

Intel Core i7-8700 Processor User Manual

Model: SR3QS

INTRODUCTION

This manual provides essential information for the installation, operation, and maintenance of your Intel Core i7-8700 processor. The Intel Core i7-8700 is a high-performance desktop processor featuring 6 cores and 12 threads, designed for the LGA 1151 socket. It supports a 64-bit instruction set with extensions including Intel SSE4.1, Intel SSE4.2, and Intel AVX2, and incorporates Intel Hyper-Threading Technology.

Please read this manual thoroughly before proceeding with installation to ensure proper setup and optimal performance.

1. SETUP AND INSTALLATION

Proper installation of your Intel Core i7-8700 processor is crucial for system stability and performance. This processor is compatible only with motherboards based on Intel 300 Series Chipsets.

1.1 Before You Begin

- Ensure your motherboard supports the LGA 1151 socket and is based on an Intel 300 Series Chipset.
- Gather necessary tools: thermal paste, CPU cooler, screwdriver, anti-static wrist strap (recommended).
- Power off and unplug your computer from the wall outlet.
- Discharge any static electricity by touching a grounded metal object.

1.2 Processor Installation Steps

1. **Prepare the Motherboard:** Locate the CPU socket on your motherboard. Lift the load plate lever to open the socket.
2. **Align the Processor:** Carefully remove the processor from its packaging. Note the two alignment notches on the processor and the corresponding keys on the socket. Do not force the processor into the socket.
3. **Insert the Processor:** Gently place the processor into the socket, ensuring the notches align perfectly with the keys. The processor should drop into place without resistance.
4. **Secure the Processor:** Lower the load plate and then push down the load plate lever until it clicks into place, securing the processor.
5. **Apply Thermal Paste:** Apply a small, pea-sized amount of high-quality thermal paste to the center of the processor's integrated heat spreader (IHS).

6. **Install CPU Cooler:** Carefully place your CPU cooler onto the processor, ensuring even pressure distribution. Secure the cooler according to its manufacturer's instructions. Connect the CPU cooler fan cable to the designated header on the motherboard.



Figure 1: Top view of the Intel Core i7-8700 processor. This image displays the processor's integrated heat spreader with the Intel logo, indicating the orientation for installation.

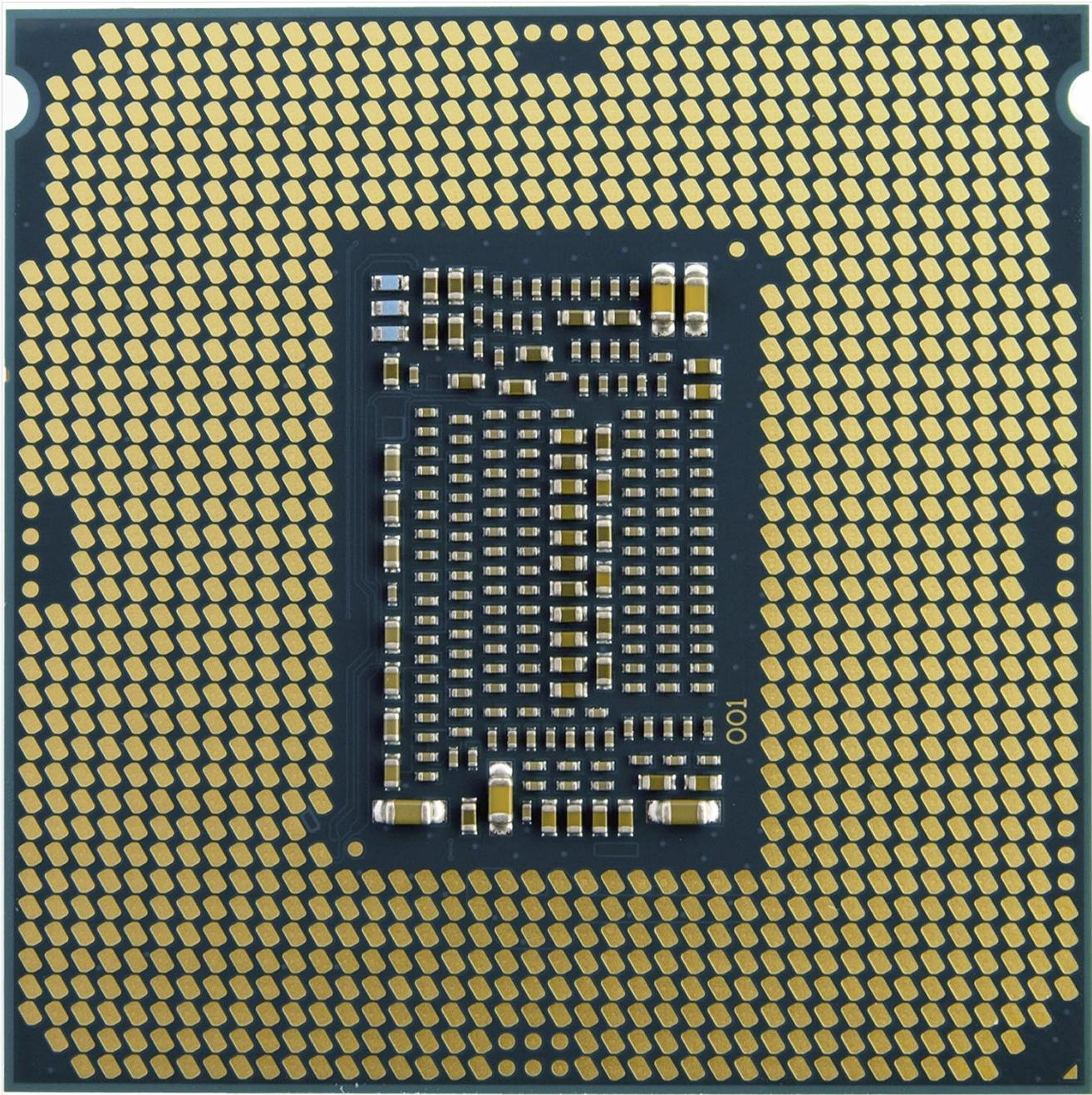


Figure 2: Bottom view of the Intel Core i7-8700 processor. This image illustrates the contact pads on the underside of the processor, which connect to the motherboard's LGA 1151 socket.

2. OPERATING INFORMATION

The Intel Core i7-8700 processor is designed for general computing tasks, including gaming, content creation, and everyday productivity. It features Intel UHD Graphics 630, allowing for basic display output without a dedicated graphics card, though a discrete GPU is recommended for demanding graphical applications.

2.1 System Requirements

- **Motherboard:** Intel 300 Series Chipset with LGA 1151 socket.
- **RAM:** DDR4 memory (specific speeds and capacities depend on motherboard support).
- **Power Supply:** Adequate wattage to support the CPU and other system components.
- **Operating System:** Compatible with Windows 10 (64-bit), Linux distributions, etc.

2.2 Performance Features

- **Intel Hyper-Threading Technology:** Allows each physical core to run two threads simultaneously, improving

multitasking performance.

- **Intel Turbo Boost Technology:** Dynamically increases the processor's frequency up to 4.60 GHz when needed, optimizing performance for demanding workloads.
- **Intel Optane Memory Supported:** Enhances system responsiveness by accelerating frequently accessed data.

3. MAINTENANCE

While processors generally require minimal maintenance, ensuring proper cooling and a clean environment can extend their lifespan and maintain optimal performance.

- **Thermal Paste:** Over time, thermal paste can dry out. If you notice increased CPU temperatures, consider reapplying fresh thermal paste.
- **CPU Cooler Cleaning:** Regularly clean dust from your CPU cooler's heatsink and fan. Accumulated dust can impede airflow and lead to overheating. Use compressed air for this purpose.
- **Case Airflow:** Ensure your computer case has adequate airflow to dissipate heat effectively. Keep intake and exhaust vents clear of obstructions.
- **BIOS/UEFI Updates:** Keep your motherboard's BIOS/UEFI firmware updated. These updates often include performance improvements, bug fixes, and enhanced compatibility.

4. TROUBLESHOOTING

This section addresses common issues you might encounter with your processor.

Problem	Possible Cause	Solution
System does not boot / No display.	Improper CPU installation, bent pins (unlikely for LGA), incompatible motherboard, insufficient power.	<ul style="list-style-type: none">○ Re-seat the CPU, ensuring proper alignment and secure lever.○ Verify motherboard compatibility with Intel 300 Series Chipsets.○ Check all power connections to the motherboard and CPU.○ Test with minimal components (CPU, one RAM stick, PSU).
High CPU temperatures.	Insufficient thermal paste, improperly seated CPU cooler, poor case airflow, faulty cooler fan.	<ul style="list-style-type: none">○ Reapply thermal paste.○ Ensure CPU cooler is securely mounted and making full contact.○ Clean dust from cooler and case vents.○ Verify cooler fan is spinning. Consider upgrading cooler if temperatures remain high under load.
System instability / Crashes.	Overheating, unstable overclock (if applied), faulty RAM, driver issues.	<ul style="list-style-type: none">○ Monitor CPU temperatures.○ Reset BIOS to default settings.○ Run memory diagnostic tests.○ Update motherboard chipset drivers and BIOS/UEFI.

5. SPECIFICATIONS

Detailed technical specifications for the Intel Core i7-8700 processor (SR3QS).

- **Cores / Threads:** 6 Cores / 12 Threads
- **Base Clock Speed:** 3.20 GHz
- **Max Turbo Frequency:** Up to 4.60 GHz
- **Cache:** 12 MB Intel Smart Cache
- **Bus Speed:** 8 GT/s DMI3
- **TDP:** 65W
- **Socket:** LGA 1151
- **Lithography:** 14 nm
- **Integrated Graphics:** Intel UHD Graphics 630
- **Instruction Set:** 64-bit
- **Instruction Set Extensions:** Intel SSE4.1, Intel SSE4.2, Intel AVX2
- **Supported Technologies:** Intel Hyper-Threading Technology, Intel Turbo Boost Technology, Intel Optane Memory Supported
- **Product Dimensions:** 4.7 x 4.2 x 4.7 inches
- **Item Weight:** 0.811 ounces

6. WARRANTY AND SUPPORT

This Intel Core i7-8700 processor is a renewed product. Renewed products typically come with a limited warranty provided by the seller or refurbisher, not directly by the original manufacturer (Intel) for the renewed status. Please refer to the specific warranty information provided at the point of purchase or by the seller, "Maestro Tech Reconditioned".

For technical support related to installation or troubleshooting, it is recommended to consult your motherboard's manual, the seller's support channels, or Intel's official support resources for general processor information.

Seller: Maestro Tech Reconditioned

Typical Return Policy: 90-day refund/replacement (as per product listing information).

For further assistance, you may visit the [Amazon Renewed Store](#) or contact the seller directly.