit flat without resistance.
5. **Secure Processor:** Close the load plate over the processor, then push down the retention lever until it clicks into place.
6. **Apply Thermal Paste (if necessary):** If your cooler does not have pre-applied thermal paste, apply a small pea-sized amount to the center of the processor's integrated heat spreader (IHS).
7. **Install CPU Cooler:** Mount the included thermal solution (CPU cooler) according to its specific instructions, ensuring even pressure and proper contact with the processor. Connect the cooler's fan cable to the CPU_FAN header on the motherboard.
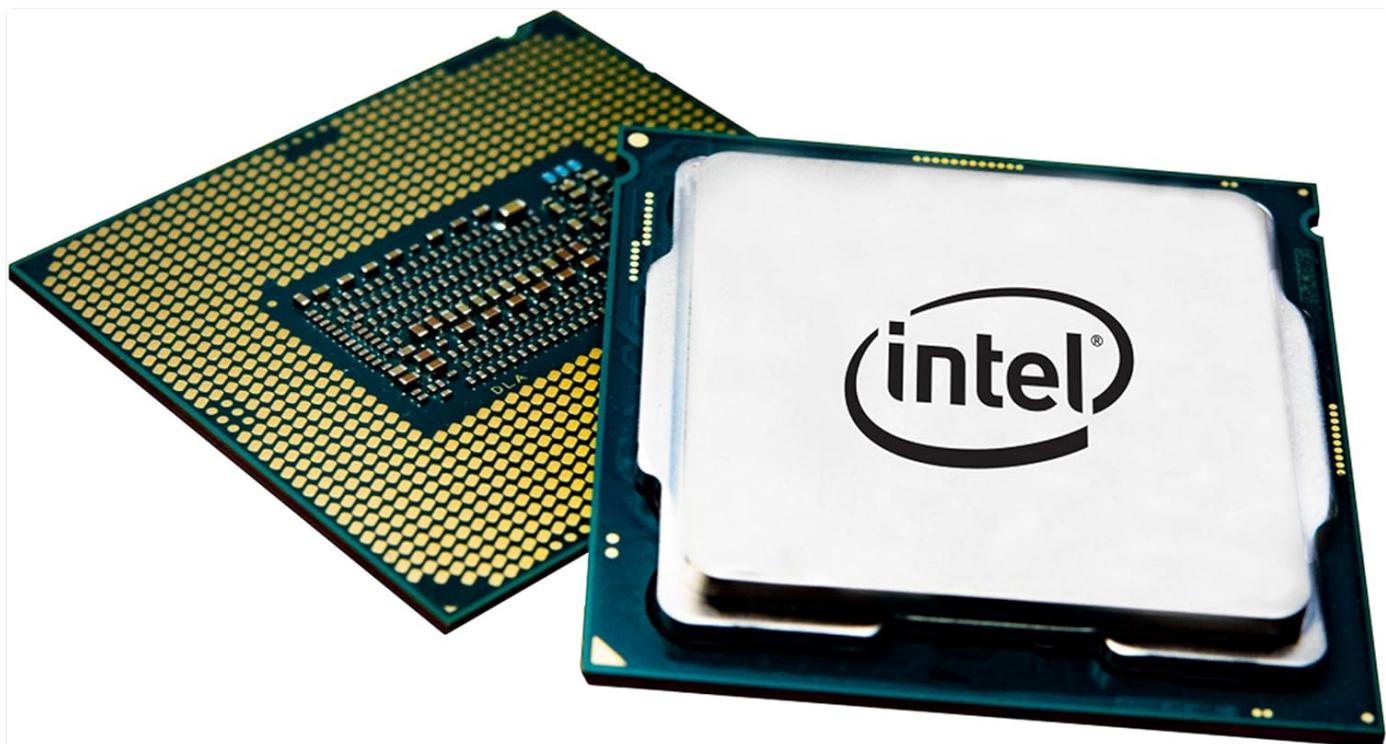


Figure 3: Front and back view of the Intel Core i7-9700 processor, showing the integrated heat spreader and LGA contacts.

## 4. OPERATING GUIDELINES

Once installed, the Intel Core i7-9700 processor operates automatically within your system. Here are some general guidelines for optimal performance:

- **System Drivers:** Ensure all system drivers, especially chipset drivers, are up-to-date. Visit your motherboard manufacturer's website for the latest versions.
- **BIOS Settings:** For most users, default BIOS settings are sufficient. Advanced users may adjust settings like Intel Turbo Boost Technology or Intel Optane Memory configurations as needed. Refer to your motherboard manual for details.
- **Cooling:** Maintain adequate airflow within your PC case to ensure efficient cooling of the processor and other components.
- **Software Optimization:** Keep your operating system and applications updated to benefit from performance optimizations and security patches.

## 5. MAINTENANCE

Processors generally require minimal maintenance. However, periodic checks can help ensure long-term stability and performance:

- **Dust Removal:** Periodically clean dust from your CPU cooler and case fans using compressed air. Excessive dust can impede airflow and lead to higher temperatures.
- **Thermal Paste:** While not frequently required, if you notice consistently high CPU temperatures, the thermal paste might need reapplication. This involves carefully removing the CPU cooler, cleaning off old thermal paste, and applying new paste.
- **BIOS Updates:** Check your motherboard manufacturer's website for new BIOS versions. Updates can improve compatibility, stability, and sometimes performance.

## 6. TROUBLESHOOTING

If you encounter issues with your Intel Core i7-9700 processor, consider the following common troubleshooting steps:

| Problem | Possible Cause | Solution |
|---|---|---|
| System does not boot after CPU installation. | Incorrect CPU installation, outdated BIOS, incompatible motherboard. | Re-check CPU seating in socket. Update motherboard BIOS (may require temporarily reinstalling an older CPU). Verify motherboard compatibility with 300 Series chipset. |
| High CPU temperatures. | Improper cooler installation, insufficient thermal paste, poor case airflow, dust buildup. | Ensure CPU cooler is securely mounted. Reapply thermal paste. Clean dust from cooler and case. Improve case fan configuration. |
| System instability or crashes. | Outdated drivers, overheating, power supply issues, faulty RAM. | Update chipset and other system drivers. Monitor CPU temperatures. Test RAM modules. Ensure adequate power supply. |

For further assistance, refer to Intel's official support website or contact their customer service.

# 7. TECHNICAL SPECIFICATIONS

| Feature | Detail |
| --- | --- |
| Processor Model | Intel Core i7-9700 |
| Cores / Threads | 8 Cores / 8 Threads |
| Base Clock Speed | 3.0 GHz |
| Max Turbo Frequency | Up to 4.7 GHz |
| Cache | 12 MB Intel Smart Cache |
| Socket Type | LGA1151 |
| TDP | 65W |
| Integrated Graphics | Intel UHD Graphics 630 |
| Memory Support | DDR4-2666 (Dual Channel) |
| Intel Optane Memory Support | Yes |
| Compatible Chipsets | Intel 300 Series Chipsets |
| Product Dimensions (LxWxH) | 4.57 x 2.76 x 3.98 inches (packaging) |
| Item Weight | 8.5 ounces (packaging) |

# 8. WARRANTY & SUPPORT

For information regarding the warranty of your Intel Core i7-9700 processor, please refer to the official Intel website or the warranty documentation included with your purchase. Intel provides various support resources for its products.

- **Online Support:** Visit the official Intel Support Website for drivers, software, and troubleshooting guides.
- **Contact Support:** For direct assistance, contact Intel customer service through their website or designated support channels.

# 9. LEGAL DISCLAIMER

Altering clock frequency or voltage may damage or reduce the useful life of the processor and other system components, and may reduce system stability and performance. Product warranties may not apply if the processor is operated beyond its specifications. Check with the manufacturers of system and components for additional details.